Texas Department of Transportation

DESIGN-BUILD SPECIFICATIONS Item 32

November 2024

Note 2. DB Contractor shall conduct permanent repair of a Warranty Defect within the Repair Period to restore the condition of a Performance Warranty Element such that: (a) the repair is consistent with the minimum corrective Warranty Action; (b) the repair addresses the root cause of the Warranty Defect; and (c) upon completion of the repair the Measurement Record is achieved.

Note 3. Unless stated otherwise only in this table, measurements shall be conducted using procedures, techniques, and measuring equipment consistent with TxDOT's Pavement Management Information System Rater's Manual, TxDOT Designation TEX-1001-S "Test Procedure for Operating Inertial Profilers and Evaluating Pavement Profiles" and TxDOT Specification No. TxDOT 968-62-65 "Pavement Condition Data Collection Services".

Note 4. For Element Category 1.1 (Travel Lane Ride Quality) the Performance Requirements shall apply to all mainlanes and frontage roads and to ramps and other roadways, including cross streets greater than or equal to 0.5 miles in length, in each case that are reconstructed or rehabilitated as part of the Project and within the Maintenance Limits.

Note 5. Pavement distress data includes distresses identified directly by automated methods and distresses revealed by post-processing of visual images obtained during data collection by TxDOT certified visual distress raters for flexible and rigid pavements.

Note 6. For every Performance Section which does not meet the travel lane ride quality Performance Requirement as demonstrated by the annual pavement Specialist Inspection in year Y, the permanent repair to restore ride quality shall be completed prior to the date of the annual pavement Specialist Inspection in year Y+1. For every Performance Section with average IRI > 120" per mile, the permanent repair to restore ride quality shall be completed no later than 6 months after the ride quality Defect is first identified.

PERFORMANCE WARRANTY ELEMENT CATEGORY	REF.	PERFORMANCE WARRANTY ELEMENT	PERFORMANCE OBJECTIVE	REPAIR PERIOD	INSPECTION AND MEASUREMENT METHOD (See Note 3)	REF.	MEASUREMENT RECORD (See Note 1)	MINIMUM CORRECTIVE WARRANTY ACTION
1) PAVEMENT GENERAL								
	1.1	Travel Lane Ride Quality	All roadways have a smooth surface course.	See Note 6	TxDOT Designation TEX-1001-S "Test Procedure for Operating Inertial Profilers and Evaluating Pavement Profiles" (See Note 4)	1.1.1	For each Performance Section, excluding Performance Sections with bridge deck and/or bridge approach slab, average IRI shall meet the following criteria: Asphalt Pavement • Mainlanes, Ramps, Direct Connectors - IRI ≤-85" per mile • All other roadways - IRI ≤95" per mile Concrete Pavement • Mainlanes, Ramps, Direct Connectors - IRI ≤ 95" per mile • All other roadways - IRI ≤ 105" per mile	Remove and replace the full lane width to the depth of the warranted pavement and earthwork needed to address the root cause of the Warranty Defect. The removal area[1] shall consist of a minimum of the distressed section and 50 feet in either direction of the distressed section and must be of a sufficient length to ensure ride quality requirements for new construction are achieved throughout the removal and replacement area and its tie in to adjacent construction on completion of repair. The replacement material shall match the original structural design, or structural design revised by DB Contractor and approved by TxDOT with enhancements to address root cause of Warranty Defect. When final surface is concrete, diamond grinding may be used to restore ride. If more than 1/4" is removed, then remove and replace sections with thickness more than 1/4" thinner than plan thickness. [1] Minimum area to be repaired will require TxDOT's concurrence.
		Travel Lane Localized Roughness	No localized areas of roughness within travel lanes. This shall include local bumps, settlements, heaves, and discontinuities at covers and frames that do not show up on the IRI profile reported in item 1.2.1.	6 months	Section 7 of TxDOT Designation TEX-1001-S "Test Procedure for Operating Inertial Profilers and Evaluating Pavement Profiles"	1.1.2	For each Performance Section, no localized roughness deviations calculated in accordance with the method set forth in Section 7 of TEX-1001-S exceeding 1/2" or less than -1/2" (positive deviations are bumps and negative deviations are dips). *[This inspection and measurement is not included in the annual Specialist Inspection program but may be used at TxDOT's sole discretion and compliance is required at all times.]*	
1) PAVEMENT GENERAL								

PERFORMANCE WARRANTY ELEMENT CATEGORY	REF.	PERFORMANCE WARRANTY ELEMENT	PERFORMANCE OBJECTIVE	REPAIR PERIOD	INSPECTION AND MEASUREMENT METHOD (See Note 3)	REF.	MEASUREMENT RECORD (See Note 1)	MINIMUM CORRECTIVE WARRANTY ACTION
	1.2	Discontinuities at bridge approaches	All bridge deck approaches to have a smooth surface with no discontinuities exceeding stated measurement in any travel lane or shoulder.	6 months	10-ft straightedge used to measure discontinuities for localized areas.	1.2.1	For each Performance Sections that include a bridge deck and/or bridge approach slab, maximum 1/2" variation of the pavement surface from the testing edge of the straightedge between any two straightedge contact points with the pavement surface, measured at any location within the 100 feet length of pavement on either side of the bridge deck. For clarification, in addition to measurements in which both ends of the straightedge have contact points on pavement approach to structure, this measurement shall allow one contact point of the straightedge on the traveled surface supported by the structure and the other contact point on the pavement approach to the structure. *[This inspection and measurement is not included in the annual Specialist Inspection program but may be used at TxDOT's sole discretion and compliance is required at all times.]*	Remove and replace the full lane width to the depth of the warranted pavement and earthwork needed to address the root cause of the bridge approach discontinuity. The removal area[1] shall consist of a minimum of the distressed section and 50 feet in either direction of the distressed section and must be of a sufficient length to ensure ride quality requirements for new construction are achieved throughout the removal and replacement area and its tie in to adjacent construction on completion of repair. The replacement material shall match the original structural design, or structural design revised by DB Contractor and approved by TxDOT with enhancements to address root cause of Warranty Defect. When final surface is concrete, diamond grinding may be used to restore ride. If more than 1/4" is removed, then remove and replace sections with thickness more than 1/4" thinner than plan thickness. [1] Minimum area to be repaired will require TxDOT's concurrence.
		Discontinuities in localized areas and crossovers	All localized areas such as crossovers to have a smooth surface course with no discontinuities exceeding specified requirement in Measurement Record.			1.2.2	For each Performance Section measured in localized areas, excluding bridge decks and the 100 feet length of pavement on either side of the bridge decks, maximum 1/2" variation of the pavement surface from the testing edge of the straightedge between any two straightedge contact points with the pavement surface. *[This inspection and measurement is not included in the annual Specialist Inspection program but may be used at TxDOT's sole discretion and compliance is required at all times.]*	Address root cause of discontinuity in localized area. Review original design and identify and correct deficiencies, errors or omissions. Repair local discontinuity to prevent recurrence.
	1.3	Edge drop-offs and other edge defects	No edge drop-offs or edge breaks exceeding stated measurements.	6 months	Visual inspection	1.3.1	For each Performance Section: • No instances of lane-to-lane or lane- to-shoulder separation or drop-off greater than 1/2" for more than 10 feet in length. • No instances of shoulder to adjacent non-vehicular area drop off greater than 2" for more than 10 feet in length. • No instances of build-up of material in non-vehicular area adjacent to shoulder with height greater than 3" for more than 10 feet in length. • No more than 50 cumulative feet of edge breaking greater than 4” wide.	Address root cause of edge drop-off or edge defect. Review original design and identify and correct deficiencies, errors or omissions. Repair edge defect to prevent recurrence.
1a) PAVEMENT (ASPHALT)								

PERFORMANCE WARRANTY ELEMENT CATEGORY	REF.	PERFORMANCE WARRANTY ELEMENT	PERFORMANCE OBJECTIVE	REPAIR PERIOD	INSPECTION AND MEASUREMENT METHOD (See Note 3)	REF.	MEASUREMENT RECORD (See Note 1)	MINIMUM CORRECTIVE WARRANTY ACTION
	1a.1	Ruts	All roadways (including ramps) are free from surface depressions in wheel path exceeding measurement record thresholds.	6 months	a. Depth as measured using an automated device in compliance with TxDOT Specification 968-62-65 Section 10.4.2. b. 10-ft straight edge used to measure rut depth for localized areas.	1a.1.1	No depth of rut at any location greater than 1/2" for more than 10 feet in length.	Remove and replace the full lane width to the depth of the affected layers. The removal area[1] shall consist at a minimum of the distressed section and at minimum of 50 feet in either direction of the distressed section and must be of a sufficient length to ensure ride quality requirements for new construction are achieved throughout the removal and replacement area and its tie in to adjacent construction on completion of repair. The replacement material shall match the original structural design, or structural design revised by DB Contractor and approved by TxDOT with enhancements to address root cause of Warranty Defect. [1] Minimum area to be repaired will require TxDOT's concurrence.
	1a.2	Cracking	All roadways (including shoulders and ramps) are free from cracking of any type exceeding measurement record thresholds. (Cracking types include longitudinal, transverse, alligator and block cracking).	6 months	a. Pavement surface distresses measured using the methods identified in TxDOT Specification 968-62-65 Section 10.4.5. (See Note 5) b. Visual inspection	1a.2.1	No unsealed cracks exceeding 1/4" wide with a length exceeding 5 feet.	Seal all cracks with approved crack sealing material from the TxDOT MPL. For any repaired crack, no failure of repair shall be exhibited defined as areas along the sealed or filled crack exhibiting loss of adhesion (loss of crack seal material from the crack reservoir or crack seal pulling away from the sidewalls of the reservoir) or lack of cohesiveness (splitting) within the crack seal material. The following full depth repair corrective Warranty Action threshold shall apply to longitudinal cracking. Where more than 500 linear feet of longitudinal crack exceeding 1/8" are detected in any lane within a Performance Section (sealed or unsealed), corrective Warranty Action shall be per Line Item 1a.8 (Failure) The following full depth repair corrective Warranty Action threshold for transverse cracking shall apply. Where more than 30 transverse cracks are detected in any lane within a Performance Section (sealed or unsealed), Corrective Action shall be per Line Item 1a.8 (Failure).
1a) PAVEMENT (ASPHALT)								
	1a.3	Raveling	All roadways (including shoulders and ramps) are free from raveling exceeding measurement record thresholds.	6 months		1a.3.1	Total area of raveling shall not exceed 10% of pavement surface area in any Performance Section (rating code 1 or less). (where there are multiple areas of raveling within a Performance Section, these areas shall be added to determine whether the 10% criterion is exceeded).	Remove and replace the full lane width to the depth of the warranted pavement and earthwork needed to address the root cause of the Warranty Defect. The removal area[1] shall consist at a minimum of the distressed section and at minimum of 50 feet in either direction of the distressed section and must be of a sufficient length to ensure ride quality requirements for new construction are achieved throughout the removal and replacement area and its tie in to adjacent construction on completion of repair. The replacement material shall match the original structural design, or structural design revised by DB Contractor and approved by TxDOT with enhancements to address root cause of the Warranty Defect. [1] Minimum area to be repaired will require TxDOT's concurrence.
	1a.4	Flushing / bleeding	All roadways (including shoulders and ramps) are free from flushing / bleeding exceeding measurement record thresholds.	6 months		1a.4.1	Total area of flushing / bleeding shall not exceed 10% of wheel path surface area in any Performance Section (rating code 1 or less). (where there are multiple areas of flushing / bleeding within a Performance Section, these areas shall be added to determine whether the 10% criterion is exceeded).	

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	1a.5	Failures	All roadways are free from failures exceeding measurement record thresholds.	6 months		1a.5.1	No failures exceeding: (a) the failure criteria set forth in the TxDOT PMIS Rater's Manual; or (b) the failure thresholds for longitudinal and transverse cracking set forth in line items 1a.2 and 1a.3.	Remove and replace the full lane width to the full depth of the warranted pavement and the depth of any earthwork needed to address the root cause of the Warranty Defect. The removal area shall consist at a minimum of the distressed 0.1 mile section and 0.1 miles in either direction of the section for the distressed surface and must be of a sufficient length to ensure ride quality requirements for new construction are achieved throughout the removal and replacement area and its tie in to adjacent construction on completion of repair. The replacement material shall match the original structural design, or structural design revised by DB Contractor and approved by TxDOT with enhancements to address root cause of the Warranty Defect
1b) PAVEMENT (CRCP)								
	1b.1	Spalled Cracks	All roadways (including shoulders and ramps) are free from spalled cracks exceeding measurement thresholds.	6 months	a. Pavement surface distresses measured using the methods identified in TxDOT Specification 968-62-65 Section 10.4.5. (See Note 5) b. Visual inspection	1b.1.1	• No spalled cracks exceeding 10% of total crack length within a Performance Section. • No individual spalling of any crack greater than 12" length.	Repair the 0.1 mile section of affected lanes with either: a mill and fill with thin bonded concrete overlay; or - repair the spalled cracks in accordance with Item 720 and overlay with HMA. The overlay design must have TxDOT's concurrence and must meet ride quality requirements.
	1b.2	Popouts and Punchouts	All roadways (including shoulders and ramps) are free from popouts and punchouts exceeding measurement thresholds.	6 months		1b.2.1	• No popouts greater than 4" wide or long exceeding a depth of 1". • No punchouts with a maximum dimension of 24" or more exceeding 1/4" vertical fault dimension compared to adjacent intact slab.	Remove and replace full lane width for any 1.0 mile stretch that contains more than 11 punchouts. Perform full depth concrete repair for full lane width and at least 5 feet before and after the punchout (in the longitudinal direction), when there are fewer than 12 punchouts within a 1.0 mile stretch.
	1b.3	Longitudinal Cracking	All roadways (including shoulders and ramps) are free from longitudinal cracks exceeding measurement record thresholds.	6 months		1b.3.1	• No unstitched longitudinal cracks with width less than or equal to 1/8". • No longitudinal cracks with width exceeding 1/8".	Crack Widths ≤ 1/8" Cross stitch at 1ft intervals the length of the crack and seal. Crack Widths >1/8" Full depth repair of the full lane width and at least 5 ft. from the each end of longitudinal crack. If additional distresses exist within this area, an additional 5 ft. from the additional distress will be removed and replaced if greater than the longitudinal crack repair area.
1c) PAVEMENT (JCP)								
	1c.1	Damaged Joints and Cracks	All roadways (including shoulders and ramps) are free from damaged joints and cracks.	6 months	a. Pavement surface distresses measured using the methods identified in TxDOT Specification 968-62-65 Section 10.4.5. (See Note 5) b. Visual inspection	1c.1.1	• No missing or damaged joint seal exceeding 10% of joint length. • No spalling of joints or cracks exceeding 10% of joint or crack length for any slab. • No individual spalling of joints or cracks more than 3" in width and greater than 12" length.	Full depth repair of the distressed joint. This includes both adjacent slabs at the distressed joint. Crack widths ≤ 1/8" Dowel bar retrofit in wheel paths Crack widths >1/8" Replace slabs with cracking.
	1c.2	Slabs with cracks in multiple directions	All roadways (including shoulders and ramps) are free from potential shattered slabs.	6 months		1c.2.1	No slabs separated into three or more pieces by a combination of transverse cracks and longitudinal cracks of any width extending from edge to edge of the slab.	Full depth repair of the shattered slab and at least 1 slab on each side of the shatter slab in the longitudinal direction.
	1c.3	Slabs with Longitudinal Cracks	All roadways (including shoulders and ramps) are free from slabs with longitudinal cracks.	6 months		1c.3.1	No longitudinal cracks in any slab with width exceeding 1/8".	Full depth repair of the slabs with longitudinal crack and at least 1 slab on each side of the cracked slabs in the longitudinal direction.

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	1c.4	Failures	All roadways are free from failures.	6 months		1c.4.1	No failures exceeding the failure criteria set forth in the TxDOT PMIS Rater's Manual.	Full depth repair of the slabs with failures and at least 1 slab on each side of the slabs with failures in the longitudinal direction.
2) DRAINAGE								
	2.1	Non-bridge class culverts, Pipes, ditches, channels, catch basins, inlets, manholes and outfalls	Each element of the drainage system functions properly from the point at which water drains from the travel way to the outfall or drainage way and is free of: • defects in sealant at movement joints • scour damage • corrosion of rebar	[2-5] years	Visual inspection supplemented by CCTV where there is evidence of a Defect and further investigation is needed to inspect buried pipe work.	2.1.1	Pipes, ditches and channels are clear of obstructions to flow, including debris and other accumulations, such that throughout their length, no more than 10% of the design cross sectional area is impeded.	Clean, clear or empty drainage systems to address Defect. Address root cause of obstructions or accumulations. Review original design and identify and correct deficiencies, errors or omissions. Modify drainage systems to prevent recurrence.
						2.1.2	Performance Objective met.	
	2.2	Drainage treatment devices	Drainage treatment and balancing systems, flow and spillage control devices function correctly and their location and means of operation is recorded adequately to permit their correct operation in Emergency.	[2-5] years	Visual inspection	2.2.1	Number of devices functioning correctly with means of operation displayed.	Address root cause of malfunctioning drainage treatment devices. Review original design and identify and correct deficiencies, errors or omissions. Modify drainage treatment devices to prevent recurrence.
	2.3	Discharge systems	Surface water discharge systems perform their proper function and discharge to groundwater and waterways complies with the relevant legislation and permits.	[2-5] years	Visual inspection	2.3.1	Performance objective met.	Address root cause of standing water. Review original design and identify and correct deficiencies, errors or omissions. Modify drainage collection and conveyances to prevent recurrence.
	2.4	Erosion	No deviation from design grade (high or low) greater than 6" exists along ditches, swales, ponds, and channels.	[2-5] years	Visual inspection	2.4.1	Performance objective met.	Perform repairs to ensure surface water discharge systems comply with relevant legislation and permits.
	2.5	Channels and ditches; permanent erosion control measures	Where permanent erosion control measures such as rock or concrete riprap are utilized: no undermined or damaged erosion control measures.	[2-5] years	Visual inspection	2.5.1	Performance objective met.	Address root cause of erosion. Re-grade all areas of erosion greater than 6"deep and re-establish vegetation. Remove any sholing that resulted from the erosion.
	2.6	Channels and ditches – Permanent Erosion Control Measures	Where permanent erosion control measures such as rock or concrete riprap are utilized: no undermined or damaged erosion control measures.	[2-5] years	Visual inspection	2.6.1	Performance objective met.	Address root cause of undermining or damage. Remove rock and concrete riprap where undermining is found, regrade the area and re-establish the permanent erosion control measures to meet original or enhanced design criteria.
3) STRUCTURES								

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	3.1	Structure components (Structures having an opening measured along the center of the roadway of more than 20 feet between faces of abutments or spring lines of arches or extreme ends of the openings for multiple box culverts or multiple pipes that are 60 inches or more in diameter and that have a clear distance between openings of less than half of the smallest pipe diameter)	Regardless of maintenance performed by TxDOT, (i) Substructures and superstructures are free of: • defects in joint sealants • defects in pedestrian protection measure • scour damage • corrosion of rebar • paint system failure that includes flaking, peeling, bubbling, or having the appearance of rust (ii) Expansion joints free of: • defects in drainage system • loose nuts and bolts • defects in gaskets and/or seals (iii) The deck drainage system operates as intended. (iv) Parapets free of: • loose nuts and bolts • concrete spalling v) Bearings and bearing seats are: • properly aligned horizontally and vertically (vi) Sliding and roller surfaces are clean and greased to ensure satisfactory performance. Additional advice contained in bearing manufacturers' instructions in the structure maintenance manual is followed. (vii) Special finishes are clean and perform to the appropriate standards. (viii) All non-structural items such as hoists and electrical fixings, operate correctly, are clean and lubricated as appropriate, in accordance with the manufacturer's recommendations and certification of lifting devices is maintained.	6 months	a. The National Bridge Inspection Standards (NBIS) of the Code of Federal Regulations, 23 Highways – Part 650 b. The TxDOT Bridge Inspection Manual c. The Federal Highway Administration's Bridge Inspector's Reference Manual d. Visual Inspection	3.1.1	Performance objective is met and records maintained as required in the TxDOT Bridge Inspection Manual. Condition rating equal to or greater than seven (7) for any deck, superstructure or substructure.	Perform necessary repairs to bring all deck, superstructure, or substructure elements to meet a rating equal to or greater than seven (7). Address root cause of structural defect and perform renewal, rehabilitation or reconstruction as needed to rectify any design deficiencies identified.
	3.2	Load ratings	All structures maintain the design load capacity and no load restrictions for Texas legal loads (including legally permitted vehicles)	6 months	a. Load rating calculations in accordance with the AASHTO Manual for Bridge Evaluation and the TxDOT Bridge Inspection Manual. b. Load restriction requirements as per the TxDOT Bridge Inspection Manual.	3.2.1	Performance objective met.	Address root cause of load rating deficiency and perform renewal, rehabilitation or reconstruction as needed to rectify any design deficiencies identified and prevent recurrence.
	3.3	Gantries and high-masts	Sign gantries, signal gantries and high masts are structurally sound and free of: • loose nuts and bolts • defects in surface protection systems.	6 months	Visual inspection	3.3.1	Performance objective met.	Address root cause of defects. Tighten loose nuts and bolts to the required torque. Repair or replace surface protection systems as needed to rectify any design deficiencies identified and prevent recurrence.
	3.4	Access points	All hatches and points of access have fully operational and lockable entryways.	6 months	Visual inspection	3.4.1	Performance objective met.	Address root cause of Warranty Defects and perform renewal, rehabilitation or reconstruction as needed to rectify any design deficiencies identified and prevent recurrence.
3) STRUCTURES								
	3.5	Retaining walls	Regardless of maintenance performed by TxDOT, retaining walls are free of defects, including, but not limited to: • defects in sealed joints • defects in pedestrian protection • scour damage • corrosion of rebar • failure of any paint system failure that includes flaking, peeling, bubbling, or having the appearance of rust • concrete spalling • settlement beyond that anticipated in the signed and sealed design report	6 months	Visual inspection	3.5.1	Performance objective met.	Address root cause of Warranty Defects and perform renewal, rehabilitation or reconstruction as needed to rectify any design deficiencies identified and prevent recurrence.
			Parapets are free of: • loose nuts and bolts • concrete spalling			3.5.2	Performance objective met.	Address root cause of defects. Tighten loose nuts and bolts to the required torque. Repair concrete spalls with products from the TxDOT QPL

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	3.6	MSE Walls	Regardless of maintenance performed by TxDOT, panel conditions are free of defects, including, but not limited to: • No panels are allowed to touch • No more than 5% showing cracking, delaminations, spalls, or scaling per panel for each MSE wall. • No instances of cracks >1/4", on more than one panel per wall. All cracking greater than 1/4" must be sealed • No concrete surfaces with spalls greater than 1" deep or to reinforcement depth. Any spall showing reinforcement must be repaired • Joint condition - No instances of joints with exposed fabric, provide repairs when wall backfill integrity is jeopardized. • No instances of MSE backfill material below joint or vegetation growing between joints. • Panel offset at joints shall not exceed 3/4". Joint opening shall not exceed 1/4" greater or 1/2" less than the design width along adjoining panels. • Settlement beyond that anticipated in the signed and sealed design report • Measured erosion - No instances of erosion >1 feet deep along wall coping, erosion exposing the top of the leveling pad (where pad is not on rock), or exposed straps or mesh. • Measurement of bowed wall: variance from constructed alignment. Change from as built records measured using 10-ft. straight edge. No instances of variance from constructed alignment greater than 3/4" horizontal movement within 10-ft. vertical. • Visual Inspection - free from vegetation and overgrowth of trees affecting or having the potential to affect structural integrity.	6 months	Visual inspection or other specialist inspections to determine variances from constructed alignment.	3.6.1	Performance objective met.	Address root cause of Warranty Defects and perform renewal, rehabilitation or reconstruction as needed to rectify any design deficiencies identified and prevent recurrence.
4) PAVEMENT MARKINGS, OBJECT MARKERS, BARRIER MARKERS AND DELINEATORS (NOT USED)								
5) CURBS, GUARDRAILS, SAFETY BARRIERS AND IMPACT ATTENUATORS (NOT USED)								
6) TRAFFIC SIGNS (NOT USED)								
7) TRAFFIC SIGNALS (NOT USED)								
8) LIGHTING (NOT USED)								
9) FENCES, WALLS AND SOUND ABATEMENT (NOT USED)								
10) ROADSIDE MANAGEMENT (NOT USED)								
11) REST AREAS AND PICNIC AREAS (NOT USED)								
12) EARTHWORKS, EMBANKMENTS AND CUTTINGS								
	12.1	Slope failure	No structural or natural failures of the embankment and cut slopes of the Project.	[2-5] years	Visual inspection to be performed by geotechnical specialist and further tests as recommended by specialist as required.	12.1.1	Performance objective met.	Repair all slope failures, re-establish original line and grade or make necessary modifications to line and grade to prevent recurrence.
	12.2	Slopes General	Slopes are in conformance to the original, as-designed, graded cross-sections (or any modifications to such cross sections needed to address erosion or instability).	[2-5] years	Visual inspection	12.2.1	Performance objective met.	
	12.3	Slopes Erosion	Slopes function properly with no erosion of a nature that may result in further deterioration. All necessary erosion prevention measures are in place, including landscaping materials, seeding, turf or other vegetation. The roadway, shoulders and ditches are free from all eroded materials.	[2-5] years	Visual inspection	12.3.1	No erosion greater than six inches deep.	Re-establish required erosion protection measures including landscaping materials, seeding, turf or other vegetation in a manner to prevent recurrence of erosion. Remove any eroded material from roadway, shoulders and ditches.
	12.4	Slopes - Permanent Erosion Control Measures	Where permanent erosion control measures such as rock or concrete riprap are utilized, erosion control measures are not damaged or undermined, function properly and concrete slope protection joints are sealed and free from vegetation affecting or having the potential to affect structural integrity.	[2-5] years	Visual inspection	12.3.2	Performance objective met.	Repair undermined or damaged erosion control measures in a manner to prevent recurrence of damage. Remove vegetation and seal all open joints.
13) ITS EQUIPMENT (NOT USED)								
14) TOLLING FACILITIES AND BUILDINGS (NOT USED)								
15) AMENITY (NOT USED)								
16) SNOW AND ICE CONTROL (NOT USED)								

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17) INCIDENT RESPONSE (NOT USED)								
18) CUSTOMER RESPONSE (NOT USED)								
19) SWEEPING AND CLEANING (NOT USED)								