

**TOLL ROAD
CONCESSION AGREEMENT**

dated as of

October 16, 2023

by and between


PUERTO RICO HIGHWAYS AND TRANSPORTATION AUTHORITY

and

PUERTO RICO TOLLROADS, LLC

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THIS TOLL ROAD CONCESSION AGREEMENT (this "Agreement") is made and entered into as of this 16th day of October, 2023 (the "Effective Date") by and between:

(I) Puerto Rico Highways and Transportation Authority, a public corporation organized under the laws of the Commonwealth of Puerto Rico (the "Authority"); and

(II) Puerto Rico Tollroads, LLC, a limited liability company organized and existing under the laws of the Commonwealth of Puerto Rico (the "Concessionaire").

RECITALS

WHEREAS, pursuant to, and under the terms and conditions contained in, Act No. 29 of the Legislative Assembly of Puerto Rico enacted on June 8, 2009, as amended (the "Act"), the Authority is authorized to execute and deliver this Agreement, perform its obligations hereunder and enter into the Transaction (as defined herein); and

WHEREAS, on June 30, 2016, the United States of America enacted the Puerto Rico Oversight, Management, and Economic Stability Act, Pub. L. No. 114-187, 130 Stat. 549 (2016), 48 U.S.C. 2101 *et seq.* ("PROMESA"); and

WHEREAS, the United States of America established the Financial Oversight and Management Board for Puerto Rico ("Oversight Board") pursuant to Section 101(b) of PROMESA; and

WHEREAS, the Oversight Board has approved this Agreement pursuant to Section 204 of PROMESA; and

WHEREAS, the Concessionaire desires to obtain a concession of the Toll Roads from the Authority and to provide the Toll Road Services in connection therewith, all as hereinafter provided; and

WHEREAS, the Authority desires to grant a concession of the Toll Roads to the Concessionaire to permit the Concessionaire to provide the Toll Road Services in connection therewith, all as hereinafter provided; and

WHEREAS, each of the Authority and the Concessionaire has reviewed and approved the terms and conditions of this Agreement and the transactions contemplated hereby.

NOW THEREFORE, for and in consideration of the premises, the mutual covenants, representations, warranties and agreements contained herein and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties (as defined herein) covenant and agree as follows:

ARTICLE 1

DEFINITIONS AND INTERPRETATION

Section 1.1 Definitions. Unless otherwise specified or the context otherwise requires, for the purposes of this Agreement the following terms have the following meanings:

"AA-Compensation" has the meaning ascribed thereto in Section 14.1(b).

"AA-Dispute Notice" has the meaning ascribed thereto in Section 14.1(c).

"AA-Notice" has the meaning ascribed thereto in Section 14.1(c).

"AA-Preliminary Notice" has the meaning ascribed thereto in Section 14.1(c).

"AA-Termination Damages" has the meaning ascribed thereto in Section 14.2(a).

"AAA" has the meaning ascribed thereto in Section 19.3(c).

"AAA Commercial Rules" has the meaning ascribed thereto in Section 19.4(a).

"AAA Technical Arbitration Rules" has the meaning ascribed thereto in Section 19.4(b).

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"Accelerated Safety Upgrades" means the capital improvement projects described in Section 1 of Schedule 6.

"Act" has the meaning ascribed thereto in the Recitals of this Agreement.

"Act No. 2" means Act No. 2 of the Legislative Assembly of Puerto Rico, enacted on January 4, 2018, 3 P.R. Laws Ann. § 1881 *et seq.*, as amended from time to time, also known as the Anticorruption Code for the New Puerto Rico.

"Act No. 18" means Act No. 18 of the Legislative Assembly of Puerto Rico, enacted on October 30, 1975, 2 P.R. Laws Ann. § 97 *et seq.*, as amended from time to time.

"Act No. 106" means Act No. 106 of the Legislative Assembly of Puerto Rico, enacted on August 23, 2017, 3 P.R. Laws Ann. § 9531 *et seq.*, as amended from time to time.

"Act No. 173" has the meaning ascribed thereto in Section 11.9.

"Act No. 237" means Act No. 237 of the Legislative Assembly of Puerto Rico, enacted on August 31, 2004, 3 P.R. Laws § 8611 *et seq.*, as amended from time to time.

"AD-Termination Damages" has the meaning ascribed thereto in Section 16.2(b)(ii).

"Additional Lands" means any lands required for an Expansion.

"Adjustment Period End Date" means the Closing Date.

“Adjustment Period Start Date” means 10:00 a.m. Atlantic Standard Time on August 14, 2023.

“Adverse Action” has the meaning ascribed thereto in Section 14.1(a).

“Administrative Determination” means Administrative Determination No. 22-05 of the PR Department of Treasury, as supplemented by the Tax Matters Supplement.

“Affected Property” means any public or private property, including a highway, street, road, roadway, railroad, rail or other transit way or bicycle or hiking path and any ancillary facilities related to any of the foregoing, under the jurisdiction and control of the Authority, any other Governmental Authority or any other Person (including any private road) that intersects, crosses over or under or is adjacent to the Toll Roads or any part thereof, but excluding any Toll Road Land.

“Affiliate” when used to indicate a relationship with a specified Person, means a Person that, directly or indirectly, through one or more intermediaries has a 10% (or in the case of “majority-owned Affiliates,” 50%) or more voting or economic interest in such specified Person or controls, is controlled by or is under common control with (which shall include, with respect to a managed fund or trust, the right to direct or cause the direction of the management and policies of such managed fund or trust as manager, advisor or trustee pursuant to relevant contractual arrangements) such specified Person, and a Person shall be deemed to be controlled by another Person, if controlled in any manner whatsoever that results in control in fact by that other Person and any Person or Persons with whom that other Person is acting jointly or in concert, whether directly or indirectly and whether through share ownership, a trust, a contract or otherwise (it being understood and agreed that for purposes of this definition, a managed fund or trust shall be deemed to be an Affiliate of the Person managing such fund or trust and a limited partner in a managed fund or trust shall be deemed to be an Affiliate of such fund or trust and of the Person managing such fund or trust).

“Agreed Modification” has the meaning ascribed thereto in Section 5.1(b).

“Agreement” has the meaning ascribed thereto in the preamble to this Agreement (including all schedules referred to herein), as amended, modified or supplemented from time to time in accordance with the terms hereof.

“Amendments to the Escrow Documents” means, collectively, the Amendment to the New Escrow Agreement, the Amendment to the Original Escrow Agreement and the Amendment to the Disbursement Instructions.

“Amendment to the Disbursement Instructions” means an amendment to the Disbursement Instructions substantially in the form of Schedule 23 hereto.

“Amendment to the New Escrow Agreement” means an amendment to the New Escrow Agreement substantially in the form of Schedule 18 hereto.

"Amendment to the Original Escrow Agreement" means an amendment to the Original Escrow Agreement substantially in the form of Schedule 22 hereto.

"Approval," "Approved," "Approves," "Approved by the Authority" and similar expressions mean approved or consented to by the Authority in accordance with the provisions of Section 1.16.

"Assigned Contracts" means each of those agreements of the Authority set forth in Section I of Schedule 10.

"Assumed Liabilities" has the meaning ascribed thereto in Section 3.2(c).

"Atlantic Standard Time" means time as measured in Puerto Rico by subtracting four hours from Greenwich Mean Time.

"Audit" and similar expressions mean, with respect to any matter or thing relating to the Toll Roads, the Toll Road Operations or this Agreement, including compliance with the terms of this Agreement, the performance by or on behalf of the Authority of such reviews, investigations, inspections and audits relating to such matter or thing as the Authority may determine, in its reasonable determination, to be necessary in the circumstances, conducted in each case in accordance with all applicable United States industry accepted practices and the terms of this Agreement. For the avoidance of doubt, audits, investigations or requests for information conducted by the Puerto Rico Public-Private Partnerships Authority pursuant to, and as required by, Act 29 are deemed Audits carried out on behalf of the Authority.

"Authority" has the meaning ascribed thereto in the preamble to this Agreement.

"Authority Capital Improvement Contracts" means (i) each of those agreements of the Authority set forth in Section III of Schedule 10 (and any replacement, extension or renewal thereof by the Authority) and (ii) any other agreement executed by the Authority in connection with the construction and other activities necessary to complete an Authority Capital Improvement Project.

"Authority Capital Improvement Projects" means the Retained Capital Improvement Projects, the ORT Improvement Project, the Canopy Demolition Project and, in each case if undertaken by the Authority, the CD Project and the DTL Extension Project.

"Authority Default" has the meaning ascribed thereto in Section 16.2(a).

"Authority Employees" has the meaning ascribed thereto in Section 2.5(j)(i).

"Authority Project Work" means the construction and other activities necessary to complete the work required by any applicable Authority Capital Improvement Contract or otherwise to complete the applicable Authority Capital Improvement Project.

"Authority Related Entity" has the meaning ascribed thereto in Section 3.7(a).

“Authority’s Benchmark Interest Rate Adjustment” has the meaning ascribed thereto in Section 2.4(f)(ii)(C).

“Authority’s Option” has the meaning ascribed thereto in Section 18.8(a).

“Authorization” means any approval, certificate of approval, franchise, final determination, authorization, consent, waiver, variance, exemption, declaratory order, exception, license, filing, registration, permit, notarization, or other requirement of any Governmental Authority that applies to all or any part of the Toll Roads or the Toll Road Operations.

“Authorized Auditor” has the meaning ascribed thereto in Section 8.2(a).

“Band” means the applicable amount set forth in the column entitled “Band” on Schedule 20.

“Bank Rate” means the prime rate of interest announced publicly by the *Wall Street Journal* (or its successors) as the so-called “prime rate.”

“Benchmark Rates” means the benchmark rates for any private activity bonds, taxable bonds, private placement and bank debt (including associated hedging instruments) that have been approved by the Authority in accordance with Section 7.4.6 of the Request for Proposals for Puerto Rico Toll Roads Monetization Project, issued by the Authority on January 13, 2023, as subsequently amended, and assumed and indicated in the Financial Model as presented at the Bid Date and to be issued or raised, as applicable, on the Closing Date.

“Bid Date” means August 28, 2023.

“Breakage Costs” means any breakage costs, make-whole premium payments, termination payments or other prepayment amounts (including debt premiums) that are required to be paid pursuant to the financing agreements providing for Concession Mortgage Debt or Qualified Debt, including the costs that are required to be paid as a result of prepayment of Concession Mortgage Debt or Qualified Debt prior to its scheduled maturity date and the costs of early termination of hedging arrangements.

“Business Day” means any day that is neither a Saturday, a Sunday nor a day observed as a holiday by either the Commonwealth or the United States government; *provided* that a half-holiday shall be treated as a full holiday.

“Canopy Demolition Project” means the canopy demolition project described in Section 3 of Schedule 5.

“Capital Costs Reserve” has the meaning ascribed thereto in Section 16.3(h)(ii).

“Cash Deposit” has the meaning ascribed thereto in Section 2.3(a).

“Casualty Cost” has the meaning ascribed thereto in Section 13.3(a).

"CD" means a new Caguas collector/distributor road starting at the intersection of PR-52 and PR-1, traveling south west for approximately 0.74 miles and south for approximately 1 mile before ending at the intersection connector with Jose Garrido Avenue in Caguas.

"CD MOT Plan" has the meaning ascribed thereto in Section 4.1(c)(i).

"CD Project" means design and construction of the CD.

"CE-Dispute Notice" has the meaning ascribed thereto in Section 15.1(a).

"CE-Notice" has the meaning ascribed thereto in Section 15.1(a).

"CE-Preliminary Notice" has the meaning ascribed thereto in Section 15.1(a).

"Change in Control" means, with respect to any Person, a transfer of ownership interests of such Person, whether accomplished through a single transaction or a series of related or unrelated transactions and whether accomplished directly or indirectly, including by way of merger, consolidation, amalgamation or business combination, such that (i) 50% or more of the direct or indirect voting or economic interests in such Person is transferred to another Person or group of Persons acting in concert or (ii) the power directly or indirectly to direct or cause the direction of management and policy of such Person, whether through ownership of voting securities, by contract, management agreement, or common directors, officers or trustees or otherwise, is transferred to another Person or group of Persons acting in concert; *provided, however*, that notwithstanding anything to the contrary set forth in this definition, none of the following shall constitute a "Change in Control" for the purposes of this Agreement:

(A) Transfers of direct or indirect ownership interests in the Concessionaire, the Operator or any Equity Participant (as applicable) between or among Persons that are majority-owned Affiliates of each other or Persons who are under common control, whether directly or indirectly and whether through share ownership, a trust, a contract or otherwise;

(B) Transfers of shares of the Concessionaire, the Operator or any Equity Participant, or the direct or indirect shareholders of the Concessionaire, the Operator or any Equity Participant (as applicable), pursuant to *bona fide* open market transactions on the New York Stock Exchange, NASDAQ, London Stock Exchange or comparable United States or foreign securities exchange, including any such transactions involving an initial or "follow on" public offering; *provided* that no Person or group of Persons acting in concert (that is not the Concessionaire, the Operator or an Equity Participant) acquires securities such that such Person or group of Persons beneficially owns more than 50% of the publicly traded securities of the Concessionaire, the Operator or any Equity Participant (as applicable);

(C) Transfers of direct or indirect ownership interests in the Concessionaire by any Equity Participant or its beneficial owner(s) to any Person so long as the Equity Participants or their respective beneficial owner(s) having ownership interests in the Concessionaire as of the Effective Date together retain, in the aggregate, 50% or more of the direct or indirect voting or economic interests in the Concessionaire or the power directly or indirectly to direct or cause the

direction of management and policy of the Concessionaire, through ownership of voting securities or common directors, officers or trustees;

(D) Transfers of direct or indirect ownership interests in the Concessionaire, by any Equity Participant or its direct or indirect beneficial owner(s), or transfers of direct or indirect ownership interests in any Equity Participant by its direct or indirect beneficial owner(s), in each case to any partners, members, shareholders, directors, officers, employees or investors who are distributees of investments held by such Person(s) pursuant to any *bona fide* liquidation of such Person(s) as a result of which securities held by such Person(s) are distributed to such distributees;

(E) any change of ownership that is attributable to a lease, sublease, concession, management agreement, operating agreement or other similar arrangement that is subject and subordinate in all respects to the rights of the Authority under this Agreement so long as (1) no "Change in Control" occurs with respect to the Concessionaire, (2) the Concessionaire remains obligated under this Agreement and (3) such lease, sublease, concession, management agreement, operating agreement or other similar arrangement does not result in a "Change in Control" of the Operator (it being understood and agreed that the existence of a contractual relationship or management agreement between the Operator and a party to a lease or other contractual arrangement referred to in this clause (E) shall not constitute a "Change in Control" of the Operator);

(F) the creation of a trust or any other transaction or arrangement that is solely a transfer of all or part of the Concessionaire's or the Operator's economic interest under this Agreement to another entity so long as (1) no "Change in Control" occurs with respect to the Concessionaire, (2) the Concessionaire remains obligated under this Agreement and (3) such transaction does not result in a "Change in Control" of the Operator; and

(G) Transfers of direct or indirect ownership interests in the Concessionaire, the Operator or any Equity Participant (as applicable) (1) between or among investment funds, including infrastructure funds, and investors therein; *provided* that following such Transfer such direct or indirect ownership interests remain under common ownership, management or control or (2) to or from investment funds, including infrastructure funds, or investors therein, to or from any Person; *provided* that such direct or indirect ownership interests, following consummation of such Transfer, remain under the same management or control, it being understood that ownership interests shall be deemed to be controlled by a Person if controlled in any manner whatsoever that results in control in fact, whether directly or indirectly, and whether through share ownership, a trust, a contract or otherwise.

"Change of Law" means (i) the adoption of any Law after the date which is fifteen (15) days prior to the Bid Date, or (ii) any change in any Law or in the interpretation or application thereof by any Governmental Authority after the date which is fifteen (15) days prior to the Bid Date.

"Claim" means any demand, action, cause of action, suit, proceeding, arbitration, claim, judgment or settlement or compromise relating thereto which may give rise to a right to indemnification under Section 12.1 or 12.2.

"Closing" has the meaning ascribed thereto in Section 2.2(a).

"Closing Date" has the meaning ascribed thereto in Section 2.2(a).

"Closing LOC" has the meaning ascribed thereto in Section 2.3(a).

"Code of Ethics" has the meaning ascribed thereto in Section 9.2(g).

"Committed Investment" means (i) any form of direct investment by Equity Participants, including the purchase of equity shares in the Concessionaire; (ii) any bona fide indebtedness of the Concessionaire for funds borrowed that is (A) held by any Equity Participant and (B) subordinated in priority of payment and security to all Concessionaire debt held by Persons who are not Equity Participants; or (iii) an irrevocable on-demand letter of credit issued by or for the account of an Equity Participant naming the Concessionaire or the applicable collateral agent as beneficiary and guaranteeing the provision of the direct investment or loan referenced in clauses (i) or (ii) of this definition.

"Commonwealth" means the Commonwealth of Puerto Rico.

"Commonwealth Court" has the meaning ascribed thereto in Section 19.4(c).

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"Commonwealth Contractor Requirements" means the representations and warranties set forth in Section 9.2(g), (h), (i) and (j), the requirements set forth in Sections 9.3, 11.10 and 11.11 and the requirements of Act No. 2.

"Commonwealth Police" means the Commonwealth Police, its successors or any other public law enforcement service provider permitted to assume the responsibilities of the Commonwealth Police.

"Commonwealth Registry of Property" means the appropriate sections of the Registry of Property of the Commonwealth in which the Concession Agreement must be recorded.

"Comparable Highway" means a divided controlled access interstate grade highway having two or more lanes in each direction without traffic signals and with interchanges or bridges in each case of interstate grade.

"Compensation Date" has the meaning ascribed thereto in Section 15.1(b).

"Compensation Event" means (i) any applicable entry on, use, closure or other action taken with respect to, the Toll Roads by any Authority Related Entity pursuant to Section 3.7(a)(v) through Section 3.7(a)(x) (inclusive); *provided* that (1) the Concessionaire's use of all or any material part of PR-20, PR-52, PR-53 or PR-66 as a highway is materially impaired or (2) there is a material adverse impact on the Toll Road Operations, traffic flow, the physical structure of the Toll Roads or the Concessionaire's compliance with the Operating Standards and such impairment or adverse impact results in Losses or reduced Toll Road Revenues, (ii) the Concessionaire's compliance with or the implementation of a Required Modification pursuant to Section 5.2, (iii) the Concessionaire's compliance with or the implementation of any modified or changed Operating Standard (subject to Section 6.3(b)), (iv) the occurrence of an Adverse Action

as contemplated in Article 14, (v) the circumstances described in each of Section 2.5(i)(iii), Section 4.1(d), Section 4.2(a), and Section 5.2, (vi) the occurrence of an Authority Default as contemplated in Article 16, (vii) the placement in service of a Competing Highway as contemplated in Section 14.1(e), (viii) the circumstances contemplated in Section 2.3(d) of Schedule 4, (ix) the enactment by any Governmental Authority of the Commonwealth of any law, ordinance, rule or regulation that has a material adverse impact on the tax treatment or the exemption from taxes granted to the Concessionaire pursuant to Section 3.10(b), (x) (1) failure by the Authority to obtain the NEPA Approval increasing the highest toll rate permitted under NEPA requirements with respect to the DTLs to a level of at least \$6 on or prior to January 1, 2025 or (2) the occurrence of a successful challenge to such NEPA Approval or to the NEPA authorization for the existing \$3.50 Toll Rate Cap with respect to the DTLs, which challenge either prevents or delays the implementation of such NEPA Approval or prevents the collection of toll rates up to such existing Toll Rate Cap or (xi) any failure by the Authority to implement the ORT Change in accordance with Section 2 of Schedule 5 in any material respect.

"Competing Highway" means

a. any newly-constructed Comparable Highway that is built by or on behalf of the Commonwealth and opens to traffic during the Term, of which highway (i) in the case of PR-52, at least ten (10) continuous miles are laterally adjacent to PR-52 and within five (5) miles of the centerline, (ii) in the case of PR-53, at least eight (8) continuous miles are laterally adjacent to PR-53 and within five (5) miles of the centerline, (iii) in the case of PR-66, at least four (4) continuous miles are laterally adjacent to PR-66 and within three (3) miles of the centerline, and (iv) in the case of PR-20, at least two (2) continuous miles are laterally adjacent to PR-20 and within one (1) mile of the centerline;

b. PR-1, but only if and to the extent that any continuous segment of five (5) or more miles of PR-1 between the intersection of PR-1 and Apolo Avenue and the intersection of PR-1 with PR-30 is expanded or improved so that such segment becomes a Comparable Highway; and

c. PR-3, but only if and to the extent that any continuous segment of five (5) or more miles of PR-3 between its intersection with PR-66 in the Municipality of Carolina and PR-187 in the Municipality of Rio Grande is expanded or improved so that such segment becomes a Comparable Highway;

provided, however, that no project identified in Schedule 13 shall constitute a Competing Highway, including, for the avoidance of doubt, PR-9 and any projects with respect thereto.

"Concession" has the meaning ascribed hereto in Section 2.1(a).

"Concession Compensation" means, with respect to a Compensation Event, compensation due from the Authority to the Concessionaire in the forms set forth in Section 15.1(b) and Section 15.1(c) in order to restore the Concessionaire to the same after-Tax economic position that the Concessionaire would have been in if such Compensation Event had not occurred, calculated in accordance with Section 15.1(d) and Section 15.1(e). For the avoidance of doubt, such compensation in respect of an event described in clause (x) of the

definition of Compensation Event shall include all amounts contemplated to have been received by the Concessionaire in its base case financial model with respect to the DTLs (provided to the Authority on the Bid Date) but for the failure to obtain the NEPA Approval or the existence of any challenge thereto (or to the existing Toll Rate Cap), other than incremental amounts, if any, that were based on a contemplated toll rate above \$3.50 prior to January 1, 2025 or above \$6 on or after such date.

"Concession Fee" has the meaning ascribed thereto in Section 2.1(a)(i). For the avoidance of doubt, the term "Concession Fee" includes (i) the fee for the grant of the Concession referred to in Section 2.1(a)(ii)(A) and (ii) consideration for the conveyance referred to in Section 2.1(a)(ii)(B). If the Final Concession Fee differs from the Concession Fee on the Closing Date, all references to Concession Fee herein shall be deemed to refer to the Final Concession Fee.

"Concession Mortgage" means any pledge, mortgage, deed of trust or other security agreement or arrangement, including a securitization transaction with respect to Toll Revenues or other Toll Road Revenues, encumbering any or all of the Concessionaire Interest (including the Toll Road Assets) or the shares or equity interests in the capital of the Concessionaire and any cash reserves or deposits held in the name of the Concessionaire that, in each case, satisfies all of the conditions in Article 18.

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"Concession Mortgage Debt" means any *bona fide* debt secured by a Concession Mortgage, including (i) principal (including accreted principal under interest rate hedges or bonds); (ii) accrued interest (including capitalized interest); (iii) customary fees, costs, premiums (including make-whole redemption premiums), expenses and reimbursement obligations with respect thereto owed to lenders, institutional investors, financial insurers, agents, trustees and similar service providers; (iv) all payment obligations under interest rate hedging agreements with respect thereto (including accreting interest rate hedging agreements); (v) reimbursement obligations with respect thereto to any financial insurer; (vi) any debt repayment obligations of the Lessor under a Leveraged Lease and (vii) an assignment in connection with a securitization transaction, in each case, pursuant to an agreement entered into prior to the delivery by the Concessionaire to the Authority of an AA-Preliminary Notice or a notice under Section 16.2(b) stating that an Authority Default has occurred. For the purposes of determining Toll Road Concession Value, Concession Mortgage Debt shall not include: (A) debt from an Affiliate of the Concessionaire or the Operator (to the extent the Operator is an Affiliate of the Concessionaire), unless such debt is on terms consistent with terms that would reasonably be expected from a non-Affiliate lender acting in good faith; *provided* that the Concessionaire may request at any time during the Term that the Authority confirm in writing, and the Authority shall so confirm within a reasonable time following such request, whether any such debt is on terms consistent with terms that would reasonably be expected from a non-Affiliate lender acting in good faith; (B) any increase in debt to the extent such increase is the result of an agreement or other arrangement entered into after delivery by the Concessionaire to the Authority, with a copy to the Concession Mortgagee, of an AA-Preliminary Notice or a notice under Section 16.2(b) stating that an Authority Default has occurred; or (C) any debt with respect to which the Concession Mortgagee Notice Requirements apply and the Concession Mortgagee does not provide the Authority with notice in all material respects in accordance with the Concession

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Mortgagee Notice Requirements. Notwithstanding anything herein to the contrary, except with respect to any such *bona fide* secured debt which was incurred or committed on or prior to the Closing Date, all of which incurred or committed debt shall be deemed to be Concession Mortgage Debt (except to the extent excluded from Concession Mortgage Debt pursuant to clauses (A) or (B) above), Concession Mortgage Debt shall not include any new debt incurred or committed following the Closing Date (it being understood and agreed by the Parties that any capitalization of interest or accretion of principal or other committed increases on any debt incurred or committed on or prior to the Closing Date and any Refinanced Concession Mortgage Debt shall likewise be considered Concession Mortgage Debt and shall not constitute such new debt) the principal amount of which (together with the aggregate principal amount of any previously qualified Concession Mortgage Debt and Qualified Debt after giving effect to the incurrence or commitment of any such new debt) *exceeds* the greater of (I) the maximum principal amount specified on Schedule 9 hereto for the applicable period in which such new debt is incurred or committed to be incurred and (II) in the event that the Concessionaire elects to obtain an appraisal in order to qualify such new debt as Concession Mortgage Debt, eighty percent (80%) of the fair market value of the Concessionaire Interest as set forth in such appraisal; *provided that*, in order for such new debt to qualify as Concession Mortgage Debt in connection with any appraisal obtained pursuant to the foregoing sub-clause (II), such appraisal shall (X) be prepared at the Concessionaire's expense by an independent third party appraiser described under "Toll Road Concession Value" and delivered to the Authority prior to the incurrence or commitment of such new debt, (Y) be a written appraisal of the fair market value of the Concessionaire Interest as of the time of the incurrence or commitment of such new debt and (Z) identify the extent to which the principal amount of such new debt (together with the aggregate principal amount of Concession Mortgage Debt and any Qualified Debt after giving effect to the incurrence or commitment of any such new debt) *exceeds* eighty percent (80%) of the fair market value of the Concessionaire Interest set forth in such appraisal at the time of incurrence or commitment of such new debt; *provided that* the Parties agree that notwithstanding the requirements of the foregoing sub-clauses (X), (Y) and (Z), the amount of the Concession Fee paid at the Closing shall be deemed to constitute the fair market value of the Concessionaire Interest for a period of twelve (12) months after the Closing Date and, as such, no appraisal shall be required to establish the fair market value of the Concessionaire Interest within such twelve (12)-month period. The appraisal requirement in the preceding sentence shall not apply to any protective advances made by any Concession Mortgagee or advances made by any Concession Mortgagee to cure Concessionaire defaults under the Concession Mortgage (regardless of whether entered into on or after the Closing Date) or other financing documents of such Concession Mortgagee. Further, except as provided above in this definition, any capitalization of interest or accretion of principal or other committed increases on any debt that has previously qualified as Concession Mortgage Debt shall constitute Concession Mortgage Debt.

"Concession Mortgagee" means the holder or beneficiary of a Concession Mortgage, including a financial insurer or the Lessor in a lease or Leveraged Lease, or an agent, trustee or other representative or designee of such a holder or beneficiary.

"Concession Mortgagee Notice Requirements" means the delivery, by a Concession Mortgagee to the Authority, not later than ten (10) Business Days after the execution and delivery of a Concession Mortgage by the Concessionaire, of a true and complete copy of the

executed original of such Concession Mortgage, together with a notice containing the name and post office address of such Concession Mortgagee.

"Concession Mortgagee's Notice" has the meaning ascribed thereto in Section 18.8(a).

"Concession Year" means (i) if the Closing Date occurs on the first day of a calendar month, the 12-month period beginning on the Closing Date or (ii) if the Closing Date does not occur on the first day of a calendar month, the period from the Closing Date through the 12-month anniversary of the end of the calendar month in which the Closing Date occurred and, in either case of clause (i) or (ii), each succeeding 12-month period and in any case ending as of the End Date.

"Concessionaire" has the meaning ascribed thereto in the preamble to this Agreement.

"Concessionaire Bidirectional Project" means the capital improvement project described in Section 3 of Schedule 6.

"Concessionaire Capital Improvement Projects" means the Accelerated Safety Upgrades, the Concessionaire Bidirectional Project, and the ITS Project.

"Concessionaire Default" has the meaning ascribed thereto in Section 16.1(a).

"Concessionaire Escrow Subaccount" means a subaccount of the New Escrow Account to be held by the Escrow Agent for the exclusive benefit of the Concessionaire.

"Concessionaire Interest" means the interest, benefits and rights of the Concessionaire in the Toll Roads and the Toll Road Assets created by this Agreement and the rights and obligations of the Concessionaire under this Agreement (including the right to receive Concession Compensation and the right to receive Termination Damages hereunder).

"Conduit Issuer" means the conduit issuer of any tax-exempt or taxable bonds for the benefit of the Concessionaire.

"Consent" means any approval, consent, ratification, waiver, exemption, franchise, license, permit, novation, certificate of occupancy or other authorization, including any consent issued, granted, given, or otherwise made available by or under the authority of any Governmental Authority or pursuant to any applicable Law.

"Contract Review Policy" means the contract review policy, as adopted by the Oversight Board pursuant to Section 204(b)(2) of PROMESA, as may be amended from time to time.

"Contract Warranties" has the meaning ascribed thereto in Section 4.1(c)(iii).

"Contractor" means, with respect to a Person, any contractor, with whom such Person contracts to perform work or supply materials or labor in relation to the Toll Roads, including any subcontractor of any tier, supplier or materialman directly or indirectly employed pursuant to a subcontract with a Contractor but excluding, for the avoidance of doubt, any financial advisor retained by the Equity Participants or the Concessionaire to provide advice in relation to the

financing of the Toll Roads. To the extent that the Operator is not the Concessionaire, the Operator shall be a Contractor of the Concessionaire.

"Contratante" means "Contratante" as defined in the Spanish version of the Act.

"Covered Party" has the meaning ascribed thereto in Section 9.2(h)(i).

"CRIM" has the meaning ascribed thereto in Section 9.3(a).

"Cumulative Toll Road Revenues" means, as of the end of any calendar year during the Term, the cumulative annual Toll Road Revenues actually collected by or on behalf of the Concessionaire (or, in the case of Delinquent Non-Cash Tolls, actually paid by the Authority to the Concessionaire) and disbursed to the Concessionaire pursuant to the Escrow Agreements, for each annual period to such date over the Term, excluding any revenues derived from (a) the Concessionaire's share of DTL Extension Revenues pursuant to Section 7.2(g), (b) the Concessionaire's share of the DTLs Incremental Toll Revenues set forth in Section 7.2(h), (c) any temporary increase in tolls pursuant to Section 3.16(d)(v) or (d) any increase in tolls or extension of the Term pursuant to Section 15.1(c).

"Data Room" means the virtual data room at www.ansarada.com used for the purposes of this Transaction.

"Defending Party" has the meaning ascribed thereto in Section 12.1(e).

"Delay Event" means any of the following events that results in or would result in a delay or interruption in the performance by the Concessionaire of any obligation under this Agreement: (i) an event of Force Majeure, (ii) a failure to obtain, or delay in obtaining, any Authorization from a Governmental Authority (*provided* that such failure or delay could not have been reasonably prevented by technical and scheduling measures of the Concessionaire), (iii) a Change of Law, (iv) the performance of works carried out by a Governmental Authority (including the activities authorized by Section 3.7) or any utility or railway operator or Person not acting under the authority or direction of, or pursuant to, a contract, sublease or any other agreement or arrangement with the Concessionaire or the Operator, (v) a failure by the Authority to perform or observe any of its covenants or obligations under this Agreement, (vi) the presence in, on, under or around the Toll Road Lands of Hazardous Substances, (vii) the implementation of Engineering or Institutional Controls related to the Toll Roads (*provided* that such failure or delay could not have been reasonably prevented by technical and scheduling measures of the Concessionaire), (viii) the relocation of utilities, (ix) a delay required by Law due to the discovery of protected plant or animal species, archeological, paleontological or cultural resources at or about a site of construction required or permitted to be undertaken pursuant to this Agreement, (x) a delay in the performance by the Concessionaire of any of the capital improvements set forth in Schedule 6 due to the postponement of such works by the Authority pursuant to Section 4.2(a), (xi) the breach by the Authority of any of its obligations under any Other Authority Agreement, (xii) the occurrence of an Adverse Action, (xiii) a delay caused by the performance of any Authority Capital Improvement Project pursuant to Section 4.1(d), or (xiv) the issuance by a court having jurisdiction of any injunction or other order enjoining or estopping the Concessionaire or the Authority from the exercise of its rights or performance of

its obligations pursuant to this Agreement (other than by any action of the Concessionaire); *provided* in each case that such delay or the cause thereof is neither otherwise specifically dealt with in this Agreement nor arises by reason of (A) the negligence or intentional misconduct of the Concessionaire or its Representatives, (B) any act or omission by the Concessionaire or its Representatives in breach of the provisions of this Agreement, (C) except as contemplated by Section 5.2, lack or insufficiency of funds or failure to make payment of monies or provide required security on the part of the Concessionaire, (D) except to the extent such events constitute an event of Force Majeure, any strike, labor dispute or other labor protest involving any Person retained, employed or hired by the Concessionaire or its Representatives to supply materials or services for or in connection with the Toll Road Operations or any strike, labor dispute or labor protest caused by or attributable to any act (including any pricing or other price or method of operation) or omission of the Concessionaire or its Representatives, (E) except to the extent such events constitute an event of Force Majeure, any weather conditions or (F) the development, redevelopment, construction, maintenance, modification, change in operation, opening or introduction of any existing or new mode of transportation (including, without limitation, any Competing Highway, any managed lanes, any high-occupancy toll (HOT) lanes, any high-occupancy vehicle (HOV) lanes and any bus rapid transit (BRT) lanes).

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“Delay Event Dispute Notice” has the meaning ascribed thereto in Section 15.2(c).

“Delay Event Notice” has the meaning ascribed thereto in Section 15.2(c).

“Delay Event Remedy” has the meaning ascribed thereto in Section 15.2(c).

“Delinquent Amounts” means all amounts collected by or on behalf of the Authority related to any non-payment of any tolls in respect of PR-5, PR-22, PR-17, the Toll Roads, and all toll roads operated by the Municipality of Guaynabo, including (i) any amounts related to the non-payment of tolls which are not specifically attributable to a particular road (such amounts shall be allocated on a pro rata basis based on toll revenues processed unless otherwise required by law or regulation), (ii) all Delinquent Non-Cash Tolls, fines and related charges paid in respect of any violations on such roads and any base toll amounts related thereto (in whole or in part), and (iii) all delinquent tolls and fines from toll violators referred to in Section 3.16(b)(ii) of this Agreement that are not deposited and paid directly to the Concessionaire in accordance with the Original Escrow Agreement and the Disbursement Instructions.

“Delinquent Non-Cash Tolls” has the meaning ascribed thereto in Section 3.16(c)(i).

“Delinquent Sum Overpayment” has the meaning ascribed thereto in Section 3.16(c)(v)(A).

“Delinquent Sum Underpayment” has the meaning ascribed thereto in Section 3.16(c)(v)(B).

“Dependent Business” means any Vendor, Contractor or other Person under contract with the Concessionaire and engaged in a business that depends for all or a substantial part of its revenues on the Toll Road Operations as of the Effective Date.

"Depository" means a savings bank, a savings and loan association or a commercial bank or trust company which would qualify as an Institutional Lender, designated by the Concessionaire and Approved by the Authority, to serve as depository pursuant to this Agreement; *provided, however*, that so long as a Concession Mortgage is in effect, the Depository contemplated under Section 13.3 shall be the institution acting as the collateral agent or depository under the financing secured by such Concession Mortgage.


"Designated Person" means each representative of a Party who is designated as such for the purposes of Article 19.

"Disbursement Instructions" means the Amended and Restated Disbursement Instructions, dated as of December 6, 2022, attached as Exhibit A to Amendment No. 1 to the Original Escrow Agreement, as amended by the Amendment to the Disbursement Instructions.

"DTL Extension" means an extension of the DTLs along a new branch on PR-30.

"DTL Extension Project" means design and construction of the DTL Extension.

"DTL Extension Revenues" has the meaning ascribed thereto in Section 2.2(j) of Schedule 4.

 "DTLs" means the PR-52 dynamic toll lanes, which consist of a corridor that also extends through a portion of each of PR-18 and PR-1, as more particularly set forth in Schedule 3. For avoidance of doubt, the DTLs do not include the DTL Extension.

"DTLs Incremental Toll Revenues" means all incremental revenues attributable to toll rates applicable to the DTLs above \$6.00, if any, that are charged by or on behalf of the Concessionaire in accordance with Section 2.2(i) of Schedule 4 with respect of tolls paid or payable for use by vehicles of the DTLs during the Term.

"Document" has the meaning ascribed thereto in Section 1.16(b).

"Effective Date" has the meaning ascribed thereto in the introductory paragraph of this Agreement.

"Effective Toll Enforcement System" means the employment by the Authority, the Commonwealth Police or any other Governmental Authority of all necessary efforts to collect Delinquent Non-Cash Tolls from toll violators, including the enforcement of the remedies and procedures available to the Authority, the Commonwealth Police or any Governmental Authority under applicable Law and any agreement of reciprocity with any jurisdiction, in each case, as certified by the Authority pursuant to an Officer's Certificate delivered to the Concessionaire. For the avoidance of doubt, the implementation and enforcement of a system that provides for the recordation of delinquent tolls and related fines in the vehicle registrations of toll violators and the collection of such tolls and fines as well as a condition to vehicle registration renewal, as so certified by the Authority, shall be deemed an Effective Toll Enforcement System.

"Eligible Investments" means any one or more of the following obligations or securities:
(i) direct obligations of and obligations fully guaranteed by, the United States of America or any

agency or instrumentality of the United States of America, the obligations of which are backed by the full faith and credit of the United States of America; (ii) demand or time deposits, federal funds or bankers' acceptances issued by any Institutional Lender (*provided* that the commercial paper or the short-term deposit rating or the long-term unsecured debt obligations or deposits of such Institutional Lender at the time of such investment or contractual commitment providing for such investment have been rated "A" or higher by a Rating Agency or any other demand or time deposit or certificate of deposit fully insured by the Federal Deposit Insurance Corporation); (iii) commercial paper (including both non-interest-bearing discount obligations and interest-bearing obligations payable on demand or on a specified date not more than one year after the date of issuance thereof) which has been rated "A" or higher by a Rating Agency at the time of such investment; (iv) any money market funds, the investments of which consist of cash and obligations fully guaranteed by the United States of America or any agency or instrumentality of the United States of America, the obligations of which are backed by the full faith and credit of the United States of America and which have been rated "A" or higher by a Rating Agency; and (v) other investments then customarily accepted by the Authority in similar circumstances; *provided, however*, that no instrument or security shall be an Eligible Investment if such instrument or security evidences a right to receive only interest payments with respect to the obligations underlying such instrument or if such security provides for payment of both principal and interest with a yield to maturity in excess of 120% of the yield to maturity at par.

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"Emergency Personnel" has the meaning ascribed thereto in Section 3.18(a).

"Emovis Contract" means the Agreement for the Provision of Toll Collection Equipment and Service, dated November 5, 2022, between the Authority and Emovis Operations Puerto Rico, Inc.

"Encumbrance" means any mortgage, lien, judgment, execution, pledge, charge, security interest, restriction, easement, claim, deficiency in title or chain of ownership, trust, deemed trust or encumbrance of any nature whatsoever, whether arising by operation of Law or otherwise created.

"End Date" means the date on which this Agreement expires or is terminated.

"Enforcement Benefits" has the meaning ascribed thereto in Section 20.16.

"Engineering or Institutional Controls" means those engineering, environmental or institutional controls required or approved by a Governmental Authority in relation to the remediation or avoidance of a release of a Hazardous Substance.

"Environment" means soil, surface waters, groundwaters, land, stream sediments, surface or subsurface strata, ambient air, plants and animals and other life forms.

"Environmental Laws" means any Laws applicable to the Toll Roads regulating or imposing liability or standards of conduct concerning or relating to Hazardous Substances, natural resources, the protection of human health and safety based on environmental exposure or the Environment itself.

“EPC Specifications” means the design and construction specifications to be developed, in the case of a Major Project, in accordance with the guidelines set forth in Schedule 19.

“Equity Participant” means any Person who holds any shares of capital stock or securities of, or any units, partnership interests, membership interests or other equity interests in, the Concessionaire.

“Escrow Agent” means Banco Popular de Puerto Rico, a Puerto Rico banking corporation, acting as escrow agent pursuant to the Escrow Agreements, and any successor thereto.

“Escrow Agreements” means, collectively, the Original Escrow Agreement and the New Escrow Agreement.

“Escrow Fund” has the meaning ascribed thereto in the Escrow Agreement.

“Escrow Shortfall” has the meaning ascribed thereto in Section 3.16(d)(v).

“ETC Service Contract” has the meaning ascribed thereto in Schedule 12.

“ETC Service Provider” has the meaning ascribed thereto in Schedule 12.

“ETC Service Terms” means the terms and conditions set forth in Schedule 12.

“Excluded Environmental Liabilities” has the meaning ascribed thereto in Section 3.2(c).

“Excluded Liabilities” has the meaning ascribed thereto in Section 3.2(c).

“Executive Director” means the Executive Director of the Authority.

“Expansion” means the building, erection, construction, installation, alteration, modification or replacement of any structure, facility or other improvement of any kind on the Toll Road Land or any part thereof or on Additional Lands acquired pursuant to Section 5.4 (excluding (a) any modifications or improvements made in the Ordinary Course and (b) any matters contemplated by the Operating Standards).

“FHWA” means the Federal Highway Administration, an agency of the United States Department of Transportation.

“Final Acceptance” means the completion of an entire project pursuant to the General Provisions of the Authority’s Standard Specifications for Road and Bridge Construction, as the same may be amended, supplemented or replaced from time to time, as determined by the Engineer (as defined therein) in his or her discretion, subject in each case to satisfaction by the Authority of the conditions set forth in Section 4.1(c), if applicable.

“Final Concession Fee” means the amount resulting from the calculation set forth in either Section 2.4(f)(ii)(B) or (C), as applicable. If the Final Concession Fee differs from the

Concession Fee on the Closing Date, all references to Concession Fee herein shall be deemed to refer to the Final Concession Fee.

"Financial Model" means the financial model submitted by the Concessionaire as part of its proposal pursuant to Section 4 of Appendix 3C of the Request for Proposals for Puerto Rico Toll Roads Monetization Project, issued by the Authority on January 13, 2023, as subsequently amended.

"Financial Model Step 1" has the meaning ascribed thereto in Section 2.4(f)(ii)(A).

"Financing Costs" means any transaction costs and expenses (including legal fees), Taxes, and disbursements incurred by the Authority to finance, arrange for the financing of, or otherwise fund, the payment of any PIC-Termination Damages or any amount payable by the Authority pursuant to Section 16.6(f).

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"Force Majeure" means any event beyond the reasonable control of the performing party that delays or interrupts the performance by such party of its obligations hereunder, including an intervening act of God or public enemy, war (whether or not declared), invasion, armed conflict, act of foreign enemy, blockade, revolution, act of terror, sabotage, cyber-attack, civil commotions, interference by civil or military authorities, condemnation or confiscation of property or equipment by any Governmental Authority, strike or labor disturbance (other than as set forth in clause (iv) below), aircraft crash or forced landing, nuclear or other explosion, radioactive or contamination or ionizing radiation, fire, flood, tornado, hurricane, storm (that is not an Ordinary Storm), earthquake, riot or other public disorder, epidemic, pandemic, quarantine restriction, stop-work order or injunction issued by a Governmental Authority, governmental embargo; *provided* that such event neither is otherwise specifically dealt with in this Agreement nor arises by reason of (i) the negligence or intentional misconduct of the performing party or its Representatives, (ii) any act or omission by the performing party or its Representatives in breach of the provisions of this Agreement, (iii) lack or insufficiency of funds or failure to make payment of monies or provide required security on the part of the performing party, (iv) any strike, labor dispute or other labor protest involving any Person retained, employed or hired by the performing party or its Representatives to supply materials or services for or in connection with the Toll Road Operations or any strike, labor dispute or labor protest caused by or attributable to any act (including any pricing or other practice or method of operation) or omission of the performing party or its Representatives, (v) any weather conditions that are ordinarily or customarily encountered or experienced at or in the vicinity of the Toll Roads, including any Ordinary Storm, but excluding any tornado, hurricane or Named Windstorm or (vi) the development, redevelopment, construction, maintenance, modification, change in operation, opening or introduction of any existing or new mode of transportation (including, without limitation, any Competing Highway, any managed lanes, any high-occupancy toll (HOT) lanes, any high-occupancy vehicle (HOV) lanes and any bus rapid transit (BRT) lanes).

"Foreign Corrupt Practices Act" means the Foreign Corrupt Practices Act of 1977, 15 U.S.C. §§ 78dd-1, *et seq.*, as amended.

"Government Agreement" has the meaning ascribed thereto in Section 3.12.

"Governmental Authority" means the Commonwealth or any municipality, political subdivision, instrumentality or public corporation of or in the Commonwealth and any federal, state, commonwealth, county, local (including all municipalities, municipal authorities and districts) or foreign government, department, court, commission, board, bureau, agency or instrumentality or other regulatory, judicial, administrative, governmental or quasi-governmental authority.

"Governor" means the Governor of the Commonwealth or another official of the Commonwealth acting under the direction and pursuant to the authority of the Governor.

"Hazardous Substance" means, but is not limited to, any solid, liquid, gas, odor, heat, sound, vibration, radiation or other substance or emission which is a contaminant, pollutant, dangerous substance, toxic substance, regulated substance, hazardous waste, subject waste, hazardous material or hazardous substance which is or becomes regulated by applicable Environmental Laws or which is classified as hazardous or toxic under applicable Environmental Laws (including gasoline, diesel fuel or other petroleum hydrocarbons, polychlorinated biphenyls, asbestos and urea formaldehyde foam insulation).

"Highway Purposes" means the use of the Toll Roads for transportation in a manner consistent with the standard then in general use on Comparable Highways.

"Income Tax Regulations" means the income tax regulations, including temporary regulations, promulgated under the U.S. Code, as such regulations may be amended from time to time.

"Indemnified Party" means any Person entitled to the indemnification under this Agreement.

"Indemnifier" means any Party obligated to provide indemnification under this Agreement.

"Indemnity Payment" has the meaning ascribed thereto in Section 12.3(b).

"Independent Engineering Arbitrator" means an engineering firm with nationally recognized engineering experience related to Comparable Highways.

"Independent Operating Engineer" means the licensed professional consulting engineering firm reasonably acceptable to the Authority appointed pursuant to the Operating Standards.

"Index" means the "Consumer Price Index – All items in U.S. City Average, All Urban Consumers, Not Seasonally Adjusted" (Series ID: CUUR0000SA0) as published by the United States Department of Labor, Bureau of Labor Statistics for which the base year is 1982-84 = 100; *provided, however*, that if the Index is changed so that the base year of the Index changes, the Index shall be converted in accordance with the conversion factor published by the United States Department of Labor, Bureau of Labor Statistics; *provided further*, that if the Index is discontinued or revised during the Term, such other index or computation with which it is

replaced shall be used in order to obtain substantially the same result as would be obtained if the Index had not been discontinued or revised (*provided* that any such revision shall not result in the retroactive adjustment of any amounts paid or payable pursuant to this Agreement prior to such revision).

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“Information” means any and all information relating to the Toll Road Operations, including (i) income statements, balance sheets, statements of cash flow and changes in financial position, details regarding Toll Road Revenues (including information regarding the collection thereof), operating income, expenses, capital expenditures and budgeted operating results relating to the Toll Road Operations, (ii) all certificates, correspondence, data (including test data), documents, facts, files, information, investigations, materials, notices, plans, projections, records, reports, requests, samples, schedules, statements, studies, surveys, tests, test results, traffic information (including volume counts, classification counts, origin and destination data, speed and travel time information and vehicle jurisdiction data) analyzed, categorized, characterized, created, collected, generated, maintained, processed, produced, prepared, provided, recorded, stored or used by the Toll System, the Concessionaire or any of its Representatives in connection with the Toll Roads or the Toll Road Operations, and (iii) proper, complete and accurate books, records, reports, accounts and documents of the Concessionaire relating to the Toll Road Operations, including any Information that is stored electronically or on computer-related media; *provided, however*, that nothing in this Agreement shall require the disclosure by any Party of Information that is protected by attorney-client or other legal privilege based upon an opinion of counsel reasonably satisfactory to the other Party.

“Initial Base Case Financial Model” has the meaning ascribed thereto in Section 2.4(f).

“Initial Equity IRR” means the nominal post-tax Internal Rate of Return on the Committed Investment on a cash on cash basis over the full Term, as defined in the Initial Base Case Financial Model.

“Initial Funding Amount” means \$40,000,000.

“Initial MFN Notice” has the meaning ascribed thereto in Section 20.16.

“Institutional Lender” means (i) the United States of America, any state or commonwealth thereof or any agency or instrumentality of either of them, any municipal agency, public benefit corporation or public authority, advancing or insuring mortgage loans or making payments which, in any manner, assist in the financing, development, operation and maintenance of projects, (ii) any (A) savings bank, savings and loan association, commercial bank, trust company (whether acting individually or in a fiduciary capacity) or insurance company organized and existing under the laws of the United States of America or any state or commonwealth thereof, (B) foreign insurance company or commercial bank qualified to do business as an insurer or commercial bank as applicable under the laws of the United States, (C) pension fund, foundation or university or college or other endowment fund, (D) real estate investment fund, infrastructure investment fund, investment bank, pension advisory firm, mutual fund, investment company or money management firm, (E) entity which is formed for the purpose of originating and causing the securitizing of mortgages, which securities are backed by such mortgages and are sold by public offering or to qualified investors under the Securities Act

or (F) Person engaged in making loans in connection with the securitization of mortgages, to the extent that the mortgage to be made is to be so securitized in a public offering or offering to qualified investors under the Securities Act within two (2) years of its making, (iii) any "qualified institutional buyer" under Rule 144(A) under the Securities Act or any other similar Law hereinafter enacted that defines a similar category of investors by substantially similar terms or (iv) any other financial institution or entity designated by the Concessionaire and Approved by the Authority (*provided* that such institution or entity, in its activity under this Agreement, shall be acceptable under then current guidelines and practices of the Authority).

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"Intellectual Property" means all books and records, toll-setting and traffic management algorithms and Software and associated documentation used in connection with the Toll Roads (including but not limited to any Software and associated documentation used for traffic management on the Toll Roads), copyrights (including moral rights), trade marks (registered, including applications and unregistered), designs (registered, including applications, and unregistered), patents (registered, including applications and unregistered), circuit layouts, plant varieties, business and domain names, inventions, trade secrets, proposals, copyrightable works, customer and supplier lists and information, and other results of intellectual activity, copies and tangible embodiments of all of the foregoing (in whatever form or medium) and licenses granting any rights with respect to any of the foregoing, in each case relating to the Toll Roads.

"Internal Rate of Return" or "IRR" means the discount rate that makes the net present value of all cash flows from an investment equal to zero.

"ITS Project" means the capital improvement projects described in Section 2 of Schedule 6.

"Law" means any constitution, order, writ, injunction, decree, judgment, law, directive, rule, regulation, ordinance, court decision, principle of common law, ruling that has the force of law, statute, code, rule or regulation of any Governmental Authority.

"Lessor" means a Concession Mortgagee that has purchased all or a portion of the Concessionaire Interest and leased that interest in the Concessionaire Interest to the Concessionaire.

"Letter of Credit" means an irrevocable, unconditional, commercial letter of credit, in favor of the Authority as payee (without dual or multiple beneficiaries), in form and content reasonably acceptable to the Authority payable immediately in United States dollars, conditioned only upon presentation of a sight draft and a certificate confirming that the Authority has the right to draw under such letter of credit in the amount of such sight draft, without presentation of any other document, statement or authorization (including the original letter of credit), which letter of credit (i) is issued by a commercial bank or trust company that is a member of the New York Clearing House Association and that has and maintains a current credit rating of A+ or better by Standard & Poor's Ratings Services and an equivalent credit rating by another Rating Agency (or an equivalent credit rating from at least two nationally recognized rating agencies if the named rating agency ceases to publish ratings) or by such other commercial bank, trust company or other issuer reasonably acceptable to the Authority prior to the submission of the letter of credit), (ii) is substantially in the form of Schedule 14 (or otherwise in form and content

reasonably acceptable to the Authority prior to the submission of the letter of credit), and (iii) provides for the continuance of such letter of credit for a period of at least one year or as otherwise provided in this Agreement. The office for presentment of sight drafts specified in the Letter of Credit shall be located at a specified street address within the City of San Juan, Puerto Rico or the City of New York, New York or such other location within the continental United States as is reasonably acceptable to the Authority. For the avoidance of doubt, the obligations of the account party during the Term to reimburse the issuer for draws under the Letter of Credit may be secured by a Concession Mortgage.

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“Level of Service” or “LOS” shall refer to the measurement system utilized by the Transportation Research Board of the National Academy of Sciences to measure traffic congestion in its most recently published current Highway Capacity Manual (or successor publication in which the Level of Service standard is published). Should the Level of Service or LOS measurement be discontinued or revised during the Term, such other measurement index with which it is replaced shall be used in order to obtain substantially the same result as would be obtained if such revision or replacement had not occurred. The LOS shall be determined following the procedures set forth in the Highway Capacity Manual (or successor publication in which the Level of Service standard is published) during periods of usual travel-demand conditions (excluding non-recurring actions such as vehicle crash events, exceptional weather circumstances, and highway construction zones attributable to a Modification) on all elements of the Toll Roads (including mainline segments between interchanges, ramps, ramp junctions with the mainline and crossroad, and weave zones).

“Leveraged Lease” means a lease, sublease, concession, management agreement, operating agreement or other similar arrangement in which the Lessor has borrowed a portion of the purchase price of the interest in the Concessionaire Interest acquired by the Lessor and granted to the lenders of those funds a security interest in that interest.

“Loss” or “Losses” means any loss, liability, damage, penalty, charge or out-of-pocket and documented cost or expense, excluding any punitive, special, indirect and consequential damages and any contingent liability until such liability becomes actual. For the avoidance of doubt, all actual payments reasonably made by any Person to third parties (including payments made by the Concessionaire to its Equity Participant or other Affiliates pursuant to contracts entered into on an arm’s length basis) or reasonable out-of-pocket and documented costs or expenses actually suffered or incurred by any Person in respect of Claims made by third parties shall constitute Losses of such Person whether or not such payments or such costs and expenses relate to punitive, special, indirect and consequential damages or contingent liabilities of such third parties.

“Major Project” has the meaning ascribed thereto in Schedule 19.

“Material Adverse Effect” means a material adverse effect on the business, financial condition or results of operations of the Toll Roads taken as a whole or the rights of the Concessionaire under this Agreement; *provided, however*, that no effect arising out of or in connection with or resulting from any of the following shall be deemed, either alone or in combination, to constitute or contribute to a Material Adverse Effect: (i) general economic conditions or changes therein; (ii) financial, banking, currency or capital markets fluctuations or

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conditions (either in the United States or any international market and including changes in interest rates); (iii) conditions affecting any or all of the real estate, financial services, construction or toll road industries in the United States or internationally; (iv) any existing event, occurrence or circumstance of which the Concessionaire has actual knowledge as of the Bid Date (including, but not limited to, any matter disclosed in the Data Room on or before the Setting Date, of which Concessionaire shall be deemed to have actual knowledge); (v) any action, omission, change, effect, circumstance or condition contemplated by this Agreement or attributable to the execution, performance or announcement of this Agreement or the transactions contemplated hereby, with the exception of litigation related to the execution or delivery of this Agreement or related to the legislation referred to in Section 9.1(h); (vi) any negligence, intentional misconduct or bad faith of the Concessionaire or its Representatives; (vii) any work performed on the Toll Roads by or on behalf of the Commonwealth or the Authority in accordance with the terms hereof; or (viii) any failure of the Authority to meet any internal or published projections, forecasts, estimates, or predictions in respect of revenues, or other financial or operating metrics for any period.

“Maximum Temporary Increase” means, in the event of an Escrow Shortfall that has not been replenished by the Authority within the cure period contemplated therefor in this Agreement, the temporary increase in the toll charges applicable to the Toll Roads from time to time, in respect of any calendar year, in an amount equal to ten cents of a dollar (\$0.10); *provided that*, (a) such amount will be increased on the first day of each calendar year by a percentage equal to the sum of (x) the percentage increase, if any, in the Index during the immediately preceding year and (y) one and one-half percent (1.5%). The Maximum Temporary Increase shall not be included in the calculation of, or in determining if toll levels exceed, the maximum toll levels set out in Schedule 4.

“Merchant Agreement” means that certain Merchant Agreement for Card Services made by and between the Authority and Banco Popular de Puerto Rico, and after the Closing, such Merchant Agreement, together with any related or successor agreement pursuant to which monies are deposited in the Escrow Fund in accordance with the Escrow Agreement.

“MFN Benefits” has the meaning ascribed thereto in Section 20.16.

“MFN Benefits Notice” has the meaning ascribed thereto in Section 20.16.

“Minimum Level of Police Service” has the meaning ascribed thereto in Section 3.16(a)(i).

“Modification” means (i) a change in the services, obligations or work to be performed by, or rights of, the Concessionaire with respect to the Toll Roads from that provided for in this Agreement, including work related to the integration of the Toll Roads with any Expansion performed by or on behalf of the Authority and not otherwise required hereunder, (ii) deleting, dispensing with or changing the dimensions, character, quantity, quality, description, location or position of any part of the Toll Roads or the Toll Road Operations or making other changes to the Toll Roads or the Toll Road Operations, (iii) implementing an Expansion or (iv) implementing any change to the Tolling Limitations; *provided, however*, that no Modification may require the Concessionaire to do any act that could reasonably be expected to violate any

applicable Law or cause the Concessionaire to fail to be in compliance with this Agreement; *provided further*, that any changes or modifications to the Operating Standards shall be effected in accordance with Section 6.2 and Section 6.3, as applicable, and not pursuant to a Modification.

“Named Windstorm” is a storm or weather disturbance that is named by the National Oceanic and Atmospheric Administration’s National Hurricane Center or similar body until sustained wind speeds drop below the parameter for naming storms.

“Negotiation Period” has the meaning ascribed thereto in Section 19.3(c).

“NEPA” means the National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321 *et seq.*

“NEPA Approval” means the NEPA approval the Authority shall seek, to increase the highest toll rate permitted under NEPA requirements with respect to the DTLs above the current \$3.50 level.

“New Agreement” has the meaning ascribed thereto in Section 18.5(a).

“New Escrow Account” means the new escrow account established pursuant to the terms of the New Escrow Agreement by the Authority, to be held by the Escrow Agent for the benefit of the Authority, the PR-22/5 Concessionaire and the Concessionaire.

“New Escrow Agreement” means the New Escrow Agreement, dated as of December 6, 2022, by and among the Authority, the PR-22/5 Concessionaire, the Concessionaire, the Escrow Agent and the Bank, as amended by the Amendment to the New Escrow Agreement.

“New Government Retirement Program” means the New Defined Contribution Plan created pursuant to Article 3.1 of Act No. 106.

“Non-Toll Revenues” has the meaning ascribed thereto in Section 7.2(a).

“Noncompliance Event” means the events identified in Schedule 7.

“Noncompliance Points” has the meaning ascribed thereto in Schedule 7.

“Noncompliance Threshold” has the meaning ascribed thereto in Section 6.4(e).

“Notice Period” has the meaning ascribed thereto in Section 12.1(d).

“OFAC” means the U.S. Treasury Department’s Office of Foreign Assets Control.

“Officer’s Certificate” means a certificate executed by a duly authorized officer of the Person providing such certificate having knowledge of the matters referred to therein.

“Offsets” has the meaning ascribed thereto in Section 12.5(a).

"Operating Agreement" means any material agreement, contract or commitment to which the Concessionaire is a party or otherwise relating to the Toll Road Operations as in force from time to time (including any warranties or guaranties), but excluding any Concession Mortgage and financing documents related thereto.

"Operating Standards" means the standards, specifications, policies, procedures and processes that apply to the operation, maintenance, rehabilitation and tolling of, and capital improvements to, the Toll Roads set forth in Schedules 15A, 15B and 15C, collectively, including any plans submitted by the Concessionaire to the Authority pursuant to the Operating Standards in each case as may be modified from time to time in accordance with Article 6.

"Operator" has the meaning ascribed thereto in Section 3.3(a).

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"Ordinary Course" means only the ordinary course of business customarily engaged in by a Person consistent with past practices in all material respects; *provided* that an action taken by a Person shall only be deemed to have been taken in the Ordinary Course if that action is consistent in nature, scope and magnitude with the past practices of such Person and is taken in the ordinary course of the normal operations of such Person.

"Ordinary Storm" means a storm that is comparable to any storm in length or severity of its effect on the Toll Roads that has occurred on or around the Toll Roads within ten (10) years prior to the Bid Date; *provided* that in no event shall a Named Windstorm be deemed an Ordinary Storm.

"Original Escrow Agreement" means that certain Escrow Agreement by and among the Authority, the PR-22/5 Concessionaire, the Autonomous Municipality of Guaynabo, Banco Popular de Puerto Rico, and the Escrow Agent, dated as of September 22, 2011, as amended by that certain Amendment Agreement No. 1 to the Original Escrow Agreement and Disbursement Instructions, dated as of December 6, 2022 and the Amendment to the Original Escrow Agreement, and as supplemented by the Disbursement Instructions.

"ORT Change" has the meaning ascribed thereto in Section 2 of Schedule 5.

"ORT Improvement Project" means the open road tolling improvement project described in Section 2 of Schedule 5.

"ORT Improvement Project Contract" means the Services Agreement, dated as of July 29, 2022, as amended, by and between the Authority and Sice, Inc. (including, for the avoidance of doubt, as the same has been or will be amended to implement the ORT Change in accordance with this Agreement).

"Other Agreement" has the meaning ascribed thereto in Section 20.16.

"Other Authority Agreement" means the Escrow Agreements, the Tolling Services Agreement, the Merchant Agreement, and the Emovis Contract (and, in each case, any replacement, extension or renewal thereof by the Authority prior to the Closing).

"Outstanding Debt" means the Authority's (i) \$600,000,000 aggregate principal amount of Restructured Toll Revenue Senior Bonds, Series 2022A, (ii) \$237,955,868.13 aggregate initial accreted value of Restructured Toll Revenue Senior Bonds, Series 2022B, (iii) \$407,044,597.57 aggregate initial accreted value of Restructured Toll Revenue Senior Bonds, Series 2022C and (iv) \$359,635,806.68 aggregate principal amount of Restructured Toll Revenue Subordinated Indebtedness, Series 2022-1, issued by the Authority on December 6, 2022 pursuant to the Trust Agreement.

"Oversight Board" has the meaning ascribed thereto in the Recitals to this Agreement.

"Oversight Board Certification" has the meaning ascribed thereto in Section 9.2(i).

"Partial Acceptance" means the completion of a portion or unit of a project pursuant to the General Provisions of the Authority's Standard Specifications for Road and Bridge Construction, as the same may be amended, supplemented or replaced from time to time, as determined by the Engineer (as defined therein) in his or her discretion, subject in each case to satisfaction by the Authority of the conditions set forth in Section 4.1(c), if applicable.

"Party" means a party to this Agreement and "Parties" means all of the parties to this Agreement.

"Permitted Authority Encumbrance" means, with respect to the Toll Roads: (i) the rights and interests of the Concessionaire under this Agreement; (ii) any Encumbrance that is being contested by the Authority in accordance with Section 3.5(b) (but only for so long as such contest effectively postpones enforcement of any such Encumbrance); (iii) inchoate materialmen's, mechanics', workmen's, repairmen's, employees', carriers', warehousemen's or other like Encumbrances arising in the Ordinary Course with respect to the Toll Roads or the Authority's performance of its obligations hereunder, and in respect of obligations that are either (A) not delinquent or (B) being contested by the Authority in accordance with Section 3.5(b) (but only for so long as such contest effectively postpones enforcement of any such Encumbrance); (iv) any easement, covenant, condition, right-of-way, servitude, or any zoning, building, environmental, health or safety Law (including any Engineering or Institutional Controls implemented thereunder) relating to the development, use or operation of the Toll Roads (or other similar reservation, right and restriction) encroachments, or other defects and irregularities in the title to the Toll Roads that do not materially interfere with the Toll Road Operations (in whole or in part) or the rights and benefits of the Concessionaire under this Agreement or materially impair the value of the Concessionaire Interest; (v) any right reserved to or vested in any Governmental Authority (other than the Authority) by any statutory provision (it being understood and agreed that nothing in this clause (v) shall limit or otherwise affect the Authority's obligations or the Concessionaire's rights hereunder); (vi) any other Encumbrance permitted hereunder (excluding for the avoidance of doubt, any Encumbrance securing any Outstanding Debt); (vii) any Encumbrances created, incurred, assumed or suffered to exist by the Concessionaire or any Person claiming through it; (viii) any rights reserved to or vested in the Authority by any statutory provision (it being understood and agreed that nothing in this clause (viii) shall limit or otherwise affect the Authority's obligations or the Concessionaire's rights hereunder); and (ix) any amendment, extension, renewal or replacement of any of the foregoing

Permitted Authority Encumbrances on substantially similar terms as such Permitted Authority Encumbrances, except to the extent limited pursuant to the terms hereof.

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"Permitted Concessionaire Encumbrance" means, with respect to the Toll Roads: (i) any Encumbrance that is being contested in accordance with Section 3.5(a) (but only for so long as such contest effectively postpones enforcement of any such Encumbrance); (ii) any (A) lien or security interest for obligations not yet due and payable to a Contractor or other Person (including in respect of Taxes not yet due and payable), (B) any statutory lien, deposit or other non-service lien or (C) lien, deposit or pledge to secure mandatory statutory obligations or performance of bids, tenders, contracts (other than for the repayment of borrowed money) or leases, or for purposes of like general nature, any of which are incurred in the Ordinary Course with respect to the Toll Road Operations and in respect of obligations that are either (1) not delinquent or (2) being contested by the Concessionaire in accordance with Section 3.5(a) (but only for so long as such contest effectively postpones enforcement of any such Encumbrance); (iii) inchoate materialmen's, mechanics', workmen's, repairmen's, employees', carriers', warehousemen's, or other like Encumbrances arising in the Ordinary Course with respect to the Toll Roads or the Concessionaire's performance of its obligations hereunder, and in respect of obligations that are either (1) not delinquent or (2) which are being contested by the Concessionaire in accordance with Section 3.5(a) (but only for so long as such contest effectively postpones enforcement of any such Encumbrance); (iv) any right reserved to or vested in any Governmental Authority by any provision of Law; (v) any other Encumbrance permitted hereunder (including any Concession Mortgage (and financing statements relating thereto) and any Encumbrance created in connection with any financing permitted hereunder and any Encumbrance granted in connection with an Expansion); (vi) liens incurred in the Ordinary Course in connection with workers' compensation, unemployment insurance, social security and other governmental rules and that do not in the aggregate materially impair the use, value or operation of the Toll Roads; (vii) any Encumbrances created, incurred, assumed or suffered to exist by the Authority or any other Governmental Authority or any Person claiming through it except to the extent caused by an act or omission of the Concessionaire; (viii) any Encumbrance arising under Environmental Laws relating to the use or operation of the Toll Road Land by virtue of the implementation of Engineering or Institutional Controls; *provided* that such Encumbrance does not materially interfere with Toll Road Operations or materially impair the value of the Toll Roads and (ix) any amendment, extension, renewal or replacement of any of the foregoing.

"Persistent Concessionaire Default" means (a) the assessment of (i) one hundred ten (110) Noncompliance Points in a 365-day period; or (ii) two hundred twenty (220) Noncompliance Points in a 1,095-day period; or (b) the Concessionaire's failure to satisfy (in each case, in accordance with the terms of Schedule 6) (i) the requirements relating to the Tier 1 Works of the Accelerated Safety Upgrades by the date that is ninety (90) days after the deadline set forth in Schedule 6, (ii) the requirements relating to the Tier 2 Works of the Accelerated Safety Upgrades by the date that is one hundred eighty (180) days after the deadline set forth in Schedule 6, (iii) the requirements relating to the Tier 3 Works of the Accelerated Safety Upgrades by the date that is two hundred seventy (270) days after the deadline set forth in Schedule 6 or (iv) the requirements relating to the ITS Project by the date that is two hundred seventy (270) days after the deadline set forth in Schedule 6.

"Person" means any individual (including the heirs, beneficiaries, executors, legal representatives or administrators thereof), corporation, partnership, joint venture, trust, limited liability company, limited partnership, joint stock company, unincorporated association, consortium or other entity or a Governmental Authority.

"PIC-Termination Damages" has the meaning ascribed thereto in Section 16.6(d).

"Plans" has the meaning ascribed thereto in Section 3.14.

"PR-20" means the toll road commencing at the intersection with PR-2 in Guaynabo and extending for approximately 9.5 km (5.9 miles), ending with its convergence with PR-1 in Guaynabo, as more particularly set forth in Schedule 3.

"PR-22/5 Concessionaire" means Autopistas Metropolitanas de Puerto Rico, LLC, as concessionaire under that certain Toll Road Concession Agreement by and between the Authority and such concessionaire, dated as of June 27, 2011, as amended.

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"PR-52" means the toll road commencing at the intersection of PR-18 and PR-1 in San Juan (other than the DTLs, which extend onto both PR-18 and PR-1), extending southwest for approximately 108.3 km (67.3 miles), ending in Ponce, as more particularly set forth in Schedule 3, and including the DTLs and, in each case if and when completed, the CD and the DTL Extension.

"PR-53" means the toll road comprised of: (i) a segment commencing at the PR-3 intersection in Fajardo, and extending for approximately 43.7 km (27.15 miles) to the PR-9914 intersection in Yabucoa and (ii) a segment commencing at the intersection of PR-7711 and PR-54 in Guayama and extending for approximately 12.3 km (7.64 miles) to the PR-52 intersection in Salinas, as more particularly set forth in Schedule 3.

"PR-66" means the toll road commencing at the PR-3 intersection in Carolina and extending east-west for approximately 14.1 km (8.8 miles), ending in the municipality of Río Grande, as more particularly set forth in Schedule 3.

"PR Code" means the "Puerto Rico Internal Revenue Code for a New Puerto Rico", Act No. 1 of the Legislative Assembly of Puerto Rico, enacted on January 31, 2011, as amended, 13 P.R. Laws Ann. §30013 *et seq.*

"PR Department of Treasury" means the Department of Treasury of the Commonwealth.

"PR Mortgage and Property Registry Law" means Act No. 210 of the Legislative Assembly of Puerto Rico, enacted on December 8, 2015, 30 P.R. Laws Ann. § 6001 *et seq.*, as of the date hereof.

"Project Interface Plan" has the meaning ascribed thereto in Schedule 11.

"PROMESA" has the meaning ascribed thereto in the Recitals to this Agreement.

"Proprietary Intellectual Property" means any Intellectual Property that is owned (or held in the case of licenses or similar rights granted by third parties) by the Concessionaire or any of its Contractors, subcontractors, Affiliates or Representatives, but excluding any item of Intellectual Property of such Persons that is at no time produced for, used or applied to the Toll Roads,

"Public Integrity Crime" means any Specified Public Integrity Crime and any of the crimes described in Article 5(N) of Act No. 237, Articles 250 through 266 of the Puerto Rico Penal Code, or in other sections of such laws.

"Public-Private Partnerships Authority's Ethical Guidelines" means the *Puerto Rico Public-Private Partnerships Authority's Guidelines for the Evaluation of Conflicts of Interest and Unfair Advantages in the Procurement of Public-Private Partnership Contracts* promulgated by the Government of Puerto Rico Public-Private Partnerships Authority and dated as of December 19, 2009.

"Public Safety Act" has the meaning ascribed thereto in Section 3.18(b).

"Puerto Rico Penal Code" means Act No. 146 of the Legislative Assembly of Puerto Rico, enacted on July 30, 2012, 33 P.R. Laws Ann. § 5001 *et seq.*, known as the Penal Code of the Commonwealth.

"Qualified Debt" means any senior or subordinated *bona fide* debt not otherwise constituting Concession Mortgage Debt that is incurred at any time by the Concessionaire to finance or refinance, directly or indirectly, the Concession Fee payable hereunder or otherwise finance or refinance costs associated with the Concessionaire's capital improvement obligations hereunder, including: (i) principal (including accreted principal included in interest rate hedges or bonds); (ii) accrued interest (including capitalized interest); (iii) customary and reasonable lender, institutional investors or financial insurer, agent and trustee fees, costs, premiums (including make-whole redemption premiums), expenses and reimbursement obligations with respect thereto; (iv) all payment obligations under interest rate hedging agreements with respect thereto (including accreting interest rate hedging agreements); (v) reimbursement obligations with respect thereto to any financial insurer; (vi) any debt repayment obligations of the Lessor under a Leveraged Lease; and (vii) an assignment in connection with a securitization transaction; *provided* that, in each case, the Concessionaire, promptly after the incurrence of any such debt, notifies the Authority of such debt and the material terms thereof. For the purposes of determining Toll Road Concession Value, Qualified Debt shall not include (A) debt from any Equity Participant or its Affiliate or (B) debt the holders of which have the benefit of a guaranty or payment from an Affiliate of the Concessionaire or the Operator (to the extent the Operator is an Affiliate of the Concessionaire), unless, in each case, such debt is on terms consistent with terms that would reasonably be expected from a non-Affiliate lender acting in good faith; *provided* that the Concessionaire may request at any time during the Term that the Authority confirm in writing, and the Authority shall so confirm within a reasonable time following such request, whether any such debt is on terms consistent with terms that would reasonably be expected from a non-Affiliate lender acting in good faith. Notwithstanding anything herein to the contrary, except with respect to any such senior or subordinated *bona fide* debt incurred or committed on or prior to the Closing Date, all of which incurred or committed debt shall be

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deemed to be Qualified Debt (except to the extent excluded from Qualified Debt pursuant to clauses (A) or (B) above), Qualified Debt shall not include any new debt incurred or committed following the Closing Date (it being understood and agreed by the Parties that any capitalization of interest or accretion of principal or other committed increases on any debt incurred or committed on or prior to the Closing Date and any Refinanced Qualified Debt shall likewise be considered Qualified Debt and shall not constitute such new debt) the principal amount of which (together with the aggregate principal amount of any previously qualified Concession Mortgage Debt and Qualified Debt after giving effect to the incurrence or commitment of any such new debt) *exceeds* the greater of (I) the maximum principal amount specified on Schedule 9 hereto for the applicable period in which such new debt is incurred or committed to be incurred and (II) in the event that the Concessionaire elects to obtain an appraisal in order to qualify such new debt as Qualified Debt, eighty percent (80%) of the fair market value of the Concessionaire Interest as set forth in such appraisal; *provided* that, in order for such new debt to qualify as Qualified Debt in connection with any appraisal obtained pursuant to the foregoing sub-clause (II), such appraisal shall (X) be prepared at the Concessionaire's expense by an independent third party appraiser described under "Toll Road Concession Value" and delivered to the Authority prior to the incurrence or commitment of such new debt, (Y) be a written appraisal of the fair market value of the Concessionaire Interest as of the time of the incurrence or commitment of such new debt and (Z) identify the extent to which the principal amount of such new debt (together with the aggregate principal amount of Concession Mortgage Debt and any Qualified Debt after giving effect to the incurrence or commitment of any such new debt) *exceeds* eighty percent (80%) of the fair market value of the Concessionaire Interest set forth in such appraisal at the time of incurrence or commitment of such new debt; *provided* that the Parties agree that notwithstanding the requirements of the foregoing sub-clauses (X), (Y) and (Z), the amount of the Concession Fee paid at the Closing shall be deemed to constitute the fair market value of the Concessionaire Interest for a period of twelve (12) months after the Closing Date and, as such, no appraisal shall be required to establish the fair market value of the Concessionaire Interest within such twelve (12)-month period. The appraisal requirement in the preceding sentence shall not apply to any protective advances made by any provider of Qualified Debt or advances made by any provider of Qualified Debt to cure Concessionaire defaults under the agreements evidencing such Qualified Debt (regardless of whether entered into on or after the Closing Date) or other financing documents of such Qualified Debt. Further, except as provided above in this definition, any capitalization of interest or accretion of principal or other committed increases on any debt that has previously qualified as Qualified Debt shall constitute Qualified Debt.

"Rating Agency" means any nationally recognized statistical rating organization, such as Standard & Poor's Rating Services, Moody's Investors Service, Inc., Fitch Investors Service, Inc., DBRS Limited, Kroll Bond Rating Agency, Inc. or any of their respective successors, or any similar entity, as defined by the Securities and Exchange Commission in Section 15E of the Securities Exchange Act of 1934,

"Reasonable Change Order or Deviation" means any alteration in the design, specifications, work, delivery point, rate of delivery, period of performance, price, quantity or other provisions set forth in the applicable Authority Capital Improvement Contract that is determined by the Authority, in consultation with the Concessionaire pursuant to the Project Interface Plan, to be reasonably necessary or desirable to (a) complete any work pursuant to the

applicable Authority Capital Improvement Contract that is within the intended scope of the applicable Authority Capital Improvement Project or such Authority Capital Improvement Contract or (b) respond to an event described in Section 3.7(a)(iii).

"Reasonable Efforts" means the taking of those steps in the power of the relevant Person that are capable of producing the desired result, being steps which a reasonable person desiring to achieve such result would take; *provided* that, subject to the relevant Person's other express obligations under this Agreement, the relevant Person shall not be required to expend any funds other than those funds (A) necessary to meet the reasonable costs reasonably incidental or ancillary to the steps to be taken by the relevant Person and (B) the expenditure of which is not the obligation of another Person hereunder.

"Recitals" means the recitals of this Agreement.

"Refinanced Concession Mortgage Debt" means any amount of debt incurred by the Concessionaire in connection with any refinancing of any debt that had previously qualified as Concession Mortgage Debt, up to the outstanding principal amount of such refinanced Concession Mortgage Debt, together with interest thereon, Breakage Costs and the amount of any required reserves, plus reasonable and customary transaction costs, fees, and expenses.

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"Refinanced Qualified Debt" means any amount of debt incurred by the Concessionaire in connection with any refinancing of any debt that had previously qualified as Qualified Debt, up to the outstanding principal amount of such refinanced Qualified Debt, together with interest thereon, Breakage Costs and the amount of any required reserves, plus reasonable and customary transaction costs, fees, and expenses.

"Remedial Plan" means a remedial plan setting forth a schedule and specific actions to be taken by the Concessionaire to remedy a Persistent Concessionaire Default or a Concessionaire Default and, if applicable, reduce the likelihood of such non-compliance or default from occurring in the future. Such actions may include improvements to the Concessionaire's quality management practices, plans and procedures, changes in organizational and management structure, increased monitoring and inspections, changes in personnel, replacement of Contractors, and delivery of security to the Authority, which remedial plan has been Approved by the Authority in its discretion.

"Replacement Letter of Credit" has the meaning ascribed thereto in Section 16.3(c).

"Reporting Year" means each fiscal year ending December 31 during the Term, except that unless the Closing Date is the first day of January, the first Reporting Year shall be a partial year commencing on the Closing Date and ending on the next December 31 and the last Reporting Year shall be a partial Reporting Year commencing January 1 of such Reporting Year and ending on the End Date.

"Representative" means, with respect to any Person, any director, officer, employee, official, lender (or any agent or trustee acting on its behalf), partner, member, owner, agent, lawyer, accountant, auditor, professional advisor, consultant, engineer, or Contractor of such Person, any other Person for whom such Person is responsible at law, any other representative of

such Person and any professional advisor, consultant or engineer designated by such Person as its "Representative."

"Required Balance" means (i) if the Authority has not implemented, or if implemented, does not continue to maintain, an Effective Toll Enforcement System, \$25,000,000, or (ii) if the Authority has implemented, and continues to maintain, an Effective Toll Enforcement System, \$15,000,000; *provided*, that, (a) the Required Balance will be increased on the first day of each calendar year by a percentage equal to the sum of (x) the percentage increase, if any, in the Index during the immediately preceding year and (y) one and one-half percent (1.5%); and (b) the reduction or increase (as applicable) of the Required Balance under clause (ii) or (i), respectively, of this definition shall become effective on the first day of the quarter immediately following the change in the status of implementation of the Effective Toll Enforcement System; *provided, further*, that once Final Acceptance of the ORT Improvement Project has occurred and an Effective Toll Enforcement System has been in effect for at least twenty-four (24) consecutive months, the Required Balance shall be decreased to an amount to be mutually agreed to by the Parties.

"Required Coverages" has the meaning ascribed thereto in Section 13.1.

"Required Modification" has the meaning ascribed thereto in Section 5.2(a).

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"Restoration", "Restore", or "Restoring" means, with respect to any casualty loss, destruction or damage of the Toll Roads, to repair or rebuild the affected parts of the Toll Roads to restore them to at least the same condition in which they were before the occurrence of such casualty loss, destruction or damage.

"Restoration Funds" has the meaning ascribed thereto in Section 13.3(a).

"Retained Capital Improvement Projects" means the capital improvement projects described in Section 1 of Schedule 5.

"Retained Contracts" means the contracts set forth in Section II of Schedule 10 (and any replacement, extension or renewal thereof by the Authority prior to the Closing).

"Re-Tender Costs" means any costs, expenses (including legal fees), Taxes, fees, charges, disbursements and other Losses that are incurred by the Authority (or to the best of the Authority's knowledge after due inquiry, are expected to be paid or incurred by the Authority) in connection with any Re-Tender of the Toll Roads.

"Re-Tender of the Toll Roads" means (a) any process by which the Authority (i) requests tenders from any Person interested in entering into a concession, lease or other transaction in respect of the Toll Roads, (ii) evaluates any response to such request from such Person or (iii) grants or enters into such concession, lease or other transaction with such Person, or (b) any financing, bonding or similar transaction undertaken by the Authority in respect of the Toll Roads.

"Reversion Date" means the day immediately following the End Date.

“Sanctions” means all economic or financial sanctions or trade embargoes imposed, administered, or enforced by the United States (including OFAC) and the U.S. Department of State), European Union, United Kingdom, United Nations, or other relevant sanctions authority.

“Sanctioned Jurisdiction” means at any time a jurisdiction that is the target of comprehensive Sanctions. As of the date hereof, the following are “Sanctioned Jurisdictions”: Cuba, Iran, North Korea, Syria, and the Crimea, the so-called Donetsk People’s Republic, and the so-called Luhansk People’s Republic regions of Ukraine.

“Sanctioned Person” means any individual, entity, organization, or government: (a) designated on a Sanctions-related list maintained by the United States (including OFAC’s List of Specially Designated Nationals and Blocked Persons), European Union (including the Consolidated List of Persons, Groups and Entities subject to EU Financial Sanctions), United Kingdom (including the UK Sanctions List), United Nations, and any other relevant Sanctions authority; (b) subject to a blocking order by the United States or a relevant Sanctions authority; (c) located, organized, or ordinarily resident in a Sanctioned Jurisdiction; or (d) owned or controlled, directly or indirectly, individually or in aggregate, by any individual, entity, organization, or government described in clauses (a), (b), and (c).

“Securities Act” means the United States Securities Act of 1933, as amended.

“Setting Date” means August 17, 2023.

“Software” means (i) any computer instructions, including programs, routines and databases and applications supplied, procured or developed by the Concessionaire in connection with Toll Road Operations and (ii) all modifications, updates and revisions made to the matter described in clause (i) above, including those made to correct errors or to support new models of computer equipment or new releases of operating systems.

“Specified Public Integrity Crime” means any crime listed in Article 3.4 of Act. No. 2.

“State” means any state in the United States of America or any possession or territory thereof.

“Statement of Estimated Liabilities” means a statement by the Authority setting forth (i) the relevant Concessionaire Default or other circumstances giving rise to its right to terminate this Agreement, (ii) all amounts that (A) are estimated to be due and payable by the Concessionaire to the Authority under this Agreement as of the date of such statement or (B) to the best of the Authority’s knowledge after due inquiry, are expected to become due and payable by the Concessionaire under this Agreement on or prior to the date that is thirty (30) days after the date of such statement, (iii) to the extent not included in clause (ii) above, all other obligations of the Concessionaire under this Agreement known to the Authority that should have been, but have not been, performed as of the date of such statement and (iv) to the extent not included in clauses (ii) or (iii) above, all costs and expenses (including legal fees), Taxes, fees, charges and disbursements estimated to be paid or incurred by the Authority in connection with any Concessionaire Default, the termination of this Agreement, the recovery of possession from the Concessionaire, and the preparation, execution and delivery of the New Agreement and

related agreements and the Statement of Estimated Liabilities that (A) are estimated to have been paid or incurred by the Authority as of the date of such statement or (B) to the best of the Authority's knowledge after due inquiry, are expected to be paid or incurred by the Authority on or prior to the date that is thirty (30) days after the date of such statement.

"Substantial Completion" means the determination that a project has been substantially completed, as determined by the Authority in its discretion, pursuant to the General Provisions of the Authority's Standard Specifications for Road and Bridge Construction, as the same may be amended, supplemented or replaced from time to time, subject in each case to satisfaction by the Authority of the conditions set forth in Section 4.1(c), if applicable.

"Sworn Statement" means the sworn statement required by Act No. 2.

"Sworn Statement for Closing" means the sworn statement in the form of Schedule 16.

"Tax" means any federal, state, Commonwealth, municipal, local or foreign income, gross receipts, license, payroll, employment, excise, severance, stamp, occupation, premium, windfall profits, environmental, customs duties, permit fees, capital stock, franchise, profits, withholding, social security, unemployment, disability, real property, personal property, sales, use, transfer, registration, value added, alternative or add-on minimum, estimated or other tax, levy, impost, duty, fee, withholding or similar imposition of any kind payable, levied, collected, withheld or assessed at any time, including any interest, penalty or addition thereto, whether disputed or not.

"Tax Matters Supplement" has the meaning ascribed thereto in Section 2.4(a)(x).

"Term" has the meaning ascribed thereto in Section 2.1(a).

"Termination Damages" means AA-Termination Damages, AD-Termination Damages or PIC-Termination Damages.

"Third Party Claim" means any Claim asserted against an Indemnified Party by any Person who is not a Party or an Affiliate of such a Party.

"Tier 1 Works" means the work with respect to the Accelerated Safety Upgrades described in Section 1(a) of Schedule 6.

"Tier 2 Works" means the work with respect to the Accelerated Safety Upgrades described in Section 1(b) of Schedule 6.

"Tier 3 Works" means the work with respect to the Accelerated Safety Upgrades described in Section 1(c) of Schedule 6.

"Time of Closing" means 10:00 a.m. on the Closing Date or such other time on such date as the Authority and the Concessionaire may agree to in writing.

"Toll Rate Cap" has the meaning ascribed thereto in Section 2.2(i) of Schedule 4.

“Toll Revenues” has the meaning ascribed thereto in Section 7.2(a).

“Toll Road Assets” means all personal property of the Authority set forth in Schedule 17.

“Toll Road Concession Value” means, as of any date, the fair market value of the Concessionaire Interest, taking into account the operations, traffic and revenues thereof, as determined pursuant to a written appraisal by an independent third party appraiser that is nationally recognized in appraising similar assets and that is acceptable to the Authority and the Concessionaire; *provided, however*, that if the Toll Road Concession Value is being calculated as a result of an Adverse Action, Authority Default or Public Integrity Crime, it shall be determined without regard to the effect of any such Adverse Action, Authority Default or Public Integrity Crime, as applicable; and, *provided further*, that the Toll Road Concession Value shall in no event be less than the amount equal to the sum of (i) any Concession Mortgage Debt and any Qualified Debt (except that in the case such value is determined in connection with the rescission or termination of this Agreement pursuant to Section 16.6(a), such Qualified Debt shall exclude any Qualified Debt provided by any Affiliate of the Concessionaire) and (ii) any related Breakage Costs, in each case as of the End Date. If the Parties fail to agree upon such a single appraiser within thirty (30) days after a Party requests the appointment thereof, then the Authority and the Concessionaire shall each appoint an independent third party appraiser and both such appraisers shall be instructed jointly to select a third independent third party appraiser to make the appraisal referred to above. If either Party fails to appoint such independent third party appraiser or if the independent third party appraisers appointed by the Parties fail to select a third independent third party appraiser, in each case, within sixty (60) days after the request of the Authority or the Concessionaire, then either the Authority or the Concessionaire may request the appointment of an independent third party appraiser (which appraiser shall be appointed by a Person agreed to by the Concessionaire and the Authority or if the Parties fail to agree on such Person within thirty (30) days after a Party requests the appointment hereof, such appraiser shall be appointed by the AAA) to make the appraisal referred to above. The Parties shall each pay fifty percent (50%) of the costs and expenses of any appraisal.

“Toll Road Facilities” means any building, structure, facility, road or other improvement now located or hereinafter erected, constructed or placed on the Toll Road Land.

“Toll Road Land” means those parcels of real property described in Schedule 3 and any land used for an Expansion contemplated hereunder.

“Toll Road Operations” means (i) the operation, management, maintenance, construction, rehabilitation and tolling of the Toll Roads and (ii) all other actions relating to the operation of the Toll Roads or otherwise that are to be performed by or on behalf of the Concessionaire pursuant to this Agreement or the Operating Standards, including all actions relating to Vendors.

“Toll Road Revenues” has the meaning ascribed thereto in Section 7.2(a).

“Toll Road Services” means the services to be provided to the public by the Concessionaire in its capacity as grantee of the concession under this Agreement.

“Toll Roads” means (i) the Toll Road Land and (ii) the Toll Road Facilities.

"Toll System" means the toll structures, equipment and facilities related to the collection of Toll Revenues,

"Tolling Limitations" means the limitations with respect to the tolling of the Toll Roads set forth in Schedule 4,

"Tolling Services Agreement" means that certain Master Services Agreement, dated February 4, 2015, as amended, by and between the Authority and Professional Account Management LLC, as assignee of Gila, LLC, for the operation and maintenance of the following elements of the electronic toll collection system for the Toll Roads: (i) the roadside system installed in the Toll Roads (other than the dynamic tolling lanes) and (ii) the commercial back-office software and services.

"Traffic Report" has the meaning ascribed thereto in Section 8.1(a).

"Transaction" has the meaning ascribed thereto in Section 2.1(a).

"Transfer" means to sell, convey, assign, delegate, sublease, mortgage, encumber, transfer or otherwise dispose of.

"Transferee" has the meaning ascribed thereto in Section 17.1(a).

"Trust Agreement" means the Master Trust Agreement, dated December 6, 2022 (as supplemented to date) by and between the Authority and the Trustee.

"Trustee" means the Bank of New York Mellon as the trustee under the Trust Agreement.

"Unamortized Concession Fee" means, as of the End Date, the amount equal to the product of (a) the Concession Fee, multiplied by (b) one (1) less the quotient of: (i) the number of days elapsed from the Closing Date through and including the End Date, divided by (ii) the product of 365 multiplied by 40 (i.e., the number of years in the Term specified in Article 2).

"Uncured Noncompliance Points" means Noncompliance Points assessed on account of breaches or failures that remain uncured; *provided* that Uncured Noncompliance Points excludes Noncompliance Points assessed for breaches or failures identified as having no cure period on Schedule 7.

"Uniform General Conditions" means the Uniform General Conditions for Public Works Contracts issued by the Puerto Rico Department of Transportation and Public Works and filed by such department as Regulation 7998 on March 3, 2011.

"U.S. Code" means the Internal Revenue Code of 1986, as amended.

"Vendor" means (i) any third party or any Affiliate of the Concessionaire under contract or agreement (whether written or oral) with the Concessionaire to provide goods or services to the users of the Toll Roads on the Toll Roads, including at service areas or (ii) the Concessionaire to the extent that it provides such goods or services.

"Viability Event" means a determination by the Authority, in its reasonable discretion, based on the outputs of the Financial Model that the Authority's Benchmark Interest Rate Adjustment would decrease the Concession Fee to an amount less than one hundred ten percent (110%) of the Outstanding Debt (for such purpose, to be calculated using the accreted value of Restructured Toll Revenue Senior Bonds, Series 2022B and Restructured Toll Revenue Senior Bonds, Series 2022C as of the scheduled Closing Date, as such scheduled Closing Date may be adjusted from time to time pursuant to this Agreement).

"Windfall Revenue Sharing Payment" has the meaning ascribed thereto in Section 7.2(e)(i).

"Windfall Revenue Sharing Payment Amount" has the meaning ascribed thereto in Section 7.2(e)(iii).

Section 1.2 Number and Gender. In this Agreement, terms defined in the singular have the corresponding plural meaning when used in the plural and vice versa and words in one gender include all genders.

Section 1.3 Headings. The division of this Agreement into articles, Sections and other subdivisions is for convenience of reference only and shall not affect the construction or interpretation of this Agreement. The headings in this Agreement are not intended to be full or precise descriptions of the text to which they refer and shall not be considered part of this Agreement.

Section 1.4 References to this Agreement. The words "herein," "hereby," "hereof," "hereto" and "hereunder" and words of similar import refer to this Agreement as a whole and not to any particular portion of it. The words "Article," "Section," "paragraph," "sentence," "clause" and "Schedule" mean and refer to the specified article, section, paragraph, sentence, clause or schedule of, or to, this Agreement.

Section 1.5 References to Any Person. A reference in this Agreement to any Person at any time refers to such Person's permitted successors and assigns.

Section 1.6 Meaning of Including and And/Or. In this Agreement, the words "include," "includes" or "including" mean "include without limitation," "includes without limitation" and "including, without limitation," respectively, and the words following "include," "includes" or "including" shall not be considered to set forth an exhaustive list. In addition, when used in this Agreement, "or" shall mean "and/or" unless the context otherwise requires.

Section 1.7 Meaning of Discretion. In this Agreement, unless otherwise qualified or limited, the word "discretion" with respect to any Person means the sole and absolute discretion of such Person.

Section 1.8 Meaning of Notice. In this Agreement, the word "notice" means "written notice" unless specified otherwise.

Section 1.9 Meaning of Promptly. In this Agreement, the word "promptly" means as soon as reasonably practicable in light of then-prevailing circumstances.

Section 1.10 Consents and Approvals. Unless specified otherwise, wherever the provisions of this Agreement require or provide for or permit an approval or consent by either Party, such approval or consent, and any request therefor, must be in writing (unless waived in writing by the other Party).

Section 1.11 Trade Meanings. Unless otherwise defined herein, words or abbreviations that have well-known trade meanings are used herein in accordance with those meanings.

Section 1.12 Laws. Unless specified otherwise, a reference to a Law is considered to be a reference to (a) such Law as it may be amended, modified or supplemented from time to time, (b) all regulations and rules pertaining to or promulgated pursuant to such Law, (c) the successor to the Law resulting from recodification or similar reorganizing of Laws and (d) all future Laws pertaining to the same or similar subject matter. Nothing in this Agreement shall fetter or otherwise interfere with the right and authority of any Governmental Authority to enact, administer, apply and enforce any Law. Except for Adverse Actions or if compensation or other relief is otherwise available or provided for pursuant to applicable Law or this Agreement, the Concessionaire shall not be entitled to claim or receive any compensation or other relief whatsoever as a result of the enactment, administration, application or enforcement of any Law by any Governmental Authority.

Section 1.13 Currency. Unless specified otherwise, all statements of or references to dollar amounts or money in this Agreement are to the lawful currency of the United States of America.

Section 1.14 Generally Accepted Accounting Principles. All accounting and financial terms used herein, unless specifically provided to the contrary, shall be interpreted and applied in accordance with then generally accepted accounting principles in the United States of America, consistently applied.

Section 1.15 Time.

(a) *References to Specific Time.* Unless specified otherwise, all statements of or references to a specific time in this Agreement are to Atlantic Standard Time.

(b) *Period of Days.* For purposes of this Agreement, a period of days shall be deemed to begin on the first day after the event that began the period and to end at 5:00 p.m. on the last day of the period. If, however, the last day of the period does not fall on a Business Day, the period shall be deemed to end at 5:00 p.m. on the next Business Day.

Section 1.16 Approvals, Consents and Performance by the Authority.

(a) *Procedures.* Wherever the provisions of this Agreement require or provide for or permit an approval or consent by the Authority of or to any action, Person,

Document or other matter contemplated by this Agreement, the following provisions shall apply: (i) such request for approval or consent must (A) contain or be accompanied by any documentation or information required for such approval or consent in reasonably sufficient detail, (B) clearly set forth the matter in respect of which such approval or consent is being sought, (C) form the sole subject matter of the correspondence containing such request for approval or consent and (D) state clearly that such approval or consent is being sought; (ii) such approval or consent shall not be unreasonably or arbitrarily withheld, conditioned or delayed (unless such provision provides that such approval or consent may be unreasonably or arbitrarily withheld, conditioned or delayed or that it may be given or provided at the discretion of the Authority); (iii) the Authority shall within such time period set forth herein (or if no time period is provided, within forty-five (45) days, subject to the Authority's right to extend such period for an additional fifteen (15) days) after the giving of a notice by the Concessionaire requesting an approval or consent, advise the Concessionaire by notice either that it consents or approves or that it withholds its consent or approval, in which latter case it shall (unless such provision provides that such approval or consent may be unreasonably or arbitrarily withheld, conditioned or delayed or is subject to the discretion of the Authority) set forth, in reasonable detail, its reasons for withholding its consent or approval, which reasons may include the insufficiency, as determined by the Authority acting reasonably, of the information or documentation provided; (iv) if the responding notice mentioned in clause (iii) of this Section 1.16(a) indicates that the Authority does not approve or consent, the Concessionaire may take whatever steps may be necessary to satisfy the objections of the Authority set out in the responding notice and, thereupon, may submit a revised request for approval or consent from time to time and the provisions of this Section 1.16(a) shall again apply until such time as the approval or consent of the Authority is finally obtained; (v) if the disapproval or withholding of consent mentioned in clause (iv) of this Section 1.16(a) is subsequently determined pursuant to Article 19 to have been improperly withheld, conditioned or delayed by the Authority, such approval or consent shall, unless otherwise determined pursuant to Article 19, be deemed to have been given on the date on which such approval or consent was originally required; and (vi) any dispute as to whether or not a consent or approval has been unreasonably withheld, conditioned or delayed shall be resolved in accordance with the provisions of Article 19.

(b) *Approved Documents.* Subject to the other provisions hereof, wherever in this Agreement an approval or consent is required with respect to any document, proposal, certificate, plan, drawing, specification, contract, agreement, budget, schedule, report or other written instrument whatsoever (a "Document"), following such Approval such Document shall not be amended, supplemented, replaced, revised, modified, altered or changed in any material respect without first obtaining a further Approval in accordance with the provisions of this Section 1.16.


ARTICLE 2

THE TRANSACTION; CLOSING; CONDITIONS PRECEDENT; COVENANTS

Section 2.1 Grant of Concession.

(a) Upon the terms and subject to the conditions of this Agreement, effective at the Time of Closing, (i) the Concessionaire shall pay the Authority the amount of Two Billion

Eight Hundred Fifty Million Dollars (\$2,850,000,000.00) in cash, as may be adjusted in accordance with Section 2.4(f) hereof (the "Concession Fee") and (ii) the Authority shall and does hereby (A) grant the Concessionaire an exclusive concession free and clear of Encumbrances other than Permitted Authority Encumbrances for and during the term (the "Term") commencing as of the Time of Closing and expiring at 11:59 p.m. on the fortieth (40th) anniversary of the Closing Date, unless terminated earlier or extended in accordance with the terms of this Agreement, to operate, manage, maintain, rehabilitate, toll and expand the Toll Roads for Highway Purposes and provide the Toll Road Services in connection therewith and otherwise in accordance with and pursuant to this Agreement (the "Concession") and (B) assign, transfer and otherwise convey to the Concessionaire each of the Toll Road Assets and each Assigned Contract in accordance with Section 2.1(b) (collectively, the "Transaction"); and the Concessionaire shall accept the Concession and each such assignment, transfer and conveyance. It is the intent of the Parties that the Concession be deemed an "administrative concession" under the Act and the applicable Laws of the Commonwealth.

 (b) At the Time of Closing, the Authority shall assign to the Concessionaire the Assigned Contracts pursuant to an assignment agreement, and the Concessionaire shall accept and assume such contracts, *provided* that, if in the Authority's reasonable opinion any Assigned Contract is not capable of being assigned and assumed in accordance with this Section 2.1(b), such Assigned Contract shall not be assigned at the Time of Closing, and the Authority shall maintain and enforce such Assigned Contract for the benefit of the Concessionaire subject to Section 12.1(a) until the earlier of: (i) the expiration of such Assigned Contract by its terms and (ii) the time that such Assigned Contract becomes capable of being assigned in accordance with this Section 2.1(b). Until any Assigned Contract is assigned in accordance with this Section 2.1(b), the Concessionaire shall promptly reimburse the Authority and hold the Authority harmless for and against any costs, payments or debts due or incurred by the Authority under such Assigned Contract in accordance with Section 12.1(a).

(c) Except as otherwise expressly provided in Section 2.1(b) and Section 4.1(c)(iii), no contracts of the Authority (or any interest therein), including, without limitation, the Retained Contracts, are or shall be assigned to the Concessionaire pursuant to this Agreement.

Section 2.2 Closing.

(a) The closing of the Transaction (the "Closing") shall take place on December 14, 2023 or such other date agreed to in writing by the Authority and the Concessionaire (the "Closing Date"). The Closing shall be held at the offices of O'Melveny & Myers LLP, 7 Times Square, 30th Floor, New York, NY 10036 or such other place agreed to in writing by the Authority and the Concessionaire. At the Time of Closing, the Concessionaire shall deliver or cause to be delivered to the Authority same-day funds by wire transfer in the amount of the Concession Fee (less the amount of any Cash Deposit (plus all interest thereon) that the Concessionaire previously paid pursuant to Section 2.3(a)) in full payment for the Concessionaire Interest, and upon receipt of such payment the Transaction shall be effective. Upon receipt of the funds described in the preceding sentence, the Authority shall immediately cancel and return the Closing LOC, if any, in accordance with the Concessionaire's instructions.

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(b) The Authority shall be entitled to all revenues relating to the Toll Roads and shall be responsible for all charges, costs and expenses with respect to the Toll Roads (including Assumed Liabilities) that shall have accrued as of 11:59 p.m. on the day immediately preceding the Closing Date. If the Parties are unable to determine if any such revenues or any charges, costs and expenses with respect to the Toll Roads (including Assumed Liabilities) actually accrued as of 11:59 p.m. on the day immediately preceding the Closing Date, such revenues, charges, costs and expenses shall be prorated between the Authority and the Concessionaire as of 11:59 p.m. on the day immediately preceding the Closing Date based upon the actual number of days in the month and a three-hundred sixty-five (365)-day year. Any amounts payable to or owed by the Authority pursuant to this Section 2.2(b) shall be added to or subtracted from the Concession Fee accordingly. If final amounts cannot be determined at the Closing for any items contemplated by this Section 2.2(b) (including any amounts associated with the prepayment of Toll Revenues), then the Authority and the Concessionaire shall allocate such items on a fair and equitable basis as soon as revenue statements, invoices or bills are available, with final adjustment to be made as soon as reasonably possible after the Closing Date. The Authority and the Concessionaire shall have reasonable access to, and the right to inspect and audit, the other's books to confirm such final determinations.

Section 2.3 Deposit.

(a) The Authority acknowledges receipt from the Concessionaire of cash (the "Cash Deposit") or one or more Letters of Credit with a term of at least one hundred twenty (120) days from the date hereof (the "Closing LOC"), in an aggregate amount equal to five percent (5%) of the Concession Fee as of the date hereof, to be held by the Authority for the sole purpose described in Section 2.3(b). The Authority shall deposit any Cash Deposit with a Depository, which shall invest such amount in Eligible Investments described in clause (iii) of the definition of such term pending Closing. The Concessionaire may provide a combination of a Cash Deposit and Closing LOC to comply with the requirements of this Section 2.3, in which case the relevant provisions of this Agreement related to a Cash Deposit and to a Closing LOC, including the rights of the Parties related thereto, shall be construed to apply to both forms of security.

(b) If the Authority terminates this Agreement pursuant to Section 2.4(d)(iv)(A), then the Authority shall be entitled to (i) retain any Cash Deposit and all interest earned thereon or (ii) draw immediately, without notice to the Concessionaire, the full amount of the Closing LOC upon presentation of a sight draft and a certificate confirming that the Authority has the right to draw under the Closing LOC in the amount of such sight draft, and the Authority shall be entitled to retain all of the proceeds of the Cash Deposit or the Closing LOC, in either case, as the sole remedy or right of the Authority against the Concessionaire hereunder. If this Agreement is terminated for any other reason, the Authority shall return any Cash Deposit and all interest earned thereon or return the Closing LOC to the Concessionaire marked cancelled. The right of the Authority to retain any Cash Deposit and all interest earned thereon or draw the Closing LOC is intended to be, and shall constitute, liquidated damages to compensate the Authority for the cost of foregoing alternative opportunities and for other costs incurred by the Authority in reliance on the Concessionaire's agreement to enter into the Transaction, and full retention of any Cash Deposit and all interest earned thereon and full

payment of the entire draw on the Closing LOC to the Authority shall terminate all other rights and remedies of the Authority with respect to the Concessionaire. The Parties acknowledge that the damages suffered by the Authority as a result of such termination would be impossible to ascertain and that the combined amount of any Cash Deposit and all interest earned thereon and the Closing LOC is a reasonable estimate thereof and is not intended as a penalty.

(c) At the Closing, upon satisfaction of the conditions set forth in Section 2.4(a), (b) and (c), the Authority shall be entitled to withdraw the Cash Deposit and all interest earned thereon as a credit against the Concession Fee.

Section 2.4 Conditions Precedent; Termination.

(a) *Conditions for the Benefit of the Concessionaire.* The Concessionaire shall be obliged to consummate the Closing in accordance with the terms hereof only if each of the following conditions has been satisfied in full at or before the Time of Closing, unless waived in writing by the Concessionaire:

(i) the representations and warranties of the Authority set forth in Section 9.1 shall be true and correct on and as of the date hereof and at and as of the Time of Closing with the same force and effect as if made at and as of such time and date except (A) that representations and warranties that by their terms are applicable only as of the Effective Date or some other date need be true and correct only as of such date and (B) for failures of representations and warranties to be true or correct that, individually or in the aggregate, do not have and are not reasonably likely to have a Material Adverse Effect (it being understood that, for purposes of determining whether such failures do not have and are not reasonably likely to have a Material Adverse Effect, all materiality qualifications and references to a Material Adverse Effect or a material adverse effect contained in such representations and warranties shall be disregarded); *provided, however*, that the existence of the actions described in Sections 2.4(c)(i) and (ii) shall not constitute a breach of representation for purposes of this Section 2.4(a)(i);

(ii) the Authority shall not be in material breach of any covenant on its part contained in this Agreement or any Other Authority Agreement that is to be performed or complied with by the Authority at or prior to the Time of Closing;

(iii) the Authority shall have delivered to the Concessionaire:

(A) the estoppel certificates and any other deliverables required to be delivered by the Authority pursuant to Section 10.2(a);

(B) the consent agreement contemplated by Section 18.1(l), duly executed by the Authority, if such agreement is requested of the Authority in writing by the Concessionaire; and

(C) a legal opinion of counsel to the Authority, substantially in the form attached hereto as Schedule 1, together with all factual certificates delivered with respect to such opinion.

(iv) the Authority shall have arranged for the deposit of funds from the Concession Fee or from other sources sufficient to provide for the payment, in full, of all obligations of the Authority payable from and secured by the Toll Road Revenues or the Toll Road Assets so that such obligations shall be legally discharged on the Closing Date and no longer treated as outstanding under the documents under which such obligations were issued;

(v) the Authority shall have delivered to the Concessionaire a certificate signed by the Trustee to the effect that the Outstanding Debt of the Authority has been paid or deemed paid in full in accordance with the Trust Agreement and is no longer outstanding thereunder, that the Trust Agreement and all obligations thereunder have been redeemed or legally defeased in full and that all liens or encumbrances under the Trust Agreement have been fully discharged and released;

(vi) from the Bid Date to the Time of Closing, the Authority or any other Governmental Authority established under the Laws of the Commonwealth shall not have enacted any legislation or ordinance or promulgated any rule or regulation that would constitute an Adverse Action hereunder were such action to take place during the Term;

(vii) the Authority shall have duly filed this Agreement with the Office of the Comptroller of the Commonwealth pursuant to Act. No. 18;

(viii) the Authority shall have duly filed the Partnership Committee report with respect to this Agreement pursuant to Article 9(g)(ii) and (viii) of the Act;

(ix) the Authority shall have delivered to the Concessionaire counterparts of the Amendments to the Escrow Documents executed by the Authority and the other parties thereto (other than the Concessionaire);

(x) the PR Department of Treasury shall have issued an administrative determination or delivered a private letter ruling addressing the matters set forth in Schedule 21 of this Agreement (the "Tax Matters Supplement");

(xi) the Authority shall have granted to the Concessionaire a nonexclusive, nontransferable, royalty free sub-sublicense to use and modify the transportation management center computer programs, source code and software modules sublicensed by the Authority under that certain Activeits Software Sublicense Agreement with the Southwest Research Institute dated as of December 27, 2016; and

(xii) the Authority shall have delivered to the Concessionaire a certificate confirming that each of the conditions set forth in Section 2.4(a)(i) through (ix) has been satisfied in full by the Authority (except for any such condition that has been waived in writing by the Concessionaire) at or before the Time of the Closing.

(b) *Conditions for the Benefit of the Authority.* The Authority shall be obliged to consummate the Closing in accordance with the terms hereof only if each of the following conditions precedent has been satisfied in full at or before the Time of Closing, unless waived in writing by the Authority:

(i) the representations and warranties of the Concessionaire in Section 9.2 shall be true and correct on and as of the date hereof at and as of the Time of Closing with the same force and effect as if made at and as of such time and date except (A) that representations and warranties that by their terms are applicable only as of the Effective Date or some other date need be true and correct only as of such date and (B) for failures of representations and warranties to be true or correct that, individually or in the aggregate, have not had and are not reasonably likely to have a material adverse effect on the ability of the Concessionaire to consummate the transactions contemplated hereby or perform its obligations hereunder (it being understood that, for purposes of determining whether such failures have not had and are not reasonably likely to have a material adverse effect on the ability of the Concessionaire to consummate the transactions contemplated hereby or perform its obligations hereunder, all materiality qualifications and references to a Material Adverse Effect or a material adverse effect contained in such representations and warranties shall be disregarded); *provided, however*, that the existence of the actions described in Sections 2.4(c)(i) and (ii) shall not constitute a breach of representation for purposes of this Section 2.4(b)(i);

(ii) the Concessionaire shall not be in material breach of any covenant on its part contained in this Agreement that is to be performed or complied with by the Concessionaire at or prior to the Time of Closing;

(iii) the Concessionaire shall have delivered to the Authority:

(A) the evidence of insurance policies required to be delivered by the last sentence of Section 2.5(e); and

(B) if applicable, the Officer's Certificate, Sworn Statement for Closing (duly notarized as of the Closing Date), and other certificates of the Operator required to be delivered pursuant to Section 9.6.

(iv) the Concessionaire shall have delivered to the Authority a legal opinion of counsel to the Concessionaire, substantially in the form attached hereto as Schedule 2, together with all factual certificates delivered with respect to such opinion;

(v) the Concessionaire shall have delivered to the Authority executed counterparts of the Amendments to the Escrow Documents executed by the Concessionaire;

(vi) the Concessionaire shall have delivered the certificates contemplated by Section 9.3(b) and the Sworn Statement for Closing duly notarized as of the Closing Date;

(vii) the Concessionaire shall have delivered to the Authority a certificate confirming that each of the conditions set forth in Section 2.4(b)(i) through (vi) has been satisfied in full by the Concessionaire (except for any such condition that has been waived in writing by the Authority) at or before the Time of the Closing.

(c) *Mutual Conditions.* The Authority and the Concessionaire shall be obliged to consummate the Closing in accordance with the terms hereof only if each of the

following conditions precedent has been satisfied in full at or before the Time of Closing, unless waived by both the Authority and the Concessionaire:

(i) there shall be no preliminary or permanent injunction or temporary restraining order or other order issued by a Governmental Authority of competent jurisdiction or other legal restraint or prohibition enjoining or preventing the Transaction (or a material portion thereof);

(ii) there shall be no action taken (including the pendency of any review or proceeding), or any Law enacted, entered, enforced or deemed applicable to the Transaction by any Governmental Authority of competent jurisdiction that, in any such case, has resulted or (in the case of any pending review or proceeding, if adversely determined) could reasonably be expected to result in such Governmental Authority conditioning or restricting the consummation of the Transaction (or a material portion thereof) in a manner that would impose a material impairment on the Transaction or make the consummation of the Transaction illegal (or, in each case, a material portion of the Transaction); and

(iii) the prescription period specified in the Act for the commencement of any action challenging the validity of this Agreement shall have expired and no such action shall be pending.

(d) *Termination.* This Agreement may be terminated at any time prior to the Closing:

(i) by mutual consent of the Authority and the Concessionaire in a written instrument;

(ii) by either the Authority or the Concessionaire, upon notice to the other Party, if (A) any Governmental Authority of competent jurisdiction shall have issued an order, decree or ruling or taken any other action permanently restraining, enjoining or otherwise prohibiting the Transaction (or a material portion thereof), and such order, decree, ruling or other action has become final and nonappealable; *provided, however*, that the right to terminate this Agreement under this Section 2.4(d)(ii) shall not be available to any Party whose failure to comply with any provision of this Agreement has been the cause of, or resulted in, any order, decree, ruling or other action being imposed or becoming final and nonappealable or, in the case of clause (B) hereof, whose actions or failure to act caused the Closing not to occur, or (B) the Closing shall not have occurred as of 11:59 p.m. on the first (1st) Business Day after the date that is ninety (90) days after the Effective Date, unless such date is extended by mutual written agreement of the Parties;


(iii) by the Concessionaire, upon notice to the Authority, if any condition set forth in (A) Section 2.4(a) or (B) Section 2.4(c), remains unsatisfied as of the Time of Closing; *provided, however*, that the Concessionaire shall not have the right to terminate this Agreement under this Section 2.4(d)(iii) if the Concessionaire's failure to comply with any provision of this Agreement has been the cause of, or resulted in, the failure of such condition or conditions to be satisfied;

(iv) by the Authority, upon notice to the Concessionaire, if any condition set forth in (A) Section 2.4(b) or (B) Section 2.4(c), remains unsatisfied as of the Time of Closing; *provided, however*, that the Authority shall not have the right to terminate this Agreement under this Section 2.4(d)(iv) if the Authority's failure to comply with any provision of this Agreement has been the cause of, or resulted in, the failure of such condition or conditions to be satisfied;

(v) by the Authority, upon notice to the Concessionaire, if any material casualty loss, destruction of or damage to any part of the Toll Roads has occurred and such casualty loss, destruction or damage would permit the Concessionaire, before giving effect to Section 2.5(i)(iii)(A), to reduce the Concession Fee to an amount that is less than one hundred ten percent (110%) of the Outstanding Debt (for such purpose, to be calculated using the accreted value of Restructured Toll Revenue Senior Bonds, Series 2022B and Restructured Toll Revenue Senior Bonds, Series 2022C as of the scheduled Closing Date, as such scheduled Closing Date may be adjusted from time to time pursuant to this Agreement) pursuant to Section 2.5(i)(ii)(B); or

(vi) by the Authority, upon notice to the Concessionaire, if a Viability Event has occurred and is continuing as of the scheduled Closing Date and the Parties have been unable to mitigate such Viability Event in accordance with Section 2.4(f)(iii).

(e) *Effect of Termination.*

 (i) In the event of termination of this Agreement by either the Authority or the Concessionaire as provided in Section 2.4(d), this Agreement shall forthwith become void and there shall be no liability or obligation on the part of the Authority or the Concessionaire or their respective Representatives, except as set forth in Section 2.3(b), this Section 2.4(e) and Article 12 and subject to and in accordance with Article 19 and Article 20.


(ii) In the event that the Concessionaire terminates this Agreement pursuant to Section 2.4(d)(iii)(A) or pursuant to Section 2.4(d)(iii)(B), in each case unless a Viability Event or Force Majeure event has occurred and is continuing, the Authority will compensate the Concessionaire for up to two million dollars (\$2,000,000) of the actual documented and reasonable out-of-pocket costs (including payments made by the Concessionaire to its Equity Participant or other Affiliates pursuant to contracts entered into on an arm's-length basis) incurred by the Concessionaire or any of its Affiliates in connection with the Transaction, including the transactions contemplated by this Agreement after the date on which the Authority publicly announced the selection of the Concessionaire as the winning bidder with respect to the Transaction and in connection with its due diligence and preparation of a proposal to act as the Concessionaire under this Agreement but excluding the costs associated with the unwinding of any hedging arrangements entered into in connection with the prospective financing of the Concession Fee.

(iii) In the event that the Authority terminates this Agreement pursuant to Section 2.4(d)(v), the Authority will compensate the Concessionaire for up to four million dollars (\$4,000,000) of the actual documented and reasonable out-of-pocket costs incurred by the Concessionaire or any of its Affiliates in connection with the Transaction, including the

transactions contemplated by this Agreement after the date on which the Authority publicly announced the selection of the Concessionaire as the winning bidder with respect to the Transaction and in connection with its due diligence and preparation of a proposal to act as the Concessionaire under this Agreement but excluding the costs associated with the unwinding of any hedging arrangements entered into in connection with the prospective financing of the Concession Fee.

(iv) Any Cash Deposit and all interest earned thereon shall be retained or returned, and the Closing LOC shall be drawn upon or returned cancelled pursuant to and in accordance with Section 2.3(b).

(f) *Closing Adjustment Protocol.* The Concessionaire and the Authority shall adjust the Financial Model as presented at the Bid Date, which is referred to herein as the "Initial Base Case Financial Model", to reflect only those changes to financial terms permitted under this Section 2.4(f). The updated Financial Model shall be used to calculate the change, positive or negative, in the Concession Fee. For the avoidance of doubt, except as provided in this Section 2.4(f), the Financial Model shall not be adjusted for any terms and conditions included in the Concession Mortgage Debt financing agreements or security document issued on the Closing Date (except as provided in this Section 2.4(f)) or to correct for any potential errors. The Concessionaire shall bear 100% of the risk, and receive 100% of the benefit, of any differences between coverage ratios, coupon rates, payment provisions, refinancing assumptions, and other terms of its financing stated or assumed in Initial Base Case Financial Model and those same terms actually achieved on the Closing Date. Not later than fifteen (15) Business Days before the Closing Date, the Concessionaire shall prepare, and submit to the Authority for the Authority's Approval, a protocol for performing the updates, calculations, and adjustments pursuant to this Section 2.4(f).



(i) *Changes in Market Interest Rates.* The Authority will bear 100% of the risk and have the benefit of 100% of the impact on the Concession Fee (either positive or negative) arising from changes in Benchmark Rates assumed and indicated in the Initial Base Case Financial Model, for the period beginning on the Adjustment Period Start Date and ending on the Adjustment Period End Date; *provided, however*, that such protection will be extended only to the amount of proceeds of bonds, private placement debt and bank debt assumed and indicated in the Initial Base Case Financial Model.

(ii) *Calculation of Changes in Financing Terms.* On the Closing Date, the Concessionaire and the Authority shall adjust the Initial Base Case Financial Model to reflect only those changes to financial terms permitted under Section 2.4(f)(i) and any other revisions approved by both the Concessionaire and the Authority. In addition, the closing adjustment protocol analysis set forth in this Section 2.4(f) will be based on the Initial Equity IRR. The Concessionaire and the Authority shall make such calculation and update the Initial Base Case Financial Model and the Initial Equity IRR on the Closing Date as follows:


(A) Holding the Initial Equity IRR and amount of debt proceeds as calculated based on the approach described in Section 2.4(f)(i), constant, update the Benchmark Rates with respect to bonds, private placement and bank debt. The

model shall be run to solve for the nominal Concession Fee. The resulting financial model will become the "Financial Model Step 1".

(B) If the nominal Concession Fee resulting from the Financial Model Step 1 is higher than the nominal Concession Fee from the Initial Base Case Financial Model, the nominal Concession Fee resulting from the Initial Base Case Financial Model will be subtracted from the nominal Concession Fee from the Financial Model Step 1, and the resulting amount shall be added to the Concession Fee and become the Final Concession Fee.

(C) If the nominal Concession Fee resulting from the Financial Model Step 1 is lower than the nominal Concession Fee from the Initial Base Case Financial Model, the nominal Concession Fee resulting from the Financial Model Step 1 will be subtracted from the nominal Concession Fee from the Initial Base Case Financial Model, and the resulting amount (the "Authority's Benchmark Interest Rate Adjustment") shall, subject to clause (iii) below, be subtracted from the Concession Fee and become the Final Concession Fee.

(D) Update the Concession Fee in the Financial Model Step 1 to the Final Concession Fee and update the amount of proceeds of bonds, private placement debt and bank debt to be issued or incurred on the Closing Date. The Financial Model Step 1 will be solved and the resulting equity IRR shall become the Base Case Equity IRR. The resulting model shall become the Base Case Financial Model.

 (iii) *Mitigation of Viability Events.* Subject to the Authority's right in Section 2.4(d)(vi), if a Viability Event occurs between the Adjustment Period Start Date and the Adjustment Period End Date, the Concessionaire and the Authority shall engage in good faith discussions to determine potential appropriate means by which to mitigate the actual or anticipated impacts of any such Viability Event, which may include:

(A) Extension of the scheduled Closing Date (subject to the Concessionaire extending the validity of its Closing LOC);

(B) Negotiations by the Concessionaire with any or all of the Concessionaire's existing lenders to increase, renew, or extend their commitments, as applicable; *provided* that any material deviations from the terms and conditions of the original commitments set forth in the Concessionaire's proposal as of the Bid Date may be accepted by Concessionaire only with the Authority's Approval; and

(C) Other mitigation actions subject to mutual agreement of both Parties.

Section 2.5 Covenants.

(a) *Cooperation.* The Parties shall cooperate with each other in order to permit the Closing to be consummated on the Closing Date.

(b) *Reasonable Efforts.* Each Party shall use all Reasonable Efforts to (i) take, or cause to be taken, all actions necessary to comply with all requirements of Law that may be imposed on such Party to consummate the Transaction promptly and (ii) obtain any Consent of any Governmental Authority or any other public or private third party that is required to be obtained or made by such Party in connection with the consummation of the Transaction.

(c) *Injunctions.* If any Governmental Authority of competent jurisdiction issues a preliminary or permanent injunction or temporary restraining order or other order before the Time of Closing that would prohibit or materially restrict, hinder or adversely affect the Closing, each Party shall use all Reasonable Efforts to have such injunction, decree or order dissolved or otherwise eliminated or to eliminate the condition that formed the basis for such injunction or order, in each case promptly and, in any event, prior to the Time of Closing. Subject to Section 2.4(e), any and all costs incurred by any Party pursuant to any action taken in accordance with this Section 2.5(c) shall be borne by the Party against whom such injunction, restraining order or other order has been entered or whose alleged action or inaction in violation of applicable Law is the basis for the issuance of such injunction, restraining order or other order.

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(d) *Operation of the Toll Roads.* From the date hereof up to the Time of Closing, the Authority shall cause the Toll Roads to be operated in the Ordinary Course in a manner consistent with past practice and shall use all Reasonable Efforts to preserve the goodwill of the Toll Roads and to maintain good business relationships with customers, suppliers and others having business dealings with the Toll Roads, to maintain the Toll Road Assets in normal operating condition and repair in accordance with past practice (ordinary wear and tear excepted) and not to dispose of the Toll Road Assets other than in the Ordinary Course, to perform in all material respects all of its obligations under the Assigned Contracts and the Other Authority Agreements and not to enter into any other contracts related to the Toll Roads other than in the Ordinary Course, not to incur any Encumbrances on the Toll Roads (other than Permitted Authority Encumbrances) that are not satisfied, and if applicable, removed or discharged by the Closing Date (or retained by the Authority as an Excluded Liability after the Closing Date), and to cause the Toll Roads to be operated in all material respects in accordance with all applicable Laws (except to the extent any non-compliance is being contested in good faith by appropriate proceedings), all with the purpose that the Toll Roads as a going concern shall be unimpaired and concessioned to the Concessionaire at the Closing in a condition not materially worse than the condition as of the date hereof. It is understood and agreed that the Authority shall, up to and including 11:59 p.m. on the day immediately preceding the Closing Date, be entitled to all of the cash or cash equivalents in or generated by the Toll Roads. Without limiting the foregoing, except as otherwise permitted pursuant to this Agreement, the Authority shall not (i) terminate, amend, modify or agree to a waiver of the terms of any Assigned Contract, the Other Authority Agreements or any Authorization related to the Toll Roads, or (ii) except in the Ordinary Course, enter into any other agreements in respect of the Toll Roads, in each case, after the Effective Date and before the Time of Closing (or in the case of any Assigned Contract that has not been assigned or transferred to the Concessionaire in accordance with Section 2.1(b) after the Closing Date, before such assignment is completed) without the Concessionaire's prior written consent.

(e) *Policies of Insurance.* The Authority shall cause all applicable policies of insurance maintained in respect of the Toll Roads to be continued in force from the date hereof up to the Time of Closing. During the Term, the Concessionaire shall be responsible for maintaining insurance for the Toll Roads in accordance with the terms of this Agreement. The Concessionaire shall provide evidence of such insurance policies to the Authority as a condition precedent to Closing.

(f) *Disclosure of Changes.* Each Party shall immediately disclose to the other Party any matter which becomes known to it at or before the Time of Closing that is inconsistent in any material respect with any of the representations or warranties contained in Article 9. No such disclosure shall be deemed to change any representation and warranty made as of the Effective Date, cure any breach thereof or affect any inability to make such a representation and warranty as of the Closing Date for purposes of Section 2.4 or for any other purpose.

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(g) *Access to Information.* From the date hereof up to the Time of Closing, the Authority shall (i) give the Concessionaire and its Representatives reasonable access during normal business hours and on reasonable notice to the Toll Roads, subject to the Authority's policies and regulations regarding safety and security, (ii) permit the Concessionaire and its Representatives to make such inspections of the Toll Roads and such related documents and information as they may reasonably request (including such information as may be necessary for the Concessionaire to satisfy the conditions set forth in Section 2.4 and to comply with its obligations under this Section 2.5) and (iii) furnish the Concessionaire and its Representatives with such financial and operating data and other information as is available with respect to the Toll Roads as they may from time to time reasonably request. The Authority's obligations in the preceding sentence are subject to all confidentiality obligations binding on the Authority with respect to any Person; *provided* that the Authority has disclosed to the Concessionaire the applicable Law, applicable agreement or other document in which such confidentiality obligations are set out in order to enable the Concessionaire to evaluate the materiality and significance of not disclosing the information that is subject to such confidentiality obligations. The Concessionaire shall hold and will cause its Representatives to hold in strict confidence all documents and information concerning the Toll Roads to the extent and in accordance with the terms and conditions of the confidentiality agreement governing the Authority and the Concessionaire entered into prior to the Effective Date. After the Closing Date, the Concessionaire shall, at the request of the Authority, provide reasonable assistance with respect to claims or actions brought by or against third parties based upon events or circumstances concerning the Toll Roads and in that regard the Concessionaire shall (A) provide reasonable assistance in the collection of information or documents and (B) make the Concessionaire's employees available when reasonably requested by the Authority.

(h) *Transition.* From the date hereof up to the Time of Closing, the Parties shall cooperate with each other to ensure the orderly transition of control, custody, operation, management, maintenance, rehabilitation and tolling of the Toll Roads at the Time of Closing. At the request of the Concessionaire, the Authority shall provide the Concessionaire, for up to six (6) months following the Closing Date, services to be provided by those Authority Employees who do not become employees of the Concessionaire. Nothing contained in this Agreement shall be construed in any way as creating any employment relationship between

Concessionaire and such employees rendering services for the relevant period of time. All such services shall be provided for in an amount equal to the Authority's cost therefor, including *pro rata* employment costs and related reasonable expenses allocable to such employees, for the relevant period of time for services being rendered to the Concessionaire, as reasonably determined by the Authority, which amount shall be documented showing in reasonable detail all charges and billed to the Concessionaire as soon as reasonably practicable following the end of each month and shall be payable by the Concessionaire within thirty (30) days of receipt of any such statement, and upon such other reasonable terms and conditions as the Authority and the Concessionaire shall agree.

(i) Casualty Loss Prior to Closing.

(i) Restoration. If, following the Bid Date and prior to the Time of Closing, there has occurred any material casualty loss, destruction or damage to any part of the Toll Roads and this Agreement has not been terminated under Section 2.4(d), then the Authority shall promptly and diligently Restore the affected portion of the Toll Roads; *provided* that if the affected portion of the Toll Roads cannot prior to the Closing Date be Restored, then the Authority shall make or cause to be made such Restoration as can reasonably be completed prior to the Closing Date and in its discretion either (A) prior to the Closing Date, provide to the Concessionaire a plan for the completion of such Restoration efforts by the Authority or its agents following the Time of Closing at the Authority's sole expense and subject to the Concessionaire's reasonable approval and shall then complete such Restoration in substantial accordance with such plan or (B) authorize the Concessionaire to Restore the remaining affected portion of the Toll Roads.

(ii) Compensation. If the Authority authorizes the Concessionaire to Restore the remaining affected portion of the Toll Roads as described in Section 2.5(i)(i)(B), then (A) the Authority shall assign to the Concessionaire all available insurance and other proceeds payable by third-party insurers or other third parties to the Authority in respect of such casualty loss, destruction or damage and enforce (with the cooperation of the Concessionaire) all of its rights, remedies and privileges under any applicable insurance policies with third-party insurers and (B) the Concessionaire shall have the right, subject to Section 2.5(i)(iii)(A), to reduce the Concession Fee by any expected deficiency between (x) the amount of such insurance and other proceeds and (y) the projected cost to the Concessionaire of Restoring the affected portion of the Toll Roads plus the projected lost Toll Road Revenues, if any, during the period of such repairs; *provided* that the Concessionaire must provide written notice to the Authority of the amount of such deficiency no later than fifteen (15) Business Days prior to the Closing Date.


(iii) Adjustments.

(A) In no event shall the Concession Fee be reduced in accordance with Section 2.5(i)(ii)(B) to an amount that is less than one hundred ten percent (110%) of the Outstanding Debt (for such purpose, to be calculated using the accreted value of Restructured Toll Revenue Senior Bonds, Series 2022B and Restructured Toll Revenue Senior Bonds, Series 2022C as of the scheduled Closing Date).

(B) In the event the projected cost (including projected lost Toll Road Revenues) of Restoring the affected portion of the Toll Roads pursuant to Section 2.5(i)(i)(B) is greater than the net amount of insurance proceeds received by the Concessionaire from the Authority therefor plus the amount deducted from the Concession Fee in accordance with Section 2.5(i)(ii), such event shall be a Compensation Event, and the Authority shall pay the remaining amount of such projected cost to the Concessionaire as Concession Compensation in accordance with Section 15.1(b) with respect to any Restoration required to be undertaken pursuant to this Section 2.5(i).

(C) If the projected cost (including projected lost Toll Road Revenues) of Restoring the affected portion of the Toll Roads pursuant to Section 2.5(i)(i)(B) is less than the net amount of insurance proceeds received by the Concessionaire as aforesaid plus the amount deducted from the Concession Fee as aforesaid, then such excess shall be the property of the Authority and shall be paid by the Concessionaire to the Authority upon the completion of the Restoration of the affected portion of the Toll Roads.

(j) *Toll Road Employees.*

 (i) Employees. Within 20 days after the Effective Date, the Authority shall provide the Concessionaire with a list of the Authority's employees as of such date (the "Authority Employees"). After the Effective Date and prior to the Time of Closing, the Concessionaire shall use its Reasonable Efforts to interview all Authority Employees who apply to the Concessionaire for employment and, pursuant to the latter's operational needs, to offer, on terms and conditions designated by the Concessionaire taking into account applicable Law, employment to commence following the Closing Date to such Authority Employees who, as determined by the Concessionaire, meet the Concessionaire's stated requirements for employment; *provided, however*, that the Concessionaire shall have no obligation to offer employment to any such Authority Employee but will give preference to such Authority Employees over other applicants with otherwise similar qualifications. For the avoidance of doubt, the protections offered to Authority Employees pursuant to Section 3.19(a) of this Agreement shall not be a basis for distinguishing Authority Employees from other applicants with otherwise similar qualifications. The Concessionaire shall not be liable for severance or other pay or benefits for Authority Employees who are not hired by Concessionaire, including those to whom an offer of employment is made but who do not accept such offer. The Authority shall waive any non-competition, confidentiality or other obligation arising under any employment contract between the Authority and any Authority Employee that may otherwise restrict any of the Authority Employee's rights to be employed by the Concessionaire. The Concessionaire commits to offer competitive and attractive benefits to the Authority Employees who receive a job offer. On the Closing Date, the Concessionaire shall deliver to the Authority a list of all Authority Employees hired by the Concessionaire as of the Time of Closing.

(ii) Pursuant to Act No. 106, since July 1, 2017 (x) all Authority Employees participate in the New Government Retirement Program and (y) any pension benefits accumulated by an Authority Employee under any former government defined benefit plan are payable by the Commonwealth pursuant to the "pay-as-you-go" mechanism established under Act No. 106 (if and when any such benefit becomes payable pursuant to applicable Law) and

reimbursed by the Authority to the Commonwealth through the "Pay-Go Charge" imposed under Act No. 106. The Authority is not required to make employer contributions to any retirement plan with respect to any Authority Employee (other than, for the avoidance of doubt, through the payment of the "Pay-Go Charge" imposed on the Authority pursuant to Act No. 106).

(iii) With respect to any Authority Employee hired by the Concessionaire, the Authority Employee may elect, and the Concessionaire shall not object to and will facilitate, the rollover of the balance of the Authority Employee's individual retirement account under the New Government Retirement Program to any defined contribution individual retirement account program established by the Concessionaire, in its discretion, *provided* that such rollover does not adversely affect the tax-qualification under the PR Code and its regulations of the defined contribution individual retirement account program established by the Concessionaire. The Concessionaire does not assume any obligations, liabilities or debts of the Authority with respect to (A) the payment of the "Pay Go Charge" imposed on the Authority under Act No. 106 in relation to any Authority Employees or (B) otherwise related to any pension benefits accrued under any governmental retirement plan by any Authority Employee; *provided, however*, that the Concessionaire acknowledges that, as permitted by the Act, the Concession Fee may be used by the Authority in part for the payment of "Pay Go Charges" imposed on the Authority under Act No. 106.

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(iv) Failure of the Concessionaire to comply with any of the covenants included in this Section 2.5(j) will constitute a material breach of this Agreement.

(k) *Defects in Title to Real Property and Toll Revenues.* The Authority covenants promptly to cure, including by exercising powers of condemnation, any breach of the representations and warranties contained in Section 9.1(d) that interferes or could reasonably interfere with the Toll Road Operations, including the ability of the Concessionaire to generate and collect Toll Road Revenues.

(l) *ETC Service Terms and Tolling Agreement.* Each of the Concessionaire and the Authority acknowledges that the Tolling Services Agreement is in force and effect.

Section 2.6 Recordation of Concession. (a) At the Time of Closing, the Parties shall execute such documents as are necessary to enable the Concessionaire, at its expense, to record this Agreement in the appropriate Commonwealth Registry of Property (including, but not limited to, a *deed of protocolization* of this Agreement). To the extent that changes are made to this Agreement with respect to the Term or other material matters, the Parties shall execute, deliver and record, at the Concessionaire's expense, an amendment to the recorded Agreement reflecting such changes.

(b) If any Registrar of the Commonwealth Registry of Property requires that an allocation of the Concession Fee or the legal description of the lands be included in this Agreement, the Parties will promptly execute an amendment to this Agreement to include the same in this Agreement, *provided* that if any such request is made prior to the Time of Closing, the Parties will execute the amendment on or prior to the Time of Closing.

(c) Upon Substantial Completion of the ORT Improvement Project, the CD Project (if applicable) or the DTL Extension Project (if applicable), each Party shall execute deliver, and record, at the Concessionaire's expense, such further deed or other instrument as either Party may reasonably request to conform the inscription of this Agreement in the appropriate Commonwealth Registry of Property, as it relates to such project, to include the final land area and characteristics of such project (in the case of the ORT Improvement Project, for the avoidance of doubt, in order to reflect the ORT Change).

Section 2.7 Closing Deliveries. At the Time of Closing, each Party shall execute and deliver all assets, approvals, agreements, bills of sale, assignments, endorsements, instruments, affidavits and documents as are reasonably necessary in the opinion of the other Party to effect the Transaction (and in form and substance that are reasonably satisfactory to such other Party), *provided* that no such additional deliverables shall be deemed to create or constitute independent, additional conditions precedent under Section 2.4 hereof.

Section 2.8 Intended Treatment for Federal Income Tax Purposes. This Agreement is intended for United States federal income tax purposes to be (a) with respect to the Concession, the grant of a "Section 197 intangible" within the meaning of Sections 197(d)(1)(D) and (F) of the U.S. Code, and Sections 1.197-2(b)(8) and (10) of the Income Tax Regulations thereunder, and (b) with respect to the transfer of Toll Road Assets, a sale of the Toll Road Assets to the Concessionaire. Notwithstanding the foregoing, the Concessionaire and each of its Affiliates may (i) utilize its own properly determined allocation of the Concession Fee between the Concession and the Toll Road Assets, or (ii) utilize its own properly determined allocation of the portion of the Concession Fee it has allocated to the Toll Road Assets among such assets, in the preparation of any Tax return or in any Tax audit or other Tax proceeding before any Governmental Authority.

Section 2.9 Intended Treatment for Commonwealth Income Tax Purposes. This Agreement is intended for Commonwealth income tax purposes to be considered an intangible asset acquired by purchase by the Concessionaire consisting of an exclusive administrative concession (*contrato de alianza*) granting the right to administer and operate the Toll Roads during the Term pursuant to the Act and amortizable under the provisions of Section 1033.07(a)(1)(D) of the PR Code. It is the intention that the Concessionaire shall be subject to the provisions of Article 12 of the Act and the Administrative Determination.

ARTICLE 3

TERMS OF THE CONCESSION

Section 3.1 Right to Operate; Present Condition.

(a) *Right to Operate.* The Authority agrees that the Concessionaire shall, at all times during the Term, be entitled to and shall have the exclusive right to conduct Toll Road Operations and the rights and privileges granted to the Concessionaire hereunder, subject to the provisions contained in this Agreement. The Authority acknowledges and agrees that the exclusive right to conduct Toll Road Operations includes the Authority and any other Governmental Authority established under the Laws of the Commonwealth refraining from

taking any action with respect to any of the ingress and egress ramps and roadways along the Toll Roads that would materially adversely affect Toll Road Operations, except in accordance with Section 3.7 and subject to the provisions of Section 3.16(e). The Authority and the Concessionaire acknowledge that the Concessionaire's rights to operate the Toll Roads as a public highway and charge tolls thereon are subject to the right of the Authority, in accordance with the terms of this Agreement, to monitor compliance with this Agreement to ensure that the Toll Roads are used and operated as required by this Agreement. The Authority shall, at its sole cost and expense and at all times during the Term, defend its title to the Toll Roads and the rights granted to the Concessionaire hereunder, or any portion thereof, against any Person claiming any interest adverse to the Authority or the Concessionaire in the Toll Roads, or any portion thereof except where such adverse interest arises as a result of the act, omission, negligence, misconduct or violation of Law of the Concessionaire, its Affiliates or their respective Representatives.

(b) *Present Condition.* Except with respect to the completion of any repairs or restoration by the Authority pursuant to Section 2.5(i) and except as specifically set forth in Section 4.1 and Article 9, the Concessionaire understands, agrees and acknowledges that the Concessionaire (i) by the execution of this Agreement, agrees to accept the Toll Roads "AS IS" at the Time of Closing (subject to the Excluded Liabilities) and (ii) has inspected the Toll Roads and is aware of their condition and acknowledges that the Authority neither has made nor is making any representation or warranty, express or implied, regarding the condition of the Toll Roads (or any part thereof) or their suitability for the Concessionaire's proposed use.

Section 3.2 Toll Road Operations.

(a) *Use.* Except as otherwise specifically provided herein, the Concessionaire shall, at all times during the Term, (i) be responsible for all aspects of the Toll Road Operations and (ii) cause the Toll Road Operations to be performed in accordance with the provisions of this Agreement (including the Operating Standards) and applicable Law. The Concessionaire shall, at all times during the Term, cause the Toll Roads to be continuously open and operational for use by all members of the public for Highway Purposes as a controlled access highway, 24 hours a day, every day, except only for (A) closures (1) specifically permitted under this Agreement, (2) required by applicable Law, (3) necessary to comply with any other requirement of this Agreement or (4) contemplated pursuant to the Operating Standards or (B) temporary closures required to address emergencies and temporary events.

(b) *Costs and Expenses.* Except as otherwise specifically provided herein, the Concessionaire shall, at all times during the Term, pay or cause to be paid all costs and expenses relating to the Toll Road Operations as and when the same are due and payable.

(c) *Assumed Liabilities.* The Concessionaire agrees to assume and discharge, or perform when due, all debts, liabilities and obligations whatsoever relating to the Toll Roads or the Toll Road Operations that occur, arise out of or relate to, or are based on facts or actions occurring during the Term (including, without limitation, any liabilities to the extent arising under any (A) Assigned Contract maintained by the Authority for the benefit of the Concessionaire pursuant to Section 2.1(b) and (B) Environmental Law, but only to the extent such debts, liabilities or obligations do not arise from or relate to any breach by the Authority of any covenant, representation or warranty set forth in this Agreement (collectively, the "Assumed

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Liabilities"); and *provided further*, that the Assumed Liabilities shall not include, and the Authority shall perform and discharge as and when due all Excluded Liabilities. The "Excluded Liabilities" shall consist of any debts, liabilities and obligations (i) with respect to the Authority's (or any of its Representatives') obligations under this Agreement, (ii) arising out of or under (A) the operation, management, maintenance, construction, rehabilitation and tolling of the Toll Roads prior to the Time of Closing, (B) an Assigned Contract prior to the Time of Closing, (C) the work undertaken by the Authority (or any of its Representatives) related to the Authority Capital Improvement Projects or (D) any act or omission by or obligation or liability of the Authority (or any of its Representatives) under Commonwealth employment and labor laws related to the period prior to the Time of Closing with respect to any Authority Employee hired by the Concessionaire, (iii) relating to the refunding or retirement of any debt or obligations related to the Toll Roads that are secured by the Toll Roads, the Toll Road Revenues or the Toll Road Assets, (iv) with respect to any Authority Capital Improvement Contract, the Tolling Services Agreement, each Other Authority Agreement (except for the Emovis Contract and except as otherwise expressly provided by the ETC Service Terms) and any other contract of the Authority not expressly assigned to the Concessionaire hereunder, (v) under any Environmental Law to the extent arising out of or relating to (A) the Authority Capital Improvement Projects, (B) any Additional Lands required by any Required Modification, (C) any Additional Lands required by any Agreed Modification in accordance with the terms thereof, (D) any violation of Environmental Laws arising as a result of the exercise by the Authority of its rights under Section 3.7, subparagraphs (a)(i), (iii), and (v) through (x) or (E) the ownership, operation or condition of the Toll Roads or the Toll Road Assets at any time prior to the Time of Closing or any Hazardous Substance to the extent existing, released or threatened to be released from the Toll Roads or the Toll Road Assets at any time prior to the Time of Closing, including any material environmental conditions existing prior to the Time of Closing, whether or not the manifestation of which occurs at or following the Time of Closing (collectively, the "Excluded Environmental Liabilities"). Notwithstanding the foregoing, the Assumed Liabilities shall include any liabilities and obligations arising due to the Concessionaire's failure to comply with established Engineering or Institutional Controls for such environmental conditions on the Toll Roads; *provided that*, prior to having any obligation to comply therewith, the Concessionaire shall have (i) received written notice of such Engineering or Institutional Controls from the Authority and (ii) a reasonable period of time in which to implement such controls (which period shall not exceed sixty (60) days unless such implementation reasonably requires a longer period, and the Concessionaire has demonstrated to the satisfaction of the Authority, acting reasonably, that it is proceeding with all due diligence during such period to implement such compliance); and *provided further*, that the Concessionaire may submit any dispute with respect to such obligation to dispute resolution in accordance with Article 19.

(d) *Operating Agreements.* The Concessionaire may not enter into any Operating Agreement that extends beyond the Term (unless such agreement is assignable to the Authority and subject to a right by the Authority to, following such assignment to the Authority, terminate such agreement without penalty within three (3) Business Days' notice or less effective upon such extension).

Section 3.3 Operator.

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(a) *Engagement.* The Toll Road Operations shall, at all times during the Term, be under the direction and supervision of an active operator that has (or if the Concessionaire is the Operator, an Equity Participant then owning at least ten percent (10%) of the Concessionaire shall have) the expertise, qualifications, experience, competence, skills and know-how to perform the Toll Road Operations in accordance with this Agreement (an "Operator"). The Operator on the first day of the Term shall be MP Operator, LLC. The Concessionaire shall not engage or appoint a replacement Operator, unless (A) the Authority has Approved such Operator (based upon a determination in accordance with Section 3.3(b)) or such replacement Operator is the Concessionaire or a majority-owned Affiliate of the Concessionaire, in which case no such Approval shall be required, and (B) the replacement Operator has delivered the Sworn Statement to the Authority. The Operator shall at all times be subject to the direction, supervision and control (by ownership, contract or otherwise) of the Concessionaire, and any delegation to an Operator shall not relieve the Concessionaire of any obligations, duties or liabilities hereunder. The contract or other arrangement with the Operator must be subject to and consistent with this Agreement. In the event the Operator takes any action described in Section 16.1(a)(iv), or suffers any action described in Section 16.1(a)(v), or is convicted (or enters a plea of guilty) in respect of a Public Integrity Crime, the Authority may demand that the Operator be replaced. Upon such demand, the Concessionaire shall promptly replace the Operator in accordance with Section 3.3(b). For purposes of this Agreement, any and all acts or omissions of the Operator shall be deemed the acts or omissions of the Concessionaire, even if such acts or omissions were not reasonably foreseeable or were grossly negligent or willful or made in bad faith on the part of the Operator. The Concessionaire shall notify the Authority upon the termination or resignation of an Operator within two (2) Business Days of such termination or resignation. The Operator shall have no interest in or rights under this Agreement or the Toll Roads unless the Operator is the Concessionaire itself. The Operator shall comply at all times with the Commonwealth Contractor Requirements.

(b) *Approval.* The Authority's Approval of a replacement Operator may be withheld only if the Authority reasonably determines that the engagement of such proposed Operator is prohibited by applicable Law, such proposed Operator is unable to make the representations set forth in Section 9.6 or deliver the Sworn Statement or such proposed Operator is not capable of performing the Toll Road Operations in accordance with this Agreement, which determination shall be based upon and take into account the following factors: (i) the financial strength and integrity of the proposed Operator, its direct or indirect beneficial owners and each of their respective Affiliates; (ii) the experience of the proposed Operator in operating Comparable Highways that are toll roads and performing other relevant projects; (iii) the background and reputation of the proposed Operator, its direct or indirect beneficial owners, their respective Affiliates and of each of their respective officers, directors and employees (including the absence of criminal, civil or regulatory claims or actions against any such Person and the quality of any such Person's past or present performance on other projects); (iv) the material terms of the proposed agreement between the Concessionaire and the Operator that would reasonably be expected to impact the ability of the Concessionaire to comply with the terms of this Agreement; and (v) such other factors, if any, as the Authority reasonably determines to be relevant; *provided* that, to the extent reasonably requested by the

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Concessionaire, the Authority shall notify the Concessionaire of such other factors. Any proposed replacement Operator also shall be required to deliver to the Authority the Sworn Statement and an Officer's Certificate in which the replacement Operator makes representations and warranties covering the matters set forth in Section 9.6. Any disputes between the Authority and the Concessionaire with respect to the appointment or replacement of the Operator shall be settled in accordance with the provisions of Article 19. Notwithstanding the foregoing, in the event that, upon termination or resignation of the Operator, a replacement Operator has not been Approved by the Authority, the Concessionaire shall have the right to appoint, for a period not to exceed one year (subject to extension as described below in this Section 3.3(b)), an interim Operator to operate the Toll Roads until a replacement Operator can be selected pursuant to this Agreement. This interim Operator may be selected without Approval by the Authority under the terms described above so long as the interim Operator meets the following criteria: (A) the interim Operator has experience in operating Comparable Highways that are toll roads; (B) the interim Operator (or any guarantor of its obligations) has a tangible net worth reasonably sufficient to carry out its obligations and responsibilities as Operator; and (C) the interim Operator delivers to the Authority (1) the Sworn Statement and (2) an Officer's Certificate covering the matters set forth in clauses (i), (iii), (v), (vi), (vii) and (viii) of Section 9.6. The Concessionaire shall not extend the term of any interim Operator beyond six consecutive months or appoint a successor interim Operator after such six-month period, unless the qualification of the replacement Operator is subject to a dispute, in which case the six-month period shall be extended until the conclusion of the dispute resolution process. For the avoidance of doubt, no Approval shall be required pursuant to this Section 3.3(b) in the event that the Concessionaire or a majority-owned Affiliate thereof is the Operator and an Equity Participant then owning at least ten percent (10%) of the Concessionaire has the expertise, qualifications, experience, competence, skills and know-how to perform the Toll Road Operations in accordance with this Agreement.


(c) *Change in Control.* A Change in Control of an Operator shall be subject to the Authority's Approval based on a determination using the factors set forth for the approval of a replacement Operator in Section 3.3(b); *provided, however*, that if the operations of the Operator are not materially changed by the proposed Change in Control of the Operator, the factors described in clauses (ii) and (iv) of Section 3.3(b) shall be deemed satisfied. The Authority's judgment as to such Approval shall be based upon the Change in Control and the party or parties obtaining control and not upon considerations that do not arise out of the Change in Control.

Section 3.4 Authorizations; Qualifications.

(a) *Compliance.* The Concessionaire shall obtain, comply with, promptly renew and maintain in good standing all Authorizations necessary to perform its obligations hereunder; *provided, however*, that if (i) the Concessionaire is, at any time during the Term, required to obtain any Authorization from a Governmental Authority that the Authority was not required to obtain in connection with its operation of the Toll Roads prior to the Time of Closing or (ii) any such Authorization can be obtained only by the Authority or some other Governmental Authority, then the Authority shall (x) use its Reasonable Efforts to assist the Concessionaire in obtaining such Authorization and (y) subject to Law, promptly deliver to the

Concessionaire a copy of any notice, summons, letter or other communication in respect of any Authorization obtained, renewed or maintained in the Authority's name following the Authority's receipt thereof.

(b) *Qualifications.* The Concessionaire shall, at all times during the Term, maintain in full force and effect its existence and all qualifications necessary to carry on its business pertaining to the Toll Road Operations, including all rights, franchises, licenses, privileges and qualifications required in connection with the Toll Road Operations. Nothing contained in the foregoing shall be deemed to prohibit or limit the Concessionaire from changing its organizational form or status (including a change from a limited liability company to a corporation or a limited partnership), subject to the terms of Section 17.1(e).


 (c) *Increases to Toll Rate Cap.* The Authority shall seek to obtain the NEPA Approval and shall promptly advise and update the Concessionaire of any developments in respect thereof. Upon receipt of the NEPA Approval, the Toll Rate Cap with respect to the DTLs may be adjusted by the Concessionaire as set forth in Schedule 4. If the Authority Approves any other increase to the maximum toll rate with respect to the DTLs or if applicable, the DTL Extension) pursuant to Schedule 4 but such increase is not permitted at such time pursuant to applicable Law (including but not limited to any NEPA or similar restrictions), upon the request of the Concessionaire, the Authority shall coordinate and cooperate with the Concessionaire in an effort to obtain the necessary approvals required under applicable Law in connection with the same in order to increase the applicable Toll Rate Cap (as defined in Schedule 4). Such coordination and cooperation shall include the Authority undertaking and filing, at the expense of the Concessionaire, any required NEPA or similar documentation and shall include the Authority promptly advising and updating the Concessionaire of any developments in respect of the same.

Section 3.5 No Encumbrances.

(a) *By the Concessionaire.* The Concessionaire shall not do any act or thing that will create any Encumbrance (other than a Permitted Concessionaire Encumbrance) against the Toll Roads and shall promptly remove any Encumbrance (other than a Permitted Concessionaire Encumbrance) against the Toll Roads, unless the Encumbrance came into existence as a result of an act, omission, negligence, misconduct or violation of Law by the Authority or any other Governmental Authority or a Person claiming through any of them which in turn was not caused by an act or omission of the Concessionaire or its Representatives. The Concessionaire shall not be deemed to be in default hereunder if the Concessionaire continuously, diligently and in good faith contests any such Encumbrance, or the validity thereof (or causes such contest), by appropriate legal proceedings that shall operate to prevent the foreclosure of any such Encumbrance; *provided* that the Concessionaire (i) has given advance notification to the Authority that it is the intent of the Concessionaire to contest the validity or collection thereof or cause such contest and (ii) has given a satisfactory indemnity to the Authority or has deposited with the Authority a Letter of Credit, surety bond (consistent (including as to form and credit quality of issuer) with the requirements set forth herein for Letters of Credit), cash or Eligible Investment in an amount equal to the amount of the claim or Encumbrance, plus such interest and penalties, court costs, or other charges as the Authority may reasonably estimate to be payable by the Concessionaire at the conclusion of such contest or as is

required to provide insurance over any potential Encumbrance; *provided, however*, that in the event such Letter of Credit, surety bond, cash or Eligible Investment shall be so deposited, the same shall be held until such claim or other Encumbrance shall have been released and discharged and shall thereupon be returned to the Concessionaire, less any amounts expended by the Authority, if any, to procure such release or discharge, or any loss, cost, damage, reasonable attorneys' fees or expense incurred by the Authority, if any, by virtue of the contest of such Encumbrance.

(b) *By the Authority.* Neither the Authority nor any Governmental Authority of or in the Commonwealth shall do any act or thing that will create or permit to exist any Encumbrance (other than a Permitted Authority Encumbrance) against the Toll Roads and shall promptly remove any Encumbrance (other than a Permitted Authority Encumbrance) against the Toll Roads that came into existence as a result of an act of or omission by the Authority or a Person claiming through any of them. The Authority shall not be deemed to be in default hereunder if the Authority continuously, diligently and in good faith contests any such Encumbrance, or the validity thereof, by appropriate legal proceedings that shall operate to prevent the foreclosure of any such Encumbrance; *provided* that the Authority has given advance notification to the Concessionaire that it is the intent of the Authority to contest the validity or collection thereof.

 (c) *Removal.* Each Party, at the reasonable request of the other Party, shall use its Reasonable Efforts to assist such other Party in attempting to remove any Encumbrance that has come into existence as a result of an act of or omission by such other Party; *provided* that the costs and expenses incurred by any Party in connection with such efforts shall be borne by the Party whose act or omission has given rise to such Encumbrance.

Section 3.6 Single Purpose Covenants. The Concessionaire shall, at all times during the Term, (i) be formed and organized solely for the purpose of owning the Concessionaire Interest, carrying out Toll Road Operations, collecting Toll Road Revenues with respect to and otherwise dealing with the Toll Roads and performing the Toll Road Services (and carrying out other activities permitted pursuant to this Agreement or otherwise Approved by the Authority (and any activities that in the Authority's discretion are reasonably incidental thereto, including the financing thereof and of the Transaction and the commercialization of Toll Road related infrastructure installed on the Toll Road Lands)), (ii) not engage in any business unrelated to clause (i) above, (iii) not have any assets other than those related to its activities in accordance with clauses (i) and (ii) above, (iv) maintain its own separate full and complete books and records and its own accounts, in each case which are separate and apart from the books and records and accounts of any other Person; *provided, however*, that, subject to clause (viii) below, the Concessionaire's assets may be included in a consolidated financial statement of a direct or indirect shareholder or other owner of a beneficial interest of the Concessionaire if inclusion on such consolidated financial statement is required to comply with the requirement of generally accepted accounting principles of the relevant jurisdiction, but only if (A) such consolidated financial statement shall be appropriately footnoted to the effect that the Concessionaire's assets are owned by the Concessionaire and that they are being included on the consolidated financial statement of such shareholder or other owner of a beneficial interest only to comply with the requirements of generally accepted accounting principles of the relevant jurisdiction and (B)

such assets shall be listed on the Concessionaire's own separate balance sheet, (v) hold itself out as being a Person, separate and apart from any other Person, (vi) not commingle its funds or assets with those of any other Person, (vii) conduct its own business in its own name independently and through its own authorized officers and agents, (viii) maintain separate audited financial statements and file its own tax returns (to the extent required by applicable Law), (ix) pay its own debts and liabilities when they become due out of its own funds, (x) observe all corporate, limited partnership or limited liability company, as applicable, formalities and do all things necessary to preserve its existence, (xi) have sufficient officers and personnel to run its business operations or to supervise an Operator pursuant to one or more contractual arrangements, (xii) pay the salaries of its own employees, if any, and maintain a sufficient number of employees in light of its contemplated business operations, (xiii) not guarantee or otherwise obligate itself with respect to the debts or obligations of any other Person, or hold out its credit as being available to satisfy the debts or obligations of any other Person, (xiv) not acquire obligations of or securities issued by its shareholders, partners or members, as applicable, (xv) allocate fairly and reasonably shared expenses, including any overhead for shared office space (xvi) use separate stationery, invoices and checks bearing its own name, (xvii) except as expressly permitted hereby or by any Concession Mortgage or in connection with the Ordinary Course of business of the Toll Roads, not pledge its assets for the benefit of any other Person or make any loans or advances to any other Person, (xviii) correct any known misunderstanding regarding its separate identity, (xix) maintain adequate capital in light of its contemplated business operations, (xx) observe all customary organizational and operational formalities, including the taking and maintaining of complete minutes of all member, manager, shareholder, board or similar meetings, (xxi) maintain an arm's length relationship with its Affiliates and enter into transactions with Affiliates only on a commercially reasonable basis and pursuant to enforceable agreements and (xxii) have organizational documents that comply with the requirements set forth in this Section 3.6.

Section 3.7 Rights of the Authority to Access and Perform Work on the Toll Roads.

(a) *Reservation of Rights.* The Authority reserves (for itself, its Representatives and any other Governmental Authority of competent jurisdiction, as well as grantees, tenants, mortgagees, licensees, and others claiming or acting by, through or under the Authority (each, an "Authority Related Entity")) the right and shall, at all times during the Term, have the right to enter the Toll Roads and each and every part thereof in response to any event, circumstance or purpose (x) described in Section 3.7(a)(i) and Section 3.7(a)(ii), such right to be exercised at all reasonable times upon reasonable prior notice to the Concessionaire, (y) described in Section 3.7(a)(iii) and Section 3.7(a)(iv), such right to be exercised at all reasonable times with notice to be provided as set forth in such sub-clauses (iii) and (iv), and (z) described in Section 3.7(a)(v) through Section 3.7(a)(viii) (inclusive) and Section 3.7(a)(x), such right to be exercised at all reasonable times with the Authority to request, with reasonable prior written notice, the Concessionaire's consent to the exercise of such right, such consent not to be unreasonably withheld, delayed or conditioned:

(i) (A) to inspect the Toll Roads or determine whether or not the Concessionaire is in compliance with its obligations under this Agreement or applicable Law

pursuant to Section 8.3, (B) to perform on the Toll Roads any work related to any Authority Capital Improvement Project, and (C) to perform any work pursuant to the Tolling Services Agreement;

(ii) if a Concessionaire Default then exists, to make any necessary repairs to the Toll Roads, perform any work therein and take any reasonable actions in connection therewith, including remediation of Hazardous Substances, and pursuant to Section 16.1(b)(iii);

(iii) in the event of an actual or reported emergency, danger, threat, circumstance or event that is reasonably believed by the Authority or its designee (including relevant Emergency Personnel in accordance with Section 3.18) to have caused (or to present the imminent potential to cause) injury to individuals, damage to property, or threat to the Environment or to public safety, to take, at such times as the Authority determines necessary in its discretion and with notice to the Concessionaire if practicable under the circumstances, such actions as the Authority or such designee reasonably determines necessary to respond to or to rectify such emergency, danger, threat, circumstance or event;

(iv) in the event of any circumstance or event that is reasonably believed by the Authority to have caused a material impairment to the continuous operation of the Toll Roads as a public highway (and the Authority shall provide written notice to the Concessionaire of such event or circumstances as soon as is reasonably practicable after first becoming aware of such event or circumstance), and if the Authority in its discretion reasonably determines that the Concessionaire is not then taking all necessary steps to respond to or to rectify such circumstance or event, to take, at such times as the Authority determines necessary in its discretion and with notice to the Concessionaire if practicable under the circumstances, such actions as the Authority determines may be reasonably necessary to respond to or to rectify such circumstance or event or to restore the operation of the Toll Roads;

(v) at its own cost and expense, to design, construct, operate, manage, maintain, repair and rehabilitate any existing or future roads, streets or highways (other than the Toll Roads) adjacent to, above or under the Toll Roads in accordance with the terms set forth in this Agreement;

(vi) at its own cost and expense, to use the Toll Roads for all purposes not inconsistent with the rights granted to the Concessionaire in this Agreement (including any purpose related to the generation and collection of revenues described in Section 7.2(b) and any other purpose not reasonably related to the generation of Toll Road Revenues);

(vii) at its own cost and expense, to (A) install, design, manage, maintain, inspect, repair and rehabilitate any existing or future utilities or similar services or safety measures related to such utilities or services (whether provided by the Authority or third parties) in, on, along, under, adjacent to, across, over or through the Toll Roads (including water and sewer lines, aqueducts, natural gas pipelines, oil pipelines, power transmission lines, surveillance equipment and other communications); *provided* that the Authority shall not be required to compensate the Concessionaire with respect to the use of Toll Road Facilities for such services or measures unless they materially impair the Concessionaire's use of the Toll

Road Facilities for the Toll Road Operations and such impairment results in Losses or reduced Toll Road Revenues, (B) grant easements and rights on the Toll Roads for the benefit of suppliers or owners of any such utilities, services or measures and (C) use the Toll Roads in connection with any such installation, design, management, maintenance, repair or rehabilitation (*provided* that notwithstanding the foregoing, the Concessionaire shall have the right, but not the obligation, at all times during the Term, and subject to applicable Law, to install, design, manage, maintain, repair and rehabilitate utilities or other services for its own account (and not for lease, resale or service to third parties) to the extent that the said utilities or services are necessary or desirable for the Toll Road Operations);

(viii) at its own cost and expense, to take any reasonable actions required to be taken, including remediation of Hazardous Substances, in connection with the Authority's satisfaction and remediation of any Excluded Environmental Liabilities;

(ix) at its own cost and expense, for the purposes described in Act No. 83 of the Legislative Assembly of Puerto Rico, enacted on May 2, 1941, 22 L.P.R.A. § 191 *et seq.*, as amended; and

(x) at its own cost and expense (except as otherwise expressly set out in this Agreement) and solely in accordance with the terms hereof, to do any other act or thing that the Authority or any Authority Related Entity may be obligated to do pursuant to Law or the terms of this Agreement or have a right to do under this Agreement;

provided that, in each case, such right to enter the Toll Roads shall not include any of the private business offices of the Concessionaire or the Operator (to the extent that the Operator is not the Concessionaire) that may be located on the Toll Roads; *provided further*, notwithstanding Section 3.7(a)(v) through Section 3.7(a)(x) (inclusive), any cost or expense related to any exercise by the Authority of its rights under Section 3.7(a)(ii) shall be borne by the Parties according to Section 16.1(b)(iii).

In connection with any entry made pursuant to this Section 3.7, the Authority (A) shall, and shall use its Reasonable Efforts to cause any Authority Related Entity effecting any such entry or action to, use Reasonable Efforts to minimize interference with the Toll Roads and Toll Road Operations (including with respect to traffic flow, the physical structure of the Toll Roads and the Concessionaire's compliance with the Operating Standards), and (B) provide to the Concessionaire the Concession Compensation, upon demand by the Concessionaire, resulting from (x) any entry or action with respect to the Toll Roads or Toll Road Operations that qualifies as a Compensation Event pursuant to subsection (i) of the definition thereof or (y) as a result of any liability or obligation of or to the Concessionaire under any Environmental Law directly caused by any entry or action with respect to the Toll Roads or Toll Road Operations pursuant to this Section 3.7(a).

(b) *Access Rights.* The Authority, its Representatives and any Governmental Authority of or in the Commonwealth, during the progress of any work referred to in this Section 3.7, at no additional cost to the Authority, its Representatives or any Governmental Authority of or in the Commonwealth, shall have all necessary or appropriate access rights and may keep and store at the Toll Roads all necessary or appropriate materials, tools, supplies, equipment, sheds,

mobile trailers and other vehicles, in a reasonably neat and orderly fashion, in material compliance with all Laws (including Environmental Laws), and the Operating Standards; *provided* that such access and storage shall not unreasonably interfere with the Concessionaire's conduct of the Toll Road Operations. The Concessionaire shall not have any liability for theft or damage of such materials and other items or with respect to any acts or omissions of the Authority, its Representatives, or any Governmental Authority of the Commonwealth or any person acting on behalf of any such entity. The Concessionaire shall not have any liability for any environmental condition arising as a result of any violation of Environmental Law that may be caused by the acts or omissions of the Authority, its Representatives, or any Governmental Authority of the Commonwealth or any person acting on behalf of any such entity under this Section 3.7. To the extent that the Authority, its Representatives or any Governmental Authority of or in the Commonwealth or any other person on the Authority's behalf undertakes work or repairs under this Section 3.7 or any other provision of this Agreement, such work or repairs shall be commenced and diligently completed in a good and workmanlike manner, in accordance with any applicable Operating Standards and in such a manner as not to materially interfere with the Concessionaire's conduct of business in or use of such space to the extent reasonably possible without incurring any additional cost.

(c) Effect of Reservation. Any exercise or reservation of a right by the Authority to enter upon the Toll Roads and to make or perform any repairs, alterations, Restoration or other work in, to, or about the Toll Roads that is the Concessionaire's obligation pursuant to this Agreement shall not be deemed to (i) impose any obligation on the Authority to do so, (ii) render the Authority responsible to the Concessionaire or any other Person for the failure to do so or (iii) relieve the Concessionaire from any obligation to indemnify the Authority as otherwise provided in this Agreement. Nothing in this Agreement shall impose upon the Authority any duty to do any work required to be performed by the Concessionaire hereunder and performance of any such work by the Authority shall not constitute a waiver of the Concessionaire's default in failing to perform the same.

Section 3.8 Coordination.


(a) Utility Coordination. Subject to Section 3.7(a)(vii), the Concessionaire shall be responsible for coordinating or ensuring the coordination of all Toll Road Operations with utilities and Persons having service lines, pipelines, transmission lines and other equipment, cables, systems and other apparatus in, on, under, over or adjacent to the Toll Roads, in each case at the sole cost and expense of such utilities or Persons or the Concessionaire. The Concessionaire shall cause provision to be made for the removal or temporary or permanent relocation and restoration of utilities and other services and any lines, equipment, cables, systems and other apparatus that intersect, interfere with, interface with or otherwise affect the Toll Road Operations and shall arrange for temporary rights of entry and access to utilities and other services to be made available that are necessary in connection with the Toll Road Operations or as may exist under this Agreement or applicable Law, in each case at the sole cost and expense of such utilities or other Persons or the Concessionaire. The Authority shall cooperate with the Concessionaire with respect to its obligations under this Section 3.8(a).

(b) Affected Property Coordination. The Concessionaire shall be responsible for coordinating or ensuring the coordination of all Toll Road Operations with Affected Property.

The Concessionaire shall cause provision to be made for the temporary or permanent relocation or closure of roadways that intersect, interfere with, interface with or otherwise affect the Toll Road Operations and shall arrange for temporary right-of-entry and access to the property of all relevant Governmental Authorities or other Persons as may be necessary in connection with the Toll Road Operations or as may exist under this Agreement or applicable Law. The Authority shall cooperate with the Concessionaire with respect to its obligations under this Section 3.8(b).

(c) *Excavations; Landfills.* The Concessionaire shall notify the Authority in writing of any excavations, land fillings or other similar work that the Concessionaire shall undertake, such notice to be provided by the Concessionaire at least ten (10) Business Days prior to the commencement of such excavations, land fillings or other work.

(d) *No Interference.* The Parties understand and agree that nothing in the foregoing clauses (a) and (b) is in any way intended to interfere with the normal operation of the Toll Roads by the Concessionaire, and the Authority shall cooperate with the Concessionaire in minimizing any effect that the obligations of the Concessionaire under such clauses (a) and (b) may have on the Toll Road Operations and the Toll Road Revenues.

 **Section 3.9 No Entry on Authority Property.** Except in the case of an emergency (and then only to the extent necessary to avoid injury or death to individuals or damage to property) and except for limited access necessary for the Concessionaire's performance of its obligations hereunder or its compliance with applicable Laws that does not interfere with the Authority's use or operation of such other properties in any material respect, the Concessionaire shall not enter upon any property of the Authority adjacent to, above or under the Toll Roads in connection with the Toll Road Operations without the prior Approval of the Authority, other than property that is open to the public.

Section 3.10 Taxes.


(a) *Payment of Taxes.* Except as otherwise provided herein, the Concessionaire shall pay when due all Taxes that are or become payable in respect of periods during the Term in respect of the operations at, occupancy of, or conduct of business in or from the Toll Roads and personal property included in the Toll Road Facilities, except personal property used exclusively in the Toll Road Facilities or for the operations conducted therein belonging to the Authority, which shall be exempt from personal property taxes pursuant to Article 12(d) of the Act as provided in subsection (b) below. The Authority reserves the right, without being obligated to do so, to pay the amount of any such Taxes not timely paid by the Concessionaire, and the amount so paid by the Authority shall be due and payable by the Concessionaire immediately upon written demand by the Authority. The Concessionaire shall have the right to contest in good faith the validity or amount of any Taxes which it is responsible to pay under this Section 3.10(a); *provided* that (i) the Concessionaire has given prior notice to the Authority of each such contest, (ii) no contest by the Concessionaire may involve, in the reasonable opinion of the Authority, a possibility of forfeiture or sale of the Toll Roads and (iii) upon the final determination of any contest by the Concessionaire, if the Concessionaire has not already done so, the Concessionaire shall pay the amount found to be due, if any, together with any costs, penalties and interest. If the Concessionaire is contesting in good faith the validity or amount of any Taxes in accordance with the immediately preceding sentence, the Authority shall

not have the right to pay the amount of such Taxes until there is a final determination of such contest.

(b) *Exemption from Taxes.* Pursuant to Article 12 of the Act and the Administrative Determination, it is hereby established that the Concessionaire shall not be responsible for, and the Concessionaire and the Toll Roads shall not be subject to, (i) any real property Tax imposed on or measured by the value of the Toll Roads that is imposed by the Authority or any other Governmental Authority of the Commonwealth, (ii) any personal property tax on personal property owned by the Authority and used by the Concessionaire exclusively in the Toll Road Facilities or in the operations conducted therein that is imposed by the Authority or any Governmental Authority of the Commonwealth, or (iii) any sales or use Tax imposed by the Commonwealth on the tolls charged by or on behalf of the Concessionaire pursuant to Section 4010.01 (p) and (nn) of the PR Code.

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Section 3.11 Utilities. The Concessionaire shall pay when due all charges (including all applicable Taxes and fees) for gas, electricity, light, heat, power, telephone, water and all other utilities and services used in the Toll Road Operations or supplied to the Toll Roads during the Term; *provided* that to the extent utility charges that do not correspond to the Toll Roads or Toll Road Operations are charged to the Concessionaire, the Concessionaire shall be required to cover such utility charge until the assets have been disaggregated through the installation of separate meters. Promptly after the Effective Date, the Authority shall provide the Concessionaire sufficient information to enable it to register such utility accounts in the name of the Concessionaire, which registration shall occur promptly following receipt of such information; *provided* that to the extent any utility account registered to the Concessionaire covers service other than to the Toll Roads or Toll Road Operations, the Concessionaire shall be required to continue to allow such utility services to be provided under its account until the Concessionaire is able to disaggregate such utilities by installing, or causing the installation of, separate meters for the Toll Roads or Toll Road Operations and the other aggregated assets without affecting service. Upon request of the Authority, the Concessionaire shall forward to the Authority, within fifteen (15) days following the respective due dates, official receipts, photocopies thereof, or other evidence satisfactory to the Authority, acting reasonably, of the payment required to be made by the Concessionaire in accordance with this Section 3.11. The Authority does not warrant that any utility services will be free from interruptions caused by war, insurrection, civil commotion, riots, acts of God, government action, terrorism, repairs, renewals, improvements, alterations, strikes, lockouts, picketing, whether legal or illegal, accidents, inability to obtain fuel or supplies or any other causes, and any such interruption of utility services shall never be deemed an Adverse Action or an eviction or disturbance of the Concessionaire's use and possession of the Toll Roads or any part thereof (unless resulting from an intentional act or omission of the Authority), render the Authority responsible to the Concessionaire for damages or, unless the same constitutes a Delay Event, relieve the Concessionaire from performance of the Concessionaire's obligations under this Agreement. The Authority shall hold and preserve, for the length of the Term, all legal rights and easements in its possession related to utility services to the extent necessary for the Concessionaire to operate the Toll Roads.

Section 3.12 Negotiations with Governmental Authorities. Prior to entering into any agreement with any Governmental Authority in connection with the Toll Road Operations (a "Government Agreement"), the Concessionaire shall submit such Government Agreement for Approval by the Authority, which Approval may be withheld, delayed or otherwise conditioned in the discretion of the Authority in the case of Government Agreements that extend or could extend beyond the Term (unless such agreement is assignable and subject to a right by the Authority to terminate such agreement without penalty within three (3) Business Days' notice or less effective upon such extension) or pursuant to which the Authority may incur any liability whatsoever. Notwithstanding the foregoing, if the absence of such Government Agreement may cause the Concessionaire or Toll Road Operations to fail to be in compliance with applicable Law or the terms of this Agreement, the Concessionaire may enter into such Government Agreement upon notice to the Authority; *provided* that the Concessionaire indemnifies the Authority for any Losses relating thereto. If the Concessionaire wishes the Authority to be a party to a Government Agreement in the place and stead of, or in addition to, the Concessionaire, then the Concessionaire must provide notice of the proposed terms of such Government Agreement to the Authority for the Authority's Approval, which Approval will be in the Authority's discretion, and all costs and expenses incurred by the Authority in connection with or related to such Government Agreement shall be borne by the Concessionaire.

 **Section 3.13 Notices of Defaults and Claims.** The Concessionaire shall promptly give notice to the Authority (i) if a Concessionaire Default occurs under this Agreement and (ii) of all material claims, proceedings, disputes (including labor disputes) or litigation pertaining to the Toll Roads or the Concessionaire or the Toll Road Operations (whether or not such claim, proceeding or litigation is covered by insurance) of which the Concessionaire is aware. The Concessionaire shall provide the Authority with all reasonable information requested by it from time to time concerning the status of such claims, proceedings or litigation. The Authority shall promptly give notice to the Concessionaire (i) if an Authority Default occurs under this Agreement and (ii) of all material claims, proceedings, disputes (including labor disputes) or litigation pertaining to the Toll Roads or the Toll Road Operations (whether or not such claim, proceeding or litigation is covered by insurance) of which the Authority is aware. The Authority shall provide the Concessionaire with all reasonable information requested by it from time to time concerning the status of such claims, proceedings or litigation.

Section 3.14 Assignment of Operating Agreements and Plans. At the request of the Authority, the Concessionaire shall collaterally assign to the Authority, in form and substance satisfactory to the Authority, acting reasonably, all of the right, title and interest of the Concessionaire in, to and under all or any of the Operating Agreements and all present and future specifications, plans, software (including source code) to the extent that such software is subject to a non-exclusive license permitting collateral assignment, drawings, information and documentation in relation to the Toll Road Operations (the "Plans") as collateral security to the Authority for the observance and performance by the Concessionaire of its covenants and obligations under this Agreement. The Concessionaire covenants that all of the right, title and interest of the Concessionaire in, to and under all Operating Agreements and the Plans entered into with respect to the Toll Roads shall be collaterally assignable to the Authority for the purposes of this Section 3.14. The Authority acknowledges that the Operating Agreements and the Plans may also be assigned as security to a Concession Mortgagee and that each of the

Authority and such Concession Mortgagee shall be entitled to use the Operating Agreements or the Plans in enforcing their respective security as hereinafter provided. Without limiting the generality of the foregoing, but subject to the Authority's assumption of liabilities under the Operating Agreements accruing after such time as the Authority exercises its rights under this Section 3.14 and, subject to Article 18, the Authority shall be entitled to use the Operating Agreements and the Plans in each of the following events: (i) if the Authority terminates this Agreement without a concession agreement being granted to the Concession Mortgagee or nominee thereof pursuant to the provisions of Article 18 and (ii) if the Authority elects to use the Operating Agreements or the Plans to remedy a Concessionaire Default under this Agreement. Notwithstanding the foregoing, in the event that the Concession Mortgagee has entered into possession or is diligently enforcing and continues to diligently enforce its security, whether by way of appointment of a receiver or receiver and manager, foreclosure or power of sale in accordance with Article 18, or otherwise, and is using or reasonably expects to be using the Operating Agreements or the Plans in respect of the Toll Road Operations, the Authority shall not be entitled to use the Operating Agreements or the Plans in enforcing its security, it being acknowledged that any assignment of the Operating Agreements or the Plans to a Concession Mortgagee shall have priority over any assignment of the Operating Agreements or the Plans to the Authority and the Authority shall cooperate with the Concessionaire and the Concession Mortgagee in connection with ensuring such priority, including that the Authority shall execute and deliver to the Concession Mortgagee an intercreditor and subordination agreement in form and substance satisfactory to such Concession Mortgagee, acting reasonably, acknowledging such priority. The Concessionaire shall promptly deliver to the Authority, at the sole cost and expense of the Concessionaire, forthwith after completion or execution and delivery, a copy of each item of the Operating Agreements and the Plans.

Section 3.15 Names.

(a) The names designated for the Toll Roads shall be the names thereof as designated by the Authority as of the Effective Date and such names may not be changed by the Concessionaire without the prior Approval of the Authority, which Approval may be withheld, delayed or otherwise conditioned in the discretion of the Authority.

(b) The Authority, in its discretion, shall have the right to change the names of the Toll Roads (and to cause the Concessionaire to change, at the Authority's expense, any signage on the Toll Roads in connection therewith) at any time during the Term upon ninety (90) days' prior notice to the Concessionaire or to name any road delivered to the Concessionaire after the Closing Date pursuant to this Agreement; *provided, however*, that the Authority shall grant a license of the names together with all related logos and marks to the Concessionaire upon terms substantially similar to those contained in Section 3.15(c); *provided further*, that any new name or change in name by the Authority in accordance with this Section 3.15 shall not result in such name being odious or offensive or otherwise likely to result in a negative association by the public. The exercise of such right by the Authority shall not constitute an Adverse Action. The Authority shall have the right to all proceeds and other consideration received in connection with any such new name or change in name and shall reimburse the Concessionaire for all out-of-pocket and documented costs and expenses reasonably incurred by the Concessionaire in connection therewith.

(c) The Authority grants to the Concessionaire a non-exclusive, non-transferable, royalty-free license during the Term to use the names "Expreso Rafael Martínez Nadal" (for PR-20), "Autopista Luis A. Ferré" (for PR-52), "Autopista José Celso Barbosa Puerto Rico Highway 53" (for PR-53) and "Expreso Roberto Sánchez Vilella Expressway" (for PR-66) together with all existing and future developed logos and marks used in connection with the Toll Road Operations, solely in connection with the performance of the Concessionaire's obligations and exercise of rights under this Agreement. The Concessionaire may grant sublicenses of the same to the Operator and to Vendors.

Section 3.16 Enforcement.

(a) *Required Level of Police Service.*

(i) The Authority shall use its Reasonable Efforts to cause the Commonwealth Police to provide traffic patrol and traffic law enforcement services on the Toll Roads at substantially the same level as those provided on the Toll Roads as of the Bid Date (the "Minimum Level of Police Service"); *provided* that in the event the Concessionaire (x) is in breach of any of its obligations under Section 3.16(f)(i) or (y) enters into any agreement with the Commonwealth Police for the provision of not less than the Minimum Level of Police Service pursuant to Section 3.16(a)(ii)(x), then for so long as such breach is continuing or such agreement is in effect, as applicable, the Authority shall not be subject to the requirements of this Section 3.16(a)(i).

(ii) To the extent permitted by Law, the Concessionaire may contract directly with the Commonwealth Police for (x) traffic patrol and law enforcement services on the Toll Roads at a level not less than the Minimum Level of Police Service and (y) for enhanced levels of police services for the control of traffic for special events, construction or maintenance activities, predicted peak traffic patterns or as otherwise needed (in each case of (x) and (y), at the Concessionaire's expense).

(iii) The Concessionaire acknowledges that during the Term, Commonwealth Police officers serving the Toll Roads may provide other police services in the general vicinity of the Toll Roads pursuant to Commonwealth Police direction; *provided* that such other services do not unreasonably interfere with provision of the Minimum Level of Police Service. Without prejudice to any other provision of this Agreement, the Concessionaire acknowledges that the Authority, at its own expense, may engage the Commonwealth Police to provide additional patrol and law enforcement services on the Toll Roads at such times and for as long as it determines in its discretion.

(b) *Enforcement Activities.*

(i) Concessionaire. The Concessionaire shall not engage, or otherwise permit the engagement of, private security services to provide traffic patrol or traffic law enforcement services on the Toll Roads; *provided, however*, that the Concessionaire may utilize passive devices, including videotapes, photographs, microphotographs, other recorded images, written records, reports or facsimiles to identify toll violators and passive devices and private security forces to protect Toll Revenues collected, accumulated and transferred for deposit. To

the extent permitted by Law, the Concessionaire may, at the Concessionaire's expense, contract with entities other than the Commonwealth Police for toll enforcement services (excluding the apprehension of toll violators). The Concessionaire may enforce all private rights and civil remedies permitted by Law, and the Authority shall (at the Concessionaire's expense) assist in the establishment of fines, fees and charges and similar remedies at the Commonwealth and local level, including enacting or maintaining Laws for toll violations, trespass upon the Toll Roads and other infringements upon the Concessionaire's rights or benefits under this Agreement that are at least as restrictive or severe as the remedies for such matters set out in the applicable Law as of the Bid Date.

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(ii) Delinquent Tolls. The Authority shall use its Reasonable Efforts to (A) collect delinquent tolls from toll violators, including the enforcement of the remedies and procedures available to the Authority, the Commonwealth Police or any Governmental Authority under applicable Law and any agreement of reciprocity with any jurisdiction consistent with the operations of the Toll Roads as of the Bid Date (including recordation of delinquent tolls and related fines in the vehicle registrations of toll violators and the collection of such tolls and fines as a condition to vehicle registration renewal), (B) assist the Concessionaire in its effort to comply with the obligations set forth in Schedule 4, and (C) facilitate the implementation of the rights granted by the Authority under Article 7 and Schedule 4, including payment or reimbursement to the Concessionaire of any Toll Revenues (other than any Delinquent Non-Cash Tolls previously paid by the Authority to the Concessionaire) collected by or on behalf of the Concessionaire through such enforcement process. Delinquent tolls collected from toll violators in the Toll Roads promptly after the occurrence of the violation will be paid to the Concessionaire in accordance with the Disbursement Instructions. The Concessionaire shall not be entitled to any revenues associated with the enforcement of any Law on the Toll Roads.

(c) Delinquent Non-Cash Tolls.

(i) From the Closing Date until the end of the Term, the Authority shall pay to the Concessionaire in accordance with this Section 3.16(c) an amount equal to all electronic, video and other non-cash tolls payable on the Toll Roads that are not paid in violation of applicable Law or this Agreement (collectively, "Delinquent Non-Cash Tolls"), regardless of whether the Authority collects such Delinquent Non-Cash Tolls. Delinquent Non-Cash Tolls shall exclude, for the avoidance of doubt, any tolls not paid:

(A) in accordance with Section 1(b) of Schedule 4;

(B) as the result of any defect or operating failure of the RSS/BO (as defined in Schedule 12 to this Agreement) used on the Toll Roads during the Term;

(C) as the result of any failure by the Concessionaire to comply with this Agreement (including, without limitation, the ETC Service Terms) or any failure by the Concessionaire or any of its Contractors (including the ETC Service Provider) to comply with any agreement executed by it for the provision of tolling services on the Toll Roads (unless, in each case, such failure is the direct result of any act or omission of the Authority or any of its Representatives in breach of this Agreement);

(D) corresponding to the Authority's share of the DTL Extension Revenues pursuant to Section 7.2(g); and

(E) corresponding to the Authority's share of the DTLs Incremental Toll Revenues pursuant to Section 7.2(h).

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(ii) The Authority shall (a) pay any and all Delinquent Non-Cash Tolls in accordance with the Disbursement Instructions and the Escrow Agreements, and (b) should there be any deficiency in any payment made under subsection (a), pay any such deficiency (or cause any such deficiency to be paid) from funds on deposit in the Concessionaire Escrow Subaccount in accordance with and subject to Section 3.16(d)(iii) below and the terms of the New Escrow Agreement; *provided, however*, that to the extent that there are insufficient funds in the New Escrow Account or Concessionaire Escrow Subaccount, the Authority shall otherwise make such required payments in full, and such insufficiency of funds shall not in any way excuse the Authority of its obligation to pay in full any Delinquent Non-Cash Tolls (or reduce or modify such obligation).

(iii) Within one hundred twenty (120) days after the end of each Reporting Year during the Term, the Concessionaire shall deliver to the Authority, together with the amended statement of income delivered for such year pursuant to Section 8.1(e), a statement that:

(A) calculates the sum of all Delinquent Non-Cash Tolls accrued during such Reporting Year, and

(B) in comparison to such Delinquent Non-Cash Tolls, sets forth the amount of any overpayment or underpayment in respect of the amounts actually paid to the Concessionaire pursuant to Section 3.16(c)(ii) during such year.

(iv) The Parties shall have up to one hundred twenty (120) days after receipt of the materials described in Section 3.16(c)(iii) to dispute the computation of any amounts set forth therein pursuant to Article 19. The Parties shall cause each Contractor that maintains the electronic toll collection system for the Toll Roads (including the ETC Service Provider) to deliver such materials reasonably requested by either Party in connection with such dispute.

(v) If by agreement of the Parties or pursuant to the directive of a final decision in accordance with Article 19, the Delinquent Non-Cash Tolls due and payable for any calendar month of any Reporting Year pursuant to Section 3.16(c)(iii):

(A) was less than the amount actually paid thereunder (a "Delinquent Sum Overpayment"), the Concessionaire shall promptly pay to the Authority the amount of the Delinquent Sum Overpayment; and

(B) was more than the amount actually paid thereunder (a "Delinquent Sum Underpayment"), the Authority shall promptly pay to the Concessionaire the amount of the Delinquent Sum Underpayment,

in each case, together with interest thereon, commencing ninety (90) days after the end of the period of time for which it was due until the date paid, calculated at the rate set forth in Section 20.9.

(d) *New Escrow Account and Concessionaire Escrow Subaccount.*

(i) The Authority shall maintain (including in respect of the Required Balance and any other required minimum balance), at all times, the New Escrow Account and the Concessionaire Escrow Subaccount, in each case, in accordance with the terms of the New Escrow Agreement and this Agreement.

(ii) The Authority shall comply with all its obligations under the New Escrow Agreement, including, without limitation, the following:

(A) deposit or cause to be deposited into the New Escrow Account all Delinquent Amounts;

(B) as of the date hereof, allocate and transfer or cause to be allocated and transferred from the New Escrow Account in accordance with the New Escrow Agreement (or otherwise deposit or cause to be deposited from other sources of funds available at any time to the Authority) to the Concessionaire Escrow Subaccount an initial amount equal to the Initial Funding Amount; and

(C) hereinafter, subject to the provisions of Section 3.16(d)(v) below regarding the replenishment of the Concessionaire Escrow Subaccount to an amount equal to the Required Balance, at all times, cause to be maintained in the Concessionaire Escrow Subaccount a minimum cash balance at least equal to the Required Balance.

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(iii) The Parties confirm that the Escrow Agent is hereby authorized (and pursuant to the New Escrow Agreement) by the Authority and the Concessionaire to apply the funds on deposit in the Concessionaire Escrow Subaccount for the immediate payment of any Delinquent Non-Cash Tolls due from the Authority to the Concessionaire under this Agreement. If, at any time (including following an application of funds pursuant to this Section 3.16(d)(iii)), the funds on deposit in the Concessionaire Escrow Subaccount shall be less than the Required Balance, the Authority confirms that the Escrow Agent is authorized by the Authority to immediately transfer (and the Authority shall otherwise cause to be transferred) from the New Escrow Account to the Concessionaire Escrow Subaccount any Delinquent Amounts in respect of the Toll Roads in accordance with the New Escrow Agreement (or the Authority shall otherwise deposit or cause to be deposited from other sources of funds) until, after giving effect to such transfer or deposit, (x) there shall be no outstanding Delinquent Non-Cash Tolls or other amounts owed by the Authority to the Concessionaire, and (y) after giving effect to any such payment, the amount on deposit in the Concessionaire Escrow Subaccount shall be equal to the Required Balance.

(iv) The Authority shall not create (or permit the creation of) any Encumbrance over the New Escrow Account or the Concessionaire Escrow Subaccount.

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(v) Notwithstanding any provision to the contrary set forth herein and without prejudice to the other rights and remedies of the Concessionaire under this Agreement or the obligations of the Authority with respect to this Agreement, the Concessionaire Escrow Subaccount and the payment of Delinquent Non-Cash Tolls as required under this Agreement, in the event that, at any time, (x) there is a shortfall in the Required Balance on deposit in the Concessionaire Escrow Subaccount that has not been covered or replenished in full within ninety (90) days of the occurrence of such shortfall, or (y) any portion of Delinquent Non-Cash Tolls due and payable pursuant to this Agreement remains outstanding (the matters contemplated in clauses (x) and (y), collectively, the "Escrow Shortfall"), and such Escrow Shortfall shall not have been cured within ninety (90) days from the occurrence thereof, the Concessionaire shall be entitled, in its sole and absolute discretion, to increase temporarily the toll charges applicable to the Toll Roads to the extent required in order to recover the Escrow Shortfall; *provided that*, (1) such temporary increase in tolls shall (a) not exceed the Maximum Temporary Increase and (b) be excluded for purposes of determining the amount of any Delinquent Non-Cash Tolls payable to the Concessionaire while the Maximum Temporary Increase is in effect, and (2) the Concessionaire shall comply with the notice requirements set forth in Section 2.1(c) of Schedule 4. Any amounts collected as a result of this temporary increase in toll levels shall be deposited in the New Escrow Account and distributed in accordance with the New Escrow Agreement provisions (such provisions include the funding of the Concessionaire Escrow Subaccount to cover the Escrow Shortfall). For the avoidance of doubt, an Authority Default due to the existence of an Escrow Shortfall shall be deemed immediately and automatically cured once the deficiency in the Required Balance on deposit in the Concessionaire Escrow Subaccount has been covered or replenished in full and no Delinquent Non-Cash Tolls due and payable remain outstanding, either from a Maximum Temporary Increase or by some other payment by the Authority.

(e) *Police Powers.* The Concessionaire acknowledges that the Commonwealth Police are empowered to enforce all applicable Laws on the Toll Roads and all officers authorized by Law to make arrests for violations of Law in the Commonwealth and each affected jurisdiction shall have the same powers, duties and jurisdiction within the limits of the Toll Roads as they have in their respective areas of jurisdiction, and law enforcement officers shall have access to the Toll Roads at any time for the purpose of exercising their law enforcement powers and jurisdiction (without, for the avoidance of doubt, the obligation to provide Concession Compensation to the Concessionaire). No provision of this Agreement is intended to surrender or waive any police powers of the Authority or any Governmental Authority (including the Commonwealth Police), and all such police powers are hereby expressly reserved. The Concessionaire shall provide the Commonwealth Police and other emergency service providers with (i) office space (including use of office furniture and equipment), parking space and other space (such as space for crashed or abandoned vehicles, if applicable) at the Toll Road Facilities and (ii) maintenance and upkeep services relating to such space, office furniture and equipment, in each case as and to the extent provided to such emergency service providers by the Authority prior to the Closing Date and at no cost to such emergency service providers (except out-of-pocket expense reimbursements to the Concessionaire from an emergency service provider, as the same may be agreed upon between the Concessionaire and such emergency service provider).

(f) *Payment for Benefit of Commonwealth Police.*

(i) Subject to Section 3.16(f)(ii), during the Term the Concessionaire shall pay to the Authority the following amounts for the purpose of providing the Commonwealth Police with capital improvements and equipment and paying operating expenses, in each case relating to the Commonwealth Police's provision of law enforcement services on the Toll Roads as described in this Section 3.16: (x) six hundred thousand dollars (\$600,000) payable on or before the fourteenth (14th) Business Day after the Closing and on each anniversary of the Closing Date, and (y) in addition to the amount payable pursuant to the preceding subclause (i), six hundred thousand dollars (\$600,000) payable on each seventh (7th) anniversary of the Closing Date. The amount payable described in Section 3.16(f)(i)(x) shall be adjusted annually on each anniversary of the Closing Date by one and one-half percent (1.5%) plus the greater of (A) zero and (B) the percentage equal to the percentage increase in the Index between the Index for the month that is two months prior to the same month of the Closing Date for the anniversary period under review and the Index for the equivalent month of the immediately preceding year; *provided* that the amount to be adjusted shall be based on the results of the calculation from the preceding review period. The amount payable described in Section 3.16(f)(i)(y) shall be adjusted on each seventh (7th) anniversary of the Closing Date by 10.98% plus the greater of (Y) zero and (Z) the percentage equal to the percentage increase in the Index between the Index for the month that is two months prior to the seventh (7th) anniversary of the Closing Date under review and the Index for the equivalent month of the seventh (7th) preceding year; *provided* that the amount to be adjusted shall be based on the results of the calculation from the preceding review period.

(ii) In the event that the Concessionaire enters into any agreement with the Commonwealth Police for the provision of at least the Minimum Level of Police Service pursuant to Section 3.16(a)(ii)(x), then for so long as such agreement is in force and effect, neither the Concessionaire nor the Authority shall be subject to the requirements of Section 3.16(f)(i).

Section 3.17 Engagement of Other Emergency Services. The Concessionaire shall (at the Concessionaire's expense) contract for emergency services on the Toll Roads and areas adjacent thereto that are integral to its function. The form and amount of emergency services shall be as agreed between the Concessionaire and the providers of such services in the specific areas of the Commonwealth in which the services are to be provided from time to time but, at a minimum, shall be reasonably adequate for the protection of the public and in compliance with all applicable provisions of this Agreement.

Section 3.18 Police, Fire, Emergency and Public Safety Access Rights.

(a) *Emergency Access.* Notwithstanding any other provision of this Agreement, at all times during the Term and with reasonable prior notice to the Concessionaire if practical under the circumstances, any police, fire and emergency services (including armed forces), and any other security or emergency personnel, acting at the direction of the Authority or any other Governmental Authority with jurisdiction over the Toll Roads (collectively, "Emergency Personnel"), shall have access to the Toll Roads to the extent and for the period only as necessary for emergency management and homeland security purposes, including the

prevention of, practice drills for (and in the event of practice drills, prior written notice of such drills shall be provided to the Concessionaire by the Authority), or response to, a public safety emergency; *provided* that the Authority shall cause the Emergency Personnel to minimize the duration, scope or other adverse effect of any such access. The Concessionaire shall cooperate with the Emergency Personnel in respect of such emergency management and homeland security purposes.

(b) *Emergency Suspension of Tolls.* In connection with the declaration of a state of emergency by the Governor pursuant to Article 5.10 of Act No. 20 of the Legislative Assembly of Puerto Rico, enacted on April 10, 2017, 25 P.R. Laws Ann. § 3650, as amended, also known as the Puerto Rico Department of Public Safety Act, or any Law succeeding thereto (the "Public Safety Act"), the Authority may designate the Toll Roads a toll-free public highway to facilitate evacuations or for any other emergency purpose contemplated by the Public Safety Act. In addition, the Executive Director, the Secretary of the Department of Transportation and Public Works or their respective designees, may designate the Toll Roads a toll-free public highway to address circumstances that create a direct and imminent danger to the safety of the users of the Toll Roads. The Authority shall use its Reasonable Efforts to minimize the scope and duration of any designation made pursuant to this Section 3.18(b); *provided* that the Authority shall have no obligation to provide Concession Compensation to the Concessionaire therefor.

Section 3.19 Toll Road Employees Hired by the Concessionaire.

(a) The Concessionaire agrees that the Authority Employees hired by it pursuant to Section 2.5(j) shall enjoy the following additional protections: (A) such Authority Employee's job will be guaranteed for a minimum period of two (2) years, and (B) an Authority Employee may only be separated from the position during the aforesaid period of two (2) years if such Authority Employee engages in behavior that warrants dismissal or constitutes just cause under Act 80 of May 30, 1970, as amended.

(b) Failure of the Concessionaire to comply with any of the covenants included in this Section 3.19 will constitute a material breach of this Agreement.

Section 3.20 ETC Service Terms. The Concessionaire and the Authority shall comply with, perform and observe the ETC Service Terms.

ARTICLE 4

CAPITAL IMPROVEMENTS

Section 4.1 Authority Capital Improvements.

(a) *Authority Capital Improvement Projects.* The Authority, at its sole cost and expense, shall with reasonable diligence complete (or cause the completion of) (i) the Retained Capital Improvement Projects, (ii) the ORT Improvement Project (including the ORT Change), (iii) the Canopy Demolition Project, (iv) if and when undertaken by the Authority, the CD Project and (v) if and when undertaken by the Authority, the DTL Extension Project. The

Authority shall complete (or cause the completion of) each Authority Capital Improvement Project in accordance with the applicable Authority Capital Improvement Contract. The design plans and specifications for each Authority Capital Improvement Project shall not materially deviate from the applicable specifications set forth in such Authority Capital Improvement Contract (*provided* that the Authority and the applicable Contractor may agree to execute Reasonable Change Orders or Deviations with respect to the applicable specifications following consultation with the Concessionaire pursuant to the Project Interface Plan). For the avoidance of doubt, (x) nothing in this Agreement shall require the Authority to undertake the CD Project or the DTL Extension Project and (y) amendments to the ORT Improvement Project Contract necessary or desirable (in the reasonable discretion of the Authority) in order to implement the ORT Change shall constitute a pre-agreed-upon Reasonable Change Order or Deviation. In the event the Authority, in its discretion, determines it will undertake the CD Project or the DTL Extension Project, or both such projects, it shall do so in accordance with the applicable Authority Capital Improvement Contract, the applicable EPC Specifications, the CD MOT Plan (in the case of the CD Project) and Schedule 4 (in the case of the DTL Extension Project) and the other requirements set forth in this Agreement, which requirements may be amended by the Parties to reflect any additional rights or obligations of the Parties with respect to the CD Project or the DTL Extension Project, as applicable.

(b) *Cooperation.* The Concessionaire shall use its Reasonable Efforts to cooperate with the Authority in connection with the completion of the Authority Capital Improvement Projects, it being understood and agreed that such cooperation shall be in the form of logistical planning rather than the payment of monies or undertaking of services. The Authority shall perform and cause its Contractors to perform the Authority Project Work at times and in a manner that shall (i) not unreasonably interfere with Toll Road Operations or the ability of the Concessionaire to generate Toll Road Revenues, (ii) comply with the Project Interface Plan and (iii) otherwise comply with the terms of this Agreement.

(c) *Control of Authority Capital Improvement Projects.*

(i) Subject to this Section 4.1(c), the Authority shall have complete control and management of the Authority Capital Improvement Projects, shall effectively direct and supervise the Authority Project Work and shall promptly enforce all the Authority Capital Improvement Contracts in accordance with their respective terms (including the completion of all "punch list" items following Substantial Completion of the applicable Authority Project Work, if applicable, and other work in accordance therewith). Upon the execution of any Authority Capital Improvement Contract by the Authority or amendment thereto, the Authority shall promptly provide a copy of such Authority Capital Improvement Contract and thereafter shall promptly provide a copy of any amendment thereto to the Concessionaire. In the case of the CD Project (if applicable), prior to the Authority undertaking any Authority Project Work with respect thereto, the Authority shall provide the Concessionaire with a maintenance of traffic plan (the "CD MOT Plan"), setting forth information with respect to the coordination, sequencing, construction and implementation of such project, which plan shall be subject to the Concessionaire's written approval prior to commencement of such Authority Project Work, such approval not to be unreasonably withheld, conditioned or delayed; *provided, however*, that the Parties acknowledge and agree that the CD Project could materially interfere with Toll Road

Operations during the course of construction and that therefore the Concessionaire's general concern or conclusion that such material interference will or might occur shall not, in and of itself, constitute a reasonable basis upon which to withhold such approval, in light of the CD Project's anticipated benefits to the Concessionaire and Toll Road Operations upon completion thereof.

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(ii) Prior to acknowledging, consenting to or accepting Substantial Completion, Partial Acceptance or Final Acceptance, as the case may be, of any Authority Project Work, the Authority shall (A) provide the Concessionaire with an opportunity to inspect such Authority Project Work and (B) have received from the Concessionaire the Concessionaire's prior written approval consenting to acceptance by the Authority of the work as having satisfied the requirements for Substantial Completion, Partial Acceptance or Final Acceptance, as applicable, which approval may be withheld only if such work does not comply with any of (w) the Operating Standards, (x) the applicable Authority Capital Improvement Contract, (y) the CD MOT Plan (in the case of the CD Project) or Schedule 4 (in the case of the DTL Extension Project) or (z) the applicable EPC Specifications (in the case of the CD Project or the DTL Extension Project). No approval, review or inspection by the Concessionaire of any Authority Project Work pursuant to this Section 4.1(c)(ii) or the Project Interface Plan will result in the assumption of any liability by the Concessionaire in connection with the construction or completion of any Authority Capital Improvement Project or with respect to the applicable Authority Capital Improvement Contract. For the avoidance of doubt, any determination made by the Concessionaire with respect to compliance with the Operating Standards pursuant to this Section 4.1(c)(ii) shall take into account the flexible construction of the Operating Standards and the other provisions relating to compliance with the Operating Standards set forth in Section 6.1.

(iii) Upon Final Acceptance of an Authority Capital Improvement Project (or Partial Acceptance of a portion thereof (in the case of the ORT Improvement Project, Partial Acceptance shall be on a gantry-by-gantry basis and, with respect to the gantry to be installed in the southbound direction in connection with the ORT Change, shall also include Partial Acceptance of the new loop ramp described in Schedule 5 and the change with respect to the existing diamond ramp described therein)), pursuant to Section 4.1(c)(ii), the Authority shall assign, transfer and otherwise convey to the Concessionaire (and shall consent to the Concessionaire assigning, transferring or otherwise conveying to any Concession Mortgagee) (A) all of the Authority's right, title and interest in, to and under any applicable warranty or any other provision that inures to the Authority's benefit under the applicable Authority Capital Improvement Contract (or portion thereof) except to the extent that the Authority retains any liabilities related thereto pursuant to Section 3.2(c) (such warranties and other provisions, collectively, the "Contract Warranties"), (B) with respect to the ORT Improvement Project, such portions of the ORT Improvement Project Contract relating to operations and maintenance of such gantry and (C) any other provisions of the applicable Authority Capital Improvement Contract pursuant to which a Contractor is required to provide services related to the applicable Authority Capital Improvement Project (or portion thereof) following such Final Acceptance (or Partial Acceptance of a portion thereof). The Authority shall also use its Reasonable Efforts to assist the Concessionaire with the enforcement of the Contract Warranties so assigned, transferred or otherwise conveyed; *provided* that the Authority shall retain, and nothing in this Section 4.1(c)(iii) or otherwise shall entitle the Concessionaire to receive, any liquidated

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damages paid or payable to the Authority by a Contractor pursuant to any Authority Capital Improvement Contract. From and after Partial Acceptance of a gantry with respect to the ORT Improvement Project, Substantial Completion of the CD Project, if applicable, or Substantial Completion of the DTL Extension Project, if applicable, (x) the applicable project (or, in the case of the ORT Improvement Project, the applicable gantry) shall constitute a part of the Toll Roads for all purposes under this Agreement and (y) the Concessionaire shall possess, on an exclusive basis, the same rights and obligations with respect to such project (or, in the case of the ORT Improvement Project, such gantry) as the Concessionaire possesses with respect to the Toll Roads (including, without limitation, the rights set forth under Article 7 and the obligations set forth under Article 6), except that the Authority and its contractors shall have the right to access and perform work with respect to the punch list and otherwise as necessary to achieve Final Acceptance of the applicable project. Further, from and after Final Acceptance of the ORT Improvement Project, the CD Project, if applicable, or the DTL Extension Project, if applicable (or Partial Acceptance of a portion thereof) pursuant to Section 4.1(c)(ii), the Authority shall not have any further rights or obligations under Section 4.1(d)(i) or (ii) with respect thereto (or with respect to such portion thereof, as applicable). From and after Final Acceptance of any Retained Capital Improvement Project or the Canopy Demolition Project (or Partial Acceptance of a portion thereof) pursuant to Section 4.1(c)(ii), the Authority shall not have any further rights or obligations under Section 4.1(d)(i) or (ii) with respect thereto (or with respect to such portion thereof, as applicable); *provided*, for the avoidance of doubt, that the areas upon which such work is located shall constitute part of the Toll Roads at all times, including prior to any such Final Acceptance (and, if applicable, prior to any such Partial Acceptance).

(d) *Concession Compensation.* Notwithstanding anything in this Agreement to the contrary, neither (i) the late completion or non-completion of any Authority Capital Improvement Project by or on behalf of the Authority, nor (ii) any failure of any Authority Project Work (including any such work covered by any Contract Warranties) to comply with the applicable Authority Capital Improvement Contract, shall be a Compensation Event, and the Authority shall not be obligated to provide Concession Compensation with respect to such late completion or non-completion or such failure; *provided* that there shall be a Compensation Event (and the Concessionaire shall be entitled to Concession Compensation as and to the extent set forth in Section 15.1) in either of the following cases: (1) if and to the extent that (x) such Authority Project Work is conducted in a manner that materially interferes with Toll Road Operations (other than as contemplated by or approved in accordance with the Project Interface Plan, the applicable Authority Capital Improvement Contract, Section 2 of Schedule 5 (in the case of the ORT Change) or the CD MOT Plan (in the case of the CD Project)) and (y) such material interference results in Losses or reduced Toll Road Revenues and shall not have been the result of a Concessionaire Default, (2) under the circumstances described under clause (xi) of the definition of "Compensation Event" with respect to the ORT Change or (3) if Substantial Completion of the entire ORT Improvement Project (including the ORT Change) has not been achieved on or before November 30, 2025. For the avoidance of doubt, no Concession Compensation shall be payable as a result of the late completion or non-completion of any Authority Capital Improvement Project, except as described in clause (3) of the foregoing sentence.

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(e) *Change in Project Interface Plan.* The Authority may propose changes to the Project Interface Plan from time to time, with written notice to the Concessionaire at least twenty (20) Business Days prior to the date such changes are to take effect, which notice shall include details regarding the changes to be made and the effective date of such changes. The Concessionaire shall provide notice to the Authority not later than ten (10) Business Days after receipt of notice from the Authority, informing the Authority whether, in the Concessionaire's reasonable discretion, the Concessionaire has determined that any such proposed change would materially interfere with Toll Road Operations and, if so, providing information supporting such conclusion (and failure to deliver such notice shall be deemed to be a determination by the Concessionaire that the proposed change would not materially interfere with Toll Road Operations). Any proposed change that would not materially interfere with Toll Road Operations shall take effect on the effective date identified by the Authority in its written notice. If, however, any such proposed change would materially interfere with Toll Road Operations, such change shall be subject to the Concessionaire's prior written approval before becoming effective, such approval not to be unreasonably withheld, conditioned or delayed; *provided* that, if such approval is not granted, the Parties shall, at the request of either Party, work together in good faith to modify the Project Interface Plan to accommodate the Authority while minimizing any interference with Toll Road Operations to the fullest extent reasonably practicable.

Section 4.2 Concessionaire Capital Improvements.

(a) *Concessionaire Capital Improvement Projects.* The Concessionaire's capital improvement obligations shall be comprised of (i) the Accelerated Safety Upgrades, (ii) the Concessionaire Bidirectional Project, (iii) the ITS Project, and (iv) any additional capital improvement projects required to be completed by the Concessionaire during the Term in accordance with the provisions of this Agreement, including the Operating Standards. The Concessionaire, with reasonable diligence, and at its sole cost and expense, shall complete or cause the completion of all Concessionaire Capital Improvement Projects and any additional capital improvement projects required to be completed by the Concessionaire during the Term in accordance with the provisions of this Agreement, in a good and workmanlike manner. The requirements with respect to each tier of the Accelerated Safety Upgrades and of the ITS Project shall be satisfied by the Concessionaire on or before the applicable deadline set forth in Schedule 6. The Authority at its option may cancel or postpone the commencement of any Concessionaire Capital Improvement Project (or with respect to the Accelerated Safety Upgrades, tier thereof) by giving prior written notice to the Concessionaire; *provided* that (i) to the extent that (A) any such notice of cancellation shall have been provided to the Concessionaire following the date on which the Concessionaire shall have incurred any liabilities or commitments with respect to such project, (B) the Concessionaire cannot otherwise undertake the project as a Modification agreed to by the Parties, and (C) the cancellation of such project has a material adverse effect on future Toll Road Revenues, the Authority shall be required to provide Concession Compensation to the Concessionaire upon demand, the calculation of which shall, for the avoidance of doubt, take into account the Concessionaire's out-of-pocket costs in connection therewith and any cost savings to the Concessionaire as a result of the cancellation of such project and (ii) the Authority shall provide Concession Compensation to the Concessionaire in connection with the cancellation or postponement of any such project. The Authority shall consult with the Concessionaire prior to the postponement of any such project concerning revised timing and

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scheduling for implementation and shall use its Reasonable Efforts to ensure that the revised schedule does not unduly interfere with the Toll Road Operations. The Concessionaire shall not be in breach of this Section 4.2(a) for failure to satisfy the requirements with respect to a tier of the Accelerated Safety Upgrades or of the ITS Project by the applicable deadline set forth in Schedule 6 if such failure is caused directly by (i) the postponement or cancellation of such project (or with respect to the Accelerated Safety Upgrades, tier thereof) by the Authority in accordance with this Section 4.2(a) (unless such postponement, cancellation or failure is the result of a Concessionaire Default) or (ii) the occurrence of a Delay Event. The Concessionaire's obligation to satisfy the requirements of each Concessionaire Capital Improvement Project (or with respect to the Accelerated Safety Upgrades, tier thereof) shall be subject to the timely issuance by the Authority or any other applicable Governmental Authority of any and all Authorizations with respect thereto, without unanticipated material expense or burdensome conditions (and any failure of the Authority or any other applicable Governmental Authority to issue in a timely fashion any such Authorization may give rise to a Delay Event hereunder), and the Authority agrees not to withhold, condition or delay unreasonably the issuance of any such Authorizations to be issued by the Authority and to use its Reasonable Efforts to assist the Concessionaire in obtaining Authorizations from other applicable Governmental Authorities.

(b) *Condition of Toll Roads During Work.* The Authority acknowledges that the Concessionaire shall not be in default under the terms of this Agreement, including for failure to comply with the Operating Standards, with respect to the Concessionaire's non-compliance with the following requirements: (i) ratings or standards as they apply to guardrails or other elements of the Tolls Roads, (ii) with respect to pavement, the operating ratings set forth in Volume I, Chapter B of the Operating Standards for both concrete and bituminous roadway wearing surfaces, including pavement international roughness index, rutting, faulting and cracking and (iii) with respect to bridges, the requirements set forth in Table G.3.4 in Section G.3.4 of Schedule 15A, in each case, (x) if such non-compliance exists as of the Closing Date and is to be addressed by the work contemplated in the Tier 1 Works (with respect to (i) above) or the Tier 2 Works or the Tier 3 Works, as applicable (with respect to (ii) and (iii) above) and (y) so long as the Concessionaire complies with the requirements of Schedule 6 other than with any deadlines provided therein. Such non-compliance shall only be excused until the requirements of the applicable tier of the Accelerated Safety Upgrades have been satisfied by the Concessionaire, as determined by the Authority pursuant to this Agreement, after which time compliance with such Operating Standards shall be required (taking into account, with respect to Tier 2 Works and Tier 3 Works, respectively, the percentage compliance thresholds set forth in Schedule 6). For the avoidance of doubt, except as described in this Section 4.2(b), the Concessionaire shall be required to comply with all other Operating Standards prior to, during and following performance of the work related to the Concessionaire Capital Improvement Projects.

(c) *Liquidated Damages.* In the event that the requirements with respect to any tier of the Accelerated Safety Upgrades or with respect to the ITS Project are not satisfied by the Concessionaire on or before the applicable deadline set forth in Schedule 6, then the Concessionaire shall pay the Authority, as liquidated damages and not as a penalty, the applicable amount set forth in Section 5 of Schedule 6 for each day after such deadline that such requirements have not been satisfied. Such liquidated damages shall be the exclusive remedy of


the Authority for the failure of the Concessionaire to comply by the applicable deadline with the requirements set forth in Schedule 6; *provided* that such damages shall not limit the Authority's remedies with respect to (i) a Persistent Concessionaire Default with respect to such failure or (ii) any other breach hereunder or any other Concessionaire Default that relates to any Concessionaire Capital Improvement Project, including in each case, without limitation, the remedies of the Authority set forth in Section 16.1(b).

(d) *Cooperation.* The Authority shall use its Reasonable Efforts to cooperate with the Concessionaire in connection with the completion of the Concessionaire Capital Improvement Projects; it being understood and agreed that such cooperation shall be in the form of logistical planning rather than the payment of monies or undertaking of services.

ARTICLE 5

MODIFICATIONS

Section 5.1 Agreed Modifications.

 (a) Either the Authority or the Concessionaire may propose a Modification. Promptly after any proposal of a Modification by the Authority or the Concessionaire, the Concessionaire shall prepare and deliver to the Authority a written statement setting forth (i) a description of the Modification and any services, obligations, rights or work related to the Modification, (ii) if applicable, a schedule for the implementation of the Modification, (iii) if applicable, a firm price for implementing the Modification and (iv) the impact the Modification would have on (A) Level of Service, (B) Toll Road Operations, (C) Toll Road Revenues both during any related construction or work and after implementation or completion of the Modification, (D) related changes to the Operating Standards, if any, and increases or decreases to the forecasted cost of operation and maintenance of the Toll Roads following completion of the Modification, (E) any requirement to acquire Additional Lands and (F) any other obligations of either Party under this Agreement related to the proposed Modification. The costs of preparing such written statement shall be borne by the Party proposing the Modification.

(b) Upon receipt by the Authority of the Concessionaire's written statement of the Modification, the Authority and the Concessionaire will negotiate in good faith to determine the following, while having no obligation to agree with respect thereto: (i) the final scope of the Modification and any work related to the Modification, (ii) if applicable, the contribution to the cost of implementing the Modification to be made by each of the Authority and the Concessionaire, (iii) if applicable, the schedule for implementing the Modification, (iv) if applicable with respect to Modifications proposed by the Authority, the compensation for any decrease in Toll Road Revenues projected to be incurred during the implementation of the Modification to be paid to the Concessionaire by the Authority, (v) any change to the Tolling Limitations, (vi) any additional concession fee or share of additional Toll Road Revenues to be paid to the Authority following implementation of the Modification, (vii) related changes to the Operating Standards, if any, (viii) any requirement for the Authority to acquire Additional Lands and (ix) any other related changes in the Parties' obligations under this Agreement (including any obligation to pay monies with respect to such Modification or any of the matters contemplated in these clauses (i) through (ix)). If the Parties agree on the terms of the

Modification, they shall memorialize their agreements in a written document (an "Agreed Modification") that shall take effect when executed by the Parties or as otherwise agreed to by the Parties. To the extent applicable, an Agreed Modification shall provide for the receipt of all necessary Authorizations by the Concessionaire and the acquisition of Additional Lands by the Authority as a condition precedent to the commencement of any such Modification.

(c) Notwithstanding Section 5.1(b) and subject to Section 2.3(d) of Schedule 4, in the case of a Modification proposed by the Concessionaire to implement (i) open road tolling, (ii) video tolling or (iii) other similar structural or technological enhancements pertaining to tolling on the Toll Roads (including the decommissioning of any facilities, including toll lanes and toll plazas, made obsolete by such Modifications, but excluding, for the avoidance of doubt, any Modification proposed by the Concessionaire to change the location of toll plazas or equivalent toll collection facilities (whether electronic or cash)), the Authority will not withhold its consent to such reasonable terms as may be proposed by the Concessionaire to the extent such terms are (x) consistent with this Agreement (including, in the case of a Major Project, the guidelines set forth in Schedule 19) and applicable Law and (y) interoperable and otherwise compatible with the structural and technological aspects of electronic or video tolling used on Comparable Highways operated by or behalf of the Authority in the Commonwealth; *provided* that in the event of any Modification to implement video tolling, the Concessionaire shall have the right, to the extent permitted by Law, to charge users of the Toll Roads reasonable video tolling fees; and *provided further*, that such fees in no event shall exceed the Concessionaire's cost per video toll transaction.

Section 5.2 Required Modifications.

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(a) If the Authority and the Concessionaire cannot agree on the terms of a Modification proposed pursuant to Section 5.1, then the Authority shall have the right to require the Concessionaire to implement the Modification under terms set forth by the Authority, and the Authority shall provide the Concessionaire with Concession Compensation related thereto pursuant to Section 15.1(b) (a "Required Modification"); *provided* that the Concessionaire shall not be required to commence any work related to the Required Modification, until (i) the Authority has provided to the Concessionaire evidence reasonably satisfactory to the Concessionaire of the Authority's ability to finance such Required Modification and, if the Concessionaire has requested the Authority to advance funds necessary to implement the Required Modification, the Concessionaire has received such funds from the Authority, (ii) the Concessionaire has obtained all Authorizations and the Authority has acquired all Additional Lands required to begin work on the Required Modification and the Concessionaire has no reason to believe that other required Authorizations that cannot be obtained until a later date will not be obtained when needed and (iii) the Concessionaire and the Authority have agreed to the terms of the Required Modification (including, as applicable, the amount of Concession Compensation payable pursuant to this Section 5.2(a) and any additional concession fee or share of additional Toll Road Revenues to be paid to the Authority following implementation of such Required Modification), or if not, the terms of the Required Modification and the amount of such Concession Compensation payable pursuant to this Section 5.2(a) (or additional concession fee or share of additional Toll Road Revenues to be paid to the Authority) have been resolved pursuant to Article 19; *provided further*, that, for avoidance of doubt, the implementation of the

provisions of Schedule 4 as of the Effective Date shall not be deemed to be a Required Modification and no additional concession fee or share of additional Toll Road Revenues shall be payable to the Authority as a result of such implementation. Any Concession Compensation provided pursuant to this Section 5.2 shall include any costs incurred by the Concessionaire in connection with the preparation of the written statement described in Section 5.1 and shall be payable pursuant to Section 15.1(b).

(b) If a Compensation Event necessitates a Modification, the Parties shall first proceed under this Article 5 to attempt in good faith to negotiate an Agreed Modification that resolves the effects of the Compensation Event. If the Parties are unable to agree on an Agreed Modification within sixty (60) days (or such longer period of time as the Parties may agree) the Concessionaire shall be entitled to complete the necessary Modification and receive Concession Compensation and shall not be required to pay an additional concession fee or to provide any other compensation related thereto.

Section 5.3 Implementation of Modifications. The Concessionaire shall (a) ensure that any work or construction performed in connection with a Modification is performed in a good and workmanlike manner and in accordance with the applicable terms of this Agreement, (b) ensure the terms of an Agreed Modification or a Required Modification are diligently complied with and implemented in such manner that the costs and delays relating to a Modification are minimized and (c) conduct a competitive procurement for the services of any Contractor to be engaged in connection with a Modification based on commercially reasonable criteria for contract award (including such Contractor's technical qualifications, bid price and relevant experience). Without limiting the generality of the foregoing, the Concessionaire shall comply with applicable Law, applicable codes, good industry practice and, to the extent not superseded by the terms of the relevant Agreed Modification or Required Modification, the provisions of the Operating Standards, the Project Interface Plan and the applicable EPC Specifications with respect to the manner in which Modifications are implemented.

Section 5.4 Acquisition or Condemnation by Authority of Additional Lands.

(a) *Pursuant to an Agreed Modification.* In the case of an Agreed Modification requiring acquisition of Additional Lands, the Authority shall take such actions as may be reasonably necessary to initiate and diligently pursue to completion the proceedings necessary for the acquisition or condemnation of such Additional Lands. In such event, the costs and expenses, including all judgments and settlements in condemnation, all awards of compensation, costs and litigation expenses, all awards of damages, all costs incurred in prosecuting the condemnation action, including the cost of all legal and support services and the fees of all witnesses, shall be borne as provided in the related Agreed Modification; *provided, however,* that any payment by the Concessionaire of any of the costs or expenses in relation to such acquisition shall not, by itself, entitle the Concessionaire to any real property interest in the Additional Lands so acquired except as provided in Section 5.4(c).

(b) *Pursuant to a Required Modification.* In the case of a Required Modification pursuant to Section 5.2, the Authority shall take such actions as may be reasonably necessary to initiate and diligently pursue to completion the proceedings necessary for the acquisition or condemnation of Additional Lands for such Required Modification. The

Concessionaire's obligation to implement any such Required Modification shall be subject to the prior completion of the proceedings described in the preceding sentence. In such event, all costs and expenses in respect of such acquisition or condemnation of Additional Lands for such Required Modification, including all judgments and settlements in condemnation, all awards of compensation, costs and litigation expenses, all awards of damages, all costs incurred in prosecuting the condemnation action, including the cost of all legal and support services and the fees of all witnesses, shall be borne by the Authority.

(c) *Transfer.* Any lands acquired pursuant to this Section 5.4 shall be deemed to be part of the Toll Road Land subject to this Agreement. In connection with the foregoing, the Concessionaire shall, and shall cause any Concession Mortgagee to, execute such instruments as may be reasonably requested or required by the Authority to give effect to the foregoing. The applicable costs and expenses with respect to Additional Lands contemplated in this Section 5.4 shall be borne as provided in the related Agreed Modification and the applicable costs and expenses with respect to Additional Lands contemplated by Section 5.4(b) shall be borne by the Authority.

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(d) *Pre-existing Environmental Conditions.* If a Party proposes a Modification that requires the acquisition of Additional Lands, that Party (or in the case of Required Modifications, the Authority) shall assume and discharge any liabilities and obligations whatsoever arising under any Environmental Law relating to the ownership, operation or condition of the Additional Lands and shall be responsible for any environmental conditions existing prior to the time of acquisition, whether or not the manifestation of which occurs following acquisition (including any Hazardous Substance to the extent released or threatened to be released on or from the Additional Lands at any time prior to the time of acquisition). Notwithstanding the foregoing, in all circumstances, the Concessionaire shall be responsible for complying with Engineering or Institutional Controls associated with such Additional Lands; *provided that*, in the case of environmental conditions for which the Authority is responsible pursuant to the preceding sentence, the Concessionaire receives notice of such Engineering or Institutional Controls from the Authority prior to any obligation to comply therewith and *provided further*, that the Concessionaire may submit any dispute with respect to such obligation to dispute resolution in accordance with Article 19. Notwithstanding any obligation to assume and discharge any liabilities arising under any Environmental Laws contained in this Section 5.4(d), to the extent the Concessionaire is obligated to assume such liabilities, the Concessionaire shall not acquire or be entitled to any real property interest in the Additional Lands associated with such liabilities, except as provided in Section 5.4(c).

ARTICLE 6

OPERATING STANDARDS; NONCOMPLIANCE EVENTS

Section 6.1 Compliance with Operating Standards. The Concessionaire shall, and shall cause the Toll Road Operations to, comply with and implement the Operating Standards in all material respects at all times during the Term (including any changes or modifications to the Operating Standards made pursuant to the terms of this Agreement); *provided that* (a) the Concessionaire shall have a reasonable period of time (i) following the Closing Date to carry out any changes to the operations of the Toll Roads in order to cause the Toll Roads to comply with

the Operating Standards in effect as of the Closing Date and (ii) from time to time to comply with the introduction of changes or modifications to the Operating Standards that are made in accordance with the terms of this Agreement, (b) the Concessionaire shall not be required to comply with certain Operating Standards in relation to the Concessionaire Capital Improvement Projects, as and to the extent set forth in Section 4.2(b) and (c) the Concessionaire shall not be required, with respect to the portion of the DTLs on PR-18 and PR-1, to comply with Chapter G of Schedule 15A. The Concessionaire shall have in place procedures that are reasonably designed to achieve compliance with the Operating Standards. The Authority and the Concessionaire agree that the Operating Standards shall be construed flexibly in light of their objectives. The occasional or incidental failure to comply with specific requirements of the Operating Standards shall not be deemed a breach of this Agreement, except to the extent that such occasional or incidental failure to comply constitutes a Noncompliance Event. Except as specifically set forth in this Agreement (including the Operating Standards), the Concessionaire shall perform all work required to comply with and implement the Operating Standards in all material respects (including the capital improvements described therein) as part of the Toll Road Operations and at its sole cost and expense. To the extent that any term or provision of the Operating Standards conflicts with any term or provision otherwise specified in this Agreement, then such term or provision of this Agreement shall govern and shall supersede any such conflicting term or provision in the Operating Standards. For the avoidance of doubt, in the event of any conflict, ambiguity or inconsistency between or among any of the provisions in this Agreement (including between the forepart of this Agreement and any of the Operating Standards or between any two or more of the Operating Standards), the provisions that establish the higher quality, manner or method of performing the work required to comply with and implement the Operating Standards in all material respects (including the capital improvements described therein) as part of the Toll Road Operations or that establish more stringent standards to the Concessionaire shall prevail. Further, (i) if the Operating Standards contain more stringent standards than applicable Laws, the Operating Standards shall prevail, to the extent that compliance with those more stringent standards would not violate applicable Law, (ii) if compliance with any of the Operating Standards would violate applicable Law (including any NEPA requirements), those standards shall not be deemed to apply when (and to the extent) compliance therewith would violate such applicable Law and (iii) if any of the Operating Standards are less stringent than applicable Laws and compliance with both requirements cannot be achieved concurrently, compliance with such less stringent Operating Standards shall not be required for so long as the more stringent provisions of Law remain applicable (subject, in the case of (ii) or (iii), to Concessionaire providing prompt written notice to the Authority, which notice shall identify the specific applicable Laws and Operating Standards at issue, and subject further to the Authority determining in its discretion that the relevant Operating Standard(s) may be disregarded pursuant to the applicable clause.

Section 6.2 Proposed Operating Standards. If the Concessionaire, at its sole cost and expense, wishes to implement and use operating standards other than the Operating Standards, the Concessionaire must provide notice of such proposed operating standards to the Authority for the Authority's Approval. The Concessionaire's proposed operating standards must be accompanied by an explanation of the Concessionaire's rationale for making its proposal and all relevant supporting information, certificates, reports, studies, investigations and other materials as are necessary to demonstrate that the Concessionaire's proposed operating standards

are reasonably designed to achieve the objectives of the applicable Operating Standards. The Authority may request any additional supporting information, certificates, reports, studies, investigations and other materials as are reasonably required by the Authority to determine if the Concessionaire's proposed operating standards are reasonably designed to achieve the objectives of the applicable Operating Standards. Until the Authority provides its Approval for the implementation of the Concessionaire's proposed operating standards, the Concessionaire shall not implement the proposed operating standards and shall continue to implement and comply with then existing Operating Standards. The Concessionaire's proposed operating standards shall be deemed incorporated into the Operating Standards upon Approval by the Authority in the Authority's discretion.

Section 6.3 Modified Operating Standards.

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(a) The Authority shall have the right, at any time during the Term, to modify or change the Operating Standards upon notice to the Concessionaire to (i) comply with any new Law applicable to the Toll Road Operations that is not being applied to the Concessionaire in a discriminatory or arbitrary manner, (ii) conform the Operating Standards to standards or practices generally adopted and implemented by the Authority with respect to all other Comparable Highways under the jurisdiction of the Authority or (iii) conform the Operating Standards to standards or practices generally adopted and implemented by other Governmental Authorities in the United States having jurisdiction over Comparable Highways. In the event that the Authority modifies or changes the Operating Standards in accordance with the immediately preceding sentence, the Concessionaire, at its cost and expense, shall perform all work required to implement such modifications or changes and shall comply with all such modifications or changes and in no event shall the Concessionaire be excused from compliance with any such modification or change. For the avoidance of doubt, the Concessionaire will have the right to challenge any modified Operating Standard pursuant to Article 19 on the basis that it does not meet the requirements set forth above.

(b) If, during the Term, the Authority is of the opinion that a modification or change to the Operating Standards is necessary or desirable but such modification or change is not subject to Section 6.3(a), the Authority may upon notice to the Concessionaire modify or change the Operating Standards; *provided, however*, that the Authority shall provide Concession Compensation to the Concessionaire with respect thereto at the time such modification or change is to be implemented and a reasonable time period, if necessary, to come into compliance with such modification or change. At the Authority's request, the Concessionaire shall perform all work required to implement and shall comply with all such modifications and changes, and in no event shall the Concessionaire be excused from compliance with any such modification or change. The Authority shall have the right to undertake the work necessary to ensure implementation of and compliance with any modification or change to the Operating Standards referred to in this Section 6.3(b) to the extent that the Concessionaire fails to commence doing so no later than thirty (30) days following the notice specified above and the provision of any applicable Concession Compensation in accordance herewith; *provided, however*, that to the extent that such work is undertaken by the Authority, the Concessionaire shall provide to the Authority within thirty (30) days following written demand therefor, or the Authority may offset from amounts owing to the Concessionaire in connection with such modification or change, the

costs of the portion of the work performed in order to comply with the Operating Standards existing immediately prior to such modification or change, and the Authority shall be responsible only for the incremental costs of the additional work required in order to implement such proposed modification or change to the Operating Standards and, without duplication with the foregoing, the Concession Compensation with respect to such modification or change.

Section 6.4 Noncompliance Events.

(a) *Noncompliance Events.* Noncompliance Events are identified on Schedule 7. The Concessionaire shall promptly notify the Authority of the occurrence of any breach or failure that is or might become a Noncompliance Event. If the Authority becomes aware of a breach or failure that is or might become a Noncompliance Event for which Concessionaire has not yet provided such notice, the Authority shall notify Concessionaire thereof.

(b) *Cure Period.* A Noncompliance Event shall not have occurred until expiration of any cure period applicable with respect thereto, as such cure period is identified on Schedule 7. The Concessionaire's cure period, if any, with respect to such Noncompliance Event starts upon the date the Concessionaire first obtained knowledge or reason to know of the breach or failure. The Concessionaire shall notify the Authority of any efforts to cure a potential Noncompliance Event, which cure is subject to verification by the Authority.

(c) *Noncompliance Points.* The Authority may assess Noncompliance Points with respect to a Noncompliance Event; *provided* that such Noncompliance Points may not exceed the maximum number of points specified for such Noncompliance Event, as set forth on Schedule 7. Noncompliance Points shall be deemed to have been assessed on (x) the expiration of the cure period identified in Schedule 7 with respect to such Noncompliance Point or (y) absent a cure period identified in Schedule 7, the date notice of such Noncompliance Event was first given pursuant to Section 6.4(a). Any dispute concerning the assessment of Noncompliance Points must be initiated by the Concessionaire within fifteen (15) days after the Authority notifies the Concessionaire of the assessment; *provided* that if, for any reason, the Concessionaire fails to initiate such dispute within the applicable time period required by this section, the Concessionaire shall be deemed to have irrevocably and forever waived and released any right to dispute the assessment of the applicable Noncompliance Points or any adverse effects on costs, expenses and liabilities attributable to such assessment that the Concessionaire may otherwise have been able to dispute. The Authority shall not be entitled to assess Noncompliance Points under more than one category for any particular event or circumstance that constitutes a Noncompliance Event. If a single act or omission gives rise to more than one breach or failure, such act or omission shall be treated as a single breach or failure for the purpose of assessing Noncompliance Points, and the highest amount of Noncompliance Points under the relevant breaches or failures shall apply. A failure by the Concessionaire to report to the Authority a breach or failure to perform as required under Section 6.4(a), on the one hand, and the subject breach or failure to perform, on the other hand, constitute separate and distinct breaches and failures to perform for the purpose of assessing Noncompliance Points.

(d) *Increased Oversight, Testing and Inspection.* If at any time there exists a Persistent Concessionaire Default or the Concessionaire receives a notice of Concessionaire Default pursuant to Section 16.1(b), then (in addition to other remedies available to the Authority

under this Agreement) the Authority, by notice to the Concessionaire, may increase the level of its monitoring, inspection, sampling, measuring, testing, auditing and oversight of the Concessionaire's compliance with its obligations under the Agreement, to such level as the Authority sees fit, until such time as the Concessionaire has demonstrated to the reasonable satisfaction of the Authority that the Concessionaire has (i) reduced by fifty percent (50%) the number of Uncured Noncompliance Points outstanding as of the date such notice was given to the Concessionaire (if there existed a Persistent Concessionaire Default as of such notice date), (ii) fully and completely cured the breaches and failures that are the basis for such notice of Concessionaire Default pursuant to Section 16.1(b) (if applicable) and (iii) completed delivery and performance of a Remedial Plan; *provided that subclause (d)(i) shall not apply in the event that the Persistent Concessionaire Default is of the type described in subsection (b) of the definition of Persistent Concessionaire Default.* If the Authority increases its level of monitoring, inspection, sampling, measuring, testing, auditing and oversight pursuant to this Section 6.4(d) and liquidated damages are not provided for under this Agreement in connection with such non-compliance, then the Concessionaire shall pay and reimburse the Authority within thirty (30) days after receipt of demand and reasonable supporting documentation for all increased costs and fees the Authority incurs in connection with such action, including the Authority's share of the increased costs and fees of external resources. The foregoing does not preclude the Authority, at its discretion and expense, from increasing its level of monitoring, inspection, sampling, measuring, testing, auditing and oversight at other times so long as such action is not in contravention of this Agreement.

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(e) *Liquidated Damages.* The Authority shall be entitled to liquidated damages from the Concessionaire equal to seven thousand five hundred dollars (\$7,500) per Noncompliance Point assessed pursuant to Section 6.4(c); *provided that* (i) the Concessionaire shall not be required to make any payment to the Authority under this Section 6.4(e) with respect to an assessed Noncompliance Point unless and until the aggregate amount of Noncompliance Points assessed pursuant to Section 6.4(c) exceeds twenty-four (24) Noncompliance Points (the "Noncompliance Threshold"), in any consecutive three hundred and sixty five (365) day period, after which time the Authority shall be entitled to prompt payment from the Concessionaire of liquidated damages for each Noncompliance Point assessed pursuant to Section 6.4(c) during such three hundred and sixty five (365) day period, without regard to the Noncompliance Threshold and (ii) liquidated damages shall not be assessed more than once with respect to any assessed Noncompliance Point. The liquidated damages imposed by this Section 6.4(e) shall be the exclusive remedy of the Authority resulting from a Noncompliance Event; *provided that* such damages shall not limit the Authority's rights hereunder upon the occurrence of a Persistent Concessionaire Default.

ARTICLE 7

TOLLING; REVENUES

Section 7.1 Tolling Limitations. The Concessionaire shall comply with the Tolling Limitations set forth in Schedule 4. For the avoidance of doubt, no consent or approval of the Authority or any other Person shall be required for any change in tolls that falls within the toll levels specified in Schedule 4.

Section 7.2 Revenues.

(a) *Toll Road Revenues.* The Concessionaire shall, at all times during the Term, have the right, title, entitlement and interest in and to all revenues (A) charged by or on behalf of the Concessionaire pursuant to this Agreement (including without limitation Schedule 4) in respect of tolls paid or payable for use by vehicles of the Toll Roads (other than, in each case only if applicable, (i) the Authority's portion of the DTLs Incremental Toll Revenues set forth in Section 7.2(h), and (ii) the Authority's portion of the DTL Extension Revenues set forth in Section 7.2(g)) ("Toll Revenues"), and (B) generated (i) from Vendors in accordance with any leases or agreements existing at any time during the Term or pursuant to the Assigned Contracts or generated by the Concessionaire itself as a Vendor or (ii) in accordance with Section 7.2(b) hereof (collectively, "Non-Toll Revenues" and together with Toll Revenues, the "Toll Road Revenues"). For the avoidance of doubt, the revenues referred to in clause (A) of this Section 7.2(a) shall include all tolls collected by the Concessionaire or the Authority on behalf of the Concessionaire from toll violators in enforcement proceedings or by other means in accordance with Section 3.16(b); *provided* that the Concessionaire hereby transfers and assigns to the Authority all of its right, title, entitlement and interest in and to all Delinquent Non-Cash Tolls in respect of which it shall have received payment from the Authority pursuant to Section 3.16(c), such transfer and assignment to become automatically effective upon such payment by the Authority without the need of any further documentation or action by any Party.

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(b) *Other Revenues.* Unless otherwise Approved by the Authority in its discretion, all sources of revenues and activities generating or that may generate revenues other than Toll Road Revenues, including revenues from (i) toll violation enforcement fines, fees, charges, restitution, collection and penalty payments in excess of any unpaid toll authorized by Law, (ii) public transportation services, (iii) the installation of utilities or similar services and safety measures (including water and sewer lines, power transmission lines, fiber optic cable, surveillance equipment and other communications), (iv) the erection of billboards and other forms of advertisement, and (v) mass transit facilities, shall be controlled by, and be the property of, the Authority and, subject to Section 3.7, the Concessionaire shall have no right, title, entitlement or interest therein whatsoever; *provided* that such billboards and other forms of advertising shall not contain or convey an implied or declared rejection, opinion or other reference concerning any of the Concessionaire, its Equity Participants, the Toll Roads, the Toll Road Operations and the Toll Road Services without, in each case, the Approval of the Concessionaire. For the avoidance of doubt, the Authority reserves the right to develop, establish or commercialize any of these services or activities by itself, together with the Concessionaire or in any other manner the Authority may determine in its discretion.

(c) *Use of Toll Road Revenues.* The Concessionaire shall use all Toll Road Revenues to pay (i) for the costs of operations and maintenance of the Toll Roads pursuant to this Agreement (including reconstruction, resurfacing, restoration and rehabilitation of the Toll Roads in compliance with the requirements of this Agreement) and (ii) debt service on Concession Mortgage Debt and Qualified Debt, in each case when due and payable prior to making any distribution of such Toll Revenues to any Equity Participant.

(d) *Vendors.*

(i) The operation of any Vendor shall be a part of the Toll Road Operations. All revenues earned by the Concessionaire attributable to the operation of any Vendor shall be the property of, and controlled by, the Concessionaire.

(ii) The Concessionaire shall not enter into any material agreement or contract with a Vendor or provide goods or services as a Vendor without the prior Approval of the Authority (which Approval shall not be unreasonably or arbitrarily withheld, conditioned or delayed); *provided, however*, that the Approval of the Authority shall not be required to the extent that such agreement or contract is for goods or services of the type provided on the Toll Roads as of the Bid Date. In requesting Approval of the Authority, in addition to the requirements of Section 1.16, the Concessionaire shall inform the Authority in writing about the identity of the Vendor, confirm that the Vendor has not been debarred from bidding on or participating in Authority supervised or funded highway construction work, specify, the exact nature of the goods or services to be provided by the Vendor, and confirm and that the Vendor complies with the Commonwealth Contractor Requirements, to the extent applicable. No such agreement or contract with a Vendor shall extend beyond the Term unless (A) such extension has been Approved by the Authority, (B) such agreement is assignable to the Authority and (C) the Authority can terminate such agreement within three (3) Business Days without penalty after the end of the Term. Each such agreement shall include the terms and conditions required to be included by Act No. 2 in any contract to which the Authority is a party, and such agreement shall be subject to rescission or termination under such laws to the same extent as if the Vendor had entered into such agreement directly with the Authority. Additionally, each Vendor shall comply with the requirements set forth in Section 9.3.

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(iii) Any addition to or modification of facilities for Vendors shall require an Agreed Modification pursuant to Article 5.

(e) *Windfall Revenue Sharing Payment.*

(i) *Windfall Revenue Sharing Payment.* As compensation to the Authority in exchange for the Authority's grant to the Concessionaire of rights to impose and receive tolls pursuant to this Agreement, the Concessionaire agrees to pay to the Authority revenue sharing payments as determined under this Section 7.2(e) ("Windfall Revenue Sharing Payment").

(ii) *Band Adjustments.* The Band values included in Schedule 20 are stated on a calendar year basis, starting with the calendar year in which Closing occurs. If the operating period in the first or last calendar year is less than a full calendar year, the applicable values for each such Band will be adjusted pro rata based on the number of operating days in the applicable calendar year for the difference, if any, between the number of operating days in such calendar year based on the Closing Date, and the actual number of days in such calendar year. Any adjustments to the Band values based on the actual Closing Date will be applied on a cumulative basis to the Band levels through the remaining calendar years in the Term. If it is the last year of the operating period that is less than a full calendar year, then Cumulative Toll Road

Revenues shall include those revenues that are accrued or earned but not yet received in such calendar year.

(iii) *Calculation.* The amount of each Windfall Revenue Sharing Payment (the “Windfall Revenue Sharing Payment Amount”) shall be calculated as of December 31 beginning the year in which the twelfth anniversary of the Closing occurs and as of December 31 of every subsequent year during the Term, by determining the actual Cumulative Toll Road Revenues collected by the Concessionaire for each annual period during the Term to date. The Windfall Revenue Sharing Payment Amount is the positive amount, if any, that equals fifty percent (50%) of the portion of actual Cumulative Toll Road Revenues during the Term to date that exceed the Band amount, adjusted for changes in inflation as determined under Section 7.2(e)(iv), minus all Windfall Revenue Sharing Payment Amounts, if any, paid in previous calendar years. The Band floor amounts for each applicable calendar year period during the Term are included in Schedule 20.

(iv) *Inflation Adjustment.* The Band amount figures in Schedule 20 are in 2023 dollars and are to be adjusted in accordance with cumulative changes in the Index as described in this Section 7.2(e)(iv). For the first potential Windfall Revenue Sharing Payment, the Band floor amounts for all calendar years in Schedule 20 throughout the Term shall be adjusted by the greater of (i) zero and (ii) the percentage increase in the Index between the Index for the month that is two months prior to the Closing Date and the Index for October (the “Benchmark Month”) of the calendar year for which the relevant Windfall Revenue Sharing Payment is being determined. For each potential Windfall Revenue Sharing Payment (i.e., each calendar year) thereafter, the then-current Band floor amounts for the year then under review and all succeeding calendar years in Schedule 20 throughout the Term shall be adjusted by the greater of (y) zero and (z) the percentage increase in the Index between the Index for the Benchmark Month of the year immediately preceding the year under review and the Index for the Benchmark Month of the year under review. For avoidance of doubt, the Band floor amounts subject to adjustment in connection with each review period (i.e., each calendar year) following the review period relating to the first potential Windfall Revenue Sharing Payment shall be based on the results of the adjustments from the preceding review period.

(f) *Payment Procedures.*

(A) Within one (1) month after the end of each calendar year for which the Windfall Revenue Sharing Payment is to be determined, the Concessionaire shall deliver to the Authority a preliminary calculation of the Windfall Revenue Sharing Payment Amount.

(B) Within four (4) months after the end of each calendar year for which the Windfall Revenue Sharing Payment is to be determined, the Concessionaire shall deliver to the Authority (i) a final calculation of the Windfall Revenue Sharing Payment, (ii) unless such information is available in the Traffic Reports prepared by the ETC Service Provider, an audited financial statement prepared by a reputable independent certified public accountant according to generally accepted accounting principles, consistently applied, setting forth the total Cumulative Toll Road Revenue for such year, and (iii) full payment of any Windfall Revenue Sharing Payment Amount as

so calculated. For the avoidance of doubt, Cumulative Toll Road Revenues for purposes of calculating the Windfall Revenue Sharing Payment Amount shall be calculated on a cash basis. The payment priority of the Windfall Revenue Sharing Payment Amount shall follow immediately after Concessionaire's operating expenses.

(C) Within two (2) months after receipt of the deliverables described in Section 7.2(f)(A) and (B), the Authority may request further clarification or amendment to the final calculation of the Windfall Revenue Sharing Payment, which the Concessionaire shall promptly provide to the Authority.


(g) *DTL Extension Revenue Share.* From the time of Substantial Completion of the DTL Extension Project pursuant to Section 4.1(c) until the end of the Term, the Authority shall have all right, title, entitlement and interest in and to sixty percent (60%) of all DTL Extension Revenues. Such share of DTL Extension Revenues shall be remitted to the Authority as provided in the Escrow Agreements. The remaining amounts comprise the Concessionaire's share of the DTL Extension Revenues.

(h) *Sharing of DTLs Incremental Toll Revenues.* The Authority shall have all right, title, entitlement and interest in and to fifty percent (50%) of all DTLs Incremental Toll Revenues. Such share of DTLs Incremental Toll Revenues shall be remitted to the Authority as provided in the Escrow Agreements. The remaining amounts comprise the Concessionaire's share of the DTLs Incremental Toll Revenues.

ARTICLE 8

REPORTS; AUDITS; INSPECTIONS

Section 8.1 Reports.

 (a) *Traffic Report.* Within fifteen (15) days after the end of each calendar month, the Concessionaire shall deliver to the Authority a report consistent with the sample form set forth in Schedule 8 (each such report, a "Traffic Report"), accompanied by a detailed estimate of the amount of Delinquent Non-Cash Tolls for such calendar month prepared in good faith by the Concessionaire; *provided* that, for so long as any ETC Service Contract and the Original Escrow Agreement remain in effect, each Traffic Report shall be delivered weekly, no later than the third (3rd) Business Day of the following week, and shall be based upon the traffic reports submitted by the ETC Service Provider under the ETC Service Contract and substantially in the form set forth in the Original Escrow Agreement.

(b) *Traffic Characteristics Reports.* In addition to the Traffic Reports and any other traffic or traffic-related reports required pursuant to this Agreement, the Concessionaire shall provide to the Authority a quarterly traffic characteristics report providing the following details in a format agreed to by the Authority prior to the Closing Date: (i) traffic volume forecasts for each type of classification of vehicle for the next three months; (ii) the current Level of Service for each mile of the Toll Roads as well as the projected changes in the Levels of Service during the coming twelve (12) months; (iii) traffic volume forecasts for the entire Reporting Year; and (iv) actual traffic counts for each month in the preceding quarterly period.

The Concessionaire shall provide such reports to the Authority within twenty (20) Business Days following the end of each calendar quarter of each Reporting Year.

(c) *Incident Management, Notifications and Reports.* The Concessionaire shall promptly notify the Authority of all incidents, including emergencies and accidents for which a report must be filed pursuant to Article 4.07 of the Act No. 22 of the Legislative Assembly of Puerto Rico, enacted on January 7, 2000, 9 P.R. Laws, Ann. § 5107, as amended, also known as the Vehicle and Traffic Law of Puerto Rico, occurring on or at the Toll Roads, and of all claims made by or against the Concessionaire, or potential claims that the Concessionaire reasonably expects to make against, or to be made against it by, third parties. In addition, the Concessionaire shall provide to the Authority a quarterly report of all such incidents, including the following details in a format agreed to by the Authority prior to the Closing Date: (i) type of incident (e.g., human bodily injury, human death or property damage) and summary of each such incident; (ii) classification of incident (e.g., road-related, barrier hit, right-of-way or other); (iii) number of incidents by type and classification; (iv) costs to correct incidents by type and classification; (v) claims made by the Concessionaire and revenue received by type and classification; and (vi) claims made against the Concessionaire and losses incurred or losses claimed by type and classification. The Concessionaire shall provide such report to the Authority within twenty (20) Business Days following the end of each calendar quarter of each Reporting Year.

(d) *Environmental Incident Report.* The Concessionaire shall report to the Authority, on a per occurrence basis, the release, discharge, dumping, spilling (accidental or otherwise) of any reportable quantity, as defined under applicable Environmental Law, of Hazardous Substances occurring on or at the Toll Roads and the location at which the incident has occurred, the time, the agencies involved, the damage that has occurred and, if applicable, the remedial action taken. The Concessionaire shall provide such report to the Authority within seven (7) Business Days following the occurrence of each incident or such shorter time period as may be required pursuant to applicable Law. This reporting obligation shall be in addition to any other reporting obligation required by Environmental Laws.

(e) *Financial Reports.* Until the End Date, the Concessionaire shall deliver to the Authority (i) within sixty (60) days after the end of each six-month period following the first day of each Reporting Year, a copy of the unaudited balance sheets of the Concessionaire at the end of each such six-month period and the related unaudited statements of income, changes in equity and cash flows for such six-month period, in a manner and containing information consistent with the Concessionaire's current practices and (ii) within one hundred twenty (120) days after the end of each Reporting Year a copy of the audited balance sheets of the Concessionaire at the end of each such Reporting Year, and the related audited statements of income, changes in equity and cash flows for such Reporting Year, including in each case the notes thereto, in each case prepared in accordance with generally accepted accounting principles consistently applied in the United States and certified by the Concessionaire's chief financial officer that such financial statements fairly present the financial condition and the results of operations, changes in equity and cash flows of the Concessionaire as at the respective dates of and for the periods referred to in such financial statements, all in accordance with generally accepted accounting principles in the United States consistently applied. Such financial

statements shall reflect the consistent application of such accounting principles throughout the periods involved, except as disclosed in the notes to such financial statements. In addition to the foregoing, together with the financial statements identified in clause (ii) of this Section 8.1(e), the Concessionaire shall provide an opinion thereon of an independent public accountant of national stature in the United States of America engaged by the Concessionaire.

Section 8.2 Information.

(a) *Furnish Information.* At the request of the Authority or any other Governmental Authority of competent jurisdiction (each, an "Authorized Auditor"), the Concessionaire shall, at the Concessionaire's cost and expense and at any and all reasonable times during the Term: (i) make available or cause to be made available (and, if requested by such Authorized Auditor, furnish or cause to be furnished) to such Authorized Auditor all Information relating to the Toll Road Operations, this Agreement or the Toll Roads as may be specified in such request and as shall be in the possession or control of the Concessionaire or its Representatives; and (ii) permit such Authorized Auditor, after having provided ten (10) Business Days' prior notice to the Concessionaire (which notice shall identify the persons such Authorized Auditor requests to be present for an interview and describe with reasonable specificity the subject matter to be raised in the interview), to discuss the obligations of the Concessionaire under this Agreement with any of the directors, chief executive officer and chief financial officer of the Concessionaire, the Operator or their respective Representatives, for the purpose of enabling such Authorized Auditor to determine whether the Concessionaire is in compliance with this Agreement and applicable Law.

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(b) *Confidentiality.* Unless disclosure is required by applicable Law, the Authority shall keep confidential any Information obtained from the Concessionaire or its Representatives that (i) constitutes trade secrets or commercial or financial information (A) where the trade secrets or commercial or financial information are proprietary, privileged or confidential or (B) where disclosure of the trade secrets or commercial or financial information may cause competitive harm and (ii) is designated as confidential by the Concessionaire in writing to the Authority. In the event that the Concessionaire requests the Authority to defend an action seeking the disclosure of Information that the Authority determines to be confidential pursuant to this Section 8.2(b), the Concessionaire shall reimburse the Authority for the reasonable costs and expenses incurred by the Authority in defending any such action. This Section 8.2(b) shall not apply to any Information that (w) is already in the possession of the Authority; *provided* that such information is not known by the Authority to be subject to another confidentiality agreement with or other obligations of secrecy to the Concessionaire or another party; (x) becomes generally available to the public other than as a result of a disclosure by the Authority or their Representatives in violation of the terms of this Section 8.2(b); (y) becomes available to the Authority on a non-confidential basis from a source other than the Concessionaire or its advisors; *provided* that such source is not known by the Authority to be bound by a confidentiality agreement with or other obligation of secrecy to the Concessionaire or another party or (z) is independently developed by the Authority or its Representatives.

Section 8.3 Inspection, Audit and Review Rights of the Authority

(a) *Audit Right.* In addition to the rights set out in Section 8.2, any Authorized Auditor may, at all reasonable times, upon three (3) days' prior notice, or may cause a Representative designated by it to, carry out subject to Section 8.2(b): (i) an Audit of the Information required to be maintained or delivered by the Concessionaire under this Agreement in connection with the performance of the Toll Road Operations for the purpose of verifying the information contained therein; and (ii) any Audit required by the Act. The Concessionaire, at its own cost and expense, shall, at reasonable times, make available or cause to be made available to such Authorized Auditor or its designated Representative such reasonable information and material as may reasonably be required by such Authorized Auditor or its designated Representative for purposes of such Audit and otherwise provide such cooperation as may be reasonably required by such Authorized Auditor in connection with the same. Such Authorized Auditor shall be entitled to make copies of the Information related to the conduct of such Audit and to take extracts therefrom at such Authorized Auditor's expense.

(b) *Inspection Right.* Each Authorized Auditor and its Representatives shall, at all times, have access to the Toll Roads and every part thereof and the Concessionaire, at the reasonable cost and expense of the Concessionaire, shall and shall cause its Representatives to, furnish each Authorized Auditor with every reasonable assistance for inspecting the Toll Roads and the Toll Road Operations for the purpose of Auditing the Information or ascertaining compliance with this Agreement and applicable Law.

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(c) *Tests.* Any Authorized Auditor and its Representatives shall, with the prior consent of the Concessionaire (which shall not be unreasonably withheld, conditioned or delayed) be entitled, at the sole cost and expense of such Authorized Auditor, and at any time and from time to time, to perform or cause to be performed any test, study or investigation in connection with the Toll Roads or the Toll Road Operations as such Authorized Auditor may determine to be reasonably necessary in the circumstances and the Concessionaire, at its own cost and expense, shall, and shall cause its Representatives to, furnish such Authorized Auditor or its Representatives with every reasonable assistance in connection with the carrying out of such tests, procedures, studies and investigations. In connection with the foregoing, such Authorized Auditor and its Representatives shall, with the prior consent of the Concessionaire (which shall not be unreasonably withheld, conditioned or delayed), be entitled to install machines, equipment, systems, monitors, counters and other devices in, on, under, over or adjacent to the Toll Roads to permit and facilitate any test, study, monitor, review or investigation of or relating to the Toll Road Operations to the extent that the same does not materially interfere with the Toll Road Operations or damage the Toll Roads.

(d) *No Waiver.* Failure by any Authorized Auditor or its Representatives to inspect, review, test or Audit the Concessionaire's responsibilities under this Agreement or any part thereof or the Information, shall not constitute a waiver of any of the rights of any Authorized Auditor hereunder or any of the obligations or liabilities of the Concessionaire hereunder. Inspection, review, testing or Audit not followed by a notice of Concessionaire Default shall not constitute a waiver of any Concessionaire Default or constitute an acknowledgement that there has been or will be compliance with this Agreement and applicable Law.

(e) *No Undue Interference.* In the course of performing its inspections, reviews, tests and audits hereunder, each Authorized Auditor shall use its Reasonable Efforts to minimize the effect and duration of any disruption to or impairment of the Toll Road Operations or the Concessionaire's rights or responsibilities under this Agreement, having regard to the nature of the inspections, reviews, tests and audits being performed.

Section 8.4 Audits, Assistance, Inspections and Approvals. Wherever in this Agreement reference is made to any Authorized Auditor or its Representatives providing assistance, services, Approvals or Consents to or on behalf of the Concessionaire or its Representatives or to any Authorized Auditor or its Representatives performing an Audit or inspecting, testing, reviewing or examining the Toll Roads, the Toll Road Operations or any part thereof or the books, records, documents, budgets, proposals, requests, procedures, certificates, plans, drawings, specifications, contracts, agreements, schedules, reports, lists or other instruments of the Concessionaire or its Representatives, such undertaking by such Authorized Auditor or its Representatives shall not relieve or exempt the Concessionaire from, or represent a waiver of, any requirement, liability, Concessionaire Default, covenant, agreement or obligation under this Agreement or at law or in equity and shall not create or impose any requirement, liability, covenant, agreement or obligation (including an obligation to provide other assistance, services or Approvals) on any Authorized Auditor or its Representatives not otherwise created or imposed pursuant to the express provisions of this Agreement.

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Section 8.5 Reimbursement of Costs. Except as otherwise provided herein, the Concessionaire shall reimburse each Authorized Auditor for all documented costs and expenses reasonably incurred by such Authorized Auditor during the Term (including employment costs and related overhead expenses allocable thereto, as reasonably determined by such Authorized Auditor based on the time expended by the employees who render such services to such Authorized Auditor) in monitoring the Toll Road Operations and the Concessionaire's compliance with its obligations and duties hereunder (including any Audits, tests, reviews or exams of the Toll Roads, the Toll Road Operations (or any part thereof), any information or the proposals, requests, procedures, certificates, plans, drawings, specifications, contracts, agreements, schedules, reports, lists or other instruments of the Concessionaire or its Representatives required or permitted to be provided or undertaken hereunder or required pursuant to the Act); *provided, however,* that the aggregate amount payable by the Concessionaire pursuant to this Section 8.5 and any other provision set forth in this Agreement that requires the Concessionaire to reimburse such Authorized Auditor for costs and expenses incurred in connection with the matters set forth in this Agreement (including Section 8.3(b), but excluding payments described in Section 3.7(a)(ii) and (iii), Section 3.16, Section 8.2(b), and Section 18.5(c)) shall not exceed five hundred thousand dollars (\$500,000) per calendar year. The not-to-exceed amount described in the immediately preceding sentence shall be increased as of January 1 of the calendar year immediately following the Closing Date; *provided* that the period between the Closing Date and the following January 1 is a full calendar year, and as of January 1 of each calendar year thereafter by the greater of (i) zero and (ii) the percentage increase in the Index between Index for October of the second immediately preceding year and Index for October of the immediately preceding year. For illustration, if the not-to-exceed amount is to be increased as of January 1, 2030, such amount would be increased by the greater of zero and the percentage increase in the Index between the Index for October 2028 and the

Index for October 2029. The not-to-exceed amount to be adjusted shall be based on the results of the calculation from the preceding review period, and no adjustment shall be made in periods that are less than one full calendar year.

ARTICLE 9

REPRESENTATIONS AND WARRANTIES

Section 9.1 Representations and Warranties of the Authority. The Authority makes the following representations and warranties to the Concessionaire and acknowledges that the Concessionaire and its Representatives are relying upon such representations and warranties in entering into this Agreement:

(a) *Organization.* The Authority is an instrumentality of the Commonwealth.

(b) *Power and Authority.* The Authority has the power and authority to enter into this Agreement and each of the Other Authority Agreements and to do all acts and things and execute and deliver all other documents as are required hereunder and thereunder to be done, observed or performed by it in accordance with the terms hereof or thereof. The Authority has approved the execution and delivery of this Agreement and each of the Other Authority Agreements and authorized the performance of its obligations hereunder and thereunder.

(c) *Enforceability.* This Agreement and each of the Other Authority Agreements has been duly authorized, executed and delivered by the Authority and constitutes a valid and legally binding obligation of the Authority, enforceable against the Authority in accordance with the terms hereof or thereof, subject only to (i) the effect of bankruptcy, insolvency, reorganization, moratorium, or other similar requirements of Law and judicial decisions now or hereafter in effect affecting, generally, the enforcement of creditor's rights and remedies; (ii) the effect of requirements of Law governing equitable remedies and defenses, and the discretion of any court of competent jurisdiction in awarding equitable remedies, including the doctrine of sovereign immunity (except to the extent waived by the Act or other applicable Law); and (iii) the effect of requirements of Law governing enforcement and collection of damages against the Authority; *provided, however*, that the enforcement of any Claims presented in accordance with this Agreement shall be resolved as provided herein.

(d) *Title.* The Authority has good and sufficient title to and/or sufficient rights with respect to, the Toll Roads and the Toll Road Assets, in each case, as necessary to fulfill its obligations under Article 2 and for the Toll Road Operations pursuant to this Agreement, subject only to Permitted Authority Encumbrances and Permitted Concessionaire Encumbrances (other than the Permitted Concessionaire Encumbrances specified in clause (vii) of the definition of the term "Permitted Concessionaire Encumbrance"). The Toll Road Land identified in Schedule 3 constitutes, as of the Time of Closing, the real property necessary for the Toll Road Operations as conducted on the Bid Date. Subject to any and all Permitted Authority Encumbrances and Permitted Concessionaire Encumbrances (other than the Permitted Concessionaire Encumbrances specified in clause (vii) of the definition of the term "Permitted Concessionaire Encumbrance") existing at the Time of Closing, there is no recorded or unrecorded agreement, contract, option, commitment, right, privilege or other right of another

binding upon, or which at any time in the future may become binding upon, the Authority to sell, transfer, convey, subject to lien, charge, grant a security interest in, or in any other way dispose of or materially encumber the Toll Roads or the Toll Road Assets or any material portion thereof. The recorded or unrecorded restrictions, exceptions, easements, rights of way, reservations, limitations, interests and other matters that affect title to the Toll Roads, the Toll Road Assets or any portion thereof do not and will not materially adversely affect the Concessionaire's ability to operate the Toll Roads and use the Toll Road Assets (in whole or in part) in accordance with the terms hereof. Following the redemption, defeasance, refunding or cancellation of the bonds identified in the certificate signed by the Trustee as referenced in Section 2.4(a)(v), no indebtedness for borrowed money or any other obligation of the Authority or any Governmental Authority will be secured by any interest in the Toll Roads or the Toll Road Assets and no Person will have any claim or right to, or interest in, any income, profits, rents, tolls or revenue derived from or generated with respect to the Toll Roads or the Toll Road Assets (other than the Authority and the Concessionaire under this Agreement and any claims, rights or interests granted by or otherwise relating to the Concessionaire). For purposes of this Section 9.1(d), the term "Toll Roads" excludes any land used for an Expansion contemplated hereunder and includes only those parcels of real property described in Schedule 3.

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(e) *No Conflicts.* The execution and delivery of this Agreement and each of the Other Authority Agreements by the Authority, the consummation of the transactions contemplated hereby and thereby (including the operation of the Toll Roads in accordance with the terms of this Agreement) and the performance by the Authority of the terms, conditions and provisions hereof and thereof has not and will not contravene or violate or result in a breach of (with or without the giving of notice or lapse of time, or both) or acceleration of any material obligations of the Authority under (i) any applicable Law or (ii) any agreement, instrument or document to which the Authority is a party or by which the Authority is bound.

(f) *Certain Consents; Notice.* No Consent is required to be obtained by the Authority from, and, except for the filings described in Section 2.4(a)(vii) and Section 2.4(a)(viii), no notice or filing is required to be given by the Authority to or made by the Authority with, any Person (including any Governmental Authority) in connection with the execution or delivery of this Agreement and each of the Other Authority Agreements.

(g) *Compliance with Law; Litigation.*

(i) The Authority is operating the Toll Roads and each of the Toll Road Assets in compliance, in all material respects, with all applicable Laws and the Authority is not in breach of any applicable Law that would have a Material Adverse Effect. The Authority possesses all Authorizations from any Governmental Authority necessary, in all material respects, for the operation of the Toll Roads or the Toll Road Assets as currently being operated.

(ii) There is no action, suit or proceeding, at law or in equity, or before or by any Governmental Authority, pending nor, to the best of the Authority's actual knowledge, threatened against the Authority, which would (A) have a Material Adverse Effect or (B) materially affect the validity or enforceability of this Agreement or any of the Other Authority Agreements.

(iii) The legislation described in Section 9.1(h) is not subject to any preliminary or permanent injunction or temporary restraining order or other order issued by a Governmental Authority of competent jurisdiction challenging its legality, constitutionality or effectiveness.

(iv) The Authority has complied with all applicable Laws related to the negotiation, authorization and execution of the Concession Agreement.

(h) *Public-Private Partnerships Act.* The Legislative Assembly of Puerto Rico has duly enacted into law the Act which remains in full force and effect. The Act (i) authorizes the Authority to enter into this Agreement and grant the Concession, (ii) authorizes the exemption from Taxes contemplated by Section 3.10(b)(i) and (ii), and (iii) provides that the Concessionaire shall have the authority to establish tolls or other user fees in connection with the Toll Roads, pursuant to this Agreement. This Agreement is a "Partnership Contract" under the Act and a recordable "administrative concession" under the PR Mortgage and Property Registry Law.

(i) *Contracts.* Each of the Assigned Contracts and the Other Authority Agreements is in full force and effect as of the Effective Date and, to the extent that any Assigned Contract is not assignable in accordance with Section 2.1(b), the failure to assign such Assigned Contract will not have a Material Adverse Effect. The Authority is not in material breach of its obligations under any Assigned Contract or Other Authority Agreement as of the Effective Date and no act or event has occurred which, with notice or lapse of time, or both, would constitute a material breach thereof by the Authority, and to the actual knowledge of the Authority no other party to any Assigned Contract or Other Authority Agreement as of the Effective Date is in material breach of its obligations under such contract, and to the actual knowledge of the Authority, no act or event has occurred with respect to any such party, which with notice or lapse of time, or both, would constitute a material breach thereof.

(j) *Insurance Policies.* All insurance policies in effect as of the Bid Date are in full force and effect with respect to the period between the Bid Date and the Time of Closing.


(k) *Brokers.* Except for J.P. Morgan Securities LLC, whose fees shall not be paid by the Concessionaire, there is no investment banker, broker or finder who has been retained by or is authorized to act on behalf of the Authority who might be entitled to any fee or commission from the Authority in connection with the transactions contemplated by this Agreement.

(l) *Accuracy of Information.* To the actual knowledge of the Authority, the factual and past historical information regarding the Toll Roads, its operations and the Toll Road Assets that the Authority provided to the Concessionaire in the Data Room was accurate in all material respects (i) as of its date or (ii) if undated, as of the date such information was provided, in each instance subject to any modifications or revisions to such information that have been provided by the Authority in the Data Room or otherwise disclosed to the Concessionaire in writing on or prior to the Setting Date, and the Authority makes no additional representation or warranty with respect to such information.

(m) *Material Adverse Effect.* Since the Setting Date through and including the Closing Date, no transaction or occurrence has taken place that has resulted or is reasonably likely to result in a Material Adverse Effect.

As used herein, "to the actual knowledge of the Authority" shall mean the current, actual knowledge of the Executive Director, the Deputy Director, the Director of Highways Area, the Auxiliary Executive Director of Finance and Administration, the Director of Programing and Special Studies and the Director of the Concession and Service Management Office, without implying any duty of investigation or inquiry. The Authority warrants and represents that the Executive Director, the Deputy Director, the Director of Highways Area, the Auxiliary Executive Director of Finance and Administration, the Director of Programing and Special Studies and the Director of the Concession and Service Management Office are the persons most knowledgeable at the Authority regarding the Transaction.

Section 9.2 Representations and Warranties of the Concessionaire. The Concessionaire makes the following representations and warranties to the Authority (and acknowledges that the Authority is relying upon such representations and warranties in entering into this Agreement):

 (a) *Organization.* The Concessionaire is duly organized, validly existing and in good standing under the laws of the state of its organization and is duly qualified to conduct business in the Commonwealth. Except as disclosed in the written certification that the Concessionaire delivered to the Authority prior to the Bid Date (or, to the extent changes in ownership of the Concessionaire are made prior to Closing that would be permitted under the definition of "Change in Control," the Closing Date), no Person owns, directly or indirectly, 10% or more of the capital stock, units, partnership or membership interests and other equity interests or securities of the Concessionaire or the Operator (including options, warrants and other rights to acquire any such equity interests).

(b) *Power and Authority.* The Concessionaire has the power and authority to enter into this Agreement and each of the Escrow Agreements and to do all acts and things and execute and deliver all other documents as are required hereunder or thereunder to be done, observed or performed by it in accordance with the terms hereof or thereof.

(c) *Enforceability.* This Agreement and each of the Escrow Agreements has been duly authorized, executed and delivered by the Concessionaire and constitutes a valid and legally binding obligation of the Concessionaire, enforceable against it in accordance with the terms hereof or thereof, subject only to applicable bankruptcy, insolvency and similar laws affecting the enforceability of the rights of creditors generally and to general principles of equity.

(d) *No Conflicts.* The execution and delivery of this Agreement and each of the Escrow Agreements by the Concessionaire, the consummation of the transactions contemplated hereby and thereby and the performance by the Concessionaire of the terms, conditions and provisions hereof and thereof has not and will not contravene or violate or result in a material breach of (with or without the giving of notice or lapse of time, or both) or acceleration of any material obligations of the Concessionaire under (i) any applicable Law, (ii) any material agreement, instrument or document to which the Concessionaire or any Equity

Participant is a party or by which it is bound or (iii) the articles, bylaws or governing documents of the Concessionaire and each of the Equity Participants.

(e) *Consents.* No Consent is required to be obtained by the Concessionaire or any Equity Participant from, and no notice or filing is required to be given by the Concessionaire or any Equity Participant to or made by the Concessionaire or any Equity Participant with, any Person (including any Governmental Authority) in connection with the execution and delivery by the Concessionaire of this Agreement and each of the Escrow Agreements or the consummation of the transactions contemplated hereby or thereby, except for such consents which have been obtained and notices of filings which have been given as of the date hereof or such other consents which are not required to be obtained as at the date hereof and are expected to be obtainable following the date hereof.

(f) *Compliance with Law; Litigation.* The Concessionaire is not in breach of any applicable Law that could have a material adverse effect on the ability of the Concessionaire to comply with its obligations under this Agreement or any of the Escrow Agreements. There is no action, suit or proceeding, at law or in equity, or before or by any Governmental Authority, pending nor, to the Concessionaire's knowledge, threatened against the Concessionaire or any Equity Participant, that would have a material adverse effect on (i) the Transactions contemplated by this Agreement or any of the Escrow Agreements or (ii) the validity or enforceability of this Agreement or any of the Escrow Agreements.

(g) *Code of Ethics.* The Concessionaire acknowledges, represents and warrants that no official or employee of the Authority has a direct or indirect economic interest in the Concessionaire's rights under this Agreement or any of the Escrow Agreements in accordance with the provisions of Title III of Act No. 2, also known as the Code of Ethics for Contractors ("Code of Ethics"). The Concessionaire certifies it has received a copy of, read, and understands the Code of Ethics and will comply with it in its entirety.

(h) *Criminal Proceedings.*

(i) The Concessionaire warrants and certifies that as of the Effective Date and for the preceding ten (10) years, neither it nor its directors, members, partners, and officers (or any person that holds a position with the Concessionaire equivalent to any of the foregoing), nor, to its knowledge, any of its Affiliates (other than Affiliates controlled by Equity Participants) (each, a "Covered Party") nor any of its Equity Participants (or Affiliates controlled thereby), has been convicted, has entered a plea of guilty or *nolo contendere* or has been indicted in any criminal procedure in any State, Commonwealth or federal court or in any foreign country for criminal charges related to acts of corruption, the public treasury, the public trust, a public function, or charges involving public funds or property, or for any Specified Public Integrity Crime.

(ii) Neither the Concessionaire nor, to the knowledge of the Concessionaire, any of its officers, directors or Equity Participants has been convicted of offenses against public integrity, as defined in the Puerto Rico Penal Code, or of embezzlement of public funds, and neither the Concessionaire nor any of its officers, directors or Equity Participants has been found guilty of any such type of offense in the Courts of the

Commonwealth of Puerto Rico, the federal courts or any court of any jurisdiction of the United States of America.

(i) *Representation in the Oversight Board's Certification.* The information included in the Contractor Certification Requirements, as included in Appendix C of the Contract Review Policy (the "Oversight Board Certification"), completed by the Concessionaire, is complete, accurate and correct.

(j) *Economic Sanctions.* None of the Concessionaire, any Equity Participant (or Affiliates controlled thereby), or their respective directors, members, partners, officers, employees, controlling shareholders, or to the knowledge of the Concessionaire, any of its Affiliates (other than Affiliates controlled by Equity Participants), or their respective directors, members, partners, officers, employees, controlling shareholders, or any agents, representatives, or other persons acting on their behalf, are: (1) Sanctioned Persons; (2) located, organized, or ordinarily resident in a Sanctioned Jurisdiction; or (3) owned or controlled, directly or indirectly, individually or in aggregate, by any Sanctioned Persons. Each of the Concessionaire, any Equity Participant (or Affiliates controlled thereby), and their respective directors, members, partners, officers, employees, controlling shareholders, and to the knowledge of the Concessionaire, any of its Affiliates (other than Affiliates controlled by Equity Participants), or their respective directors, members, partners, officers, employees, controlling shareholders, and any agents, representatives, or other persons acting on their behalf are in compliance with applicable Sanctions. Neither the Concessionaire, nor any Equity Participant (or Affiliates controlled thereby), nor, to the knowledge of the Concessionaire, any of its Affiliates (other than Affiliates controlled by Equity Participants), has been subject to any legal proceedings or made any disclosures to any Governmental Authority relating to violations of applicable Sanctions. None of the Concessionaire, any of its Affiliates, or Equity Participants is an "Entidad rusa colaboradora" (collaborating Russian entity) as that term is defined in Section 5 of Puerto Rico Executive Order OE-2022-018.

(k) *Brokers.* Except for any broker or advisor whose fees will be paid by the Concessionaire or its Affiliates, there is no investment banker, broker, finder or other intermediary which has been retained by or is authorized to act on behalf of the Concessionaire, any Equity Participant or any of their respective Affiliates who might be entitled to any fee or commission in connection with the transactions contemplated by this Agreement.

(l) *Accuracy of Information.* To the knowledge of the Concessionaire, all information regarding the Concessionaire and the Operator provided to the Authority by the Concessionaire or on behalf of the Concessionaire or the Operator was accurate in all material respects at the time such information was provided and continues to be accurate in all material respects as of the Effective Date.

Section 9.3 Tax Filings.

(a) The Concessionaire for itself and each of its Equity Participants (if the Concessionaire is a conduit entity under the PR Code) represents that as of the date of this Agreement (x) neither it nor any of its Equity Participants has any outstanding debts for unemployment insurance, temporary disability (workmen's compensation), chauffeur's social

security with the Puerto Rico Department of Labor and Human Resources, income taxes with the PR Department of Treasury, or real or personal property taxes with the Municipal Revenues Collection Center (the "CRIM") or (y) it or its Equity Participants have a payment plan in place with respect to any outstanding debt for the foregoing items and have complied therewith.

(b) The Concessionaire acknowledges and agrees that it shall obtain and deliver to the Authority, in each case dated not earlier than sixty (60) days prior to the Closing Date, the following:

(i) A copy of the Concessionaire's Merchant's Registration Certificate.

(ii) Certifications of filing of income and sales and use tax returns, issued by the Internal Revenue Division of the PR Department of Treasury, or a certification by the Concessionaire and each of its Equity Participants (if the Concessionaire is a conduit entity under the PR Code) that as of the date of this Agreement it does not have and has not had to submit income or sales and use tax returns and pay taxes in the Commonwealth during the past five (5) years.

(iii) A no taxes debt due certificate, or payment plan and compliance therewith, issued by the Internal Revenue Division of the PR Department of Treasury.

(iv) A certificate of no debt, or payment plan and compliance therewith, with respect to real and personal property taxes issued by the CRIM.

(v) A certificate of no debt, or payment plan and compliance therewith, for unemployment insurance, temporary disability (workmen's compensation) and chauffeur's social security issued by the Puerto Rico Department of Labor and Human Resources.

(vi) A certification issued by the Puerto Rico Child Support Administration reflecting that the Concessionaire is in compliance with the withholdings required to be made by employers under applicable Law.

Section 9.4 Non-Waiver. No investigations made by or on behalf of any Party at any time shall have the effect of waiving, diminishing the scope of or otherwise affecting any representation or warranty made by the other Party in this Agreement or pursuant to this Agreement. No waiver by a Party of any condition, in whole or in part, shall operate as a waiver of any other condition.

Section 9.5 Survival.

(a) *Authority's Representations and Warranties.* The representations and warranties of the Authority contained in Article 9 shall survive and continue in full force and effect for the benefit of the Concessionaire as follows: (i) as to the representations and warranties contained in Sections 9.1(a) through (h) (inclusive) without time limit; and (ii) as to all other matters, for the period that runs from the Closing Date until the first anniversary of the Closing,

unless a *bona fide* notice of a Claim under Section 12.2 shall have been given, in writing in accordance with Article 20, prior to the expiry of such period, in which case the representation and warranty to which such notice applies shall survive in respect of that Claim until the final determination or settlement of that Claim; *provided* such determination or settlement is being pursued diligently and in good faith by the applicable Party.

(b) *Concessionaire's Representations and Warranties.* The representations and warranties of the Concessionaire contained in Section 9.2 shall survive and continue in full force and effect for the benefit of the Authority as follows: (i) as to the representations and warranties contained in Sections 9.2(a) through (j) (inclusive), without time limit; and (ii) as to all other matters, for a period that runs from the Closing Date until the first anniversary of the Closing unless a *bona fide* notice of a Claim under Section 12.2 shall have been given, in writing in accordance with Article 20, prior to the expiry of such period, in which case the representation and warranty to which such notice applies shall survive in respect of that Claim until the final determination or settlement of that Claim; *provided* such determination or settlement is being pursued diligently and in good faith by the applicable Party.

Section 9.6 Operator. To the extent the Operator is not the Concessionaire, the Concessionaire shall cause the Operator to deliver to the Authority at the Closing a certificate executed by an officer of the Operator with knowledge of the matters contained therein in form and substance acceptable to the Authority in which the Operator represents and warrants as follows: (i) the Operator is duly organized, validly existing and in good standing under the laws of the state of its organization and is duly qualified to conduct business in the Commonwealth; (ii) except as disclosed in the written certification that the Concessionaire delivered to the Authority prior to the Bid Date (or, to the extent changes in ownership of the Operator are made prior to Closing that would be permitted under the definition of "Change in Control," the Closing Date), no Person owns, directly or indirectly, ten percent (10%) or more of the capital stock, units, partnership or membership interests and other equity interests or securities of the Operator (including options, warrants and other rights to acquire any such equity interests); (iii) the Operator has the power and authority to do all acts and things and execute and deliver all other documents as are required hereunder to be done, observed or performed by it in connection with its engagement by the Concessionaire; (iv) the Operator has all necessary expertise, qualifications, experience, competence, skills and know-how to perform the Toll Road Operations in accordance with this Agreement; (v) the Operator is not in breach of any applicable Law that could have a material adverse effect on its ability to operate the Toll Roads; (vi) neither the Operator, any Affiliate of the Operator controlled by Equity Participants nor any other Person who holds any shares of capital stock or securities of, or units, partnership, membership interests or other equity interest in the Operator, nor their respective directors, members, partners, officers, employees, or to the knowledge of the Operator, any of its Affiliates (other than Affiliates controlled by Equity Participants), their respective directors, members, partners, officers, employees, controlling shareholders, and any agents, representatives, or other persons acting on their behalf, are: (1) Sanctioned Persons; (2) located, organized, or ordinarily resident in a Sanctioned Jurisdiction; or (3) owned or controlled, directly or indirectly, individually or in aggregate, by any Sanctioned Persons. The Operator, any of its Affiliates controlled by Equity Participants, and their respective directors, members, partners, officers, employees, controlling shareholders, and to the knowledge of the Operator, any of its Affiliates

(other than Affiliates controlled by Equity Participants), their respective directors, members, partners, officers, employees, controlling shareholders, and any agents, representatives, or other persons acting on their behalf are in compliance with applicable Sanctions. Neither the Operator nor any of its Affiliates has been subject to any legal proceedings or made any disclosures to any Governmental Authority relating to violations of applicable Sanctions. Neither the Operator nor any of its Affiliates is an "Entidad rusa colaboradora" (collaborating Russian entity) as that term is defined in Section 5 of Puerto Rico Executive Order OE-2022-018; (vii) there is no action, suit or proceeding, at law or in equity, or before or by any Governmental Authority, pending nor, to the best of the Operator's knowledge, threatened against the Operator, that would have a material adverse effect on the Operator's ability to operate the Toll Roads; and (viii) the Operator is in compliance with the Commonwealth Contractor Requirements and provides to the Authority the sworn statements and certificates required thereby. The same officer of the Operator shall also deliver to the Authority at the Closing the Sworn Statement for Closing.

ARTICLE 10

FINANCE OBLIGATIONS

Section 10.1 Concessionaire's Obligations. Except in those instances where the Authority is required to provide the funding of costs and expenses related to the Authority's obligations under Section 2.5(i), Article 4 or Modifications as contemplated by Article 5, the Concessionaire shall be responsible for obtaining any financing for the performance of its obligations under this Agreement, which financing shall comply with all requirements of this Agreement.

Section 10.2 Authority's Obligations.

(a) The Authority shall, to the extent consistent with applicable Law and at the sole cost and expense of the Concessionaire, cooperate with the Concessionaire with respect to documentation and other actions reasonably and customarily necessary to obtain, maintain, add to or replace financing (including any private activity bond financings and any full or partial refinancings of any existing financing) for the performance of the obligations of the Concessionaire hereunder. The Authority's cooperation shall include, but not be limited to, as applicable, (i) reviewing, approving, executing and delivering documents which substantiate the terms of this Agreement (including any consents, certificates and agreements necessary to confirm that the debt evidenced by the relevant financing constitutes Concession Mortgage Debt, if applicable), (ii) acting as a Conduit Issuer for purposes of any issuance of private activity bonds constituting Concession Mortgage Debt or facilitating the engagement of a Conduit Issuer for such purposes (to the extent any such facilitation is reasonably required if the Authority reasonably determines that it will not act as such Conduit Issuer), (iii) responding to reasonable requests for available information and material to furnish to any proposed Concession Mortgagee to facilitate financing to the extent permitted by applicable Law and contractual obligations with third parties and to the extent the Authority considers such requests reasonable under the circumstances, and (iv) providing certificates or other deliverables related to such financings as may be reasonably requested by the Concessionaire from the Authority as being required by applicable Law or contractual obligations with third parties and to the extent the Authority considers such requests reasonable under the circumstances; *provided, however*, that nothing

herein shall obligate the Authority to consent to service of process, to become subject to any legal process in any jurisdiction other than in the Commonwealth, or to enter into any agreement not governed by the Laws of the Commonwealth. Any agreement entered into under this Section 10.2 shall be subject to review for form and legality by the General Counsel of the Authority. If requested to do so by the Concessionaire, the Authority shall, at the sole cost and expense of the Concessionaire, use its Reasonable Efforts to cause the Authority's then independent public accountants to consent to the use and inclusion of certain financial information regarding the Toll Roads in connection with the Concessionaire's public or private offering of securities, as the case may be. In addition, the Authority shall, promptly upon the request of the Concessionaire or any Concession Mortgagee, execute, acknowledge and deliver to the Concessionaire, or any of the parties specified by the Concessionaire, standard consents and estoppel certificates with respect to this Agreement which may be qualified to the best of the knowledge and belief of a designated representative of the Authority. Nothing herein shall require the Authority to incur any additional obligations or liabilities or to take any action, give any consent or enter into any document inconsistent with or in violation of any applicable Law or the provisions of this Agreement. Nothing in this Agreement shall prohibit or prevent the Authority from issuing bonds or entering into additional obligations to finance Modifications (*provided* that any and all works or improvements resulting from such Modification shall be for the sole use of the Concessionaire in accordance with this Agreement). The Authority acknowledges and agrees that any new debt or other obligations undertaken by the Authority after the Effective Date may not be secured by any of the Toll Road Land, the Toll Road Facilities or the Toll Road Assets or the Toll Road Revenues.

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(b) If the Concessionaire reasonably believes that it is or may become eligible for federal financing or funding assistance in the performance of its obligations under this Agreement or that the Authority is or may become eligible for such federal financing or funding assistance with respect to the Toll Roads, it may request the assistance and cooperation of the Authority in seeking such assistance. In such event, upon agreement by the Concessionaire to reimburse the Authority for all related costs and expenses incurred by the Authority and subject to such other conditions and additional limitations as the Authority may require, the Authority shall use Reasonable Efforts to cooperate with the Concessionaire to obtain such financing or funding assistance. For purposes of this Section 10.2(b), "federal financing or funding assistance" shall mean (i) assistance under the Transportation Infrastructure Finance and Innovation Act of 1988, as amended, or any similar federal program, (ii) grant or other funding assistance from any federal agency, including under any emergency or disaster response or recovery program administered by the Federal Emergency Management Agency, and (iii) allocation of federal volume ceiling for tax-exempt private activity bonds for surface transportation projects by the United States Department of Transportation under Section 142(m)(2)(C) of the U.S. Code. Nothing in this Section 10.2(b) shall obligate the Authority (1) to advocate or recommend the enactment or adoption of any federal or Commonwealth legislation or regulations, (2) to make or recommend an allocation of the Commonwealth's private activity bond ceiling under Section 146 of the U.S. Code, or any similar provision, including provisions related to tax credit bonds, or (3) to cooperate with the Concessionaire in connection with obtaining any federal financing or funding assistance if (A) the Authority has, or reasonably expects to have, a competing application for such federal financing assistance that could be adversely impacted, (B) the Authority is required to commit to the expenditure or

allocation of Authority highway funds or other funds in connection with such request, or (C) such financing or funding assistance could reasonably be expected to have a material adverse effect on the credit rating of the Commonwealth or the Authority.

Section 10.3 Concessionaire's Obligation for Estoppel Certificates. The Concessionaire shall, promptly upon the request of the Authority, execute and deliver to the Authority, or any of the parties specified by the Authority, standard consents and estoppel certificates with respect to this Agreement which may be qualified to the best of the knowledge and belief of a designated representative of the Concessionaire. Nothing herein shall require the Concessionaire to incur any additional obligations or liabilities or to take any action, give any consent or enter into any document inconsistent with applicable Law and the provisions of this Agreement.

ARTICLE 11

COMPLIANCE WITH LAWS

Section 11.1 Compliance with Laws.

(a) The Concessionaire shall, at all times and at its own cost and expense, observe and comply, in all material respects, and cause the Toll Road Operations to observe and comply, in all material respects, with all applicable Laws now existing or later in effect that are applicable to it or such Toll Road Operations, including those Laws expressly enumerated in this Article 11, and those that may in any manner apply with respect to the performance of the Concessionaire's obligations under this Agreement. The Concessionaire shall notify the Authority in writing within seven (7) days after receiving notice from a Governmental Authority that the Concessionaire may have violated any of the above.

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(b) If, at any time during the Term, the FHWA promulgates or enforces a rule, regulation, requirement, standard, or recommendation that is not a Law but induces compliance through a program of financial incentives for compliance or financial disincentives for non-compliance, the Concessionaire shall not be obligated to observe or comply with such FHWA action. However, if the Concessionaire elects not to comply with any such FHWA action applicable to the Toll Roads the cost of which the Authority has elected to pay and the Authority suffers a financial disincentive as a result thereof with regard to any program, road, or highway within the Commonwealth other than the Toll Roads, the Concessionaire shall reimburse the Authority, within forty-five (45) days after the Concessionaire's receipt of a detailed invoice therefor, for the amount actually lost or suffered by the Authority as a result of such non-compliance. If the Concessionaire elects to comply with such FHWA action applicable to the Toll Roads and the Authority receives a financial incentive as a result thereof, the Authority shall pay to the Concessionaire, within forty-five (45) days thereafter, an amount equal to such incentive (or, if applicable, the fair share of such incentive attributable to the Toll Roads if any other program, road, or highway other than the Toll Roads is involved), to the fullest extent permitted by Law.

Section 11.2 Non-Discrimination Laws.

(a) The Concessionaire shall comply with all applicable Commonwealth and federal Laws regarding non-discrimination, including: (i) the Civil Rights Act of 1964, 42 U.S.C. § 2000 *et seq.* (1981); (ii) the Civil Rights Act of 1991, P.L. 102-166; (iii) Executive Order Number 11246, 30 Fed. Reg. 12,319 (1965), reprinted in 42 U.S.C. § 2000(e) note, as amended by Executive Order Number 11375, 32 Fed. Reg. 14,303 (1967) and by Executive Order Number 12086, 43 Fed. Reg. 46,501 (1978); (iv) the Age Discrimination Act, 42 U.S.C. §§ 6101-6106 (1981); (v) the Age Discrimination in Employment Act, 29 U.S.C. §§ 621-34 (1967); (vi) the Rehabilitation Act of 1973, 29 U.S.C. §§ 793-794 (1981); (vii) the Americans with Disabilities Act, 42 U.S.C. § 12101 *et seq.* (1990); (viii) Act No. 100 of June 30, 1959, 29 P.R. Laws Ann. § 146 *et seq.*, as amended; (ix) Act No. 17 of April 22, 1988, 29 P.R. Laws Ann. § 155 *et seq.*, as amended; and (x) Act No. 69 of June 6, 1985, 29 P.R. Laws Ann. § 1321 *et seq.*, as amended.

(b) Pursuant to federal regulations promulgated under the authority of The Americans With Disabilities Act, 28 C.F.R. § 35.101 *et seq.*, the Concessionaire understands and agrees that it shall not cause any individual with a disability to be excluded from participation in this Agreement or from activities provided for under this Agreement on the basis of the disability. The Concessionaire agrees to comply with the "General Prohibitions Against Discrimination," 28 C.F.R. § 35.130, and all other regulations promulgated under Title II of the Americans With Disabilities Act which are applicable to all benefits, services, programs, and activities provided by the Authority through contracts with outside contractors. The Concessionaire shall be responsible for and agrees to indemnify and hold harmless the Authority from all losses, damages, expenses, claims, demands, suits, and actions brought by any party against the Authority as a result of the Concessionaire's failure to comply with the provisions of this Section 11.2(b).

Section 11.3 Commonwealth Non-Discrimination/Sexual Harassment Clause.

Pursuant to Act No. 100 of June 30, 1959, 29 P.R. Laws Ann. § 146 *et seq.*, as amended (Non-Discrimination Act), Act No. 17 of April 22, 1988, 29 P.R. Laws Ann. § 155 *et seq.*, as amended (Sexual Harassment Act), and Act No. 69 of June 6, 1985, 29 P.R. Laws Ann. § 1321 *et seq.*, as amended (Sexual Discrimination Act), the Concessionaire agrees as follows during the Term:

(a) In the hiring of any employees for the manufacture of supplies, performance of work, or any other activity required under this Agreement or any subcontract, the Concessionaire, any Contractor or any Person acting on behalf of the Concessionaire or a Contractor shall not by reason of gender, race, creed, or color discriminate against any person who is qualified and available to perform the work to which the employment relates.

(b) Neither the Concessionaire nor any Contractor nor any Person on their behalf shall in any manner discriminate against or intimidate any employee involved in the manufacture of supplies, the performance of work or any other activity required under this Agreement on account of gender, race, creed, or color.

(c) The Concessionaire and all Contractors shall establish and maintain a written sexual harassment policy and shall inform their employees of the policy. The policy

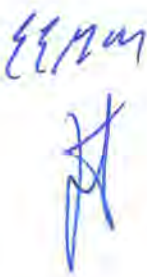
must contain a notice that sexual harassment will not be tolerated and employees who practice it will be disciplined.

(d) The Concessionaire shall not discriminate by reason of gender, race, creed, or color against any Contractor or supplier who is qualified to perform the work to which the contract relates.

(e) The Concessionaire shall include the provisions of this Section 11.3 in every subcontract so that such provisions will be binding upon each Contractor.

(f) In the event that any Concessionaire Default results from a violation of the terms and conditions of this Section 11.3 as described in Section 16.1(b)(i), the Authority may cancel or terminate this Agreement in accordance with Section 16.1(b)(i). In addition, the Authority may proceed with debarment or suspension and may place the Concessionaire in any contractor responsibility file maintained by the Authority in accordance with the Authority's normal practice in matters of suspension and debarment.

Section 11.4 Non-Collusion and Acceptance. The Concessionaire attests, subject to the penalties for perjury, that no Representative of the Concessionaire, directly or indirectly, to the best of the Concessionaire's knowledge, entered into or offered to enter into any combination, conspiracy, collusion or agreement to receive or pay any sum of money or other consideration for the execution of this Agreement other than that which is expressly set forth in this Agreement.

 **Section 11.5 Local Goods and Services.** As required by Article 10 of Act No. 14 of the Legislative Assembly of Puerto Rico, enacted on January 8, 2004, 3 P.R. Laws Ann. § 930 *et seq.*, the Concessionaire shall use, to the extent available and applicable to the services provided hereunder, goods extracted, produced, assembled, packaged, bottled or distributed in the Commonwealth by businesses operating in the Commonwealth or distributed by agents established in the Commonwealth.

Section 11.6 Concessionaire Integrity.

(a) The Concessionaire shall maintain the highest standards of integrity in the performance of this Agreement and shall take no action in violation of Commonwealth or federal Laws, regulations, or other requirements that govern contracting with the Authority. The Concessionaire certifies that it does not represent particular interests in cases or matters that would imply a conflict of interest or public policy between the Authority and the interests it represents.

(b) The Concessionaire and each Covered Party is in compliance with and shall continue to comply at all times with laws that prohibit corruption and regulate criminal acts involving public functions or public funds applicable to the Concessionaire under State or federal Law, including the Foreign Corrupt Practices Act. If a Covered Party after the Effective Date becomes indicted or convicted in a criminal procedure for any type of offense described in Section 9.2(g), the Concessionaire shall immediately notify the Authority thereof in writing as required by Act No. 2.

(c) The Concessionaire shall not disclose to others any confidential information gained by virtue of this Agreement in violation of the confidentiality agreement described in Section 2.5(g).

(d) The Concessionaire shall not, in connection with this Agreement or any other agreement with the Authority, directly, or indirectly, offer, confer or agree to confer any pecuniary benefit on anyone as consideration for the decision, opinion, recommendation, vote, other exercise of discretion or violation of a known legal duty by any officer or employee of the Authority.

(e) The Concessionaire shall not, in connection with this Agreement or any other agreement with the Authority, directly or indirectly, offer, give or agree or promise to give to anyone any gratuity for the benefit of or at the direction or request of any officer or employee of the Authority.

(f) The Concessionaire shall not accept or agree to accept from, or give or agree to give to, any Representative of the Authority, any gratuity from any person in connection with this Agreement that is intended by the provider thereof to be a material inducement to enter into this Agreement or any other agreement.

(g) The Concessionaire, upon being informed that any violation of the provisions of this Section 11.6 has occurred or may occur, shall immediately notify the Authority in writing.

(h) The Concessionaire, by execution of this Agreement and any request for compensation pursuant hereto, certifies and represents that it has not violated any of the provisions of this Section 11.6.

(i) The Concessionaire shall implement and administer policies and procedures designed to promote compliance with Sanctions and anti-bribery/anti-corruption laws and regulations.

(j) The Concessionaire, upon the inquiry or request of the Comptroller of the Commonwealth or any of that official's agents or representatives, shall provide, or if appropriate, make promptly available for inspection or copying, any information of any type or form deemed relevant by the Comptroller of the Commonwealth. Such information may include the Concessionaire's business or financial records, documents or files of any type or form that refers to or concerns this Agreement. Such information shall be retained by the Concessionaire for a period of five (5) years unless otherwise provided by Law.

(k) In the event that any Concessionaire Default results from a violation of any of the provisions of this Section 11.6, the Authority may terminate this Agreement in accordance with Section 16.1(b)(i) (for the avoidance of doubt, subject to the cure periods set forth in Section 16.1(a)(i) and Section 16.1(b)(i)) and any other agreement with the Concessionaire, claim liquidated damages in an amount equal to the value of anything received by the Concessionaire in breach of these provisions, claim damages for all expenses incurred in obtaining another Concessionaire to complete performance hereunder and debar and suspend the

Concessionaire from doing business with the Authority. These rights and remedies are cumulative, and the use or nonuse of any one shall not preclude the use of all or any other. These rights and remedies are in addition to those the Authority may have under Law, statute, regulation, or otherwise.


(l) For purposes of this Section 11.6 only, the words "confidential information," "consent," "Concessionaire" and "gratuity" shall have the following definitions:

(i) "confidential information" means information that is not public knowledge, or available to the public on request, disclosure of which would give an unfair, unethical, or illegal advantage to another desiring to contract with the Authority;

(ii) "consent" means written permission signed by a duly authorized officer or employee of the Authority; *provided* that where the material facts have been disclosed, in writing, by prequalification, bid, proposal or contractual terms, the Authority shall be deemed to have consented by virtue of execution of this Agreement;

(iii) "Concessionaire" means the entity that has entered into this Agreement with the Authority; and

(iv) "gratuity" means any payment of more than nominal monetary value in the form of cash, travel, entertainment, gifts, meals, lodging, loans, subscriptions, advances, deposits of money, services, employment or contracts of any kind.

 **Section 11.7 Commonwealth Tax Liabilities.** The Concessionaire shall inform the Authority if, at any time during the Term, it becomes delinquent in the payment of Taxes imposed by any Governmental Authority of the Commonwealth (other than Commonwealth Tax liabilities for which the Concessionaire is not responsible under Section 3.10(b)).

Section 11.8 Contractor and Supplier Contracts. The Concessionaire shall include the provisions of this Article 11 and Section 9.3 in every subcontract and supply contract so that they shall be binding on each Contractor.

Section 11.9 Practice of Engineering, Architecture and Other Professions in the Commonwealth. To the extent that performance of the Toll Road Operations involves performance of architectural, engineering, land surveying, and landscape architecture services governed by Act No. 173 of the Legislative Assembly of Puerto Rico, enacted on August 12, 1988, 20 P.R. Laws Ann. § 711 *et seq.*, as amended ("Act No. 173"), then (A) the Concessionaire shall comply (and shall require its subcontractors or agents, if any, to comply) with Act No. 173 and (B) the Concessionaire shall monitor compliance by its subcontractors and agents with Act No. 173.

Section 11.10 Governmental Contractor Code of Ethics. Concessionaire and the Operator shall comply with the requirements of the Code of Ethics.

Section 11.11 Certifications Required by Commonwealth Contractor Requirements. The Concessionaire has (i) certified that it has complied and is in compliance with the provisions

of the Public-Private Partnerships Authority's Ethical Guidelines and (ii) delivered the Sworn Statement and the Oversight Board Certification herewith.

Section 11.12 Duty to Inform. The Concessionaire shall inform the Authority if, at any time during the Term, it becomes subject to investigation in connection with any criminal or civil enforcement actions related to acts of corruption, the public treasury, the public trust, a public function, or charges involving public funds or property. The Concessionaire shall inform the Authority if, at any time during the Term, it becomes subject to Sanctions or, to its knowledge, the subject of an investigation into potential violation by it of applicable Sanctions, unless prohibited by applicable law.

ARTICLE 12

INDEMNIFICATION

Section 12.1 Indemnification with Regard to Third Party Claims.

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(a) *Indemnification by the Concessionaire.* To the fullest extent permitted by Law, the Concessionaire shall indemnify and hold harmless the Authority and each of its Representatives from and against any Losses actually suffered or incurred by the Authority or any such Representative as a result of any Third Party Claims arising from (i) any Assumed Liabilities; (ii) any tax or mortgage recording charge attributable to any Transfer of the Concessionaire Interest or any part thereof; or (iii) any liabilities borne by the Concessionaire pursuant to Section 5.4(d); *provided, however*, that such Third Party Claims are made in writing within a period of three (3) years from the expiration of the Term or earlier termination of this Agreement or within such shorter period as may be prescribed by the applicable statute of limitations.

(b) *Indemnification by the Authority.* To the fullest extent permitted by Law, the Authority shall indemnify and hold harmless the Concessionaire and each of its Representatives from and against any Losses actually suffered or incurred by the Concessionaire or any such Representative as a result of any Third Party Claims arising from (i) any Excluded Liabilities or (ii) pre-existing environmental conditions on Additional Lands described in Section 5.4 to the extent that the Authority requires the acquisition of Additional Lands under Section 5.2; *provided, however*, that such Third Party Claims are made in writing within a period of three (3) years of the expiration of the Term or earlier termination of this Agreement or within such shorter period as may be prescribed by the applicable statute of limitations.

(c) *Notice of Third Party Claim.* If an Indemnified Party receives notice of the commencement or assertion of any Third Party Claim, the Indemnified Party shall give the Indemnifier reasonably prompt notice thereof, but in any event no later than thirty (30) days after receipt of such notice of such Third Party Claim. Such notice to the Indemnifier shall describe the Third Party Claim in reasonable detail (and include a copy of any complaint or related documents) and shall indicate, if reasonably practicable, the estimated amount of the Loss that has been or may be sustained by the Indemnified Party. If the Third Party Claim involves an Excluded Environmental Liability, then the Authority shall have the right, in its discretion, to

undertake any remediation or other action required to be made in connection with such Third Party Claim, the costs of such remediation or other action to be borne solely by the Authority.

(d) *Defense of Third Party Claim.* The Indemnifier may participate in or assume the defense of any Third Party Claim by giving notice to that effect to the Indemnified Party not later than thirty (30) days after receiving notice of that Third Party Claim (the "Notice Period"); *provided, however*, that the Indemnifier shall not be permitted to assume the defense of such Third Party Claim to the extent such assumption would adversely impact any defense asserted by the Indemnified Party. The Indemnifier's right to do so shall be subject to the rights of any insurer or other Party who has potential responsibility with respect of that Third Party Claim. The Indemnifier agrees to pay all of its own expenses of participating in or assuming each defense. The Indemnified Party shall cooperate in good faith in the defense of each Third Party Claim, even if the defense has been assumed by the Indemnifier and may participate in such defense assisted by counsel of its own choice at its own expense. If the Indemnified Party has not received notice within the Notice Period that the Indemnifier has elected to assume the defense of such Third Party Claim, the Indemnified Party may assume such defense, assisted by counsel of its own choosing and the Indemnifier shall be responsible for all reasonable costs and expenses paid or incurred in connection therewith and any Loss suffered or incurred by the Indemnified Party with respect to such Third Party Claim.

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(e) *Assistance for Third Party Claims.* The Indemnifier and the Indemnified Party will use all Reasonable Efforts to make available to the Party which is undertaking and controlling the defense of any Third Party Claim (the "Defending Party") (i) those employees whose assistance, testimony and presence is necessary to assist the Defending Party in evaluating and in defending any Third Party Claim and (ii) to the extent permitted by Law, all documents, records and other materials in the possession of such Party reasonably required by the Defending Party for its use in defending any Third Party Claim, and shall otherwise co-operate with the Defending Party. The Indemnifier shall be responsible for all reasonable expenses associated with making such documents, records and materials available and for all expenses of any employees made available by the Indemnified Party to the Indemnifier hereunder, which expense shall not exceed the actual cost to the Indemnified Party associated with such employees.

(f) *Settlement of Third Party Claims.* If an Indemnifier elects to assume the defense of any Third Party Claim in accordance with Section 12.1(d), the Indemnifier shall not be responsible for any legal expenses subsequently incurred by the Indemnified Party in connection with the defense of such Third Party Claim. However, if the Indemnifier fails to take reasonable steps necessary to defend diligently such Third Party Claim within thirty (30) days after receiving notice from the Indemnified Party that the Indemnified Party *bona fide* believes on reasonable grounds that the Indemnifier has failed to take such steps, the Indemnified Party may, at its option, elect to assume the defense of and to compromise or settle the Third Party Claim assisted by counsel of its own choosing and the Indemnifier shall be responsible for all reasonable costs and expenses paid or incurred in connection therewith. The Indemnified Party shall not settle or compromise any Third Party Claim without obtaining the prior written consent of the Indemnifier unless such settlement or compromise is made without any responsibility to, and does not require any action on the part of, the Indemnifier and does not in any way adversely affect the Indemnifier.

Section 12.2 Indemnification with Regard to Breaches of Covenants, Representations or Warranties.

(a) *Indemnification by the Concessionaire.* The Concessionaire shall indemnify and hold harmless the Authority and each of its Representatives from and against any Losses actually suffered or incurred by the Authority or any such Representative arising from (i) any failure by the Concessionaire, its Affiliates or their respective Representatives to comply with, observe or perform any of the covenants, obligations, agreements, terms or conditions in this Agreement or (ii) any breach by the Concessionaire of its representations or warranties set forth in Section 9.2; *provided, however*, that such representations and warranties continue to survive at such time as provided in Section 9.5(b) and a notice of a Claim shall have been given, in writing in accordance with Article 20, prior to the expiry of such survival period as provided in Section 9.5(b).

(b) *Indemnification by the Authority.*

(i) The Authority shall indemnify and hold harmless the Concessionaire and each of its Representatives from and against any Losses actually suffered or incurred by the Concessionaire or any such Representative arising from (A) any failure by the Authority or its Representatives to comply with, observe or perform any of the covenants, obligations, agreements, terms or conditions in this Agreement or any Other Authority Agreement or (B) any breach by the Authority of its representations or warranties set forth in Article 9 or in any Other Authority Agreement; *provided, however*, that such representations and warranties continue to survive at such time as provided in Section 9.5(a) or such Other Authority Agreement, as the case may be, and a notice of a Claim shall have been given, in writing in accordance with Article 20, prior to the expiry of such survival period as provided in Section 9.5(a) or such Other Authority Agreement, as the case may be.

(ii) No Claim may be made by the Concessionaire or the Concessionaire's Representatives against the Authority under Section 12.2(b)(i) for the breach of any representation or warranty made or given by the Authority in Article 9 or any Other Authority Agreement unless (A) the Loss suffered or incurred by the Concessionaire or its Representatives in connection with such breach is in excess of five hundred thousand dollars (\$500,000) and (B) the aggregate of all Losses suffered or incurred by the Concessionaire or its Representatives exceeds ten million dollars (\$10,000,000), in which event the amount of all such Losses in excess of such amount may be recovered by the Concessionaire or its Representatives; *provided, however*, that the maximum aggregate liability of the Authority to the Concessionaire or its Representatives in respect of such Losses in connection with breaches of the Authority's representations and warranties in Article 9 or any Other Authority Agreement shall not exceed ten percent (10%) of the Concession Fee and *provided further*, that this Section 12.2(b)(ii) shall not apply to Claims for a breach of representation or warranties in Sections 9.1(a), (b), (c), (d), (e), (f), (g) or (h) or to claims for fraud, intentional misrepresentation or intentional breach of the representations or warranties in Article 9 or any Other Authority Agreement.

Section 12.3 Losses Net of Insurance; Reductions and Subrogation.

(a) For purposes of this Article 12, the amount of any Losses for which indemnification is provided hereunder shall be reduced by any amounts actually recovered by the Indemnified Party under insurance policies with respect to such Losses, it being understood that the obligations of the Indemnifier hereunder shall not be so reduced to the extent that any such recovery results in an increase in the Indemnified Party's insurance premiums, or results in any other additional cost or expense to any such Indemnified Party.

(b) If the amount of any Loss incurred by an Indemnified Party at any time subsequent to the making of a payment required under this Article 12 on account of such Losses (an "Indemnity Payment") is reduced by any subsequent recovery, settlement or otherwise under or pursuant to any insurance coverage, or pursuant to any claim, recovery, settlement or payment by or against any other Person, the amount of such reduction (less any costs, expenses (including Taxes) or premiums incurred or increased in connection therewith), together with interest thereon from the date of such recovery, settlement or reduction at the Bank Rate, shall promptly be repaid by the Indemnified Party to the Indemnifier.

(c) Upon making a full Indemnity Payment, the Indemnifier shall, to the extent of such Indemnity Payment, be subrogated to all rights of the Indemnified Party against any third party in respect of the Loss to which the Indemnity Payment relates. Until the Indemnified Party recovers full payment of its Loss, any and all claims of the Indemnifier against any such third party on account of such Indemnity Payment shall be postponed and subordinated in right of payment to the Indemnified Party's rights against such third party.


Section 12.4 Payment and Interest. All amounts to be paid by an Indemnifier hereunder shall bear interest at a rate per annum equal to the Bank Rate, calculated annually and payable monthly, both before and after judgment, from the date that the Indemnified Party disbursed funds, suffered damages or losses or incurred a loss or expense in respect of a Loss for which the Indemnifier is responsible to make payment pursuant to this Article 12, to the date of payment by the Indemnifier to the Indemnified Party.

Section 12.5 Offset Rights; Limitations on Certain Damages.

(a) Any other provision herein notwithstanding, each Party's obligations under this Agreement are subject to, and each Party shall have the benefit of, all defenses, counterclaims, rights of offset or recoupment or other claims and rights, including the right to deduct payments due to the other Party hereunder (collectively, "Offsets") which such Party may have at any time against such other Party (or any of their respective successors and assigns) or any transferee or assignee of any such other Party's rights hereunder (to the extent permitted hereunder) as against such Party or any part thereof or interest therein, whether the claim or right of such Party relied upon for such purpose is matured or unmatured, contingent or otherwise, and no transfer or assignment of this Agreement or any other obligation of such other Party, or of any rights in respect thereof, pursuant to any plan of reorganization or liquidation or otherwise shall affect or impair the availability to each Party of the Offsets; *provided* that in no event shall any Party's right to Offsets permit such Party to exercise such right in a manner that would reduce the Toll Road Concession Value to an amount that is less than the sum of the Concession

Mortgage Debt and any related Breakage Costs. The Parties acknowledge and agree that, notwithstanding any provision to the contrary herein, the Escrow Agreements, the Disbursement Instructions or elsewhere, the Concessionaire's right to Offsets pursuant to this Section 12.5 shall include the right to deduct from any payments due to the Authority under this Agreement the following: (i) any Concession Compensation due and payable by the Authority, (ii) any Delinquent Non-Cash Tolls that are due and payable, and (iii) any deficiency in the Required Balance on deposit in the Concessionaire Escrow Subaccount that has not been covered or replenished as provided in Section 3.16(d)(v).

(b) In no event shall any Party be responsible to the other Party under this Agreement for consequential, indirect, exemplary or punitive damages (except indemnification with respect to Third Party Claims pursuant to this Agreement), nor shall a Party be obligated to indemnify the other Party or any other Person with respect to any Losses or damages caused by the gross negligence, willful misconduct or fraud of such other Party or Person. The Parties agree that payment for lost Toll Road Revenues as part of Concession Compensation or the Toll Road Concession Value shall not constitute consequential, indirect, exemplary or punitive damages under the Act or otherwise.

 (c) Except (i) in the event of a termination of this Agreement pursuant to Section 2.4(d), Section 14.2 or Section 16.2, (ii) in cases involving fraud or intentional misrepresentation subject to all of the terms and conditions hereof or (iii) with respect to any Compensation Event, the provisions of this Article 12 shall constitute the sole and exclusive right and remedy available to any Party hereto for any Third Party Claim or for any actual or threatened breach of any representation, warranty, covenant or agreement contained herein.

Section 12.6 Survival. This Article 12 shall remain in full force and effect in accordance with its terms and shall not be terminated by any breach (fundamental, negligent or otherwise) by any Party of its representations, warranties or covenants hereunder or by any termination or rescission of this Agreement by any Party.

Section 12.7 Agency for Representatives. Each of the Authority and the Concessionaire agrees that it accepts each indemnity under the terms of this Agreement in favor of any of its Representatives or Affiliates, as applicable, as agent and trustee of such Representative or Affiliate, as applicable, and agrees that each of the Authority and the Concessionaire may enforce any such indemnity in favor of its Representatives or Affiliates, as applicable, on behalf of such Representative or Affiliate.

ARTICLE 13

INSURANCE

Section 13.1 Insurance Coverage Required. The Concessionaire shall maintain at the Concessionaire's own expense, or cause to be maintained, insurance of the types and limits required pursuant to this Section 13.1 and Section 13.2: (i) throughout the Term and (ii) with respect to any period in which the Concessionaire is required to return and perform any additional work after the Term, those coverages that would typically be obtained in accordance with standard industry practice (any dispute as to the need of a particular coverage shall be

resolved by an independent insurance consultant hired or approved by Authority and such coverage shall be obtained by the Concessionaire if the independent insurance consultant determines such insurance is needed) (the "Required Coverages").

(a) *Commercial General Liability Insurance.* The Concessionaire shall maintain under Insurance Services Office occurrence version Commercial General Liability Insurance including employers liability stop-gap, or equivalent coverage with limits of liability of not less than \$25,000,000 per occurrence and \$25,000,000 annual aggregate. This insurance policy shall (i) name the Authority and its officers, employees, and Representatives as additional insureds and (ii) be primary to any insurance or self-insurance programs otherwise covering the Persons described in clause (i) above. Any part of the required limit may be provided through umbrella or excess liability insurance.

(b) *Business Automobile Liability Insurance.* The Concessionaire shall maintain Insurance Services Office Business Automobile Policy or equivalent coverage with a limit of not less than \$5,000,000 each accident. Such insurance shall include coverage for owned, non-owned and hired automobiles. Any part of the required limit may be provided through umbrella or excess liability insurance.

(c) *Workers Compensation Insurance.* The Concessionaire shall maintain (or cause to be maintained) the required workers compensation insurance as described by the Workers Compensation Act of Puerto Rico with the Corporación del Fondo del Seguro del Estado. The Concessionaire shall furnish the Authority with a certificate from the State Insurance Fund showing that all personnel employed in the work are covered.

(d) *Professional Liability.* The Concessionaire shall maintain professional liability with limits of not less than \$5,000,000 per occurrence and in the aggregate when any architect, engineer, construction manager or other professional consultant performs work in connection with this Agreement (or, in the case of any professional consultant, a lower limit commensurate with the value of the contract pursuant to which such consultant is retained). Any retroactive date on the professional liability policy shall be the date the professional work commences or a date prior to the date the professional work commences. All claims-made policies shall remain in force for at least three (3) years beyond the date the consultant's professional work in connection with this Agreement terminates, through extended coverage, purchase of a tail or otherwise.

(e) *Pollution Legal Liability.* The Concessionaire shall maintain pollution legal liability or equivalent coverage (including clean-up costs) with limits of not less than \$5,000,000 per occurrence and in the aggregate for pollution conditions arising during the Term. If claims-made forms are used, such insurance shall remain in force for at least three (3) years beyond the date work in connection with this Agreement terminates, through extended coverage, purchase of a tail or otherwise.

(f) *Directors and Officers Liability.* The Concessionaire shall maintain directors and officers liability with limits of liability of not less than \$5,000,000 per occurrence and in the aggregate. Any retroactive date on the policy shall be on or before the Effective Date.

Policies written on a claims-made basis shall remain in force for at least three (3) years beyond the date this Agreement terminates, through extended coverage, purchase of a tail or otherwise.

(g) *Employment Practices Liability.* The Concessionaire shall maintain employment practices liability with limits of liability of not less than \$5,000,000 per occurrence and in the aggregate. Any retroactive date on the policy shall be on or before the Effective Date. Policies written on a claims-made basis shall remain in force for at least three (3) years beyond the date this Agreement terminates, through extended coverage, purchase of a tail or otherwise.

(h) *Fiduciary Liability.* The Concessionaire shall maintain fiduciary liability with limits of liability of not less than \$3,000,000 per occurrence and in the aggregate. Any retroactive date on the policy shall be on or before the Effective Date. Policies written on a claims-made basis shall remain in force for at least three (3) years beyond the date this Agreement terminates, through extended coverage, purchase of a tail or otherwise.

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(i) *Builders Risk Insurance.* When the Concessionaire undertakes any: (i) construction, (ii) major maintenance or (iii) major repairs with respect to the Toll Roads, for which Builder's Risk coverage would typically be obtained in accordance with standard industry practice, including improvements pursuant to this Agreement, the Concessionaire shall provide or cause to be provided All Risk Builder's Risk insurance or equivalent insurance. Such insurance shall (i) be at least as broad in scope as the coverage provided by the Insurance Services Office in its coverage form titled Causes-of-Loss: Special Form; (ii) be written in an amount equivalent to the full cost of construction, including foundations, footings and excavation costs; (iii) provide soft cost expense coverage, including coverage for (A) finance costs, loan interest and fees and (B) real estate fees, accounting fees, legal fees and any other increase in expense incurred as a result of covered damage; (iv) provide loss of income/rents coverage in an amount acceptable to the Authority; (v) have no coinsurance limitation or clause; (vi) name the Authority and all Contractors as insureds; (vii) include coverage for earthquake and flood; (viii) include full collapse coverage; (ix) include coverage for temporary offsite storage; (x) include coverage for pollutant cleanup; (xi) include coverage for debris removal; (xii) include law and ordinance coverage; (xiii) include equipment breakdown coverage during testing; (xiv) provide coverage for partial occupancy; and (xv) have a waiver of subrogation clause in favor of the Authority. If the parties dispute the need for Builder's Risk insurance with respect to any construction, maintenance or repairs, either party may submit the dispute to an independent insurance consultant hired or approved by the Authority, and Builder's Risk insurance shall be obtained by the Concessionaire if the independent insurance consultant provides an opinion that such insurance is needed.

(j) *Property Insurance.* The Concessionaire shall maintain property insurance for all buildings, bridges, tunnels, towers and other structures on the Toll Road Land; *provided that*, (i) for such buildings, bridges, tunnels, towers and other structures erected, constructed or placed on the Toll Road Land after the Time of Closing, the Concessionaire shall only be required to maintain such insurance at such time as such structure is no longer covered by builder's risk insurance, and (ii) the limits of coverage for all buildings, bridges, tunnels, towers and other structures on the Toll Road Land must be at least \$150,000,000. During the Term, these limits may be modified by the Concessionaire based on a probable maximum loss analysis, subject to the Authority's Approval of such probable maximum loss analysis by an

independent insurance consultant that is reasonably acceptable to the Authority. In addition to the limits that may be required hereunder, such insurance shall (i) cover the full replacement cost of the property subject to the limits and probable maximum loss analysis permitted above; (ii) provide loss of income, extraordinary expenses, rents coverage in an amount reasonably acceptable to the Authority (except to the extent covered by the business interruption insurance maintained pursuant to Section 13.1(l)); (iii) have no coinsurance limitation or clause; (iv) name the Authority as an insured; (v) include waiver of subrogation in favor of the Authority; (vi) include coverage for fiber optic cable located below the ground surface; (vii) include coverage for tunnels and bridges; (viii) include coverage for communications towers; (ix) include coverage for electronic data processing equipment, data and media; (x) include coverage for earthquake, windstorm and flood; (xi) include coverage for Hazardous Substance cleanup; (xii) include coverage for debris removal; (xiii) include valuable papers coverage; and (xiv) include law and ordinance coverage. With regard to property insurance related to bridges, Concessionaire need not maintain coverage for any bridge whose replacement value is less than five hundred thousand dollars (\$500,000).

(k) *Boiler & Machinery Insurance.* The Concessionaire shall maintain comprehensive boiler and machinery coverage or equipment breakdown coverage for completed structures housing pressure vessels, machinery, equipment and electrical systems with a total replacement value of \$25,000 or more. Such insurance shall (i) include a limit at least equal to the total replacement cost of the equipment, plus 10%; (ii) include business interruption insurance in an amount reasonably acceptable to the Authority (except to the extent covered by the business interruption insurance maintained pursuant to Section 13.1(l)); (iii) include the Authority as an insured and (iv) include law and ordinance coverage.

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(l) *Business Interruption Insurance.* The Concessionaire shall obtain business insurance against interruption or loss of projected Toll Revenues for at least six (6) months from the occurrence of the risk, resulting from physical damage to the insured property; *provided* that the limits of such coverage may be based on a maximum foreseeable loss analysis, subject to the Authority's approval of such maximum foreseeable loss analysis by an independent third party that is reasonably acceptable to the Authority, with such approval of the Authority not to be unreasonably withheld; and *provided further*, that the Authority and each Dependent Business shall be named as additional insureds thereunder.

(m) *Owners' and Contractors Protective Liability Insurance.* The Concessionaire shall obtain owners' and contractor's protective liability insurance or equivalent coverage with a limit of not less than \$10,000,000 per occurrence. Such insurance shall include coverage against any negligent acts or omissions of independent contractors or subcontractors of the Concessionaire, whether resulting in bodily injury or injury to property of third parties.

(n) *Cyber Liability Insurance.* The Concessionaire shall obtain cyber liability insurance or its equivalent with a limit of not less than \$5,000,000 per occurrence. Policies written on a claims-made basis shall remain in force for at least three (3) years beyond the date this Agreement terminates, through extended coverage, purchase of a tail or otherwise.

Section 13.2 Additional Requirements.

(a) *Evidence of Insurance.* The Concessionaire shall, at the Time of Closing and throughout the Term:

(i) deliver or cause to be delivered to the Authority, or Representatives of the Authority, properly executed certificates of insurance that (A) clearly evidence all Required Coverages and provide that such insurance shall not be cancelled without ninety (90) days' notice to the Authority and (B) disclose all self-insured retentions;

(ii) at the request of the Authority, provide certified copies of policies and all policy endorsements;

(iii) provide a copy of endorsements adding any Person as an insured (or as an additional insured, as applicable) in accordance with Section 13.1(a)(i).

(iv) except as otherwise permitted under Section 13.1, notify the Authority of any deductibles and self-insured retentions that exceed two hundred fifty thousand dollars (\$250,000); *provided* that (A) the Concessionaire shall not utilize deductibles or self-insured retentions in excess of (x) with respect to the insurance required by Section 13.1(i) and (j), ten percent (10%) of the total insured limit and (y) with respect to any other insurance required by this Agreement, two hundred fifty thousand dollars (\$250,000), in each case, without the Approval of the Authority (which Approval shall be deemed as having been provided by the Authority if the Authority fails to respond within 10 Business Days of the receipt of a request for Approval to the extent that such request for Approval is accompanied by a supporting opinion of an independent insurance consultant) and (B) the payment of all deductibles and self-insured retentions shall be the sole responsibility of the Concessionaire;

(v) place insurance with insurers that have an A.M. Best (or equivalent) rating of no less than "A-, VII" and are authorized to do business in the Commonwealth; *provided*, that insurers that are not authorized to do business in Puerto Rico may be used as provided, and to the extent permitted, by the Puerto Rico Insurance Code, as in effect at the time that such insurance is placed;

(vi) except as otherwise stated in Section 13.1, maintain aggregate liability limits no less than the required "per occurrence" limit if aggregate liability limits apply to the insurance policy; and

(vii) notify the Authority of any proposed change in the provider of insurance required hereunder at least thirty (30) days in advance of the date of such proposed change.

(b) *Other Insurance.* The Authority shall have the right to require additional types of insurance and adjust limits of insurance to the extent necessary to reflect changes in exposure. The Concessionaire shall have the right to agree to such change or to request the Authority to provide the opinion of an independent insurance consultant or, upon receipt of the Authority's Approval, retain an independent consultant of its own, on the need for such

additional coverages or adjusted limits. The Concessionaire shall obtain such additional coverages or adjusted limits if the independent insurance consultant hired by the Authority or the Concessionaire, as the case may be, provides an opinion on the need for such additional coverages or adjusted limits. The Authority's failure to require additional coverages or adjust limits shall not relieve the Concessionaire of the Concessionaire's obligation to maintain reasonably prudent coverages and limits.

(c) *Insurance Requirements of Contractors.* The Concessionaire shall require each Contractor, tenant or subtenant to maintain coverages reasonably appropriate for its operations at limits sufficient to protect the Concessionaire, the Authority and the public at large. Such limits shall not be less than one million dollars (\$1,000,000) per occurrence. Such insurance shall insure (in each case, as additional insureds) the interests of the Authority (and its officers, employees, elected officials and Representatives), the Concessionaire and any applicable tenants or subtenants of the Concessionaire with respect to the operations being performed. When requested by the Authority, the Concessionaire shall furnish certificates of insurance evidencing coverage that is reasonably acceptable in form and content to the Authority.

(d) *Cooperation.* The Authority and the Concessionaire shall do all acts, matters and things as may be reasonably necessary or required to expedite the adjustment of any loss or damage covered by insurance required hereunder so as to expedite the release and dedication of proceeds of such insurance in a manner and for the purposes herein contemplated.

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(e) *Inflation Adjustment.* On each fifth (5th) anniversary of the Closing Date, the amounts of coverage required by Section 13.1 shall be adjusted by the greater of (i) zero and (ii) the percentage equal to the percentage increase in the Index between the Index for the month that is two months prior to the fifth (5th) anniversary of the Closing Date under review and the Index for the equivalent month of the fifth (5th) preceding year. The amounts to be adjusted shall be based on the results of the calculation from the preceding review period.

(f) *Commercial Availability.* The Concessionaire shall have the right to request the Authority to provide the opinion of an independent insurance consultant or, upon receipt of the Authority's Approval (which Approval shall be deemed as having been provided by the Authority if it fails to provide a response within 10 Business Days of the receipt of the request for Approval), retain an independent consultant of its own, on the availability of any insurance required hereunder (including the limits or deductibles thereof) at commercially reasonable rates. If such independent insurance consultant determines that such insurance is not available at commercially reasonable rates, the Concessionaire shall not be required to maintain such insurance so long as such insurance shall not be available at commercially reasonable rates; *provided* that during such period, the Concessionaire maintains the maximum amount of such insurance otherwise available at commercially reasonable rates.

Section 13.3 Damage and Destruction.

(a) *Obligations of Concessionaire.* If all or any part of any of the Toll Roads shall be destroyed or damaged during the Term in whole or in part by fire or other casualty of any kind or nature (including any casualty for which insurance was not obtained or obtainable),

ordinary or extraordinary, foreseen or unforeseen, the Concessionaire shall: (i) give the Authority notice thereof promptly after the Concessionaire receives actual notice of such casualty; (ii) at its sole cost and expense whether or not insurance proceeds, if any, shall be equal to the estimated cost of repairs, alterations, restorations, replacement and rebuilding (the "Casualty Cost"), proceed diligently to Restore the same and (iii) deposit all insurance proceeds received by the Concessionaire in connection with any Restoration with a Depositary; *provided, however*, that if at any time it is determined by the Authority that the net insurance proceeds received or to be received by the Concessionaire and deposited with the Depositary pursuant to (iii) are less than the Casualty Cost, then the Concessionaire shall deposit with the Depositary such cash as is sufficient to cover the difference between the (A) Casualty Cost and (B) sum of (x) any Casualty Costs already incurred by the Concessionaire as of such time and (y) the net insurance proceeds received or to be received by the Concessionaire and deposited with the Depositary pursuant to (iii) (such net insurance proceeds and any additional cash deposited by the Concessionaire with the Depositary, together with any interest earned thereon, from time to time, the "Restoration Funds"); *provided further*, that the procedures of this clause (iii) of this Section 13.3(a) shall only apply to casualty events in which the Casualty Cost exceeds \$500,000. The amount described in the proviso of the immediately preceding sentence shall be adjusted annually on each anniversary of the Closing Date by the greater of (i) zero and (ii) the percentage equal to the percentage increase in the Index between the Index for the month that is two months prior to the same month of the Closing Date for the anniversary period under review and the Index for the equivalent month for the immediately preceding year. The amount to be adjusted shall be based on the results of the calculation from the preceding review period.

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(b) *Rights of Authority.* If (i) the Concessionaire shall fail or neglect to commence the diligent Restoration of the Toll Roads or the portion thereof so damaged or destroyed, (ii) having so commenced such Restoration, the Concessionaire shall fail to diligently complete the same in accordance with the terms of this Agreement or (iii) prior to the completion of any such Restoration by the Concessionaire, this Agreement shall expire or be terminated in accordance with the terms of this Agreement, the Authority may, but shall not be required to, complete such Restoration at the Concessionaire's expense and shall be entitled to be paid out of the Restoration Funds for the relevant Restoration costs incurred by the Authority. In any case where this Agreement shall expire or be terminated prior to the completion of the Restoration, the Concessionaire shall (A) account to the Authority for all amounts spent in connection with any Restoration which was undertaken, (B) immediately pay over or cause the Depositary to pay over to the Authority the remainder, if any, of the Restoration Funds received by the Concessionaire prior to such termination or cancellation and (C) pay over or cause the Depositary to pay over to the Authority, within five (5) Business Days after receipt thereof, any Restoration Funds received by the Concessionaire or the Depositary subsequent to such termination or cancellation. The Concessionaire's obligations under this Section 13.3(b) shall survive the expiration or any earlier termination of this Agreement.

(c) *Payment of Restoration Funds to Concessionaire.* Subject to the satisfaction by the Concessionaire of all of the terms and conditions of this Section 13.3, the Depositary shall pay to the Concessionaire from time to time, any Restoration Funds, but not more than the amount actually collected by the Depositary with respect to the relevant casualty, together with any interest earned thereon, after reimbursing itself therefrom, as well as the

Authority, to the extent, if any, of the reasonable expenses paid or incurred by the Depositary and the Authority in the collection of such monies, to be utilized by the Concessionaire solely for the Restoration, such payments to be made as follows:

(i) prior to commencing any Restoration, the Concessionaire shall furnish to the Authority for its Approval the estimated cost, estimated schedule and detailed plan for the completion of the Restoration, each prepared by an architect or engineer;

(ii) the Restoration Funds shall be paid to the Concessionaire in installments as the Restoration progresses, subject to Section 13.3(c)(iii), based upon requisitions to be submitted by the Concessionaire to the Depositary and the Authority in compliance with Section 13.3(d), showing the cost of labor and materials purchased for incorporation in the Restoration, or incorporated therein since the previous requisition, and due and payable or paid by the Concessionaire; *provided, however*, that if any lien (other than a Permitted Concessionaire Encumbrance described in clause (ii) and in clauses (iv) through (ix) of the definition thereof) is filed against the Toll Roads or any part thereof in connection with the Restoration, the Concessionaire shall not be entitled to receive any further installment until such lien is satisfied or discharged (by bonding or otherwise); *provided further*, that notwithstanding the foregoing, but subject to the provisions of Section 13.3(c)(iii), the existence of any such lien shall not preclude the Concessionaire from receiving any installment of Restoration Funds so long as such lien will be discharged with funds from such installment and at the time the Concessionaire receives such installment the Concessionaire delivers to the Authority and the Depositary a release of such lien executed by the holder of such lien or and in recordable form;

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(iii) the amount of each installment to be paid to the Concessionaire shall be the aggregate amount of Casualty Costs theretofore incurred by the Concessionaire minus the aggregate amount of Restoration Funds theretofore paid to the Concessionaire in connection therewith; *provided* that the unapplied portion of the funds held by the Depositary are sufficient to complete the Restoration or immediately available from other sources; *provided further*, that all disbursements to the Concessionaire shall be made based upon an architect's or engineer's certificate for payment in accordance with Section 13.3(d)(iii), and disbursements may be made for advance deposits for materials and Contractors to the extent that such disbursements are customary in the industry and that the unapplied portion of the funds held by the Depositary or immediately available from other sources are sufficient to complete the Restoration; *provided, further*, that Concessionaire shall not be entitled to the disbursement of Restoration Funds to reimburse Casualty Costs incurred by the Concessionaire prior to the deposit of all Restoration Funds with the Depositary as required by Section 13.3(a); and

(iv) except as provided in Section 13.3(b), upon completion of and payment for the Restoration by the Concessionaire, subject to the rights of any Concession Mortgagee, the Depositary shall pay the balance of the Restoration Funds, if any, to the Concessionaire; *provided, however*, that if the insurance proceeds are insufficient to pay for the Restoration (or if there shall be no insurance proceeds), the Concessionaire shall nevertheless be required to make the Restoration and provide the deficiency in funds necessary to complete the Restoration as provided in Section 13.3(a)(iii).

(d) *Conditions of Payment.* The following shall be conditions precedent to each payment made to the Concessionaire as provided in Section 13.3(c):

(i) the Concessionaire shall have furnished the Authority with estimates of costs and schedule and a detailed plan for the completion of the Restoration, as provided for in Section 13.3(c)(i);

(ii) at the time of making such payment, there exists no Concessionaire Default that caused the casualty loss, destruction or damage addressed by such plan;

(iii) the Restoration shall be carried out under the supervision of the relevant architect or engineer (which has been Approved by the Authority), and there shall be submitted to the Depository and the Authority the certificate of such architect or engineer stating that (A) the materials and other items which are the subject of the requisition have been delivered to the Toll Roads (except with respect to requisitions for advance deposits permitted under Section 13.3(c)(iii)), free and clear of all Encumbrances (other than a Permitted Concessionaire Encumbrance described in clause (ii) and in clauses (iv) through (ix) of the definition thereof), and no unsatisfied or unbonded mechanic's or other liens have been claimed, except for any mechanic's lien for claims that will be discharged, by bonding or otherwise, with funds to be received pursuant to such requisition (*provided* that a release of such lien is delivered to the Depository in accordance with Section 13.3(c)(ii)), (B) the sum then requested to be withdrawn either has been paid by the Concessionaire or is due and payable to Contractors, engineers, architects or other Persons (whose names and addresses shall be stated), who have rendered or furnished services or materials for the work and giving a brief description of such services and materials and the principal subdivisions or categories thereof and the several amounts so paid or due to each of such Persons in respect thereof, and stating in reasonable detail the progress of the work up to the date of such certificate, (C) no part of such expenditures has been made the basis, in any previous requisition (whether paid or pending), for the withdrawal of Restoration Funds or has been made out of the Restoration Funds received by the Concessionaire, (D) the sum then requested does not exceed the value of the services and materials described in the certificate, (E) the work relating to such requisition has been performed in accordance with this Agreement, (F) the balance of the Restoration Funds held by the Depository or immediately available from other sources will be sufficient upon completion of the Restoration to pay for the same in full, and stating in reasonable detail an estimate of the cost of such completion and (G) in the case of the final payment to the Concessionaire, the Restoration has been completed in accordance with this Agreement.

(e) *Payment and Performance Bonds.* If the Concessionaire obtains payment or performance bonds related to a Restoration (which the Concessionaire may or may not obtain in its discretion), the Concessionaire shall name the Authority and the Concessionaire and the Concession Mortgagee, as their interests may appear, as additional indemnified parties, and shall deliver copies of any such bonds to the Authority promptly upon obtaining them.

(f) *Benefit of Authority.* The requirements of this Section 13.3 are for the benefit only of the Authority, and no Contractor or other Person shall have or acquire any claim against the Authority as a result of any failure of the Authority actually to undertake or complete

any Restoration as provided in this Section 13.3 or to obtain the evidence, certifications and other documentation provided for herein.

(g) *Investment of Restoration Funds.* Restoration Funds deposited with a Depositary shall be invested and reinvested in Eligible Investments, and all interest earned on such investments shall be added to the Restoration Funds.

(h) *Rights of Concession Mortgagee.* The Authority acknowledges and agrees that any Restoration Funds not applied to a Restoration as provided in this Section 13.3 shall be subject to the lien or liens of any Concession Mortgagee.

ARTICLE 14

ADVERSE ACTIONS

Section 14.1 Adverse Action.

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(a) An "Adverse Action" shall occur if the Authority or any Governmental Authority established under the Laws of the Commonwealth takes action at any time during the Term (including enacting any law or ordinance or promulgating any rule or regulation) (including any such law, ordinance, rule or regulation affecting the tax exemption provided by the Act and the Administrative Determination) and the effect of such action is reasonably expected (i) to be principally borne by (A) the Concessionaire, (B) private operators of toll roads in the Commonwealth or (C) Contratantes and (ii) to have a material adverse effect on the fair market value of the Concessionaire Interest, except where such action (A) is in response to any act or omission on the part of the Concessionaire or its Representatives that (1) is illegal (other than an act or omission rendered illegal by virtue of the Adverse Action) or (2) constitutes nonperformance by the Concessionaire, (B) is otherwise permitted under this Agreement or (C) is mandated by action of the United States government (or any agency thereof); *provided, however*, that none of the following shall constitute an Adverse Action: (w) the exercise of law enforcement, subpoena or investigatory powers of the Authority or any Governmental Authority as permitted under this Agreement or applicable Law; (x) an increase in Taxes not directed solely at the Concessionaire, the Toll Roads, the users of the Toll Roads, private operators of toll roads in the Commonwealth or their users or Contratantes; (y) the enactment by any Governmental Authority of the Commonwealth of any law, ordinance, rule or regulation that has a material adverse impact on the exemption from taxes granted to the Concessionaire pursuant to Section 3.10(b); and (z) the development, redevelopment, construction, maintenance, modification, change in operation, opening or introduction of any existing or new mode of transportation (including, without limitation, any Competing Highway, managed lanes, any high-occupancy toll (HOT) lanes, any high-occupancy vehicle (HOV) lanes and any bus rapid transit (BRT) lanes); *provided, further*, that an action under Section 14.1(a)(i) that negatively affects the Commonwealth income tax treatment applicable to the Concessionaire or its Equity Participants pursuant to the Act and the Administrative Determination as in effect as of the Effective Date (but as supplemented by the Tax Matters Supplement) shall be deemed an Adverse Action without having to satisfy the requirements of Section 14.1(a)(ii).

(b) If an Adverse Action occurs, the Concessionaire shall have the right to receive from the Authority Concession Compensation with respect thereto (such Concession Compensation, the "AA-Compensation"); *provided, however*, that if the Adverse Action constitutes an expropriation, sequestration or requisition of all or a material part of the Toll Roads, the Toll Road Assets, the Toll Road Revenues and the Concessionaire Interest (or any of them) or materially impedes, substantially frustrates or renders impossible the Concessionaire's ability to perform its obligations hereunder continuously for ninety (90) days, then the Concessionaire shall have the right either (i) to be paid the AA-Compensation with respect thereto or (ii) to terminate this Agreement and be paid by the Authority any AA-Termination Damages, in each case by giving notice in the manner described in Section 14.1(c).

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(c) As soon as practicable and in no event later than thirty (30) days following the date on which the Concessionaire first became aware of the Adverse Action, the Concessionaire shall give notice (the "AA-Preliminary Notice") to the Authority, which notice shall include (i) a statement of which Adverse Action the claim is based upon and (ii) details of the event, including a specific explanation of the reasons that the event constitutes an Adverse Action under the terms of this Agreement. Within one hundred eighty (180) days following the date of delivery of the AA-Preliminary Notice, the Concessionaire shall give the Authority another notice (the "AA-Notice") setting forth (i) details of the effect of said occurrence that is principally borne by the Concessionaire generally or principally borne by private operators of toll roads in the Commonwealth or Contratantes and not by others, (ii) details of the material adverse effect of said occurrence on the fair market value of the Concessionaire Interest, (iii) a statement as to which right referred to in Section 14.1(b) the Concessionaire has exercised and (iv) if the Concessionaire elects to exercise the right to Concession Compensation under Section 14.1(b), the amount claimed as AA-Compensation and details of the calculation thereof. The Authority shall, after receipt of the AA-Notice, be entitled by notice to require the Concessionaire to provide such further supporting particulars as the Authority may reasonably consider necessary. If the Authority wishes to dispute the occurrence of an Adverse Action or the amount of AA-Compensation, if any, claimed in the AA-Notice, it shall give notice of dispute (the "AA-Dispute Notice") to the Concessionaire within thirty (30) days following the date of receipt by it of the AA-Notice stating in reasonable detail the grounds for such dispute. If neither the AA-Notice nor the AA-Dispute Notice has been withdrawn within thirty (30) days following the date of receipt of the AA-Dispute Notice by the Concessionaire, the matter shall be submitted to the dispute resolution procedure in Article 19.

(d) If the Concessionaire has the right to receive AA-Compensation, the Authority shall provide the AA-Compensation claimed by the Concessionaire within sixty (60) days following the date of receipt of the AA-Notice, or if an AA-Dispute Notice has been given, then not later than sixty (60) days following the date of determination of the AA-Compensation (together with interest at the rate set forth in Section 20.9 from the date of receipt of the AA-Dispute Notice to the date on which payment is made); *provided* that the Authority shall provide the AA-Compensation in accordance with Section 15.1(b) as if the related AA-Notice were a CE-Notice; and *provided further*, that subject to the right of the Concessionaire to receive interest thereon at the rate set forth in Section 20.9 from the date of receipt of the AA-Dispute Notice to the date on which payment is made, the Authority may defer any such payment for an additional one hundred twenty (120) days if the Authority determines, in its discretion, that such

additional period is necessary in order to obtain financing or otherwise to obtain the necessary funds to make such a payment.

(e) For the avoidance of doubt, the placement in service of a Competing Highway shall constitute a Compensation Event with respect to which Concession Compensation shall be provided in accordance with Section 15.1(f).

Section 14.2 Termination.

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(a) If the Concessionaire has the right to terminate this Agreement in connection with an Adverse Action pursuant to Section 14.1(b) and the Concessionaire has exercised such right, this Agreement, subject to Section 14.3, shall terminate one hundred twenty (120) days following the date of receipt of the AA-Notice by the Authority, and on the Reversion Date the Authority shall pay to the Concessionaire pursuant to Section 14.1(b) compensation equal to the aggregate, without duplication, of (i) the Toll Road Concession Value as of the date of termination, plus (ii) the reasonable out-of-pocket and documented costs and expenses incurred by the Concessionaire as a direct result of such termination (including payments made by the Concessionaire to its Equity Participant or other Affiliates pursuant to contracts entered into on an arm's-length basis), plus (iii) the Concession Compensation calculated for the period between the date of the Adverse Action and the date of termination less (iv) any insurance or condemnation proceeds payable (or that (1) should have been payable but for (x) the breach of an obligation to take out or maintain insurance by the Concessionaire under this Agreement or (y) the invalidity or breach of any insurance policy caused by the Concessionaire under which policy such proceeds would have been paid or (2) would have been paid but for deductibles or self-insured retentions approved by the Authority pursuant to Section 13.2(a)(iv)) with respect to all or any portion of the Toll Roads as a result of the occurrence of such Adverse Action (collectively, the "AA-Termination Damages") or, if the AA-Termination Damages are determined on a date subsequent to the Reversion Date, then not later than sixty (60) days following the date of determination of the AA-Termination Damages (together with interest at the rate set forth in Section 20.9 from the Reversion Date to the date on which payment is made); *provided* that, subject to the right of the Concessionaire to receive interest at the rate set forth in Section 20.9 on the payment owed by the Authority from the Reversion Date to the date on which payment is made, the Authority may defer any such payment for an additional one hundred twenty (120) days if the Authority reasonably determines that such additional period is necessary to obtain financing or required approvals to make such a payment; *provided, however*, that any amounts received by the Concessionaire or any Concession Mortgagee from any insurance policies payable as a result of damage or destruction to the Toll Roads that has not been remedied prior to the Reversion Date shall, to the extent not used to remedy such effects, be deducted from the amount payable by the Authority to the Concessionaire so long as the Authority has not received any such amounts pursuant to Article 13.

(b) Any dispute arising out of the determination of the AA-Termination Damages shall be submitted to the dispute resolution procedure in Article 19.

(c) No AA-Notice given by the Concessionaire to the Authority in which the Concessionaire states that it elects to exercise its right of termination of this Agreement shall be valid for any purpose unless, if any Concession Mortgage Debt remains outstanding and if and to

the extent required by the terms of any Concession Mortgage, the Concessionaire has first obtained and delivered to the Authority the written consent of the Concession Mortgagee to such AA-Notice.

(d) This Section 14.2 shall survive the expiration or any earlier termination of this Agreement.

Section 14.3 Right of the Authority to Remedy an Adverse Action. If the Authority wishes to remedy the occurrence or effects of an Adverse Action, the Authority shall give notice thereof to the Concessionaire within thirty (30) days following the date of receipt of the AA-Notice. If the Authority gives such notice, then the Authority must remedy such Adverse Action within one hundred eighty (180) days following the date of receipt of the AA-Notice or, if a AA-Dispute Notice has been given, within one hundred eighty (180) days following the final decision pursuant to Article 19 to the effect that an Adverse Action occurred or, in either case, within such longer period as may be agreed to by the Concessionaire. If the Authority remedies the occurrence or effects within the applicable period of time, the right of the Concessionaire shall be limited to a claim for AA-Compensation with respect to such Adverse Action.

Section 14.4 Discharge of Liability. Notwithstanding anything in this Agreement to the contrary, payment of the entire sum of AA-Termination Damages by the Authority pursuant to Section 14.2(a), or provision by the Authority of AA-Compensation pursuant to Section 14.1(b), shall constitute full and final satisfaction of all amounts that may be claimed by the Concessionaire for and with respect to the occurrence of the Adverse Action and, upon such payment or provision, as applicable, the Authority shall be released and forever discharged by the Concessionaire from any and all liability with respect to such Adverse Action.

ARTICLE 15

CONCESSION COMPENSATION; DELAY EVENTS

Section 15.1 Payment of Concession Compensation.

(a) *Notice.* Except as otherwise provided herein, if a Compensation Event occurs, the Concessionaire shall give notice (the "CE-Preliminary Notice") to the Authority as soon as practicable and in no event later than thirty (30) days following the date on which the Concessionaire first became aware of the Compensation Event, which notice shall include (i) a statement of which Compensation Event the claim is based upon and (ii) details of the event, including a specific explanation of the reasons that the event constitutes a Compensation Event under the terms of this Agreement. Within thirty (30) days following the date of delivery of the CE-Preliminary Notice, the Concessionaire shall give the Authority another notice (the "CE-Notice") setting forth (i) further details of the Compensation Event, if applicable, and (ii) the amount claimed as Concession Compensation and details of the calculation thereof. If the Authority wishes to dispute the occurrence of a Compensation Event or the amount of the Concession Compensation claimed in the CE-Notice, it shall give notice of dispute (the "CE-Dispute Notice") to the Concessionaire within sixty (60) days following the date of receipt by it of the CE-Notice stating the grounds for such dispute. If neither the CE-Notice nor the CE-Dispute Notice has been withdrawn within thirty (30) days following the date of receipt of the

CE-Dispute Notice by the Concessionaire, the matter shall be submitted to the dispute resolution procedure in Article 19.

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(b) *Payment.* Within sixty (60) days following the date of receipt of a CE-Notice, or if a CE-Dispute Notice has been given as provided in Section 15.1(a) and not withdrawn (and the CE-Notice is not otherwise withdrawn by the Concessionaire), then not later than sixty (60) days following the date of determination of the related Concession Compensation (the later of such dates being referred to herein as a "Compensation Date"), the Authority (except to the extent the Authority elects to provide the related Concession Compensation in accordance with Section 15.1(c)), shall pay the related Concession Compensation to the Concessionaire in cash, which Concession Compensation shall be then due and payable to the Concessionaire (except as otherwise provided in Section 15.1(e)); *provided* that, subject to the right of the Concessionaire to receive interest at the rate set forth in Section 20.9 on the Concession Compensation owed by the Authority from the date of receipt of the CE-Notice to the date on which Concession Compensation is provided to the Concessionaire, the Authority may defer the provision of any such Concession Compensation for an additional one hundred twenty (120) days if the Authority reasonably determines that such additional period is necessary to obtain financing or required approvals to provide such Concession Compensation to the Concessionaire; *provided further*, that, notwithstanding the foregoing, in the event of a dispute regarding the amount of Concession Compensation which the Authority is required to pay to the Concessionaire in accordance with this Section 15.1(b), the Authority shall provide to the Concessionaire any undisputed portion of such Concession Compensation and any portion of such Concession Compensation that is subsequently agreed between the Parties, in each case not later than sixty (60) days following the date that the Parties have agreed to such portion (together with interest at the rate set forth in Section 20.9 from the date of receipt of the CE-Dispute Notice to the date on which Concession Compensation is provided) (even if a dispute regarding a portion of the amount claimed by the Concessionaire is still pending); *provided* that the Authority shall have the right to defer providing such Concession Compensation for an additional one hundred twenty (120) days under the terms set forth in the first preceding proviso.

(c) *Term or Toll Option.* Notwithstanding anything to the contrary in Article 2, Article 7 or Schedule 4, and to the extent such Concession Compensation is not payable as part of Termination Damages and is not otherwise paid pursuant to Section 15.1(b), the Authority may elect (subject to the proviso below) to provide all or any portion of any Concession Compensation due to the Concessionaire hereunder by:

(i) extending the Term for a period of time that would be sufficient to restore the Concessionaire to the same economic position in which it would have been had such Compensation Event not occurred (subject to the prior receipt of any approval or Authorization necessary to extend the Term under the Act and otherwise in compliance with applicable Law); or

(ii) authorizing the Concessionaire to increase tolls on the Toll Roads for a period of time that would be sufficient to restore the Concessionaire to the same economic position in which it would have been had such Compensation Event not occurred (in which case Schedule 4 shall be amended to permit such increase in tolls on the Toll Roads for such period of time);

provided that, in each case:

(A) the Authority shall make such election by notice delivered to the Concessionaire not later than the related Compensation Date, such notice shall specify the amount of Concession Compensation to be provided pursuant to this Section 15.1(c) and the Authority's preference as to whether such compensation shall be provided pursuant to such clause (i) or (ii) above (which preference shall be binding subject to clause (B) below);

(B) notwithstanding the preference of the Authority specified by notice pursuant to such clause (A) above, the Concessionaire shall have the right within fifteen (15) days after its receipt of such notice to specify its own preference as to whether such compensation shall be provided pursuant to such clause (i) or (ii) above, and such preference shall be binding if different from that specified by the Authority;

(C) the Authority may not elect to provide (unless otherwise agreed in writing by the Concessionaire) Concession Compensation pursuant to this Section 15.1(c) in an amount that: (1) cumulatively with all other amounts of Concession Compensation previously provided pursuant to this Section 15.1(c), would exceed twenty-five million dollars (\$25,000,000) during the Term; (2) cumulatively with all other amounts of Concession Compensation previously provided pursuant to this Section 15.1(c), would exceed ten million dollars (\$10,000,000) prior to the fifth (5th) anniversary of the Closing; or (3) in any year after the fifth (5th) anniversary of the Closing, cumulatively with all other amounts of Concession Compensation previously provided in such year pursuant to this Section 15.1(c), would exceed one million dollars (\$1,000,000) in such year; in each case increased by a percentage each year equal to the sum of (x) one and one-half percent (1.5%) on each anniversary of the Closing during the Term and (y) the percentage increase, if any, in the Index during such year ; and

(D) the Authority may not provide Concession Compensation pursuant to this Section 15.1(c) in respect of the Compensation Events contemplated by Section 2.5(i)(iii)(B) or Section 5.2(a).

(d) *Calculation.* Concession Compensation shall be sufficient to compensate the Concessionaire for (i) all documented Losses (including increased operating, financing and capital and maintenance costs but excluding any costs and expenses that the Concessionaire would otherwise expend or incur in order to comply with this Agreement or in the Ordinary Course of the performance of the Toll Road Operations or the carrying on of business in the Ordinary Course) that are reasonably attributable to such Compensation Event and (ii) any documented Losses of the Concessionaire's present and future Toll Road Revenues that are reasonably attributable to such Compensation Event, after taking into account (A) any insurance proceeds payable (or that should have been payable but for (x) the insurer's inability to pay, (y) the breach of an obligation to take out or maintain insurance by the Concessionaire under this Agreement or (z) the invalidity or breach of any insurance policy caused by the Concessionaire under which policy such proceeds would have been paid) in connection with the Compensation Event, if applicable, and (B) any increases in future Toll Road Revenues that are reasonably attributable to such Compensation Event, if applicable. If the Concessionaire is required to

expend its own funds (whether from operating cash flows or the proceeds of any debt or equity financing or otherwise) with respect to any Compensation Event prior to receipt or financing of the corresponding Concession Compensation or if the payment of Concession Compensation is deferred under Section 15.1(b), then the determination of Concession Compensation shall, in addition to the components described above, include such additional amounts as may be necessary to permit the Concessionaire to earn an after-Tax rate of return thereon at the then-applicable market-based rate of return to be agreed by the Concessionaire and the Authority.

(e) *Future Losses.* Any Concession Compensation payable pursuant to Section 15.1(b) with respect to lost Toll Road Revenues or documented Losses (including increased operating, financing, capital and maintenance costs) that will not occur until the future shall be due solely when such lost Toll Road Revenues would otherwise become due or such Losses are actually incurred or suffered or promptly thereafter. If the Authority elects, notwithstanding the foregoing, to pay Concession Compensation with respect to lost Toll Road Revenues or documented Losses that will occur in the future as a lump sum payment, the amount of such lump sum payment shall be based on a determination of the net present value of the impact of such Compensation Event over the remainder of the Term utilizing a discount factor that is reasonably determined by the Concessionaire (subject to the confirmation as to its reasonableness by the Authority).

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(f) *Competing Highways.* The placement in service of a Competing Highway shall constitute a Compensation Event with respect to which Concession Compensation shall be provided by the Authority to the Concessionaire on or before March 15 of each year thereafter pursuant to this Section 15.1; *provided* that, notwithstanding anything to the contrary in this Section 15.1, such Concession Compensation shall be provided only to the extent of the actual, reasonably documented decrease in net income suffered by the Concessionaire during the preceding calendar year as the sole and direct result of such Competing Highway. For avoidance of doubt, PR-9, including any projects with respect thereto, shall not be considered a Competing Highway.

(g) *Minimum Claim.* Notwithstanding the foregoing provisions of this Section 15.1, the Concessionaire may not make a claim for Concession Compensation unless the amount of such claim exceeds one hundred thousand dollars (\$100,000).

Section 15.2 Delay Events.

(a) *Notice.* If the Concessionaire is affected by a Delay Event, it shall give notice as soon as practicable and in no event later than thirty (30) days following the date on which it first became aware of such Delay Event to the Authority (*provided* that in the case of the same Delay Event being a continuing cause of delay, only one notice shall be necessary), which notice shall include (i) a statement of which Delay Event the claim is based upon, (ii) details of the circumstances from which the delay arises and (iii) an estimate of the delay in the performance of obligations under this Agreement attributable to said Delay Event and information in support thereof, if known at that time. The Authority shall, after timely receipt of a Delay Event notice, be entitled by notice to require the Concessionaire to provide such further supporting information or details as the Authority may reasonably consider necessary. The

Concessionaire shall notify the Authority as soon as practicable and in no event later than thirty (30) days following the date on which it first became aware that a Delay Event has ceased.

(b) *Excuse.* Subject to the Concessionaire giving the notice required in Section 15.2(a), a Delay Event shall excuse the Concessionaire from performing the particular obligations prevented by the Delay Event referred to in such notice (and, if applicable, extend any deadline established by this Agreement related to the performance of such obligations) for such appropriate number of days as the Authority and the Concessionaire jointly determine and Noncompliance Points shall not be assessed against the Concessionaire as a result of the Concessionaire's inability to perform such obligation due solely and directly to, and during the duration of, the Delay Event. If the Authority and the Concessionaire cannot agree upon the period of delay, then either Party shall be entitled to refer the matter to the dispute resolution procedure set forth in Article 19. This Section 15.2(b) shall neither (i) excuse the Concessionaire from the performance and observance under this Agreement of any obligations and covenants not affected by the Delay Event nor (ii) prevent any of the Authority or its Representatives (or their respective designee) from exercising its rights under Section 3.7. Notwithstanding the occurrence of a Delay Event, the Concessionaire shall continue its performance and observance under this Agreement of all of its obligations and covenants to the extent that it is reasonably able to do so and shall use its Reasonable Efforts to minimize the effect and duration of the Delay Event. Nothing herein shall permit or excuse noncompliance with a change to applicable Laws.

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(c) *Compensation.* If a Delay Event occurs that has the effect of (i) causing physical damage or destruction to the Toll Roads that results in the Toll Roads or any material portion thereof being substantially unavailable for Highway Purposes or (ii) suspending toll collection on the Toll Roads or any material portion thereof, and, in either case, such effect continues for a period in excess of ninety (90) consecutive days and has a material adverse effect on the fair market value of the Concessionaire Interest, and insurance proceeds payable (or that should have been payable but for (x) the insurer's inability to pay, (y) the breach of an obligation to take out or maintain insurance by the Concessionaire under this Agreement or (z) the invalidity or breach of any insurance policy caused by the Concessionaire under which policy such proceeds would have been paid) or condemnation or other similar proceeds are insufficient to restore the Concessionaire to the same economic position in which it would have been had such event not occurred, then the Delay Event shall be a Compensation Event, and the Concessionaire, without in any way limiting its obligations pursuant to Section 13.3, shall be entitled to Concession Compensation (a "Delay Event Remedy"); *provided* that the Concessionaire shall give notice (a "Delay Event Notice") to the Authority, within thirty (30) days following the date on which the Concessionaire first became aware of its right to the Delay Event Remedy occurring, setting forth (i) the details of the Delay Event and its effect on either causing physical damage or destruction to the Toll Roads that results in the Toll Roads or any material portion thereof being substantially unavailable for Highway Purposes or suspending toll collection on the Toll Roads, (ii) the relief claimed as compensation to restore the Concessionaire to the same economic position in which it would have been had such Delay Event not occurred (including the details of the calculation thereof) and (iii) the details of the relationship between such compensation and the Delay Event Remedy that it proposes. The Authority shall, after receipt of the Delay Event Notice, be entitled by notice to require the

Concessionaire to provide such further supporting information and details as the Authority may reasonably consider necessary. If the Authority wishes to dispute the occurrence of a Delay Event or the Delay Event Remedy claimed in the Delay Event Notice, the Authority shall give notice of dispute (the "Delay Event Dispute Notice") to the Concessionaire within thirty (30) days following the date of receipt of the Delay Event Notice stating the grounds for such dispute, and if neither the Delay Event Notice nor the Delay Event Dispute Notice has been withdrawn within thirty (30) days following the date of receipt of the Delay Event Dispute Notice by the Concessionaire, the matter shall be submitted to the dispute resolution procedure in Article 19.

ARTICLE 16

DEFAULTS; HANDBACK LETTERS OF CREDIT

Section 16.1 Default by the Concessionaire.

(a) *Events of Default.* The occurrence of any one or more of the following events during the Term shall constitute a "Concessionaire Default" under this Agreement:

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(i) if the Concessionaire fails to comply with, perform or observe (A) any material obligation, covenant, agreement, term or condition in this Agreement (other than any failure to comply with respect to which a Noncompliance Point was or could have been assessed and other than in respect of a Persistent Concessionaire Default), or (B) the requirements or directives of a final decision in a matter submitted to dispute resolution in accordance with Article 19, and such failure continues unremedied for a period of ninety (90) days following notice thereof (giving particulars of the failure in reasonable detail) from the Authority to the Concessionaire or for such longer period as may be reasonably necessary to cure such failure; *provided* that, in the latter case, where such longer cure period applies, the Concessionaire has demonstrated to the satisfaction of the Authority, acting reasonably, that (x) it is proceeding, and will proceed, with all due diligence to cure or cause to be cured such failure, (y) its actions can be reasonably expected to cure or cause to be cured such failure within a reasonable period of time acceptable to the Authority, acting reasonably and (z) such failure is in fact cured within such period of time;

(ii) there occurs any Persistent Concessionaire Default, of which the Authority has given notice to the Concessionaire, and either (a) the Concessionaire fails to deliver to the Authority a proposed Remedial Plan within forty-five (45) days after receiving such notice (which Remedial Plan shall, for the avoidance of doubt, be subject to Approval by the Authority in its discretion), and such failure is not cured within fifteen (15) days after the Authority gives notice of such failure to the Concessionaire, or (b) the Concessionaire fails to fully comply in any material respect with the schedule or specific elements of, or actions required under, such Remedial Plan, and such failure is not cured within thirty (30) days after the Authority gives notice of such failure to the Concessionaire;

(iii) if this Agreement or all or any portion of the Concessionaire Interest or an initial Equity Participant's equity interest in the Concessionaire is Transferred in contravention of Article 17;

(iv) if the Concessionaire (A) admits, in writing, that it is unable to pay its debts as such become due, (B) makes an assignment for the benefit of creditors, (C) files a voluntary petition under Title 11 of the United States Code, or if the Concessionaire files any petition or answer seeking, consenting to or acquiescing in any reorganization, arrangement, composition, readjustment, liquidation, dissolution or similar relief under the present or any future United States bankruptcy code or any other present or future applicable Law, or shall seek or consent to or acquiesce in or suffer the appointment of any trustee, receiver, custodian, assignee, sequestrator, liquidator or other similar official of the Concessionaire, or of all or any substantial part of its properties or of the Toll Roads or any interest therein, or (D) takes any corporate action in furtherance of any action described in this Section 16.1(a)(iv);


(v) if within sixty (60) days after the commencement of any proceeding against the Concessionaire seeking any reorganization, arrangement, composition, readjustment, liquidation, dissolution or similar relief under the present or any future United States bankruptcy code or any other present or future applicable Law, such proceeding has not been dismissed, or if, within sixty (60) days after the appointment, without the consent or acquiescence of the Concessionaire, of any trustee, receiver, custodian, assignee, sequestrator, liquidator or other similar official of the Concessionaire or of all or any substantial part of its properties or of the Toll Roads or any interest therein, such appointment has not been vacated or stayed on appeal or otherwise, or if within ninety (90) days after the expiration of any such stay, such appointment has not been vacated; and

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(vi) if a levy under execution or attachment has been made against all or any material part of the Toll Roads or any interest therein as a result of any Encumbrance (other than a Permitted Concessionaire Encumbrance) created, incurred, assumed or suffered to exist by the Concessionaire or any Person claiming through it, and such execution or attachment has not been vacated, removed or stayed by court order, bonding or otherwise within a period of sixty (60) days, unless such levy resulted from actions or omissions of the Authority or its Representatives.

(b) *Remedies of the Authority Upon Concessionaire Default.* Upon the occurrence and during the continuance of a Concessionaire Default, the Authority may, by notice to the Concessionaire with a copy to the Concession Mortgagee in accordance with the terms hereof, declare the Concessionaire to be in default and may, subject to rights of the Concession Mortgagee pursuant to Sections 18.3 and 18.4 and the provisions set forth in Articles 18, 19 and 20, do any or all of the following as the Authority, in its discretion, shall determine:

(i) The Authority may terminate this Agreement (without the need for reentry or any other action on behalf of the Authority) by giving ninety (90) days' prior notice to the Concessionaire upon the occurrence of (A) a Concessionaire Default that consists of a failure to comply with, perform or observe any Operating Standard if such Concessionaire Default creates a material danger to the safety of Toll Road Operations or a material impairment to the Toll Roads or to the continuing use of the Toll Roads for transportation purposes, or (B) any other Concessionaire Default (including a Concessionaire Default under Section 16.1(a)(ii); *provided, however*, that the Concessionaire shall be entitled to cure a Concessionaire Default pursuant to Section 16.1(a)(i) by providing the Authority with a proposed Remedial Plan within such ninety 90-day period outlining the actions by which the Concessionaire will ensure future

compliance with either (x) the obligation, covenant, agreement, term or condition in this Agreement or (y) the requirements or directives of the issued final decision in accordance with Article 19 that the Concessionaire failed to perform or observe, which Remedial Plan shall, for the avoidance of doubt, be subject to Approval by the Authority, but any failure of the Concessionaire to comply in any material respect with such Remedial Plan following ninety (90) days' notice of such failure from the Authority to the Concessionaire shall be deemed to be a Concessionaire Default described in Section 16.1(a)(i) and the entitlement of the Concessionaire to cure such Concessionaire Default by the delivery of a Remedial Plan shall not apply thereto; *provided further*, that the Authority shall not exercise the remedy provided in this clause (i) if the Concessionaire Default consists solely of a violation of any of the provisions of Section 11.2 through Section 11.12 (inclusive) unless such violation is systematic or persistent or the exercise of such remedy is required by law; *provided further*, that remedies for rescission or termination of this Agreement pursuant to Section 16.6 shall be exclusively as provided in such section; *provided further*, that violation of Section 11.2 through Section 11.12 (inclusive) shall subject the Concessionaire to such fines or penalties otherwise applicable to such violation as they be imposed by the appropriate Governmental Authority or to the imposition of a requirement on the Concessionaire to demonstrate to the Authority that the Concessionaire has or will implement all actions considered necessary by the Authority (which may, at the option of the Authority, include delivery by the Concessionaire of a Remedial Plan) to remedy such violation;

 (ii) if the Concessionaire Default is by reason of the failure to pay any monies, the Authority may (without obligation to do so) make payment on behalf of the Concessionaire of such monies, and any amount so paid by the Authority shall be payable by the Concessionaire to the Authority within three (3) Business Days after written demand therefor;

(iii) the Authority may cure the Concessionaire Default (but this shall not obligate the Authority to cure or attempt to cure a Concessionaire Default or, after having commenced to cure or attempted to cure a Concessionaire Default, to continue to do so), and all costs and expenses reasonably incurred by the Authority in curing or attempting to cure the Concessionaire Default, together with an administrative fee equal to fifteen percent (15%) of such costs and expenses, shall be payable by the Concessionaire to the Authority within three (3) Business Days after written demand therefor; *provided, however*, that (A) the Authority shall not incur any liability to the Concessionaire for any act or omission of the Authority or any other Person in the course of remedying or attempting to remedy any Concessionaire Default (other than as a result of negligence or willful misconduct) and (B) the Authority's cure of any Concessionaire Default shall not affect the Authority's rights against the Concessionaire by reason of the Concessionaire Default;

(iv) the Authority may seek specific performance, injunction or other equitable remedies, it being acknowledged that damages are an inadequate remedy for a Concessionaire Default;

(v) the Authority may seek to recover its Losses arising from such Concessionaire Default and any amounts due and payable under this Agreement and, in connection therewith, exercise any recourse available to any Person who is owed damages or a debt;

(vi) the Authority may, subject to applicable Law, distrain against any of the Concessionaire's goods situated on the Toll Roads and the Concessionaire waives any statutory protections and exemptions in connection therewith;

(vii) subject to the rights of the Concession Mortgagee under the Concession Mortgage and this Agreement, the Authority may close any and all portions of the Toll Roads;

(viii) the Concessionaire may be debarred or suspended for ten (10) years in accordance with Section 10(a)(xv)(C) of the Act; and

(ix) the Authority may exercise any of its other rights and remedies provided for hereunder or at law or equity.

Section 16.2 Defaults by the Authority.

(a) *Events of Default.* The occurrence of any one or more of the following events during the Term shall constitute an "Authority Default" under this Agreement:

(i) if (A) the Authority fails to comply with or observe (1) any material obligation, covenant, agreement, term or condition in this Agreement (other than an Adverse Action) and, without prejudice to subsection (iv) below, the Escrow Agreements and the Disbursement Instructions (including the obligations of the Authority pursuant to Section 3.16(d)), or (2) the requirements or directives of a final decision in a matter submitted to dispute resolution in accordance with Article 19; or (B) the Authority or the Commonwealth (or any Government Authority thereof) fails to maintain or implement the current administrative practice or requirement of collecting any unpaid tolls as a condition precedent to the issuance or renewal of a vehicle registration; and, in each case, such failure or breach continues unremedied for a period of ninety (90) days following notice thereof (giving particulars of the failure in reasonable detail) from the Concessionaire to the Authority or for such longer period as may be reasonably necessary to cure such failure; *provided* that, in the latter case where such a longer cure period applies, the Authority has demonstrated to the satisfaction of the Concessionaire, acting reasonably, that (x) it is proceeding with all due diligence to cure or cause to be cured such failure, (y) its actions can be reasonably expected to cure or cause to be cured such failure within a reasonable period of time acceptable to the Concessionaire, acting reasonably and (z) such failure is in fact cured within such period of time;

(ii) if a levy under execution or attachment has been made against all or any material part of the Toll Roads or the Concessionaire Interest as a result of any Encumbrance (other than a Permitted Authority Encumbrance) created, incurred, assumed or suffered to exist by the Authority or any Person claiming through it, and such execution or attachment has not been vacated, removed or stayed by court order, bonding or otherwise within a period of sixty (60) days, unless such levy resulted from actions or omissions of the Concessionaire or its Representatives or if all or any material part of the Toll Roads shall be subject to a condemnation or similar taking by the Authority or any Governmental Authority;

(iii) if the Authority Transfers any or all of its interest in the Toll Roads or this Agreement other than in compliance with Section 17.2; and

(iv) if the Authority, at any time, issues any instructions or revokes any existing instructions, in each case, in any manner contradictory to or inconsistent with the Disbursement Instructions or the New Escrow Agreement, or otherwise contests the validity or enforceability of (or take any actions in furtherance of the same) or takes any repudiatory or similar action in respect of the agreements, including the authority of the Escrow Agent, contained in the Disbursement Instructions or the New Escrow Agreement.

(b) *Remedies of Concessionaire Upon Authority Default.* Upon the occurrence and during the continuance of an Authority Default, the Concessionaire may by notice to the Authority declare the Authority to be in default and may, subject to the provisions of Article 19, do any or all of the following as the Concessionaire, in its discretion, shall determine:

(i) the Concessionaire is entitled to receive from the Authority the Concession Compensation with respect thereto;

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(ii) the Concessionaire is entitled to terminate this Agreement by giving ninety (90) days' prior notice to the Authority; *provided, however*, that the Authority shall be entitled to cure an Authority Default pursuant to Section 16.2(a)(i) by providing the Concessionaire with a written work plan within such ninety (90)-day period outlining the actions by which the Authority will ensure future compliance with either (A) the obligation, covenant, agreement, term or condition in this Agreement or (B) the requirement or directive of the final decision in accordance with Article 19 that the Authority failed to perform or observe, which work plan is approved by the Concessionaire (which approval shall not be unreasonably withheld, delayed or conditioned), but any failure of the Authority to comply in any material respect with such approved work plan following ninety (90) days' notice of such failure from the Concessionaire to the Authority shall be deemed to be an Authority Default described in Section 16.2(a)(i) and the entitlement of the Authority to cure such Authority Default by the delivery of an approved work plan shall not apply thereto; and upon such termination by the Concessionaire, the Authority shall be obligated to pay on the Reversion Date to the Concessionaire in cash an amount equal to the aggregate, without duplication, of (w) the Toll Road Concession Value as of the date of termination, plus (x) the reasonable out-of-pocket and documented costs and expenses incurred by the Concessionaire as a direct result of such termination (including payments made by the Concessionaire to its Equity Participant or other Affiliates pursuant to contracts entered into on an arm's-length basis), plus (y) the Concession Compensation calculated for the period between the date of the Authority Default and the date of termination, less (z) any insurance proceeds payable (or that should have been payable but for (1) the breach of an obligation to take out or maintain insurance by the Concessionaire under this Agreement or (2) the invalidity or breach of any insurance policy caused by the Concessionaire under which policy such proceeds would have been paid) to the Concessionaire or condemnation or similar proceeds with respect to all or any portion of the Toll Roads as a result of the occurrence of such Authority Default (collectively, the "AD-Termination Damages") or, if the AD-Termination Damages are determined on a date subsequent to the Reversion Date, then not later than ninety (90) days following the date of determination of the AD-Termination Damages (together with interest at

the rate set forth in Section 20.9 from the Reversion Date to the date on which payment is made); *provided* that, subject to the right of the Concessionaire to receive interest at the rate set forth in Section 20.9 on the payment owed by the Authority from the Reversion Date to the date on which payment is made, the Authority may defer any such payment for an additional one hundred twenty (120) days if the Authority reasonably determines that such additional period is necessary to obtain financing or required approvals to make such a payment; *provided, however*, that any amounts received by the Concessionaire or any Concession Mortgagee from any insurance policies payable as a result of damage or destruction to the Toll Roads that has not been remedied prior to the Reversion Date, shall, to the extent not used to remedy such effects, be deducted from the amount payable by the Authority to the Concessionaire so long as the Authority has not received any such amounts pursuant to Article 13;

(iii) the Concessionaire is entitled to exercise any of its rights and remedies at law or in equity;

(iv) the Concessionaire is entitled to seek to recover its Losses and any amounts due and payable under this Agreement and, in connection therewith, exercise any recourse available to any Person who is owed damages or a debt by the Authority; and

(v) the Concessionaire is entitled to exercise any of its other rights and remedies provided for hereunder.

(c) Any dispute arising out of the determination of the AD-Termination Damages shall be submitted to the dispute resolution procedure in Article 19.

(d) No notice given by the Concessionaire to the Authority in which the Concessionaire states that it elects to exercise its right of termination of this Agreement shall be valid for any purpose unless, if any Concession Mortgage Debt remains outstanding and if and to the extent required by the terms of any Concession Mortgage, the Concessionaire has first obtained and delivered to the Authority the written consent of the Concession Mortgagee to such notice.

Section 16.3 Handback Letters of Credit; Capital Costs Reserve.

(a) The Concessionaire shall deliver no later than the first day of the Concession Year that is five (5) years prior to the final Concession Year of the Term, a Letter of Credit in the amount then to be calculated equal to the amount that the Independent Operating Engineer reasonably determines is appropriate to cover all costs of capital improvements for the remainder of the Term as set forth in the Operating Standards.

(b) Subject to Section 16.3(c), such Letter of Credit shall be replaced on every anniversary of such Concession Year until the date that is three (3) years after the later of (i) the expiration of the Term and (ii) such time as there is no unresolved dispute with respect to the Concessionaire's compliance with or performance or observation of any obligation, covenant, agreement, term or condition in this Agreement with a Replacement Letter of Credit in the amount of the undrawn balance of such Letter of Credit plus the amount of interest that would have been earned on such balance if invested for the next 12-month period at the Bank Rate.

The required amount of any Letter of Credit may be adjusted from time to time (at intervals that may be shorter than one Concession Year) by the amount that the Independent Operating Engineer reasonably determines is appropriate (taking into account progress by the Concessionaire made toward the completion of capital improvements and changes in costs of remaining capital improvements) such that the amount of the Letter of Credit after such adjustment remains sufficient to cover all costs of capital improvements for the remainder of the Term as required by the Operating Standards. Upon the occurrence of a Concessionaire Default (or if there is a dispute as to the occurrence of a Concessionaire Default, upon a final decision pursuant to Article 19 that a Concessionaire Default has occurred), the Authority shall have the right (in addition to all other rights and remedies provided in this Agreement, but with the understanding that any other monetary damages that the Authority may recover will be reduced by the amount so drawn, and without the Authority's exercise of such right being deemed a waiver or a cure of the Concessionaire's failure to perform and whether or not this Agreement is thereby terminated), with three (3) Business Days' prior notice to the Concessionaire, to draw against such Letter of Credit or any replacement thereof, upon presentation of a sight draft and a certificate confirming that the Authority has the right to draw under such Letter of Credit in the amount of such sight draft, up to the amount due to the Authority with respect to such Concessionaire Default. Upon the expiration of this Agreement at the end of the Term, any Letter of Credit, Replacement Letter of Credit, surety bond or other form of security delivered pursuant to Section 16.3(h) will remain in effect until a determination by the Authority that the Concessionaire's obligations under this Section 16.3 have been fully satisfied.

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(c) The Concessionaire shall replace each Letter of Credit with a replacement Letter of Credit (the "Replacement Letter of Credit") at least sixty (60) days prior to the expiry date of a Letter of Credit which is expiring. If the Concessionaire does not deliver to the Authority a Replacement Letter of Credit within such time period, the Authority shall have the right (in addition to all other rights and remedies provided in this Agreement and without the Authority's exercise of such right being deemed a waiver or a cure of the Concessionaire's failure to perform and whether or not this Agreement is thereby terminated) to draw immediately the full amount of the Letter of Credit upon presentation of a sight draft and a certificate confirming that the Authority has the right to draw under such Letter of Credit in the amount of such sight draft. After the Concessionaire delivers to the Authority a Replacement Letter of Credit complying with the provisions of this Agreement, the Authority shall deliver in accordance with the Concessionaire's reasonable instructions the Letter of Credit being replaced (*provided* that at such time no sight draft under such Letter of Credit is outstanding and unpaid). Any Replacement Letter of Credit shall be upon the same terms and conditions as the Letter of Credit replaced and satisfy the requirements for a Letter of Credit, but in any event (i) the amount of each Replacement Letter of Credit, except as provided in Section 16.3(b), shall equal or exceed the amount of the Letter of Credit being replaced at the time of replacement and (ii) the date of the Replacement Letter of Credit shall be its date of issuance. The expiry date of the Replacement Letter of Credit, as referred to in the opening paragraph of such Replacement Letter of Credit, shall be not earlier than one year later than the expiry date of the Letter of Credit being replaced or such other period acceptable to the Authority.

(d) If this Agreement is terminated by the Authority prior to the expiration of the Term as a result of a Concessionaire Default in accordance with the terms hereof, the

Authority shall have the right (in addition to all other rights and remedies provided in this Agreement and without the Authority's exercise of such right being deemed a waiver or a cure of the Concessionaire's failure to perform), with three (3) Business Days' prior notice to the Concessionaire, to draw against any Letter of Credit, upon presentation of a sight draft and a certificate confirming that the Authority has the right to draw under such Letter of Credit in the amount of such sight draft, up to the amount due to the Authority pursuant to the terms of this Agreement. The Parties acknowledge that the damages suffered by the Authority as a result of such termination would be impossible to ascertain and that the amount of the Letter of Credit posted in accordance with this Section 16.3 is a reasonable estimate thereof and is not intended as a penalty.

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(e) The Authority will accept the Letters of Credit to be delivered pursuant to this Section 16.3 (and pursuant to Section 2.3) as security for the Concessionaire's obligations under this Agreement, in place of a cash deposit in the same amount. The Concessionaire's sole remedy in connection with the improper presentment or payment of sight drafts drawn under the Letter of Credit shall be the right to obtain from the Authority a refund of the amount of any sight draft the proceeds of which were drawn inappropriately or misapplied and the reasonable costs incurred by the Concessionaire as a result of such draw or misapplication (including, for the avoidance of doubt, interest thereupon); *provided, however*, that at the time of such refund, the Concessionaire increases the amount of the Letter of Credit to the amount (if any) then required under the applicable provisions of this Agreement. The Concessionaire acknowledges that the presentment of sight drafts drawn under the Letter of Credit could not under any circumstances cause the Concessionaire injury that could not be remedied by an award of money damages, and that the recovery of money damages would be an adequate remedy therefor. The Concessionaire shall not request or instruct the issuer of the Letter of Credit to refrain from paying any sight draft drawn under a Letter of Credit.

(f) If the Authority desires to assign its rights and obligations in accordance with Section 17.2 of this Agreement, the Concessionaire shall cooperate so that concurrently with the effectiveness of such assignment, either Replacement Letters of Credit as described in Section 16.3(c) for, or appropriate amendments to, the Letters of Credit then held by the Authority, in either case identifying as beneficiary the appropriate party after the assignment becomes effective, shall be delivered to the Authority, at no cost to the Concessionaire.

(g) The Concessionaire shall obtain and furnish all Letters of Credit and Replacement Letters of Credit at its sole cost and expense and shall pay all charges imposed in connection with the Authority's presentation of sight drafts and drawing against the Letters of Credit or Replacement Letters of Credit.

(h) In lieu of any Letter of Credit to be provided by the Concessionaire pursuant to the terms of this Section 16.3, whether in whole or in part, the Concessionaire shall, at the Concessionaire's discretion, have the option:

(i) to provide a surety bond or other similar form of security (in each case, consistent (including as to form and credit quality of issuer) with the requirements set forth herein for Letters of Credit) or to deposit with a Depositary for the benefit of the Authority, as

collateral security, cash or Eligible Investments in an amount equal to the amount of such Letter of Credit, or relevant part thereof, at the time of such deposit, or

(ii) to create and maintain a reserve account (the "Capital Costs Reserve") in such amount as may be required by, and under the control of, the Concession Mortgagee for the purpose of providing for the payment, whether in whole or in part, of the costs of capital improvements required by the Operating Standards for the remainder of the Term; *provided* that the terms under which such Capital Costs Reserve is established and maintained under the applicable financing agreements will ensure its availability to the Authority in the case of a Concessionaire Default, subject only to the rights of the Concession Mortgagee under Section 18.3. In the event the Concessionaire opts to establish a deposit pursuant to Section 16.3(h)(i), the Depositary shall invest and reinvest such amounts in Eligible Investments at the discretion of the Authority; *provided* that earnings thereon shall be paid to the Concessionaire. If, at any time during the Term, the Authority would have the right to draw any amount on a Letter of Credit for which the Concessionaire has substituted cash or Eligible Investments or the Capital Costs Reserve pursuant to this Section 16.3(h)(ii), the Concessionaire shall cause the Depositary to pay such amount to the Authority from such cash deposit or Eligible Investments or the Concessionaire shall cause the Concession Mortgagee to pay such amount to the Authority from the Capital Costs Reserve, as the case may be, in accordance with the terms of this Section 16.3, and all rights and remedies of the Authority and the Concessionaire with respect to such cash deposits or, Eligible Investments, if any, and Capital Costs Reserve (subject to the rights of the Concession Mortgagee in the Capital Costs Reserve) shall be the same as those provided in this Section 16.3, with respect to any Letter of Credit; *provided, however*, that the certification that would have been provided by the Authority with the sight draft had cash or Eligible Investments not been so substituted shall be made to the Depositary and delivered to the Depositary together with the Authority's written demand for payment.


(i) If Letters of Credit shall not in the future be available at commercially reasonable terms and rates or shall not be a commercially reasonable form of security in similar transactions, the Concessionaire shall furnish the Authority with comparable security instruments or Eligible Investments that then are commonly used in similar transactions and which are Approved by the Authority; and if no such security instruments shall be available, the Concessionaire shall deposit with the Authority cash as security.

(j) In the event that the issuer of a Letter of Credit, a Replacement Letter of Credit, a surety bond or any other form of security delivered pursuant to Section 16.3(h) no longer meets the credit rating requirements for such issuer set forth in this Agreement, then the Concessionaire shall have the obligation to replace such Letter of Credit, Replacement Letter of Credit, surety bond or other security with an instrument that meets the requirements set forth in this Agreement. If the Concessionaire shall not have replaced such Letter of Credit, Replacement Letter of Credit, surety bond or other security with an instrument that meets the requirements set forth in this Agreement within thirty (30) days, the Authority shall have the right (in addition to all other rights and remedies provided for in this Agreement, without the Authority's exercise of such right to be deemed a waiver or cure of the Concessionaire's failure to perform and whether or not this Agreement is thereby terminated), with two (2) Business Days' prior notice to the Concessionaire, to draw against such Letter of Credit, Replacement

Letter of Credit, surety bond or other security in accordance with its terms in the full amount available thereunder, but with the understanding that any other monetary damages that the Authority may recover will be reduced by the amount so drawn.

(k) Any Letter of Credit, Replacement Letter of Credit, surety bond or other form of security delivered pursuant to Section 16.3(h) shall provide that the Authority may draw on such Letter of Credit, Replacement Letter of Credit, surety bond or other security in accordance with its terms in the circumstances set forth in Section 16.3(j).

Section 16.4 Consequences of Termination or Reversion. Upon the termination of this Agreement and, in the event of termination pursuant to Section 14.2, Section 16.2(b)(ii), Section 16.6 or Section 16.5, concurrently with the payment to the Concessionaire of all Termination Damages due as a result of such termination (notwithstanding any claims the Parties may have against each other and subject to Section 16.2(b)(iv), Section 9.5 and Article 18), the following provisions shall apply:

 (a) the Concessionaire shall, without action whatsoever being necessary on the part of the Authority, well and truly surrender and deliver to the Authority the Toll Roads (including all improvements on the Toll Road Land comprising the Toll Road Facilities), the Toll Road Assets and all tangible and intangible personal property (including inventories) located on the Toll Roads or used in connection with the Toll Road Operations (except in the case of a termination in the circumstances contemplated by Section 13.3(b)) in good order, condition and repair (reasonable wear and tear excepted), determined reasonably in accordance with then applicable Operating Standards, free and clear of all Encumbrances other than (A) Permitted Concessionaire Encumbrances set forth in clause (iv) of the definition of that term, (B) Permitted Authority Encumbrances affecting title to the Toll Roads existing at the Time of Closing, (C) those created by or suffered to exist or consented to by the Authority or any Person claiming through it, and (D) with respect to any property added to the Toll Roads after the Time of Closing, title defects affecting such property in existence on the date such property is added to the Toll Roads;

(b) the Concessionaire hereby waives any notice now or hereafter required by Law with respect to vacating the Toll Roads on the Reversion Date;

(c) the Authority shall, as of the Reversion Date, assume full responsibility for the Toll Road Operations, and as of such date, the Concessionaire shall have no liability or responsibility for the provision of Toll Road Services or the performance of Toll Road Operations occurring after such date;

(d) the Concessionaire shall be responsible for all costs, expenses and other amounts for which it is responsible hereunder incurred or arising up to but not including the Reversion Date, and the Authority shall be responsible for all costs, expenses and amounts incurred or arising in connection with the Toll Road Operations on and after the Reversion Date;

(e) the Authority shall have the option by providing notice of the same to the Concessionaire, to require that the Concessionaire assign (to the extent assignable), without warranty or recourse to the Concessionaire, all of its right, title and interest in, to and under all or

any of the Operating Agreements then in effect (including any Assigned Contract then in effect) and all Authorizations to the Authority or its designee for the remainder of their respective terms; *provided, however*, that if the Authority exercises such option, the right, title and interest of the Concessionaire in, to and under such Operating Agreements and Authorizations shall be assigned to the Authority or its nominee as of the Reversion Date and the Concessionaire shall surrender the Toll Roads to the Authority and shall cause all Persons claiming under or through the Concessionaire to do likewise, and the Authority shall assume in writing, pursuant to an assumption agreement reasonably satisfactory to the Concessionaire, the Concessionaire's obligations under the Operating Agreements that arise in respect of, or relate to, any period of time falling on and after the Reversion Date; *provided further*, that if the Authority does not exercise such option, the Concessionaire shall, unless the Authority has granted to a Concession Mortgagee or its nominee a new concession agreement containing the same provisions as are contained in this Agreement, take such steps as are necessary to terminate the Operating Agreements;

(f) all plans, drawings, specifications and models prepared in connection with construction of the Toll Roads and in the Concessionaire's possession and all "as-built" drawings shall become the sole and absolute property of the Authority, and the Concessionaire shall promptly deliver to the Authority all such plans, drawings, specifications and models and all such "as-built" drawings (but may keep copies of those plans, drawings, specifications and models that were developed by the Concessionaire or its Representatives);

(g) the Concessionaire, at its sole cost and expense, shall promptly deliver to the Authority copies of all records and other documents relating to the Toll Road Revenues that are in the possession of the Concessionaire or its Representatives and all other than existing records and information relating to the Toll Roads as the Authority, acting reasonably, may request;

(h) the Concessionaire shall execute and deliver to the Authority a release or other instrument reasonably required by the Authority to evidence such expiration or termination;

(i) the Concessionaire shall assist the Authority in such manner as the Authority may reasonably require to ensure the orderly transition of control, operation, management, maintenance, rehabilitation and tolling of the Toll Roads, and shall, if appropriate and if requested by the Authority, take all steps as may be necessary to enforce the provisions of the Operating Agreement pertaining to the surrender of the Toll Roads;

(j) the Authority and the Concessionaire shall make appropriate adjustments, including adjustments relating to any Operating Agreements assigned to the Authority, tolls, fees and other similar charges collected on and after the Reversion Date that are incurred prior to the Reversion Date, and utilities, and any adjustments and payment therefor shall be made by the appropriate Party on the Reversion Date, but shall be subject to readjustment if necessary because of error in matters such as information, calculation, payments and omissions that are identified within the period of one hundred eighty 180 days following the Reversion Date; *provided, however*, that the Authority and the Concessionaire acknowledge that certain adjustments or readjustments may have to be made when a third party provides to the Authority

or the Concessionaire a final adjustment amount in respect of a matter, and for such matters the adjustment and readjustment date shall each be correspondingly extended;

(k) if this Agreement is terminated as a result of an Adverse Action, the payment by the Authority to the Concessionaire of the amounts required under Article 14 or Article 19 shall constitute full and final settlement of any and all Claims the Concessionaire may have against the Authority for and in respect of the termination of this Agreement and upon such payment, the Concessionaire shall execute and deliver all such releases and discharges as the Authority may reasonably require to give effect to the foregoing; and

(l) the Authority shall have the right to purchase from the Concessionaire, for fair market value determined pursuant to a written appraisal (at the Authority's expense and by an independent third party appraiser described under "Toll Road Concession Value"), a nonexclusive, irrevocable, fully transferable and fully paid up license in respect of any Proprietary Intellectual Property developed by the Concessionaire, its Contractors, subcontractors, Affiliates or Representatives after the Closing Date for use in connection with the operation of the Toll Roads.

This Section 16.4 shall survive the expiration or any earlier termination of this Agreement.

Section 16.5 Termination Other Than Pursuant to Agreement. If this Agreement is terminated other than pursuant to this Article 16, or is canceled, rescinded or voided during the Term for any reason over the objection or without action by the Concessionaire, any Concession Mortgagee or their respective Affiliates (other than by reason of the application of Section 16.6), the Authority shall pay to the Concessionaire the AD-Termination Damages in accordance with Section 16.2. The Authority hereby acknowledges and agrees that it may only terminate this Agreement in accordance with the express terms hereof and shall not, in any event, have the right to terminate this Agreement for convenience. This Section 16.5 shall survive the expiration or any earlier termination of this Agreement.

Section 16.6 Termination Required by Act No. 2, Public Integrity Crimes, and Misrepresentations in Oversight Board Certification.

(a) This Agreement shall automatically be rescinded by operation of Act No. 2 if the Concessionaire or any subsidiary or *alter ego* thereof is convicted or enters a plea of guilty in respect of any Specified Public Integrity Crime, or if any other Covered Party is convicted or enters a plea of guilty in respect of any Specified Public Integrity Crime while in the employ of the Concessionaire.

(b) The Authority may terminate this Agreement as permitted or required by Act No. 237 or Act No. 2, if the Concessionaire is convicted of a Public Integrity Crime that is not a Specified Public Integrity Crime.

(c) The Authority, in consultation with the Oversight Board, may terminate this Agreement in the event of any misrepresentation, inaccuracy or falseness with respect to a material fact in the Oversight Board Certification. In addition, the Authority, after disclosure to

and consultation with the Oversight Board, may provide, in its discretion, an opportunity to the Concessionaire to attempt to cure such misrepresentation, inaccuracy or falseness and the Authority, after disclosure to and consultation with the Oversight Board, shall determine whether any such cure is acceptable in its discretion.

(d) If this Agreement is rescinded or terminated during the Term pursuant to clause (a) or (b) of this Section 16.6 and, in the case of a rescission caused by the conviction or the entering of a plea of guilty for a Specified Public Integrity Crime, such crime was not committed in connection with the procurement of this Agreement, then the Authority shall be obligated to pay to the Concessionaire an amount equal to the lesser of (i) the Toll Road Concession Value and (ii) the Unamortized Concession Fee, in each case calculated as of the End Date (the "PIC-Termination Damages"); *provided* that, (x) subject to the right of the Concessionaire to receive interest at the rate set forth in Section 20.9 on the payment owed by the Authority from the End Date to the date on which payment is made, the Authority may defer any such payment for an additional one hundred twenty (120) days if the Authority reasonably determines that such additional period is necessary to obtain financing or required approvals to make such payment and (y) if the amount of the PIC-Termination Damages is less than or equal to the sum of the Concession Mortgage Debt and any related Breakage Costs as of the End Date, then the Authority shall enter into a New Agreement with the Concession Mortgagee, or its designee or nominee, subject to and in accordance with Section 18.5 (and subject to clause (e) of this Section 16.6), and the Authority shall be released from any obligation to pay PIC-Termination Damages or any other compensation to the Concessionaire in connection with such rescission or termination.

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(e) If this Agreement (i) is rescinded during the Term pursuant to clause (a) of this Section 16.6 as a result of a Specified Public Integrity Crime committed in connection with the procurement of this Agreement or (ii) terminated by the Authority pursuant to clause (c) of this Section 16.6, then the Authority shall enter into a New Agreement with the Concession Mortgagee, or its designee or nominee, subject to and in accordance with Section 18.5 (and subject to clause (f) of this Section 16.6), and the Concessionaire shall not be entitled to receive any PIC-Termination Damages or other compensation of any form or amount from the Authority in connection with such rescission.

(f) Notwithstanding anything to the contrary herein, in the event the Authority is required to enter into any New Agreement pursuant to Section 16.6(d) or Section 16.6(e), the Authority may elect, in its sole option by notice to the Concessionaire at any time prior to the execution and delivery of such New Agreement, to pay to the Concessionaire a sum equal to the Concession Mortgage Debt and any related Breakage Costs, and upon such notice the Authority shall be (i) released from the obligation to enter into such New Agreement and (ii) obligated to pay such sum to the Concessionaire in cash; *provided* that, subject to the right of the Concessionaire to receive interest at the rate set forth in Section 20.9 on the payment owed by the Authority from the End Date to the date on which payment is made, the Authority may defer any such payment for an additional one hundred twenty (120) days if the Authority reasonably determines that such additional period is necessary to obtain financing or required approvals to make such payment.


(g) If this Agreement is rescinded or terminated during the Term pursuant to this Section 16.6, then the Authority shall recover from the Concessionaire all of the Authority's reasonable out-of-pocket expenses and Financing Costs, if any, arising in connection with such rescission or termination, together with any reasonable Re-Tender Costs relating to any Re-Tender of the Toll Roads following such rescission or termination.

(h) Without limiting the obligation of the Concessionaire to make any payment in accordance with clause (g) of this Section 16.6 or any other payment then expressly due under any other provision of this Agreement, the Authority and the Concessionaire acknowledge and agree that if this Agreement is rescinded or terminated pursuant to this Section 16.6, the Concessionaire shall not be liable as a result of such rescission or termination to return any Toll Road Revenues or other amounts received by it in accordance with this Agreement during the Term. The provisions of this Section 16.6 shall survive the termination of this Agreement and shall continue in full force and effect thereafter to the same extent as if this Section 16.6 were a separate and independent contract made by the Authority with each of the Concession Mortgagee and the Concessionaire.

ARTICLE 17

RESTRICTIONS ON TRANSFERS

Section 17.1 Transfers by the Concessionaire.

 (a) The Concessionaire shall not Transfer, or otherwise permit the Transfer of, any or all of the Concessionaire Interest to or in favor of any Person (a "Transferee"), unless (i) the Authority has Approved (based upon a determination in accordance with Section 17.1(b)) such proposed Transferee (unless it is the Concession Mortgagee or its designee or nominee permitted under Article 18) and (ii) the proposed Transferee (unless it is the Concession Mortgagee or its designee or nominee permitted under Article 18) enters into an agreement with the Authority in form and substance reasonably satisfactory to the Authority wherein the Transferee acquires the rights and assumes the obligations of the Concessionaire and agrees to perform and observe all of the obligations and covenants of the Concessionaire under this Agreement. Any Transfer made in violation of the foregoing provision shall be null and void *ab initio* and of no force and effect; *provided that*, while any Concession Mortgage is outstanding, the Authority shall not agree to any Transfer of any or all of the Concessionaire Interest to or in favor of any Person without the previous written confirmation from the Concession Mortgagee that such Transfer is permitted under all outstanding Concession Mortgages.

(b) The Authority's Approval of a proposed Transferee may be withheld only if the Authority reasonably determines that (i) the proposed Transfer is prohibited by applicable Law, (ii) such proposed Transferee's entering into this Agreement with the Authority is prohibited by Law, (iii) such proposed Transfer would result in a violation of Law, (iv) such proposed Transfer would result in a Tax obligation of the Authority (unless the Authority shall have received an obligation of payment with respect thereto from the Concessionaire or such proposed Transferee, as determined by the Authority, acting reasonably), (v) such proposed Transferee fails to satisfy any requirements set forth in Article 11 or (vi) such proposed Transferee is not capable of performing the obligations and covenants of the Concessionaire

under this Agreement, which determination shall be based upon and take into account the following factors: (A) the financial strength and integrity of the proposed Transferee, its direct or indirect beneficial owners, any proposed managers or operating partners and each of their respective Affiliates; (B) the experience of the proposed Transferee or the Operator to be engaged by the proposed Transferee in operating Comparable Highways that are toll roads and performing other relevant projects; (C) the background and reputation of the proposed Transferee, its direct or indirect beneficial owners, any proposed managers or operating partners, each of their respective officers, directors and employees and each of their respective Affiliates (including the absence of criminal, civil or regulatory claims or actions against any such Person and the quality of any such Person's past or present performance on other projects), and (D) the Operator engaged by the proposed Transferee (based upon a determination in accordance with Section 3.3(b)).


(c) No Transfer of all or any of the Concessionaire Interest (except a Transfer to a Concession Mortgagee or its nominee upon the Concession Mortgagee's exercise of remedies under its Concession Mortgage as provided in Article 18 and any subsequent Transfer to the Transferee of the Concession Mortgagee or its nominee that has been Approved under Section 17.1(b)) shall be made or have any force or effect if, at the time of such Transfer, there has occurred and is continuing a Concessionaire Default that has not been remedied or an event that with the lapse of time, the giving of notice or otherwise would constitute a Concessionaire Default.

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(d) A Change in Control of the Concessionaire or the Operator (other than a Change in Control occasioned by the exercise by any Concession Mortgagee or any holder of Qualified Debt of its remedies under any pledge of shares, limited liability company interests or partnership interests) shall be deemed to be a Transfer of the Concessionaire Interest for purposes of the foregoing provisions; *provided* that Section 17.1(a)(ii) shall not apply to a deemed Transfer under this Section 17.1(d) and *provided further*, that clauses (v) and (vi) of Section 17.1(b) shall apply (i) to the entity exercising control after the Change in Control and (ii) with respect to the Operator if the Change in Control results in a change of the Operator or a material change in the operations of the Operator. The Authority's judgment as to such Approval shall be based upon the Change in Control and the party or parties obtaining control and not upon considerations that do not arise out of the Change in Control.

(e) Nothing contained in the foregoing shall be deemed to prohibit or limit the Concessionaire from changing its organizational form or status (including a change from a limited liability company to a corporation or limited partnership); *provided* in each case that such change in organizational form or status does not result in a Change in Control of the Concessionaire.

(f) Neither (i) a change of ownership that is attributable to a lease, sublease, concession, management agreement, operating agreement or other similar arrangement that is subject and subordinate in all respects to the rights of the Authority under this Agreement nor (ii) the creation of a trust or any other transaction or arrangement that is solely a transfer of all or part of the Concessionaire's economic interest under this Agreement to another entity shall be deemed to be a Transfer of the Concessionaire Interest for purposes of this Section 17.1.

Section 17.2 Assignment by the Authority. The Authority shall have the right to Transfer any or all of the Authority's interest in the Toll Roads and this Agreement; *provided* that (a) it shall be jointly and severally obligated with the Transferee (unless the Transferee is the Authority's successor, in which case such successor shall be liable) for the performance and observance of the obligations and covenants of the Authority under this Agreement, each Other Authority Agreement, each Authority Capital Improvement Contract and any other agreement entered into by the Authority under this Agreement (including agreeing directly with any Concession Mortgagee to be bound by the agreement entered into in accordance with Section 18.3), and (b) that any such Transfer by the Authority shall not materially limit or reduce any of the Concessionaire's other rights, benefits, remedies or privileges under this Agreement or negatively affect the fair market value of the Concessionaire Interest. Without limiting the generality of the foregoing, the Concessionaire acknowledges and agrees that any action that may be taken under this Agreement by the Authority may be taken by the Authority or any other department, instrumentality or agency of any Governmental Authority of or in the Commonwealth and that any action taken by the Authority or any other department, instrumentality or agency of any Governmental Authority of or in the Commonwealth shall be deemed to have been taken by the Authority for purposes of this Agreement; *provided* that the Authority or any such other department, instrumentality or agency shall comply with the obligations of the Authority as set forth in this Agreement and under applicable Law.

 **Section 17.3 Transfers by Initial Equity Partners.** Notwithstanding anything in Section 17.1 to the contrary, the Concessionaire covenants and shall ensure that, prior to the Concessionaire's completion of the Tier 1 Works and the Tier 2 Works, no initial Equity Participant as of the Effective Date shall either (i) Transfer all or any portion of its direct equity interests in the Concessionaire to any Person, except for any Transfers of such direct equity interests to another initial Equity Participant so long as no Change in Control of the Concessionaire results, or (ii) undergo a Change in Control, in either such case except with the Approval of the Authority which may be withheld in the Authority's discretion; *provided*, that any transfer of the direct equity interests in the Concessionaire to the Concession Mortgagee or its designee or nominee permitted under Article 18 shall not require the Authority's consent.

ARTICLE 18

LENDER'S RIGHTS AND REMEDIES

Section 18.1 Concession Mortgages. The Concessionaire shall have the right, at its sole cost and expense, to grant one or more (subject to Section 18.7) Concession Mortgages, if at the time any such Concession Mortgage is executed and delivered to the Concession Mortgagee, no Concessionaire Default exists unless any such Concessionaire Default will be cured pursuant to Section 18.3 in connection with entering into such Concession Mortgage, and upon and subject to the following terms and conditions:

(a) the Concessionaire shall have provided the form of the Concession Mortgage and related financing documentation to the Authority, all of which shall be consistent with the terms and conditions of this Section 18.1, and the Authority shall be reasonably satisfied with any additional obligations or burdens to which it may be subject under such Concession Mortgage or related financing documentation;

(b) a Concession Mortgage may not cover any property of, or secure any debt issued or guaranteed by, any Person other than the Concessionaire or a Lessor in connection with a Leveraged Lease (or a financial institution providing a financial guaranty or similar credit enhancement in respect of any debt of the Concessionaire); *provided* that it may cover shares or equity interests in the capital of the Concessionaire or any cash reserves or deposits held in the name of the Concessionaire;

(c) no Person other than an Institutional Lender or a Conduit Issuer acting in its capacity as such shall be entitled to the benefits and protections accorded to a Concession Mortgagee in this Agreement; *provided, however*, that creditors and other lenders to the Concessionaire, including any financial insurers, shall be entitled to the benefits and protections accorded to a Concession Mortgagee in this Agreement so long as any Concession Mortgage securing the relevant debt or financial insurance provided by such Persons is held by an Institutional Lender acting as collateral agent or trustee with the customary powers given collateral agents or trustees in similar commercial financing transactions;

(d) no Concession Mortgage or other instrument purporting to mortgage, pledge, encumber, or create a lien, charge or security interest on or against any or all of the Concessionaire Interest shall extend to or affect the fee simple interest in the Toll Roads or the Authority's interest hereunder (other than a Permitted Concessionaire Encumbrance);

(e) the Authority shall have no liability whatsoever for payment of the principal sum secured by any Concession Mortgage, or any interest accrued thereon or any other sum secured thereby or accruing thereunder, and, except for violation by the Authority of the express obligations to the Concession Mortgagee set forth in this Article 18 and for any remedies of the Concession Mortgagee provided by Law, the Concession Mortgagee shall not be entitled to seek any damages or other amounts against the Authority for any or all of the same;

(f) the Authority shall have no obligation to any Concession Mortgagee in the enforcement of the Authority's rights and remedies herein and by Law provided, except as expressly set forth in this Agreement or in a consent agreement entered into among the Authority, the Concessionaire and the Concession Mortgagee pursuant to Section 18.1(l), and unless such Concession Mortgagee has provided the Authority with notice of its Concession Mortgage in accordance with the Concession Mortgagee Notice Requirements;

(g) each Concession Mortgage shall provide that if an event of default under the Concession Mortgage has occurred and is continuing and the Concession Mortgagee gives notice of such event of default to the Concessionaire, then the Concession Mortgagee shall give notice of such event of default to the Authority;

(h) subject to the terms of this Agreement and except as specified herein, all rights acquired by a Concession Mortgagee under any Concession Mortgage shall be subject and subordinate to all of the provisions of this Agreement and to all of the rights of the Authority hereunder;

(i) while any Concession Mortgage is outstanding, the Authority shall not agree to any amendment to or modification of this Agreement that could reasonably be expected

to have a material adverse effect on the rights or interests of the Concession Mortgagee or agree to a voluntary surrender or termination of this Agreement by the Concessionaire without the consent of the Concession Mortgagee;

(j) notwithstanding any enforcement of the security of any Concession Mortgage, the Concessionaire shall remain responsible to the Authority for the payment of all sums owing to the Authority under this Agreement and the performance and observance of all of the Concessionaire's covenants and obligations under this Agreement;

(k) a Concession Mortgagee shall not, by virtue of its Concession Mortgage, acquire any greater rights or interest in the Toll Roads than the Concessionaire has at any applicable time under this Agreement, other than such rights or interest as may be granted or acquired in accordance with Sections 18.2, 18.3, 18.4 or 18.5; and

(l) each Concession Mortgagee, the Authority and the Concessionaire shall enter into a consent agreement in a form acceptable to all parties whereby all parties consent to the assignment of this Agreement to an agent in connection with the financing of the Concession Mortgage; *provided* that such consent agreement shall be in a customary form and shall include the rights and protections provided to the Concession Mortgagee in this Agreement (including, but not limited to, those provided in Section 16.6 and this Article 18) and such other customary terms to which the parties may agree. Nothing herein shall obligate the Authority to consent to service of process, become subject to any legal process in any jurisdiction other than in the Commonwealth, or enter into any agreement not governed by the Laws of the Commonwealth.

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Section 18.2 Notices and Payments to Concession Mortgagees. Whenever a Concession Mortgage exists as to which the Authority has been provided notice by the holder thereof in accordance with the Concession Mortgage Notice Requirements, the Authority shall, simultaneously with providing the Concessionaire any required notice under this Agreement, provide a copy of such notice to such Concession Mortgagee, and no such notice to the Concessionaire shall be effective against the Concession Mortgagee until a copy thereof is duly provided to such Concession Mortgagee at its address specified in its notice given to the Authority in accordance with the Concession Mortgage Notice Requirements (or any subsequent change of address notice given to the Authority pursuant to the requirements of Article 20). With respect to a Concession Mortgage regarding which the Authority has been provided notice in accordance with the Concession Mortgage Notice Requirements, unless the Concession Mortgagee recognized by the Authority pursuant to Section 18.7 has otherwise advised the Authority in writing, and solely to the extent so required pursuant to the terms of the financing secured by such Concession Mortgage, all payments to the Concessionaire to be made by the Authority under this Agreement shall be made to the Concession Mortgagee or to the institution acting as the collateral agent or depository under the financing provided by such Concession Mortgagee.

Section 18.3 Concession Mortgagee's Right to Cure. The Concession Mortgagee shall have a period of one hundred and eighty (180) days with respect to any Concessionaire Default beyond any cure period expressly provided to the Concessionaire pursuant to the first proviso in Section 16.1(b)(i), in which to cure or cause to be cured any such Concessionaire Default; *provided, however*, that such one hundred and eighty (180)-day period shall be extended

if the Concessionaire Default is nonmonetary, is not a Concessionaire Default described in Section 16.1(a)(iv) or Section 16.1(a)(v) and may be cured but cannot reasonably be cured within such period of one hundred and eighty (180) days, and the Concession Mortgagee begins to cure such default within such one hundred and eighty (180)-day period (or if possession is necessary in order to effect such cure, the Concession Mortgagee, within such one hundred and eighty (180)-day period, files the appropriate legal action to commence foreclosure on the liens of the Concession Mortgage) and thereafter proceeds with all due diligence to cure such Concessionaire Default (including by proceeding with all due diligence to affect such foreclosure and during such foreclosure action (to the extent practicable) and thereafter to effect such a cure) within a reasonable period of time acceptable to the Authority, acting reasonably. If a Concession Mortgagee is acting to cure a Concessionaire Default in accordance with this Section 18.3, then the Authority shall not exercise its right to terminate this Agreement by reason of such Concessionaire Default; *provided, however*, that the Authority may exercise any of its other rights and remedies provided for hereunder at law or in equity so long as the exercise of such rights does not interfere with the Concession Mortgagee's rights hereunder. In furtherance of the foregoing, the Authority shall permit the Concession Mortgagee and its Representatives the same access to the Toll Roads as is permitted to the Concessionaire hereunder; *provided* that any actions taken by a Concession Mortgagee or its Representatives pursuant to this Section 18.3 shall be undertaken in accordance with the provisions of this Agreement that would be applicable to the Concessionaire were it taking such actions. The Authority shall accept any such performance by a Concession Mortgagee or its nominee as though the same had been done or performed by the Concessionaire. Any payment to be made or action to be taken by a Concession Mortgagee hereunder as a prerequisite to keeping this Agreement in effect shall be deemed properly to have been made or taken by the Concession Mortgagee if such payment is made or action is taken by a nominee, agent or assignee of the rights of such Concession Mortgagee. Any exercise of the Concession Mortgagee's rights to cure hereunder shall not result in the assumption by such Concession Mortgagee of the Concessionaire's obligations hereunder.

Section 18.4 Rights of the Concession Mortgagee.

(a) Subject to the provisions of this Agreement, a Concession Mortgagee may (i) enforce any Concession Mortgage in any lawful way, (ii) acquire the Concessionaire Interest in any lawful way or (iii) take possession of in any lawful way and manage the Toll Roads and conduct Toll Road Operations. Upon foreclosure of the Concession Mortgage (or without foreclosure upon exercise of any contractual or statutory power of sale under such Concession Mortgage or an assignment in lieu) and subject to the provisions of Article 17 (applied to the Concession Mortgagee as if it were the Concessionaire), a Concession Mortgagee may Transfer the Concessionaire Interest; *provided, however*, that no Transfer by a Concession Mortgagee shall be effective unless the Transfer is made in accordance with Article 17. Any Person to whom the Concession Mortgagee Transfers the Concessionaire Interest (including such Concession Mortgagee) shall take the Concessionaire Interest subject to any of the Concessionaire's obligations under this Agreement. The Concession Mortgagee is not permitted in connection with its enforcement of its lien to do anything that would materially and adversely affect the Toll Roads or the Toll Road Operations.

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(b) Except as provided in Section 18.3, unless and until a Concession Mortgagee (other than a Lessor, so long as the Concessionaire, as the lessee of the Lessor, remains responsible for all of the obligations of the Concessionaire under this Agreement as its lessee) (i) forecloses or has otherwise taken ownership of the Concessionaire Interest or (ii) has taken possession or control of the Concessionaire Interest, whether directly or by an agent or a receiver or receiver and manager has taken possession or control of the Concessionaire Interest by reference to the Concession Mortgage, the Concession Mortgagee shall not be responsible for any of the Concessionaire's obligations under this Agreement or be entitled to any of the Concessionaire's rights and benefits contained in this Agreement, except by way of security. During any period in which the Concession Mortgagee itself or by an agent or a receiver or a receiver and manager is the owner (other than a Lessor, so long as the Concessionaire, as the lessee of the Lessor, remains responsible for all of the obligations of the Concessionaire under this Agreement as its lessee), or is in control or possession of, the Concessionaire Interest, it shall be bound by all liabilities and obligations of the Concessionaire accruing under this Agreement during such period (including the obligation to engage an Operator). Once the Concession Mortgagee goes out of ownership or control of the Concessionaire Interest or Transfers the Concessionaire Interest to another Person in accordance with the provisions of this Agreement, the Concession Mortgagee shall cease to be responsible for any of the Concessionaire's obligations under this Agreement accruing thereafter, and to the extent assumed by any Transferee or any other Person acceptable to the Authority, for any of the Concessionaire's obligations under this Agreement accrued during the period in which the Concession Mortgagee itself or by an agent or a receiver and manager was the owner, or was in control of, the Concessionaire Interest, and shall cease to be entitled to any of the Concessionaire's rights and benefits contained in this Agreement, except, if the Concession Mortgage remains outstanding, by way of security.

Section 18.5 Authority's Termination of this Agreement; New Agreement.

(a) Without prejudice to the rights of a Concession Mortgagee under Section 18.3, if this Agreement is (x) terminated prior to the expiration of the Term due to a Concessionaire Default (in which case the Authority shall notify the Concession Mortgagee of such termination and deliver to the Concession Mortgagee, together with such notice, a Statement of Estimated Liabilities), (y) rejected or disaffirmed pursuant to any bankruptcy Law or proceeding or other similar Law or proceedings affecting creditors' rights generally with respect to a bankruptcy proceeding relating to the Concessionaire or otherwise, or (z) is rescinded or terminated pursuant to Section 16.6 as the result of a Public Integrity Crime in circumstances where the provisions of Section 16.6(d) or Section 16.6(e) are applicable, then the Authority agrees, if there are outstanding obligations to a Concession Mortgagee (but subject, in the case of clause (z), to Section 16.6(f)), upon the written request of the Concession Mortgagee to enter into a new concession agreement of the Toll Roads with the Concession Mortgagee (or its designee or nominee; *provided* that such designee or nominee either is controlled by the Concession Mortgagee or is Approved by the Authority as Transferee under Article 17) for the remainder of the Term upon all of the covenants, agreements, terms, provisions and limitations of this Agreement, including all of the agreements, terms, provisions and limitations relating to the engagement of an Operator (the "New Agreement"), effective as of the date of such termination. The Authority's obligation to enter into a new concession agreement of the Toll


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Roads pursuant to the preceding sentence is subject to the satisfaction of all of the following requirements and conditions: (i) such Concession Mortgagee commits in writing to the Authority, in a notice delivered to the Authority, within thirty (30) days after the Authority delivers the termination notice and Statement of Estimated Liabilities to the Concession Mortgagee (or, if later, upon the termination of any cure period granted to the Concession Mortgagee pursuant to Section 18.3) or within ten (10) days after the effective date of such rejection or disaffirmance referred to in clause (y) or such rescission or termination referred to clause (z) of this Section 18.5(a), as the case may be, that the Concession Mortgagee (or its designee or nominee) will enter into the New Agreement, which notice is accompanied by a copy of such New Agreement, duly executed and acknowledged by the Concession Mortgagee (or its designee or nominee); (ii) reasonably in advance of the execution of any New Agreement pursuant to clause (x) of this Section 18.5(a), the Concession Mortgagee (or its designee or nominee) pays or causes to be paid to the Authority, at the time of the execution and delivery of such New Agreement, (A) all amounts set forth in the Statement of Estimated Liabilities which, at the time of the execution and delivery thereof, would have been past-due or due and payable in accordance with the provisions of this Agreement but for such termination and (B) all reasonable costs and expenses (including legal fees), Taxes, fees, charges and disbursements set forth in the Statement of Estimated Liabilities paid or incurred by the Authority in connection with such defaults and termination, the recovery of possession from the Concessionaire, and the preparation, execution and delivery of the New Agreement and related agreements; and (iii) in the case of any New Agreement pursuant to clause (x), such Concession Mortgagee (or its designee or nominee), at the time of such written request, cures all Concessionaire Defaults under this Agreement (curable by the payment of money) that are existing immediately prior to the termination of this Agreement set forth in the Statement of Estimated Liabilities, or, if such defaults cannot be cured by the payment of money, such Concession Mortgagee (or its designee or nominee) commits to the Authority in the New Agreement to proceed both promptly and diligently, upon the execution of the New Agreement, to cure all such other Concessionaire Defaults (to the extent curable) set forth in the Statement of Estimated Liabilities and, if possession is necessary in order to cure such other Concessionaire Defaults, to proceed both promptly and diligently to obtain the possession required to cure any such other defaults to the extent curable (and such cure shall be a covenant of the Concession Mortgagee in the New Agreement). The omission from a Statement of Estimated Liabilities of (i) any amounts payable to the Authority under this Agreement, (ii) any unperformed obligations of the Concessionaire hereunder or (iii) any other costs of the Authority shall not excuse the payment of such amounts or costs or the performance of such unperformed obligations.

(b) Nothing contained in this Section 18.5 shall be deemed to limit or affect the Authority's interest in and to the Toll Roads upon the expiration of the Term of the New Agreement. The provisions of this Section 18.5 shall survive the termination of this Agreement and shall continue in full force and effect thereafter to the same extent as if this Section 18.5 were a separate and independent contract made by the Authority, the Concessionaire and the Concession Mortgagee and, if the Concession Mortgagee satisfies the conditions to a New Agreement from the effective date of such termination of this Agreement to the date of execution and delivery of the New Agreement, the Concession Mortgagee may use and enjoy the exclusive concession created by this Agreement (and all other rights and benefits provided to the

Concessionaire hereunder) without hindrance by the Authority, but only on and subject to the terms and provisions of this Agreement.

(c) The Concession Mortgagee shall be entitled to request that the Authority pre-qualify pursuant to Article 17 one or more potential transferees of the Concessionaire Interest in connection with any prospective exercise of the Concession Mortgagee's rights hereunder; *provided* that the Concession Mortgagee reimburses the Authority for the reasonable cost and expense of such pre-qualification. Any such approval by the Authority of such a potential transferee shall be valid for one year after approval, *provided* that the Concession Mortgagee shall be obligated to notify the Authority if the Concession Mortgagee becomes aware during such one-year period of a reasonable basis for the Authority to withhold its approval under Section 17.1(b) and *provided further*, that the Authority may rescind such approval if the Authority becomes aware during such one-year period (through the Concession Mortgagee or otherwise) of a reasonable basis for the Authority to withhold its approval under Section 17.1(b).

 **Section 18.6 Right to Dispute Resolution.** In each case specified in this Agreement in which resort to dispute resolution is authorized, the Concession Mortgagee shall have the right and privilege if an event of default under the Concession Mortgage then exists and notice has been given to the Authority as contemplated by Section 18.1(g), in the Concessionaire's name, place and stead, to obtain and participate in such dispute resolution upon notice to the Authority in accordance with Article 19; *provided* that the Concession Mortgagee agrees to be bound by the outcome of the dispute resolution process.

Section 18.7 Recognition by the Authority of Concession Mortgagee. Notwithstanding anything in this Agreement to the contrary, if there is more than one Concession Mortgagee, only that Concession Mortgagee, to the exclusion of all other Concession Mortgagees, whose notice was earliest received by the Authority pursuant to the Concession Mortgagee Notice Requirements, shall have the rights as a Concession Mortgagee under this Article 18, or otherwise under this Agreement, unless such Concession Mortgagee has designated in writing another Concession Mortgagee to exercise such rights; *provided, however*, that such notice may name more than one Concession Mortgagee and the rights referred to in this Section 18.7 may extend to all Concession Mortgagees named therein if such notice is submitted by a representative of all such Concession Mortgagees (which representative may itself be a Concession Mortgagee). Any references in this Agreement to the "Concession Mortgagee" shall be references to the Concession Mortgagee or representative of more than one Concession Mortgagee, acting on behalf of such Concession Mortgagees, whose notice was earliest received by the Authority pursuant to the Concession Mortgagee Notice Requirements unless the context otherwise requires.

Section 18.8 Authority's Right to Purchase Concession Mortgage.

(a) If (i) any event of default by the Concessionaire has occurred under a Concession Mortgage and is continuing and (ii) the Concession Mortgagee recognized by the Authority pursuant to Section 18.7 is entitled, pursuant to the intercreditor arrangements then in force and effect, to declare all or part of the indebtedness secured by such Concession Mortgage to be immediately due and payable, then for thirty (30) days commencing on the date that is ten

(10) days after the date on which such Concession Mortgagee shall serve notice upon the Authority in writing with a copy to all other Concession Mortgagees ("Concession Mortgagee's Notice") that such Concession Mortgagee intends and is entitled, pursuant to the intercreditor arrangements then in force and effect, to commence proceedings to foreclose the Concession Mortgage (stating the calculation of the purchase price pursuant to Section 18.8(c)) during such thirty (30)-day period, the Authority shall have the right and option (the "Authority's Option") to purchase from all Concession Mortgagees their Concession Mortgages, upon the terms and subject to the conditions contained in this Section 18.8.

(b) The Authority's Option shall be exercised by written notice served upon the Concessionaire and all Concession Mortgagees within such thirty (30)-day period. Time shall be of the essence as to the exercise of the Authority's Option. If the Authority's Option is duly and timely exercised, the Authority shall purchase all Concession Mortgages and all Concession Mortgagees shall assign their Concession Mortgages to the Authority (or its designee) on the date which is sixty (60) days after the date on which a Concession Mortgagee's Notice is served upon the Authority. The closing shall take place at a mutually convenient time and place.

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(c) The purchase price payable by the Authority shall be one hundred percent (100%) of the aggregate amounts secured by or due under such Concession Mortgages (including principal, interest, fees, expenses, premiums, Breakage Costs, termination value or similar obligations (with respect to a Leveraged Lease) and other costs, expenses (including reasonable attorneys' fees) and any other amounts secured thereby or due thereunder) as of the closing date of the purchase. The purchase price shall be paid in full in cash at closing by wire transfer or other immediately available funds. The purchase price shall be paid by the Authority to each respective Concession Mortgagee, to be applied by the Concession Mortgagee to the amounts secured by the Concession Mortgage owed to such Concession Mortgagee, subject to the priorities of lien of such Concession Mortgages.

(d) At the closing and upon payment in full of the purchase price, each Concession Mortgagee shall assign its Concession Mortgage to the Authority, together with any security interest held by it in the Concessionaire's interest in the Toll Roads, without recourse, representations, covenants or warranties of any kind; *provided* that such Concession Mortgages and security interests shall be deemed modified to secure the amount of the aggregate purchase price paid by the Authority to all Concession Mortgagees (rather than the indebtedness theretofore secured thereby) payable on written demand, with interest and upon the other items referred to in this Section 18.8(d). Each such assignment shall be in form for recordation or filing, as the case may be. The Authority shall be responsible for paying any Taxes payable to any Governmental Authority upon such assignment. Such assignment shall be made subject to such state of title of the Toll Roads as shall exist at the date of exercise of the Authority's Option.

(e) Any Concession Mortgage shall contain an agreement of the Concession Mortgagee to be bound by the provisions of this Section 18.8.

(f) The Authority shall have the right to receive (and each Concession Mortgage shall contain an agreement of the Concession Mortgagee to deliver) all notices of

default under any Concession Mortgage contemporaneously with the delivery of such notices to the Concessionaire, but the Authority shall not have the right to cure any default under any Concession Mortgage, except to the extent provided in this Section 18.8.


ARTICLE 19

DISPUTE RESOLUTION

Section 19.1 Scope. Any dispute between the Parties arising out of, relating to, or in connection with this Agreement, including any question regarding its existence, validity or termination or any question as to whether such dispute is subject to the provisions contained in this Article 19, shall be resolved as set forth in this Article 19.

Section 19.2 Informal Dispute Resolution Procedures. The Parties agree that, at all times, they will attempt in good faith to resolve all disputes that may arise under this Agreement. The Parties further agree that, upon receipt of written notice of a dispute from a Party, the Parties shall refer the dispute to the Designated Person of each Party. The Designated Persons shall negotiate in good faith to resolve the dispute, conferring as often as they deem reasonably necessary, and shall gather and in good faith furnish to each other the information pertinent to the dispute. Statements made by Representatives of the Parties during the dispute resolution mechanisms set forth in this Section 19.2 and documents specifically created for such dispute resolution mechanisms shall be considered part of settlement negotiations and shall not be admissible in evidence in any proceeding without the mutual written consent of the Parties.

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Section 19.3 Mediation.

(a) If either Party believes that it has a claim against the other under this Agreement, such Party shall notify the other of the same within six (6) months of the date that it became aware of facts giving rise to the claim. The notice given pursuant to the preceding sentence shall state the general nature of the claim, the estimated relief (if any) owed to the Party making the claim, and the nature of the remedies sought by such Party.

(b) Each Party to this Agreement agrees that it may not initiate a civil action as provided in Section 19.5 and Section 19.6 (other than provisional remedies sought on an expedited basis) unless (i) the matter in question has been submitted to mediation in accordance with the provisions of Section 19.3(c) or (ii) such Party would be barred from asserting its claim in a civil action if it were required to submit to mediation pursuant to Section 19.3(c).

(c) Mediation of a dispute under this Agreement may not be commenced until the earlier of: (i) such time as both of the Designated Persons, after following the procedures set forth in Section 19.2, conclude in good faith that amicable resolution through continued negotiation of the matter does not appear likely; or (ii) thirty (30) days after the notice referring the dispute to the Designated Persons, pursuant to Article 19 (the "Negotiation Period"). If, after such time period, the dispute remains unresolved, either Party shall refer the dispute to a mediator, who shall be an attorney in good standing with the Puerto Rico Supreme Court or, if the matter in dispute is an engineering or technical dispute, the Parties shall refer the dispute to the Independent Operating Engineer, subject to the rights of the Parties pursuant to Section 19.4.

With respect to the selection of a mediator, the Parties, through their respective Designated Persons, shall attempt in good faith to agree on a mediator. If the Parties cannot so agree within thirty (30) days after it is determined that the Designated Persons cannot resolve the dispute or after the end of the Negotiation Period, the Parties shall promptly apply to the American Arbitration Association ("AAA") for appointment of a single mediator in accordance with the Commercial Mediation Procedures of the AAA without there being a requirement of previously filing a request for mediation thereunder. The mediator selected by the AAA shall be an attorney authorized to practice law in the United States or the Commonwealth. The mediator or the Independent Operating Engineer, as the case may be, shall be paid for the mediation services, and shall be reimbursed for all reasonable out-of-pocket costs incurred in carrying out the mediation duties hereunder, including the costs of consultants. All fees and costs of the mediation (including payment for the services of the mediator or the Independent Operating Engineer and reimbursement of all reasonable out-of-pocket costs (including the costs of consultants) of the mediator or the Independent Operating Engineer) shall be shared equally by the Parties. The Parties shall request that the mediator schedule the mediation within thirty (30) days of the mediator's appointment (or in the case of the Independent Operating Engineer, within thirty (30) days after the Parties refer the dispute to the Independent Operating Engineer), and shall comply with all procedures the mediator or the Independent Operating Engineer establishes for the conduct of the mediation.

Section 19.4 Arbitration.

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(a) *Arbitration of Required Modifications.* If the procedures described in Section 19.2 and Section 19.3 do not result in resolution of a dispute arising under Section 5.2 within thirty (30) Business Days from a reference to mediation, the dispute shall be exclusively and finally settled by arbitration in accordance with the Commercial Arbitration Rules for the AAA then in effect (the "AAA Commercial Rules"). Either Party may initiate the arbitration, as provided in the AAA Commercial Rules. The place of arbitration shall be San Juan, Puerto Rico, unless the Parties otherwise agree. Pursuant to Section 20.6, the arbitral panel shall determine the rights and obligations of the Parties in accordance with the substantive laws of the Commonwealth and without regard to the conflict of laws principles thereof. Except as agreed by the Parties, the arbitral panel shall have no power to alter or modify any terms or provisions of this Agreement or to render any award that, by its terms or effects, would alter or modify any term or provision of this Agreement. The arbitral panel shall be composed of three arbitrators, one to be selected by the Authority, one to be selected by the Concessionaire and the third to be selected by the two previously-selected arbitrators. If the two previously-selected arbitrators cannot agree on the selection of the third arbitrator, within thirty (30) days from their appointment by the Parties, either Party may file an action in the Puerto Rico Court of First Instance in San Juan, Puerto Rico, pursuant to 32 L.P.R.A. § 3205, and request that said Court appoint the third arbitrator. Once the arbitral panel has been composed, the arbitrators shall act as neutrals and not as party arbitrators, and no Party shall engage in any *ex parte* communication with any member of the arbitral panel. Each Party shall bear equally the costs of the arbitral panel and attorneys' fees as determined by the arbitral panel. The award shall include interest pursuant to Section 20.9 from the date of any breach or violation of this Agreement or the incurring of any obligation as determined in the arbitral award until paid in full. The award shall

be in writing and state the reasons upon which it is based. The award shall be final and binding on the Parties. Judgment on the award may be entered by any court of competent jurisdiction.

(b) *Technical Arbitration.* Any engineering or technical dispute arising under or related to this Agreement shall be exclusively and finally settled in accordance with the Construction Industry Arbitration Rules for the AAA then in effect (the “AAA Technical Arbitration Rules”) without submitting such dispute to mediation by the Independent Operating Engineer pursuant to Section 19.3 and without submitting the dispute to arbitration pursuant to Section 19.4(a). Either Party may initiate the arbitration as provided in the AAA Technical Arbitration Rules. Such engineering arbitration shall be conducted by an Independent Engineering Arbitrator that is acceptable to the Authority and the Concessionaire. If the Parties fail to agree upon the Independent Engineering Arbitrator within five (5) Business Days after the Parties agree to submit the dispute to engineering arbitration, then the Authority and the Concessionaire shall each appoint an Independent Engineering Arbitrator and both such arbitrators shall be instructed to select a third Independent Engineering Arbitrator to conduct the engineering arbitration (unless the Parties agree in writing for the dispute to be heard by one Independent Engineering Arbitrator, who will then be selected by the AAA). If the two previously selected Independent Engineering Arbitrators cannot agree on the selection of the third Independent Engineering Arbitrator, the third Independent Engineering Arbitrator shall be selected by the AAA. The Parties shall each bear their own costs with respect to the arbitration of any such engineering dispute and shall bear equally the cost of retaining such Independent Engineering Arbitrator(s). The award of the Independent Engineering Arbitrator(s) shall be in writing and state the reasons upon which it is based. The award of the Independent Engineering Arbitrator(s) shall be final and binding on the Parties.


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(c) *Disputes Regarding Arbitrability.* Any dispute between the Parties as to whether a dispute shall be submitted to arbitration under Section 19.4(a) or Section 19.4(b) shall be resolved by initiation of an action in the Commonwealth Court of First Instance, San Juan Part (the “Commonwealth Court”) pursuant to Section 19.5.

Section 19.5 Court Action. In the event that the Parties fail to resolve the dispute within ninety (90) days after the date the mediator is selected pursuant to the procedures set forth in Section 19.3 (or such longer period as the Parties may mutually agree), either Party may initiate a civil action in Commonwealth Court and in accordance with all applicable rules of civil procedure; *provided* that any engineering or technical dispute or claim regarding any Required Modification that is not resolved by mediation pursuant to Section 19.3 within the time period described in this Section 19.5 shall be submitted to arbitration pursuant to Section 19.4. The Parties acknowledge and understand that, to resolve any and all claims arising out of this Agreement (other than any engineering or technical claim or claim regarding any Required Modification), they may file a civil action, including actions in equity, in Commonwealth Court.

Section 19.6 Provisional Remedies. No Party shall be precluded from initiating a proceeding in Commonwealth Court for the purpose of obtaining any emergency or provisional remedy to protect its rights that may be necessary and that is not otherwise available under this Agreement, including temporary and preliminary injunctive relief, restraining orders, and the appointment of a receiver or manager in connection with the collection and retention of Toll Road Revenues.

Section 19.7 Tolling. If a Party receiving a notice of default under this Agreement contests, disputes or challenges the propriety of such notice by making application to the dispute resolution procedure in this Article 19, any cure period that applies to such default shall be tolled for the time period between such application and the issuance of a final decision.

Section 19.8 Submission to Jurisdiction. Subject to Section 19.3 and Section 19.4, any judicial action or proceeding against the Concessionaire or the Authority relating in any way to this Agreement shall be brought and enforced in Commonwealth Court, and each of the Concessionaire and the Authority hereby irrevocably submits to the jurisdiction of such courts with regard to any such action or proceeding, and irrevocably waives, to the fullest extent permitted by applicable Law, any objection it may have now or hereafter have to the jurisdiction and venue of any such action or proceeding therein and any claim that any such action or proceeding brought therein has been brought in an inconvenient forum. Service of process on the Authority shall be made in accordance with the Laws of the Commonwealth on the Executive Director of the Authority at the address specified in Article 20 and the Attorney General of the Commonwealth. The foregoing shall not constitute the consent by the Authority to receive service of process for actions or proceedings brought and enforced in any court other than the Commonwealth Court. Service of process on the Concessionaire may be made either by registered or certified mail addressed as provided for in Article 20 or by delivery to the Concessionaire's registered agent for service of process in the Commonwealth.

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**Section 19.9 Request for Documents; Subpoena Duces Tecum.** If the Concessionaire is presented with a request for documents by any administrative agency or with a subpoena *duces tecum* regarding any documents that may be in its possession by reason of this Agreement, the Concessionaire shall, to the extent permitted by Law, give prompt notice to the Authority at the addresses specified for the Authority in Article 20. The Authority may contest such process by any means available to it before such records or documents are submitted to a court or other third party; *provided, however*, that the Concessionaire shall not be obligated to withhold such delivery beyond that time as may be ordered by the court or administrative agency or required by Law, unless the subpoena or request is quashed or the time to produce is otherwise extended.

ARTICLE 20

MISCELLANEOUS

Section 20.1 Notice. All notices, requests for approvals, approvals and other communications, required or permitted by this Agreement shall be in English and in writing and shall be delivered, sent by courier or sent by either certified or registered mail (return receipt requested and postage prepaid) or email, addressed as follows:

(a) in the case of the Authority:

Puerto Rico Highways and Transportation Authority
Roberto Sánchez Vilella Government Center
300 De Diego Avenue, South Building, Floor 10
Santurce, Puerto Rico 00911
Attention: Executive Director
Telephone: (787) 721-8787
Facsimile: (787) 727-5456

Email: info@act.pr.gov

with a copy to:

Puerto Rico Highways and Transportation Authority
Roberto Sánchez Vilella Government Center
300 De Diego Avenue, South Building, Floor 10
Santurce, Puerto Rico 00911
Attention: Legal Department
Telephone: (787) 721-8787
Facsimile: (787) 727-5456

Email: legalnotification@act.pr.gov

and a copy to:

Puerto Rico Public-Private Partnerships Authority
Roberto Sánchez Vilella Government Center
De Diego Avenue, Stop 22
Santurce, Puerto Rico 00907
Attention: Executive Director
Telephone: (787) 722-2525

Email: info@p3.pr.gov

(b) in the case of the Concessionaire:

Puerto Rico Tollroads, LLC
PO Box 12004
San Juan, PR 00922
Attention: General Counsel
Telephone: (787) 474-5999
Facsimile: (787) 474-5998


Email: legal@metropistas.com

and a copy to:

Abertis Infraestructuras, S.A.
Paseo de la Castellana 89, 9th Floor,
28046 Madrid, Spain
Attention: Carlos García Cabrera
Telephone: +34 93 230-5588

Email: carlos.garcia@abertis.com

or such other persons or addresses as either Party may from time to time designate by notice to the other. A notice, other communication or approval shall be deemed to have been sent and received (i) on the day it is delivered, or if such day is not a Business Day or if the notice is received after ordinary office hours (time of place of receipt), the notice, other communication or approval shall be deemed to have been sent and received on the next Business Day, or (ii) on the fourth Business Day after mailing if sent by United States registered or certified mail.

 **Section 20.2 Entire Agreement.** This Agreement constitutes the entire agreement between the Parties pertaining to the subject matter hereof and supersedes all prior agreements, negotiations, discussions and understandings, written or oral, between the Parties. There are no representations, warranties, conditions or other agreements, whether direct or collateral, or express or implied, that form part of or affect this Agreement, or that induced any Party to enter into this Agreement or on which reliance is placed by any Party, except as specifically set forth in this Agreement. The Parties acknowledge and agree (i) that each has substantial business experience and is fully acquainted with the provisions of this Agreement, (ii) that the provisions and language of this Agreement have been fully negotiated and (iii) that no provision of this Agreement shall be construed in favor of any Party or against any Party by reason of such provision of this Agreement having been drafted on behalf of one Party rather than the other.


Section 20.3 Amendment. This Agreement may be amended, changed or supplemented only by a written agreement signed by the Parties.

Section 20.4 Waiver of Rights. Any waiver of, or consent to depart from, the requirements of any provision of this Agreement shall be effective only if it is in writing and signed by the Party giving it, and only in the specific instance and for the specific purpose for which it has been given. No failure on the part of any Party to exercise, and no delay in exercising, any right under this Agreement shall operate as a waiver of such right. No single or partial exercise of any such right shall preclude any other or further exercise of such right or the exercise of any other right.

Section 20.5 Severability. Each provision of this Agreement shall be valid and enforceable to the fullest extent permitted by applicable Law. The invalidity of any one or more phrases, sentences, clauses or Sections contained in this Agreement shall not affect the remaining portions of this Agreement or any part thereof. If any provision of this Agreement or the application thereof to any Person or circumstances is held or deemed to be or determined to be invalid, inoperative or unenforceable in any particular case in any particular jurisdiction or jurisdictions because it conflicts with any other provision or provisions hereof or of any

applicable Law, or public policy, or for any other reason, (i) such circumstances shall not have the effect of rendering the provision in question inoperative or unenforceable in any other case or circumstances, or rendering any other provision or provisions herein contained invalid, inoperative or unenforceable to any extent whatever, and (ii) the Parties shall negotiate in good faith to amend this Agreement to implement the provisions set forth herein. If the Parties cannot agree on an appropriate amendment, either Party may refer the matter for determination pursuant to the dispute resolution procedure in Article 19. If, by means of the dispute resolution procedure, the Parties are unable, as a result of applicable Law, to resolve the matter in a manner that effectively entitles the Authority to have the same rights, after the aforesaid determination of invalidity or unenforceability as before, the Authority shall have the right to enact, and cause to come into force, any Law to provide for the same or substantially the same rights as were determined to be invalid or unenforceable; *provided* that the rights of the Concessionaire shall in no event be diminished by any such Law.

Section 20.6 Governing Law. This Agreement shall be governed by, and interpreted and enforced in accordance with, the Commonwealth Laws in force (excluding any conflict of laws rule or principle which might refer such interpretation to the laws of another jurisdiction).

 **Section 20.7 Further Acts.** The Parties shall do or cause to be done all such further acts and things as may be reasonably necessary or desirable to give full effect to this Agreement, including, without limitation, submission of this Agreement for filing with the Office of the Comptroller of the Commonwealth, pursuant to the provisions of Act. No. 18. The obligations pursuant to this Agreement shall not be enforceable until it shall have been submitted for filing with the Office of the Comptroller of the Commonwealth as provided by Act No. 18. Without limiting the foregoing, each Party will, at any time and from time to time, execute and deliver or cause to be executed and delivered such further instruments and take such further actions as may be reasonably requested by the other Party in order to cure any defect in the execution or delivery of this Agreement.

Section 20.8 Costs. Except as otherwise provided in this Agreement, each Party shall be responsible for its own costs and expenses incurred in connection with performing and observing its obligations and covenants under this Agreement.

Section 20.9 Interest. Any amount payable under this Agreement and not paid when due under this Agreement shall bear interest both before and after judgment at the legal rate of interest provided for under Regulation No. 78-1 (Puerto Rico Regulation No. 3702 of October 25, 1988) of the Office of the Commissioner of Financial Institutions, from the date such payment is due until payment.

Section 20.10 Inurement and Binding Effect. This Agreement shall inure to the benefit of the Parties and their respective permitted successors and assigns and be binding upon the Parties and their respective successors and assigns.

Section 20.11 No Partnership or Third Party Beneficiaries. Nothing contained in this Agreement shall constitute or be deemed to create a partnership, joint venture or principal and agent relationship between the Authority and the Concessionaire. Except as expressly provided herein to the contrary (including with respect to such rights as are expressly granted to each

Concession Mortgagee or any Indemnified Party pursuant to this Agreement), no term or provision hereof shall be construed in any way to grant, convey or create any rights or interests to or in any Person not a Party to this Agreement.

Section 20.12 Cumulative Remedies. The rights, remedies, powers and privileges herein provided are cumulative and not exclusive of any rights, remedies, powers and privileges provided by Law.

Section 20.13 Counterparts; Facsimile Execution. This Agreement may be executed in any number of counterparts which, taken together, shall constitute one and the same agreement. This Agreement shall be effective when it has been executed by each Party and delivered to all Parties. To evidence the fact that it has executed this Agreement, a Party may send a copy of its executed counterpart to the other Party by facsimile transmission. Such Party shall be deemed to have executed and delivered this Agreement on the date it sent such facsimile transmission. In such event, such Party shall forthwith deliver to the other Party an original counterpart of this Agreement executed by such Party.


Section 20.14 Waiver of Sovereign Immunity. The Authority acknowledges that under its enabling act, it is not entitled to raise the defense of sovereign immunity with respect to claims arising out of this Agreement. Under its enabling act, the Authority does not have sovereign immunity (and any defense based thereon) as to it and its property in respect of the enforcement and execution of any award or other relief (pecuniary or otherwise) rendered against it in accordance with the provisions of this Agreement.

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Section 20.15 Commonwealth Obligations. THE OBLIGATIONS OF THE AUTHORITY UNDER THIS AGREEMENT SHALL NOT BE DEEMED OBLIGATIONS OF THE COMMONWEALTH OR OF ANY INSTRUMENTALITY OF THE COMMONWEALTH OTHER THAN THE AUTHORITY.

Section 20.16 Most Favored Nation. The Authority hereby covenants and agrees that in the event that the Authority shall have, at any time following the date hereof, agreed to provide to any private toll road operator other than the Concessionaire, directly or indirectly (any such agreement or arrangement, the "Other Agreement") protection, compensation, collateral or other support in respect of toll violations, fines or other enforcement mechanisms related to such violations including any consent rights related to the designation of any ETC Service Provider (the "Enforcement Benefits"), the Authority shall provide to the Concessionaire written notice of such Other Agreement no later than 30 days following the date on which such Other Agreement shall have been executed by the Authority (the "Initial MFN Notice"), together with a copy of such Other Agreement (which copy may be redacted at the Authority's discretion). No later than 30 days following receipt of the Initial MFN Notice, the Concessionaire shall provide notice to the Authority (the "MFN Benefits Notice") confirming whether the Concessionaire considers that such Other Agreement contains an Enforcement Benefit that is more beneficial to such other private operator than the Concessionaire (such better protection, compensation, collateral or other support, the "MFN Benefits"); *provided* that any difference in the dollar amount of any such cash collateral similar to the Concessionaire Escrow Subaccount shall not constitute an MFN Benefit. In the event that the MFN Benefits Notice shall assert the existence of any MFN Benefit, no later than 30 days following the delivery thereof, the Authority shall notify the

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Concessionaire whether it agrees with the Concessionaire or whether it disputes the assertion made by the Concessionaire. In the event of a disagreement, the matter shall be referred to the dispute resolution procedure set forth in Section 19. In the event that no such dispute exists, the Authority and the Concessionaire shall proceed diligently to implement such MFN Benefits into this Agreement by amending the terms hereof to reflect the same.



[Signature Page Follows.]

IN WITNESS WHEREOF, the Authority and the Concessionaire each has caused this Agreement to be duly executed as of the day and year first above written.

Puerto Rico Tollroads, LLC

Puerto Rico Highways and Transportation
Authority

By: 

Name: Julián Fernández Rodes

Title: Authorized Signatory

Federal Employer ID #: 66-1035816

By: 

Name: Edwin E. González Montalvo, PhD, PE

Title: Executive Director

Schedule 1
Legal Opinion of the Authority
(See attached.)

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**SCHEDULE 1
FORM OF LEGAL OPINION OF THE
AUTHORITY**

[Letterhead of Counsel to the
Authority]

[Closing Date]

Ladies and Gentlemen:

This opinion is being delivered to you pursuant to Section 2.4(a)(iii)(C) of that certain Toll Road Concession Agreement, dated as of _____, 2023 (the "Agreement"), by and between Puerto Rico Highways and Transportation Authority ("PRHTA") and you, a _____ organized and existing under the laws of _____, as Concessionaire (the "Concessionaire"). Capitalized terms used herein and not otherwise defined herein shall have the respective meanings assigned thereto in the Agreement.

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We have examined originals or copies, certified or otherwise identified to our satisfaction, of the following documents (collectively, the "Documents"): (i) the Agreement, (ii) the Escrow Agreements (together with the Agreement, the "Transaction Documents"), (iii) Act No. 29 of the Legislative Assembly of Puerto Rico enacted on June 8, 2009, as amended (the "Act"), (iv) Act No. 74 of the Legislative Assembly of Puerto Rico enacted on June 23, 1965, as amended, (v) Resolution Number 2023-_____ of PRHTA, as certified by the Chairman and the Secretary of the Board of Directors of PRHTA on _____, 2023, (vi) Resolution Number 2023-_____ of the Puerto Rico Public-Private Partnerships Authority (the "PPP Authority"), as certified by the Secretary of the Board of Directors of PPP Authority on _____, 2023, (vii) the approval by the Governor (or his designee) of the Agreement as required by Article 9(g) of the Act, (viii) Resolution of the Financial Oversight and Management Board for Puerto Rico (the "FOMB") adopted on _____, 2023 approving the Agreement, (ix) a certificate executed by the Executive Director of PRHTA of even date herewith as to certain factual matters, and (x) the opinions of the Secretary of Justice of the Commonwealth of Puerto Rico, dated January 30, 2023 and March 24, 2023, issued in response to Consultation No. B-64-22 (collectively, the "Secretary of Justice Opinions").


In rendering this opinion, we have also examined originals or copies, certified or otherwise identified to our satisfaction, of such certificates of public officials, documents and records and other certificates and instruments as we have deemed necessary for the purposes of the opinions herein expressed and, with your permission, have relied upon and assumed the accuracy of such certificates, documents, records and instruments. We have made such examination of the laws of the Commonwealth of Puerto Rico as we have deemed relevant for

purposes of this opinion, but have not made a review of, and express no opinion concerning, the laws of any jurisdiction other than the Commonwealth of Puerto Rico.

We have relied upon and assumed the truth and accuracy of the representations, certifications and warranties made in the Transaction Documents as to factual matters only, and have not made any independent investigation or verification of any factual matters stated or represented therein.

Assumptions

In our examination of the foregoing and in rendering the following opinions, in addition to the assumptions contained elsewhere in this letter, we have, with your consent, assumed, without having made any independent investigation (and we express no opinion regarding the following):

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1. The genuineness of all signatures and legal capacity of natural persons executing the Transaction Documents, whether on behalf of themselves or other persons or entities, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as certified, conformed or photostatic copies and the authenticity of the originals of such copies and the completeness of all records of corporate proceedings provided to us.
 2. All official public records (including their proper indexing and filing) furnished to or obtained by us, electronically or otherwise, are accurate, complete and authentic.
 3. The documents that have been or will be executed and delivered in consummation of the transactions contemplated by the Transaction Documents are or will be identical in all material and relevant respects with the copies of the documents we have examined and on which the opinions in this letter are based.
 4. The Concessionaire (i) has been organized, is validly existing, and where applicable is in good standing under its jurisdiction of incorporation or organization, as the case may be, (ii) has full power and authority to enter into, execute, deliver, receive and perform the Transaction Documents, and (iii) is qualified to do business in Puerto Rico.
 5. The entry into, execution, delivery, receipt, and performance of the Transaction Documents by the Concessionaire have been duly authorized by all requisite action on the part of the Concessionaire.
 6. The Transaction Documents have been duly entered into, executed, received and delivered by the Concessionaire and constitute the legal, valid and binding obligation of the Concessionaire in accordance with the terms thereof, so that the Transaction Documents have mutuality of binding effect on the parties thereto.
 7. The factual representations, statements and warranties of PRHTA and the

Concessionaire made in the Transaction Documents, upon which we have relied, are accurate, complete and truthful.

8. The execution and delivery of the Transaction Documents by each of the parties thereto was free of intentional or unintentional mistake, misrepresentation, concealment, fraud, undue influence, duress or criminal activity.
9. The conduct of the parties to the Transaction Documents has complied with all applicable requirements of good faith, fair dealing and conscionability.
10. There are no agreements or understandings among the parties, written or oral, and there is no usage of trade or course of prior dealing among the parties that would, in either case, define, supplement or qualify the terms of the Transaction Documents (except as specifically set forth in the Transaction Documents).
11. PRHTA has received, or prior to or concurrently with the execution and delivery of the Transaction Documents will receive, the value and other consideration to be received by it on the date of effectiveness pursuant to such Transaction Documents, in accordance with its terms.
12. Each party to the Transaction Documents will at all times exercise its rights and remedies under the Transaction Documents in good faith and in a manner that is commercially reasonable.



Opinions

Based solely upon our examination and consideration of the Documents, and in reliance thereon, and in reliance upon the factual representations contained therein, and our consideration of such matters of law and fact as we have considered necessary or appropriate for the expression of the opinions contained herein, and subject to the limitations, qualifications and assumptions expressed herein, we are of the opinion that:

- (a) PRHTA has been duly created and is a validly existing body corporate and politic under and by virtue of the laws of the Commonwealth of Puerto Rico.
- (b) PRHTA has duly authorized and approved (i) its execution and delivery of the Transaction Documents and (ii) the performance of its obligations contained thereunder. PRHTA has the corporate power and corporate authority under the laws of the Commonwealth of Puerto Rico to enter into the Transaction Documents and to do all acts and things and execute and deliver all other documents as are required thereunder to be done, observed or performed by PRHTA in accordance with the terms thereof.
- (c) The Transaction Documents have been duly authorized, executed and delivered by PRHTA and constitute a valid and legally binding obligation of PRHTA, enforceable against PRHTA in accordance with the terms thereof.

(d) The execution and delivery by PRHTA of the Transaction Documents, and the performance of its obligations thereunder, will not (i) result in any violation, or require any filing with, notice to or approval or consent of, any governmental authority or regulatory body of the Commonwealth of Puerto Rico (including the FOMB), under any law of the Commonwealth of Puerto Rico or the federal laws of the United States (including PROMESA) or any rule or regulation promulgated thereunder, in each case, applicable to PRHTA (other than those that have already been obtained and the filing required to be made with the Office of the Comptroller of the Commonwealth of Puerto Rico), (ii) result in any violation by PRHTA of its formation and/or constitutive documents, or (iii) violate any material obligation of, or restriction on, PRHTA under any material judgment or decree of any Commonwealth of Puerto Rico or federal court or Governmental Authority binding on PRHTA.

(e) There is no action, suit or proceeding against PRHTA challenging its authority to execute, deliver or perform any material obligation under, or the validity or enforceability of, the Transaction Documents.

Qualifications

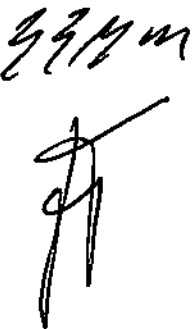
Each of the opinions set forth above is limited by its terms and subject to the assumptions hereinabove stated and is further subject to the following qualifications, exceptions and limitations, none of which shall limit the generality of any other assumption, qualification, exception or limitation.

1. The opinions expressed herein are limited in all respects to the laws of the Commonwealth of Puerto Rico and the federal laws of the United States applicable in the Commonwealth of Puerto Rico, and we express no opinion as to any provision in the Transaction Documents the effect of which is governed by laws other than the laws of the Commonwealth of Puerto Rico or the federal laws of the United States applicable in the Commonwealth of Puerto Rico.
2. The legality, validity and enforceability of the Transaction Documents and the opinion expressed in paragraph (c) above may be limited or otherwise affected by:
 - a. bankruptcy, insolvency, reorganization, liquidation, readjustment of debt, receivership, moratorium, fraudulent conveyance or transfer, equitable subordination, equity of redemption, recharacterization or other similar legal principles now or hereafter in effect governing or affecting the rights and remedies of debtors and creditors generally, or general principles of equity, regardless of whether considered in a proceeding at law or in equity;
 - b. applicable laws or judicial decisions which may render certain of the rights, remedies, waivers, and attorney-in-fact appointments contained therein unenforceable or ineffective, but the inclusion of which do not render the Transaction Documents invalid as a whole or make the remedies generally afforded


thereunder inadequate for the practical realization of the principal benefits intended to be provided by that document; and/or

- c. the concepts of good faith and fair dealing, materiality and reasonableness, regardless of whether considered in a proceeding at law or in equity.

Notwithstanding the foregoing and without limiting the generality of the foregoing exceptions, we express no opinion with respect to (i) the availability of the remedies of specific performance or injunctive relief, (ii) the availability of ex parte remedies and other self-help or non-judicial relief, or (iii) the legality, validity, binding effect, or enforceability of provisions that provide for an event of default or availability of remedies predicated solely upon commencement of bankruptcy, reorganization or similar proceedings with respect to PRHTA.

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3. Without limiting the generality of any other exception, limitation or qualification, we express no opinion in this letter with respect to (i) the enforceability of a set-off right, (ii) the application of any law, statute, rule, or regulation relating to the environment, health, or safety, (iii) any law, statute, rule, or regulation that may apply to any party as a result of its activities in Puerto Rico that are not directly related to the transactions contemplated by the Transaction Documents, (iv) the enforceability of any provision of the Transaction Documents pertaining to consent to jurisdiction in so far as it relates to federal courts or agreements stating that failure to exercise or delay in exercising rights will not operate as a waiver of the right or remedy, (v) the enforceability of any provisions of the Transaction Documents to the extent that any recovery of attorneys' fees is not limited to reasonable attorneys' fees, and (vi) the validity or enforceability of any purported waiver or purported consent relating to any other rights of any party, or duties owed to any of them, existing as a matter of law, including without limitation the purported waiver of any party's right to a jury trial.
 4. We have not considered and do not express an opinion with respect to (i) any federal or state (including the Commonwealth of Puerto Rico) securities or antitrust laws and regulations, (ii) the power and authority of the Concessionaire to enter into the Transaction Documents or to carry out the transactions contemplated thereby, or (iii) the possible application of or compliance with various building codes, zoning ordinances, permit requirements, environmental, health or safety laws and other similar statutes, laws, ordinances, codes, and regulations affecting the construction, condition and/or use of the Toll Roads. Our opinions set forth in this letter are expressly subject to the effect of the application of all federal and state (including the Commonwealth of Puerto Rico) antitrust laws and regulations.
 5. We express no opinion as to any provisions of the Transaction Documents providing that the obligations of the parties thereunder are absolute and unconditional irrespective of the invalidity or unenforceability of the Transaction Documents or any other agreement or circumstances.
 6. We express no opinion as to the enforceability or validity of any power of attorney,

designation of authority, or similar provisions contained in the Transaction Documents.

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7. We express no opinion as to any provision in the Transaction Documents providing that decisions by a party are conclusive or may be made in its sole discretion.
 8. We express no opinion as to any matter involving financial information or the financial condition of any Person.
 9. We express no opinion as to any rights to contribution or indemnification provided for in the Transaction Documents which are violative of public policy underlying any law, rule or regulation (including any federal or state securities law, rule or regulation).
 10. We express no opinion as to (i) provisions waiving, expressly or by implication, defenses or rights, where such waivers are violative of public policy or prohibited by law, (ii) provisions waiving the right to trial by jury, (iii) provisions that purport to establish (or may be construed to establish) evidentiary standards, (iv) forum selection clauses or (v) service of process provisions.
 11. We express no opinion as to any indemnity provision contained in the Transaction Documents to the extent that any such provision is sought to be enforced with respect to a loss or liability arising from an action or omission of the indemnitee which included the negligence, recklessness or willful misconduct of, or a violation of law by, the party seeking to enforce any such provision.
 12. Amounts, if any, fixed in the Transaction Documents as liquidated damages may be adjusted by the courts, and the remedies of specific performance, injunctive relief and other equitable relief are subject to the discretion of the courts.
 13. We express no opinion as to the applicability to the transactions contemplated by the Transaction Documents of Section 548 of the United States Bankruptcy Code relating to fraudulent transfers or obligations, and the opinions expressed herein are limited by and subject to the application of those statutes.

The opinions expressed herein are matters of professional judgment, are not a guarantee of result and are effective only as of the date hereof. We do not undertake to advise you of any matter within the scope of this letter that comes to our attention after the date of this letter and disclaim any responsibility to advise you of any future changes in law or fact that may affect the opinions set forth herein. We express no opinion other than as hereinbefore expressly set forth. No expansion of the opinions expressed herein may or should be made by implication or otherwise.

In addition, with respect to the opinions in paragraphs (b), (c) and (d) above, we have expressly relied upon the Secretary of Justice Opinions with respect to the requirements for the authorization and approval of the Agreement (or any aspect thereof) under the laws of the Commonwealth of Puerto Rico in connection with the DTL Extension.

We are informed that you are relying on this opinion letter in connection with the

consummation of the actions and transactions contemplated by the Transaction Documents. The foregoing opinions shall not be relied upon for any other purpose or by any other party without our prior written consent. The use or reliance upon this opinion letter by any other person or entity without our prior written consent is strictly prohibited.

Very truly yours,

6/3/12

A handwritten signature, possibly reading "T. H.", consisting of a large, stylized capital letter followed by a smaller capital letter.

Schedule 2
Legal Opinion of the Concessionaire
(See attached.)

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**SCHEDULE 2
FORM OF LEGAL OPINION OF THE CONCESSIONAIRE**

[Letterhead of Counsel to the Concessionaire]

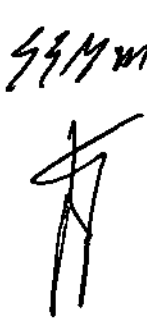
[Closing Date]

Ladies and Gentlemen:


We have acted as counsel to Puerto Rico Tollroads, LLC, a limited liability company organized and existing under the laws of the Commonwealth of Puerto Rico (the "Concessionaire") in connection with the execution of the Toll Road Concession Agreement, dated as of October 16, 2023 (the "Agreement"), by and between the Puerto Rico Highways and Transportation Authority, a public corporation organized under the laws of the Commonwealth of Puerto Rico (the "PRHTA"), and the Concessionaire. This opinion is being delivered to you pursuant to Section 2.4(b)(iv) of the Agreement. Capitalized terms used and not otherwise defined herein shall have their respective meanings set forth in the Agreement.

We have examined originals or copies, certified or otherwise identified to our satisfaction, of (i) the Agreement and (ii) such other records and writings as we have deemed necessary as the basis of the opinions set forth herein.

In rendering this opinion, we also have examined such certificates of public officials, documents and records and other certificates and instruments as we have deemed necessary for the purposes of the opinion herein expressed and, with your permission, have relied upon and assumed the accuracy of such certificates, documents, records and instruments. We have made such examination of the laws of the Commonwealth of Puerto Rico ("Puerto Rico") as we deemed relevant for purposes of this opinion, but[, except with respect to the opinions set forth in numbered paragraph[s] _____ below,] we have not made a review of, and express no opinion concerning, the laws of any jurisdiction other than Puerto Rico.

 We have relied upon and assumed the truth and accuracy of the representations, certifications, and warranties made in the Agreement, and we have not made any independent investigation or verification of any factual matters stated or represented therein. Whenever our opinion or confirmation herein with respect to the existence or absence of facts is indicated to be based upon our knowledge or belief, it is intended to signify that no information has come to the attention of the members of our firm actively working on the Agreement that would give any of them actual knowledge of the existence or absence of such facts. Except to the extent expressly set forth herein, we have not undertaken any independent investigation to determine the existence or absence of such facts or circumstances or the assumed facts set forth herein, we accept no responsibility to make any such investigation, and no inference as to our knowledge of the existence or absence of such facts or circumstances or of our having made any independent review thereof should be drawn from our representation of the Concessionaire.

In rendering this opinion letter to you, we have assumed with your permission:

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- a. The genuineness of all signatures, the legal capacity of all natural persons, the authenticity of all documents submitted to us as originals, the conformity to authentic, original documents of all documents submitted to us via facsimile or otherwise as certified, conformed or photostatic copies, and the completeness of all records of corporate proceedings provided to us.
 - b. All official public records (including their proper indexing and filing) furnished to or obtained by us, electronically or otherwise, are accurate, complete and authentic.
 - c. The documents that have been or will be executed and delivered in consummation of the transactions contemplated by the Agreement are or will be identical in all material and relevant respects with the copies of the documents we have examined and on which this opinion is based.
 - d. PRHTA has been duly created and is a validly existing body corporate and politic created under Puerto Rico law.
 - e. The entry into, execution, delivery, receipt, and performance of the Agreement by PRHTA has been duly authorized by all requisite action on the part of PRHTA.
 - f. The Agreement has been duly entered into, executed, received, and delivered by PRHTA and constitutes the legal, valid, and binding obligation of PRHTA.
 - g. The respective factual representations, statements, and warranties of PRHTA made in the Agreement, upon which we have relied, are accurate, complete, and truthful.
 - h. The execution and delivery of the Agreement by each of the parties thereto was free of intentional or unintentional mistake, misrepresentation, concealment, fraud, undue influence, duress, or criminal activity.
 - i. The Agreement has not been amended or modified by oral or written agreement or by conduct of the parties thereto.
 - j. Each party to the Agreement will at all times exercise its rights and remedies under the Agreement in good faith and in a manner that is commercially reasonable.

Based on and subject to the foregoing and the qualifications referred to below, we are of the opinion that:

1. The Concessionaire is duly organized, validly existing, and in good standing as a limited liability company under the laws of the Commonwealth of Puerto Rico.
2. The Concessionaire has the requisite power and authority to enter into the Agreement and to do all acts and things and execute and deliver all other documents as are required under the Agreement to be done, observed, or performed by the Concessionaire in accordance with the terms thereof.

3. The Concessionaire has duly authorized, executed, and delivered the Agreement, and the Agreement constitutes a valid and legally binding obligation of the Concessionaire, enforceable against the Concessionaire in accordance with its terms.

Each of the opinions set forth above is limited by its terms and subject to the assumptions hereinabove stated and is further subject to the qualifications, exceptions, and limitations set forth herein, none of which shall limit the generality of any other assumption, qualification, exception, or limitation.

The legality, validity and enforceability of the Agreement and the opinion expressed in paragraph 3 above may be limited or otherwise affected by:

- a. bankruptcy, insolvency, reorganization, liquidation, readjustment of debt, receivership, moratorium, fraudulent conveyance, equitable subordination, equity of redemption, recharacterization, or other similar legal principles now or hereafter in effect governing or affecting the rights and remedies of debtors and creditors generally, or general principles of equity, regardless of whether considered in a proceeding at law or in equity;
- b. applicable Puerto Rico laws or judicial decisions which may render certain of the rights, remedies, waivers, and attorney-in-fact appointments contained therein unenforceable or ineffective, but the inclusion of which do not render the Agreement invalid as a whole or make the remedies generally afforded thereunder inadequate for the practical realization of the principal benefits intended to be provided by the Agreement; or
- c. the concepts of good faith and fair dealing, materiality, and reasonableness, regardless of whether considered in a proceeding at law or in equity.

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Notwithstanding the foregoing and without limiting the generality of the foregoing exceptions, we express no opinion with respect to (i) the availability of the remedies of specific performance or injunctive relief, (ii) the availability of ex parte remedies and other self-help or non-judicial relief, or (iii) the legality, validity, binding effect, or enforceability of provisions that provide for an event of default or availability of remedies predicated solely upon commencement of bankruptcy, reorganization, or similar proceedings.

Without limiting the generality of any other exception, limitation or qualification, we also express no opinion with respect to (i) the enforceability of a set-off right, (ii) the application of any law, statute, rule, or regulation relating to the environment, health, or safety, (iii) any law, statute, rule, or regulation that may apply to any party as a result of its activities in Puerto Rico that are not directly related to the transactions contemplated by the Agreement, (iv) the enforceability of any provisions of the Agreement to the extent that any recovery of attorneys' fees is not limited to reasonable attorneys' fees, and (v) the validity or enforceability of any purported waiver or purported consent relating to any other rights of any party, or duties owed to any of them, existing as a matter of law, including without limitation the purported waiver of any party's right to a jury trial.

Further, we have not considered and do not express an opinion with respect to (i) any Federal or state (including Puerto Rico) securities and antitrust laws and regulations or (ii) the power and authority of PRHTA to enter into the Agreement or to carry out the transactions contemplated thereby.

The opinions expressed herein are matters of professional judgment, are not a guarantee of result and are effective only as of the date hereof. We do not undertake to advise you of any matter within the scope of this letter that comes to our attention after the date of this letter and disclaim any responsibility to advise you of any future changes in law or fact that may affect the opinions set forth herein. We express no opinion other than as hereinbefore expressly set forth. No expansion of the opinions expressed herein may or should be made by implication or otherwise. This opinion is rendered solely for your information in connection with the transaction described above and may not be relied upon by you in any other capacity or for any other purpose and may not be used or relied upon by any other Person for any purpose without our express prior written consent.

Very truly yours,

[Counsel to the Concessionaire]

SS/m

A handwritten signature, possibly reading "SS/m", is written in black ink. It consists of a series of loops and a long vertical stroke.

Schedule 3
Description of Toll Roads
(See attached.)

EG/mm

A handwritten signature, possibly reading "B", consisting of a vertical line with a horizontal stroke at the top and a small loop at the bottom.

SCHEDULE 3

DESCRIPTION OF TOLL ROADS


The following table includes the references to the folders included on a flash drive provided to each Party as of the Effective Date containing the files depicting the concession limits for each of the Toll Roads.

Folder References to Concession Limit Maps	
PR-20	
Folder: 09.07.02	
PR-52 (including DTLs)	
Folder: 09.07.01	
Folder: 09.07.04	
PR-53	
Folder: 09.07.05	
PR-66	
Folder: 09.07.03	

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Schedule 4
Tolling Limitations
(See attached.)

4/4/11


A handwritten signature, possibly reading "TJ", is written below the date "4/4/11".

**SCHEDULE 4
TOLLING LIMITATIONS**

Section 1. Right to Establish Tolls

(a) *The Concessionaire's Right to Establish Tolls.* Subject to the provisions of this Schedule 4, the Concessionaire shall, at all times during the Term, have the right to establish, charge, collect and enforce payment of tolls with respect to the operation of any vehicle or class of vehicles on the Toll Roads in accordance with the provisions of this Agreement.

(b) *Vehicles Not Subject to the Concessionaire's Right to Establish Tolls.* The Concessionaire shall not have the right to establish, charge, collect or enforce payment of tolls with respect to the operation of any of the following vehicles using the Toll Roads:

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- (i) vehicles used in firefighting;
 - (ii) vehicles used by the Commonwealth Police;
 - (iii) vehicles bearing diplomatic license plates;
 - (iv) ambulances;
 - (v) vehicles owned by any police, fire and emergency services and any other security or emergency personnel, including the armed forces, and by any Governmental Authority with jurisdiction over the Toll Roads when such vehicles are being used for emergency management and homeland security purposes, including for the prevention of, practice drills for or response to a public safety emergency;
 - (vi) vehicles using the Toll Roads during a declared state of emergency as provided in Section 3.18 of this Agreement;
 - (vii) vehicles designated as exempt from such tolls by the Authority ("Authority Exempt Vehicles"), in its reasonable discretion, which designation may include vehicles (by way of example, but not limited to) owned or operated by representatives of the Authority, the Authority's contractors providing services with respect to the Toll Roads or Authority-operated roads or facilities, the PR Department of State, the Executive Office of the Governor of Puerto Rico, or the Departamento de Transportación y Obras Públicas, *provided that* the maximum number of Authority Exempt Vehicles so designated shall not exceed one thousand (1,000) at any given time;
 - (viii) vehicles owned or operated by the Bebe del Corredor who, for avoidance of doubt, is Krisia Olivero, a natural person entitled under Law to a lifetime exemption from tolls on any part of the Toll Roads; and


(ix) in the case of the DTLs (and, if applicable, the DTL Extension) only, any commuter bus or other vehicle providing scheduled transportation service to the general public over designated routes with specific stops ("Mass Transit Vehicle");

provided, however, that there shall be affixed to each vehicle identified above (each, an "Exempt Vehicle") (with the exception of vehicles identified in clause (vi) above) during such vehicle's use of the Toll Roads a transponder designating such vehicle as an Exempt Vehicle.

Section 2. Tolling Requirements

2.1 Main Line Tolling

(a) *Maximum Toll Levels on the Main Line.* Unless modified pursuant to Article 5 and Article 15 of this Agreement, the maximum toll levels applicable to users of the Toll Roads, excluding the DTLs (and, if applicable, the DTL Extension) (the "Main Line"), for use of the Toll Roads in each direction of the Main Line and for each vehicle toll class shall be as follows:

(i) *Closing Date through December 31, 2023.* The maximum toll levels applicable to Main Line users for the use of the Main Line in each direction and for each vehicle toll class for the period commencing on the Closing Date and ending on and including December 31, 2023, shall be as follows (the "Existing Tolls"): 

Schedule of Existing Toll Rate Classes on PR-20 (in dollars)

Toll Plaza	2 Axle	Double Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle
Guaynabo	0.85	1.65	1.90	2.20	2.45	2.70	3.00

Schedule of Existing Toll Rate Classes on PR-52 (in dollars)

Toll Plaza	2 Axle	Double Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle
Montchiedras	0.40	0.80	1.05	1.30	1.60	1.85	2.15
Caguas Norte	1.65	3.25	3.80	4.35	4.90	5.40	5.95
Caguas Sur	1.10	2.20	2.70	3.25	3.80	4.35	4.90
Salinas	1.90	3.80	4.60	5.40	6.25	7.05	7.85
Rampas Salinas	0.40	0.80	1.05	1.30	1.60	1.85	2.15
Juana Diaz Este	0.55	1.10	1.35	1.65	1.90	2.20	2.45
Juana Diaz Oeste	0.55	1.10	1.35	1.65	1.90	2.20	2.45
Ponce	0.85	1.65	1.90	2.20	2.45	2.70	3.00

Schedule of Existing Toll Rate Classes on PR-53 (in dollars)

Toll Plaza	2 Axle	Double Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle
Hücar	1.10	2.20	2.70	3.25	3.80	4.05	4.35
Guayama	0.55	1.10	1.35	1.65	1.90	2.20	2.45
Ceiba	1.10	2.20	2.70	3.25	3.80	4.05	4.35
Humacao Norte	1.10	2.20	2.70	3.25	3.80	4.05	4.35
Humacao Sur	1.10	2.20	2.70	3.25	3.80	4.05	4.35

Schedule of Existing Toll Rate Classes on PR-66 (in dollars)

Toll Plaza	2 Axle	Double Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle
Carolina	1.50	3.00	3.25	3.50	3.75	4.00	4.25
Rampa C. Norte	0.75	1.50	1.75	2.00	2.25	2.50	2.75
Rampa C. Sur	0.75	1.50	1.75	2.00	2.25	2.50	2.75
Rio Grande	1.00	2.00	2.25	2.50	2.75	3.00	3.25

6/3/24


provided that, notwithstanding Section 2.3(a) of this Schedule 4, no rounding of toll rates, toll levels or like amounts shall be permitted before January 1, 2024, in relation to the Existing Tolls.

(ii) *January 1, 2024 through December 31, 2024.* With the exception of PR-66, the Existing Tolls shall be increased on January 1, 2024, for the period commencing on such day and ending on and including December 31, 2024, to the toll levels set forth on Exhibit A to this Schedule 4. For the avoidance of the doubt, the Existing Tolls may not be increased for PR-66 for the period described in this Section 2.1(a)(ii) of this Schedule 4. For purposes of this Schedule 4, “PR Index” shall mean the Puerto Rico Consumer Price Index – All Families as published by the Puerto Rico Department of Labor and Human Resources for which the base date is December 2006=100; *provided, however*, that if the PR Index is changed so that the base date of the PR Index changes, the PR Index shall be converted in accordance with the conversion factor published by the Puerto Rico Department of Labor and Human Resources; *provided further*, that if the PR Index is discontinued or revised during the Term, such other index or computation with which it is replaced shall be used in order to obtain substantially the same result as would be obtained if the PR Index had not been discontinued or revised (*provided that* any such revision shall not result in the retroactive adjustment of any amounts paid or payable pursuant to this Section 4 and this Agreement prior to such revision).

(iii) *January 1, 2025 through End Date.* The maximum toll level applicable to Main Line users for the use of the Main Line in each direction and for each vehicle toll class may be increased on January 1, 2025, and on each January 1 thereafter until the End Date, to the maximum toll level applicable to the immediately preceding one (1) calendar-year period by a percentage equal to the sum of (y) the percentage increase, if any, in the Index during the immediately preceding year and (z)

one and one-half percent (1.5%). The maximum toll level applicable to (A) users of the Main Line (other than for those plazas that are reconfigured to implement bi-directional tolling pursuant to the ORT Improvement Project or the Concessionaire Bidirectional Project (each, a "Reconfigured Toll Plaza") following, for each Reconfigured Toll Plaza, the date on which such Reconfigured Toll Plaza is put into service (in each case, the "Bi-Directional Tolling Operations Commencement Date") for the use of the Main Line (other than the Reconfigured Toll Plazas) in each direction and for each vehicle toll class may be increased on each January 1 following January 1, 2025 until the End Date, and (B) Reconfigured Toll Plaza users for the use of the Reconfigured Toll Plazas in each direction and for each vehicle toll class, may be increased on the January 1 immediately following the applicable Bi-Directional Tolling Operations Commencement Date and on each January 1 thereafter until the End Date to the maximum toll level applicable to the immediately preceding one (1) calendar-year period (or portion thereof, if applicable) by a percentage equal to the sum of (y) the percentage increase, if any, in the Index during the immediately preceding year and (z) one and one-half percent (1.5%).

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(iv) *Applicable Bi-Directional Tolling Operations Commencement Date through End Date.* Notwithstanding anything to the contrary set forth in clause (iii) above, the maximum toll levels applicable to users of the Reconfigured Toll Plazas shall be initially established on the applicable Bi-Directional Tolling Operations Commencement Date for the use of the Reconfigured Toll Plazas in each direction and for each vehicle toll class and shall comply with the following:

(A) each then-existing maximum toll level applicable to Main Line users at each of the Reconfigured Toll Plazas for each vehicle toll class shall be cut in half;

(B) each such halved maximum toll level shall then be increased by one twentieth (\$0.05) of a dollar, with the resulting rates being the "Reconfigured Toll Plaza Rates";

(C) the Reconfigured Toll Plaza Rates shall be increased to an amount equal to the next greatest one twentieth (\$0.05) of a dollar, with the resulting rates being the "New Posted Reconfigured Toll Plaza Rates"; *provided that*, for the avoidance of doubt, in the application of this clause (C) and clause (B) above, the New Posted Reconfigured Toll Plaza Rates shall not result in an increase greater than one tenth (\$0.10) of a dollar for the sum of the New Posted Reconfigured Toll Plaza Rates for each direction at each toll plaza; and

(D) following the establishment of the New Posted Reconfigured Toll Plaza Rates until the End Date, the New Posted Reconfigured Toll Plaza Rate, as adjusted from time to time in accordance with the terms hereof, shall be the maximum toll level authorized and subject to adjustment and escalation in accordance with the terms and conditions hereof; *provided that* any subsequent rounding in respect of such New Posted Reconfigured Toll Plaza Rates shall be made to the next greatest one twentieth (\$0.05) of a dollar denomination for the

purpose of establishing the posted toll rates applicable on the Main Line (including in respect of the Reconfigured Toll Plazas) in each direction and for each vehicle class.

(v) *Maximum Toll Level Adjustments Cumulative.* For the avoidance of doubt, the maximum toll levels described in this Section 2.1(a) of this Schedule 4 may be increased for each calendar year on a cumulative basis based on the methodology set forth in this Section 2.1(a) of this Schedule 4 regardless of whether or not the Concessionaire collected tolls at the applicable maximum toll levels during the preceding year.

(b) *Toll Level Requirements as Maximum Tolls.* Subject to Section 2.1(c) of this Schedule 4, the toll levels authorized pursuant to Section 2.1(a) of this Schedule 4 shall constitute maximum toll levels. The Concessionaire shall have the right to implement:

(i) tolls lower than the applicable maximum toll levels, including discount programs;

(ii) time-of-day variable rate tolling, if supported by then-available equipment;

(iii) congestion-related tolling, including high-occupancy-vehicle-toll lanes, if supported by then-available equipment; or

(iv) any other method of charging tolls, including a mix of trip-based or account-based tolling on all or part of the Main Line (including any part utilizing open road tolling) and discounts based on frequency of use (including products such as day passes, if available);

provided, however, that, subject to Section 2.3(a) of this Schedule 4, the Concessionaire shall not charge a toll that exceeds the applicable maximum toll levels set forth in Section 2.1(a) of this Schedule 4 at any time at any toll plaza on the Main Line.

(c) *Notices.*

(i) *Notice of Pending Toll Changes on the Main Line.* If the Concessionaire desires to change any toll (including increases or decreases in any toll or different methods of charging tolls or permitted changes in vehicle toll classes) on the Main Line as permitted by this Schedule 4, then prior to implementing such change it shall give notice of such change (a "Pending Toll Change") to (A) the Authority no later than ninety (90) days prior to the implementation of such change and (B) the public in accordance with Section 2.1(c)(ii) of this Schedule 4; *provided, however, that notwithstanding anything to the contrary set forth herein, in respect of (x) the initial establishment of the Reconfigured Toll Plaza Rates, the Concessionaire shall only be required to give the Authority notice thereof no later than thirty (30) days prior to the*

establishment thereof and (y) to the extent that the date on which the Concessionaire shall have provided the notice contemplated in sub-clause (x) was within ninety (90) days prior to December 31 of the relevant calendar year, any notice required in respect of any further adjustment to the Reconfigured Toll Plaza Rate or the New Posted Reconfigured Toll Plaza Rates to be made on January 1 of the immediately succeeding calendar year shall be provided no later than thirty (30) days prior to the end of such calendar year.

(ii) *Notice to the Public.* The Concessionaire shall use commercially reasonable efforts to (A) provide notice to the public of all tolls for the use of the Main Line and (B) inform the public of a Pending Toll Change at least twenty (20) days prior to the implementation of such change. The Concessionaire shall maintain a website on the Internet that states all tolls, temporary discounts and Pending Toll Changes. The Concessionaire shall make known to the public and maintain a telephone number to enable any person to request a printed description of all tolls, temporary discounts and Pending Toll Changes. The Concessionaire may modify any of the aforesaid means of communication with the public consistent with any developments in common practice relating to means of comparable communication.

(iii) *Notice of Temporary Discounts.* Notwithstanding this Section 2.1(c) of this Schedule 4, if the Concessionaire desires to establish or terminate a temporary discount with respect to any toll, it shall give notice of the establishment or termination of such temporary discount to the Authority at least one (1) Business Day prior to the implementation or termination of such temporary discount.

2.2 DTL Tolling

(a) *Free Flow Traffic Conditions.* The Concessionaire shall charge and collect tolls on the DTLs pursuant to a dynamic tolling protocol operated with a view to maintaining a speed of fifty-five (55) miles per hour for all users of the DTLs after entry onto the DTLs (the "Free Flow Traffic Conditions"), and there shall be no restrictions upon the toll rates the Concessionaire may charge and collect on the DTLs (or on the maximum toll rate with respect to the DTLs) except as set forth in Article 7 of this Agreement and Sections 1(b), 2.2 and 2.3 of this Schedule 4. For the avoidance of doubt, (i) the Concessionaire shall not be required to maintain Free Flow Traffic Conditions if and to the extent that the Concessionaire's compliance with applicable Law (including any NEPA requirements) prevents the Concessionaire from doing so and (ii) the Concessionaire shall not charge or collect cash tolls on the DTLs.

(b) *Access to DTLs.*

(i) On each Business Day, the DTLs must be made accessible to incoming San Juan traffic heading in the northbound direction from at least 5:00 a.m. Atlantic Standard Time to 10:00 a.m. Atlantic Standard Time. On each Business Day, the DTLs must be made accessible to outgoing San Juan traffic in the southbound direction from at least 2:00 p.m. Atlantic Standard Time to 7:00 p.m. Atlantic Standard

Time.

(ii) At all other times on Business Days and on each day that is not a Business Day, the Concessionaire may manage the direction of traffic on the DTLs in its discretion.

(iii) Subject to Section 3.18 of this Agreement, the DTLs shall be accessible only by:

(A) Class 1 Vehicles; and

(B) Mass Transit Vehicles.

(c) *Dynamic Message Signs.* The Concessionaire shall use the existing Dynamic Message Signs upstream of the five (5) entry points of the DTLs. The display of the Dynamic Message Signs shall be clearly visible from all lanes on the Main Line. The Concessionaire shall notify potential users by Dynamic Message Signs on the Main Line (including on the approaches to the DTLs) that only Class 1 Vehicles and Mass Transit Vehicles equipped with a transponder designating it as an Exempt Vehicle are allowed to enter the DTLs. In addition, the Dynamic Message Signs shall provide:

(i) the availability of the DTLs for the relevant direction; and

(ii) the current toll.

(d) *Base Rate Table.* The toll for the DTLs shall be determined by reference to a table of toll rates, the initial version of which is set forth on Exhibit B to this Schedule 4 (as the same may be amended pursuant to this Schedule 4, the "Base Rate Table"), which shall set out the toll rate applicable to users of the DTLs for each fifteen (15) minute increment of a twenty-four (24) hour period and for each day of the week for each of the entry points of the DTLs. The Concessionaire shall deliver to the Authority any updates to the Base Rate Table that the Concessionaire desires to request from time to time, for review and Approval by the Authority before implementation of any such updates (such Approval not to be unreasonably withheld, conditioned or delayed by the Authority); *provided* that no toll set forth in any such requested updates may exceed the then-current Toll Rate Cap (as defined herein).

(e) *Adjustment of Toll Rates.* The Concessionaire shall adjust the toll rates for the DTLs from time to time, but not more frequently than once every fifteen (15) minutes, from the tolls set out in the Base Rate Table with a view (unless the Incident Criteria apply) to (i) maintaining Free Flow Traffic Conditions and (ii) assuming the Free Flow Traffic Conditions are satisfied, in a manner that generates a return on and reflects the value that the DTLs service represents to users of the facility ((i) and (ii) together, the "Normal Operating Criteria"). Following the occurrence and during the continuance of any Incident Exception, the Normal Operating Criteria shall not apply, and instead the Concessionaire shall manually adjust toll rates in accordance with the Incident Criteria (as defined herein) and the operating procedures established by the

Concessionaire from time to time, but not more frequently than once every fifteen (15) minutes.

(f) *Incident Criteria.*

(i) In the event (i) an incident occurs on the DTLs or (ii) more than two (2) lanes are closed on the Main Line (in either case of (i) or (ii), an "Incident Exception"), the Concessionaire shall override the Base Rate Table and introduce a manual toll rate (the "Incident Criteria"). The Concessionaire may propose, at any time, alternative, modified or additional Incident Criteria, which shall be subject to review and Approval by the Authority (such Approval not to be unreasonably withheld, conditioned or delayed by the Authority).

(ii) The Concessionaire shall (x) establish operating procedures in compliance with the Incident Criteria to implement manual tolling under Section 2.2(e) of this Schedule 4 following the occurrence and during the continuance of any Incident Exception; and (y) ensure that the applicable RSE/BO Service Provider (as defined in Schedule 12) receives information regarding the toll applicable to the DTLs at any time in order to apply such rates through the ETCS system.

(g) *DTL Algorithm.* In the event the Concessionaire chooses to propose an algorithm to adjust the tolls applicable to the DTLs (the "DTL Algorithm") in accordance with Section H.4.3.4 of Schedule 15B (in which case, this Schedule 4 shall be amended as needed to reflect the use of a DTL Algorithm), the Authority and the Concessionaire shall consult to determine:

(i) the appropriate DTL Algorithm to maintain Free Flow Traffic Conditions; and

(ii) the appropriate speed-measuring locations or roadway sensors on the DTLs to best measure Free Flow Traffic Conditions.

(h) *Monthly Reports.* Monthly reports shall be provided by the Concessionaire to the Authority on the performance of the DTLs. Such reports shall include observed volumes and average speeds by ten (10) minute intervals, as well as the toll level during such periods.

(i) *Toll Rate Cap.* At any time, the "Toll Rate Cap" for the DTLs and, if applicable, for the DTL Extension shall equal the lesser of (x) the applicable maximum toll rate Approved by the Authority pursuant to this Section 2.2 and (y) the highest toll rate permitted under applicable Law (including, for such purposes, any NEPA requirements). For the avoidance of doubt, as of the date of this Agreement, both the maximum toll rate Approved by the Authority and the Toll Rate Cap for the DTLs are \$3.50. Any Toll Rate Cap for the DTLs in excess of \$6.00 shall be subject to the revenue share arrangement set forth in Section 7.2(h) of this Agreement. The Concessionaire may deliver to the Authority from time to time a written request to increase the maximum

toll rate that may be charged on the DTLs or, if applicable, the DTL Extension, for review and Approval by the Authority (such Approval not to be unreasonably withheld, conditioned or delayed by the Authority), *provided that*:

(i) the Authority's Approval of any increase of the maximum toll rate for the DTLs above \$3.50 prior to January 1, 2025 shall be in the Authority's discretion;

(ii) the Authority shall not withhold its Approval with respect to any increase of the maximum toll rate for the DTLs to \$6.00 (or less) on or after January 1, 2025; and

(iii) the Authority shall not withhold its Approval with respect to any other increase with respect to the DTLs or, if applicable, the DTL Extension if the Concessionaire demonstrates to the reasonable satisfaction of the Authority that such increase is required to maintain Free Flow Traffic Conditions on the DTLs or the DTL Extension, respectively.

 (j) *DTL Extension*. If the Authority elects to proceed with the DTL Extension Project:

(i) the Authority shall include in the scope of such project and implement design and construction of (x) new entry points (whether such entry points are in the northbound or southbound direction, each a "New DTL Entry") on the DTL Extension, which shall include a New DTL Entry in the area of Caguas Norte capturing traffic in the southbound direction at the entrance of the DTL Extension (the "PM Connector") such that users of the DTLs traveling in the southbound direction will be able either to exit at Caguas Norte at the end of the DTLs or connect to the DTL Extension by driving southbound through the PM Connector;


(ii) the Concessionaire shall update, in accordance with this Schedule 4, the toll collection systems and the Base Rate Table to include any New DTL Entry, including the PM Connector, and shall seek Authority Approval of the maximum toll rate for the DTL Extension and, if applicable, for any adjustment to the maximum toll rate for the DTLs;

(iii) the toll rate charged to users at each New DTL Entry in the northbound direction will be a single toll rate, comprised of two elements: (x) the applicable toll rate at the Caguas Norte entry point of the DTLs at the time of the access through the applicable New DTL Entry (the "Partial DTLs Rate") and (y) the applicable toll rate for the DTL Extension through such New DTL Entry (the "Partial DTL Extension Rate"); and

(iv) the "DTL Extension Revenues" shall include all revenues charged by or on behalf of the Concessionaire in respect of tolls paid or payable for use of the DTL Extension (x) at then applicable rates by vehicles traveling in the southbound direction through the PM Connector and any additional New DTL Entry capturing traffic in the

southbound direction and (y) at the Partial DTL Extension Rate by vehicles traveling in the northbound direction through any New DTL Entry capturing traffic in the northbound direction. For avoidance of doubt, DTL Extension Revenues shall not include revenues attributable to tolls paid or payable at the Partial DTLs Rate by vehicles using the DTL Extension in the northbound direction.

2.3 Other Conditions

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(a) *Rounding of Certain Maximum Toll Levels on the Toll Roads.* Notwithstanding anything to the contrary herein (other than the proviso in Section 2.1(a)(i) of this Schedule 4), to the extent a maximum toll level authorized on the Toll Roads pursuant to Section 2.1(a) of this Schedule 4 is not an amount equal to a tenth (\$0.10) of a dollar denomination, such maximum toll level shall be increased to an amount equal to the next greatest tenth (\$0.10) of a dollar denomination; *provided, however*, that any calculation made pursuant to Section 2.1 of this Schedule 4 shall be made as if any such increase had not occurred. For the avoidance of doubt, any rounding contemplated in respect of any Reconfigured Toll Plaza Rate shall take into account the rounding requirements related thereto and set forth in Section 2.1(a)(iv)(D).

(b) *Tolls as Only Imposable Charges during the Term.* At all times during the Term, the only charges that the Concessionaire may impose on Toll Road users are the tolls authorized pursuant to Sections 2.1(a), 2.1(b), 2.1(c)(iii) and 2.2 of this Schedule 4 and the fees and charges to the extent permitted in Section 7.2(a) of this Agreement.

(c) *Like Conditions.* The toll rates shall be the same for persons using the Toll Roads under like conditions, and for this purpose "like conditions" may take into consideration the type, weight and occupancy of the vehicle, number of axles, time-of-day or day-of-week travel, time and location of entry to the Toll Roads, traffic congestion and other traffic conditions; *provided that* the Concessionaire may adopt and implement discount programs for different classes or groups of persons using the Toll Roads under like conditions.

(d) Technology.

(i) At all times during the Term the Concessionaire shall be solely responsible for maintaining a toll collection system with respect to the Toll Roads that shall be fully interoperable with the AutoExpresso network, any successor to AutoExpresso or any other electronic toll collection system utilized on toll roads in the Commonwealth (including toll roads being operated by other private concessionaires) at any time; *provided that* the Concessionaire shall be deemed to comply with this subsection (i) for so long as the Concessionaire fully complies with the ETC Service Terms or any ETC Service Contract executed by it, the Authority and any ETC Service Provider in accordance with the ETC Service Terms.

(ii) If at any time during the Term the Authority requires any change in

interoperability, compatibility or other requirements or protocols for toll collection systems (including in relation to any Roadside Equipment (as defined below) maintained by the Concessionaire) pursuant to Section 6.3(a) of this Agreement or otherwise requires such change as an Open Standard Change (as defined below), the Concessionaire, at its cost and expense, shall perform all work required to implement such change on the Toll Roads and in no event shall the Concessionaire be excused from compliance with such change; *provided that* in the event that any such change is required neither pursuant to Section 6.3(a) of this Agreement nor as an Open Standard Change, such change shall be deemed to be a Compensation Event for which the Authority shall provide the Concessionaire with Concession Compensation in accordance with Article 15.


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(iii) For purposes of this Section 2.3(d) of this Schedule 4, (A) "Roadside Equipment" shall mean any equipment or other related assets used or required to be used in connection with the electronic toll collection system on the Toll Roads that is located on or in the immediate vicinity of the Toll Roads, and (B) "Open Standard Change" shall mean any change in standards required by the Authority concerning the interoperability, compatibility or other requirements or protocols applicable to non-cash tolling on all or substantially all of the toll roads operated by or on behalf of the Authority in the Commonwealth, which (x) change is consistent with established standards for a system of electronic toll collection in effect in other jurisdictions within the United States and (y) standards at least three (3) major tolling service providers would be capable of satisfying.

Exhibit A to Schedule 4

GANTRY	2 Axle	Double Axle	3 Axle	4 Axle	5 Axle	6 Axle	7 Axle
GUAYNABO	\$0.90	\$1.75	\$2.00	\$2.30	\$2.60	\$2.85	\$3.15
MONTEHIEDRA	\$0.40	\$0.80	\$1.10	\$1.40	\$1.65	\$1.95	\$2.25
CAGUAS NORTE	\$1.75	\$3.45	\$4.00	\$4.55	\$5.15	\$5.70	\$6.25
CAGUAS SUR	\$1.15	\$2.30	\$2.85	\$3.45	\$4.00	\$4.55	\$5.15
SALINAS	\$2.00	\$4.00	\$4.85	\$5.70	\$6.55	\$7.40	\$8.25
RAMPAS SALINAS	\$0.40	\$0.80	\$1.10	\$1.40	\$1.65	\$1.95	\$2.25
JUANA DIAZ ESTE	\$0.60	\$1.15	\$1.45	\$1.75	\$2.00	\$2.30	\$2.60
JUANA DIAZ OESTE	\$0.60	\$1.15	\$1.45	\$1.75	\$2.00	\$2.30	\$2.60
PONCE	\$0.90	\$1.75	\$2.00	\$2.30	\$2.60	\$2.85	\$3.15
HÚCAR	\$1.15	\$2.30	\$2.85	\$3.45	\$4.00	\$4.30	\$4.55
GUAYAMA	\$0.60	\$1.15	\$1.45	\$1.75	\$2.00	\$2.30	\$2.60
CEIBA	\$1.15	\$2.30	\$2.85	\$3.45	\$4.00	\$4.30	\$4.55
HUMACAO NORTE	\$1.15	\$2.30	\$2.85	\$3.45	\$4.00	\$4.30	\$4.55
HUMACAO SUR	\$1.15	\$2.30	\$2.85	\$3.45	\$4.00	\$4.30	\$4.55
CAROLINA	\$1.50	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25
RAMPA C. NORTE	\$0.75	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75
RAMPA C. SUR	\$0.75	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75
RIO GRANDE	\$1.00	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25

Exhibit B to Schedule 4

Toll Point	File ID	Effective Date	Weekday	Start time	End time	Tariff
DT CN	20230105-001	2023-01-05	Monday	5:00:00	5:15:00	2.15
DT CN	20230105-001	2023-01-05	Monday	5:15:00	5:30:00	2.15
DT CN	20230105-001	2023-01-05	Monday	5:30:00	5:45:00	2.15
DT CN	20230105-001	2023-01-05	Monday	5:45:00	6:00:00	2.40
DT CN	20230105-001	2023-01-05	Monday	6:00:00	6:15:00	2.65
DT CN	20230105-001	2023-01-05	Monday	6:15:00	6:30:00	3.15
DT CN	20230105-001	2023-01-05	Monday	6:30:00	6:45:00	3.50
DT CN	20230105-001	2023-01-05	Monday	6:45:00	7:00:00	3.50
DT CN	20230105-001	2023-01-05	Monday	7:00:00	7:15:00	3.50
DT CN	20230105-001	2023-01-05	Monday	7:15:00	7:30:00	3.50
DT CN	20230105-001	2023-01-05	Monday	7:30:00	7:45:00	3.50
DT CN	20230105-001	2023-01-05	Monday	7:45:00	8:00:00	3.50
DT CN	20230105-001	2023-01-05	Monday	8:00:00	8:15:00	3.40
DT CN	20230105-001	2023-01-05	Monday	8:15:00	8:30:00	3.40
DT CN	20230105-001	2023-01-05	Monday	8:30:00	8:45:00	3.40
DT CN	20230105-001	2023-01-05	Monday	8:45:00	9:00:00	3.15
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DT CN	20230105-001	2023-01-05	Monday	9:15:00	9:30:00	2.65
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DT CN	20230105-001	2023-01-05	Tuesday	5:45:00	6:00:00	2.65
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DT CN	20230105-001	2023-01-05	Tuesday	6:15:00	6:30:00	3.50
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DT CN	20230105-001	2023-01-05	Tuesday	12:00:00	12:15:00	2.15
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DT CN	20230105-001	2023-01-05	Thursday	11:45:00	12:00:00	2.15

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DT CN	20230105-001	2023-01-05	Friday	7:30:00	7:45:00	3.50
DT CN	20230105-001	2023-01-05	Friday	7:45:00	8:00:00	3.50
DT CN	20230105-001	2023-01-05	Friday	8:00:00	8:15:00	3.50
DT CN	20230105-001	2023-01-05	Friday	8:15:00	8:30:00	3.50
DT CN	20230105-001	2023-01-05	Friday	8:30:00	8:45:00	3.50
DT CN	20230105-001	2023-01-05	Friday	8:45:00	9:00:00	3.50
DT CN	20230105-001	2023-01-05	Friday	9:00:00	9:15:00	3.50
DT CN	20230105-001	2023-01-05	Friday	9:15:00	9:30:00	3.15
DT CN	20230105-001	2023-01-05	Friday	9:30:00	9:45:00	3.15
DT CN	20230105-001	2023-01-05	Friday	9:45:00	10:00:00	3.15
DT CN	20230105-001	2023-01-05	Friday	10:00:00	10:15:00	3.15
DT CN	20230105-001	2023-01-05	Friday	10:15:00	10:30:00	3.15
DT CN	20230105-001	2023-01-05	Friday	10:30:00	10:45:00	3.15
DT CN	20230105-001	2023-01-05	Friday	10:45:00	11:00:00	3.15
DT CN	20230105-001	2023-01-05	Friday	11:00:00	11:15:00	3.15
DT CN	20230105-001	2023-01-05	Friday	11:15:00	11:30:00	2.65
DT CN	20230105-001	2023-01-05	Friday	11:30:00	11:45:00	2.65
DT CN	20230105-001	2023-01-05	Friday	11:45:00	12:00:00	2.65
DT CN	20230105-001	2023-01-05	Friday	12:00:00	12:15:00	2.65
DT PR18	20230105-001	2023-01-05	Monday	12:15:00	12:30:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	12:30:00	12:45:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	12:45:00	13:00:00	1.00
DT PR18	20230105-001	2023-01-05	Monday	13:00:00	13:15:00	1.00
DT PR18	20230105-001	2023-01-05	Monday	13:15:00	13:30:00	1.00
DT PR18	20230105-001	2023-01-05	Monday	13:30:00	13:45:00	1.50
DT PR18	20230105-001	2023-01-05	Monday	13:45:00	14:00:00	1.50
DT PR18	20230105-001	2023-01-05	Monday	14:00:00	14:15:00	1.50
DT PR18	20230105-001	2023-01-05	Monday	14:15:00	14:30:00	2.25
DT PR18	20230105-001	2023-01-05	Monday	14:30:00	14:45:00	2.25
DT PR18	20230105-001	2023-01-05	Monday	14:45:00	15:00:00	2.25
DT PR18	20230105-001	2023-01-05	Monday	15:00:00	15:15:00	2.25
DT PR18	20230105-001	2023-01-05	Monday	15:15:00	15:30:00	2.25
DT PR18	20230105-001	2023-01-05	Monday	15:30:00	15:45:00	3.00
DT PR18	20230105-001	2023-01-05	Monday	15:45:00	16:00:00	3.00
DT PR18	20230105-001	2023-01-05	Monday	16:00:00	16:15:00	3.00
DT PR18	20230105-001	2023-01-05	Monday	16:15:00	16:30:00	3.00
DT PR18	20230105-001	2023-01-05	Monday	16:30:00	16:45:00	3.00
DT PR18	20230105-001	2023-01-05	Monday	16:45:00	17:00:00	3.00
DT PR18	20230105-001	2023-01-05	Monday	17:00:00	17:15:00	3.00
DT PR18	20230105-001	2023-01-05	Monday	17:15:00	17:30:00	3.50
DT PR18	20230105-001	2023-01-05	Monday	17:30:00	17:45:00	3.50
DT PR18	20230105-001	2023-01-05	Monday	17:45:00	18:00:00	3.00
DT PR18	20230105-001	2023-01-05	Monday	18:00:00	18:15:00	2.50
DT PR18	20230105-001	2023-01-05	Monday	18:15:00	18:30:00	2.50
DT PR18	20230105-001	2023-01-05	Monday	18:30:00	18:45:00	2.00
DT PR18	20230105-001	2023-01-05	Monday	18:45:00	19:00:00	1.50
DT PR18	20230105-001	2023-01-05	Monday	19:00:00	19:15:00	1.50

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DT PR18	20230105-001	2023-01-05	Monday	19:15:00	19:30:00	1.00
DT PR18	20230105-001	2023-01-05	Monday	19:30:00	19:45:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	19:45:00	20:00:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	20:00:00	20:15:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	20:15:00	20:30:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	20:30:00	20:45:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	20:45:00	21:00:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	21:00:00	21:15:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	21:15:00	21:30:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	21:30:00	21:45:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	21:45:00	22:00:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	22:00:00	22:15:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	22:15:00	22:30:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	22:30:00	22:45:00	0.50
DT PR18	20230105-001	2023-01-05	Monday	22:45:00	23:00:00	0.50
DT PR18	20230105-001	2023-01-05	Tuesday	12:15:00	12:30:00	0.50
DT PR18	20230105-001	2023-01-05	Tuesday	12:30:00	12:45:00	0.50
DT PR18	20230105-001	2023-01-05	Tuesday	12:45:00	13:00:00	0.50
DT PR18	20230105-001	2023-01-05	Tuesday	13:00:00	13:15:00	1.00
DT PR18	20230105-001	2023-01-05	Tuesday	13:15:00	13:30:00	1.00
DT PR18	20230105-001	2023-01-05	Tuesday	13:30:00	13:45:00	1.50
DT PR18	20230105-001	2023-01-05	Tuesday	13:45:00	14:00:00	2.00
DT PR18	20230105-001	2023-01-05	Tuesday	14:00:00	14:15:00	2.50
DT PR18	20230105-001	2023-01-05	Tuesday	14:15:00	14:30:00	2.50
DT PR18	20230105-001	2023-01-05	Tuesday	14:30:00	14:45:00	2.50
DT PR18	20230105-001	2023-01-05	Tuesday	14:45:00	15:00:00	2.50
DT PR18	20230105-001	2023-01-05	Tuesday	15:00:00	15:15:00	3.00
DT PR18	20230105-001	2023-01-05	Tuesday	15:15:00	15:30:00	3.00
DT PR18	20230105-001	2023-01-05	Tuesday	15:30:00	15:45:00	3.00
DT PR18	20230105-001	2023-01-05	Tuesday	15:45:00	16:00:00	3.50
DT PR18	20230105-001	2023-01-05	Tuesday	16:00:00	16:15:00	3.50
DT PR18	20230105-001	2023-01-05	Tuesday	16:15:00	16:30:00	3.50
DT PR18	20230105-001	2023-01-05	Tuesday	16:30:00	16:45:00	3.50
DT PR18	20230105-001	2023-01-05	Tuesday	16:45:00	17:00:00	3.50
DT PR18	20230105-001	2023-01-05	Tuesday	17:00:00	17:15:00	3.50
DT PR18	20230105-001	2023-01-05	Tuesday	17:15:00	17:30:00	3.50
DT PR18	20230105-001	2023-01-05	Tuesday	17:30:00	17:45:00	3.50
DT PR18	20230105-001	2023-01-05	Tuesday	17:45:00	18:00:00	3.50
DT PR18	20230105-001	2023-01-05	Tuesday	18:00:00	18:15:00	3.00
DT PR18	20230105-001	2023-01-05	Tuesday	18:15:00	18:30:00	2.50
DT PR18	20230105-001	2023-01-05	Tuesday	18:30:00	18:45:00	2.00
DT PR18	20230105-001	2023-01-05	Tuesday	18:45:00	19:00:00	1.50
DT PR18	20230105-001	2023-01-05	Tuesday	19:00:00	19:15:00	1.50
DT PR18	20230105-001	2023-01-05	Tuesday	19:15:00	19:30:00	1.00
DT PR18	20230105-001	2023-01-05	Tuesday	19:30:00	19:45:00	0.75
DT PR18	20230105-001	2023-01-05	Tuesday	19:45:00	20:00:00	0.75
DT PR18	20230105-001	2023-01-05	Tuesday	20:00:00	20:15:00	0.75
DT PR18	20230105-001	2023-01-05	Tuesday	20:15:00	20:30:00	0.75
DT PR18	20230105-001	2023-01-05	Tuesday	20:30:00	20:45:00	0.75
DT PR18	20230105-001	2023-01-05	Tuesday	20:45:00	21:00:00	0.75
DT PR18	20230105-001	2023-01-05	Tuesday	21:00:00	21:15:00	0.75
DT PR18	20230105-001	2023-01-05	Tuesday	21:15:00	21:30:00	0.75
DT PR18	20230105-001	2023-01-05	Tuesday	21:30:00	21:45:00	0.75
DT PR18	20230105-001	2023-01-05	Tuesday	21:45:00	22:00:00	0.75
DT PR18	20230105-001	2023-01-05	Tuesday	22:00:00	22:15:00	0.75
DT PR18	20230105-001	2023-01-05	Tuesday	22:15:00	22:30:00	0.75
DT PR18	20230105-001	2023-01-05	Tuesday	22:30:00	22:45:00	0.75
DT PR18	20230105-001	2023-01-05	Tuesday	22:45:00	23:00:00	0.75

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DT PR18	20230105-001	2023-01-05	Wednesday	12:15:00	12:30:00	0.50
DT PR18	20230105-001	2023-01-05	Wednesday	12:30:00	12:45:00	0.50
DT PR18	20230105-001	2023-01-05	Wednesday	12:45:00	13:00:00	0.75
DT PR18	20230105-001	2023-01-05	Wednesday	13:00:00	13:15:00	1.00
DT PR18	20230105-001	2023-01-05	Wednesday	13:15:00	13:30:00	1.00
DT PR18	20230105-001	2023-01-05	Wednesday	13:30:00	13:45:00	1.50
DT PR18	20230105-001	2023-01-05	Wednesday	13:45:00	14:00:00	2.00
DT PR18	20230105-001	2023-01-05	Wednesday	14:00:00	14:15:00	2.00
DT PR18	20230105-001	2023-01-05	Wednesday	14:15:00	14:30:00	2.50
DT PR18	20230105-001	2023-01-05	Wednesday	14:30:00	14:45:00	2.50
DT PR18	20230105-001	2023-01-05	Wednesday	14:45:00	15:00:00	2.50
DT PR18	20230105-001	2023-01-05	Wednesday	15:00:00	15:15:00	2.50
DT PR18	20230105-001	2023-01-05	Wednesday	15:15:00	15:30:00	3.00
DT PR18	20230105-001	2023-01-05	Wednesday	15:30:00	15:45:00	3.00
DT PR18	20230105-001	2023-01-05	Wednesday	15:45:00	16:00:00	3.00
DT PR18	20230105-001	2023-01-05	Wednesday	16:00:00	16:15:00	3.00
DT PR18	20230105-001	2023-01-05	Wednesday	16:15:00	16:30:00	3.50
DT PR18	20230105-001	2023-01-05	Wednesday	16:30:00	16:45:00	3.50
DT PR18	20230105-001	2023-01-05	Wednesday	16:45:00	17:00:00	3.50
DT PR18	20230105-001	2023-01-05	Wednesday	17:00:00	17:15:00	3.00
DT PR18	20230105-001	2023-01-05	Wednesday	17:15:00	17:30:00	3.00
DT PR18	20230105-001	2023-01-05	Wednesday	17:30:00	17:45:00	3.00
DT PR18	20230105-001	2023-01-05	Wednesday	17:45:00	18:00:00	3.00
DT PR18	20230105-001	2023-01-05	Wednesday	18:00:00	18:15:00	3.00
DT PR18	20230105-001	2023-01-05	Wednesday	18:15:00	18:30:00	2.50
DT PR18	20230105-001	2023-01-05	Wednesday	18:30:00	18:45:00	2.00
DT PR18	20230105-001	2023-01-05	Wednesday	18:45:00	19:00:00	1.50
DT PR18	20230105-001	2023-01-05	Wednesday	19:00:00	19:15:00	1.50
DT PR18	20230105-001	2023-01-05	Wednesday	19:15:00	19:30:00	1.00
DT PR18	20230105-001	2023-01-05	Wednesday	19:30:00	19:45:00	0.75
DT PR18	20230105-001	2023-01-05	Wednesday	19:45:00	20:00:00	0.75
DT PR18	20230105-001	2023-01-05	Wednesday	20:00:00	20:15:00	0.75
DT PR18	20230105-001	2023-01-05	Wednesday	20:15:00	20:30:00	0.75
DT PR18	20230105-001	2023-01-05	Wednesday	20:30:00	20:45:00	0.75
DT PR18	20230105-001	2023-01-05	Wednesday	20:45:00	21:00:00	0.75
DT PR18	20230105-001	2023-01-05	Wednesday	21:00:00	21:15:00	0.75
DT PR18	20230105-001	2023-01-05	Wednesday	21:15:00	21:30:00	0.75
DT PR18	20230105-001	2023-01-05	Wednesday	21:30:00	21:45:00	0.75
DT PR18	20230105-001	2023-01-05	Wednesday	21:45:00	22:00:00	0.75
DT PR18	20230105-001	2023-01-05	Wednesday	22:00:00	22:15:00	0.75
DT PR18	20230105-001	2023-01-05	Wednesday	22:15:00	22:30:00	0.75
DT PR18	20230105-001	2023-01-05	Wednesday	22:30:00	22:45:00	0.75
DT PR18	20230105-001	2023-01-05	Wednesday	22:45:00	23:00:00	0.75
DT PR18	20230105-001	2023-01-05	Thursday	12:15:00	12:30:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	12:30:00	12:45:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	12:45:00	13:00:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	13:00:00	13:15:00	1.00
DT PR18	20230105-001	2023-01-05	Thursday	13:15:00	13:30:00	1.00
DT PR18	20230105-001	2023-01-05	Thursday	13:30:00	13:45:00	1.00
DT PR18	20230105-001	2023-01-05	Thursday	13:45:00	14:00:00	1.00
DT PR18	20230105-001	2023-01-05	Thursday	14:00:00	14:15:00	1.50
DT PR18	20230105-001	2023-01-05	Thursday	14:15:00	14:30:00	1.50
DT PR18	20230105-001	2023-01-05	Thursday	14:30:00	14:45:00	1.50
DT PR18	20230105-001	2023-01-05	Thursday	14:45:00	15:00:00	2.00
DT PR18	20230105-001	2023-01-05	Thursday	15:00:00	15:15:00	2.00
DT PR18	20230105-001	2023-01-05	Thursday	15:15:00	15:30:00	2.50
DT PR18	20230105-001	2023-01-05	Thursday	15:30:00	15:45:00	3.00
DT PR18	20230105-001	2023-01-05	Thursday	15:45:00	16:00:00	3.00

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DT PR18	20230105-001	2023-01-05	Thursday	16:00:00	16:15:00	3.00
DT PR18	20230105-001	2023-01-05	Thursday	16:15:00	16:30:00	3.50
DT PR18	20230105-001	2023-01-05	Thursday	16:30:00	16:45:00	3.50
DT PR18	20230105-001	2023-01-05	Thursday	16:45:00	17:00:00	3.50
DT PR18	20230105-001	2023-01-05	Thursday	17:00:00	17:15:00	3.00
DT PR18	20230105-001	2023-01-05	Thursday	17:15:00	17:30:00	3.00
DT PR18	20230105-001	2023-01-05	Thursday	17:30:00	17:45:00	2.50
DT PR18	20230105-001	2023-01-05	Thursday	17:45:00	18:00:00	2.50
DT PR18	20230105-001	2023-01-05	Thursday	18:00:00	18:15:00	2.50
DT PR18	20230105-001	2023-01-05	Thursday	18:15:00	18:30:00	2.00
DT PR18	20230105-001	2023-01-05	Thursday	18:30:00	18:45:00	1.50
DT PR18	20230105-001	2023-01-05	Thursday	18:45:00	19:00:00	1.00
DT PR18	20230105-001	2023-01-05	Thursday	19:00:00	19:15:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	19:15:00	19:30:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	19:30:00	19:45:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	19:45:00	20:00:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	20:00:00	20:15:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	20:15:00	20:30:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	20:30:00	20:45:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	20:45:00	21:00:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	21:00:00	21:15:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	21:15:00	21:30:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	21:30:00	21:45:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	21:45:00	22:00:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	22:00:00	22:15:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	22:15:00	22:30:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	22:30:00	22:45:00	0.50
DT PR18	20230105-001	2023-01-05	Thursday	22:45:00	23:00:00	0.50
DT PR18	20230105-001	2023-01-05	Friday	12:15:00	12:30:00	1.50
DT PR18	20230105-001	2023-01-05	Friday	12:30:00	12:45:00	1.50
DT PR18	20230105-001	2023-01-05	Friday	12:45:00	13:00:00	1.50
DT PR18	20230105-001	2023-01-05	Friday	13:00:00	13:15:00	1.50
DT PR18	20230105-001	2023-01-05	Friday	13:15:00	13:30:00	1.50
DT PR18	20230105-001	2023-01-05	Friday	13:30:00	13:45:00	1.50
DT PR18	20230105-001	2023-01-05	Friday	13:45:00	14:00:00	2.00
DT PR18	20230105-001	2023-01-05	Friday	14:00:00	14:15:00	2.50
DT PR18	20230105-001	2023-01-05	Friday	14:15:00	14:30:00	3.00
DT PR18	20230105-001	2023-01-05	Friday	14:30:00	14:45:00	3.00
DT PR18	20230105-001	2023-01-05	Friday	14:45:00	15:00:00	3.00
DT PR18	20230105-001	2023-01-05	Friday	15:00:00	15:15:00	3.25
DT PR18	20230105-001	2023-01-05	Friday	15:15:00	15:30:00	3.25
DT PR18	20230105-001	2023-01-05	Friday	15:30:00	15:45:00	3.25
DT PR18	20230105-001	2023-01-05	Friday	15:45:00	16:00:00	3.25
DT PR18	20230105-001	2023-01-05	Friday	16:00:00	16:15:00	3.50
DT PR18	20230105-001	2023-01-05	Friday	16:15:00	16:30:00	3.50
DT PR18	20230105-001	2023-01-05	Friday	16:30:00	16:45:00	3.50
DT PR18	20230105-001	2023-01-05	Friday	16:45:00	17:00:00	3.50
DT PR18	20230105-001	2023-01-05	Friday	17:00:00	17:15:00	3.50
DT PR18	20230105-001	2023-01-05	Friday	17:15:00	17:30:00	3.50
DT PR18	20230105-001	2023-01-05	Friday	17:30:00	17:45:00	3.50
DT PR18	20230105-001	2023-01-05	Friday	17:45:00	18:00:00	3.50
DT PR18	20230105-001	2023-01-05	Friday	18:00:00	18:15:00	3.50
DT PR18	20230105-001	2023-01-05	Friday	18:15:00	18:30:00	3.00
DT PR18	20230105-001	2023-01-05	Friday	18:30:00	18:45:00	2.50
DT PR18	20230105-001	2023-01-05	Friday	18:45:00	19:00:00	2.00
DT PR18	20230105-001	2023-01-05	Friday	19:00:00	19:15:00	1.50
DT PR18	20230105-001	2023-01-05	Friday	19:15:00	19:30:00	1.00
DT PR18	20230105-001	2023-01-05	Friday	19:30:00	19:45:00	0.75

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DT PR18	20230105-001	2023-01-05	Friday	19:45:00	20:00:00	0.75
DT PR18	20230105-001	2023-01-05	Friday	20:00:00	20:15:00	0.75
DT PR18	20230105-001	2023-01-05	Friday	20:15:00	20:30:00	0.75
DT PR18	20230105-001	2023-01-05	Friday	20:30:00	20:45:00	0.75
DT PR18	20230105-001	2023-01-05	Friday	20:45:00	21:00:00	0.75
DT PR18	20230105-001	2023-01-05	Friday	21:00:00	21:15:00	0.75
DT PR18	20230105-001	2023-01-05	Friday	21:15:00	21:30:00	0.75
DT PR18	20230105-001	2023-01-05	Friday	21:30:00	21:45:00	0.75
DT PR18	20230105-001	2023-01-05	Friday	21:45:00	22:00:00	0.75
DT PR18	20230105-001	2023-01-05	Friday	22:00:00	22:15:00	0.75
DT PR18	20230105-001	2023-01-05	Friday	22:15:00	22:30:00	0.75
DT PR18	20230105-001	2023-01-05	Friday	22:30:00	22:45:00	0.75
DT PR18	20230105-001	2023-01-05	Friday	22:45:00	23:00:00	0.75
DT MH	20230105-001	2023-01-05	Monday	12:15:00	12:30:00	0.50
DT MH	20230105-001	2023-01-05	Monday	12:30:00	12:45:00	0.50
DT MH	20230105-001	2023-01-05	Monday	12:45:00	13:00:00	1.00
DT MH	20230105-001	2023-01-05	Monday	13:00:00	13:15:00	1.00
DT MH	20230105-001	2023-01-05	Monday	13:15:00	13:30:00	1.00
DT MH	20230105-001	2023-01-05	Monday	13:30:00	13:45:00	1.50
DT MH	20230105-001	2023-01-05	Monday	13:45:00	14:00:00	1.50
DT MH	20230105-001	2023-01-05	Monday	14:00:00	14:15:00	1.50
DT MH	20230105-001	2023-01-05	Monday	14:15:00	14:30:00	2.25
DT MH	20230105-001	2023-01-05	Monday	14:30:00	14:45:00	2.25
DT MH	20230105-001	2023-01-05	Monday	14:45:00	15:00:00	2.25
DT MH	20230105-001	2023-01-05	Monday	15:00:00	15:15:00	2.25
DT MH	20230105-001	2023-01-05	Monday	15:15:00	15:30:00	2.25
DT MH	20230105-001	2023-01-05	Monday	15:30:00	15:45:00	3.00
DT MH	20230105-001	2023-01-05	Monday	15:45:00	16:00:00	3.00
DT MH	20230105-001	2023-01-05	Monday	16:00:00	16:15:00	3.00
DT MH	20230105-001	2023-01-05	Monday	16:15:00	16:30:00	3.00
DT MH	20230105-001	2023-01-05	Monday	16:30:00	16:45:00	3.00
DT MH	20230105-001	2023-01-05	Monday	16:45:00	17:00:00	3.00
DT MH	20230105-001	2023-01-05	Monday	17:00:00	17:15:00	3.00
DT MH	20230105-001	2023-01-05	Monday	17:15:00	17:30:00	3.50
DT MH	20230105-001	2023-01-05	Monday	17:30:00	17:45:00	3.50
DT MH	20230105-001	2023-01-05	Monday	17:45:00	18:00:00	3.00
DT MH	20230105-001	2023-01-05	Monday	18:00:00	18:15:00	2.50
DT MH	20230105-001	2023-01-05	Monday	18:15:00	18:30:00	2.50
DT MH	20230105-001	2023-01-05	Monday	18:30:00	18:45:00	2.00
DT MH	20230105-001	2023-01-05	Monday	18:45:00	19:00:00	1.50
DT MH	20230105-001	2023-01-05	Monday	19:00:00	19:15:00	1.50
DT MH	20230105-001	2023-01-05	Monday	19:15:00	19:30:00	1.00
DT MH	20230105-001	2023-01-05	Monday	19:30:00	19:45:00	0.50
DT MH	20230105-001	2023-01-05	Monday	19:45:00	20:00:00	0.50
DT MH	20230105-001	2023-01-05	Monday	20:00:00	20:15:00	0.50
DT MH	20230105-001	2023-01-05	Monday	20:15:00	20:30:00	0.50
DT MH	20230105-001	2023-01-05	Monday	20:30:00	20:45:00	0.50
DT MH	20230105-001	2023-01-05	Monday	20:45:00	21:00:00	0.50
DT MH	20230105-001	2023-01-05	Monday	21:00:00	21:15:00	0.50
DT MH	20230105-001	2023-01-05	Monday	21:15:00	21:30:00	0.50
DT MH	20230105-001	2023-01-05	Monday	21:30:00	21:45:00	0.50
DT MH	20230105-001	2023-01-05	Monday	21:45:00	22:00:00	0.50
DT MH	20230105-001	2023-01-05	Monday	22:00:00	22:15:00	0.50
DT MH	20230105-001	2023-01-05	Monday	22:15:00	22:30:00	0.50
DT MH	20230105-001	2023-01-05	Monday	22:30:00	22:45:00	0.50
DT MH	20230105-001	2023-01-05	Monday	22:45:00	23:00:00	0.50
DT MH	20230105-001	2023-01-05	Tuesday	12:15:00	12:30:00	0.50
DT MH	20230105-001	2023-01-05	Tuesday	12:30:00	12:45:00	0.50




DT MH	20230105-001	2023-01-05	Tuesday	12:45:00	13:00:00	0.50
DT MH	20230105-001	2023-01-05	Tuesday	13:00:00	13:15:00	1.00
DT MH	20230105-001	2023-01-05	Tuesday	13:15:00	13:30:00	1.00
DT MH	20230105-001	2023-01-05	Tuesday	13:30:00	13:45:00	1.50
DT MH	20230105-001	2023-01-05	Tuesday	13:45:00	14:00:00	2.00
DT MH	20230105-001	2023-01-05	Tuesday	14:00:00	14:15:00	2.50
DT MH	20230105-001	2023-01-05	Tuesday	14:15:00	14:30:00	2.50
DT MH	20230105-001	2023-01-05	Tuesday	14:30:00	14:45:00	2.50
DT MH	20230105-001	2023-01-05	Tuesday	14:45:00	15:00:00	2.50
DT MH	20230105-001	2023-01-05	Tuesday	15:00:00	15:15:00	3.00
DT MH	20230105-001	2023-01-05	Tuesday	15:15:00	15:30:00	3.00
DT MH	20230105-001	2023-01-05	Tuesday	15:30:00	15:45:00	3.00
DT MH	20230105-001	2023-01-05	Tuesday	15:45:00	16:00:00	3.50
DT MH	20230105-001	2023-01-05	Tuesday	16:00:00	16:15:00	3.50
DT MH	20230105-001	2023-01-05	Tuesday	16:15:00	16:30:00	3.50
DT MH	20230105-001	2023-01-05	Tuesday	16:30:00	16:45:00	3.50
DT MH	20230105-001	2023-01-05	Tuesday	16:45:00	17:00:00	3.50
DT MH	20230105-001	2023-01-05	Tuesday	17:00:00	17:15:00	3.50
DT MH	20230105-001	2023-01-05	Tuesday	17:15:00	17:30:00	3.50
DT MH	20230105-001	2023-01-05	Tuesday	17:30:00	17:45:00	3.50
DT MH	20230105-001	2023-01-05	Tuesday	17:45:00	18:00:00	3.50
DT MH	20230105-001	2023-01-05	Tuesday	18:00:00	18:15:00	3.00
DT MH	20230105-001	2023-01-05	Tuesday	18:15:00	18:30:00	2.50
DT MH	20230105-001	2023-01-05	Tuesday	18:30:00	18:45:00	2.00
DT MH	20230105-001	2023-01-05	Tuesday	18:45:00	19:00:00	1.50
DT MH	20230105-001	2023-01-05	Tuesday	19:00:00	19:15:00	1.50
DT MH	20230105-001	2023-01-05	Tuesday	19:15:00	19:30:00	1.00
DT MH	20230105-001	2023-01-05	Tuesday	19:30:00	19:45:00	0.75
DT MH	20230105-001	2023-01-05	Tuesday	19:45:00	20:00:00	0.75
DT MH	20230105-001	2023-01-05	Tuesday	20:00:00	20:15:00	0.75
DT MH	20230105-001	2023-01-05	Tuesday	20:15:00	20:30:00	0.75
DT MH	20230105-001	2023-01-05	Tuesday	20:30:00	20:45:00	0.75
DT MH	20230105-001	2023-01-05	Tuesday	20:45:00	21:00:00	0.75
DT MH	20230105-001	2023-01-05	Tuesday	21:00:00	21:15:00	0.75
DT MH	20230105-001	2023-01-05	Tuesday	21:15:00	21:30:00	0.75
DT MH	20230105-001	2023-01-05	Tuesday	21:30:00	21:45:00	0.75
DT MH	20230105-001	2023-01-05	Tuesday	21:45:00	22:00:00	0.75
DT MH	20230105-001	2023-01-05	Tuesday	22:00:00	22:15:00	0.75
DT MH	20230105-001	2023-01-05	Tuesday	22:15:00	22:30:00	0.75
DT MH	20230105-001	2023-01-05	Tuesday	22:30:00	22:45:00	0.75
DT MH	20230105-001	2023-01-05	Tuesday	22:45:00	23:00:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	12:15:00	12:30:00	0.50
DT MH	20230105-001	2023-01-05	Wednesday	12:30:00	12:45:00	0.50
DT MH	20230105-001	2023-01-05	Wednesday	12:45:00	13:00:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	13:00:00	13:15:00	1.00
DT MH	20230105-001	2023-01-05	Wednesday	13:15:00	13:30:00	1.00
DT MH	20230105-001	2023-01-05	Wednesday	13:30:00	13:45:00	1.50
DT MH	20230105-001	2023-01-05	Wednesday	13:45:00	14:00:00	2.00
DT MH	20230105-001	2023-01-05	Wednesday	14:00:00	14:15:00	2.00
DT MH	20230105-001	2023-01-05	Wednesday	14:15:00	14:30:00	2.50
DT MH	20230105-001	2023-01-05	Wednesday	14:30:00	14:45:00	2.50
DT MH	20230105-001	2023-01-05	Wednesday	14:45:00	15:00:00	2.50
DT MH	20230105-001	2023-01-05	Wednesday	15:00:00	15:15:00	2.50
DT MH	20230105-001	2023-01-05	Wednesday	15:15:00	15:30:00	3.00
DT MH	20230105-001	2023-01-05	Wednesday	15:30:00	15:45:00	3.00
DT MH	20230105-001	2023-01-05	Wednesday	15:45:00	16:00:00	3.00
DT MH	20230105-001	2023-01-05	Wednesday	16:00:00	16:15:00	3.00
DT MH	20230105-001	2023-01-05	Wednesday	16:15:00	16:30:00	3.50

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DT MH	20230105-001	2023-01-05	Wednesday	16:30:00	16:45:00	3.50
DT MH	20230105-001	2023-01-05	Wednesday	16:45:00	17:00:00	3.50
DT MH	20230105-001	2023-01-05	Wednesday	17:00:00	17:15:00	3.00
DT MH	20230105-001	2023-01-05	Wednesday	17:15:00	17:30:00	3.00
DT MH	20230105-001	2023-01-05	Wednesday	17:30:00	17:45:00	3.00
DT MH	20230105-001	2023-01-05	Wednesday	17:45:00	18:00:00	3.00
DT MH	20230105-001	2023-01-05	Wednesday	18:00:00	18:15:00	3.00
DT MH	20230105-001	2023-01-05	Wednesday	18:15:00	18:30:00	2.50
DT MH	20230105-001	2023-01-05	Wednesday	18:30:00	18:45:00	2.00
DT MH	20230105-001	2023-01-05	Wednesday	18:45:00	19:00:00	1.50
DT MH	20230105-001	2023-01-05	Wednesday	19:00:00	19:15:00	1.50
DT MH	20230105-001	2023-01-05	Wednesday	19:15:00	19:30:00	1.00
DT MH	20230105-001	2023-01-05	Wednesday	19:30:00	19:45:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	19:45:00	20:00:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	20:00:00	20:15:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	20:15:00	20:30:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	20:30:00	20:45:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	20:45:00	21:00:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	21:00:00	21:15:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	21:15:00	21:30:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	21:30:00	21:45:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	21:45:00	22:00:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	22:00:00	22:15:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	22:15:00	22:30:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	22:30:00	22:45:00	0.75
DT MH	20230105-001	2023-01-05	Wednesday	22:45:00	23:00:00	0.75
DT MH	20230105-001	2023-01-05	Thursday	12:15:00	12:30:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	12:30:00	12:45:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	12:45:00	13:00:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	13:00:00	13:15:00	1.00
DT MH	20230105-001	2023-01-05	Thursday	13:15:00	13:30:00	1.00
DT MH	20230105-001	2023-01-05	Thursday	13:30:00	13:45:00	1.00
DT MH	20230105-001	2023-01-05	Thursday	13:45:00	14:00:00	1.00
DT MH	20230105-001	2023-01-05	Thursday	14:00:00	14:15:00	1.50
DT MH	20230105-001	2023-01-05	Thursday	14:15:00	14:30:00	1.50
DT MH	20230105-001	2023-01-05	Thursday	14:30:00	14:45:00	1.50
DT MH	20230105-001	2023-01-05	Thursday	14:45:00	15:00:00	2.00
DT MH	20230105-001	2023-01-05	Thursday	15:00:00	15:15:00	2.00
DT MH	20230105-001	2023-01-05	Thursday	15:15:00	15:30:00	2.50
DT MH	20230105-001	2023-01-05	Thursday	15:30:00	15:45:00	3.00
DT MH	20230105-001	2023-01-05	Thursday	15:45:00	16:00:00	3.00
DT MH	20230105-001	2023-01-05	Thursday	16:00:00	16:15:00	3.00
DT MH	20230105-001	2023-01-05	Thursday	16:15:00	16:30:00	3.50
DT MH	20230105-001	2023-01-05	Thursday	16:30:00	16:45:00	3.50
DT MH	20230105-001	2023-01-05	Thursday	16:45:00	17:00:00	3.50
DT MH	20230105-001	2023-01-05	Thursday	17:00:00	17:15:00	3.00
DT MH	20230105-001	2023-01-05	Thursday	17:15:00	17:30:00	3.00
DT MH	20230105-001	2023-01-05	Thursday	17:30:00	17:45:00	2.50
DT MH	20230105-001	2023-01-05	Thursday	17:45:00	18:00:00	2.50
DT MH	20230105-001	2023-01-05	Thursday	18:00:00	18:15:00	2.50
DT MH	20230105-001	2023-01-05	Thursday	18:15:00	18:30:00	2.00
DT MH	20230105-001	2023-01-05	Thursday	18:30:00	18:45:00	1.50
DT MH	20230105-001	2023-01-05	Thursday	18:45:00	19:00:00	1.00
DT MH	20230105-001	2023-01-05	Thursday	19:00:00	19:15:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	19:15:00	19:30:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	19:30:00	19:45:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	19:45:00	20:00:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	20:00:00	20:15:00	0.50

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DT MH	20230105-001	2023-01-05	Thursday	20:15:00	20:30:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	20:30:00	20:45:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	20:45:00	21:00:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	21:00:00	21:15:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	21:15:00	21:30:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	21:30:00	21:45:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	21:45:00	22:00:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	22:00:00	22:15:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	22:15:00	22:30:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	22:30:00	22:45:00	0.50
DT MH	20230105-001	2023-01-05	Thursday	22:45:00	23:00:00	0.50
DT MH	20230105-001	2023-01-05	Friday	12:15:00	12:30:00	1.50
DT MH	20230105-001	2023-01-05	Friday	12:30:00	12:45:00	1.50
DT MH	20230105-001	2023-01-05	Friday	12:45:00	13:00:00	1.50
DT MH	20230105-001	2023-01-05	Friday	13:00:00	13:15:00	1.50
DT MH	20230105-001	2023-01-05	Friday	13:15:00	13:30:00	1.50
DT MH	20230105-001	2023-01-05	Friday	13:30:00	13:45:00	1.50
DT MH	20230105-001	2023-01-05	Friday	13:45:00	14:00:00	2.00
DT MH	20230105-001	2023-01-05	Friday	14:00:00	14:15:00	2.50
DT MH	20230105-001	2023-01-05	Friday	14:15:00	14:30:00	3.00
DT MH	20230105-001	2023-01-05	Friday	14:30:00	14:45:00	3.00
DT MH	20230105-001	2023-01-05	Friday	14:45:00	15:00:00	3.00
DT MH	20230105-001	2023-01-05	Friday	15:00:00	15:15:00	3.25
DT MH	20230105-001	2023-01-05	Friday	15:15:00	15:30:00	3.25
DT MH	20230105-001	2023-01-05	Friday	15:30:00	15:45:00	3.25
DT MH	20230105-001	2023-01-05	Friday	15:45:00	16:00:00	3.25
DT MH	20230105-001	2023-01-05	Friday	16:00:00	16:15:00	3.50
DT MH	20230105-001	2023-01-05	Friday	16:15:00	16:30:00	3.50
DT MH	20230105-001	2023-01-05	Friday	16:30:00	16:45:00	3.50
DT MH	20230105-001	2023-01-05	Friday	16:45:00	17:00:00	3.50
DT MH	20230105-001	2023-01-05	Friday	17:00:00	17:15:00	3.50
DT MH	20230105-001	2023-01-05	Friday	17:15:00	17:30:00	3.50
DT MH	20230105-001	2023-01-05	Friday	17:30:00	17:45:00	3.50
DT MH	20230105-001	2023-01-05	Friday	17:45:00	18:00:00	3.50
DT MH	20230105-001	2023-01-05	Friday	18:00:00	18:15:00	3.50
DT MH	20230105-001	2023-01-05	Friday	18:15:00	18:30:00	3.00
DT MH	20230105-001	2023-01-05	Friday	18:30:00	18:45:00	2.50
DT MH	20230105-001	2023-01-05	Friday	18:45:00	19:00:00	2.00
DT MH	20230105-001	2023-01-05	Friday	19:00:00	19:15:00	1.50
DT MH	20230105-001	2023-01-05	Friday	19:15:00	19:30:00	1.00
DT MH	20230105-001	2023-01-05	Friday	19:30:00	19:45:00	0.75
DT MH	20230105-001	2023-01-05	Friday	19:45:00	20:00:00	0.75
DT MH	20230105-001	2023-01-05	Friday	20:00:00	20:15:00	0.75
DT MH	20230105-001	2023-01-05	Friday	20:15:00	20:30:00	0.75
DT MH	20230105-001	2023-01-05	Friday	20:30:00	20:45:00	0.75
DT MH	20230105-001	2023-01-05	Friday	20:45:00	21:00:00	0.75
DT MH	20230105-001	2023-01-05	Friday	21:00:00	21:15:00	0.75
DT MH	20230105-001	2023-01-05	Friday	21:15:00	21:30:00	0.75
DT MH	20230105-001	2023-01-05	Friday	21:30:00	21:45:00	0.75
DT MH	20230105-001	2023-01-05	Friday	21:45:00	22:00:00	0.75
DT MH	20230105-001	2023-01-05	Friday	22:00:00	22:15:00	0.75
DT MH	20230105-001	2023-01-05	Friday	22:15:00	22:30:00	0.75
DT MH	20230105-001	2023-01-05	Friday	22:30:00	22:45:00	0.75
DT MH	20230105-001	2023-01-05	Friday	22:45:00	23:00:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Monday	12:15:00	12:30:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	12:30:00	12:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	12:45:00	13:00:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Monday	13:00:00	13:15:00	0.75

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DT PR1 PM	20230105-001	2023-01-05	Monday	13:15:00	13:30:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Monday	13:30:00	13:45:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Monday	13:45:00	14:00:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Monday	14:00:00	14:15:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Monday	14:15:00	14:30:00	1.00
DT PR1 PM	20230105-001	2023-01-05	Monday	14:30:00	14:45:00	1.00
DT PR1 PM	20230105-001	2023-01-05	Monday	14:45:00	15:00:00	1.00
DT PR1 PM	20230105-001	2023-01-05	Monday	15:00:00	15:15:00	1.00
DT PR1 PM	20230105-001	2023-01-05	Monday	15:15:00	15:30:00	1.00
DT PR1 PM	20230105-001	2023-01-05	Monday	15:30:00	15:45:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Monday	15:45:00	16:00:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Monday	16:00:00	16:15:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Monday	16:15:00	16:30:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Monday	16:30:00	16:45:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Monday	16:45:00	17:00:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Monday	17:00:00	17:15:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Monday	17:15:00	17:30:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Monday	17:30:00	17:45:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Monday	17:45:00	18:00:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Monday	18:00:00	18:15:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Monday	18:15:00	18:30:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Monday	18:30:00	18:45:00	1.00
DT PR1 PM	20230105-001	2023-01-05	Monday	18:45:00	19:00:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Monday	19:00:00	19:15:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Monday	19:15:00	19:30:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Monday	19:30:00	19:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	19:45:00	20:00:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	20:00:00	20:15:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	20:15:00	20:30:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	20:30:00	20:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	20:45:00	21:00:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	21:00:00	21:15:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	21:15:00	21:30:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	21:30:00	21:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	21:45:00	22:00:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	22:00:00	22:15:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	22:15:00	22:30:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	22:30:00	22:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Monday	22:45:00	23:00:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	12:15:00	12:30:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	12:30:00	12:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	12:45:00	13:00:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	13:00:00	13:15:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Tuesday	13:15:00	13:30:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Tuesday	13:30:00	13:45:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Tuesday	13:45:00	14:00:00	1.00
DT PR1 PM	20230105-001	2023-01-05	Tuesday	14:00:00	14:15:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Tuesday	14:15:00	14:30:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Tuesday	14:30:00	14:45:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Tuesday	14:45:00	15:00:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Tuesday	15:00:00	15:15:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Tuesday	15:15:00	15:30:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Tuesday	15:30:00	15:45:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Tuesday	15:45:00	16:00:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	16:00:00	16:15:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	16:15:00	16:30:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	16:30:00	16:45:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	16:45:00	17:00:00	1.50

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DT PR1 PM	20230105-001	2023-01-05	Tuesday	17:00:00	17:15:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	17:15:00	17:30:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	17:30:00	17:45:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	17:45:00	18:00:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	18:00:00	18:15:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Tuesday	18:15:00	18:30:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Tuesday	18:30:00	18:45:00	1.00
DT PR1 PM	20230105-001	2023-01-05	Tuesday	18:45:00	19:00:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Tuesday	19:00:00	19:15:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Tuesday	19:15:00	19:30:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Tuesday	19:30:00	19:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	19:45:00	20:00:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	20:00:00	20:15:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	20:15:00	20:30:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	20:30:00	20:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	20:45:00	21:00:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	21:00:00	21:15:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	21:15:00	21:30:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	21:30:00	21:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	21:45:00	22:00:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	22:00:00	22:15:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	22:15:00	22:30:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	22:30:00	22:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Tuesday	22:45:00	23:00:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Wednesday	12:15:00	12:30:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Wednesday	12:30:00	12:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Wednesday	12:45:00	13:00:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Wednesday	13:00:00	13:15:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Wednesday	13:15:00	13:30:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Wednesday	13:30:00	13:45:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Wednesday	13:45:00	14:00:00	1.00
DT PR1 PM	20230105-001	2023-01-05	Wednesday	14:00:00	14:15:00	1.00
DT PR1 PM	20230105-001	2023-01-05	Wednesday	14:15:00	14:30:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Wednesday	14:30:00	14:45:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Wednesday	14:45:00	15:00:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Wednesday	15:00:00	15:15:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Wednesday	15:15:00	15:30:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Wednesday	15:30:00	15:45:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Wednesday	15:45:00	16:00:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Wednesday	16:00:00	16:15:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Wednesday	16:15:00	16:30:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Wednesday	16:30:00	16:45:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Wednesday	16:45:00	17:00:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Wednesday	17:00:00	17:15:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Wednesday	17:15:00	17:30:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Wednesday	17:30:00	17:45:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Wednesday	17:45:00	18:00:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Wednesday	18:00:00	18:15:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Wednesday	18:15:00	18:30:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Wednesday	18:30:00	18:45:00	1.00
DT PR1 PM	20230105-001	2023-01-05	Wednesday	18:45:00	19:00:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Wednesday	19:00:00	19:15:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Wednesday	19:15:00	19:30:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Wednesday	19:30:00	19:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Wednesday	19:45:00	20:00:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Wednesday	20:00:00	20:15:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Wednesday	20:15:00	20:30:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Wednesday	20:30:00	20:45:00	0.50

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DT PR1 PM	20230105-001	2023-01-05	Friday	13:45:00	14:00:00	1.00
DT PR1 PM	20230105-001	2023-01-05	Friday	14:00:00	14:15:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Friday	14:15:00	14:30:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Friday	14:30:00	14:45:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Friday	14:45:00	15:00:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Friday	15:00:00	15:15:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Friday	15:15:00	15:30:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Friday	15:30:00	15:45:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Friday	15:45:00	16:00:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Friday	16:00:00	16:15:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Friday	16:15:00	16:30:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Friday	16:30:00	16:45:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Friday	16:45:00	17:00:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Friday	17:00:00	17:15:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Friday	17:15:00	17:30:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Friday	17:30:00	17:45:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Friday	17:45:00	18:00:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Friday	18:00:00	18:15:00	1.50
DT PR1 PM	20230105-001	2023-01-05	Friday	18:15:00	18:30:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Friday	18:30:00	18:45:00	1.25
DT PR1 PM	20230105-001	2023-01-05	Friday	18:45:00	19:00:00	1.00
DT PR1 PM	20230105-001	2023-01-05	Friday	19:00:00	19:15:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Friday	19:15:00	19:30:00	0.75
DT PR1 PM	20230105-001	2023-01-05	Friday	19:30:00	19:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Friday	19:45:00	20:00:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Friday	20:00:00	20:15:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Friday	20:15:00	20:30:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Friday	20:30:00	20:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Friday	20:45:00	21:00:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Friday	21:00:00	21:15:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Friday	21:15:00	21:30:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Friday	21:30:00	21:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Friday	21:45:00	22:00:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Friday	22:00:00	22:15:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Friday	22:15:00	22:30:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Friday	22:30:00	22:45:00	0.50
DT PR1 PM	20230105-001	2023-01-05	Friday	22:45:00	23:00:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	5:00:00	5:15:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	5:15:00	5:30:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	5:30:00	5:45:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	5:45:00	6:00:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	6:00:00	6:15:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	6:15:00	6:30:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	6:30:00	6:45:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	6:45:00	7:00:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	7:00:00	7:15:00	1.00
DT PR1 AM	20230105-001	2023-01-05	Monday	7:15:00	7:30:00	1.50
DT PR1 AM	20230105-001	2023-01-05	Monday	7:30:00	7:45:00	1.50
DT PR1 AM	20230105-001	2023-01-05	Monday	7:45:00	8:00:00	1.50
DT PR1 AM	20230105-001	2023-01-05	Monday	8:00:00	8:15:00	1.50
DT PR1 AM	20230105-001	2023-01-05	Monday	8:15:00	8:30:00	1.00
DT PR1 AM	20230105-001	2023-01-05	Monday	8:30:00	8:45:00	1.00
DT PR1 AM	20230105-001	2023-01-05	Monday	8:45:00	9:00:00	1.00
DT PR1 AM	20230105-001	2023-01-05	Monday	9:00:00	9:15:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	9:15:00	9:30:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	9:30:00	9:45:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	9:45:00	10:00:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	10:00:00	10:15:00	0.50

DT PR1 AM	20230105-001	2023-01-05	Monday	10:15:00	10:30:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	10:30:00	10:45:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	10:45:00	11:00:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	11:00:00	11:15:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	11:15:00	11:30:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	11:30:00	11:45:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	11:45:00	12:00:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Monday	12:00:00	12:15:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	5:00:00	5:15:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	5:15:00	5:30:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	5:30:00	5:45:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	5:45:00	6:00:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	6:00:00	6:15:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	6:15:00	6:30:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	6:30:00	6:45:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	6:45:00	7:00:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	7:00:00	7:15:00	1.00
DT PR1 AM	20230105-001	2023-01-05	Tuesday	7:15:00	7:30:00	1.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	7:30:00	7:45:00	1.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	7:45:00	8:00:00	1.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	8:00:00	8:15:00	1.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	8:15:00	8:30:00	1.00
DT PR1 AM	20230105-001	2023-01-05	Tuesday	8:30:00	8:45:00	1.00
DT PR1 AM	20230105-001	2023-01-05	Tuesday	8:45:00	9:00:00	1.00
DT PR1 AM	20230105-001	2023-01-05	Tuesday	9:00:00	9:15:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	9:15:00	9:30:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	9:30:00	9:45:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	9:45:00	10:00:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	10:00:00	10:15:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	10:15:00	10:30:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	10:30:00	10:45:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	10:45:00	11:00:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	11:00:00	11:15:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	11:15:00	11:30:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	11:30:00	11:45:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	11:45:00	12:00:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Tuesday	12:00:00	12:15:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	5:00:00	5:15:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	5:15:00	5:30:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	5:30:00	5:45:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	5:45:00	6:00:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	6:00:00	6:15:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	6:15:00	6:30:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	6:30:00	6:45:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	6:45:00	7:00:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	7:00:00	7:15:00	1.00
DT PR1 AM	20230105-001	2023-01-05	Wednesday	7:15:00	7:30:00	1.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	7:30:00	7:45:00	1.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	7:45:00	8:00:00	1.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	8:00:00	8:15:00	1.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	8:15:00	8:30:00	1.00
DT PR1 AM	20230105-001	2023-01-05	Wednesday	8:30:00	8:45:00	1.00
DT PR1 AM	20230105-001	2023-01-05	Wednesday	8:45:00	9:00:00	1.00
DT PR1 AM	20230105-001	2023-01-05	Wednesday	9:00:00	9:15:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	9:15:00	9:30:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	9:30:00	9:45:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	9:45:00	10:00:00	0.50
DT PR1 AM	20230105-001	2023-01-05	Wednesday	10:00:00	10:15:00	0.50

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Schedule 5
Authority Capital Improvement Projects
(See attached.)

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SCHEDULE 5
AUTHORITY CAPITAL IMPROVEMENT PROJECTS

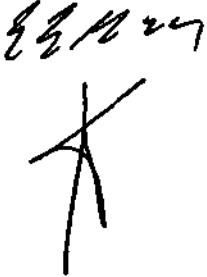
Section 1. Retained Capital Improvement Projects. The Retained Capital Improvement Projects include the following:

- 
- (a) Conversion of Juana Diaz Toll Facility to a Truck weigh and Inspection Station at PR-52, Municipality of Juana Diaz (Project number AC-520129).
 - (b) ER Permanent Repair Lighting PR-52 (Km. 15 to Km 60.5) (DDIR LT-01 (Project Number AC-520139).
 - (c) Hurricane Irma & Maria Recovery Efforts for Illumination System Rehabilitation PR-53 From Km. 0.0 to Km. 43.9, municipality of Fajardo to Yabucoa (Project Number AC-005390).
 - (d) Pavement Rehabilitation and Safety Improvements PR-53 From Km. 86.826 to Km. 94.00, Municipality Guayama to Salinas (Project Number AC-005384).
 - (e) Pavement Rehabilitation and Safety Improvements PR-53 From Km. 80.886 to Km. 86.826, Municipality of Guayama (Project Number AC-005386).
 - (f) Pavement Rehabilitation and Reconstruction PR-52 from Km. 102.1 to Km. 106.0, Municipality of Ponce (Project Number AC-520146).
 - (g) Pavement Rehabilitation and Reconstruction PR-52 from Km. 99.0 to Km. 102.10, Municipality of Ponce (Project Number AC-520120).
 - (h) Pavement Rehabilitation and Reconstruction PR-52 from Km.38.00 to Km. 49.00, Municipality of Cayey to Municipality of Salinas (Project Number AC-520144).
 - (i) Preservation of Bridges Number 2038 and 2039, Luis A. Ferré Highway PR-52 Km. 49.50, Municipality of Salinas (Project Number AC-520125).
 - (j) Safety improvements to Rafael Martínez Nadal Expressway PR-20 Km. 0.0 to Km. 10.00, Municipality of Guaynabo (Project Number AC-002065).
 - (k) Safety improvements to Roberto Sánchez Vilella Expressway PR-66 Km. 0.0 to Km. 20.00, Municipalities of Carolina, Canóvanas and Rio Grande (Project Number AC-006639).
 - (l) DTL Noise Barrier PR-52 (Project Number AC-800510).
 - (m) Maintenance of pavement and Markings PR-18 & PR-52 (Project Number AC-220062)
 - (n) Emergency Work PR-52 Km. 49 Municipality of Salinas (Project Number AC-801652)
 - (o) Bathroom Renovations at Caguas Sur and Salinas Toll Plazas (Project Number AC-220014)
 - (p) Pavement Rehabilitation PR-52 Km 0.0 to 14.20 Southbound (Project Number AC-220059)
 - (q) Bridge Deck Replacement, HH and Scour Studies for Bridges No. 1067 and No. 1068 at PR- 52, km. 98.65, Bridges No. 1069 and No. 1070 at PR-52, km. 97.90 (Project Number AC-220037)
 - (r) Pavement Rehabilitation PR-52 Km 0.0 to 14.20 Northbound (Project Number AC-230061)

- (s) Safety Improvements PR-52 km. 0.0 to 108.6 & PR-53 km. 7.0 to 51.7 (PR ST ER PRMNT RPR(5)
- (t) Emergency Repair PR-53 Km 14.7 Municipality of Naguabo (Project AC-805647)
- (u) TMC Sun Guide Segregation Project.
- (v) DTL PR-177 New Entrance Project (the implementation of the tolling equipment and systems is excluded from this Retained Capital Improvement Project).

Section 2. ORT Improvement Project. The ORT Improvement Project consists of the supply of the complete ORT, including analysis, design, procurement, civil works, development, installation, configuration, deployment, testing, training, and documentation of the “ORT System” composed by the roadside system, transactional back-office system, reporting system and the maintenance online management system.

The ORT System will be composed by twenty-five (25) toll points:

- 
- o Toll points (TP): PR-20 Guaynabo Sur (2 TP), PR-52 Caguas Norte (2 TP), PR-52 Caguas Sur (1 TP), PR-52 Plaza Ponce (1 TP), PR-52 Salinas (1 TP), PR-53 Guayama Este (1 TP), PR-53 Guayama Oeste (1 TP), PR-66 Carolina Este (1 TP), PR-66 Carolina Oeste (1 TP), PR-52 Montehiedra (1 TP), PR-52 Rampa Salinas (1 TP), PR-52 Juana Diaz North ORT (1 TP), PR-52 Juana Diaz South ORT (1 TP), PR-53 Humacao Sur (2 TP), PR-53 Humacao Norte (1 TP), PR-53 Ceiba (2 TP), PR-53 Hucar (1 TP), PR-66 Rampa Carolina (2 TP), and PR-66 Rio Grande (2 TP).
 - o Anticipated Substantial Completion date: August 31, 2025


Each toll point (TP) is composed by one physical gantry covering both directions of traffic flow at PR-52 Ponce Plaza and PR-52 Rampa Salinas or one direction of traffic flow at the rest of the toll points. This configuration could change during the ORT Improvement Project according to technical issues, however the final configuration of the toll points will provide all physical gantries needed to capture same traffic flow.

The Authority, as part of the ORT Improvement Project, is converting the existing PR-20 channelized toll plaza (northbound direction tolling) to bi-directional open road tolling. The project, currently in the construction phase and being constructed pursuant to the ORT Improvement Project Contract, was anticipated to include the relocation of a tolling point (described further below) approximately 540 meters south from the current toll plaza location and the installation of two new gantries in connection with such relocation. The ORT Improvement Project Contract has been or will be amended to make several modifications with respect to this component of the project, including in particular the relocation of the open road tolling gantry in the southbound direction approximately 340 meters north from the originally-anticipated relocation point and modifying the access from David Urbina Avenue to PR-20 southbound by replacing the existing diamond ramp on the southwest quadrant of the interchange with a new loop ramp to be constructed at the northwest quadrant. The

anticipated modifications also include the construction of a concrete traffic island (potentially using concrete barriers) between off- and on-ramps on PR-20 southbound exiting towards David Urbina Avenue. (The Authority does not anticipate that the northbound open road tolling gantry location will be further modified as part of the amendments to the ORT Improvement Project Contract.) Additionally, separate from the work being conducted pursuant to the ORT Improvement Project, the Authority will, with respect to this project, (i) install (or, if applicable, use Reasonable Efforts to coordinate with the Municipality of Guaynabo in order to install) speed tables on David Urbina Avenue and associated regulatory signage (including signage prohibiting illegal u-turns, where appropriate); (ii) impose (or, if applicable, use Reasonable Efforts to coordinate with the Municipality of Guaynabo in order to impose) appropriate speed limit(s) for the new loop ramp and adjacent road access point(s); (iii) construct and implement the above-described improvements in a manner that complies with existing agreements between the Federal Highway Administration and the Authority pertaining to PR-20; and (iv) ensure the existing access diamond ramp is closed, demolished or otherwise rendered unusable for vehicular traffic concurrently with the opening of the new gantries and the new loop ramp. The actions and project changes described in this paragraph are collectively referred to as the “ORT Change”.

Section 3. Canopy Demolition Project. The Canopy Demolition Project consists of demolition of existing toll plazas, booths, and gantries, road realignment and all related infrastructure work, following commencement of operation of the ORT System.

The Canopy Demolition Project includes the following toll plazas:

- 
- PR-20 Guaynabo Sur, PR-52 Caguas Norte, PR-52 Caguas Sur, PR-52 Plaza Ponce, PR-52 Salinas, PR-53 Guayama Este, PR-53 Guayama Oeste, PR-66 Carolina Este, PR-66 Carolina Oeste, PR-52 Montehiedra, PR-52 Rampa Salinas, PR-52 Juana Diaz North ORT, PR-52 Juana Diaz South ORT, PR-53 Humacao Sur, PR-53 Humacao Norte, PR-53 Ceiba, PR-53 Hucar, PR-66 Rampa Carolina and PR-66 Rio Grande.
 - Anticipated Substantial Completion date: August 31, 2030.

Schedule 6
Concessionaire Capital Improvement Projects
(See attached.)

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SCHEDULE 6 CONCESSIONAIRE CAPITAL IMPROVEMENT PROJECTS

Section 1. Accelerated Safety Upgrades.

(a) **Tier 1 Works.** The Concessionaire shall commence work on each of the following improvements as soon as practicable after the Closing Date and shall satisfy all requirements with respect thereto no later than twenty-four (24) months after the Closing Date:

▪ **Drainage upgrades and repairs**

The objective of this work is to ensure the uninterrupted operation of all drainage structures for the prompt removal of any stormwater so as to (i) avoid or eliminate ponding or flooding, (ii) prevent, correct or eliminate areas of scour and erosion, (iii) eliminate potential safety hazards, (iv) ensure that all drainage elements are performing as intended and (v) ensure that the safe and orderly movement of traffic along the Toll Roads is not impeded.

The Concessionaire will be required to upgrade or replace any and all elements that pertain to the drainage system of the Toll Roads, or that currently create, or in the future may cause, stormwater ponding or flooding of the ingress and egress ramps to such roads, including but not limited to curbs, inlets, catch basins, manholes, sewers, scuppers, downspouts, ditches, outlet structures, stormwater management basins and slope erosion control.

▪ **Removal and replacement of existing signage**

The objective of this work is to ensure that all regulatory, warning, guide, informational, advisory and work zone (construction and maintenance) signage and their components are in proper operating condition, including having the proper reflectivity, to be clearly read and understood and to properly regulate and facilitate the safe and orderly movement of traffic along the Toll Roads.

The Concessionaire will be required to remove and replace all signs that are faded, broken or obsolete or that do not meet either current reflectivity standards and the other criteria set forth in the Operating Standards.

This work will include the removal and replacement of the overhead signage trusses only if such trusses are in poor structural condition or represent a hazard to the safety of users of the Toll Roads.

▪ **Replacement of deficient or deteriorated concrete barriers**

The objective of this work is to ensure the safety of the Toll Roads users. The Concessionaire shall be required to remove all deficient or deteriorated concrete

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barriers within the length of the Toll Roads and replace all such concrete barriers with new concrete barriers in accordance with the criteria set forth in the Operating Standards.

- **Repair and replacement of guardrails**

The objective of this work is the repair of damaged or deteriorated guardrails and guardrail end treatments in accordance with the Operating Standards to ensure the safety of the Toll Road users. The Concessionaire will be required to repair, or remove and replace, where necessary, all damaged or deteriorated guardrails and all damaged or substandard guardrail end treatments within the length of the Toll Roads, either in part or in whole (as applicable), and meet the Operating Standards.

- **Enhancement, repair, and replacement of deficient or unsafe areas of roadway lighting**

The objective of this work is to ensure that all elements and components of existing roadway lighting are in optimal condition. The Concessionaire will be required to enhance or install roadway lighting such that poorly lit areas are better lit and improve the safety of the users of the Toll Roads.

The Concessionaire will be required to remove and replace all elements or components of the lighting system that are damaged or deficient or that otherwise do not meet current lighting standards as defined, identified or referenced in the Operating Standards.

- **Facilities (Buildings, Toll Plazas, etc.)**

The objective of this work is to ensure that all elements and components of the facilities are in optimal working condition. The Concessionaire will be required to repair, or remove and replace, where necessary, all damaged or deteriorated building elements and components that are preventing the proper and efficient use of the working areas, toll plazas, parking, entrance and exits. This work will encompass all building systems (electrical, plumbing, sanitary, structural and environmental control, among others). The facilities shall be evaluated for security and safety and any corrective measures shall be performed to remedy the findings. These improvements, either in part or in whole, shall meet the most current practices and standards adopted and utilized within Puerto Rico at the time the work is undertaken and meet the Operating Standards.

- **Perform an initial Seismic Risk Assessment and Prepare a Seismic Risk Assessment Report**

The objective of this work is the development of a Seismic Risk Assessment Report for a representative sample of the bridge inventory located along the Toll Roads. The Seismic Risk Assessment Report will be used to develop a methodology for seismic

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retrofitting for the bridge inventory, obtain an approximate cost for such seismic retrofitting and prepare an initial strategic plan for seismic retrofitting to be submitted by the Concessionaire to the PRHTA for its approval.

The Concessionaire and the PRHTA will agree on the sample of bridges to be used to prepare the Seismic Risk Assessment Report, which will cover at least 80 bridges and take into consideration those bridges identified as critical for emergency routes.

▪ **Rock and Soil Slopes Stabilization**

This work aims to continue maintaining the Unstable Slope Management Program of the Soils Engineering Office of the PRHTA. The Concessionaire will be required to conduct a review and update of the inventory list, provide the inspection reports of all the slopes of the Toll Roads and prepare a 10-year slope stabilization plan (to be submitted by the Concessionaire to the PRHTA for its Approval, such Approval to be obtained in advance of the Tier 1 deadline).

The Concessionaire will also be required to perform remediation projects at rockslide instability situations.

This work is geared towards ensuring that the roadway is properly protected from rockfall and landslide events and maintaining the safe and orderly movement of traffic. The type of events and accidents that can result from downslope rock movements range from minor debris that can damage tires and bodywork, to larger falls that impact vehicles or cause vehicles to swerve off the road, to substantial slope failures that block the roadway. The effect of these events can cause damage to vehicles, injury, or death to drivers, and adversely affect the Toll Roads due to road closures.

(b) **Tier 2 Works.** This work consists of any and all projects related (i) to rock and soil slopes stabilization, (ii) to concrete and asphalt surfaces that require major rehabilitation, reconstruction, or preservation work and (iii) to bridges in all categories (major rehabilitation, minor rehabilitation, and preservation work) required to comply with the Operating Standards.

The Concessionaire shall commence work on each of the following improvements as soon as practicable after the Closing Date and shall satisfy all requirements with respect thereto no later than seven (7) years after the Closing Date.

The projects shall include, but not be limited to, work related to the following:

▪ **Rock and Soil Slopes Stabilization**

This work aims to continue maintaining the Unstable Slope Management Program after Tier 1 as established in the Unstable Slope Management Program for Federal

Land Management Agencies (publication number FHWA-FLH-19-002). The Concessionaire will also be required to perform the works designated as to be completed during the first five (5) years of the 10-year slope stabilization plan developed by the Concessionaire (and Approved by the PRHTA) as part of Tier 1.

This work is geared towards ensuring that the roadway is properly protected from rockfall and landslide events and maintaining the safe and orderly movement of traffic. The type of events and accidents that can result from downslope rock movements range from minor debris that can damage tires and bodywork, to larger falls that impact vehicles or cause vehicles to swerve off the road, to substantial slope failures that block the roadway. The effect of these events can cause damage to vehicles, injury, or death to drivers, and adversely affect the Toll Roads due to road closures.

- **Improvement and upgrade of the existing pavement surface**

This work is intended to ensure that at least 95% of the total length (taking number of lanes into account) of the Toll Road, pavement is brought into compliance with the operating ratings set forth in Volume I, Chapter B of the Operating Standards for both concrete and bituminous roadway wearing surfaces, including pavement international roughness index, rutting, faulting and cracking. This work will ensure the safe and orderly movement of traffic by creating a safe, smooth, durable, able and stable wearing surface and improve the user experience and enhance the aesthetic appearance and safety of the Toll Roads.

- **Replacement and upgrade of pavement delineation and markings**

This work is intended to ensure that all pavement delineation, markings and lane-striping are clearly visible, possess the proper reflectivity characteristics and conform to the requirements of the Operating Standards. This work will facilitate the safe and orderly movement of traffic and enhance the aesthetic appearance and safety of the Toll Roads, for the full and entire length of each roadway.

- **Removal, replacement and installation of pavement reflectors and pavement markers**

This work is intended to ensure that all pavement reflectors and pavement markers are visible, meet the proper reflectivity requirements and meet the requirements of the Operating Standards. This work will facilitate the safe and orderly movement of traffic and enhance the user experience and safety of the Toll Roads for the full and entire length of each roadway.

- **Installation of rumble strips on shoulders**

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The installation of rumble strips along the length of the Toll Roads is intended to provide driver warning and enhance the safety of users of the Toll Roads, all in accordance with the criteria established by the FHWA for interstate highways.

- **General rehabilitation and upgrade of mainline bridge structures**

The general rehabilitation and upgrade of the mainline bridge structures is intended to ensure the stability, safety, durability, strength and structural integrity of all bridge structures that carry the Toll Road roadways. The purpose of this work is to ensure that (i) at least 90% of the total number of Toll Road bridge structures meet or exceed the requirements set forth at Table G.3.4 in Section G.3.4 of Schedule 15A and (ii) at least 90% of the total deck area (determined by the lowest rating of deck, superstructure, substructure or culvert) meet or exceed the requirements set forth at Table G.3.4 in Section G.3.4 of Schedule 15A, at the time that the work is undertaken, increase the useful and functional life of the bridge structures and ensure the safety of all users of the Toll Roads.

The Concessionaire will also be required to conduct a seismic analysis on each mainline bridge structure and propose to the PRHTA a 30-year seismic bridge rehabilitation plan to be executed by the Concessionaire. This requirement will be considered satisfied once PRHTA approves 30-year seismic bridge rehabilitation plan.

- **General rehabilitation and upgrade of the overpass bridge structures**

The general rehabilitation and upgrade of the overpass bridge structures is intended to ensure the stability, safety, durability, strength and structural integrity of all bridges structures that carry features over the Toll Roads roadways. The purpose of this work is to ensure that (i) at least 90% of the total number of the Toll Road bridge structures meet or exceed the requirements set forth at Table G.3.4 in Section G.3.4 of Schedule 15A, and (ii) at least 90% of the total deck area (determined by the lowest rating of deck, superstructure, substructure or culvert) meet or exceed the requirements set forth at Table G.3.4 in Section G.3.4 of Schedule 15A, at the time that the work is undertaken, increase the useful and functional life of the bridge structures and ensure the safety of all users of the Toll Roads.

The Concessionaire will also be required to conduct a seismic analysis on each overpass bridge structure and include them at the 30-year seismic bridge rehabilitation plan.

(c) *Tier 3 Works..* This work consists of any and all projects related (i) to rock

and soil slopes stabilization, (ii) to concrete and asphalt surfaces that require major rehabilitation, reconstruction, or preservation work and (iii) to bridges in all categories (major rehabilitation, minor rehabilitation, and preservation work) required to comply with the 100% of the Operating Standards.

The Concessionaire shall commence work on each of the following improvements as soon as practicable and shall satisfy all requirements with respect thereto no later than twelve (12) years after the Closing Date.

The projects shall include, but not be limited to, work related to the following:

- **Rock and Soil Slopes Stabilization**

This work aims to continue maintaining the Unstable Slope Management Program after Tier 2 as established in the Unstable Slope Management Program for Federal Land Management Agencies (publication number FHWA-FLH-19-002). The Concessionaire will also be required to perform all work necessary to complete the 10-year slope stabilization plan developed by the Concessionaire (and Approved by the PRHTA) as part of Tier 1.

- **Improvement and upgrade of the existing pavement surface**

This work is intended to ensure that the pavement in 100% of the total length (taking number of lanes into account) of the Toll Road is brought into compliance with the all the operating ratings set forth in Volume I, Chapter B of the Operating Standards for both concrete and bituminous roadway wearing surfaces, including pavement international roughness index, rutting, faulting and cracking. This work will ensure the safe and orderly movement of traffic by creating a safe, smooth, durable, able and stable wearing surface and improve the user experience and enhance the aesthetic appearance and safety of the Toll Roads.

- **General rehabilitation and upgrade of mainline bridge structures**

The general rehabilitation and upgrade of the mainline bridge structures is intended to ensure the stability, safety, durability, strength and structural integrity of all bridge structures that carry the Toll Road roadways. The purpose of this work is to ensure that (i) the 100% of the total number of Toll Road bridge structures meet or exceed the requirements set forth at Table G.3.4 in Section G.3.4 of Schedule 15A and (ii) the 100% of the total deck area (determined by the lowest rating of deck, superstructure, substructure or culvert) meet or exceed requirements set forth at Table G.3.4 in Section G.3.4 of Schedule 15A, at the time that the work is undertaken, increase the useful and functional life of the bridge structures and ensure the safety of all users of the Toll Roads.

- **General rehabilitation and upgrade of the overpass bridge structures**

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The general rehabilitation and upgrade of the overpass bridge structures is intended to ensure the stability, safety, durability, strength and structural integrity of all bridges structures that carry features over the Toll Roads roadways. The purpose of this work is to ensure that (i) 100% of the total number of the Toll Road bridge structures meet or exceed the requirements set forth at Table G.3.4 in Section G.3.4 of Schedule 15A and (ii) 100% of the total deck area (determined by the lowest rating of deck, superstructure, substructure or culvert) meet or exceed the requirements set forth at Table G.3.4 in Section G.3.4 of Schedule 15A, at the time that the work is undertaken, increase the useful and functional life of the bridge structures and ensure the safety of all users of the Toll Roads.

Section 2. ITS Project. The Concessionaire shall commence work on each of the following improvements as soon as practicable after the Closing Date and shall satisfy all requirements with respect thereto no later than thirty-six (36) months after the Closing Date:

▪ **Traffic management center (TMC).**

An existing traffic management center (TMC) is located at the PR-52 Caguas Norte Toll Plaza.

The Concessionaire must expand and update the TMC systems in order to provide all the functionalities and services described in this Section 2. The expanded and updated TMC systems could be at the current TMC facility or another facility proposed to and approved by the PRHTA in the Commonwealth.

The Concessionaire must use Sun Guide ATMS to perform the traffic management activities performed at the TMC, including traffic conditions monitoring and data collection for performance measurement. The Concessionaire must update the Sun Guide ATMS to keep the same version used by the Authority. The Concessionaire must enable Sun Guide's ATMS Center-to-Center module and exchange with the Authority all the video and data processed through Sun Guide.

The Concessionaire must participate in the Waze for Cities Program and perform the integration with the SunGuide ATMS to exchange data automatically with Waze.

▪ **Intelligent traffic systems (ITS) communications requirements**

The Concessionaire shall provide communications ducts and a communications network with redundant routing capabilities.

The Concessionaire shall provide the following communications ducts:

- Four (4) way duct – tree (3) ducts of 1-½ inch of HDPE for FO and one (1) duct of 4 inch of PVC for electrical conduits for the use of the Concessionaire

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along all the Toll Roads.

- Four (4) way duct – tree (3) ducts of 1-½ inch of HDPE for FO and one (1) duct of 4 inch of PVC for electrical conduits for the exclusive use of the Authority along all the Toll Roads.

The Concessionaire shall deploy a communications backbone network along the Toll Roads, with an aim to serve the ITS components. A minimum 144 strand fiber shall be deployed along all the Toll Roads on the Concessionaire conduits. Redundant capabilities and connectivity with the TMC and all the Toll Roads (not applicable for PR-52) could be provided through agreements with telecom carriers.

The Concessionaire conduits and the Authority conduits may use the same conduit duct bank, but shall be completely separated, with separate conduit access points. The Authority conduits shall have a unique color or striping pattern to differentiate the Authority duct bank from the Concessionaire conduits within the corridor. The coloring shall be consistent throughout the Project.

All conduits and junction boxes shall be new. Junction boxes shall be installed at 2,500 feet intervals maximum. The concessionaire shall terminate the Authority conduits and junction boxes at the Authority designated points within the Concession limits. The Authority shall bear the cost of deploying its own optical fiber, in coordination with the Concessionaire. As an option, the Authority, at its own cost, may use the same provider selected by the Concessionaire for the Optical Fiber installation.

■ **Closed circuit television (CCTV) cameras**

The Concessionaire must provide CCTV cameras for incident verification, traffic management, emergency management, security and support necessary for maintenance of the system. The system of cameras must accurately identify all vehicles involved in an incident or emergency, the extent of vehicle damage, and, if applicable, the likelihood of personal injury. Operation of the cameras must result in no visual delay in response of the camera pan/tilt/zoom by a user.

The Concessionaire must provide all necessary CCTV equipment, including cameras, camera controls, cables, and connections.

The Concessionaire must provide all the equipment and software necessary for providing interoperability with the new Authority's TMC to have secondary control of all CCTV cameras. The equipment needed at the Authority's new TMC located outside the Toll Roads shall be provided by the Authority. The digital format and protocol provided by the Concessionaire must be compatible with systems in use by the new Authority's TMC.

Distance between CCTV cameras must not exceed ten (10) miles and they must cover at least the major interchanges.

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▪ **Vehicle detection**

The Concessionaire must provide permanent detection that measures vehicle classification, vehicular volume, lane occupancy, and speed information on the Toll Roads. The detectors must be non-intrusive to the roadway users and must provide, at a minimum, detection for all Toll Road lanes at one location between interchanges, each entrance ramp lane, and each exit ramp lane.

The Concessionaire must also install bluetooth readers every ten (10) miles for the general-purpose lanes, to be used to determine average segment speeds and travel times.

The Concessionaire may attach detection units to existing structures with prior Authority Approval. Where an existing structure is not available, or in lieu of attaching the detection unit to an existing structure, the Concessionaire must install a mounting pole solely for the vehicle detector. Any mounting poles placed specifically for ITS items must conform to Authority specifications for CCTV mounting poles.

▪ **Dynamic message sign (DMS)**

The Concessionaire must determine and implement the type, quantity, and design of the conduit above and below ground, ground boxes, and all communication cable and electrical conductors to support the ITS network and operations.

The Concessionaire must provide a comprehensive network of electronic DMS using only light-emitting diode (LED) display technology to allow motorists to safely view the messages being displayed.

Developer must locate the DMS to comply with large guide sign spacing stated in the Manual of Uniform Traffic Control Devices (MUTCD) and, at minimum, the DMS must be deployed at least in major interchanges that allow the roadway users to detour in case of major incidents or highway closures.

DMS must be used to inform motorists of the availability of alternate routes and to advise travelers of adverse road conditions and congestion. DMS must be placed to provide a driver-friendly sign-viewing angle at each DMS location.

DMS must be mounted using a T-mount.

▪ **Additional requirements**

The Concessionaire must provide a complete and operational ITS network throughout the Toll Roads that utilizes hardware and software components consistent and compatible with the hardware and software utilized by the Authority and other affected Governmental Authorities, and resistant to weather encountered


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[Signature]

in the Toll Roads, and the Concessionaire must place components in locations that are not hazardous to users.

The Concessionaire must develop and implement a plan, in coordination with and subject to Approval of the Authority, for the deployment of the ITS Project along the Toll Roads.

The Concessionaire must provide information to the Authority from five (5) continuous traffic counts in compliance with the High-Performance Monitoring System (HPMS) from the Closing Date at following locations: Salinas (PR-52 - km 56.9), Santa Isabel (PR-52, km 79.8), Guayama (PR-53, km 80.1), Naguabo (PR-53 – km 22.9) and Carolina (PR-66, km 6.4).

Section 3. Concessionaire Bidirectional Project. The Concessionaire Bidirectional Project consists of the conversion of certain toll plazas identified below with a current uni-directional configuration into a bi-directional tolling configuration. The Concessionaire shall commence design and construction work on the Concessionaire Bidirectional Project as soon as practicable after Final Acceptance of the ORT Improvement Project has occurred: provided, that, following consultation with the Authority, the Concessionaire may commence all or any portion of the design and construction work on the Concessionaire Bidirectional Project prior to Final Acceptance of the ORT Improvement Project so long as such design and construction work does not materially interfere with the performance of the work on the ORT Improvement Project by the Authority. The Concessionaire Bidirectional Project shall consist of the following:

- 
- (a) The only plazas to be converted into a bidirectional configuration are Caguas Sur, Humacao Norte, Hucar and Salinas (the "Concessionaire Reconfigured Toll Plazas").
 - (b) The Concessionaire Bidirectional Project shall not consist of or include the relocation of any toll plazas or of any ORT Improvement Project gantries. Instead, the Concessionaire Bidirectional Project shall consist of the installation of a new tolling point (or gantry) providing for a bi-directional tolling configuration at each of the Concessionaire Reconfigured Toll Plazas.
 - (c) The bi-directional tolling points to be installed as described in (b) above shall be configured as open road tolling points (gantries). The design and construction of such open road tolling points (gantries) shall be similar to those gantries provided by the Authority as part of the ORT Improvement Project.
 - (d) The currently contemplated location for each of the bi-directional tolling points (gantries) for the Concessionaire Reconfigured Toll Plazas is set forth in Exhibit A to this Schedule 6. The Concessionaire is entitled to propose a new location for one or more of the bidirectional tolling points (gantries) for the Concessionaire Reconfigured Plazas and the Authority shall Approve such proposed new locations within twenty (20) business days of receipt of the Concessionaire's proposal so long as (i) there is sufficient surface availability for the new location, (ii) the Concessionaire shall continue to comply with the safety standards and applicable technical standards set forth in this Agreement (including the Operating Standards) and (iii) the new location will capture the same traffic flow as the original location set forth in Exhibit A to this Schedule 6.

- (e) The Concessionaire will bear the traffic risk of the Concessionaire Bidirectional Project and is responsible for the design, construction, operation and maintenance of the same in accordance with the terms of this Agreement (including the Operating Standards), subject to any rights and/or protections of or afforded to the Concessionaire hereunder. Further the design, construction, operation and maintenance of the Concessionaire Bidirectional Tolling shall be implemented as contemplated in the relevant designs and drawings to be developed as well as in accordance with any approved plans (including the approved erection plan).
- (f) [Reserved].
- (g) The Concessionaire shall bear the full cost and schedule risk of obtaining all required Authorizations for the Concessionaire Bidirectional Project, including among others and to the extent determined to be required, the Sole Permit from the Permit Management Office ("OGPe", by its Spanish acronym); the Excavation Permit from the Excavation and Demolition Coordination Center and customary contractors' permits, and licenses and tariffs, including municipal license tax (Patentes Municipales) and construction excise tax (Arbitrios de Contrucción). For the avoidance of doubt, the Authority shall use Reasonable Efforts to coordinate, cooperate and assist the Concessionaire with any such Authorizations in accordance with Section 3.4 of the Agreement.
- (h) The Concessionaire shall, at its own cost and expense, deploy and operate (or subcontract with another entity to deploy and operate) RSE/BO services in respect of the Concessionaire Bidirectional Project in accordance with the Operating Standards. Such services shall be fully interoperable with the electronic toll collection systems used on the Island Network in accordance with Section 2.3(d) of Schedule 4 and with the ETC Service Provider systems and processes.
- (i) The Concessionaire shall be entitled to select the entity that will implement and provide all services related to the bidirectional tolling at the toll plazas (gantries) for the Concessionaire Reconfigured Toll Plazas, but will coordinate and cooperate (and will require such entity to coordinate and cooperate) with the Authority and the ETC Service Provider to ensure that its electronic toll collection system is interoperable as described in (h) above. Such coordination and cooperation will include (A) incorporating the Authority's designated personnel in the processes related to the integration and test phase of the new bidirectional tolling points and (B) submission by the Concessionaire to the Authority of a go-live request per each bidirectional tolling point of the Concessionaire Reconfigured Toll Plazas for review and confirmation by the Authority that such bidirectional tolling point complies with the Operating Standards, which confirmation will not be unreasonably delayed, withheld or denied; provided, that, in the event no such confirmation is provided by the Authority within 30 days following submission by the Concessionaire of the go-live request, the same shall be deemed to have been provided by the Authority, unless the Authority shall have provided a response to the Concessionaire within that time period noting that the Operating Standards were not complied with.
- (j) The Concessionaire's rights and obligations in respect of the tolling of the Concessionaire Reconfigured Toll Plazas shall be as set forth in Schedule 4 hereto as they relate to a

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Reconfigured Toll Plaza.

Section 4. Requirements Related to the Accelerated Safety Upgrades, the ITS Project and the Concessionaire Bidirectional Project

(a) *Compliance with Agreement.* All design, plan development and construction work related to the Accelerated Safety Upgrades set forth in Section 1 of this Schedule 6, the ITS Project set forth in Section 2 of this Schedule 6 and the Concessionaire Bidirectional Project set forth in Section 3 of this Schedule 6 shall comply with the requirements of this Agreement, including the applicable chapters of the Operating Standards and the codes, manuals and guidelines contained in the reference documents of each applicable chapter of the Operating Standards.

(b) *Submission of Scope of Work.* The Concessionaire shall submit a written and detailed scope of work, including sketches, drawings and other supporting documentation, to the Authority for review, conformance verification with the intended level of work and Approval prior to the start of preliminary and final development of plans and construction documents for each Accelerated Safety Upgrade project, the ITS Project and the Concessionaire Bidirectional Project.

(c) *Submission of Construction Documents.* The Concessionaire shall prepare and submit preliminary and final construction documents to the Authority for review and Approval, and subsequently obtain all applicable Authorizations prior to the start of construction of each Accelerated Safety Upgrade, the ITS Project and the Concessionaire Bidirectional Project.

(d) *Response from the Authority.* The Authority shall provide comments or approval of Scope of Work or Construction Documents on or before 20 (twenty) Business Days after the Concessionaire's submission.

Section 5. Liquidated Damages

In accordance with Section 4.2 of this Agreement, liquidated damages shall be as follows:

(a) for failure to satisfy the requirements set forth in Section 1(a) of this Schedule 6 by the deadline provided therein, liquidated damages shall be \$5,000.00 per day until satisfaction thereof;

(b) for failure to satisfy the requirements set forth in Section 1(b) of this Schedule 6 by the deadline provided therein, liquidated damages shall be \$10,000.00 per day until satisfaction thereof;

(c) for failure to satisfy the requirements set forth in Section 1(c) of this Schedule 6 by the deadline provided therein, liquidated damages shall be \$10,000.00 per day until satisfaction thereof; and

(d) for failure to satisfy the requirements set forth in Section 2 of this Schedule 6 by the deadline provided therein, liquidated damages shall be \$5,000.00 per day until satisfaction thereof.

Exhibit A
(See attached.)

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ABERTIS INFRAESTRUCTURAS, S.A.

TOLL ROADS MONETIZATION – CONFIDENTIAL ATC

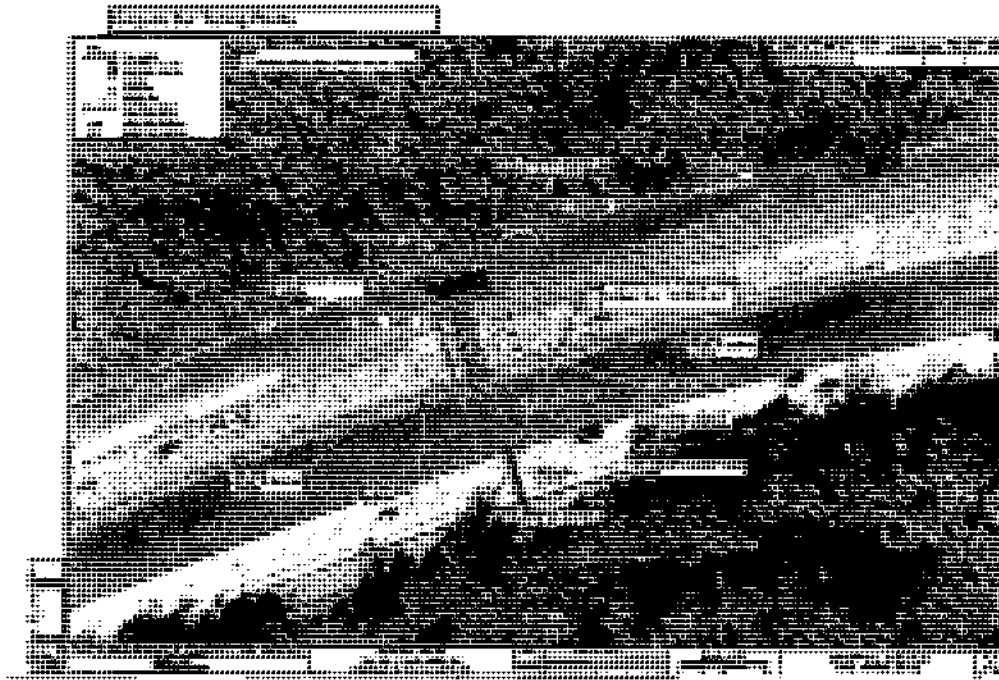
Abertis-ATC 3

June 23rd, 2023

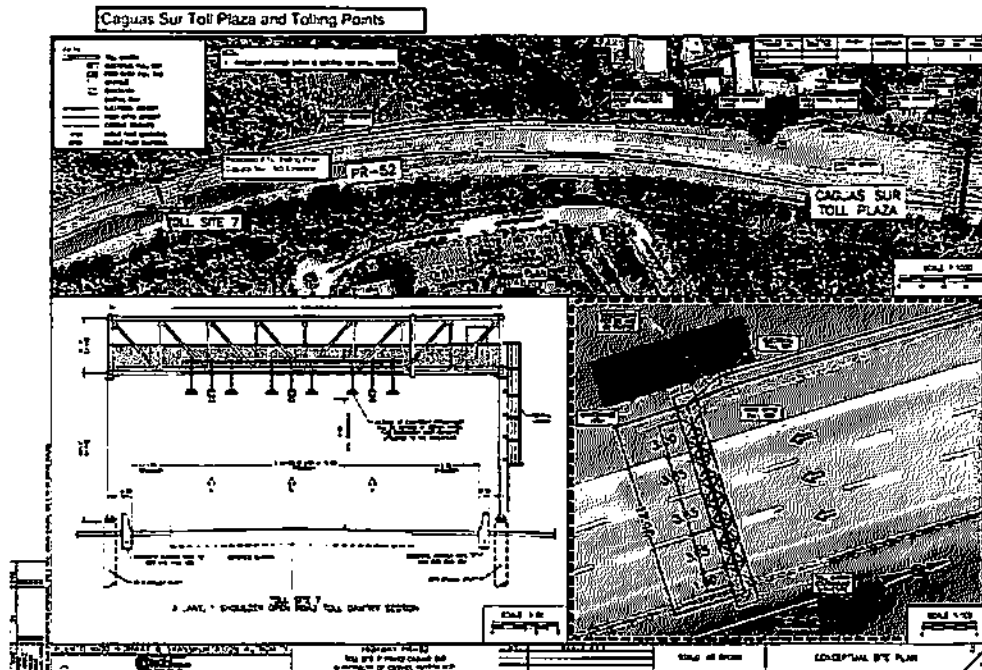
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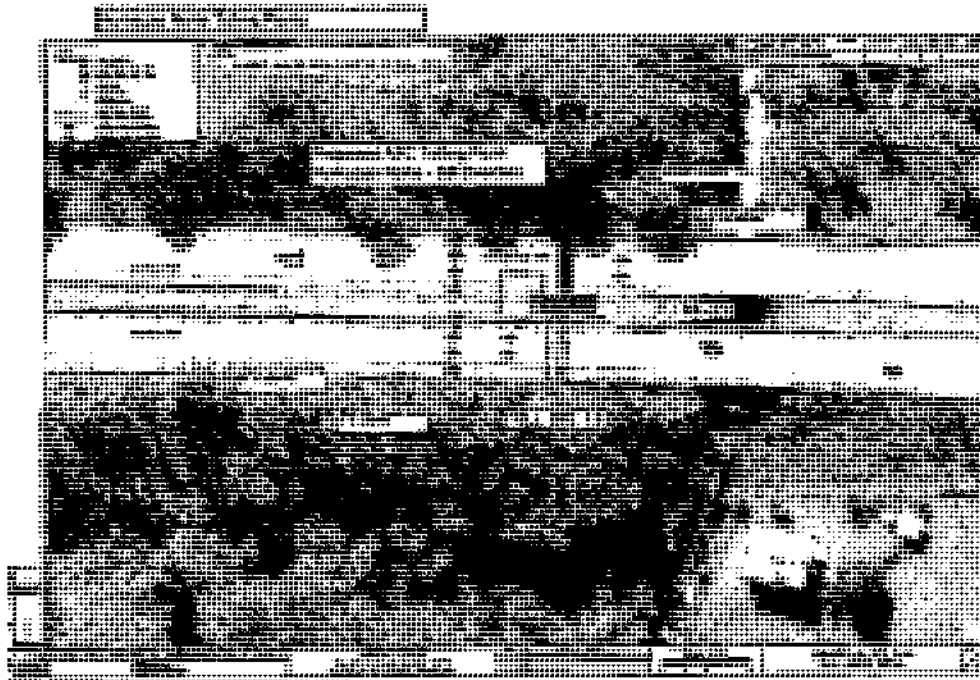
ANNEX

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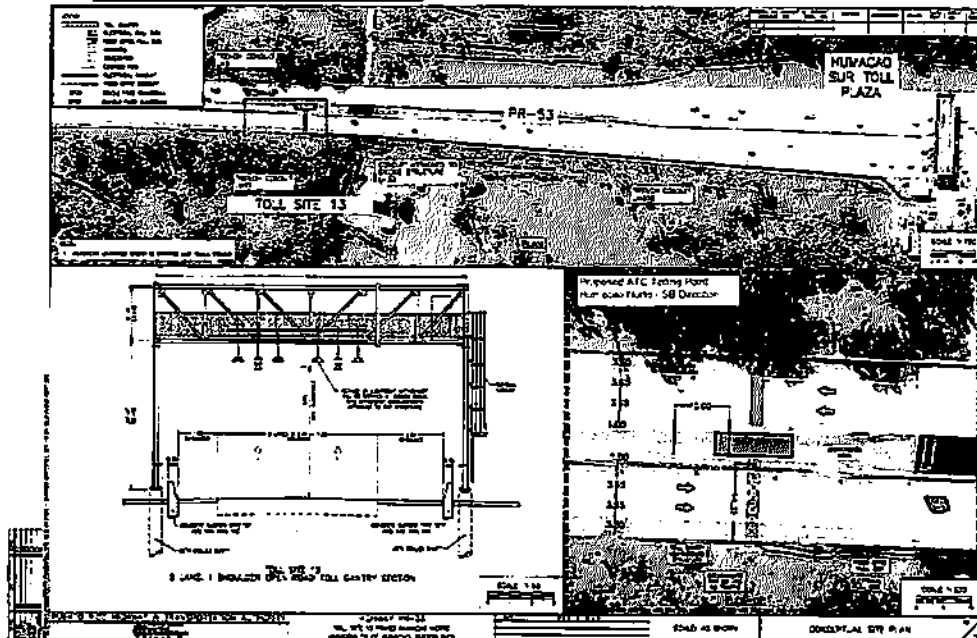


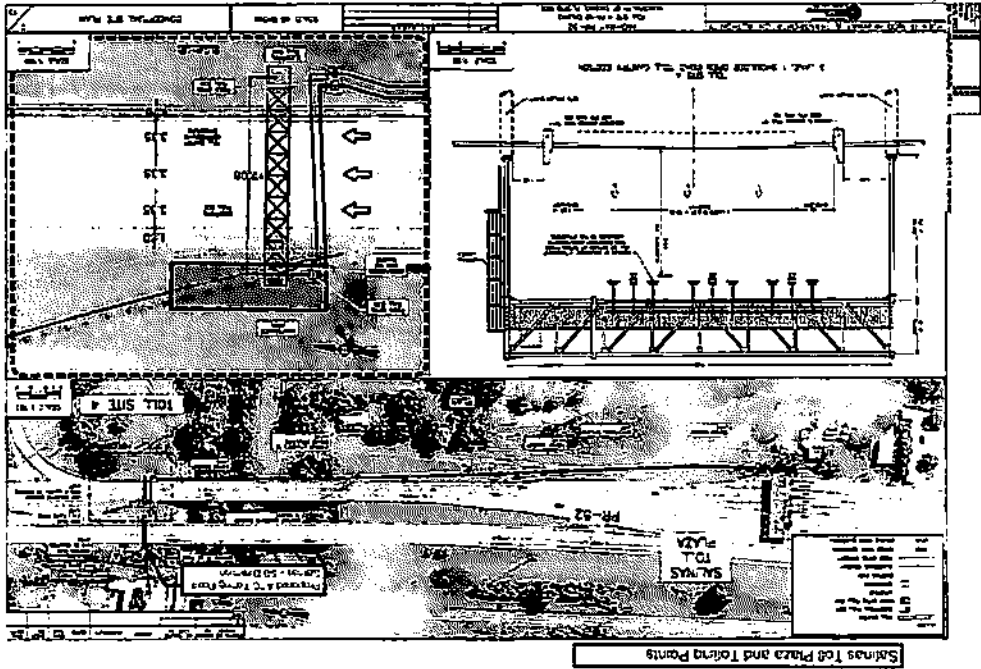
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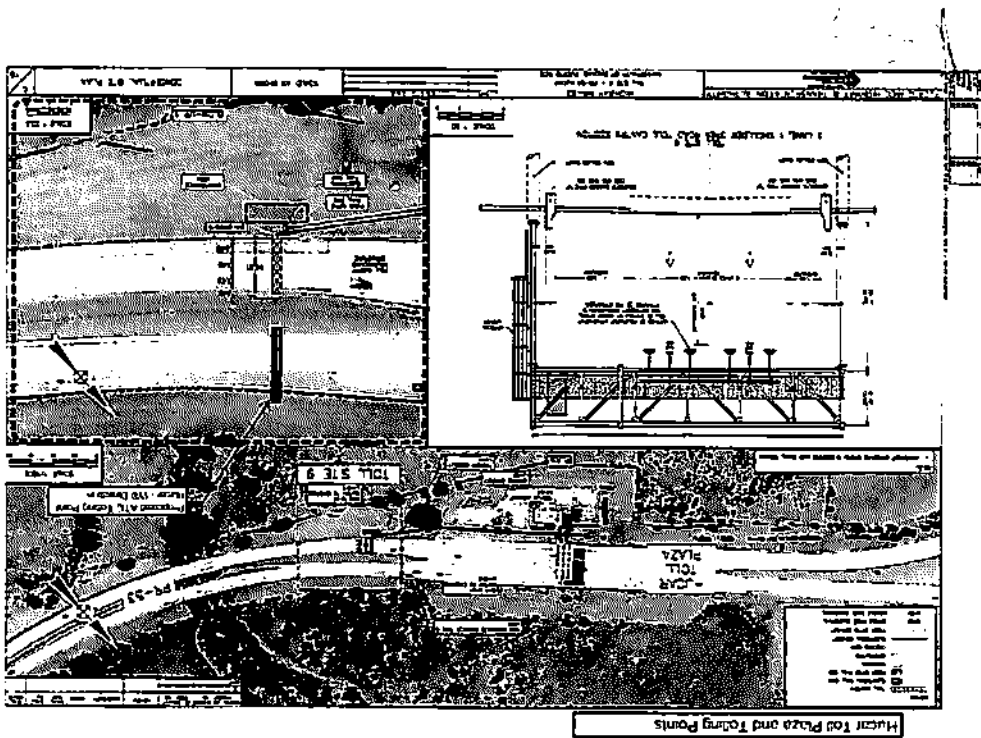


Humacao Norte Toll Plaza and Tolling Points





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Schedule 7
Noncompliance Events
(See attached.)

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SCHEDULE 7**NONCOMPLIANCE EVENTS**

Ref	VOLUME / CHAPTER	Reference	Noncompliance Event Failure to:	Noncompliance Points per occurrence	Cure Period
1	Concession Agreement	Section 6.4(a)	Notify the Authority of the occurrence of any breach or failure specified in this Schedule 7 in accordance with Section 6.4(a) of the Agreement.	2	None
2	Concession Agreement	Section 8.1	Comply with all reporting requirements set forth in Section 8.1 of the Agreement.	2 per report	None
3	Schedule 4. Tolling Limitations	Schedule 4. Tolling Limitations	Comply with any requirement or instruction defined at the Schedule 4.	2	None
4	Operating Standards, Vol I / All Chapters	Performance Time Frames	Comply with the maximum duration of time to perform work in accordance with the applicable tables set forth in the applicable Chapters.	2	None
5	Operating Standards, Vol I / All Chapters	Performance Time Frames	Comply with the minimum frequency of occurrence to perform particular maintenance operations in accordance with the applicable tables set forth in the applicable Chapters.	2	None
6	Operating Standards, Vol I / All Chapters	Technical parameters and KPIs	Comply with all the values defined for the applicable technical parameters (IRI, rut, stripping, ...)	2 per technical parameter or KPI	None

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			and KPIs (tolling, ITS, ...) contemplated at the Vol I.		
7	Operating Standards, Vol II / Chapter A: Organization and General Information	Staffing Identification	Create and maintain the Essential Staff Personnel Matrix in accordance with section A.2.4.	2	30 Days
8	Operating Standards, Vol II / Chapter A: Organization and General Information	Submission and Approval of Plans	Submit the Annual Plans and Reports in accordance with section A.5..	4 per each Annual Plan	None
9	Operating Standards, Vol II / Chapter B. Program Management System Plan	Program Management System Plan Preparation Requirements	Create and maintain the Management Organizational Structure submitted by the Concessionaire and approved by the Authority as part of the Program Management Plan pursuant to section B.4.2.	2	30 Days
10	Operating Standards, Vol II / Chapter B. Program Management System Plan	Program Management System Plan Preparation Requirements	Comply with the policies and procedures required to be submitted by the Concessionaire and approved by the Authority as part of the Program Management Plan.	2	30 Days
11	Operating Standards, Volume II / Chapter C. Quality Management System Plan	Policy for Quality Management System Plan	Obtain before the third anniversary and maintain during the Term a Quality ISO certification in 9004 or updated versions covering all the requirements defined in Chapter C.	3	90 Days
12	Operating Standards, Vol II / Chapter D. Safety Plan	Policy for Safety Plan	Comply in all material respects with all the requirements and procedures of the	2	1 Day

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			Safety Plan and carry out all construction, operation and maintenance activities in a manner that protects the safety of project workers and the general public.		
13	Operating Standards, Vol II / Chapter D. Safety Plan	Safety Plan Preparation Requirements	Train all persons working on the Toll Roads in accordance with the Safety Plan.	2	15 Days
14	Operating Standards, Vol II / Chapter E. Equipment Plan	Policy and Equipment Plan	Dispose of, operate and maintain all the equipment submitted and approved as part of the Equipment Plan.	1	15 Days
15	Operating Standards, Vol II / Chapter F. Toll Collection and Operations Plan	Policy for Toll Collection and Operations Plan	Comply in all material respects with all the policies and procedures submitted by the Concessionaire and approved by the Authority as part of the Toll Collection and Operations Plan.	4	7 Days
16	Operating Standards, Vol II / Chapter G. Facilities Operations Plan	Policy for Facilities Operations Plan	Comply in all material respects with all the policies and procedures submitted by the Concessionaire and approved by the Authority as part of the Facilities Operations Plan.	2	14 Days
17	Operating Standards, Vol II / Chapter H. Traffic and Travel Management Plan	Traffic and Travel Management Preparation Requirements	Comply in all material respects with all the resources, policies, arrangements and procedures submitted by the Concessionaire and approved by the Authority as part of the Traffic and	4	7 Days

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			Travel Management Plan.		
18	Operating Standards, Vol II / Chapter H. Traffic and Travel Management Plan	Traffic and Travel Management Plan Preparation Requirements	Dispose of and operate all the Decision-Support Systems submitted by the Concessionaire and approved by the Authority as part of the Traffic and Travel Management Plan.	4	60 Days
19	Operating Standards, Vol II / Chapter H. Traffic and Travel Management Plan	Standard and Protocols – Work Zone Traffic Control	Maintain General Purpose Lane(s) and DTL(s) open and operational according to the requirements and instructions defined for approved lane closures submitted by the Concessionaire and approved by the Authority as part of the Traffic and Travel Management Plan or specific project or maintenance work plans.	4	2 Hour
20	Operating Standards, Vol II / Chapter H. Traffic and Travel Management Plan	Data Management and Performance Measure	Provide to the Authority access to the data collected through the different Decision-Support Systems submitted by the Concessionaire and approved by the Authority as part of the Traffic and Travel Management Plan.	2	1 Days
21	Operating Standards, Vol II / Chapter I. Customer Service Plan	Customer Service Plan Preparation Requirements	Provide all the Information Services and Travel Information Dissemination services submitted by the Concessionaire and approved by the	2	1 Day


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			Authority as part of the Customer Service Plan.		
22	Operating Standards, Vol II / Chapter J. Emergency Management and Operation Plan	Policy for Customer Service Plan	Implement, execute or perform any process, action, analysis, plan or measure submitted by the Concessionaire and approved by the Authority as part of the Emergency Management and Operation Plan.	3	5 Days
23	Operating Standards, Vol II / Chapter K. Design and Construction Requirements	Policy for Design and Construction Requirements	Execute any project according design and construction guidelines submitted by the Concessionaire and approved by the Authority (including modifications thereto which have been agreed between the Concessionaire and the Authority).	2	2 Days
24	Operating Standards, Vol II / Chapter L. Annual State of the Toll Roads and Capital Improvement Program Reports	Policy for Annual State of the Toll Roads and Capital Improvement Program Reports	Present the reports defined at section L.2.3 in accordance with the requirements defined at the Vol II, Chapter L.	3 per each report	30 Days
25	Operating Standards, Vol II / Chapter L. Annual State of the Toll Roads and Capital Improvement Program Reports	Policy for Annual State of the Toll Roads and Capital Improvement Program Reports	Submit the reports defined in section L.2.3 on or before the minimum frequency of occurrence set forth in Table L.2.3 of the Vol II, Chapter L.	3 per each report	30 Days
26	Operating Standards, Vol III / Chapter A: Organization	Initial Submission of Environment Management Plan	Submit to the Annual Environmental Management Plan in accordance with	4	15 Days

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	and General Information		section A.6, including Initial Submission of Environmental Management Plan, following the guidelines and calendars determined therein.		
27	Operating Standards, Vol III / Chapter B: Environmental Management Plan	Performance Time Frames	Submit the Annual Environmental Management Plan in accordance with the conditions established in section B.3.4, including Performance Time Frames, following the guidelines and calendars determined at the Vol III.	4	15 Days
28	Operating Standards, Vol III / Chapter B: Environmental Management Plan	Environmental Management Plan Preparation Requirements	Comply in all material respects with all the resources, policies, arrangements, licenses, permits, plans and procedures submitted by the Concessionaire and Approved by the Authority set forth in the Annual Environmental Management Plan.	4	15 Days

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Schedule 8
Sample Form of Traffic Report
(See attached.)

4/8/19

A handwritten signature, possibly reading "H", written in black ink.

**SCHEDULE 8
SAMPLE FORM OF TRAFFIC REPORT**

[See Attached]

3/3/21





Account Number	Description	Amount
00000000	Interest on Loans	\$ 100.00
00000000	Interest on Deposits	\$ 100.00
00000000	Interest on Bonds	\$ 100.00
00000000	Interest on Stocks	\$ 100.00
00000000	Interest on Other Investments	\$ 100.00

DTL 2nd Week PAM (6-7)

DECEMBER 2022

	ETC	N/R	Violations	TOTAL
DT RIO1	9,198	79	2,633	11,910
Revenue	\$ 28,121.90		\$ 8,132.60	\$ 36,254.50
Less Tosa Baja toll	\$ (6,898.50)		\$ (1,974.75)	\$ (8,873.25)
				\$ 27,381.25
			Remainder for the week	\$ 20,535.94

	ETC	N/R	Violaciones	TOTAL
DT TOA3	-	-	-	-
Revenue	\$ -		\$ -	\$ -
Less Tosa Baja toll	\$ -		\$ -	\$ -
				\$ -
			Remainder for the week	\$ -

	ETC	N/R	Violaciones	TOTAL
DT TOA4	9,337	69	2,855	12,261
Revenue	\$ 33,247.10		\$ 10,370.95	\$ 43,618.05
Less Tosa Baja toll	\$ (7,002.75)		\$ (2,141.25)	\$ (9,144.00)
				\$ 34,474.05
			Remainder for the week	\$ 25,855.54

	Revenue Earned tolls	Receivables From Unpaid Tolls	Total Revenues
DTL Tosa Baja- Metropistas	\$ 13,901.25	\$ 4,116.00	\$ 18,017.25
DTL remainder revenue	\$ 47,467.75	\$ 14,387.55	\$ 61,855.30
DTL revenue share - Metropistas 75%	\$ 35,600.81	\$ 10,790.66	\$ 46,391.48
DTL revenue share - PRHTA 25%	\$ 11,866.94	\$ 3,596.89	\$ 15,463.83

Tosa Baja Toll Fare \$0.75

DT RIO1

ETC	Unpaid Tolls	Total Weekly Traffic
9,277	2,633	
\$ 28,121.90	\$ 8,132.60	
\$ (6,898.50)	\$ (1,974.75)	Less Tosa Baja toll
\$ 21,223.40	\$ 6,157.85	
\$ 15,917.55	\$ 4,618.39	Remainder revenue for the week

DT TOA3

ETC	Unpaid Tolls	Total Weekly Traffic
-	-	
\$ -	\$ -	
\$ -	\$ -	Less Tosa Baja toll
\$ -	\$ -	
\$ -	\$ -	Remainder revenue for the week

DT TOA4

ETC	Unpaid Tolls	Total Weekly Traffic
9,406	2,855	
\$ 33,247.10	\$ 10,370.95	
\$ (7,002.75)	\$ (2,141.25)	Less Tosa Baja toll
\$ 26,244.35	\$ 8,229.70	
\$ 19,683.36	\$ 6,172.28	Remainder revenue for the week

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Report Date: 12/14/2022

Metroquitas	\$
Teodoro Moscoso (Bridge)	\$
PRITA	\$
Municipio de Guaynabo	\$
TOTAL	\$

Revenue From Eased Tolls

Recreation From Unpaid Time

3/13
2/13

Aluminum Bar	628,400.10	\$451.60	\$281.00	\$404.75	\$322.15	\$418.40	\$0.00	\$23,314.00	\$5,527.85	\$326.10	\$106.40	\$77.45	\$27.60	\$35.10	\$0.00	60.00	\$2,227.00	21.00%
Y-209	6005.00	\$31.50	\$29.40	\$19.00	\$20.20	\$7.00	\$0.00	\$1,644.00	\$200.10	\$37.50	\$20.40	\$12.00	\$20.20	\$7.20	\$0.00	60.00	\$1,031.00	24.11%
Reinforced Steel	\$13,770.00	\$443.00	\$231.40	\$600.20	\$107.10	\$138.50	\$0.00	\$18,984.00	\$4,136.55	\$204.00	\$111.00	\$47.25	\$202.50	\$14.00	\$0.00	60.00	\$1,021.00	24.11%
Y-209	\$717.15	\$14.00	\$10.40	\$3.75	\$14.00	\$0.00	\$0.00	\$2,144.00	\$717.15	\$18.00	\$10.40	\$3.75	\$14.00	\$0.00	\$0.00	60.00	\$754.00	24.11%
Sub Total	\$62,300.05	\$2,174.15	\$1,022.40	\$677.00	\$1,546.20	\$210.60	\$0.00	\$60,054.00	\$22,061.05	\$1,391.20	\$620.10	\$270.05	\$745.25	\$304.40	\$0.00	60.00	\$25,740.10	21.00%
Fig. 40																		
Reinforced Steel	\$45,912.00	\$660.00	\$414.00	\$17.50	\$0.00	\$0.00	\$0.00	\$18,911.00	\$7,946.00	\$306.00	\$102.25	\$210.00	\$80.50	\$1.00	\$0.00	60.00	\$6,047.00	43.40%
Y-209	\$1,078.75	\$34.50	\$27.25	\$0.00	\$0.00	\$0.00	\$0.00	\$1,145.00	\$1,078.75	\$30.50	\$17.25	\$0.00	\$0.00	\$0.00	\$0.00	60.00	\$1,145.00	43.40%
Reinforced Steel	\$10,031.00	\$640.00	\$420.75	\$17.50	\$0.00	\$0.00	\$0.00	\$33,131.00	\$8,000.00	\$144.00	\$104.00	\$220.00	\$80.00	\$0.00	\$0.00	60.00	\$3,070.25	43.31%
Y-209	\$1,754.50	\$27.75	\$27.75	\$0.00	\$0.00	\$0.00	\$0.00	\$1,200.00	\$1,154.50	\$27.75	\$27.75	\$0.00	\$0.00	\$0.00	\$0.00	60.00	\$1,200.00	24.11%
Sub Total	\$112,023.50	\$4,072.00	\$2,072.00	\$10.00	\$0.00	\$0.00	\$0.00	\$110,000.00	\$42,000.00	\$2,140.00	\$90.00	\$30.00	\$10.00	\$0.00	\$0.00	60.00	\$42,000.00	24.11%
Y-209	\$4,007.50	\$210.00	\$200.75	\$0.00	\$0.00	\$0.00	\$0.00	\$7,100.00	\$4,007.50	\$410.00	\$190.25	\$50.00	\$10.00	\$0.00	\$0.00	60.00	\$7,100.00	24.11%
Reinforced Steel	\$13,125.00	\$210.00	\$200.75	\$14.00	\$15.75	\$2.50	\$0.00	\$7,100.00	\$4,007.50	\$410.00	\$190.25	\$50.00	\$10.00	\$0.00	\$0.00	60.00	\$7,100.00	24.11%
Y-209	\$600.00	\$1.50	\$3.50	\$0.00	\$0.25	\$0.00	\$0.00	\$7.25	\$600.00	\$1.50	\$3.50	\$0.00	\$0.25	\$0.00	\$0.00	60.00	\$7.25	24.11%
Reinforced Steel	\$1,200.00	\$0.00	\$0.00	\$0.00	\$10.00	\$2.50	\$0.00	\$1,410.00	\$402.75	\$1.50	\$30.50	\$0.00	\$20.25	\$0.00	\$0.00	60.00	\$402.75	24.11%
Y-209	\$200.75	\$3.00	\$31.00	\$0.00	\$2.25	\$0.00	\$0.00	\$30.00	\$200.75	\$3.00	\$31.00	\$0.00	\$2.25	\$0.00	\$0.00	60.00	\$30.00	24.11%
Sub Total	\$162,715.50	\$6,202.75	\$3,170.00	\$75.00	\$39.25	\$0.00	\$0.00	\$157,400.00	\$51,000.00	\$2,000.00	\$600.00	\$200.00	\$100.00	\$0.00	\$0.00	60.00	\$51,000.00	24.11%
Total	\$500,000.00	\$24,000.00	\$12,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$0.00	\$480,000.00	\$190,000.00	\$11,000.00	\$4,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$0.00	60.00	\$190,000.00	24.11%
CLF																		
Y-209	\$7,040.00	\$175.00	\$23.00	\$5.00	\$4.50	\$0.00	\$0.00	\$8,100.00	\$1,000.00	\$20.00	\$10.00	\$0.00	\$4.50	\$0.00	\$0.00	60.00	\$8,100.00	24.11%
Y-209	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	60.00	\$0.00	24.11%
Y-209	\$6,019.75	\$125.00	\$43.00	\$10.00	\$0.75	\$0.00	\$0.00	\$7,020.00	\$1,000.00	\$20.00	\$10.00	\$0.00	\$0.00	\$0.00	\$0.00	60.00	\$7,020.00	24.11%
Y-209	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	60.00	\$0.00	24.11%
Sub Total	\$14,060.75	\$270.00	\$66.00	\$15.00	\$11.25	\$0.00	\$0.00	\$15,120.00	\$1,000.00	\$40.00	\$20.00	\$0.00	\$4.50	\$0.00	\$0.00	60.00	\$15,120.00	24.11%
TOTAL	\$1,010,175.70	\$40,000.00	\$20,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$0.00	\$980,000.00	\$390,000.00	\$20,000.00	\$7,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$0.00	60.00	\$390,000.00	24.11%

4/4/20

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HTA Roads Revenues

	Revenue Earned Tolls*	Receivables From Unpaid Tolls	Total Revenues	
A. Revenue PR-22, PR-32, PR-68 & PR-70	\$ 771,232.05	\$ 247,097.05	\$ 974,430.00	• Does not include unpaid tolls
B. PR-32, PR-68, PR-69 & PR-70 V-Tolls and V-Tolls off period		\$ 105,203.65		• Authority's Toll Revenues for Tolling on Existing HTA Roads

HTA Roads Distribution

Remaining HTA Roads Unpaid Balance	\$ 835,536.60			• Revenue Earned Toll + V-Tolls and V-Tolls off period
		\$ 136,893.40		• Theoretical Remaining unpaid toll

Metropolitan Revenues

	Revenue Earned Tolls	Receivables From Unpaid Tolls	Total Revenues
C. Revenue PR-22 & PR-3	\$ 621,425.75	\$ 231,569.75	\$ 825,025.50
D. DTL revenue share - Metropolitan 75%	\$ 24,600.61	\$ 10,793.66	\$ 46,391.46
E. DTL Tax Base, Metropolitan	\$ 13,981.75	\$ 4,116.00	\$ 19,017.75
C+D Total metropolitan	\$ 742,927.61	\$ 246,506.41	\$ 989,434.23

Metropolitan Total Receivables from Unpaid Tolls

G. PR-22 & PR-3 V-Tolls and V-Tolls off period	\$ 246,506.41			• Metropolitan Toll revenues from the period from transactions that didn't have available prepaid balances at the time of the transaction
H. DTL V-Tolls and V-Tolls off period	\$ 172,724.45			• Metropolitan V-Tolls & V-Tolls off period used to offset Metropolitan total Receivables from Unpaid Tolls from the period

1. Amounts to Offsets

1-1. Authority's APR Revenues APR ETC Fees	3%	\$ 29,551.00		• Authority's APR Revenues (ETC fee and APR revenue share) + Authority's Portion of DTL Revenues + tag sales revenues allocated to the authority
1-2. APR revenue share	5%	\$ 9,096.21		
1-3. Authority's portion of tag sales revenues		\$ 6,615.79		
		\$ 11,886.94		
		\$		

Metropolitan outstanding Disbursed Non Cash tolls (if positive)

Metropolitan distribution	\$ 68,407.27			• If negative and no amount in Required Minimum Balance or no outstanding unpaid tolls, excess funds to PMHTA
	\$ 900,966.96			

Municipalidad de Guayaquil

	Raw Earned tolls	Raw Unpaid Tolls
J. Guayaquil Toll Revenues for Tolling on the Corridor of the Filiz	\$ 15,160.40	\$ 3,982.05
	\$ 19,172.45	

APR - Troncal Magdalena Bridge

	Raw Earned tolls	Raw Unpaid Tolls
K. APR Portion of Toll Revenues	\$ 130,134.35	\$ 51,249.85
	\$ 181,384.20	

L. Authority's Portion of APR Revenues

APR distribution	\$ 17,694.06			• HTA's applicable revenue share and HTA's ETC fee
	\$ 193,698.24			

Distribution to HTA

	HTA Roads Distribution
HTA Roads Distribution	\$ 835,536.60
Excess Other Amounts	
Metropolitan V-Tolls and V-Tolls off period	\$
Total HTA Distribution	\$ 835,536.60

• HTA Revenue from Earned Tolls + HTA Roads Value

• (after metropolitan compensation and Required Minimum Withdrawal)

• (after metropolitan compensation and Required Minimum Withdrawal)

• Total Metropolitan Earned Tolls + PR-22 & PR-3 V-Tolls and V-Tolls off period used to offset Metropolitan total Receivables from Unpaid Tolls from the period + excess amounts for the period used to offset Metropolitan total Receivables from Unpaid Tolls from the period

DTL 2nd Week PAM (6-7)

DECEMBER 2022

	ETC	N/R	Violations	TOTAL
DT RIO1	9,198	79	2,633	11,910
Revenue	\$ 28,121.90		\$ 8,132.60	\$ 36,254.50
Less Toa Baja toll	\$ (6,898.50)		\$ (1,974.75)	\$ (8,873.25)
				\$ 27,381.25
			Remainder for the week	\$ 20,535.94

	ETC	N/R	Violaciones	TOTAL
DT TOA3	-	-	-	-
Revenue	\$ -		\$ -	\$ -
Less Toa Baja toll	\$ -		\$ -	\$ -
				\$ -
			Remainder for the week	\$ -

	ETC	N/R	Violaciones	TOTAL
DT TOA4	9,337	69	2,855	12,261
Revenue	\$ 33,247.10		\$ 10,370.95	\$ 43,618.05
Less Toa Baja toll	\$ (7,002.75)		\$ (2,141.25)	\$ (9,144.00)
				\$ 34,474.05
			Remainder for the week	\$ 25,855.54

	Revenue Earned tolls	Receivables From Unpaid Tolls	Total Revenues
DTL Toa Baja- Metropistas	\$ 13,901.25	\$ 4,116.00	\$ 18,017.25
DTL remainder revenue	\$ 47,467.75	\$ 14,387.55	\$ 61,855.30
DTL revenue share - Metropistas 75%	\$ 35,600.81	\$ 10,790.66	\$ 46,391.48
DTL revenue share - PRHTA 25%	\$ 11,866.94	\$ 3,596.89	\$ 15,463.83

Toa Baja Toll Fare \$0.75

DT RIO1

ETC	Unpaid Tolls	
9,277	2,633	Total Weekly Traffic
\$ 28,121.90	\$ 8,132.60	
\$ (6,898.50)	\$ (1,974.75)	Less Toa Baja toll
\$ 21,223.40	\$ 6,157.85	

\$ 15,917.55	\$ 4,618.39	Remainder revenue for the week
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DT TOA3

ETC	Unpaid Tolls	
-	-	Total Weekly Traffic
\$ -	\$ -	
\$ -	\$ -	Less Toa Baja toll
\$ -	\$ -	

\$ -	\$ -	Remainder revenue for the week
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DT TOA4

ETC	Unpaid Tolls	
9,406	2,855	Total Weekly Traffic
\$ 33,247.10	\$ 10,370.95	
\$ (7,002.75)	\$ (2,141.25)	Less Toa Baja toll
\$ 26,244.35	\$ 8,229.70	

\$ 19,683.26	\$ 6,172.28	Remainder revenue for the week
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Report Date Starting: 12/1/2022
Report Date Ending: 12/7/2022

Report Date: 12/12/2022

Unrecovered Revenue From Unpaid Tolls to the PRHTA

\$346,851.15

Unrecovered Revenue From Unpaid Tolls (Bridge)

\$64,898.15

Unrecovered Revenue From Unpaid Tolls PR22/PR5

\$423,850.30

Unrecovered Revenue From Unpaid Tolls Guaynabo

\$5,537.95

V-Tolls Off Period

	class1	class2	class3	class4	class5	class6	class7	<u>TOTAL</u>
PR-22								
DTL Este Left Lane								
<u>V-Tolls</u>	\$43.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	<u>\$43.70</u>
DTL Este Right Lane								
<u>V-Tolls</u>	\$14.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	<u>\$14.00</u>
DTL Oeste Lane								
<u>V-Tolls</u>	\$62.80	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	<u>\$62.80</u>
Manati EB ORT								
<u>V-Tolls</u>	\$30,213.55	\$1,162.75	\$507.50	\$238.00	\$957.60	\$38.50	\$0.00	<u>\$33,117.90</u>
Arecibo WB Mainline ORT								
<u>V-Tolls</u>	\$22,851.80	\$697.00	\$189.60	\$78.40	\$310.00	\$31.50	\$0.00	<u>\$24,158.30</u>
Vega Alta EB ORT								
<u>V-Tolls</u>	\$23,935.15	\$866.55	\$300.60	\$120.40	\$582.50	\$33.60	\$0.00	<u>\$25,838.80</u>
DT RIO1								
<u>V-Tolls</u>	\$9,288.40	\$5.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	<u>\$9,293.40</u>
Toa Baja WB ORT								
<u>V-Tolls</u>	\$30,881.95	\$884.05	\$392.35	\$88.15	\$602.50	\$47.60	\$0.00	<u>\$32,896.60</u>
Hatillo EB ORT								
<u>V-Tolls</u>	\$9,854.25	\$385.65	\$194.40	\$118.25	\$322.50	\$16.80	\$0.00	<u>\$10,891.85</u>
Buchanan WB ORT								
<u>V-Tolls</u>	\$58,840.25	\$1,419.00	\$939.55	\$133.30	\$1,232.50	\$50.40	\$0.00	<u>\$62,615.00</u>

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DT TOA3								
<u>V-Tolls</u>	\$6,403.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	<u>\$6,403.65</u>
Arecibo EB ORT								
<u>V-Tolls</u>	\$23,697.80	\$974.00	\$350.40	\$226.80	\$582.80	\$42.00	\$0.00	<u>\$25,873.80</u>
DT TOA4								
<u>V-Tolls</u>	\$6,219.15	\$7.25	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	<u>\$6,226.40</u>
Manati WB ORT								
<u>V-Tolls</u>	\$26,544.85	\$885.65	\$370.00	\$165.20	\$633.15	\$35.00	\$0.00	<u>\$28,633.85</u>
Vega Alta WB ORT								
<u>V-Tolls</u>	\$25,916.05	\$720.50	\$498.60	\$139.75	\$542.50	\$30.80	\$0.00	<u>\$27,848.20</u>
Rampa Factor WB ORT								
<u>V-Tolls</u>	\$1,404.90	\$26.60	\$16.20	\$6.30	\$12.00	\$0.00	\$0.00	<u>\$1,466.00</u>
Toa Baja EB ORT								
<u>V-Tolls</u>	\$36,476.00	\$1,429.30	\$815.30	\$242.85	\$1,447.50	\$117.60	\$0.00	<u>\$40,528.65</u>
Hatillo WB ORT								
<u>V-Tolls</u>	\$11,207.20	\$384.25	\$144.00	\$88.80	\$212.50	\$16.80	\$0.00	<u>\$12,033.55</u>
Buchanan EB ORT								
<u>V-Tolls</u>	\$51,730.65	\$1,204.70	\$729.00	\$120.40	\$685.00	\$39.20	\$0.00	<u>\$54,708.95</u>
Sub Total	\$375,586.10	\$11,052.25	\$5,447.50	\$1,748.70	\$8,323.05	\$499.80	\$0.00	<u>\$402,655.40</u>
Total	\$396,188.35	\$11,337.25	\$5,673.00	\$1,778.60	\$8,431.05	\$532.05	\$0.00	<u>\$423,950.30</u>
CLF								
CLF NB								
<u>V-Tolls</u>	\$2,899.50	\$38.75	\$3.30	\$1.95	\$0.00	\$0.00	\$0.00	<u>\$2,943.50</u>
CLF SB								
<u>V-Tolls</u>	\$2,631.00	\$26.25	\$33.00	\$1.95	\$2.25	\$0.00	\$0.00	<u>\$2,694.45</u>
Sub Total	\$5,530.50	\$65.00	\$36.30	\$3.90	\$2.25	\$0.00	\$0.00	<u>\$5,637.95</u>
PR-08								
Bayamon NB ORT								
<u>V-Tolls</u>	\$10,083.30	\$128.25	\$89.10	\$1.45	\$30.80	\$6.45	\$0.00	<u>\$10,340.15</u>
Bayamon SB ORT								
<u>V-Tolls</u>	\$10,518.95	\$156.75	\$138.40	\$30.45	\$77.40	\$25.60	\$0.00	<u>\$10,945.75</u>

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Sub Total	\$20,812.25	\$285.00	\$225.50	\$31.90	\$108.00	\$32.25	\$0.00	\$21,294.80
PR-17								
Teodoro Moscoso								
<u>V-Tolls</u>	\$63,065.55	\$1,710.00	\$97.50	\$0.00	\$25.10	\$0.00	\$0.00	<u>\$64,898.15</u>
Sub Total	\$63,065.55	\$1,710.00	\$97.50	\$0.00	\$25.10	\$0.00	\$0.00	\$64,898.15
PR-18								
DTLC PR18 Entrance								
<u>V-Tolls</u>	\$12,789.75	\$8.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	<u>\$12,797.75</u>
Sub Total	\$12,789.75	\$8.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12,797.75
PR-20								
Guaynabo								
<u>V-Tolls</u>	\$4,861.40	\$465.50	\$318.20	\$161.70	\$477.05	\$49.40	\$2.80	<u>\$6,336.15</u>
Sub Total	\$4,861.40	\$465.50	\$318.20	\$161.70	\$477.05	\$49.40	\$2.80	\$6,336.15
PR-52								
Juana Diaz ORT Este								
<u>V-Tolls</u>	\$10,277.70	\$254.90	\$171.90	\$281.40	\$288.60	\$29.40	\$82.15	<u>\$11,385.65</u>
Juana Diaz Oeste								
<u>V-Tolls</u>	\$180.15	\$8.40	\$7.80	\$0.00	\$0.00	\$0.00	\$0.00	<u>\$196.35</u>
Caguas Norte								
<u>V-Tolls</u>	\$63,885.50	\$696.15	\$1,887.05	\$529.20	\$1,726.10	\$338.00	\$5.75	<u>\$69,067.75</u>
DTLC Montañita								
<u>V-Tolls</u>	\$5,770.25	\$3.90	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	<u>\$5,773.75</u>
DTLC PR1 AM								
<u>V-Tolls</u>	\$834.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	<u>\$834.00</u>
Salinas Ramp								
<u>V-Tolls</u>	\$2,300.20	\$81.75	\$37.00	\$11.25	\$80.10	\$7.20	\$0.00	<u>\$2,517.50</u>
Caguas Sur								
<u>V-Tolls</u>	\$23,083.50	\$1,387.80	\$800.60	\$195.30	\$1,903.95	\$273.00	\$4.70	<u>\$27,648.85</u>
Ponce								
<u>V-Tolls</u>	\$18,146.60	\$1,121.10	\$607.65	\$174.30	\$983.35	\$182.40	\$2.80	<u>\$21,228.30</u>
DTLC Caguas Norte								

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<u>V-Tolls</u>	\$16,613.05	\$6.10	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	<u>\$16,619.15</u>
Sollnas								
<u>V-Tolls</u>	\$22,775.90	\$1,011.05	\$876.45	\$379.60	\$2,549.25	\$272.00	\$7.55	<u>\$27,871.80</u>
DTLC PR1 PM								
<u>V-Tolls</u>	\$433.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	<u>\$433.75</u>
Juana Diaz ORT Oeste								
<u>V-Tolls</u>	\$7,777.95	\$318.60	\$197.40	\$182.65	\$157.25	\$0.00	\$260.75	<u>\$8,894.60</u>
Juana Diaz Este								
<u>V-Tolls</u>	\$162.15	\$9.45	\$1.30	\$0.00	\$1.85	\$0.00	\$0.00	<u>\$174.75</u>
Montehiedra								
<u>V-Tolls</u>	\$3,046.25	\$31.70	\$17.00	\$7.50	\$4.65	\$1.80	\$2.05	<u>\$3,130.95</u>
Sub Total	\$175,286.95	\$4,950.10	\$4,604.15	\$1,761.20	\$7,695.10	\$1,113.80	\$365.85	<u>\$195,777.15</u>
PR-33								
Hucar								
<u>V-Tolls</u>	\$7,760.70	\$258.30	\$210.60	\$69.30	\$434.35	\$7.80	\$0.00	<u>\$8,741.05</u>
Humacao Norte								
<u>V-Tolls</u>	\$8,829.70	\$272.70	\$114.30	\$34.65	\$113.15	\$7.80	\$0.00	<u>\$9,372.30</u>
Celba								
<u>V-Tolls</u>	\$6,141.25	\$134.40	\$93.60	\$22.05	\$25.55	\$7.80	\$0.00	<u>\$6,424.65</u>
Guayama								
<u>V-Tolls</u>	\$7,352.20	\$341.25	\$110.50	\$30.40	\$96.20	\$8.40	\$0.00	<u>\$7,938.95</u>
Humacao Sur								
<u>V-Tolls</u>	\$9,557.10	\$476.70	\$184.60	\$56.70	\$127.75	\$27.30	\$0.00	<u>\$10,430.15</u>
Sub Total	\$37,840.95	\$1,483.35	\$713.60	\$213.10	\$797.00	\$59.10	\$0.00	<u>\$40,907.10</u>
PR-68								
PR68 Rampa Norte								
<u>V-Tolls</u>	\$777.00	\$4.50	\$31.50	\$2.00	\$20.25	\$0.00	\$0.00	<u>\$835.25</u>
Rio Grande ORT Oeste								
<u>V-Tolls</u>	\$12,970.00	\$108.25	\$193.25	\$238.00	\$68.75	\$0.00	\$19.50	<u>\$13,587.75</u>
PR68 Rampa Sur								
<u>V-Tolls</u>	\$624.00	\$1.50	\$36.75	\$8.00	\$9.00	\$0.00	\$0.00	<u>\$679.25</u>

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Rio Grande ORT Este

<u>V-Tolls</u>	\$11,919.75	\$163.25	\$125.00	\$176.00	\$74.25	\$0.00	\$16.25	<u>\$12,474.50</u>
Carolina								
<u>V-Tolls</u>	\$60,364.50	\$3,072.00	\$9.75	\$0.00	\$0.00	\$0.00	\$0.00	<u>\$63,446.25</u>
Sub Total	\$88,855.25	\$3,349.50	\$398.25	\$424.00	\$172.25	\$0.00	\$35.75	\$91,033.00
Total but PR05/PR22	\$385,830.35	\$12,031.45	\$6,168.00	\$2,583.90	\$9,168.75	\$1,222.30	\$404.50	\$417,387.25
Total	\$782,028.70	\$23,368.70	\$11,839.00	\$4,342.50	\$17,599.80	\$1,754.35	\$404.50	\$841,337.55

	<u>Total collected (MTD)</u>	<u>Days 1 - 5</u>	<u>Day 6 - 7</u>
PR-52, 66, 53 & 20	\$334,063.40	\$258,045.45	\$76,007.95
MAG	\$5,637.95	\$3,904.25	\$1,733.70
APR	\$64,898.15	\$47,493.20	\$17,404.95
PR-18	\$12,797.75	\$9,300.75	\$3,497.00
DTL Metropistas	\$21,923.45	\$16,160.65	\$5,762.80
PR-22 & PR-5	<u>\$402,026.85</u>	<u>\$279,302.40</u>	<u>\$122,724.45</u>
Total collected	\$841,337.55	\$614,206.70	\$227,130.85

PR-22 & PR-5	\$	191,322.65
Total collected	\$	308,200.65

Assumption		Effective Enforcement
Metropistas Sub-account Balance Required Balance	\$	25,000,000 No

Compensation Calculation

Unpaid Balance	\$	88,467.27
Inflows W2	\$	191,322.65
Remaining Unpaid balance (if positive is to be compensated from metro-subaccount)	\$	-

Metro-subaccount Beging Balance	\$	31,500,000	- balance should be brought from first period of the account ending balance
Amount available for funding	\$	102,855.38	
Is Balance lower than RMB? (Yes, No)			
Amount compensating RMB			
Metro-subaccount Ending Balance	\$	31,500,000	- balance should be brought from ending balance of the prior period
Amount available for HTA after waterfall on MP		102,855.38	

Amount necessary to fund required minimum Balance


Minimum Required	\$	25,000,000
Minimum Required	\$	15,000,000

Metropistas Delinquent Amounts	\$	88,467.27
Metro-subaccount funding		-
HTA Roads Delinquent Amounts	\$	99,071.95
Other Roads Delinquent Amounts	\$	17,806.05
Total Distribution	\$	205,345.27
Last waterfall event for HTA (Distribution HTA from excess)	\$	102,855.38
Check	\$	-

DELINQUENT AMOUNTS DISTRIBUTIONS

Metropistas Delinquent Amounts (to be paid to metropistas)	\$	88,467.27
Teodoro Moscoso (Bridge) Delinquent Amounts (to be paid to APR)	\$	-
MAG Delinquent Amounts (to be paid to MAG)	\$	-
HTA Roads Delinquent Amounts (to be paid to HTA)	\$	99,071.95
APR excess Delinquent Amounts (to be paid to HTA)	\$	14,754.80
MAG excess Delinquent Amounts (to be paid to HTA)	\$	1,051.25
Metropistas excess Delinquent Amounts (to be paid to HTA)	\$	102,855.38
TOTAL	\$	308,200.65

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Schedule 9
Secured Borrowing Limit
(See attached.)

6/6/2017

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**SCHEDULE 9
SECURED BORROWING LIMIT**

Secured Borrowing Limit			
Start Date	End Date	Year	Maximum Outstanding Debt Principal (\$)
19-Dec-23	31-Dec-23	2023	1,520,554,767.24
1-Jan-24	31-Dec-24	2024	1,520,554,767.24
1-Jan-25	31-Dec-25	2025	1,520,554,767.24
1-Jan-26	31-Dec-26	2026	1,520,554,767.24
1-Jan-27	31-Dec-27	2027	1,520,554,767.24
1-Jan-28	31-Dec-28	2028	2,379,860,300.75
1-Jan-29	31-Dec-29	2029	2,379,860,300.75
1-Jan-30	31-Dec-30	2030	2,374,200,496.77
1-Jan-31	31-Dec-31	2031	2,368,595,778.88
1-Jan-32	31-Dec-32	2032	2,361,943,360.54
1-Jan-33	31-Dec-33	2033	2,479,200,650.77
1-Jan-34	31-Dec-34	2034	2,468,968,302.18
1-Jan-35	31-Dec-35	2035	2,441,931,871.30
1-Jan-36	31-Dec-36	2036	2,423,493,410.90
1-Jan-37	31-Dec-37	2037	2,397,661,159.93
1-Jan-38	31-Dec-38	2038	2,369,713,529.84
1-Jan-39	31-Dec-39	2039	2,353,864,004.98
1-Jan-40	31-Dec-40	2040	2,325,691,567.67
1-Jan-41	31-Dec-41	2041	2,289,070,005.28
1-Jan-42	31-Dec-42	2042	2,246,564,730.80
1-Jan-43	31-Dec-43	2043	2,226,583,394.10
1-Jan-44	31-Dec-44	2044	2,190,466,128.10
1-Jan-45	31-Dec-45	2045	2,145,922,034.64
1-Jan-46	31-Dec-46	2046	2,081,519,570.20
1-Jan-47	31-Dec-47	2047	1,993,846,216.37
1-Jan-48	31-Dec-48	2048	1,915,507,919.37
1-Jan-49	31-Dec-49	2049	1,810,696,085.16
1-Jan-50	31-Dec-50	2050	1,685,149,317.30
1-Jan-51	31-Dec-51	2051	1,547,419,826.61
1-Jan-52	31-Dec-52	2052	1,392,945,036.13
1-Jan-53	31-Dec-53	2053	1,246,063,707.85
1-Jan-54	31-Dec-54	2054	1,076,203,001.48
1-Jan-55	31-Dec-55	2055	875,873,514.04
1-Jan-56	31-Dec-56	2056	648,407,100.59
1-Jan-57	31-Dec-57	2057	397,044,873.16
1-Jan-58	31-Dec-58	2058	-
1-Jan-59	31-Dec-59	2059	-
1-Jan-60	31-Dec-60	2060	-
1-Jan-61	31-Dec-61	2061	-
1-Jan-62	31-Dec-62	2062	-
1-Jan-63	19-Dec-63	2063	-

Schedule 10
Project Contracts
(See attached.)

8/17/17

A handwritten signature, possibly reading "J. J.", consisting of a vertical line and a diagonal stroke.

**SCHEDULE 10
PROJECT CONTRACTS**

I. Assigned Contracts

A. The Emovis Contract.

The Authority expects to amend the Emovis Contract on or prior to the Closing Date to include:

1. The implementation of the tolling systems for the new PR-177 ramp;
2. The extension of the term of the agreement until June 30, 2024; and
3. Emovis' consent to the assignment of the Authority's rights under the agreement to the Concessionaire as of the Closing Date.

II. Retained Contracts

- A. *Electronic Toll Collection System Operations and Maintenance and Customer Service Center Management and Operations – Master Services Agreement*, dated as of February 4, 2015, as amended, by and among the Authority, Autopistas Metropolitanas de Puerto Rico, LLC and Professional Account Management, LLC (as assignee of Gila, LLC).**

III. Authority Capital Improvement Contracts

A. Retained Capital Improvement Projects

1. PR-20

- i. Contract No. 2020-000032, dated as of August 1, 2019, by and between Authority and Desarrolladora J.A., Inc. (Project Number AC-002065).

2. PR-52

- i. *Contract No. 2021-00130*, dated as of October 27, 2020, by and between Authority and Ferrovial Construcción PR, LLC. (Project Number AC-520120).
- ii. Contract No. 2020-000137, dated as of October 31, 2019, by and between Authority and L.P.C. & D., Inc. (Project Number AC-520125).
- iii. *Contract No. 2023-000021*, dated as of July 11, 2022, by and between Authority and EJ Construction, S.E. (Project Number AC-520129).
- iv. *Contract No. 2022-000305*, dated as of June 16, 2022, by and between Authority and Prime Electric, Corp. (Project Number AC-520139).

- v. Contract No. 2020-000132, dated as of October 29, 2019, by and between Authority and Del Valle Group, SP (Project Number AC- 520144).
- vi. Contract No. 2022-000070, dated as of August 12, 2021, by and between Authority and Desarrolladora J.A., Inc. (Project Number AC-520146).
- vii. Contract No. 2022-000244, dated as of March 10, 2022, by and between Authority and EJ Construction, S.E. (Project Number AC-800510).
- viii. Contract No. 2023-000179, dated as of October 18, 2022, by and between Authority and Lineas de Puerto Rico, Inc. (Project Number AC-220062).
- ix. Contract No. 2023-000209, dated as of November 16, 2022, by and between Authority and LPC Contractors, Inc. (Project Number AC-801652).
- x. Contract No. 2023-000376, dated as of May 1, 2023, by and between Authority and Palmatt Construction Corp. (Project Number AC-220014).
- xi. Contract No. 2024-000083, dated as of August 7, 2023, by and between Authority and Ferrovial Construcción PR, LLC (Project Number AC-220059).

3. PR-53

- i. Contract No. 2022-000174, dated as of November 9, 2021, by and between Authority and Ferrovial Construcción PR, LLC. (Project Number AC-005384).
- ii. Contract No. 2022-000153, dated as of October 29, 2021, by and between Authority and Del Valle Group, S.P. (Project Number AC-005386).
- iii. Contract No. 2022-000215, dated as of February 11, 2022, by and between Authority and AM Electric, Inc. (Project Number AC-005390).

4. PR-66

- i. Contract No. 2019-000156, dated as of December 7, 2018, by and between Authority and Caribbean Sign Supplies Manufacturers, Inc. (Project Number AC-006639)

B. ORT Improvement Project

1. *Services Agreement*, dated as of July 29, 2022, as amended, by and between the Authority and Sice, Inc.

Schedule 11
Project Interface Plan
(See attached.)

4/1/2017
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SCHEDULE 11 PROJECT INTERFACE PLAN

Section 1. Authority Capital Improvement Projects. The Authority shall comply, and shall require its Contractors to comply, with those provisions of the Authority Capital Improvement Contracts that require that: (a) work related to the Authority Capital Improvement Projects be conducted during those hours permitted in such contract and (b) any new overpasses, utilities or other assets constructed as part of the Authority Capital Improvement Projects be designed with sufficient lateral and vertical clearance to allow expansion of the Toll Roads in the future, it being understood that (i) the Authority shall not be required to amend any of the Authority Capital Improvement Contracts to include such provisions or to incur any additional costs with respect to these obligations other than those costs incurred under the Authority Capital Improvement Contracts as of the Bid Date, and (ii) the Authority shall comply with any Authority Capital Improvement Contract entered into by the Authority after the Bid Date and shall enforce provisions therein that specifically contemplate the restrictions set forth in subclauses (a) and (b) of this Section 1 of this Schedule 11.

Section 2. Cooperation

(a) *Cooperation of Parties.* The Authority shall keep the Concessionaire fully informed of the project schedule for the Authority Capital Improvement Projects and shall undertake all Authority Project Work in compliance with the requirements of the applicable Authority Capital Improvement Contract.

(i) If any project activity is expected to disrupt traffic on any of the Toll Roads in a manner not contemplated by the Authority Capital Improvement Contracts, the Authority shall provide prior written notice to the Concessionaire at least seven (7) days prior to such activity.

(ii) By written notice to the other Party in accordance with the following terms, any Party may convene a meeting of the designated representatives of the Parties and their respective Contractors for the purpose of conferring or coordinating on matters related to the execution of any of the Authority Capital Improvement Projects (such meeting of representatives, the "Project Committee"): 

(A) The Project Committee may consist of up to four (4) persons, with one (1) person designated by the Authority as its representative (the "Authority's Interface Representative"), one (1) person designated by the Concessionaire as its representative (the "Concessionaire's Interface Representative"), one (1) person designated by the Authority as the representative of any of the Authority's Contractors responsible for any of the Authority Capital Improvement Projects, and one (1) person designated by the Concessionaire as the representative of any of the Concessionaire's Contractors, including the Operator if the Operator is not the Concessionaire; *provided, that* any Project Committee comprised of less than four (4) members must always have an Authority's Interface Representative and a Concessionaire's Interface

Representative.

(B) The members of the Project Committee may discuss any matters relevant to the Authority Project Work, including execution quality, quality of materials, project schedule, interference with any Concessionaire Capital Improvement Project and maintenance of traffic relating thereto.

(C) No meeting of the Project Committee shall be conducted without the Authority's Interface Representative and the Concessionaire's Interface Representative being present at such meeting.

(b) *Rights of Inspections during Execution.* The Concessionaire shall have the right to inspect, in part or in whole, any of the Authority Project Work at any reasonable time and place after providing the Authority with reasonable prior written notice of such time and place, including through the performance of tests (if required and available under the relevant Authority Capital Improvement Contract), prior to the Concessionaire's acceptance of any particular Authority Project Work to ensure compliance with the requirements of the Operating Standards. If the Concessionaire reasonably finds that the Authority Project Work does not comply with the applicable Authority Capital Improvement Contract for such work, the Concessionaire shall promptly provide written notice thereof to the Authority. Failure by the Concessionaire to inspect any Authority Capital Improvement Project shall not constitute a waiver of any of the rights of the Concessionaire under the Agreement and shall not be construed as an acceptance of such Authority Project Work. Notwithstanding the foregoing, acceptance of any Authority Project Work relating with bridges shall be at all times subject to the execution of the NBIS inspection.

(c) *Inspection of Materials.* The Concessionaire shall have the right to inspect all materials used for the execution of any of the Authority Capital Improvement Projects at any reasonable time and place after providing the Authority with reasonable prior written notice of such time and place. If the Concessionaire reasonably finds that quality of materials used in the Authority Project Work does not comply with the applicable Authority Capital Improvement Contract for such work, the Concessionaire shall promptly provide written notice thereof to the Authority. Failure by the Concessionaire to inspect any materials used for the execution of any Authority Capital Improvement Projects shall not constitute a waiver of any of the rights of the Concessionaire under the Agreement and shall not be construed as an acceptance of such Authority Project Work.

(d) *Quality of Workmanship.* The Authority shall, and shall cause its Contractors to, perform the Authority Project Work and complete or substantially complete, as applicable the Authority Capital Improvement Projects in accordance with the applicable Authority Capital Improvement Contracts and applicable guidelines for construction promulgated by the Puerto Rico Highways and Transportation Authority (PRHTA) Special Provisions and Standard Specifications.

(e) *Damage of Roadway Due to Construction.* The Concessionaire shall notify the Authority in writing immediately after any discovery by the Concessionaire (or by any of its Contractors) of any material damage to the Main Line directly resulting from the Authority Project Work, and the Authority shall (and shall cause its Contractors to) repair such damage to the standard required by the Operating Standards, in each case at the expense of the Authority (or such Contractors).

(f) *Coordination with any Concessionaire Capital Improvement Project.* The Concessionaire shall notify the Authority's Interface Representative at the Project Committee of the existence of any interference that any Authority Capital Improvement Project is causing with any Concessionaire Capital Improvement Project. The Authority and the Concessionaire shall take reasonable steps to coordinate the execution of the affected Authority Capital Improvement Project and Concessionaire Capital Improvement Project.

(g) *Maintenance of Traffic during Authority Capital Improvement Projects.* The Authority shall, and shall cause its Contractors to, conduct the Authority Capital Improvement Works in accordance with the Maintenance of Traffic Plan set forth in the Authority Capital Improvement Project Contracts, or any addenda to the Authority Capital Improvement Project Contract and in accordance with the following restrictions:

(i) No Main Line lane closures in the Toll Roads are permitted between 5:00 a.m. to 9:00 a.m. and between 3:00 p.m. and 9:00 p.m. during each Monday, Tuesday, Wednesday, Thursday and Friday that is a Business Day (such times of day during such Business Days, the "Toll Roads Peak Period").

(ii) All work requiring the closure of any traffic lane shall be performed during times other than the Toll Roads Peak Period.

(iii) Shoulder closures, at any time, shall be in accordance and as prescribed in the Authority Capital Improvement Project Contracts.

(iv) Main Line travel lanes shall maintain a minimum width equal to or greater than 3.35 meters at all times.

(h) *Reasonable Change Orders and Deviations.* No fewer than ten (10) days before the Authority approves any Reasonable Change Order or Deviation pursuant to any Authority Capital Improvement Project, the Authority shall consult with the Concessionaire regarding such Reasonable Change Order or Deviation.

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Schedule 12
ETC Service Terms
(See attached.)

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SCHEDULE 12 ETC SERVICE TERMS

All capitalized terms used in this Schedule 12 and not otherwise defined herein shall have the meaning ascribed to them in Section 1.1 of the Toll Road Concession Agreement, dated _____, 2023, by and between the Puerto Rico Highways and Transportation Authority and Puerto Rico Tollroads, LLC (the "Concession Agreement").


Section 1. Background/Definitions


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- 1.1. As of the Effective Date, the Authority is a party to that certain Master Service Agreement, dated as of February 4, 2015 (as amended, and including all of its Annexures and Attachments, the "MSA"), by and among the Authority, Autopistas Metropolitanas de Puerto Rico, LLC ("Metropistas") and Professional Account Management, LLC ("PAM"), as successor in interest to Gila LLC. The MSA provides for the operation and maintenance of the CSC for the Island Network and the RSE/BO of the Toll Roads (except for the roadside equipment for the PR-52 DTL (as defined in Schedule 4)).
 - 1.2. As of the Effective Date, the Authority is a party to that certain Agreement for the Provisions, Design-Build, Operation and Maintenance of Roadside Tolling System, (the "ORT Improvement Contract"), with notice to proceed dated as of September 15, 2022, by and between the Authority and Sice, Inc. ("SICE"). The ORT Improvement Contract provides for the design, construction, implementation, operation and maintenance of a new RSE/BO for the Toll Roads (except for the roadside equipment for the PR-52 DTL).
 - 1.3. As of the Effective Date, the Authority is a party to that certain Agreement for the Provision of Toll Collection Equipment and Services, dated as November 5, 2020, as amended (the "Emovis Contract"), by and between the Authority and Emovis Operations Puerto Rico, Inc. ("EMOVIS"). The Emovis Contract provides for the operation and maintenance of the RSE/BO of the PR-52 DTL.
 - 1.4. The purposes of this Schedule 12 are, inter alia: (a) to establish the Concessionaire's rights with respect to the MSA in the period during which the Concessionaire is not a party to the MSA; and (b) set forth (i) certain rights and obligations of the Parties with respect to the procurement of replacement ETC Service Contracts, including the replacement for the MSA, and (ii) certain parameters of the Parties' rights vis-à-vis one another with respect to the exercise of certain rights under any such replacement ETC Service Contract;
 - 1.5. No provision contained in this Schedule 12 shall be deemed to constitute an amendment, waiver, modification or consent in respect of any other term and condition set forth in the Concession Agreement (or otherwise a waiver of any of the rights of the Parties contemplated in this Schedule 12 or otherwise in the Concession Agreement) unless expressly indicated herein.

- 1.6. Unless otherwise specified or the context otherwise requires, for the purposes of this Schedule 12, the following terms have the meanings set forth below. Any reference to "its tolled roads" with respect to a Service Recipient means, (a) in the case of the Concessionaire, the Toll Roads, and (b) in the case of the Authority, any toll roads in the Island Network that are operated, maintained and managed by the Authority (which, for the avoidance of doubt, does not include the Toll Roads):

"CSC" means the provision of services related to the operation and maintenance of a customer service center related to central systems by the relevant ETC Service Provider (including, for the avoidance of doubt, PAM pursuant to the MSA), in accordance with the terms of the applicable ETC Service Contract or in accordance with the terms of this Schedule 12. As contemplated in this Schedule 12, and solely to the extent permitted under applicable Law, there shall only be one ETC Service Provider in respect of a CSC for the Island Network unless otherwise agreed to between the Authority and the Concessionaire.

"ETCS" means the electronic tolling system contemplated by any ETC Service Contract, which shall be comprised of a CSC, as well as, to the extent applicable, the RSE/BO services.

 "ETC Service Contract" means the then current ETC Service Contract (including, without limitation, the MSA) and any replacement New ETC Service Contract entered into in accordance with the terms hereof. For the avoidance of doubt, although the MSA includes RSE/BO services, any replacement New ETC Service Contract will not include RSE/BO services as RSE/BO services will initially be provided under the ORT Improvement Contract and the Concessionaire is required pursuant to Section 2.3 of this Schedule 12 to deploy and operate the RSE/BO services,

 "ETC Service Provider" means the provider of CSC services (subject to Section 5.2(b) of this Schedule 12) for the Island Network, under the then current ETC Service Contract or any replacement New ETC Service Contract, including, without limitation, as of the date hereof, PAM (it being understood and agreed by the Parties that no ETC Service Provider shall be deemed to be a Contractor of the Concessionaire pursuant to the Concession Agreement).

"Island Network" has the meaning set forth in Section 5.1 of this Schedule 12.

"New ETC Service Contract" has the meaning set forth in Section 5.1 of this Schedule 12.

"RSE/BO" means the provision of roadside equipment (and related services), data collection services and transactional "back office" operations as contemplated by any RSE/BO Service Contract.

"RSE/BO Service Contracts" means the then current RSE/BO service contracts (including, without limitation, the MSA, EMOVIS Contract and ORT Improvement Contract) and any replacement RSE/BO Service Contract(s) entered into in accordance with the terms hereof.

"RSE/BO Service Providers" means the providers of RSE/BO services (subject to Section

2.2(b) of this Schedule 12) for the Toll Roads, under the then current RSE/BO Service Contracts, including, without limitation, as of the date hereof, PAM and EMOVIS.

"Service Recipient" shall mean the Authority or Concessionaire, as the context requires, in respect of each parties receipt of services under the ETC Service Contract.

Section 2. ETCS services and contracts

2.1 Set forth below is a list of the entities that provide ETCS services to the Authority as of the Closing Date and the applicable contract pursuant to which such services are provided:

- (a) PAM through the MSA (Retained Contract), providing CSC for the Island Network and RSE/BO (except for the roadside equipment for the PR-52 DTL); and
- (b) EMOVIS, through the EMOVIS Contract (Assigned Contract), providing RSE/BO for the PR-52 DTL.

2.2 Upon substantial completion of the ORT Improvement Project, SICE will provide the RSE/BO (except for the RSE/BO for the PR-52 DTL) through the ORT Improvement Contract (Authority Capital Improvement Contract).

Any amendment to the ORT Improvement Contract shall require the prior written consent of the Concessionaire; *provided, that* any amendment to the ORT Improvement Contract that does not relate to or have any effect on the services otherwise provided to the Concessionaire or the Toll Roads, shall not require the consent of the Concessionaire.

2.3 During the Term, the Concessionaire shall, at its own expense, deploy and operate (or subcontract with another entity to deploy and operate) RSE/BO services in respect of the Toll Roads, including the Concessionaire Bidirectional Project, ensuring that such services are in compliance with the quality requirements set forth in the Concession Agreement and that such services are fully interoperable with the electronic toll collection systems used on the Island Network in accordance with Section 2.3(d) of Schedule 4 and with the ETC Service Provider systems and processes.

Section 3. Rights and Obligations with Respect to the Operation and Maintenance of the MSA

3.1. *Scope.* Applicable to the extent that the MSA is a Retained Contract and the Concessionaire is not a party of it. To the extent that the New ETC Service Contract is not entered into by April 29, 2025, the Concessionaire shall automatically become a party to the existing ETC Service Contract.

3.2. *Enforcement of Authority Rights.* The Authority agrees to (a) use Reasonable Efforts to cause PAM to perform its duties and obligations in accordance with the MSA, (b) enforce its rights and perform its obligations under the MSA, any guaranty agreements, performance bonds, letters of credit and other security provided by or on behalf of PAM as such rights relate to the operation and maintenance of the ETCS with respect to the Toll Roads, as directed by the Concessionaire in accordance with the Concessionaire's instructions with respect to the Toll Roads, (c) require PAM to deliver to the Escrow Agent in accordance with the Escrow Agreements any documents or notices as may be required under the relevant Escrow Agreement, including the Traffic Reports (as defined in the Original Escrow Agreement) and the Delinquent Amounts Reports (as defined in the New Escrow Agreement), (d) instruct the Escrow Agent to (i) pay any and all tolls collected in respect of the Toll Roads directly to the Concessionaire in accordance with the Original Escrow Agreement and (ii) Delinquent Amounts (or other amounts) to the Concessionaire in accordance with the New Escrow Agreement, and (e) if the Authority receives any amount or funds that the Concessionaire must receive in accordance with clause (c) above or otherwise, transfer such amounts or funds to the Concessionaire no later than three (3) Business Days after receipt of such amounts by the Authority.

3.3. *Notification of Service Contract Violation.* Upon the Authority's receipt of:

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- (a) a written notice from the Concessionaire with a detailed explanation of an act or omission by PAM relating to the Toll Roads that may constitute a violation of PAM's duties or obligations under the MSA (each, a "Service Contract Violation") or other claim in respect to the Services (as defined in the MSA) relating to the Toll Roads, including with respect to any warranty, Defect (as defined in the MSA), indemnity or insurance provided thereunder (each, a "Claim");
 - (b) supporting documentation or data of such alleged Service Contract Violation or Claim; and
 - (c) a written request from the Concessionaire that the Authority take a specific action that the Authority is permitted to take under MSA to enforce its rights thereunder,

the Authority shall (x) promptly notify PAM of such Service Contract Violation or Claim and request PAM to take all appropriate remedial actions to cure such Service Contract Violation or actions to respond to such Claim and perform the requested obligations under the MSA in respect of such Claim and to take such other reasonable action as is requested by the Concessionaire pursuant to clause (c) above, and (y) provide the Concessionaire with a copy of such notice no later than two (2) Business Days following the date upon which the Authority provided such notice to PAM. The Authority agrees to follow all reasonable instructions provided and decisions made by the Concessionaire with respect to the remediation of such Service Contract Violation, subject to the provisions of the preceding sentence. Any reasonable costs or expenditures incurred by the Authority in connection therewith shall be promptly reimbursed by the Concessionaire. The Authority shall provide the Concessionaire with copies of any and all communications in connection with such Service Contract Violation, and upon request of the Concessionaire, shall

permit the Concessionaire to participate in any and all discussions and negotiations with PAM in connection therewith, as provided in Section 3.4(b) of this Schedule 12.

3.4. *Disputes.*

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- (a) The Concessionaire or the Authority may submit any dispute, among themselves, with respect to the existence of any Service Contract Violation or other violation of this Schedule 12 in accordance with the dispute resolution procedures set forth in Article 19 of the Concession Agreement.
 - (b) The Authority shall submit any dispute with respect to any Service Contract Violation, Claim or other violation of the MSA asserted by the Concessionaire in accordance with the dispute resolution procedures set forth in Section 32 of the MSA.
 - (c) With respect to any meetings, negotiations or dispute resolution process between the Authority (either on its own behalf or on behalf of the Concessionaire) and PAM (or among any other Service Recipient (as defined in the MSA)) that relates to the Toll Roads, the Authority agrees to:
 - (i) provide the Concessionaire with copies of all communications, documents and information relating thereto;
 - (ii) permit the Concessionaire to participate in any such meetings, negotiations and processes; and
 - (iii) not conclude or resolve any such negotiations or dispute resolution process or reach any settlement with respect thereto without the prior written consent of the Concessionaire, which consent shall not be unreasonably withheld or denied.

3.5. *Amounts Recovered by the Authority.* The Authority agrees to pay to the Concessionaire all amounts recovered by the Authority from PAM related to a Service Contract Violation, reduced by any amounts not indemnified and paid pursuant to Section 3.8(c) of this Schedule 12.

3.6. *Limitations on Authority Liability for ETCS.* Notwithstanding any other provision of the Concession Agreement, the Parties agree that the Authority's liability to the Concessionaire for any breach by PAM of the MSA with respect to the maintenance and operation of the ETCS shall be limited to the amounts actually recovered by the Authority from PAM under the MSA, to the extent such amounts relate to the Toll Roads.

3.7. *Instructions and Notices to ETC Service Provider.* The Authority agrees to provide PAM all notices and instructions the Concessionaire reasonably requests in writing; *provided that* such notices and instructions are not prohibited under the MSA or this Schedule 12.

3.8. *Obligations of the Concessionaire.*

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- (a) *Acknowledgement.* The Concessionaire hereby acknowledges the contractual relationship between PAM and the Authority and shall not interfere with, the duties and obligations owed by the Authority and PAM to each other under the MSA; provided that, in no case shall the Concessionaire's exercise of its rights under this Schedule 12 or under the Concession Agreement constitute such interference.
 - (b) *General.* The Concessionaire agrees to cooperate fully with the Authority and provide reasonable assistance (of a non-monetary nature) to the Authority in connection with any negotiations or dispute resolution process under the MSA involving or affecting the Toll Roads.
 - (c) *Indemnity Obligation of the Concessionaire.* The Concessionaire agrees to indemnify the Authority in full for any Loss suffered by the Authority arising in connection with, or resulting from, any action taken by the Concessionaire (or by the Authority on the Concessionaire's behalf) pursuant to Sections 3.2 and 3.3 of this Schedule 12; provided that the Concessionaire shall not be responsible to indemnify the Authority for any Losses caused by the gross negligence, willful misconduct, or fraud of the Authority, or caused by the breach of the Concession Agreement or this Schedule 12 by the Authority
 - (d) *Payments Relating to the ETCS Maintained by PAM for the Toll Roads.* The Authority shall remain responsible under the terms of the MSA for all payments required to be made by the Authority to PAM thereunder; *provided, however,* that the Concessionaire shall pay to PAM (on behalf of the Authority) each month in arrears (and pro rata for partial months), until the expiration or termination of the MSA, all Fees (as defined in the MSA) owed to PAM under and in accordance with the terms of the MSA, in each case as such Fees relate to the services provided with respect to the Toll Roads, including CSC Fees, CSRT Fees, Merchant Fees, ILR Fees and mailing Fees. .

3.9. *ETCS Prepayment Account.* The Authority agrees to require PAM to deliver to the Concessionaire on a weekly basis, in addition to the applicable Traffic Report (as defined in the Original Escrow Agreement) and the applicable Delinquent Amounts Report (as defined in the New Escrow Agreement), a report prepared by PAM indicating the number and class of vehicles that have driven through each toll plaza in the Toll Roads and, separately, the tolls registered by the ETCS, and such other information as the Concessionaire reasonably requests in cooperation with the Authority and PAM to the extent that information is available under the terms of the MSA.

3.10. *Authority's Notice, Consents and Approvals under the MSA.* Until such time, to the extent applicable, as the Concessionaire becomes a party to the MSA, the following terms shall apply. The Authority may not provide any consent, waiver, approval or notice (written

or otherwise) (each, an "Authority Approval") under the MSA to the extent such Authority Approval relates directly and solely to the operations of the Toll Roads without the prior written consent of the Concessionaire (such consent shall not be unreasonably withheld, conditioned or delayed), including, without limitation:

- (a) any change order under the MSA directly affecting the Toll Roads;
- (b) any notice to proceed in relation to any change order under the MSA affecting the Toll Roads; and
- (c) any notice of termination of the MSA;

provided that, any Authority Approval to the MSA that relates solely and exclusively to roads other than the Toll Roads, and does not have any effect on the services otherwise provided to the Concessionaire under the MSA or any obligation of PAM or right of the Authority thereunder that impacts the same, shall not require the consent of the Concessionaire. The Authority shall promptly and timely act, in accordance with the written instructions of the Concessionaire, to enforce any obligation of PAM under the MSA or to exercise any right afforded to the Authority thereunder that has any effect on the services otherwise provided to the Concessionaire under the MSA or any obligation of PAM in respect of the same. Upon such time as the Concessionaire shall become a party to the MSA, notwithstanding the foregoing, no consent, waiver, approval or other similar action shall be provided by the Authority under the MSA without the prior written consent of the Concessionaire.

For avoidance of doubt, any amendment, modification or supplement of the MSA shall be governed by Section 4 of this Schedule 12 and shall not be deemed an Authority Approval subject to this Section 3.10 of this Schedule 12.

- 3.11. *Payments by PAM.* In the event that, pursuant to the MSA, PAM is obligated to pay the Authority liquidated damages, lost revenues or any other indemnification amounts resulting from a default or non-performance of any of the PAM's obligations under the MSA that relate to or have affected the Toll Roads, the Authority shall promptly, and in any event in no more five (5) Business Days following receipt, remit to the Concessionaire such amounts as relate to PAM's default or non-performance with respect to the Toll Roads (and no amounts which relate to PAM's default or non-performance with respect to other toll roads in Puerto Rico); *provided that* the Authority's obligation to make any payment to the Concessionaire with respect to any default or non-performance pursuant to this Section 3.11 of this Schedule 12 shall be limited to the amounts actually received by the Authority from or on behalf of PAM with respect to any such default or non-performance; *and provided further* that the preceding proviso is solely for the benefit of the Authority and shall not in any way affect the liability of PAM to the Authority for any such default or non-performance pursuant to the MSA.
- 3.12. *Instructions by the Concessionaire.* If the Authority fails to deliver to PAM any instruction requested by the Concessionaire to be delivered to PAM in respect of any

rights of the Authority or obligations of PAM, in each case, under the MSA, in connection with or otherwise affecting the Toll Roads, the Authority hereby agrees and authorizes the Concessionaire to deliver such instructions directly to PAM.

Section 4. Amendment of the MSA

The Authority shall not amend the MSA without the prior written consent of the Concessionaire; *provided, that* any amendment to the MSA that does not relate to or have any effect on the services provided to the Concessionaire or the Toll Roads or any obligation of PAM or right of the Authority in respect of the same, shall not require the consent of the Concessionaire. Notwithstanding the foregoing, at such time, to the extent applicable, as the Concessionaire becomes a party to the MSA, any proposed amendment of the MSA shall directly require the prior written consent of the Concessionaire. The Authority shall provide the Concessionaire with notice and copies of any proposed amendments, modifications, consents, waivers, replacements of or supplements to the MSA at least fifteen (15) days prior to the effective date thereof. The Authority shall provide the Concessionaire with complete, correct and fully executed copies of any amendment, modification, consent, waiver, replacement or supplement of or to the MSA within ten (10) days following execution thereof.

Section 5. New ETC Service Contract

5.1 *Procurement.* Promptly following the date on which the Authority shall have selected a preferred bidder as contemplated in this Section 5.1 and in any event no later than twelve (12) months prior to the date of termination or expiration of an ETC Service Contract (other than the MSA), the Authority shall enter into a new contract (the "New ETC Service Contract") for the provision of the tolling services described in this Schedule 12 on all of the toll roads in the Commonwealth, including the Toll Roads and the PR-52 DTL (collectively, the "Island Network"), subject to and in accordance with the following procedures, terms and conditions:

- (a) the Authority shall procure the New ETC Service Contract by means of a competitive solicitation, commenced no later than eighteen (18) months prior to expiration of the then current ETC Service Contract (other than the MSA) (or, except as otherwise set forth in Section 5.2(c) of this Schedule 12, promptly following any earlier termination thereof), based on commercially reasonable criteria for contract award (including, without limitation, technical qualifications, relevant experience and bid price) in accordance with applicable Law;
- (b) the new ETC Service Provider selected as part of the procurement process described in clause (a) above shall be entitled to commence any required transition services in respect of such appointment by no later than twelve (12) months prior to the expiration of the then current ETC Service Contract (other than the MSA);

- (c) the New ETC Service Contract shall (i) subject to Section 5.2(b) of this Schedule 12, require, in respect of the Island Network, the provision of CSC services of the type, scope and quality that are substantially similar to (or better than) the services provided under the then current ETC Service Contract and, (ii) be at least as protective of the Authority and the Concessionaire (other than in the case of the MSA, which does not have protections related to the Concessionaire) as the warranties and indemnities provided to the Authority and the Concessionaire (other than in the case of the MSA, which does not have indemnities or warranties related to the Concessionaire) in the then current ETC Service Contract, in each case (x) as they exist at the time of such procurement and (y) unless the Concessionaire agrees to a lesser requirement, warranty or indemnity, and (iii) provide for itemized costs as agreed to by the Authority, the Concessionaire and the applicable ETC Service Provider;
- (d) the Authority may elect, in its sole discretion, to restrict the Concessionaire and its Affiliates from participating directly or indirectly as the potential provider of the CSC (including, without limitation, as a subcontractor to any such provider) in the procurement of the New ETC Service Contract;
- (e) subject to applicable Law, the Authority shall, in respect of the procurement of the New ETC Service Contract, consult with the Concessionaire regarding the preparation of any requests for information, requests for qualifications and requests for proposals, the evaluation of any responses thereto and the designation of the preferred bidder for the award of the New ETC Service Contract, in each case to ensure that the Concessionaire's reasonable requirements with respect to the Toll Roads are taken in account in such requests, evaluation or designation;
- (f) during any period of negotiations with the bidders for the New ETC Service Contract, the Authority shall (i) report regularly in writing to the Concessionaire on the progress of such negotiations, (ii) to the extent reasonable, allow the Concessionaire to participate in meetings regarding such negotiations, (iii) consult regularly with the Concessionaire regarding any terms or conditions proposed for the New ETC Service Contract that relate to the Toll Roads or generally to the type, quality and scope of services to be provided for the Island Network, and (iv) consider in good faith the Concessionaire's reasonable requests for any modification or supplement of such terms or conditions (and, to the extent such requests directly affect the Toll Roads, make such requests of bidders); *provided that* the Concessionaire shall be entitled to request modifications or supplements during any such negotiations and the Authority shall incorporate any such Concessionaire requests to the extent such requests relate to the Toll Roads;
- (g) for avoidance of doubt, the Authority shall retain the exclusive right to select the preferred bidder in the procurement of the New ETC Service

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Contract after consultation with the Concessionaire; *provided that* the Authority shall select as the preferred bidder in the procurement of the New ETC Service Contract that bidder, if any, whose proposal has been reasonably demonstrated by the Concessionaire to be materially better, in respect of either price, quality of service or other material terms and conditions, than any proposal made by other bidders in the procurement of the New ETC Service Contract; and

- (h) at least thirty (30) Business Days prior to the execution and delivery of the New ETC Service Contract, the Authority shall notify the Concessionaire in writing of its intention to deliver the New ETC Service Contract to the preferred bidder, and such notice shall include the time, date and location designated for the delivery thereof. The Concessionaire shall join with the Authority and execute the New ETC Service Contract as parties thereto, at such time, date and place reasonably designated by the Authority in such notice.

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5.2 Procurement Invalidation.

- (a) In the event that, notwithstanding compliance by the Authority with its obligations pursuant to Sections 5.1 of this Schedule 12 in connection with the procurement of a New ETC Service Contract, (i) a bidder is not selected by the Authority, (ii) a New ETC Service Contract is not executed, or (iii) the procurement process or the New ETC Service Contract executed is subsequently invalidated or vacated or rendered unenforceable, by judicial process or otherwise, the Authority shall, subject to applicable Law, (w) extend the then-existing ETC Service Contract on the same terms and conditions as they relate to the Concessionaire, (x) subject to clause (b) below, accede to any contract with an ETC service provider under contract with the Concessionaire (other than the ETC Service Provider), (y) exercise its powers to procure a substitute ETC Service Contract without a competitive procurement process under applicable Law, if any, or (z) use any other method that is in the mutual best interests of the Authority and the Concessionaire and consistent with applicable Law, in order to prevent the interruption of ETCS services or any other negative impact on the use of the Toll Roads by the public or a loss of funds by the Authority. To the extent the Authority proceeds as set forth in the immediately preceding clauses (y) or (z), the Authority shall designate, with the prior written consent of the Concessionaire (such consent not to be unreasonably withheld or denied), an alternate ETC Service Provider that is best suited to provide the required services, taking into account the scope of the requirements contemplated in the Concession Agreement (including this Schedule 12) and the most recent (or the current) ETC Service Contract, while addressing any significant risk of interruption in the provision of ETCS services or a negative impact on the use of the Toll Roads by the public. Moreover, if the Authority proceeds as set forth in clauses (y) or (z)

of this Section 5.2(a), it shall use its commercially reasonable efforts to procure such ETC Service Contract on overall terms and conditions (including in respect of pricing) for the Authority and the Concessionaire that are no worse than those under the most recent (or then current) ETC Service Contract; and in accordance with the rights provided to the Concessionaire in Section 5.1.

- (b) Any ETC Service Contract entered into in accordance with the terms of Section 5.2(a) of this Schedule 12 shall be deemed to be a "New ETC Service Contract" for all purposes under this Schedule 12 until such contract expires or is duly terminated or replaced in accordance with its terms, this Schedule 12 and applicable Law. Further, the Concessionaire shall join and execute such New ETC Service Contract as a party thereof.

5.3 *Procurement of Replacement of an ETC Service Contract.* Unless otherwise agreed by the Parties and except as otherwise provided in Section 5.2(a) of this Schedule 12, in connection with the termination, expiration, replacement or renewal of any ETC Service Contract, the Authority shall replace such contract in accordance with the terms of Section 5.1 of this Schedule 12. Any replacement contract procured in accordance herewith shall be deemed to be a "New ETC Service Contract" for all purposes under this Schedule 12 until such contract expires or is duly terminated or replaced in accordance with its terms.

5.4 *Transition/Joint Working Group.* In connection with the termination, expiration, replacement or renewal of any ETC Service Contract, the Authority and the Concessionaire shall establish a joint working group, not later than twenty four (24) months prior to the planned expiration, termination, replacement or renewal of such ETC Service Contract, to confer regarding the terms and conditions of such contract and the replacement thereof, including any procurement process contemplated in respect of such replacement.

Section 6. Rights and Obligations with Respect to the Operation and Maintenance of the CSC

The rights and obligations of each of the Authority, the Concessionaire and the applicable ETC Service Provider under any ETC Service Contract (other than the MSA) shall be as set forth in the relevant ETC Service Contract; *provided, however*, that as between the Authority and the Concessionaire, any joint or shared rights and obligations, including in respect of any termination rights, shall be exercisable as set forth in Annex 1 to this Schedule 12.

Section 7. Concessionaire as an ETC Service Provider

To the extent the Concessionaire is selected as the preferred bidder as part of a solicitation process as described and set forth herein, the rights and obligations of the Concessionaire in respect of its relevant ETC Service Contract shall be as negotiated and included in the relevant New ETC

Service Contract with the Authority.

Section 8. Supplementary Arrangements with ETC Service Provider

During the term of any ETC Service Contract, the Concessionaire may enter into any supplementary arrangement directly with the ETC Service Provider, to clarify or add to any of the provisions of such ETC Service Contract, relating exclusively to the Toll Roads or to create new arrangements between the Concessionaire and the ETC Service Provider in relation to matters not currently provided for in such ETC Service Contract. The Concessionaire will provide written notice of these to the Authority and shall bear all costs related thereto.

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Annex 1 to Schedule 12

To the extent that Concessionaire exercises its right to join and execute the ETC Service Contract as a party thereto in accordance with Schedule 12, this Annex 1 sets forth the terms and conditions under which the Authority and Concessionaire will meet each of their obligations, and exercise each of their rights, under the ETC Service Contract. For the avoidance of doubt, the terms of this Annex 1 shall not apply to the MSA.

Section 1. Obligations.

Each Service Recipient shall, at its cost and expense, fulfill its obligations under the ETC Service Contract to the extent such obligations relate to its tolled roads, intellectual property or other assets or its receipt of the services under the ETC Service Contract. If a Service Recipient fails to fulfill an obligation in accordance with the preceding sentence and the other Service Recipient fulfills such obligation, the non-compliant Service Recipient shall be obligated to reimburse the other Service Recipient the cost and expense incurred by it in connection with such compliance, subject to the other Service Recipient making a claim in respect of such non-compliance.

Section 2. Non-Material Rights.

Each Service Recipient may exercise a right under the ETC Service Contract that does not affect, or increase the cost of, the other Service Recipient's receipt of the services under the ETC Service Contract; *provided, however*, that the exercising Service Recipient provides the other Service Recipient's Relationship Manager (as defined below) at least five (5) Business Days prior written notice of its intent to exercise such right and, if possible, allows the other Service Recipient to participate in the exercise of such right should the other Service Recipient desire to participate; *provided, further*, that such participation shall be at the other Service Recipient's cost and expense and shall not delay or otherwise modify the exercising Service Recipient's exercise of such right. Notwithstanding the foregoing, if the exercising Service Recipient cannot, in its reasonable judgment, provide five (5) Business Days prior written notice due to reasons beyond its control, it shall provide such notice as soon as reasonably practicable given the applicable facts and circumstances.

Section 3. Material Rights.

Except as set forth in Section 4 of this Annex 1 below, a Service Recipient may not exercise a right under the ETC Service Contract that affects, or increases the cost of, the other Service Recipient's receipt of the services (a "Material Right") without the prior written consent of the other Service Recipient, such consent not to be unreasonably withheld, conditioned or delayed. If a Service Recipient seeks to exercise a Material Right, it shall provide the other Service Recipient's Relationship Manager (as defined below) at least twenty (20) Business Days prior written notice of its intent to exercise such right and describing in reasonable detail the expected impact of the exercise of such right on the other Service Recipient's cost or receipt of the services. Notwithstanding the foregoing, if the exercising Service Recipient cannot, in its reasonable judgment, provide twenty (20) Business Days prior written notice due to reasons beyond its control, it shall provide such notice as soon as reasonably practicable given the applicable facts and circumstances. If a Service Recipient exercises a Material Right without first obtaining the

prior written consent of the other Service Recipient, then, in addition to any other rights and remedies it may have, the exercising Service Recipient shall reimburse the other Service Recipient for any increase in its cost to receive the services.

For the avoidance of doubt, rights under the ETC Service Contract in respect of the CSC are Material Rights.

Section 4. Exceptions to Material Rights.

Notwithstanding Section 3 of this Annex 1, with respect to those contractual provisions described below, each Service Recipient shall comply with the applicable obligations set forth in the Section 4 of this Annex 1 in respect of each such contractual provision. When applicable, the Service Recipient seeking to exercise a right under the contractual provisions described below shall provide the other Service Recipient's Relationship Manager (as defined below) at least ten (10) Business Days prior written notice of its intent to exercise such right.

1. **Build SOW** - To the extent that Service Recipients jointly execute a "Build SOW", the agreement of both Service Recipients shall be required with respect to any instructions issued to the ETC Service Provider under such Build SOW.
2. **Extensions of Term** - The agreement of both Service Recipients shall be required with respect to any extension or renewal of the term of the ETC Service Contract.
3. **Amendments** - The agreement of both Service Recipients shall be required with respect to any amendment to the terms and conditions of the ETC Service Contract, or with respect to any Change Orders (i.e., a modification to the services, but not amendment to the terms and conditions of the ETC Service Contract) that affects the Toll Roads.
4. **Subcontractors** - Either Service Recipient may reject the use of an agent, contractor, subcontractor or any similar entity or person by ETC Service Provider under the ETC Service Contract.
5. **Testing** - The Authority shall be responsible for reimbursing ETC Service Provider for its reasonable costs incurred in connection with any tests conducted at the Authority's direction. The Concessionaire shall be responsible for reimbursing ETC Service Provider for its reasonable costs incurred in connection with any tests conducted at the Concessionaires' direction.
6. **Key Individual** - Either Service Recipient may reject the use of an individual to serve in a key individual role for the contractor under the ETC Service Contract.
7. **Suspension of Services** - Either Service Recipient may suspend services that relate solely to its tolled roads. The agreement of both Service Recipients shall be required with respect to any suspension of a service that relates to the tolled roads of both Service Recipients.
8. **Step-In** - Either Service Recipient may initiate a step-in with respect to services that relate

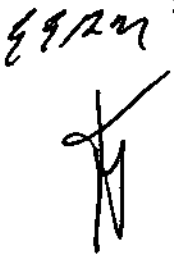
solely to its tolled roads. The prior written consent of both Service Recipients shall be required to initiate a step-in for services that relate to the Island Network.

9. **Terminations Rights with respect to the CSC** - The prior written consent of both Service Recipients shall be required with respect to any termination of the ETC Service Contract with respect to the CSC for any reason other than its expiration pursuant to its terms. If the reason a Service Recipient seeks to terminate the ETC Service Contract with respect to the CSC is due to breach of the ETC Service Contract by the ETC Service Provider, the other Service Recipient must consent to such termination, such consent to not be unreasonably withheld, delayed or conditioned. Failure to provide such consent shall be resolved pursuant to the dispute resolution procedure set forth in Article 19 of the Agreement.
10. **Termination Without Cause** - A Service Recipient may not terminate the services it receives under the ETC Service Contract for its convenience without the prior written consent of the other Service Recipient.
11. **Termination for Cause** - The ETC Service Contract may not be terminated for cause, as defined in the ETC Service Contract, without the written consent of both Service Recipients. Cause may include, subject to the provisions of the ETC Service Contract, breach by the ETC Service Provider, deterioration of financial condition of the ETC Service Provider, key performance indicator failure, change in law, failure to perform of the ETC Service Provider due to a force majeure event, or other similar termination rights.
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12. **Effects of Termination** - Any shared equipment or leases for real property used to provide the services by ETC Service Provider shall, after a termination or expiration of the ETC Service Contract, be provided or assigned to the Authority; *provided, however,* if the Authority does not want such equipment or leases and the Concessionaire does want such equipment or leases, the ETC Service Provider shall, after a termination or expiration of the ETC Service Contract, provide or assign to the Concessionaire such equipment and leases. For clarity, this provision shall not apply with respect to any intellectual property that is jointly owned by the Authority and Concessionaire.
13. **Termination Assistance** - The agreement of both Service Recipients shall be required with respect to any instructions to the ETC Service Provider for termination assistance services.
14. **Dispute Resolution** - The agreement of both Service Recipients shall be required with respect to any decisions regarding the selection of any expert, arbitrator or mediator in connection with a dispute under the ETC Service Contract that involves a service being received by both parties and any settlements in respect thereof. Notwithstanding anything the contrary, either Service Recipient may obtain equitable relief under the law with respect to the ETC Service Contract.
15. **Waivers** - Any waivers granted under the ETC Service Contract shall only be applicable with respect to the Service Recipient providing the waiver.
16. **Insurance** - The agreement of both Service Recipients shall be required with respect to any

changes to, or waivers under, the insurance coverages required to be maintained by the ETC Service Provider under the ETC Service Contract.

17. **Settlements** - The agreement of both Service Recipients shall be required with respect to any compromise, settlement, prosecution or enforcement of a claim under any insurance required to be maintained by the ETC Service Provider that affects both Service Recipients.
18. **Assignment (by ETC Service Provider)** - The agreement of both Service Recipients shall be required with respect to any assignment by the ETC Service Provider of any right, interest or obligation under the ETC Service Contract.
19. **Assignment (by a Service Recipient)** - If a Service Recipient elects to assign its rights and obligations under the ETC Service Contract to a third party, the assigning Service Recipient must notify the other Service Recipient of such assignment and comply with the applicable provisions set forth in Article 17 of the Concession Agreement, *mutatis mutandis*, to such assignment. For the avoidance of doubt, the foregoing shall not limit or affect the Authority's ability to assign its rights and obligations under the ETC Service Contract to a concessionaire of one or all of its other toll roads.

Section 5 Intellectual Property

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- 5.1. The Authority and the Concessionaire shall jointly own all right, title and interest in and to the electronic toll collection system (other than the name AutoExpreso, which is and shall be solely owned by the Authority), and all intellectual property rights therein, developed by the ETC Service Provider under the ETC Service Contract (the "Jointly-Owned IP") and shall have equal and independent rights to use, exploit and license the Jointly-Owned IP for any purposes allowed by applicable Law without requirement of consent from the other Service Recipient. The Authority hereby grants the Concessionaire during the Term a nonexclusive, transferable, royalty-free, irrevocable, fully paid up right and license to use and sublicense the name AutoExpreso.
 - 5.2. Neither Service Recipient shall have any duty to account or any obligation to pay royalties to the other Service Recipient with respect to the use, exploitation or licensing of the Jointly-Owned IP, and the Concessionaire shall not have any duty to account or any obligation to pay royalties to the Authority with respect to the Concessionaire's use or exploitation of the name AutoExpreso.
 - 5.3. Each Service Recipient shall promptly notify the other Service Recipient of any known infringement of the Jointly-Owned IP by a third party. The Authority shall have the first option to bring and control any suit related to the infringement, misappropriation or other violation of the Jointly-Owned IP. In the event the Authority chooses not to pursue any such enforcement action with respect to the Jointly-Owned IP, the Concessionaire (or its designated affiliate) shall have the right to bring and control any such suit. Each Service Recipient shall reasonably cooperate with the other Service Recipient bringing any such suit. Each Service Recipient will be entitled to a percentage of all damages, recoveries and other amounts awarded in connection therewith, after deduction of all reasonable costs and

expenses incurred by both Service Recipients with respect to such enforcement action, in proportion to the number of transactions processed by each Service Recipient on its tolled roads during the twelve (12) month period immediately preceding the date on which any such damages, recoveries or other amounts are awarded.

5.4. Each Service Recipient hereby agrees not to grant any licenses in the Jointly-Owned IP to the any third party without the prior written consent of the other Service Recipient. For the avoidance of doubt, this Section 5.4 of this Annex 1 shall not apply, limit or affect the Authority's right to grant a license in the Jointly-Owned IP to any concessionaire of its tolled roads without the prior written consent of the other Service Recipient.

5.5. The Authority has the sole right to prepare applications for, prosecute and maintain any patents claiming the Jointly-Owned IP. The Authority may assign this right to Concessionaire.

Section 6. Tag Revenues.

The Service Recipients agree that the ETCS tags will be sold to customers. All costs associated with the sale of ETCS tags and profits generated by the sale of ETCS tags shall be for the account of the Authority.

Section 7. Relationship Managers.

7.1. Within thirty (30) days of executing the ETC Service Contract, the Authority (through its Executive Director) and the Concessionaire shall each appoint a relationship manager (each, a "Relationship Manager") who shall each be authorized to act on behalf of the Authority and Concessionaire, respectively, in connection with the day-to-day business, rights and obligations of each party under the ETC Service Contract. A Service Recipient may change its Relationship Manager upon prior notice to the other Service Recipient. All notices to each Relationship Manager hereunder shall be in writing and shall be mailed, hand delivered, or couriered to the notice addresses established in each appointment.

Until such appointment is made by the Authority, the Relationship Manager for the Authority shall be the Assistant Executive Director for Highways and Transit; if there is no Assistant Executive Director for Highways and Transit appointed, then the Relationship Manager shall be the Deputy Executive Director; if there is no Deputy Executive Director appointed, then the Executive Director himself shall be the Relationship Manager, and the applicable notice address shall be the address set forth in the Concession Agreement.

Until such appointment is made by the Concessionaire, the Relationship Manager for the Concessionaire shall be the Concessionaire's Chief Operating Officer, and the applicable notice address shall be the address set forth in Section 20.1 of the Concession Agreement.

Any party hereto may change the address or facsimile number for receipt of communications by giving written notice to the other.

- 7.2. The Relationship Managers shall schedule a regular set of meetings to discuss matters pertaining to the ETC Service Contact. A Service Recipient may request an emergency meeting, in which case the other Service Recipient shall use reasonable efforts to accommodate such meeting as soon as possible. Meetings may be held in person or by teleconference. Such meetings shall be conducted, at a minimum, (a) weekly or bi-monthly during the term of a "Design and Build SOW" with respect to matters thereunder and (b) quarterly during the term of an "Operations and Maintenance SOW" with respect to matters thereunder. The Relationship Managers may change the frequency of meetings, upon their agreement.

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Schedule 13
Disclosed Projects
(See attached.)

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SCHEDULE 13
DISCLOSED PROJECTS

1. *2045 Puerto Rico Long Range Multimodal Transportation Plan* dated December 2018.
 - a. PR-22 Extension – Hatillo to Aguadilla (Page 238)
 - b. PR-53 Extension – Patillas to Maunabo (Page 238)
 - c. PR-2 Conversion to Freeway – Ponce to Mayaguez (Page 238)
 - d. PR-10 Extension – Utuado to Adjuntas (Page 238)
 - e. PR-5 Extension – Bayamón to Toa Alta (Page 238)
 - f. Congestion Managed Lanes – PR-30 to PR-52 (page 299)
2. *Statewide Transportation Improvement Program (STIP), Fiscal Year 2023-2026*, dated November 16, 2022.
 - a. PR-158 Connector in Cayey Phase 1 from PR-52 to PR-1 (FHWA-35)
 - b. PR-158 Connector in Cayey Phase 2 from PR-52 to PR-1 (FHWA-35)
 - c. Expressway Conversion PR-2 from Ponce to Mayaguez (FHWA-35)
 - d. PR-22 Extension from Hatillo to Aguadilla (FHWA-35)
 - e. Improvements to the intersection of PR-1 and PR-52 in Ponce (FHWA-37)
3. *Fiscal Plan for the Puerto Rico Highways & Transportation Authority (HTA), FY2023-FY2051*, dated October 14, 2022.
 - a. Completion of PR-10 connection between Utuado and Adjuntas (Page 49)
 - b. Extension of PR-5 between Bayamon and Toa Alta (Page 50)
 - c. Extension of PR-22 between Hatillo and Aguadilla (Page 50)
 - d. Open new BRT Line between Caguas and San Juan (Page 100)

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Schedule 14
Form of Irrevocable Standby Letter of Credit
(See attached.)

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SCHEDULE 14
FORM OF IRREVOCABLE STANDBY LETTER OF CREDIT

ISSUER: ☒ [Must be Member of the New York Clearing House Association]

PLACE FOR PRESENTATION OF DRAFT IN PROGRESS: [Name and Address of Bank/Branch—MUST be NEW YORK, NEW YORK Bank/Branch or SAN JUAN, PUERTO RICO Bank/Branch]

APPLICANT: ☒

BENEFICIARY: PUERTO RICO HIGHWAYS AND TRANSPORTATION AUTHORITY
ROBERTO SÁNCHEZ VILELLA GOVERNMENT CENTER
300 DE DIEGO AVENUE, SOUTH BUILDING, FLOOR 10
SANTURCE, PUERTO RICO 00911

LETTER OF CREDIT NUMBER: ☒

PLACE AND DATE OF ISSUE: ☒

AMOUNT: ☒

EXPIRATION DATE: ☒

Issuer hereby issues this Irrevocable Standby Letter of Credit (this "Letter of Credit") in favor of Beneficiary in the amount of [words] United States Dollars (US\$[numbers]) (the "Stated Amount"). This Letter of Credit is being issued pursuant to the requirements of the Toll Road Concession Agreement, dated [insert date], between Beneficiary and Applicant (the "Agreement"). This Letter of Credit is valid and effective immediately and, on and after [effective date of this Letter of Credit],

Funds under this Letter of Credit are available to Beneficiary upon Beneficiary's presentation to Issuer of one or more sight drafts (each, a "Sight Draft") drawn on Issuer for a sum or sums in an aggregate amount not exceeding the Stated Amount. Partial and multiple draws under this Letter of Credit are permitted. Any Sight Draft under this Letter of Credit shall identify this Letter of Credit by the name of Issuer and the Letter of Credit number, amount, and place and date of issue. Such Sight Draft shall be on Beneficiary's letterhead, signed by [an officer of Beneficiary] or his or her designee and shall contain Beneficiary's draw request and wire instructions and a statement that Beneficiary is entitled to make such draw or shall be accompanied by a signed statement of [an officer of Beneficiary] to the same effect.

Issuer hereby agrees to honor any draw request made in compliance with this Letter of Credit. In the case of a draw meeting the requirements of this Letter of Credit, such draw shall be honored by wire transfer in immediately available funds in the amount specified in the applicable Sight Draft delivered to Issuer in connection with such draw to Beneficiary's account number as specified in the applicable Sight Draft. If such Sight Draft is presented by Beneficiary, payment of such draw shall be made no later than the close of business on the third (3rd) Business Day after such presentation. Issuer's only obligation with regard to a draw under this Letter of Credit shall be to examine the Sight Draft and draw request submitted to Issuer and to pay in accordance therewith if such Sight Draft and draw request conform to the terms and conditions of this Letter of Credit. If a Sight Draft made hereunder does not conform to the terms and conditions of this Letter of Credit, Issuer shall provide Beneficiary with prompt notice (in writing and, in any event, within three (3) Business Days of receipt of such Sight Draft) that such Sight Draft was not effected in accordance with the terms and conditions of this Letter of Credit and stating the reasons therefor. Thereafter, Beneficiary may submit another Sight Draft to correct any non-conformance with the terms and conditions of this Letter of Credit. As used herein, "Business Day" shall mean any day that is neither a Saturday, a Sunday nor a day observed as a holiday by either the government of the Commonwealth of Puerto Rico or the United States government, *provided* that a half-holiday shall be treated as a full holiday.

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This Letter of Credit shall be honored by Issuer if presented at [NEW YORK, NEW YORK Bank/ Branch or SAN JUAN, PUERTO RICO Bank/Branch—Name & Address] on or before [●] ([as may be extended as set forth herein,]¹ the "Expiration Date"). The obligations of Issuer hereunder are primary obligations to Beneficiary and shall not be affected by the performance or non-performance by [Name of Applicant] under any agreement with Beneficiary or by any bankruptcy, insolvency or other similar proceeding initiated by or against [Name of Applicant]. In addition, the obligations of Issuer hereunder are its individual obligations, in no way contingent upon reimbursement to Issuer, or upon Issuer's ability to perfect any lien or security interest. [Name of Applicant] is not the beneficiary under this Standby Letter of Credit and possesses no interest whatsoever in proceeds of any draw hereon. This Letter of Credit shall terminate on the earlier of (i) the close of business on the Expiration Date and (ii) the date on which Issuer has honored one or more draws in the full amount of the Stated Amount. This Letter of Credit may not be transferred by Beneficiary to any other person. Drawings by electronic mail to electronic mail address [●] are acceptable (each such drawing, an "Electronic Drawing"), *provided, however*, that an Electronic Drawing will not be effectively presented until Beneficiary confirms, by telephone, Issuer's receipt of such Electronic Drawing by calling Issuer at telephone number [●]. Issuer will acknowledge Beneficiary's presentment by electronic mail to the electronic mail address provided to Issuer in the Electronic Drawing.

[This Letter of Credit shall be automatically extended for successive periods of one year, on the same terms and conditions and without amendment, from the stated Expiration Date and each extended date of expiration unless Issuer sends Beneficiary written notice of its intent not to extend

¹ **NOTE TO CONCESSIONAIRE:** For purposes of the Closing LOC contemplated by Section 2.3(a) of the Agreement, this clause (which appears intentionally in brackets) shall not be required; *provided, however*, that this clause shall appear in the Letter of Credit contemplated by Section 16.3 of the Agreement.

the credit, which notice must be sent at least sixty (60) days prior to the expiration of the original term hereof or any extended one year term, by registered or certified mail or overnight courier, to the Puerto Rico Highways and Transportation Authority at Roberto Sánchez Vilella Government Center, 300 De Diego Avenue, South Building, Floor 10, Santurce, Puerto Rico, 00911 or any other address specified in writing to Issuer at the above address by the Puerto Rico Highways and Transportation Authority. In the event Beneficiary receives such notice, Beneficiary is authorized to draw on the remaining balance of this Letter of Credit. Following any such draw in full, without limiting or modifying Applicant's obligations under the Agreement, this Letter of Credit shall be considered null and void and no longer evergreen upon reaching its Expiration Date.]²

As referenced above, partial and multiple draws on this Letter of Credit are permitted. Beneficiary, in its sole discretion, may elect to draw upon this Letter of Credit in any amount other than the full amount of this Letter Credit. Each partial draw shall reduce the Stated Amount of this Letter of Credit thereafter available hereunder for draws under this Letter of Credit.

To the extent not inconsistent with the express provisions hereof, this Letter of Credit is subject to the rules of the *International Standby Practices ISP98* ("ISP98"), as interpreted under the laws of the State of New York, and shall, as to matters not governed by the ISP98, be governed and construed in accordance with the laws of the State of New York, without regard to principles of conflicts of law.³

With respect to any suit, action or proceedings relating to this Letter of Credit ("Proceedings"), Issuer irrevocably: (i) submits to the exclusive jurisdiction of the United States District Court for the Southern District of New York and (ii) waives any objection which it may have at any time to the laying of venue of any Proceedings brought in such court, waives any claim that such Proceedings have been brought in an inconvenient forum and further waives the right to object, with respect to such Proceedings, that such court does not have any jurisdiction over Issuer.⁴

² **NOTE TO CONCESSIONAIRE:** For purposes of the Closing LOC contemplated by Section 2.3(a) of the Agreement, this paragraph (which appears intentionally in brackets) shall not be required; *provided, however*, that this paragraph shall appear in the Letter of Credit contemplated by Section 16.3 of the Agreement.

³ **NOTE TO CONCESSIONAIRE:** If the Concessionaire sources this Letter of Credit from a bank incorporated in the Commonwealth of Puerto Rico, then the Concessionaire may replace this paragraph with the following: "To the extent not inconsistent with the express provisions hereof, (i) this Letter of Credit is subject to the rules of the *International Standby Practices ISP98* ("ISP98"), as interpreted under the laws of the Commonwealth of Puerto Rico and (ii) as to matters not governed by the ISP98, this Letter of Credit shall be governed and construed in accordance with the laws of the Commonwealth of Puerto Rico, without regard to principles of conflicts of law."

⁴ **NOTE TO CONCESSIONAIRE:** If the Concessionaire has elected pursuant to the immediately preceding footnote to include in this Letter of Credit the language set forth therein, then this paragraph shall be replaced by the following: "Issuer irrevocably: (i) submits to the exclusive jurisdiction of the Commonwealth Court of First Instance, San Juan Part, in the Commonwealth of Puerto Rico; and (ii) waives any objection which Issuer may have at any time to the laying of venue of any Proceedings brought in any such court, waives any claim that such Proceedings have been brought in an inconvenient forum and further waives the right to object, with respect to such Proceedings, that such court does not have any jurisdiction over Issuer."

Issuer:

By: _____

Name: [●]

Title: [●]

(Authorized Signatory of Issuer)

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[Signature]

Schedule 15A
Operating Standards (Volume I)
(See attached.)

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GOVERNMENT OF PUERTO RICO
PUERTO RICO PUBLIC-PRIVATE PARTNERSHIPS AUTHORITY

TOLL ROAD CONCESSION AGREEMENT PR-20, PR-52, PR-53 & PR-66



VOLUME I OF III MAINTENANCE MANUAL

Execution Version

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VOLUME III – ENVIRONMENTAL MANAGEMENT MANUAL

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A.1 Purpose of Manual

The Operating Standards are comprised of three (3) separate and unique Volumes, as follows:

- A Volume I – Maintenance Manual
- B Volume II – Operations & Procedures Manual
- C Volume III – Environmental Management Manual

In general, the Operating Standards provide guidelines and criteria to the Concessionaire regarding the standards, specifications, policies, procedures, permits and processes that apply to the operation, maintenance, rehabilitation, tolling of, and improvements to the Toll Roads.

The purpose of this Manual is to provide the general terms and conditions for performing the required maintenance activities on and within the limits of the Toll Roads, as stated in the Toll Road Concession Agreement.

For purposes of the Operating Standards, the terms "PR-52" or "Luis A. Ferré Highway" shall mean all the features, elements, systems, etc., that are present within the boundaries established in accordance with the Toll Road Concession Agreement, without exception. In the same way the following highways: the term "PR-53" or shall mean all "José Celso Barbosa Highway" the features, elements, systems, etc., that are present within the boundaries established in accordance with the Toll Road Concession Agreement, without exception; the term "PR-66" or shall mean all "Roberto Sánchez Vilella" the features, elements, systems, etc., that are present within the boundaries established in accordance with the Toll Road Concession Agreement, without exception; and the term "PR-20" or shall mean all "Rafael Martínez Nadal " the features, elements, systems, etc., that are present within the boundaries established in accordance with the Toll Road Concession Agreement, without exception.

Similarly, the terms "Toll Road" or "Toll Roads" shall mean all the features, elements, systems, etc., that are present within the boundaries established herein that relate to the collective system of PR-52, PR-53, PR-66 and, PR-20 and in accordance with the Toll Road Concession Agreement, without exception.

A.2 Abbreviations and Acronyms

The following abbreviations and acronyms are applicable for both Volume I – Maintenance Manual, and for Volume II – Operations and Procedures Manual.


AADT	Average Annual Daily Traffic
AAN	American Association of Nurserymen
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACM	Automatic Coin Machine
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
AIA	American Institute of Architects
ANSI	American National Standards Institute
APHIS	Animal and Plant Health Inspection Service
ASME	American Society of Mechanical Engineers
ASQ	American Society for Quality
ASTM	American Society for Testing and Materials
ATD	Automatic Traction Devices
ATIS	Advanced Traveler Information System
AWWA	American Water Works Association
BA	Bachelor of Arts
BS	Bachelor of Science
BSCE	Bachelor of Science – Civil Engineering
CAN	Collision/Accident Notification
CCTV	Closed-Circuit Television
CFR	Code of Federal Regulations
CMA	Calcium Magnesium Acetate
CMS	Changeable Message Sign
COOP	Concept of Operations Plan

DHS	Department of Homeland Security
DMS	Dynamic Message Sign
DNER	Department of Natural and Environmental Resources of Puerto Rico
DTL	Dynamic Toll Lane
DTPW	Department of Transportation and Public Works
EB	Eastbound
EIT	Engineer in Training
EMDA	Emergency Management and Disaster Administration State Agency
EMM	Emergency Management Manual
EMOP	Emergency Management and Operation Plan
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
ETC	Electronic Toll Collection
ESF	Emergency Support Function
FAA	Federal Aviation Administration
FBI	Federal Bureau of Investigations
FCC	Federal Communication Commission
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
GIS	Geographic Information System
GPS	Global Positioning System
GVW	Gross Vehicle Weight
HAL	High Accident Location
HAR	Highway Advisory Radio
HSAS	Homeland Security Advisory System
HVAC	Heating, Ventilation and Air Conditioning
IBC	International Building Code
ICC	International Code Council

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ICS	Incident Command System
ID	Identification
IESNA	Illuminating Engineering Society of North America
IEEE	Institute of Electrical and Electronic Engineers
IMC	International Mechanical Code
IRI	International Roughness Index
ISO	International Standardization Organization
ITE	Institute of Transportation Engineers
ITS	Intelligent Transportation Systems
KM	Kilometer
KP	Kilometer Post
LEED	Leadership in Energy and Environmental Design
LFD	Load Factor Design
LOS	Level of Service
LRFD	Load Resistance Factor Design
MEP	Mechanical, Electrical and Plumbing System
MIST	Management Information System for Transportation
MOT	Maintenance of Traffic
MPT	Maintenance and Protection of Traffic
MSDS	Material Safety Data Sheet
MSE	Mechanically Stabilized Earth
MTS	Maintenance Testing Specifications
MUTCD	Manual on Uniform Traffic Control Devices
NBIS	National Bridge Inspection Standards
NCHRP	National Cooperative Highway Research Program
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act
NETA	National Electrical Testing Association
NFPA	National Fire Protection Association

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NHI	National Highway Institute
NHS	National Highway System
NIMS	National Incident Management System
NIOSH	National Institute for Occupational Safety and Health
NOAA	National Oceanic & Atmospheric Administration
NOTAM	Notice to Airmen
NPDES	National Pollutant Discharge Elimination System
NWR	NOAA Weather Radio
O & M	Operations and Maintenance
OEM	Original Equipment Manufacturer
ORT	Open Road Tolling
OSHA	Occupational Safety and Health Administration
PCC	Portland Cement Concrete
PCMS	Portable Changeable Message Sign
PE	Professional Engineer
PERI	Public Entity Risk Institute
PPPA	Public-Private Partnerships Authority of Puerto Rico
PR	Puerto Rico
PREQB	Puerto Rico Environmental Quality Board
PRHTA	Puerto Rico Highway and Transportation Authority
PRPB	Puerto Rico Planning Board
PRP	Puerto Rico Police
QC	Quality Control
QA	Quality Assurance
QMS	Quality Management System
QMSPM	Quality Management System Policy Manual
QPM	Quality Procedures Manual
RPC	Regional Planning Commission
RCSRS	Rock Cut Slope Rating System
RHRS	Rockfall Hazard Rating System
RPZ	Reduced Pressure Zone
RWIS	Road Weather Information System

SHRP	Strategic Highway Research Program
SE	Structural Engineer
SSPC	Society for Protective Coatings
SUV	Sport Utility Vehicle
SWPPP	Storm Water Pollution Prevention Plan
TCS	Toll Collection System
TFDS	Traffic Flow Detection System
TMC	Traffic Management Center
TRB	Transportation Research Board
TRWS	Truck Rollover Warning System
UL	Underwriters Laboratory
UPS	Uninterruptible Power Supply
USDA	United States Department of Agriculture
USGS	United States Geological Society
USEPA	United States Environmental Protection Agency
VE	Value Engineering
VHF	Very High Frequency
VMS	Variable Message Sign
VOC	Volatile Organic Compound
VSLS	Variable Speed Limit Signs
WAN	Wide Area Network
WB	Westbound
WBS	Work Breakdown Structure
WPOA	Western Plumbing Officials Association

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A.3 Toll Road Concession Agreement


A.3.1 Toll Road Concession Agreement

The Operating Standards are governed by the terms and conditions of the Toll Road Concession Agreement, dated as of _____, 2023 (the "Toll Road Concession Agreement") by and between the Puerto Rico Highways and Transportation Authority ("PRHTA" or the "Authority") and _____ (the "Concessionaire").

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A.4 Maintenance Objective

The objective of maintenance work within the Toll Roads is to provide motorists a safe and pleasant passage throughout the Toll Roads, while maintaining the Toll Roads as an asset. The major objectives of the Concessionaire's maintenance program include, but are not limited, to the following:

- 
- Maintaining all Toll Road features, elements, components and systems in the best possible condition at all times.
 - Improving features that do not meet the requirements of the Operating Standards, with the goal to exceed the minimum stated within the Operating Standards.
 - Maintain the Right-Of-Way and each type of roadway, structure, safety convenience or device, planting, signage, illumination equipment and other facility, in a safe and usable condition to which it has been improved or constructed.
 - Providing proper maintenance, safety and traffic devices for minimal disruptions and hazards to traffic.
 - Identifying and improving safety features and situations.
 - Establishing an inventory of maintenance features, including a method of locating and referencing those features.
 - Establishing work procedures.
 - Maintaining a regular program of maintenance for all aspects of Toll Road maintenance.
 - Providing immediate and proper response to emergency and third-party events.
 - Performing routine, preventative, on-demand and emergency maintenance activities and work.
 - Maintaining the toll revenue systems, dynamic toll lane systems, intelligent transport systems, special safety conveniences and devices, and illumination equipment.

A.5 Review of Construction Projects & As-Built Drawings

Whenever maintenance, renewal or expansion work requires that a member, component, system or element, etc. be replaced or significantly repaired, the Concessionaire must create a set of Original Construction Documents and Drawings, signed and sealed by a Licensed Professional Engineer in the Commonwealth of Puerto Rico. Such construction drawings and documents are subject to review and approval by the PRHTA.

Upon completion of construction, the Concessionaire must prepare and submit to PRHTA a complete set of original and As-Built drawings in both hard copy and electronic format (in the platform predetermined and prescribed by PRHTA) for the work completed. In addition, the Concessionaire will be responsible for creating a separate Original and As-Built set of drawings for the record. The As-Built drawings shall be stamped or marked "AS-BUILT", dated, and must be saved and placed with all other records maintained with respect to the Toll Roads pursuant to the Agreement.

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A.6 Maintenance Management Information System (MMIS)

The Concessionaire must implement a computer based MMIS to record inventory, failures, repairs, maintenance activities and inspections performed. The Concessionaire must enter all the physical elements of the asset into the MMIS with Element identifications (IDs) consistent with those descriptions and units of measure used by PRHTA. All information must be recorded in a consistent manner and must be searchable by individual attribute.

The Concessionaire must include relevant physical Element information in the MMIS including but not limited to, location, equipment nomenclature, serial number, name, date of installation, technician ID, type of failure, date-time of failure, date-time of response to the site and date-time time returned to service, preventive maintenance work, scheduled work, work repair code, failure and repair history, and statistical data on mean time between failure and mean time to repair. The MMIS must be configured to report work by PRHTA function code, physical Element, reference marker, crew and unit of measurement. In the MMIS, the information for bridges must include National Bridge Inventory (NBI) sheets.

The MMIS must be capable of reporting system performance on a geographical basis to demonstrate compliance with the Operating Standards. The MMIS must incorporate a Geographical Information System (GIS), which must use the same database engine as the MMIS and must use the MMIS for display of physical Element information. All physical Elements must be recorded on the MMIS. The physical Element locations are to be accurate to within one foot in 100 feet. The information displayed geographically must include pavement condition measurements, maintenance limits, average daily traffic, Work performed by roadway segment, type of work, crew/contractor, and any other information relevant to the construction, operation, maintenance and renewal. When a physical Element is constructed, installed, maintained, inspected, modified, replaced, or removed, the MMIS must be updated within three (3) days of completion of such correcting tasks. Defects must be recorded on the MMIS within three (3) days of them coming to the attention of the Concessionaire. All other recording requirements must be recorded on the MMIS within fifteen (15) days of completion or occurrence of the relevant activity.

The Concessionaire must fully populate and make operational the MMIS before two (2) years after the Closing Date and must keep the MMIS updated and operational during the Term. The Concessionaire must provide equipment, facilities and training necessary to permit remote, real-time, dedicated high-speed access to the MMIS, via one terminal for PRHTA.

A.7 Protection of the Environment and Natural Resources

The protection of natural resources is an essential and significant activity within the Toll Roads. The Concessionaire must comply with all requirements in protecting the natural resources of the region, the environment and any threatened or endangered species.

If a project or activity may affect resources, such as wetlands, flood plains, Department of Transportation Act Section 4(f) properties, or threatened or endangered species, an evaluation of alternatives appropriately addressing avoidance, minimization and mitigation options as required by regulations applicable to those resources must be prepared. In addition, if the preferred alternative will affect such resources, adequate justification must be provided to explain why avoidance alternatives were not selected.

A.7.1 Noise Control

Special efforts must be made in the development of a project or activity to comply with Federal, Commonwealth and municipal requirements for noise control. Efforts must be made to consult with appropriate officials to obtain the views of the affected communities regarding noise impacts and abatement measures and to mitigate any highway-related or construction noise impacts.

A.7.2 Water Quality

The Toll Road system must be constructed, operated and maintained in compliance with all applicable Federal, Commonwealth and municipal requirements relating to the protection of water quality. No construction improvement, maintenance activity, or daily activity may decrease the quality of surface waters, ground waters, or wetlands.

A.7.3 Air Quality

The Toll Road system must be constructed, operated and maintained in compliance with all applicable Federal, Commonwealth and municipal requirements relating to air pollution, including any air implementation plans.

A.7.4 Dust Control

Dust control is essential in maintaining clean air and the prevention of airborne pollutants. Dust must be controlled within the Toll Roads by implementing best management practices for all construction and daily activities including land disturbance, demolition, and material handling processes.

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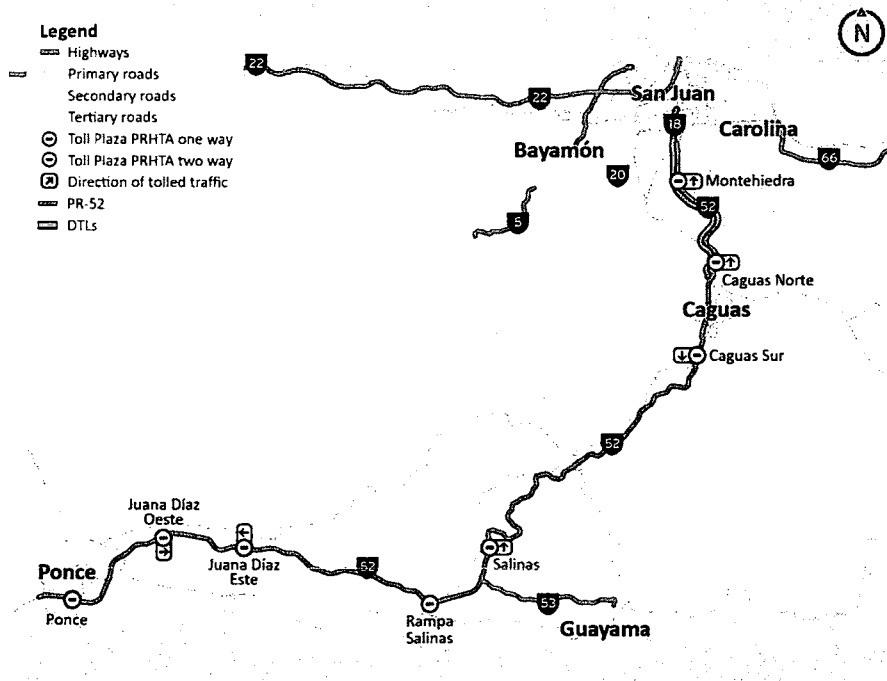
A.7.5 Threatened and Endangered Species

In the development of a project, an assessment must be made of the likely impacts on species of plants or animals listed at the Federal and Commonwealth level as threatened or endangered, and on Commonwealth-designated natural areas. Every effort must be made to minimize the likelihood of jeopardizing the continued existence of listed threatened or endangered species or the destruction or adverse modification of a natural area or an area of habitat which has been designated as critical habitat or essential habitat.

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A.8 Location of the Toll Roads

Figure A.8.1: Location Map, PR-52

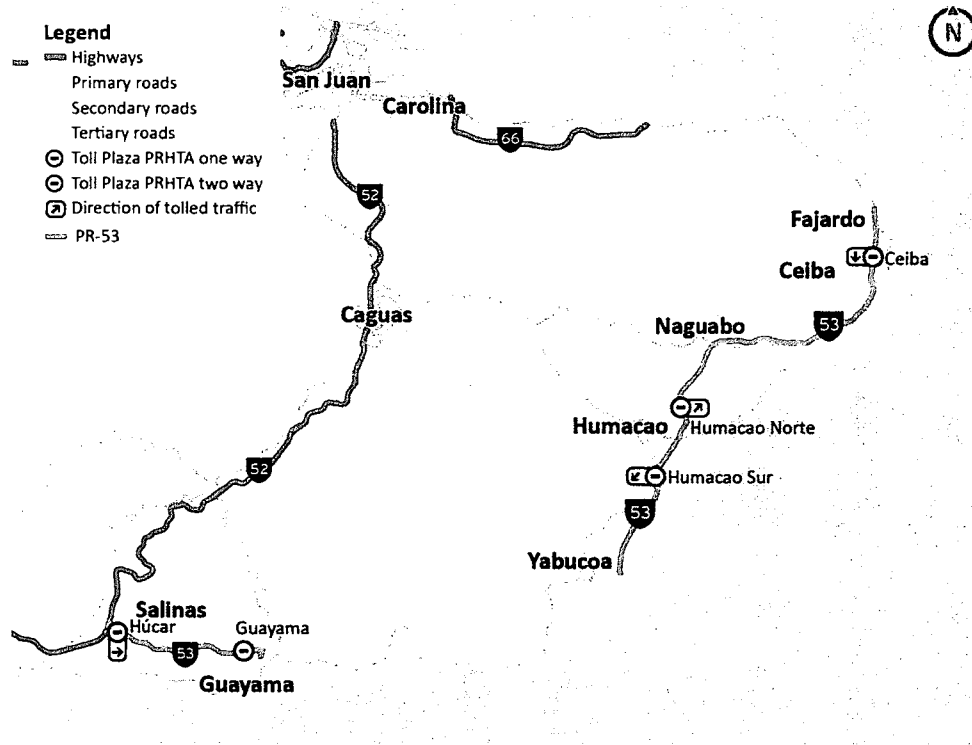


Also known as the “Luis A. Ferré Highway,” PR-52 is the longest toll road on the island and is designated as part of the National Highway System (“NHS”). PR-52 commences at the intersection of PR-18 (other than the DTLs described below, which start on PR-18) and PR-1 in the municipality of San Juan and runs southwest for a total length of 108.3 km (67.3 miles). PR-52 connects the municipality of San Juan with the municipalities of Trujillo Alto, Caguas and Cayey, leads into Salinas, Santa Isabel and Juana Díaz, and ends in Ponce in the south of the island. PR-52 directly serves a total of fifteen municipalities with an aggregate population of over one million in 2021. PR-52 is a critical route between San Juan, in the north, and the economic activity that takes place in the southern region of Puerto Rico. Construction of PR-52 (other than the DTLs) began in 1968 and was completed in 1975. The DTLs commenced operations in April 2021. In 1993, the Commonwealth enacted Act No. 118-1993, which named PR-52 as the “Luis A. Ferré Highway.”

The dynamic toll lanes on PR-52 (the “DTLs”) consist of a corridor that extends through a portion of PR-52 and also a portion of each of PR-18 and PR-1. The DTLs (including for avoidance of doubt, the PR-52, PR-18 and PR-1 portions) are all included in the Project and constitute part of the Toll Roads.

The DTLs consist of two reversible lanes on a median between San Juan (beginning at PR-18 before the overpass bridge over Americo Miranda Avenue) and Caguas Norte Toll Plaza for a total distance of approximately 16 km (10 miles), and serve passenger cars travelling northbound to San Juan in the morning, and travelling southbound to Caguas in the evening.

Figure A.8.2: Location Map, PR-53

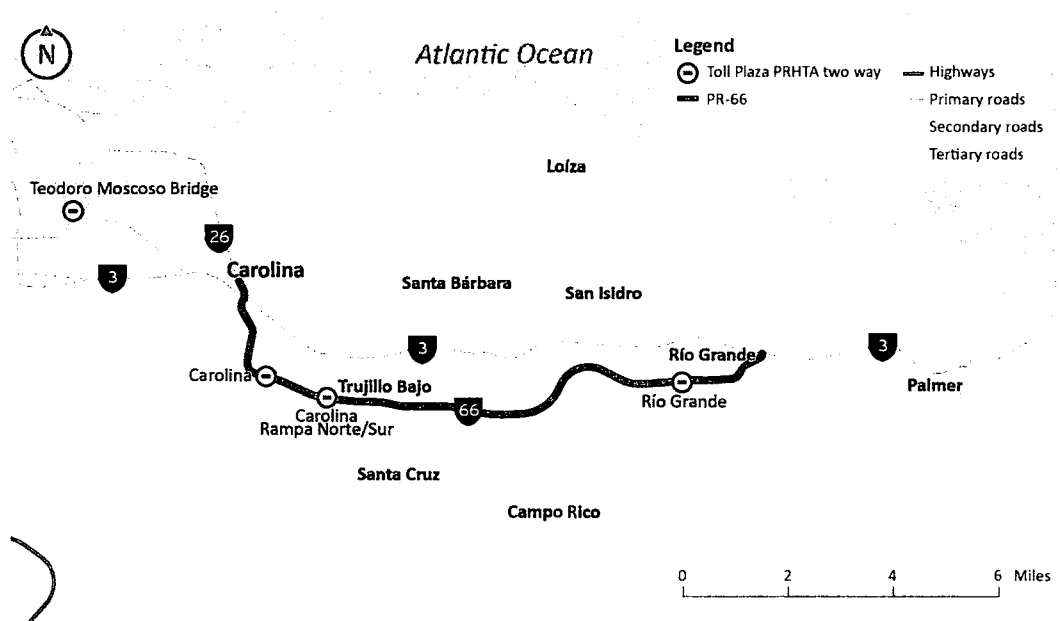


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Officially named the "José Celso Barbosa Highway," Puerto Rico Highway 53 is part of the NHS and consist of several intermittent segments, commencing in the municipality of Fajardo and ending in Salinas at the intersection with PR-52. The construction of the José Celso Barbosa Highway began in 1998, with its first segment opening to the public in 1994. This highway serves traffic in the easternmost part of the island with direct service to seven municipalities, which had a population of approximately 220,167 as of 2021. It runs parallel to PR-3, which travels from the municipality of Fajardo to the municipality of Salinas.

For purposes of the Project, only the toll road portions of the José Celso Barbosa Highway will constitute part of the Toll Roads, and the Toll Roads will also include a 0.6 km (0.37 mile) segment of Puerto Rico Highway 54 that is adjacent to the José Celso Barbosa Highway. For such reason, as used herein, "PR-53" refers to: (i) a segment commencing at the PR-3 intersection in Fajardo and extending for 43.7 km (27.15 miles) to the PR-9914 intersection in Yabucoa and (ii) a segment commencing at the intersection of PR-7711 and PR-54 in Guayama and extending fo 12.3 km (7.64 miles) to the PR.52 intersection in Salinas.

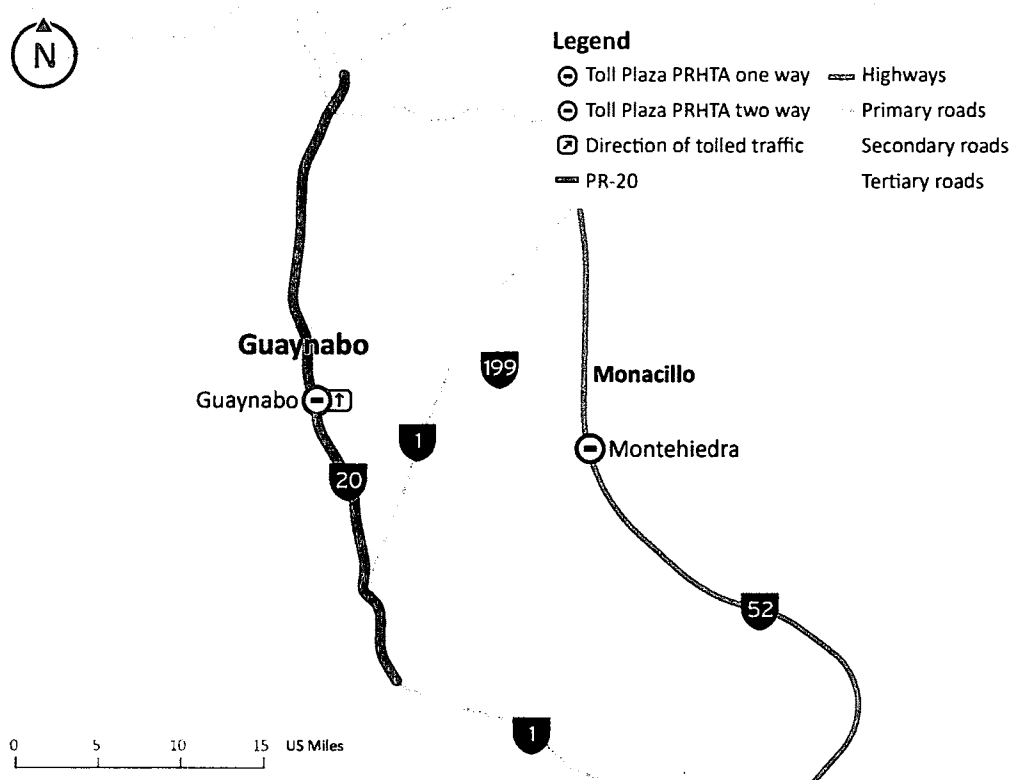
Figure A.8.3: Location Map, PR-66



Officially named the “Roberto Sánchez Vilella Highway,” PR-66 travels east-west for 19.5 km (12.1 miles). PR-66 commences at the PR-3 intersection, extends through the municipalities of Carolina and Canóvanas, and ends in the municipality of Río Grande. PR-66 serves the northeastern portion of Puerto Rico. The three municipalities directly served by PR-66 had a total population of approximately 242,528 in 2021. The municipality of Carolina serves as the home location of Puerto Rico’s Luis Muñoz Marín International Airport and is part of the San Juan Metropolitan Area, which makes PR-66 a key corridor within the San Juan metro transportation system. PR-66 was developed to improve connectivity to the eastern region.

PR-66 was developed in two major phases. The first phase, which crosses the municipalities of Carolina and Canóvanas, began construction in 1997 and opened for operations in 2006. This first phase has the widest bridges in Puerto Rico. Subsequently, the second phase extended PR-66 from PR-188 in Canóvanas to PR-3 in Río Grande. The second phase of PR-66 consisted of an extension of 6.1 km (3.8 miles) that opened to the public in 2012. The competing alternate route, PR-3, is a non-tolled, signaled road with notable congestion.

Figure A.8.4: Location Map, PR-20



Officially named the "Rafael Martínez Nadal Expressway," PR-20 is a 9.5 kilometer (5.9 miles) urban expressway entirely located in the municipality of Guaynabo. PR-20 runs from an intersection with PR-2 near San Patricio Plaza Mall in Caparra, Guaynabo, to its convergence with PR-1 near the area of La Muda in Guaynabo. The municipality had a population of 89,195 in 2021 and is located between the two most populous municipalities in Puerto Rico, San Juan and Bayamón, which together had a combined population of approximately 519,973 in 2021.

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B.1. Definitions

Access Roads: Those roadways located within the Toll Roads that are closed to the general public and are intended only for use by maintenance, inspection or utility traffic.

Asphalt: A bituminous substance, soluble in gasoline or naphtha; used in liquid form for roadway work in crack and joint sealing and to cement together and coat the surface of mineral aggregates.

Base Course: The layer or layers of a specified material of designed thickness placed on a subbase or a subgrade to support a surface course.

Bituminous Concrete: A designed combination of dense graded mineral aggregate filler and asphalt cement mixed in a central plant, laid, and compacted while hot.

Bleeding: The accumulation of excess bituminous material on the roadway surface, caused by heat or the use of excessive quantities of bituminous material in construction, patching or resurfacing.

Blowup: Displacement of rigid-type pavement by a combination of vertical and horizontal stresses due to expansion. Generally, a blow-up is a heave in a concrete pavement caused by pavement expansion from excessive heat, sometimes resulting in shattering or displacement of the road surface.

Concrete: A mixture usually composed of Portland Cement, an aggregate of hard, inert particles and water.

Composite Pavement: A pavement structure consisting of a Portland Cement Concrete base course overlaid with one or more courses of bituminous surface material.

Course: A layer of road material, separately compacted, used as a wearing surface or as a base for a wearing surface.

Crack: A fissure or open seam potentially extending through the entire depth of the pavement.

Emulsion: A suspension of extremely small droplets of asphalt coated with water in the presence of an agent, which is usually a type of detergent.

Erosion: A slow wearing away of the surface by natural action (weather) or by usage (traffic).

Faulting: is the vertical misalignment of pavement joints in concrete pavements.

Flexible Pavement: A pavement structure which maintains intimate contact with

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and distributes loads to the subgrade and depends on aggregate interlock, particle friction, and cohesion for stability.

Hot Mix: A general term used for hot plant mixed bituminous concrete and sheet asphalt mixtures which are manufactured and laid at temperatures ranging from 250°F and above.

International Roughness Index (IRI): The accepted standard for measuring the roughness (ride quality) of a pavement surface. The IRI measures pavement roughness in terms of the number of inches per mile a laser-based device moves as it is driven along the pavement. The lower the number, the better the ride.

Joints: Designed or designated vertical planes of separation used in placing concrete pavement to aid in contraction, expansion, or construction.

Mainline: The portion of the multi-lane Expressway along the traveled way of the Toll Roads extending from shoulder line to shoulder line.

Median: The portion of a divided highway separating the traveled ways for traffic in opposite directions.

Mud jacking: An operation that raises a section of concrete pavement by hydraulic on pneumatic pressure applied by forcing an approved slurry mortar under the section to be raised.

Overlay: A layer of new bituminous concrete over an existing bituminous or concrete pavement.

Patching: Mending, repairing; especially, to repair a road surface.

Pavement Structure: The combination of subbase, base course and surface course placed on a subgrade to support the traffic load and distribute it to the roadbed.

Pothole: An area where a piece of pavement has broken free and been removed, leaving a hole.

Portland Cement: A hydraulic cement consisting of compounds of silica, lime and alumina; so called because of its resemblance in color, when set, to the Portland stone of England.

Ramp: The portion of the traveled way that provides access between the mainline and the local street network, or connectivity of different mainlines or other ramp, that extends from shoulder line to shoulder line or from curb line to curb line.

Raveling: The progressive loosening and loss of the aggregate material in the

surface course of a road as it separates from adjacent material.

Resurfacing: Placing of one or more new layers of material on an existing pavement surface.

Rigid Pavement: A pavement structure which distributes loads to the subgrade and has one course typically constructed with Portland cement concrete, bounded by joints and edges.

Rocking or Pumping Pavement: Conditions in which one or more rigid or composite pavement sections move or rotate under wheel contact, with the slab itself remaining relatively sound.

Roadway: All portions of the mainline pavement along the Toll Roads, including shoulders and ramps, for vehicular users.

Rutted and Shoved Pavement: Deformations in which the bituminous surface of the pavement has worn into longitudinal depressions or heaves due to repetitive passes of vehicle tires, or transverse corrugations due to vehicle deceleration and acceleration.

Shoulder: The portion of the roadway contiguous with the mainline or ramp traveled way for accommodation of stopped vehicles, for emergency use, and for lateral support of base and surface courses.

Subbase: The layers of specified or selected material of designed thickness placed on a subgrade to support a base course.

Subgrade: The layer of a roadbed upon which the pavement structure and shoulders including curbs are constructed.

Surface Course: Layer of a pavement structure designed to accommodate the traffic load, the top layer of which resists skidding, traffic abrasion and the disintegrating effects of climate. This layer is sometimes called the "Wearing Course".

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B.2 References

All stated references must be the most current version of such reference or, if applicable, of the document known to have succeeded or replaced the original reference stated herein:

- Design Directives, PRHTA
- Guidelines for the Selection and Installation of Orientation Signs, PRHTA
- Highway Design Manual, PRHTA
- Signage Guide, PRHTA
- Standard Drawings, PRHTA
- Standard Specifications for Road and Bridge Construction, PRHTA
- Traffic Sign Manual, PRHTA
- A Guide to Standardized Highway Barrier Hardware, AASHTO
- A Policy on Geometric Design of Highways and Streets, AASHTO
- Guide for Design of Pavement Structures, Volume I, AASHTO
- LRFD Bridge Construction Specifications, AASHTO
- LRFD Bridge Design Specifications, AASHTO
- Roadside Design Guide, AASHTO
- Standard Specification for Highway Bridges, AASHTO
- Pavement Management Guide, AASHTO
- Manual Uniform Traffic Control Devices (MUTCD), FHWA
- Methods for Maintaining Traffic Sign Retro reflectivity, FHWA
- National Bridge Inspection Standard Regulation, FHWA
- Publication "SHRP-H-348: Asphalt Pavement Repair Manuals of Practice", FHWA
- Publication "SHRP-H-349: Concrete Pavement Repair Manuals of Practice", FHWA
- Recording and coding guide for the structure inventory appraisal of the Nation's bridge, FHWA
- Distress Identification Manual for Long term pavement performance program
- Standard Operation Procedure Bridges (PRHTA)

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B.3 Policy for Performing Roadway Pavement & Shoulder Maintenance Work

B.3.1 Objective

The objective of Roadway Maintenance is to ensure that all pavements within the Toll Roads remain safe, smooth, durable, stable; and that work is conducted in a manner so as to prevent and repair deterioration of the roadway and shoulder pavement, thereby ensuring the safe and orderly movement of traffic.

Roadways require, without limitation, repairs to cracks, spalls, potholes, etc.; removal and replacement of pavement sections; reconstruction of the pavement structure; continual maintenance; and sweeping and cleaning of the roadway surfaces.

B.3.2 Responsibility of Concessionaire

In order to meet the requirements of this Chapter, the Concessionaire must engage in practices that limit and minimize the times and locations that roadway pavements are not completely open to traffic, to continually remain functional, carry the intended traffic, provide a safe means of passage to Toll Road users, and meet all safety, aesthetic and economic benefits. This requires that the Concessionaire carry out its obligations in accordance with this Chapter in a manner that maintains or improves the condition and functionality of the roadways.

The Concessionaire must perform roadside maintenance, inspection and work activities at a frequency that ensures uniform and consistent compliance with all PRHTA, Commonwealth and Federal regulations, and the requirements specified within this Chapter.

The roadways to be maintained include all: mainline; ramps; access roads, parking lots at facilities; toll plazas; and mainline and ramp shoulders within the Toll Roads.

All materials and construction requirements for roadway work performed by the Concessionaire must conform to the appropriate and applicable requirements of the Referenced Documents noted in Section B.2 of this Chapter.

To the greatest extent possible, when performing roadway work the Concessionaire must utilize the newest techniques implemented and approved by the PRHTA for major highway contracts to provide longer pavement life, maximize the reuse of materials and to minimize motorist inconvenience.

During all work, the Concessionaire must establish and continually maintain traffic control and protection as addressed by the requirements of Volume II – Operations and Procedures Manual, Chapter H, “Traffic and Travel Management Plan”.

Once a particular maintenance repair has been started, the work must continue during consecutive working days as weather permits until a thorough and workmanlike repair has been achieved. The objective of every repair is to cure all

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roadway deficiencies, to preserve the economic value of the Toll Roads as a capital asset, and to restore a riding quality satisfactory to Toll Road users, in accordance with the requirements of this Chapter.

The Concessionaire must make routine roadway maintenance inspections part of its daily activities and all Concessionaire staff who travel the Toll Roads must be instructed to report any roadway maintenance needs observed.

Work on the roadway and pavements within the Toll Roads that must be performed by the Concessionaire include the following:

- General:

- Investigate, inspect, and rectify the underlying cause or the origin of the defect or damage before commencing repair work.
- Ensure that all pavement repairs are of the required structural thicknesses; are constructed to a minimum depth equal to that of the distressed pavement; and provide a dense, smooth, and level transition between the treated area and the adjacent undisturbed pavement surface.
- Repair all pavement surfaces in a manner to match the profile, grades and cross slopes of the roadway; and ensure that all repair areas are free of depressions or humps, and that there is no separation at the adjacent undisturbed pavement joints.
- Ensure that temporary repairs and patching have been made with appropriate materials and workmanship to withstand traffic loading until a permanent repair can be made.
- Remove and properly dispose of all debris and loose material, and leave the work site in a clean condition.

- Bituminous Surface Repairs:

- Repair bituminous surfaces and pavement when defects, including, but not limited to the following, are present: Rutting, Raveling, Shoving, Bleeding, Depressions, Settlements, Weathering, Fatigue, Loss of Traction, etc., in accordance with the requirements of the Operating Standards, or good engineering and maintenance practices.
- Ensure that all roadway bituminous surfaces are smooth, stable, durable and provide a safe condition for Toll Road users.
- Repair shoulders that have been damaged by erosion, settlement or traffic use.
- Pavement Surfaces that are considered or show indications that would be classified as slippery must be analyzed and corrected with a skid resistant pavement.



- Potholes:
 - All potholes must be repaired with temporary or permanent repairs within the Time Frames indicated in Table B.3.3.1.
 - All temporary pothole repairs must be monitored, and failed areas re-treated until the permanent work can be completed.
- Joints & Cracks:
 - Repair all severe pavement cracks, as defined in Section B.4.4.1 of this Chapter.
 - Evaluate and repair all narrow pavement cracks, as defined in Section B.4.4.2 of this Chapter.
 - Repair all joint separations and joint failures in all pavements as they develop, within the Time Frames stated in Table B.3.3.1.
 - Monitor and, if required, reseal cracks and joints that do not withstand the impact of traffic or show signs of failure.
- Spalled Pavement:
 - Repair all pits, chips, pop-outs, scaling or other surface defects that can be identified or classified as spalls, and as defined in Section B.4.5 of this Chapter.
- Settled and Heaved Pavement:
 - Inspect, evaluate and perform the applicable repair to pavements that have settled or heaved, as defined in Section B.4.6 of this Chapter.
- Base and Subbase Repairs:
 - Remove unsuitable materials, complete backfill and compact materials in accordance with the requirements of the Reference Documents noted in Section B.2 of this Chapter.
 - When a cause is determined as to why a repair is required, install drainage appliances or materials that will prevent conditions from redeveloping.
 - Provide a suitable sub grade to ensure effective drainage of the road base in areas where surface damage is evident.
 - Provide adequate support for imposed vehicle loadings where surface damage has resulted from insufficient strength of the road base or subgrade.

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- Grinding and Profiling:

- When the situation dictates, and the requirements stated in Section B.4.8 of this Chapter require: grind and/or profile pavement to provide a smooth and safe driving surface for Toll Road users.

- Access Roads:

- Maintain the integrity of the shape and driving surface of the access roadways to provide smooth and safe passage.
- Repair all voids, potholes, erosion, ruts, etc. in a manner and time frame to permit safe and continual passage across the access roads.

- Roadway Sweeping & Cleaning:

- Clean roadway surfaces by removing accumulations of dirt, debris, sand and/or gravel from the travel way, centerlines, shoulders, curbs, toll plazas, ramps, and along medians and/or roadside barriers to provide a safe, clean free-draining condition.
- Ensure that all waste from the sweeping and cleaning operations are properly disposed of in accordance with Municipal, Commonwealth and Federal Regulations.
- Sweeping should remove excess material at the edges of the pavement and in the middle of the safety barriers to avoid the accumulation of water and allow proper drainage.

- Pavement Smoothness:

Pavement surface smoothness as determined by the International Roughness Index (IRI) must be measured annually on all traveled Mainline surfaces, and reported as an average IRI per 0.1 mile segment throughout the length of the Toll Roads. The maximum of any given one (1) mile section must not exceed 160 IRI, with an overall system average not greater than 120. Bridge structures shall be excluded from this requirement from bridge joint to bridge joint inclusive. For purposes of clarification, the IRI requirement will apply to approach slabs adjacent to Mainline bridge joints. IRI data submissions regarding pavement smoothness shall be provided on an annual basis. All IRI data submissions must be in electronic format and must be capable of being aggregated in various segment lengths.

- Pavement Surface Friction:

The Concessionaire must measure the friction of the pavement surface annually, in order to be able to generate a report of the current condition in terms of friction capacity of the existing pavement. The Concessionaire

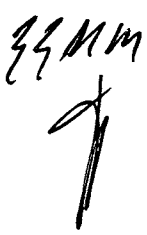
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must arrange for a Puerto Rico Licensed Professional Engineer to review this report in order to detect slipping risk areas for the users. The concessionaire will have to address those areas found in the report with compromised friction capacity. Both the equipment and the data format used in the monitoring and collection of friction data must be approved by the Puerto Rico Highway Authority. The critical values in the friction data will be according to the manufacturer's methodology.

B.3.3 Performance Time Frames

The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire) within which the Concessionaire must complete the required maintenance, repair or replacement to the Roadway features (unless weather conditions limit material application):

TABLE B.3.3.1



Roadway Pavement Work to be Performed	Maximum Time Duration
Bituminous Surface Repairs	10 Days
Pothole Repairs: <ul style="list-style-type: none">• Temporary• Permanent	24 Hours 1 Month
Joint & Crack Repairs	3 Months
Spalled Pavement Repairs	4 Months
<u>Settled and Heaved Pavement Repairs:</u> <ul style="list-style-type: none">- Temporary- Permanent	24 Hours 3 Weeks
Base and Subbase Repairs	1 Month
Grinding and Profiling Repairs	3 Months
Access Roads	6 Months

The following table establishes the minimum frequency that a particular maintenance operation is to be performed.

TABLE B.3.3.2

Maintenance to be Performed	Minimum Frequency of Occurrence
Pavement Condition Rating (Comprised of IRI, Rutting, Faulting, Cracking Survey, Surface Friction & Visual Inspection)	Once Annually (See Volume II, Chapter L)
<u>Roadway Sweeping & Cleaning:</u> <ul style="list-style-type: none">- Mainline (Sweeping)- Mainline (Large Debris Pickup)- Ramps (Sweeping)- Ramps (Large Debris Pickup)- Shoulders (Sweeping)- Shoulders (Large Debris Pickup)- Toll Plaza Lanes	Once every 4 Months Daily Once every 4 Months Daily Once every 4 Months Daily Monthly

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B.3.4 Acceptance Criteria

Pavement and shoulder maintenance work will be considered acceptable when completed in compliance with the PRHTA Standard Specifications for Road and Bridge Construction, AASHTO Maintenance Manual for Roadways and Bridges and the following criteria are met or exceeded:

- All repairs have been completed with the proper materials, methods, and equipment in full compliance with the requirements stated in the Reference Documents listed in Section B.2 of this Chapter.
- The underlying causes for the pavement defects have been thoroughly evaluated and examined, and the appropriate repairs and remedies taken.
- All repairs restore the integrity to the pavement so that it is safe and capable of supporting the applied loads.
- Repair work provides a continual smooth transition from new to existing pavements, free of all defects and deficiencies.
- Temporary repairs are replaced with the proper and correct permanent repairs in a timely manner, and such temporary repairs can withstand the loads applied for as long as the temporary repair is required.
- The work sites are left in a clean and tidy condition.
- All of the requirements stated and defined in the subsections of Section B.4 of this Chapter are upheld for the determination, removal and repair work required.
- The roadways remain free of dirt, debris, etc., and the roadways are swept at the frequency stated in Table B.3.3.2 of this Chapter.

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B.4 Additional Requirements

B.4.1 Temporary Pavement Patching

Temporary patching material may be used in areas that demand immediate attention. Temporary pavement patching will be required when time, location (mainline or ramp), or material constraints dictate that temporary measures be taken immediately to adequately remedy the pavement failure for a short duration. Temporary pavement patching may be partial or full depth. The Concessionaire must utilize methods of temporary pavement patching that will remain serviceable for the duration adequate to make the permanent repair, and the quality of workmanship must be sufficient to facilitate adequate drainage from the temporary repair. All Temporary Pavement Patching will be in accordance with the requirements of PRHTA Standard Specifications for Road and Bridge Construction and the Reference Documents listed in Section B.2 of this Chapter.

B.4.2 Bituminous Surface Repairs

Bituminous surface repairs are categorized as repairs that are most effectively and commonly permanently corrected by milling and resurfacing of the pavement containing the defect. These defects include rutting, shoving, raveling and stripping, and slippery pavement surfaces. All milling and resurfacing repairs will be made in accordance with the requirements of PRHTA Standard Specifications for Road and Bridge Construction and the Reference Documents listed in Section B.2 of this Chapter.

B.4.2.1 Wheel Track Ruts

Excessive wearing of the surface into ruts in the wheel tracks must be considered to be a safety issue because storm water may be trapped in the ruts, contributing to hydroplaning.

Bituminous surfaces must be milled and replaced in sections adequate in length, and one full lane width when correcting this type of surface defect. Adjoining pavement sections must also be evaluated to determine if the repair area should be widened to include and connect other nearby repair areas.

Correction of wheel ruts is required when either:

- The maximum rut depth at any single point on a travel lane is 0.80 inches or greater.
- The average rut depth for any 0.1 mile-long section of a single lane is 0.40-inch or more.

B.4.2.2 Ruts (Shoving) Transverse

Bituminous surfaces that have been shoved or deformed into transverse corrugations must be considered to be a safety issue, because trapped storm water may contribute to hydroplaning and may accelerate pavement deterioration. In addition, the corrugated surface could contribute to loss of vehicle control at higher speeds.

Bituminous surfaces must be milled and replaced in sections adequate in length, and by one full lane width when correcting this type of surface defect. Adjoining pavement sections must also be evaluated to determine if the repair area should be widened to include and connect other nearby repair areas.

Correction of transverse ruts is required when either:

- The maximum amplitude at any single point in a travel lane is 1-inch or greater.
- The average amplitude measured along any 50-foot-long section of a single lane is 0.75 inch or more.

B.4.2.3 Raveling and Stripping

Once raveling has begun, this type of defect can develop rapidly. Stripping and raveling surface defects can become a safety issue due to loose aggregates, or surface depressions that may hold water and contribute to hydroplaning or other hazardous conditions.

Bituminous surfaces must be milled and replaced in sections adequate in length, and by full one lane width when correcting this type of surface defect. Adjoining pavement sections must also be evaluated to determine if the repair area should be widened to include and connect to other nearby repair areas.

Correction of a surface that shows raveling or stripping is required when either:

- A rough or pebbly texture extends along a 100 foot-long section of a single lane or a 50foot-long section of neighboring lanes.
- Two (2) locations are noted in a 150 foot-long section of a single lane in which a rough-textured surface shows heavy cracking or missing pieces of the surface.

B.4.2.4 High Accident Locations (HAL)

Slippery pavement surfaces can contribute to a high wet-pavement accident rate at locations where vehicles must decelerate or turn, and create unsafe conditions for Highway users. The Concessionaire must obtain and review the annual accident statistics compiled from accident records and compare the rates at specific locations and roadway segments.

The Concessionaire must identify wet- pavement High Accident Locations (HAL) on an annual basis. The Concessionaire must arrange for a Puerto Rico Licensed Professional Engineer to review the accident reports and to conduct a field inspection of the HAL sites to examine slipperiness when the pavement is wet or dry, crash damage or skid marks at each scene, visibly polished pavement, and the like.

If the field inspection confirms that a site is a wet-pavement HAL, the site must be immediately scheduled for pavement repairs. The appropriate repair will involve milling the surface and replacing it with the recommended surface mix as defined in the PRHTA Standard Specifications for Road and Bridge Construction and the Reference Documents listed in Section B.2 of this Chapter. Any required milling and patching must cover the entire wet-pavement HAL site as revealed by accident data and field inspections.

B.4.3 Pothole Repairs

Potholes occur in pavements and are most prevalent during the rain season (May through November). Once a pothole is identified, the Concessionaire must dispatch work or repair crews to make temporary repairs within the Time Frames

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stated in Table B.3.3.1.

Temporary repairs must be constructed in a workmanlike manner using appropriate material, so that the patch will have the best possible survivability under continuing traffic loadings.

Temporary repairs must be replaced with permanent bituminous concrete pavement patches, which must be in conformance with requirements of PRHTA Standards Specifications for Road and Bridge Construction and the Reference Documents listed in Section B.2 of this Chapter.

B.4.4 Cracks & Joints

The following sections summarize the work that must be performed to correct crack and joint defects in the PCC and bituminous concrete pavements.

Cracking and joint defects that recur may be attributable to volume changes, temperature changes, or moisture content changes in the base support. The Concessionaire must restore and stabilize base support when this has been identified as the cause of pavement surface cracking.

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B.4.4.1 Large Pavement Cracks

Large pavement cracks are often large-scale defects that allow water and foreign material to enter the pavement structure, subbase, and subgrade, and which may contribute to poor rideability.

When the Concessionaire is performing crack sealing work as preparation for the construction of a bituminous concrete overlay, the Concessionaire must incorporate the appropriate reflective crack control treatment in the rehabilitation.

Crack sealing materials, methods and equipment must be in accordance with requirements of PRHTA Standard Specifications for Road and Bridge Construction, AASHTO Maintenance Manual for Roadways and the Reference Documents listed in Section B.2 of this Chapter.

Correction of large cracks in a bituminous or PCC pavement is required when either:

- The pavement surface contains visible cracks greater than 0.125 inch".
- One (1) location shows a vertical displacement faulting 0.15 inch in any 0.1 mile long segment of a single lane.
- The length of the correction must extend a distance such that the entire defect has been addressed.

B.4.4.2 Narrow Pavement Cracks

Narrow cracking (crack widths less than 0.15 inch) of flexible and rigid pavements is an inevitable consequence and may be hastened or worsened if not addressed and repaired.

Narrow cracks may be filled with emulsion, emulsion and rejuvenator mixture, or liquid asphalt. Also, can be address using pavement preservation techniques. When using emulsion, light grade liquid asphalts or asphalt rejuvenators for crack repairs, fine sand should be mixed with the liquid or applied to the surface of the crack immediately after it has been filled.

Narrow pavement cracks need not be routed before being sealed, although the service life of any crack repair will be extended.

Small cracks that extend over a larger area, such as alligator-type cracking, may be repaired by tacking a blocked-out area and applying chips or other similar material, or a thin patch of hot plant mix so long as the repairs are in compliance with PRHTA Standard Specifications for Road and Bridge Construction, AASHTO Maintenance Manual for Roadways and the Reference Documents listed in Section B.2 of this Chapter. Such patches should be blocked out to give a uniform rectangular appearance.

B.4.4.3 Pavement Joint Separation

Joint separation in pavements or between adjacent sections of pavement is detrimental to the pavement structure. Individual joints in pavement or PCC base course that are separated by a 0.25-inch gap or wider must be repaired.

All joint repairs in pavements must conform to the repairs for cracks and joints in accordance with the requirements of PRHTA Standard Specifications for Road and Bridge Construction, AASHTO Maintenance Manual for Roadways and the Reference Documents listed in Section B.2 of this Chapter.

B.4.4.4 Pavement Joint Failure

Joint failure in rigid pavement or PCC base pavement is a severe joint breakdown resulting in raised joints caused by curling of the pavement slab, faulting at the joint or vertical displacement of concrete pavement slabs relative to each other or to the adjacent shoulder.

Joint failure may result in unexpected heaving or blowups at the joint. These failures must be addressed upon detection. Repairs may be made with temporary patching until permanent full depth pavement repairs can be made.

Repairs to failed joints must be made by the methods, materials and equipment for removal and replacement of the failed joint in accordance

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with the requirements of PRHTA Standard Specifications for Road and Bridge Construction, AASHTO Maintenance Manual for Roadways and the Reference Documents listed in Section B.2 of this Chapter.

Correction of joint failure in a PCC pavement is required when:

- One (1) location shows a vertical displacement (faulting) of 0.15 inch in any 50-foot-long segment of a single lane.
- One (1) location shows a vertical displacement (faulting) of 0.15 inch in any 50-foot-long segment of a single lane.

B.4.5 Spalled Pavements

Spalls in PCC pavements are defects that leave a hole or gap in the roadway surface which may contribute to poor rideability as well as loss of vehicle control.

Spalled PCC pavement may be repaired using either plant mixed bituminous material or PCC materials, whether they occur in PCC pavements, or PCC base courses. When temperatures or inclement weather prohibit permanent repairs, temporary repairs are permitted, and shall be in accordance with all requirements for temporary repairs.

Repairs to spalled pavements must be in accordance to the requirements of PRHTA Standard Specifications for Road and Bridge Construction, AASHTO Maintenance Manual for Roadways and the Reference Documents listed in Section B.2 of this Chapter.

Correction of spalls in a PCC pavement is required when either:

- One (1) location shows a transverse spall that either exceeds 4-inches in length in the direction of travel, 3inch width or 0.25 inch depth; or has cause to adversely affect driver safety.
- One (1) location shows a longitudinal spall that has been noted by maintenance staff or Toll Road users as adversely affecting riding quality.

B.4.6 Settled and Heaved Pavement

The following sections summarize the work that must be performed to correct settlement and heave in PCC and bituminous concrete pavements.

B.4.6.1. Tolerances for Abrupt Vertical Variations

Vertical variations may occur at the joint between two adjacent slabs of a rigid pavement; at a transverse crack or joint in the bituminous surface of a composite pavement; or at any crack or joint in a flexible pavement. Vertical variations may also occur between the pavement and adjoining construction such as concrete curb, shoulders, ramps, the center median, bridge

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approach slabs, etc. Such vertical offsets can be caused by a number of factors, and may appear abruptly or more gradually.

Settlement and heave must be considered to be a safety concern due to the possible loss of vehicle control when a vehicle impacts these defects, and the excessive impact loading is imparted to bridges and slabs. When this type of pavement distortion creates tears and cracks, the resulting penetration of water into underlying base courses, subbases or subgrade can rapidly escalate the problem until the pavement structure fails entirely.

Correction of a bituminous surface broken by settlement or heave is required when either:

- One (1) location shows a vertical or horizontal displacement of 0.75 inch in any 50-foot long segment of a single lane.
- Three (3) locations show vertical or horizontal displacements that exceed 0.50-inch in any 200-foot long segment of a single lane or a 100-foot long segment of one travel direction of the Highway.

Correction of a rigid pavement showing settlement and heave of individual slabs is required when either:

- One (1) location shows a vertical or horizontal displacement of 0.50-inch between adjacent slabs in a single lane or between two lanes in one travel direction.

When an abrupt vertical differential is found between the traveled way and the adjacent paved shoulder, repairs to correct one or both of the surfaces will be required when:

- One (1) location shows a vertical or horizontal displacement of 0.5-inch.

B.4.6.2. Partial Depth Pavement Patching

If, after examining the settlement and heave in a flexible or composite pavement section, the Concessionaire determines that a base course repair is not warranted, the Concessionaire must mill and replace the bituminous surface course. The repair areas will be a minimum of 10' long by one full lane in width. The repair area must be carefully determined so that the constructed patch will provide a smooth transition as it eliminates the vertical displacement. In general, a patch should be a minimum 40' long for every one inch (1") of vertical displacement spanned by the patch, after the normal profile grade of the road has been taken into consideration.

Whenever settlement and heave has caused the difference in vertical elevation between the pavement and the adjacent shoulder, the Concessionaire must mill and patch the shoulder in order to avoid affecting the mainline or ramp roadway profiles. However, the Concessionaire must not pave against the center median barrier wall, and must restore the intended and acceptable cross slope of the shoulder.

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B.4.6.3. Full Depth Pavement Patching

Full depth pavement patching will be required when settlement and heave has caused sufficient movements and stresses to physically break up the pavement section. Full depth pavement patching will also be required when the pavement must be removed in order to replace unsuitable subsurface soils, to undertake underground appurtenance repair or construction, or to address other defects beneath the pavement.

Repeated surface repairs will not be an acceptable substitute for a remedy involving full depth patching, when the causes or impacts of severe pavement heave or settlement can only be remedied by making a thorough reconstruction.

All work to construct full depth pavement patches must conform to the requirements of PRHTA Standard Specifications for Road and Bridge Construction, AASHTO Maintenance Manual for Roadways and the Reference Documents listed in Section B.2 of this Chapter. The material quality and depth of repair must match or exceed those properties of the existing adjacent cross section.

B.4.6.4. Settlement of Bridge Approach Pavements

Settlement of bridge approach pavements is most often detected at the expansion joint between the bridge deck and the approach slab, and is commonly caused by consolidation of the structural backfill behind the bridge abutment and beneath the approach slab. A vertical variation between the approach slab and the deck is highly undesirable because, when the ability of the expansion joint to accommodate the variation is exceeded, water will readily enter the expansion joint to the detriment of the deck, beams, abutment backwall and abutment face. Such settlement is also undesirable because the vertical variation causes heavy vehicles to impact the end of the bridge deck when crossing onto the bridge or impact the approach slab when leaving the bridge deck, which is detrimental to both structures and traffic.

The Concessionaire must conduct geotechnical evaluations using a qualified Geotechnical Engineer to determine if the problem is attributable to settlement and repair all voids that are discovered.

Correction of a settled PCC bridge approach slab, whether or not it is currently overlaid with asphalt or concrete overlay, is required when:

- One (1) location shows a vertical displacement of 0.75-inch between the approach slab and the bridge deck.

B.4.7 Pavement Base and Subbase

The following sections summarize the repairs that must be undertaken to address defects and deficiencies in pavement base courses and subbases.

B.4.7.1. Evaluation and Determination of Pavement Base Distress

Whenever surface cracks or pavement joints are accompanied by a severe vertical variation, the Concessionaire must evaluate the site to determine if the underlying subbase or subgrade has failed.

When severe settlement or heave occurs at one or more slabs of a rigid pavement, the likeliest cause of the vertical dislocation will be a defect in the subbase or a deeper foundation layer. The Concessionaire must evaluate all heaved or settled rigid pavement slabs to determine the manner in which underlying structural support has weakened or failed. The slab must be inspected under traffic to determine if it is rocking or pumping when loaded.

Whenever the base course failure is attributed to the cracking, crushing, or partial collapse of any utility conduit, sewer pipe, drainage structure, or similar appurtenance, the Concessionaire must make a full repair of the appurtenance. The Concessionaire must not repair the distressed pavement section until proper support has been restored, and the Concessionaire can conclude that the subbase or subgrade can support the traffic loads.

If the geotechnical sampling, testing and studies conclude that sections of the pavement were caused to heave or settle due to improper supporting soils, the Concessionaire must make a thorough reconstruction in the area to permanently repair the cause of the pavement movement.

If a broken base course is unexpectedly revealed during the milling of existing bituminous surface courses, the Concessionaire must promptly evaluate the extent of the base failure, and select and implement an appropriate, permanent remedy. The Concessionaire must not repeatedly patch or overlay the problem area as it recurs but must repair the base course.

B.4.7.2. Investigation of Rocking or Pumping Rigid Pavement

Individual slabs of a PCC pavement or PCC base course that rock, move or pump subbase materials through joints and cracks when subjected to traffic loadings, must be analyzed to determine the cause of the reduced pavement structural support, and the extent of the damage done to the pavement structure.

The Concessionaire must evaluate surface defects in bituminous overlaid composite pavement or flexible pavement to determine if the defect is attributable to base failure or subgrade problems. If a base failure is evident, the Concessionaire then must perform the base repair as specified above.

Rigid pavement slabs that rock under wheel impacts may still be sound but may have lost foundation support due to subbase consolidation, washout, settlement of embankment, or other causes. If the rocking pavement slabs are found to be sound and whole, but their underlying support is deficient, the Concessionaire may attempt to repair such slabs by means of subbase

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or subgrade reinforcement techniques, or by removal and replacement of the pavement or base.

Pumping pavement slabs exhibit a type of base failure that will rarely be corrected by measures such as mud jacking or overlays. When the Concessionaire's inspections furnish evidence that support soils are being pumped out from under PCC base course slabs, the Concessionaire must schedule a removal and replacement of the failed base and pavement structure.

B.4.7.3. Pavement Subbase Reinforcement

Subbase reinforcement may be a suitable repair strategy when there is evidence of void or hollow space under rigid pavement slabs, or in cases when rigid pavement settlement is attributable to failure or compressibility of pavement support soils.

When a qualified Geotechnical Engineer concludes that a particular PCC base slab should be stabilized, reinforced or raised, the Concessionaire may attempt these methods in order to re-establish the subbase without removing and reconstructing the slabs. Methods such as mud jacking, or pressure-injecting a PCC cement grout underneath the slab in order to replace lost or sunken subbase material, etc., should be done by a qualified Contractor experienced in this specific type of roadway construction work.

Sub sealing involving pumping a bituminous mixture under the slab to seal the subgrade from further water penetration is not allowed.

B.4.8 Grinding and Profiling

The Concessionaire must not grind PCC bridge approach pavements or any reinforced concrete pavement in such a way that the reinforcement is exposed, concrete cover over reinforcing bars is substantially reduced, or the structural thickness of the concrete section is so reduced. However, there may be occasions where minor pavement grinding can be effective in repairing small-scale surface irregularities, small vertical faults at joints, or concrete patches that have slightly faulted.

The grinding must not remove the finish from more than minor areas of the riding surface, so that most of the original roughened texture is maintained.

B.4.9 Access Roads

Access roadways located within each Highway System need not be maintained to the same standards as those roadways open to the public. The requirements for access road maintenance are to ensure that access roads provide safe and convenient access to specific areas.

B.4.10 Roadway Sweeping and Cleaning

Regular and effective pavement and shoulder sweeping and cleaning is the responsibility of the Concessionaire. The Concessionaire must maintain the traveled ways of the Toll Roads in such a manner that the roadways are kept clear of litter, leaves, debris, wind-borne soil and trash, vegetation, droppings and loose material that might pose a safety hazard to Toll Road users, and which has a negative impact on the aesthetics and appearances of the Toll Roads.

The Concessionaire is responsible for all sweeping and cleaning work in accordance with the frequencies stated in Table B.3.3.2 of this Chapter, and in determining any other special needs as a reaction to different circumstances or events.

All debris and spoil must be legally disposed of in accordance with Federal, Commonwealth and Municipal solid waste disposal laws and ordinances.

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C. PAVEMENT DELINEATION MAINTENANCE

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C.1 Definitions

Pavement Delineation: Devices designed and installed to assist in guiding motorists, or which express, by symbolism, certain traffic laws and use prohibitions. Delineation includes, but is not limited to, pavement striping, pavement markings, raised pavement markers and prismatic reflectors.

Pavement Markings: Materials applied to the roadway surface, such as pavement striping, letters or symbols. Markings consist of paint, plastic tape and films, epoxy, or thermoplastic materials serving as a binder and substrate for reflective glass beading.

Pavement Striping: Materials applied to a roadway surface in a linear manner as a means to delineate, guide and control the movement of traffic.

Prismatic Reflectors: Products consisting of molded housings and reflective elements, applied to parapets, metal posts (roadside delineators), barrier walls and temporary concrete barrier to improve the nighttime visibility of devices by reflecting light back toward the light source (i.e. vehicle headlamps).

Raised Pavement Markers: Products consisting of metal or plastic castings and raised elements set into the roadway surface as a lane delineation that work by reflecting a light pattern back toward the light source (i.e. vehicle headlamps).

Summary

C.2 References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Design Directives, PRHTA
- Guidelines for the Selection and Installation of Orientation Signs, PRHTA
- Highway Design Manual, PRHTA
- Signage Guide, PRHTA
- Standard Drawings, PRHTA
- Standard Specifications for Road and Bridge Construction, PRHTA
- Traffic Sign Manual, PRHTA
- A Guide to Standardized Highway Barrier Hardware, AASHTO
- A Policy on Geometric Design of Highways and Streets, AASHTO
- Roadside Design Guide, AASHTO
- Manual Uniform Traffic Control Devices (MUTCD), FHWA

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C.3 Policy for Performing Pavement Delineation Maintenance

C.3.1 Objective

The objective of Pavement Delineation maintenance is to ensure that all pavement markings, pavement striping, prismatic reflectors and pavement markers are properly maintained to facilitate the safe and orderly movement of traffic.

Pavement Delineation requires repairs due to wear, construction, sunlight degradation, etc.; maintenance; removal; and replacement.

C.3.2 Responsibility of Concessionaire

To meet the requirements of this Chapter, the Concessionaire must engage in practices and inspection survey intervals to ensure that all Pavement Delineation functions properly, is clearly displayed to ensure the safe and orderly movement of traffic, and meets other safety, aesthetic, and economic benefits. This requires that the Concessionaire carry out its obligations in a manner that maintains and/or improves the condition and functionality of the Pavement Delineation.

Each delineation must be kept visible, legible, and properly functioning under both day and nighttime conditions. It should be noted that all Pavement Delineation will gradually deteriorate to a point where the delineation must be repaired or replaced. The Concessionaire is responsible for all repair and replacement determinations, required resources, work assignments and oversight for all work associated with or described for Pavement Delineation.

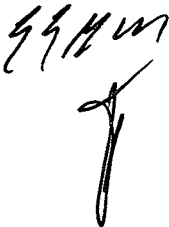
The Concessionaire must make routine Pavement Delineation inspections part of its daily activities and should be watchful for missing, damaged and worn Pavement Delineation.

Once work on Pavement Delineation has been started, the work must continue until a thorough, complete, and workmanlike product has been achieved. All work that affects Pavement Delineation must conclude with a restoration of all delineation to a like-new condition.

All materials and construction requirements for Pavement Delineation work performed by the Concessionaire must conform to the appropriate and applicable requirements of the PRHTA Standard Specifications for Road and Bridge Construction, AASHTO Maintenance Manual for Roadways and Bridges and the Reference Documents listed in Section C.2 of this Chapter.

Pavement Delineation for public and private roadways that pass beneath or above the Toll Roads and not included in the Toll Roads pursuant to the Toll Road Concession Agreement are excluded.

Work on Pavement Delineation on the Toll Roads that must be performed by the Concessionaire includes the following:

- 
- Ensure that all pavement striping, and markings are well-defined, clear, legible, distinct and in full accordance with the requirements of this Chapter and the Reference Documents listed in Section C.2 of this Chapter.
 - Replace all faded, worn, debonded, damaged, non-reflective and/or missing pavement striping and markings.
 - Repair and replace all damaged, non-functioning, broken, missing or obstructed raised pavement markers, prismatic reflectors, and roadside delineators.
 - Ensure that all pavement markings are reapplied or replaced when the required levels of retro-reflectivity are not in accordance with PRHTA, Commonwealth and Federal guidelines.
 - Remove and replace all Pavement Delineation as required by PRHTA, Commonwealth or Federal regulations.
 - Replace all pavement striping and markings that require alteration due to changing needs or conditions.
 - Maintain the Pavement Delineation for all parking stall lines, handicap stall markings, and related pavement markings within the Toll Plazas and Service Facilities for the Toll Roads or other adjacent to the parking or travel areas.
 - Ensure that all replaced Pavement Delineation matches the existing Pavement Delineation unless otherwise dictated by updates in the Reference Documents noted in Section C.2 of this Chapter or requested by PRHTA or the Commonwealth.
 - Install all new Pavement Delineation in full compliance with the Reference Documents listed in Section C.2 of this Chapter, or as requested by PRHTA or the Commonwealth.
 - Dispose of all removed materials in full compliance with all Municipal, Commonwealth and Federal disposal and environmental requirements.
 - Remove and completely eradicate all pavement markings which are superfluous or obsolete, or as requested by PRHTA and the Commonwealth.
 - Ensure that pavement and other surfaces are not damaged as a result of grinding or other eradication techniques, and that the work is in compliance with the Reference Documents listed in Section C.2 of this Chapter.
 - Replace all pavement markings and striping that are covered, obliterated, or removed due to construction or maintenance work with temporary Pavement Delineation prior to reopening to traffic, and maintain the temporary delineation until permanent Pavement Delineation is installed.
 - Ensure that all temporary Pavement Delineation is in full compliance with the Reference Documents listed in Section C.2 of this Chapter.

- Install temporary pavement markings and striping to delineate traffic at locations where the absence of or deficiencies in the Pavement Delineations create unsafe conditions or have the potential to become unsafe conditions for Toll Road users.

C.3.3 Performance Time Frames

The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire), within which the Concessionaire must complete the required maintenance, repair, replacement, or relocation work to the Pavement Delineation (unless weather conditions limit material application):

Pavement Delineation Item	Maximum Time Duration
Raised Pavement Markers	14 Days
Roadside Delineators	14 Days
<u>Prismatic Reflectors:</u>	
- Attached to barriers, guardrail, etc.	60 Days
- Attached to Piers and Fenders on structures over Navigable waters	1 Week
<u>Pavement Markings:</u>	
- Letters or symbols	30 Days
- Striping	30 Days

The Concessionaire must, from the time a deficiency is detected by discovery or report:

- Install temporary markings and striping within eight (8) hours.

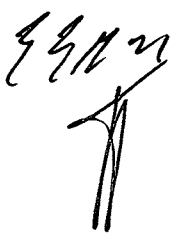
The Concessionaire must also:

- Ensure that temporary pavement markings and striping be clear, legible, and bonded to the surface upon which they are placed for the length of time that they are required.
- Remove and properly dispose of all waste materials from Pavement Delineation removal at the end of each day.
- Remove and replace temporary pavement markings and striping with permanent delineation within seven (7) days after it was installed or is no longer required; unless temporary delineation is for a pre-planned construction work period which, when concluded, the above stated requirement applies.

C.3.4 Acceptance Criteria

Pavement Delineation will be considered acceptable when the following criteria are met or exceeded:

- Prismatic Reflectors and Raised Pavement Markers:
 - The pavement marker bases are flush with the pavement surface and securely set into the pavement.
 - The reflector and markers are unbroken and clearly visible to traffic.
 - The markers are at the correct interval and are at the correct alignment.
- Pavement Markings and Striping:
 - Markings and striping have been properly applied at the correct application rates, location, color, size, alignment, and symbol, are free of distortion or damage, and have the correct reflectivity.
 - Incorrectly applied or placed markings and striping are not present.
 - Glass beads for reflectivity are applied at the specified amounts and meet the requirements of the Reference Documents as listed in Section C.2 of this Chapter.
 - Pavement and other surfaces are not damaged by installation or eradication.
 - Temporary markings and striping are present where the absence of or deficiencies of markings create unsafe conditions.
 - All pavement markings achieve full bond, with no separation from the applied surface.
 - Materials do not deteriorate when in contact with sodium chloride, calcium chloride, or traffic residues.
 - Pavement markings indicate no appreciable deformation or discoloration under exposed traffic and road temperatures between 0°C and 40°C (32°F and 104°F).
 - Pavement markings maintain their original dimension and placement without chipping, peeling or cracking.
- Roadside Delineation:
 - Supports are plumb and level.
 - Intervals and locations are in accordance with the requirements of the Reference Documents.
 - Reflectors are unbroken, reflective, and clearly visible to traffic.



C.4 Additional Requirements

C.4.1 Pavement Markings and Striping

Pavement markings and striping are critical for motorist guidance and public safety and must be maintained and/or replaced in accordance with the requirements of Section C.3 of this Chapter. Pavement markings that are missing or have lost their effectiveness would constitute a safety hazard if not replaced.

Temporary replacement striping is permitted if there is no substitution of colors or substandard marking dimensions. Temporary or permanent replacement delineation must conform to the layout, patterns, lengths and spacing found in the Reference Documents listed in Section C.2 of this Chapter. All delineation constructed under a lane closure must be inspected by the Concessionaire and approved before the lanes are reopened to traffic.

The use of paint on curbs solely for the purpose of supplementing or replacing signing is prohibited. The Concessionaire is authorized and encouraged to delineate for warning purposes curbs, headwalls, abutments, piers, roadside hazards, access roads, etc.

C.4.2 Raised Pavement Markers

Missing or deficient raised pavement markers must be replaced when pavement striping alone will not ensure that critical Pavement Delineation is visible at night and during inclement weather.

Temporary raised pavement markers must not be used as substitutes for traffic control and protection during maintenance or construction operations.

C.4.3 Roadside Delineators

Roadside delineators exist at various locations, including at the tops of embankments where guide rail is not warranted due to height and grading criteria.

Replacement of roadside delineators must be located and spaced in accordance with the requirements of the Reference Documents of Section C-2 of this Chapter.

C.4.4 Prismatic Reflectors

Prismatic reflectors have been installed at various locations which must be maintained by the Concessionaire. These reflectors vary in location including, on barriers, walls, bridge railings, parapets, or retaining walls. In addition, certain reflectors exist along access roads, to assist in preventing the accidental intrusion of vehicles into neighboring properties.

Prismatic reflectors mounted to piers, fenders or other devices that are portions of the Toll Roads within or adjacent to the navigable waterways must be replaced exactly in kind and to the satisfaction of all governing agencies including the U.S. Army Corps of Engineers and the U.S. Coast Guard.

C.4.5 Pavement Delineation Layout

For short lengths (less than 200 feet) of pavement striping replacement, the new markings must be placed in the same location as the removed markings. The Concessionaire may place up to 200 feet of edge line without formal layout.

Longer lengths of striping, delineation in areas where lanes are diverging or converging with the mainline, and areas where lane widths are tapering, must be laid out in conformance with the Reference Documents listed in Section C.2 of this Chapter for both temporary and permanent markings.

No reference marks made to guide the installation of Pavement Delineation may be used as a temporary Pavement Delineation.

C.4.6 Pavement Delineation Removal

Paint or asphalt emulsion must not be used to cover Pavement Delineation except as a temporary measure until the proper removal can be made.

Leaving scars or damage to the pavement surface shaped like the former markings is not acceptable and can cause unsafe conditions.

C.4.7 Surface Preparation

Surface preparation for all Pavement Delineation must conform to the requirements of the Reference Documents listed in Section C.2 of this Chapter.

Before applying any pavement marking material, the Concessionaire must sweep the pavement and must ensure that no loose material, water or debris is present that would reduce the adhesion of the markings to the pavement.

C.4.8 Construction

When construction activities alter or cause Pavement Delineation to be removed, the Concessionaire must reinstall properly functioning delineation prior to opening the work zone to traffic. Temporary delineation must be installed only if permanent delineation cannot be installed immediately. When temporary delineation is required the maximum duration that it may be present before the permanent delineation is installed must not exceed that specified in Section C.3.3 of this Chapter.

C.4.9 Materials

The materials, production, transportation, and storage of all Pavement Delineation must fully comply with the requirements of the Reference Documents listed in Section C.2 of this Chapter. In particular, the photo-reflectivity requirements must be met for all materials furnished by the Concessionaire for installation on the Toll Roads.

The Concessionaire must log and maintain all manufacturers' certifications for material delivered and installed for Pavement Delineation.

Specific additional material requirements, above those stated within the Reference Documents, are as follows:

C.4.9.1 Hot Melt Thermoplastic

Acceptable types of thermoplastic are supplied in granular or block form for spray, ribbon, or extruded application. The Concessionaire is responsible for selecting the delivered form of the material and for ensuring the manufacturer's storage, handling and application requirements are met.

Hot melt thermoplastic is typically applied only to bituminous concrete (asphalt) surfaces but may be applicable to PCC pavements, slabs and bridge decks, when used in accordance with the Reference Documents listed in Section C.2 of this Chapter and per the manufacturer's recommendations.

C.4.9.2 Cold Preformed Plastic Tape

Preformed plastic tape markings must form a complete stripe or pavement marking legend, ready to be applied to the pavement. Such markings must be applied to the pavement by being rolled into the surface by means of a pressure sensitive precoated adhesive, or liquid contact cement.

Preformed plastic pavement markings are typically applied to P.C.C. pavements, slabs and bridge decks. The Concessionaire must replace existing preformed plastic tape with similar material, and must not substitute preformed thermoplastic, paint or other pavement marking materials for preformed plastic without the Approval of PRHTA and the Commonwealth.

C.4.9.3 Preformed Thermoplastic

This material must be capable of being installed on either bituminous or P.C.C. surfaces by using a heating element. The use of this material is limited to emergency repair locations where reducing traffic delays and inconvenience is of primary importance.

C.4.9.4 Traffic Paint

The Concessionaire is permitted to use paint as temporary delineation only, which must be replaced with permanent markings as soon as practical and possible, consistent with the requirements stated in Section C.3.

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C.4.9.5 Environmental Concerns

Solvent-borne traffic paint and marking materials can pose an environmental hazard unless handled in full accordance with the manufacturer's requirements. The residue of paint from color changes or cleaning tasks must be properly disposed of in conformance with the Puerto Rico Environmental Quality Board or Federal EPA requirements for liquid hazardous wastes. Paint guns may not be purged on shoulders or earth surfaces, and no residues may be tipped or flushed into the drainage system.

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D.1 Definitions

Curb: A concrete or bituminous device with a given cross section, constructed along the edges of pavements or shoulders that collects storm water runoff from the traveled way and conveys it to an intended discharge point.

Culvert: A structure made of steel, concrete, aluminum, natural stone, High Density Polyethylene, or other material, covered by embankment material that allows a creek, stream or roadway to pass under a roadway or fill. Culverts are typically box or arch in shape and may or may not have slabs under the creek or stream flow-line. Culverts may be of any size up to 20 feet in span length.

Debris: Litter, rubbish, vegetation, rocks, dead animals, spilled materials, brush or other items which are not part of or which impede drainage.

Ditch: A trough-shaped excavation made to collect and transport water; includes unpaved and paved ditches. Unpaved ditches are protected from erosion by turf, grasses or rock. Paved ditches are protected from erosion by concrete or asphalt.

Downspout: A pipe or conduit attached to a bridge to direct water away from a collection feature.

Drain: An aperture through a wall, curb or bridge deck to provide egress for water that would otherwise be trapped on the roadway.

Drainage System: An appurtenance that is intended to collect, convey, store or discharge storm water runoff. Drainage systems include structures in or under the roadway, such as curb, manholes, inlets and catch basins, storm sewers, and pipe base drains; systems through the embankments such as culverts, and systems parallel to the embankments such as ditches, swales, berms, erosion control devices and outlet channels.

Embankment: An unpaved slope leading either to or from the earth supported traveled way that is covered by turf or natural plant life.

Erosion Control: A device or material used to limit the erosion of earth away from the site.

Flowline: The bed or lowest point of a pipe, conduit, ditch, stream or culvert.

Headwall: A vertical wall at the end of a pipe that retains earth.

Pavement Base-Drain: A system built under pavements or with bridge approach slabs that collects storm or ground waters that penetrate the roadway subbase or that percolate through the ground and collects and discharges the water.

Pipes: Circular, arched, or elliptical shaped conduits varying in size that are utilized to convey water from point to point. Most drainage pipes are made of steel, concrete, aluminum or high-density polyethylene.

Ponding: An undesirable condition in which standing or slow draining water is trapped on the roadway surface or in ditches.

Re-shaping: Re-grading of the earth from ditch line to ditch line in order to reestablish the proper shape and profile of the ditch.

Scour: Erosive action of flowing water that removes soil and can undermine foundations, create void space behind walls or under slabs, lower riverbeds, and destabilize embankments.

Scupper: A drainage structure associated with bridges, present in the deck, also referred to as floor drains. Scuppers provide a means for rain or other water to drain off the bridge roadway surface and lead to downspouts and enclosed drainage systems.

Storm Sewer: An underground conduit, pipe or tunnel constructed to receive storm water from pavement and bridge drains and convey such water to a distinct outlet point.

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D.2 References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Design Directives, PRHTA
- Highway Design Manual, PRHTA
- Standard Drawings, PRHTA
- Standard Specifications for Road and Bridge Construction, PRHTA
- A Guide to Standardized Highway Barrier Hardware, AASHTO
- A Policy on Geometric Design of Highways and Streets, AASHTO
- Roadside Design Guide, AASHTO
- Manual on Uniform Traffic Control Devices (MUTCD), FHWA
- Storm Water Pollution Prevention Plan (SWPPP), USEPA
- PRPB Regulation #4 - Puerto Rico Zoning Regulation
- PRPB Regulation #13 - Puerto Rico Regulation on Special Areas at Risk of Flood.
- Regulation for the Erosion Control and Sedimentation Prevention, PREQB
- Regulation of Water Quality Standards, PREQB
- Culvert Inspection Manual, Report No. FHWA-IP-86-2
- "General National Pollutant Discharge Elimination System (NPDES)", USEPA

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D.3 Policy for Performing Drainage Maintenance and Erosion Control Work

D.3.1 Objective

The objective of drainage maintenance and erosion control is to ensure that all elements of the drainage system (curb, inlets, catch basins, manholes, sewers, scuppers, downspouts, ditches, outlet structures, stormwater management basins, and miscellaneous drainage devices, as well as erosion control features) are properly maintained so as to eliminate ponding, flooding, scour and erosion as potential hazards to the safe and orderly movement of traffic; and all roadway and bridge surfaces along the Toll Roads are efficiently, properly and continually drained.

Drainage Systems require repairs due to age, corrosion, soil loading, traffic weight or impact, flood damage, etc.; maintenance; cleaning to remove blockage caused by vegetation, debris, litter, or sediment; and replacement.

Erosion control devices are classified as permanent installations, or temporary measures erected during construction to limit erosion from disturbed and stripped surfaces. These devices require maintenance to remove trapped sediment; clean; and for final removal or replacement.

Drainage pipes and culverts are permanent structures conveying runoff water, and creeks and streams along or under roadways and fills within the Toll Roads. Such structures must handle all design flow conditions including flood conditions.

D.3.2 Responsibility of Concessionaire

To meet the requirements of this Chapter, the Concessionaire must engage in practices to ensure that all roadway and bridge drainage devices, and erosion control systems remain functional, operate to direct and convey the flow of storm waters, and meet other requirements.

The Concessionaire is responsible for any work required to alleviate flooding, repair flood damage, or to solve any drainage problems that may arise.

To the greatest extent possible, when performing drainage maintenance and erosion control work the Concessionaire must utilize the newest techniques and materials that have been approved and implemented by PRHTA within the Commonwealth for major highway contracts to minimize the environmental impact of the Toll Roads on the neighboring lands and waters while optimizing: cost, recycling and public convenience.

The Concessionaire must recognize drainage pipes and culverts have finite lives and deteriorate as a result of abrasion, chemical attack, and aging of materials. Maintenance of drainage pipes and culverts involves both maintenance of hydraulic capacity and structural integrity. Constant vigilance is required for pipes and culverts as deterioration can occur on the soil side of such structures and non-destructive testing is limited in determining remaining life of such structures.

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All materials and construction requirements for the Drainage Systems and Erosion Control maintenance work performed by the Concessionaire must conform to the appropriate and applicable requirements of the Reference Documents listed in Section of this Chapter.

Work on Drainage Systems, and Erosion Control Systems within the Toll Roads that must be performed by the Concessionaire includes, but is not limited to, the following:

- Roadway Drainage System:

- Ensure that frames and grates are properly and securely fastened, set and anchored.
- Clear, repair or replace all frames, grates, structures, slotted pipes and pipes that are clogged, damaged or missing.
- Clear catchment areas that have become clogged.
- Remove trapped or ponding water to prevent damage to the roadway pavement structure.
- Remove sediments, vegetation and debris from all Roadway Drainage System Components that reduce their capacity to convey stormwater runoff.
- Repair and replace the Roadway Drainage System components that have deteriorated to a condition that is unsafe or has the potential to become unsafe for Toll Road users; and to prevent further deterioration of the pavement and the pavement structure.

- Bridge Drainage System:

- Ensure that frames and grates are properly and securely fastened, set and anchored.
- Clear, repair or replace all frames, grates, downspouts, pipe reducers, etc. that are clogged, rusted, damaged, separated or missing.
- Clear catchment areas that have become clogged.
- Remove trapped or ponding water to prevent damage to bridge decks, bearings, Superstructure and Substructure.
- Repair and replace Bridge Drainage System components that have deteriorated to a condition that is unsafe or has the potential to become unsafe for Toll Road users; and to prevent further deterioration of the bridge structure.

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- Ditches:
 - Remove and clean debris, vegetation, dams and all other obstructions from the ditches.
 - Restore, repair, and stabilize ditches that have eroded, scoured and/or slumped, or have the potential to do so if not remedied.
 - Restore and maintain the full capacity and/or profile of the ditches within the Toll Roads.
 - Inspect ditches during periods of heavy rainfall to ensure the ditch shape is maintained, and the flowlines are not undergoing scour or erosion.
 - Dispose of waste materials from ditching operations in a manner and location that is in full compliance with all Municipal, Commonwealth and Federal Laws and Regulations.
- Curb:
 - Ensure that all curb remains unobstructed and is free to provide drainage as designed and intended.
 - Repair and replace all broken, settled, damaged, cracked, spalled, and deteriorated sections of curb with “in-kind” materials and configurations as the intent of the original design.
 - Replace curb sections so that all work is in conformance with PRHTA Standard Drawings for the required type of curbing; and ensure that the section type matches the adjacent curb and gutter.
- Base-Drain System:
 - Ensure that the roadway and bridge base-drain system is free from vegetation, silt deposits, clogs and other defects that would impede the system from functioning as designed.
- Erosion Control Systems:
 - Maintain, clean, repair, restore, replace, and monitor all of the temporary and permanent erosion control features and systems within the Toll Roads.
- Stormwater Management Basins:
 - Remove and clean debris, vegetation, dams, and all other obstructions from the outlet structures.
 - Restore, repair and stabilize basin embankments that have eroded, scoured and/or slumped, or have the potential to do so if not remedied.
 - Restore and maintain the full storage capacity of the stormwater management basins within the Toll Roads.

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- Dispose of waste materials from cleaning operations in a manner and location that is in full compliance with all Municipal, Commonwealth and Federal Laws and Regulations.
- Pipe Drainage Systems
 - Ensure that pipes are clean and functioning to full capacity.
 - Evaluate abrasion in pipes to determine the need for liners or replacement.
 - Inspect visually, or by camera, all pipe and pipe connections to determine that infiltration is not occurring, or flows are diverting out of the pipe at joints.
 - Ensure that inlets and outlets have adequate velocity protection and grates are provided to prevent debris from entering the pipe and causing clogging.
- Culvert Systems
 - Ensure that culverts function in accordance with approved hydrologic/hydraulic studies, and plans.
 - Evaluate exposed culvert walls and roofs to determine if adequate cover remains for reinforcement or coatings on metal are adequate for corrosion or abrasion protection.
 - Inspect joints to determine if sections are shifting, infiltration of solids is occurring, or diversions of flows outside of the culvert barrel exist.
 - Ensure inlets and outlets have adequate velocity protection to prevent debris from entering the culvert and causing clogging.
 - Evaluate upstream and downstream conditions for free flow, with emphasis on fences which may impede flows.
 - Be aware of cracks and patterns of cracks which may be indicators of serious structural deficiencies.
 - Evaluate and maintain roadway protection devices to comply with Federal, Commonwealth and Municipal Safety Standards, and ensure errant vehicles do not end up in creeks and streams passing through culverts.

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D.3.3 Performance Time Frames

The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire) within which the Concessionaire must complete the required cleaning, adjustment, repair or replacement of the deficient element or component to full operation (unless weather conditions limit material application):

Item	Maximum Time Duration
<u>Roadway Drainage System:</u>	
- Frames & Grates	24 Hours
- Structures	30 Days
- Pipes & Conduits	30 Days
Bridge Drainage System	24 Hours
Curb	30 Days
Ditches	30 Days
<u>Base-Drain System:</u>	
- Roadway	30 Days
- Bridge	20 Days
<u>Erosion Control System:</u>	
- Temporary	24 Hours
- Permanent	60 Days
Stormwater Management Basins	60 Days
<u>Drainage Pipes</u>	
- Blockage	12 Hours
- Inlet or Outlet Failure	48 Hours
- Functional Failure	30 Days
<u>Culverts</u>	
- Blockage	12 Hours
- Inlet or Outlet Failure	48 Hours
- Functional Failure	30 Days

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D.3.4 Acceptance Criteria

All roadway and bridge drainage systems, ditches, curb, base-drain, and erosion control systems will be considered acceptable when the following criteria are met or exceeded:

- All Roadway and Bridge Drainage Systems including base-drains are maintained unblocked and function as designed to keep roadway and bridge surfaces free of standing water.
- Missing, broken or unsecured grates and frames and other castings are promptly repaired and/or replaced.
- Curb is maintained free of vegetation, litter, and debris; all damaged and deteriorated curb has been repaired or replaced; and all work conforms to the requirements of this Chapter and the Reference Documents listed in Section D.2 of this Chapter.
- Design, construction, backfill, repair and replacement of drainage structures and system components in conformance with the requirements of the applicable Reference Documents listed in Section D.2 of this Chapter.
- Roadside ditches are maintained free of debris, litter and excess vegetation, and function as designed to collect and transport storm water runoff to designated outfalls.
- Permanent erosion control systems are maintained to function as designed and any repair, replacement, and cleaning of trapped sediment from system components is performed when required.
- Permanent and temporary erosion control systems are adequately designed, properly installed, serviced, and removed as appropriate to fulfill their design intent; and to meet all applicable requirements of the Commonwealth, the EPA Storm Water Pollution Prevention Plan (SWPPP), NPDES Requirements, and the Environmental Quality Board Erosion and Sedimentation Control Plan Regulation.
- All Stormwater Management Basins are maintained unblocked, free of vegetation and debris, and function as designed to manage storm water runoff as designed.
- Drainage pipes are free of vegetation and debris such that under headwall control, the pipe can flow full.
- Drainage pipes that are partially filled in due to upstream and downstream sedimentation need not be cleaned below the upstream bed elevation. Downstream evaluations must be made to determine if pipe extensions are necessary or removal of fallen trees is required to allow normal exit flows.
- Drainpipes must be free of infiltration that would cause subsidence of roadway or embankments. Drainpipe joints are to be tight and aligned to

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create laminar water flows and reduce trapping of solid objects that might flow through the pipe.

- Drainpipes are to have intact bottoms and functioning inlet and outlet aprons or devices that direct flows through the pipe as opposed to under the pipe.
- Culverts must be maintained considering needs for both low flow and storm flow. The primary opening of a culvert is to be maintained free of debris such that under headwall control, the culvert can flow full.
- Multiple cell culverts are to be maintained so that they remain open and fulfill the original hydraulic design capacity of the structure for its original flood frequency.
- Culvert joints are to be maintained such that infiltration does not occur that would cause subsidence of the roadway above or undermining of the culvert below.
- Upstream and downstream aprons, wingwalls and scour control measures are to be maintained such that headwall and end walls are not undermined, stream flows are directed to established channels, and joints in culvert segments do not "open up".
- Culverts over 8 foot in span must be maintained adequately to carry both flood flows and support roadway and fill above. Adequate maintenance requires that a Licensed Professional Engineer in the Commonwealth of Puerto Rico certifies every two years that all culverts maintain their required structural capacity.

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D.4 Additional Requirements

D.4.1 Drainage Frames and Grates

Missing, broken or fractured frames, rims and grates on drainage structures must be replaced promptly when detected by or reported to the Concessionaire. Rims and grates must be replaced with devices having the appropriate size and thickness, and made of appropriate materials. The Concessionaire should order in advance and have on hand a sufficient number of replacement parts to make repairs when required. To the greatest extent possible, the Concessionaire must use iron castings that are legibly stamped to identify ownership and identification of the utility.

D.4.2 Drainage Structures

The Concessionaire must inspect all drainage structures such as inlets, manholes and catch basins, and repair all defective components. Particular attention must be given to the following:

- Inlets, manholes or catch basins that are blocked due to cracking, an in fall or collapse of their adjusting rings, masonry units, or precast barrel sections.
- Failed or subsided roadway or shoulder pavement at drainage structures, attributable to a partial failure or collapse of the drainage structure. This deficiency must be promptly repaired to avoid safety hazards, prevent growth of the localized pavement failure due to impact pounding, stop water infiltration, and avoid loss of the pavement subbase and subgrade.

When these above conditions arise, the Concessionaire must not patch or repair the failed pavement or shoulder without first making a thorough inspection of the condition of the drainage structure.

After the drainage structure has been repaired, rehabilitated or reconstructed, the damaged pavement and/or shoulder must be replaced with a full-depth patch. Pavement patches must be constructed in accordance with the requirements of Volume I, Chapter B, "Roadway Maintenance". In addition, pavements, shoulders and berms must be correctly sloped after the repairs, and must properly drain storm water runoff away from the pavement and into the intended inlet structure without ponding.

Whenever a full depth patch is constructed at a drainage structure, the work must be done in accordance with the PRHTA Standard Specifications for Road and Bridge Construction.

D.4.3 Drainage Pipes and Conduits

The Concessionaire must inspect all drainage pipes and conduits within the Toll Roads such as storm sewers, cross pipes, and culverts, and must perform the necessary maintenance work or repairs. Particular attention must be given to the following:

- Whenever pavement flooding, washout of underlying soil layers, or other situations indicate that there is a collapse or blockage of drainage pipe or conduit.

Blocked or collapsed pipes and conduits must not be allowed to cause local area flooding, embankment undermining, movement of structural foundations, or other failures. The Concessionaire must evaluate all pavement defects where underlying slabs have apparently heaved or settled, all instances of heavily fractured or subsided pavement, all off-roadway sinkholes or areas of sudden subsidence, and all rotated or shifted structural walls and foundations in order to determine if a collapsed underground conduit is responsible.

When replacing any failed pipe or conduit, the Concessionaire must maintain and restore all connections, outlets, taps, and the like during the work.

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When the collapse, blockage or failure of any drainage pipe or conduit results in incidental damage to any other element of the Toll Roads infrastructure, the Concessionaire is responsible for repairing those elements within the timeframe noted in Section D.3.3 of this Chapter.

- The Concessionaire must inspect all culverts, pipe ends, outfalls, headwalls, end- sections and associated devices and perform the necessary maintenance repairs.

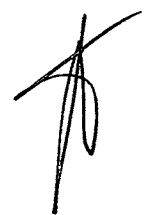
Headwalls end-sections and end-grates that have suffered damage, either due to traffic impact, corrosion, excessive loading, settlement, etc. must be repaired to restore full functionality or must be replaced if repair would be impracticable.

D.4.4 Drainage Culverts

The Concessionaire must inspect all culverts conveying water or with the potential to convey water in accordance with requirements of Volume II, Chapter L, "Annual State of the Toll Roads and Capital Improvement Program Reports". Adequate inspection and documentation must be provided to maintain PRHTA and FHWA data bases. In addition, particular attention must be given to the following:

- Culverts requiring inspection are more than 8 foot in span and may be single cell or multiple cells.
- Culverts are to be numbered in accordance with the PRHTA structure element and kilometer naming convention.
- Inspection requirements can be found in the National Bridge Inventory Standards developed by the Federal Highway Administration and in Volume II, Chapter L, "Annual State of the Toll Roads and Capital Improvement Program Reports".
- If inspection should reveal collapse, or near term expectation of collapse, creating a significant impact to the traveling public, the Concessionaire is to notify PRHTA and the Commonwealth in accordance with the requirements stated in Volume I, Chapter I, "Third Party Damages and Emergency Maintenance".
- Culverts inlets and outlets, along with culverts with open bottoms, must be evaluated for scour.
- Culverts which are near the roadway surface or directly support the roadway pavement must be evaluated relative to safety features such as Guard Rail, Barrier or Parapet. Such safety devices must be anchored properly to deflect vehicles away from creeks and streams. Such devices must have proper transitions along the roadway for safe vehicular operation.

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D.4.5 Bridge Drainage Systems and Downspouts

The Concessionaire must inspect Bridge Drainage Systems including scuppers, deck drains, and downspouts and must clean these components; repair damaged components; and replace missing or broken elements of the systems. The Concessionaire must pay particular attention to the following deficiencies:

- Broken, missing, fractured and leaking scuppers and grates; broken grout around scuppers; defective or leaking pipe connections; and similar deficiencies.
- Blocked or clogged bridge downspouts, particularly following construction or maintenance activities that may have caused vegetation and debris to accumulate.
- Loose, unattached or severely leaking bridge downspouts that can cause erosion, flooding, or a falling debris hazard.

Replacement parts for Bridge Drainage Systems must be equivalent to the existing drain size or diameter, material type, wall thickness, and material strength, and/or must be painted to match the rest of the system as appropriate. The paint system must conform to the Reference Documents listed in Section D.2 of this Chapter. Whenever practicable, cleanouts must be installed on older downspouts to aid future maintenance efforts.

- When the Bridge Drainage System outlets onto the ground, the Concessionaire must examine the condition of the outlet and perform all required repairs. Defects to examine include loss of riprap protection, soil erosion and water accumulations, etc.

D.4.6 Stormwater Management Basins

The Concessionaire must inspect all stormwater management basins within the Toll Roads, and must pay Particular attention to the following deficiencies:

- Stormwater management basin embankment slopes that show erosion or undercutting at inflow or outflow points. Severely eroded or undercut slopes must be repaired to avoid potential failure or movement of the slope and possible undermining of the roadway.

Correction of eroded or undercut embankment slopes is required when the slope is measured to be 25% steeper than the undisturbed slope, or steeper. Undercut slopes must be evaluated and calculated based upon a professional survey.

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The placing of embankment material to build up undercut slopes is to be done in accordance with the requirements of the Reference Documents listed in Section D.2 of this Chapter. The Concessionaire must protect the newly constructed embankment from erosion by placing erosion control blanket, temporary seed and mulch, sod, or other measures.

The embankment repair must not restrict the stormwater management basin cross section as designed, alter the low flow profile, or block existing legal discharges into the Toll Roads from neighboring lands.

- The integrity of the basin structures must be maintained to ensure the basins function as designed. The Concessionaire must restore, reset, and stabilize concrete riser structures or standpipes as designed when shifting or undermining of the structures has occurred.
- Sediment and debris that collects within stormwater management basins reduce the storage volume available for storm water runoff. The Concessionaire must remove trash, vegetation and debris periodically to prevent clogging of the outlet structures. Sediment must be removed a minimum of every 5 years, or as needed to ensure the basins design storage operates as designed and retains its intended capacity.

D.4.7 Roadway and Roadside Ditches

The Concessionaire must inspect all open drainage channels including ditches and swales, as well as their associated erosion control devices, and must pay particular attention to the following deficiencies:


- Earth ditches that cannot convey design storm water flows due to soil settlement, erosion, embankment sloughing, sediment accumulation, etc. must be evaluated. Ditch re-grading may be required in order to restore a constant and uniform slope in accordance with the original design intent. Re-grading to eliminate channel pinch points or flat sloped sections may be required to reduce flooding, ponding and deposited sediments while enhancing free flow.

Bare soil must be reseeded to re-establish vegetative cover and prevent erosion. When appropriate, temporary erosion control measures such as mulch or erosion control blankets must be used while the grass seed is being established.

D.4.8 Curb

The Concessionaire must maintain bituminous and concrete curb as an important part of the overall Drainage System, since they collect storm water runoff, convey runoff to sewer inlets or designed outfall points, and protect embankments from erosion. Curb also serves as a structural support for the shoulder, provides delineation of the edge of the traveled way, and can help redirect errant vehicles.

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The Concessionaire is responsible for making repairs and replacement of segments of bituminous and concrete curb that are deficient due to excessive break up, settlement or heave. The Concessionaire must remove and replace, or otherwise repair segments of bituminous and concrete curb that show extensive cracking, open transverse cracks, missing expansion joint filler, or spalls.

All broken bituminous and concrete must be properly disposed of in conformance with all laws and regulations.

Replacement of curb must conform to PRHTA Standard Plans and the neighboring sections of curb. The gutter elevation and grades of the replacement curb must be flush with the adjoining pavement or shoulder, and must be set to convey flows to drainage structures without ponding.

The Concessionaire must restore and stabilize base support when this has been identified as the cause of bituminous and concrete curb cracking. The Concessionaire must re-grade the earth berm behind the curb when erosion or settlement results in the earth surface settling three (3) inches below the top of curb at any location.

Missing expansion joint filler must be replaced with new preformed joint filler conforming to the material requirements of the Reference Documents listed in Section D.2 of this Chapter.

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D.4.9 Pavement and Bridge Base-Drain Systems

All base-drains and their associated outlet pipes must be in accordance with the requirements of the Reference Documents listed in Section D.2 of this Chapter. Bridge base-drains including abutment back wall pipes and outlets or weep holes must be inspected to ensure that discharge is free-flowing, and that no outlet is clogged or crushed.

Pavement base-drains must be inspected to assure that they are functioning, and to verify free-flow and unobstructed discharge.

New installations of pavement base-drain must be considered in areas where pavement surface distress, surface blowups, excessive potholing, or other signs indicate that subsurface drainage would tend to reduce pavement maintenance needs. All new base-drain must conform to the requirements of the Reference Documents listed in Section D.2 of this Chapter.

D.4.10 Permanent Erosion Control Systems

The purpose of permanent erosion control measures and systems is to minimize or eliminate the erosion of soil into ditches, drainage systems and Waters of the Commonwealth. The objective of permanent erosion control repairs and maintenance is to prevent topsoil loss, maintain turf cover to anchor the soil and prevent erosion, and to ensure conformance with all applicable laws and regulations.

When a new permanent erosion control system is required, the Concessionaire must perform all design, agency coordination and construction in order to obtain the necessary permits and approvals.

The Concessionaire's Puerto Rico Licensed Professional Engineer should perform a thorough review of available permanent erosion control systems and their correct application given the anticipated water flow volumes and velocities, prevailing wind patterns and other specific field conditions.

Erosion and sediment control measures to be considered include new roadside ditches, riprap, ditch checks and settling basins.

D.4.11 Temporary Erosion Control Systems

The purpose of temporary erosion control measures and systems is to minimize or eliminate the loss of topsoil during construction and maintenance projects.

The Concessionaire must implement the appropriate level of erosion control throughout all construction and maintenance activities. The Concessionaire's erosion control for construction and maintenance operations must comply with all applicable PRHTA requirements, Commonwealth and Federal laws and regulations, and municipal ordinances. In order to so comply, the Concessionaire must plan to control the amount, location and quality of discharges from its work sites into sewers, culverts, wetlands, streams, channels, and public waters or onto adjacent properties. When required for compliance with agency requirements, the Concessionaire must perform studies, submit permit applications, create detail drawings, prepare specifications, attend meetings, etc.

To ensure that temporary erosion control measures are furnished when needed, the Concessionaire must screen all construction or maintenance projects for erosion impacts. The screening must identify if the following potential impacts may occur:

- The operations will temporarily or permanently alter the manner of discharge of any waters outside the Toll Roads.
- The operations have the potential to convey topsoil from the Toll Roads into any drainage system, stream or channel.

Whenever the above potential impacts are identified, the preparation and filing of a written "Erosion and Sediment Control Plan" to the Environmental Quality Board may be required by present regulations.

Temporary erosion control measures and systems that may be considered for implementation include, but may not be limited to, filter fabric fence, silt socks, inlet protection, erosion control blankets, rock filters, temporary seeding, mulching, sediment traps, sediment basins, sediment filter bags, rock construction entrances, outlet protection, etc.

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D.4.12 Creek and Stream Requirements

The Concessionaire is responsible for the well-being of waters flowing along or across the Toll Roads. In the operation of both man-made and natural occurrences relative to creeks and streams within the Toll Roads can occur that require proactive measures by the Concessionaire. Natural erosion must be monitored so as to not be detrimental to the Toll Roads. Emergency situations and Accidents on the Toll Roads can severely impact creeks and streams.

The Concessionaire may be required to do the following as part of maintenance for creeks and streams within the Toll Roads Evaluate toe of slope adjacent to creeks and streams to determine if mitigation measures are necessary to prevent loss of slope supporting roadways.

- In limestone prone areas determine if counter measures are necessary to prevent sinkholes from forming under the roadway. Countermeasures may take the form of impervious linings for streams or creeks. Such linings presently exist in local areas and require periodic review and maintenance.
- Periodically evaluate streams and creeks to determine if diversion ditches or stone lined swales are necessary to divert drainage which has migrated to the top of slopes above roadways.
- In mountainous areas, maintain drains at natural springs and seeps that can cause slope erosion which can be hazardous to the roadway below.
- Develop emergency plans for containment of spills of solids or liquids carried over or under the Toll Roads. Such emergency plans should utilize storm water management basins, pipes and culverts as much as possible to contain contaminants in a confined area until they can be collected and disposed of properly. Emergency plans for spills should focus on containment in as small of an area as practical with due consideration to the safety of first responders.

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D.4.13 Emergency Inspections

Emergency inspections are required following rainfall events in which rapid runoff may occur that can be detrimental to either the Toll Roads or adjacent property owners. Such events should be focused relative to watersheds and drainage courses that are parts of said watersheds. The Concessionaire must maintain an awareness of public and private agencies which historically provide the most accurate information relative to rainfall intensity and other meteorological measures that can indicate creeks and streams are rising above their banks. During such events, the Concessionaire must safely view pipes and culverts to determine that they are functioning properly or determine that if corrective action is necessary which may involve the pipe or culvert, or temporary closure of a road segment or direction.

Following major storm events, Toll Road areas where rainfall exceeds the equivalent of 4 inches per hour, inspections of creeks and streams are to be performed when they pass parallel to or under the Toll Roads. These inspections must be undertaken to determine if any elements of the Toll Road operation should be adjusted by examining the following:

- Determine if any creeks or streams have changed course resulting in erosion of embankments.
- Determine if any failures of storm water detention ponds have occurred.
- Determine if debris has clogged the opening of a drainage pipe or culvert causing backwater build up that could cause significant property damage to upstream properties or impound a significant body of water that could cause a downstream wash out.
- Determine if creeks or streams are flowing around as opposed to through pipes or culverts intended to convey water alongside or under the Toll Roads.
- Determine if debris in the form of trees, tree limbs, or other solid objects are significantly blocking inlets to pipes or culverts creating high velocities that can cause failure from scour action.
- Head walls and end walls must be viewed to determine if they are submerged, and if velocities are bypassing scour protection devices.
- For culverts make similar determinations as to pipes when only one barrel is associated with the culvert. For multi-cell culverts determine if primary flows are through the intended barrel. In addition, determine if the other barrels are taking water according to expected water surface elevations.

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E.1 Definitions

Bagged & Burlapped Stock: A plant transplanted with the root ball secured in burlap.

Bald Stock: A plant transplanted with its roots in a ball of earth.

Deciduous: Trees or woody shrubs which lose their leaves after each growing season.

Debris: Litter, rubbish, nuisance or dead vegetation, rocks, dead animals, spilled (nonhazardous) materials, brush, or other such items.

Erosion: A wearing away of the surface by natural action of wind and water.

Fencing: Fabric, posts, gates, guy wires and braces configured to create a boundary or provide access control.

General Use Chemicals: Agents used to destroy pests and plant growth that will not cause unreasonable effects to the user or the environment when used in accordance with their registered labeling instructions. These products are generally available to the public without restrictions other than those specified on the labeling.

Herbicide: An agent used to destroy or inhibit plant growth.

Landscaping: All vegetation, including turf and grasses, trees, intentional plantings, as well as incidental items including block walls, planter boxes, planting beds, lawn edging, street furniture and irrigation sprinkler systems.

Litter: Trash, debris, waste, refuse, accident and construction residue, etc.

Noxious Weeds: Uncultivated plant growth that is harmful or destructive to other plant growth.

Nuisance Vegetation: Large types of weeds, and vegetation not desirable to the Landscape. Examples include medium height shrubs, vines, and brush such as buckthorn, honeysuckle, kudzu, purple loosestrife, multiflora rose and leafy spurge.

Pesticides: Agents used to destroy insects, rodents and other pests.

Restricted Use Chemicals: Agents used to destroy pests and plant growth governed by Local, State and Federal regulations that require special training and/or licensing.

Systemic: Passing through and affecting the whole body of the plant system.

Turf: Surface earth ground cover containing a dense growth of grass and matted roots.

Weeds: Uncultivated plant growth. Examples include crabgrass, dandelions, etc.

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E.2 References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Design Directives, PRHTA
- Highway Design Manual, PRHTA
- Standard Drawings, PRHTA
- Standard Specifications for Road and Bridge Construction, PRHTA
- A Policy on Geometric Design of Highways and Streets, AASHTO
- Roadside Design Guide, AASHTO
- "ANSI A300 - Tree Care Operations – Tree, Shrub and Other Woody Plant Maintenance: Standard Practices", ANSI.
- "Illegal Dumping Prevention Guidebook, EPA905-B-97-001", USEPA.
- "American Standard of Nursery Stock", AAN.
- Consolidated Permit (DS-3, Fugitive Dust & CES Plan), PREQB
- Regulation No. 25, PRPB

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E.3 Policy for Performing Landscape & Roadside Maintenance

E.3.1 Objective

The objective of Landscape Maintenance is to: preserve all trees and vegetation as an enhancement to the Toll Roads; provide aesthetically pleasing areas of lawns, shrub, flowers, and trees; eliminate dangerous and overhanging trees and vegetation; provide erosion control and allow unimpeded drainage flow; ensure safe sight distances; and control weeds and eliminate nuisance vegetation.

The objective of Roadside Maintenance is to: remove litter that prevents a clean and tidy appearance to the Toll Roads or creates an unsafe situation; and to maintain all fencing along or within the Toll Roads to preserve a property boundary, control pedestrian and animal access, and maximize the safety and security of the Toll Road users.

E.3.2 Responsibility of Concessionaire

To meet the requirements of this Chapter, the Concessionaire must engage in practices to ensure that Landscape and Roadside Maintenance is completed in a regular, systematic and timely manner to ensure the safe and orderly movement of traffic, and to meet the safety, aesthetic and economic benefits of the Toll Roads. This requires that the Concessionaire carry out its obligations in a manner that maintains and/or improves the overall Landscape and Roadside.

All materials and construction requirements for Landscape and Roadside work performed by the Concessionaire must conform to the appropriate and applicable requirements of PRHTA and the Reference Documents listed in Section E.2 of this Chapter.

The Concessionaire must make routine Landscape and Roadside inspections part of its daily activities, and must be watchful for obstructions from Landscape features, locations of illegal dumping, damage to fencing, full and overflowing litter receptacles, and all situations that detract from a neat and tidy appearance of the Toll Roads.

Work on Landscape and Roadside features within the Toll Roads that must be performed by the Concessionaire includes the following:

- Landscape:
 - Mow, trim and edge turf areas.
 - Repair and/or replace all damaged, diseased, dead and worn turf areas.
 - Aerate turf areas.
 - Water landscaped areas so that healthy plant life is maintained.
 - Control and remove weeds, insects, pests and diseases in plants, trees, shrubs and turf areas.



- Keep all portions of the traveled lanes, shoulders, curbs, gutters, drainage structures, sidewalks, and bridges free of plant growth, and vegetation waste.
- Fertilize plants, trees, shrubs and turf areas.
- Mulch around plants, trees and shrubs.
- Obtain, hold, and keep current all licenses required for the use of General Use and Restricted Use Chemicals.
- Assure that all employees utilizing General Use and Restricted Use Chemicals are properly trained and licensed as required by Law.
- Recognize, diagnose, and take measures to control all insects, rodents and other pests.
- Apply General Use and Restricted Use Chemicals in a manner so as to prevent spray-drift and encroachment into non-target areas.
- Properly remove and dispose of landscape control cuttings that represent a hazard, obstruct drainage or create a nuisance.
- Ensure that all trees and shrubs are pruned neatly and are maintained in a manner to minimize danger to the traveling public, or which pose a threat to adjacent lands.
- Remove vegetation that causes sight distance obstructions; obscures the visibility of signs, delineators, or other Roadside features; constitutes noxious or nuisance weeds; or impedes drainage.
- Remove all dead, damaged, overhanging and unstable trees and tree limbs.
- Replace all dead and damaged plantings and trees.
- Inspect health and growth of all plants, shrubs and plants.
- Ensure that all equipment used for landscaping conforms and is operated in compliance with all applicable Municipal, Commonwealth and Federal Requirements and Laws.

• Litter & Debris Control:

- Remove debris and litter from the roadway, roadside and planted areas.
- Empty litter receptacles.
- Remove, dispose of and report all illegal dumping.

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- Fencing:
 - Repair or replace all damaged or deficient fencing or its components as a result of motor vehicle collisions; rust, normal wear and weather damages; acts of vandalism; fallen trees; embankment shifts; fires and other occurrences.
- Irrigation:
 - Repair or replace all damaged or deficient irrigation, sprinkler heads, controllers, pumps, and their components.
 - Seasonal maintenance shall be performed pursuant to the requirements stated in the Irrigation System Operation and Maintenance Manuals.

E.3.3 Performance Time Frames

The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire) within which the Concessionaire must complete the required maintenance, repair or replacement to the Landscape and Roadside features.

TABLE E.3.3.1

Landscape or Roadside Feature	Maximum Time Duration
<u>Landscape:</u>	
- Sight Distance Obstruction	2 Hours
- Vegetative Waste	24 Hours
- Trees	7 Days
- Plants, Shrubs, Flowers, Turf	7 Days
<u>Roadside Litter:</u>	
- Illegal Dumping	2 Hours
<u>Fencing:</u>	
- Temporary Repairs	24 Hours
- Permanent Repairs	20 Days
<u>Irrigation System(s)</u>	7 Days

The following table establishes the minimum frequency that a particular maintenance operation is to be performed.

TABLE E.3.3.2.

Maintenance to be Performed	Minimum Frequency of Occurrence
<u>Landscape:</u> - Removal of Nuisance Vegetation	Monthly
<u>Roadway and Facilities Mowing:</u> - Mainline & Interchanges - Facility Lawns	Monthly Weekly (or more frequently, if needed)
<u>Litter Control:</u> - Roadside Litter Collection - Emptying of Litter Receptacles	Every 3 Days Every 2 Days, or when full; whichever occurs first

The Concessionaire also must:

- Aerate all turf areas once yearly; recommended in the autumn.
- Establish a mowing frequency so that the criteria established in Table E.3.3.2 above is maintained.
- Cut and remove weeds and nuisance vegetation prior to reseeding.
- Trim trees and shrubs to ensure visibility, to prevent shading of signs and safety devices, and/or when less than seventeen (17) feet of vertical clearance above the traveled way and shoulder is not provided.

E.3.4 Acceptance Criteria

The Landscape and Roadside will be considered acceptable when the following criteria are met or exceeded:

- Landscape:
 - Turf height does not exceed that specified in Table E.3.3.2.
 - Turf, flowers, shrubs, and all plant life are trimmed, edged, pruned, disease and pest free, fertilized, watered and healthy.
 - Turf is free from brown-patches, missing-patches and damage.
 - No sight distance obstructions from trees and vegetation are present.

- Trees are trimmed, and free from dangerous, damaged, and overhanging limbs.
- Landscape is free from weeds and nuisance vegetation.
- All portions of the traveled lanes, shoulders, curbs, gutters, bridges, drainage structures, and sidewalks are free of plant growth and vegetation waste.
- No areas outside the target areas show chemical damage.
- Roadside Litter:
 - Roadside is free from litter, and in a neat and tidy condition.
 - Litter receptacles are emptied at a rate that meets that stated in Table E.3.3.2.
 - Locations of illegal dumping are not present.
- Fencing:
 - Fence posts are plumb.
 - Top rails are level with no sags or deflections.
 - The fence fabric is taut and securely attached.
 - The fabric is free from holes, section loss, wear, and vegetation.
 - The work site is left in a clean condition.
- Irrigation System:
 - All irrigation piping, sprinkler heads, controllers, pumps, and their components must function properly, shall be unbroken and must not leak.
 - Water spray patterns must adequately cover the Specialty Landscape areas.

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E.4 Additional Requirements

E.4.1 Roadside Litter Collection & Removal

The Concessionaire must perform litter collection and removal along the Toll Roads at a frequency complying with that stated in Table E.3.3.2. The Concessionaire should be aware that for specific segments of the Toll Roads the frequency of litter collection should be increased if it is found that litter is prone to collect so that the roadside always remains in a clean and tidy condition. In addition, areas beneath Toll Road structures and areas around all Toll Road Facilities must be included in litter collection.

The Concessionaire's litter collection operations must be designed to minimize disturbance to motorists and to maximize safety for both users and maintenance crews at all times.

Litter must never be transferred to a spot outside the Toll Roads for pickup.

Under no conditions will the Concessionaire use water to flush litter onto property outside of the Toll Roads.

Litter bags should be carried in maintenance vehicles at all times, for use as needed.

All litter and refuse must be legally disposed of in accordance with all Municipal, Commonwealth and Federal Waste Disposal Laws and Ordinances.

The requirements for pavement and shoulder sweeping are specified in Volume I, Chapter B, "Roadway Maintenance".

The Concessionaire's response to accidental spills, release of hazardous materials, removal of large-scale debris, and similar situations are to be addressed as described in Volume II, Chapter J, "Emergency Management and Operations Plan".

The Concessionaire's disposition of abandoned vehicles and breakdowns, animal removal, and repair of vandalism and graffiti is discussed in Volume I, Chapter I, "Third Party Damages & Emergency Maintenance".

E.4.2 Litter Receptacles

Receptacles located at toll booths, toll plazas, rest areas and all other Toll Road Facilities must be emptied at a frequency complying with that stated in Table E.3.3.2. Receptacles may be relocated and added only where adequate space is available and provisions have been made for safe entry and exit. In addition, new receptacles must closely match the color, type and size of existing receptacles in order to preserve a uniform appearance.

Emptying litter receptacles and trash/garbage collected from inside the Toll Road buildings and other facilities is addressed in Volume I, Chapter N, "Facility Maintenance".

E.4.3 Reporting Illegal Dumping

When incidents such as fly-dumping and unlawful trash disposal occur within the Toll Roads, the Concessionaire must contact and file reports with the Puerto Rico Police so that the location can be monitored.

E.4.4 Weed Control

Weeds should be eradicated no matter where they are found within the Toll Roads. The USDA Animal and Plant Health Inspection Service (APHIS) publishes a Federal Noxious Weed List, which can be found at their website (www.aphis.usda.gov) and can be used as a reference.

E.4.5 Nuisance Vegetation Control

Nuisance vegetation that must be removed as part of Landscape Maintenance includes vegetation which has taken root at locations such as turf areas, at the base of retaining walls, in shoulders, in clogged drainage grates, or along the fence lines. The Concessionaire must completely remove all nuisance vegetation to the greatest extent possible, which shall include the root systems.

Nuisance vegetation must be removed so that it does not interfere with drainage, or the establishment of slope stabilizing turf and such vegetation does not lower the aesthetic appeal of the Toll Roads.

E.4.6 Required Measures for Using General Use Chemicals

The selection of General Use Chemicals used as herbicide types (contact, pre-emergent, systemic), specific manufacturer(s), application rates and times of day, variations for soil type and the time of year, etc. are the responsibility of the Concessionaire and must be selected with regard to fulfilling the performance specifications.

Trees and shrubs that are killed or injured by over-application of herbicide must be replaced with similar plants.

The use of broad-spectrum herbicides on pavements, shoulders and sidewalks to control weeds growing through cracks and presenting an unsightly appearance is permitted.

The use of growth retardants or chemicals that reduce the growth rate in order to extend the periods between pruning, edging or mowing will not be permitted.

Weeds should be removed from turf areas where grass has been weakened by competition, but excessive use of weed killers on turf areas is discouraged.

The Concessionaire is responsible for ensuring that all staff who apply General Use Chemicals within the Toll Roads are properly trained and licensed.

E.4.7 Required Measures for Using Restricted-Use Landscape Chemicals

The purchase, storage, transportation, disposal, application and conformance with all laws concerning Restricted-Use chemical compounds, including pesticides, herbicides, insecticides, fungicides and rodenticides is the Concessionaire's responsibility.

The Concessionaire is responsible for ensuring that all staff who apply Restricted-Use chemicals within the Toll Roads are properly trained and licensed as follows:

- All persons who apply Restricted-Use chemicals must be licensed as a Commercial Applicator by the Puerto Rico Public Service Commission.
- The Puerto Rico Department of Public Health must certify and license any individual who applies pesticides in or on man-made structures for purposes including but not limited to bird control, rodent control, wood treatment and insect control.

E.4.8 Burning

Burning of select areas to control or eliminate weeds or nuisance vegetation is strictly prohibited. In addition, the Concessionaire is prohibited from burning trash, refuse, litter, landscape waste, oil, grease, unused paint, or any other waste or chemical product.

E.4.9 New and Replacement Plantings

The Concessionaire is responsible for ensuring that only healthy stock is used for new and replacement planting.

All plants must be healthy, shapely, and well rooted. Roots must show no evidence of having been stressed, restricted or deformed at any time. The stems or trunks of trees must show no signs of having been cut, broken, mutilated or restricted by plant ties or supports.

The Concessionaire is prohibited from eliminating or choosing not to replace plantings without documented cause, or as a means to reduce the maintenance workload.

E.4.10 Turf

The Concessionaire is responsible for maintaining all turf within the Toll Roads and must perform the necessary work to preserve its health and appearance, including but not limited to: mowing, edging, applying landscaping chemicals and replacing all lost, diseased or dead turf and eroded topsoil in order to maintain proper grades and vegetative cover.

The Concessionaire must evaluate the need for seeding, over-seeding or sodding in locations of disturbed, thin or weakened turf.

The Concessionaire must perform maintenance to promote the growth of trees and shrubs. This work includes pruning, mulching, watering, fertilizing, removing and disposing, and replacing trees and shrubs with new plantings.

The Concessionaire must keep aware of damaged trees and limbs that may be a hazard to traffic, pedestrians, highway appurtenances, electric utility lines, or adjacent property. Trees and limbs subject to such conditions must be inspected frequently to ensure they do not compromise safety.

The Concessionaire must prune growing trees and shrubs in order to maintain their structure and health, to maintain sight lines of visibility to prevent traffic hazards, to prevent damage to property, and to preserve the aesthetics of the landscaping.

Trees and shrubs too close to the edge of pavement or Right-of-Way fence should be constrained. Such plantings must be thinned or removed if the plant spreads.

All tree and shrub pruning must be consistent with ANSI Standard A300 and the Puerto Rico Electric Power Authority Regulations, which include guidelines for distances from trees to electrical and utility wires.

Mulching around trees and shrubs with wood chips, green waste material, bark, straw or sheets of landscape fabric is required in order to conserve soil moisture, preserve a neat appearance to the landscaping, simplify mowing, and prevent weeds. Care must be taken to avoid excessive amounts of mulch, which may rot plant stems, and to use local products whenever possible to lower the chances of importing pests.

The Concessionaire must fertilize young trees to promote proper growth and must apply fertilizer to trees and shrubs in order to maintain steady growth.

The Concessionaire must not apply fertilizer in order to stimulate plant growth when underlying causes for lack of color or slow growth may be present. The Concessionaire must inspect distressed plants for evidence of such underlying problems and take all necessary steps to cure the plant.

All fertilizer application methods and rates must be consistent with the current ANSI Standard A300.

E.4.12 Fences

Toll Road fences have been erected to control access and prevent indiscriminate crossing by vehicles, pedestrians, or animals. The Concessionaire is responsible for inspecting, maintaining, and promptly repairing all fencing and its components.

Owners of private property fences bordering Toll Road property must be promptly notified when their fences need repair.

Fencing that has been damaged as a result of Third-Party damages, must be repaired or replaced as required in Volume I, Chapter I, "Third Party Damages & Emergency Maintenance". Fencing that has been vandalized must be repaired, reported to the Puerto Rico Police and monitored.

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Fences

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F.1 Definitions

Karst Topography: Karst topography consists of solution cavities and caverns in underlying limestone or rock formations, which may result in local sinks or settlements.

RCSRS: Rock Cut Slope Rating System, developed by the Oregon Department of Transportation.

RHRS: Rockfall Hazard Rating System, developed by the Oregon Department of Transportation.

Rockfall: According to the USGS (2004), rockfalls are abrupt movements of masses of geologic materials, such as rocks and boulders, that become detached from steep slopes or cliffs. Separation occurs along discontinuities such as fractures, joints, and bedding planes, and movement occurs by free-fall, bouncing, and rolling.

Landslides: According to the USGS (2004), landslides are mass movements, where there is a distinct zone of weakness that separates the slide material from more stable underlying material. The two major types of slides are rotational slides and translational slides.

Slope Inventory: A georeferenced database of slope locations.

Retainment Feature: Any structure, grading, barrier, netting or other appurtenance designed to retain or otherwise keep rock falls from encroaching on the traveled way.

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F.2 References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Design Directives, PRHTA
- Highway Design Manual, PRHTA
- Standard Drawings, PRHTA
- "Standard Specifications for Road and Bridge Construction", PRHTA
- LRFD Bridge Design Specifications, AASHTO
- "Maintenance and Management of Roadways and Bridges", AASHTO
- "Standard Specifications for Highway Bridges", AASHTO
- "National Bridge Inspection Standards (NBIS)", FHWA
- Publication FHWA-TS-79-208: "Rock Slope Engineering", FHWA
- Publication FHWA-TS-89-045: "Rock Slopes: Design, Excavation, Stabilization", FHWA
- Publication FHWA-SA-93-057: "Rockfall Hazard Rating System – Participant's Manual", FHWA
- "Landslides: Investigation and Mitigation", Special Report 247, Transportation Research Board, National Research Council, Washington, DC.
- Publication FHWA-FLH-19-002: "Unstable Slope Management Program for Federal Land Management Agencies", FHWA
- "Soil & Rock Classification Manual", Oregon Department of Transportation.

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F.3 Policy for Performing Slope Stability, Rockslide & Sinkhole Maintenance

F.3.1 Objective

The objective of Unstable Slope Management Program (USMP) is to ensure that all elements of rock cut slopes are properly maintained and that the roadway is properly protected from rockfall and/or landslide events to ensure the safe and orderly movement of traffic. The type of events and accidents that can result from down slope rock movements range from minor debris that can damage tires and bodywork, to larger falls that impact vehicles or cause vehicles to swerve off the road, to substantial slope failures that block the roadway. The effect of these events can cause damage to vehicles, injury, or death to drivers, and adversely affect the Toll Roads due to road closures.

F.3.1.2 Sinkholes

The objective of sinkhole repairs is to promptly mitigate the effects of ground collapse related Karst activity within regions that are underlain by carbonate (i.e., limestone) rock formations. Sinkholes can pose an immediate hazard to motor vehicles when located within the Right-Of-Way footprint of the Toll Roads and can have serious impacts on traffic. As such, it is imperative that damage caused by sinkholes be treated quickly and that the repairs are performed in a manner that acts to prevent further collapse and/or monitor future sinkhole activity.

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F.3.2 Responsibility of Concessionaire

F.3.2.1 Slope Stability and Rockslide Maintenance Landslide and Rockfall Maintenance

To meet the requirements of this Chapter, the Concessionaire must undertake and maintain an inventory of stability conditions, plan and execute slope remediation operations, and perform regularly scheduled slope and slope retainment feature maintenance operations.

To the greatest extent possible, when performing slope maintenance and slope repairs, the Concessionaire must utilize the newest techniques that have been approved and implemented by PRHTA and within the Commonwealth for major highway contracts to minimize the environmental impact of the Toll Roads on the neighboring lands and waters while optimizing cost, recycling, and public convenience.

All materials and construction requirements for Landslide and Rockfall Maintenance work performed, including maintenance of retainment features, by the Concessionaire must conform to the appropriate and applicable requirements of the Reference Documents listed in Section F.2 of this Chapter.

Work performed by the Concessionaire for Landslide and Rockfall Maintenance includes the following:

- Unstable Slope Management Program Georeferenced Database:

The Concessionaire will be required to continue developing and maintaining a data base for unstable slopes and will keep the Soils Engineering Office of the PRHTA and the Commonwealth informed on all unstable cut/fill slopes observed within the Toll Roads. The Georeferenced Database must be active and represent the most current conditions so that a proactive program to identify and stabilize slopes before rock falls and landslides occur.

The Unstable Slope Management Program (USMP) to be used will be in compliance with the Unstable Slope Management Program for Federal Land Management Agencies, as established in publication number FHWA-FLH-19-002. The USMP is used to convey the potential that the slope has for creating traffic hazards due to rockfalls or landslides and the slope's priority relative for remediation.

- USMP Classifications:

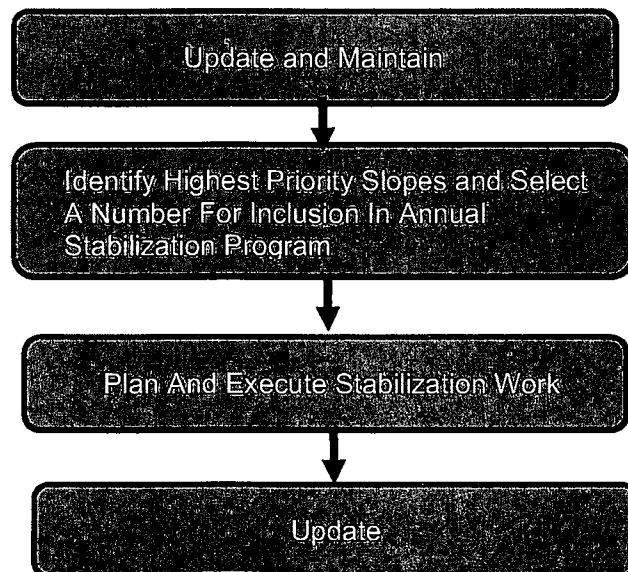
Table 3.2.1. Good, Fair, and Poor Classifications for USMP Slopes (modified from FHWA-FLH-19-002)

Good Condition	Slope Asset is free of significant defects, and has a condition that does not adversely affect its performance. This level of condition typically only requires preventive maintenance activities such as routine, occasional ditch cleaning. USMP Preliminary Scores are typically 15 to 21 points.
Fair Condition	Slope Asset has minor deterioration, erosion/raveling of cut slope, rockslides or rockfall, or infrequent subsidence of the embankment slope. This level of condition typically could be addressed through maintenance or risk reduction mitigation efforts, such as installation of barriers at road level and draped mesh to direct rock to the ditch or occasional subgrade improvement/strengthening with asphalt patching and/or drainage improvements. USMP

	Preliminary Scores are typically 22 to 161 points.
Poor Condition	Slope Asset exhibits advanced deterioration and conditions that impact ability of slope to remain intact. This level of condition typically requires narrowing the roadway, risk reduction slope repair, rehabilitation, reconstruction or replacement. Potential mitigation may include robust barriers, draped or anchored wire mesh, landslide stabilization techniques such as horizontal drains or buttresses, or cable net to hold rock on slope or direct it to ditches. USMP Preliminary Scores are typically >161 points.

The Concessionaire will be required to develop a slope remediation program to annually reduce the number of Fair and Poor condition slopes to Good condition slopes. This work will be as illustrated in the Flow Chart as follows:

Flow Chart 3.2.1



F.3.2.2 Sink Hole Maintenance

Immediately upon notification of a sinkhole that has formed in or near the roadway, the minimum typical procedure outlined below is required by the Concessionaire in remediating the situation in a safe and timely manner:

- Employ appropriate temporary traffic control measures to keep traffic away from damaged area and to provide sufficient space for construction equipment.
- Survey and record sinkhole location. Remove damaged pavement as necessary and then excavate to expose the "throat" of the sinkhole, which consists of the near-vertical opening through which soil has collapsed downward into voids in the underlying rock. Remove unstable soils and loose rock and enlarge hole in order to expose the throat to the greatest extent possible. If bedrock is within reach of the excavating equipment, expose the top of rock surface by removing soil and loose rock materials to expose the throat of the sinkhole leading into the bedrock. Water may be flushed into the sinkhole as an aid to locating the throat.
- If the bedrock surface is too deep to be reached with the excavating equipment, then excavate as deeply as possible to expose the throat of the sinkhole as deeply below the ground surface as can be reached.
- If the sinkhole is not located within an area of roadway pavement, backfill the excavation with concrete up to a level no higher than four (4) feet below the ground surface, and then complete backfilling with soil up to the ground surface. If the sinkhole is located within an area of roadway pavement, then backfill the excavation with concrete up to a level of two (2) feet below the roadway subgrade elevation, and then place compacted subbase and finally the new pavement in order to reestablish the roadway surface within the repaired area.
- Allow concrete to fully set before beginning the placement of backfill materials above. Backfill soil is to be tamped using mechanical methods, i.e., a mechanical tamper which can reach down into the excavation. Alternatively, the excavation is to be widened and the sides of the excavation sloped as necessary to allow a worker to safely enter the excavation and hand-tamp the soil into place.

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F.3.3 Performance Time Frames


The following table establishes the minimum frequency for surveying and updating the RCSRS database. In the event of a rainstorm with an intensity of 4 inches of rain in one hour or more; all cut slopes must be inspected to verify their condition after the storm.

Table F.3.3.a

Priority Designation	Minimum Frequency of Occurrence
High Priority	Every year or after an event of rainstorm
Moderate Priority	Every year or after an event of rainstorm
Low Priority	Every three years

The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire) within which the Concessionaire must complete the required maintenance, repair or replacement:

Table F.3.3.b



Maintenance to be Performed	Maximum Time Duration
<u>Rock debris:</u> - Located in travel lane.	1 Hour
- Located in shoulder area	24 hours
<u>Rock Slope Instability:</u> - Evident hazards	7 Days
- Remediation Projects	Annually
<u>Rock Retainment Features:</u> - Debris removal behind feature ¹	Twice Annually
- Repair to feature	30 Days
Sink Holes	30 Minutes (Initial Response)

- (1) - Provide more frequent removal as necessary to ensure safe conditions are maintained.

F.3.4 Acceptance Criteria

All Rock Slope and Rock Slope Maintenance will be considered acceptable when the following criteria are met or exceeded:

- The RCSRS database is maintained and updated in accordance with the schedule noted in Section F.3.3 of this Chapter.
- The number of High Priority Slopes and Moderate Priority Slopes decrease on an annual basis.
- Rock retainment features are cleaned and maintained in a timely fashion, and in accordance with Table F.3.3.b.

Sinkhole repair work will be considered acceptable when the roadway has been stabilized and indications of ongoing sinkhole activity at the ground surface have ceased.

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G.1 Definitions

Abutment: Earth retaining structures which support the superstructure at the beginning and end of a bridge.

Admixture: A substance added to a concrete mixture to produce a specific result.

Allowable Stress Design: A design method which computes stresses based on unfactored loads and compares such stresses to reduced allowable loads associated with structural materials. This method of design follows a "factor of safety" methodology.

Anchor Bolt: A threaded rod, including hardware, used for holding a mechanism or structure in place.

Approach Slab: Rigid pavement that provides a transition element from the roadway to bridge, that abuts to the bridge at the bridge joint.

Armor: A metal fitting installed to protect the underlying joint material.

Backwall: The component of the abutment usually starting at the bearing seat elevation acting as a retaining structure and support for the approach pavement.

Bearings: A mechanical support system which transmits the vertical loads of the Superstructure to the Substructure. Bearings are composed of steel, rubber, Teflon, etc., and are separated into two general categories:

- Fixed: Permitting only rotational movements.
- Expansion: Permitting longitudinal as well as rotational movements.

Bent: A line of columns built as a structural unit, transverse to the bridge and supporting the load of the Superstructure.

Bridge: A structure consisting of single or multiple spans more than 20 feet in length that provides a means of transit for vehicles and/or pedestrians above the land, water surface, roadway, railroad or other obstruction.

Bridge Joint: Designated horizontal and vertical separation that forms a determined gap at the end of a bridge deck. Bridge joints include expansion joints and fixed joints of various systems and materials.

Camber: The upward curvature built into the longitudinal profile of a beam to accommodate the application of the load.

Culvert: A structure made of steel, concrete, aluminum, natural stone, High Density Polyethylene, or other material, covered by embankment material and allowing a creek, stream or roadway to pass under a roadway or fill. Culverts are typically box

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or arch in shape and may or may not have slabs under the creek or stream flowline. Culverts may be of any size up to 20 feet in span length.

Core Element: Commonly Recognized Bridge Structure Elements. A nationwide system developed by AASHTO to provide a uniform basis for data collection on bridge structure elements.

Cross Girders: Deep structural members in steel or concrete with an "I" or "Box" section that support stringers or girders over a roadway or railroad. Cross girders usually have only two supports, and have bearings that transmit vertical loads to columns. Cross girders may also be part of steel framing that has bearings at ground level.

Deck or Slab: The portion of a bridge that supports the highway, from the top of the major structural members to the Wearing Surface, and is designed to distribute loads evenly across the bridge.

Dolphin: Groups of piles driven close together in water and tied together so that the group is capable of protecting bridge elements by withstanding lateral forces from vessels and other floating objects.

Fender System: Piles and/or timbers used as guides along a bridge foundation face to absorb the shock of vessel impacts and to minimize damage to the structure and vessel.

Floor Beam: Transverse members which support the stringers and transmit the loads to the main load carrying members of a structure.

Fracture Critical: A tension member, reversal member or component (with a tension element) the failure of which will result in the collapse of the structure.

Girder: An "I" or "Box" section providing primary support for the bridge deck or floor beams. Girders are oriented in the direction of the roadway, with the exception of Cross-girders.

Grade Separation: Crossing of a highway over another highway, street, railroad, channel or other facility, at different elevations.

Grout: A fluid mixture of mortar composed of sand, cement and water that can be poured or pumped easily.

Gusset: A plate serving to connect the elements of a member(s) of a structure, and to hold them in the correct alignment and/or position at a joint.

Load Factor Design (LFD): A design methodology in which factors are applied to various loads on a structure and the resulting computed stress are compared to the ultimate strength of a material.

Load and Resistance Factor Design (LRFD): A probabilistic design methodology in which factors are applied to loads, and ultimate strength of materials. The factors applied are based on the degree to which the designer can predict both the loads and the ultimate strength of steel or concrete. These factors are established by AASHTO.

Load Rating: An analysis of a structure to compute the maximum allowable loads that can be carried across a bridge; the guidelines are set forth by AASHTO.

Overpass: The single or multi span bridge that crosses over the Toll Roads.

Parapet: A wall-like member integrally connected to the fascia edge of a bridge deck to serve as a protective barrier for vehicular or pedestrian traffic.

Piers: Substructure elements which support the Superstructure at intermediate points between the abutments.

PONTIS: An AASHTO ware product providing a comprehensive, rigorous, and flexible Bridge Management System.

Retaining Wall Structures: An engineered structure designed to resist horizontal earth pressures of a fill or cut, and/or a structure designed to prevent material from spilling onto another surface.

Roadway Arch Culvert: A concrete (cast in place or precast), or metal arch structure supporting fill or roadway with soil separation between the top surface and the underside of the arch. Arch culverts are considered either rigid or flexible and for the passage of roadways would span from 12 to 40 feet.

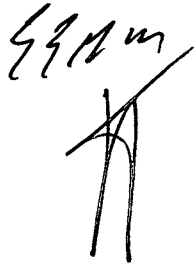
Scour: The lowering of the streambed by the erosive action of water as a result of a local obstruction or natural phenomena, typically occurring at piers and abutments in waterways.

Segmental Concrete Bridge: A concrete bridge typically with a "box" cross section that is either cast in place or precast and post tensioned together forming the span from pier to pier.

Spall: Circular or other shaped depression in a concrete surface resulting from the separation of a portion of the surface from its substrate.

Stringers: Longitudinal beams supporting the bridge deck, and in some bridges framed into or upon the floor beams.

Substructure: The pier and abutment elements required to support the Superstructure.



Superstructure: The entire bridge structure resting on the piers and abutments, consisting of stringers, girders, decks, floor beams, trusses, wearing surfaces, railings, etc.

Truss: A jointed bridge structure having open built web construction so arranged that the frame is divided into a series of triangular shaped figures.

Viaducts: All continuous multiple span bridges, usually consisting of more than 5 spans, and not defined as overpasses.

Wearing Surface: The portion of a bridge deck cross section which resists traffic wear.

Wingwall: A side wall to the abutment backwall or stem designed to assist in confining earth behind the abutment.

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G.2 References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Design Directives, PRHTA.
- Highway Design Manual, PRHTA.
- Standard Drawings, PRHTA.
- Standard Specifications for Road and Bridge Construction, PRHTA.
- Bridge Inspection Manual, PRHTA.
- "LRFD Bridge Design Specifications," AASHTO.
- "Maintenance and Management of Roadways and Bridges", AASHTO.
- "Guide Specifications for Fatigue Evaluation of Existing Steel Bridges", AASHTO.
- "Guide Specifications and Commentary for Vessel Collision Design of Highway Bridges", AASHTO.
- Title 23, Code of Federal Regulation, Section 650, "National Bridge Inspection Standards (NBIS), FHWA
- "Bridge Inspector's Training Manual", FHWA.
- "Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges", FHWA.
- "NCHRP Report 299: Fatigue Evaluation", NCHRP/FHWA.
- "SSPC Painting Manual", 2-Volume Set. SSPC.
- "Lead-Based Paint Removal for Steel Highway Bridges", SSPC.
- "SSPC-VIS1 – Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning", SSPC.
- "SSPC-VIS2 – Standard Method for Evaluating Degree of Rusting on Painted Steel Surfaces", SSPC.
- "SSPC-VIS3 – Guide and Reference Photographs for Steel Surfaces Prepared by Hand and Power Tool Cleaning", SSPC.
- "SSPC-VIS4 – Guide and Reference Photographs for Steel Cleaned by Water Jetting", SSPC.
- "SSPC-VIS5 – Guide and Reference Photographs for Steel Prepared by Wet Abrasive Blast Cleaning", SSPC.
- International Concrete Repair Institute Technical Guidelines, ICRI

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G.3 Policy for Bridge & Structure Maintenance

G.3.1 Objective

The objective of Bridge and Structure Maintenance is to ensure that the stability, safety, durability, strength, and structural integrity of the Toll Roads are continually and properly maintained so as to maximize the functional life of the structures.

Structures require repairs due to wear, vehicular impacts, chloride infiltration, etc.; maintenance; inspections; and replacement in part and in whole.

Maintenance objectives for individual structure elements of a structure are further identified by the following:

- 
- Bridge Decks and Wearing Surfaces: To provide a safe, uniform, smooth, stable and durable surface.
 - Bridge Railings and Parapets: To provide a structurally sound and safe barrier for and between pedestrians, vehicles and hazards. This includes structure mounted fences.
 - Bridge Joints: To provide a safe, smooth and stable condition across planned openings.
 - Bridge Superstructure and Substructure Elements: To provide and maintain the structural integrity, durability and load carrying capacity of concrete and steel Superstructure and Substructure elements.
 - Bridge Bearings: To ensure that Superstructure loads are properly transmitted and distributed to the Substructure, and that the Superstructure is free to undergo necessary movements without damage.
 - Bridge Painting: To prevent corrosion in steel elements of bridge Superstructures and Substructures, and to present a neat and tidy appearance on both steel and concrete.
 - Bridge and Structure Cleaning: To preserve the bridges and structures; and to remove dirt, debris, and deleterious materials.
 - Bridge Waterway Protection: To ensure structural strength, to prevent scour and to maintain the impact resistance of the bridge fender system.
 - Structure Accessories: To provide functionality and maintenance to ancillary bridge and structure items including, but not limited to, inspection walkways, sidewalks, slope walls, etc.
 - Bridge Inspections: To provide current and accurate information on the condition and the structural adequacy of the bridge or structure in accordance with the applicable requirements of the Municipal, Commonwealth and Federal governments.

G.3.2 Responsibility of Concessionaire

In order to meet the requirements of this Chapter, the Concessionaire must engage in practices to ensure that all Bridges and Structures function properly as designed; to ensure that the stability, strength, durability and structural integrity of the Bridges and Structures are not compromised; and to provide a continuous safe and orderly movement of traffic. This requires that the Concessionaire carry out its obligations in accordance with this Chapter and all requirements of other Volume I chapters in a manner that minimizes the overall deterioration and/or improves the condition of the Bridges and Structures.

The Concessionaire is responsible for all management associated with the Bridge and Structures including; conducting Maintenance, Emergency and Mandatory inspections; filing inspection documents and reports with PRHTA; assisting in independent inspections; and replying to questions or comments that might arise. The Concessionaire is also responsible for determining repair needs; creating repair alternatives and procedures; scheduling work; and overseeing all work to ensure compliance with all of the Reference Documents listed in Section G.2 of this Chapter.

The Concessionaire is responsible for initiating, designing, determining, establishing and maintaining all required Traffic Control for the duration of the work as addressed by the requirements of Volume II, Chapter H, "Traffic & Travel Management Plan".

The Concessionaire must ensure that all repair drawings are prepared and sealed by a Professional Engineer Licensed in the Commonwealth of Puerto Rico. In addition, all repair work resulting in an alteration of a bridge or structural element must be recorded with an "As-Built" document, which must also be filed with PRHTA's Bridge Engineering Office.

All materials and construction for Bridge and Structure work performed by the Concessionaire must conform to the appropriate and applicable requirements of the Reference Documents listed in Section G.2 of this Chapter.

Once work on a Bridge or Structure has been started, the work must continue during consecutive working days until a thorough, complete, and structurally adequate product has been achieved. All work performed on Bridges and Structures must correct all safety deficiencies, preserve the Toll Roads as an asset, and restore a quality riding surface.

Structures include Bridges, Culverts, Retaining Walls and Noise Walls. Sign structures, which include truss and single tube bridges and cantilever structures, are also included. For clarity this Chapter mainly addresses bridges and bridge related structures. Refer to the following Volume I Chapters for other structure types:

Chapter D: Drainage Maintenance & Erosion Control

Chapter H: Noise Wall and Retaining Wall Maintenance

Chapter K: Signs and Signage Systems Maintenance

Refer to the corresponding Volume I "Maintenance Manual" Chapters for the following elements associated with Bridges:

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| • Bridge Approach Pavement | Chapter B: Roadway Maintenance |
| • Bridge Approach Guide Rail | Chapter J: Roadway Safety Features & System Maintenance |
| • Bridge Drainage | Chapter D: Drainage Maintenance & Erosion Control |
| • Bridge Mounted Signs | Chapter K: Signs and Signage Systems Maintenance |
| • Bridge Mounted Lights | Chapter L: Lighting and Electrical Systems Maintenance |

Work on Bridges and Structures within the Toll Roads that must be performed by the Concessionaire includes, but is not limited to, the following:

- Bridge Decks and Wearing Surfaces:
 - Make repairs to deteriorated, delaminated and unsound portions of the Bridge Decks & Wearing Surfaces including but not limited to full and partial depth repairs; concrete crack sealing; and replacement of the Bridge Decks and Wearing Surfaces in part or in whole.
 - When an entire span deck is replaced or overlayed, a moisture insensitive broadcast aggregate – low modulus epoxy shall be applied to the surface. Such product shall meet ASTM C-881 Type III Class B and C specifications.
 - Ensure that Bridge Decks and Wearing Surfaces are securely attached to their support elements, so that a safe, durable, and structurally adequate condition is continually provided.
 - Ensure that all Bridge Decks and Wearing Surfaces are structurally adequate to support vehicular and other design loads.
 - Ensure that all repairs or replacement work provides the following:
 - A smooth and safe wearing and riding surface.
 - The repaired areas encompass all surrounding unsound and deficient areas.
 - Repairs are sound, durable, and well bonded to the substrate surface or support element.

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- The repaired area is finished in accordance to the requirements of the Reference Documents.
- Cracks are sealed and prevent the infiltration of water and chlorides.
- The repaired areas match the concrete color and the profile of the surrounding areas.
- Concrete used for repairs shall not have additives used with the purpose of modifying the natural color of concrete.

- Bridge Railings, Parapets and Fences:

- Maintain, repair or replace Bridge Railings and Parapets that are unsafe or have the potential to become unsafe to Toll Road users or users below the bridge.
- Install temporary barriers or railings where and when required, ensuring the continual safety of Toll Road users.
- Maintain, repair, and replace Bridge Railings, Parapets and Protective Fence to the original design, unless entire segments or lengths are replaced in which case the Concessionaire must conform to the most current requirements stated in the Reference Documents listed in Section G.2 of this Chapter.
- Repair or replace all rusted, bent, loose, missing, unsafe and/or damaged steel railings, parapets or fence supports.
- Repair or replace all cracked greater than 0.05 inches wide for reinforced concrete and 0.009 inches wide for prestressed concrete.
- Unsound, delaminated, missing, unsafe and/or damaged concrete railings or parapets.
- Modify or provide parapets and barriers in accordance with PRHTA Standard Drawings to prevent vehicular vaulting.

- Bridge Joints:

- Replace full or sectional lengths of Bridge Joints, seals and bridge joint armor that are unsafe or have the potential to become unsafe, or that would accelerate the deterioration of other bridge and structure elements, such as bearings.
- Replace all Bridge Joint seal material that becomes damaged, missing, worn, torn, leaky, misaligned, or no longer function as intended by the original design.
- Repair or replace all Bridge Joint armor and its components that become loose, bent, gouged, separated from its substrate, damaged, broken, cracked, experience section loss or missing.

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- Bridge Superstructure and Substructure Elements:

- Ensure that all bolts are present, properly torqued, tight, and contain the proper nuts and washers.
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- Replace all loose, damaged, deteriorated, cracked, missing and non- functioning rivets with an appropriate high strength bolt of the same or larger diameter as the original rivet.
- Repair or replace bent, corroded, cracked, fatigued, damaged or structurally deficient steel Superstructure and Substructure elements.
- Repair or replace unsound, delaminated, spalled, cracked and structurally deficient concrete Superstructure and Substructure elements.
- Inspect and investigate all truss elements as well as all Superstructure and Substructure elements that appear loose, damaged and/or resonate when load is applied.
- Perform all steel repairs so that each individual element, as well as the structure, is structurally adequate to support vehicular and other design loads.
- Perform all concrete repairs in a manner that removes all deficient concrete and ensures a sound, durable, well-bonded repair that is structurally adequate to support vehicular and other design loads.
- Repair all concrete pedestals and bearing seat areas that become cracked, damaged, deteriorated, or unsound.

- Bridge Bearings:

- Replace non-working or structurally unstable Bridge Bearings and associated components with replacement bearings that adequately support all the design loads and combinations that it might experience, in conformance with the requirements of the Reference Documents.
- Employ a Licensed Professional Engineer in the Commonwealth of Puerto Rico to prepare jacking, removal and installation procedures and documents for all Bridge Bearing removal, replacement and resetting work.
- Replace Bridge Bearings and associated components in part or in whole that are unsafe or have the potential to be unsafe or have deteriorated to the condition where maintenance and repair will not restore the intent of the original design function.
- Clean, lubricate, realign, and repair Bridge Bearings in accordance with the manufacturer's specifications or the original design specifications.

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- Clean all bridge bearings and associated components that are rusted or become covered with abrasives, dirt, pigeon dung or debris.
- Repair or replace all pads that are damaged, warped, distressed, bulging, crushed, cracked, split, torn, etc.
- Repair or replace all anchor bolts, and associated components, that become damaged or are missing.

- Bridge Painting:

- Clean, prepare and coat all steel surfaces of bridge structures and railings in accordance with the requirements of the SSPC and the PRHTA Standard Specifications for Road and Bridge Construction, where the coating system is found to be deteriorated, broken, peeling, cracking, damaged, and/or the steel shows signs of corrosion or rust.
- Test, remove and properly contain all existing paint that has or is thought to have lead present within its composition, in compliance with the requirements of the Reference Documents listed in Section G.2 of this Chapter.
- Apply paint to all new steel bridge members or elements in accordance with the requirements of the SSPC and the requirements of the Reference Documents listed in Section G.2 of this Chapter.



- Bridge and Structure Cleaning:

- Ensure that the following surfaces and elements are cleaned of all dirt, debris and deleterious material, and washed to remove chemicals and abrasives at the frequency stated in Table G.3.3.2 of this Chapter:
 - Decks, shoulders, curbs, railings, bridge joints and parapets and gutter lines.
 - Truss members to a minimum height of 10 feet above the deck surface, including the bottom chord.
 - Bridge members that are located below the deck. Include members at deck joints, nesting locations for pigeons, members experiencing splash from bridge deck drain pipes or scuppers.
 - All drainage structures, including scuppers, deck drains, expansion joint troughs, abutment seat troughs, and drain piping.

- Approaches to the bridges and all associated bridge elements for a distance of not less than 30 foot-long, as measured from the abutment joints, including the wingwalls, parapets, guard rail, etc.
- Pier and abutment seats and caps, especially those beneath bridge deck expansion joints.
- Abutment stem walls and backwalls.
- Remove all fire hazards beneath bridges and structures.
- Ensure that all cleaning work is performed without damage to property, or injury to Toll Road users.
- Bridge Waterway Protection:
 - Ensure that the waterway and banks at all water crossings are free of all trees, logs or other debris that may impede vessel passage or water flow and/or reduce the functionality of the pier protection system.
 - Repair and/or replace Dolphins, Pilings, Fender Systems and their associated components that are unable to or have the potential to be unable to resist waterway vessel and debris impacts.
 - Employ a Licensed Professional Engineer in the Commonwealth of Puerto Rico to prepare designs and documents for the replacement of all Bridge Waterway Protection systems.
 - Maintain, repair or replace all Dolphins, Pilings, Fender Systems and their associated components that are loose, unattached, rotted, damaged and/or missing.

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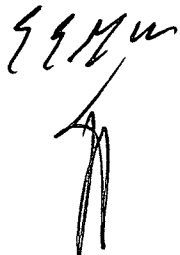
Scour Protection:

- Establish internal procedures to monitor Scour Critical Bridges during or immediately after periods of high water. The Concessionaire must be pro- active relative to Scour potential for substructure elements within floodplains or floodways. Include the following elements as part of the procedures:
 - Maintain a list of scour critical bridges that are to be monitored during periods of high water. Include other bridges that are not classified as scour critical but that may have scoured previously or that may be susceptible to debris and aggradation.
 - Designate and train personnel to report and evaluate conditions after and during high water events.

- Establish local benchmarks at Scour Critical Bridges to enable non-bridge inspectors to report the height of water. In the list of scour critical bridges indicate the location of the benchmarks and the water heights at which inspections are warranted. In addition, the benchmarks enable inspectors to quickly gauge the progress of scour at a substructure.
- Maintain a listing of substructure elements in flood areas supported by spread footings.
- Following flood events occur that produce high water velocities, inspect the substructure elements for scour, sounding adjacent areas underwater by means of poles, ultrasonic devices or radar. Determine if any potential exists for substructure tilt or subsidence.
- Repair and replace scoured and/or eroded materials at the bridge piers, shore, bank and watercourse with riprap or other materials that are appropriate and in full conformance with the requirements of the Reference Documents listed in Section G.2 of this Chapter.
- Obtain all necessary permits and Approvals prior to placing scour protection in the waterways.

• Roadway Arch Culverts:

- Inspect these structures as one would inspect abutments on a bridge, and as one would inspect a stream culvert or tunnel. The Concessionaire must be especially mindful of crack patterns and depressions in overburden or the roadway indicating loss of soil or excessive deflection of the arch ring.
- Arch culverts may be rigid, made of concrete, or flexible, made of metal. Adjust record keeping, inspection and maintenance according to the arch culvert type and span.
- Rigid culverts rely on compression as a primary load path. The Concessionaire must be diligent in evaluating the condition of concrete. Cracks in the concrete that exceed 0.30 mm should be documented, monitored, and evaluated relative to cause.
- When a crack becomes 1.27 mm (0.05 inches) wide or greater it shall be pressure injected or repaired by some other method. Cracks in the range of 0.30 mm (0.012 inches) to 1.27 mm (0.05 inches) wide are considered "moderate cracking" and in fair condition state, hence perhaps not requiring pressure injection or other repair methods at 0.40 mm,

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- Flexible culverts rely on soil structure interaction and distortions in shape can significantly impede load carrying capacity. Flexible culverts should have key dimensions periodically checked to verify that the soil and structure is not shifting. Additionally, joints in flexible culverts are subject to corrosion and must be maintained adequately to transfer both axial and bending loads.
 - Flexible culverts are sensitive to impact damage. Following any crash event, the metal rings should be evaluated to determine if tears have occurred, shape has changed, or connections have been damaged. Accidents involving fire require an evaluation of the metal to determine that adequate ductility remains.
 - Foundations for arch culverts are critical to their load carrying capacity. Determinations should be made relative to settlement or shifting of foundations indicating loss of support. Care must be exercised in repaving operations or below grade utility installations so as not to undermine foundations.
 - Arch culverts can trap water which is detrimental to their load carrying ability and trapped water can cause excess corrosion or failure. Evaluate weep holes and joints to verify water can escape from the soil side of arch culverts.
 - Arch culverts for roadways are exposed to roadway salts during deicing operations. Protection, in the form of coatings in the splash zone, may be necessary to increase the longevity of such culverts.
 - Structure Accessories:
 - Repair or replace bent, corroded, cracked, fatigued, damaged or structurally deficient steel Inspection walkways and their components.
 - Repair and replace all damaged, settled, or deficient slope protection.
 - Repair and replace all unsound, deteriorated, or damaged bridge sidewalks, curbs, or safety walkways.
 - Repair and replace all damaged, non-functioning, or deficient Bridge underpass lighting, if that lighting is fed from an electrical source from the Toll Roads.
 - Bridge Mounted Utilities:
 - The Concessionaire must clean pipe, conduits or other appurtenances in accordance with regular Bridge cleaning requirements. Also, scheduled Bridge inspections must include condition assessment of utilities. Establish a system to report deficiencies or emergency conditions to the appropriate authority.

- Bridge Inspections:

- Ensure that all inspections required by Title 23 Code of Federal Regulations, as well as those required by PRHTA occur at the frequencies no greater than those stated in Table G.3.3.2, and the requirements of Volume II, Chapter L, "Annual State of the Toll Roads & Capital Improvement Program Reports".
- Employ qualified, experienced, and trained Professional Engineers Licensed in the Commonwealth of Puerto Rico to perform all of the required inspections, condition assessments, repair recommendations and required reports and filings with the appropriate Commonwealth and Federal entities.
- Ensure that all inspections methods and procedures are in conformance with the requirements of the NBIS.
- Develop, update, and maintain a Bridge management, inspection and condition database which shall include photographs, test results, field notes, etc., which will also identify and prioritize all required repairs.
- Perform bridge capacity and load analyses as required when deficient bridge members and elements are discovered.
- Ensure that all structures are properly inventoried with PRHTA, and that biannual updated Inventory Inspection Forms and Reports are correctly coded into the PRHTA inventory system.
- Ensure scheduling, organization, and compensation for all required inspections, including but not limited to, vehicle rental, testing equipment, outside testing services, lane closures, and securing rights-of-entry from property owners, and utilities.
- Ensure that all underwater inspections are performed by certified divers who have been trained to identify problems, and who are under the supervision of a certified bridge inspector.
- Notify PRHTA, the Commonwealth and Municipal Government immediately when inspections determine that the bridge or one of its major components is at the risk of a localized or large-scale structural failure.

G.3.3 Performance Time Frames

The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire), within which the Concessionaire must assess the condition and complete the required maintenance, repair or replacement work to Bridges and Structures, and their components (unless weather conditions limit material application):

TABLE G.3.3.1

Bridge or Structure Feature	Maximum Time Duration
<u>Bridge Decks & Wearing Surfaces:</u> - Traveled Lanes - Remainder of Deck Area	24 Hours 1 month
<u>Bridge Railings and Parapets:</u> - Defect which compromises public safety - Other defects	24 Hours 1 Month
<u>Bridge Joints:</u> - Defect which compromises public safety - Other repairs	24 Hours 5 Days
<u>Bridge Superstructure and Substructure Elements:</u> - Defect critical to structure stability - Non-Structural Deterioration	24 Hours 2 Months
<u>Bridge Bearings:</u> - Defect critical to structure stability - Other defects	24 Hours 5 Days
<u>Bridge Painting:</u> - Directly Exposed to Weather - Protected from Direct Weather	3 Weeks 1 Month
<u>Bridge and Structure Cleaning:</u> - Typical Cleaning - Protected from Direct Weather	(See <u>Table G.3.3.2</u>) (See Volume I, Chapter I)
<u>Bridge Waterway Protection:</u> - Floods causing stream shift - Stabilizations of footings	5 days 2 months
<u>Roadway Arch Culverts:</u> - Instability or Emergency Damages - Other defects	24 Hours 2 Months
<u>Structure Accessories:</u> - Defects which compromise public safety - Return to as designed condition	24 Hours 14 Days

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The following table establishes the minimum frequency that a particular maintenance operation is to be performed.

TABLE G.3.3.2

Activity to be Performed	Minimum Frequency of Occurrence
Bridge and Structure Cleaning	Annually
<u>Bridge Bearings:</u> Lubricate all required bearings in accordance with the original design and manufacturer's specifications.	Annually
<u>Inspections & Reports:</u> <ul style="list-style-type: none"> - All Bridge Structures - Filing of PRHTA Inventory / Appraisal Forms - Fracture Critical Structures & Members - Underwater Inspection - Monitoring Inspection 	As per NBIS As per NBIS As per NBIS Once every 5 years or after any major event After any flood, earthquake, fire or accidents events – Prepare Damage Inspection Report

The Concessionaire must, from the time a deficiency is detected by discovery or report:

- Immediately dispatch a Licensed Professional Engineer in the Commonwealth of Puerto Rico to inspect, conduct testing, analyze, prepare condition reports and prepare repair/replacement recommendations.
- Notify PRHTA and the Commonwealth immediately when inspections by the Professional Engineer determine that the Bridge, structure or its components are at risk of a localized or large-scale structural failure.
- When such times occur that a Bridge, structure or its components are at risk of failure:
 - Commence repairs immediately as instructed by the Professional Engineer, except where the damage will require complete reconstruction.
 - Complete repairs within three (3) months or within a time frame that is appropriate to the nature and urgency of the repair as determined by the Professional Engineer.

- Immediately establish and provide traffic control whenever a Bridge or Structure is unsafe or has the potential to become unsafe for Toll Road or local users.
- Ensure that all temporary work is properly disposed of and replaced with permanent work commencing no later than one (1) month after it was installed, or is no longer required.

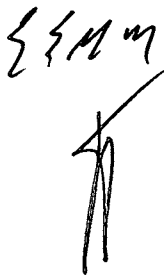
G.3.4 Acceptance Criteria

Bridge and Structure maintenance work will be considered acceptable when the following criteria are met or exceeded:

- Performance Criteria:

Bridges within the Toll Roads are critical to the asset, safety of Toll Road users and overall performance of the Commonwealth transportation network and therefore cannot be compromised by the Concessionaire. For a Bridge to be deemed acceptable by PRHTA and the Commonwealth, the following criteria, in addition to all other criteria in the Operating Standards, must be met for each structure on an annual basis:

TABLE G.3.4



Performance Item	Minimum Criteria
<u>Weight (Load) Restriction:</u> <ul style="list-style-type: none">• General• Structural Capacity	No Posted Bridges Rating Factor of 1.0 at the operating level for established legal loads
<u>Bridge Rating:</u> <ul style="list-style-type: none">- Condition Ratings	Bridge shall not be classified Structurally Deficient*

* Structurally Deficient" includes bridges with condition ratings of "4" or less, among other criteria.

If a bridge is found during the annual inspections and reports required by this Chapter or by Volume II, Chapter L "Annual State of the Toll Roads and Capital Improvement Program Reports", as not conforming to the minimum criteria stated in Table G.3.4, that structure must be listed and included in the 5-year Capital Improvement Program for major improvement. In addition, during the 10-year timeframe, the Concessionaire must continually maintain all listed structures in a manner such that the conditions of the Major Bridge Elements (Deck, Superstructure, or Substructure), as well as other safety related elements, are always maintained at a rating of 5 or better at all times.

- Bridge Decks and Wearing Surfaces:

- The concrete finish of the decks and/or wearing surfaces provides a safe driving surface and is in accordance with the requirements of the Reference Documents listed in Section G.2 of this Chapter.
- Repair areas match the existing Deck profile, cross-slope, and finish.
- Repair areas and adjacent areas encompass all deterioration and are structurally sound, uniform in shape, durable and bonded to the supporting elements and substrate.
- Repair and replacement materials are compatible to the remaining materials, and new materials are in full compliance with the requirements of this Chapter and the Reference Documents listed in Section G.2 of this Chapter.
- Repair and replacement areas are structurally adequate and maintain the structural integrity of the deck.
- All cracks 0.0625 inch or larger are sealed to a minimum depth of 0.5inch.
- The decks and wearing surfaces are clean and free of all dirt, debris and foreign materials that may reduce the safety of Toll Road and Local users and impede drainage.
- The decks or wearing surfaces are replaced in whole when the existing combined areas with the required and proposed repair areas, account for more than 30% of the entire deck area.

- Bridge Railings, Parapets, and Fence:

- The railings and parapets are properly attached and meet all of the requirements of the Reference Documents so that the system provides a safe barrier for Toll Road and local users.
- The railings and parapets are properly aligned, and free of all damage, defects, and deterioration.
- Temporary barriers or railings have been installed only for the duration required to complete the permanent repair or replacement.

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- o Fence fabric is fully supported by pipe frames properly connected according to current standards.

- Bridge Joints:

- o The bridge joints have been properly installed and function as designed to withstand the movements of the bridge and structure.
- o The bridge joints are free of leaks and defects that can create damage or deterioration to the structure.
- o The bridge joints provide a smooth and safe transition for Toll Road and local users.
- o The bridge joint armor plates are securely attached to the substrate, are not misaligned, and are not damaged or deteriorated.

- Bridge Superstructure and Substructure Elements:

- o Existing and repaired or replaced elements are structurally adequate and maintain the structural integrity of the structure.
- o Repair areas match the adjacent surface color and finish.
- o All waste materials have been removed from the work site and the areas are left in a clean and tidy condition.
- o Repair areas and adjacent areas encompass all deterioration and are structurally sound, uniform in shape, durable and bonded to the supporting elements and substrate.
- o All structural cracks are filled and sealed with the appropriate materials and methods as determined by the Professional Engineer and in conformance with the Reference Documents listed in Section G.2 of this Chapter.
- o Backwalls at approach slabs should provide adequate vertical support without longitudinal movements. All joint materials must be adequately fastened and attached to the Backwalls and bridge deck.
- o The concrete pedestals and bearing seats are clean and free of all deterioration, damage and deficiencies that might compromise the bearings.


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- Bridge Bearings:

- o All bearings constructed with elastomeric or other pads are properly aligned and free of all bulging, warping, cracks, splits, tears, and distress.

- All bearings function as designed and are capable of supporting the applied loads in a manner that does not cause the bearing to compromise its structural integrity or that of the structure or bridge as a whole.
 - All bearings are clean, properly aligned, and free of all damage, deterioration deficiencies, and missing components.
 - Bearings that require lubrication are maintained as required by the original specifications and the manufacturer's recommendations.
- Bridge Painting:
 - All steel and metal surfaces of the bridge, structure, or its components that require paint (exposed to weather) are prepared and coated in accordance with the Reference Documents listed in Section G.2 of this Chapter.
 - All bridges, structures and their components are free from deficiencies in the paint surface that can cause corrosion or rust.
 - Existing paint that is thought or is known to contain lead is tested and handled in a manner that conforms to all Commonwealth and Federal laws and regulations.
- Bridge and Structure Cleaning:
 - All bridge and structure surfaces are free from vegetation, dirt, debris, foreign materials, and abrasives.
 - All fire hazards beneath or adjacent to bridges and structures have been removed, the area cleaned, and the site left in a neat and tidy manner.
- Bridge Waterway Protection:
 - Waterways, shores and banks are free from erosion, slumping and Scour.
 - Dolphins, Pilings and Fender Systems are functioning as designed and the systems are free of all defects, deficiencies, damage, and debris interferences.
 - Bridge piers within the waterway are supported by firm, solid and well compacted materials and no Scour or material loss has occurred.
 - Piers within a waterway are free of large accumulations of debris that can contribute to Scour or create unsafe boating conditions.
 - Loose, corroded, deteriorated, rotted, and missing components of the waterway protection system are repaired and replaced with materials that complement the environment and are in conformance with the requirements of the Reference Documents listed in Section G.2 of this Chapter.

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- Roadway Arch Culvert Structures:

- o Adequate clearance is provided both vertically and horizontally for the passage of vehicles on the road passing through the Culvert.
- o Drainage for the arch culvert is present and functioning as originally designed.
- o Vegetation that will or might exert stresses on the headwalls of the arch culvert has been removed.
- o The cross section of the arch is in conformance with the original design, is structurally stable, and does not indicate signs of distress or movements.
- o Repairs and replacement of portions or components of arch culvert walls are made utilizing materials and procedures in consultation and approval of the supplier of the arch culvert or in accordance with the original design.

- Structure Accessories:

- o The inspection or service walkways, access platforms, ladders and other similar accessories are free from damage, deficiencies, deterioration, and missing components.
- o The bridge slope walls are stable, free from damage, deterioration, settlement and other deficiencies.
- o All Bridge underpass lighting is functioning as designed, no burn-out lamps are present, and the lighting system illuminates at the original design level.



- Bridge Inspections:

- o Bridge and structure inspections have been performed in accordance with the requirements of Table G.3.3.2 of this Chapter, Volume II, Chapter L, "Annual State of the Toll Roads and Capital Improvement Program Reports", and all required documentation and reports have been filed with the appropriate agency.
- o The qualifications of the Engineers conducting the inspections conform to the requirements of this Chapter, Volume II, Chapter L, "Annual State of the Toll Roads and Capital Improvement Program Reports", and the Reference Documents, whichever is more stringent.

G.4 Additional Requirements

G.4.1 Bridge and Structure Numbering Convention

G.4.1.1 Bridge Numbering

All of the bridge structures along the Toll Roads have been assigned an individual Structure Number by PRHTA. All communication to the PRHTA regarding these structures will use the assigned reference number. If any additional structure is going to be constructed along this facility, the Concessionaire will request a new number from the Bridge Engineering Office at PRHTA.

G.4.2 Span Numbering

To determine the numbering system for spans of the bridge, first determine which direction is North or East. The following numbering rules are then applied:

- If the Toll Road element travels North-South, or any direction in which the description contains "North", such as Northeast or Northwest: Stand at the end of the bridge with your back to the South looking along the length of the structure. Immediately in front of you is span one (1), with the higher number spans away from you. Count the spans in order beginning with one from near to far.
- If the Toll Road element travels East-West, or any direction in which the description contains "East". Stand at the end of the bridge with your back to the West looking along the length of the structure. Immediately in front of you is span one (1), with the higher number spans away from you. Count the spans in order beginning with one from near to far.
- The bridges over Toll Road segments have spans determined according to the direction of the roadway and Stationing associated with the Commonwealth or Local Road. Typically stationing is from west to east, or north to south. To determine span numbering, determine which is the Near or First abutment. Stand at such abutment and look ahead station. Immediately in front of you is span one (1), with the higher number spans away from you. Count the spans in order beginning with one from near to far.


G.4.2.1 Element/Component Numbering

Multiple elements and components of a bridge, within a particular span, are identified by a location.

To determine the location of an element or component, stand with your back to the lower numbered span and the following is then applied:

- Number elements and components left to right for elements and components parallel with the bridge.

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- Number elements and components from the lower numbered span to the higher numbered span for elements and components transverse to the span.

G.4.3 Clearance Requirements

G.4.3.1 Horizontal Clearance

The required horizontal clearances requirement which bridges and structures must meet is defined in the PRHTA Highway Design Manual, as well as the Reference Documents stated in Section G.2 of this Chapter, whichever is greater.

Roadway and shoulder widths must be maintained at the existing dimensions or may be increased as the result of construction. In no instance may a lane width be increased at the expense of a current shoulder width, nor may the median and parapet walls be increased in size to accommodate new features at the expense of existing lane or shoulder widths.

Local surface streets, railroads, navigable channels, and other traveled ways that pass beneath or over the Toll Roads must be maintained at the existing dimensions or may be increased as the result of construction. Existing horizontal clearance dimensions may be decreased only if the Concessionaire provides written documentation, and PRHTA and the Commonwealth or Local jurisdiction accepts and approves such proposals. In addition to any required approvals from PRHTA, the Concessionaire will be responsible for obtaining all required permits, exemptions, waivers, etc.

G.4.3.2. Vertical Clearance

The required vertical clearance which bridges and structures must meet is defined in the PRHTA Highway Design Manual, as well as the Reference Documents stated in Section G.2 of this Chapter, whichever is greater.

Vertical clearances at surface streets, railroads, the Navigable River channel, and all other traveled ways crossing under the Toll Road structures, should be maintained at the current clearance, or may be increased as the result of construction. In addition, vertical clearance between the paved Toll Road surface and all overhead features of the Toll Roads, respectively, must be maintained at the current clearance or increased, as required to meet current PRHTA criteria when the Bridge is subjected to a major rehabilitation or reconstruction.

When work on the Toll Roads occurs that may or will result in an increase in the current roadway surface elevations, the Concessionaire must evaluate and study the impact of the change on the existing vertical clearances to the overhead features so that the provided clearance is in full conformance to the requirements stated in the Reference Documents listed in Section G.2 of this Chapter. Existing vertical clearance dimensions may be decreased only if the clearance exceeds the requirements stated in the

Reference Documents, and the Concessionaire provides written documentation, and PRHTA accepts and approves such proposals. In addition to any required approvals from PRHTA, the Concessionaire will be responsible for obtaining all required permits, exemptions, waivers, etc.

G.4.4 Maintenance Inspections

The Concessionaire is responsible for establishing, scheduling and performing routine maintenance inspections of all Bridges and Structures within the Toll Roads. The Concessionaire's inspectors must be under the direct supervision of a qualified and experience Licensed Professional Engineer in the Commonwealth of Puerto Rico. The purpose of these inspections is to identify and note defects that may go unnoticed during daily patrols, to monitor known problems, and to monitor the performance of new construction and recent repairs.

G.4.5 Emergency Inspections

The Concessionaire is responsible for responding to all incidents along the Toll Roads that are known to have or are suspected to have caused damage and investigate the effects to the bridges, structures, and their components. These types of incidents include vehicle collisions, major storms, flooding, vandalism, and earthquakes; and are described in greater detail in Volume I, Chapter I, "Third Party Damages and Emergency Maintenance", and in Volume II, Chapter J, "Emergency Management and Operations Plan".

The Concessionaire must immediately inspect all known and suspected damage by employing qualified and experienced Professional Engineers Licensed in the Commonwealth of Puerto Rico. As required by the particular circumstances, the Concessionaire must also mobilize all required inspection and testing equipment to assist in the determination of the structural integrity and condition of the bridge, structure and its components. The Concessionaire will need to develop conclusions to make judgments on the required remedial actions such as whether to keep the bridge open, limit the use of one or more lanes, close the shoulder, impose a weight restriction, or take other measures to protect the public and Toll Road users.

The conclusions, decisions and judgments reached by the Concessionaire and its Professional Engineer must be implemented immediately. In addition, the Concessionaire is responsible for notifying all police, fire, governmental, utility, news and other organizations as appropriate.

When damage is discovered to a bridge or property owned by others, the Concessionaire must immediately notify PRHTA and the owner or agency.

G.4.6 Mandated Bridge Inspections & Reports

The inspections included in this section are intended to address required Federal, and Commonwealth inspections and reports. In addition to the inspections and reports required by this Chapter, the requirements of Volume II, Chapter L, "Annual State of the Toll Roads and Capital Improvement Program Reports", must also be fulfilled.

G.4.6.1 General Requirements

All inspections and reports must be performed by an independent Consulting Engineering firm registered in the Commonwealth of Puerto Rico, approved by PRHTA, and not associated or partnered with the Concessionaire.

The inspection type, filing requirements, and frequency of the work as stated in Table G.3.3.2 of this Chapter must be fulfilled.

All inspection procedures and inspectors' qualifications must be in accordance with NBIS from Title 23 CFR, as required by PRHTA, or as amended within this Chapter, whichever is more stringent.

The Concessionaire is responsible for testing, equipment, staff and supervision for all inspections.

G.4.6.2 Underwater Inspection Requirements

Bridges with underwater elements must have a separate and independent underwater inspection performed as per NBIS requirements (currently should be every two years). Elements determined to be susceptible to the effects of Scour and erosion must be inspected at a greater frequency as determined by the Concessionaire's Professional Engineer.

Underwater inspections that require diving must be performed by certified divers who have been trained to identify structural, Scour and instability defect characteristics, and must be under the direct supervision of a Licensed Professional Engineer in the Commonwealth of Puerto Rico.

G.4.6.3 Fracture Critical Inspection Requirements

In-depth bridge inspections must be performed on all bridges that are classified in part or in whole as containing members that are fracture critical. The continued inspection, function, and maintenance of these types of structures are critical to the stability and durability of the Toll Roads.

Bridges with fracture critical elements must have a separate and independent detailed inspection performed on them as per NBIS requirements (currently should be every two (2) years), in addition to being inspected annually at the fracture critical elements and connections per the requirements of Volume II, Chapter L, "Annual State of the Toll Roads and Capital Improvement Program Reports".

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Elements that are considered to be in a condition of “poor”, or that appear to have deteriorated from past inspections must be inspected at a greater frequency as determined by the Concessionaire’s Professional Engineer.

Fracture critical inspections must be performed by personnel certified as bridge inspectors so that they are able to identify the specific structural defects and characteristics common to these types of structures. The leader of the Fracture Critical inspection team must be a Licensed Professional Engineer in the Commonwealth of Puerto Rico.

Refer to Volume II, Chapter L, “Annual State of the Toll Roads and Capital Improvement Program Reports” for further information and requirements.

G.4.6.4 In-Depth Inspection Requirements

An In-Depth Inspection is a close-up, hands-on inspection of one or more members above or below the water level to identify any deficiency not readily detectable using Routine Inspection procedures. In-Depth Inspections can be conducted alone or as part of a Routine or other type of inspection.

Schedule In-Depth Inspections, on a 5-year cycle (in addition to the annual inspections) for the following Bridge:

Table G.4.6.4

Bridge Name	PRHTA_ID	Route	Bridge No.
Aguas Claras Creek	2299	PR-53	2299

It is important to note that currently one bridge is the one that is inspected, but the NBIS inspection requirements may require underwater inspection of any bridge that has elements submerged at least 3.5' of water. All bridges over bodies of water must meet the requirements of UW inspection of the NBIS. In-Depth Inspections do not reduce the level of intensity for Routine Inspections.

G.4.6.5 Report and Inventory Filings

The Concessionaire's Professional Engineer is responsible for filing all required documentation with the Bridge Engineering Office at PRHTA.

As required by Title 23, Code of Federal Regulation, Section 650, “National Bridge Inspection Standards (NBIS) and the FHWA, an Inspection/Appraisal Record and an Inventory Turnaround Report must be filed once every 2 years for all Bridges greater than 20' in length.

The Concessionaire must obtain these forms from PRHTA and complete

them on an annual basis with the requirements of Volume II, Chapter L, "Annual State of the Toll Roads and Capital Improvement Program Reports" for each Structure. Fracture Critical inspection Forms, where required, must also be submitted at this time.

If in the sole judgment of PRHTA the information is deemed incomplete, does not show sound analysis of the conditions, or does not contain sufficient detail to track problems, the structure inventory and inspection information will be returned to the Concessionaire for revision.

The requirements and procedures for reports and findings due to PRHTA and the Commonwealth are stated in Volume II, Chapter L, "Annual State of the Toll Roads and Capital Improvement Program Reports".

G.4.6.6 Bridge Load Ratings

The two main indicators of a bridge's capacity are the Inventory and the Operating Ratings. When deficient members are identified during inspections or by reports, the Concessionaire's Licensed Puerto Rico Professional Engineer must perform a bridge rating on both the affected element and the structure as a whole, and update both the Operating and the Inventory Rating values. Load ratings and capacity must be calculated in accordance with the procedures and requirements stated in the "Manual for Condition Evaluation of Bridges", AASHTO.

When the load rating analysis shows that the structure cannot withstand the legal loads (Rating Factor at the operating level of less than 1.0 for the HS-30 design live load in LFR calculations or HL-93 design live load in LRFR calculations), the Concessionaire's Professional Engineer must prepare a Bridge Safety Analysis, which outlines the operating restrictions, maximum gross vehicle weights to be posted, the temporary support work that might be required, and a Action Plan that will restore the structure to its full capacity as soon as possible.

Whenever the rating values indicate a restriction of load, the Concessionaire must send PRHTA a separate written notification of the location, condition, rating analysis, posting limit, and Action Plan immediately.

Following permanent repairs, the Concessionaire's Professional Engineer must perform a new bridge load rating and capacity analysis to ensure that no further operating restrictions or maximum gross vehicle weight restrictions remain, to the complete satisfaction of PRHTA.

G.4.7 Weight Restrictions

The Concessionaire must be fully aware of the provisions set forth in Chapter XV of Act No. 22-2000, as amended, and the regulations promulgated thereunder, if any. Chapter XV indicates the allowable dimensions, weights and loads of all vehicles that circulate in Puerto Rico. No oversize vehicle or more than the

allowable weight and/or loads will be allowed to circulate in the public space. Special Permits could be issued by the PRHTA to transport loads that exceed the regulatory dimensions and/or weights but must be authorized and approved by PRHTA prior to the moving of the load.

When damage or deterioration of a bridge, structure or its components is found, and the bridge rating and capacity analysis indicates that the structure is unable to meet requirements, as discussed in Section G.4.6.6, a weight restriction must be posted.


The Concessionaire must post the required signage on the structure approaches and must maintain such signage until repairs can be completed and a new rating analysis performed to ensure that the structure can support the required loadings.

The Concessionaire must complete all repairs and remove the posting within three (3) months of the posting of a weight restriction. The period of three (3) months is granted due to lead times for structural members, engineering design, ordering, fabrication, and scheduling. The Concessionaire must commence the replacement process immediately after first posting the weight restriction, to successfully meet these time requirements.

G.4.8 Bridge Decks and Wearing Surfaces

The Decks and Wearing Surfaces of the bridges and structures of the Toll Roads are of extreme importance since their condition impacts the safe passage of Toll Road users through the System.

All construction and design of Decks and Wearing Surfaces shall be in accordance with the requirements of the Reference Documents listed in Section G.2 of this Chapter, except as noted as follows:

- 
- All new adjacent box beam bridges are to be constructed with composite decks.
 - Concrete for the deck must be in accordance with the most current PRHTA Standard Specification for Road and Bridge Construction and Special Provision 934, Structural Concrete.
 - When required, bridge deck overlays must be rigid (cement and concrete based materials).

Requirements for deck and wearing surface repairs must be in accordance with the requirements of the Reference Documents listed in Section G.2 of this Chapter, in addition to the following:


- When planning deck work, the entire area of the deck must be sounded to determine the extent of all unsound concrete, and to include it in the repair work.
- Repair areas must form square and rectangular shapes as much as possible.

- Saw cut the perimeter of the repair area to a depth so as to form a clean edge, to eliminate feathered edges, but to avoid cutting rebar. Perform repairs in accordance with PRHTA standards.
- The application of permanent bituminous overlays on bridge decks along the Toll Roads is prohibited.
- Additional overlays on Toll Road bridge decks without removing the existing overlays and additional overlays that would add dead load to the bridges are prohibited.
- Bituminous concrete patches are permitted as a temporary measure only and must be replaced with permanent repairs in no more than 90 days.
- Bituminous overlays are not permitted on local roads over the Toll Roads.
- When an entire span deck is replaced or overlayed, a moisture insensitive broadcast aggregate – low modulus epoxy shall be applied to the surface. Such product shall meet ASTM C-881 Type III Class B and C specifications.

G.4.9 Bridge Railings and Parapets

The Railings, Parapets and Fence of the bridges and structures of the Toll Roads are of extreme importance since their condition directly affects the safety of Toll Road users.

All construction and design of Bridge Railings and Parapets must be in accordance with the requirements of the Reference Documents listed in Section G.2 of this Chapter, except as noted as follows:

- 
- Replace broken or damaged sections of the Bridge Parapets with a wall having the existing wall face shape and dimensions or having a face shape and dimensions that comply with the current PRHTA Bridge criteria. All transitions of wall face shape and dimensions must be made gradually so that no corners or projections will be present that impair the function of the barrier.
 - When it is necessary to install a temporary railing or barrier, the Concessionaire must ensure that the temporary work is as effective a crash barrier as the original element.
 - Maintain all fence and safety hardware to ensure projectiles do not fall on roadways below bridges.

G.4.10 Bridge Joints

Bridge Joint repairs must include all activities necessary to provide functional expansion joints that prevent water leakage onto the bearings, Superstructure and Substructure. This work will include, but is not limited to, rebuilding, or patching the joint edges, installing/replacing joint seals, installing drainage troughs, and

adjusting or re-securing the joint components.

All construction and design of Bridge Railings, Parapets and Joints must be in accordance with the requirements of the Reference Documents listed in Section G.2 of this Chapter. To the greatest extent possible, when performing Bridge Joint work, the Concessionaire must utilize the newest techniques implemented and approved by PRHTA for Commonwealth-wide major highway contracts so as to provide longer joint life.

Joint systems using steel angles, or any other steel component attached to the existing concrete shall not be used for repair.

G.4.11 Bridge Superstructure and Substructure Elements

Bridge Superstructure and Substructure elements within the Toll Roads have been constructed with both steel and concrete materials that create many different Bridge components. The timely repair of these components and elements is essential to the safety of Toll Road users.

The Concessionaire must coordinate all repairs, reinforcements, and replacements with a Puerto Rico Licensed Professional Engineer. This includes all actions to stringers, girders, beams, main truss members, etc. The Concessionaire must employ the

Professional Engineer when Plans and Construction Documents are required, and must prepare, review, and seal all plans, fabrication orders, and written field procedures.

To the greatest extent possible, when performing Superstructure and Substructure work, the Concessionaire must utilize the newest techniques implemented and approved State-wide for major highway contracts to provide longer life, maximize the capacity of materials, and to minimize motorist inconvenience.

All construction and design of Superstructure and Substructure elements and components must be in accordance with the requirements of the Reference Documents listed in Section G.2 of this Chapter, except as noted as follows:

- Concrete must be a High-Performance Mix in accordance with the most current PRHTA Standard Specifications for Road and Bridge Construction and Special Provision 934, Structural Concrete.
- All reinforcement must be epoxy coated and in accordance to the PRHTA Standard Specifications for Road and Bridge Construction.

Requirements for Superstructure and Substructure repairs must be in accordance with the requirements of the Reference Documents listed in Section G.2 of this Chapter, in addition to the following:

- Every attempt must be made to eliminate Fracture Critical and fatigue prone connections and situations.
- When planning work to the Superstructure or Substructure the entire element or component must be inspected and repaired as required.
- Deck repair areas must form square and rectangular shapes.

- Saw cut the perimeter of the repair area to a depth to form a clean edge, to eliminate feathered edges, but to avoid cutting rebar. Perform repairs in accordance with PRHTA Standards Specifications for Road and Bridge Construction.
- All emergency or temporary repair work must be planned to best meet the situation, protect the structure, and protect Toll Road users.
- The finish of the repair area must match the adjacent surfaces.
- High strength bolts of the same diameter as the rivets removed must be used to replace rivets in re-assembly.
- Heat straightening of members must not be used.

G.4.12 Minimum Design Life Requirements

Portions of the Toll Roads have been constructed or re-constructed according to PRHTA standards attempting to design structures to a minimum 50-year life. For any future re- construction of structures along the Toll Roads, the following requirements for usable life are to be attained. In general, the design life for new superstructures and substructures and arch culverts is 100 years with appropriate maintenance. New concrete decks should last 50 years.

G.4.13 Bridge Bearings

Bridge Bearings within the Toll Roads consist of numerous types and materials dependent upon their age, function, and location. Timely repair, inspection and maintenance to keep these components functioning are essential to the life and safety of structures.

The Concessionaire must coordinate all repairs and replacements with a Puerto Rico Licensed Professional Engineer. This includes all jacking plans, bearing designs and replacements procedures. The Concessionaire must employ the Professional Engineer when Plans and Construction Documents are required, and must prepare, review, and seal all plans, fabrication orders, and written field procedures.

All construction and design of Bridge Bearings must be in accordance with the requirements of the Reference Documents listed in Section G.2 of this Chapter. To the greatest extent possible, when performing Bridge Bearing work the Concessionaire must utilize the newest techniques implemented and approved by PRHTA and the Commonwealth for major highway contracts to provide longer life, maximize the capacity of bearing materials and to minimize motorist inconvenience.

G.4.14 Bridge Painting

Painting of bridges within the Toll Roads is essential to the life of structures, and

to prevent deterioration of structure components. In order to provide a long structure life, all steel and iron bridge components must be painted at a frequency so as to protect the metal from rust and corrosion.

All materials and procedures for the painting of bridges must be in accordance with the requirements of the Reference Documents listed in Section G.2 of this Chapter. When performing Bridge painting work the Concessionaire must utilize the newest materials implemented and approved by PRHTA and the Commonwealth for major highway contracts to maximize the life capacity of the materials.

All bridges that require the existing coatings to be stripped of existing paint layers must be inspected for the presence of lead, chromium, or cadmium containments. In conformance to the governing regulations, all paint so contaminated must be removed, contained, and disposed of in accordance with all EPA, DNER and OSHA guidelines and regulations. If the paint is in a condition that will permit an over-coating which will effectively contain the contaminate materials and protect the steel, this alternative should be implemented unless conditions demand otherwise. The Concessionaire is responsible for having the existing paint tested and sampled at sufficient locations to ensure that all prior painting applications have been tested.

G.4.15 Bridge and Structure Cleaning

Each structure must be given regular inspections for accumulations of dirt, debris and animal droppings including on the deck; in the drainage openings; on the Substructure seats; and on the Superstructure members. Checks must be conducted to eliminate all potential fire hazards such as debris accumulating under the bridge.

All bridge and structure components and elements including, but not limited to, decks, pier caps, abutment seats, bearings, expansion joints, drainage openings, headwalls, wingwalls, Superstructure members, Substructure faces, etc. must receive a thorough water flush at the frequency stated in Table G.3.3.2.

G.4.16 Bridge Waterway Protection

Protection of Bridge and structure components that reside in or adjacent to streams and rivers is essential to the safety of the Toll Roads and must be maintained continually.

The following waterway conditions must be included in patrols and maintenance scheduling, at a minimum:

- Waterways should be checked for evidence of erosion and Scour conditions.
- Logs or other debris that could become jammed or lodged against Piers, the Fender System, and Dolphins, must be removed.
- Deterioration and/or damage to the Fender System and other protection systems must be monitored and repaired.

G.4.17 Structure Accessories

Activities performed under this category include all repairs and modifications to inspection catwalks, lighting platforms and ladders, sidewalks, slope paving, fill material, fill stabilization systems and all other similar items.

This activity must be addressed on a case-by-case basis dependent upon the system, damage, deterioration, function of the system, and usage of the system. The Concessionaire must repair these systems as the need requires and must not eliminate them to reduce maintenance and repair work.

In addition, if specialized features such as cathodic protection devices and specialized geotextile systems are introduced to the Toll Roads in later years they must be maintained and repaired as with every other element of the Toll Roads.

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H.1 Definitions

Absorptive Noise Panels: Noise wall panels that absorb a significant portion of incident sound rather than reflecting all incident sound.

Abutment: Earth retaining structures which support the superstructure at the beginning and end of a bridge.

Anchor Bolt: A threaded rod, including hardware, used for holding a mechanism or structure in place.

Bridge: A structure consisting of single or multiple spans more than 20 feet in length that provides a means of transit for vehicles and/or pedestrians above the land, water surface, roadway, railroad or other obstruction. The roadway is directly supported by the structure.

Insertion Loss: The actual acoustical benefit derived from the presence of a noise barrier.

Mechanically Stabilized Earth (MSE): A self-supporting reinforced earth retaining wall system comprised of metallic (strip or bar mat) or geosynthetic (geogrid or geotextile) reinforcement strip or panel connected to a segmental precast concrete or prefabricated metal facing panel to create a reinforced soil mass.

Noise Walls: A solid wall and/or earthen berm located between the roadway and the receptor location that reduces the overall net noise levels to the receptor; also commonly referred to as Noise Barriers.

Overpass: The single or multi span bridge that crosses over the Toll Roads.

Parapet: A wall-like member integrally connected to the fascia edge of a bridge deck to serve as a protective barrier for vehicular or pedestrian traffic.

Reflective Noise Panels: A Noise Wall panel that reflects incident sound rather than absorbing a significant portion of the incident sound.

Retaining Wall Structures: An engineered structure designed to resist horizontal earth pressures of a fill or cut, and/or a structure designed to prevent material from spilling onto another surface.

Substructure: The pier and abutment elements required to support the Superstructure.

Superstructure: The entire bridge structure resting on the piers and abutments, consisting of stringers, girders, decks, floor beams, trusses, wearing surfaces, railings, etc.

H.2 References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Design Directives, PRHTA
- Highway Design Manual, PRHTA
- Standard Drawings, PRHTA
- Standard Specifications for Road and Bridge Construction, PRHTA
- "LRFD Bridge Design Specifications," AASHTO.
- "Maintenance and Management of Roadways and Bridges", AASHTO.
- Publication GTN-3: "Guide on Evaluation and Abatement of Traffic Noise", AASHTO.
- Publication R020-99: "Standard Recommended Practice for Procedures for Measuring Highway Noise", AASHTO.
- Publication TNA-1: "Policy on Land Use and Source Control Aspects of Traffic Noise Attenuation", AASHTO.
- "Highway Traffic Noise Analysis and Abatement: Policy and Guidance Manual", FHWA.
- Publication FHWA-EP-00-005: "FHWA Highway Noise Barrier Design Handbook", FHWA.
- Publication FHWA HEP-06-015: "FHWA Highway Construction Noise Handbook", FHWA.
- Publication FHWA-HEP-05-054: "FHWA Roadway Construction Noise Model (FHWA RCNM) User's Guide", FHWA. "Highway Traffic Noise Analysis and Abatement: Policy and Guidance Manual", FHWA.
- Title 23 - Code of Federal Regulations, Part 772 (23 CFR 772), FHWA.

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H.3 Policy for Maintenance of Noise Walls & Retaining Walls

H.3.1 Objective

The objective of Noise Wall and Retaining Wall maintenance is to ensure that the stability, safety, durability, strength, and structural integrity of these features within the Toll Roads are continually and properly maintained so as to maximize their functional life.

Noise Walls and Retaining Walls require routine and preventative inspections and the associated maintenance due to wear, impacts, and natural occurrences, etc.

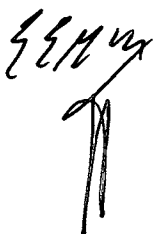
H.3.1.1 Noise Walls

Noise Walls typically consist of steel or precast concrete posts with concrete precast panels or timber planks that bridge between the support posts. These walls can be Ground Mounted, Bridge Mounted, or Retaining Wall Mounted. Ground Mounted walls are founded on caissons or concrete spread footings; Bridge Mounted walls have the noise panels bolted to the outside face or top of the bridge barrier or parapets; while Retaining Mounted walls have the noise panels bolted to the outside face of the retaining wall barrier, or the posts anchored to the top of the retaining wall.

H.3.1.2 Retaining Walls

Retaining Walls typically consist of Reinforced Concrete, Mechanically Stabilized Earth (MSE), Soldier Piles with Concrete Lagging, Crib Wall structures with rubble fill, Soil Nail, Masonry, etc., that support or retain earth.

H.3.2 Responsibility of Concessionaire



In order to meet the requirements of this Chapter, the Concessionaire must engage in practices to ensure that all Noise Walls and Retaining Walls function properly as designed and to ensure that the stability, strength, durability, and structural integrity are never compromised, so that these elements function as design and not impede the continuous safe and orderly movement of traffic. The Concessionaire will carry out its obligations in accordance with the Operating Standards in a manner that minimizes the overall deterioration and/or improves the condition of the Noise Walls and Retaining Walls.

The Concessionaire is responsible for all management associated with the Noise Walls and Retaining Walls including conducting Maintenance, Emergency and Mandatory inspections; filing inspection documents and reports with required agencies and PRHTA; assisting in requested inspections; and replying to questions or comments that might arise.

The Concessionaire is also responsible for determining repair needs; creating repair alternatives and procedures; scheduling work; and overseeing all work to ensure compliance with all of the Reference Documents listed in Section H.2 of this Chapter. Also, the Concessionaire must maintain, repair, monitor and utilize all existing and/or future instrumentation that would or might be employed to monitor the effectiveness of the Wall System.

The Concessionaire is responsible for initiating, designing, determining, establishing, and maintaining all required Traffic Control for the duration of the work as addressed by the requirements of Volume II, Chapter H, "Traffic & Travel Management Plan".

The Concessionaire must ensure that all repair drawings are prepared, signed and sealed by a Professional Engineer Licensed in the Commonwealth of Puerto Rico. In addition, all repair work resulting in an alteration of a structural element must be recorded with an "As-Built" document, which must also be filed with PRHTA.

All materials and construction requirements for work performed by the Concessionaire must conform to the appropriate and applicable requirements of the Reference Documents listed in Section H.2 of this Chapter.


Once work on a Noise Wall or Retaining Wall has been started, the work must continue during consecutive working days until a thorough, complete, and structurally adequate product has been achieved. The stockpiling of materials, open excavations, etc., is not permitted. All work performed must be made to correct all safety deficiencies and preserve the Toll Roads as an asset.

The work that must be performed includes, but is not limited to, the following:

- Clean out and remove accumulations of debris behind and around the walls so that debris does not prevent the drainage system from functioning properly. Dispose of debris in an acceptable and legal manner.
- Repair erosion that affects or has the potential to affect the structural stability of the wall.
- Replace walls or their components where maintenance and repair will not restore the original function of the structure.
- Repair, reinforce and replace all portions of walls that indicate evidence of movement, deflection, or settlement. The Concessionaire must employ a Licensed Geotechnical Engineer in the Commonwealth of Puerto Rico to determine the extent of the situation and to prepare the appropriate work details and documents to remedy the problem.
- Consult with the original design company for all MSE Walls damaged, deficient or not properly functioning, and replace all portions and components of the wall system with parts and materials as recommended by the manufacturer, this Chapter and the Reference Documents listed in Section H.2 of this Chapter.

- Ensure that all bolts and fasteners are present, properly torqued, tight and contain the proper nuts and washers.
- Repair unsound, delaminated, spalled, cracked and structurally deficient concrete. In addition, the repaired concrete work must match the finish and color of the adjacent concrete surfaces.
- Seal concrete cracks greater than 1/8" to prevent the infiltration of water and chlorides.
- Clean, prepare and coat all steel surfaces in accordance with the requirements Volume I, Chapter G, "Bridge & Structure Maintenance", and the Reference Documents listed in Section H.2 of this Chapter, where the coating system is found to be deteriorated, broken, peeling, cracking, damaged, and/or the steel shows signs of corrosion or rust.
- Ensure that all work is performed without damage to property, or injury or delay to Toll Road users, and adjacent property owners.
- Repair or replace all wall attachments such as fences, guiderail, barriers, or signs in accordance with applicable chapters of this Volume.
- Repair or replace architectural treatments or coatings such that a uniform and neat appearance is maintained.

The work also includes routine inspections of the walls:

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- Ensure that all inspections required by Title 23 Code of Federal Regulations, as well as those required by PRHTA occur at the frequencies not in excess of those stated in Volume II, Chapter L, "Annual State of the Toll Roads and Capital Improvement Program Reports".
 - Employ qualified, experienced and trained Professional Engineers Licensed in the Commonwealth of Puerto Rico to perform all of the required inspections, condition assessments, repair recommendations and required reports and filings with the appropriate Commonwealth and Federal entities.
 - Ensure that all inspections methods and procedures are in conformance with the requirements of the National Bridge Inspection Standards and PRHTA.
 - Develop, update and maintain a Wall Structure management, inspection and condition inventory and database which shall include photographs, test results, field notes, and condition observations. Identify and prioritize all required repairs.
 - Perform load analyses as required when deficient elements are discovered.
 - Ensure that all structures are properly inventoried with PRHTA, and that updated Inventory Inspection Forms and Reports are correctly coded into the Commonwealth's Inventory System.

- Secure proper, orderly and required rights-of-entry from adjacent property owners and utilities when the work may involve their notification and permission.
- Notify the Commonwealth and the Municipal Government immediately when inspections determine that the Wall System creates the possibility of a localized or large-scale structural failure.

H3.3 Performance Time Frames

The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire), within which the Concessionaire must assess the condition, provide temporary protection measures to ensure public safety, and/or initiate the repair or replacement work required to the feature (unless weather conditions limit material application):

Wall System Type	Maximum Time Duration
<u>Noise Walls:</u>	
○ Instability or Structural Damage	24 Hours
○ Non- Structural Damage	2 Months
<u>Retaining Walls:</u>	
- Instability or Structural Damage	24 Hours
- Non- Structural Damage	1 Month

H.3.4 Acceptance Criteria

Noise Wall and Retaining Wall maintenance work will be considered acceptable when the following criteria are met or exceeded:

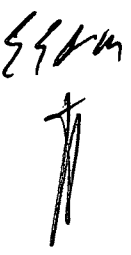
- Noise Walls
 - Vegetation that will or might exert stresses on the structure has been removed.
 - All elements of the structure are plumb, structurally stable, and do not indicate signs of distress or movements.
 - Posts and panels are securely fastened to other structural elements.
 - Architectural treatments and coatings are uniform, free of spalling, peeling, or other defects.
 - The wall is structurally sound and free of defects that compromise the structural integrity.
 - The wall and its panels provide insertion loss to the levels and amounts prescribed by the design.

- Retaining Walls

- The earth retained by the structure is present without deformations, cracks, erosion, or slumps, and is in a stable state.
- Drainage for the retaining structure is present and functioning as originally designed.
- Vegetation that will or might exert stresses on the retaining structure has been removed.
- All vertical faces of the retaining structure are plumb, structurally stable, and do not indicate signs of distress or movements.
- Repairs and replacement of portions or components of MSE walls are made with materials and procedures in consultation and approval of the original wall design company.
- Concrete cracks greater than 1/8" are sealed.
- Architectural treatments and coatings are uniform, free of spalling, peeling, graffiti, or other defects.
- Elements attached to the wall are securely attached and functioning as designed.
- The wall is structurally sound and free of defects that compromise the structural integrity.

H.4 Additional Requirements

H.4.1 Inventory and History Record

 The Concessionaire must develop, maintain, and keep current an inventory and history record of all Noise Walls and Retaining Walls along the Toll Roads. The inventory and history record must consist of the type, size, location, age, and length of each Wall System. Information that must be contained in the inventory and history record includes:

- Wall location referencing the Kilometer Post along the Toll Roads.
- Assigning and maintaining an Identification Number.
- Length of the Wall, along with its average height, and exposed face area.
- The wall type, material composition and features.
- The adjacent property owner's information.
- The age of the wall, including the year constructed.
- The general condition of the wall.
- Chronological history of all repairs/replacements including a brief note of what the change was.

H.4.2 Geotechnical Engineering

Because the Noise Walls and Retaining Walls are present at various locations along the Toll Roads, affect the functionality and operation of the Toll Roads, and are founded on variable and unique soil characteristics, the Concessionaire must employ a qualified, experienced and Licensed Geotechnical Engineer when considering and performing maintenance work.

H.4.3 Wall Technology

To the greatest extent possible, when performing work the Concessionaire must utilize the newest techniques, technologies, and implement the most current and Commonwealth-approved wall systems so as to provide the maximum life, maximize the capacity of the wall system, minimize motorist inconvenience, and ensure the safety and operation of the Toll Roads.

H.4.4 Inspection Requirements

All of the Wall Systems must be inspected by a qualified engineering firm that meet the requirements stated in Volume II, Chapter L, "Annual State of the Toll Roads and Capital Improvement Program Reports", at the frequencies stated.

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I.1 Definitions

Animal Control Work: The efforts by the Concessionaire to remove animal pests from the Toll Roads, and prevent additional damage by pests, including trapping, baiting, poisoning, fencing, or deterring animals.

Animal Damage: Damage done to any part of the Toll Roads by the actions of animal pests including squirrels, skunks, mice, rats, etc., as well as incidental damage resulting from vehicle interactions or collisions with animals.

Animal Removal Work: The work performed by the Concessionaire to remove animals, including wildlife and stray pets, from the Toll Roads, as well as the removal of animal carcasses.

Atmospheric Damage: Damage done to any part of the Toll Roads by the action of the atmosphere or climate, including rain, wind, storms, lightning strikes, chemical or pollutant degradation, etc.

Collision: An incident involving the impact of a vehicle with another vehicle or with some component of the Toll Roads. Vehicles that can cause collision damage include highway traffic, aircraft, off-road vehicles, railroad cars and locomotives, utility or railroad service vehicles, construction equipment, and vessels within the channel of navigable rivers.

Earthquake: A seismological event or earth tremor described, reported or classified by the USGS as an earthquake.

Emergency Maintenance: Time-critical repair work performed on an unplanned basis and intended to restore operations and mitigate damage done to the Toll Roads by collision, vandalism, earthquake, an atmospheric event, etc. Emergency maintenance and repairs may be a temporary measure, using the staff and materials available immediately following the incident.

Graffiti: Painted vandalism of buildings, walls, signs, etc. that has been placed on a surface without the property owner's consent.

Hurricane: A severe weather event with winds over 75 mph described, reported or classified by the National Weather Service as a Hurricane.

NOAA Weather Radio: Local broadcast radio which issues bulletins and alerts regarding severe weather conditions or forecasts. The Concessionaire must subscribe to NOAA Weather Radio and monitor this station on a 24 hour-a-day basis.

Responsible Public Agencies: Government agencies that are empowered to take responsible charge of the operational and safety aspects of an emergency,

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including the Puerto Rico Police, Local and State Fire Departments, the FBI, FEMA, the Department of Homeland Security, etc.

Soda Machine or Soda Truck: A truck or truck-mounted tank, pump and hose assembly that uses baking soda delivered under high water pressure to remove painted graffiti from mineral surfaces such as masonry, brick, and Portland cement concrete. Soda machine devices have been shown to cause no damage to viaduct surfaces, while being faster and more environmentally safe than sandblasters or chemical solvents.

Third Party Damage Repair: The repair work to restore any damaged feature located within the Toll Roads to undo or mitigate the effects of an intentional destructive human act (vandalism or graffiti marking), vehicle collision, animal pests, atmospheric event, etc.

Tornado: A severe weather event or wind gale described, reported, or classified by the National Weather Service as a tornado or funnel cloud.

Vandalism: An intentional, destructive human act that damages or weakens any part of the Toll Roads or causes harm, peril, or inconvenience to Toll Road users. Acts of vandalism include arson, graffiti, breakage, theft, placing obstructions in the traveled way, fence cutting, etc.

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1.2 References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Design Directives, PRHTA
- Highway Design Manual, PRHTA
- Signage Guide, PRHTA
- Standard Drawings, PRHTA
- Standard Specifications for Road and Bridge Construction, PRHTA
- Traffic Sign Manual, PRHTA
- "Manual on Uniform Traffic Control Devices" (MUTCD), FHWA
- "NOAA Weather Radio (NWR) Brochure", NOAA
- "A Guide to Standardized Highway Barrier Hardware", AASHTO
- "A Policy on Geometric Design of Highways and Streets", AASHTO
- "Guide Design Specifications for Bridge Temporary Works", AASHTO

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I.3 Policy for Performing Third Party Damage and Emergency Maintenance

I.3.1 Objective

The objective of Third-Party Damage and Emergency Maintenance is to restore the elements of the Toll Roads that are damaged by unforeseen accidents, events or incidents to a safe, operable, useful condition and to maintain orderly traffic flows.

Any element of the Toll Roads is liable to suffer damage from storms, climate variations, animal pests, pollution, vandalism, or other causes as discussed in this Chapter. Damaged portions of the Toll Roads will require maintenance; temporary repairs; permanent repairs or replacement.

An effective response to incidents of third parties' damages to the Toll Roads requires:

- Immediately attending to incidents that is potentially life threatening or poses a threat to Toll Road users.
- Cooperating with all responsible police, fire, emergency or, Commonwealth and Federal officials.
- Performing damage assessments using qualified personnel and taking all necessary steps to safeguard life and property.

Information regarding the Concessionaire's required response to emergency incidents is addressed by the requirements of Volume II, Chapter J, "Emergency Management and Operation Plan".

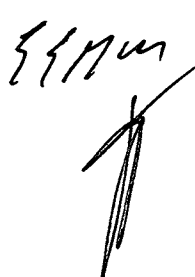
I.3.2 Responsibility of the Concessionaire

I.3.2.1 Maintenance and Repair Requirements

Maintenance and repair of damage done by third parties to the Toll Roads, as well as maintenance and damage repair following severe weather, animal or emergency events are the responsibility of the Concessionaire.

The Concessionaire is responsible for assessing the damage to the Toll Roads by the incidents and for ranking the priority for repair of such damage in order to assure safe, continuous use by Toll Road users.

The Concessionaire is responsible for completing all the necessary repair/replacement work within the Time Frames established in other Chapters for the particular elements damaged.



1.3.2.2 Incident Response Requirements


The Concessionaire is responsible for responding to notifications of vehicle collision, vandalism, animal damages, natural disaster, severe weather, earthquake, etc. as addressed by the requirements of Volume II, Chapter J, "Emergency Management and Operation Plan", and must fully restore the damaged elements of the Toll Roads to their condition as they existed before the event.

The Concessionaire's responsibilities will encompass many roles during an event and include, but are limited to, the following:

- Dispatching qualified staff and emergency response equipment to sites where a collision, natural disaster, fatality, personal injury, or property damage has been reported.
- Communicating and cooperating with the Puerto Rico Police, PRHTA, Local and State Fire and Police agencies, Local emergency medical personnel, utilities, adjunct Commonwealth Agencies, and other local Agencies, etc., both with their offices and with their on-site crews.
- Facilitating access to the crash site by fire, police and emergency medical personnel and equipment, and assisting in moving involved vehicles from the traveled way.
- Establishing, maintaining, and providing all required Traffic Control such as lane use restrictions, lane closures, ramp closures, plaza closures, or bridge closures as appropriate given the apparent blockage of the roadway, visible structural damage, or similar hazards.
- Conducting immediate inspections, repair/replacement work and integrity assurances of any damaged structural members using qualified Professional Engineers Licensed in the Commonwealth of Puerto Rico and mobilizing any inspection and testing equipment required for thorough inspections as quickly as possible.
- Maintaining and policing on-going lane use restrictions, lane or ramp closures, weight restrictions, bridge closures, etc. based on the inspection findings.
- Responding to notifications by responsible authorities that Toll Road traffic needs to be temporarily halted or redirected whenever an emergency incident occurs within or adjacent to the Toll Roads which might pose a hazard to Toll Road users.

1.3.2.3 Management and Coordination Requirements

The Concessionaire is responsible for all management and coordination associated with the required to repair damage caused by the incidents discussed in this Chapter. The Concessionaire must conduct all required inspections, file documents with PRHTA and the Commonwealth as required, and assist any independent inspections conducted on behalf of



PRHTA and the Commonwealth. The Concessionaire is not required to block traffic, arrange special inspections, or otherwise hamper Toll Road operations in order to accommodate third party insurance claims adjusters.

The Concessionaire is responsible for all determinations of repair needs, performing maintenance and/or repairs on elements within the Toll Roads, as specified elsewhere in Volume I – “Maintenance Manual”, for those specific elements, and generally ensuring that the specified acceptance criteria are achieved.

The Concessionaire is responsible for monitoring the local NOAA Weather Radio Station 24 hours a day, and acting upon all bulletins and alerts regarding severe weather conditions that are forecast.

The Concessionaire must also communicate with PRHTA, as well as the Puerto Rico State Agency for Emergency Management and Disaster Administration and to coordinate all communications and coordination with those agencies.

I.3.2.4 Incident Report Documentation

The Concessionaire must document, record, and file a report in a separate log whenever third-party damages occur within the Toll Roads. The reports must include the following minimum information, so that an accurate evaluation of the situation may be made whenever required:

Outline of a Third-Party Damage Report:

I General Discussion

- a. Toll Road on which the incident occurred.
- b. Date of occurrence
- c. Discussion of occurrence
- d. Impact on travel
- e. Estimated cost of repairs

II Supporting Information

- a. Damaged element(s) or segment(s) of the Toll Road
- b. Nature of damage
- c. Condition of remaining elements(s)
- d. Weather Conditions
- e. Highway conditions
- f. Start and end locations of incident.

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g. Witness interviews

h. Photographs

III Third Party Information (As Available)

a. Names and addresses

b. Insurance information

c. Copies of any reports filed.

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I.3.3 Performance Time Frames

The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire), within which the Concessionaire must respond to and commence the required repair or replacement to restore the damaged Toll Road component to its original condition or to a better condition:

Table I.3.3

Event	Maximum Time Duration
Roadway Clearance Time (crashes, breakdowns, etc.) - Time between first recordable awareness of incident by a responsible agency and first confirmation that all lanes are available for traffic flow.	30 minutes (minor incident – blocking one lane (no injury/fatality and no spills)). 1 hour 15 minutes (major incident – blocking two or more lanes or blocking one lane (with injury/fatality or spills))
Incident Clearance Time (crashes, breakdowns, etc.) - Time between first recordable awareness of incident by a responsible agency and time at which the last responder has left the scene.	40 minutes (minor incidents – blocking one lane (no injury/fatality and no spills)) 1 hour 30 minutes (major incident – blocking two or more lanes or blocking one lane (with injury/fatality or spills))
<u>Material Spills:</u> -Non-Hazardous (aggregate material loads (sand gravel, etc.), and other general cargo loads). -Hazardous (Any hazardous material identified in the Emergency Response Guidebook)	15 minutes (Arrival on Scene) 10 minutes (Arrival on Scene)
<u>Vandalism Incidents:</u> - Graffiti Removal - All other incidents which affect the highway operations	24 Hours 24 Hours

Atmospheric Damage	1 Hour or as the situation dictates (Response) (Repair/Replacement work per requirements of the applicable Chapter)
<u>Animal Incidents:</u> - Damage - Removal of carcasses	 24 Hours 8 Hours

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The Concessionaire's response time and the scale of mobilization in reaction to each detected or reported incident must be appropriate to the seriousness of the event and must be addressed and coordinated with the requirements of Volume II, Chapter J, "Emergency Management and Operation Plan".

1.3.4 Acceptance Criteria

Third party damage repairs and emergency maintenance work will be considered acceptable when the following criteria are met or exceeded:

- The Concessionaire is responsive to reported incidents along the Toll Roads in conformance within the Time Frames specified in Table I.3.3.
- The Concessionaire performs all necessary inspections and evaluations following an event, and makes all repairs required to restore all affected components to a safe and functioning condition in conformance to the relevant Chapters of Volume I, "Maintenance Manual".
- The Concessionaire protects traffic and the event site as deemed necessary, and maintains Traffic Control as appropriate during any incident site cleanup, inspection, repair, testing, shoring, etc.
- The Concessionaire manages each incident as outlined herein and maintains contact in order to coordinate forces and consult on work tasks with the Puerto Rico Police, PRHTA, the Commonwealth, and all other concerned Government Agencies and authorities as appropriate or required.
- The Concessionaire manages incidents of minor vandalism, graffiti, animal and pest control, and similar nuisances in the manner and within the Time Frames specified in Table I.3.3.

1.4 Additional Requirements

1.4.1 Vehicle Incidents

1.4.1.1 Initial Response and Towing

The Concessionaire must respond to any notification that an inoperable vehicle has been located within the Toll Roads and must remove the vehicle. If the vehicle owner is present, the Concessionaire must first move the vehicle out of the traveled way and must offer to help the owner arrange for a commercial tow operator to remove the vehicle from the Toll Road. If the vehicle owner is not present, cannot assist in arranging the commercial tow, has abandoned the vehicle, or is present but refuses to arrange for a commercial tow, the Concessionaire must tow the vehicle to a pre-designated site. The pre-designated tow site selected by the Concessionaire should be conveyed to the Puerto Rico Police and PRHTA so that it remains on file.

The Concessionaire must promptly notify the Puerto Rico Police concerning all vehicles that have been towed and that are stored in the pre-designated site so that the owner can be informed.

When the Concessionaire has good cause to believe that a wrecked or abandoned vehicle has been used in the commission of a crime, or if the incident involves a fatality or serious injury, the Concessionaire should not move, tow or handle the vehicle until permitted by the Puerto Rico Police. The Concessionaire must cooperate with the Puerto Rico Police and comply with requests to assist with emergency traffic control until such time as the vehicle is removed.

1.4.1.2 Incidental Repairs and Cleanup

The Concessionaire is responsible for clearing the traveled way including roadside shoulders and drainage gutters from debris, glass, firefighting foam, abandoned equipment, and any substances spilled from damaged vehicles such as liquids, chemicals, bulk (solid) material, or hazardous materials. All such cleanup work must be performed under emergency traffic control before the Concessionaire allows normal traffic to resume on or along the damage site. All such removed material must be properly handled and disposed of by the Concessionaire.

Requirements for the containment, removal, transportation and disposal of hazardous material spills, flammable liquid spills, livestock, or potentially hazardous bulk materials must be done in accordance with all Municipal, State and Federal requirements and as addressed by the requirements of Volume II, Chapter J, "Emergency Management and Operation Plan".

1.4.1.3 Repair of Damage caused by Vehicles.

The Concessionaire is responsible for repairing all damage to the Toll Roads caused by vehicle incidents with any element or device of the Toll Roads, regardless of the cause of the incident. Damage repair must be sufficiently thorough, complete, and competent to restore the affected elements of the Toll Roads to their condition as existed before the damage event.

The Concessionaire must refer to the specific Chapters of Volume I "Maintenance Manual" pertaining to the damaged element for information and requirements concerning the repair of that element.

1.4.2 Vandalism Incidents

1.4.2.1 General Requirements

The Concessionaire must maintain the Toll Roads by repairing any damage caused by vandalism and must respond to any notification that intentional damage has been done to any element within the Toll Roads by a third party.

Third-party damage to any element within the Toll Roads that involves fire, explosion, obvious structural damage, or visible damage to the traveled roadway must be immediately inspected by the Concessionaire and reported to the Puerto Rico Police. Foreign materials or debris that are thrown upon or deposited in the traveled way that is likely to jeopardize safety must be immediately removed by the Concessionaire.

I.4.2.2 Repair of Vandalism Damage

The Concessionaire must act to restore all elements within the Toll Roads affected by vandalism to a safe and functioning condition, and must prioritize its repairs based on the severity of the act, as the situation demands, and according to the scale of the damage. The Concessionaire must make repairs within the Time Frames stated in the appropriate Chapter of Volume I – Maintenance Manual.

Whenever the Concessionaire is forced to postpone the permanent repair work, or is compelled to do so in order to schedule the necessary forces and receive replacement parts, the Concessionaire must continually monitor the temporary repairs and the incident site to ensure that the damaged system or element does not continue to weaken or deteriorate, and endanger the public.

I.4.2.3 Removal of Graffiti & Postings

The Concessionaire is responsible for removing graffiti within the Toll Road System, and must recognize graffiti as an issue that affects Toll Road users' perception of the Toll Roads, PRHTA, the Concessionaire's operations, and the Commonwealth of Puerto Rico as a whole. The Concessionaire must engage in its own efforts to remove graffiti and maintain the aesthetics and value of the Toll Roads.

The Concessionaire is responsible for immediately removing graffiti upon detection if the marks obscure lamps, sign information, traffic devices, or are otherwise a safety concern. Also, graffiti of an obscene or offensive nature must also be removed or covered immediately.

The Concessionaire is required to contact the Puerto Rico Police to report vandalism and graffiti-painting acts in progress, so that the offenders can be pursued and apprehended.

The Concessionaire must use graffiti removal techniques wherever feasible, and may only use paint to cover graffiti on wood, traffic signal equipment, various painted surfaces or other areas unsuitable for the soda machines removal techniques.

Signs or posters that are placed within the Toll Roads without the knowledge or approval of the Concessionaire, or in violation of Municipal or Commonwealth Law or Ordinance, such as house and garage sale advertisements, political ads, protest signs, and similar materials must be promptly removed upon discovery.

I.4.3 Atmospheric Damage Repairs (Rain/Wind/Hurricanes/Tropical Storms)

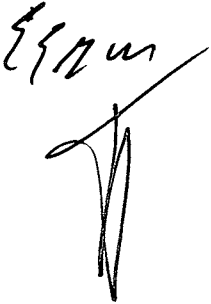
I.4.3.1 General Requirements

The Concessionaire must maintain the Toll Roads by repairing any and all damage caused by high winds, gales, hailstorms, lightning strikes and similar typical atmospheric disturbances. The Concessionaire is required to respond to reports of damage caused by unusually severe weather such as hurricanes, or seismological incidents such as earthquakes, as addressed by the requirements of Volume II, Chapter J, "Emergency Management and Operation Plan".

The Concessionaire must respond to all notifications that severe weather has caused damage to an element within the Toll Roads and must perform an immediate site inspection. Should the Concessionaire's inspectors determine that the damage poses a hazardous situation, the Concessionaire must act immediately to safeguard the public by taking steps such as temporarily closing the traveled roadway, making emergency repairs, etc., so as to restore safe operations along the Toll Roads.

I.4.3.2 Repair of Atmospheric/Weather Damage

The Concessionaire must restore all elements within the Toll Roads damaged by severe weather to a safe and functioning condition, and must prioritize and schedule repairs based on the damage. The Concessionaire must refer to the specific Chapters of Volume I - Maintenance Manual that pertain to the damaged element for information and requirements concerning the repair for that element. If the Concessionaire is forced to postpone the permanent repair work, all temporary repairs must be continually monitored.

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I.4.4 *Animal Removal and Damages*

I.4.3.1 General Requirements

The Concessionaire must repair the Toll Roads by correcting any damage caused by the actions of animal life. The Concessionaire is also responsible for removing and properly disposing dead animals (carcasses) from the Toll Roads in accordance with all applicable Municipal and Commonwealth Laws.

Removal of an animal carcass should be performed within the Time Frames stated in Table I.3.3 of this Chapter. Whenever possible, the Concessionaire should recover license tags, name badges, or other pet identification and the Concessionaire should notify the pet owner prior to disposal.

I.4.3.2 Treatment of Live Animals

Live animals, including wildlife, must either be removed by the Concessionaire, or be tolerated and protected by the Concessionaire as part of the natural habitat. In the case of domesticated animals or pets that stray into the Toll Roads the Concessionaire must not attempt to trap or remove the animal, but must call the Municipal or the appropriate Commonwealth Animal Control Officers for removal.

When there is evidence at a specific location that an animal is causing damage to the Toll Roads, the Concessionaire is then authorized to use humane means to target and eradicate the specific pests. Traps or poison may be set by qualified personnel only for the specific pests at the specific location, and only until such time as the damage is stopped. Once the pest is removed, the Concessionaire must remove and dispose of all traps and/or poison bait.

I.4.3.3 Maintenance Activities

The Concessionaire must inspect and repair all damage done by animals to the Toll Roads. The Concessionaire must evaluate the severity of all such damage and its effect on safety, and prioritize the repairs accordingly. Damage to electrical wiring, plumbing, signage, lighting and other similar elements that affects safety systems and which poses a hazard to the public must be repaired as a higher priority.

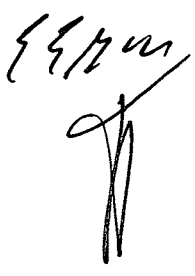


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J.1 Definitions

Barrier Walls: All concrete wall elements used as a protective barrier for vehicular or pedestrian traffic. Examples include median barrier walls, permanent or temporary roadside concrete barrier (single for double faced), ground mounted barrier walls, and parapets and barriers attached to retaining walls and mechanically stabilized earth (MSE) retaining walls.

Guard Rail Systems: All plate-like beam rails, including all associated terminal sections and hardware, used to protect traffic from slopes or obstacles near the traveled way or to protect elements from traffic.

Impact Attenuators: Protective systems that prevent errant vehicles from impacting hazards by either decelerating the vehicle to a stop after a frontal impact or by redirecting it away from the hazard after a side impact, accomplished using either energy absorbing or energy transferring devices.

Median: The portion of the highway forming the separation of the traveled ways for traffic in opposing directions.

Moveable Barrier Wall System: An articulated and segmental concrete barrier wall that can be moved by re-positioning such that additional directional traffic capacity is achieved. The Moveable Barrier Wall is moved via the use of a specialty vehicle created solely for that purpose.

Parapet: A wall-like element of reinforced concrete integrally and structurally connected to the deck portion of a bridge to serve as a protective barrier for vehicular or pedestrian traffic.

Toll Plaza Crash Protection Systems: Crash protection devices located at each of the Toll Plaza collection lanes that are intended to protect the toll attendant, the toll booth, and plaza hardware from the effects of vehicular impact.

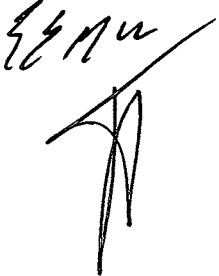
Toll Point Crash Protection Systems: Crash protection devices located at each of the Toll Zone and Toll Point that are intended to protect the maintenance team, the toll gantries, and Toll Zone hardware from the effects of vehicular impact.

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J.2 References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Design Directives, PRHTA
- Highway Design Manual, PRHTA
- Standard Drawings, PRHTA
- Standard Specifications for Road and Bridge Construction, PRHTA
- "Roadside Design Guide", AASHTO.
- "A Guide to Standardized Highway Barrier Hardware", AASHTO.
- "A Policy on Geometric Design of Highways and Streets," AASHTO.
- "Manual on Uniform Traffic Control Devices", AASHTO.

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J.3 Policy for Performing Roadway Safety Systems Maintenance

J.3.1 Objective

The objective of Roadway Safety Features and Systems is to preserve in working order or restore to working condition all features and systems installed to enhance the safety of motorists, pedestrians and or workers, should a vehicle leave the traveled way; and to protect the integrity of the Toll Roads from damage by vehicle collisions. These features and systems include guard rail systems; impact attenuators; fixed Barrier Walls; Moveable Barrier Wall Systems; the Toll Plaza Crash Protection System; and the Toll Point Crash Protection System.

J.3.2 Responsibilities of Concessionaire

In order to meet the requirements of this Chapter, the Concessionaire must engage in practices to ensure that all Roadway Safety Features and Systems function properly to ensure the safety of the Toll Road users, traffic, pedestrians and workers while protecting the structural integrity of the Toll Roads from vehicle collision; and meet other safety, aesthetic and economic benefits. The Concessionaire must perform its obligations in accordance with this Chapter in a manner that maintains and/or improves the condition and functionality of the Roadway Safety Features and Systems.

Roadway Safety Features and Systems maintenance, inspection, and work activities must be performed at a frequency that ensures uniform and consistent compliance with PRHTA, Commonwealth and Federal regulations, and the requirements specified within this Chapter.

All materials and construction requirements for Roadway Safety Features and Systems work performed by the Concessionaire must conform to the appropriate and applicable requirements and the Reference Documents listed in Section J.2 of this Chapter.

Once a particular maintenance repair has been started the work must continue during consecutive working days, as weather permits, until a thorough, complete, and workmanlike repair has been achieved. The Concessionaire must establish and maintain traffic control and protection during this time.

Parapets, railings, and other systems attached to the bridge structures are addressed in Volume I, Chapter G, "Bridge and Structure Maintenance".

Work on Roadway Safety Features and Systems within the Toll Roads that must be performed by the Concessionaire includes the following:

- Repair or replace all damaged, deteriorated, or deficient portions of the guard rail systems, impact attenuators, fixed Barrier Wall, Moveable Barrier Wall, the Toll Plaza Crash Protection System and the Toll Point Crash Protection System that constitute or have the potential to create an unsafe condition for Toll Road users, personnel and the public.

- Ensure that all of the Roadway Safety Features and Systems are: functioning as intended and designed; are free from debris; securely fastened to their foundations; are structurally sound; and are clearly and highly visible.
- Ensure that all of the Roadway Safety Features and Systems are properly aligned and positioned as safety devices.
- Maintain all posts and vertical components in a plumb, aligned and straight position.
- Apply preservatives to all timber elements as required to maintain rot-free and structurally sound components.
- Replace all timber and steel components if elements are rotted, broken, settled, excessively corroded, or damaged.
- Repair or replace guard rail sections that are bent, broken, cracked, rusted or damaged with materials and finishes that meet or exceed the components that they replaced.
- Ensure that damaged, compromised, ineffective or non-functioning impact attenuators are repaired with parts and components in consultation with the original manufacturer, or successor.
- Alleviate any and all impediments to the drainage flow caused or created by the presence of the Roadside Safety Features and Systems, including cleaning drainage holes in the bases of the barrier walls.
- During repairs, construction, replacement of all Roadway Safety Features Systems, traffic control and protection as addressed in Volume II, Chapter H "Traffic and Travel Management Plan" must be implemented.

J.3.3 Performance Time Frames

The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire), within which the Concessionaire must complete the required repair or replacement work to the Roadway Safety Feature & Systems and their components (unless weather conditions limit material application):

Table J.3.3

Roadway Safety Feature or System	Maximum Time Duration
<u>Guard Rail System:</u>	
- Damage to Structural Integrity	24 Hours
- Non-Structural Damage or Deterioration	15 Days
<u>Barrier Wall (fixed or moveable):</u>	
- Damage to Structural Integrity or Stability	24 Hours
- Non-Structural Damage or Deterioration	45 Days
Impact Attenuators	24 Hours
<u>Toll Plaza and Toll Point Crash Protection Devices:</u>	
- Damage to Structural Integrity	12 Hours
- Non-Structural Damage or Deterioration	30 Days
<u>DTL Lane Access Gates and Emergency Gates:</u>	
- <u>Damage to Structural Integrity</u>	24 Hours
- <u>Non-Structural Damage or Deterioration</u>	30 Days

The Concessionaire must also:


- Clean all drainage holes in the barrier wall bases and inlets adjacent to the barrier walls at least two (2) times annually.
- Immediately establish and provide temporary barricades and traffic control whenever a Roadway Safety Feature or System is unsafe or has the potential to become unsafe for Toll Road users.
- Remove all litter and debris in and around the impact attenuators at least six (6) times annually, or at a greater frequency as conditions and locations dictate.

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J.3.4 *Acceptance Criteria*

Roadway Safety Features and Systems will be considered acceptable when the following criteria are met or exceeded.

- Guard Rail Systems:
 - The guard rail has been installed in full compliance with the Reference Documents listed in Section J.2 of this Chapter, and the system is within
 - $\frac{3}{4}$ -inch of plumb and grade.
 - The surface materials are smooth, undamaged, and free of defects.
 - The rails and terminal elements are not warped or otherwise deformed.
 - The posts are installed square to the rail.
 - The work site is left in a clean condition.
- Impact Attenuators:
 - The system is free of obstructions and is fully capable of functioning as designed and intended.
 - The system components are free of damage which impairs the ability of the attenuator to serve its function or have been repaired with equal or comparable parts in consultation with the original manufacturer or its successor.
- Barrier Walls (fixed and moveable):
 - Barrier walls are properly aligned horizontally and vertically to conform to the roadway profiles, alignment and geometry.
 - The barrier wall is free from defects and damage which impair its ability to perform its function.
 - Moveable Barrier Wall components, elements and machinery perform in accordance with the intention and with the manufacture's requirements.
- Toll Plaza and Toll Point Crash Protection Systems:
 - Protection System is free from all damage and deficiencies, which affect the function of the System, and on which all cosmetic defects have been removed or repaired.
 - The protection system is structurally sound and is capable of functioning as designed.



- DTL lane access gates and emergency gates:
 - DTL lane access gates are emergency gates are free from all damage and deficiencies, which affect the function of the System, and on which all cosmetic defects have been removed or repaired.
 - The protection system is structurally sound and is capable of functioning as designed.

J.4 Additional Requirements

J.4.1 Guard Rail Systems

J.4.1.1 General Requirements

The Concessionaire required inspections must include a visual examination of the roadside guard rail to evaluate its functional integrity, height, and alignment.

J.4.1.2 Applicability of PRHTA Standard Plans

Guard rail must be repaired and/or replaced in accordance with the most current PRHTA Plans Standards and Reference Documents, whichever is more stringent. Damaged guard rail sections, posts, block-outs and hardware must be replaced in kind or with superior shapes or materials. If replacement cannot be made in kind, an analysis by a Licensed Professional Engineer in the Commonwealth of Puerto Rico must be made to ensure that all protective devices, hardware, and breakaway terminals are replaced with acceptable current standard devices.

J.4.1.3 Upgrading to Current Standards

The Concessionaire must upgrade or retrofit older segments of the guard rail system to current standards when such segments of the system are damaged or in need of replacement. When a substantial portion (25% or greater) of a run of guard rail (defined as the length between the guard rail origin and end) is damaged the Concessionaire must bring the entire run up to current standards or replace the guard rail with an equal or better safety feature. Mixtures of old and new types of guard rail within a run of guard rail are not permitted.

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J.4.1.4 Construction Requirements

The Concessionaire must perform all guard rail work in such a manner that motorists are always protected from an opening in the rail. The Concessionaire must make every effort to fully restore the system by the end of the working day once repairs have started. An unprotected gap in the guard rail must never be left overnight. Barricades or drums will not be considered sufficient protection.

Adjustments to line and grade of guard rail should be done in conjunction with other repair work whenever possible.

Surface irregularities such as berms or windrows must not be allowed on the traffic side of guard rail.

All work areas are to be left in a clean and neat condition after repair, replacement, or routine maintenance.

J.4.2 *Impact Attenuator Systems*

J.4.2.1 General Requirements

The Concessionaire is responsible for repairing and/or replacing impact damage to energy attenuation devices. An ample supply of replacement parts should be ordered in advance and kept on hand.

Impact attenuator replacement must be performed during a single working day, and the work site and the hazard itself must be properly shielded from traffic by temporary crash cushions, lane closures and similar approved methods.

Additionally, litter and debris that accumulates at the base of attenuators or between, in front of or around the cells must be removed. Debris must not be allowed to accumulate since such debris could hinder and impair the operation of the impact attenuator. Impact attenuator inspections must include checking for debris under or around the attenuators.

J.4.2.2 Requirements for Replacement Parts & Assemblies

Replacement of broken, missing or damaged elements of the impact attenuator systems must be exactly in kind and should be supplied by the manufacturer of the original device to ensure that the device's physical properties and impact responses continue to function as designed.

The entire replacement of damaged impact attenuator assemblies, unless otherwise designed and approved by a Licensed Professional Engineer in the Commonwealth of Puerto Rico, must be of the same type as the existing impact attenuator assemblies in terms of the module's length, width of

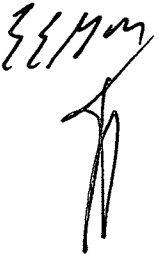
protection, re-directive properties, debris retention features, support legs and ground pad, transition panels or struts to concrete barrier wall or guard rail and all other parameters pertaining to the module's performance at a particular location. If a different manufacturer's product is considered for use as a replacement, that product must meet the current requirements for impact attenuators.

J.4.2.3 Upgrading to Current Standards

The requirements of this Chapter are not intended to prevent the Concessionaire from upgrading or retrofitting existing impact attenuators to higher performance standards or modifying existing Roadway Safety Features and Systems that possess little or no energy absorbing properties. Any time impact attenuators are replaced, they must be replaced with devices meeting the current highway standards established by PRHTA and the Commonwealth.

J.4.2.4 Assurance by Concessionaire

The Concessionaire inspections, maintenance and work must be conducted with sufficient thoroughness so that the Concessionaire can warrant that all attenuators components are in satisfactory and operable condition and that all necessary repairs and replacements have been completed.



J.4.3 Barrier Wall (Fixed and Moveable)

J.4.3.1 General Requirements

It is the Concessionaire's responsibility to maintain all barrier walls types and kinds in a crashworthy, fully functional condition. Missing or damaged sections must be repaired or replaced.

The inspection and repair work for barrier walls mounted on bridge structures (parapets) is specified in Volume I, Chapter G, "Bridge and Structure Maintenance".

The Concessionaire must replace broken or damaged sections of the barrier wall with a wall having the existing wall face shape, or having a face shape that complies with current Reference Documents or in the case of the Moveable Barrier Wall the manufacture's recommendations. All transitions of wall face shape must be made gradually so that no corners or projections will be present that impair the function of the barrier.

J.4.3.2 Requirements for Median Wall

Median walls, fixed or moveable, must not be retrofitted or replaced in such a manner that the clear zone available to motorists is reduced, or any inappropriate projections are created in the wall face.

The Concessionaire is prohibited from cut openings in the median wall to facilitate movement around the Toll Roads, nor disconnect the articulated sections of the Moveable Barrier Wall System.

The Concessionaire must not erect cantilever sign supports, overhead sign truss supports, light fixtures, or any other appurtenance in the median wall that would rely on the barrier wall for a portion or all of its foundation support unless the Concessionaire retrofits the median wall at that location to resist all of the applied loads it must withstand. In addition, the Concessionaire must not retrofit or replace the barrier wall in such a manner that the clear zone available to motorists is reduced, or any dangerous projections are created in the wall face.

J.4.3.3 Requirements for Impact Events

When a vehicle impact creates a gap in the wall that could permit a vehicle to cross the median, expose a drop-off greater than two (2) feet, or expose a fixed object hazard to traffic, and permanent repairs cannot be made immediately, the Concessionaire must protect the opening with temporary barrier to completely protect the hazard. Barricades, barrels, and the like must never be used as temporary means for a fully functional barrier wall.

All permanent repairs must be made of the same type as the existing barrier wall, and in accordance with the manufacture's recommendations. Precast concrete units may not be considered a permanent repair for existing cast-in-place barrier wall. All precast units and all replacement construction must be done in accordance with current PRHTA Standard Plans for Barrier Wall.

J.4.3.4 Requirements for Reversible Lane Barrier Transfer Machine

The PRHTA will lend to the Concessionaire two current Reversible Lane Barrier Transfer Machines for a period of two years after the Closing Date. It will be responsibility of the Concessionaire to maintain both of them and return them to the PRHTA at the same level of condition.

The Concessionaire must acquire two new Reversible Lane Barrier Transfer Machines, one of them capable of performing two-lane transfers simultaneously for the PR-18 reversible lane segment.

It is the Concessionaire's responsibility to maintain all Reversible Lane



Barrier Transfer Machines in a crashworthy, and fully functional condition during the Term.

J.4.4 *Toll Plaza Crash Protection System*

J.4.4.1 General Requirements

The Concessionaire is responsible for maintaining all Toll Plaza Crash Protection Systems in sound, operable condition. The specific characteristics and features at each Plaza may vary greatly due to the age, traffic, location, function and other elements that affected the design. It is important that the Concessionaire is aware that the purpose of the Toll Plaza Crash Protection System is to protect the toll attendant and the toll collection booth from vehicular impact.

The inspection requirements for other toll plaza elements such as booths, the overhead canopy, lighting, and all related hardware are specified in Volume I, Chapter M, "Toll Booth and Plaza Maintenance".

J.4.4.2 Requirements for Impact Damage Events

If the Toll Plaza Crash Protection System is damaged by vehicular impact, the Concessionaire must conduct an inspection of the structural integrity of all toll plaza appurtenances involved. Plaza lanes must not be opened to traffic until a complete repair has been made of all damaged devices and systems.

During all repairs, the Concessionaire must establish and maintain traffic control and protection as to be addressed in Volume II, Chapter H, "Traffic and Travel Management Plan".

Replacement of damaged portions of the Toll Plaza Crash Protection System must be of the same type as the existing Toll Plaza Crash Protection System. In order to properly replace severely damaged portions of the Toll Plaza Crash Protection System, the As-Built Contract Drawings for the Plaza are to be researched. Construction drawings must be prepared, signed and sealed by a Professional Engineer Licensed in the Commonwealth of Puerto Rico to guard the repair work and to serve as a reference for future replacements of this nature.

J.4.5 *Toll Point Crash Protection System*

J.4.5.1 General Requirements

The Concessionaire is responsible for maintaining all Toll Point Crash Protection Systems in sound, operable condition. The specific characteristics and features at each Toll Point may vary greatly due to the age, traffic, location, function, and other elements that affected the design.

It is important that the Concessionaire is aware that the purpose of the Toll Point Crash Protection System is to protect the workers and the Open Road

Tolling structure, equipment and systems from vehicular impact.

The inspection requirements for other Toll Point elements such as equipment, systems, lighting, and all related hardware are specified in Volume I, Chapter O, "Open Road Tolling Systems Maintenance".

J.4.5.2 Requirements for Impact Damage Events

If the Toll Point Crash Protection System is damaged by vehicular impact, the Concessionaire must conduct an inspection of the structural integrity of all Toll Point appurtenances involved.

During all repairs, the Concessionaire must establish and maintain traffic control and protection as to be addressed in Volume II, Chapter H, "Traffic and Travel Management Plan".

Replacement of damaged portions of the Toll Point Crash Protection System must be of the same type as the existing Toll Point Crash Protection System. To properly replace severely damaged portions of the Toll Point Crash Protection System, the As-Built Contract Drawings for the Toll Point are to be researched. Construction drawings must be prepared, signed, and sealed by a Professional Engineer Licensed in the Commonwealth of Puerto Rico to guard the repair work and to serve as a reference for future replacements of this nature.



J.4.6 Equipment outside Toll Road limits

The Concessionaire must maintain the DTL access gates and auxiliary components (controllers, communication devices, etc.) located at PR-1, and PR-21 that fall outside of the limits of the Toll Roads and needed for the Dynamic Toll Lane operation. These assets are at the PR-1 and PR-21 DTL entrance/exit ramps.

The Concessionaire must maintain the reversible lane barrier transfer machine and modules located at PR-18 that fall outside of the limits of the Toll Roads and needed for the DTL operation. The operation of the reversible lane barrier transfer machine is needed to perform the opening of the DTL towards the southbound direction during the PM hours. The reversible lane barrier transfer machine operation must be performed in PR-18 from km 0.1 up to the Dynamic Toll Lane fixed median barriers located near Américo Miranda Avenue.

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K.1 Definitions

Clear Zone: The unobstructed, relatively flat, total roadside border area beyond the edge of the traveled way available for a driver to stop safely or regain control of a vehicle that leaves the traveled way.

Damaged Sign:

- a. A sign that is not flat (planar) and properly oriented to the traveling public or other intended audience.
- b. A sign that has either 4 square inches or 1% (whichever is greater) of the sign panel face area containing deficiencies.
A sign that, in the opinion of PRHTA or the Commonwealth, is damaged or contains a message to the traveling public or other audience that is unclear, improper or confusing.

Dynamic Message Signs (DMS): Overhead sign structure capable of displaying a visual message by means of light bulbs, plastic tabs, liquid crystal displays etc. (Referred to as Variable Message Signs – VMS or Changeable Message Signs – CMS in some publications)

Emergency Maintenance: Time-critical repair work performed on an unplanned basis and intended to restore operations and mitigate damage done to the Sign System by Collision, Vandalism, Earthquake or an atmospheric event. Emergency maintenance and repairs may be a temporary measure, using the staff and materials available immediately following the incident.

Flashing Light (or Flashing Lamp): A device on a sign or Signage System that consists of a lamp or series of lamps which are turned on and off repetitively.

Guide Sign: A sign that does not contain regulatory information, traffic laws, or warnings. Examples include signs that show route designations, destinations, distance to exits, services, or other geographical, recreational, or cultural information.

Portable Changeable Message Signs (PCMS): A portable, dynamic message sign usually mounted on a trailer or truck bed that can be deployed quickly for meeting temporary requirements found in work zones or accident areas.

Overhead Sign Structure: An overhead sign support structure, with the horizontal member either supported at both ends or cantilevered over the Traveled Lanes.

Regulatory Sign: A sign that gives notice to road users of traffic laws or regulations. Examples include STOP, SPEED LIMIT 45 MPH and LOAD LIMIT signs.

Retro-reflectivity: A property of a sign panel surface which causes a specified portion of the light coming from a point source to be returned directly back to the origin.

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Right-Of-Way Assignment: The process which uses a sign to give preference to vehicles to proceed in a lawful manner before other vehicles. An example is a YIELD sign.

Sign: A lettered board, message or other display which includes all regulatory, warning, guide or informational, advisory, construction and maintenance, route markers and all special or other messages/displays.

Sign Lighting: An engineered lighting system that makes a sign uniformly visible to road users, whether by day or night. Signs along the Toll Roads have external illumination, in which a light pattern is cast upon the sign panel by lamps.

Sign Panel: The layer of the sign panel which contains the message, and which is applied to the aluminum, wood or steel sign.


Sign System: All Signs and Signage Systems components including regulatory, warning, guide or informational, advisory, construction and maintenance, overhead and bridge mounted signs.

Structure Mounted Sign: All Signs that are attached directly to bridge structure by frame work without foundation.

Warning Sign: A sign that gives notice to road users of a potentially hazardous situation that might not be readily apparent. Examples include STOP AHEAD and LOW CLEARANCE signs.

Work Zone Sign: A sign that gives notice to road users of construction and maintenance activities. Work zone signs are required in advance of the site and must be erected through the work zone. Examples include CONSTRUCTION SPEED LIMIT 30 MPH and FLAGGER signs.

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K.2 References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Design Directives, PRHTA
- "Guidelines for the Selection and Installation of Orientation Signs", PRHTA
- Highway Design Manual, PRHTA
- Signage Guide, PRHTA
- Standard Drawings, PRHTA
- Standard Specifications for Road and Bridge Construction, PRHTA
- Traffic Sign Manual, PRHTA
- "Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals", AASHTO.
- "Manual for Condition Evaluation of Bridges", AASHTO.
- "A Policy on Geometric Design of Highways and Streets", AASHTO.
- "Bridge Inspector's Training Manual", FHWA.
- "Manual on Uniform Traffic Control Devices (MUTCD)", FHWA.
- "Inspection for Fracture Critical Bridge Members, Report No. FHWA-IP-86-26", FHWA.
- National Bridge Inspection Standards (NBIS), FHWA.
- "Portable Changeable Message Sign Handbook (PCMS)", FHWA.
- "Method for Maintaining Traffic Sign Retro reflectivity", Report No. FHWA-HRT-08- 026, FHWA.

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K.3 Policy for Performing Systems Maintenance

K.3.1 Objective

The objective of Sign and Signage System Maintenance is to ensure that all regulatory, warning, guide, informational, advisory and work zone (construction and maintenance) signage and their components are properly maintained so as to regulate and facilitate the safe and orderly movement of traffic.

Signs and Signage Systems require: repairs due to wind damage, loss of retro-reflectivity, vehicular impact, etc.; maintenance; relocation; and replacement in part and in whole.

Highway signs are grouped into four general classifications: Regulatory, Warning, Guide, and Work Zone (Maintenance and Construction). Designated shapes and colors are used to differentiate between the different sign classifications. All signs must be reflectorized and/or illuminated to show the same shape and color by day and night.

Effective Signs and Signage Systems require:

- Selection of the correct Signage System for a particular situation.
- Correct location of the Signage System.
- Ongoing maintenance to ensure that the sign and its supports are in good condition.

K.3.2 Responsibilities of Concessionaire

In order to meet the requirements of this Chapter, the Concessionaire must engage in practices and inspection survey intervals to ensure that all Signs and Signage Systems are clearly displaying the necessary messages to ensure the safe and orderly movement of traffic, and meet other safety, aesthetic and economic benefits. This requires that the Concessionaire carry out its obligations in a manner that maintains and/or improves the condition and purpose of Signs and Signage Systems.

All materials and construction requirements for Sign and Signage System work performed by the Concessionaire must conform to the appropriate and applicable requirements of the Reference Documents listed in Section K.2 of this Chapter.

Each sign face must be kept visible and legible under both day and nighttime conditions. It should be noted that all signs will gradually deteriorate to a point where the signs must be refurbished or replaced. The retro-reflective sheeting of signs deteriorates from the effects of sunlight, weather, airborne particles, and air pollution. Dirt from road spray and air pollution may collect on the sign sheeting, and, if unchecked, will severely affect the nighttime visibility of the sign.

The Concessionaire must make routine sign inspections part of its daily activities, and all Concessionaire staff who travel the Toll Roads for any reason must be instructed to report any damaged or obscured signs to the Concessionaire.

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Work on Signage Systems along the Toll Roads that must be performed by the Concessionaire includes the following:

- Repairing Signs and Signage Systems and their components.
- Maintaining a stock of sign panels, supports and other sign system components for use when damage occurs.
- Clearing obstructed signs.
- Cleaning Sign Systems and their components.
- Inspecting the Sign Systems.
- Resetting/repairing Signs and Signage Systems that are accidentally knocked or blown down.
- Relocating Signs and Signage Systems that need to be removed and/or reinstalled due to changing needs or conditions.
- Replacing or installing new Signs and Signage Systems and their components.
- Replacing or relocating Signs and Signage Systems as required by Local, Commonwealth or Federal regulations.
- Retrofit signs that have a retro reflectivity level below the minimum standards established by the MUTCD
- Ensuring that all Signs and Signage Systems are legible, adequately reflectorized, erect, and correctly located in accordance with the Reference Documents listed in Section K.2 of this Chapter.
- Obtaining approval from the Commonwealth for all re-ordering and design of guide and information signs.
- Removing all illegal or unauthorized signs within the Toll Roads, as discovered by the Concessionaire, PRHTA or the Commonwealth.

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K.3.3 Performance Time Frames

The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire), within which the Concessionaire must complete the required cleaning, resetting, replacement of missing, repair, or relocation work to the Signs and Signage System and its components:

Table L.3.3.1

Sign & Signage System Classification/Type	Maximum Time Duration
Regulatory	2 Days
Warning	2 Days
Guide	3 Days
<u>Work Zone:</u>	
Construction	4 Hours
Maintenance	2 Hours
Dynamic Message Signs (DMS) or Portable Changeable Message Signs (PCMS)	4 Hours
All Other Signs	3 Days

The frequency of Sign Structure inspections shall conform to:

Table L.3.3.2

Sign Structure Type	Inspection Type	
	Routine	In-Depth
Aluminum Overheads	---	2 Years
Galvanized Steel Overheads	2 Years	2 Years
Condition < 6	2 Years	2 Years
Mounted on Bridges	2 Years	2 Years
Galvanized Steel Cantilevers		
Ground Mounted	3 Years	6 Years
Mounted on Bridges	---	2 Years
Structure Mounted	2 Years	2 Years

The Concessionaire must, from the time a deficiency is detected by discovery or report:

- Make temporary repairs to all regulatory or warning signs determined to be a "damaged sign" (see Definitions), or to replace missing signs; and to immediately initiate installation of temporary signage.
- Touch-up or re-paint all painted Sign System components when the surface is discolored or damaged within seven (7) days; and re-paint all components once every five (5) years.
- Relocate Signs and Signage Systems required to be removed and reinstalled due to changing needs or conditions within seven (7) days.
- Make all replacements and/or repairs to Signs and Signage System lighting, including burnt-out bulbs, within twelve (12) hours.

The Concessionaire must also:

- Commence the replacement or installation of new regulatory or warning signs within forty-eight (48) hours from receiving direction from the PRHTA.
- Perform detailed inspections on all overhead, cantilever and bridge mounted sign structures, in accordance to the requirements of PRHTA, at an interval no greater than the frequencies stated and submit a written report to PRHTA and the Commonwealth. The inspection procedures shall be in conformance with the requirements of the National Bridge Inspection Standards (NBIS).
- Upon receipt of notification or when local, state, or federal regulations mandate; the Concessionaire must order, replace or install new Sign Systems as follows:
 1. Order within 48 hours.
 2. Install within 24 hours of delivery.

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K.3.4 Acceptance Criteria

Signs and Signage Systems will be considered acceptable when the following criteria are met or exceeded:

- Supports are plumb and level.
- Design, type classification and installation are in accordance with the requirements of the applicable Reference Documents listed in Section K.2 of this Chapter.
- Concrete bases and foundations are the proper and correct distance out of the ground.
- Signs maintain a retro-reflectivity level above or equal to the minimum levels established by the MUTCD.
- Steel supports are properly coated and protected by the galvanizing process, when required, as described in the PRHTA and the AASHTO Specifications, whichever is more stringent.
- The site and area adjacent to the Signs and Sign System is left clean and tidy after all work is completed.
- Sign Panels contain the correct color, spelling or symbols required for its classification and application.
- Supports have a complete coverage of paint that is free of cracking, peeling and flaking, when the support requires paint to be present.
-
- Sheeting Material:
 - Lettering and symbols are of the correct size, clear and legible, and of the required retro-reflectivity in accordance with Municipal, Commonwealth and Federal guidelines.
 - Sheeting has been applied free of blistering, delamination, peeling or chipping, with no discoloration or fading.
- Sign Panel Backing:
 - Wood Panels are straight and smooth with no warping, bending, twisting, or splitting, and are properly sealed to prevent swelling.
 - Aluminum Panels are straight with no warping, bending, or twisting, and are not torn or deformed at connections.


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K.4 Additional Requirements

K.4.1 Inventory and History Record

The Concessionaire must develop, maintain, and keep current an inventory and history record of all Signs and Sign Systems within the Toll Roads. The inventory and history record must consist of the type, size, location, and age of each Sign and Signage System. Information that must be contained in the inventory and history record includes:

- Sign location: including highway, kilometer post, and the traffic direction it faces.
- Measured distance from edge of traveled way to nearest point of sign.
- Separation of signpost(s) from traveled way by: guiderail, barrier wall, or none.
- Sign type or name (e.g. STOP, NO PASSING, etc.).
- Sign panel color, size and/or shape (e.g. 18" x 18", 30" x 30").
- Sign and Signage System support material and type characteristics.
- Chronological history of all repairs/replacements including a brief note of what the change was (i.e. raised it 2 feet, pipe post to 4" x 4" wood post, etc.).



K.4.2 Sign Materials

The Concessionaire must ensure the following:

- All Signs and Signage System materials must conform to the current requirements of the Reference Documents listed in Section K.2 of this Chapter.
- Sign panel base material must be a flat sheet aluminum to which a chemical conversion has been applied.
- Sign panels have a minimum thickness of 0.125 inch.
- Sign panels must be a flat continuous section of the length, width and shape as specified in the Standard Sign Design Criteria of the MUTCD with specific mounting holes and corner radii.
- Sign panels must conform to dimensions and colors specified in the MUTCD.
- Before reflective sheeting or paint is applied to the sign panel, the application surface must be cleaned and prepared according to the sheeting or paint manufacturer's recommendations. The sheeting must form a durable bond to resist corrosion, provide a weather-resistant surface, and adhere securely at temperatures ranging from -34°C to 71°C (-93°F to 160°F).
- Signs and Signage System posts must be straight and have a uniform finish.

- All holes must be free from burrs and ends must be cut square. Steel posts must be hot-dipped galvanized according to AASHTO requirements. If a weld process is performed after galvanizing, the weld must be zinc-coated after the scarifying operation.

K.4.3 Storage and Handling of Signage System Components

Improper storage or handling can damage Signage System materials. It is important that signs and sign supports be protected in storage and transporting, as well as during installation.

Certain types of signs support, panels and components may require special storage techniques. An example of this is panel signs, which have small weep holes in the channel at the bottom edge. These holes allow moisture that enters the panel to drain. Therefore, these types of panels must be stored upright to help drain accumulated moisture.

The Concessionaire must ensure that wood sign supports are properly stored in maintenance yards. Wooden signposts must not be stored on the ground, as they can become warped.

The Concessionaire must ensure that signs are stored properly in the vehicles during transportation. Any sign panels that have sustained damage to their surface or reflectivity during transportation must be replaced with new panels free of damage.

K.4.4 Installation Requirements

Prior to digging, the Concessionaire must notify the Puerto Rico Center for Excavation about the intended work through the Toll Roads and must furnish sufficient time for the Puerto Rico Center for Excavations to locate all existing lines.

The Concessionaire must install all Signs and Signage Systems and their components in accordance with the applicable Reference Documents listed in Section K.2 in this Chapter, as well as the manufacturer's recommendations.

Sign panels must be thoroughly inspected both before application to sign supports as well as after installation is complete. The Concessionaire must clean all installed sign panels prior to the final field inspection.

K.4.5 Inspection Requirements

The Concessionaire must incorporate the requirements outlined below into its sign inspection procedures, to ensure that a consistent method of inspecting the daytime and nighttime performance of Sign and Sign Systems is upheld. The daytime inspection must evaluate the condition, state of repair, security of sign attachment hardware, repair needs of support systems and local earth grading, etc. for all signs. The effects of age, weathering, vandalism, and visibility must be assessed during the night inspection. In addition, a nighttime inspection must be made immediately following a nearby fire, as heat can cause loss of reflectivity.

The Concessionaire must remember that the signs are to be clearly legible to the traveling public and present a neat and balanced appearance free from defects. Signs not adequately visible because they are dirty, hidden by vegetation, or otherwise obscured must be noted as deficient.

K.4.5.1 Daylight Visual Inspection

Under daylight conditions the Concessionaire must inspect the sign panels to detect non-uniform color, streaks, spots, abrasions, or other defects in the panel surface. The inspection must include reviewing slight imperfections that may be visible only during daylight and would not be visible during the nighttime inspection. The Concessionaire must conduct these inspections as required, but at a frequency no less than four (4) times annually.

• K.4.5.2 Nighttime Visual Inspection

The Concessionaire must conduct nighttime inspections as required, but at a frequency no less than four (4) times annually.

The following requirements and guidelines pertain to performing Sign and Signage System inspections at night:

- The inspection must be performed with a vehicle driven in the furthest lane from the median with the headlamps in the dimmed position. The lane location places the inspection team in a position where signs hidden by vegetation will be noted. It is important that the inspection vehicle headlamps be properly adjusted prior to the start of inspection.
- Signs must be observed at the "distance of driver need". This distance is subjective but must include factors such as average speed and roadway alignment. For the average highway, observations should be made 250foot –long to 500 foot-long in advance of the sign.
- The inspection team must include one member who is considered a qualified sign maintenance employee.
- One team member must have good color vision for evaluating sign colors.
- Median mounted signs may be observed from the lane adjacent to the median if it is safe to do so.
- It may be necessary to make individual passes for sections where both median and shoulder mounted signs are to be inspected.
- Spotlights must not be used to evaluate night sign reflectively since they are several times brighter than vehicle headlamps and can cause false observations of sign brightness.

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- The Concessionaire's nighttime sign inspection team must also inspect all sign panels with an inspection light. The inspection light shall be a 120- watt, 120-volt reflector flood lamp with an average rating of 1600 lumens. The inspection shall be performed while holding the light at eye level and looking directly over the top of the light.
- A sign face is considered to have lost its retro-reflectivity for nighttime display when the area of limited retro-reflectivity or blotchy reflectiveness exceeds 25% of the sign face area. A sign face is also considered to have lost its retro-reflectivity when the reduced retro-reflectivity overrides the ability of the sign text, color, or legend to be effectively presented to the traveling public or other intended audience.

K.4.6 Obstructed Signs

Because landscape plantings grow along the Toll Roads continually, untrimmed plants, trees and vegetation may obscure signs. Signs and Signage Systems that are hidden by planted or natural vegetation must be cleared so that the sign is visible.

K.4.7 Obsolete Signs

Whenever the design requirements for new signs are changed by the Commonwealth, or when PRHTA adopts changes instituted by the FHWA, new requirements must be considered to immediately affect the Concessionaire's operations, and any obsolete signs in inventory that have not yet been installed must not be installed within the Toll Roads.

Existing signs that have been rendered obsolete must be replaced in a timely manner acceptable to the PRHTA, regardless of actual condition or estimated remaining service life.

K.4.8 Temporary Signs

Temporary signs must be continually maintained for as long as they are required and must be replaced with permanent signs as soon as possible.

Temporary signs for nighttime use must have a reflectorized background and/or legend and border depending on the standards for that sign type. Temporary signs must conform to the color, size, material, and other requirements which apply to permanent signs of that type.

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K.4.9 Portable Changeable Message Signs (PCMS)

Portable Changeable Message Signs (PCMS) must be mounted on a trailer designed to adequately support the message board in a level position. The PCMS must be aligned and positioned to provide optimal driver visibility. The Concessionaire must program and adjust the message display cycle so that a minimum of two complete message cycles can be legibly displayed to a driver while approaching the sign at the posted speed.

Repairs due to failure, malfunction, or damage to a PCMS shall be completed within the requirements stated in Section K.3.3 of this Chapter. During the process of repair, the Concessionaire must furnish another PCMS.

The Concessionaire must relocate the PCMS for the various stages of maintenance and construction work as needed to adequately inform the motorists. The Concessionaire must provide an experienced operator for the PCMS during periods of operation to ensure that the messages displayed are correct and legible. In addition, the Concessionaire must ensure that the message sign is illuminated properly to meet the current light conditions, and that all adjustments for operation of the sign are made as needed to properly guide motorists.

The Concessionaire must perform all maintenance operations recommended by the manufacturer of the sign, including periodic cleaning of the sign face, and if present, the associated solar panels.

K.4.10 Sign Lights and Lighting

The Concessionaire must inspect all Signs and Signage Systems lights, lighting units, fixtures and services, as required by the requirements of the Operating Standards, and must pay particular attention to the following deficiencies:

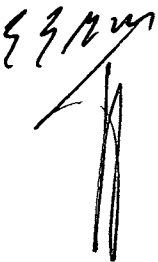
- Burned out, broken, missing or damaged light fixtures or any elements thereof.
- Broken or missing cover plates on hand-holes or other access points.
- Broken latches on access hatches, hinged lens, etc.
- Defects in the electrical service, such as exposed wiring, open splice or junction boxes, loose or detached boxes, and loose, broken or missing sections of conduit or conduit hangars.

All electrical work must be performed by a duly certified and licensed Electrician who possesses adequate previous experience.

K.4.11 Work Zone Signage

K.4.11.1 General Requirements

The requirements for the Concessionaire to provide movement of traffic through work zones for maintenance, construction, inspections, emergency.



repairs, etc. is to be addressed in Volume II, Chapter H, "Traffic & Travel Management Plan". As it pertains to work zone signage, the responsibility of the Concessionaire is to erect, maintain, adjust, modify, repair and remove as required, all temporary traffic control signage in compliance with all relevant PRHTA Criteria, and/or the detailed traffic control drawings for a particular project.

During the construction and maintenance work zone traffic restrictions, the Concessionaire must continuously review and maintain all work zone signage to ensure the safety of Toll Road users, the workers, and the general public. The Concessionaire must repair or replace all work zone signage in accordance with the requirements stated in Section K.3.3 of this Chapter.

Specific work zone signage maintenance responsibilities of the Concessionaire include, but are not limited to the following:

- Sign replacement due to loss of retro-reflectivity.
- Repair of defaced sign sheeting and legends.
- Replacement of broken supports.
- Repositioning of leaning signs.
- Cleaning of dirty devices.
- Replacement of stolen or vandalized devices or signs.

K.4.11.2 Stationary Signs

Work zone stationary signs must stand plumb in all directions, under all conditions. The signs must be securely anchored in a manner such that they resist all loadings like the requirements associated with permanent signs.

When required, the Concessionaire must cover work zone signs with an opaque material that does not damage the sign panels, and that can prevent reading of the sign at night by a driver using high beam headlights.

K.4.11.3 Portable Signs

Portable work zone signs must stand plumb in all directions, under all conditions. The signs must be securely anchored in a manner such that they resist all loadings like the requirements associated with permanent signs.

When not in use for periods longer than 30 minutes, the Concessionaire must lay the portable work zone sign flat on the ground and collapse the sign stand so it also lays flat on the ground. Prior to erecting the sign again, the Concessionaire must thoroughly clean the sign face.

If the distance from the ground to the lowest point creates a sight problem to Toll Road users, the Concessionaire must install adjustable sign stands so as to provide the best possible view of the portable signs.

K.4.11.4 Arrow Panels

The Concessionaire must furnish, install, place, operate, maintain, relocate, and remove flashing arrow panels as needed based on maintenance or construction work. Only Arrow Panels that meet or exceed the requirements of the MUTCD, and that are also the PRHTA Approved Construction Materials listing shall be used.

The Concessionaire must use arrow panels that have the capability to display mode selections, but do not use the straight-line caution display. Flashing arrow panels must be securely mounted on trucks, trailers, or other mobile units.

K.4.12 Overhead and Bridge Mounted Signs

K.4.12.1 General

New types of overhead sign structures introduced by the Concessionaire along the Toll Roads must be approved by the PRHTA and must be warranted. In addition, calculations and drawings prepared by and sealed by a Professional Engineer Licensed in the Commonwealth of Puerto Rico must accompany all requests for Approval.

K.4.12.2 Inspector Requirements

It is the responsibility of the Concessionaire to employ a qualified sign structure inspector to perform the inspection described above, and to prepare the report. The sign inspector must meet the following minimum requirements:


- The inspector must be a Certified Inspector who has successfully completed a comprehensive training course based on the FHWA "Bridge Inspector's Training Manual", and who has 5 years of bridge and/or sign structure inspection experience.
- The inspector must be a Puerto Rico Licensed Professional Engineer.
- All inspectors must be properly trained in the use of all required inspection equipment.

K.4.12.3 Inspection Requirements

The Concessionaire must conduct a detailed inspection and provide a written report to PRHTA for all cantilever, overhead, and bridge mounted sign structures as described in Table K.3.3.2 of this Chapter.

The inspection and report must include all components and elements of the sign structures, including mechanical and electrical equipment.

The Concessionaire's inspection of all overhead and bridge mounted sign structures shall pay special attention to the following:



- Condition and attachment of sign panels and assemblies.
- Bolted connections to ensure all bolts are tight, free from cracks or deformity, and performing as designed.
- Fracture critical details where the welds and weld material have a greater potential to fail.

K.4.13 Sign System Supports

K.4.13.1 General

When conditions dictate the replacement or repair of Signs and Signage System supports, the types and sizes of the supports must be evaluated and selected based on the Reference Documents listed in Section K.2 of this Chapter, and in consideration of the following:

- Breakaway properties increase safety in the event of a vehicle collision.
- The ability of the support to withstand wind and other loads.
- Conformance to the existing Toll Road Signage System's aesthetics and other such features.

New types of signs support introduced by the Concessionaire along the Toll Roads must gain the Approval of PRHTA and must be warranted. In addition, calculations and drawings prepared by and sealed by a Professional Engineer Licensed in the Commonwealth of Puerto Rico must accompany all requests for Approval.

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K.4.12.2 Inspection Requirements for Sign Supports

Inspection of Signs and Signage System supports must include inspection for cracks, rust or corrosion, and any distress in the members. Welds at the member joints must be carefully examined for any signs of cracking or separation of the weld from the adjoining members. All nuts, bolts and washers on the structures must be checked for tightness. Of particular importance, the anchor bolts must be inspected to determine if any of the bolts have corroded, suffered section loss or are loose.

The Concessionaire must inspect the paint system on all the sign supports and identify locations where the paint is peeling, cracking or curling.

The Concessionaire must inspect the galvanization system on all the sign supports and identify locations where the galvanization has wear, chipping, or damage.

Inspection of the sign support foundations must note the presence of any surface cracks, missing grout, exposed reinforcing steel, spalls, etc. If safety of the foundation is found to be compromised, the sign structure foundation must be replaced immediately.

Due to their exposure to repetitive wind loads, metal sign supports are

susceptible to fatigue, and inspections must include this factor. Fatigue distress, if found or suspected, must be tested to quantify deflection, crack propagation, etc., and the appropriate and expeditious repairs must be immediately scheduled to restore the Signage System to full serviceability. The Concessionaire must perform non-destructive testing as required.

K.4.13.3 Bent and Damaged Sign Supports

Whenever sign panels have been damaged or bent, the Concessionaire must determine if the signs and supports are to be repaired or replaced. In deciding, the Concessionaire must consider the physical condition of the panels and supporting members. All repairs or replacements must conform to the requirements of the Reference Documents listed in Section K.2 of this Chapter.

K.4.13.4 Break-Away Wide Flange and Tubular Metal Sign Supports

Existing and new break-away metal sign supports must meet all current FHWA and PRHTA requirements for supports that break-away. Break-away sign supports must reduce the change in momentum that occurs during vehicular impact to tolerable levels as defined by the FHWA and PRHTA, and must also conform to the applicable sections of the Reference Documents listed in Section K.2 of this Chapter. Correct alignment of post sections and placement of bolts in the slip base is critical to the proper functioning of the break-away feature.

When conditions necessitate the replacement of an existing support, the Concessionaire must investigate the merits of installing break-away type metal sign supports within the Clear Zone as a replacement, subject to the following:

- The new sign support type meets all of the requirements of the Reference Documents.
- The history of vehicle impacts at the sign location.

K.4.13.5 Wood Posts

Wood posts may be utilized by the Concessionaire if they conform to the requirements stated in the Reference Documents listed in Section K.2 of this Chapter. Typically, most applications of installing wood posts are limited to locations where they are protected from traffic (e.g., behind guide rail).

The Concessionaire must never replace current sign supports that have break-away characteristics, with wood posts, timbers or other lumber.

Where directed by the requirements of the stated Reference Documents, holes must be drilled in larger-diameter wood posts to provide a weakened plane for breakage if the post should be impacted by a vehicle. It is important in this case to make sure the holes are drilled at the specified height above the ground. The holes are designed for the specified height to

ensure that the broken end protruding above the ground will not snag the bottom of a car.

Combinations of timber poles with alternate sign support types will not be permitted in the same multi-post installation.

Wood signposts must not be painted.

K.4.13.6 Laminated Wood Posts

Whenever conditions and requirements permit, existing signposts can be replaced using laminated wood posts. The Concessionaire must design the laminated posts to meet or exceed all applicable PRHTA requirements for such break-away devices as noted in the Reference Documents listed in Section K.2 of this Chapter.

To ensure that laminated wood signposts will break-away properly when hit and still not be damaged by high winds, posts must be designed and installed in conformance with the requirements of the stated Reference Documents.

Laminated posts must be stored and handled carefully.

K.4.14 Sign System Foundations

Sign System concrete foundations must be designed to conform to the requirements of the Reference Documents listed in Section K.2 of this Chapter, and must be inspected for the following types of deterioration:

- Cracking, Scaling, and spalling of the concrete.
- Delamination, or hollow sounds when the surface of the concrete is impacted with a hammer.
- Exposed and/or corroded reinforcing steel.
- Collision impact damage.
- Foundation movement; including sliding with a shifting or eroding slope, rotation out of plumb due to soil movement or collision.
- Missing or severely cracked grout under base plates.
- Anchor bolts that are missing, loose or bent.

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L.1. Definitions

Conduit or Duct: An enclosed tubular way for protecting wires and cables.

Electrical Systems: Systems, elements and components that are contained in facilities, and which supply, distribute and function using electricity. These systems include, but are not limited to substations, meters, wiring, service panels, individual circuits, generators, transformers, lighting, motor control units, back-up generators and systems, and emergency lighting.

Luminaire: A complete lighting unit consisting of a lamp or lamps together with the parts designed to distribute the light, to position and protect the lamps, and to connect the lamps to the power supply.

Permanent Repair Time: Amount of time from initial discovery or report to the Concessionaire until the time permanent repairs are made.

Service Response Time: Amount of time from initial discovery or report to the Concessionaire until personnel are present at the required location.

Service Restoration Time: Amount of time from initial discovery or report to the Concessionaire until the time the system is fully operational again.

Uninterruptible Power Supplies (UPS): Power supplies that operate in parallel with the electric utility sources and supply their load without interruption when and if the utility source fails. Used to meet the operating needs of the computers and critical elements of the Toll Collection System (TCS).

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L.2. References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Design Directives, PRHTA
- Highway Design Manual, PRHTA
- Standard Drawings, PRHTA
- Standard Specifications for Road and Bridge Construction, PRHTA
- "An Informational Guide to Roadway Lighting", AASHTO.
- "Roadside Design Guide", AASHTO.
- "Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals", AASHTO.
- "Roadway Lighting Handbook – Implementation Package 78-15", FHWA.
- "ANSI Catalog of American National Standards", ANSI.
- DG – 4 – 03 "Design Guide for Roadway Lighting Maintenance", Illuminating Engineering Society of North America (IESNA).
- "Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems", IEEE.
- "National Electrical Code", NFPA.
- "Title 33 Code of Federal Regulations – Part 118", U.S. Government Printing Office.

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L.3. Policy for Maintenance of Lighting and Electrical Systems

L.3.1. Objective

The objective of Lighting and Electrical Systems maintenance is to ensure that all elements and components of Lighting and Electrical Systems including, but not limited to, roadway luminaries, underpass lighting, sign lighting, navigation and aircraft warning beacons, toll plaza lighting, Toll Zones lighting, site, grounds, illumination, etc.; as well as all highway electrical systems including power, communication, signaling wiring, surveillance cameras and wiring, and ITS and wiring, etc., are properly maintained and serviced so as to continuously function at superior reliability, and to reduce potential hazards to the safe and orderly movement of traffic. For purposes of clarification, underpass lighting attached to and underneath any structural elements pertaining to any overhead bridge structure carrying the Toll Roads, are included in this requirement.

Lighting and Electrical Systems require maintenance, repairs due to age, lamp burnout, weather effects, corrosion, traffic impact, failure of soil support, etc.; cleaning of lenses and other elements; and replacement.

Effective and reliable lighting and electrical systems require:

- Frequent maintenance patrols to identify outages and damage.
- Timely repairs to ensure uniform and acceptable illumination in nighttime and low light level conditions.
- Seasonal maintenance and cleaning of lenses and fixtures

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L.3.2. Responsibility of Concessionaire

In order to meet the requirements of this Chapter, the Concessionaire must engage in practices that ensure that all roadway, bridge and underpass lighting, warning lights, toll plaza lighting, Toll Zones lighting, and other critical illumination systems remain fully operational during low ambient light conditions, and all cameras, communications, power cabling, related electrical panels and wiring, and other critical highway electrical devices remain functional at all times in order to ensure the safe and orderly movement of traffic, and meet other safety, aesthetic and economic benefits.

The Concessionaire is responsible for conducting nighttime patrols of all Lighting and Electrical Systems within the Toll Roads and must repair all defects or deficiencies. The patrols must evaluate all locations in the lighting system, including underpass fixtures that are the Concessionaire's maintenance responsibility, temporary lighting installations, etc. The patrols must be arranged so that all locations are inspected in compliance with the required Performance Time Frames.

The Concessionaire is responsible for maintaining a stock of replacement lamps, lenses, fixture heads, light standards, cameras, electrical conduit and cabling, and other lighting and electrical systems parts for ready use in case of damage.

The Concessionaire must implement a cleaning and maintenance schedule for the luminaries and fixtures. In this schedule the luminaire lenses and housings shall be cleaned of dust and grime build-up as recommended by the IESNA, manufacturer's specifications, and as required by the conditions.

Temporary or permanent repairs performed on high voltage or high current systems, highly sensitive equipment, cameras, monitors, and other similar devices must only be done by trained, certified technicians and Licensed Electricians as appropriate. The Concessionaire is responsible for determining staffing needs to service broken or defective components within the time frames specified below.

General work on Lighting and Electrical Systems within the Toll Roads that must be performed by the Concessionaire includes the following:

- Coordinating with all electrical utilities and equipment vendors to ensure prompt response and repair of electrical service, connections, outages, or other difficulties with lighting and electrical systems.
- Create and maintain an inventory and history record of all Lighting and Electrical Systems.

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- Roadway Lighting and Sign Illumination:
 - Perform nighttime patrols and inspections for each lighting system to detect deficiencies or defects.
 - Inspect, maintain, and repair or replace defective, malfunctioning, or deficient lighting controllers.
 - Ensure that all light pole units, mast arms and foundations are inspected and all damage or deficiencies repaired or replaced.
 - Ensure that all luminaries are inspected, and all damage or deficiencies are repaired or replaced.
 - Establish and conduct a re-lamping and cleaning program to maintain the efficiency and continual operation of the lighting systems.
 - Replace and/or repair all lighting systems components that are excessively corroded, repairing foundation cracks or spalls, replacing missing hardware and hand-hole covers, etc.
 - Rewire or relocate Lighting and Electrical Systems and components as required by changing needs, altered conditions, or as required by PRHTA or Federal regulations.

- Aircraft Obstruction Lights / Warning Beacons:
 - Ensure that the Obstruction Lights and Aircraft Warning Beacons are inspected, and all damage or deficiencies repaired or replaced.
 - Ensure that all outages and repair work are coordinated with the Federal Aviation Administration (FAA).
 - Ensure that all outages of the Aircraft Warning Beacons System are completely restored within the Performance Time Frames stated in Table L3.3.1 of this Chapter.
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- Navigational Warning Lights:
 - Ensure that the Navigational Warning Lights are inspected, and all damage or deficiencies repaired or replaced.
 - Ensure that all outages and repair work are coordinated with the Army Corp of Engineers and the United States Coast Guard.
 - Ensure that all outages of the Navigational Warning Light System are completely restored within the Performance Time Frames stated in Table L3.3.1 of this Chapter.
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- Cables, Conduits, and Unit Ducts:
 - Ensure that all cables, conduits and unit ducts remain free of all defects and damage; that all breaks of these lines are repaired or replaced within the stated Performance Time Frames stated in Table L3.3.1 of this Chapter; and that the lines remain operational and functional at all times.
 - Ensure all temporary cabling only be used to temporarily restore service until a permanent repair to the defects and deficiencies can be completed. Temporary aerial cabling must be installed and maintained at a minimum height of twenty-five (25) feet above ground level.
 - Ensure that all re-cabling and conduit or duct repairs be performed for all permanent repairs of defects or deficiencies. Cables should be replaced with new copper cable meeting all applicable codes and requirements.
 - Ensure that all direct bury cable repairs be performed in accordance with all applicable codes and requirements.

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L.3.3. Performance Time Frames

The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire) within which the Concessionaire must complete the required maintenance, replacement or repair work to restore the functionality or operation of a deficient Lighting and Electrical Systems or component (unless weather conditions limit material application):

TABLE L.3.3.1

Lighting and Electrical System	Maximum Time Duration
Roadway Lighting & Sign Illumination:	
- Lighting Controller	8 Hours
- Light Pole Units, Mast Arms, and Foundations	7 Days
- Luminaires	5 Days
- Sign Illumination	24 Hours
Obstruction Lights / Aircraft Warning Beacons:	
- Service Response	1 Hour
- Service Restoration	4 Hours
- Permanent Repair	7 Days
Navigational Warning Lights:	
- Service Response	1 Hour
- Service Restoration	4 Hours
- Permanent Repair	7 Days
Cables, Conduits and Unit Ducts:	
- Temporary Cabling	8 Hours
- Re-cabling and Conduit or Duct Repair	15 Days
- Direct Bury Cable Repair	15 Days

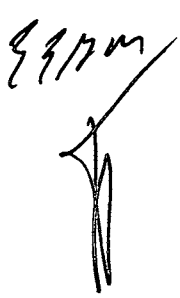
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The following table establishes the minimum frequency that a particular operation is to be performed:

TABLE L.3.3.2

Operation to be Performed	Minimum Frequency of Occurrence
Inventory of Lighting and Electrical Systems	Yearly
Roadway Lighting and Sign Illumination Nighttime Patrol	Monthly
Obstruction Lights / Aircraft Warning Beacon Nighttime Inspection	Monthly
Navigational Warning Lights Nighttime Inspection	Monthly
Re-lamping (Group)	See Section L.4.2.5

The Concessionaire must, from the time a deficiency is detected by discovery or report:

- 
- Immediately initiate temporary repairs to all damaged or deficient lighting and electrical components in order to provide continual service.
 - Immediately initiate temporary repairs to all damaged or deficient navigation or aircraft warning beacons to restore service in compliance with applicable regulations of PRHTA, the U.S. Coast Guard, Federal Aviation Administration, and all other governing authorities.
 - Complete a permanent repair of deficient lighting, electrical or communication cabling mounted on or within bridge parapets, or beam fascia's within twenty-one (21) days.
 - Notify the electrical supply utility company of an outage or low-voltage complaint within thirty (30) minutes of discovery and re-contact the utility company every one (1) hour if service has not been restored.
 - Provide and maintain back-up power supply for all essential electrical systems. All essential electrical systems must include, but not be limited, to aircraft warning beacons, navigational warning beacons, toll booth and plaza warning and lighting systems, and computers and critical elements of the Toll Collection System (TCS), Open Road Tolling System, ITS Systems and DTL Systems.

L.3.4. Acceptance Criteria

Lighting and Electrical Systems within the Toll Roads will be considered acceptable when the following criteria are met or exceeded:

- Inventory databases are maintained including performance history records for all Lighting and Electrical Systems.
- The work conforms to all Municipal, Commonwealth and Federal requirements and the work is performed by certified and/or licensed professionals.
- Light standards, camera mounts and other supports are plumb and level.
- Design and installation of replacement components conform to the requirements of the applicable Reference Documents listed in Section L.2 of this Chapter.
- Work sites are left clean and tidy after all repairs are completed.
- Roadway Lighting and Sign Illumination:
 - Nighttime Patrols and inspections for each lighting system and its controllers are completed within the Performance Time Frames stated in Table L3.3.1 of this Chapter.
 - Light pole unit, mast arm, fixture mount and foundation maintenance, repair work and replacement work has been completed within the Performance Time Frames stated in Table L3.3.1 of this Chapter; and the components are free of defects and deficiencies.
 - Replacement lamps are the correct type and wattage for the installation.
 - All luminaries are free of burnt-out bulbs, defects, damage and deficiencies; and all components are operating and functioning as intended.
 - A re-lamping and cleaning program has been established and implemented to maintain the efficiency and continual operation of the lighting systems.
 - Lighting systems and their components are free of foundation problems, missing hand-hole covers and all other deficiencies that are unsafe or have the potential to become unsafe.
 - Sites adjacent to outdoor controllers are maintained free of obstructions.
- Obstruction Lights and Aircraft Warning Beacons:
 - Obstruction Lights and Aircraft Warning Beacons are operational, functioning as intended, and all maintenance, and repairs are completed.

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- Outages and repairs have been coordinated with the Federal Aviation Administration (FAA) as specified.
- Obstruction Lights and Aircraft Warning Beacons service has been restored within the Performance Time Frames stated in Table L3.3.1 of this Chapter.
- Navigational Warning Lights:
 - Navigational Warning Lights are operational, functioning as intended, and all maintenance, and repairs are completed.
 - Outages and repairs have been coordinated with the Army Corps of Engineers and the United States Coast Guard as specified.
 - Navigational Warning Lights service has been restored within the Performance Time Frames stated in Table L3.3.1 of this Chapter.
- Cables, Conduits, and Unit Ducts:
 - Temporary overhead cabling has been installed maintaining a minimum height of twenty-five (25) feet above ground level, and promptly removed as permanent repairs to cabling are complete.
 - All cables, conduits and unit ducts are free from all defects, damage, and breaks; and service has been continually provided.
 - Permanent re-cabling and conduit or duct repairs have been completed and all work meets the requirements stated in the Reference Documents listed in Section L.2 of this Chapter.
 - Direct bury cable repairs have been performed in accordance with all applicable codes and requirements, and the site has been restored and left clean.
 - Electrical conduit, signal cabling, unit duct, and other wiring systems are properly buried, secured to supports and bridge fascia's, etc. as appropriate for the installation.

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L.4. Additional Requirements

L.4.1. Inventory and History Record

The Concessionaire must develop, maintain, and keep current a complete and detailed inventory and history record of all Lighting and Electrical Systems within the Toll Roads. The inventory and history record must include the following at a minimum:

- Type, make, model, age, installation date and location of every Lighting and Electrical System and its components and appurtenance referenced to Kilometer Post.
- Measured distance from edge of traveled way to nearest point of appurtenance.
- Chronological history of all repairs/replacements including a brief note of what the change was (i.e., re-lamped, replaced ballast, painted standard, etc.).

L.4.2. Roadway Lighting and Sign Illumination

The Concessionaire must incorporate the following requirements into its roadway lighting and sign installation work procedures in order to ensure that the highest reliability and most consistent performance are upheld.

The following must be included and performed for work with the roadway lighting sign illumination, or electrical service components:

L.4.2.1 Nighttime Patrol

The Concessionaire must patrol all roadway lighting, toll plaza lighting, Toll Zone lighting, underpass lighting, and sign illumination system to assure consistently safe, functional, and operational conditions of equipment and materials; and to assure that all installations are performing at the level of service for which they were designed. Each lighting system must be inspected at the frequency stated in Table L.3.3.2.

The nighttime patrol must record and document all lighting systems inspected, and the deficiencies and repair needs.

L.4.2.2 Lighting Controllers

The Concessionaire must adhere to all procedures and special training in order to understand, operate, and repair the lighting controllers and their components. Repair and service logs must be recorded and maintained for any inspection, service or repair to the controller or components of the controller. If more than one service is required to a component of the controller within a one-month period, that component should be considered defective, and the component replaced.

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Additional controller requirements apply as follows:

- Clock – If the controller is equipped with a time clock, and if repeated controller malfunctions are required due to time clock malfunctions, the clock component of the controller must be replaced.
- Photoelectric Controls – If so equipped, photoelectric controls must be checked during routine lighting inspection, serviced periodically, or replaced, as required.
- Attention must be given to coordinating controls to ensure that all highway lighting units turn off or on at approximately the same time within a given segment of the Toll Roads, regardless of the number of circuits in use. Circuits designed for early turn on of illuminated signs should have the early turn on type of photocells. When these photocells fail, it is important that they are replaced with the correct unit.
- Cabinet – The Concessionaire must maintain the controller cabinet including all doors, hinges, hatches, and locks to keep the cabinet functioning as originally intended.
- Warning Sign – The Concessionaire must assure all lighting controller cabinets have a voltage warning label affixed and clearly legible.
- Foundation – The lighting controller foundations must be maintained to minimize any problems with the controller due to poor foundation conditions.
- Service Voltage – If there is a notification of low voltage or utility problems, the Concessionaire must verify this within one (1) hour. If voltage is not restored by sunset, the Concessionaire must provide generator power for the lighting system.
- Vegetation – The Concessionaire must clear all vegetation from within ten (10) feet of the controller.

L.4.2.3 Light Pole Units, Mast Arms, and Foundations

The Concessionaire must inspect all light pole units, mast arms, and foundations to ensure safe, operational condition of equipment and materials; to ensure that all installations are performing at the level of service for which they were designed; and to ensure that all unsafe conditions have been addressed.

Standard light poles and mast arms must be replaced with galvanized steel equipment or aluminum equipment meeting the same strength, height, and mast arm length requirements of the existing equipment. All replacement lighting equipment must meet or exceed all loading requirements.

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Additional light pole unit, mast arm, and foundation requirements apply as follows:

- Ground Lugs – If existing ground lugs are damaged or non/functional, the pole must be drilled, and the ground wire lugged onto the pole.
- Foundations – It is the Concessionaire's responsibility to be knowledgeable of safety requirements for light pole foundations. Foundations must be maintained in a safe and functioning manner.
- Identification Labels - All lighting units shall be marked with identification labels. The identification labels must be maintained.
- Hardware – All hardware must be rust free and tightened according to original requirements. Any loose, defective, or missing hardware should be replaced immediately.
- Shrouds or Skirts – Base shrouds or skirts must be in place and rust free. Any missing or defective shrouds must be replaced.
- Hand-Hole Doors – All hand-hole doors or access covers must be in place and securely fastened. Any missing or defective doors or covers must be replaced or repaired immediately.
- Poles or Standards – Poles or Standards must be plumb to within 10-degrees and in good condition free of corrosion. Any misaligned or defective poles or standards must be repaired or replaced.
- Base Coupling – It is the Concessionaire's responsibility to be knowledgeable of safety requirements for light pole mounting and coupling. All reset or new installations must conform to the current requirements for base couplings.
- Slip Bases – Slip bases or slip base inserts must be inspected annually to ensure the slip bases or slip base inserts will function properly under the impact of collision.

L.4.2.4 Luminaries

The Concessionaire must inspect all luminaries to ensure proper operational condition of equipment and materials, and to ensure that all installations are performing at the level of service for which they were designed. Inspection and service logs must be recorded and maintained for any inspection, service, repair, or replacement to the luminaries.

Luminaries must be thoroughly inspected at the time of lamp replacement. During inspections the following components must be checked:

- Gaskets – Inspect for loose or missing gaskets. Repair or replace as required.

- Glassware – Clean and inspect for cracked or broken lenses. Replace if necessary.
- Hardware – Inspect for loose or missing hardware and replace or tighten as required.
- Terminal Block – Inspect for cracked or broken barriers on the block.
Replace if necessary.
- Mounting – Inspect mounting to determine if luminaries are rigidly held in proper position. Make all adjustments necessary.
- Wiring – Inspect wiring for abrasions and loose connections, and repair as required.
- Reflectors – Clean and inspect for tarnish or oxidization. Replace if necessary.
- Ballasts – Replacement luminaries must be installed with a new lamp and new ballast of the same type and wattage. Where primary lines of multiple ballasts are provided with fused splice connectors, fuse ratings must be maintained at the current values.
- Sign Lighting Fixtures - Sign lighting fixtures may be replaced with metal halide sign lighting fixtures and must meet the current specifications and requirements of PRHTA.

L.4.2.5 Re-lamping

In addition to burn-out replacement of lamps discussed above, all roadway, bridge, toll plaza, signage and underpass luminaire lamps must be group replaced on a planned schedule based on the average rated lamp life, which must not exceed the following:

• High Pressure Sodium	Group re-lamp every 4 years
• Low Pressure Sodium	Group re-lamp every 3 years
• Fluorescent	Group re-lamp every 2 years
• LED	Group re-lamp every 4 years
• Other	Per Approval of PRHTA

L.4.3. Obstruction Lights/ Aircraft Warning Beacons

The Concessionaire must inspect the obstruction lights and beacons during the night at the frequency stated in Table L.3.3.2, or more often if persistent problems continue with a particular beacon. Upon discovery or notification of a broken, damaged, or malfunctioning item, the Concessionaire shall repair or replace the beacon within the Performance Time Frames stated in Table L.3.3.1 above.

Once work is scheduled, or the need to replace beacons is noted, the Concessionaire shall inform the Federal Aviation Administration (FAA) as to when and for what duration the work will be performed so that appropriate actions can be taken by the FAA to issue Notice to Airmen (NOTAM).

L.4.4. Navigational Warning Lights

The bridge structure in the future may require Navigational Warning Lights attached to their Superstructure, Substructure members and fender protection systems. These lights guide the safe passage of vessels and warn these vessels of the location of the structure, thus making this system essential to the safety of the Toll Roads and the river vessels. The Concessionaire must inspect the warning lights during the night at the frequency stated in Table L.3.3.2 or more often if persistent problems continue with a particular warning light. Upon discovery or notification of a broken, damaged, or malfunctioning light, the Concessionaire shall repair or replace the beacon within the Performance Time Frames stated in Table L.3.3.1.

Once work is scheduled, or the need to replace the lights is noted, the Concessionaire must inform the Army Corps of Engineers and the United States Coast Guard as to when and for what duration the work will be performed so that appropriate action can be taken as required.

L.4.5. Cables, Conduits and Unit Ducts

The Concessionaire must repair or replace all cable and associated equipment grounding cables or cable-in-duct which becomes damaged, displaced, defective, or broken. The Concessionaire must take immediate action to make temporary repairs when cable deficiencies become suspect.

Temporary cable may be used as a trouble fix until a permanent replacement can be made. When temporary cable is used, it must be installed aerial, so the lowest point is at least twenty-five (25) feet above ground level.

Cable used for permanent repairs must be new and must be installed in accordance with all applicable ordinances and codes, and in compliance with the National Electrical Code (NEC). In addition, all new cable installations must follow current PRHTA Specifications and Design Standards.

Additional cable, conduit and unit duct requirements apply as follows:

- Cable in Duct or Conduit – When the damaged or faulty cable is located in duct or conduit, the cable must be completely removed, the duct or conduit repaired, and new cable installed.
- All new cable installations must include a green colored insulated equipment ground conductor properly sized in accordance with all applicable electric codes.

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- Direct bury cable may be repaired, provided the defective area is completely removed and replaced with an additional length of repair at least three (3) feet on either side of the defective area. If the repair is within six (6) feet of a light pole, handhold, or a control cabinet, the entire six (6) foot section must be replaced.

L.4.6. Facility Electrical Systems and Supplies

Electrical System work associated and required for the operation of the Toll Road Facilities must be addressed in the requirements for Volume II, Chapter G, "Facilities Operations Plan".

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M.1 Definitions

AutoExpreso System: The trade name of the current Electronic Toll Collection System employed by PRTHA as of the date of the Toll Road Concession Agreement.

Light Curtain: A device that emits a light field between two poles, that maps the shape of a vehicle as the light pattern is interrupted.

Toll Booths: The physical enclosure, including protective covering, that provides safe refuge for toll collectors; toll-lane payment and processing equipment; and communications and emergency response alarms; etc.

Toll Canopy: The physical structure covering the toll booths and collection lanes that provides shelter to Toll Road users and toll collectors.

Toll Collection System (TCS): The electrical and electronic equipment and computer information management system utilized to record and verify the revenue and vehicle classification.

Toll Plazas: The facilities within which toll payments are collected from vehicles. The toll plaza includes the toll canopies; the toll booths; vehicle lanes; etc.

Treadle: A device embedded into the pavement that registers the number of axles or wheels as a vehicle passes over it.

Uninterruptible Power Supply (UPS): Power supplies that operate in parallel with the electric utility sources and supply their load without interruption when and if the utility source fails. Such power supplies must be utilized to meet the operating needs of the computers and critical elements of the Toll Collection System (TCS).

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M.2 References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- "International Building Code", IBC.
- "Manual on Uniform Traffic Control Devices (MUTCD)", FHWA.
- "National Fire Codes", NFPA.
- "National Electrical Code", NFPA.
- "International Mechanical Code", IMC.
- "National Plumbing Code, ANSI.
- "Uniform Plumbing Code", WPOA.
- "Uniform Heating and Cooling Code", WPOA.
- "Chimneys, Fireplaces and Vents Code", NFPA.
- Americans with Disabilities Act", U.S. Department of Justice.
- National Standards, Specifications and Regulations as applicable, from the following organizations:
 - National Electrical Manufacturers Association (NEMA).
 - American National Standards Institute (ANSI).
 - American Society for Testing and Materials (ASTM).
 - Federal Communications Commission (FCC).
- Original Equipment Manufacturer's (OEM) specifications, Maintenance Manuals, Handbooks, Procedures Guides, etc. as applicable for all installed equipment, systems and components.
- LEED (Leadership in Energy and Environmental Design) Guidelines.

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M.3 Policy for Performing Toll Plaza Maintenance

M.3.1 Objective

The objective of Toll Booth and Plaza maintenance is to ensure that all elements, components, and systems are maintained in such a manner that they remain safe, functional, and continually operational in support of the toll collection activities along the Toll Roads, without posing hazards or undue delays to Toll Road users.

The Toll Booth and Plazas (including crash protection, canopies, lighting, signage, and all appurtenances) require maintenance; repairs due to damage, wear, breakage and age; emergency maintenance; cleaning; retrofittings; and replacement due to age and obsolescence.

M.3.2 Responsibility of Concessionaire

To meet the requirements of this Chapter, the Concessionaire must engage in practices to ensure that all Toll Booth and Plaza components, elements, systems and appurtenances are continually operational, secure, clean, sound, and in all ways safe and suitable for use. This requires that the Concessionaire carry out its obligations in accordance with this Chapter in a manner that maintains and/or improves the condition and functionality of the Toll Booths and Plazas.

As of the date of the Toll Road Concession Agreement, the Toll Road users are able to recharge their balances through the In Lane Replenishment lanes (ILR) installed at the Toll Booths and the toll transaction is assigned when the Toll Road users pass through the ETC channelized toll lanes at the toll plaza. In some toll plazas, an Open Road Tolling system with gantries has already substituted the channelized lanes and, after substantial completion of the ORT Improvement Project, only the ILR lanes will be in use at the toll plaza and the toll transaction will be assigned when the Toll Road users pass through the toll gantry at the Toll Point. Then, the Canopies Demolition Project will be executed in the Toll Roads.

All equipment and resources required in supporting the operation of the Toll Booths and Plazas must be provided without fail by the Concessionaire. All repair and replacement work must be scheduled, staged and preplanned so as not to adversely impact traffic movement or safety or the accuracy and validity of the toll collection procedures, or cause undue exposure of Toll Road employees to traffic.

The Concessionaire must perform Toll Booth and Plaza maintenance, inspection and work activities at a frequency that ensures uniform and consistent compliance with all PRHTA, manufacturer recommendations and the requirements specified within this Chapter.

All materials and construction requirements for Toll Booth and Plaza work performed by the Concessionaire must conform to the appropriate and applicable requirements of the Reference Documents noted in Section M.2 of this Chapter.

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Once a particular maintenance repair has been started, the work must continue during consecutive working days as weather permits until a thorough, complete and workmanlike repair has been achieved. The Concessionaire must establish and maintain all required traffic control and protection.

Work on Toll Booth and Plaza elements, components, systems and appurtenances within the Toll Systems that must be performed by the Concessionaire includes the following:

- General:

- Create and maintain an inventory and history record of all Toll Booth and Plaza equipment, elements, components, systems, and appurtenances.
- Ensure that only qualified, certified, licensed and/or well-trained personnel perform work to these items, especially to sensitive, proprietary, and complex equipment and systems.
- The maintenance of the Toll Plaza approach and departure lanes are included with the requirements stated within Volume I, Chapter B, "Roadway Maintenance". The Concessionaire must be aware that these lanes will require additional attention due to the defects that can be induced by the constant pavement stresses from the rapid deceleration and acceleration of vehicles; the increased pavement joint deterioration by numerous weaving and lane-changing vehicles; the likelihood of damages caused by an increase in vehicle collisions; and other similar factors.



- Toll Booth and Plaza Signage:

- The maintenance of the Toll Booth and Plaza Signage is included with the requirements stated in Volume I, Chapter K, "Signs and Signage Systems Maintenance", with the exception of the following:
 - Ensure that all toll rate signage is current, updated with changes in rate schedules, and well placed to inform Toll Road users of the applicable tolls.
 - Ensure that the Toll Booth toll payment message process signs are well illuminated, functioning properly, clean, legible, and free of all defects.

- Toll Booth Gates:

- Maintain all vehicle stop/go gates and all AutoExpreso Lanes free of defects, damage and malfunctions that could create or have the potential to create an unsafe condition.
- Maintain all lane open/closed gates free of damage and defects.

- Toll Booth and Plaza Lighting:
 - The maintenance of the Toll Booth and Plaza Lighting is included with the requirements stated in Volume I, Chapter L, "Lighting and Electrical System Maintenance", with the exception of the following:
 - Ensure that all Toll Plaza and Toll Booth lighting provides the proper illumination; functions as intended; remains free of damage and defects; remains free of burnt-out bulbs; and does not create an unsafe condition for Toll Road employees and users.
 - Ensure that lane status, driver stop/go lights, the canopy, AutoExpreso lane signs, and the lane opened/closed lighting are functioning properly and are free of defects, burnt-out bulbs and damage.
- Toll Booth and Plaza Collection Equipment:
 - Ensure that all toll collection equipment is properly functioning; free of defects and damage; and regularly inspected for continual operational ability. These components, elements, and systems that either comprise or interact with the collection of tolls include, but are not limited to, the following:
 - Treadles
 - Light Curtains
 - Detector Loops
 - Toll Payment Message Process Signs
 - Vehicle Stop/Go Lights
 - AutoExpreso Equipment
 - Cash Drawers
 - TCS Connections & Equipment
 - UPS Connections
 - Intercoms, Phones and Communication Systems
 - Emergency Alarms
 - CCTV System
- Toll Plaza Canopies:
 - Ensure that the canopies are free of defective roofing, deficient drainage, loose or missing bolts, cracked welds, corrosion, loss of paint, deformation, loss of section, eccentricity or rotation about an axis, or other indications of weakened support.

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- Ensure that the connection and support of all illuminated rooftop and structure mounted signs indicating lane status, as well as lane open/closed lighting, are secure, and free of loose connections, buckled members, excessive corrosion, and other damage.
- Toll Booth Units:
 - Repair all windows that leak, have a poor wind seal, or are scratched and clouded offering poor visibility.
 - Repair or replace all booth doors that do not close properly, do not seat on the weather-seal, or that have broken locks.
 - Ensure that all communications equipment, including the intercom and the emergency signal device(s) are maintained in continual working order, and if broken or malfunctioning, are repaired.
 - Ensure that all ventilation and air conditioning equipment is properly operating.
- Toll Collection System (TCS) and Uninterruptible Power Supply (UPS):
 - Ensure that the TCS and the UPS remain operational at times, with periods of "down-time" limited only to those necessary for repair or maintenance work.
 - Ensure that all repair and maintenance work is performed by qualified personnel familiar with the system.
 - Perform maintenance and "back-ups" of the TCS.

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M.3.3 Performance Time Frames


The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire), within which the Concessionaire must complete the required maintenance, repair or replacement work to Toll Booth and Plaza system, element, component, or appurtenance:

TABLE M.3.3.1

Toll Booth and/or Plaza Component, Element or System	Maximum Time Duration
Toll Booth and Plaza Signage	16 Hours
Toll Booth Gates	24 Hours
Toll Booth and Plaza Lighting	16 Hours
Toll Plaza Collection Equipment	8 Hours
Toll Plaza Canopies	7 Days
Toll Booth Units	2 Days
TCS and UPS	4 Hours

The following table establishes the minimum frequency that a particular maintenance operation is to be performed.

TABLE M.3.3.2



Maintenance to be Performed	Minimum Frequency of Occurrence
<u>Toll Booth Cleaning:</u> - Cleaning Booth Signs and Windows - Emptying of Litter Receptacles	3 Times Per Week Daily

M.3.4 Acceptance Criteria

Toll Plaza and Toll Booth maintenance work will be considered acceptable when the following criteria are met or exceeded:

- General:
 - The inventory and history record is current and complete.
 - The Toll Booths and the areas surrounding the Toll Plaza present a clean, tidy and neat appearance.
- Toll Booth and Plaza Signage:
 - The toll rate signage is current, updated with changes in rate schedule, and are well placed.

- The Toll Booth toll payment message process signs are well illuminated, functioning properly, clean, legible, and free of all defects.
- Toll Booth Gates:
 - The Automatic Coin Machine and Toll Booth stop/go gates and AutoExpreso lanes are functioning properly, are free of all defects and damage, and do not present an unsafe condition.
 - The Toll Booth Lane open/closed gates are free of damage and defects.
- Toll Booth and Plaza Lighting:
 - Toll Plaza and Toll Booth lighting is providing the proper illumination; functioning as intended; free of damage and defects; free of burnt-out bulbs; and does not create an unsafe condition.
 - The lane status, driver stop/go lights, AutoExpreso signs, and the lane opened/closed lighting are functioning properly, and are free of defects, burnt-out bulbs, and damage.
- Toll Booth and Plaza Collection Equipment:
 - All toll collection equipment, components, elements, and systems are properly functioning and free of defects and damage.
- Toll Plaza Canopies:
 - The canopies are free of defective roofing, deficient drainage, loose or missing bolts, cracked welds, loss of paint and section, deformation, eccentricity or rotation about an axis, and other indications of weakened support.
 - The connection and support of the illuminated guidance signs are secure and free of loose connections, buckled members, excessive corrosion, and other damage.
- Toll Booth Units:
 - All windows are free of leaks, poor wind seals, not scratched or clouded, and provide good visibility.
 - All booth doors close properly, seat on the weather-seal, and have properly functioning locks.
 - All communications equipment, including the intercom and the emergency signal devices are in proper working order, and functioning as intended.
 - All ventilation and air conditioning equipment are properly operating.

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- Toll Collection System (TCS) and Uninterruptible Power Supply (UPS):
 - The TCS and the UPS are fully operational.
 - Maintenance and “back-ups” of the TCS are being performed on a regular basis.

- Lane Capacity Ability
 - The three (3) types of lanes within the Toll Roads should have the ability to accommodate the following approximate through put capacities, in vehicles per hour (vph) unless weather or geometrical conditions warrant otherwise:
 - ILR: approximately 350 vph
 - AutoExpreso (channalized) approximately 1,800 vph
 - AutoExpreso (Free Flow- approximately 2,400 vph

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M.4 Additional Requirements for Toll Plaza Maintenance

M.4.1 Inventory and History Record

The Concessionaire must develop, maintain, and keep current a complete and detailed inventory and history record of all Toll Plaza and Toll Booth equipment, components, systems, and appurtenances, and must keep an ample supply of replacement parts available on-site. The inventory and history record must include the following at a minimum:

- Type, make, model, age, installation date and location of every toll booth component and element.
- Chronological history of all repairs/replacements including a brief note of what the change was (i.e. replaced treadle, repaired light curtain, etc.).

M.4.2 Toll Booth and Plaza Signage

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The requirements for inspecting, cleaning, repairing, relocating and replacing signage within the Toll Roads related to the Toll System are discussed in Volume I, Chapter K, "Signs and Signage Systems Maintenance".

The Concessionaire's maintenance staff must make it a habit to regularly observe sign conditions and illumination while patrolling the Toll Roads, and any damaged, non- functioning lights or impaired visibility must be reported for repair.

Any toll regulatory signs that are placed by the Concessionaire to inform motorists of the penalties for toll evasion must be approved by PRHTA, and must be inspected, cleaned, replaced or modified as necessary, and maintained in the same manner as discussed herein and as specified in Volume I, Chapter K, "Signs and Signage Systems Maintenance".

M.4.3 Toll Plaza Gates

Malfunctioning gates or AutoExpreso Lanes must be reported by the toll attendants since they can pose a safety concern to Toll Road users. Toll gates that continually malfunction or have impacted vehicles must be locked in the open/up position and disconnected/deactivated from operations until repaired.

M.4.4 Toll Booth and Plaza Lighting

The lighting maintenance and replacement requirements, including lamp replacement and requirements for electrical systems, are specified in Volume I, Chapter L, "Lighting and Electrical System Maintenance".

Toll Booths and Plaza lighting must be maintained as discussed above. All lighting fixtures that present unsafe conditions, such as the presence of smoke or excessive heat, that flicker or are dark, or that demonstrate high current draw, must be repaired.

Toll attendants are to visually inspect all lighting within and around the Toll Booths and Plazas including toll payment process lights; driver stop-and-go lights; etc.; during each shift and must report all defects for repair.

M.4.5 Toll Booth and Plaza Collection Equipment

The accuracy, functionality and operation of toll collection equipment including, but not limited to, the treadles, vehicle light curtains, etc., must be verified by the Concessionaire daily, by comparing traffic axle counts with the toll collection reports and vehicle classification device data. Malfunctioning toll collection equipment must be regarded as deficient components that affect productive services, and therefore must be repaired. If proper operation cannot be restored within this time frame, the affected toll plaza lane can remain closed, and traffic diverted to one of the remaining plaza lanes until such time as repairs are complete.

M.4.6 Toll Plaza Canopies

The toll plaza canopies must be inspected annually in the same manner as any component of the Toll Road Facilities, in accordance with Volume II, Chapter L, "Annual State of the Toll Roads and Capital Improvement Program Reports". The integrity of the roofing system and all architectural elements, the security of the cladding system, the functioning of the drainage system and downspouts, and the operation of the electrical and lighting systems must be inspected and repaired when found deficient.

The canopy frame and foundations will require an independent inspection and performance evaluation by the Concessionaire's Puerto Rico Licensed Professional Engineer.

M.4.7 Toll Booth Units

All toll plaza booths must be inspected annually in accordance with Volume II – Operations and Procedures Manual, Chapter L, "Annual State of the Toll Roads and Capital Improvement Program Reports".

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N.1. Definitions

Electrical Systems: Systems, elements and components that are contained in Facilities, and which supply, distribute and function using electricity. These systems include, but are not limited to substations, meters, wiring, service panels, individual circuits, generators, transformers, lighting, motor control units, back-up generators and systems, emergency lighting, etc.

Facility: The buildings, houses, and garages within the Toll Roads that contain administrative, support and logistical services; and the equipment, components, elements and systems that are housed within in each such location.

Fire Protection Systems: Systems, elements and components that are intended to assist in the prevention and suppression of fire. These systems include, but are not limited to, fire extinguishers, exit signage, fire alarms, sprinkler systems, carbon monoxide detectors, heat sensors, smoke detectors, etc.

Life Safety Systems: Systems, elements and components that are contained in facilities, and which promote health, safety, and life preservation. These systems include, but are not limited to, communication systems; security systems; fire suppression and prevention systems; and medical prevention and attention stations; etc.

Mechanical Systems: Systems, elements and components that are contained in facilities and that supply and distribute ventilation and climate control. These systems include, but are not limited to, HVAC systems and components, thermostats, boilers, combustion dampers, air handling units, fresh air intakes, ductwork, return fans, zone dampers, exhaust fans, chillers/condensers, pumps, etc.

Plumbing Systems: Systems, elements and components that are contained in facilities, and that supply, distribute and provide potable water, or dispose of wastewater. These systems include, but are not limited to, valves, piping, water heaters, water storage tanks, faucets, toilets, sinks, showers, booster pumps, ejector pumps, sanitary piping, hot/cold water piping, etc.

Preventive Maintenance: Services required to maintain a facility and its components, equipment, and systems at the original design standards throughout their intended life span, including periodic and scheduled inspections, adjustment, calibration, cleaning, replacement of parts and minor repairs to restore equipment to normal function.

Security Systems: Systems, elements and components which promote safety and security of the people and facilities from outside parties. These systems include, but are not limited to, alarms, cameras, monitor stations, intercoms and radios, access control, etc.

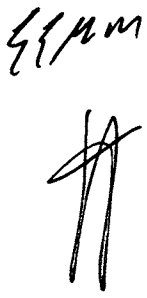
Uninterruptible Power Supply (UPS): Power supplies that operate in parallel with the electric utility sources and supply their load without interruption when and if the utility source fails. Such power supplies must be utilized to meet the operating needs of the computers and critical elements of the Toll Collection System (TCS) and Open Road Tolling Systems (ORT).

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N.2. References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

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- Design Directives, PRHTA
 - Standard Specifications for Road and Bridge Construction, PRHTA
 - "International Building Code (IBC 2003)", ICC.
 - "National Fire Codes", NFPA.
 - "National Electrical Code", NFPA.
 - "International Mechanical Code", IMC.
 - "National Plumbing Code, ANSI.
 - "Uniform Plumbing Code", WPOA.
 - "Uniform Heating and Cooling Code", WPOA.
 - "Boiler and Unfired Pressure Vessel Code, ASME.
 - "Chimneys, Fireplaces and Vents Code", NFPA.
 - Americans with Disabilities Act (ADA)", U.S. Department of Justice.
 - Occupational Health and Safety Act (OSHA) Guidelines
 - OSHA Publications List via Catalog or Website, OSHA (Website: <http://www.osha.gov/pls/publications/pubindex.list>).
 - Standards, Specifications and Regulations as applicable, from the following organizations:
 - National Electrical Manufacturers Association (NEMA).
 - American Waterworks Association (AWWA).
 - American National Standards Institute (ANSI).
 - American Society for Testing and Materials (ASTM).
 - Federal Communications Commission (FCC).
 - Underwriters Laboratory (UL).
 - Original Equipment Manufacturer's (OEM) specifications, Maintenance Manuals, Handbooks, Procedures Guides, etc. as applicable for all installed equipment, systems and components.

N.3. Policy for Performing Facility Maintenance Work

N.3.1. Objective

The objective of Facility Maintenance is to ensure that all Facilities within the Toll Roads and the components, elements and systems located within such Facilities are properly maintained in such a manner that they remain safe, habitable, and continually operational in their functions of supporting the Toll Roads.

Presently the Toll Road Facilities consist of Administration Buildings, which have public restrooms and a public service area, and General Maintenance Facilities at each Toll Plaza.

Facilities require maintenance; repairs due to weather damage, wear and breakage, age, and other use-related factors; emergency maintenance; preventative maintenance; retro- fittings; and replacements due to age and obsolescence.

In addition, effective Facility Maintenance requires management of inventory; physical assets; workforce; building systems; equipment operation; inspection and repair by qualified personnel; and protocols for tracking and fulfilling work.

N.3.2. Responsibility of Concessionaire

To meet the requirements of this Chapter, the Concessionaire must engage in practices to ensure that all Facilities as well as their components, elements and systems remain continually operational, secure, clean, sound, and in all ways safe and suitable for use. This requires that the Concessionaire carry out its obligations in accordance with this Chapter in a manner that maintains and/or improves the condition and functionality of the Facilities; and prevents unforeseen breakdowns.

With the Toll Roads being open on a continual basis without interruption, the Concessionaire is responsible for all Facilities to remain in full and constant operation, and all staff, equipment, systems, components, and resources are required to support the Facilities without fail. All repair, replacement and maintenance work must be scheduled, staged, and preplanned so as not to adversely impact or impair the operation of the Facilities, Toll Road users or the Toll Collection System, or to cause undue exposure of Toll Road employees.

To ensure compliance with the objectives and requirements of this Chapter, the Concessionaire must incorporate sound and established Facility Maintenance practices; and must perform preventative maintenance strategies to ensure that the equipment service continues to function reliably.

The Concessionaire must perform Facility Maintenance, inspection and work activities at a frequency that ensures uniform and consistent compliance with all PRHTA, Commonwealth and Federal regulations and the requirements specified within this Chapter.

The Concessionaire must engage qualified, bonded and/or licensed personnel to service, operate, inspect, and repair the systems within the Facilities.

All materials and construction requirements for Facilities Maintenance work performed by the Concessionaire must conform to the appropriate and applicable requirements of the Reference Documents listed in Section N.2 of this Chapter.

Once a particular maintenance repair has been started, the work must continue during consecutive working days as weather permits until a thorough, complete, and workmanlike repair has been achieved.

Work on the Facilities, and the elements, components, systems, and appurtenances housed within each Toll Road Facility that must be performed by the Concessionaire includes, but is not limited to, the following:

• General:

- Create and maintain an inventory and history record of all Facility equipment, elements, components, systems and appurtenances.
- Ensure that only qualified, certified, licensed and/or well-trained personnel perform work to these items, especially to sensitive, proprietary and complex equipment and systems.
- Coordination with all utilities and services including, but not limited to, electric, gas, fuel, telephone, sewer, sanitary and water.
- Ensure that the work areas are left in a manner that presents a clean and tidy appearance.

• Building Exteriors:

Generally: Ensure that the Facility exteriors are maintained so to preserve the integrity of the exterior building envelopes; ensure the safety of the Facility and its occupants and visitors; and maintain a positive image of the Toll Roads.

- Foundations: Ensure that visible components of foundations and supported elements are inspected where settlement conditions are found and repaired as instructed by a Licensed Professional Engineer in the Commonwealth of Puerto Rico. In addition, all visible surfaces should be maintained free of cracks, seepage, scaling, spalling, corrosion, deterioration, or efflorescence.
- Exterior Walls: Ensure that the walls are free of corrosion, spalls, cracks, misalignment, rust, peeling, blistering and other such defects and deficiencies; and that all bolts, clips, rivets, nails, and other fasteners are properly attached and secure.
- Exterior Walls: Ensure that the masonry wall facades are free of cracks, broken masonry units, open mortar joints, efflorescence, and deterioration and correct all suspected moisture infiltration.
- Flagpole: Ensure that the flagpole remains free of rust, corrosion, deterioration, and remains well secured.

- Roofing: Ensure that roofing is free of all surface's bare spots, blistering, splits, cracks, ridging, loose laps and seams, punctures, missing fasteners, and general deterioration.
- Roofing: Ensure that all flashing, counter flashing, copings, seals, roof penetration points, around roof top HVAC equipment, and parapet wall roofing terminations are free of leaks, cracks, punctures, and deterioration.
- Roofing: Ensure that roofing drains adequately so that it remains free of ponding, staining and debris collection.
- Roofing: Ensure that roof ventilation systems provide continual airflow, prevent condensation, and prevent icing at the eaves and roof edges.
- Gutters: Ensure that all gutters and downspouts are free of leaks, obstructions, rust and corrosion, and function as intended. Ensure that downspouts discharge directly into drains or onto rainwater splash blocks or impervious surfaces to lead water away from face of building, as intended.
- Exterior Doors: Ensure that all doors are free of leaks, drafts and air gaps; all hinges, closers, locksets, and other hardware or components operate as intended; and all door frames and panels are secure and properly set.
- Garage Doors: Ensure that all door panels are free of defects and deficiencies; frames and panels are secure and properly set; and springs, cables, door openers and other hardware operate as intended.
- Windows: Ensure that all windows are free of breaks, leaks, voids and non-operational components.
- Surface Finishes: Ensure that all exterior paints and coatings are free of flaking, blistering, chalking and other deterioration.
- Sealants: Ensure that joint sealants, weather-protection sealants and draft-stopping sealants are intact and functioning as intended.
- Signs: Ensure that all signs and sign components are free of rust, corrosion and deterioration, and are well secured.

• Building Interiors:

- Interior Floors: Ensure that all floor coverings are clean, free of trip and slip hazards, and replaced or repaired when worn.
- Walls and Partitions: Ensure that all walls are free of cracks, penetrations, water damage, faded or damaged coverings, and all other damage that might be either aesthetic or structural. Ensure that cracked tiles of tiled surfaces are replaced and that joints which are functionally or visually deteriorated are re-grouted.

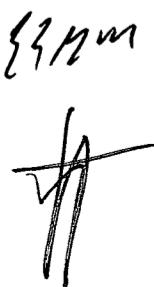
- Toilet Partitions: Ensure that partitions are securely mounted, free of damage and corrosion, correctly aligned so that doors operate without binding, and that hardware operates as intended. Ensure that toilet accessories and mirrors are securely mounted, free of damage and operate as intended.
- Interior Doors: Ensure that all doors frames and panels are secure and properly set; and all hinges, closers, locksets, and other hardware or components operate as intended.
- Interior Windows: Ensure that all windows are free of breaks and non-operational components.
- Ceilings: Ensure that the drywall ceilings, suspended ceiling, and other types of ceilings are firmly attached and secure; and remain free of all cracks, water damages, and other deficiencies.
- Built-in Fixtures: Ensure that worktops, vanity tops, cabinets, lockers and other built-in fixtures are free of damage, doors and drawers operate smoothly and cabinet hardware operates as intended.

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• Mechanical Systems:

- HVAC Controls: Ensure that all thermostats, automatic control valves and dampers, diffusers, control units, etc. are inspected, tested, maintained, repaired and replaced as required to maintain space temperature set point and operation of all HVAC systems.
- HVAC Distribution System: Ensure that all of the HVAC distribution components and systems, including ductwork, grills, registers, volume dampers, supply, return fans, exhaust systems, etc., are inspected and tested; free of rust, corrosion, damage, or defects; and replaced or repaired as required to maintain system operation.
- HVAC Cooling Units: Ensure that all cooling units provide trouble free operation to maintain space temperature set points. Also ensure that all HVAC equipment such as air handling units, unitary air conditioning units, split system air conditioning units, etc., are inspected and tested. Maintenance of this equipment requires inspection of associated hydronic and refrigerant coils, gas fired furnaces, condenser coils, and supply fans, return fans, exhaust fans, etc. Additionally terminal equipment such as air terminal units, etc., will require inspection and testing. All equipment or equipment component must be free of damage, deterioration and non-functional items replaced. All equipment must conform to all applicable codes and regulations as noted in Section N.2 of this Chapter. Equipment must be kept clean and continually operational at all times.

- Plumbing Fixtures: Ensure that all plumbing fixtures, including sinks, toilets, showers, spigots, drains, faucets, drinking fountains, etc., remain free of leaks, are clean, remain unclogged, and are free of damage and defects that affect their function and operation. Replace any damaged plumbing fixture or associated components that are beyond repair.
- Plumbing Hot Water Heaters: Ensure that all hot water heaters are free of leaks, corrosion, malfunctions and defects that would impair or interrupt the intended service. If mixing valves are installed any temperature sensors are required to be checked to meet the applicable Code required at the discharge temperature.
- Plumbing Pumping Systems: Ensure that all ejector pumps, sewage pumps, sump pumps, water pumps, portable-dewatering pumps, submersible pumps and all other pumps within the Facilities function as intended, and are fully capable of operating as intended when required.
- Domestic Water Piping System: Ensure that all supply and pipelines including anti-siphon devices are free of leaks, damage, corrosion and deterioration; and are well secured. Ensure that backflow preventer(s) is/are present and operational on all lines that allow a hose hookup. Ensure the piping insulation and labels are installed and are in good condition, and repair/replace any damaged insulation.
- Sanitary and Vent System: Ensure that the sanitary and vent piping systems are free of any clogs. Repair or replace any damaged piping and ensure that all clean-outs are kept accessible and are sealed.

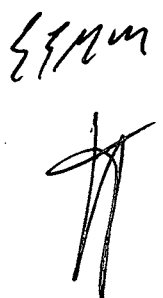
 • Electrical Systems

- Electrical Supply and Distribution: Ensure that all wiring, raceways, unit substations, panel boards, circuits, receptacles, switches, etc., or other items that distribute or supply electricity to systems or items within the Facilities conform to all applicable codes and regulations; are free of "short", loose connections, defects and damage; are clearly identified and marked; are secured as required to prevent unwarranted entry; and are properly attached and secured at all times.
- Electrical Lighting: Ensure that all lighting provides the proper illumination for the function intended; is secured in its place; conforms to all applicable codes and regulations; is free of burnt-out or malfunctioning bulbs; is free of broken, damaged or defective reflectors, fixtures, or lenses; and is free of loose and faulty wiring.
- Electrical Motor Control Units: Ensure that all operations both to and from the Motor Control Units provide the proper volts and amperage; function and supply the equipment in the correct order and manner; are free of defects and deficiencies; and provide full operating capacity when required.

- Facility Services:

- Grounds Maintenance: Ensure that with respect to the grounds around each Facility within the Toll Roads, landscaping and cleaning is performed in accordance with the requirements stated in Volume I – Maintenance Manual, Chapter E, “Landscape and Roadside Maintenance”.
- Housekeeping: Ensure that all portions, areas and rooms of each Facility are cleaned at least daily to remove trash; sanitize and disinfect bathrooms and locker rooms; and restock bathroom amenities.
- Pest Control: Ensure that pest control is performed, monitored and maintained if and when required; the remains of the traps properly disposed; and the source of the problem is located and corrected.

- Life Safety:

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- Communication Systems: Ensure that all telephones, intercoms, radios systems, mobile communication base stations, and all other communication systems that are housed or originate in a Facility are maintained, repaired, tested, inspected, and replaced so that they remain in full and continual operation, as applicable.
 - Fire Suppression, Fire Alarm and Precaution Systems: Ensure that all fire alarms, sprinkler systems, heat sensors, smoke detectors, carbon dioxide detectors, fire extinguishers, call buttons, exit signs, emergency lighting, and all other fire suppression and precaution items are fully charged and replaced on a determined schedule; conform to all applicable codes, laws and regulations; are free of defects, deficiencies and malfunctions; and are inspected, tested, maintained, repaired and replaced so that they remain ready for proper operation when required.
 - Medical Prevention and Attention Stations: Ensure that all medical prevention and attention stations are inspected, replenished, updated and clearly located at all times. These items include, but are not limited to, first-aid kits, emergency contact signage, eye wash stations, safety showers, etc.
 - Security Systems: Ensure that all systems that provide for the safety of the Concessionaire's staff, the public, equipment and Facilities are maintained, inspected, tested, repaired and replaced so as to provide full and continual operation. These security systems include, but are not limited to, cameras, monitoring stations, access control, surveillance, alarms, etc.

- Emergency Power Supply System:

- An Uninterrupted Power Supply (UPS) system located in each Toll Road Facility Toll Plaza Building, and provides power to the Electronic Toll Collection System (ETC) and Open Road Tolling System (ORT) 24 hours a day, 365 days a year. In order to ensure that this service is provided without interruption a back-up power supply should be present at each location. The Concessionaire must inspect, test, maintain, repair and if required replace or supplement the back-up power supply so that if a power interruption does occur, the ETC and ORT will continue to operate and function.

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N.3.3. Performance Time Frames

The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire), within which the Concessionaire must complete the required maintenance, repair or replacement work to Facility and/or its systems, equipment, elements, components or appurtenances:

TABLE N.3.3.1


Facility Component, Element or System	Maximum Time Duration
<u>Building Exterior:</u> -Exterior -Exterior Walls -Flag Pole -Foundations -Garage Doors -Gutters -Roofing -Signs -Windows	1 Day 2 Weeks 7 Days 7 Days 8 Days 4 Weeks 5 Days 1 Week 7 Days
<u>Building Interiors:</u> - Ceilings - Interior Doors - Interior Floors - Interior Windows - Walls and Partitions	2 Weeks 7 Days 2 Weeks 1 Week 4 Weeks
<u>Mechanical Systems:</u> - HVAC - Plumbing	8 Hours 12 Hours
Electrical Systems	8 Hours
<u>Life Safety:</u> Communication Systems Fire Suppression and Precaution Medical Prevention and Attention Security Systems	2 Hours 2 Hours 4 Hours 1 Hour
Emergency Power Supply System	Immediate (Initial Response)

N.3.4. Acceptance Criteria

Facility maintenance work will be considered acceptable when the following criteria are met or exceeded:

- General:
 - The inventory and history record is current and complete.
 - The work areas inside and outside of the Facilities present a clean, tidy and neat appearance.
- Building Exteriors:
 - Exterior Doors: All exterior doors are free of leaks, drafts, voids; all hinges, closers, locksets, and other hardware or components operate as intended; and all door frames and panels are secure and properly set.
 - Exterior Walls: All exterior walls are structurally sound; do not present any safety hazards; are free of corrosion, spalls, cracks, misalignment, rust, peeling, blistering, and other defects and deficiencies; all bolts, clips, rivets, nails, and fasteners are secure; and all masonry wall facades are free of cracks, broken masonry units, open mortar joints, efflorescence, and deterioration.
 - Flag Pole: The flag pole is free of rust, corrosion, deterioration, and is secure.
 - Foundations: The foundations are free of all settlement, deflection, expansion, or contraction conditions; and all cracks, seepage, scaling, spalling, corrosion, deterioration, and efflorescence has been repaired
 - Garage Doors: All door panels are free of defects and deficiencies; frames and panels are secure and properly set; and springs, cables, door openers and other hardware operate as intended.
 - Gutters: All gutters and downspouts are free of leaks, obstructions, rust and corrosion, and function as intended.
 - Roofing: All roofing is free of all bare spots, blistering, splits, cracks, ridging, loose laps and seams, punctures, missing fasteners; all flashing, counter flashing, copings, seals, roof penetration points, and parapet wall roofing terminations are free of leaks, cracks, punctures and deterioration; the roofing drains adequately so that it remains free of ponding, staining and debris collection; and the roof ventilation provides continual airflow, prevents condensation and prevents icing at the eaves and roof edges.
 - Windows: All windows are free of breaks, leaks, voids and non-operational components.
 - Signs: All signs are free of rust, corrosion, deterioration, and are well secured.

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- Building Interiors:

- Ceilings: All ceilings are firmly attached and secure; and remain free of cracks, water damages and other deficiencies.
- Interior Doors: All doors frames and panels are secure and properly set, and all hinges, closers, locksets, and other hardware or components operate as intended.
- Interior Floors: All floor coverings are clean, free of trip and slip hazards, and replaced or repaired when worn.
- Interior Windows: All windows are free of breaks and non-operational components.
- Walls and Partitions: All walls are free of cracks, penetrations, water damage, faded or damaged coverings, and all other aesthetic and structural damage.
- Public Restroom: All fixtures, toilets, sinks are clean, sanitized; hand-dryers function properly; all supplies are replaced so as to maintain an ample supply; floors, walls and mirrors are clean; area is properly ventilated; and toilet partitions function properly and are free from graffiti.

- Mechanical System:

- HVAC Controls: All thermostats, automatic control valves and dampers, diffusers, control units, etc., have been inspected, tested, maintained, repaired and replaced as required to maintain space temperature set point and operation of all HVAC systems.
- HVAC Distribution System: All HVAC distribution components and systems, including ductwork, grills, registers, volume dampers, supply, return fans, exhaust systems, etc., have been inspected and tested; free of rust, corrosion, damage, or defects; replaced or repaired as required to maintain system operation.
- HVAC Cooling Units: All heating and cooling units are operating trouble free to maintain space temperature set points. All HVAC equipment such as air handling units, unitary air conditioning units, etc. have been inspected and tested. All associated hydronic and refrigerant coils, gas fired furnaces, condenser coils, supply fans, return fans, exhaust fans, etc., has been inspected. Additionally, terminal equipment such as duct mounted heaters, furnaces; air terminal units, unit heaters, etc., have been inspected and tested. All equipment or equipment components are free of damage, deterioration, and non-functional items have been replaced. All equipment conforms to all applicable codes and regulations. Equipment is clean and continually operational.

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- Plumbing Fixtures: All plumbing fixtures, including sinks, toilets, showers, spigots, drains, faucets, drinking fountains, etc., are free of leaks, are clean, remain unclogged, and are free of damage and defects. Damaged plumbing fixture or associated components beyond repair have been replaced in kind.
- Plumbing Hot Water Heaters: All hot water heaters are free of leaks, corrosion, malfunctions and defects. Mixing valves are properly installed and temperature sensors meet the required code discharge temperature.
- Plumbing Pumping Systems: All ejector pumps, sewage pumps, sump pumps, water pumps, portable-dewatering pumps, submersible pumps, and all other pumps are functioning as intended, and are fully capable of operating as intended when required.
- Domestic Water Piping System: All supply and pipelines, including anti-siphon devices, are free of leaks, damage, corrosion and deterioration; and are well secured. Backflow preventer(s) is/are present and operational on all lines that allow a hose hookup. Piping insulation and labels are installed, and in good condition.
- Sanitary and Vent System: All sanitary and vent piping systems are free of any clogs; no damaged piping is present; and all clean-outs are accessible and sealed.

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- Electrical Systems:

- Electrical Supply and Distribution: All electrical supply and distribution items conform to all applicable codes and regulations; are free of "shorts", loose connections, defects and damage; are clearly identified and marked; and are secured to prevent unwarranted entry.
- Electrical Lighting: All lighting provides the proper illumination; fixtures are secure; conforms to all applicable codes and regulations; is free of burnt-out or malfunctioning bulbs; is free of broken, damaged or defective reflectors, fixtures, or lenses; and is free of loose and faulty wiring.
- Electrical Motor Control Units: All Motor Control Units provide the proper power supply; conveys the proper function commands to the equipment in the correct order and manner; are free of defects and deficiencies; and provide full operation.

- Facility Services:

- Grounds Maintenance: All grounds around each facility are neatly landscaped and clean.
- Housekeeping: All portions, areas and rooms of each facility are cleaned, disinfected and restocked with supplies daily.

- Pest Control: Pest control is being performed, monitored and maintained when required; the remains of the traps are being properly disposed; and the source of the problem has been corrected.
- Life Safety:
 - Communication Systems: All communication systems are being maintained, repaired, tested, inspected, and replaced so that they remain in full and continual operation.
 - Fire Suppression, Fire Alarm and Precaution Systems: All fire suppression and precaution systems are being fully charged and replaced; conform to all applicable codes, laws and regulations; are free of defects, deficiencies and malfunctions; are being inspected, tested, maintained, repaired and replaced so that they remain ready for proper operation when required.
 - Medical Prevention and Attention Stations: All medical prevention and attention stations have been inspected, replenished, updated and are clearly located.
 - Security Systems: All security systems are being maintained, inspected tested, repaired and replaced to provide full and continual operation.
- Emergency Power Supply System:
 - All back-up generators have been inspected, tested, maintained and repaired or replaced that if a power interruption does occur, the ETC will continue to operate and function.

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N.4. Additional Requirements

N.4.1. Inventory and History Record

The Concessionaire must obtain and store all Operations and Maintenance Manuals, OEM guidelines, and manufacturer's specifications in a log and file for all equipment contained within the Facility so that they can be referred to for specific maintenance requirements.

Blueprints and line schematics must be preserved, or developed if missing or incomplete, for each MEP system, showing all outlets, appliances, motors, panels, etc. for easier maintenance and repairs.

The Concessionaire must develop, maintain, and keep current a complete and detailed inventory and history record of all Facility equipment, components, systems, and appurtenances, and must keep an ample supply of replacement parts available on-site. The inventory and history record must include the following at a minimum:

- Type, make, model, age, installation date and location of each and every toll booth component and element.
- Chronological history of all repairs/replacements including a brief note of what the change was (i.e. replaced furnace, repaired boiler curtain, replaced alarm system, etc.).

N.4.2. Building Exteriors

Any improvement or maintenance required must meet all applicable Federal and Commonwealth Codes, Ordinances and Laws, and all work must be undertaken in accordance with all applicable permit requirements as necessary. All improvements must be made to current requirements at the time of the improvement.

N.4.3. Building Interiors

Any improvement or maintenance required must meet all applicable Federal and Commonwealth Codes, Ordinances and Laws, and all work must be undertaken in accordance with all applicable permit requirements as necessary. All improvements must be made to current requirements at the time of the improvement.

All lighting and interior electric repairs or replacements must be made in accordance with current Federal and Commonwealth codes, ordinances, and Laws in effect at the time of the repair.

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N.4.4. Mechanical Systems

Any improvement or maintenance required must meet all applicable Federal and Commonwealth Codes, Ordinances and Rules, and all work must be undertaken in accordance with all applicable permit requirements as necessary. All improvements must be made to current requirements at the time of the improvement.

N.4.5. Electrical Systems

Any improvement or maintenance required must meet all applicable Federal and Commonwealth Codes, Ordinances and Laws, and all work must be undertaken in accordance with all applicable permit requirements as necessary. All improvements must be made to current requirements at the time of the improvement.

N.4.6. Services

Special attention should be provided to the aesthetic and cleanliness values of the ground and services within the Toll Roads.

All Pest control services must be performed in accordance with all current Federal and Commonwealth codes, ordinances and Laws in effect at the time of the service.

N.4.7. Life Safety & Security

Any improvement or maintenance required must meet all applicable Federal and Commonwealth Codes, Ordinances and Laws, and all work must be undertaken in accordance with all applicable permit requirements as necessary. The Concessionaire must remain well-informed of the latest life safety and security requirements and maintain current life safety and security features along the Toll Roads.

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O. OPEN ROAD TOLLING SYSTEMS MAINTENANCE

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O.1 Definitions

AutoExpreso System: The trade name of the current Electronic Toll Collection System employed by PRTA as of the date of the Toll Road Concession Agreement.

Commercial Back Office (CBO): The commercial system that processes the information received from the Transactional Back-Office (TBO) and generates and transmits the reports to the banking system.

Document Management System (DMS): A tool to store and maintain all information related to maintenance and operation of the highway.

Management of Operation and Maintenance System (MOMS): The management system for all operations and maintenance actions carried out on the road.

Reporting System (RES): RES is the system for building and presenting reporting of operations and activities.

Roadside System (RSS): It identifies and includes the set of all electronic toll systems installed on the highway, controlling the traffic, identifying the vehicle, and reading the tag.

Tag: See Transponder.

Transponder: It is an element on board vehicles to pay toll fees on an Open Road Toll.

Transactional Back-Office (TBO): TBO is a central system that gathers all transactions received from the Toll Points, processes all information received, sends acknowledge and configuration tables, and supervises the correct run of the system at every Toll Point.

Toll Point (TP): It means the physical gantry and the RSS with all its elements to get the needed information to achieve the toll transaction.

Toll Zone (TZ): The Toll Zone is the section of the highway to be tolled and it could be composed by one or more Toll Points and all the technical infrastructure needed to communicate with the TBO.

Open Road Tolling Systems (ORT): It is composed the by the Toll Zones of the Toll Roads and the TBO.

Uninterruptible Power Supply (UPS): Power supplies operate in parallel with the electric utility sources and supply their load without interruption when and if the utility source fails. Such power supplies must be utilized to meet the operating needs of the computers and critical elements of the Toll Zone.

O.2 References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- "International Building Code", IBC.
- "Manual on Uniform Traffic Control Devices (MUTCD)", FHWA.
- "National Fire Codes", NFPA.
- "National Electrical Code", NFPA.
- "International Mechanical Code", IMC.
- "National Plumbing Code, ANSI.
- "Uniform Plumbing Code", WPOA.
- "Uniform Heating and Cooling Code", WPOA.
- "Chimneys, Fireplaces and Vents Code", NFPA.
- Americans with Disabilities Act", U.S. Department of Justice.
- National Standards, Specifications and Regulations as applicable, from the following organizations:
 - National Electrical Manufacturers Association (NEMA).
 - American National Standards Institute (ANSI).
 - American Society for Testing and Materials (ASTM).
 - Federal Communications Commission (FCC).
- Original Equipment Manufacturer's (OEM) specifications, Maintenance Manuals, Handbooks, Procedures Guides, etc. as applicable for all installed equipment, systems, and components.
- LEED (Leadership in Energy and Environmental Design) Guidelines.

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O.3 Policy for Maintenance of Open Road Tolling Systems

O.3.1 Objective

The objective of Open Road Tolling Systems Maintenance is to ensure that all elements, components, and systems are maintained in such a manner that they remain safe, functional, and continually operational in support of the toll collection activities along the Toll Roads, without posing hazards or undue delays to Toll Road users.

The Toll Zone and all its elements (including road pavement, safety elements, crash protection, gantries, lighting, loops, cameras, antennas, UPS, communication equipment, computers, lasers, and all appurtenances) require maintenance; repairs due to damage, wear, breakage and age; emergency maintenance; cleaning; retro-fittings; and replacement due to age and obsolescence.

O.3.2 Responsibility of Concessionaire

After substantial completion of the ORT Improvement Project and the Concessionaire Bidirectional Project

- PR-52 will include nine Toll Points: Montehiedra (1 TP), Caguas Norte (2 TP), Caguas Sur (2 TP), Salinas (2 TP), Rampa Salinas (1 TP), Juana Díaz Este (1 TP), Juana Diaz Oeste (1 TP) and Ponce (1 TP).
- PR-53 will include eight Toll Points: Ceiba (2 TP), Humacao Norte (2 TP), Humacao Sur (2 TP), Guayama (2 TP) and Hucar (2 TP).
- PR-66 will include six Toll Points: Plaza Carolina (2 TP), Carolina Norte (1 TP), Carolina Sur (1 TP) and Rio Grande (2 TP).
- PR-20 will include two Toll Points: Guaynabo Sur (2 TP).

In order to meet the requirements of this Chapter, the Concessionaire must engage in practices to ensure that all Toll Zone components, elements, systems and appurtenances are continually operational, secure, clean, sound, and in all ways safe and suitable for use. This requires that the Concessionaire carry out its obligations in accordance with this Chapter in a manner that maintains and/or improves the condition and functionality of the Toll Zones.

All the equipment and resources required in supporting the operation of the Toll Zones must be provided without fail by the Concessionaire. All repair and replacement work must be scheduled, staged and preplanned so as not to adversely impact traffic movement or safety or the accuracy and validity of the toll collection procedures, or cause undue exposure of Toll Road employees to traffic.

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The Concessionaire must perform Open Road Tolling Systems maintenance, inspection and work activities at a frequency that ensures uniform and consistent compliance with all PRHTA, manufacturer recommendations and the requirements specified within this Chapter.

All materials and construction requirements for Toll Zones work performed by the Concessionaire must conform to the appropriate and applicable requirements of the Reference Documents noted in Section O.2 of this Chapter.

Once a particular maintenance repair has been started, the work must continue during consecutive working days as weather permits until a thorough, complete and workmanlike repair has been achieved. The Concessionaire must establish and maintain all required traffic control and protection.

Work on Toll Zone elements, components, systems, and appurtenances within the Open Toll Road Systems that must be performed by the Concessionaire includes the following:

- General:
 - Create and maintain an inventory and history record of all Toll Zones equipment, elements, components, systems, and appurtenances.
 - Ensure that only qualified, certified, licensed and/or well-trained personnel perform work to these items, especially to sensitive, proprietary, and complex equipment and systems.
 - The maintenance of the Toll Points lanes is included with the requirements stated within Volume I, Chapter B, "Roadway Maintenance". The Concessionaire must be aware that these lanes will require additional attention because the defects that could be induced in pavement could affect the performance of the Open Road Tolling system.
- Toll Point and Toll Zone:
 - Check that the gantries are, itself and its foundations, in the correct and safe state.
 - Check that the Toll Point and Toll Zone have all its elements in the correct state of operation and adjustment. Includes lights, cameras, strobes, antennas, lasers, surface condition, and anything below, supported, or on the gantry, including associated cabinets.
- Toll Point and Toll Zone Lighting:
 - The maintenance of the Toll Points and Toll Zone lighting is considered to be included with the requirements stated in Volume I, Chapter L, "Lighting and Electrical System Maintenance", with the exception of the following:

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- Ensure that all Toll Points and Toll Zone lighting provides the proper illumination; functions as intended; remains free of damage and defects; remains free of burnt-out bulbs; and does not create an unsafe condition for Toll Road employees and users.
- Toll Point and Toll Zone Equipment:
 - Ensure that all toll collection equipment is properly functioning; free of defects and damage; and regularly inspected for continual operational ability. These components, elements, and systems that either comprise or interact with the collection of tolls include, but are not limited to, the following:
 - Loops, detectors and readers.
 - Cameras
 - Lasers
 - Flashes & Strobe lights
 - UPS and all elements of power involved (transformers, switches, cables, etc.)
 - Distribution Panel
 - Communication Systems, data, and voice if any.
 - Emergency Alarms
 - Cabinets
 - CCTV System
 - Computers in general
- Transactional Back-Office (TBO):
 - Ensure that the TBO remain operational at times, with periods of "down-time" limited only to those necessary for repair or maintenance work.
 - Ensure that all repair and maintenance work is performed by qualified personnel familiar with these particular systems.
 - Perform maintenance and "back-ups" of the TBO.
- Uninterruptible Power Supply (UPS):
 - Ensure that the UPS remain operational at times, with periods of "down-time" limited only to those necessary for repair or maintenance work.
 - Ensure that all repair and maintenance work is performed by qualified personnel familiar with these particular systems.

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O.3.3 *Performance Time Frames*


The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire), within which the Concessionaire must complete the required maintenance, repair or replacement work to Toll Point, Toll Zone and TBO, system, element, component, or appurtenance:

TABLE M.3.3.1

ORT Component, Element or System	Maximum Time Duration
Priority One: Any failure that will result in loss of ability to accurately collect revenue or audit the system.	3 hours
Priority Two: Any failure of a system component or software that will result in a degradation of system performance or result in the loss of redundancy in a key component but does not qualify as a Priority One event.	6 hours
Priority Three: Minor failure of the equipment, network, or software or an indication that would result in a malfunction or degradation of the system.	24 hours
TBO (including interface with CBO) in Disaster Event (*)	3 days

(*) TBO (3 days) make the reference to the maximum time allowed for the transactions to reach the TBO. Note that PRHTA requires that no data/transactions is lost.

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O.3.4 Acceptance Criteria

Toll Zone and Toll Gantry maintenance work will be considered acceptable when the following criteria are met or exceeded:

- General:
 - The inventory and history record are current and complete.
 - The Toll Zones presents a clean, tidy, and neat appearance.
- Toll Points and Toll Zone:
 - All the Toll Points and Toll Zone equipment, components, elements, and systems are properly functioning and free of defects and damage.
 - Gantries are free of defective foundations and fixtures, poor drainage, loose or missing bolts, cracked welds, rust, loss of paint and section, deformation, tilt, warpage, eccentricity, or rotation about an axis, and other indications of weakened support.
- Toll Point and Toll Zone Lighting:
 - Toll Point and Toll Zone lighting provides the proper illumination; functioning as intended; free of damage and defects; free of burnt-out bulbs; and does not create an unsafe condition.
- Transactional Back-Office:
 - All the TBO equipment, components, elements, and systems are properly functioning and free of defects and damage.
- Uninterruptible Power Supply (UPS):
 - The UPS, distribution panel, connectors, cable, and all elements needed to give power to ORT system, are fully operational.
 - The Concessionaire must ensure that the backup is working properly.
- Lane Capacity Ability:
 - Each lane of the Toll Points should have the ability to accommodate a minimum through put of 2,400 vehicles per hour.

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O.4 Additional Requirements for Open Road Tolling Systems Maintenance

O.4.1 Inventory and History Record

The Concessionaire must develop, maintain, and keep current a complete and detailed inventory and history record of all Open Road Tolling equipment, components, systems, and appurtenances, and must keep an ample supply of replacement parts available on-site. The inventory and history record must include the following at a minimum:

- Type, make, model, age, installation date and location of every Toll Point, Toll Zone and TBO component and element.
- Chronological history of all repairs/replacements including a brief note of what the change was (i.e. replaced antenna, repaired camera, etc.).

O.4.2 Open Road Tolling Maintenance

The Concessionaire must maintain the entire Open Road Tolling System covering, among others, the following tasks:

- Toll Point and Toll Zone maintenance assuring the capture of all the vehicles, its correct classification, LPN and Tags passing through the Toll Points.
- TBO (primary and secondary sites) maintenance assuring data validation and automated transaction record administration, processing, and packaging.
- Interfaces maintenance to the CBO for transactions data exchange (including images), list management, and toll rate management.
- Facilities maintenance of the gantries and technical shelters (cabinets).
- Electrical and mechanical maintenance at the gantries.
- Maintenance of access control systems, fire detection and suppression systems at the TBO Primary and Secondary site.
- Ventilation and cooling (HVAC) system maintenance at the TBO Primary and Secondary site.
- Ensure the continuity of the electrical supply in the Toll Zones, their gantries, and at the TBO sites.
- Ensure the good state of gantries and cabinets, and their foundations and fixings.
- Network communications maintenance
- Power wiring and cable ducting maintenance.

O.4.3 Toll Point and Toll Zone Lighting

The lighting maintenance and replacement requirements, including lamp replacement and requirements for electrical systems, are specified in Volume I, Chapter L, "Lighting and Electrical System Maintenance".

All lighting fixtures that present unsafe conditions, such as the presence of smoke or excessive heat, that flicker or are dark, or that demonstrate high current draw, must be repaired or replaced.

Toll attendants are to visually inspect all lighting within and around the Toll Zones including toll collection process lights, lights inside cabinets, etc. during each shift, and must report all defects for repair.

O.4.4 Open Road Tolling Equipment

The accuracy, functionality and operation of open road tolling equipment including, but not limited to, cameras, lasers, strobe, antennas, computers, etc., must be verified by the Concessionaire on a daily basis. Malfunctioning Open Road Tolling equipment must be regarded as deficient components that affect productive services, and therefore must be repaired.

O.4.5 Transactions Records

Once the transaction is generated at the Toll Point, it must comply with the following requirements:

- Create a unique transaction ID for each and every vehicle passing through a Toll Point.
- Send the transaction data in a format that is compatible with the requirements set forth in the existing ICD or another format defined by the CBOS operator.
- Capture images for every single vehicle passage.
- Assign images (LPN & overview) to their associated toll transactions.
- Prevent or filter duplicate transactions.
- Prevent transactions from being assigned with a higher or lower vehicle classification.
- Prevent transactions from being generated incorrectly.
- Prevent transactions from being assigned to the wrong AutoExpreso user.
- Prevent tag read from being assigned to the wrong transaction.
- Prevent vehicle images from being assigned to the wrong transaction.
- Automatically sent to the TBO for final validation and formatting.

The TBO processes the transactions, which must be classified as:

- "Tag-LPN" transaction.
- "Tag" transaction
- "LPN" transaction

- "Technical Loss" (neither tag nor vehicle identified). Note that these transactions must not be sent to the CBO.

O.4.6 Open Road Tolling Key Performance Indicators

The Concessionaire, among others, must meet or exceed the following monthly Key Performance Indicators (KPI):

- Toll Points Availability $\geq 99.4\%$
 - The extent to which all Tolling Points are fully available to generate and process Transaction Records and send them to the TBO in a day, for each Toll Point.
- Toll Points Performance $\geq 99.5\%$
 - The number of vehicles passing a Tolling Point that generates a Transaction Record in a day, for each Tolling Point based on a PRHTA-selection sample, in a month.
- TBO Availability $\geq 99.5\%$
 - The percentage of time that the TBO is fully available for exchanging data with CBO.
- ANPR Capture Rate $> 92.5\%$
 - Passages with ANPR Reading through the total number of vehicles based on a PRHTA-selection sample.
- ANPR Correct Read Rate $> 90\%$
 - Total number of ANPR correct read divided by the total number of transactions during the month.
- Capture Rate $> 97\%$
 - The proportion of vehicles equipped with a tag that result in a transaction record, per Tolling Point, in a month.
- Vehicle Framing Accuracy $\geq 97\%$
 - The proportion of vehicles passages where the number plate captured by the Tolling Point for a specific vehicle was correctly matched with the Tag for such vehicle, per Tolling Point, in a month.

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P.1. Definitions

Conduit or Duct: An enclosed tubular way for protecting wires and cables.

Closed-Circuit Television (CCTV): The video camera system used to provide surveillance of the roadway system.

Dynamic Message Signs (DMS): Signs that use electronics or mechanics to vary a visual word, number or symbolic display as traffic conditions warrant. Also known as Variable Message Signs (VMS) and Changeable Message Signs (CMS).

Dynamic Toll Lane (DTL): Ensures traffic flow using a dynamic toll adjusting rates according to traffic conditions, using video technology to identify crashes and communicates with drivers through electronic signs.

Electrical Systems: Systems, elements and components that are contained in facilities, and which supply, distribute and function by the use of electricity. These systems include, but are not limited to: substations, meters, wiring, service panels, individual circuits, generators, transformers, lighting, motor control units, back-up generators and systems, and emergency lighting.

ITS: Intelligent Transportation System necessary for monitoring the Toll Road's traffic flow and performance, detecting traffic and traffic operational conditions throughout the Toll Roads and clearly communicate relevant and useful travel information to user drivers.

Permanent Repair Time: Amount of time from initial discovery or report to the Concessionaire until the time permanent repairs are made.

Service Response Time: Amount of time from initial discovery or report to the Concessionaire until personnel are present at the required location.

Service Restoration Time: Amount of time from initial discovery or report to the Concessionaire until the time the system is fully operational again.

Traffic Management Center (TMC): Monitors and controls traffic and the road network. It communicates with ITS equipment and, in the future, Connected Vehicle Roadside Equipment (RSE) to monitor and manage traffic flow and monitor the condition of the roadway, surrounding environmental conditions, and field equipment status. It manages traffic and transportation resources in responding to, and recovering from, incidents ranging from minor traffic incidents through major disasters.

Uninterruptible Power Supplies (UPS): Power supplies that operate in parallel with the electric utility sources and supply their load without interruption when and if the utility source fails. Used to meet the operating needs of the computers and critical elements of the ITS.

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P.2. References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Design Directives, PRHTA
- Highway Design Manual, PRHTA
- Standard Drawings, PRHTA
- Standard Specifications for Road and Bridge Construction, PRHTA
- "An Informational Guide to Roadway Lighting", AASHTO.
- "Roadside Design Guide", AASHTO.
- "Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals", AASHTO.
- "ANSI Catalog of American National Standards", ANSI.
- "Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems", IEEE.
- "National Electrical Code", NFPA.
- "Title 33 Code of Federal Regulations – Part 118", U.S. Government Printing Office.
- "Real Time System Management Information Program", 23 CFR Part 511
- "Intelligent Transportation Systems Architecture and Standards", 23 CFR Part 940
- Regulations mandated by US Federal Government Agencies related to Transportation Systems Management and Operations (TSM&O), Intelligent Transportation Systems (ITS), Traffic Incident Management (TIM), Performance Measurement and/or any other regulations related to the management and operations of the transportation network.
- San Juan Metropolitan Area Intelligent Transportation Systems Regional Architecture

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P.3. Policy for Maintenance of ITS and DTL Systems

P.3.1 Objective

The objective of ITS and DTL maintenance is to ensure that all elements and components of ITS and DTL systems including, but not limited to, cameras, traffic sensors, variable message signs, computers, algorithms, etc.; as well as all highway systems including power, communication, signaling wiring, etc., are properly maintained and serviced so as to continuously function at superior reliability, and to reduce potential hazards to the safe and orderly movement of traffic.

The ITS and DTL and all elements thereof (including safety elements, crash protection, poles, lighting, loops, cameras, variable message signs, UPS, communication equipment, computers, and all appurtenances) require maintenance; repairs due to damage, wear, breakage and age; emergency maintenance; cleaning; retro-fittings; and replacement due to age and obsolescence.

P.3.2 Responsibility of Concessionaire

To meet the requirements of this Chapter, the Concessionaire must engage in practices to ensure that all ITS and DTL components, elements, systems and appurtenances are continually operational, secure, clean, and in all ways safe and suitable for use. This requires that the Concessionaire carry out its obligations in accordance with this Chapter in a manner that maintains and/or improves the condition and functionality of the ITS and DTL systems.

All the equipment and resources required in supporting the operation of the ITS and DTL systems must be provided without fail by the Concessionaire. All repair and replacement work must be scheduled, staged and preplanned so as not to adversely impact traffic movement or safety or the accuracy and validity of the traffic management procedures, or cause undue exposure of Toll Road employees to traffic.

The Concessionaire must perform ITS and DTL maintenance, inspection and work activities at a frequency that ensures uniform and consistent compliance with all PRHTA, manufacturer recommendations and the requirements specified within this Chapter.

All materials and construction requirements for Toll Road work performed by the Concessionaire must conform to the appropriate and applicable requirements of the Reference Documents noted in Section P.2 of this Chapter.

Once a particular maintenance repair has been started, the work must continue during consecutive working days as weather permits until a thorough, complete, and workmanlike repair has been achieved. The Concessionaire must establish and maintain all required traffic control and protection.

Work on toll road elements, components, systems, and appurtenances within the ITS and DTL systems that must be performed by the Concessionaire includes the following:

- General:
 - Create and maintain an inventory and history record of all ITS and DTL equipment, elements, components, systems, and appurtenances.
 - Ensure that only qualified, certified, licensed and/or well-trained personnel perform work to these items, especially to sensitive, proprietary, and complex equipment and systems.
 - The maintenance of the road lanes that could affect ITS or DTL systems performance is included with the requirements stated within Volume I, Chapter B, "Roadway Maintenance". The Concessionaire must be aware that these lanes will require additional attention because the defects that could be induced in pavement could affect the performance of the ITS or DTL systems.
- ITS and DTL equipped areas:
 - Check that the structures, poles or other supports are, itself and its foundations, in the correct and safe state.
 - Check that the ITS and DTL equipped areas have all its elements in the correct state of operation and adjustment. Includes lights, cameras, variable message signs, sensors, surface condition, and anything below, supported, or on the structures, including associated cabinets.
- ITS and DTL Lighting:
 - The maintenance of the ITS and DTL lighting is included with the requirements stated in Volume I, Chapter L, "Lighting and Electrical System Maintenance", with the exception of the following:
 - Ensure that all ITS and DTL equipped areas are provided with the proper illumination; functions as intended; remains free of damage and defects; remains free of burnt-out bulbs; and does not create an unsafe condition for Toll Road employees and users.
- ITS and DTL Equipment:
 - Ensure that all ITS and DTL equipment is properly functioning; free of defects and damage; and regularly inspected for continual operational ability. These components, elements, and systems that either comprise or interact with the traffic management and dynamic toll assignment include, but are not limited to, the following:

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- Loops.
- Variable Message Signs
- UPS and all elements of power involved (transformers, switches, cables, etc.)
- Distribution Panel
- Communication Systems, data, and voice if any.
- Emergency Alarms
- Cabinets
- CCTV System
- Computers in general

TMC Central Systems:

- Ensure that the ITS central system and the DTL central system remain operational at times, with periods of "down-time" limited only to those necessary for repair or maintenance work.
- Ensure that all repair and maintenance work is performed by qualified personnel familiar with these particular systems.
- Perform maintenance and "back-ups" of all TMC Central Systems.
- Ensure that all TMC Central Systems are inspected on a monthly basis and the maximum time to repair or replace all noted damage or deficiencies will be within the Performance Time Frames stated in Table P3.3.1 of this Chapter.


• Uninterruptible Power Supply (UPS):

- Ensure that the UPS remain operational at times, with periods of "down-time" limited only to those necessary for repair or maintenance work.
- Ensure that all repair and maintenance work is performed by qualified personnel familiar with these particular systems.

• Closed Circuit Television (CCTV) and ITS Systems:

- Ensure that all components are inspected monthly and the maximum time to repair or replace all noted damage or deficiencies will be within the Performance Time Frames stated in Table P3.3.1 of this Chapter.
- Replace the CCTV cameras and other ITS equipment with new cameras and new ITS devices every eight (8) years, or as required.

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P.3.3 Performance Time Frames

The following table establishes the maximum duration (measured from the time a deficiency is or reasonably should be detected by or reported to the Concessionaire), within which the Concessionaire must complete the completed the required maintenance, replacement or repair work to restore the functionality or operation of deficient ITS or DTL systems or components thereof (unless weather conditions limit material application):

TABLE P.3.3.1

ITS and DTL System	Maximum Time Duration
Priority One: Any failure that will result in loss of ability to accurately perform the traffic management of the Toll Road.	3 hours
- Priority Two: Any failure of a system component or software that will result in a degradation of system performance or result in the loss of redundancy in a key component but does not qualify as a Priority One event.	6 hours
- Priority Three: Minor failure of the equipment, network, or software or an indication that would result in a malfunction or degradation of the system.	24 hours

The following table establishes the minimum frequency that a particular operation is to be performed:

TABLE P.3.3.2

Operation to be Performed	Minimum Frequency of Occurrence
Inventory of ITS and DTL Systems	Yearly
CCTV Camera or another ITS equipment Replacement	Once every eight (8) Years

P.3.4. Acceptance Criteria

ITS and DTL maintenance work will be considered acceptable when the following criteria are met or exceeded:

- General:
 - The inventory and history record are current and complete.
 - The ITS and DTL areas presents a clean, tidy, and neat appearance.
- ITS and DTL areas:
 - All the ITS and DTL equipment, components, elements, and systems are properly functioning and free of defects and damage.
 - Structures and poles are free of defective foundations and fixtures, poor drainage, loose or missing bolts, cracked welds, rust, loss of paint and section, deformation, tilt, warpage, eccentricity, or rotation about an axis, and other indications of weakened support.
- ITS and DTL Lighting:
 - ITS and DTL areas lighting is provided by the proper illumination; functioning as intended; free of damage and defects; free of burnt-out bulbs; and does not create an unsafe condition.
- TMC Central Systems:
 - All the TMC systems, including ITS and DTL systems, equipment, components, elements, and systems are properly functioning and free of defects and damage.
- Uninterruptible Power Supply (UPS):
 - The UPS, distribution panel, connectors, cable, and all elements needed to give power to ITS and DTL systems, are fully operational.
 - The Concessionaire must ensure that the backup is working properly.

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P.4 Additional Requirements for ITS and DTL Systems Maintenance


P.4.1 Inventory and History Record

The Concessionaire must develop, maintain, and keep current a complete and detailed inventory and history record of all ITS and DTL equipment, components, systems, and appurtenances, and must keep an ample supply of replacement parts available on-site. The inventory and history record must include the following at a minimum:

- Type, make, model, age, installation date and location of each and every ITS and DTL component and element.
- Chronological history of all repairs/replacements including a brief note of what the change was (i.e. replaced antenna, repaired camera, etc.).

P.4.2 ITS and DTL Maintenance

The Concessionaire must maintain the entire ITS and DTL systems covering, among others, the following tasks:

- 
- ITS and DTL field equipment maintenance assuring the performance and functionality of all them.
 - ITS Central System maintenance assuring all its performance and functionalities needed for the traffic management and operational tasks at the TMC through all the Toll Roads.
 - DTL Central System maintenance assuring all its performance and functionalities needed for the operational tasks at the TMC through the DTL section, including among others, the opening/closing of the DTL access gates, the dynamic toll rate assignment, the posting of the toll rate at the tariff message sign, and others.
 - Interfaces maintenance with other systems like PRHTA TMC, TCS or others.
 - Facilities maintenance of the structures and technical shelters (cabinets).
 - Electrical and mechanical maintenance at the road.
 - Maintenance of access control systems, fire detection and suppression systems at the TMC site.
 - Ventilation and cooling (HVAC) system maintenance at the TMC site.
 - Ensure the continuity of the electrical supply in the field and at the TMC.
 - Ensure the good state of structures, poles and cabinets, and their foundations and fixings.
 - Network communications maintenance
 - Power wiring and cable ducting maintenance.

P.4.3 ITS and DTL Area Lighting

The lighting maintenance and replacement requirements, including lamp replacement and requirements for electrical systems, are specified in Volume I, Chapter L, "Lighting and Electrical System Maintenance".


All lighting fixtures that present unsafe conditions, such as the presence of smoke or excessive heat, that flicker or are dark, or that demonstrate high current draw, must be repaired or replaced.

P.4.4 ITS and DTL Equipment

The accuracy, functionality and operation of ITS and DTL equipment including, but not limited to, CCTV cameras, variable message signs, vehicle detection system, Bluetooth travel time systems, wireless communication systems, fiber optic communications systems, UPS, and other related equipment, must be verified by the Concessionaire on a daily basis. Malfunctioning ITS and DTL equipment must be regarded as deficient components that affect productive services, and therefore must be repaired.

P.4.5 ITS and DTL Key Performance Indicators

The Concessionaire, among others, must meet or exceed the following monthly Key Performance Indicators (KPI):

- 
- ITS and DTL Equipment Availability $\geq 99.5\%$
 - The extent to which all ITS and DTL equipment in the field are fully available to perform its functionalities.
 - ITS and DTL Systems Availability $\geq 99.5\%$
 - The extent to which all ITS and DTL systems are fully available to perform its functionalities.

P.4.6 Additional ITS and DTL on PR-18 and PR-22 outside the Toll Road Limits

The Concessionaire must maintain ITS and DTL Equipment on PR-18 and PR-22 that fall outside of the limits of the Toll Roads and needed for the Dynamic Toll Lane (DTL) operation. These assets include CCTV cameras, vehicle detectors, dynamic message signs, and fiber optic communications infrastructure (cables, conduits, pull boxes, etc.). These assets are in PR-18 from kilometer 0.0 up to the limits of the Toll Roads, in the northbound ramp from PR-18 towards PR-22, and in PR-22 km 2.4.

The Concessionaire must maintain the DTL access gates and auxiliary components (controllers, communication devices, etc.) located at PR-1, and PR-21 that fall outside of the limits of the Toll Roads and needed for the Dynamic Toll Lane operation. These assets are at the PR-1 and PR-21 DTL entrance/exit ramps.

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Schedule 15B
Operating Standards (Volume II)
(See attached.)

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GOVERNMENT OF PUERTO RICO
PUERTO RICO PUBLIC PRIVATE PARTNERSHIPS AUTHORITY

TOLL ROAD CONCESSION AGREEMENT PR-20, PR-52, PR-53 & PR66



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VOLUME II OF III OPERATIONS AND PROCEDURES MANUAL

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A.1. Purpose of Manual

The Operating Standards are comprised of three (3) separate and unique Volumes, as follows:

- Volume I – Maintenance Manual
- Volume II – Operations & Procedures Manual
- Volume III – Environmental Management Manual

In general, the Operating Standards provide guidelines and criteria to the Concessionaire regarding the standards, specifications, policies, procedures, permits, and processes that apply to the operation, maintenance, rehabilitation, toll collection of, and improvements to the Toll Roads.

The purpose of this Manual (Volume II of the 3 Volume set of Operating Standards), is to provide guidelines and criteria to the Concessionaire on the basic development and submission of the operational plans discussed in the respective Chapters. The Concessionaire must create each Plan to maintain constant operation of the Toll Roads of the highest quality, consistent with best practices and the terms and conditions of the Toll Road Concession Agreement (as defined in Volume I).

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A.2. Staffing Identification

The Concessionaire is solely responsible for each employee, Vendor, Contractor, agent or Affiliate of the Concessionaire and each such Person's actions while on or within the Toll Roads or performing work by or on behalf of the Concessionaire with respect to the Toll Roads or pursuant to the Toll Road Concession Agreement. The number of employees required shall be determined by the needs of the Concessionaire to fulfill its maintenance, operation, and contractual obligations consistent with the terms and conditions of the Toll Road Concession Agreement.

The Toll Roads are a 24 hour-a-day, 365 days-per-year operation. For this reason, the Concessionaire must recognize the need to have variable work shifts, employees, supervisors and personnel so as to maintain constant and consistent operations of the highest management practices and terms and conditions of the Concession Agreement.

A.2.1. Essential Staff

The Concessionaire must identify which staff is essential to the operation of the Toll Roads. These persons may alternate based upon seasonal variations, operation requirements, weather conditions, etc. The essential staff personnel must be "response-ready" and contactable by the Commonwealth, if and when an event warrants.

A.2.2. Non-Essential Staff

The Concessionaire must employ persons who perform job duties as needed, but may not be responsible for responding to an event or situation. These employees, while important to the continual functionality of the Toll Roads, may be deemed as non-essential staff.

A.2.3. Shift Organization

The Concessionaire must create work shifts that preserve the continual and consistent operation of the Toll Roads. Staff requirements must be based upon both the actual and anticipated needs of the Toll Roads.

A.2.4. Essential Staff Personnel Matrix

The Concessionaire must create, maintain, submit to PRHTA, and update as appropriate, a personnel matrix of the Concessionaire's essential staff that includes, but is not limited to, the following:

- Employee Name
- Title
- Position/Job Classification
- Basic Job Responsibilities
- Contact Information

- Cell Phone; Mobile Phone; or Pager Number
- E-Mail (if applicable)
- Home Phone Number

A.3. Interagency Coordination

The Concessionaire shall be aware that the operation of the Toll Roads requires coordination with multiple agencies, including but not limited to, systems, departments, municipalities, commissions, and organizations (collectively for purposes of this Chapter, "Agencies"). The Concessionaire must establish, maintain, and provide coordination with all Agencies that pass under, over, are adjacent to, or are impacted by the Toll Roads.

It is the Concessionaire's sole responsibility to coordinate with the Agencies so that the continual operation of the Toll Roads is not disrupted in any manner, and that the Concessionaire's operation of the Toll Roads does not unduly impact the Agencies. The Concessionaire must be aware of, and must incorporate accordingly into plans, the following Agencies at minimum:

A.3.1. Commonwealth Municipalities & Other Agencies

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The Concessionaire shall be aware that the Toll Roads reside within the limits of many Commonwealth municipalities. As a result, the Toll Roads pass over; beneath; run adjacent to; and collect and distribute traffic to and from various Commonwealth and local routes within the numerous Commonwealth municipalities.

Any improvement within the Toll Roads that adds travel lanes; widens the traveled way; modifies or reconfigures interchanges; creates a new interchange; etc., shall be coordinated and plans shared with all local metropolitan planning organizations, regional planning commissions, or other similar named or acting Agencies.

A.3.2. Puerto Rico Highways and Transportation Authority (PRHTA)

The Concessionaire shall be aware that the Toll Roads have many interchanges, overpasses and underpasses with other Commonwealth routes that are maintained and operated by PRHTA.

The Concessionaire must coordinate and gain approval of its work efforts at all of those locations in accordance with all existing agreements and guidelines required by PRHTA and in accordance with the Concession Agreement. The Concessionaire must be aware that it is responsible in filing and obtaining all required "Highway Occupancy Permits" or similarly named or functional permits when the Concessionaire's work is within the Toll Roads' Right-Of-Way.

Any improvement within the Toll Roads that adds travel lanes; widens the traveled way; modifies or reconfigures interchanges; creates a new interchange; etc., shall be coordinated and approved by the Commonwealth and PRHTA. In addition, all such improvements must be formally submitted so that applicable Projects are

included in the Commonwealth's Transportation Improvement Plan.

A.3.3. Army Corps of Engineers & U.S. Coast Guard

The Concessionaire shall be aware that the Toll Roads span over and have supports in numerous water bodies across the Commonwealth, over which the Army Corps of Engineers and/or the U.S. Coast Guard retain jurisdictional rights as a navigable waterway. As such, the Concessionaire must coordinate its work efforts in those water bodies with the appropriate Army Corps of Engineers and U.S. Coast Guard Office.

A.3.4. Railroads

The Concessionaire shall be aware that the Toll Roads span over and beneath Rights-of-Way owned and operated by Railroad Companies, in which those railroads retain certain rights. In addition, the Concessionaire must also be aware that the Puerto Rico Department of Transportation and Public Works (DTPW) retains jurisdictional rights over all rail-highway crossings. The Concessionaire must coordinate its work efforts in those locations with PRHTA and DTPW, as well as each Railroad Company. If the Concessionaire's work requires entry onto land owned or operated by a Railroad Company, the Concessionaire must obtain the appropriate permission, right-of-entry, insurance certificates, or other matters as necessary and required.

A.4. Vehicle Permits

PRHTA maintains the right to approve and permit the passage of oversized and overweight vehicles along the Toll Roads. However, the Concessionaire will be solely responsible to justify, review, and verify and communicate work with PRHTA when approval of such passage is required. Upon receipt of such requests, the Concessionaire must first conduct all engineering verifications for safe passage, then as required by PRHTA, work with and communicate with the appropriate PRHTA and DTPW departments so that the permit application can be issued if all criteria are adequately met. The Concessionaire is responsible for verifying that all vehicles that request or attempt passage through the Toll Roads are withheld from passage until an approved and current permit is produced.

The Concessionaire must inform PRHTA if structures within the Toll Roads become deficient or restricted for such purposes, as well as the timetable for conformance, which timetable must be consistent with the Operating Standards. The Concessionaire must also coordinate and communicate with PRHTA and DTPW once the permitted vehicle has passed through the Toll Roads, so as to close the permit process.

A.5. Submission and Approval of Plans

Chapters B through L of this Volume require the submission of annual plans and reports by the Concessionaire to the Commonwealth and for Approval of such plans and reports by PRHTA. The Concessionaire must submit the initial versions of all such plans and reports to PRHTA for Approval no later than 120 days after the Closing Date, unless otherwise agreed to by the PRHTA and the Concessionaire. The Concessionaire must thereafter submit all such plans and reports annually for Approval, as required by Chapters B through L of this Volume. PRHTA shall Approve or deny annually each such plan or report within 120 days after submission by the Concessionaire. If PRHTA denies a submitted plan or report, the Concessionaire shall submit a revised plan or report to PRHTA no later than 30 days' notice of such denial.

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B.1. Definitions

American Society for Quality (ASQ): The U. S. National organization for standards that promotes quality in process, methods, and the environment.

Best-practice: A level of performance that is equal-to-or-better-than the performance commonly attributed to top-tier highway systems.

Continuous Improvement: The recurring activity employed to increase the ability to fulfill requirements of the asset and the Operating Standards.

International Organization for Standardization (ISO): The International organization for standards that promotes quality in process, methods and the environment. Complying organizations prepare written procedures according to an established model.

Level of service (LOS): As defined by the "Highway Capacity Manual" and "AASHTO - Geometric Design of Highways and Streets", which lists the following levels of service: A = Free flow, B = Reasonably free flow, C = Stable flow, D = Approaching unstable flow, E = Unstable flow, and F = Forced or breakdown flow.

Program: The Concessionaire's entire operation of the Toll Roads.

Project: An isolated chain of events that have a beginning and an end. The result is a material improvement to PR-20 or PR-52 or PR-53 or PR-66 or PR-9 or all of them.

Stakeholder: Those entities or individuals, public or private, who care, directly or indirectly, about the quality of the operation of the Toll Roads.

Value Engineering (VE): A structured, guided team exercise aimed at developing the best solution for a problem. A certified Value Engineer usually lead the team.

Zero Defects: The attitude that operating defects are entirely preventable through training, procedures, planning, self-monitoring, and peer observations.

Zero Injuries: The attitude that injuries are entirely preventable through training, procedures, planning, self-monitoring, and peer observations.

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B.2. References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- ANSI/ISO/ASQ Q9000-2005 "Quality Management Systems – Fundamentals and Vocabulary", ASQ.
- ANSI/ISO/ASQ Q9001-2000 "American National Standard: Quality Management Systems – Requirements", ASQ.
- ANSI/ISO/ASQ E14001-2004 "American National Standard: Environmental Management Systems – Requirements with Guidance for Use", ASQ.
- ANSI/ISO/ASQ E14004-2004 "American National Standard: Environmental Management Systems – General Guidelines on Principles, Systems and Support Techniques", ASQ.
- "A Policy on Geometric Design of Highways and Streets", AASHTO.
- "Highway Capacity Manual", TRB.
- "Traffic Engineering Handbook", ITE.

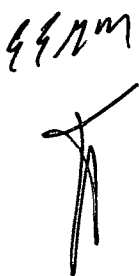
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B.3. Policy for Program Management System Plan

B.3.1. Objective

The Program Management System Plan establishes the Concessionaire's management approach used in its operations and maintenance of the Toll Roads. The objective of the Program Management Plan is to describe the overall program structure: deliverables; related management plans and procedures and the methods utilized by the Concessionaire to plan, monitor, control and improve the Toll Roads. The Program Management Plan must be a "living" and dynamic document that is to be updated and submitted to PRHTA for Approval on an annual basis, or more frequently if necessary or if required by PRHTA, and must reflect all organizational changes, lessons learned, and advances in the methodologies that occur on the Toll Roads throughout the life of the Concession Agreement.

The Program Management System Plan is the formal guide that articulates the manner and specifics of how the Toll Roads will be operated and managed. The Program Management System Plan must:

- 
- Establish the comprehensive operating expectations that the Commonwealth has of the Concessionaire.
 - Create a realistic plan to meet the administrative, technical and coordination requirements of operating and maintaining top-tier toll roads.
 - Establish a rigorous and orderly framework in accordance with sound business and management practices.
 - Promote teamwork among the participants in the operations of the Toll Roads.
 - Act as a reference for the Concessionaire's senior managers.
 - Guide the actions of the Concessionaire's staff, supervisors, and managers.
 - Provide the Commonwealth with a clear statement of the authority and responsibility of each member of the Concessionaire's staff.
 - Present the methodology by which the Concessionaire will conduct non-normal operations.
 - List the types of formal communications required between the Concessionaire and the Commonwealth.
 - Establish the criteria for strategic and capital planning.
 - Develop a mechanism to inform PRHTA, in a timely manner, of significant problems that affect the users of the Toll Roads.

The Concessionaire must conduct all its work so that the Toll Roads are operated, maintained and managed as a safe, reliable, cost effective and valued toll road system at all times. The Concessionaire must consider, operate and manage the Toll Roads as one of the premier transportation systems in the world. This can only be accomplished if the Toll Roads remain as safe, non-stop, free-flowing roads

that offer reliable and enjoyable travel and services. These characteristics are further defined as follows:

- Safe: All the features of the Toll Roads place safety of its users and employees as a paramount concern at all times.
- Non-stop: The user travels freely through the Toll Roads without stoppages for construction or maintenance work necessary and that temporary obstructions are thoughtfully planned.
- Free flowing: The Toll Roads are operated in a continual condition that allows for unencumbered travel, within the posted speed limit, with reasonable ability for safe lane changes.
- Cost effective: The user perceives that the value of the trip on the Toll Roads is worth the expense. The Concessionaire must understand that the user makes the multi-dimensional value judgment based on ease of access, time saved over alternate routes, fuel saved over alternate routes, customer amenities, reduced driving decisions over alternate routes, demeanor of employee-customer contacts, safety, and visual interest throughout the corridor.
- Reliable travel and services: The user of the Toll Roads must always expect that the services provided by the Concessionaire are consistent and safe.

B.3.2. Responsibility of the Concessionaire

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It shall be the Concessionaire's responsibility to develop, write and implement the Program Management System Plan in accordance with the objectives outlined in this Chapter. This Chapter and its contents have been provided as a preparation guideline that addresses the *expected minimum* required criteria and is not intended to be all inclusive. The Plan must be updated and submitted annually and must receive Approval from PRHTA and, as appropriate, from all other governing authorities.

The Concessionaire must be aware in the creation, implementation, and management of the Program Management System Plan that the following goals are to be met:

- All phases of operations shall demonstrate active programs that promote "Zero Injuries", "Zero Defects" and "Continuous Improvement".
- The quality of all Toll Road user amenities shall be best practice.
- Toll Road safety considerations must be best practice.
- Toll Road user communication techniques must be best practice.
- Toll Road technology systems and equipment must be best practice.
- Construction traffic adjustments must be safe, logical, able to be clearly understood and implemented in the manner least disruptive to the travel experience.

B.3.3. Performance Periods

The following table establishes the minimum frequency that the Program Management System Plan is to be written and updated by the Concessionaire, submitted to PRHTA for Approval.

Plan	Minimum Frequency of Occurrence
Program Management System Plan	Yearly

B.3.4. Acceptance Criteria

The Program Management System Plan will be considered acceptable for a particular year when the Program Management System Plan has been written and updated by the Concessionaire in accordance with this Chapter, submitted to PRHTA and Approved by PRHTA .

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B.4. Program Management System Plan Preparation Requirements

The following is a general outline of the Concessionaire's responsibilities that must be included and addressed when creating or updating the Program Management System Plan. The outline is not intended to be all-inclusive, but rather, contains the *expected minimum* items that should be included and addressed in the Program Management System Plan.

The Program Management System Plan must include provisions for annual and periodic updates, training and supervision of staff and adherence to all policies and procedures.

B.4.1. Introduction

This section is to contain an introduction to the Program Management System Plan that includes a general description of the intent, vision and goals of the Program Management System Plan implemented and utilized by the Concessionaire.

At a minimum, this section is to contain the following sub-sections:

- Program Information
- Program Overview
- Key Program Events
- Objectives and Goals
- Vision Statement

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B.4.2. Management Organizational Structure

This section of the Program Management System Plan must describe the management and organizational structure of the Program. The organization includes Concessionaire personnel, contractors, subcontractors, Toll Road users, PRHTA and the Commonwealth. The description of each must include the role, involvement, and interface of each entity into and within the Program.

This section must also describe the roles and responsibilities of the Program personnel, including, but not limited to:

- Program Manager
- Contracts and Procurement Manager
- Engineering Manager
- Maintenance Manager
- Operations Manager
- Toll Collections and Operations Manager
- Finance Manager

- Planning Structure
- Traffic Control Operations Manager
- Quality Assurance Manager

This Section of the Program Management System Plan must also establish and define:

- How the Program and Program Management System Plan will be managed.
- What the organizational structure will be.
- What the distribution of authority and responsibility will be.

The Program Management System Plan must also contain sections addressing, but not limited to, the following:

- Management Approach: Definition of the basic management principles that will be used. Application of the principles of "Zero Injuries", "Zero Defects", and "Continuous Improvement" must be presented.
- Organizational Chart: Present an organization chart with enough detail to illustrate all staff levels and lines of communication.
- Function: Explain the functional responsibility for all major groups in the organization. Explain the responsibilities of key individuals by title.
- Audits: Explain the types of audits the Concessionaire will perform and receive.
- Training: Explain the role of staff training in the Concessionaire's operation. Explain the level of the required training and how it will occur.

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B.4.3. Management Plans

This Section of the Program Management System Plan must address a variety of management plans that address specific functions that the Concessionaire will conduct in its operation of the Toll Roads. The subsections include, but are not limited to, the following:

B.4.3.1. Communication

The intent of this section is to show the critical role communication, in its many dimensions, plays in a successful endeavor, and define the type of normal communication with the Commonwealth, PRHTA, stakeholders, and Toll Road users. This section must also describe how other plans required in the Operating Standards will be implemented in cases of emergencies.

B.4.3.2. Quality

The intent of this section is to show the importance of Quality Assurance (QA) and Quality Control (QC) in the overall operation of the Toll Roads and to indicate the Program Management System Plan will interface with the Quality Management System Plan that is required by Chapter C of this Volume II.

This section must also explain how the Program will seek International Organization for Standardization (ISO) certification or registration.

B.4.3.3. Strategic and Capital Planning

The intent of this section is to show the importance of planning in the operation and continuous improvement of the Toll Roads. This section must explain the processes, philosophies and criteria that will be employed in authoring the Annual Capital Improvement Program Report that is required by Chapter L of this Volume II.

The Program Management System Plan must also address and explain long-range goals in several categories, such as: roadway, facilities, toll collection, structures, maintenance, customer contact features, and technology, etc.

B.4.3.4. Program Management Controls

The intent of this section is to outline the Concessionaire's approach to the management of cost, scheduling, document control, and reporting. The primary purpose of program management controls is to establish clear cost and schedule criteria for the Program, to monitor status, to propose corrective action when required, and to ensure that pertinent information is communicated. The system may use web-based technologies. Where applicable, references should be made to the Quality Management System Plan that is required by Chapter C of this Volume II.

Individual subsections must be included that describe the following:

- Work Breakdown Structure (WBS): Description of how various levels of information for the Program and Projects will be managed and reported.
- Schedule Control: Description of how the Concessionaire schedules Projects. Special attention should be given construction schedules.
- Team Communication and Information Management: Description of how Project teams will communicate. Also, strategies and processes the Concessionaire will employ such as: project status reports; requests for information; team directories; meeting minutes; design information; project documentation, etc.
- Document Control: Description of how the Concessionaire will manage and administer Program and Project documents.

B.4.3.5. Procurement

The intent of this section is to describe how the Concessionaire will administer the procurement of materials, equipment, services, and consultants. The controlling regulations of the Commonwealth must be followed and must also be cited. This section must reference the applicable sections of the Quality Management System Plan required by Chapter C of this Volume II and the requirements described in Chapter K of this Volume II, "Design and Construction Requirements".

Individual subsections must be included that describe the following:

- Procurement Cycle: Description of how the Concessionaire will offer aprocurement cycle and discuss the functionality and responsible parties in the cycle.
- Change Orders: Description of how the Concessionaire will address change orders, and who handles which part of the process.
- Dispute Management: Description of how the Concessionaire will manage project work in order in minimize the potential for disputes. If a dispute arises, the Concessionaire will need to address how the dispute will comply with all applicable parts of the Concession Agreement and the Quality Management System Plan.

B.4.3.6. Design Management

The intent of this section is to describe the organization, responsibilities, criteria and functionality with the requirements of Chapter K of this Volume II, "Design and Construction Requirements".

Individual subsections must be included that describe the following:

- Organization: Description of how the Concessionaire will address the design process from concept to construction documents, to construction. Describe the functional titles within a design group and list the responsibilities of each title. State who establishes the design criteria and the budget. Describe how design is managed in general and, specifically, how designs are managed to a budget. Explain how peer reviews or constructability reviews will be performed.
- Design guidelines: Description of how the Concessionaire will develop and use design guidelines and standard specifications.
- Value Engineering (VE): Description of how the Concessionaire will employ value engineering into the Program.

B.4.3.7. Construction Management

The intent of this section is to describe the organization and responsibilities of the construction management function within the requirements of Chapter K of this Volume II, "Design and Construction Requirements".

Individual subsections must be included that describe the following:

- Organization: Description of how the Concessionaire will address the construction management process from pre-construction to final acceptance. Describe the functional titles within a construction management group and list the responsibilities of each title.
- Construction Management Elements: List and briefly describe files, documentation, procurement, change order control, communications and correspondence, coordination, cost control, schedule control, disputes, alternates/substitutions, shop drawings, progress documentation, payouts, reporting, inspections, commissioning, acceptance, turnover, close-out, warranties, bonuses, and liquidated damages.

B.4.3.8. Technology Plan

The intent of this section is to: (1) describe how the Concessionaire will apply existing technologies and methods to the initial structure of the Concessionaire's organization, and (2) present a plan on how to evaluate and apply future technologies and methods.

This section must be organized along the following technology groups: administrative; normal communication; emergency communication; revenue; traffic management, user experience, highway, bridge and related structures maintenance; building maintenance; design; construction; and customer contact.

B.4.3.9. Risk Management

The intent of this section is to have the Concessionaire explain how a risk profile is created, evaluated, and mitigated for each Project. Each risk profile should include, but not be limited to, the following risks assessments: customer safety after construction, construction safety, construction cost, customer acceptance, obsolescence, and environmental.

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C.1. Definitions

American Society for Quality (ASQ): The U. S. National organization for standards that promotes quality in process, methods, and the environment.

Best-practice: A level of performance that is equal-to-or-better-than the performance commonly attributed to top-tier highway systems.


Client-Support Control: The methods necessary to provide technical and product support by helping customers with set-up, and recording of events, complaints, comments and requests.

Continuous Improvement: The recurring activity employed to increase the ability to fulfill requirements of the asset and the Operating Standards.

Customer Satisfaction: The customer's (the Toll Road user) perception of the degree to which the customer's requirements have been fulfilled.

International Organization for Standardization (ISO): The international organization for standards that promotes quality in process, methods, and the environment. Complying organizations prepare written procedures according to an established model.

Program: The Concessionaire's entire operation of the Toll Roads.

 Project: An isolated chain of events that have a beginning and an end. The result is a material improvement to the Toll Roads.

Quality: The degree to which a set of inherent characteristics fulfills the requirements of the Operating Standards and the needs of the Toll Roads.

Quality Assurance: The portion of the Quality Management System that focuses on increasing the ability to fulfill quality requirements.

Quality Control: The portion of the Quality Management System that focuses on fulfilling the quality requirements.

Quality Management System or QMS: The process employed by the Concessionaire to direct and control its work organization with regard to quality.

Quality Objective: Something sought, or aimed for, related to quality.

Quality Planning: The portion of the Quality Management System focused on setting quality objectives at the highest level.

Quality Policy: The overall intentions and direction of the Concessionaire related to quality as formally expressed by Top Management.

Requirement: The need or expectation that is stated, generally implied or obligatory.

Stakeholder: Those entities or individuals, public or private, who care, directly or indirectly, about the quality of operation of the Toll Roads.

Top Management: The Concessionaire's person or group of people that directs and controls the organization at the highest level.

Value Engineering (VE): A structured, guided team exercise aimed at developing the best solution for a problem. A certified Value Engineer usually lead the team.

Zero Defects: The attitude that operating defects are entirely preventable through training, procedures, planning, self-monitoring, and peer observations.

Zero Injuries: The attitude that injuries are entirely preventable through training, procedures, planning, self-monitoring and peer observations.

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C.2. References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- "Standard Specifications for Road and Bridge Construction", PRHTA
- ANSI/ISO/ASQ Q9000-2005 "Quality Management Systems – Fundamentals and Vocabulary", ASQ.
- ANSI/ISO/ASQ Q9001-2000 "American National Standard: Quality Management Systems – Requirements", ASQ.
- ANSI/ISO/ASQ Q9004-2005 "American National Standard: Quality Management Systems – Guidelines for Performance Improvements", ASQ.

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C.3. Policy for Quality Management System Plan

C.3.1. Objective

The objective of the Quality Management System (QMS) is to create, maintain, implement, follow and update a set of policies, processes and procedures required for planning and execution in the core business area of organization on an annual basis. The Quality Management System Plan must integrate the various internal processes within the Concessionaire's organization and provide a process approach for project execution. The Quality Management System Plan further enables the Concessionaire to identify, measure, control and improve upon the various core business processes that will ultimately lead to improved business performance and provide the Commonwealth a means to measure the effectiveness of those processes, policies, and procedures.

The Concessionaire must understand that another main objective of the Quality Management System Plan is to establish "customer-related" processes in the form of policies and must implement processes and procedures for the following:

- Determination of requirements related to the products and services.
- Review of the requirements related to the product and services.
- Customer communication.

 The Concessionaire must also make the objective of its Top Management commitment to the following:

- The Quality Policy is appropriate to the purpose of the Concessionaire's organization.
- A commitment to comply with requirements and continually improve the effectiveness of the Quality Management System.
- Provide a framework for establishing and reviewing Quality Objectives.
- The Quality Management System Plan is communicated and understood within the Concessionaire's organization.
- The Quality Management System Plan is reviewed for continuing suitability.

The Quality Management System Plan must establish a system to assure compliance with established performance requirements including, but not limited to:

- Supplies and services that will be controlled for conformance.
- Methods for the prevention and detection of discrepancies and the subsequent corrective action provided.
- Standardize and control processes for document generation, storage, retrieval and distribution.
- Unification of all employees as members of the quality team.

- Promotion of innovation utilizing the idea of “Continuous Improvement”.
- Reduction of errors in all phases of the Concessionaire’s operation by promoting the idea of “Zero Defects” and “Zero Injuries”.

An ISO compliant QMS includes the following:

- Level 1 Documents - The commitment of Top Management to the principles of ISO by establishing policies in the areas required by the standard in five (5) components:
 - Quality Management System
 - Management responsibility
 - Resource management
 - Product and service delivery
 - Measurement, analysis, and improvement
- Level 2 Documents – Specific documented procedures in written procedures and/or process maps to implement all items included in Level 1 policies.
- Level 3 Documents – Specific work instructions for performing the tasks involved to performing the Level 2 procedures.
- Level 4 Documents - Specific forms, worksheets, checklists, etc. to record information and data providing “objective evidence” that the procedures and/or work instruction in the Level 2 and 3 documents were followed.

The Quality Management System Plan developed by the Concessionaire must include, at a minimum, all the points and requirements presented in this Chapter.

- Quality Management System Policy Manual (QMSPM): The purpose of this section of the plan is to establish the Level 1 Policy documents that provides Top Management’s requirements for management of quality.
- Quality Procedures Manual: The purpose of this section of the plan is to implement policies in the QMSPM through documented procedures in the form of written procedures and/or process maps that include “key points of control”, which is the Level 2 documents.
- Training: The purpose of this section of the plan is to present the specific and relevant training that everyone on the Concessionaire’s staff and selected contractors will undergo regarding Quality Management.
- Compliance Testing: The purpose of this section of the plan is to present the management cadre to be initiated and implemented by the Concessionaire in the Quality Management System Plan. While the Concessionaire’s Top Management team is the first-line compliance assessors (“auditors”), the Concessionaire may elect to contract with independent outside auditors.

The Concessionaire must be ISO certified in 9004 or updated versions, before the third anniversary of the Closing Date and must maintain such certification on a current basis throughout the Term.

C.3.2. Responsibility of the Concessionaire

The Concessionaire's Top Management must review the Quality Management System Plan, at planned intervals, to ensure its continuing suitability, adequacy, and effectiveness. This review shall include assessing opportunities of improvement and the need for changes to the Quality Management System, including the quality policy and quality objectives.

It is the Concessionaire's responsibility to develop, write and implement the Quality Management System Plan and its components as denoted in Table C.3.3.a and Table C.3.3.b. The contents of this Chapter have been provided as a preparation guideline. This guidance addresses the *expected minimum* required criteria and is not intended to be all-inclusive. The Quality Management System Plan must be updated and submitted annually to PRHTA for Approval.

C.3.3. Performance Time Limits

The following table establishes the minimum frequency that the Quality Management System Plan is to be written and updated by the Concessionaire, submitted to the Commonwealth and Approved by the Commonwealth.

Table C.3.3.a

Plan	Minimum Frequency of Occurrence
Quality Management System Plan	Yearly

In addition to the Quality Management System Plan, the following table establishes the minimum frequency that audits to such plan must be performed by the denoted party, and as appropriate submitted to PRHTA for Approval.

Table C.3.3.b

Audit Plan	Minimum Frequency of Occurrence
External Conformance Audit by the Commonwealth (2 nd Party) or Independent Auditor (3 rd Party)	Every Third Year
Internal Audit performed by the Concessionaire	Annually, 6 months after External Conformance or External Surveillance
External Surveillance Audit by the Commonwealth (2 nd party) or Independent Auditor (3 rd Party)	The 1 st and 2 nd Year after External Conformance Audit

C.3.4. Acceptance Criteria

The Quality Management System Plan will be considered acceptable for a particular year when the plan has been written and updated by the Concessionaire, and such plan and the audits described in Table C.3.3.b have been submitted to PRHTA and Approved by PRHTA.

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C.4. Quality Management System Plan Preparation Requirements

The following is a general outline of the Concessionaire's responsibilities that must be included and addressed when creating the Quality Management System Plan. The outline is not intended to be all-inclusive, but rather, contains the *expected minimum* items that should be included and addressed in the Quality Management System Plan.

The Quality Management System Plan must include provisions for annual and periodic updates, external audits, training and supervision of staff and adherence to all policies and procedures.

C.4.1. Quality Management Systems Policy Manual

The basic format of the manual should follow the below outline:

1.0 Scope

This Section should contain the following elements, as a minimum:

- General Scope and outline of the plan, including the purpose and year of the plan.

2.0 Introduction

This Section should contain the following elements, as a minimum:

- A statement that the Quality Assurance Manual is the top-tier document in the Quality Management.
- A brief statement of the overall functional intent of the manual.

3.0 Terms and Definitions

This Section should contain the following elements, at a minimum:

- Terms, definitions, abbreviations, and acronyms found within the plan.

4.0 Quality Management System

This Section should contain the following elements, at a minimum:

- This element must include controls of the Quality Assurance Manual with respect to issuance, revision control, and distribution.
- This element must include the Quality System that identifies, defines, and documents policies, procedures, and controls employed by the Concessionaire to ensure that the plan conforms to specified requirements and standards.

- This element must define the Quality System that will be utilized for the control of all documents. This shall include format, approval, issuance, revision, updates, and record retention.
- This element must outline the Quality System that will be utilized for data collection and analysis, including record retention; identify which records should be kept; establishment of responsibility for production and collection; and establishment of responsibility for indexing, filing, storage, maintenance and disposition of quality records.

5.0 Management Responsibility

This Section should contain the following elements, at a minimum:

- A statement of who on the Concessionaire's staff has the authority to prepare the Quality Assurance Manual.
- This element must include the Concessionaire's management responsibility and commitment as it relates to developing, maintaining, and monitoring the effectiveness of the Quality Management System.

6.0 Resource Management

This Section should contain the following elements, at a minimum:

- This element must define how the Quality System establishes the training and indoctrination of personnel, particularly those in the direct performance of activities affecting quality.

7.0 Product and Service Delivery

This Section should contain the following elements, at a minimum:

- This element must include the outline of the Quality System that will be utilized for soliciting proposals, managing submittals thereof, and reviewing contracts.
- This element must describe the Quality Management System that will be utilized to assure that designs, design documents, and other work products fulfill regulatory requirements and contractual requirements. In addition, this section must also describe in preparing, reviewing, approving, issuing, and revising project documents.
- This element must outline and describe the Quality System that will be utilized for approving suppliers, reviewing contract documents, verifying purchased products or deliverables, and handling claims. This element must define the purpose of the Client-Support Control that will be employed to confirm and maintain the usefulness of products and data supplied by the Commonwealth, as applicable.

- This element must outline the procedures that will be employed in the identification and traceability of construction products and materials.
- This element must define the controls and standards that will be employed for inspection and testing equipment.
- This element must define how the Quality System establishes handling, storing, preserving, and delivering materials.
- This element must define how the Quality System establishes a program to manage the operational procedures of a contract.
- This element must define how the Quality System will develop plans for handling emergency situations. The element must include communications, traffic adjustments, media relations, customer relations, mitigation, materials, equipment, and repairs; and be develop by the class of emergency.
- This element must define how the Quality System establishes the need for maintenance, defines the scope of the maintenance, and manages the maintenance process.
- This element must define how the Quality System establishes the standards for all customer contact situations, informs customers of changes to expected patterns, elicits customer feedback, and maintains a customer service function in various media.
- This element must outline the Quality System will be established for setting the methods of customer payments, collecting customer payments in its various forms, banking, accounting, transfers, and audits.

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8.0 Measurement, Analysis and Improvement


This Section should contain the following elements, at a minimum:

- This element must outline the process control activities that affect the quality of maintenance activities or construction.
- This element must outline the Quality System that will be utilized for ensuring all relevant maintenance and construction materials and products receive requisite inspection, testing, and reporting.
- This element must define the controls and reporting status that will be utilized during inspections.
- This element must outline the Quality System that will be utilized to control nonconforming materials or products.
- This element must define how the Quality System establishes corrective and preventive action mechanisms for correcting nonconforming situations as they pertain to products, materials, and services.

- This element must define how the Quality System will establish performing internal quality audits.
- This element must define how statistical methods will be developed to assess the development, progress, and effectiveness of the Quality Management System Plan.

C.4.2. Quality Procedures Manual (QPM)

The Quality Procedures Manual Section is the collection of finite, separate outlines of how to perform a task. The procedures mentioned in the Quality Management Systems Policy Manual, above, are top-level perspectives on the work. The procedures in the Quality Procedures Manual Section are the details of how to perform a task and its alternates; and are highly structured. The definition for each sub-section of the Quality Procedures Manual Section body should be in accordance with the following:

- 
- 1.0 Summary: Briefing statement of what is covered in the procedure. This section lists and hazards of the task and any person protective equipment required.
 - 2.0 References: Citations for academic, administrative or regulatory precedent.
 - 3.0 Equipment: Provide a detailed list.
 - 4.0 Procedures: Broken down phases or alternates which include detailed step by step instructions and the utilization of process maps.
 - 5.0 Documentation: Description of what must be recorded as a result of accomplishing or attempting to accomplish the task, including a list of task participants that may be part of the required documentation.
 - 6.0 Attachments: List of the relevant project-specific attachments.

C.4.3. Training

Training is a major component of a Quality Management System Plan. While most of this Section has specific details as described in the Quality Assurance Manual, this Section must present an overview and provide specific details on how the Concessionaire will evaluate the needs, conduct and annually re-train the staff on the Quality Management System Plan.

Training is an integral part of the Quality Management System and should not be treated as a stand-alone item by the Concessionaire or its Top Management. It is important that all personnel performing work affecting the quality of the Toll Roads are competent based on appropriate training, skills and experience. In particular, the procedures must address, at a minimum, competence, awareness, and training in the following areas:

- Determine the necessary competence for personnel performing work affecting the Toll Roads.
- Provide training or take other actions to satisfy these needs.
- Evaluate the effectiveness of action taken.
- Ensure that personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives.
- Maintain appropriate records of education, training, skill and experience.

C.4.4. Compliance Testing

Compliance testing is also a major component of a Quality Management System Plan. While most of this Section has specific details as described in the Quality Assurance Manual, this Section must present an overview, and provide specific details on how the Concessionaire will conduct auditing in compliance with the Quality Management System Plan.

Compliance testing must be included and covered in the Level 2 documents with specific procedures under the specific paragraphs of Section 7.0 and Section 8.0 of the Quality Management System Policy Manual. The Concessionaire must pay particular attention to the audit requirements stated in Table C.3.3.b.

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D.1. Definitions

Dynamic Message Signs (DMS): Signs which can display a visual message by means of light bulbs, plastic tabs, etc. Also known as Variable Message Signs (VMS) and Changeable Message Signs (CMS).

Emergency: An unforeseen occurrence or combination of circumstances which calls for immediate action or remedy.

Flashpoint: That lowest temperature at which a material gives off enough flammable vapor to ignite in the presence of a flame or spark.

Incident: An occurrence or event, natural or manufactured, requiring a response to protect life or property.

Life Safety Systems: Devices and systems that are specifically designed and implemented to assist in the safety and preservation of human life. Examples include breathing apparatus, showers, first-aid kits, emergency call buttons, resuscitation/defibrillation equipment, etc.

Maintenance of Traffic (MOT): A plan for handling traffic through a work zone. The MOT may range in scope depending on the complexity of a project and resulting traffic interference.

Traffic Control: methodologies used for directing vehicular and pedestrian traffic around construction zones, accidents, or any other road disruption, thus ensuring the safety of emergency response teams, workers, and the general public.

Warning Sign: A sign that gives notice to road users of a potentially hazardous situation that might not be readily apparent. Examples include STOP AHEAD and LOW CLEARANCE signs.

Work Zone: The area of the Toll Roads in which maintenance or construction operations are taking place which may impinge on the number of lanes available to moving traffic or affect the operational characteristics of traffic flowing through the area.

Work Zone Sign: A sign that gives notice to road users of construction or maintenance activities and revised traffic conditions due to these activities. Work zone signs are required in advance of the site and must be erected through the work zone. Work zone signs include regulatory signs such as CONSTRUCTION SPEED LIMIT signs; warning signs such as FLAGGER or CONSTRUCTION ZONE AHEAD signs; and directional sign such as DETOUR or LANE CLOSURE signs.

D.2. References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Occupational Health and Safety Act (OSHA) Guidelines
- OSHA Publications List via Catalog or Website, OSHA
(Website: <http://www.osha.gov/pls/publications/pubindex.list>).
- "Guidelines for Public Sector Hazardous Materials Training", U.S. Department of Transportation and Federal Emergency Management Agency.
- "NIOSH Pocket Guide to Chemical Hazards", NIOSH.
- "Manual on Uniform Traffic Control Devices (MUTCD)", FHWA.
- "A Policy on Geometric Design of Highways and Streets", AASHTO.
- "Traffic Engineering Handbook", ITE.

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D.3. Policy for Safety Plan

D.3.1. Objective

The objective of the Safety Plan is to ensure that the Concessionaire has considered, trained, addressed, and planned for situations that could be deemed as creating an unsafe situation to the workers and public within or adjacent to the Toll Roads.

It is the Concessionaire's focus, policy and purpose to conduct all work in the safest possible manner so as to protect its workers and the public at all times, under all conditions and in full conformance and consistent with all applicable laws, rules, codes and policies.

D.3.2. Responsibility of Concessionaire

It is the Concessionaire's responsibility to establish, write and carry out a comprehensive Safety Plan that addresses the protection of its workers and the public and to insure that its procedures are being implemented and enforced. This Chapter and its contents have been provided as a preparation guideline that addresses the minimum required criteria, and is not intended to be all inclusive. The plan is to be updated and submitted annually and must receive Approval from PRHTA and, as appropriate, from all other governing authorities.

The most important part of the Safety Plan is to protect the workers from traffic, and vice versa. This can be accomplished by including the following principles in the Safety Plan:

- Keeping motorists informed. This can be accomplished with signs, flags, barricades, cones, flashing amber lights, dynamic message signs and flashing arrow signs or similar notification methods.
- Avoidance of the errant driver by workers. Face traffic, stay aware with your own eyes and ears or those of a look-out who will warn you. Establish an escape route.
- Utilization of protective equipment. Protective vehicles, truck mounted crash headrests, seat belts/shoulder harnesses, hard hats, safety vests, etc.
- Planning work such that it reduces and/or protects employees' exposure to traffic. This can be accomplished with the use of well-conceived, developed, reviewed, and approved Traffic Control and Work Zone plans and procedures.

The Concessionaire must be sure that the Safety Plan includes that all employees are aware of, and as applicable, trained in the requirements and standards of the Occupational Safety and Health Administration (OSHA) so that the proper levels of protection are fulfilled for the potential exposure.

This Chapter includes a general outline of the proposed plan. This outline is intended only to provide guidance in the preparation of the Concessionaire's plan and must be modified, revised or changed, as appropriate, to address specific issues, needs or concerns related to the Toll Roads that develop over time.

D.3.3. Performance Time Frames

The following table establishes the minimum frequency that the Safety Plan is to be written and updated by the Concessionaire, submitted to the Commonwealth, and Approved by the Commonwealth.

Plan	Minimum Frequency of Occurrence
Safety Plan	Yearly

D.3.4. Acceptance Criteria

The Safety Plan will be considered acceptable for a particular year when the Plan has been written and updated by the Concessionaire, submitted to the Commonwealth and Approved by the PRHTA.

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D.4. Safety Plan Preparation Requirements

The following is a general outline of the Concessionaire's responsibilities that should be included and addressed when creating the Safety Plan. The outline is not intended to be all-inclusive, but rather, contains the *expected minimum* items that must be included and addressed in the Safety Plan.


The Safety Plan must include provisions for annual and periodic updates, training and supervision of staff and adherence to all policies and procedures.

D.4.1. Introduction

This section is to contain a brief introduction to the Safety Plan that includes: a description of the persons or agencies involved in the preparation and review of the Safety Plan; the designated individual(s) who are charged with the implementation and maintenance of the Safety Plan; and the overall goals and objectives of the Safety Plan. At a minimum, this section is to contain the following sub-sections:

- Purpose.
- Scope and applicability.
- The methodology used to develop and implement the Safety Plan.
-

D.4.2. System Location & Emergency Contact Protocol

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 This section is to provide an overview and system position location of the Toll Roads; a background of the anticipated work activities and hazards; and the protocol and procedures that must be followed during an event that results in an injury. At a minimum, this section is to contain the following:

- Location plan map of the Toll Roads and all designated Emergency Care Facilities.
- General description of the location of the Toll Roads including its entrance and exit features.
- Emergency/Contingency protocol and procedures.
- Emergency/Contingency Care Facility Information.
- Injury/Illness/Incident Reporting and Notification.

D.4.3. First-Aid and Medical Treatment

The Concessionaire is responsible for maintaining a safe environment that may include the need for emergency medical attention. The Safety Plan should include sections that describe the provisions for first aid and emergency medical treatment, at a minimum, as follows:

- Training for first aid and emergency medical treatment.
- Emergency First Aid.
- Emergency Medical Treatment.

D.4.4. Safety Roles and Responsibilities

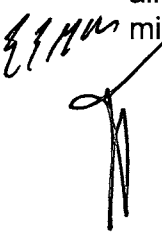
This section must identify the personnel and responsible staff which will implement, maintain, and enforce the Safety Plan rules and policies.

The Plan must include provisions to ensure that all employees are able to understand their specific assignment and any associated tasks with regards to the Safety Plan. Duties and responsibilities must be clearly defined for personnel within the Toll Roads, including the following positions:

- Health and Safety Manager
- Project Manager / Site Safety Manager
- Project Personnel
- Construction Foreman
- Contractor's Safety Representative

D.4.5. Training

This section must identify and include comprehensive provisions for the training of all persons working within the Toll Roads, and must include the following at a minimum:

- 
- The development of safety related training programs to ensure all employees receive regular direction.
 - General training to cover hazards basic to all places of employment.
 - Specific training to cover hazards that are unique to each employee's job assignment including, but not limited to, execution of work, materials application, and equipment operations.
 - New employee health and safety orientation and training.
 - New or updated process training for new or previously unrecognized hazards or when a new or previously unrecognized hazard is identified.

- Procedures to ensure that each employee understands and adheres to safe and healthy work practices and procedures.
- Recurring training programs to ensure that all employees remain abreast of safety and health regulations affecting the operations they are involved with or supervise.
- Policies that ensure each employee is provided with the equipment necessary to complete assigned tasks safely.
- Policies and procedures that address the counseling and training of employees to minimize the human factors that can contribute to injury or illness.

D.4.6. Job Hazard & Safe Work Standards

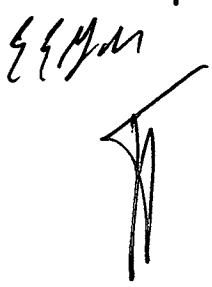
This section must identify, define the practices and procedures, and detail all hazards and their prevention which may be encountered while performing work within the Toll Roads. Included in this section must be all anticipated activities (including maintenance, construction, and operations), and all unanticipated activities (including Emergency Events and Hazardous Material/Incident or Spills Events). At a minimum, the standards are to address the following hazards:

- Anticipated Routine Physical Hazards
 - Abrasive Blasting
 - Aerial Lifts
 - Asbestos Operations
 - Back Injury Prevention
 - Cold Stress Recognition and Control
 - Corrosive and Reactive Materials
 - Confined Space Entry
 - Demolition Operations
 - Dust Control
 - Drilling Safety Guidelines
 - Electrical Safety
 - Environmental Material Compliance (MSDS & VOC)
 - Excavation & Trench Safety
 - Fall Protection
 - Fire Prevention
 - General Site Rules and Requirements
 - Flammable and Combustible Liquids and Gases
 - Hand and Portable Equipment

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- Heat Stress Recognition and Control
- Heavy Equipment Operations
- Housekeeping
- Lead in Construction
- Marine Safety and Boat Operation
- Material Storage & Handling
- Noise and Hearing Conservation
- Nuclear Density Gauge Safety
- Office Ergonomics
- Portable Ladders
- Railroad On-Track Safety
- Respiratory Protection
- Rigging
- Scaffolding
- Subcontractor Health and Safety Requirements
- Utility Clearances and Isolation
- Vehicle Safety program
- Work over Water

• Unanticipated Physical Hazards

- 
- Biological Hazards & Exposure
 - Chemical Hazards & Exposure
 - Environmental Waste Operations & Exposure
 - Explosive Atmospheres
 - Hazardous Materials/Dangerous Goods Shipping
 - Hazardous Material/Incident or Spills: The special procedures for notification, handling and removal of hazardous materials caused by incidents shall reference the specific portions of the Emergency Management and Operation Plans addressed in Volume II, Chapter J, "Emergency Management & Operations Plan".
 - Radioactive Exposure
 - Testing and Sampling Practices

D.4.7. Personal Safety

This section must address the personal safety procedures that must be adhered to along with personal safety devices that must be provided to complete assigned tasks. Items considered for personal safety include personal protective equipment and include but are not limited to: reflective vests; hard hats; protective clothing; protective footwear; hearing protection; vision protection; respiratory protection; and any other necessary equipment as specified in the Safety Plan to protect the well-being of the worker within the Toll Roads. The Safety Plan must address the following for each article of personal safety:

- Situations that require the personal protective equipment.
- Limitations of the protective equipment.


D.4.8. Decontamination Procedures

This section must, in the event of a Hazardous Material/Incident or Spill, include directives for decontamination procedures. This section must incorporate the applicable and appropriate sections of Volume III – Environmental Management Manual and must conform to and work in conjunction with the Environmental Management Plan. Items must include, but are not limited to, the following tasks:

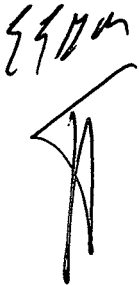
- Sanitation
- Decontamination – Medical Emergencies
- Decontamination of Tools & Equipment

D.4.9. Work Zone & Site Safety

This section must identify the tasks, procedures and policies required for when Work Zones for construction and/or maintenance activities are present whether in the field or in a Facility. The Safety Plan is to contain, at a minimum, sub-sections addressing the following issues:

- 
- General Work Zone activities and requirements
 - Signs and Bulletin Boards
 - Safety Regulations – Vehicles and Drivers
 - Drivers and Operators
 - Parking Vehicles
 - Backing Vehicles
 - Hand Signals
 - Vehicles or Equipment Breakdowns
 - Training
 - Licenses & Certifications
 - Construction Equipment and Vehicles
 - Protective Vehicles (shadow, barrier, and advance warning)

- Field Equipment
- Equipment Lights, Warning Signs and Flags
- Towing and Safety Chains
- Safety Equipment in Vehicles
- Transporting Equipment & Materials
- Managing Explosive and Flammable Materials
- Access to Median Work Zones
- Night Work
- Shop Equipment
 - Welding Equipment
 - Shop Tools
- Worker Exposure Reduction
 - Planning Work
 - Working Near Moving Traffic
 - Facing Traffic
 - Crowding of Workers
 - Work in Tunnels
 - Crews Working Across From Each Other
 - Warning Systems - Signs
 - Warning Systems – Flashing Arrow Signs
 - Warning Systems – Flashing Amber Lights
 - Warning Systems - Lookouts
- Vehicle Intrusion Alarms



D.4.10. Work Zone Traffic Control

One of the most important items that must be addressed in the Safety Plan is the requirements, procedures, and policies for Traffic Control when work is proposed to occur on, adjacent to or near areas where traffic is present. The Safety Plan must either solely address Traffic Control; or make specific reference to the applicable and appropriate sections of Volume II, Chapter H, "Traffic & Travel Management Plan". The Safety Plan must include the requirement that each operation be reviewed and approved to determine the appropriate Traffic Control Plan prior to the start of work.

The following subsections address many of the parameters that should be included in the Safety Plan when discussing the requirements for work in or near traffic, but are not intended to be either representative or all inclusive:

- Traffic Control Plan documentation requirements
- Warning Signs
- Lanes Closures

- Exceptions to Lane Closure Procedures
 - Limited Work on the Traveled Way, Without Lane Closures
 - Pavement Marking and Re-lamping Operations.
 - Moving Shoulder Operations
- Shoulder Closures
- Moving Lane Closures
- Delay of Vehicles
- Obscured Visibility

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E.1. Definitions

Amber Flashing Light: Device used to warn the vehicle operators and pedestrians of a danger area, a construction active area or a warning for change in traffic patterns.

Equipment Manager: person in charge of equipment used by the Concessionaire. The duties include purchasing, maintenance, repair, inventory control, storage, cleaning, and liquidation.

Flashing Arrow Board: An electronic device containing multiple lamps which are used to direct traffic in a selected direction and must be capable of indicating change in direction, and varying intensity of the arrow when required.

Retro-reflective Tape: A material attached to vehicles and equipment to increase visibility of objects during both nighttime and low light conditions. Retro-reflection occurs when a surface returns a portion of directed light back to its source.

E.2. References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Occupational Health and Safety Act (OSHA) Guidelines.
- OSHA Publications List via Catalog or Website, OSHA (Website: <http://www.osha.gov/pls/publications/pubindex.list>).
- "Manual on Uniform Traffic Control Devices (MUTCD)", FHWA.
- "Puerto Rico Vehicle and Traffic Law (2000)", Commonwealth of Puerto Rico.

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E.3. Policy for Equipment Plan

E.3.1. Objective

The objective of the Equipment Plan is to ensure that the Concessionaire has addressed the responsibilities for identifying, planning, scheduling, supervising, maintaining, operating and controlling of all equipment utilized within the Toll Roads via a written and Approved Plan.

E.3.2. Responsibility of Concessionaire

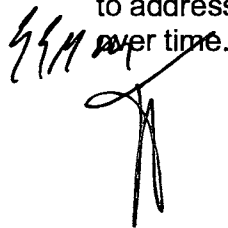
The Equipment Plan is a document to be developed, written and carried out by the Concessionaire, and must indicate that the Concessionaire is solely responsible for the management, operation and maintenance of all equipment that is required for work within both the Toll Roads. Further, the Concessionaire's responsibilities include, but are not limited to, the following:

- Equipment Policy Development
- Equipment Status and Inventory
- Warranty Claims
- Operator and Mechanic Training
- Licensing of Vehicles & Equipment
- Equipment, Vehicular and Operator Insurance
- Subcontractor Equipment Conformance

The Concessionaire is responsible for ensuring that all equipment is operated and maintained in accordance with the manufacturer requirements, and with well-established policies and procedures.

The Concessionaire and its subcontractors must obey all traffic laws including the posted speed limits when utilizing vehicles or other equipment.

This Chapter includes a general outline of the proposed Equipment Plan. This outline is intended only to provide guidance in the preparation of the Concessionaire's plan and must be modified, revised or changed, as appropriate, to address specific issues, needs or concerns related to the Toll Roads that develop over time.

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E.3.3. Performance Time Frames

The following table establishes the minimum frequency that the Equipment Plan is to be written and updated by the Concessionaire, submitted to the PRHTA, and Approved by PRHTA.

Plan	Minimum Frequency of Occurrence
Equipment Plan	Yearly

E.3.4. Acceptance Criteria

The Equipment Plan will be considered acceptable for a particular year when the Plan has been written and updated by the Concessionaire, submitted to the PRHTA and Approved by PRHTA.

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E.4. Equipment Plan Requirements

The following is a general outline of the Concessionaire's responsibilities that should be included and addressed when creating the Equipment Plan. The outline is not intended to be all-inclusive, but rather, contains the *expected minimum* items that must be included and addressed in the Equipment Plan.

The Equipment Plan must include provisions for annual and periodic updates, training and supervision of staff and adherence to all policies and procedures.

E.4.1. Introduction

This section is to contain a brief introduction to the Equipment Plan that includes a description of the equipment needs of the Toll Roads and must address all of the related maintenance and operational needs of the Toll Roads. In addition, this section should briefly state the overall goals and objectives of the Equipment Plan and discuss the duties and responsibilities of the Concessionaire related to equipment, the Equipment Manager and the implementation and maintenance of the Equipment Plan.

E.4.2. Leased and Rented Equipment

The Concessionaire is permitted to rent, lease, or outsource equipment and services, all of which must be defined and described in this section of the Equipment Plan. This section must also include the Concessionaire's provisions and requirements for rented, leased, or outsourced equipment, including that the equipment conforms to all of the requirements stated in the Equipment Plan including demarcation, licensing, registration and warning systems.

E.4.3. Operators Registration & Licensing

This section of the Equipment Plan must clearly indicate that equipment operators meet all current Commonwealth registration and licensing requirements and that all operators possess valid operator's and driver's license with all special endorsements required for the specific type and classification of vehicle or equipment operated.

E.4.4. Equipment Licensing and Registration

This section of the Equipment Plan must clearly indicate that the licensing and registration for all vehicles and equipment (either owned by the Concessionaire or by its Contractors) meets all current Commonwealth requirements stated in the Puerto Rico Vehicle Code for registration and licensing.

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E.4.5. Vehicle Safety Equipment

The Equipment Plan must indicate the type, kinds and amounts of vehicle safety equipment for all vehicles used within the Toll Roads. Vehicle safety equipment to be considered may include, but is not limited to, the following: fire extinguishers, pry bars, flares, special mirrors, fuel system protection, safety triangles or markers, slow moving vehicle/warning triangle emblems, and first-aid kits.

E.4.6. Equipment Demarcation

This section of the Equipment Plan must include a demarcation description for all equipment, either owned by the Concessionaire or its Contractors, that is utilized within the Toll Roads. The Concessionaire must include demarcation information that addresses the following at a minimum:

- Vehicle color(s).
- Equipment numbering.
- Vehicle class and category.
- Operator decal placement and design.
- Retro-reflective application locations, sizes, etc.

All equipment used for the management, operation or maintenance within the Toll Roads must be identified with an equipment number.

This section must include the demarcation present on all equipment types expected in the operation and maintenance of the Toll Roads, including but not limited to the following: Passenger vehicles, light-duty utility vehicles, heavy-duty truck vehicles, street sweepers, construction equipment, and other road equipment including trailers.

Miscellaneous small equipment such as mowers, trimmers, etc. that are utilized within the Toll Roads are exempt from the demarcation requirements but must always present a clean and professional appearance.

E.4.7. Equipment Warning Systems

E.4.7.1. Amber Warning Lights and Flashing Arrow Boards

This section must include the number, size, location, and type of all warning lights and flashing arrow boards attached to the equipment. The information must address all maintenance and management vehicles, and construction equipment. All vehicles which operate within the Toll Roads must be equipped with at least one amber warning light visible to traffic. The Equipment Plan must include the information for all other requirements for additional amber warning lights as applicable to federal, Commonwealth and Local requirements.

E.4.7.2. Red, Green & Blue Warning Lights

This section of the Equipment Plan should include the restriction of the use of red, green and/or blue colored warning lights, which are prohibited.

E.4.7.3. Back-Up Alarms

This section of the Equipment Plan must include information for the Back-up alarms, which are required on all of the Concessionaire's vehicles that operate within the Toll Roads. These vehicles include, but are not limited to, pick-ups, vans, SUV's, trucks, construction equipment, etc.

E.4.8. Training

This section of the Equipment Plan must include the training requirements and certifications for all personnel (whether they are personnel of the Concessionaire or its Contractors) whose duties include operation or supervision of equipment. In addition, this section must indicate that the personnel have completed the most current training, possess the proper and current license, and possess the current certification and qualifications to operate the equipment.

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F.1. Definitions

AutoExpreso System: The trade name of the Electronic Toll Collection System employed by PRHTA as of the Effective Date of the Concession Agreement.

Commercial Back Office (CBO): The commercial system that processes the information received from the TBO and generates and transmits the reports to the banking system.

Electronic Toll Collection (ETC): A toll collection system that is reliant upon transponder technology in vehicles, and receivers mounted at the Toll Plazas, that electronically indicates, registers, and electronically reconciles the appropriate deduction for the proper toll fee incurred by the class of vehicle.

Transactional Back-Office (TBO): A central system that gathers all transactions received from the Toll Points, processes all information received, sends acknowledge and configuration tables, and supervises the correct run of the system at every Toll Point.

Toll Collections and Operations: All activities related to revenue collection from vehicles utilizing the Toll Roads, and the recording, auditing, and processing of that revenue, including lane operations.

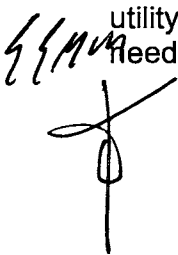
Toll Collection System (TCS): The electrical and electronic equipment, information management, and system to record and verify the revenue and vehicle classification, including both ETC and ORT systems.

Toll Point (TP): It means the physical gantry and the RSS with all its elements to receive the information required to process the toll transaction.

Toll Zone (TZ): The Toll Zone is the section of the highway to be tolled and it could be composed by one or more Toll Points and all the technical infrastructure needed to communicate with the TBO.

Open Road Tolling Systems (ORT): It is composed by the Toll Zones of the Toll Roads and the TBO.

Uninterruptible Power Supply (UPS): Power supplies that operate in parallel with the electric utility sources and supply their load without interruption when and if the utility source fails. Such power supplies must be utilized to meet the operating needs of the computers and critical elements of the TCS.

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F.2. References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Original Equipment Manufacturers (OEM) specifications, maintenance manuals, handbooks, procedures, guides, etc. as applicable for all installed equipment, systems and components.

F.3. Policy for Toll Collection and Operations Plan

F.3.1. Objective

The objective of the Toll Collection and Operations Plan is to ensure that the Concessionaire has considered, trained, addressed and planned for all toll operation activities and has established protocols, procedures, responsibilities and guidelines to maintain and operate the TCS for the Toll Roads in accordance with a written and Approved plan.

F.3.2. Responsibility of Concessionaire

The Toll Collection and Operations Plan is to be developed, written, and carried out by the Concessionaire and must be consistent with all applicable local, Commonwealth and federal laws, codes and requirements governing the collection of tolls and tollway systems. The Toll Collection and Operations Plan is to be updated and submitted annually and must be Approved by PRHTA.

The Toll Collection and Operations Plan must indicate that the Concessionaire always provides administrative and operational services, year-round. In addition, technical support personnel must be available at all times to provide software maintenance and administration, hardware maintenance and/or component replacement and data and system back-up maintenance.

All TCS operational and technical support services provided must be in accordance with, and in strict adherence to, the approved TCS user manuals, equipment manufacturer's recommendations and standard operating procedures for computer and network support services, as stated in the Reference Documents.

The TCS system and its data storage and archival capabilities must be operationally checked on a daily basis and made fully available to PRHTA. The system components must be maintained and tested as required to ensure the TCS continually remains fully operational. Redundant or replacement parts must be available on-site to facilitate immediate replacement of mal-functioning components.

The TCS relies on computer hardware, peripheral equipment and operating system software which are continuously being advanced in technology. Accordingly, technical support services must include operational planning and upgrade installation of equipment components and operating systems software. The upgrade planning and installation shall include the transfer/recovery of

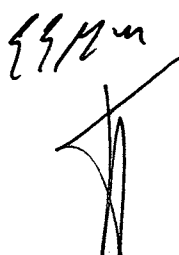
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archived data to new storage media, replacement of computer hardware and components systems and the component part inventory upgrade.

As of the date of the Toll Road Concession Agreement, the ETC system used on the Toll Roads is named AutoExpresso and consists of two types of collection systems, an ETC system and an ORT system. The Toll Road users can recharge their balances through the In-Lane Replenishment lanes (ILR) installed at the toll booths and the toll transaction is processed and allocated to that user when the Toll Road users passes through the ETC channelized toll lanes at the toll plaza. In some toll plazas, an Open Road Tolling system with gantries has already substituted the channelized lanes and, after the substantial completion of the RSS Improvement Project, only the ILR lanes will be in use at the toll plaza and the toll transaction will be assigned when the Toll Road users pass through the toll gantry at the Toll Point.

This Chapter includes a general outline of the proposed Toll Collection and Operations Plan. This outline is intended only to provide guidance in the preparation of the Concessionaire's Plan and must be modified, revised or changed, as appropriate, to address specific issues, changes in systems, and needs or concerns related to the Toll Roads that develop over time, including ETC and ORT systems.

The Concessionaire must include, among others, the following TCS operations in the Toll Collection and Operations Plan:

- 
- Toll Lane and Toll Point Traffic Counting and Vehicle Classification Recognition Data.
 - Video-based facility surveillance system.
 - Video image recording and retention.
 - Toll Plaza Lane Control and Monitoring from the Toll Plaza Control Center.
 - Toll Plaza Data Center host, storage and back-up data systems.
 - Toll Point Control and Monitoring.
 - Transactional Back-Office operation and monitoring.
 - Interfaces operation and monitoring between Toll Points and TBO.
 - Interfaces operation and monitoring between TBO and CBO.
 - Uninterruptible power supplies (UPS).
 - Security System.
 - Remote data access, system reporting and back-up.
 - Communication system.
 - Touch Screen Toll Revenue Collection Data by Toll Lane, as applicable.

F.3.3. Performance Time Frames

The following table establishes the minimum frequency that the Toll Collection and Operations Plan is to be drafted and updated by the Concessionaire and submitted to the PRHTA for review and Approval.

Plan	Minimum Frequency of Occurrence
Toll Collection and Operations Plan	Yearly

F.3.4. Acceptance Criteria

The Toll Collection and Operations Plan will be considered acceptable for a particular year when the Toll Collection and Operations Plan has been drafted and updated by the Concessionaire and reviewed and Approved by the PRHTA.

F.4. Toll Collection and Operations Plan Requirements

The following is a general outline of the Concessionaire's responsibilities that should be included and addressed when creating the Toll Collection and Operations Plan. The outline is not intended to be all-inclusive, but rather, contains the *expected minimum* items that must be included and addressed in the Toll Collection and Operations Plan.

The Toll Collection and Operations Plan must include provisions for annual and periodic updates, interface and auditing with PRHTA, training and supervision of staff and adherence to all policies and procedures.

F.4.1. Introduction

This section should briefly introduce the purpose of the Toll Collection and Operations Plan and set out the overall goals and objectives of the Toll Collection and Operations Plan. The introduction should discuss the title, functions, roles, duties and responsibilities of each person that the Concessionaire identifies as being involved with toll collection and operations.

F.4.2. ETC Toll Operations

ETC Toll Operations consist of a two-tier system, with one on a local functional basis, and the other on a system-wide functional basis. The local Toll Operations Control Center is generally located at each of the 18 toll plaza facilities. The local system then inputs its data in the AutoExpresso system-wide toll operation.

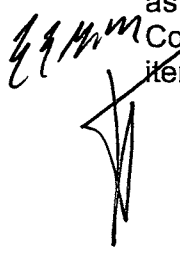
This section of the Toll Collection and Operations Plan must include a description of the function, equipment, personnel and interface of data with PRHTA, as well as the role each performs in ETC toll collections and operations. The Toll Collection and Operations Plan must also include subsections on the following items, at a minimum:

- Video-Displays of Facility Surveillance.
- CCTV Video Camera Monitor Station.
- Toll Lane Control Monitors.
- Toll Collection System Computer Terminal.
- Toll Lane Open/Close Indicator Controls.
- Intercom Communications with each Toll Booth.
- Emergency Response System Monitor and Communications.

F.4.3. ORT Toll Operations

ORT Toll Operations consist of a two-tier system, with one on the different Toll Points, and the other on an unique TBO. The TBO, then inputs its data in the AutoExpresso CBO.

This section of the Toll Collection and Operations Plan must include a description of the function, equipment, personnel and interface of data with PRHTA, as well as the role each performs in ORT toll collections and operations. The Toll Collection and Operations Plan must also include subsections on the following items, at a minimum:

- 
- RSS operations, capturing all the vehicles, LPN and Tags passing through the RSS
 - TBOS, data validation and automated Transaction record administration, processing, and packaging
 - Interfaces to the CBOS for Transactions data exchange (including images), list management, and
 - Toll rate management
 - Facilities maintenance of the gantries and technical shelters (cabinets)
 - Electrical and mechanical maintenance at the gantries
 - Maintenance of access control systems, fire detection and suppression systems at the TBOS
 - Primary and Secondary site
 - Ventilation and cooling (HVAC) system maintenance at the TBOS Primary and Secondary site
 - Diesel generator and fuel deposit at the TBOS Primary and Secondary site

- Contractor Equipment and Services located at the RSS gantries
- Gantries and Cabinets
- Toll operations center (TBOS Primary Site)
- TBOS Secondary DR Site
- Network Communications
- Power wiring and cable ducting, from the RSS gantries to the existing main electrical panel at the existing Toll Plaza, connectivity of the servers to the main electrical panel, automatic transfer switch, connectivity to the existing diesel generator, portable / mobile generators

F.4.4. Local Toll Operations Data Center and Toll Zone Operations

The local Toll Operations Data Center is located in each of the Toll Plazas that employ the AutoExpreso ETC System. The data center houses the TCS and UPS and provides the electronic storage; information; verification; power supply source; and computation tools to assist the Concessionaire's management and monitoring of ETC toll collections and lane operations on a continuous basis; in a secure, humidity and climate-controlled setting.

The majority of the equipment for the ORT Systems are located in the Toll Zones closer to the gantries, but the local Toll Operations Data Center also provides some services to the ORT Systems like UPS, electronic storage, communications, and others.

This section of the Toll Collection and Operations Plan must also include subsections on the following items, at a minimum:

F.4.4.1 General Description and Layout

This section of the Plan must include a description of the function, equipment, personnel and physical layout of the local data control center and the Toll Zones and the role each performs in toll collections and operations.

F.4.4.2 Hardware

This section of the Toll Collection and Operations Plan must include a description and inventory of the computer hardware in the local data center and the Toll Zones and the upgrade and maintenance procedures. The hardware descriptions consist of the network system, data and processing capabilities, and the failsafe backup and redundant systems. This section must also include procedures for data storage and the capabilities for secure remote access.

F.4.4.3 Software

This section of the Toll Collection and Operations Plan must include the current version information of all software utilized by the TCS, and all implemented and planned upgrades and maintenance procedures for such software.

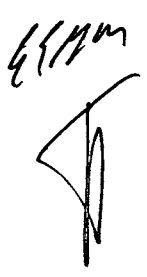
This section must include the network operating system, server software, and the data collection processes used to produce traffic and financial reports. Currently, the TCS applications are designed to produce the following reports: Audit, Traffic, Administrative, System and Maintenance.

This section must include the procedures and protocol for technical support, which must be provided on a continuous on-call basis.

F.4.4.4 UPS and Backup Storage Devices

This section of the Toll Collection and Operations Plan must include the description, frequency and protocol utilized for the uninterruptible power source (UPS), and the archival functions of the data collected. The section must include information and provide details on how the system functions when the permanent archive capabilities are employed. Additionally, the section must include the maintenance and operation procedures utilized to provide the UPS with continual operation, including during power failures.

F.4.5. *PRHTA System-Wide Toll Operations Central Control Center*

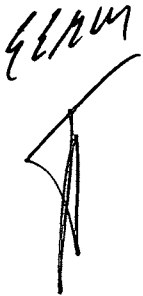
 This section of the Toll Collection and Operations Plan must include how the Concessionaire will interface and communicate the electronic data with the PRHTA. This section of the Toll Collection and Operations Plan must also include the procedures and frequency of audits by the PRHTA of the toll collection data. Also, this section must describe the "open accounting" nature of the Toll Collection System with PRHTA.

F.4.6. *ILR Lanes, ETC Lanes and ORT Operations*

This section of the Toll Collection and Operations Plan must include the procedures employed and followed with regard to the operation of the toll lanes (ILR, ETC or ORT lanes). The Toll Collection and Operations Plan must address, without limitation, the following procedures, at a minimum:

- Supervision of the shifts, lanes, and plazas.
- General items of responsibility during operating and non-operating toll lanes.
- General toll booth operations and appearance.
- Operation of manual terminal lanes.
- Operation of automatic vehicle identification lanes (if and when implemented).

- Lane Opening and Closing Procedures.
- Traffic queue supervision and management.
- Treadles, light curtain and detector loop operation.
- Classification of vehicles.
- Transaction receipts/receipt printer operation.
- User toll display operation for each Toll Road.
- Traffic control gate operation.
- Lane status gate.
- TBO operations.
- TBO image review and manual consolidation.
- Overhead lane status message sign.
- Disable vehicles/lane accident.
- Overweight/Oversized vehicles.
- Exceptional vehicles.
- Emergency procedures.
- Operation in degraded modes.
- Reporting.



F.4.7. Attendant Operations


This section of the Toll Collection and Operations Plan must include the procedures employed and followed regarding the work operations of the toll attendants. The Toll Collection and Operations Plan must address, without limitation, the following procedures, at a minimum:

- General items of responsibility.
- Attendant appearance.
- Shift management and supervision.
- Traffic queue supervision and management.
- General toll booth operations and appearance.
- Attendant safety.
- Attendant training.
- Customer service.
- Overweight/Oversized vehicles.
- Booth exits and entrance procedures.

- Lane replenishment deposit preparation.
- User display operation for each Toll Road.
- Transaction receipts/receipt printer operation.
- Replenishment verification.
- Cash handling.
- Change requests and receipting procedures.
- Counterfeit money detection.
- Toll Road users requiring/requesting the need for assistance.
- Unusual occurrences.
- Disable vehicles/lane accident reporting.
- Lane run-through/violation procedures.
- Robbery/Hold-up reporting.
- Emergency procedures.

F.4.8. Toll Collection Administration

This section of the Toll Collection and Operations Plan must include the procedures employed and followed with regard to the collection of tolls; the facility protocol during armored car service; and all other administrative duties associated with tolls. The Toll Collection and Operations Plan must address, without limitation, the following procedures, at a minimum:

- 
- General items of responsibility.
 - Non-revenue vehicles.
 - Vehicle verification.
 - Insufficient fund collection and balanced due.
 - Violation reporting.
 - Cash handling monitoring.
 - Depository procedures.
 - Facility lock-down procedure for armored car transfers.
 - Drawer reconciliation.
 - Electronic toll collection.
 - TCS System training and operation.
 - Customer service reconciliation.
 - Security.

F.4.9. Toll Accounting

This section of the Toll Collection and Operations Plan must include the procedures employed and followed with the accounting and reconciliation of the tolls, as well as the ability for PRHTA to access and audit the Toll Collection System. The Toll Collection and Operations Plan must address, without limitation, the following procedures, at a minimum:

- Vehicle verification.
- Traffic volume, type and time reconciliation and reports.
- Non-revenue vehicle account.
- Vehicle verification.
- Banking errors.
- Audits.
- Funds reconciliation.
- Cost accounting.
- Deposit preparations and verification.
- TCS System operations and report generation.

F.4.10. Toll Incident Events

This section of the Toll Collection Plan must include procedures for addressing events and incidents associated with toll collections. The Toll Collection and Operations Plan must address, without limitation, the following procedures, at a minimum:


- 
- Unusual occurrences.
 - Disable vehicles.
 - Lane accidents.
 - Vehicle collisions.
 - Lane run-through/violation procedures.
 - Robbery/Hold-ups.
 - Drunk drivers.
 - Road rage.
 - Emergency procedures.

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G.1. Definitions

Electrical Systems: Systems, elements and components that are contained in Facilities, and which supply, distribute and function by the use of electricity. These systems include, but are not limited to: substations, meters, wiring, service panels, individual circuits, generators, transformers, lighting, motor control units, back-up generators and systems, emergency lighting, etc.

Facility: Within the Toll Roads; the buildings, houses, and garages that contain administrative, support and logistical services; and the equipment, components, elements and systems that are housed within each such location.

Fire Protection Systems: Systems, elements and components that are intended to assist in the prevention and suppression of fire. These systems include, but are not limited to: fire extinguishers, exit signage, fire alarms, sprinkler systems, heat sensors, smoke detectors, etc.

Life Safety Systems: Systems, elements and components that are contained in Facilities that promote health, safety, and life preservation. These systems include, but are not limited to: communication systems; security systems; fire suppression and prevention systems; and medical attention stations; etc.

Mechanical Systems: Systems, elements and components that are contained in Facilities that supply and distribute ventilation and climate control. These systems include, but are not limited to: HVAC systems and components, thermostats, boilers, combustion chambers, dampers, heat exchangers, furnaces, air handling units, fresh air intakes, ductwork, return fans, zone dampers, exhaust fans, chillers/condensers, pumps, etc.

Plumbing Systems: Systems, elements and components that are contained in Facilities, and which supply, distribute and provide potable water, or dispose of wastewater. These systems include, but are not limited to: valves, piping, water heaters, water storage tanks, faucets, toilets, sinks, showers, booster pumps, ejector pumps, sanitary piping, hot/cold water piping, etc.

Public Service Area: The portion of the Facility that is open to the public. This area contains restrooms, information, and may also include food and drink concession machines.

Security Systems: Systems, elements and components that promote safety and security of the people and facilities from outside parties. These systems include, but are not limited to alarms, cameras, monitor stations, intercoms and radios, access control, etc.

Treatment Plants: The facilities that contain the equipment, components, elements and systems to treat the water and wastewater for other Facilities.

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G.2. References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- International Building Code, IBC.
- "National Fire Codes", NFPA.
- "National Electrical Code", NFPA.
- "National Plumbing Code, ANSI.
- "Uniform Plumbing Code", WPOA.
- "Uniform Heating and Cooling Code", WPOA.
- "Boiler and Unfired Pressure Vessel Code, ASME.
- "Chimneys, Fireplaces and Vents Code", NFPA.
- "International Mechanical Code".
- Americans with Disabilities Act", U.S. Department of Justice.
- Occupational Health and Safety Act (OSHA) Guidelines
- OSHA Publications List via Catalog or Website, OSHA (Website: <http://www.osha.gov/pls/publications/pubindex.list>).
- National Standards, Specifications and Regulations as applicable, from the following organizations:
 - National Electrical Manufacturers Association (NEMA).
 - American Waterworks Association (AWWA).
 - American National Standards Institute (ANSI).
 - American Society for Testing and Materials (ASTM).
 - Federal Communications Commission (FCC).
 - Underwriters Laboratory (UL).
- Original Equipment Manufacturers (OEM) specifications, Maintenance Manuals, Handbooks, Procedures Guides, etc. as applicable for all installed equipment, systems and components.

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G.3. Policy for Facilities Operations Plan

G.3.1. Objective

The objective of the Facility Operations Plan is to ensure that the Concessionaire has established and is implementing predetermined processes and procedures in order to sustain the planned, organized and continuous operation of the Facilities within the Toll Roads. The operation of the Facilities includes the tasks aimed at supervising and organizing, as well as the short-term and long-term tactical and strategic needs of each Facility and its components. Meeting and performing these objectives, expressed through a written Plan, will ensure that the Facilities remain safe, habitable, efficient and productive in their function of supporting the operation of the Toll Roads.

G.3.2. Responsibility of Concessionaire

The Facilities Operations Plan is a document to be written, developed and carried out by the Concessionaire, and must be consistent with all applicable Local, Commonwealth and Federal laws, codes and requirements governing the operations of Facilities and their components and systems. The Facilities Operations Plan must incorporate the applicable and appropriate sections of Volume III – Environmental Management Manual and must conform to and work in conjunction with the Environmental Management Plan. The Plan is to be updated and submitted annually and must receive Approval by the Commonwealth.

The Facilities Operations Plan must address the operation of the following Facilities (See Table G3.2), their components and elements, and all future Facilities, in their support of the Toll Roads. This includes the Toll Plaza Facilities, Public Service Area and nearby Maintenance Facilities, including all associated buildings, sheds, yards, material handling areas, out-buildings, etc.

Table G3.2

Toll Plaza, Public Service Area & Maintenance Facility Name	Kilometer Location
Guaynabo	PR-20, Km 7.3 Guaynabo
Ceiba	PR-53, Km 4.3 Ceiba
Humacao Norte	PR-53, Km58.3 Humacao
Humacao Sur	PR-53, Km 28.4 Humacao
Guayama	PR-53, Km 82.1 Guayama
Húcar Salinas	PR-53, Km 91.3 Salinas
Plaza Carolina	PR-66, Km 6.3 Carolina
Rampa Carolina Norte	PR-66, km 6.1 Carolina
Rampa Carolina Sur	PR-66, Km 6.1 Carolina
Rio Grande	PR-66, Km 16.8 Rio Grande
Montehiedra	PR-52, Km. 3.8 San Juan

Toll Plaza, Public Service Area & Maintenance Facility Name	Kilometer Location
Caguas Norte	PR-52, Km 14.2 Caguas
Caguas Sur	PR-52, Km 23.5 Caguas
Rampa Salinas, Salida 65	PR-52, Km 66.2 Salinas
Juana Diaz Este (Cotto Laurel)	PR-52 Km. 93.8 Juana Diaz
Juana Diaz Oeste (Rio Cañas)	PR-52, Km 85.6, Juana Díaz
Salinas	PR-52 Km. 57.9 Salinas
Ponce	PR-52 Km. 105.4 Ponce

Even though the weight stations of Salinas and Juana Diaz are under the concession limits because the highway and its ancillary systems is considered as one, the operations and maintenance of the weight stations will be HTA responsibility.

The Plan must address how the Concessionaire will operate the following systems, and how the continual operation impacts the function of the Toll Roads:

- Operation of Facilities used for toll collection work.
- Operation of Facilities used for administration, security, and public access.
- Operation of all systems dedicated to supporting the Facilities themselves including Life Safety, Mechanical, Utility, Plumbing, Electrical, ITS, Communication, Emergency, Fire, etc.

Given that the Toll Roads are operational 24 hours-a-day, every day of the year, the continual and efficient operation of the Facilities and the systems that support the Toll Roads cannot be compromised. The primary goals in preparing the Facilities Operations Plan must be the management of Facilities operations in a manner that minimizes deterioration and unforeseen breakdowns, and that ensures compliance with all applicable Local, Commonwealth and Federal Laws, rules and requirements. The Plan is intended to address the Concessionaire's efforts to manage its Facilities operations, and must reflect the need for maintenance; advance planning for upgrading or replacement of systems within the Toll Roads; positioning and maintaining backup or auxiliary equipment; performing timely replacements of unreliable equipment; and anticipating staffing needs to support Facilities operations in order that the Facilities will continually support all vital operations within the Toll Roads.

The Facilities Operation Plan must include those services that the Concessionaire have to provide to the facilities of police stations (located in Ceiba, Salinas, Carolina and Caguas Norte Toll Plazas) and medical emergency corps (located in Carolina and Caguas Norte Toll Plazas) in accordance with the existing agreements between PRHTA and Police Department of Puerto Rico; and between PRHTA and Puerto Rico Medical Emergency Corps on the Closing Date.

This Chapter includes a general outline of the proposed Facilities Operation Plan. This outline is intended only to provide guidance in the preparation of the Concessionaire's Facilities Operations Plan and must be modified, revised or changed, as appropriate, to address specific issues, needs or concerns related to the Toll Roads that develop over time.

G.3.3. Performance Time Frames

The following table establishes the minimum frequency that the Facilities Operations Plan is to be written and updated by the Concessionaire, submitted to the PRHTA and Approved by PRHTA..

Plan	Minimum Frequency of Occurrence
Facilities Operations Plan	Yearly

G.3.4. Acceptance Criteria

The Facilities Operations Plan will be considered acceptable for a particular year when the Plan has been written and updated by the Concessionaire, submitted to Commonwealth and Approved by the Commonwealth.

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G.4. Facilities Operations Plan Preparation Requirements

The following is a general outline of the Concessionaire's responsibilities that must be included and addressed when creating the Facilities Operations Plan. The outline is not intended to be all-inclusive, but rather, contains the *expected minimum* items that should be included and addressed in the Facilities Operations Plan.

The Facilities Operations Plan must include provisions for annual and periodic updates, training and supervision of staff and adherence to all policies and procedures.

G.4.1. Introduction


This section should briefly introduce the purpose of the Facilities Operations Plan and set out the overall goals and objectives of the Facilities Operations Plan. The introduction should discuss the titles, functions, roles, duties and responsibilities of the each person that the Concessionaire identifies as being involved with the operation of systems within the Facilities of the Toll Roads.

G.4.2. Operational Integrity – Life Safety Systems

The continual operation and integrity of the Life Safety Systems within each Facility is essential to both the staff of the Concessionaire and Toll Road users. These systems provide the safety, communication and life preserving components that must be operated for the Toll Roads to function as intended.

This section of the Facilities Operations Plan must address the operational procedures and policies employed by the Concessionaire to ensure that these systems constantly remain functional; are tested on an established schedule; are evaluated for functionality and operation; and perform as designed and intended.

This section of the Facilities Operations Plan must include the following subsections, at a minimum:

- 
- Communication Systems
 - Intercoms
 - Telephones
 - Radios
 - Mobile Communications
 - Security Systems
 - Access Control
 - Video Surveillance
 - Stations and Personnel
 - Alarms
 - Coordination with the Puerto Rico Police
 - Security Sweeps

- Fire Suppression and Precaution Systems
 - Fire Alarms
 - Sprinkler Systems
 - Heat Sensors
 - Smoke Detectors
 - Carbon Monoxide Detectors
- Medical Attention Stations
 - First Aid Stations
 - Emergency Call Buttons

G.4.3. Operational Integrity – Energy Distribution

In order for the Facilities along the Toll Roads to continually operate at their peak efficiency, the distribution of energy both to and from components must be provided. The function, integrity, continual supply, and efficient distribution of energy to and from various systems and targets directly impacts their operation as individual units, as well as to the Toll Roads as a whole.

This section of the Facilities Operations Plan must address the procedures and policies employed by the Concessionaire to ensure that the energy distribution systems remain fully operational at all times. The Facilities Operations Plan must also address the Concessionaire's plan for enhancing reliability, providing redundancy in depth, arranging for backup equipment, staff, power, etc., and any other action required in order to safeguard continuous operations.

This section of the Facilities Operations Plan must include the following subsections, at a minimum:



Electrical Supply


- Substation Level
- Panel Level
- Circuit Level
- Back-up Systems
- Lighting
- Emergency Lighting
- Motor Control Units
- Mechanical Systems
 - Ventilation, and Air Condition (HVAC) Systems
 - Plumbing Systems
 - Pumping Systems
- Life Safety Systems

- Computer Systems
 - Toll Collection System (TCS)
 - Uninterruptible Power Supply (UPS)
 - Servers
 - Redundancy in depth Measures
- Shops & Shop Equipment
- Coordination and Agreements with Utility Companies/Agencies
 - Electrical
 - Phone
 - Natural Gas
 - Water
 - Sanitary

G.4.4. System Operational Management

The Facilities along the Toll Roads contain numerous and unique systems that either support the Facility in which they are located or provide resources to other portions or sections of the Toll Roads. These systems, their continual function, and the management of these systems are essential to the daily and critical operations of the Toll Roads.

This section of the Facilities Operations Plan must address, describe and outline the methods and procedures that the Concessionaire will employ in the operation and management of the Facility systems. This section of the Facilities Operations Plan must include, the following subsections concerning the various systems within the Facilities at a minimum:

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- Electrical Systems
 - Substations
 - UPS
 - Back-up Systems
- Mechanical Systems
 - HVAC
 - Plumbing
 - Pumping Systems
- Life Safety Systems
- Computer Systems
 - Toll Collection System (TCS)
 - Servers
- Shop Equipment
- Communications

G.4.5. Occupancy Management

This section of the Facilities Operations Plan must address the procedures employed by the Concessionaire in managing and operating the physical occupants within each Facility. This section will need to discuss at a minimum, space programming; health, safety, and environment standards; emergency evacuation; and the function of each defined role of those responsible in the operation of the Facilities.

G.4.6. Vendor Management

This section of the Facilities Operations Plan must briefly list the names of vendors, their roles, and their responsibilities if they perform work with or operate systems in the Facilities.

G.4.7. Licenses, Fees, and Permits

This section of the Facilities Operations Plan must briefly explain the process by which all required licenses, fees and permits will be obtained by the Concessionaire for the operation of all systems and equipment in the Facilities of the Toll Roads; "operator certifications" for water and wastewater systems personnel; and must certify that all such permits and licenses are current.

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H.1. Definitions

Average Annual Daily Traffic (AADT): The total volume of traffic passing a point on a highway, in both directions, for one year, divided by the number of days in the year.

Average Daily Traffic (ADT): The average 24-hour volume of traffic that being the total volume of traffic during a stated period divided by the number of days in that period.

Capacity: The maximum number of vehicles that can pass over a given section of roadway in one or both directions during a given period of time under prevailing roadway and traffic conditions.

Closed-Circuit Television (CCTV): The video camera system used to provide surveillance of the roadway system.

Dynamic Message Signs (DMS): Signs that use electronics or mechanics to vary a visual word, number or symbolic display as traffic conditions warrant. Also known as Variable Message Signs (VMS) and Changeable Message Signs (CMS).

Dynamic Toll Lane (DTL): Ensures traffic flow using a dynamic toll adjusting rates according to traffic conditions, using video technology to identify crashes and communicates with drivers through electronic signs.

Highway Advisory Radio (HAR): A low-powered radio (generally AM) station devoted to presenting travel-related information to the public.

Inductive Loop Detector: A coil of cable embedded in the pavement surface that creates a magnetic field. The vehicle is detected when the magnetic field is disturbed.

Intelligent Transportation Systems (ITS): Necessary for monitoring the Toll Road's traffic flow and performance, detecting traffic and traffic operational conditions throughout the Toll Roads and clearly communicate relevant and useful travel information to user drivers.

Maintenance and Protection of Traffic (MPT): A plan for handling traffic through a work zone. The MPT plan may range in scope depending on the complexity of a project and resulting traffic interference.

Movable Barrier System: A traffic control barrier that separates and channels traffic so as to provide safe passage and increased directional capacity. The system consists of a barrier system that can be moved by one or two travel lanes via a specialty articulated vehicle.

Peak Hour: That hour during which the maximum amount of travel occurs.

Peak Period: The period during which traffic levels rise from their normal background levels to maximum levels.

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Traffic Management Center (TMC): Monitors and controls traffic and the road network. It communicates with ITS equipment and, in the future, Connected Vehicle Roadside Equipment (RSE) to monitor and manage traffic flow and monitor the condition of the roadway, surrounding environmental conditions, and field equipment status. It manages traffic and transportation resources in responding to, and recovering from, incidents ranging from minor traffic incidents through major disasters.

Queue: A line of waiting vehicles.

Volume: The number of vehicles passing a given point over a period of time.


Work Zone: An area of a highway in which maintenance and/or construction operations are taking place that may impinge on the number of lanes available to moving traffic or affect the operational characteristics of traffic flowing through the area.

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H.2. References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Design Directives, PRHTA
- Guidelines for the Selection and Installation of Orientation Signs, PRHTA
- Highway Design Manual, PRHTA
- Signage Guide, PRHTA
- Standard Drawings, PRHTA
- Standard Specifications for Road and Bridge Construction, PRHTA
- Traffic Sign Manual, PRHTA
- "A Policy on Geometric Design of Highways and Streets", AASHTO.
- "Manual on Uniform Traffic Control Devices (MUTCD)", FHWA
- "Portable Changeable Message Sign Handbook (PCMS)", FHWA
- "Highway Capacity Manual", TRB.
- "Traffic Engineering Handbook", ITE.
- "Real Time System Management Information Program", 23 CFR Part 511
- "Intelligent Transportation Systems Architecture and Standards", 23 CFR Part 940
- Regulations mandated by US Federal Government Agencies related to Transportation Systems Management and Operations (TSM&O), Intelligent Transportation Systems (ITS), Traffic Incident Management (TIM), Performance Measurement and/or any other regulations related to the management and operations of the transportation network.
- San Juan Metropolitan Area Intelligent Transportation Systems Regional Architecture.

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H.3. Policy for Traffic and Travel Management Plan

H.3.1. Objective

The objective of the Traffic and Travel Management Plan is to ensure that the Concessionaire has considered and created processes, procedures and standards to manage traffic and travel throughout the Toll Roads in order to alleviate congestion and its damaging effects, including driver delay, inconvenience and frustration, reduced safety, and deteriorated air quality.

Another critical objective of the Traffic and Travel Management Plan must be to create protocols and procedures that need to be taken to quickly identify where congestion is likely to occur and to devise a series of operational plans to prevent delays from occurring, whether such delays are caused by normal day-to-day operations, maintenance operations, construction operations, and/or emergency operations.

H.3.2. Responsibility of Concessionaire

The Traffic and Travel Management Plan is a document to be developed, written and carried out by the Concessionaire, and must be consistent with all applicable Municipal, Commonwealth and Federal laws, codes and requirements governing traffic management practices and traffic control policies. The Traffic and Travel Management Plan is to be updated and submitted annually and must receive Approval from the Commonwealth, and all other governing authorities, as appropriate.

The Traffic and Travel Management Plan must address how the Concessionaire will incorporate the following concepts in order to operate the Toll Roads at peak efficiency:

- Active management and monitoring of the decision-support systems.
- Active management operations and functions.
- Actions taken beyond the capabilities of the automated actions of the computer systems, such as communication with field personnel, emergency responders, and other/adjacent operating Agencies.

The Concessionaire must understand that the Traffic and Travel Management Plan must not only address the effective technologies and deployment of systems, but also address the needs of the available staff trained to monitor and control the systems. In addition, the Traffic and Travel Management Plan must illustrate how the management systems function, and how such systems can be adjusted so that the Toll Roads can continually operate at peak efficiency.

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This Chapter includes a general outline of the proposed Traffic and Travel Management Plan. This outline is intended only to provide guidance in the preparation of the Concessionaire's Plan and must be modified, revised or changed, as appropriate, to address specific issues, needs or concerns related to the Toll Roads that develop over time.

H.3.3. Performance Time Frames

The following table establishes the minimum frequency that the Traffic and Travel Management Plan is to be written and updated by the Concessionaire and submitted to the PRHTA and Approved by the PRHTA.

Plan	Minimum Frequency of Occurrence
Traffic and Travel Management Plan	Yearly

H.3.4. Acceptance Criteria

The Traffic and Travel Management Plan will be considered acceptable for a particular year when the Traffic and Travel Management Plan has been written and updated by the Concessionaire and submitted to the PRHTA and Approved by PRHTA.

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H.4. Traffic and Travel Management Plan Preparation Requirements

The following is a general outline of the Concessionaire's responsibilities that must be included and addressed when creating the Traffic and Travel Management Plan. The outline is not intended to be all-inclusive, but rather, contains the *expected minimum* items that should be included and addressed in the Traffic and Travel Management Plan.

The Traffic and Travel Management Plan must include provisions for annual and periodic updates, training and supervision of staff and adherence to all policies and procedures.

H.4.1. Introduction

This section should briefly introduce the purpose of the Traffic and Travel Management Plan and set out the overall goals and objectives of the Traffic and Travel Management Plan. The introduction should discuss the title, functions, roles, duties and responsibilities of each person that the Concessionaire identifies as being involved with traffic and travel control and management.

H.4.2. Functional Management

This section of the Traffic and Travel Management Plan must address the strategies, activities, responsibilities, requirements and procedures that the Concessionaire will implement for traffic control and travel management operational functions.

Traffic control and travel management functions for the Toll Roads will be comprised of several subsystems, procedures, responsibilities and protocols that will need to interface with each other to accomplish the objectives stated above. The Traffic and Travel Management Plan must address each of these components and discuss how they will interface with one another, and how their functional characteristics enhance the safe and efficient movement of traffic through the Toll Roads.

4412m This section of the Traffic and Travel Management Plan must include the following subsections, at a minimum:

H.4.2.1. Staffing

This section of the Traffic and Travel Management Plan must include descriptions, titles, responsibilities and roles each person involved with traffic control and travel management will play. The Concessionaire must identify essential personnel, the call-up protocol, and the measures employed to keep the Toll Roads performing at its peak efficiency.

H.4.2.2. Training

This section of the Traffic and Travel Management Plan must include the specific programs that the Concessionaire has implemented to train, re-train and advance the staff assigned to traffic control and travel management.

H.4.2.3. Monitoring Procedures

This section of the Traffic and Travel Management Plan must include the procedures implemented by the Concessionaire to monitor the decision- support and surveillance systems; to monitor the information obtained from multi-agency operations; and to monitor the information obtained from users, or other tools, communications and means.

H.4.2.4. Traffic Management Center

An existing traffic management center (TMC) is located at the PR-52 Caguas Norte Toll Plaza. The PRHTA will transfer to the Concessionaire all the furniture, systems and electronic equipment housed within the facility to manage the existing DTL and ITS systems in the Toll Roads at the Closing Date, except Sunguide software and equipment that will be transferred to the Concessionaire upon the Substantial Completion of the TMC Sun Guide Segregation Project (Retained Capital Improvement Project). For avoidance of doubt, the Concessionaire will be responsible for the operation of the Sunguide system from the Closing Date, but the Concessionaire will not be responsible for the maintenance of the Sunguide system until the Substantial Completion of the TMC Sun Guide Segregation Project.

The Concessionaire must expand and update the TMC systems and facilities, using the current TMC or other facility proposed to and Approved by the PRHTA, in order to provide all the functionalities and services described in the Traffic and Travel Management Plan.

The PRHTA will continue to perform operations at the TMC until a new PRHTA TMC is built by the PRHTA and the PRHTA current operations out of the Toll Roads can be transferred to the new PRHTA TMC. During and after the transition, the Concessionaire must pay for the utilities and the facility maintenance and upkeep.

The TMC houses Puerto Rico Police Bureau and Medical Emergencies Corps Bureau operations. The Concessionaire must continue to provide space at the TMC so that both agencies to continue their current operations. The Concessionaire must provide maintenance and upkeep to the areas designated to both agencies.

The Concessionaire will provide a dedicated area for one person of the

PRHTA at the TMC that could be used at PRHTA's convenience during the whole Term.


This section of the Traffic and Travel Management Plan must address the operational requirements and functions of the TMC for the Toll Roads, including how it will interface with the new PRHTA TMC. All traffic control and travel management should be coordinated through the efforts and communications via the TMC functions, its tools, and its management.

The Traffic and Travel Management Plan must include the TMC operational procedures for the Toll Roads to address items essential to the operations of the Toll Roads, including but not limited to: lane scheduling; traffic congestion management; traffic monitoring; toll collection activities; DTL activities; traffic incident management; construction and maintenance travel management, etc. The TMC must be operated at all times, 24 hours per day, 7 days per week.

H.4.2.5. Traffic Control Supervision

This section of the Traffic and Travel Management Plan must include procedures and responsibilities that the Concessionaire will establish for the supervision and decision making associated with traffic control and travel management along the Toll Roads. The Traffic and Travel Management Plan must address the authority that the Traffic Control Supervisor will possess and the procedures that have been established.

The Traffic and Travel Management Plan must include the following items when addressing traffic control supervision, at a minimum:

- 
- Contacts and communication with local and state law enforcement, fire and emergency service agencies.
 - Field checking locations and placements of signs and traffic control devices before any work begins, and as it progresses.
 - Providing sufficient surveillance of signs, barricades and other traffic control devices and systems, and establishing procedures to ensure that these elements are inspected and properly functioning every calendar day.
 - Directing revisions to work zone traffic control plans to meet field and weather conditions for traffic control to operate as intended.
 - Directing and monitoring all project flaggers.

H.4.2.6. Data Management and Performance Measures

This section of the Traffic and Travel Management Plan must include processes and procedures for obtaining accurate data for the Toll Roads via the Toll Collection System (TCS), Intelligent Transport System (ITS), Dynamic Toll Lane (DTL), the Radio Communication System, or by other means. The data and performance measures should include, at a minimum,

1. a record of traffic by direction of travel, type of vehicle as classified by number of axles, and time of day for all vehicles traveling through toll plazas.
2. traffic incident management performance measures, including but not limited to incident clearance times, roadway clearance times, secondary crashes, responder arrival/departure, and lane closures and openings.
3. traffic management performance measures, including but not limited to speed, volume, occupancy, travel time, and travel time reliability.
4. DTL performance measures, including but not limited to toll transactions, volumes, toll prices, price calculation model, travel times, travel time reliability and traffic incident data.

The data collected related to this performance measures must be stored within Toll Roads systems and the Concessionaire must provide continuous access to this data to the PRHTA and integration with the PRHTA TMC systems.

The Concessionaire must develop and implement a performance measurement reporting program in coordination with the PRHTA that considers daily, monthly, quarterly, and annual performance measures reporting. The performance measurement reporting program must provide comparisons of the data based on the different reporting periods.

The Concessionaire must establish targets for each performance measure being reported and develop an action plan to reach the targets established consistently. The performance measure and action plan must be developed in coordination with the PRHTA.

The Concessionaire must comply with all US Federal Government mandate performance measurement regulations and submit the required reports as mandated by the federal regulations including but not limited to the type of data, data accuracy, and collecting and reporting periods.

This section of the Traffic and Travel Management Plan must also include procedures and frequencies for the collection of traffic data at entrance and exit ramps within the Toll Roads.

H.4.2.7. Traffic Analysis

This section of the Traffic and Travel Management Plan must include procedures and frequencies for performing traffic analyses for all sections and portions of the Toll Roads. Traffic data should be analyzed

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to determine if operational improvements are required to accommodate changes in traffic volumes or patterns. Particular attention must be paid to toll and ramp queue lengths to determine the maximum length and the duration of such queues, and if the mainline traffic flow is impacted.

H.4.2.8. Traffic Alleviation Plans and Procedures

This section of the Traffic and Travel Management Plan must address the development and content of the standards, details, communication tree, responsibilities and functions required when implementing each specific traffic alleviation procedure.

The Concessionaire must always keep in mind that the goals and objective of managing the Toll Roads including the following:

- The reduction of congestion impacts and occurrences.
- To maximize operational safety for users and the public.
- Ensure the efficient and pleasant passage of traffic through the Toll Roads.
- To provide users accurate and necessary information to aid in making effective and pleasurable use of traveling within the Toll Roads.

H.4.2.9. Highway Safety Patrol Program

This section of the Traffic and Travel Management Plan must address the development and content of the Highway Safety Patrol (HSP) Program to perform traffic incident management activities to respond to traffic incidents (crashes, disabled vehicles, roadway debris removal, etc.) on the Toll Roads.

The HSP program must consist of a minimum of 27 highway safety patrols that provide concurrent and continuous coverage along the designated toll roads.

The service schedule must be divided in two categories:

- Category 1: Monday – Friday from 5:00 am to 9:00 pm, excluding holidays.
- Category 2: Monday – Friday from 9:01 pm to 4:59 am, Saturday, Sunday, and holidays


The Concessionaire must provide service concurrently with the number of highway safety patrols indicated in the following table:

Number of Highway Safety Patrols

- Category 1: 27 patrols
- Category 2: 14 patrols

The development of the service plan must be data dependent and consider traffic volume, traffic incidents, crashes, travel time, patrol beat, and any other factor that could affect the level of service of the HSP program.

The highway safety patrols must be pick-up type vehicles (Ford F-250, Dodge Ram 2500, or similar) and all vehicles must be equipped with the following tools/devices as a minimum:

- 
- Air compressor with air operated impact wrench
 - Heavy duty jack
 - LED warning/strobe light bar
 - GPS location units
 - Vehicle-mounted Dynamic Message Sign
 - Forward/Backward CCTV cameras with real time streaming capabilities
 - Two-way radio or similar capability communication devices
 - In-vehicle device capable compatible with Smartphone Application for Road Rangers (SPARR) from SunGuide
 - All highway safety patrols must use SPARR for traffic incident management data collection.
 - Traffic control devices – cones (25 minimum per vehicles)
 - Electronic flares (Pi-Lit or similar)
 - Portable Traffic Incident Management sign
 - In-cabin operated debris removal system (LaneBlade or similar) (minimum of 1 vehicle equipped per toll road)
 - Other tools/devices that enhance traffic incident management capabilities.

The highway safety patrols operators must be provided with safety

equipment to comply with local and federal regulations (Class III safety vest, etc.) and must be trained to perform their duties (including but not limited to National Traffic Incident Management Responder Training Course, and Traffic Control Technician Training).

The Concessionaire must develop Standard Operating Procedures (SOP) for the HSP program that addresses the typical traffic incident management activities (safety, communications, scene management, hazardous materials, towing, etc.) and provide copy to the PRHTA. The SOP must be update continuously to reflect lessons learned during the implementation of the HSP program. The updated SOP must be provided to the PRHTA.

The Concessionaire must collect and store all the relevant data related with the Highway Safety Patrol program in SunGuide and prepare reports (daily, weekly, monthly, quarterly, and annually) for the performance measures related to traffic incident management.

The Concessionaire must comply with any local and federal requirements related to labor laws, licenses, permits, and insurance needed for the operation of the HSP Program.

H.4.2.10. Traffic Information Dissemination

This section of the Traffic and Travel Management Plan must include descriptions and procedures for the accurate dissemination of necessary, essential and real-time information concerning traffic to users, the public, the community, and to Municipal, Commonwealth and Federal agencies. The Traffic Information Dissemination section must include efforts to be performed to disseminate information through the ITS infrastructure, website, social media, Waze, and other available dissemination efforts. The section must take into consideration the requirements imposed by federal regulation 23 CFR 511.

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H.4.2.11. Cooperation with the Puerto Rico Police Department

This section of the Traffic and Travel Management Plan must include the practices that are being employed to coordinate enforcement of traffic safety issues with the Puerto Rico Police Department.

H.4.3. Decision-Support Systems

Decision-support systems are tools that function by obtaining, analyzing, organizing and presenting information obtained from a variety of sources in order to assist the Concessionaire in making effective and sound traffic control and travel management decisions.

This section of the Traffic and Travel Management Plan must address the functions, operations, and procedures utilized by the Concessionaire when employing these types of systems with traffic control and travel management information. The Traffic and Travel Management Plan must also address how these systems will be coordinated, the control strategies of each system, the operational strategies of each system, and the identification techniques utilized.

This section of the Traffic and Travel Management Plan must include the following subsections, at a minimum:

H.4.3.1. Toll Collection System (TCS)

The Toll Collections System, including ETC and ORT systems, has the ability to store traffic data by time, toll lane, vehicle class, etc. since it is used as a verification system in conjunction with the toll payment process. This system is an extremely valuable tool that can be utilized to analyze the peak hour, peak period traffic, AADT, ADT, etc. The Traffic and Travel Management Plan must address how this information and its support functions and algorithms are utilized by the Concessionaire in traffic control and travel management.

This section of the Traffic and Travel Management Plan must also include the procedures and process the TCS will utilize in developing historical traffic count databases, and how databases, along with real-time counts can be applied in the Concessionaire's traffic control and travel management functional decision-making processes.

H.4.3.2. Communication Systems

Radio Communication systems are another effective tool that can assist the Concessionaire in the decision-making process for traffic control and travel management. Communication systems include voice and data information, which includes, but is not limited to, Highway Advisory Radios, agency data reports, travel time listings, interagency radio monitoring, and computer related systems.

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This section of the Traffic and Travel Management Plan must include the procedures and process that the Concessionaire will follow when utilizing these systems and how the Concessionaire will release the information from its communication systems to others, as applicable.

H.4.3.3. Surveillance & Detection Systems (ITS)

Surveillance and detection systems, portions of a comprehensive Intelligent Transportation System (ITS), is essential for managing traffic and travel within the Toll Roads. The elements and systems will be able to collect data on traffic flows and performances through sensor technology and will permit the Concessionaire to monitor conditions.

This section of the Traffic and Travel Management Plan must include the technologies, systems, products, procedures, and process that the Concessionaire employ when using the surveillance and detection technologies, as well as an ITS overall, and how their functions and algorithms are employed to assist in traffic control and travel management.

H.4.3.4. Dynamic Toll Lane (DTL)

At the Closing Date, the toll for the PR-52 DTL shall be determined by reference to a table of toll rates, which table will set out the toll rate applicable to users of the PR-52 DTL for each fifteen (15) minute increment of a twenty-four (24) hour period and for each day of the week for the five entry points of the PR-52 DTL.

During the Term, the Concessionaire will be able to propose to the PRHTA a DTL toll price based on real-time data collected by the ITS devices installed along the DTL, and the Concessionaire will implement it once submitted to the PRHTA and Approved by PRHTA.

DTL systems are essential for managing traffic and travel within the specific Dynamic Toll Lanes included on the Toll Roads. The elements and systems are able to collect data on traffic flows and performances through sensor technology, permits the Concessionaire to monitor conditions and permits the management of the traffic flow applying different toll rates decided in real time according to specific algorithms.

This section of the Traffic and Travel Management Plan must include the procedures and process that the Concessionaire employs using the DTL systems and how their functions and algorithms are employed to assist in traffic control and travel management. Specific detail of information about toll rate algorithm must be included.

H.4.3.5. Roadway Weather Information Systems (RWIS)


RWIS have been traditionally employed to assist in making weather related control decisions. As technology continues to advance, these systems will also advance so that they are able to provide more accurate locations and durations of weather events. The Concessionaire may choose to utilize these systems and the advantages they provide in traffic control and travel management.

This section of the Traffic and Travel Management Plan must include the procedures and process that the Concessionaire will employ with the use of these types of systems, as applicable.

H.4.3.6. Other Systems

To the extent any other systems are employed or implemented by the Concessionaire on the Toll Roads, or if the Concessionaire plans to implement any other such systems, the Concessionaire must address such systems in this section of the Traffic and Travel Management Plan.

H.4.4. Multi-Agency Operations and Arrangements

 An effective technique of ascertaining assistance in the management of traffic and travel within the Toll Roads is by developing agreements and participation with other agencies. These techniques include the coordination and communication with people, systems and resources available on other highway networks through the sharing of information. These arrangements are typically contained in a written plan that addresses use, limits, confidentiality and other terms and conditions related to such information. Such agreements may include sharing data; voice communication; emergency responders; real-time traffic movements and counts; and CCTV and other surveillance systems.

This section of the Traffic and Travel Management Plan must address the systems, technologies, products, protocols, types, terms, relationships and procedures that exist between PRHTA, other agencies and the Concessionaire, including the following subsections, at a minimum:

H.4.4.1. Integrated Systems

Integrated systems allow multiple agencies to share a single management center, and to utilize the systems to share data and communications in a network to assist in an overall decision-making policy.

This section of the Traffic and Travel Management Plan must address information on how the Concessionaire and the Toll Roads are integrated, cooperate, and function with PRHTA as well as all other Agency systems and Emergency & Traffic Management Centers; the manner in which it participates in these organizations and systems; and

describe how those agreements and systems will be upheld.

H.4.4.2. Regional Initiatives

These types of initiatives foster communication, coordination and cooperation between agencies over a particular area or region to ease congestion and disseminate information.

This section of the Traffic and Travel Management Plan must address information on how the Concessionaire, PRHTA and the Toll Roads share and participate in these initiatives and describe how these initiatives will continue.

H.4.4.3. Resource Sharing

These types of relationships center on the sharing of informational resources, including such devices as CCTV systems, surveillance systems, real-time traffic counts, ITS, dynamic message signs, electronic toll tag readers, communication equipment and traffic management centers.

This section of the Traffic and Travel Management Plan must address how the Concessionaire and PRHTA will share resources specific to the Toll Roads, the terms and limits of sharing and the parties that participate in the sharing agreements.

H.4.4.4. Federal Regulations and Programs

The Concessionaire must cooperate with the PRHTA to address any request from the US Federal Government agencies related to demonstrating compliance with federal regulations and must implement all measures related to the compliance of federal regulations.

The Concessionaire must collaborate with the PRHTA in implementing innovative solutions to address transportation issues promoted by the Federal Highway Administration (FHWA) programs, such as the Everyday Counts Program.

The Concessionaire must participate in any peer-exchange coordinated by the PRHTA and or FHWA related to traffic management activities.

This section of the Traffic and Travel Management Plan must address information on how the Concessionaire will cooperate, participate and implement the previous topics related with Federal Regulations and Programs.

H.4.5. Standards and Protocols - Work Zone Traffic Control

Maintaining safety for users, the public at large, the community and workers must be always of paramount importance to the Concessionaire. At the same time the Toll Roads must be kept open to travel in each direction at all times, and only restricted during emergencies, traffic safety hazards, severe weather conditions, maintenance and construction activities, and other permitted times.

This section of the Traffic and Travel Management Plan must address the requirements for Work Zone Traffic Control, and the development of a series of stand-alone traffic control standards and drawings to be used for Work Zone Traffic Control along the Toll Roads. The intent of these standards and drawings is to have a series of protocols prepared in anticipation of imminent work; ensure full compliance with the Reference Documents listed in Section H.2 of this Chapter; ensure full compliance with all applicable Local, Commonwealth and Federal laws. Such standards and drawings must be prepared by a Professional Engineer Licensed in the Commonwealth of Puerto Rico.

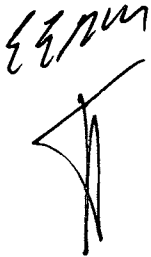
This section of the Traffic and Travel Management Plan must also address the policies, procedures and approval requirements developed by the Concessionaire for work conducted by Contractors within the Toll Roads. The intent of these processes is to ensure that a written plan has been developed and approved by a responsible Professional Engineer in the Commonwealth of Puerto Rico prior to the start of work. Additionally, the Traffic and Travel Management Plan must consider the requirements placed on others for work on facilities adjacent to or crossing over or under the Toll Roads.

The development of all sections, standards, and procedures of the Traffic and Travel Management Plan must consider any proposed work, maintenance, or emergency lane closure or traffic pattern change within the Toll Roads. The plans must be thoroughly developed to minimize impacts to traffic within the Toll Roads and minimize dangers to workers present on the project work site. All situations that require temporarily closing one or more lanes must carefully consider the effect that such an operation will have on traffic.

In addition to the above stated requirements, this section of the Traffic and Travel Management Plan must address, at a minimum the following:

H.4.5.1. Material and Equipment Storage and Parking

This section of the Traffic and Travel Management Plan must include procedures and standards that take into consideration, at a minimum, the following: material supply and storage within a work zone site; equipment transport to and within the Work Zone; equipment storage while on site; and the parking of personal vehicles and other equipment.

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H.4.5.2. Protection of Hazards

This section of the Traffic and Travel Management Plan must include procedures and drawings, in a manner similar to Chapter 6 of the MUTCD and the Reference Documents listed in Section H.2 of this Chapter, for protecting traffic from all potential hazards that may exist during construction or maintenance work, or hazards that may be created or exposed as part of the work.

H.4.5.3. Temporary Lane Closures

This section of the Traffic and Travel Management Plan must include procedures, standards and drawings for providing temporary lane closures when a portion of the traveled way is needed for construction or maintenance activities. The Traffic and Travel Management Plan must address the policy utilized for lane closures such as traffic analysis methods, and must also include the allowable times, locations and other pertinent information. Lane closures must be kept to a minimum and should occur during off-peak times, unless conditions require otherwise.

H.4.5.4. Temporary Road Closures

This section of the Traffic and Travel Management Plan must address the procedures and protocols to accommodate any temporary road closure as a result of an emergency situation.

H.4.5.5. Flagging in Work Zones

This section of the Traffic and Travel Management Plan must include procedures and requirements for when flagging activities are required within work zones. Work zone flaggers should be qualified, trained and certified to perform their required duties.

H.4.6. Standards and Protocols - Work Zone Traffic Control Devices

This section of the Traffic and Travel Management Plan must address the requirements for Work Zone Traffic Control Devices which are necessary and required to inform and safely guide and direct traffic within and through the designated Work Zones within the Toll Roads. Traffic Control Devices that must be considered and specified in the Traffic and Travel Management Plan include, but are not limited to: warning signs, Dynamic Message Signs, barriers, barricades, delineators, and pavement markings to clearly and safely route traffic through any construction or maintenance work zone.

The Traffic and Travel Management Plan must also address the maintenance and operation that the Concessionaire will employ to provide continuous and expeditious repair or replacement of all damaged or ineffective traffic control devices. All devices used within the Toll Roads must remain in good condition and provide the level of functionality required by the most stringent criteria of either PRHTA or the MUTCD. The Concessionaire must include in the Traffic and Travel Management Plan the maintenance activities for replacement of traffic control devices, which are damaged (torn, crushed, discolored), displaced by traffic or other means, or deteriorated beyond effectiveness.

Work zones must be delineated with advance warning signs; protective barriers or other appropriate safety devices; and end of work zone signing. The maintenance work zones must meet traffic and worker safety standards and procedures established by the Commonwealth as supplemented by standards presented in the Reference Documents.

H.4.7. Standards and Protocol - Emergency Events

This section of the Traffic and Travel Management Plan must address the procedures and protocols that the Concessionaire will apply during emergency events that occur within the Toll Roads. This section of the Traffic and Travel Management Plan must include, at a minimum, the following subsections:



H.4.7.1. Event Management

This section of the Traffic and Travel Management Plan must include the general responsibilities and management procedures that the Concessionaire and its staff will employ during emergency events.

H.4.7.2. Notification of Lane/Highway Closures

This section of the Traffic and Travel Management Plan must include procedures to be followed to inform users and the Commonwealth of emergency lane or road closure. The Traffic and Travel Management Plan must use efficient and rapid response procedures to restore normal travel conditions after an incident has occurred. This section must also include the protocols for information dissemination.

H.4.7.3. Emergency Detouring of Traffic

This section of the Traffic and Travel Management Plan must include procedures and practices for the emergency detouring of traffic on the Toll Roads in the event of an emergency situation. The Concessionaire must address the protocols that will exist between other agencies so that traffic will flow effectively and safely through the detour route.

H.4.7.4. Disabled and Abandoned Vehicles

This section of the Traffic and Travel Management Plan must include the traffic control procedures for the safe and efficient removal of disabled or abandoned vehicles within the Toll Roads. The Concessionaire must address the protocols that will be established with the Puerto Rico Police when these situations arise.

H.4.8. DTL Reversible Lane Operations

The Concessionaire must perform the daily operations related to the Dynamic Toll Lane (DTL) which includes but is not limited to the reversible lane barrier transfer machines, opening/closing of the DTL access gates, and inspection of the DTL before opening or changing directions.

The Concessionaire must be responsible for providing the trained personnel required to perform the machine operation.

This section of the Traffic and Travel Management Plan should address the procedures and protocols that will be followed by the Concessionaire for the operation of the DTL when the Moveable Barrier System is to be employed.

This section of the Traffic and Travel Management Plan must also include: typical anticipated hours of use; directional layout(s) and configuration(s) of the movable barrier system; emergency procedures if incidents occur that disable the system; traffic control procedures for when the barrier is being moved; and storage location and procedures of the barrier moving machine.

H.4.9. Standards and Protocol – Unusual Events

This section of the Traffic and Travel Management Plan should address the procedures and protocols that have been established to address unusual and special events that may occur within or affect the Toll Roads. This section of the Traffic and Travel Management Plan must include the following subsections, at a minimum:

H.4.9.1. Overweight/Oversized Vehicles

This section of the Traffic and Travel Management Plan must include the procedures established by the Concessionaire for managing Overweight and Oversized vehicles which pass through the traveled way of the Toll Roads. The Traffic and Travel Management Plan must address communication with PRHTA concerning the permitting of these types of vehicles, and must address the times and policies that will be

employed to handle these situations. In addition, this section of the Traffic and Travel Management Plan must include procedures and protocols to maintain traffic safety in the vicinity of Overweight/Oversized vehicles.

H.4.9.2. Security Convoys

This section of the Traffic and Travel Management Plan must address the situations that may occur when security, military, or other types of motorcades or special convoys are required to pass through the traveled way of the Toll Roads.

H.4.9.3. Vehicle Peak Capacity Events

This section of the Traffic and Travel Management Plan must address the protocols and procedures, including manpower shifts, employee call-outs, etc. that will be employed when unusual events which occur that increase traffic and the number of vehicles passing through the traveled way along the Toll Roads are well beyond that which is considered peak or maximum.

H.4.10. *Operations Outside Limits of the Toll Roads*

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The Concessionaire must perform the daily operations related to the Dynamic Toll Lane (DTL) which includes but is not limited to the reversible lane barrier transfer. The Concessionaire must operate and maintain ITS and DTL assets on PR-18 and PR-22 that fall outside of the limits of the Toll Roads and needed for the Dynamic Toll Lane (DTL) operation. These assets include CCTV cameras, vehicle detectors, dynamic message signs, and fiber optic communications infrastructure (cables, conduits, pull boxes, etc.). These assets are in PR-18 from kilometer 0.0 up to the concession agreement limits, in the northbound ramp from PR-18 towards PR-22, and in PR-22 km 2.4.

The Concessionaire must operate and maintain the DTL access gates and auxiliary components (controllers, communication devices, etc.) located at PR-1, and PR-21 that fall outside of the limits of the Toll Roads and needed for the Dynamic Toll Lane operation. These assets are at the PR-1 and PR-21 DTL entrance/exit ramps.

The Concessionaire must operate and maintain the reversible lane barrier transfer machine and modules located at PR-18 that fall outside of the limits of the Toll Roads and needed for the DTL Lane operation. The operation of the reversible lane barrier transfer machine is needed to perform the opening of the DTL towards the southbound direction during the PM hours. The reversible lane barrier transfer machine operation must be performed in PR-18 from km 0.1 up to the Dynamic Toll Lane fixed median barriers located near Américo Miranda Avenue.

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I.1. Definitions

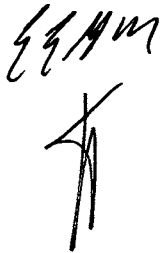
Agencies: Including, but not be limited to, municipal, county and/or agencies and departments of the Commonwealth of Puerto Rico, or other such public stakeholders.

Best-practice: A level of performance that is equal-to-or-better-than the performance commonly attributed to top-tier highway systems.

Customer: Any person or organization outside of the Concessionaire organization that has contact with the Toll Roads, including but not limited to users, people who make inquiries or complaints to the Concessionaire, the Commonwealth, PRHTA and other similar situated persons.

Stakeholder: Those entities or individuals, public or private, who care about or are responsible to or for, directly or indirectly, the quality of function or operation of the Toll Roads.

Staff: Any employee of the Concessionaire, its agents, or its contractors.

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I.2. Policy for Customer Service Plan

I.2.1. Objective

The objective of the Customer Service Plan is to ensure that the Concessionaire establishes guidelines for creating and maintaining a uniform, efficient system that documents customer concerns and inquiries, ensures an adequate response, and provides a recoverable record of the concern and the corrective action taken, addressed in a written and Approved Plan.


I.2.2. Responsibility of Concessionaire

The Customer Service Plan is to be developed, written, and implemented by the Concessionaire, and must be consistent with all applicable Local, Commonwealth and Federal laws, codes and requirements. The Customer Service Plan is to be updated and submitted annually and must receive Approval from the PRHTA.

This Chapter includes a general outline of the proposed Customer Service Plan. This outline is intended only to provide guidance in the preparation of the Concessionaire's Customer Service Plan and must be modified, revised or changed, as appropriate, to address specific issues, needs or concerns related to the Toll Roads that develop over time.

I.2.3. Performance Time Frames

The following table establishes the minimum frequency that the Customer Service Plan is to be written and updated by the Concessionaire, submitted to the Commonwealth and Approved by the Commonwealth.



Plan	Minimum Frequency of Occurrence
Customer Service Plan	Once Yearly

I.2.4. Acceptance Criteria

The Customer Service Plan will be considered acceptable for a particular year when the Customer Service Plan has been written and updated by the Concessionaire, submitted to the PRHTA and Approved by the PRHTA.

I.3. Customer Service Plan Preparation Requirements

The following is a general outline of the Concessionaire's responsibilities that must be included and addressed when creating the Customer Service Plan. The outline is not intended to be all-inclusive, but rather, contains the *expected minimum* items that should be included and addressed in the Customer Service Plan.

The Customer Service Plan must include provisions for annual and periodic updates, training and supervision of staff and adherence to all policies and procedures. It is expected that the Customer Service Plan represents best-practice in the field of Customer Service.

I.3.1. Introduction

This section is to contain a short introduction to the Customer Service Plan that includes a description of the persons or agencies involved in the preparation of the Customer Service Plan, the title of the individual who is charged with the implementation and maintenance of the Customer Service Plan and the overall goals and objectives of the Customer Service Plan. At a minimum, this section is to contain the following sub- sections:

- Purpose.
- Scope and applicability.
- The methodology used to develop the Plan.

I.3.2. Customer Service

The Customer Service Plan must include the requirements that the Concessionaire's staff will be required to follow when communicating with customers. The Customer Service Plan must include provisions to ensure proper handling of complaints to improve customer satisfaction and responsiveness.

I.3.2.1. Procedure for Handling Customer Complaints and Inquiries

The Concessionaire must develop this section of the Customer Service Plan to include a Customer Service Log used when receiving comments and concerns about the Toll Roads. The Customer Service Log must be maintained in accordance with standards and requirements established in the Customer Service Plan. Provisions must be made in the Customer Service Plan to receive, record, and log customer comments received by either a Toll Road Operator or by any other Concessionaire staff member whether in person, in writing, by telephone, mail, email, web page or any other manner. At a minimum, the record must include the name and address of the person presenting the complaint or comment, the date and time of

the complaint or comment, the Toll Road operations staff receiving the complaint or comment, and a complete description of the complaint or comment.

The Customer Service Plan must, at a minimum, address the following:

- Requirements and standards for the Customer Service Log.
- Procedures and standards for receiving inquiries or concerns.
- Recording of customer inquiries and concerns.
- Reviewer protocol of customer service inquiries or concerns.
- Exceptions to recording customer service inquiries and concerns.

I.3.2.2. Complaint Prioritization Procedures

This section of the Customer Service Plan must address a system and procedure to develop criteria for responding to concerns based on priority, degree of deficiency, and schedule to correct.

I.3.2.3. Complaint Reconciliation Procedures

This section of the Customer Service Plan must establish guidelines and procedures to ensure an adequate response to any complaints or comments received in the Customer Service Log.

The Customer Service Plan must delineate follow-up procedures and actions documented by the Concessionaire. The Customer Service Plan must include provisions for acknowledging communication from the Concessionaire to the individual filing the complainant or commenter that the complaint or comment was received, and appropriate corrective actions were initiated.

The Customer Service Plan should include, at a minimum, the following considerations:

- Customer Service database requirements and procedures.
- Follow-up procedures and actions.
- Requirements for formal plan of long-term improvements.

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I.3.2.4. Dissemination of Comments and Concerns

This section of the Customer Service Plan must state the policies and procedures developed to ensure all comments or complaints from agencies outside the Concessionaire are obtained, recorded and reconciled. Additionally, directives should be created to ensure the appropriate distribution of comments or complaints to agencies outside the Concessionaire, if requested. Agencies may include, but not be limited to, governmental organizations, Commonwealth agencies and departments, and the Puerto Rico Police.

I.3.2.5. Analysis of Database

This section of the Customer Service Plan must indicate that all Customer Service Logs and corrective actions should be recorded in a database providing, at a minimum, a summary of the complaint, date of complaint, date underlying occurrence (if known), date action was taken, summary of action taken and date of notification to the individual filing the complaint or comment.

The database and Customer Service Logs must be reviewed monthly to reconcile complaints received with actions taken. All outstanding complaints, refund requests, and responses must be reconciled and processed through closure each month.

To improve customer satisfaction and performance, the database statistics must be reviewed quarterly to compare performance of the current quarter versus the prior period and the current year versus the prior year.

I.3.2.6. Improvement Plan

This section of the Customer Service Plan must indicate the formal plan and process for improvement when there is a significant increase in the number of complaints received, a significant increase in the number of toll refund requests and/or a significant increase in the number of days taken to initiate an action. The definition and delineation of "Significant Increase" must be defined in the Customer Service Plan. The improvement plan should be prepared by the Concessionaire, and implemented and monitored monthly until improvements are documented. The Customer Service Plan should include:

- Identification of recurring deficiencies and policies to develop plans for improvements.
- Identification of patterns of problems and concerns, and development of plans to analyze, detect, and rectify deficiencies.
- A mechanism to ensure that services and concerns are addressed adequately.

1.3.3. Information Services

1.3.3.1. General Requirements and Goals of Information Services.

This section of the Customer Service Plan must include efforts of the Concessionaire in assisting Toll Road users with general information. This task should include providing information services to users in an effort to achieve a positive overall standard of Customer Service.

1.3.3.2. Information Requirements

This section of the Customer Service Plan must include the contents that will be included in every Toll Booth so that they are equipped with a current Information Packet to address requests for information from users. This packet must contain a base set of information tools for use, in addition to information addressing common requests gathered by Toll Booth attendants. At a minimum the Information Packets should contain the following:

- Updated current highway map of the Commonwealth, the Metropolitan Area, and other local municipalities.
- A quick list of dates, locations and general directions for major events in communities along the Toll Roads.
- A quick list and directions to various venues (stadiums, museums, concerts, arenas, airports theaters, etc.) for communities along the Toll Roads.



1.3.3.3. Communication Requirements

This section of the Customer Service Plan must include policies and procedures that will be utilized for communications protocols with users.

1.3.3.4. Information Updates

The Customer Service Plan should develop requirements for updating standard information available as an Information Service to users. Updates may be required due to construction activities and road closures, updated street maps, or unique events.

1.3.4. Lost and Found

The Concessionaire must establish a Lost and Found location and the procedures of its function as part of the Customer Service Plan. The Concessionaire must assume custody of all found property, and place such property in a secure and designated location. This section of the Customer Service Plan must, at a minimum, address the following:

- Protocols for Found Property:
 - Logbook.
 - Date of find.
 - Description and condition of property.
 - Who found and submitted the property.
 - Contents of property.
 - Location where property was found.
 - Tagging and identification of property.
 - Contact of property owner if identification is present.
 - Placement, storage and security of property.
 - Contact with the Local Community and Puerto Rico Police Departments.
- Protocols for Returning Property:
 - Customer Lost property report.
 - Claim Form.
 - Inventory check procedures against claims and reports.
- Disposing of Unclaimed Property
 - Property holds length (90 Day Minimum).
 - Disposal of property.
 - Coordination with the Local Community and Puerto Rico Police Departments.

1.3.5. PR-20, PR- 52, PR-53 and, PR- 66 Travel Information Dissemination

This section of the Customer Service Plan must address, at a minimum, the following topics:

- The Concessionaire must develop, implement, maintain, and update a traveler information website to distribute traffic information to road users. The traveler information website must show a map displaying the highway network and show georeferenced location of real time events, including but not limited to traffic incidents (crashes, disabled vehicles, debris, etc.), highway construction and maintenance zones, color coded traffic map, CCTV cameras with real time video, links with other agencies and pertinent websites (local traffic, weather), etc.
- The Concessionaire must develop, implement, maintain and update a social media traveler information dissemination plan that includes all major social media platforms.
- The Concessionaire must develop and implement a performance measurement plan in compliance with the requirements of 23 CFR Part 511.

This section of the Customer Service Plan must also briefly describe the computer hardware and software utilized, and the Internet Service Provider. The Concessionaire must also provide a planned website update schedule.

1.3.6. Training

The Concessionaire must include in the Customer Service Plan the philosophy that every employee of the Concessionaire or its hired contractor of the Concessionaire is a customer service representative and represents a perception of the Commonwealth of Puerto Rico. The Customer Service Plan must also define the yearly and special situational training that will be required for those persons who will have the greatest contact with customers.

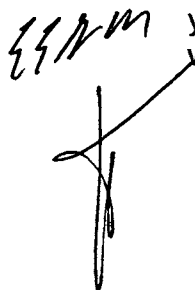
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J.1. Definitions

Agency: A division of government with a specific function offering a particular kind of assistance.

Disaster: A dangerous event that causes significant human and/or economic loss and demands a crisis response beyond the scope of any single agency or service. Disasters are distinguished from emergencies by the greater and more complex level of response and recovery required.

"Emergency" as proclaimed by the Governor of the Commonwealth of Puerto Rico: Whenever, in the opinion of the Governor of the Commonwealth of Puerto Rico, the safety of the Commonwealth, or portions thereof, its citizens, and/or its assets requires the exercise of extreme measures due to an impending or actual disaster, he (or she) may declare an emergency to exist in the Commonwealth or any portion thereof, in order to prioritize the deployment of the Commonwealth to assist in the resolution of the disaster.

Emergency Operations Center (EOC): A centralized facility utilized by the Commonwealth for the direction, control and coordination of the disaster or emergency.

Emergency Operations Plan (EOP): An EOP is a document that:

- Assigns responsibility to organizations and individuals for carrying out specific actions at projected times and places in an emergency that exceeds the capability or routine responsibility of any one agency.
- Sets forth lines of authority and organizational relationships, and demonstrates how all actions will be coordinated.
- Describes how people and property will be protected in emergencies and disasters.
- Identifies personnel, equipment, facilities, supplies and other resources available for use during response and recovery operations.
- Identifies steps to address mitigation concerns during response and recovery activities.

Emergency Support Foundation (ESF): "ESF" a functional approach to group the types of federal and local assistance available during emergencies. The National Response Plan identifies twelve ESF's. Each ESF is headed by a primary agency that has been selected based on its authorities, resources and capabilities in the particular area.

First Responder: Local police, fire, public works and emergency medical personnel who first arrive on the scene of an incident and take action to save lives, protect property and meet basic human needs.

Incident: An occurrence or event, natural or man-made that requires an emergency response to protect life or property.

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Mass Care: Care provided to individuals dislocated during the emergency period. These services are normally provided by volunteer organizations. Services provided normally include lodging, feeding, registration, first aid and other social services.

Major Disaster: Any natural or fabricated catastrophe, act of terrorism or other disaster that causes damage of sufficient severity and magnitude as to exceed the efforts and available resources of the Commonwealth of Puerto Rico sufficiently to warrant disaster assistance under the provisions of the Stafford Act, Public Law 93-288, as amended.

Mitigation: Those activities designed to alleviate the effects of a Major Disaster or Emergency or long-term activities to minimize the potentially adverse effects of future Disaster in affected areas.

National Incident Management System (NIMS): A comprehensive national approach and standardized organizational structure to incident management, applicable at all jurisdictional levels and cross functional disciplines that are intended to further the effectiveness of emergency response providers.

Preparedness: The range of deliberate, critical tasks and activities necessary to build, sustain and improve the operational capability to prevent, protect against, respond to and recover from domestic incidents. It is operationally focused on establishing guidelines, protocols and standards for planning, training and exercises, personnel qualification and certification, equipment certification and publication management.

Recovery: Recovery involves actions needed to assist individuals and communities to return to normal following an incident. Recovery programs are designed to assist victims and their families, restore institutions to sustain economic growth and confidence, rebuild destroyed property and reconstitute government operations and services. Recovery actions often extend long after the incident itself. Recovery programs include mitigation components designed to avoid damage from future incidents.

Response: Response includes activities to address immediate and short-term actions to preserve life, property, environment, and the social, economic and political structure of the community.

Stafford Act: Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended. This federal enabling legislation was enacted to support State and Local government and their citizens when disasters overwhelm them. The law establishes a process for requesting and obtaining a Presidential disaster declaration, defines the type and scope of assistance available from the federal government and sets the conditions for obtaining that assistance. The Federal Emergency Management Agency (FEMA), a part of the Emergency Preparedness and Response Directorate of the Department of Homeland Security, is tasked with coordinating the response.

Terrorism: Terrorism is the unlawful use of force or violence or threatened use of force or violence against persons and places for the purpose of intimidating and/or coercing a government, its citizens, or any segment thereof for political or social goals.

J.2. References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- The White House, Office of the Press Secretary, "Homeland Security Presidential Directive 5", February 28, 2003.
- U.S. Department of Homeland Security, Office of Homeland Security, "National Strategy for Homeland Security", July 2002.
- U.S. Department of Homeland Security, Office for Domestic Preparedness, "Homeland Security Exercise and Evaluation Program", Volume I, March 2003.
- U.S. Department of Homeland Security, Office of the Secretary, "National Incident Management System", March 1, 2004.
- U.S. Department of Homeland Security, Office of the Secretary, "National Response Plan", first draft, February 25, 2004.
- Public Entity Risk Institute (PERI), "Characteristics of Effective Emergency Management Organizational Structures".
- Federal Emergency Management Agency, "Objectives for Local Emergency Management", July 1984.
- U.S. Department of Transportation and Federal Emergency Management Agency, "Guidelines for Public Sector Hazardous Materials Training", March 1998.
- Federal Emergency Management Agency, Publications Catalog, #20.

J.3. Policy for Emergency Management and Operation Plan

J.3.1. Objective

The objective of the Emergency Management and Operation Plan is to ensure that the Concessionaire has considered, trained, addressed, and planned for all likely potential natural and man-made disasters, and established protocols, procedures, responsibilities and guidelines to mitigate the potential impacts and respond to and recover from the occurrence of a disaster event, in accordance with a written and Approved Plan.

J.3.2. Responsibility of Concessionaire

The Emergency Management and Operation Plan (EMOP) consists of both the Emergency Management Manual (EMM) and Emergency Operation Plan (EOP) which are documents to be developed, written, and carried out by the Concessionaire that must be consistent with all applicable Local, Commonwealth and Federal Laws, codes and requirements governing emergency planning, response and recovery. The EMOP is to be updated and submitted annually and must receive approval from the Commonwealth and, as appropriate, all other governing authorities.

It is understood that whenever the Homeland Security Advisory System (HSAS) is raised to "orange" or "red", the Concessionaire is to have management personnel with decision-making authority assigned to be personally present at the Emergency Management and Disaster Administration State Agency (EMDA) on a 24 hour per day, seven day per week basis until such threat level is reduced to "yellow" or the EMDA determines that such staffing level is no longer required.

It is further understood that the EMOP developed by the Concessionaire will be incorporated into the Commonwealth of Puerto Rico Emergency Operations Plan and accordingly will be required to be consistent with the published Commonwealth criteria to the extent possible, notwithstanding the unique characteristics and needs of this asset.

All damages to the Toll Roads caused by emergency situations, as addressed herein, are highly undesirable, and it is necessary to identify and prepare for damages when they render critical components of the Toll Roads inoperable, weakened, or unsafe.

This Chapter includes a general outline of the proposed EMOP. This outline is intended only to provide guidance in the preparation of the Concessionaire's EMOP and must be modified, revised or changed, as appropriate, to address specific issues, needs or concerns related to the Toll Roads that develop over time.

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J.3.3. Performance Time Frames

The following table establishes the minimum frequency the Emergency Management and Operation Plan (EMOP) is to be written and updated by the Concessionaire, submitted to the PRHTA and Approved by the PRHTA.

Plan	Minimum Frequency of Occurrence
<u>Emergency Management and Operation Plan (EMOP):</u> Consisting of: Emergency Management Manual (EMM) & Emergency Operations Plan (EOP)	Yearly

J.3.4. Acceptance Criteria

The Emergency Management and Operation Plan (EMOP) will be considered acceptable for a particular year when the EMOP has been written and updated by the Concessionaire, submitted to the PRHTA and Approved by the PRHTA.

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J.4. Emergency Management and Operations Plan Preparation Requirements

The following is a general outline of the Concessionaire's responsibilities that must be included and addressed when creating the Emergency Management and Operation Plan. The outline is not intended to be all-inclusive, but rather, contains the *expected minimum* items that should be included and addressed in the Emergency Management and Operation Plan.

The Emergency Management and Operation Plan must include provisions for annual and periodic updates, training and supervision of staff and adherence to all policies and procedures.

J.4.1. Introduction

This section is to contain a short introduction to the EMOP that includes a description of the persons or agencies involved in the preparation, the agency or individual who is charged with the implementation and maintenance of the EMOP and the overall goals and objectives of the Emergency Operations Plan (EOP). At a minimum, this section is to contain the following sub-sections:

- Purpose.
- Scope and applicability.
- The methodology used to develop and implement the EOP.
- Updates to the methodology.

J.4.2. Situation

This section of the EMOP is to provide an overview of the Toll Roads, the hazards to which they are exposed, the planning assumptions upon which the EMOP is based and the critical facilities required to carry out the EMOP. At a minimum, this section is to contain the following sub-sections:

J.4.2.1. Toll Road Information

Facts and statistics of the Toll Roads including:

- A plan view map of the entire Toll Roads.
- A general description of the location of the Toll Roads.
- A description of the geology and geography of the area.
- A description of the meteorology of the area.
- A description of the Toll Road Concession Agreement.



J.4.2.2. Hazard Analysis

A detailed hazard analysis of the Toll Roads: This section is to include a detailed investigation and analysis of the natural and man-made hazards to which the Toll Roads are exposed. It must also contain a detailed listing of any major incidents that have historically impacted the Toll Roads that required either a complete shutdown of the Toll Roads or resulted in an interruption of the revenue stream. The list must address, at a minimum, the last ten (10) years of operations for the Toll Roads (or from the time the Toll Road has been in service). It must also include a detailed hazard analysis table that summarizes the hazard exposures.

J.4.2.3. Vulnerability Analysis

A detailed all-hazards vulnerability analysis of the Toll Road: This section must identify the specific hazards that are possible or likely to impact the Toll Roads, the level of visibility of the hazard, how critical the site is to the Commonwealth, the financial impact to the Toll Roads, the impact to nearby agencies, residential areas, commercial and industrial facilities, the accessibility of the Toll Roads and the potential for mass casualties and the site population capacity.

J.4.2.4. Planning Assumptions

A statement indicating the basic planning assumptions upon which the EMOP is based. It must include lead times, effects of emergencies, when and how an emergency is to be declared, what outside assistance is available and the conditions under which an evacuation may be required.

J.4.2.5. Response Capabilities

A statement describing the current response and recovery capabilities of the Concessionaire: This statement must summarize the basic capabilities both in- house and from outside sources to deal with response and recovery issues. It must contain a general description of how resources are currently managed and deployed. It must also identify shortfalls in response capabilities and strategies to resolve these shortfalls.

J.4.2.6. Critical Facilities

Identification of critical facilities of the Concessionaire, providing the system name, address, contact person, property classification, primary emergency function, the secondary emergency function, the primary or normal use, the priority for power restoration and the emergency power requirements. A location map indicating the location of all critical facilities is to be included in this section. A detailed map and description of all critical facilities is to be included in the Appendices.

J.4.3. System Management Policies

This section is to address the current highway management policies and practices regarding the major factors that can have an impact on the operation of the Toll Roads. Copies of all written policies and procedures are to be included in the Appendices. It is to contain, at a minimum, a discussion of the following issues:

- Surveillance and Incident Detection
- Safety Patrols
- Facility Security
- Lane Use Control
- Ramp Control
- Information Dissemination
- Traffic Incident Management Procedures
- Control Center Operations
- Detours and existing alternative traffic routes for each ramp location
- Business Impact and Interruption
- The application of organization design standards for emergency management purposes.
- The development of a Concept of Operations Plan (COOP) for recovery following a major incident.

J.4.4. Toll Roads' Resources

This section is to contain a description of the resources that the Toll Roads and the Concessionaire have available on a day-to-day basis and a listing of the outside resources that are available on an on-call or contract basis. At a minimum, it must contain the following information:

J.4.4.1. Employee Lists

A complete employee listing that includes names, addresses, telephone contact information, job titles and bargaining units (if applicable). An organization chart must also be included.

J.4.4.2. Equipment Lists

A listing of all vehicles and equipment owned or leased by the Concessionaire that includes at a minimum, the make, model and year, vehicle identification number, a general description of the vehicle, the American Trucking Association or American Public Works Association description code, the approximate mileage and use under normal operating conditions.

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J.4.4.3. Available Outside Resources

A listing of all outside equipment that is available on-call that includes all of the information listed in the previous paragraph, a 24-hour name and phone number for a principal and two backup contacts, and the approximate response time. An identical list is to be prepared for all firms and equipment currently under contract to the Concessionaire. Copies of all current support contracts are to be included in the Appendices.

J.4.5. Day-To-Day Functions and Responsibilities

This section is to identify and discuss the day-to-day functions and responsibilities of the Concessionaire. It should discuss, in detail, why, when and how the various responsibilities of the Concessionaire are organized and managed. At a minimum, it should address the following:

- Routine facility surveillance and inspections
- Motorist Safety Patrols
- Facility security for all facilities and structures
- Emergency notification systems
- Traffic incidents/Traffic management
- Delivery of goods and services
- Documentation and recordkeeping.

J.4.6. Basic Operations Plan Content

The Basic Operations Plan provides an overview of the Concessionaire's approach to emergency operations. It is intended to detail and describe the response organization and assign specific tasks to the agencies and organizations that may be involved in an incident. It is used to guide and direct the development of functional and hazard specific annexes that provide specific direction and responsibilities for various types and magnitudes of incident.

J.4.6.1. Forward

The EOP must have a forward that contains introductory materials that enhances accountability and ease of use and includes:

- A document that is updated annually, signed and dated by the principal executive of the Concessionaire approving the Plan.
- A register for recording changes and entering change dates.
- A signature page providing signatory evidence that the highest ranking officials of all governmental departments and private sector organizations with assigned responsibilities, as appropriate, concur with the portions of the Plan applicable to the Concessionaire or entity they represent.

- A distribution list of the Plan recipients, indicating whether full copies or specific portions of the Plan were distributed.
- A table of contents listing all sections of the Plan
- Cataloging of copies of the EOP that have been provided to other agencies and date of distribution.

J.4.6.2. Overview

The EOP is to have a Basic Plan Overview, detailing the Concessionaire's approach to emergency management that contains, at a minimum, a general-purpose statement of the EOP that also references information provided in other parts of the overall Plan.


J.4.6.3. Concept of Operations

The EOP is to have a Concept of Operations section that describes the day-to-day operational issues of the Concessionaire. It is also intended to explain the Concessionaire's overall approach to an emergency situation (i.e. what should happen, when and at whose direction). The EOP shall be written to be in compliance and consistent with the Incident Command System (ICS) and the National Incident Management System (NIMS).

J.4.6.4. Organization and Assignments

The EOP is to have an Organization and Assignment of Responsibilities section that includes all individuals, departments, agencies and political subdivisions that may be involved in an emergency incident. It must include, at a minimum:

- An Incident/Unified Command basic structure that graphically illustrates the command structure that is typically used for "routine" and "major" emergencies. It should identify by position and/or job title those persons normally assigned to fill the various roles and have specific responsibilities under various emergency situations. This is not intended to be an absolute or inflexible document, but rather provide general guidance and information on how various incidents will typically be managed.
- A general sequence of actions, before, during and after an emergency situation.
- An explanation of who requests aid and under what conditions. Also, an explanation of who has the authority to request and/or send aid to other Commonwealth or Local agencies.
- An explanation of the relationships (for purposes of emergency management) between the Concessionaire and the Commonwealth, and the other governmental agencies and entities as appropriate.

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- An introduction to other issues and concerns that may be dealt with more fully in the annexes.
- An explanation of the organization, staffing, location and responsibilities of the Emergency Operations Center (EOC), and the conditions under which it is to be activated.

J.4.6.5. Administration and Logistics

The EOP is to have an Administration and Logistics section that covers the general support requirements and the availability and support for all types of emergencies, as well as general policies for managing resources. This section should address, at a minimum:

- A reference to and listing of all current mutual aid agreements. Full copies are to be included in the Appendices.
- All general policies for managing resources.
- Policies on:
 - Augmenting staff, if necessary
 - Reassignment of employees, if necessary
 - Financial record keeping
 - Reporting and tracking resource needs
 - Use of available resources
 - Acquiring ownership of resources
 - Compensating owners of private property, when used by the Concessionaire.

J.4.7. Functional Annex Requirements

Annexes are the parts of the EOP that begin to provide specific information and direction and must focus on operations. These annexes must emphasize responsibilities, tasks and operational actions that pertain to the specific functions. They should also clearly define and describe the policies, processes, roles and responsibilities inherent in the various functions before, during and after any emergency situation.

At a minimum, the EOP shall include a functional annex that addresses how the agency will perform each of the functions described below:

Each functional annex will be structured to be consistent with the Emergency Support Functions included in the Federal Response Plan and will individually address:

- The purpose of the function.
- A description of the situations that trigger implementation of the function.

- A description of the assumptions that apply to the function.
- The concept of operations for the function.
- Assignment of responsibility for annex maintenance, review and updating.
- Additional requirements established by the Emergency Management and Disaster Administration State Agency (EMDA) must also be addressed.

An Emergency Support Function (ESF) matrix of primary and support functions is to be developed and included in the Plan, which must include the following subsections:

J.4.7.1. Direction and Control

The means, by which, the Concessionaire will direct and control activities during emergency situations.

J.4.7.2. Communications

The means, by which, information will flow between responders, the EOC and the Commonwealth.

J.4.7.3. Warning/Emergency Information

The means, by which, the public will be warned and instructed regarding actual or threatened hazards and emergencies through the public media and other means.

J.4.7.4. Public Information

The means, organization and process by which the Concessionaire will provide timely, accurate and useful information and instructions to Toll Road users, and impacted (or potentially impacted) residential, commercial and industrial parties, under or adjacent to, or near the Toll Roads.

J.4.7.5. Disaster Intelligence/Damage Assessment

The means, by which, the Concessionaire will identify, collect, analyze and disseminate information on the extent and impact of the emergency situation.

J.4.7.6. Evacuation

The means, by which, the Concessionaire will manage, coordinate and conduct the evacuation of persons from the area believed to be at risk, when situations necessitate such action.

J.4.7.7. Mass Care

The means, by which, the Concessionaire will support and assist in mass care activities necessary to be provided as the result of an incident on the Toll Roads.

J.4.7.8. Health and Medical

The means, by which, the Concessionaire will assist and support health and medical services in emergencies and disasters, on or affecting the Toll Roads.

J.4.7.9. Mortuary Services

The means, by which, the Concessionaire will assist and support in the collection, identification and care of human remains resulting from emergencies and disasters on or affecting the Toll Roads.

J.4.7.10. Resource Management

The means, by which, the Concessionaire will manage the people, equipment, facilities, supplies and other resources to satisfy the needs generated by the disaster or emergency.

J.4.7.11. Debris Clearance and Waste Management

The means, by which, the Concessionaire will manage and coordinate the clearance of debris to allow access by emergency response vehicles, collect and remove debris from an incident and how debris will be disposed. Special guidance should be included to address handling debris from a crime scene.

J.4.7.12. Rapid Damage Assessment

The means, by which, the Concessionaire will conduct rapid damage assessments following a major incident, target time frames and priorities.

J.4.8. Hazard Specific Annex Requirements

Hazard-specific annexes offer a means of extending functional annexes to address special and unique response procedures, notifications, protective actions, and other needs generated by a specific hazard.

Hazard-specific annexes are actually supplements to the functional annexes and should not simply repeat the common planning considerations addressed in the functional annexes.

The need for a hazard-specific annex will be determined as a result of the hazard and vulnerability assessments and the development of the functional annexes. Hazard-specific annexes must follow the same structure and similar content as the Basic Plan and the Functional Annexes. There are, however, a number of specific and unique hazards to which the Toll Roads are exposed due to its climate, location and profile.

At a minimum, the following specific hazards are to be addressed:

- Major Traffic Accidents and/or Incidents
- Hazardous Materials Incidents
- Radiological Incidents
- Terrorism Incidents
- Weather Related Events
 - Hurricanes
 - Flooding
 - High winds
- Shipping Incidents: Along sections of the Toll Roads that are paralleled or cross above navigable waterways.
- Railroad Incidents: Along sections of the Toll Roads that are paralleled or cross below, or cross above by passenger and/or freight rail facilities.
- Structural Fires: In such structures under or adjacent to the Toll Roads.
- Structural Failure: Any part of the bridge structures found along the Toll Roads.
- Electrical Power Incidents: Along sections of the Toll Roads that are paralleled or crossed by electrical lines, towers or power generating stations.
- Other Utility Incidents: Along sections of the Toll Roads that are paralleled or crossed by gas, oil, communications, and other utility lines, facilities or stations.

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J.4.9. Recovery Annex Requirements

Following a major emergency or disaster, many critical issues and concerns will need to be addressed requiring coordinated efforts of the Concessionaire, the Commonwealth and Federal governments.

The Recovery Annex is intended to address the methodology and processes that will be implemented during the recovery process and must include, at a minimum the following issues:

- Identifies the agencies with responsibility for recovery efforts.
- Establishes documentation and record keeping requirements following the Disaster.
- Establishes financial, accounting and spending authorities.
- Establishes the initial post disaster priorities and responsibilities (0-12 hours).
 - Preliminary Damage Assessment
 - Walk through or Rapid Damage Assessment
 - Assessing economic injury
 - Damage Survey Reports
 - Written Damage Assessment Document
 - Estimates of Cost
 - Search and rescue and medical needs
 - Damage impact to critical facilities and structures
 - Establish Direction and Control
- Addresses Human Needs
- Develops and Addresses Mitigation Strategies

J.4.10. Training and Exercises

The success of the EOP depends to a significant extent upon the level of training and preparedness of the Concessionaire and agencies identified for involvement in an incident.

This section must identify and address a specific training program and exercise schedule for the Concessionaire. It must address, at a minimum, the following:

- 1) The types of training required for each employee and Concessionaire involved in a particular incident.
- 2) A specific annual training program and schedule for each employee so identified.
- 3) Establish and implement an exercise program that provides both table-top and full-scale training exercises based upon the potential hazards and vulnerabilities to which is the Toll Roads are exposed.

J.4.11. Definitions

This section is to contain a complete listing of all definitions that are unique to the Emergency Management Section of the Plan. It will also contain a listing of commonly used federal acronyms and a glossary of terms.

J.4.12. References

This section is to contain a listing of Federal Department of Homeland Security, Federal Emergency Management Agency, Emergency Management and Disaster Administration State Agency (EMDA), Local agencies, and Reference Documents, Laws and regulations for the Toll Roads and their location. Full copies of all documents are to be included in the Appendices.

J.4.13. Bibliography

This section is to contain a bibliography of the document, as applicable.

J.4.14. Appendices

All appendices referenced within the document shall be listed in a summary, indexed and tabbed.

J.4.15. Forms and Documentation Guidelines

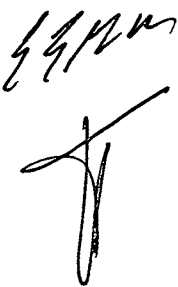
This section is to contain copies of all forms and documentation guidelines currently in use by the Concessionaire. It is also to contain copies of all applicable Commonwealth, DHS, FEMA, EMDA, and other applicable forms for use during and following emergencies.

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K.1. References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Design Directives, PRHTA
- Guidelines for the Selection and Installation of Orientation Signs, PRHTA
- Highway Design Manual, PRHTA
- Signage Guide, PRHTA
- Standard Drawings, PRHTA
- Standard Specifications for Road and Bridge Construction, PRHTA
- Traffic Sign Manual, PRHTA
- "LRFD Bridge Design Specifications," AASHTO.
 - "Standard Specifications for Highway Bridges," AASHTO.
- "Maintenance and Management of Roadways and Bridges", AASHTO.
- "Guide Specifications and Commentary for Vessel Collision Design of Highway Bridges", AASHTO.
- Guide for Design of Pavement Structures, Volume I", AASHTO.
- "A Policy on Geometric Design of Highways and Streets", AASHTO.
- "Pavement Management Guide", AASHTO.
- Title 23, Code of Federal Regulation, FHWA
- "Interstate System Access Guide", FHWA
- Publication FHWA-EP-00-005: "FHWA Highway Noise Barrier Design Handbook", FHWA.
- Law 136 of June 3, 1976 – Law for the Conservation, the Development and Use of Water Resources in Puerto Rico.
- Law 416 of September 22, 2004 – Environmental Public Policy Law.
- PRPB Regulation #4 - Puerto Rico Zoning Regulation.
- PRPB Regulation #7 - Puerto Rico Special Regulation and Plan for the Tortuguero Lagoon Hydrographic Basin.
- PRPB Regulation #13 - Puerto Rico Regulation on Special Areas at Risk of Flood.
- Regulation for the Erosion Control and Sedimentation Prevention, PREQB.



- Regulation for the Process of Presentation, Evaluation and Procedure of Environmental Documents, PREQB.
- Regulation for the Control of Noise Pollution, PREQB.
- DNER Regulation #6766 – Regulation to Govern Vulnerable and Endangered Species in the Commonwealth of Puerto Rico.
- National Environmental Policy Act (NEPA), USEPA.
- "General National Pollutant Discharge Elimination System (NPDES)", USEPA.
- Storm Water Pollution Prevention Plan (SWPPP), USEPA.
- International Building Code, IBC.
- "National Fire Codes", NFPA.
- "National Electrical Code", NFPA.
- "National Plumbing Code, ANSI.
- "Uniform Plumbing Code", WPOA.
- "Uniform Heating and Cooling Code", WPOA.
- Americans with Disabilities Act", U.S. Department of Justice.
- Occupational Health and Safety Act (OSHA) Guidelines
- OSHA Publications List via Catalog or Website, OSHA
(Website: <http://www.osha.gov/pls/publications/pubindex.list>).

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K.2. Policy for Design and Construction Requirements

K.2.1. Objective

The objective of the information within this Chapter is to provide the Concessionaire a series of procedural requirements and guidelines relative to the framework necessary in undertaking capital improvements, renewal projects, capacity improvements and completing major changes within the Toll Roads, as well as describe the required coordination that will be required and expected with PRHTA and the Commonwealth.

The principal objectives in all design and construction work undertaken by the Concessionaire within the Toll Roads must include, but is not limited to, the following:

- Conduct all work in a manner consistent with the policies and procedures adopted and utilized by PRHTA, and other Agencies, so as to conform to the requirements of the Concession Agreement and the Operating Standards.
- Creates and maintains the Toll Roads as a premier transportation corridor to the public and their users.
- Conduct all work in a manner that does not compromise the safety of the workers, public, Toll Road users or the Commonwealth.
- Promotes a spirit of cooperation, communication and partnership with the Commonwealth.
- The value of the Toll Roads is continually maintained and improved such that the assets meet or exceed the requirements of the Concession Agreement and the Operating Standards throughout the Term, with a special focus on the quality of the asset at the termination of the Agreement.
- At times of reconstruction or rehabilitation work; enhance, update and expand the Toll Roads, as necessary, so as to improve the Toll Roads and to create a consistent traveled way in conformance with the most current PRHTA criteria in place at the time of reconstruction or rehabilitation for Toll Road users.

The Toll Roads operate within a Commonwealth framework of many local and Commonwealth organizations which must be understood by the Concessionaire throughout the term of the Agreement. Further, the Concessionaire must conduct all of its work with the understanding that transportation is dynamic and significant changes to the Toll Roads will have impacts to adjoining public and private facilities and operators of said facilities, as well as the Commonwealth. Therefore, the Concessionaire must be part of both the regional and Commonwealth planning process.

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Both design and construction have variations across the Commonwealth and this is also true within the Toll Roads. The purpose of the Chapter is to articulate that while the Concessionaire is not necessarily bound to previous means and methods employed on the Toll Roads, an awareness of prior successes and failures must be some of what guides the Concessionaire's work related to Design and Construction. For example, geology, climate, work force, location, population, and similar characteristics each affect the work within Puerto Rico as these characteristics all contribute to how design and construction is accomplished and completed.

It is expected that the Concessionaire will bring its many years of experience, "best practices", "lessons learned" and ingenuity to Toll Roads to create a system that exceeds the requirements of the Concession Agreement and the Operating Standards. Conversely, the Concessionaire must understand that the Toll Roads (PR-20, PR-52, PR-53 and PR-66) are a designated portion of the transportation network of the Commonwealth, and thusly must conform to the design and construction standards established and enforced by the Puerto Rico Highway and Transportation Authority (PRHTA).

It is expected that design and construction projects will vary in size, type and location. Therefore, proactive communication with the PRHTA and the Commonwealth as well as other Agencies and Stakeholders must be undertaken and be continual throughout the term of the Agreement. Establishing guidelines, policies, protocols and procedure that conform to the design and construction requirements of PRHTA are extremely important. In utilizing the contents of this Chapter, the Concessionaire is directed to integrate all of its design and construction work with the requirements of both: Volume II, Chapter B that covers management of projects and discusses some of the coordination efforts needed, and Volume II, Chapter C that covers quality measures that permeate design and construction activities.

K.2.2. Responsibility of Concessionaire

In order to meet the requirements of this Chapter, the Concessionaire is advised PRHTA has utilized numerous Professional Engineering and Construction Firms. The Concessionaire will maintain the right to establish and decide the mix of in-house and contracted work, but responsibility for all work must be clear and accountable. As public safety is involved, the Concessionaire must employ Professional Engineers and Architects Licensed in the Commonwealth of Puerto Rico, qualified for the particular type of work that is to be undertaken. Ultimate responsibility for all work undertaken by the Concessionaire will be solely retained by the Concessionaire.

As required, the Concessionaire may choose to seek and retain the services of Licensed Professional Consulting Engineering Firms or Licensed Construction Firms, to perform the services indicated within this Chapter. Such Firms must conform to all laws, regulations and registrations required by the Commonwealth;

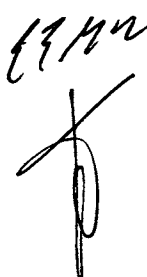
must have individuals Licensed in the Commonwealth appropriate for the work in which they undertake; and will responsible for their work within the Toll Roads.

K.2.3. Performance Time Frames

One of the many functions of Volume II, Chapter L "Annual State of the Toll Roads and Capital Improvement Program Reports" is to assist the Concessionaire in establishing a "rolling" schedule for the planning, design and construction against the needs of the Toll Roads, and to communicate that plan and seek the guidance and approval of PRHTA and the Commonwealth. It is intended that the Concessionaire will correlate its activities with the PRHTA 5-Year Plan where upon the exact execution of projects that require advanced and coordinated Approval and planning are appropriately allotted the necessary time for completion.

The cycle time for construction projects has many variables including location, other projects and the method of delivery. The Concessionaire must understand that due to the various regulatory statutes that exist in the Approval and permitting of projects at the local, Commonwealth and sometimes Federal level, significant impact can occur in the timeframes of both design and construction. To provide assistance and guidance to the Concessionaire through this process the contents of this Chapter and the other Referenced Documents in Section K.1 of this Chapter all are referenced as guidance on executing problem free projects.

The Concessionaire must be aware that PRHTA and the Commonwealth, or its designated agent or department, retains the right and privilege to review, inspect, approve and be made aware of all planned and on-going work within the Toll Roads at all times.


 Prior to the start of both design and construction work the Concessionaire, PRHTA and the Commonwealth, or its designated agent, must hold a joint meeting at which time a mutually agreeable schedule for Plan and document submissions; review of design plans; interface on construction work; and the overall project goals for all work is established and agreed upon. Alterations to the schedule or goals must be conducted at separate meetings and made jointly prior to their enactment. In addition, the Concessionaire must recognize and plan to conduct all of its design and construction work in a manner such that PRHTA and the Commonwealth are provided ample time to consider and review projects prior to rendering an appropriate decision of denial or Approval of the project and its contents.

K.2.4. Acceptance Criteria

The Concessionaire's design and construction of projects must conform to the requirements of the Concession Agreement, Operating Standards, and where applicable, the design and construction standards established by PRHTA. Conversely, it is expected that the Concessionaire will bring its "best practices" and ingenuity to the work such that materials, construction methods and the like are introduced that extend and increase the functionality and useful life of the Toll Roads.

Since the Toll Roads are an asset to the Commonwealth, as a minimum the Concessionaire is obligated to meet the minimum standards established by AASHTO, PRHTA and the FHWA. If a particular project is a non-transportation project, such as work in the Facilities, the International Building Code (IBC) will be the recommended guideline. Additionally, the Concessionaire must incorporate the generally accepted engineering practices in the Commonwealth and PRHTA with respect to employing engineering and construction professionals who will conduct the work on a given project. Finally, all work must be conducted so as to conform to all applicable safety regulations established and regulated by OSHA, and laws at the local, Commonwealth and Federal levels.

While the particular acceptance criteria will vary for each project based upon its purpose and characteristics, the Concessionaire must put forth every effort to achieve the following expected useful life goals:

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- The general design life for new Bridge Superstructures and Substructures, and arch culverts should be 100 years.
 - The general design life for new Bridge Decks, with epoxy-coated reinforcement, and the appropriate concrete mix, should be 50 years.
 - The general design life for new cast-in-place retaining walls should be 100 years.
 - The general design life for new proprietary retaining walls (MSE, gabion, soldier Pile walls) should be 75 years.
 - The general design life for new ground-mounted Noise Walls or Rockfall Fences should be 40 years.
 - The general design life for new roadways and pavement should be 40 years and must including a periodic maintenance and resurfacing program.
 - The general design life for new drainage pipes and systems should be 50 years.

In addition, the Concessionaire must make every effort to conduct all construction work in manner that provides the least amount of disruption to Toll Road users and the public. Therefore, the following goals must be incorporated in all of the Concessionaire's designs, plans and construction:

- Provide and maintain a minimum of two (2) lanes of traffic in each direction at all times, except for times and conditions where traffic levels will not result in delays.
- When undertaking widening or "add-lane" projects, reconstruction shall be undertaken via staged construction with the goal that the above stated two lane requirement is maintained whenever possible; and so that traffic levels will not result in delays. Subsequent stages must also maintain the above

two lane requirement while reconstruction continues across the roadway, except for times where traffic levels will not result in delays.

K.3. Additional Design & Construction Process Guidelines & Requirements

K.3.1. Coordination with PRHTA and FHWA

The Concessionaire is expected to fully communicate, coordinate all of its work and work with the Commonwealth and PRHTA during the planning, design and construction phases of each project. The Concessionaire must also be aware that often their work will require a variety of communications with agencies ancillary or directly connected to the Commonwealth. Of particular note, and as discussed in subsequent sections of this Chapter, utilities, railroads, Commonwealth Departments, and local and Federal agencies all must be considered Stakeholders in the welfare of the Toll Roads, and coordination with those entities is fully expected. The Concessionaire shall also seek approval from the FHWA for every project to be undertaken within the Toll Roads.

K.3.2. Approval of the Commonwealth

All projects, whether initiated by the Concessionaire or by another manner, must be Approved by the Commonwealth. It is recommended that each project be undertaken in a manner such that the requirements of the PRHTA Design and Construction Manuals and AASHTO Guidelines are adhered by.

It is further required that prior to the start of work, the Concessionaire provide a brief summation of the Project that discusses the needs and justification analysis, of which the project location, scope, cost, traffic impact, schedule and duration of the Project be included. Following approval of that submission, the Concessionaire must schedule further meetings with the Commonwealth and PRHTA to seek guidance, maintain communications and gain Approval prior to commencing further preliminary design, final design or construction work.

K.3.3. Local Agency Coordination

The Concessionaire will be responsible for coordinating with all municipalities, Counties, bridge commissions, U.S. Army Corps of Engineers, U.S. Coast Guard, local municipalities, and other similar agencies and organizations so that these local agencies are informed of the project scope, location and duration at a minimum, and to coordinate other regional activities.

K.3.4. Utility Coordination

Within the Toll Roads are utilities that are located adjacent to, longitudinal with and that cross over and beneath the Toll Roads. The Concessionaire must be aware and coordinate all of its efforts and work with those utilities with the Puerto Rico

Utility Commission (PUC) and all other Agencies that have binding regulatory powers that will require the Concessionaire to insure continued utility operation in accordance with past and future agreements.

The Concessionaire will be responsible for coordinating the location and relocation of all utilities affected by the proposed projects. The Concessionaire must follow the guidelines established by each utility and develop utility relocations designs, agreements and cost sharing for relocations.

K.3.5. Elective Projects

On occasion, the Concessionaire will determine that projects are required that improve its operational efficiencies, reduce congestion, improve the Toll Roads or for a variety of other reasons. These projects will be required to gain Approval from the Commonwealth and PRHTA prior to the start of work. All work must be in accordance with the Reference Documents noted in Section K.1 of Chapter and the other requirements described in this Chapter.

K.3.6. Projects Resulting from Local Initiative

On occasion, the Concessionaire will be approached by PRHTA, the Commonwealth or a local agency where a crossing or adjacent road and bridge impacts the Toll Roads. The Concessionaire is responsible for working with that local agency, and must not impede their work, so that the project can be accomplished. Further, the Concessionaire will also work with PRHTA and the Commonwealth to coordinate the efforts with the local agencies so that a reasonable structure is established prior to the start of work.

K.3.7. Projects With-in Existing Right of Way

Working within the Right-Of-Way will likely be projects that provide the Concessionaire with the greatest latitude when working with the Commonwealth and PRHTA. The Concessionaire must research and determine if legal agreements exist that provide rights to others to cross the Right-Of-Way or occupy the Right-Of-Way. The Concessionaire will be responsible to coordinate, communicate and comply with all requirements of the adjacent or effected property owners.

K.3.8. Situations When Additional Right-of-Way is Required

On occasion, projects will occur where the existing Right-Of-Way is inadequate to support the project and additional land will be required. The Concessionaire must work with the Commonwealth and PRHTA both prior to and during these projects so that the required land is acquired in a manner consistent with all applicable laws, regulations and requirements. The Concessionaire must follow all PRHTA and Commonwealth processes and requirements for this process.

In addition, the Concessionaire must understand and work with all governing agencies when encountering projects that involve elements as wetlands, streams and water crossings. The Concessionaire must be aware that Puerto Rico streams are protected by the Puerto Rico Department of Natural and Environmental Resources with exclusion time frames for various classes of stream.

Also the Concessionaire must also be aware that the Commonwealth and local governments operate various roads which cross the Toll Roads, and that full detours of those roads during work on the Toll Roads cannot be assumed nor may be allowed. For example, time restrictions may be impacted based on school schedules, public welfare for emergency services, and impacts to an area resulting from a particular transportation link.

K.3.9. Public Involvement

The Concessionaire must make every effort with the public to inform and involve their input when a particular project may affect their community. The Concessionaire must work with PRHTA and the Commonwealth to conduct meetings and informational sessions, as required, so that its operations and work is viewed as being cooperative and communicative.

K.3.10. Environmental Approvals

All work must conform to the guidelines, criteria and evaluation adopted and utilized by PRHTA, the Commonwealth and NEPA for environmental clearance. Upon submission and Approval of a Project, the appropriate Environmental study, action or exclusion documentation must be produced to support the Project's characteristics.

K.3.11. Construction Management Requirements

The Concessionaire must provide construction management services with internal forces or consultant services to manage, monitor and control all project construction work. This work must be conducted in a manner similar to the requirements of PRHTA during the Construction Phase. All inspection documents, shop drawings and alternate designs will be reviewed and approved by PRHTA and the Concessionaire's Management Team. Project schedules and progress will be reviewed to assure that the work is done in according to schedule with minimal delay to the motoring public.

K.3.12. Construction Inspection

The Concessionaire must retain construction inspectors or firms to provide assurances that all construction work is being done in accordance with the Approved Plans, Specifications and all contract provisions and permits. Completed work must be documented on As-Built Plans and variances so indicated. At the end of construction, electronic copies of As-Built Plans must become part of the project record.

K.3.13. Project Delivery Methods

The Concessionaire is responsible for advertising, soliciting and contracting for project delivery in the manner that best suits its operations, provided that it does not violate the terms and conditions of the Concession Agreement, the Operating Standards or Commonwealth Law. The method employed must be approved by PRHTA prior to advertisement.

K.3.14. Travel Impacts

The Concessionaire must maintain continuous user service on the Toll Roads during all construction and maintenance activities to always provide the best quality service to the motoring public in accordance with the requirements of the Concession Agreement and the Operating Standards.

K.3.15. Quality Control / Quality Assurance

The Concessionaire must develop, manage and maintain a Quality Control and Quality Assurance plan that meets the requirements for its work overall, per the requirements of Volume II, Chapter C; as well as for each Project. Items such as materials, construction quality must be documented in the project record which must also include the results of all testing, sampling and remediation.

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L.1. References

All stated references must be the most current version, or the document known to have succeeded or replaced the original stated herein:

- Design Directives, PRHTA
- Guidelines for the Selection and Installation of Orientation Signs, PRHTA
- Highway Design Manual, PRHTA
- Signage Guide, PRHTA
- Standard Drawings, PRHTA
- Standard Specifications for Road and Bridge Construction, PRHTA
- Traffic Sign Manual, PRHTA
- Bridge Inspection Manual, PRHTA
 - "Guide Specifications for Fatigue Evaluation of Existing Steel Bridges", AASHTO.
 - "Manual for Condition Evaluation of Bridges", AASHTO.
 - "LRFD Bridge Design Specifications", AASHTO.
 - Standard Specifications for Highway Bridges," AASHTO.
 - "The Maintenance and Management of Roadways and Bridges", AASHTO.
- "Guide Specifications and Commentary for Vessel Collision Design of Highway Bridges", AASHTO.
- Title 23 Code of Federal Regulation, Section 650, "National Bridge Inspection Standards (NBIS)", FHWA.
 - "Bridge Inspector's Training Manual," FHWA.
- "Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges," FHWA.
 - Publication FHWA-PL_01_021: "Traffic monitoring Guide", FHWA.
 - "NCHRP Report 299: Fatigue Evaluation", NCHRP/FHWA.
 - "Highway Capacity Manual", TRB.

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L.2. Policy for Annual State of the Toll Roads and Capital Improvement Program Reports

L.2.1. Objective

The objective of the Annual State of the Toll Roads and Capital Improvement Program Reports is to protect the Toll Roads by detecting and correcting weaknesses prior to failure. This objective must be accomplished by the inspections, reports and requirements of this Chapter. The inspections and reports will provide PRHTA and the Commonwealth current and accurate information on the condition and adequacy of the structures, infrastructure and Facilities within the Toll Roads, in part or in whole. Further, the reports must provide a means of communication and assurance to PRHTA and the Commonwealth that the Toll Roads are being adequately maintained and improved.

In addition, the performance of the inspections and the filing of the reports will assist in fulfilling the Commonwealth, PRHTA and Federal requirements stated in Title 23 Code of Federal Regulation, Section 650, commonly known as the National Bridge Inspection Standards (NBIS).

Also, the inspection and report process fulfills the following additional objectives:

- To update and submit the required biennial Commonwealth and Federal reports for bridge structures.
- To maintain the condition databases of the Infrastructure of the Toll Roads.
- To ensure that the Toll Roads are and remain safe for the intended use.
- To develop and prioritize specific maintenance, repair and/or rehabilitation work for bridges along the Toll Roads, roadways and facilities.
- To forecast and plan for anticipated traffic congestion and develop measures to alleviate such projected traffic congestion.

L.2.2. Responsibility of Concessionaire

In order to meet the requirements of this Chapter, the Concessionaire must engage in practices and measures that ensure that all inspections and reports are performed and completed accurately, professionally, independently, and within the Time Frames established in Section L.2.3 of this Chapter. The work must be administered by the Concessionaire and must meet the Approval of PRHTA and the Commonwealth.

The Concessionaire must seek and retain an independent and Licensed Professional Consulting Engineering Firm, not associated, owned or partnered with the Concessionaire, to perform the services indicated within this Chapter. The names, resumes and qualifications of the Engineering Firm and the specific Inspection and Report Team members must be submitted to the Commonwealth


for Approval annually. The same Engineering Firm can be retained only for a maximum four (4) year duration at which time the Concessionaire must seek, retain and employ a different Engineering Firm. The purpose of these requirements is to develop a fair, impartial, independent and objective assessment of the condition of the Toll Roads.

The qualifications of the Inspection and Report Team that will be performing the inspection and report work are stated in Section L.3.1 of this Chapter.

All bridge and structure inspection procedures and frequencies must be in accordance with NBIS from Title 23 CFR, as required by PRHTA or as amended within this Chapter, whichever is the most stringent. Inspection procedures must be in accordance with the FHWA and the relevant approved methods of PRHTA, including the nomenclature, numbering system and the Quality Control/Quality requirements, and must be utilized and implemented by the Concessionaire and the Engineering Firm.

The Concessionaire and the Engineering Firm are responsible for equipment, staffing, traffic control, outside testing services and supervision for all inspections. Material sampling and uncovering of encased members must be performed on a limited basis as recommended by the Engineering Firm.

The Engineering Firm and the Concessionaire are required to coordinate, pay for, and obtain all necessary permits and insurance required for the performance of the work, which may include the following:

- 
- Local Road Closure Permits.
 - Railroad Right-of-Entry permit and flagging.
 - Railroad Protective and Marine Liability Insurance.

The Concessionaire and the Engineering Firm must perform the following:

- Perform inspections of all bridge (including overpass bridges) and associated structures (High-Mast lighting, culverts, retaining walls, noise walls, etc.) along the Toll Roads within the time frames prescribed in Table L.2.3 of this Chapter (See Section L.3.12 of this Chapter for a listing of the structures).
- Perform Annual inspections of Fracture Critical Bridges and structures (including pins and hinges) within the time frames prescribed in Table L.2.3 of this Chapter (See Section L.3.8 and Table L.3.12.6 of this Chapter for a listing of the structures).
- Perform a fatigue analysis for Fracture Critical Bridges and provide load ratings for all structures, as required based upon the results of the Fracture Critical Inspections.
- Perform inspections of scour critical bridges (See Section L.2.3 and Table L.3.12.8 of this Chapter for a listing of bridges requiring Scour inspections).

- Perform underwater inspections for scour and stability within the time frames prescribed in Table L.2.3 of this Chapter. (See Section L.3.7 and Table L.3.12.5 of this Chapter for a listing of bridges requiring underwater inspection).
- Perform the Roadway/Civil Annual Inspection, including the slopes and rockfall included in Table L.3.12.11
- Perform Architectural/Structural/Electrical/Mechanical inspections of the associated facilities and infrastructure within the Toll Roads.
- Prepare, develop and submit an Annual Capital Improvement Program Report that contains recommendations, schedules and capital improvement work that is planned for the upcoming year(s).
- The Concessionaire must prepare, and keep current, load analysis calculations and tables that indicate both the Inventory Rating and the Operating Rating for every Bridge within the Toll Roads, and share this information with PRHTA and the Commonwealth upon request.

The Concessionaire must retain a nationally recognized Traffic Consultant that must be responsible for conducting measurements of the traffic volumes on the Toll Roads, and prepare an Annual Report on the current and forecasted traffic volume on the Toll Roads. Forecasts of traffic growth must be conducted on a planning horizon of at least ten (10) years. Traffic volumes must be measured and reported annually including truck flows and sample weights. At a minimum traffic monitoring will be conducted within the guidelines established by the FHWA in the Traffic Monitoring Guide. The traffic volumes of the mainline between each interchange must be reported individually in terms of Average Annual Daily Traffic and Average Annual Daily Truck Traffic as a minimum. Sample truck weight distributions must be measured and reported in a format as determined by the Commonwealth and/or PRHTA.

Three unique components of the Toll Roads must be examined annually within the planning horizon:

1. Basic freeway segment (defined as outside the influence of ramps and weaving areas).
2. Freeway Weaving Zones (defined as the locations where crossing of two or more traffic streams that travel in the same direction).
3. Ramp Roadways including junction points, the ramps themselves, and the ramp- to-crossroad junction.

L.2.3. Performance Time Frames

The following table establishes the minimum frequency that a particular Report (based on the appropriate Inspection or Inspections) must be written and updated by the Concessionaire, submitted to the Commonwealth and Approved by the Commonwealth.


Table L.2.3

Report	Minimum Frequency of Occurrence
Bridge and Structure Condition Report	As per NBIS
Underwater Condition Report (*)	As per NBIS or after major event)
Fracture Critical Member Report	As per NBIS
Scour Critical Report	As per NBIS
Roadway/Civil Condition Report	Yearly
Facilities Condition Report	Yearly
Capital Improvement Program Report	Yearly
Report on Current Traffic Volume and Ten Year Forecast of Traffic Growth	Yearly
Certification Letter stating that all Maintenance and Operations within the Toll Roads conform to the guidelines and criteria stated in each Chapter of Volume I – Maintenance Manual, each required Plan of Volume II – Operations and Procedures Manual, and, the requirements of Volume III – Environmental Management Manual.	Yearly

L.2.4. Acceptance Criteria

The Annual State of the Toll Roads and Capital Improvement Program Reports will be considered acceptable for a particular year when each inspection has been completed by the Concessionaire; each required Condition Report has been written and updated by the Concessionaire, submitted to PRHTA and the Commonwealth, and approved by PRHTA and the Commonwealth; and the Capital Improvement Program Report has been written and updated by the Concessionaire, submitted to PRHTA and the Commonwealth and Approved by PRHTA and the Commonwealth.

In order to receive Approval from PRHTA and the Commonwealth, the following criteria must be met or exceeded:

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- All Inspections have been performed in accordance with the requirements of this Chapter, all Reports have been signed and Sealed by a Professional Engineer Licensed in the Commonwealth of Puerto Rico, and all required documentation and Reports have been filed with the appropriate agency.
 - The qualifications of the Engineering Firm conducting the inspections conform to the requirements of this Chapter, Volume I – Maintenance Manual, and the Reference Documents, whichever is more stringent.
 - Notification has been made to PRHTA and the Commonwealth immediately when inspections determine that one or more of its major components (defined as Deck, Superstructure or Substructure), or elements are at risk of a localized or large scale failure.
 - No component, element, segment, feature, system, etc., of the Toll Roads in part or in whole is considered to be unsafe or has the potential to become unsafe.
 - The Concessionaire provides a Statement and Certification Letter that Maintenance and Operations within the Toll Roads conform to the guidelines and criteria stated in each Chapter of Volume I – Maintenance Manual, each required Plan of Volume II – Operations and Procedures Manual, and the requirements of Volume III – Environmental Management Manual.
 - The Toll Roads must be continually maintained in accordance with the requirements of Section L.3.11 of this Chapter.

L.3. Requirements for the Annual State of the Toll Roads Condition Inspections and Report Submittals

L.3.1. Inspection and Report Team Qualification Requirements

Role	College Education	Experience	License/ Certification	Minimum Additional Qualifications
Project Manager	B.S./B.A. (Minimum)	10 Years (Related)	P.E. (Minimum)	Equal to Program Manager as defined in Title 23 CFR 650 C.
Bridge Inspection Team Leader	B.S.C.E. (Minimum)	5 Years (Related)	P.E.	As per Title 23 CFR 650 C.
Fracture Critical Member Inspection Team Leader	B.S.C.E. (Minimum)	5 Years (Related)	P.E.	As per Title 23 CFR 650 C.
Underwater Structure Inspection Team Leader	High School Diploma (Minimum)	5 Years (Related)	Certified Diver	As per Title 23 CFT 650 C.
Roadway Inspection Team Leader	B.S.C.E.	10 Years (Related)	P.E.	Previous experience with Roadway/Civil Inspections.
Facility Inspection Team Leader (By Discipline)	B.S. (By Discipline) B.A.	10 Years (Related)	P.E. (By Discipline) A.I.A.	Previous experience with Facility and Building Inspections.
Inspection Team Members	High School Diploma Minimum	5 Years (Related)	N/A	Previous experience on Highway or Railroad bridge structures, Roadways or Facilities, as appropriate.
Structure Evaluation/ Rating Engineer	B.S. (Minimum)	5 Years (Related)	EIT Minimum P.E. Preferred	15 Day NBIS Qualification Course.
Bridge Inspector	B.S. (Minimum)	5 Years (Related)	EIT Minimum P.E. Preferred	FHWA approved comprehensive bridge inspection training.


L.3.2. Independent Professional Consulting Engineering Firm

The Independent Professional Consulting Engineering Firm must be a registered and licensed Professional Design Firm with the Commonwealth of Puerto Rico – Professional College of Engineers and Land Surveyors of Puerto Rico. In order to maintain true independent Inspections and Reports, the Engineering Firm must not be teamed, owned or partnered with the Concessionaire or be an Affiliate of the Concessionaire. The Concessionaire must engage firms that have exhibited experience with the kinds of structures, Facilities, and conditions within the Toll Roads and that meet all of the requirements of this Chapter.

The same Engineering Firm can be retained only for a maximum four (4) year duration, at which time the Concessionaire must seek, retain and employ a different Engineering Firm. PRHTA and the Commonwealth must approve the Engineering Firm on an annual basis, and retains the right to dismiss firms that do not meet the requirements of this Chapter. The Concessionaire must also annually submit the names, resumes and qualifications of the specific Inspection and Report Team members to PRHTA and the Commonwealth for Approval.

L.3.3. Project Management

A senior engineer, serving as Project Manager, must direct the Inspection Program, review results for conformance with FHWA and Commonwealth requirements and provide Program Management. Elements of the Management Program include:

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- Training, mobilization and support of field crews.
 - Development of a bridge inspection schedule and updates, bridge assignments and team scheduling.
 - Meetings with the Concessionaire, and when required, with PRHTA.
 - Major equipment coordination.
 - Ongoing coordination with the Concessionaire.
 - Field reviews of inspection teams.
 - Field inspection of critical structures.
 - Inspection forms review and submittal.
 - Bridge database coordination.

L.3.3.1. Quality Assurance/Quality Control Manual

Prior to the start of inspections, the Concessionaire or the Engineering Firm must create a Quality Assurance/Quality Control (QA/QC) Manual under the supervision of PRHTA. The purpose of the QA/QC Manual is to define the responsibilities of the participants of the Inspection Team, describe the quality of activities to be performed, and define the inspection methodology to be used in the execution of the work. The QA/QC Manual provides the basis by which uniformity of the inspections, ratings and identification of members and their defects is assured.

Sketches and photographs, where available, are used to illustrate and define bridge types, elements, components and their associated defects. The QA/QC Manual contains the checklists and surveillance forms that will be used by PRHTA Quality Assurance personnel to verify that the inspections meet the objectives of the Commonwealth.

L.3.3.2. Nomenclature Manual

The QA/QC Manual defines the structural elements and components, establishes coding and numbering methodology and provides defect, rating, prioritization and other codes that are necessary for the uniform completion of the forms. Requirements for bridge nomenclature can be found in Section G.4.1.1 of Volume I, Chapter G, "Bridge and Structure Maintenance".

L.3.3.3. Safety Manual

Prior to the start of inspections, the Concessionaire or the Engineering Firm must create an inspection Safety Manual under the supervision of PRHTA. The Safety Manual will create a communication tool with the Concessionaire, the Engineering Firm and PRHTA so that the inspections are performed in the safest possible manner. It is understood that multiple crews may be performing inspection work throughout the Toll Roads and that they require a consistent safety format for the performance of the work. The Safety Manual establishes the minimum requirements for the performance of the work that will be expected of each team.

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L.3.4. Mobilization

The Concessionaire must meet the following requirements:

L.3.4.1. Plan Review

Prior to commencement of the fieldwork, the latest report of inspection information for each structure must be reviewed by the Engineering Firm. A location map, and a general plan and elevation drawing of the structure must be provided to each field crew. A review must be made of the critical elements and anticipated problems that will be encountered in performing the inspection.

L.3.4.2. Site Inspections

A variety of physical conditions and other factors may affect the way site inspection is undertaken. Rail traffic, barge traffic and vehicular traffic will affect the scheduling and equipment needs of the inspection. All permits, insurance and/or access requirements must be procured by the Concessionaire and the Engineering Firm.

L.3.4.3. Equipment

The Concessionaire and the Engineering Firm must furnish each field crew with equipment for conducting the inspections. Among such equipment, to the extent necessary, are measuring tapes, chipping hammers, hand tools, ladders, portable lights, cellular phones/pagers, auto-focus cameras (with time and date recorder), traffic vests, traffic cones, arrow-boards, traffic barriers, air-handling equipment for work in enclosed spaces, watercraft, barges, personnel vehicles, man-lifts, bucket-trucks and snoopers. Equipment must be acquired by the Concessionaire and/or the Engineering Firm.

L.3.4.4. Field Team Orientation

The Engineering Firm must conduct orientation meetings to train and standardize the field teams.

L.3.5. Safety

The Engineering Firm must use the Safety Manual described in Section L.3.3.3 above as a basis to complete its work in the safest possible manner, and to ensure safety is implemented as part of its work. The Safety Manual must be used to train and monitor crews performing this work. All crews must be trained in the use of the equipment required by the inspection and condition. Safety will be the responsibility of the Engineering Firm.

L.3.6. Structures, Roadway and Facilities Condition Inspections

The Engineering Firm must develop a schedule for the inspection of the entire infrastructure contained within the Toll Roads consisting of roadway, structures, civil, architectural, electrical and mechanical elements, and gain the approval of PRHTA prior to the start of work each year. The Concessionaire and PRHTA will jointly review and approve the final schedule and may alter the schedule to meet their needs.

Field teams must consist of a minimum of a two-person crew, or how many required, dependent upon the type and location of the inspection work and other factors. The number of teams is to be dictated by the need to complete all of the inspections.

Traffic control must be provided by the Engineering Firm and the Concessionaire, when required to protect inspection crews and Toll Road users. Inspections at railroad track level must be performed under railroad flagging protection. The Concessionaire and the Engineering Firm must procure all necessary rights-of-entry and protective liability insurance and arrange for all flagging.

The Engineering Firm must perform inspections using aerial bucket trucks, snooper trucks or ladders to gain access for close, visual inspection. The Engineering Firm must use portable lighting to provide necessary illumination. Portable air handling units must be utilized for all inspections of vaulted abutments, or where confined space entry is required.

L.3.6.1. Bridge and Structure Inspections

The Bridge and Structure inspections must include supervision and execution of the intermediate level bridge inspection, and includes all bridges, culverts, high- mast lighting, retaining walls, and noise walls within the Toll Roads. The inspections must involve detailed visual observations by approved and experienced bridge engineers and at times may require detailed bridge condition surveys. The Concessionaire must be aware that some structures may require more frequent inspections to accurately understand the condition of the structure and to produce the Reports. All bridge inspections shall comply with NBIS requirements.

L.3.6.2. Annual Roadway/Civil Inspections

The Annual Roadway/Civil inspections will be a visual inspection of the earth embankments, slopes and rockfall along the Toll Roads, the pavement and shoulders, bridge approach pavements, drainage system, fencing, landscaping, median barrier, guardrails and railings, signage, sign structures and pavement markings.

An annual inspection of the Roadway Lighting along the Toll Roads must be performed during both daylight hours and during the night. The Concessionaire must accompany the Lighting inspection team to provide access to lighting control cabinets.

L.3.6.3. Annual Facilities Inspections

Structural Engineers, Mechanical Engineers, Electrical Engineers and Architects must perform a detailed inspection of the maintenance and toll collection facilities. The facilities inspection team must be accompanied by the Concessionaire to provide access to all areas of the facilities and equipment. These inspections must be conducted in accordance with the applicable Reference Documents stated in Section N.2 of Volume I and Section G.2 of Volume II.

L.3.7. Underwater Inspections

Bridges with underwater elements must have a separate and independent underwater inspection performed within the time frames prescribed in Table L.2.3 of this Chapter.

Underwater inspections must be performed by certified divers as per NBIS requirements and must be under the direct supervision of a Licensed Professional Engineer in the Commonwealth of Puerto Rico. (See Table L.3.12.5 for a listing of bridges requiring underwater inspection).

L.3.8. Fracture Critical Inspections

In-depth bridge inspections must be performed on all bridges that are classified in part or in whole as containing members that are fracture critical. The continued inspection, function and maintenance of these types of structures are critical to the stability and durability of the Toll Roads.

Bridges with fracture critical elements must have a separate and independent detailed inspection performed within the time frames prescribed in Table L.2.3 of this Chapter.

Fracture critical inspections must be performed by personnel certified as inspectors of Fracture Critical Bridges so that they are able to identify the specific structural defects and characteristics common to these types of structures. The leader of the Fracture Critical inspection team must be a Licensed Professional Engineer in the Commonwealth of Puerto Rico.

All non-redundant elements of these structures must receive a detailed inspection of conditions. Elements subject to fatigue or catastrophic failure must be non-destructively tested to determine the presence of defects. The tests will include dye-penetrates, ultra-sonic, magnetic particle or radiographic methods appropriate for the items being inspected.

The current bridges designated as Fracture Critical by definition of PRHTA and FHWA and requires fracture critical inspection every 24 months are listed in the Table L.3.12.6 of this Chapter.

L.3.9. Monitoring Critical Structures

Structures with major components (defined as Deck, Superstructure or Substructure) possessing a Condition Rating of 3 (three) or less are defined as Critical Structures, and the frequency of monitoring must be no less than every 6 (six) months for each structure unless the Engineering Firm recommend a more frequent inspection, PRHTA or the Commonwealth.

L.3.10. Report and Form Submission Requirementss

L.3.10.1. Bridge Inspection Forms

The typical FHWA bridge inspection forms required by the PRHTA Bridge Office are to be completed and submitted to PRHTA as described in Volume I – Maintenance Manual, Chapter G, “Bridge and Structure Maintenance”.

When the FHWA inspection forms, in the sole and absolute discretion of the Commonwealth or PRHTA, are found to be incomplete, do not show sound analysis of the conditions, or do not contain sufficient detail to track problems, will be returned to the Concessionaire for revision.

L.3.10.2. Condition Reports

The Concessionaire and the Engineering Firm must submit to PRHTA and the Commonwealth the Bridge and Structure, Roadway/Civil and Facilities Condition Reports on an annual basis, as defined by the requirements of this Chapter. In addition, the Concessionaire and the Engineering Firm must submit to PRHTA and the Commonwealth Fracture Critical and Underwater Inspection Reports, as defined by the requirements of this Chapter. The following requirements must be addressed in all Condition Reports:

- The Concessionaire must submit to PRHTA and the Commonwealth four (4) copies of each Report and all applicable sets of Inspection Forms (including color reproductions of all photographs). These Reports must be collated, by bridge number, facility, and roadway

feature, into tabbed three ring binders with indexes.

- Changes in conditions must be noted in a General Condition and Rating Summary for all bridges, roadway/civil and facilities features, and prepared in a spreadsheet format. For bridge structures, the summary must contain overall ratings for the decks and the superstructure and substructure elements.
- Bridge load ratings must be available for all structures and be current with legal loads allowed in the Commonwealth of Puerto Rico. Any changes in weight restrictions must be reported to PRHTA as outlined in Volume I, Chapter G, "Bridge and Structure Maintenance".
- A draft of each Report must be submitted to PRHTA and the Commonwealth for review prior to finalization, after which the final version of each Report must be submitted to PRHTA and the Commonwealth for final Approval.

L.3.10.3. Capital Improvement Program Report

Upon Approval of the Bridge and Structure, Roadway/Civil and Facilities Condition Reports by PRHTA and the Commonwealth each year, the Concessionaire and the Engineering Firm must compose and submit to PRHTA and the Commonwealth the Annual Capital Improvement Program Report, within two (2) months. This Report will define and describe the planned rehabilitation, replacement and reconstruction capital improvement work scheduled to be addressed and completed in the next year, and planned for the subsequent 10- year window, based upon the inspections and Condition Report findings. The following are the requirements that shall be addressed:


- The Concessionaire must prepare and submit to PRHTA and the Commonwealth four (4) copies of the Annual Capital Improvement Program Report, which must include the following at a minimum:
 - Executive Summary
 - Introduction and discussion of the inspections and Condition Report findings.
 - Approach and Methodology.
 - Recommendations and Planned Capital Improvement Work.
 - Program Schedule.
- A draft of the Annual Capital Improvement Program Report must be submitted to PRHTA and the Commonwealth for review prior to finalization, after which the last version of the Annual Capital Improvement Program Report must be submitted to PRHTA and the Commonwealth for final Approval.

L.3.11. Criteria of Review and Acceptance

The Concessionaire and the Engineering Firm must always use sound engineering judgment in assessing the conditions and deficiencies of the Toll Roads. In particular all components, elements, features, systems, etc. that are deemed unsafe or possess the potential to become unsafe must be clearly identified and noted.

The Concessionaire and the Engineering Firm must be aware that PRHTA and the Commonwealth will review and approve the Annual Condition Reports and the Annual Capital Improvement Program Report taking into account the requirements stated throughout each individual Chapter of the Operating Standards, the requirements of this Chapter, common industry acceptance criteria and the condition classification stated below.

The Commonwealth and PHTA will assess the Condition Reports utilizing the following condition classification terminology to describe the condition of the elements of the Toll Roads. The terminology is consistent with the Record and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges, December 1995 published by the U.S. Department of Transportation/Federal Highway Administration Publication 238: "Bridge Safety Inspection Manual".

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The Concessionaire must target (or perform the necessary and required Capital Improvement work to maintain) the overall condition of each of the Bridges, Structures, Roadway/Civil and Facilities features within the Toll Roads at "Good" or better. In addition, the Concessionaire must maintain the condition of each particular item of each Bridge, Structure, Roadway/Civil and Facility feature within the Toll Roads at "Fair" or better, provided, however, that when the overall condition of any particular Bridge, Structure, Roadway/Civil or Facility feature within the Toll Roads declines from "Good" to "Fair", that feature must be placed in the next Annual Capital Improvement Program Report (as approved by PRHTA and the Commonwealth) with a designation and general description of the work to be performed. The duration that a feature within the Toll Roads can remain in the Capital Improvement Program must not exceed ten (10) years from the time such feature is placed in the Program until that feature is brought back to a condition of "Good" or better. In addition, all features (as well as all of the particular items of that feature) placed in the Capital Improvement Program, must continually be maintained in accordance with the guidelines and criteria of Volume I – Maintenance Manual, and the requirements of Volume II – Operations & Procedure Manual.

The definitions of the condition terms for structures other than bridges are as follows:

Excellent: New condition. No noticeable or noteworthy deficiencies affecting the condition or function of the elements noted.

Good: Minor deficiencies noted. The element is satisfactorily performing its intended function. No corrective repairs or rehabilitation are required.

- Fair: Deficiencies and deterioration present. All primary elements are sound and are satisfactorily performing their intended function. However, the potential exists to justify an improvement program or corrective work.
- Poor: Advanced deterioration present. Primary structural elements are seriously affected and are not satisfactorily performing their intended function. An accelerated improvement program and/or immediate corrective work are required.
- Critical: Major deterioration of primary elements. These elements are not performing adequately and require urgent corrective work or total replacement. These elements require regular, continual monitoring until corrective action is completed.

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The definition of the condition terms for bridges are as follows (items 58- Deck , 59 - Superstructure , 60 – Substructure and 62- Culvert):

<u>Code</u>	<u>Description</u>
N	NOT APPLICABLE.
9	EXCELLENT CONDITION.
8	VERY GOOD CONDITION – no problems noted.
7	GOOD CONDITION – some minor problems.
6	SATISFACTORY CONDITION – structural elements show some minor deterioration.
5	FAIR CONDITION – all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.
4	POOR CONDITION – advanced section loss, deterioration, spalling or scour.
3	SERIOUS CONDITION – loss of section, deterioration, spalling or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.
2	CRITICAL CONDITION – advanced deterioration or primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the bridge until corrective action is taken.
1	“IMMINENT” FAILURE CONDITION – major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Bridge is closed to traffic but corrective action may put back in light service.
0	FAILED CONDITION – out of service – beyond corrective action.

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L.3.12. Structure Inventory Lists of the Toll Roads

Structure Summaries include bridges, retaining walls, noise walls and sign structures. Culverts that require NBIS inspection are also listed. Note that culvert maintenance is addressed in Volume I, Chapter D, "Drainage Maintenance and Erosion Control"

The listed structures are for information only. No expressed or implied representation or warranty is made that the information is correctly shown. The Concessionaire must establish a comprehensive list of structures that require inspection and reporting.

The tables present the various structures in order of Kilometer.

Refer to Section G.4.1 of Volume I, Chapter G, "Bridge Structure Maintenance" for clarification of bridge number and structure ID presented. Structure Numbers noted as TBD (To be determined) where not known at printing. Structure numbers will be assigned to all structures requiring NBIS inspection or inspection and tracking in accordance with PRHTA requirements.

Structure Type and Direction Abbreviations

A	Arch	N	Noise Wall	Tr	Truss
A	Arch	N	Northbound	Tw	s
C	Culvert	B	Overhead	VM	Twin
Adj	Adjacent	O	Plate	S	Variable Message
B	Beam	H		WB	Sign
		P			Westbound
BxB	Box Beam	PP	Pile & Plank		
BC	Box Culvert	P/S	Prestressed		
C	Concrete	PTr	Pony Truss		
		R	Reinforced		
Ca or	Cantilever	RE	Reinforced Earth		
CAN		RF	Rigid Frame		
T		S	Span(s) w/number		
Co	Continuous	SB	Southbound		
D	Deck	SEG	Segmental		
Du	Dual		Concrete		
EB	Eastbound	SL	Slant Leg		
F	Frame	T	Thru w/steel; Tied		
G	Girder		w/RC		
I	I-beam	TB	T-Beam		

Examples:

RCS	Reinforced concrete slab	RCRF	Reinforced Concrete Rigid
RCBC	Reinforced concrete box		Frame
	culvert	TPG	Thru-Plate Girde
RCAC	Reinforced concrete arch	DIB	Deck I-Beam
	culvert	2SCoDIB	2 Span continuous deck I-beam
RCTAC	Reinforced Tied Arch		
	Culvert		
RCTB	Reinforced Concrete T-		
	Beam		

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The tables below contain the following information:

Table L.3.12.1	PR-20 Bridge Inventory
Table L.3.12.2	PR-52 Bridge Inventory
Table L.3.12.3	PR-53 Bridge Inventory
Table L.3.12.4	PR-66 Bridge Inventory
Table L.3.12.5	Bridges requiring underwater inspections
Table L.3.12.6	Bridges designated as Fracture Critical
Table L.3.12.7	Culvert Inventory (requiring inspection only)
Table L.3.12.8	Scour Critical Bridges
Table L.3.12.9	Overpass Bridges
Table L.3.12.10	Bridges – Posting Tables
Table L.3.12.11	Slopes and Rockfall in Toll Roads

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TABLE L.3.12.1

PR-20 BRIDGE INVENTORY

#	Agency ID	KM	Spans	Municipality	Feature Carried	Feature Crossed
1	1801	0.50	6	Guaynabo	PR 20	Gonzalez Giusty Ave.
2	1875	4.40	3	Guaynabo	PR 20 Northbound	PR 169 Ramp; Frailes Cre
3	1900	1.20	2	Guaynabo	PR 20	PR 17 (Piñero Ave.)
4	2624	9.60	5	Guaynabo	PR.20	PR.169 Ramp; Guaynabo Ri
5	1874	4.40	3	Guaynabo	PR 20 Southbound	PR 169 Ramp; Frailes Cre
6	2374	1.95	3	San Juan	PR 20	PR 21 Ramp; Railroad
7	2375	1.90	3	San Juan	RAMP PR 20 TO STH	PR 19 Ramp; Railroad
8	2623	7.30	1	Guaynabo	PR-20	Local Road
9	1876	5.00	2	Guaynabo	PR 20 Southbound	PR 199
10	1877	5.20	2	Guaynabo	PR 20 Northbound	PR 199
11	2373	1.60	3	San Juan	RAMP 177 TO PR 20	Local road, Urban Train
12	2376	2.16	1	San Juan	RAMP From PR 20 N	PR 21
13	2377	2.20	1	San Juan	PR 20	PR 21
14	2378	0.60	1	San Juan	RAMP From PR 20 S	PR 21
15	2602	9.10	2	Guaynabo	PR 20	PR 1
16	2622	7.30	1	Guaynabo	PR 20	Local Road
17	2916	0.25	1	Guaynabo	PR 20	Frailes Creek

TABLE L.3.12.2
PR-52 BRIDGE INVENTORY

#	Agency ID	KM	Spans	Municipality	Feature Carried	Feature Crossed
1	2348	104.90	2	Ponce	PR 52	PR -12
2	2369	102.30	2	Ponce	PR 52	Dirt Road
3	1140	92.50	3	Juana Díaz	PR -52 Northbound	Jacaguas River
4	1154	87.80	1	Juana Díaz	PR -52 Northbound	Irrigation Channel
5	1287	25.00	4	Caguas	PR -52 Southbound	PR-765 Ramp; Beatriz CRE
6	2056	57.40	4	Salinas	PR -52 Southbound	Majadas River Ramp; PR -7
7	2269	106.10	10	Ponce	PR 52	Portugues River
8	2368	103.00	2	Ponce	PR 52	Dirt Road
9	1068	98.65	1	Ponce	PR -52 Southbound	Dirt Road
10	1073	95.20	1	Ponce	PR -52 Northbound	PR-506 KM 1.5
11	1141	92.40	3	Juana Díaz	PR -52 Southbound	Jacaguas River
12	1192	71.40	4	Santa Isabel	PR -52 Northbound	PR-543 and Jueyes River
13	1193	71.40	4	Santa Isabel	PR -52 Southbound	PR-543 and Jueyes River
14	1223	67.70	2	Salinas	PR -52 Northbound	HONDA CREEK
15	1233	66.20	2	Salinas	PR -52 Southbound	PR -1
16	1237	63.60	1	Salinas	PR -52 Southbound	Dirt Road
17	1251	1.00	2	San Juan	PR -52 Southbound	PR-177
18	1942	100.50	2	Ponce	PR -52 Northbound	PR-1
19	2036	48.70	11	Cayey	PR -52 Southbound	Depression
20	2039	49.50	7	Salinas	PR -52 Southbound	PR -714 Ramp; La Palma CR
21	2059	57.40	4	Salinas	PR -52 Northbound	Majadas River Ramp; PR-7
22	1078	93.90	4	Juana Díaz	PR -52 Southbound	Inabon River
23	858	16.80	2	Caguas	PR 52	Bairoa River
24	859	17.10	1	Caguas	PR 52	Local City River
25	861	19.40	2	Caguas	PR 52	PR -156
26	907	20.50	2	Caguas	PR 52	PR-34 (Degetau River)
27	927	17.50	3	Caguas	PR 52	Urban City Street
28	1067	98.65	1	Ponce	PR -52 Northbound	Dirt Road
29	1069	97.90	2	Ponce	PR -52 Southbound	PR -10
30	1070	97.90	2	Ponce	PR -52 Northbound	PR-10
31	1074	95.50	1	Ponce	PR -52 Southbound	PR -506 KM 1.5
32	1077	94.30	4	Juana Díaz	PR -52 Northbound	Inabon River
33	1079	93.30	1	Juana Díaz	PR -52 Northbound	PR- 574 KM 1.0
34	1080	93.30	1	Juana Díaz	PR -52 Southbound	PR -574 KM 1.0

#	Agency ID	KM	Spans	Municipality	Feature Carried	Feature Crossed
35	1111	95.20	3	Juana Diaz	PR 52	Unknown Creek
36	1144	91.10	1	Juana Diaz	PR -52 Northbound	PR-149
37	1146	90.70	1	Juana Diaz	PR -52 Northbound	PR-592
38	1147	90.60	1	Juana Diaz	PR -52 Southbound	PR-592
39	1148	89.70	1	Juana Diaz	PR -52 Northbound	PR-510 KM.3.9
40	1149	89.70	1	Juana Diaz	PR -52 Southbound	PR-510 KM.3.9
41	1150	89.10	1	Juana Diaz	PR -52 Northbound	Dirt Road
42	1151	89.10	1	Juana Diaz	PR -52 Southbound	Dirt Road
43	1152	88.10	1	Juana Diaz	PR -52 Northbound	Dirt Road
44	1153	88.00	1	Juana Diaz	PR -52 Southbound	Dirt Road
45	1155	87.70	1	Juana Diaz	PR -52 Southbound	Irrigation Channel
46	1160	81.40	1	Santa Isabel	PR -52 Northbound	PR-536
47	1163	77.60	5	Santa Isabel	PR -52 Southbound	Coamo River Ramp; PR 545
48	1188	77.00	2	Santa Isabel	PR -52 Northbound	PR-153
49	1189	76.80	2	Santa Isabel	PR -52 Southbound	PR 153
50	1190	74.80	1	Santa Isabel	PR -52 Northbound	Dirt Road
51	1191	74.80	1	Santa Isabel	PR -52 Southbound	Dirt Road
52	1209	84.05	1	Juana Diaz	PR -52 Southbound	Future Road (Dirt Road)
53	1210	84.00	1	Juana Diaz	PR -52 Northbound	Future Road (Dirt Road)
54	1211	81.20	4	Juana Diaz	PR -52 Southbound	Descalabrado River
55	1212	81.80	4	Juana Diaz	PR -52 Northbound	Descalabrado River
56	1224	67.75	2	Salinas	PR -52 Southbound	Honda Creek
57	1227	66.60	4	Salinas	PR -52 Northbound	Nigua River
58	1232	66.20	2	Salinas	PR -52 Northbound	PR -1
59	1240	61.00	3	Salinas	PR -52 Northbound	Bridge 1241
60	1252	2.00	2	San Juan	PR -52 Northbound	PR-199
61	1253	2.40	2	San Juan	PR -52 Southbound	PR -199
62	1261	3.20	1	San Juan	PR -52 Southbound	Local road
63	1262	3.20	1	San Juan	PR -52 Northbound	Local road
64	1263	4.10	2	San Juan	PR -52 Southbound	Montehiedra Avenue
65	1264	4.10	2	San Juan	PR -52 Northbound	Montehiedra Avenue
66	1267	5.00	1	San Juan	PR -52 Southbound	Luciano Vazquez Rod
67	1268	5.00	1	San Juan	PR -52 Northbound	Luciano Vazquez Road
68	1269	6.50	1	San Juan	PR -52 Southbound	Pedro Viara Road
69	1270	6.50	1	San Juan	PR -52 Northbound	Local Road
70	1271	7.30	1	San Juan	PR -52 Southbound	Local Road
71	1272	7.30	1	San Juan	PR -52 Northbound	Local Road
72	1273	8.70	1	San Juan	PR -52 Southbound	Local Road
73	1274	8.70	1	San Juan	PR -52 Northbound	Local Road
74	1275	26.70	5	Caguas	PR -52 Northbound	Sonadora Creek
75	1276	26.70	5	Caguas	PR -52 Southbound	Sonadora Creek

#	Agency ID	KM	Spans	Municipality	Feature Carried	Feature Crossed
76	1278	32.20	3	Cayey	PR -52 Northbound	PR -184
77	1280	31.50	1	Cayey	PR -52 Northbound	PR -7786
78	1281	31.50	1	Cayey	PR -52 Southbound	PR -7786
79	1282	23.90	3	Caguas	PR -52 Northbound	Quebradillas Creek
80	1283	23.90	3	Caguas	PR -52 Southbound	Quebradillas Creek
81	1286	25.00	4	Caguas	PR -52 Northbound	PR -765 Ramp; Beatriz Creek
82	1295	0.50	3	Caguas	RAMP PR30 TO PR 52	Urban City Street
83	1458	10.90	2	Caguas	PR -52 Northbound	PR- 175
84	1941	100.50	2	Ponce	PR -52 Southbound	PR -1
85	1970	0.30	3	San Juan	RAMP TO PR 52	Piedras River
86	2018	35.10	3	Cayey	PR -52 Southbound	Guavate River
87	2020	35.45	1	Cayey	PR -52 Southbound	Cattle Pass
88	2022	36.10	3	Cayey	PR -52 Southbound	La Plata River
89	2023	36.15	3	Cayey	PR -52 Northbound	La Plata River
90	2024	36.55	1	Cayey	PR -52 Southbound	PR- 738
91	2025	36.50	1	Cayey	PR -52 Northbound	PR -738
92	2026	38.10	1	Cayey	PR 52	La Ley Street
93	2027	38.10	1	Cayey	PR -52 Southbound	La Ley street
94	2028	38.80	2	Cayey	PR -52 Northbound	Access Road to PR-1
95	2029	38.75	2	Cayey	PR -52 Southbound	Access Road to PR-1
96	2031	40.40	1	Cayey	PR -52 Southbound	PR -15
97	2037	48.70	7	Cayey	PR -52 Northbound	Depression
98	2038	49.50	7	Salinas	PR -52 Northbound	PR -714 Ramp; La Palma CR
99	2040	45.80	8	Cayey	PR -52 Southbound	Lapas River Ramp; Local
100	2041	45.80	8	Cayey	PR -52 Northbound	Lapas River Ramp; Local
101	2042	46.50	3	Cayey	PR -52 Southbound	Depression
102	2043	46.50	3	Cayey	PR -52 Northbound	Depression
103	2051	43.60	7	Cayey	PR -52 Northbound	Maton River
104	2052	43.60	7	Cayey	PR -52 Southbound	Maton River
105	2055	41.10	7	Cayey	PR -52 Southbound	Santo Domingo Creek ,Road
106	2062	12.90	1	Caguas	PR -52 Northbound	PR- 700
107	2063	12.90	1	Caguas	PR -52 Southbound	PR- 700
108	2064	13.80	2	Caguas	PR -52 Northbound	PR -796
109	2065	13.80	2	Caguas	PR -52 Southbound	PR- 796
110	2066	13.90	7	Caguas	Ramp PR 52 TO PR 1	PR- 1
111	2268	107.00	2	Ponce	PR 52 Eastbound	PR- 585
112	2335	103.40	6	Ponce	PR 52	Bucana River
113	2416	107.50	17	Ponce	PR 52 Eastbound	Baramaya ST.Ramp; Matild
114	856	15.80	1	Caguas	PR 52	PR -1 Ramal

#	Agency ID	KM	Spans	Municipality	Feature Carried	Feature Crossed
115	857	16.50	3	Caguas	PR 52	64 A Street
116	860	18.90	3	Caguas	PR 52	Caguaita River
117	909	21.40	4	Caguas	PR -52 Southbound	PR -172
118	1071	96.80	1	Ponce	PR -52 Northbound	Farm Road
119	1072	96.90	1	Ponce	PR -52 Southbound	Farm Road
120	1075	94.60	1	Juana Diaz	PR -52 Northbound	Farm Road
121	1076	94.60	1	Juana Diaz	PR -52 Southbound	Farm Road
122	1145	91.10	2	Juana Diaz	PR -52 Southbound	PR -149
123	1161	81.40	1	Santa Isabel	PR -52 Southbound	PR -536
124	1162	77.60	5	Santa Isabel	PR -52 Northbound	Coamo River Ramp; PR -545
125	1205	86.30	1	Juana Diaz	PR -52 Southbound	PR 535
126	1206	86.20	1	Juana Diaz	PR -52 Northbound	PR 535
127	1207	85.90	4	Juana Diaz	PR -52 Southbound	CA¥As River
128	1208	86.20	4	Juana Diaz	PR -52 Northbound	CAÑAs river
129	1221	67.85	1	Salinas	PR -52 Northbound	Gravel Road
130	1222	67.85	1	Salinas	PR -52 Southbound	Gravel Road
131	1225	67.00	1	Salinas	PR -52 Northbound	Local access Road
132	1226	67.10	1	Salinas	PR -52 Southbound	Dirt Road
133	1228	66.60	4	Salinas	PR -52 Southbound	Nigua River
134	1234	65.40	1	Salinas	PR -52 Northbound	Rural Local Road
135	1235	65.50	1	Salinas	PR -52 Southbound	Rural Local Road
136	1236	63.60	1	Salinas	PR -52 Northbound	Dirt Road
137	1238	62.20	1	Salinas	PR -52 Northbound	Local Road
138	1239	62.25	1	Salinas	PR -52 Southbound	Dirt Road
139	1242	60.30	1	Salinas	PR -52 Northbound	Local Road
140	1243	60.30	1	Salinas	PR -52 Southbound	Local road
141	1250	0.80	2	San Juan	PR -52 Northbound	PR -177
142	1279	32.20	3	Cayey	PR -52 Southbound	PR -184
143	1416	3.90	2	San Juan	PR 52	Piedras River
144	1457	10.90	2	Caguas	PR -52 Southbound	PR -175
145	2014	33.30	1	Cayey	PR -52 Southbound	Rural Local Road
146	2015	33.30	1	Cayey	PR -52 Northbound	Rural Local Road
147	2016	34.60	1	Cayey	PR -52 Southbound	Hucar ST.
148	2017	34.60	1	Cayey	PR -52 Northbound	Hucar Street
149	2019	35.10	3	Cayey	PR -52 Northbound	Guavate River
150	2021	35.45	1	Cayey	PR -52 Northbound	Cattle Pass
151	2030	40.40	1	Cayey	PR -52 Northbound	PR -15
152	2044	47.30	1	Cayey	PR -52 Southbound	Cattle Pass
153	2045	47.30	1	Cayey	PR -52 Northbound	Cattle Pass
154	2049	43.10	1	Cayey	PR -52 Northbound	PR-715
155	2050	43.10	1	Cayey	PR -52 Southbound	PR 715

#	Agency ID	KM	Spans	Municipality	Feature Carried	Feature Crossed
156	2054	41.10	6	Cayey	PR -52 Northbound	S. Domingo Creek, Road
157	2060	12.10	3	Caguas	PR -52 Northbound	Car#165;As River Ramp; L
158	2061	12.70	3	Caguas	PR -52 Southbound	Car#165;As River Ramp; L
159	2267	107.00	2	Ponce	PR 52 Westbound	PR- 585
160	2271	105.80	4	Ponce	PR 52 Westbound	PR- 10
161	2272	105.80	4	Ponce	PR 52 Eastbound	PR -123
162	2370	101.00	1	Ponce	PR -52 Southbound	Local Road
163	2371	101.00	1	Ponce	PR -52 Northbound	Local Road
164	2415	108.20	1	Ponce	PR 52	Del Agua Creek
165	2417	107.50	26	Ponce	Ramp PR 52 - PR 2	PR- 2, Matilde Rv,Creek
166	1601	12.40	3	Caguas	PR 52	Creek
167	2273	106.70	2	Ponce	PR 52	Unknown Creek
168	3097	2.80	1	San Juan	PR 52	Calle Tulip
169	3098	4.10	2	San Juan	PR 52	Montehiedra Avenue
170	3099	5.00	1	San Juan	PR 52	Camino Luciano Vazquez
171	3100	5.90	1	San Juan	PR 52	Access Road
172	3101	6.40	1	San Juan	PR 52	Cam Pedro Vierra
173	3102	7.30	1	San Juan	PR 52	Camino Marcelo
174	3105	12.10	3	Caguas	PR 52	Local Street Rio Ca Ramp;
175	3106	12.50	1	Caguas	PR 52	Access Road
176	3107	12.90	1	Caguas	PR 52	PR-700
177	3108	13.80	2	Caguas	PR 52	PR-796
178	3103	8.70	1	San Juan	PR 52	Camino Los Guayabos
179	3104	10.90	2	San Juan	PR 52	PR-175

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TABLE L.3.12.3
PR-53 BRIDGE INVENTORY

#	Agency ID	KM	Spans	Municipality	Feature Carried	Feature Crossed
1	1956	90.80	2	Salinas	PR 53 Eastbound	PR-706
2	1957	90.80	2	Salinas	PR 53 Westbound	PR-706
3						
3	1954	92.85	1	Salinas	PR 53 Eastbound	Hucar Creek
4	1955	92.85	1	Salinas	PR 53 Westbound	Hucar Creek
5	2251	84.40	1	Guayama	PR 53 Eastbound	Dirt Road
6	2252	83.60	2	Guayama	PR 53 Westbound	PR- 7710
7	2253	83.60	2	Guayama	PR 53 Eastbound	PR- 7710
8	2256	85.30	7	Guayama	PR 53 Westbound	Seco River
9	2279	86.80	5	Guayama	PR 53 Eastbound	PR -713 Ramp; Cimarrona C
10	2280	86.60	5	Guayama	PR 53 Westbound	PR -713 Ramp; Cimarrona C
11	2302	2.80	1	Fajardo	PR 53 Southbound	Future Road
12	2303	2.80	1	Fajardo	PR 53 Northbound	Future Road
13	2304	3.30	1	Fajardo	PR 53	PR -982
14	2308	4.80	2	Ceiba	PR 53	Ceiba Creek & PR 975
15	2311	0.10	1	Ceiba	RAMP PR 975- PR53	Ceiba Creek
16	2312	5.90	1	Ceiba	PR 53	PR- 978
17	2318	82.65	1	Guayama	PR 53 Eastbound	Depresion
18	2319	82.65	1	Guayama	PR 53 Westbound	Depresion
19	2406	39.40	1	Yabucoa	PR 53	Los Pinos Road
20	2428	27.10	7	Humacao	PR 53	Anton Ruiz River
21	2445	6.50	1	Ceiba	PR 53	PR-3
22	2455	11.50	6	Ceiba	PR 53	PR-974 and Dagua River
23	2460	7.90	2	Ceiba	PR 53	Waterway
24	2545	22.10	17	Naguabo	PR 53	Blanco river Ramp; PR 31
25	1241	94.20	1	Salinas	PR 53	PR -52
26	2245	35.40	2	Humacao	PR 53	PR- 906
27	2250	84.40	1	Guayama	PR 53 Westbound	Dirt Road
28	2255	85.50	7	Guayama	PR 53 Eastbound	Seco River
29	2298	0.80	1	Fajardo	PR 53	Mata Redonda Creek
30	2299	3.55	2	Ceiba	PR 53	Aguas Claras Creek
31	2306	3.60	1	Ceiba	PR 53	Dirt Road
32	2349	84.60	2	Guayama	PR 53	Unknown Creek

#	Agency ID	KM	Spans	Municipality	Feature Carried	Feature Crossed
33	2381	31.20	4	Humacao	PR 53 Southbound	PR-3
34	2382	31.20	4	Humacao	PR 53 Northbound	PR- 3
35	2383	31.70	25	Humacao	PR 53 Southbound	PR-923, Hum. River, Creek
36	2384	31.70	25	Humacao	PR 53 Northbound	PR-923, Hum. River, Creek
37	2404	37.00	3	Humacao	PR 53 Eastbound	Candelero Rive -Dirt Road
38	2405	37.00	3	Humacao	PR 53 Northbound	Candelero Rive -Dirt Road
39	2429	25.90	1	Humacao	PR 53	PR 927
40	2430	24.70	1	Humacao	PR 53	PR 927
41	2434	28.70	1	Humacao	PR 53	Local Road
42	2446	10.30	1	Ceiba	PR 53	PR- 3
43	2447	17.00	13	Naguabo	PR 53 Southbound	PR- 971 & Unknown Creek
44	2448	17.00	13	Naguabo	PR 53	PR- 971 & Unknown Creek
45	2449	16.40	1	Naguabo	PR 53	Local Road
46	2450	15.30	6	Naguabo	PR 53 W	Botija Creek & Local Road
47	2451	15.30	6	Naguabo	PR 53 Eastbound	Botija Creek & Local Road
48	2452	14.00	1	Naguabo	PR 53	Local Road
49	2453	13.00	17	Naguabo	PR 53	PR 973 & Palmas Creek
50	2494	24.80	2	Humacao	PR 53	Unknown Creek
51	2524	39.90	1	Yabucoa	PR 53	PR -906
52	2528	18.30	1	Naguabo	PR 53 Northbound	Connector PR-53 TO PR-31
53	2530	18.90	1	Naguabo	PR 53 Northbound	Cecilia Street
54	2534	20.60	1	Naguabo	PR 53	Maizalez Creek
55	2539	21.00	1	Naguabo	PR 53	Vaca Creek
56	2540	21.00	1	Naguabo	PR 53	Vaca Creek
57	2542	21.00	1	Naguabo	Ramp PR-53 to PR-970	Vaca Creek
58	2543	21.50	1	Naguabo	PR 53 Southbound	Channel
59	2544	21.50	1	Naguabo	PR 53	Channel
60	2554	22.10	17	Naguabo	PR 53	Blanco River Ramp; PR 31
61	2555	23.10	2	Naguabo	PR 53	Dirt Road Ramp; Channel
62	2300	1.80	1	Fajardo	PR 53	Connector to PR-3
63	2301	9.50	3	Ceiba	PR 53	Quebrada Seca Creek
64	2313	42.81	3	Humacao	PR 53	Colores Creek
65	2380	30.80	1	Humacao	PR 53	Fronteras Creek
66	2385	33.50	1	Humacao	PR 53 Southbound	Dirt Road
67	2386	33.50	1	Humacao	PR 53 Northbound	Dirt Road
68	2389	30.00	1	Humacao	PR 53 Southbound	PR- 925

#	Agency ID	KM	Spans	Municipality	Feature Carried	Feature Crossed
69	2390	30.00	1	Humacao	PR 53 Northbound	PR- 925
70	2402	35.90	3	Humacao	PR 53 Southbound	Channel
71	2403	36.00	3	Humacao	PR 53 Northbound	Channel
72	2436	44.66	0	Humacao	PR 53	Unnamed Creek
73	2459	6.60	3	Ceiba	PR 53	Seca Creek
74	2461	9.30	2	Ceiba	PR 53	Seca Creek
75	2525	40.20	75	Yabucoa	PR 53	Guayanes River
76	2526	43.10	1	Yabucoa	PR 53	Sun Oil Utilities
77	2527	18.30	1	Naguabo	PR 53 Southbound	Connector PR 53 to PR 31
78	2529	18.90	1	Naguabo	PR 53 Southbound	Cecilia street
79	2531	19.60	1	Naguabo	PR 53 Southbound	Dirt road
80	2532	19.60	1	Naguabo	PR 53 Northbound	Dirt road
81	2533	20.60	1	Naguabo	PR 53	Maizales Creek
82	2535	20.60	1	Naguabo	RAMP S PR53 PR970	Maizales Creek
83	2536	20.60	1	Naguabo	RAMP PR970 TO PR53	Maizales Creek
84	2537	20.75	1	Naguabo	PR 53	PR 970
85	2538	20.75	1	Naguabo	PR 53	PR 970
86	2541	21.00	1	Naguabo	RAMP PR970 TO PR53	Vaca Creek
87	2556	23.10	1	Naguabo	PR 53	Dirt Road Ramp; Channel
88	2388	30.40	3	Humacao	PR 53	Fronteras creek

TABLE L.3.12.4
PR-66 BRIDGE INVENTORY

#	Agency ID	KM	Spans	Municipality	Feature Carried	Feature Crossed
1	2791	4.20	9	Carolina	PR-66	Grande de Loiza River
2	2816	4.60	3	Carolina	PR 66	Waterway
3	2826	12.10	7	Canovanas	PR 66	PR-962 & Canovanas River
4	2973	15.10	5	Rio Grande	PR-66	Angola Creek
5	2812	0.20	1	Carolina	PR 66	PR 3
6	2814	0.40	1	Carolina	PR-66	Ramp To PR-3
7	2817	4.90	2	Carolina	PR-66	PR-853 KM. 2.00
8	2820	7.80	1	Carolina	PR-66	Local Road
9	2821	8.40	1	Carolina	PR-66	Local Road
10	2822	8.90	3	Carolina	PR 66	Canovanillas River
11	2823	9.30	1	Canovanas	PR-66	Turpial Street
12	2825	11.73	1	Canovanas	PR-66	Urban Local Road
13	2837	2.90	1	Carolina	PR-66	PR-887 KM 2.0
14	2838	0.90	3	Carolina	PR-66	Blasina Creek
15	2839	1.40	2	Carolina	PR 66	PR 887
16	2965	19.10	1	Rio Grande	PR-66	PR-956
17	2966	19.50	6	Rio Grande	PR-66	PR-3 Km. 19.50
18	2970	13.80	8	Rio Grande	PR-66 Eastbound	Dirt RD Ramp; Calderon C
19	2971	14.30	2	Canovanas	PR-66 Eastbound	Cambalache River
20	2977	16.50	3	Rio Grande	PR-66	Las Lajas River
21	2987	14.30	2	Canovanas	PR-66 Westbound	Cambalache River
22	2988	15.10	5	Rio Grande	PR-66	Angola Creek
23	2989	16.50	3	Rio Grande	PR-66	Las Lajas River
24	2824	10.82	1	Canovanas	PR-66	PR-185
25	2969	14.10	8	Canovanas	PR-66 Westbound	Dirt RD Ramp; Calderon C
26	2974	16.10	7	Rio Grande	PR-66	Herrerias River & Creek
27	2975	16.10	7	Rio Grande	PR-66	Herrerias River & Creek
28	2978	17.50	1	Rio Grande	PR-66	Dirt Road
29	2990	17.50	1	Rio Grande	PR-66	Dirt Road

TABLE L.3.12.5

BRIDGES REQUIRING UNDERWATER INSPECTIONS

Bridge ID	Road	Intercept Area Description	Municipality
2299	PR 53	AGUAS CLARAS CREEK	CEIBA

TABLE L.3.12.6

BRIDGES DESIGNATED AS FRACTURE CRITICAL

Bridge ID	Road	Km	Intercept Area Description	Municipality
2038	PR 52 NORTHBOUND	49.50	PR 714 & LA PALMA CR	SALINAS
2039	PR 52 SOUTHBOUND	49.50	PR 714 & LA PALMA CR	SALINAS

TABLE L.3.12.7

CULVERTS (REQUIRING INSPECTION ONLY)

#	AGENCY ID	KM	SPANS	Municipality	FEATURE CARRIED	FEATURE CROSSED
1	1111	95.2	3	Juana Díaz	PR 52	Unnamed Creek
2	2460	7.9	2	Ceiba	PR 53	Waterway
3	1416	6.276	2	San Juan	PR 52	Piedras River
4	2299	3.55	2	Ceiba	PR 53	Aguas Claras Creek
5	2494	24.8	2	Humacao	PR 53	Unknown Creek
6	2349	84.6	2	Guayama	PR 53	Unknown Creek
7	1601	12.4	3	Caguas	PR 52	Creek
8	2273	106.7	2	Ponce	PR 52	Unknown Creek
9	2459	6.6	3	Ceiba	PR 53	Seca Creek
10	2461	9.3	2	Ceiba	PR 53	Seca Creek
11	2301	9.5	3	Ceiba	PR 53	Quebrada Seca Creek
12	2313	42.809	3	Humacao	PR 53	Collores Creek
13	2436	44.659	0	Humacao	PR 53	Unnamed Creek
14	2910	51.4	2	Maunabo	PR-53 KM 51.0	Waterway
15	2305	0.02	3	Ponce	RAMP PR10 TO PR14	Bucana River
16	2388	30.4	3	Humacao	PR 53	Fronteras Creek

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TABLE L.3.12.8

SCOUR CRITICAL BRIDGES

Bridge ID	Road	Km	Intercept Area Description	Municipality
860	PR 52	18.90	CAGUITAS RIVER	CAGUAS
1077	PR 52 NORTHBOUND	94.30	INABON RIVER	JUANA DIAZ
1078	PR 52 SOUTHBOUND	93.90	INABON RIVER	JUANA DIAZ
1111	PR 52	95.20	UNNAMED CREEK	JUANA DIAZ
1141	PR 52 SOUTHBOUND	92.40	JACAGUAS RIVER	JUANA DIAZ
1207	PR 52 SOUTHBOUND	85.90	CA¥AS RIVER	JUANA DIAZ
1208	PR 52 NORTHBOUND	86.20	CAÑAS RIVER	JUANA DIAZ
1227	PR 52 NORTHBOUND	66.60	NIGUA RIVER	SALINAS
1228	PR 52 SOUTHBOUND	66.60	NIGUA RIVER	SALINAS
1286	PR 52 NORTHBOUND	25.00	PR 765 & BEATRIZ CRE	CAGUAS
1287	PR 52 SOUTHBOUND	25.00	PR 765 & BEATRIZ CRE	CAGUAS
2022	PR 52 SOUTHBOUND	36.10	LA PLATA RIVER	CAYEY
2054	PR 52 NORTHBOUND	41.10	S. DOMINGO CREEK, ROAD	CAYEY
2056	PR 52 SOUTHBOUND	57.40	MAJADAS RIVER & PR 7	SALINAS

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TABLE L.3.12.9
OVERPASS BRIDGES

#	Agency ID	KM	Spans	Municipality	Feature Carried	Feature Crossed
1	844	5.70	003	GUAYNABO	PR 2	PR 20 (MRTNZ. NADAL EXP)
2	1259	15.10	006	SAN JUAN	PR 1	PR 52
3	1260	0.90	003	SAN JUAN	PR 838	PR 52
4	1277	0.08	002	CAYEY	PR 7787	PR 52
5	1284	23.10	002	CAGUAS	PR 1 RAMAL	PR 52
6	1285	37.80	005	CAGUAS	PR 1	PR 52
7	1521	4.30	003	GUAYNABO	PR 177	PR 20 (MRTNZ. NADAL EXP)
8	1848	0.50	002	GUAYNABO	SAN IGNACIO AVENUE	PR 20 (MRTNZ. NADAL EXP)
9	1849	0.40	003	GUAYNABO	PERIFERAL ST.	PR 20 (MRTNZ. NADAL EXP)
10	2228	0.60	002	GUAYNABO	ESMERALDA AVENUE	PR 20
11	2387	30.60	002	HUMACAO	PR 30	PR 53
12	2454	0.10	002	CEIBA	LOCAL ROAD	PR 53
13	2651	1.20	002	CAGUAS	PR 34	PR 52
14	2799	0.03	004	GUAYNABO	RAMP PR-2 TO PR-23	PR-20 Exp Martinez Nadal
15	2815	0.66	002	CAROLINA	PR-858	PR-66
16	2818	0.70	002	CAROLINA	PR 859	PR 66
17	2819	1.00	002	CAROLINA	Off PR 859 At 1.45	PR 66 KM 7.0
18	2939	13.10	002	CANOVANAS	PR-188	PR-66
19	2972	1.30	002	RIO GRANDE	PR-958	PR-66
20	2976	1.15	002	RIO GRANDE	PR-959	PR-66


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TABLE L.3.12.10

BRIDGES – POSTING TABLES

#	Agency ID	Highway	Km	Type	Truck #1	Truck #2	Truck #3	item 41
1	909	PR 52 SOUTHBOUND	21.40	R12-1	50	50	50	P
2	927	PR 52	17.50	R12-1	45	45	45	P
3	1111	PR 52	95.20	R12-5	25	45	55	P
4	1148	PR 52 NORTHBOUND	89.70	R12-1	15	15	15	P
5	1163	PR 52 SOUTHBOUND	77.60	R12-1	45	45	45	P
6	1275	PR 52 NORTHBOUND	26.70	R12-1	30	30	30	P
7	1276	PR 52 SOUTHBOUND	26.70	R12-1	30	30	30	P
8	1295	RAMP PR30 TO PR 52	0.50	R12-1	20	20	20	P
9	1601	PR 52	12.40	R12-5	10	15	20	P
10	1874	PR 20 SOUTHBOUND	4.40	R12-1	20	20	20	P
11	2028	PR 52 NORTHBOUND	38.80	R12-1	50	50	50	P
12	2029	PR 52 SOUTHBOUND	38.75	R12-1	50	50	50	P
13	2271	PR 52 WESTBOUND	105.80	R12-5	30	30	45	P
14	2272	PR 52 EASTBOUND	105.80	R12-5	30	30	45	P
15	2306	PR 53	3.60	R12-5	10	15	25	P
16	2459	PR 53	6.60	R12-1	50	50	50	P

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Table L.3.12.11
Slopes and Rockfall in Toll Roads

	Object ID	Hazard Type	Rockfall Slope or Landslide/Erosion Slope ID Number	Road Number	Km	To Km	Municipality	Latitude	Longitude
1	1174	landslide	0052-034	52	29.7	29.85	Caguas	18.16415556	-66.08836389
2	273	landslide	0052-041	52	43.3		Cayey	18.09218226	-66.17480726
3	269	landslide	0052-042	52	59.4		Salinas	18.01995205	-66.24325303
4	305	landslide	0053-003	53	14.8		Naguabo	18.21406009	-65.70598556
5	274	landslide	0066-031	66	3.5		Carolina	18.36778664	-65.96579515
6	275	landslide	0066-032	66	4.2		Carolina	18.36598268	-65.96176908
7	276	landslide	0066-033	66	6.6		Carolina	18.36272099	-65.94045704
8	277	landslide	0066-034	66	7.1		Carolina	18.36217784	-65.9355302
9	278	landslide	0066-035	66	7.3		Carolina	18.3617435	-65.93366695
10	279	landslide	0066-036	66	7.9		Carolina	18.3615113	-65.92854057
11	280	landslide	0066-037	66	8.2		Carolina	18.36168133	-65.92482804
12	281	landslide	0066-038	66	8.5		Carolina	18.36155602	-65.92258567
13	282	landslide	0066-039	66	9.1		Canovanas	18.36115739	-65.91675321
14	283	landslide	0066-040	66	9.4		Canovanas	18.36059232	-65.91347418
15	284	landslide	0066-041	66	10.8		Canovanas	18.3590932	-65.90148165
16	285	landslide	0066-042	66	10.9		Canovanas	18.35919542	-65.89978427
17	286	landslide	0066-043	66	11.7		Canovanas	18.36025095	-65.89301187
18	287	landslide	0066-044	66	12.3		Canovanas	18.36386831	-65.88812632
19	288	landslide	0066-045	66	13.3		Canovanas	18.37089765	-65.88243051
20	296	landslide	0066-046	66	17		Rio Grande	18.36842407	-65.84896135
21	289	landslide	0066-047	66	17.5		Rio Grande	18.36835687	-65.84352054
22	295	landslide	0066-048	66	17.5		Rio Grande	18.36866547	-65.84385547
23	294	landslide	0066-049	66	17.8		Rio Grande	18.36878186	-65.84118863
24	291	landslide	0066-050	66	18.3		Rio Grande	18.36877042	-65.83667087
25	293	landslide	0066-051	66	18.4		Rio Grande	18.36907355	-65.83390021
26	292	landslide	0066-052	66	19.2		Rio Grande	18.37416607	-65.82944897
27	290	landslide	0066-053	66	17.8		Rio Grande	18.36850957	-65.84166452
28	871	rockfall	0052-001	52	1.1	1.56	San_Juan	18.36677109	-66.07044928
29	872	rockfall	0052-002	52	3.4	3.6	San Juan	18.34810754	-66.07045543
30	873	rockfall	0052-003	52	3.8	3.9	San Juan	18.34550305	-66.06991232
31	356	rockfall	0052-004	52	6.35	6.45	San Juan	18.32555395	-66.04737417
32	358	rockfall	0052-005	52	7.35	7.55	San Juan	18.32548523	-66.04486522
33	357	rockfall	0052-006	52	7.5	7.65	San Juan	18.32477447	-66.04451898
34	359	rockfall	0052-007	52	7.7	7.9	San Juan	18.32373191	-66.04237188
35	362	rockfall	0052-008	52	7.78	8.6	San Juan	18.32423721	-66.04219436

	Object ID	Hazard Type	Rockfall Slope or Landslide/Erosion Slope ID Number	Road Number	Km	To Km	Municipality	Latitude	Longitude
36	333	rockfall	0052-009	52	8.15	8.35	San Juan	18.31986248	-66.03667219
37	332	rockfall	0052-010	52	9	9.15	Trujillo Alto	18.31584205	-66.03394273
38	875	rockfall	0052-011	52	9.3	9.62	Trujillo_Alto	18.31340278	-66.03372778
39	876	rockfall	0052-012	52	9.7	10	Trujillo_Alto	18.30951958	-66.03452447
40	877	rockfall	0052-013	52	9.75	9.95	Trujillo_Alto	18.30914214	-66.03389099
41	361	rockfall	0052-014	52	15	15.32	Caguas	18.27073487	-66.03911852
42	360	rockfall	0052-015	52	15.36	15.68	Caguas	18.26772353	-66.03830993
43	341	rockfall	0052-020	52	57		Salinas	18.04022184	-66.24028054
44	342	rockfall	0052-021	52	57		Salinas	18.0402182	-66.2398948
45	343	rockfall	0052-022	52	58		Salinas	18.03036113	-66.2394813
46	349	rockfall	0052-023	52	58		Salinas	18.03066998	-66.23895212
47	345	rockfall	0052-024	52	59.8		Salinas	18.01602848	-66.24423153
48	346	rockfall	0052-025	52	59.8		Salinas	18.01648857	-66.24374453
49	347	rockfall	0052-026	52	58.6		Salinas	18.02626308	-66.24114046
50	348	rockfall	0052-027	52	58.6		Salinas	18.0256832	-66.24079769
51	337	rockfall	0052-029	52	60.5		Salinas	18.0084064	-66.24644792
52	339	rockfall	0052-030	52	68.3		Salinas	17.99612231	-66.30630029
53	338	rockfall	0052-031	52	68.7		Salinas	17.99651445	-66.30966895
54	340	rockfall	0052-032	52	68.3		Salinas	17.9956271	-66.30626437
55	1173	rockfall	0052-033	52	49		Salinas	18.07090556	-66.21676944
56	350	rockfall	0052-035	52	56.4		Salinas	18.04370861	-66.24030269
57	351	rockfall	0052-036	52	56.4		Salinas	18.04369532	-66.2408056
58	352	rockfall	0052-037	52	55.8		Salinas	18.04867504	-66.23686808
59	353	rockfall	0052-038	52	55.4		Salinas	18.04754027	-66.23270046
60	354	rockfall	0052-039	52	55.2		Salinas	18.04640826	-66.22880793
61	355	rockfall	0052-040	52	55.4		Salinas	18.04705723	-66.23356656
62	407	rockfall	0052-043	52	52.3		Salinas	18.04660838	-66.21199883
63	344	rockfall	0053-001	53	94		Salinas	18.00825476	-66.24477408
64	374	rockfall	0053-002	53	81.15		Guayama	17.98862462	-66.13173563
65	375	rockfall	0053-004	53	81.45		Guayama	17.9889064	-66.13467589
66	26	rockfall	0066-001	66	3.39	3.62	Carolina	18.36839659	-65.96754674
67		rockfall	0066-002	66	4.41	4.54	Carolina	18.3652135	-65.96014864

	Object ID	Hazard Type	Rockfall Slope or Landslide/Erosion Slope ID Number	Road Number	Km	To Km	Municipality	Latitude	Longitude
68	28	rockfall	0066-003	66	5.65	5.895	Carolina	18.36302837	-65.94765698
69	33	rockfall	0066-004	66	6.3	6.39	Carolina	18.36276774	-65.94288812
70	34	rockfall	0066-005	66	6.71	6.91	Carolina	18.3626212	-65.93851505
71	381	rockfall	0066-006	66	7.6		Carolina	18.3615119	-65.93127035
72	380	rockfall	0066-007	66	7.9	8.15	Carolina	18.36144125	-65.92772833
73	35	rockfall	0066-008	66	9.85	10.65	Canóvanas	18.35956442	-65.90873834
74	36	rockfall	0066-009	66	12.55	12.91	Canóvanas	18.36675883	-65.88623503
75	51	rockfall	0066-010	66	13.55	13.82	Canóvanas	18.37199199	-65.87942552
76	52	rockfall	0066-011	66	15.57	15.85	Río_Grande	18.36748926	-65.86147253
77	53	rockfall	0066-012	66	17.34	17.44	Río_Grande	18.36826799	-65.8455563
78	54	rockfall	0066-013	66	17.92	18.18	Río_Grande	18.36843743	-65.83935293
79	55	rockfall	0066-014	66	18.6	18.9	Río_Grande	18.37155998	-65.83320545
80	390	rockfall	0066-015	66	19.3	19.6	Río_Grande	18.37491575	-65.82788672
81	56	rockfall	0066-016	66	17.925	18.1	Río_Grande	18.36915245	-65.83803958
82	57	rockfall	0066-017	66	13.6	13.8	Canóvanas	18.37244902	-65.87953631
83	58	rockfall	0066-018	66	12.89	12.96	Canóvanas	18.36890771	-65.88543247
84	59	rockfall	0066-019	66	5.9	6.22	Carolina	18.36280377	-65.94514943
85	60	rockfall	0066-020	66	11.15	11.35	Gurabo	18.35985902	-65.89695334
86	61	rockfall	0066-021	66	10.43	10.8	Canóvanas	18.35966348	-65.90343993
87	62	rockfall	0066-022	66	9.95	10.07	Canóvanas	18.35985597	-65.90796877
88	63	rockfall	0066-023	66	7.55	7.67	Carolina	18.36192285	-65.93119462
89	64	rockfall	0066-024	66	6.73	6.85	Carolina	18.36301009	-65.93822681
90	65	rockfall	0066-025	66	5.9	6.24	Carolina	18.36323574	-65.94454856
91	66	rockfall	0066-025A	66	5.6	5.88	Gurabo	18.36346036	-65.9479643
92	67	rockfall	0066-026	66	5.2	5.5	Carolina	18.36390281	-65.95213363
93	68	rockfall	0066-027	66	4.4	4.5	Carolina	18.36563158	-65.95977892
94	69	rockfall	0066-028	66	3.58	3.7	Carolina	18.36873122	-65.96703533
95	1255	rockfall	0053-040	53	82.25	82.45	Guayama	17.98737948	-66.1422434
96	1256	rockfall	0053-046	53	83.55	84.22	Guayama	17.98654451	-66.15664175

Schedule 15C
Operating Standards (Volume III)
(See attached.)

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GOVERNMENT OF PUERTO RICO
PUERTO RICO PUBLIC PRIVATE PARTNERSHIPS AUTHORITY

TOLL ROAD CONCESSION AGREEMENT PR-20, PR-52, PR-53 & PR66



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VOLUME II OF III OPERATIONS AND PROCEDURES MANUAL

Execution Version

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VOLUME III – ENVIRONMENTAL MANAGEMENT MANUAL

<u>CHAPTER</u>	<u>TITLE</u>
A.	ORGANIZATION AND GENERAL INFORMATION
B.	ENVIRONMENTAL MANAGEMENT PLAN

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CHAPTER A: ORGANIZATION AND GENERAL INFORMATION

A.1. Purpose of Manual

The primary purpose of this Volume III of the Operating Standards is to provide guidelines and criteria to the Concessionaire on the fundamental obligations related to the protection of natural resources and the environment, and on the basic development and submission of the Environmental Management Plan for the Toll Roads, as described in Chapter B of this Volume. This Manual is intended to provide operational guidelines only. To the extent that any term of provision set forth in the Toll Road Concession Agreement conflicts with any term or provision of this Manual, then such term or provision set forth in the Toll Road Concession Agreement shall supersede any such conflicting term or condition in this Manual. The Concessionaire is solely responsible for identifying, interpreting, and complying with all Environmental Laws and Regulations applicable to the operation of the Toll Roads, including their corridors.

A.2. Limitations

Caribbean Environmental Services has performed a Phase I Environmental Site Assessment and Additional Services ("Phase I") evaluation process for this project in accordance with the Scope of Work, and no guarantees with respect to environmental conditions at, on, under, or in the vicinity of the Toll Roads are either expressed or implied. While site assessments were conducted, these were limited to the eight (8) toll stations and gantries on PR-52, five (5) toll stations on PR-53, one (1) toll station in PR-20, and four (4) toll stations on PR-66 and the highways' corridors. The purpose of the Phase I was to evaluate environmental concerns or issues with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and hazardous substances, pollutants, contaminants, or petroleum products that maybe associated with the Subject Property, based upon readily available information and site observations. Phase I was prepared in conformance with the scope and limitations of the ASTM E1527-21 standard (Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process). However, it is understood that no site assessment can ensure that all environmental conditions of concern would be identified and evaluated. The site assessment performed for all the Toll Plaza facilities is not intended to be an exhaustive assessment of the environmental studies related to the Toll Road Concession Agreement; but rather, this Manual has been based on a reasonable investigation undertaken during the initial stages of the development process and contains that information to the best of the knowledge of Caribbean Environmental services.

The record search was limited to information available from certain public sources available at the time of the preparation of this Manual. Such public records are continually changing and are frequently incomplete. Data gaps identified at this time include, but are not limited to, UST registrations, NPDES and Air Emission permits. Caribbean Environmental Services does not assume any liability for information or conditions that have been misrepresented, or for items not visible, accessible, or present within the Toll Roads at the time of the site visits.

Additionally, no investigation is thorough enough to preclude the presence of materials or conditions at the site that currently, or in the future, may be subject to regulation or considered hazardous. Regulatory evaluation criteria are constantly changing, and conditions considered to be acceptable currently may, in the future, become subject to different regulatory standards and require action.

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A.3. Staffing Identification

The Concessionaire is solely responsible for each employee, his or her actions, as well as all parties that are employed by the Concessionaire, while on the Toll Roads and their corridors. The number of employees required must be determined by the needs of the Concessionaire to fulfill its maintenance, operation, and contractual obligations.

The Toll Roads is a 24 hour-per-day, 365 days-per-year operation. For this reason, the Concessionaire must recognize the need to have variable work shifts, employees, supervisors, and personnel to maintain constant operations.

A.3.1. Essential Staff

The Essential Staff Matrix developed for Volume II or III of the Operating Standards must include required staff to complete environmental management activities. The Essential Staff Matrix must include members of staff adequate to perform duties as outlined in this Volume III, including, but not limited to, personnel with appropriate licenses, certifications, and registrations.

A.4. Protection of Natural Resources and the Environment

The protection of natural resources and the environment is an essential and significant activity within the Toll Roads and their corridors. The Concessionaire must comply with all Federal and Commonwealth Environmental Laws in protecting the natural resources of the region, the environment and any threatened or endangered species, regardless of whether such laws pertain to operational activities covered in the Environmental Management Plan. The Puerto Rico Department of Natural and Environmental Resources (PRDNER), , Permits Management Office (OGPe, for its Spanish acronym), the US Fish and Wildlife Service (USFWS), the US Army Corps of Engineers (USACE) and the US Environmental Protection Agency (USEPA), are the agencies that the Concessionaire must contact, as appropriate, to clarify any doubt or to process any permit for activities that could affect any endangered species or natural resource.

A.4.1. Noise Control

The development of a project or activity must comply with Federal and Commonwealth Environmental Laws for noise control. The Concessionaire must consult with appropriate officials to obtain the views of the affected communities regarding noise impacts and abatement measures and must study and mitigate any traffic or construction noise impacts in accordance with the PRDNER Regulation for the Control of Noise Pollution, Noise Pollution and Abatement Act, and the Noise Policy in the Development and Operation of Transportation Projects, and any other applicable regulations or laws, as amended.

The Concessionaire will be responsible for notifying the PRHTA of any new residential development or construction adjacent to the toll plazas or highway corridors so that the PRHTA can confirm, through the OGPe, that the developer or contractor performed the traffic noise control studies, in compliance with state and federal regulations. In case such residential development is considered a noise-impacted area, the developer at its own cost will implement any measure or control to mitigate any traffic noise that the new community may experience, avoiding so that said mitigation or control is subsequently the responsibility of the PRHTA and Concessionaire.

A.4.2. Water Resources and Water Quality

Water resources must be protected and water quality must be maintained within and around the Toll Roads and their corridors in compliance with Federal and Commonwealth Environmental Laws, including but not limited to the Clean Water Act of 1977, the Safe Drinking Water Act, Title 40 of the Code of Federal Regulations (CFR) Parts 100 to 149, Law 136 of June 3, 1976 – Law for the Conservation, the Development and Use of Water Resources in Puerto Rico; and, PRDNER Water Quality Standards, as amended.

The Concessionaire must also develop and implement a Stormwater Management Program Plan (SWMPP), which will be included in the Environmental Management Plan. No construction, improvement, maintenance activity, or daily activity may decrease the quality of surface waters, ground waters, or wetlands in violation of any Environmental Law. If there is no way to avoid impacts to the quality of surface waters, ground waters or wetlands, the Concessionaire must obtain the necessary Consent or permit from the PRDNER, the USACE, or other relevant Governmental Authority.

A.4.3. Air Quality

Portions of the Toll Roads are in areas that until recently were classified as non-attainment areas of the Commonwealth, and as such, certain improvements within the Toll Roads must conform to Federal, Commonwealth and Regional Air Implementation Plans and all Environmental Laws. Relevant Environmental Laws include, but are not limited to, the Clean Air Act as amended in 1990, National Ambient Air Quality Standards and the PRDNER Regulation for the Control of Atmospheric Pollution. The Concessionaire must comply with the PRDNER Air Emission Source regulation, including by obtaining Air Emission Sources permits for emergency power generators with power capacities equal to or greater than 10 horsepower.

A.4.4. Dust Control

Dust control is essential in maintaining clean air and the prevention of airborne pollutants. Dust must be controlled within the Toll Roads and their corridors in

compliance with all Federal and Commonwealth Environmental Laws by implementing best management practices for all construction and daily activities including land disturbance, demolition, and material handling processes.

A.4.5. Threatened and Endangered Species

During the development of a project or activity, an assessment must be made of the likely impacts on species of plants or animals listed at the Federal and/or Commonwealth level as threatened or endangered and on their habitats in accordance with Environmental Laws. Relevant Environmental Laws include, but are not limited to, the Endangered Species Act, Title 50 CFR Chapter 1 Part 17 Endangered and Threatened Wildlife and Plants, Regulation to Govern Vulnerable and Endangered Species in the Commonwealth of Puerto Rico (PRDNER Regulation #6766) and Regulation to Govern the Management and Conservation of Wildlife, Exotic Species and Hunting (PRDNER Regulation #6765). Every effort must be made to minimize the likelihood of jeopardizing the continued existence of listed threatened or endangered species or the destruction or adverse modification of a Natural Area (such as a natural reserve designated by the PRPB, or a forest area designated by PRDNER) or an area with presence of critical/endangered has been designated as a critical or essential habitat by the PRDNER/USFWS. In any work or expansion of the Toll Roads or their corridors, potential impacts to threatened and/or endangered species shall be taken into consideration during the environmental assessment process conducted as part of the construction permit, and any applicable law conservation measures developed by the U.S. Fish and Wildlife Service (USFWS) and PRDNER shall be implemented.

A.4.6. Other Laws

Projects requiring Federal and/or Commonwealth actions, such as funding or Consents, may be subject to the National Environmental Policy Act, the National Historic Preservation Act, Section 4(f) of the Department of Transportation Act, or the PRDNER Regulation for the Process of Presentation, Evaluation and Procedure of Environmental Documents, among others. The Concessionaire must conduct all investigations and prepare all documentation necessary to comply with these and any other applicable Environmental Laws.

A.5. Interagency Coordination

It is the Concessionaire's sole responsibility to coordinate with Governmental Authorities so that the Toll Roads and their corridors are in compliance with all Federal, and Commonwealth Environmental Laws.

A.6. Initial Submission of Environmental Management Plan

Chapter B of this Volume requires the annual submission of an Environmental Management Plan by the Concessionaire to the Puerto Rico Highway and Transportation Authority (PRHTA) for approval by the PRHTA. The Concessionaire must submit the Environmental Management Plan to the PRHTA for approval no later than 120 days after the Closing Date, as defined in the Toll Road Concession Agreement, unless otherwise agreed to by the PRHTA and the Concessionaire.

The Concessionaire must submit all plans required by other Governmental Authorities as required by each Governmental Authority.

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CHAPTER B: ENVIRONMENTAL MANAGEMENT PLAN

B.1. Definitions

The definitions, acronyms and abbreviations contained in Volume III are incorporated herein.

AST: Aboveground Storage Tank

BMP: Best Management Practice

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980

CFR: Code of Federal Regulations

Consent: A permit, license, authorization, or other approval required by any Governmental Authority.

DTPW: Puerto Rico Department of Transportation and Public Works (*Departamento de Transportación y Obras Públicas de Puerto Rico*)

Emergency: An unforeseen occurrence or combination of circumstances that calls for immediate action or remedy.

Environmental Law: Any Federal, Commonwealth, or local, law, regulation, ordinance, or other requirement pertaining to the environment.

EPA: Environmental Protection Agency

Incident: An occurrence or event, natural or fabricated, requiring a response to protect human health, property, the environment, or natural resources.

IPC: Institute of Puerto Rican Culture (*Instituto de Cultura Puertorriqueña*)

ISO: International Organization for Standardization

NCP: National Contingency Plan, provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants.

NPAA: Noise Pollution and Abatement Act of 1972, as amended.

NPDES: National Pollutant Discharge Elimination System

PRASA: Puerto Rico Aqueduct and Sewer Authority

PRDNER: Puerto Rico Department of Natural and Environmental Resources
(*Departamento de Recursos Naturales y Ambientales de Puerto Rico*).

PREQB: Puerto Rico Environmental Quality Board (*Junta de Calidad Ambiental de Puerto Rico* now under the PRDNER)

PRHTA: Puerto Rico Highway and Transportation Authority (*Autoridad de Carreteras y Transportación de Puerto Rico*)

PRPB: Puerto Rico Planning Board (*Junta de Planificación de Puerto Rico*)

PRPD: Puerto Rico Police Department (*Policía de Puerto Rico*)

PWS: Public Water Supply

SARA: Superfund Amendments and Reauthorization Act of 1986, which amended the CERCLA on October 17, 1986

SPCC Plan: Spill Prevention, Control and Countermeasures Plan

SWPPP: Stormwater Pollution Prevention Plan

USACE: US Army Corps of Engineers

USFWS: U.S. Fish and Wildlife Service

UST: Underground Storage Tank

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B.2. References

The following comprises a partial list of Environmental Laws and publications that may apply to the operations of the Toll Roads and other projects and activities undertaken by the Concessionaire. Environmental Laws and documents applicable to the Concessionaire are the most current versions of those stated herein. However, the Concessionaire shall be responsible for having them updated to be in compliance with them.

- Clean Air Act, as amended in 1990.
 - National Ambient Air Quality Standards
- Clean Water Act of 1977
 - Wetlands Jurisdictional Determinations (WJD) and US Corps of Engineers Permits
 - National Pollutants Discharge Elimination Systems (NPDES Permits)
 - Storm Water Pollution Prevention Plan (SWPPP)
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended.
- Law 270 of 2003. Law for the Environmental Emergency Funds of Puerto Rico.
- Endangered Species Act of 1973
- Farmland Protection Policy Act
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
- Hazardous and Solid Waste Amendments of 1984
- Hazardous Materials Transportation Act
- International Organization for Standardization (ISO) 14001 (1996 and 2004 revision)
- Law 10 of January 19, 1995. Law to Promote the Reduction of Hazardous Waste in Puerto Rico
- Law 70 of September 18, 1992. Law for the Reduction and Recycling of Solid Waste in Puerto Rico.
- Law 112 of July 20, 1988. Protection Law for the Terrestrial Archaeological Patrimony.
- Law 136 of June 3, 1976. Law for the Conservation, the Development and Use of Water Resources in Puerto Rico.
- Law 171 of August 2nd, 2018, Reorganization Plan of the Department of Natural and Environmental Resources of 2018 Law
- Law 411 of October 8, 2000, to amend 1992 Reduction and Recycling Law

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- Law 416 of September 22, 2004, Puerto Rico Environmental Public Policy Law
- National Environmental Policy Act
- National Historic Preservation Act
- Puerto Rico Regulation on Special Areas at Risk of Flood (PRPB Regulation #13).
- Puerto Rico Regulation for Cultivation, Deforestation and Reforestation (PRPB Regulation #25)
- Puerto Rico Special Regulation and Plan for the Tortuguero Lagoon Hydrographic Basin. (PRPB Regulation #7)
- Puerto Rico Zoning Regulation (PRPB Regulation #4)
- Puerto Rico Future Karsts Zone Special Regulation – Under Evaluation by the PRPB
- Regulation for the Erosion Control and Sedimentation Prevention (PRDNER)
- Regulation for the Process of Presentation, Evaluation and Procedure of Environmental Documents (PRDNER)
- Regulation for the Control of Atmospheric Pollution (PRDNER)
- Regulation for the Control and Prevention of Light Pollution of 2016 (PRDNER)
- Regulation for the Control of Noise Pollution (PRDNER)
- Regulation for Air Emission Source (PRDNER)
- Regulation of Hazardous Waste Control (PRDNER)
- Regulation of the Adequate Management of Lead Based Paint Activities – 2018 (PRDNER)
- Regulation of Non-Hazardous Waste Management (PRDNER)
- Regulation of Underground Storage Tanks (PRDNER)
- Regulation of Underground Injection Control (UIC) (PRDNER)
- Regulation of Water Quality Standards (PRDNER)
- Regulation to Govern Vulnerable and Endangered Species in the Commonwealth of Puerto Rico (PRDNER Regulation #6766)
- Regulation to Govern the Management and Conservation of Wildlife, Exotic Species and Hunting (PRDNER Regulation #6765)
- Regulation to Govern the Extraction, Excavation, Removal and Dredge of the Earth Crust Components (PRDNER Regulation #6916)
- Resource Conservation and Recovery Act of 1976
- Safe Drinking Water Act
- Solid Waste Management Act

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- Superfund Amendments and Reauthorization Act of 1986
- Title 40 CFR, Part 131, Water Quality Standards
- Title 40 CFR, Part 112, Oil Pollution Prevention
 - Spill Prevention Countermeasure Control Plan (SPCCP)
- Title 50 CFR, Chapter 1, Part 17, Endangered and Threatened Wildlife and Plants – United States Fish and Wildlife Service (USFWS)
- United States Department of Agriculture, National Resource Conservation Service (NRCS) Web Soil Survey
- Water's Law for Well Water Franchise Permit (PRDNER)

B.3. Policy For Environmental Management Plan

B.3.1. Objective

The objective of the Environmental Management Plan is to ensure that the Concessionaire has considered, trained, addressed, and planned for situations that could be deemed as creating an endangerment to human health or the environment within or adjacent to the Toll Roads and their corridors resulting from operation of the Toll Roads and their corridors. The Environmental Management Plan shall be implemented in all critical activities identified by requirement of law or regulation, either Federal or by the Commonwealth.

B.3.2. Responsibility of Concessionaire

It is the Concessionaire's responsibility to establish, write, conduct and implement a comprehensive Environmental Management Plan that addresses the protection of human health and the environment during the operation of the Toll Roads and their corridors, and to ensure that such plan is being implemented and enforced, in accordance with any Federal and Commonwealth Environmental Law. This Chapter and its contents have been provided as a preparation guideline that addresses the minimum required criteria and is not intended to be all inclusive. The Environmental Management Plan must be updated and submitted annually to the PRHTA for approval. The Environmental Management Plan developed by the Concessionaire should conform to ISO 14001, except that the Concessionaire is not required to have the Environmental Management Plan approved by an independent certification body or registrar, although this is highly encouraged.

All appropriate Concessionaire employees must be trained on and made aware of the Environmental Management Plan and all the requirements under the applicable Federal and Commonwealth Environmental Laws.


This Chapter includes a general outline of the proposed Environmental Management Plan. This outline is intended only to provide guidance in the preparation of the Environmental Management Plan and is not intended to identify all the environmental issues that must be addressed in the Environmental Management

The Environmental Management Plan must be modified, revised, or changed as appropriate to address specific issues, needs, improvements, or concerns related to the Toll Roads and their corridors that develop over time or to incorporate any changes to the applicable Federal and Commonwealth Environmental Laws.

Except for any remediation activities identified in the Toll Road Concession Agreement, the Environmental Management Plan must reflect that contamination discovered on, under or emanating from the Toll Roads and their corridors after the Closing Date must be the responsibility of the Concessionaire, unless PRHTA stipulated otherwise on this document.

B.3.3 Permits and Licenses

The Concessionaire will be responsible for renewing any permit, approval, endorsement, or authorization required from any Federal and Commonwealth agency with jurisdiction over the facility, including without limitation, any permit for the relocation of utilities.

The PRHTA shall take all necessary steps to transfer all permits, approvals, endorsements, or authorizations to the Concessionaire, whenever such transfer is required for the performance by the Concessionaire of any activities included in this Agreement.

The PRHTA will provide the Use Permit ("Permiso Único") for all Toll Plaza Stations and corridors.

Mitigation: Whenever mitigation of the ecological conditions at the project site is required as a condition to obtain a necessary permit (such as a USACE permit for projects impacting areas under their jurisdiction, such as wetlands), the costs shall be part of the costs of such permit.

These requirements apply to projects at which the construction of noise abatement barriers is required by any Federal or Commonwealth agency with jurisdiction.

If in any renewal of any permit, approval, endorsement, or authorization the Federal or Commonwealth agency requires any mitigation to minimize environmental or other impacts (e.g., noise, traffic) to grant it, the Concessionaire is responsible for the costs of such mitigation.

B.3.4 Performance Time Frames

The Environmental Management Plan must be submitted annually for approval. The first annual update of the Environmental Management Plan must be submitted

twelve months after the approval of the first Environmental Management Plan.


B.3.5 Acceptance Criteria

The Environmental Management Plan will be considered provisionally acceptable for a particular year when the Plan has been written and updated by the Concessionaire and submitted to the PRHTA for comment and approval. The Environmental Management Plan (and each update) will be considered final after the Concessionaire has incorporated any comments made by the PRHTA and an independent certification body, and these changes have been approved by the PRHTA and the independent certification body, as applicable.

B.4. Environmental Management Plan Preparation Requirements

B.4.1. Introduction

The Introduction section of the Environmental Management Plan must contain a short overview and must include a description of the persons or Governmental Authorities involved in the preparation of the Environmental Management Plan, a designated individual who is charged with the implementation and maintenance of the Environmental Management Plan, and the overall goals and objectives of the Environmental Management Plan. At a minimum, this section must contain the following sub-sections:

- 
- Purpose
 - Scope and applicability
 - The methodology used to develop and implement the Environmental Management Plan

B.4.2. General

The General section of the Environmental Management Plan must require the Concessionaire to be responsible for all environmental Consents. The Concessionaire must be listed as the operator on all Consents and must pay all environmental related fees, including permitting fees. The PRHTA will be identified as the owner on all Consents. The Environmental Management Plan must include procedures and timetables for the Concessionaire to apply for all environmental Consents, including any renewals of existing Consents, as stated above.

B.4.3. Records

The Environmental Records section of the Environmental Management Plan must require the Concessionaire to maintain environmental records in accordance with Environmental Laws, including, but not limited to, requirements of the Puerto Rico Comptroller's Office, which establishes a period of twelve (12) years as the time required for the retention of contracts and associated documents. The Environmental Management Plan must detail the required retention time periods

for all environmental records (permits, releases, certification, among others) and provide the location of the record storage.

B.4.4. Hazardous Materials Management/Response to Hazardous Materials Emergencies

The Hazardous Materials Management/Response to Hazardous Materials Emergencies section of the Environmental Management Plan must identify all materials (including wastes and any other substances, pollutants or contaminants) that are or could potentially be harmful if released into the environment and must specify the appropriate management of these materials and substances, pollutants or contaminants in order to prevent an impact to the environment, in keeping with applicable provisions of the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act of 1976, CERCLA Including the Superfund Amendments and Reauthorization Act of 1986), Clean Water Act, Law 10 of January 19, 1995 – Law to Promote the Reduction of Hazardous Waste in Puerto Rico, Regulation of Hazardous Waste Control, Law 270 of 2003, Law for the Environmental Emergency Funds of Puerto Rico, and all other applicable Environmental Laws.

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The Environmental Management Plan must include the steps required to respond to and report releases of hazardous materials to appropriate Federal and Commonwealth Governmental Authorities. Types of hazardous material surface spills include but are not limited to, hazardous materials incidents caused by vehicles on the Toll Roads and their corridors, or by spillage of materials used by the Toll Roads. Incidents on the Toll Roads or its corridors could be due to vehicle fuel spills or spills of bulk or containerized materials that are being transported by over-the-road vehicles. Example response/remediation policies are included in Exhibit III-A. In accordance with EPA Oil Pollution Prevention Regulation at Title 40 of the CFR, Part 112, as amended, and with rule 1306.5 of the DNER Water Quality Standards Regulations, as amended, the Concessionaire must update, implement and maintain (i.e., have reviewed and certified by a Professional Engineer licensed in the Commonwealth of Puerto Rico every five (5) years) the Spill Prevention, Control and Countermeasure (SPCC) plans as part of the Environmental Management Plan, in a separate section. This plan should include standard operation procedures for the management and remediation of hazardous substances, pollutants, contaminants, or petroleum product spills on paved, non-paved and grass-maintained areas in the toll roads, its corridors, and the toll roads' surroundings. The Environmental Management Plan must address how these SPCC plans will be updated, implemented, and maintained. Any facilities with a total aboveground oil storage capacity of greater than 1,320 gallons, or total completely buried oil storage capacity greater than 42,000 gallons, are required to prepare and implement a SPCC plan. A copy of the entire SPCC plan must be maintained at the facility and the plan must be available to EPA for on-site review and inspection. Example response/remediation policies are included in Exhibit III-B.

PRHTA will provide to the Concessionaire the initial SPCC plans to be included and updated in the Environmental Management Plan to clean and remediate, in a timely manner, any spill or releases that could happen in the toll roads, its corridors

and in the toll roads surroundings. The Concessionaire shall be responsible for updating the SPCC plans as necessary during the course of the Concession.

B.4.5. Underground Storage Tanks (USTs) and Above-Ground Storage Tanks (ASTs)

The Environmental Management Plan must require the Concessionaire to be responsible for the operation, maintenance, replacement, and remediation (if applicable) of any and/or all USTs and ASTs necessary for operation of the Toll Roads in accordance with Federal, and Commonwealth statutes and regulations. Relevant statutes and regulations include but are not limited to: PRDNER Regulation for Underground Storage Tanks, and Title 40 CFR, Part 112, Oil Pollution Prevention. A list of ASTs identified through review of Puerto Rico Department of Natural and Environmental Resources (PRDNER) files is provided on Table B.4.5.1.

The Environmental Management Plan must include the inspection procedure to perform integrity tests, and their frequency, of all underground and aboveground storage tanks and fuel lines. These inspection reports shall be stored for the period required by law or by the relevant regulatory agency. If the integrity report finds an AST or UST spill or leakage, the spill emergency plan or SPCC plan will be activated, and appropriate remediation shall be conducted in accordance with such plans and applicable law. The Concessionaire shall keep for its records a copy of the corrective action report including the release letter or certification given by PRDNER. Example response/remediation policies are included in Exhibit -B.

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Table B.4.5.1: List of Above-Ground Storage Tanks

Location	Km	Tank	Size (Gallons)	Contents	Condition Status	Secondary Containment	Comments
Toll Corridor PR-52	14.5	Not defined	560	Not known	Abandoned	Available	
Montehiedra PR-52	3.8	AST	180	Diesel	Corrosion	In concrete	
		Day tank	5	Diesel		No	
Caguas Norte PR-52	14.3	Built-in	1270	Diesel	Good		
Caguas Sur PR-52	23.5	AST	250	Diesel	Good	Yes	2 Inactive AST on site
		Built-in	400	Diesel	Good	No	
Juana Diaz Este PR-52	85.6	Built-in	250	Diesel	Good	Double wall tank	
Juana Díaz Oeste PR-52	93.6	Built-in	250	Diesel	Good	Double wall	
Salinas PR-52	57.9	Built-in	75	Diesel	Good	Double wall	
		Built-in	75		Good	Double wall w/ concrete dike	

Location	Km	Tank	Size (Gallons)	Contents	Condition Status	Secondary Containment	Comments
Rampa Salinas (Norte y Sur) PR-52	66.5	Built-in	100	Diesel	Good	Double wall	
		Day tank	5	Diesel	Inactive	No	Empty tank
		Concrete AST	500	Diesel	Good	yes	Empty tank
Ponce PR-52	105.4	Day tank	10	Diesel	Good	No	
		AST	560	Diesel	Good	No	
		AST	300	Diesel	-	Yes	
Hucar-Salinas PR-53	93	AST	560	Diesel	-	Yes	
		Day Tank	30	Diesel	-	No	
Guayama PR-53	82	AST	560	Diesel	-	Yes	
		Built-in	75	Diesel	-	No	
Humacao Norte PR-53	58.9	AST	500	Diesel	Good	Yes	
		AST	560	Diesel	Good	Yes	
Humacao Sur PR-53	34.8	AST	500	Diesel	Good	Yes	
		AST	560	Diesel	Good	Uncertain	
		Day-tank	15	Diesel	Good	No	
Ceiba PR-53	4.3	AST	500	Diesel	Good	Yes built-in	
		AST	560	Empty tank	-	Yes, concrete	Empty & no longer in use
		AST	500	Diesel	-	Yes, built-in	
		AST	200	Diesel	-	Yes, concrete	
		Built-in gen	240	Diesel	-	Yes	
Carolina PR-53	3.4	AST	500	Not known	Abandoned Condition	Available	Red Empty & out of service
		AST	500	Not known			White; to feed fleet vehicles
		AST	1000	Diesel		Concrete dike	Feds generator
		Built-in tank	Not identified				To the generator not in use
Rampa Carolina PR-53	5.1	AST	-500	Diesel	Good	Concrete	Feds generator
		Built-in tank	20G		good		
Rampa Carolina Sur	5.1	Built-in	500	Diesel		Concrete	
Rio Grande PR-53	16.8	AST	200	Diesel		-Yes	2 Inactive AST on site
Guaynabo PR-20	6.4	Built-in	50	Diesel	-Good		
		AST	560	Diesel	-Good	Concrete	

B.4.6 Air Permitting

The Air Permitting section of the Environmental Management Plan must include procedures to ensure that the Concessionaire operational activities within the Toll Roads and their corridors either remain under air permitting thresholds, quality standards or the required air Consents are obtained for the operation or maintenance activities. The operation of the Toll Roads may require air Consents, although the current operation of the Toll Roads is exempt because the calculated emissions do not trigger the need for a Consent to be obtained. The Environmental Management Plan must specify the procedures that will be taken to ensure that projects or operations meet all Environmental Laws with respect to Air Permits. As part of the Environmental Management Plan, the Concessionaire shall coordinate with PRDNER and/or EPA to ensure compliance with the relevant Clean Air Act State Implementation Plans (SIPs) and any other Commonwealth or EPA regulations or other requirements which implement, maintain, and enforce the National Ambient Air Quality Standards (NAAQS), and to fulfill other requirements of the Clean Air Act.

According to the PRDNER Air Emission Source regulation, emergency power generators with power capacities equal to or greater than 10 horsepower are required to obtain an air emission source permit.

The table below summarizes the emergency power generators located in Toll Plazas.

Toll Road	Toll Plaza Location	Emergency Power Generator
52	Toll Plaza at Montehiedra Km 3.8 Caimito Ward San Juan, Puerto Rico	25 kW Onan emergency power generator inside administration building, served by: - 5 gL diesel day tank - 180 gL AST connected to the day tank
52	Toll Plaza at Caguas Norte Km. 14.3 Río Cañas Ward Caguas, Puerto Rico	250 kW Kohler Emergency Power Generator installed in the traffic management center building and was integrated with: - 1270 gL diesel built-in tank
52	Toll Plaza at Caguas Sur Km. 23.5 Turabo Ward Caguas, Puerto Rico	- 110 kW Generac Emergency Power Generator located in a dedicated room inside the administration building. - Appears to be in good condition. - No evidence of spills or release in its surroundings. - 400-gallons diesel fuel built-in tank
52	Toll Plaza at Juana Díaz Este - Río Cañas Km 85.6 Río Cañas Abajo Ward Juana Díaz, Puerto Rico	- 36 kW Caterpillar Emergency Power Generator located inside a dedicated room; - Appears to be in good condition; - No evidence of spills or release in its surroundings.
52	Toll Plaza at Juana Díaz Oeste - Coto Laurel Km 93.6 Sabana Llana Ward Juana Díaz, Puerto Rico	- 36 kW Caterpillar Emergency Power Generator located inside a dedicated room; - Appears to be in good condition; - No evidence of spills or release in its surroundings.
52	Toll Plaza at Salinas Km 57.9 Lapa Ward Salinas, Puerto Rico	- 40 kW Generac Emergency Power Generator located east of administration building; - 60 kW Onan power generator located east of police building; - Appear to be in good condition. - No evidence of spills or release in its surroundings.

Toll Road	Toll Plaza Location	Emergency Power Generator
52	Toll Plaza at Rampa Salinas (Norte y Sur) Km 66.5 within Lapa and Pueblo Wards Salinas, Puerto Rico	<ul style="list-style-type: none"> - 40 kW Armstrong Emergency Power Generator located West of toll plaza support building; - Appear to be in good condition. - No evidence of spills or release in its surroundings.
52	Toll Plaza at Ponce Km 105.4 Playa Ward Ponce, Puerto Rico	100 kW Onan emergency power generator located in dedicated room, south of maintenance building.
53	Toll Plaza at Hucar Km. 93 La Lapa Ward Salinas, Puerto Rico	<ul style="list-style-type: none"> - 40 kW emergency power generator; located inside a room at the southeast corner of the building.
53	Toll Plaza at Guayama Km. 82 Pozo Hondo Ward Guayama, Puerto Rico	<ul style="list-style-type: none"> - 56 kW emergency power generator; located inside a room at the southeast corner of the building. - 50 kW backup generator staged at the south side of the building.
53	Toll Plaza at Humacao Norte Km 58.9 Junquito Ward Humacao, Puerto Rico	<ul style="list-style-type: none"> - 40 kW Emergency Power Generator located small concrete shed, - Appears to be in good condition, - No evidence of spills or release in its surroundings.
53	Toll Plaza at Humacao Sur Km 34.8 Cataño Ward Humacao, Puerto Rico	<ul style="list-style-type: none"> - 40 kW Emergency Power Generator located small concrete shed, - Appears to be in good condition, - No evidence of spills or release in its surroundings.
53	Toll Plaza at Ceiba Km. 4.3 Saco Ward Ceiba, Puerto Rico	<ul style="list-style-type: none"> - 150 kW emergency power generator; located west of the toll plaza administrative offices building. - In good conditions; - no evidence of spills or releases on its surroundings.
66	Toll Plaza at Carolina Km. 3.4 Martin Gonzalez Ward Carolina, Puerto Rico	<ul style="list-style-type: none"> - 100 kW emergency power generator; located east of the building. - In good conditions; - No evidence of spills or release in its surroundings
66	Toll Plaza at Rampa Carolina Norte Km. 5.1 Barrazas Ward Carolina, Puerto Rico	<ul style="list-style-type: none"> - 40kW emergency power generator; located within concrete building. - In good conditions; - No evidence of spills or release in its surroundings
66	Toll Plaza at Rampa Carolina Sur Km. 5.1 Barrazas Ward Carolina, Puerto Rico	<ul style="list-style-type: none"> - 55 kW emergency power generator; located within concrete building. - In good conditions; - No evidence of spills or release in its surroundings
66	Toll Plaza at Rampa Río Grande Km. 16.8 Guzmán Abajo Ward Río Grande, Puerto Rico	<ul style="list-style-type: none"> - 30 kW emergency power generator; located within a smallconcreted shed; - In good conditions; - No evidence of spills or release in its surroundings
20	Toll Plaza at Guaynabo Km. 6.4 Frailes Ward Guaynabo, Puerto Rico	100 kW Onan emergency power generator located inside the emergency generator room.

B.4.7 Herbicides and Pesticides

The Herbicides and Pesticides section of the Environmental Plan must specify and require the Concessionaire to follow the proper storage and application of all herbicides and pesticides in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and in accordance with the manufacturer's instructions.

B.4.8 Wastewater Treatment

There are no Wastewater Treatment facilities on or near the Toll Roads. The wastewater treatment service is provided by the Puerto Rico Water and Sewer Authority (PRASA) for the Plaza Ponce, Carolina Norte, Carolina Sur, Plaza Carolina, and Plaza Rio Grande Toll Plazas. The rest of the Plazas dispose of their wastewater in septic tanks.

According to Rule 101 of the PRDNER Underground Injection Control (UIC) regulation, the septic tank systems are classified as UIC Type C1, which includes all septic tanks used to inject sanitary wastes or effluents generated at all types of private, governmental, and municipality facilities, among other facilities. On the wastewater treatment section of the Environmental Management Plan the renewal of the UIC permits for the facilities where septic tanks are used must be develop and implemented. In addition, the plan must include percolation and soil tests in accordance with the UIC permit.

The Environmental Management Plan must evaluate if a septic system can be replaced with a connection to a PRASA wastewater collection system, if so, the connection shall be made.

B.4.9 Water Supply and Treatment

The Water Supply and Treatment for the Toll Roads come from public supply systems, from surface water reservoirs owned by PRASA. The Concessionaire is not required to operate and maintain public water supplies (PWS) for the operation of the Toll Roads. As part of the Environmental Management Plan, a PWS existence evaluation must be done. If the existence is confirmed, then the Environmental Management Plan must include an operational plan that states how will be operated in accordance with applicable laws and regulatory limitations and standards and must specify those regulatory limitations and standards.

B.4.10 Polychlorinated Biphenyl's

The Environmental Management Plan must certify the condition of all substations and electrical transformers located inside any electrical station cabinets, or in a pad or pole mounted in the Toll Roads and their corridors with the assistance of the system operator of the Electrical System or its representative and confirm that these are non-PCB-containing transformers and must identify them with the proper non-

B.4.11 Endangered and Threatened Species

According to the U.S. Fish and Wildlife Service (USFWS), the Puerto Rican Broad-winged Hawk (Endangered), Puerto Rican Nightjar (Endangered), Puerto Rican Plain Pigeon (Endangered), Puerto Rican Sharp-shinned Hawk (Endangered), Puerto Rican Boa (*epicrates inornatus*) (Endangered), Puerto Rican Crested Toad (Threatened), Palo De Ramon (Endangered) and Palo De Rosa (*ottoschulzia rhodoxylon*) (Threatened) could be located along the Toll Roads and their corridors. If any of the above species, or any other identified as endangered or threatened species are observed at or in the vicinity of the Toll Roads and their corridors, the Environmental Management Plan must develop and implement the appropriate conservation measures as required under USFWS or other applicable laws and regulations.

B.4.12 Asbestos and Lead-Based Paint Evaluations

The Environmental Management Plan shall provide that the Concessionaire will conduct an asbestos-containing material (ACM) inspection of all Toll Roads and Toll Plazas in accordance with Environmental Protection Agency recommended procedures, Asbestos Hazard Emergency Response Act (AHERA) and in compliance with the Puerto Rico PRDNER Regulation for the Control of Atmospheric Pollution, Rule 422, as amended.

In addition, the Environmental Management Plan shall provide that the Concessionaire will conduct a lead-based paint (LBP) inspection to evaluate painted surfaces at the Toll Plaza and its surrounding, and following the methodology established in the HUD Guidelines for the Evaluation and Control of Lead-Based Paint in Housing and the PRDNER Regulation 9098 for Proper Management of Lead-Based Paint Activities.

In compliance with the Environmental Management Plan, if the ACM and LBP inspections reveal the presence of asbestos-containing materials and/or lead-based painted surfaces above the regulatory levels, the Concessionaire shall follow the remedial plan included in the Environmental Management Plan and according to the specific regulation for any demolition or removal and the proper disposal of such materials.

If the ACM and/or LBP is planned to be managed in-place instead of being removed, then the Environmental Management Plan shall include an Asbestos and Lead Based Paint Operations and Maintenance (O&M) Program, and the Concessionaire shall comply with such program.

B.4.13 Community and Private Water Supply

The Community and Private Water Supply section of the Environmental Management Plan must include procedures for addressing potential groundwater quality issues.

Private citizens may contact the Concessionaire regarding ground water quality. The Environmental Management Plan must require the Concessionaire to inform PRDNER and the Commonwealth Environmental Agencies upon notification of potential groundwater quality issues.

There are no wells within the Toll Roads, however there may be sinkholes adjacent to the Toll Roads, some of which receive runoff from the Toll Plazas. The Environmental Management Plan must specify, and require implementation of, the steps that will be taken by the Concessionaire, in general order of implementation, in response to any complaints or inquiries about ground water quality adjacent to the Toll Roads, including, but not limited to the management of oil or other contaminants.

B.4.14. Stormwater Management

The Stormwater Management section of the Environmental Management Plan must address stormwater management issues and Laws, and the Concessionaire must obtain and comply with any Consents necessary to operate the Toll Roads including, but not limited to, a National Pollutant Discharge Elimination System (NPDES) permit and a Stormwater Pollution Prevention Plan (SWPPP). The Concessionaire shall obtain and comply with all terms and conditions of the required NPDES permit, including the development and implementation of a Stormwater Management Program (SWMP) plan including the Minimum Control Measures (MCM) and Best Management Practices (BMPs) needed to be implemented as part of the program. The Environmental Management Plan must require the Concessionaire to maintain any existing BMPs and install additional BMPs as required by Environmental Laws. Stormwater management features shall be included at all Toll Plazas.

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As stated in the Phase I reports, Toll Roads and Toll Plazas located in urban areas as defined by the US Census Office are covered by the 2016 MS4 General Permit # PRR040080 secured by the obtained by the Puerto Rico Department of Transportation and Public Works and Puerto Rico Highway and Transportation Authority. Said permit was issued and enforced by the EPA. The NOI indicates that a copy of the current draft of the SWMP is located at the MS4 coordinator's office. The SWMP describes in detail the MCMs and BMPs needed to be implemented as part of the SWMP. It is important to indicate that the SWMP may be required to be updated later during this year when the new MS4 permit is issued by the EPA to incorporate new requirements, if applicable. Although the SWMP provides specific permit requirements, the Operator would be required to:

- Develop maps of the storm sewer system of the Toll Roads and Toll Plazas located in areas covered by the MS4 permit. It is required to provide the DTPW/PRHTA with shapefiles of the MS4, since the information will be incorporated in the agency database for ease of

access.

- Identify the location of outfalls of the MS4 of Toll Roads/Toll Plazas located in regulated areas. Once located, they shall be marked with a unique physical identifier as required by the MS4 permit
- Inspect outfalls to detect the presence of illegal discharges as required by the permit in Toll Roads and Toll Plazas located in regulated areas.
- Prioritize and perform Illegal Detection and Discharge Elimination (IDDE) activities of Toll Roads/Toll Plazas located within the coverage area. Before and after the completion of this task, the Operator shall coordinate with the DTPW/PRHTA, and provide copies of the reports.
- Develop Storm Water Pollution Prevention Plans (SWPPP) for the Toll Plazas located within the MS4 permit coverage areas using EPA recommended Good Housekeeping Practices as well as BMPs.
- Implementation of the BMPs identified in the SWPPP
- Perform regular inspections to ensure that BMPs are in good working condition. Maintain records of such inspections.
- Develop a schedule and perform inspections and cleanup of the MS4 as required, on areas at which restricted flow conditions have been identified. Inspections shall also be performed before and after heavy rains or storm conditions that may affect the adequate operation of the MS4.
- Develop a Plan for the adequate management and disposal of the solid/semisolid wastes that may be generated because of the cleanup operations of the MS4. records of such operations shall be maintained for future reference as required by the permit.
- Report Sanitary Sewer Systems Overflows (SSOs) reaching the MS4 to the DTPW/PRHTA, PRASA, as soon as practicable.
- Conduct initial and annual training of the personnel assigned with duties related with the implementation of the SWPPP
- Establish and maintain communication with the DTPW/PRHTA appointed MS4 coordinator. This includes assistance in the collection and submittal of information required to be included in the annual MS4 report that is submitted to the EPA.

The operator is responsible for reviewing the SWMP and verifying the MS4 permit requirements applicable for Toll Roads/Toll Plazas located in regulated areas. For sections of the Toll Road/Toll Plaza, the operator is responsible to verify applicability of other requirements set forth in 40 CFR 122 for those discharges.

The Environmental Management Plan must require that any wastewater that may contain hazardous substances shall be discharged into the sanitary sewer system to avoid discharges into the stormwater system.

For more specific information, refer to the Phase I reports prepared for each one of the Toll Plazas and corridors, listed Exhibit C.

B.4.15. Community Right to Know

The Community Right-To-Know section of the Environmental Management Plan must require the Concessionaire to prepare and submit Community Right-To-Know documentation on an annual basis. Tier II forms must be submitted in all cases in lieu of Tier I forms. Submission of Tier II forms are required by Title III of the Superfund Amendments and Reauthorization Act of 1986, Section 312, Public Law 99-499, codified at 42 U.S.C. Section 11022, as amended, if so, requested by a Commonwealth emergency response commission, a local emergency planning committee, or a fire department with authority over the facility.

B.4.16. Solid Waste Management

The Solid Waste Management section of the Environmental Management Plan must specify procedures for proper management, including treatment, storage, and disposal, of solid waste in compliance with Environmental Laws, including but not limited, to the Resource Conservation and Recovery Act of 1976 (RCRA), Hazardous and Solid Waste Amendments of 1984, the Solid Waste Management Act and the Law to Promote the Reduction of Hazardous Waste in Puerto Rico. Procedures must include, but not be limited to, the procedures for proper hazardous waste-stream determination in accordance with RCRA. The Toll Plaza facilities along the Toll Roads are not currently listed as "generator" under RCRA. The Environmental Management Plan must indicate that generator status will be reviewed monthly. All appropriate notifications and documents must be prepared and submitted to the appropriate Governmental Authorities by the Concessionaire. The Plan must indicate how potential disposal facilities will be evaluated prior to shipment of any solid waste, whether non-industrial, industrial, or hazardous. The Environmental Management Plan must also include procedures to manage roadkill waste.

B.4.17. Chemical Supply and Choice

The Chemical Supply and Choice section of the Environmental Management Plan must include a section regarding the responsible choice of chemicals purchased for use to minimize hazardous waste generation. If any chemical substance is used for the cleaning of any road surfaces and is pressure washed toward the storm sewer system, the Environmental Management Plan shall detail the process for maintaining the Material Safety Data Sheet (MSDS) of any such substance and for handling such substance in accordance with OSHA and other applicable regulations. If the MSDS shows that the chemical substances include hazardous constituents, the Environmental Management Plan shall detail the proper disposal of any hazardous wastes that shall be discharged into the sanitary sewer avoiding discharges into the stormwater system and a RCRA permit is required.

B.4.18. Historic and Cultural Resources

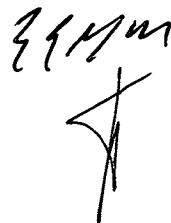
The Environmental Management Plan must include measures to protect historic and cultural resources that may be impacted by increases in the footprint of the project or construction activities, including but not limited to measures to protect the Ruins of the Hacienda Santa Catalina located in the Cañabón Ward in the Municipality of Caguas, to the east of the PR-52 highway.

B.4.19. Training

The Training section of the Environmental Management Plan must include the training requirements and certifications for all appropriate personnel, whether they are personnel of the Concessionaire or its contractors. In addition, this section must require that the personnel have completed the most current training and possess the proper and current license or certification and qualifications to operate the equipment.

The types of training required may include, but are not limited to:

- Contingency Plan/SPCC Plan
- Emergency Plans
- OSHA compliance
- RCRA Hazardous Waste Training
- Updates and training on new or revised regulations
- Continuing education as required by personal certifications and licensing.
- UST Training



EXHIBITS:

- A. Process for Remediation of Hazardous Material Spill on Paved Areas
- B. Process for Remediation of Hazardous Material Spill on Grass Maintained Areas
- C. Phase I reports for Toll Roads and Toll Roads Plazas.

EXHIBIT A: PROCESS FOR REMEDIATION OF HAZARDOUS MATERIAL SPILLS ON PAVED AREAS

In the event a spill occurs on the Toll Roads that affects paved areas or other non-paved surfaces, the company or party responsible for that spill must do the following:

SPILL RESPONSE PROCEDURE FOR PAVED AREAS

The Concessionaire must require that the remediation of any spill, of any quantity, be conducted by the company or person responsible for the spill. If the responsible party for the spill cannot conduct remediation (regardless of the reason of non-response of the responsible party), such remediation shall be conducted by the Concessionaire or its contractor. Upon the occurrence of a spill, the responsible party (or the Concessionaire) must immediately perform the following:

- Contact all applicable Municipal, Commonwealth and Federal Governmental Authorities to report the spill and immediately notify the Concessionaire.
- Assess the situation to identify the material spilled and determine whether an immediate health or safety threat is present.
- Take all precautionary measures to eliminate any health or safety risks and notify the Concessionaire personnel or Puerto Rico Police Department (PRPD) of a need to secure the area if necessary; and
- Take steps to immediately contain the spill and prevent it from migrating further.

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REMEDATION ACTIVITIES FOR PAVED AREAS

In conducting remediation activities, the remediation company selected by the responsible party must follow the set of guidelines set forth below:

- The remediation company will contact the Concessionaire prior to entering the Toll Roads to start clean-up, even if there will be no lane blockage. If a lane needs to be closed, Concessionaire personnel will set up and maintain the lane closure.
- Based upon the material involved, the remediation company must identify any specific precautions that must be taken in performing a remediation.
- The remediation contractor is to contact Concessionaire personnel if there is a question as to whether a pavement needs to be removed.
- Pavement areas that have been impacted by the spill will be evaluated by competent Concessionaire personnel to determine if the pavement needs to be removed. Concessionaire personnel may request assistance from the remediation contractor in making the evaluation.
- If pavement needs to be removed, competent Concessionaire personnel will determine the length, width, and depth of such removal as well as the type of asphaltic material to use.
- It will be the responsibility of the remediation contractor to secure the assistance of a milling and paving contractor to perform the pavement replacement operations.
- The remediation contractor and sub-contractors schedule the repairs in a timely manner and to notify Concessionaire personnel when such repairs are scheduled so that lane closures can be scheduled.
- All contaminated material to be removed from the Toll Roads at the time of cleanup unless other arrangements have been made acceptable to Concessionaire personnel.

In the event that there is not a PRPD unit on scene, it is the duty of the Concessionaire to contact the PRPD when there is a spill of any quantity. In the event of PRPD presence, they will oversee all accidents/ incidents and will contact the company or persons responsible for the spill and inform them that they are to contact a remediation company. PRPD may notify all applicable Federal and Commonwealth Governmental Authorities of the spill, however, it is the responsibility of the person or entity that caused the spill to make the required reports to the appropriate Governmental Authorities. In the event a PRPD unit is not on the scene, Concessionaire personnel will notify the company or persons responsible for the spill and inform them that they are to contact a remediation company and to notify all applicable Federal and Commonwealth Governmental Authorities of the spill. If the party responsible for the spill cannot make such notifications, it is the responsibility of the Concessionaire to do so.

The remediation contractor must provide a full report to the Concessionaire for each Incident and the Concessionaire must provide a full report to the Commonwealth within seven (7) Business Days following each Incident.


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EXHIBIT B: PROCESS FOR REMEDIATION OF HAZARDOUS MATERIAL SPILLS ON GRASS MAINTAINED AREAS

In the event a spill occurs within the Toll Roads that affects grass-maintained areas or other non-paved surfaces, the company or party responsible for that spill must do the following:

SPILL RESPONSE PROCEDURE FOR GRASS MAINTAINED AREAS

The Concessionaire must require the remediation of any spill, of any quantity, be conducted by the company or person responsible for the spill. If the party responsible for the spill cannot conduct the remediation, such remediation shall be conducted by the Concessionaire or its contractor. Upon the occurrence of a spill, the responsible party (or the Concessionaire) must immediately perform the following:

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- Contact all applicable Municipal, Commonwealth and Federal Governmental Authorities to report the spill and must also immediately contact the Concessionaire.
 - Assess the situation to identify the material spilled and determine whether an immediate health or safety threat is present.
 - Take all precautionary measures to eliminate any health or safety risks and notify the Concessionaire personnel or PRPD of a need to secure the area if necessary; and
 - Take steps to immediately contain the spill and prevent it from migrating further.

REMEDIATION ACTIVITIES FOR GRASS MAINTAINED AREAS

In conducting remediation activities, the remediation company selected by the responsible party must follow the set of guidelines set forth below:

- The remediation company will contact the Concessionaire prior to entering the Toll Roads to start clean-up, even if there will be no lane blockage. If a lane needs to be closed, Concessionaire personnel will set up and maintain the lane closure.
- Based upon the material involved, the remediation company must identify any specific precautions that must be taken in performing a remediation.
- All contaminated soil must be removed from the site.
- All soil removed must be replaced with black dirt or topsoil that will grow grass.
- The area must be restored to the original grade so that a low spot or hollow area is not created.
- A PRHTA seed mixture must be used for seeding the affected area.
- The topsoil must be covered with an erosion control mat after seeding to control erosion and to promote the growing of the grass.
- All contaminated soil and material must be removed from the Toll Roads and properly disposed of at the time of cleanup unless other arrangements have been made acceptable to Concessionaire personnel.
- The remediation company and the responsible party must always cooperate with all local, Commonwealth and federal officials involved in the spill response and remediation.

If there is not a PRPD unit on scene, it is the duty of the Concessionaire to contact the PRPD when there is a spill of any quantity. In the event of PRPD presence, they will oversee all accidents/ incidents and will contact the company or persons responsible for the spill and inform them that they are to contact a remediation company. PRPD may notify all applicable Federal and Commonwealth Governmental Authorities of the spill, however, it is the responsibility of the person or entity that caused the spill to make the required reports to the appropriate Governmental Authorities. In the event a PRPD unit is not on the scene, Concessionaire personnel will notify the company or persons responsible for the spill and inform them that they are to contact a remediation company and to notify all applicable Federal and Commonwealth Governmental Authorities of the spill. If the party responsible for the spill cannot make such notifications, it is the responsibility of the Concessionaire to do so.

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ALL OTHER NON-PAVED AREAS

If a spill affects an area that is not grass maintained but is non-paved, the remediation process will be the same as for Grass Maintained Areas except that all the contaminated material will be removed and clean like material replaced to the original grade. Topsoil, seed, and erosion control mats will not be required.

The remediation contractor must provide a full report to the Concessionaire for each Incident, and the Concessionaire in turn will provide a full report to the Commonwealth within seven (7) Business Days following each Incident.

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Spill reports must be made to the following:

- Concessionaire
- National Response Center (800)424-8802

EPA Region II, N.Y. (212)637-3660

- EPA, San Juan Office (787) 977-5865
- PR Environmental Quality Board (787)767-8181
- PR Department of Natural and Environmental Resources (787)999-2200
- PR Fire Department (Central) (787)343-2330
- Municipal Fire Department *
- PR Police Department - Highway Patrol Division (787)781-2560

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- Office of the Mayors
 - Municipality Trujillo Alto (787)761-0172
 - Municipality of San Juan (787)724-7171
 - Municipality of Guaynabo (787)720-4040
 - Municipality of Caguas (787)653-8833
 - Municipality of Carolina (787)757-2626
 - Municipality of Rio Grande (787)887-2370
 - Municipality of Cayey (787)738-3211
 - Municipality of Salinas (787) 824-3060
 - Municipality of Santa Isabel (787)845-4040
 - Municipality of Juana Díaz (787)837-2185
 - Municipality of Ponce (787)848-4955
 - Municipality of Guayama (787)864-0600
 - Municipality of Ceiba (787)885-2180
 - Municipality of Naguabo (787)874-2265
 - Municipality of Humacao (787)852-3066
 - Municipality of Yabucoa (787)-893-3000
 - Municipality of Fajardo (787)863-4013
 - Municipality of Canovanas (787)876-2328
 - Municipality of Rio Grande (787)887-2370

- State Agency for Emergency Management and Disasters Administration (787)724-0124
- PR Department of Transportation and Public Works (787)722-2929
- US Army Corps of Engineers (787)783-2424

* Note: Depending on the Municipality.

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EXHIBIT C: Phase 1 Environmental Site Assessment

The following table includes the reference to the folders included on a flash drive provided to each Party as of the Effective Date containing the files of the Phase I Environmental Assessment Reports for each toll plaza and toll road corridors:

Toll Plaza Reports:	Folder Reference
1. Montehiedra	12.01.16
2. Caguas Norte	12.01.05
3. Caguas Sur	12.01.06
4. Salinas	12.01.22
5. Salinas (Rampa)	12.01.20
6. Juana Diaz Este	12.01.14
7. Juana Diaz Oeste	12.01.15
8. Ponce	12.01.17
9. Guayama	12.01.09
10. Húcar	12.01.11
11. Humacao Norte	12.01.12
12. Humacao Sur	12.01.13
13. Ceiba	12.01.08
14. Carolina	12.01.07
15. Carolina Norte	12.01.18
16. Carolina Sur	12.01.19
17. Rio Grande	12.01.21
18. Guaynabo	12.01.10
19. PR-52 Highway-corridors	12.01.02
20. PR-53 Highway - corridors	12.01.03
21. PR-66 Highway - corridors	12.01.04
22. PR-20 Highway - corridors	12.01.01

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Schedule 16
Sworn Statement for Closing
(See attached.)

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**SCHEDULE 16
FORM OF SWORN STATEMENT**

I, [name], of legal age, [single/married], [profession] and resident of [place of residence], hereby solemnly swear:

1. That my personal status is the one stated above.
2. That I hold the position of [title] at [Concessionaire], organized as a [corporation/limited liability company] under the laws of [jurisdiction of organization] with Federal Identification No. _____ (the “Company”).
3. That I am authorized to represent the Company for purposes of this affidavit.
4. That none of the Company, its president, or any of its vice-presidents, directors, managers, executive directors or members of the Board of Director, or persons that fulfill similar tasks, have been convicted of, nor have they pleaded guilty to, any of the crimes in Article 6.8 of Puerto Rico Act No. 8-2017, as amended, known as the “Act for the Management and Transformation of the Human Resources of the Government of Puerto Rico” or of any of the crimes listed in Puerto Rico Act No. 2-2018, known as the “Anti-Corruption Code for a New Puerto Rico.”

That no commissions or bonuses have been paid, in cash or in kind, and there is no commitment for the future payment of any such commissions or bonuses to any public official, employee or any former public official that participated in the negotiations and transactions contemplated by the Toll Road Concession Agreement by and between the Company and Puerto Rico Highways and Transportation Authority while working for the Government of Puerto Rico.

5. That everything stated above is true to the best of my knowledge, information and belief and thus, to make it public I sign this declaration in _____, this ____ day of [month], 2023.

By: _____

Name:

Title:

Affidavit No. _____

Sworn and subscribed before me by [name], of the personal circumstances stated above, in his capacity as [title] of [Concessionaire]; who is personally known to me or whom I have identified pursuant the following form of identification: [identification], this [day] day of [month], 2023.

Notary Public

Schedule 17
Toll Road Assets
(See attached.)

6/3/2007
T

SCHEDULE 17

TOLL ROAD ASSETS

Section 1. Toll Roads Inventory

The following table includes the references to the folders included on a flash drive provided to each Party as of the Effective Date containing the files identifying the inventory located in each of the Toll Roads, including, without limitation, light poles, culverts, electric boxes, manholes, signs, barriers, guard rails and fences.

Folder References to Toll Roads Inventory	
	PR-20
Folder: 09.06.02	
	PR-52 (including DTLs)
Folder: 09.06.01	
Folder: 09.06.04	
	PR-53
Folder: 09.06.05	
	PR-66
Link: 09.06.03	

Section 2. Toll Plazas and Traffic Management Center ("TMC") Inventory

The following table includes the references to the folders included on a flash drive provided to each Party as of the Effective Date containing the files identifying the personal property located in each of the Toll Roads' toll plazas and the TMC.

Toll Plazas and TMC Inventory	
	PR-20
Folder: 09.06.06.02	
	PR-52
Folder: 09.06.06.03	
	PR-53
Folder: 09.06.06.04	
	PR-66
Folder: 09.06.06.05	
	TMC
Folder: 09.10.03	

Section 3. Toll Roads Police Station Inventory

The following table includes the references to the folders included on a flash drive provided to each Party as of the Effective Date containing the personal property inventory of the police stations located in each of the Toll Roads. The Concessionaire acknowledges that it shall allow the Commonwealth Police and other emergency service providers to use the assets referenced in this section as set forth in Section 3.16(e) of the Concession Agreement.

Police Station Inventory	
	PR-52
Folder: 09.06.06.01.01	
Folder: 09.06.06.01.02	
	PR-53
Folder: 09.06.06.01.03	
	PR-66
Folder: 09.06.06.01.04	

3/3/2011
T

Schedule 18
Amendment to the New Escrow Agreement
(See attached.)

49/12/01
T

**FIRST AMENDMENT
TO
NEW ESCROW AGREEMENT**

This First Amendment to New Escrow Agreement (this "Amendment") is made as of the ____ day of _____, 2023 by and among the **PUERTO RICO HIGHWAYS AND TRANSPORTATION AUTHORITY**, a body corporate and politic constituting a public corporation and government instrumentality created pursuant to the provisions of Act No. 74 of June 23, 1965, as amended (the "Authority"), **AUTOPISTAS METROPOLITANAS DE PUERTO RICO, LLC**, a limited liability company organized and existing under the laws of the Commonwealth of Puerto Rico (the "PR-22/5 Concessionaire"), pursuant to the PR-22/5 Concession Agreement (as defined below), **PUERTO RICO TOLLROADS, LLC**, a limited liability company organized and existing under the laws of the Commonwealth of Puerto Rico (the "New Concessionaire" and, together with the PR-22/5 Concessionaire, the "Concessionaires"), pursuant to the New Toll Roads Concession Agreement (as defined below), **BANCO POPULAR DE PUERTO RICO**, a Puerto Rico banking corporation (the "Bank"), and **BANCO POPULAR DE PUERTO RICO, FIDUCIARY SERVICES DIVISION**, a Puerto Rico banking corporation, as escrow agent (the "Escrow Agent"). The Authority and the Concessionaires are sometimes referred to herein collectively as the "Contracting Parties" or individually as a "Contracting Party," and together with the Bank and the Escrow Agent, the "Parties."

WITNESSETH:

WHEREAS, the Authority, the PR-22/5 Concessionaire, the Bank and the Escrow Agent entered into that certain New Escrow Agreement, dated as of December 6, 2022 (the "New Escrow Agreement"), pursuant to that certain (i) Toll Road Concession Agreement, dated as of June 27, 2011 (as subsequently amended, modified and/or supplemented from time to time, the "PR-22/5 Concession Agreement"), whereby the Authority granted a concession to the PR-22/5 Concessionaire for the operation and maintenance of the PR-22 and PR-5 Toll Roads (the "PR-22/5 Toll Roads"), and (ii) Escrow Agreement, by and among the Authority, the PR-22/5 Concessionaire, the Autonomous Municipality of Guaynabo, Banco Popular de Puerto Rico, and the Escrow Agent, dated September 22, 2011, as amended by that certain Amendment Agreement No. 1 to the Original Escrow Agreement and Disbursement Instructions, dated as of December 6, 2022, and further amended by that certain Amendment Agreement No. 2 to the Original Escrow Agreement and Disbursement Instructions, dated as of [], 2023, as supplemented by the Second Amended and Restated Disbursement Instructions, dated as of [], 2023, attached as Exhibit A to Amendment Agreement No. 2 to the Original Escrow Agreement;

WHEREAS, the Authority and the New Concessionaire have entered into that certain Toll Roads Concession Agreement, dated as of _____, 2023 (as subsequently amended, modified and/or supplemented from time to time, the "New Toll Roads Concession Agreement"), whereby the Authority granted a concession to the New Concessionaire for the operation and maintenance of the following Puerto Rico toll roads – PR-20, PR-52, PR-53, and PR-66 (collectively, the "New Concessionaire Toll Roads");

WHEREAS, it is a condition precedent to the closing of the transactions contemplated under the New Toll Roads Concession Agreement that the Parties execute this Amendment; and

WHEREAS, the Parties have agreed to amend the New Escrow Agreement subject to the terms and conditions hereinafter set forth.

NOW, THEREFORE, for and in consideration of the premises, the mutual covenants, representations, warranties and agreements herein contained, and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged by each of the Parties hereto, the Parties covenant and agree as follows:

1. **Capitalized Terms.** All undefined and capitalized terms contained in this Amendment shall have the same meanings ascribed to them in the New Escrow Agreement. The recitals set forth above are hereby incorporated by reference to form a part hereof.

2. **Amendments to New Escrow Agreement.**

(a) *Definitions.* The modifications set forth below shall be made to the definitions set forth in Section 1 of the New Escrow Agreement.

(i) The defined term "Concessionaire's Additional Revenues" and the definition thereof are hereby deleted and the following new term and definition is inserted in lieu thereof:

"PR-22/5 Concessionaire's Additional Revenues" means all amounts collected by or on behalf of the PR-22/5 Concessionaire related to a Maximum Temporary Increase (as defined in the PR-22/5 Concession Agreement) on the PR-22/5 Toll Roads.

(ii) The definition of "Delinquent Amounts Reports" is hereby amended and restated in its entirety to read as follows:

"Delinquent Amounts Reports" means a weekly report prepared by the ETC Service Provider setting forth the Other Amounts and the allocation of Delinquent Amounts among the PR-22/5 Toll Roads, the New Concessionaire Toll Roads, the roads operated by the Authority (excluding, for the avoidance of doubt the PR-22/5 Toll Roads and the New Concessionaire Toll Roads), the roads operated by the Municipality of Guaynabo and the PR-17 toll road operated by Autopistas de Puerto Rico y Compañía, LLC.

(iii) The following definitions are added to Section 1 of the New Escrow Agreement in the appropriate alphabetical order as follows:

"Concessionaires" means the New Concessionaire and the PR-22/5 Concessionaire.

"First Amendment Effective Date" means _____, 2023.

"HTA Toll Roads" means the toll roads operated by the Authority (excluding, for the avoidance of doubt, the PR-22/5 Toll Roads and the New Concessionaire Toll Roads).

"New Concessionaire Escrow Subaccount" has the meaning given to it in Section 3(b)(iii) of this Agreement.

"New Concessionaire Initial Funding Amount" has the meaning given to the term "Initial Funding Amount" in Section 1.1 of the New Toll Roads Concession Agreement.

"New Concessionaire Maximum Temporary Increase" has the meaning given to the term "Maximum Temporary Increase" in Section 1.1 of the New Toll Roads Concession Agreement.

"New Concessionaire Required Balance" has the meaning given to the term "Required Balance" in Section 1.1 of the New Toll Roads Concession Agreement.

"New Concessionaire's Additional Revenues" means all amounts collected by or on behalf of the New Concessionaire related to the New Concessionaire Maximum Temporary Increase.

"PR-22/5 Concessionaire" means Autopistas Metropolitanas de Puerto Rico, LLC.

99/11/11
(b) *Rule of Construction.* The last sentence of Section 1 of the New Escrow Agreement is hereby amended and restated in its entirety to read as follows:

"Capitalized terms used herein but not otherwise defined herein shall have the respective meanings set forth in the Original Escrow Agreement or the applicable Concession Agreement, as the context requires."

(c) *Establishment of New Escrow Account.* Sections 3(b), 3(c), 3(d) and 3(e) of the New Escrow Agreement are hereby amended and restated in their entirety to read as follows:

"(b) The Authority hereby establishes, and confirms the existence and establishment of, the following escrow account and sub-accounts, in each case held by the Escrow Agent:

- (i) an escrow account designated as account number 75-0294-01-9 (the "New Escrow Account"), which will receive (A) all of the Delinquent Amounts, (B) the PR-22/5 Concessionaire's Additional Revenues and the New Concessionaire's Additional Revenues transferred from the Consolidated Escrow Account pursuant to the Disbursement Instructions and (C) all Other Amounts;
- (ii) an escrow sub-account (under the New Escrow Account) designated as sub-account 75-0294-02-7 (the "Metropistas Escrow Subaccount"), which will receive (A) the amounts transferred from the Consolidated Escrow Account

pursuant to Section 2.01(c) of the Disbursement Instructions, (B) the amounts to be transferred from the New Escrow Account (excluding Delinquent Amounts in respect of the New Concessionaire Toll Roads and the HTA Roads and the New Concessionaire's Additional Revenues) pursuant to this Agreement and any other funds transferred pursuant to Section 6(ii) of this Agreement or otherwise deposited by the Authority in the Metropistas Escrow Subaccount and (C) any other funds transferred by the Authority until, after giving effect to any such transfer, the amount on deposit in the Metropistas Escrow Subaccount shall be equal to the Required Balance;

- § 9.11.11
- 4
- (iii) an escrow sub-account (under the New Escrow Account) designated as sub-account _____ (the "New Concessionaire Escrow Subaccount"), which will receive (A) the amounts transferred from the Consolidated Escrow Account pursuant to Section 2.01(e) of the Disbursement Instructions, (B) the Delinquent Amounts in respect of the New Concessionaire Toll Roads and the New Concessionaire's Additional Revenues and any other funds transferred pursuant to Section 6(ii) of this Agreement or otherwise deposited by the Authority in the New Concessionaire Escrow Subaccount, and (C) any other funds transferred by the Authority until, after giving effect to any such transfer, the amount on deposit in the New Concessionaire Escrow Subaccount shall be equal to the New Concessionaire Required Balance;
 - (iv) an escrow sub-account (under the New Escrow Account) designated as sub-account 75-0294-03-5 (the "APR Escrow Subaccount"), which will receive such amounts directed from time to time by the Authority from funds otherwise allocated to the Authority from the New Escrow Account or other funds otherwise available to the Authority; and
 - (v) an escrow sub-account (under the New Escrow Account) designated as sub-account 75-0294-04-3 (the "Municipality of Guaynabo Escrow Subaccount"), which will receive such amounts directed from time to time by the Authority from funds otherwise allocated to the Authority from the New Escrow Account or other funds otherwise available to the Authority.

(c) The New Escrow Account shall, subject to Section 3(f), be held by the Escrow Agent for the benefit of the Contracting Parties and shall be governed by the provisions of this Agreement. The Metropistas Escrow Subaccount shall be held by the Escrow Agent for the exclusive benefit of the PR-22/5 Concessionaire, the New Concessionaire Escrow Subaccount shall be held by the Escrow Agent for the exclusive benefit of the New Concessionaire, the APR Escrow Subaccount shall be held by the Escrow Agent for the exclusive benefit of APR, and the Municipality of Guaynabo Escrow Subaccount shall be held by the Escrow Agent for the exclusive benefit of the Municipality of Guaynabo, and all of such accounts shall be governed by the provisions of this Agreement. Any and all amounts on deposit in the New Escrow Account from time to time (as reduced by any automatic transfers as described hereinafter, disbursements and amounts withdrawn under

Section 6) are referred to herein as the "Escrow Fund." For the avoidance of doubt, neither the New Escrow Account, the Metropistas Escrow Subaccount, the New Concessionaire Escrow Subaccount, the APR Escrow Subaccount, the Municipality of Guaynabo Escrow Subaccount, nor the funds deposited respectively therein shall constitute the property of, or belong to, the Escrow Agent or the Bank.

(d) The Authority shall, and the Escrow Agent is hereby instructed to:

(i) ...

(ii) on the First Amendment Effective Date, deposit in the New Escrow Account the New Concessionaire Initial Funding Amount, and the Escrow Agent shall transfer such amount to the New Concessionaire Escrow Subaccount;

(iii) immediately upon receipt or collection, deposit or cause to be deposited directly into the New Escrow Account all Delinquent Amounts, PR-22/5 Concessionaire's Additional Revenues, New Concessionaire's Additional Revenues and Other Amounts; and

(iv) distribute, on a weekly basis, the amounts on deposit in the New Escrow Account as provided in Section 6 of this Agreement.

(e) The New Escrow Account (but excluding any Delinquent Amounts in respect of the HTA Roads and any Other Amounts) will be debited on a monthly basis directly by the Escrow Agent for the Escrow Agent fees provided in Section 8(h) of this Agreement (the "Escrow Agent Fees"). Such debit shall be made concurrently with the deduction made for the weekly Transfer payment referred to in Section 6(i)".

(d) *Rights to Funds Held in Accounts.* A new clause (f) shall be inserted after clause (e) in Section 3 of the New Escrow Agreement as follows:

"(f) Notwithstanding anything herein to the contrary, the Parties acknowledge and agree as follows: (i) neither the Sweep Account nor the New Escrow Account nor the funds on deposit in the Sweep Account or the New Escrow Account are the property of the Escrow Agent or the Bank; and (ii) the amounts on deposit in the New Escrow Account shall be allocated pursuant to this Agreement and the Disbursement Instructions, and (iii) the amounts on deposit in the New Escrow Account shall constitute the exclusive property (to the exclusion of a claim by any other Person) of the applicable Contracting Party upon the transfer of any such amounts to the applicable Contracting Party. "

(e) *Investment of Funds.* Section 4 of the New Escrow Agreement is hereby amended in its entirety to read as follows:

"The funds in the Sweep Account, the New Escrow Account, the Metropistas Escrow Subaccount, the New Concessionaire Escrow Subaccount, the APR Escrow

Subaccount and the Municipality of Guaynabo Subaccount shall not be invested except as otherwise instructed: (i) with respect to the funds on deposit in the Sweep Account and the New Escrow Account, by the Authority and the Concessionaires jointly, (ii) with respect to the funds on deposit in the Metropistas Escrow Subaccount, by the PR-22/5 Concessionaire, (iii) with respect to the funds on deposit in the New Concessionaire Escrow Subaccount, by the New Concessionaire, and (iv) with respect to the funds on deposit in the APR Escrow Subaccount and the Municipality of Guaynabo Subaccount, by the Authority, in each case, pursuant to written instructions to the Escrow Agent detailing the manner and form in which the relevant funds shall be invested. The investment income, if any, shall form part of the funds in the Sweep Account, the New Escrow Account, the Metropistas Escrow Subaccount, the New Concessionaire Escrow Subaccount, the APR Escrow Subaccount or the Municipality of Guaynabo Subaccount, as applicable, and shall be subject to the provisions of Section 6 of this Agreement”.

(f) *Disbursements.* Section 6 of the New Escrow Agreement is hereby amended and restated in its entirety to read as follows:

“(a) Subject to the provisions of Section 6(f) below, within two (2) Business Days after receipt by the Escrow Agent of the Delinquent Amounts Report for the preceding week, the Escrow Agent shall, and is hereby instructed to, transfer or disburse the funds on deposit in the New Escrow Account in the following manner and order of priority (each, a “Transfer” and collectively, the “Transfers”):

(i) *first* (but with no particular order or priority among the recipients listed in this clause *first*):

- (1) transfer to the Metropistas Escrow Subaccount for the account of the PR-22/5 Concessionaire, any amounts in the New Escrow Account (excluding all Delinquent Amounts in respect of the New Concessionaire Toll Roads, the HTA Roads, the New Concessionaire’s Additional Revenues and any Other Amounts) until, after giving effect to such transfer, (x) there shall be no outstanding Delinquent Non-Cash Tolls owed to the PR-22/5 Concessionaire, and (y) thereafter, the amount on deposit in the Metropistas Escrow Subaccount shall be equal to the Required Balance; and
- (2) transfer to the New Concessionaire Escrow Subaccount for the account of the New Concessionaire, the Delinquent Amounts in respect of the New Concessionaire Toll Roads and the New Concessionaire’s Additional Revenues until, after giving effect to such transfer, (x) there shall be no outstanding Delinquent Non-Cash Tolls owed to the New Concessionaire, and (y) thereafter, the amount on deposit in the New Concessionaire Escrow Subaccount shall be equal to the New Concessionaire Required Balance;

(ii) *second*, disburse any amounts remaining in the New Escrow Account (other than the Other Amounts) as directed by the Authority; provided that, to the extent that the amounts on deposit in either of the Metropistas Escrow Subaccount or the New Concessionaire Escrow Subaccount shall be less than the Required Balance or the New Concessionaire Required Balance, as applicable, such amounts remaining in the New Escrow Account (other than the Other Amounts) shall be deposited in either the Metropistas Escrow Subaccount or the New Concessionaire Escrow Subaccount until the Required Balance or the New Concessionaire Required Balance, as applicable, is reached prior to such remaining amounts being disbursed as directed by the Authority; and

(iii) *third*, transfer to the Consolidated Escrow Account the Other Amounts as directed in the Delinquent Amounts Report.

(b) (i) The PR-22/5 Concessionaire hereby directs the Escrow Agent to apply the funds on deposit in the Metropistas Escrow Subaccount for the immediate payment of any Delinquent Non-Cash Tolls due from the Authority to the PR-22/5 Concessionaire, as set forth in the applicable Traffic Report(s), and not paid from the funds on deposit in the Existing Escrow Accounts pursuant to the Disbursement Instructions; (ii) the New Concessionaire hereby directs the Escrow Agent to apply the funds on deposit in the New Concessionaire Escrow Subaccount for the immediate payment of any Delinquent Non-Cash Tolls due from the Authority to the New Concessionaire, as set forth in the applicable Traffic Report(s), and not otherwise paid from the funds on deposit in the Existing Escrow Accounts pursuant to the Disbursement Instructions (iii) the Authority hereby directs the Escrow Agent to apply the funds on deposit in the APR Escrow Subaccount to cover any deficiencies in APR Revenues, as set forth in the applicable Traffic Report(s), and not otherwise paid from the funds on deposit in the Existing Escrow Accounts pursuant to the Disbursement Instructions; and (iv) the Authority hereby directs the Escrow Agent to apply the funds on deposit in the Municipality of Guaynabo Escrow Subaccount to cover any deficiencies in Guaynabo Toll Revenues for Tolling in the Conector Los Filtros, as set forth in the applicable Traffic Report(s), and not otherwise paid from the funds on deposit in the Existing Escrow Accounts pursuant to the Disbursement Instructions.

(c) Upon making such Transfers under Sections 6(a) and 6(b), the Escrow Agent shall provide electronically a notice (a "Notice of Transfer") to each Contracting Party in the form attached as Exhibit B.

(d) Upon receipt of a Notice of Transfer, each Contracting Party shall promptly send electronically a written acknowledgement of the same to the Escrow Agent and the Authority.

(e) If any Contracting Party gives notice to the Escrow Agent (with a copy delivered contemporaneously to each other Contracting Party) disputing the amounts of any Transfer (a "Counter Notice") within ten (10) Business Days following the earlier of (i) receipt of electronic written acknowledgement or (ii) personal delivery, as applicable pursuant to Section 6(c) above, by the Escrow

Agent of the Notice of Transfer regarding such Transfer, such dispute shall be resolved as provided in Section 6(f) below. Any Counter Notice shall set forth in reasonable detail the basis for the objection to the Transfer.

- (f) If no Counter Notice is received by the Escrow Agent within such ten (10) day period or if the Counter Notice applies only to a portion of the Notice of Transfer, then the dollar amount of Transfers set forth in the Notice of Transfer, to the extent undisputed, shall be deemed agreed to for purposes of this Agreement.
- (g) The Contracting Parties shall resolve the matters disputed on the Counter Notice according to the dispute resolution procedure set forth in Section 20. The determination issued in such procedure shall specify how the Escrow Agent shall apply the Escrow Funds in the New Escrow Account or future funds received to resolve the dispute. The Escrow Agent shall act in accordance with such determination without further instruction.
- (h) Each Contracting Party will be responsible for that portion of the monthly Escrow Agent Fees equal to the proportion that the amounts that it received for such month bears to total amounts in the New Escrow Account for such month. The Escrow Agent shall deduct each Contracting Party's share of the Escrow Agent Fees for the preceding month from the first weekly Transfer payment following the issuance of the Escrow Agent report pursuant to Section 5 of this Agreement.
- (i) If at any time (x) the funds on deposit in the Metropistas Escrow Subaccount exceed the Required Balance, or (y) the funds on deposit in the New Concessionaire Escrow Subaccount exceed the New Concessionaire Required Balance, the Authority may instruct the Escrow Agent to disburse such excess funds to the Authority at the account provided in such written instructions".

(g) *Limited Responsibility.* Section 9 of the New Escrow Agreement is hereby amended in its entirety to read as follows:

"This Agreement expressly sets forth all the duties of the Escrow Agent with respect to any and all matters pertinent hereto. No implied duties or obligations shall be read into this Agreement against the Escrow Agent. Except for terms used herein as defined in the Concession Agreement and the New Toll Roads Concession Agreement, the Escrow Agent shall not be bound by the provisions of any agreement among the other parties hereto except this Agreement and the Original Escrow Agreement, regardless of whether the Escrow Agent has knowledge thereof. Moreover, the Escrow Agent shall have no obligation or duty to monitor, reconcile or determine whether (a) deposits or chargebacks made to the Sweep Account or the HTA Existing Commercial Account by the ETC Service Provider or the Merchants with respect to Delinquent Amounts, PR-22/5 Concessionaire's Additional Revenues, New Concessionaire's Additional Revenues or Other Amounts or (b) any other actions or omissions of the ETC Service Provider or the Merchants comply with the corresponding agreement. The Escrow Agent shall not be liable or held responsible for any actions or omissions of the ETC Service

Provider or the Merchants with respect to (i) deposits or chargebacks made to the Sweep Account or the HTA Existing Commercial Account or (ii) the corresponding agreement”.

(h) *Notices.* Section 12 of the New Escrow Agreement is hereby amended in its entirety to read as follows:

“All notices, consents, waivers and other communications under this Agreement must be in writing and shall be given personally or sent by internationally recognized overnight delivery service. Any such notice shall be deemed to have been given when received, if delivered in person or sent by such overnight delivery service, in any such case to the address set forth below (or to such other address or addresses as a Contracting Party may have advised the other in the manner provided in this Section 12):

If to the Authority:

Puerto Rico Highways Transportation Authority
Roberto Sánchez Vilella Government Center
De Diego Avenue, Stop 22
Santurce, PR 00940
Attention: General Counsel
Telephone: (787) 721-8787
Fax: (787) 727-5456

With a copy to:

Government Development Bank of Puerto Rico
Roberto Sánchez Vilella Government Center
De Diego Avenue, Stop 22
Santurce, PR 00940
Attention: General Counsel
Telephone: (787) 722-8460
Fax: (787) 721-1443

If to the PR-22/5
Concessionaire:

Autopistas Metropolitanas de Puerto Rico, LLC
City View Plaza 500, Torre 1
Carretera #165, Núm. 48
Guaynabo, PR 00968
Attn: Julián Fernández, CEO
Email: julian.fernandez@metropistas.com
Telephone: (787) 474-5999
Fax: (787) 474-5998

If to the New
Concessionaire:

Puerto Rico Tollroads, LLC
PO Box 12004
San Juan, PR 00922
Attention: General Counsel
Telephone: (787) 474-5999
Facsimile: (787) 474-5998
Email: legal@metropistas.com

With a copy to:

Abertis Infraestructuras, S.A.
Paseo de la Castellana 89, 9th Floor,
28046 Madrid, Spain
Attention: Carlos Garcia Cabrera
Telephone: +34 93 230-5588
Email: carlos.garcia@abertis.com

If to the Escrow Agent: Banco Popular de Puerto Rico
Fiduciary Services Division
153 Ponce de Leon Ave., 8th Fl.
San Juan, PR 00918

(i) *Representations and Warranties of the Authority.* Section 13 of the New Escrow Agreement is amended to read as follows:

“(A) In connection with this Agreement, and the transactions contemplated herein, the Authority, as of the date hereof hereby makes the following representations and warranties to (and for the benefit of) the Concessionaires and the Escrow Agent and hereby acknowledges that the Concessionaires and the Escrow Agent are relying upon such representations and warranties in entering into this Agreement:

(a) ...

(b) ...

(c) ...

(d) No Reliance. The transactions contemplated by this Agreement and any other documentation necessary to effectuate this Agreement have been entered into on an arm's length basis and the Authority has not relied upon any advice, counsel or inducement from the Concessionaires or the Escrow Agent or any of the Concessionaires' or Escrow Agent's advisors, consultants, shareholders or affiliates in respect of the same. The Authority has consulted and relied upon the advice of its own advisors in entering into the transactions contemplated by this Agreement and any other documentation necessary to effectuate this Agreement.

(B) In connection with this Agreement, and the transactions contemplated herein, the Authority, as of the date hereof hereby makes the following representations and warranties to (and for the benefit of) the Concessionaires and the Escrow Agent and hereby acknowledges that the Concessionaires and the Escrow Agent are relying upon such representations and warranties in entering into this Agreement:

(a) ...

(b) ...

(c) ...”.

(j) *Procedure to Resolve Disputes Arising in Connection with a Counter Notice.* The first paragraph of Section 20 of the New Escrow Agreement is amended and restated in its entirety to read as follows:

"If any Contracting Party shall dispute the amount of a Transfer by means of a Counter Notice as set forth in Section 6(e), the Contracting Parties shall first attempt to reconcile their differences, and any written resolution by them as to any disputed amounts shall be final, binding and conclusive on the Contracting Parties. During such period, the Authority shall provide the Concessionaires with reasonable access to all books and records regarding the applicable Traffic Report it may have in its possession. The Authority shall only be required to provide information or records regarding a Traffic Report to the extent such information or records are in the Authority's possession on the date the Counter Notice was issued; provided that, at the Concessionaires' sole expense, the Authority shall promptly acquire such information or records as is reasonably requested by the Concessionaires that the Authority is entitled to obtain from the ETC Service Provider pursuant to its contract for ETC services with such ETC Service Provider".

(k) Exhibit A-1 attached to this Amendment is hereby incorporated as Exhibit A-1 to the New Escrow Agreement and sets forth the Authorized Representatives of the New Concessionaire pursuant to Section 2(b) of the New Escrow Agreement.

(l) Exhibit B of the New Escrow Agreement is hereby replaced in its entirety with the new Exhibit B attached to this Amendment.

3. **Ratification.** Except as expressly set forth in this Amendment, the terms and conditions of the New Escrow Agreement shall continue in full force and effect without any change or modification and are hereby ratified and confirmed in all respects by the Parties.

4. **Effectiveness.** This Amendment shall become effective, and shall be binding upon the Parties, upon the execution of the New Toll Roads Concession Agreement.

5. **No Extinctive Novation.** Except as expressly set forth herein, this Amendment shall not affect any of the existing obligations of the parties hereto under the New Escrow Agreement. It is not the intention of the Parties hereto to constitute an extinctive novation of the obligations of the Parties hereto under the New Escrow Agreement.

6. **Governing Law.** This Amendment shall be interpreted and enforced in accordance with the laws of the Commonwealth of Puerto Rico.

7. **Counterparts.** This Amendment may be executed in any number of counterparts, including pdf electronic counterparts. It is not necessary that all Parties sign all or any one of the counterparts, but each Party must sign at least one counterpart for this Amendment to be effective. Electronically transmitted signatures shall be deemed to be "original" signatures for all intents and purposes.

[Signature page follows]

IN WITNESS WHEREOF, the Parties hereto have executed this Amendment as of the date set forth above.

**PUERTO RICO HIGHWAYS AND
TRANSPORTATION AUTHORITY**

By: _____

Name:

Title:

**AUTOPISTAS METROPOLITANAS DE
PUERTO RICO, LLC**

By: _____

Name:

Title:

PUERTO RICO TOLLROADS, LLC

By: _____

Name:

Title:

BANCO POPULAR DE PUERTO RICO

By: _____

Name:

Title:

**BANCO POPULAR DE PUERTO RICO,
FIDUCIARY SERVICES DIVISION, as
Escrow Agent**

By: _____

Name:

Title:

9/12/17
T

EXHIBIT A-1

AUTHORIZED REPRESENTATIVES

<u>Contracting Party</u>	<u>Representatives</u>	<u>Specimen Signatures</u>
New Concessionaire	Both of:	

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EXHIBIT B**FORM OF NOTICE OF TRANSFER**

In accordance with Section 6(c) of the New Escrow Agreement, dated as of December __, 2022, as amended by that certain First Amendment to New Escrow Agreement, dated as of _____, 2023 (the "Agreement"), **PUERTO RICO HIGHWAYS AND TRANSPORTATION AUTHORITY**, a body corporate and politic constituting a public corporation and government instrumentality created pursuant to the provisions of Act No. 74 of June 23, 1965, as amended (the "Authority"), **AUTOPISTAS METROPOLITANAS de PUERTO RICO, LLC**, a limited liability company organized and existing under the laws of the Commonwealth of Puerto Rico (the "PR-22/5 Concessionaire"), **PUERTO RICO TOLLROADS, LLC**, a limited liability company organized and existing under the laws of the Commonwealth of Puerto Rico (the "New Concessionaire") and **BANCO POPULAR DE PUERTO RICO, FIDUCIARY SERVICES DIVISION**, a Puerto Rico banking corporation, as escrow agent (the "Escrow Agent"), the Escrow Agent hereby notifies that disbursements from the Escrow Fund (as defined in the Agreement) were made to the parties, on the dates and in the amounts set forth in the table below. Such delivery was made by wire transfer in immediately available funds.

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<u>Party</u>	<u>Amount</u>	<u>Date</u>	<u>Account</u>
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In accordance with Section 6(h) of the Agreement, the amount of Fees deducted from the Escrow Fund and the date of such deduction are set forth in the table below.

<u>Type of Fee</u>	<u>Amount</u>	<u>Date</u>
--------------------	---------------	-------------

Escrow Agent Fees

[●], as Escrow Agent

By: _____
Name:
Title:

Schedule 19
EPC Specifications Guidelines
(See attached.)

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SCHEDULE 19 EPC SPECIFICATIONS GUIDELINES

For avoidance of doubt, all capitalized terms used in this Schedule 19 and not otherwise defined herein are used as defined in this Agreement.

Section 1. Background

1.1 These EPC (Engineering Procurement Construction) specifications guidelines are created to standardize a template for discussions between the Authority and the Concessionaire with respect to, and for agreements with contractors relating to, Major Projects (as defined herein), with the objective of accelerating such discussions and agreement negotiations and achieving consistency in the development of such Major Projects by either the Concessionaire or the Authority, as applicable. This template is designed to encourage the use of a single contractor for the development of the scope of work for a Major Project, which includes design, procurement, construction, operations, and maintenance of any such Major Project. "Major Project" means any new construction project permitted or required by this Agreement, which project will be constructed on Toll Road Land and is anticipated to have a contract value or aggregate project cost in excess of \$20 million dollars (*provided that Accelerated Safety Upgrades shall not constitute Major Projects*).

Section 2. Template Agreement Provisions


Provisions should include, unless inapplicable:

- **Agreement parties**-list and description of who is entering in the contract.
- **Preamble** - description of the project.
- **Project Objectives** – identify the key objective in the development of the project.
- **Table of Contents**
- **Definitions**
- **General Rules of Interpretation**
- **Contract Documents and Precedence** – list of all contractual documentation and which is the order of precedence in case of discrepancies.
- **Terms and Schedule** – describe the basic terms of completion and the proposed schedule of the project development. This section should clarify the duties and responsibilities of the parties during each of the Engineering and Design, Procurement and Construction phases of the project, including information regarding such responsibilities as they relate to the following in such phases, if applicable:
 - Engineering and Design
 - Basic Engineering
 - Detailed Engineering
 - Project Scope Development

- Design
- Planning
- Cost Estimation
- Value Engineering
- Permitting
- Civil, Mechanical, Electrical and Site Engineering
- Procurement
 - Logistics and Transportation
 - Purchasing
 - Procurement
 - Invoicing
 - Receiving
 - Source Selection
 - Bid Process
- Construction
 - Civil, Electrical, Mechanical, Plumbing execution of work.
 - Safety Management
 - Environmental Management
 - Project Controls & Monitoring
 - Fixed Contract Price
 - Fixed Completion Date
 - Single Point of Responsibility
 - Document Control
 - Construction Management
 - Performance Specification
 - Commissioning

- **Rights and Obligations of Parties**
 - Concessionaire / Authority
 - Contractor
 - If applicable, any other parties to the contract or anticipated material rights and obligations of other third-parties that are not signatories to the contract itself.
- **Warranty(ies)**
- **Contract Price** -- describing the type of contract and the cost segregation elements, including the following, if applicable:
 - Advance Payments
 - Regular payments
 - Price Adjustments
 - Restrictions
 - Final Payment
 - Discharge
- **Payment or Other Security**
- **Notices and Communications** – describing the way information is

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to be conveyed among the parties and to whom and where it is required to be directed.

- **Bid Form / Cost Sheet** – to include the cost segregation sheets used in the bid process or at least the format used for evaluation.
- **Insurances** –listing limits, coverage and other requirements, including the following, as applicable:
 - Notices
 - Evidence of Coverage
 - Risk of Loss and Damage
 - Types of Insurance and Process
 - Indemnification – describe what is applicable.
 - General requirements
 - Remedies
 - Named and additional insureds
 - Waiver of subrogation
 - Workmen compensation
- **Change Orders**
 - Procedure – describing submission, evaluation, and approval procedures.
 - Payment
 - Restrictions
 - Property Rights
 - Inspections
 - Testing, Compliance, Acceptance and Commissioning
- **Limitation of Liability of Party(ies)**
- **Indemnity**
- **Liquidated Damages**
- **Warranties and guarantees** – indicating specifications.
- **Default and Termination** – include description of process and alternatives, including the following, as applicable:
 - Force Majeure
 - Suspension of Rights
 - Termination
- **Disputes and Arbitration** – description of process and alternatives.
- **Operations and Maintenance** – description of parties responsible and duties.
- **Applicable Laws and Regulations**
 - Government of Puerto Rico
 - Federal government
 - PRTHA regulations and procedures
- **Other Provisions**
 - Changes in applicable laws
 - Confidentiality
 - Assignment
 - Amendments
 - Representations and warranties
 - Licenses

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- Miscellaneous
- **Contractual Schedules**
 - Drawings
 - Specifications
 - Standards
 - Procurement / Purchasing Plan
 - Safety Plan
 - Environmental Requirements and Conditions
 - Contract Administration Plan
 - QA/QC Plan
 - Commissioning
 - Operations and Maintenance Requirements

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Schedule 20
Windfall Revenue Sharing Payment Calculation
(See attached.)

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SCHEDULE 20
WINDFALL REVENUE SHARING PAYMENT CALCULATION

Windfall Revenue Sharing Payment Calculation				
Windfall Revenue Sharing Payment Amount (%)				50%
Start Date	End Date	Year	Calculation Date	Band Floor
19-Dec-23	31-Dec-23	2023	1	8,375,761.24
1-Jan-24	31-Dec-24	2024	2	268,474,377.88
1-Jan-25	31-Dec-25	2025	3	569,979,330.64
1-Jan-26	31-Dec-26	2026	4	885,108,908.63
1-Jan-27	31-Dec-27	2027	5	1,203,238,172.05
1-Jan-28	31-Dec-28	2028	6	1,522,599,695.06
1-Jan-29	31-Dec-29	2029	7	1,840,758,913.18
1-Jan-30	31-Dec-30	2030	8	2,165,004,153.08
1-Jan-31	31-Dec-31	2031	9	2,488,599,726.73
1-Jan-32	31-Dec-32	2032	10	2,811,364,982.64
1-Jan-33	31-Dec-33	2033	11	3,133,722,999.90
1-Jan-34	31-Dec-34	2034	12	3,451,792,956.96
1-Jan-35	31-Dec-35	2035	13	3,773,497,933.79
1-Jan-36	31-Dec-36	2036	14	4,096,231,906.05
1-Jan-37	31-Dec-37	2037	15	4,418,337,606.20
1-Jan-38	31-Dec-38	2038	16	4,740,705,434.19
1-Jan-39	31-Dec-39	2039	17	5,063,968,646.87
1-Jan-40	31-Dec-40	2040	18	5,388,901,481.40
1-Jan-41	31-Dec-41	2041	19	5,714,190,100.16
1-Jan-42	31-Dec-42	2042	20	6,037,585,232.00
1-Jan-43	31-Dec-43	2043	21	6,359,189,483.62
1-Jan-44	31-Dec-44	2044	22	6,686,210,610.96
1-Jan-45	31-Dec-45	2045	23	7,012,297,160.18
1-Jan-46	31-Dec-46	2046	24	7,338,763,072.33
1-Jan-47	31-Dec-47	2047	25	7,666,982,016.50
1-Jan-48	31-Dec-48	2048	26	7,997,769,076.93
1-Jan-49	31-Dec-49	2049	27	8,326,256,208.01
1-Jan-50	31-Dec-50	2050	28	8,658,127,394.97
1-Jan-51	31-Dec-51	2051	29	8,991,337,652.06
1-Jan-52	31-Dec-52	2052	30	9,329,549,603.98
1-Jan-53	31-Dec-53	2053	31	9,668,597,931.30
1-Jan-54	31-Dec-54	2054	32	10,008,250,822.30
1-Jan-55	31-Dec-55	2055	33	10,346,020,068.55
1-Jan-56	31-Dec-56	2056	34	10,690,812,243.44
1-Jan-57	31-Dec-57	2057	35	11,037,625,417.21
1-Jan-58	31-Dec-58	2058	36	11,385,905,289.46
1-Jan-59	31-Dec-59	2059	37	11,736,166,919.46
1-Jan-60	31-Dec-60	2060	38	12,091,658,566.08
1-Jan-61	31-Dec-61	2061	39	12,448,216,312.18
1-Jan-62	31-Dec-62	2062	40	12,807,426,133.81
1-Jan-63	19-Dec-63	2063	41	13,009,924,697.65

Schedule 21
Tax Matters
(See attached.)

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**SCHEDULE 21
TAX MATTERS**

If the Concessionaire is a pass-through entity for Commonwealth income tax purposes: (i) the Concessionaire's Equity Participants will be subject to the 20% Commonwealth income tax rate provided in Act 29 on the distributable share on the income derived by the Concessionaire from the operations covered under the Concession Agreement, (ii) the Commonwealth income tax rate applicable for purposes of the Concessionaire making the estimated income tax payments required under Section 1062.07 of the PR Code on the distributable share on the income derived by the Concessionaire from the operations covered under the Concession Agreement will be 20% (rather than 30%), and (iii) any distribution, initially made by the Concessionaire, or subsequently made by the Concessionaire's Equity Participants and any equity owners thereof, of the earnings and profits from the income derived by the Concessionaire from the operations covered under the Concession Agreement will not be subject to the payment of Commonwealth income taxes.

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Schedule 22
Amendment to the Original Escrow Agreement
(See attached.)

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Schedule 22 – Execution Version

THIS AMENDMENT AGREEMENT NO. 2 TO THE ORIGINAL ESCROW AGREEMENT AND DISBURSEMENT INSTRUCTIONS (this “Amendment”) is made and entered into as of this ____ day of _____, 2023 by and among the **PUERTO RICO HIGHWAYS AND TRANSPORTATION AUTHORITY**, a public corporation organized under the laws of the Commonwealth of Puerto Rico (the “Authority”), **AUTOPISTAS METROPOLITANAS de PUERTO RICO, LLC**, a limited liability company organized and existing under the laws of the Commonwealth of Puerto Rico (the “PR-22/5 Concessionaire”), **PUERTO RICO TOLLROADS, LLC**, a limited liability company organized and existing under the laws of the Commonwealth of Puerto Rico (the “New Concessionaire” and, together with the PR-22/5 Concessionaire, the “Concessionaires”), **BANCO POPULAR DE PUERTO RICO**, a Puerto Rico banking corporation (the “Bank”), and **BANCO POPULAR DE PUERTO RICO, FIDUCIARY SERVICES DIVISION**, a Puerto Rico banking corporation, as escrow agent (the “Escrow Agent”). The Authority and the Concessionaires are sometimes referred to herein collectively as the “Contracting Parties” or individually as a “Contracting Party,” and together with the Bank and the Escrow Agent, the “Parties.”

RECITALS

WHEREAS, the Authority and the PR-22/5 Concessionaire entered into that certain Toll Road Concession Agreement, dated as of June 27, 2011 (as subsequently amended, modified and/or supplemented from time to time, the “PR-22/5 Concession Agreement”) and that certain Escrow Agreement, dated as of September 22, 2011, as supplemented by those certain Disbursement Instructions dated as of April 27, 2016 (as amended by that certain Amendment Agreement No. 1 to the Original Escrow Agreement and Disbursement Instructions, dated as of December 6, 2022, and as supplemented by the Amended and Restated Disbursement Instructions, dated as of December 6, 2022, attached as Exhibit A to Amendment No. 1 to the Original Escrow Agreement and Disbursement Instructions, the “Original Escrow Agreement,” and such Disbursement Instructions, the “Original Disbursement Instructions”);

WHEREAS, the Authority and the New Concessionaire have entered into that certain Toll Roads Concession Agreement, dated as of October 16, 2023 (as subsequently amended, modified and/or supplemented from time to time, the “New Toll Roads Concession Agreement” and, together with the PR-22/5 Concession Agreement, the “Concession Agreements”), whereby the Authority granted a concession to the New Concessionaire for the operation and maintenance of the following Puerto Rico toll roads – PR-20, PR-52, PR-53, and PR-66;

WHEREAS, it is a condition precedent to the closing of the transactions contemplated under the New Toll Roads Concession Agreement that the Parties execute this Amendment; and

WHEREAS, the Parties have agreed to amend the Original Escrow Agreement and the Original Disbursement Instructions subject to the terms and conditions hereinafter set forth.

NOW THEREFORE, for and in consideration of the promises, the mutual covenants, representations, warranties and agreements contained herein and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged by each of the Parties hereto, the Parties covenant and agree as follows:

ARTICLE I DEFINITIONS

Section 1.1 Definitions. Capitalized terms used herein but not otherwise defined herein shall have the respective meanings assigned to such terms in the Original Escrow Agreement.

ARTICLE II AMENDMENTS

Section 2.1 Amendments to the Original Escrow Agreement

The Parties hereby agree to the following amendments to the Original Escrow Agreement:

- (a) Section 1 of the Original Escrow Agreement is hereby amended and restated in its entirety to read as follows:

“Section 1. Definitions

Unless otherwise specified or the context otherwise requires, for the purposes of this Agreement, the following terms have the following meanings:

“Disbursement Instructions” means the Second Amended and Restated Disbursement Instructions, dated as of _____, 2023, and delivered to the Escrow Agent by the Authority, the Concessionaires and the Bank pursuant to this Agreement, and as may be subsequently amended, modified and/or supplemented from time to time.”

- (b) Section 3(b) of the Original Escrow Agreement is hereby amended and restated in its entirety to read as follows:

“(b) The Parties acknowledge and agree that (i) each of the Sweep Escrow Accounts and the Consolidated Escrow Account (collectively, the “Escrow Accounts”) shall be and is held by the Escrow Agent for the benefit of the Contracting Parties, (ii) neither the Sweep Account nor the Consolidated Escrow Account nor the funds on deposit in the Sweep Account or the Consolidated Escrow Account are the property of the Escrow Agent or the Bank, (iii) the amounts on deposit in the Consolidated Escrow Account shall be allocated pursuant to this Agreement and the Disbursement Instructions, and (iv) the amounts on deposit in the Escrow Accounts shall constitute the exclusive property (to the exclusion of a claim by any other Person) on the applicable Contracting Party upon the transfer of any such amounts to the applicable Contracting Party. The CSC Escrow Account shall be governed by the provisions of this Escrow Agreement, the Commercial Deposit Accounts Agreement (the “CSC Deposit Account Agreement”) and the Merchants Contract for Card Services (the “Merchant Agreement”) entered into by and between the Bank and the Authority in connection with account number 020-010303, which are attached as Schedules 1 and 2. The ILR Escrow Account shall be governed by the

provisions of this Escrow Agreement, the Merchant Agreement, and the Commercial Deposit Accounts Agreement (the "TLR Deposit Account Agreement" and, together with the CSC Deposit Account Agreement, the "Deposit Account Agreements") entered into by and between the Bank and the Authority, which is attached as Schedule 3. The Consolidated Escrow Account shall be governed by the provisions of this Escrow Agreement. Any and all amounts on deposit in all the Escrow Accounts from time to time (as reduced by any automatic transfers as described hereinafter, disbursements and amounts withdrawn under Section 5) are referred to herein as the "Escrow Fund".

- (c) Section 11 of the Original Escrow Agreement is hereby amended and restated in its entirety to read as follows:

"All notices, consents, waivers and other communications under this Escrow Agreement must be in writing and shall be given personally or sent by internationally recognized overnight delivery service. Any such notice shall be deemed to have been given when received, if delivered in person or sent by such overnight delivery service, in any such case to the address set forth beside each Contracting Party's name on Exhibit A or as set forth below (or to such other address or addresses as a Contracting Party may have advised the other in the manner provided in this Section 11):

If to the Authority:

Puerto Rico Highways Transportation Authority
Roberto Sánchez Vilella Government Center
De Diego Avenue, Stop 22
Santurce, PR 00940
Attention: General Counsel
Telephone: (787) 721-8787
Fax: (787) 727-5456

With a copy to:

Government Development Bank of Puerto Rico
Roberto Sánchez Vilella Government Center
De Diego Avenue, Stop 22
Santurce, PR 00940
Attention: General Counsel
Telephone: (787) 722-8460
Fax: (787) 721-1443

If to the PR-22/5
Concessionaire:

Autopistas Metropolitanas de Puerto Rico, LLC
City View Plaza 500, Torre 1
Carretera #165, Núm. 48
Guayanabo, PR 00968
Attn: Julián Fernández, CEO
Email: julian.fernandez@metropistas.com

Telephone: (787) 474-5999
Fax: (787) 474-5998

If to the New
Concessionaire:

Puerto Rico Tollroads, LLC
PO Box 12004
San Juan, PR 00922
Attention: General Counsel
Telephone: (787) 474-5999
Facsimile: (787) 474-5998
Email: legal@metropistas.com
and a copy to:

Abertis Infraestructuras, S.A.
Paseo de la Castellana 89, 9th Floor,
28046 Madrid, Spain
Attention: Carlos Garcia Cabrera
Telephone: +34 93 230-5588

Email: carlos.garcia@abertis.com

If to the Escrow Agent:

Banco Popular de Puerto Rico
Fiduciary Services Division
153 Ponce de Leon Ave., 8th Fl.
San Juan, PR 00918

ARTICLE III

AMENDMENT AND RESTATEMENT OF THE DISBURSEMENT INSTRUCTIONS

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The Original Disbursement Instructions are hereby superseded and replaced by the Second Amended and Restated Disbursement Instructions in the form attached hereto as Exhibit A.

ARTICLE IV

EFFECTIVENESS

This Amendment shall become effective, and shall be binding upon the Parties, upon the execution of the New Toll Roads Concession Agreement.

ARTICLE V

NO EXTINCTIVE NOVATION

Except as expressly set forth herein, this Amendment shall not affect any of the existing obligations of the parties hereto under the Original Escrow Agreement. It is not the intention of the Parties hereto to constitute an extinctive novation of the obligations of the Parties hereto under the Original Escrow Agreement.

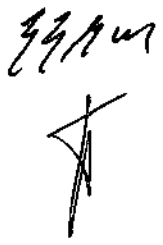
**ARTICLE VI
NEW CONCESSIONAIRE JOINDER TO ORIGINAL ESCROW AGREEMENT**

The Parties hereby agree that this Amendment implements the joinder of the New Concessionaire to the Original Escrow Agreement in accordance with Section 16 thereof, and that the information required to be provided by the New Concessionaire thereunder is included in Exhibit B hereto.

**ARTICLE VII
DOCUMENTS OTHERWISE UNCHANGED**

Except as expressly provided in this Amendment and the Disbursement Instructions, the Original Escrow Agreement shall remain unchanged and in full force and effect.

**ARTICLE VIII
MISCELLANEOUS**

The provisions of Section 13, 14, and 15 of the Original Escrow Agreement are hereby expressly incorporated into this Amendment and shall apply to this Amendment as though they were set out in full herein, except that references to the "Escrow Agreement" in such provisions in the Original Escrow Agreement are to be construed as references to this Amendment.

**ARTICLE IX
GOVERNING LAW**

This Amendment shall be governed by, interpreted and enforced in accordance with the internal substantive laws (and not the choice of law rules) of the Commonwealth of Puerto Rico. The provisions relating to jurisdiction and service of process set forth in Section 12 of the Original Escrow Agreement are hereby incorporated by reference.

[Signature page follows]

IN WITNESS WHEREOF, the Authority, the PR-22/5 Concessionaire and the New Concessionaire each has caused this Agreement to be duly executed as of the day and year first written above.

AUTOPISTAS METROPOLITANAS DE PUERTO RICO, LLC

By: _____

Name:

Title:

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PUERTO RICO TOLLROADS, LLC

By: _____

Name:

Title:

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PUERTO RICO HIGHWAYS AND TRANSPORTATION AUTHORITY

By: _____

Name:

Title:

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BANCO POPULAR DE PUERTO RICO, FIDUCIARY SERVICES DIVISION

By: _____

Name:

Title:

ggm

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BANCO POPULAR DE PUERTO RICO

By: _____

Name:

Title:

ESM

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EXHIBIT A

SECOND AMENDED AND RESTATED DISBURSEMENT INSTRUCTIONS

Attached.

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EXHIBIT B

NEW CONCESSIONAIRE INFORMATION

[To be provided by New Concessionaire.]

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Schedule 23
Amendment to the Disbursement Instructions
(See attached.)

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**EXHIBIT A TO AMENDMENT NO. 2 TO THE ORIGINAL ESCROW AGREEMENT
AND DISBURSEMENT INSTRUCTIONS**

THESE SECOND AMENDED AND RESTATED DISBURSEMENT INSTRUCTIONS (these “**Instructions**”), dated as of _____, 2023, are hereby established and delivered to **BANCO POPULAR DE PUERTO RICO, FIDUCIARY SERVICES DIVISION**, a Puerto Rico banking corporation, as the escrow agent (the “**Escrow Agent**”), under that certain Escrow Agreement, dated as of September 22, 2011 (as subsequently amended, modified or supplemented from time to time, including by that certain Amendment No. 1 to the Original Escrow Agreement and Disbursement Instructions dated as of December 6, 2022 and that certain Amendment No. 2 to the Original Escrow Agreement and Disbursement Instructions dated as of the date hereof, the “**Original Escrow Agreement**”), by and among the **PUERTO RICO HIGHWAYS AND TRANSPORTATION AUTHORITY**, a public corporation organized under the laws of the Commonwealth of Puerto Rico (the “**Authority**”), **AUTOPISTAS METROPOLITANAS de PUERTO RICO, LLC**, a limited liability company organized and existing under the laws of the Commonwealth of Puerto Rico (the “**PR-22/5 Concessionaire**”), **PUERTO RICO TOLLROADS, LLC**, a limited liability company organized and existing under the laws of the Commonwealth of Puerto Rico (the “**New Concessionaire**” and, together with the PR-22/5 Concessionaire, the “**Concessionaires**”), **BANCO POPULAR DE PUERTO RICO**, a Puerto Rico banking corporation (the “**Bank**”), and the Escrow Agent (collectively, the “**Parties**”).

RECITALS

 **WHEREAS**, the Authority and the PR-22/5 Concessionaire entered into that certain Toll Road Concession Agreement, dated as of June 27, 2011 (as subsequently amended, modified and/or supplemented from time to time, the “**PR-22/5 Concession Agreement**”) and the Original Escrow Agreement, as supplemented by those certain Disbursement Instructions dated as of April 27, 2016, as amended and restated by those certain Amended and Restated Disbursement Instructions, dated December 6, 2022 (the “**Original Disbursement Instructions**”);

WHEREAS, the Authority and the New Concessionaire have entered into that certain Toll Roads Concession Agreement, dated as of October 16, 2023 (as subsequently amended, modified and/or supplemented from time to time, the “**New Toll Roads Concession Agreement**” and, together with the PR-22/5 Concession Agreement, the “**Concession Agreements**”), whereby the Authority granted a concession to the New Concessionaire for the operation and maintenance of the following Puerto Rico toll roads – PR-20, PR-52, PR-53, and PR-66 (collectively, the “**New Concessionaire Toll Roads**”);

WHEREAS, it is a condition precedent to the closing of the transactions contemplated under the New Toll Roads Concession Agreement that the Parties execute these Instructions; and

WHEREAS, the Parties have agreed to amend the Original Disbursement Instructions subject to the terms and conditions hereinafter set forth.

NOW THEREFORE, the Authority and the Concessionaires hereby provide the following Instructions to the Escrow Agent, which are hereby acknowledged and agreed to by the Escrow Agent:

ARTICLE I DEFINITIONS

Capitalized terms used herein but not otherwise defined herein shall have the respective meanings assigned to such terms in the Original Escrow Agreement. For the purposes of these Instructions, the following capitalized terms have the following meanings:

APR's Revenue-Related Terms

"APR" means Autopistas de Puerto Rico y Compañía, LLC.

"APR's Portion of the Toll Revenues" means the total toll revenues for tolling on PR-17, excluding unpaid tolls, for the relevant period;

"APR Revenues" means APR's Portion of the Toll Revenues, the Non-Revenue Originated in APR and the unpaid tolls of APR;

"Electronic Tolling Fee due from APR" means electronic tolling fee due from APR to the Authority. Currently, such fee is 5% of the APR Revenues. The Authority shall promptly notify the Escrow Agent and the Concessionaires in writing prior to any future modifications to such fee;

"Non-Revenue Originated in APR" means the total non-revenue transactions originated in PR-17 as reflected in the applicable Traffic Report(s) multiplied by the Teodoro Moscoso Bridge toll rate for light vehicles applicable to such period;

Authority's Revenue-Related Terms

"Authority's APR Revenues" means the Electronic Tolling Fee due from APR and all revenues from tolling on PR-17 to which the Authority is entitled at any time;

"Authority Revenues" means Authority's Toll Revenue for Tolling on the HTA Toll Roads, Authority's Portion of DTL Revenues, Authority's APR Revenues and the Authority Tag Revenues;

"Authority's Toll Revenue for Tolling on the HTA Toll Roads" means any toll revenues for tolling on the HTA Toll Roads;

"Authority's Portion of DTL Revenues" means: (A) 25% of the toll revenues for tolling on the DTL on lanes 113 and 112, excluding Delinquent Non-Cash Tolls for the relevant period, (B) 25% of the toll revenues for tolling on the DTL on lane 111, excluding Delinquent Non-Cash Tolls (as defined in the PR-22/5 Concession Agreement) for the relevant period, after deduction of the PR-22/5 Concessionaire's Portion of Toa Baja Revenues Collected in DTL, (C) 60% of the DTL Extension Revenues (as defined in the

New Toll Roads Concession Agreement) excluding any Delinquent Non-Cash Tolls (as defined in the New Toll Roads Concession Agreement) for the relevant period, and (d) 50% of the DTLs Incremental Toll Revenues (as defined in the New Toll Roads Concession Agreement), excluding Delinquent Non-Cash Tolls (as defined in the New Toll Roads Concession Agreement) for the relevant period;

“Authority Tag Revenues” means all revenues generated from tag sales and other fees charged to users that are attributable to the Authority in proportion to the number of transactions processed on all the toll roads other than the toll roads operated by the PR-22/5 Concessionaire.

PR-22/5 Concessionaire’s Revenue-Related Terms

“PR 22-5 Concessionaire’s Additional Revenues” means all amounts collected related to the Maximum Temporary Increase (as defined in the PR-22/5 Concession Agreement);

“PR-22/5 Concessionaire’s Toll Revenue for Tolling on the Toll Roads” means all toll revenues for tolling on PR-22 and PR-5, excluding Delinquent Non-Cash Tolls (as defined in the PR-22/5 Concession Agreement) for the relevant period as reflected in the applicable Traffic Report(s);

“PR-22/5 Concessionaire’s Portion of Toa Baja Revenues Collected in DTL” means the portion of Toa Baja toll revenue collected through DTL lane 111, calculated as traffic (excluding Delinquent Non-Cash Tolls, as defined in the PR-22/5 Concession Agreement) included in the applicable Traffic Report(s) for the relevant period multiplied by the Toa Baja toll rate for light vehicles applicable to such period;

“PR-22/5 Concessionaire’s Portion of DTL Revenues” means: (A) 75% of the toll revenues for tolling on the DTL on lanes 113 and 112, excluding Delinquent Non-Cash Tolls (as defined in the PR-22/5 Concession Agreement) for the relevant period; and (B) 75% of the toll revenues for tolling on the DTL on lane 111, excluding Delinquent Non-Cash Tolls (as defined in the PR-22/5 Concession Agreement) for the relevant period, after deduction of the PR-22/5 Concessionaire’s portion of Toa Baja revenues Collected in DTL for such period;

“PR-22/5 Concessionaire Revenues” means the PR-22/5 Concessionaire’s Toll Revenue for Tolling on the Toll Roads, PR-22/5 Concessionaire’s Portion of Toa Baja Revenues Collected in DTL, PR-22/5 Concessionaire’s Portion of DTL Revenues, PR-22/5 Concessionaire’s Additional Revenues, and the PR-22/5 Concessionaire Tag Revenues;

“PR-22/5 Concessionaire Tag Revenues” means all revenues generated from tag sales and other fees charged to users that are attributable to the PR-22/5 Concessionaire in proportion to the number of transactions processed on the tolls roads operated by the PR-22/5 Concessionaire.

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New Concessionaire's Revenue-Related Terms

"New Concessionaire's Toll Revenue for Tolling on the Toll Roads" means all toll revenues for tolling on the New Concessionaire Toll Roads, excluding Delinquent Non-Cash Tolls (as defined in the New Toll Roads Concession Agreement) for the relevant period as reflected in the applicable Traffic Report(s);

"New Concessionaire's Additional Revenues" means all amounts collected related to the Maximum Temporary Increase (as defined in the New Toll Roads Concession Agreement);

"New Concessionaire's Portion of DTL Revenues" means (i) 40% of the DTL Extension Revenues (as defined in the New Toll Roads Concession Agreement) for the relevant period, excluding any Delinquent Non-Cash Tolls (as defined in the New Toll Roads Concession Agreement) and (ii) 50% of the DTLs Incremental Toll Revenues (as defined in the New Toll Roads Concession Agreement) for the relevant period, excluding any Delinquent Non-Cash Tolls (as defined in the New Toll Roads Concession Agreement));

"New Concessionaire Revenues" means the New Concessionaire's Toll Revenue for Tolling on the Toll Roads, the New Concessionaire's Additional Revenues and the New Concessionaire's Portion of DTL Revenues;

Other Defined Terms

"Cash Available For Disbursement" means all such amounts on deposit in the Consolidated Escrow Account as of the date of disbursement constituting: (i) APR Revenues, (ii) Authority Revenues, (iii) PR-22/5 Concessionaire Revenues, (iv) Guaynabo Toll Revenues for Tolling in the Conector Los Filtros, and (v) New Concessionaire Revenues;

"Guaynabo Toll Revenues for Tolling in the Conector Los Filtros" means the total toll revenues for tolling on the road known as Conector Los Filtros, excluding unpaid tolls, for the relevant period;

"Consolidated Escrow Account" means the escrow account established pursuant to the Original Escrow Agreement that is held by the Escrow Agent for the benefit of the Contracting Parties;

"Metropistas Escrow Subaccount" means the subaccount established under the New Escrow Agreement as a subaccount of the New Escrow Account established by the Authority pursuant to the New Escrow Agreement to be held by the Escrow Agent for the exclusive benefit of the PR-22/5 Concessionaire;

"Municipality of Guaynabo" means the Autonomous Municipality of Guaynabo;

"New Escrow Account" means the new escrow account established pursuant to the terms of the New Escrow Agreement by the Authority to be held by the Escrow Agent for the benefit of the Authority and the Concessionaires;

“New Concessionaire Escrow Subaccount” means the subaccount established under the New Escrow Agreement as a subaccount of the New Escrow Account established by the Authority pursuant to the New Escrow Agreement to be held by the Escrow Agent for the exclusive benefit of the New Concessionaire;

“New Escrow Agreement” means the New Escrow Agreement, dated as of December 6, 2022, as amended pursuant to that First Amendment to New Escrow Agreement dated as of the date hereof and as may be further amended from time to time, by and among the Authority, the Concessionaires, the Escrow Agent and the Bank; and

“Original Escrow Agreement” has the meaning given to it in the Recitals, and as may be subsequently amended from time to time.

“HTA Toll Roads” means the toll roads operated by the Authority (excluding, for the avoidance of doubt, the toll roads operated by the PR-22/5 Concessionaire and the New Concessionaire).

ARTICLE II INSTRUCTIONS TO THE ESCROW AGENT

Section 2.01. The Escrow Agent shall, and is hereby instructed to, during the term of the Original Escrow Agreement, make the required Transfers under Section 6(a) of the Original Escrow Agreement, within two (2) Business Days after receipt by the Escrow Agent of the Traffic Report, in the manner and order of priority set forth below (it being understood and agreed that the disbursements set forth below shall be made only from amounts on deposit constituting Cash Available For Disbursement as reflected in each Traffic Report):

- 8/9/24
- a. *First*, disburse concurrently (and without priority among the recipients listed in this clause *First*), as follows:
- (i) to an account directed by the Authority, the Authority’s Toll Revenue for Tolling on the HTA Toll Roads, as set forth in the applicable Traffic Report(s);
 - (ii) to the account established by the Municipality of Guaynabo, the Guaynabo Toll Revenues for Tolling in the Conector Los Filtros, as set forth in the applicable Traffic Report(s);
 - (iii) to APR, APR’s Portion of the Toll Revenues, net of the Authority’s APR Revenues, as set forth in the applicable Traffic Report(s);
 - (iv) to the PR-22/5 Concessionaire:
 - (A) the PR-22/5 Concessionaire’s Toll Revenue for Tolling on the Toll Roads, the PR-22/5 Concessionaire’s Portion of Toa Baja Revenues Collected in DTL, and the PR-22/5 Concessionaire’s Portion of DTL Revenues, as set forth in the relevant Traffic Report(s);

(B) the PR-22/5 Concessionaire Tag Revenues, as shall be contained and specifically designated in the other income report for the period (as approved by the Authority and the PR-22/5 Concessionaire);

- (v) to the New Concessionaire, the New Concessionaire's Toll Revenues for Tolling on the Toll Roads and the New Concessionaire's Portion of DTL Revenues, as set forth in the relevant Traffic Report; and
 - (vi) to the New Escrow Account, any PR-22/5 Concessionaire's Additional Revenues and/or New Concessionaire Additional Revenues, as set forth in the relevant Traffic Report(s);
- b. *Second*, disburse from any remaining Cash Available for Disbursement, in the manner and order of priority set forth below, as follows:
- (i) first, to the PR-22/5 Concessionaire, the amount of any Delinquent Non-Cash Tolls (as defined in the PR-22/5 Concession Agreement), as set forth in the relevant Traffic Report(s); and
 - (ii) second, the amount of any unpaid tolls of APR and the Municipality of Guaynabo and of any Non-Revenue Originated in APR on a pro rata basis, as set forth in the relevant Traffic Report(s);
- c. *Third*, disburse from any remaining Cash Available for Disbursement, to the PR-22/5 Concessionaire, by depositing into the Metropistas Escrow Subaccount, such amounts required until, after giving effect to such deposit, the amount on deposit in the Metropistas Escrow Subaccount is equal to the Required Balance (as defined in the PR-22/5 Concession Agreement);
- d. *Fourth*, disburse from any remaining Cash Available for Disbursement, to the New Concessionaire, the amount of any Delinquent Non-Cash Tolls (as defined in the New Toll Roads Concession Agreement), as set forth in the relevant Traffic Report(s);
- e. *Fifth*, disburse from any remaining Cash Available for Disbursement, to the New Concessionaire, by depositing into the New Concessionaire Escrow Subaccount, such amounts required until, after giving effect to such deposit, the amount on deposit in the New Concessionaire Escrow Subaccount is equal to the Required Balance (as defined in the New Toll Roads Concession Agreement); and
- f. *Sixth*, disburse from any remaining Cash Available for Disbursement, to the Authority any remaining Cash Available For Disbursement as directed by the Authority.

For the avoidance of doubt, each distribution to be made by the Escrow Agent from Cash Available for Disbursement based on a Traffic Report shall follow the order of Priority set forth herein, in each case, commencing with "First", even if the Cash Available for Disbursement in the prior

distribution was not sufficient to make the distributions in the "Second", "Third", "Fourth", "Fifth" or "Sixth" categories hereof.

Section 2.02. The ETC Service Provider will continue to submit the Traffic Reports according to the terms contained in the Original Escrow Agreement in a form substantially in the form of Exhibit A, attached hereto.


ARTICLE III REPRESENTATION AND WARRANTY OF THE AUTHORITY

The Authority makes the following representation and warranty to the Concessionaires, the Bank and the Escrow Agent as of the date hereof and acknowledges that the Concessionaires and their respective Representatives (as defined in the Concession Agreements), the Bank and the Escrow Agent are relying upon such representation and warranty in agreeing to deliver these Instructions:

- a. The Authority has the power and authority to provide these Instructions and to do all acts and things and execute and deliver all other documents required hereunder to be done, observed or performed by it in accordance with the terms hereof. The Authority has approved the execution and delivery of these Instructions and authorized the performance of its obligations hereunder.

ARTICLE IV MISCELLANEOUS

Section 4.01. Ratification and Acknowledgement

- 
- a. Except as expressly provided in Amendment No. 2 to the Original Escrow Agreement and Disbursement Instructions and these Instructions, the Original Escrow Agreement shall remain in full force and effect.
 - b. The Authority and the PR-22/5 Concessionaire hereby acknowledge and agree that these Instructions amend, modify and supersede Section 6 of Annex 1 to Schedule 11 of the PR-22/5 Concession Agreement to the extent such section is inconsistent with these Instructions.

Section 4.02. Governing Law, Etc.

These Instructions shall be interpreted, construed, enforced and administered in accordance with the internal substantive laws (and not the choice of law rules) of the Commonwealth of Puerto Rico. The provisions relating to jurisdiction and service of process set forth in Section 12 of the Original Escrow Agreement are hereby incorporated herein by reference.

Section 4.03. Limitation of Instructions; Reservation of Rights

- a. Except as expressly provided in these Instructions, no provision of these Instructions shall be deemed (i) to be a consent, waiver, supplement to or modification of any terms or conditions of the Original Escrow Agreement or any of the instruments referred to therein or (ii) to prejudice any rights or remedies

which the parties thereto may have now or in the future under or in connection with the Original Escrow Agreement. For the avoidance of doubt, these Instructions shall supersede any inconsistent provisions of the Original Escrow Agreement.

- b. On and after the date hereof, each reference in the Original Escrow Agreement to “this Escrow Agreement”, “hereunder”, “hereof”, “herein” or words of like import, and each reference to the Original Escrow Agreement, “thereunder”, “thereof”, “therein” or words of like import in the Concession Agreements and any related documents, shall be deemed a reference to the Original Escrow Agreement, as supplemented and/or modified hereby. These Instructions shall constitute an “Other Authority Agreement” for all purposes of the Concession Agreements and any related documents.

Section 4.04. Counterparts

These Instructions may be executed in one or more counterparts, each of which will be deemed to be an original and all of which, when taken together, will be deemed to constitute one and the same.

Section 4.05. Section Headings

The headings of sections in these instructions are provided for convenience only and will not affect its construction or purpose.

Section 4.06. Binding Effect

These Instructions shall be binding on the signatories hereto and their respective permitted successors and assigns and shall inure to the benefit of the signatories hereto and their permitted successors and assigns.

Section 4.07. Severability

In case any provision in or obligation under these Instructions shall be invalid, illegal or unenforceable in any jurisdiction, the validity, legality and enforceability of the remaining provisions or obligations, or of such provision or obligation in any other jurisdiction, shall not in any way be affected or impaired thereby.

[signature page follows]

IN WITNESS WHEREOF, the undersigned have caused these Instructions to be duly executed as of the day and year first written above.

**AUTOPISTAS METROPOLITANAS DE
PUERTO RICO, LLC**

By:

Name: _____

Title: _____

ESM
P

PUERTO RICO TOLLROADS, LLC

By:

Name: _____

Title: _____

ggm

A handwritten signature, possibly reading 'ggm', is written in black ink.

**PUERTO RICO HIGHWAYS AND
TRANSPORTATION AUTHORITY**

By: _____
Name: _____
Title: _____

EEHm

A handwritten signature in black ink, consisting of a stylized 'J' or 'I' shape with a horizontal stroke extending to the right.

Acknowledged and agreed:

BANCO POPULAR DE PUERTO RICO,
FIDUCIARY SERVICES DIVISION, as Escrow
Agent

By: _____
Name:
Title:


9/12/01


EXHIBIT A

FORM OF TRAFFIC REPORT

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