

**Texas Department of Transportation**  
**BOOK 2 – TECHNICAL PROVISIONS**  
**FOR**  
**LOOP 375 - BORDER HIGHWAY WEST EXTENSION**  
**PROJECT**  
**Design-Build Project**  
**ATTACHMENT 19-1**  
**PERFORMANCE AND MEASUREMENT TABLE DURING**  
**WORK**

**DECEMBER 20, 2013**

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**TABLE 19-1: PERFORMANCE AND MEASUREMENT TABLE DURING WORK**

ELEMENT CATEGORY	PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET	
		Cat 1 Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair				
<b>1) ROADWAY</b>								
					<i>Unless stated otherwise, measurements shall be conducted using procedures, techniques, and measuring equipment consistent with TxDOT's Pavement Management Information System Rater's Manual.</i>			
1.1	Obstructions and debris	Roadway and clear zone free from obstructions and debris	2 hrs	N/A	N/A	Visual Inspection	Number of obstructions and debris	Nil
1.2	Pavement	All roadways have a smooth and quiet surface course (including bridge decks, covers, gratings, frames and boxes) with adequate skid resistance and free from Defects.	24 hrs	28 days	6 months	<b>a) Ruts – Mainlanes, shoulders &amp; ramps</b> Depth as measured using an automated device in compliance with TxDOT Standards. 10ft straight edge used to measure rut depth for localized areas. <b>b) Ride quality</b> 10-ft straightedge used to measure discontinuities  <b>d) Failures</b> Instances of failures exceeding the failure criteria set forth in the TxDOT PMIS Rater's Manual, including potholes, base failures, punchouts and jointed concrete pavement failures <b>e) Edge drop-offs</b> Physical measurement of edge drop-off level compared to adjacent surface	Wheel path length with ruts greater than ½" in depth	Nil
		All roadways have a smooth and quiet surface course (including bridge decks, covers, gratings, frames and boxes) with adequate skid resistance and free from Defects.	24 hrs	28 days	6 months		Depth of rut at any location greater than ½" Individual discontinuities greater than ¼"	Nil
		All roadways have a smooth and quiet surface course (including bridge decks, covers, gratings, frames and boxes) with adequate skid resistance and free from Defects.	24 hrs	28 days	6 months		Occurrence of any failure	Nil
		All roadways have a smooth and quiet surface course (including bridge decks, covers, gratings, frames and boxes) with adequate skid resistance and free from Defects.	24 hrs	28 days	6 months		Number of instances of edge drop-off greater than 2"	Nil

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1.2 Cont.		All roadways have a smooth and quiet surface course (including bridge decks, covers, gratings, frames and boxes) with adequate skid resistance and free from Defects.	24 hrs	28 days	6 months	f) <b>Skid resistance</b> ASTM E 274 Standard Test Method for Skid Resistance Testing of Paved Surfaces at 50 MPH using a full scale smooth tire meeting the requirements of ASTM E 524	• When the skid number is below 25 and/or when required by the Wet Weather Accident Reduction Program, areas categorized as high risk, Maintenance Contractor shall perform a site investigation and perform required corrective action.	100%
	Road users warned of potential skidding hazards	24hrs	7 days	N/A	100%			
1.3	Crossovers and other paved areas	Crossovers and other paved areas are free of defects	24 hrs	28 days	6 months	a) <b>Potholes</b> b) <b>Base failures</b>	Number of potholes of low severity or higher Number of base failures of low severity or higher	Nil Nil
1.4	Joints in concrete	Joints in concrete paving are sealed and watertight Longitudinal joint separation	24 hrs	28 days	6 months	Visual inspection of joints Measurement of joint width and level difference of two sides of joints	Length of unsealed joints greater than ¼" Joint width more than 1" or faulting more than ¼"	Nil Nil
<b>2) DRAINAGE</b>								
2.1	Pipes and Channels	Each element of the drainage system is maintained in its proper function by cleaning, clearing and/or emptying as appropriate from the point at which water drains from the travel way to the outfall or drainage way.	24 hrs	28 days	6 months	Visual inspection supplemented by CCTV where required to inspect buried pipe work	Length of pipe or channel in feet with less than 90% of cross sectional clear area, calculated as the arithmetic mean of the clear cross-sectional areas of individual 10 feet lengths of pipes and channels in each Auditable Section.	Nil
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 on Emergency.	24 hrs	28 days	6 months	Visual inspection	Number of devices functioning correctly with means of operation displayed	100%
2.3	Travel Way	The travel way is free from water to the extent that such water would represent a hazard by virtue of its position and depth.	24 hrs	28 days	6 months	Visual inspection of water on surface	Number of instances of hazardous water build-up	Nil

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2.4	Discharge systems	Surface water discharge systems perform their proper function and discharge to groundwater and waterways complies with the relevant legislation and permits.	24 hrs	28 days	6 months	Visual inspection and records	Auditable Sections with surface water discharge systems performing their proper function and discharging in compliance with the relevant legislation and permits.	100%
2.5	Protected Species	Named species and habitats are protected.	24 hrs	28 days	6 months	Visual inspection	Auditable Sections with named species and habitats with protection of these named species and habitats	100%
<b>3) STRUCTURES</b>								
3.1	Structures having an opening measured along the center of the roadway of more than 20 feet between undercopings of abutments or springlines of arches or extreme ends of openings or multiple boxes	Substructures and superstructures are free of: <ul style="list-style-type: none"> <li>• graffiti</li> <li>• undesirable vegetation</li> <li>• debris and bird droppings</li> <li>• blocked drains, weep pipes manholes and chambers</li> <li>• blocked drainage holes in structural components</li> <li>• defects in joint sealants</li> <li>• defects in pedestrian protection measure</li> <li>• scour damage</li> <li>• corrosion of rebar</li> <li>• paint system failures</li> <li>• impact damage</li> </ul>	24 hrs	28 days	6 months	Inspection and assessment in accordance with the requirements of federal National Bridge Inspection Standards (NBIS) of the Code of Federal Regulations, 23 Highways – Part 650, the TxDOT Bridge Inspection Manual, and the Federal Administration’s Bridge Inspector’s Reference Manual.	Records as required in the TxDOT Bridge Inspection Manual  Occurrence of condition rating, in accordance with the TxDOT Bridge Inspection Manual, below six for any deck, superstructure or substructure All condition states to be one for all structure components	Nil  100%
3.2	Structure components	i) Expansion joints are free of: <ul style="list-style-type: none"> <li>• dirt debris and vegetation</li> </ul>	24 hrs	28 days	6 months	Inspection and assessment in accordance with the requirements of federal National Bridge Inspection	Records as required in the TxDOT Bridge Inspection Manual	

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		Hazard Mitigation	Permanent Remedy	Permanent Repair			
3.2 Cont.	<ul style="list-style-type: none"> <li>• defects in drainage systems</li> <li>• loose nuts and bolts</li> <li>• defects in gaskets</li> <li>ii) The deck drainage system is free of all and operates as intended.</li> <li>iii) Parapets are free of: <ul style="list-style-type: none"> <li>• loose nuts or bolts</li> <li>• blockages of hollow section drain holes</li> <li>• graffiti</li> <li>• vegetation</li> <li>• accident damage</li> </ul> </li> <li>iv) Bearings and bearing shelves are clean.</li> <li>v) 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. Special finishes are clean and perform to the appropriate standards.</li> <li>vii) 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.</li> </ul>				Standards (NBIS) of the Code of Federal Regulations, 23 Highways – Part 650, the TxDOT Bridge Inspection Manual, and the Federal Administration's Bridge Inspector's Reference Manual.	Occurrence of condition rating, in accordance with the TxDOT Bridge Inspection Manual, below six for any deck, superstructure or substructure All condition states to be one for all structure components	Nil  100%

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3.3	Non-bridge class culverts	Non-bridge-class culverts are free of: <ul style="list-style-type: none"> <li>• vegetation and debris and silt</li> <li>• defects in sealant to movement joints</li> <li>• scour damage</li> </ul>	24 hrs	28 days	6 months	Visual inspection	Number of non-bridge class culverts with vegetation, debris and silt Number of non-bridge class culverts with defects in sealant and movement joints Number of non-bridge class culverts with scour damage	Nil Nil Nil
3.4	Gantries and high masts	Sign signal gantries, high masts are structurally sound and free of: <ul style="list-style-type: none"> <li>• loose nuts and bolts</li> <li>• defects in surface protection systems</li> <li>• graffiti</li> </ul>	24 hrs	28 days	6 months	Visual inspection	Number of gantries and high masts with loose assemblies Number of gantries and high masts with defects in surface protection	Nil Nil
3.5	Load ratings	All structures maintain the design load capacity.	24 hrs	28 days	6 months	Load rating calculations in accordance with the Manual for Bridge Evaluation and the TxDOT Bridge Inspection Manual Load restriction requirements as per the TxDOT Bridge Inspection Manual	Number of structures with load restrictions for Texas legal loads (including legally permitted vehicles)	Nil
3.6	Access points	All hatches and points of access have fully operational and lockable entryways.	24 hrs	28 days	6 months	Visual Inspection	Number with defects in locks or entryways	Nil
3.7	Mechanically Stabilized Earth and Retaining Walls	Mechanically Stabilized Earth and Retaining Walls free of: <ul style="list-style-type: none"> <li>• blocked weep holes</li> <li>• undesirable vegetation</li> <li>• defects in joint sealants</li> <li>• defects in pedestrian protection</li> <li>• scour damage</li> <li>• corrosion of reinforcing bars</li> <li>• paint system failure</li> <li>• concrete spalling</li> <li>• impact damage</li> </ul>	24 hrs	28 days	6 months	Inspection and assessment in accordance with the requirements of federal Nations Bridge Inspection Standards (NBIS) of the Code of Federal Regulations, 23 Highways - Part 650, the TxDOT Bridge Inspection Manual and the Federal Highway Administration's Bridge Inspector's Reference Manual.	Records as required in the TxDOT Bridge Inspection Manual	100%

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3.7 Cont.		Parapets free of: <ul style="list-style-type: none"> <li>• loose nuts and bolts</li> <li>• blockage of drain holes</li> <li>• undesirable vegetation</li> <li>• impact damage</li> <li>• concrete spalling</li> </ul>						
<b>4) PAVEMENT MARKINGS, OBJECT MARKERS, BARRIER MARKERS AND DELINEATORS</b>								
4.1	Pavement markings	Pavement markings are: <ul style="list-style-type: none"> <li>• clean and visible during the day and at night</li> <li>• placed to meet the TMUTCD and TxDOT's Pavement Marking Standard Sheets</li> </ul>	24 hrs	28 days	6 months	a) Markings - General Visual inspection  Physical measurement  b) Profile Markings	A minimum of two markings should be visible when viewed under low beam headlights.  Length of pavement marking with more than 5% loss of area of material at any point Length of pavement marking with spread more than 10% of specified dimensions.	100%  Nil  Nil
4.1 Cont.					Visual inspection	Length of pavement performing its intended function and compliant with relevant regulations	100%	
4.2	Raised reflective markers	Raised reflective pavement markers are: <ul style="list-style-type: none"> <li>• clean and clearly visible</li> <li>• of the correct color and type</li> </ul>	24 hrs	28 days	6 months	Visual inspection	Number of markers associated with road markings that are ineffective in any 10 consecutive markers. (Ineffective includes missing, damaged, settled or sunk) A minimum of four markers are visible at 80' spacing when viewed under low beam headlights. Uniformity (replacement raised reflective pavement markers have equivalent physical and performance characteristics to adjacent markers).	Nil  100%  100%

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4.2 Cont.		<ul style="list-style-type: none"> <li>reflective or retroreflective in accordance with TxDOT Standards</li> <li>correctly located, aligned and at the correct level</li> <li>are firmly fixed</li> <li>are in a condition that will ensure that they remain at the correct level.</li> </ul>						
4.3	Delineators & Markers	Object markers, mail box markers and delineators are: <ul style="list-style-type: none"> <li>clean and visible</li> <li>of the correct color and type</li> <li>legible and reflective</li> <li>straight and vertical</li> </ul>	24 hrs	28 days	6 months	Visual inspection	Number of object markers or delineators that is defective or missing	Nil
<b>5) GUARDRAILS, SAFETY BARRIERS AND IMPACT ATTENUATORS</b>								
5.1	Guardrails and safety barriers	All guardrails, safety barriers, concrete barriers, etc. are maintained free of defects. They are appropriately placed and correctly installed at the correct height and distance from roadway or obstacles.  Installation and repairs shall be carried out in accordance with the requirements of NCHRP 350 standards.	24 hrs	28 days	6 months	Visual inspection	Length of road restraint systems correctly installed  Length free from defects  Length at correct height Length at correct distance from roadway and obstacles.	100%  100%  100% 100%
5.2	Impact attenuators	All impact attenuators are appropriately placed and correctly installed	24 hrs	7 days	6 months	Visual inspection	Number correctly placed and installed	100%



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<b>6) TRAFFIC SIGNS</b>								
6.1	General - All Signs	i) Signs are clean, correctly located, clearly visible, legible, reflective, at the correct height and free from structural and electrical defects ii) Identification markers are provided, correctly located, visible, clean and legible iii) Sign mounting posts are vertical, structurally sound and rust free iv) All break-away sign mounts are clear of silt or other debris that could impede break-away features and shall have correct stub heights vii) Sign information is of the correct size, location, type and wording to meet its intended purpose and any statutory requirements viii) All structures and elements of the signing system are kept clean and free from debris and have clear access provided. ix) All replacement and repair materials and equipment are in accordance with the requirements of the TMUTCD x) Dynamic message signs are in an operational condition	24 hrs	28 days	6 months	a) <b>Retroreflectivity</b> Determination of Coefficient of retro-reflectivity  b) <b>Sign Information</b> Visual inspection  c) <b>Placement</b> Visual inspection  d) <b>Dynamic Message Signs</b> Visual inspection	Number of signs with actual reflectivity below the requirements of TxDOT's TMUTCD in each auditable section  All sign information is of the correct size, location, type and wording to meet its intended purpose  All signs are placed in accordance with TxDOT's Sign Crew Field Book including not twisted or leaning All dynamic message signs in each auditable section are fully functioning	Nil  100%  100%  100%
6.2	General - Safety critical signs	Requirements as 6.1, Plus: "Stop," "Yield," "Do Not Enter," "One Way" and "Wrong Way" signs are clean legible and undamaged.	2hrs	1 week	6 months	Visual inspection	Number of damaged Safety critical signs in	Nil
<b>7) TRAFFIC SIGNALS</b>								
7.1	General	i) Traffic Signals and their associated equipment are:	2hrs	24 hrs	6 months	a) <b>General condition</b> Visual inspection	All Signals are clean and visible	100%

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7.1 Cont.	<ul style="list-style-type: none"> <li>• clean and visible</li> <li>• correctly aligned and operational</li> <li>• free from damage caused by accident or vandalism</li> <li>• correctly aligned and operational</li> </ul> ii) Signal timing and operation is correct iii) Contingency plans are in place to rectify Category 1 defects not immediately repairable to assure alternative traffic control is provided during a period of failure				<b>b) Damage</b> Visual inspection <b>c) Signal timing</b> Timed measurements <b>d) Contingency plans</b> Records Review	All Signals are undamaged All Installations have correct signal timings Full contingency plans are in place	100% 100% 100%	
7.2	Soundness	Traffic signals are structurally and electrically sound	24 hrs	28 days	6 months	<b>a) Structural soundness</b> Visual inspection <b>b) Electrical soundness</b> Testing to meet NEC regulations	Inspection records showing safe installation and maintenance	100%
7.3	Identification marking	Signals have identification markers and the telephone number for reporting faults are correctly located, clearly visible, clean and legible	N/A	28 days	6 months	Visual inspection	Inspection records showing identification markers and other information are easily readable	100%
7.4	Pedestrian Elements and Vehicle Detectors	All pedestrian elements and vehicle detectors are correctly positioned and fully functional at all times	24 hrs	28 days	6 months	Visual inspection	Inspection records showing compliance with requirements for positioning and functionality with pedestrian elements and vehicle detectors.	100%
<b>8) LIGHTING</b>								
8.1	Roadway Lighting – General	i) All lighting is free from defects and provides acceptable uniform lighting quality ii) Lanterns are clean and correctly positioned iii) Lighting units are free from accidental damage or vandalism	24 hrs	28 days	6 months	<b>a) Mainlane lights operable</b> Night time inspection or automated logs	Number of sections with less than 90% of lights functioning correctly at all times	100%

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		Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair				
8.1 Cont.		iv) Columns are upright, correctly founded, visually acceptable and structurally sound				<b>b) Mainlane lights out of action</b> Night time inspection or automated logs	Number of instances of more than two consecutive lights out of action	Nil
8.2	Sign Lighting	Sign lighting is fully operational	24 hrs	28 days	6 months	Night time inspection or automated logs	Number of instances of more than one bulb per sign not working	Nil
8.3	Electrical Supply	Electricity supply, feeder pillars, cabinets, switches and fittings are electrically, mechanically and structurally sound and functioning	24 hrs	7 days	1 month	Testing to meet NEC regulations, visual inspection	Inspection records showing safe installation and maintenance	100%
8.4	Access Panels	All access panels in place at all times.	24 hrs	7 days	1 month	Visual Inspection	Number of instances of missing access panels	Nil
8.5	High Mast Lighting	i) All high mast luminaries functioning on each pole ii) All obstruction lights are present and working (if required) iii) Compartment door is secure with all bolts in place iv) All winch and safety equipment is correctly functioning and maintained without rusting or corrosion (for structural requirements refer to Element Category 3)	24 hrs	48 days	1 month	Yearly inspection and night time inspections or automated logs	Number of instances of two or more lamps not working per high mast pole  Number of other high mast lighting defects identified	Nil  Nil
<b>9) FENCES, WALLS AND SOUND ABATEMENT</b>								
9.1	Construction	Integrity and structural condition of the fence is maintained	24 hrs	28 days	6 months	Structural assessment if visual inspection warrants	Inspection records for fences and walls showing compliance with fence and wall requirements	100%
<b>10) ROADSIDE MANAGEMENT</b>								
10.1	Vegetated Areas - Except landscaped areas - General	Vegetation is maintained so that:	24 hrs	7 days	28 days	<b>a) Urban areas</b> Physical measurement of height of grass and weeds	Individual measurement to have 95% of grass and weeds between 5" and 18" in height.	100%

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10.1 Cont.		i) Height of grass and weeds is kept within the limits described for urban and rural areas. Mowing begins before vegetation reaches the maximum height. ii) Spot mowing at intersections, ramps or other areas maintains visibility of appurtenances and sight distance. iii) Grass or vegetation does not encroach into or on paved shoulders, main lanes, sidewalks, islands, riprap, traffic barrier or curbs. iv) A full width mowing cycle is completed after the first frost				<b>b) Rural areas</b> Physical measurement of height of grass and weeds  <b>c) Encroachment</b> Visual inspection of instances of encroachment of vegetation  <b>d) Sight lines</b> Visual inspection	Individual measurement to have 95% of height of grass and weeds between 5" and 30" in height.  Number of occurrences of vegetation encroachment  Number of instances of impairment of sight lines or sight distance to signs	100%  Nil  Nil
10.2	Landscaped Areas	i) All landscaped areas are maintained to their originally constructed condition. Landscaped areas are as designated in the plans. ii) Mowing, litter pickup, irrigation system maintenance and operation, plant maintenance, pruning, insect, disease and pest control, fertilization, mulching, bed maintenance, watering is undertaken as per MMP. iii) The height of grass and weeds is kept between 2" and 8". Mowing begins before vegetation reaches 8 in.	24 hrs	7 days	28 days	Visual inspection	Inspection records showing compliance with requirements for landscaping.	100%
10.3	Fire Hazards	Fire hazards are controlled	24 hrs	7 days	28 days	Visual inspection	Number of instances of dry brush or vegetation forming fire hazard	Nil
10.4	Trees, brush and ornamentals	i) Trees, brush and ornamentals on the right of way, except in established no mow areas, are trimmed in accordance with TxDOT standards. ii) Trees, brush and ornamentals are trimmed to insure they do not interfere with vehicles or sight distance, or inhibit the visibility of signs.	24 hrs	7 days	28 days	Visual inspection	Inspection records showing compliance with requirements for trees, brush and ornamentals	100%

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10.4 Cont.		iii) Dead trees, brush, ornamentals and branches are removed. Potentially dangerous trees or limbs are removed. iv) All undesirable trees and vegetation are removed. Diseased trees or limbs are treated or removed by licensed contractors.						
10.5	Wetlands	Wetlands are managed in accordance with the permit requirements.	24 hrs	7 days	28 days	Visual inspection, assessment of permit issuers	Number of instances of permit requirements not met	Nil
<b>11) REST AREAS AND PICNIC AREAS (Not Used)</b>								
<b>12) EARTHWORKS, EMBANKMENTS AND CUTTINGS</b>								
12.1	Slope Failure	All structural or natural failures of the embankment and cut slopes of the Project are repaired	24 hrs	28 days	6 months	Visual inspection by geotechnical specialist and further tests as recommended by the specialist	Number of recorded instances of slope failure	Nil
12.2	Slopes - General	Slopes are maintained in general conformance to the original graded cross-sections, the replacement of landscaping materials, reseeding and re-vegetation for erosion control purposes and removal and disposal of all eroded materials from the roadway and shoulders	24 hrs	28 days	6 months	Visual inspection by geotechnical specialist and further tests as recommended by the specialist	Inspection records showing compliance with requirements for slopes	100%
<b>13) ITS EQUIPMENT</b>								
13.1	ITS Equipment - Maintenance	All ITS equipment is fully functional and housing is functioning and free of defects. i) All equipment and cabinet identification numbers are visible, sites are well drained and access is clear. ii) Steps, handrails and accesses are kept in a good condition. iii) Access to all communication hubs, ground boxes, cabinets and sites is clear.	24 hrs	14 days	1 month	Visual Inspection	Inspection records showing compliance with requirements for maintenance of ITS equipment	100%

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13.1 Cont.		iv) All drainage is operational and all external fixtures and fittings are in a satisfactory condition. v) All communications cable markers, cable joint markers and duct markers are visible and missing markers are replaced. vi) Backup power supply system is available at all times						
13.2	Dynamic Message Sign Equipment	Dynamic Message Signs are free from faults such as:  i) Any signal displaying a message which is deemed to be a safety hazard. ii) Failure of system to clear sign settings when appropriate. iii) 2 or more contiguous sign failures that prevent control office setting strategic diversions. iv) Signs displaying an incorrect message.	2 hrs	24 hrs	14 days	Defect measurement dependent on equipment	Inspection records showing compliance with requirements for Dynamic Message Signs	100%
13.3	CCTV Equipment	CCTV Systems are free from serious faults that significantly limit the availability of the operators to monitor the area network, such as: i) Failure of CCTV Systems to provide control offices with access and control of CCTV images. ii) Failure of a CCTV camera or its video transmission system. iii) Failure of a Pan / Tilt unit or its control system. iv) Moisture ingress onto CCTV camera lens. v) Faults that result in significant degradation of CCTV images.	2 hrs	24 hrs	14 days	Defect measurement dependent on equipment	Inspection records showing compliance with requirements for CCTV equipment	100%

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13.4	Vehicle Detection Equipment	All equipment free of defects and operational problems such as:  i) Inoperable loops. ii) Malfunctioning camera controllers.	2 hrs	24 hrs	1 month	Defect measurement dependent on equipment  Traffic Detector Loops:  Loop circuit's inductance to be > 50 and < 1,000 micro henries. Insulation resistance to be > 50 meg ohms.	Inspection records showing compliance with requirements for vehicle detection equipment	100%
<b>14) TOLLING Facilities and Buildings (Not Used)</b>								
<b>15) AMENITY</b>								
<b>16) SNOW AND ICE CONTROL</b>								
16.1	Travel lanes	Maintain travel way free from snow and ice	2 hrs	N/A	N/A	Maximum 1hr response time to complete manning and loading of spreading vehicles. Maximum 2hrs from departure from loading point to complete treatment and return to loading point. Maximum 1hr response time for snow and ice clearance vehicles to depart from base.	Inspection records showing compliance with requirements for snow and ice control in each auditable section	100%
16.2	Weather Forecasting	Weather forecast information is obtained and assessed and appropriate precautionary treatment is carried out to prevent ice forming on the travel way.	2 hrs	N/A	N/A	Operations plan details the process and procedures in place and followed.	Inspection records showing compliance with requirements for weather forecasting in each auditable section	100%
16.3	Operational Plans	Operate snow and ice clearance plans to maintain traffic flows during and after snowfall and restore the travel way to a clear condition as soon as possible.	2 hrs	N/A	N/A	Operations plan details the process and procedures in place and followed.	Inspection records showing compliance with snow and ice clearance plans in each auditable section	100%
<b>17) INCIDENT RESPONSE</b>								
17.1	General	Monitor the Project and respond to Incidents in accordance with the Maintenance Management Plan (MMP).	1 hr	N/A	N/A	Maintenance Specifications are met for 98% of incidents measured on a 1 year rolling basis. No complaints from Emergency Services.	Inspection records showing compliance with the MMP and requirements regarding incident response times in each auditable section	100%

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17.2	Hazardous Materials	Monitor the Project and respond to Incidents involving Hazardous Materials in accordance with the Maintenance Management Plan (MMP).	1 hr	N/A	N/A	MMP details the process and procedures in place and followed.	Inspection records showing compliance with the MMP details regarding hazardous materials in each auditable section	100%
17.3	Structural assessment	Evaluate structural damage to structures and liaise with emergency services to ensure safe working environment while clearing the incident	1 hr	N/A	N/A	Inspections and surveys as required by incident	Inspection records showing compliance with the MMP and requirements for incidents in each auditable section	100%
17.4	Temporary and permanent remedy	Propose and implement temporary measures or permanent repairs to Defects arising from the incident. Ensure the structural safety of any structures affected by the Incident.	24 hrs	28 days	N/A	Review and inspection of the incident site	Auditable inspection records showing compliance with requirements for temporary and permanent remedy for incidents in each auditable section	100%
<b>18) CUSTOMER RESPONSE</b>								
	Response to inquiries	Timely and effective response to customer inquiries and complaints.	48 hrs	28 days	N/A	Contact the customer within 48 hours following initial customer inquiry. All work resulting from customer requests is scheduled within 48 hours of customer contact. Follow-up contact with the customer within 72 hours of initial inquiry. All customer concerns/requests are resolved to TxDOT's satisfaction within 2 weeks of the initial inquiry.	Percentage of responses within specified times in each auditable section.	
18.2	Customer contact line	Telephone line manned during business hours and 24 hour availability of messaging system. Faults to telephone line or message system rectified.	24 hrs	28 days	N/A	Instances of line out of action or unmanned	Number of operations records showing non availability of the customer contact line in each auditable section including complaints from public.	
<b>19) SWEEPING AND CLEANING</b>								
19.1	Sweeping	i) Keep all channels, hard shoulders, gore areas, ramps, intersections, islands and frontage roads swept clean,	24 hrs	28 days	6 months	Buildup of dirt, ice, rock, debris, etc. on roadways and bridges not to accumulate greater than 24" wide or 1/2" deep	Inspection records showing compliance with requirements for sweeping	100%



ELEMENT CATEGORY		PERFORMANCE REQUIREMENT	RESPONSE TO DEFECTS			INSPECTION AND MEASUREMENT METHOD*	MEASUREMENT RECORD*	TARGET
			Hazard Mitigation	Cat 1 Permanent Remedy	Cat 2 Permanent Repair			
19.1 Cont.		ii) Clear and remove debris from traffic lanes, hard shoulders, verges and central reservations, footways and cycle ways iii) Remove all sweepings without stockpiling in the right of way and dispose of at approved tip.						
19.2	Litter	i) Keep the right of way in a neat condition, remove litter regularly. ii) Pick up large litter items before mowing operations. Dispose of all litter and debris collected at an approved solid waste site.	24 hrs	28 days	6 months	No more than 20 pieces of litter per roadside mile shall be visible when traveling at highway speed.	Inspection records showing compliance with requirements regarding litter pick-up	100%