

EXHIBIT 2

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Attachments:

- Attachment 1 Performance and Measurement Table
- Attachment 2 Maintained Elements and Scope of Maintenance Services
- Attachment 3 Maintenance Limits
- Attachment 4 Maintenance Management Plan Contents
- Attachment 5 Not Used
- Attachment 6 Lane Closure Requirements
- Attachment 7 Function Codes, Descriptions, and Allocation of Responsibility

# 1 GENERAL

## 1.1 Maintenance Obligations

### 1.1.1 General Requirements

Throughout the Maintenance Period, DB Contractor shall be responsible for and shall carry out Maintenance Services for the Maintained Elements within the Maintenance Limits. DB Contractor shall establish and maintain an organization that effectively manages all Maintenance Services in a manner set forth in the approved Maintenance Management Plan (MMP) and the requirements of the CMA Documents. DB Contractor shall:

- (a) conduct inspections at the specified frequency within the Maintenance Limits, providing TxDOT the opportunity to attend;
- (b) identify and record from inspections and all other available sources, conditions that are unsafe or have the potential to become unsafe or conditions that could adversely affect the Maintained Elements;
- (c) develop, maintain and implement a maintenance management system to record the category, status, intended action and remedy for all Defects in Maintained Elements;
- (d) facilitate access to such system by TxDOT to allow the notification and categorization by TxDOT of Defects that TxDOT identifies in the course of its maintenance inspections;
- (e) mitigate hazards and permanently remedy or permanently repair all Defects, including those identified by TxDOT, the DB Contractor and third parties within the specified remedy periods;
- (f) minimize delay and inconvenience to Users when performing the Maintenance Services; and
- (g) minimize the risk of damage, disturbance, or destruction of third-party property during the performance of Maintenance Services.

### 1.1.2 Scope of Maintenance Services and Interfaces with TxDOT and Third Parties

The Maintenance Services shall apply to the Maintained Elements as identified in Attachment 2 to this Exhibit 2. TxDOT or applicable Governmental Entity retains maintenance responsibilities for Non-Maintained Elements and TxDOT will perform TxDOT-Retained Maintenance Activities within the Maintenance Limits.

Where TxDOT, other Governmental Entities, Utilities or the Systems Integrator have maintenance jurisdiction within the Maintenance Limits or on adjacent facilities, DB Contractor shall coordinate directly with such entities its Traffic Management Plan with the traffic management to be performed by all such entities to minimize disruption to Users.

DB Contractor shall perform all necessary Maintenance Services to keep the Maintained Elements in compliance with the Performance Requirements.

Whenever an activity by DB Contractor disturbs, alters, removes or changes any Non-Maintained Element, DB Contractor shall restore the affected Non-Maintained Element to a condition no less favorable than its original condition before it was disturbed, altered, removed or changed. If the Maintenance Services associated with pavement repair requires removal of or causes damage to adjacent Non-Maintained Elements such as pavement markings, guardrail or signs, DB Contractor shall reinstate such Non-Maintained Elements to as-new condition.

No later than 24 hours after DB Contractor becomes aware of any of the following circumstances, DB Contractor shall notify TxDOT and provide information that will facilitate repair or other action by TxDOT:

- (a) a Defect in a Maintained Element that DB Contractor considers it is not required to repair, with an explanation why DB Contractor considers such repair to be the responsibility of another party;
- (b) any TxDOT-Retained Maintenance Activity or activity by a third party that DB Contractor considers may have adversely affected or has the potential to adversely affect a Maintained Element;
- (c) any TxDOT-Retained Maintenance Activity that DB Contractor considers should be performed by TxDOT, with an explanation of any adverse effect on a Maintained Element that may be avoided or mitigated by the maintenance activity; or
- (d) any defect in a Non-Maintained Element that, in the opinion of DB Contractor, represents an immediate or imminent health or safety hazard to Users or road workers.

### **1.1.3 Maintenance Limits**

The initial Maintenance Limits are provided in Attachment 3 to this Exhibit 2. DB Contractor shall prepare and submit updated Maintenance Limits drawings consistent with the DB Contractor's Final Design as part of the MMP. The Maintenance Limits drawings shall be consistent with the principles and extents shown in Attachment 3 to this Exhibit 2. DB Contractor shall periodically validate that the Maintenance Limits are correctly and clearly identified by physical delineation and shall liaise with TxDOT and Governmental Entities at least annually to review the Maintenance Limits, identify any jurisdictional gaps or inefficiencies and recommend solutions.

## **1.2 Maintenance Management**

### **1.2.1 Maintenance Management Plan**

The MMP is an umbrella document that describes DB Contractor's managerial approach, strategy, and quality procedures for the Maintenance Services to achieve all requirements of the CMA Documents. The MMP shall be consistent with the general maintenance obligations described in Section 1.1 of this Exhibit 2. The requirements and contents for the MMP are set forth in Section 4 of this Exhibit 2 and in Attachment 4 to this Exhibit 2.

In accordance with Section 5.5 of the CMA (Maintenance Management Plan), within 60 days after issuance of Maintenance NTP1, DB Contractor shall submit the MMP to TxDOT. DB Contractor shall update the MMP as required, or at least annually and shall submit to TxDOT's no later than 30 days prior to each anniversary of the Initial Maintenance Term Commencement Date.

### **1.2.2 Maintenance Services Quality Management Plan**

As part of the MMP, DB Contractor shall develop, implement and maintain a Quality Management System (QMS) that fulfills all requirements for Maintenance Services. The QMS shall be described in a Maintenance Services Quality Management Plan (MSQMP), which shall be in effect until conclusion of the Warranty Period.

The MSQMP shall comply with the requirements for the QMP set forth in Section 2.2 of the Technical Provisions. The MSQMP shall also include the procedures and responsibilities for:

- a) how DB Contractor will meet the Performance Requirements, including the necessary inspection procedures and frequencies to ensure compliance with Targets and the achievement of Defect Remedy Period to mitigate hazards, permanently remedy, and permanently repair Defects.
- b) inspection and test plans, including the timing and frequency of testing
- c) control of quality records
- d) validation of the accuracy of Maintenance Records
- e) management reviews
- f) measurement of customer satisfaction
- g) control of nonconforming products and services
- h) validation of the data, times, dates and other information entered into the Maintenance Management System (MMS) for Noncompliance Events
- i) verification of DB Contractor's compliance with the Performance Requirements including frequency of checks / audits
- j) accuracy of all Maintenance Records including frequency of checks / audits
- k) making all quality records immediately available to TxDOT for review

DB Contractor shall update the MSQMP as needed to ensure current versions of the following information are contained in said plan:

- a) the organizational chart that identifies all quality management personnel, their roles, authorities and line reporting relationships;
- b) descriptions of the roles and responsibilities of all quality management personnel and those who have the authority to stop activities;
- c) identification of testing agencies, including information on each agency's capability to provide the specific services required for the activities, certifications held, equipment, and location of laboratories; and resumes for all quality management personnel.

### **1.2.3 Maintenance Safety Plan**

As part of the MMP, DB Contractor shall prepare and submit a comprehensive safety plan ("Maintenance Safety Plan"). The Maintenance Safety Plan shall describe the DB Contractor's policies, plans, training programs, and work site controls to ensure the health and safety of personnel involved in the Project and the general public affected by the Project during the Maintenance Period. The Maintenance Safety Plan shall define when the Maintenance Safety Manager is required to be at the work site or within the Maintenance Limits. The Maintenance Safety Plan is designed to preserve the safety of Users, adjacent communities, transportation workers and Emergency Services.

### **1.2.4 Maintenance Manager**

DB Contractor shall assign a Maintenance Manager as the sole point of contact with TxDOT throughout the Maintenance Period who shall be responsible for:

- (a) implementing the maintenance obligations in this Exhibit 2 and the MMP;
- (b) causing the Maintenance Services to be performed in accordance with the CMA Documents;

- (c) causing all maintenance personnel and resources performing Maintenance Services to be available and properly trained; and
- (d) the health and safety of personnel delivering the Maintenance Services and the general public affected by the Project.

The Maintenance Manager must have a minimum of five years of experience managing maintenance activities on projects of similar scope and complexity and as established in the Proposal Commitments (Exhibit 3 to the CMA).

The Maintenance Manager shall attend all General Inspections, monthly meetings and Audit Inspections and shall be available on site whenever any Renewal Work is undertaken.

### **1.2.5 Maintenance Services Quality Manager**

DB Contractor shall employ a Maintenance Services Quality Manager (MSQM) throughout the Maintenance Period, who shall be responsible for:

- (a) independently overseeing and performing all quality responsibilities for the Maintenance Services in accordance with the MSQMP;
- (b) ensuring that the methods and procedures contained in approved MSQMP are implemented and followed by DB Contractor and Subcontractors in the performance of the Maintenance Services; and
- (c) the quality and accuracy of all Maintenance Records and Submittals including the inspections (Section 1.4 of this Exhibit 2), the contents of the MMS, the Renewal Work Submittal (Section 2.5 of this Exhibit 2) and the DB Contractor's reports (Section 6 of this Exhibit 2).

The MSQM shall be functionally independent from DB Contractor's staff responsible for implementation of the Maintenance Services, and shall report directly to DB Contractor's principals, rather than to the Maintenance Manager.

In addition to the MSQM, TxDOT may require the employment by the DB Contractor of quality management personnel in connection with Renewal Work in accordance with Section 2.2 of the Technical Provisions to be responsible for design, construction and materials quality.

### **1.2.6 Maintenance Safety Manager**

DB Contractor shall employ a Maintenance Safety Manager who shall be responsible for carrying out the Maintenance Safety Plan and all safety-related activities, including training and enforcement of safety operations.

The Maintenance Safety Manager shall be in attendance at the work site or located within the Maintenance Limits whenever required by the Maintenance Safety Plan and as needed to ensure the safety of the public, and personnel employed by the DB Contractor or TxDOT. The position may be fulfilled by another employee of the DB Contractor upon TxDOT's approval, provided the employee meets all qualification requirements. The Maintenance Safety Manager shall have the authority to stop the Maintenance Services. The minimum required qualifications and experience for the Maintenance Safety Manager are:

- (a) roadway construction and safety enforcement experience;
- (b) ten (10) years of progressive construction or operations and maintenance safety management experience;
- (c) designation, at or before the Effective Date, as a Construction Health and Safety Technician® (CHST) by the Board of Certified Safety Professionals (BCSP), or

designation as a Certified Safety & Health Official (CSHO), either of which may be substituted for two years of safety management experience;

- (d) completion of the OSHA #500 course – Trainer Course in OSHA Standards for Construction;
- (e) completion of training and current certification for CPR and first aid; and
- (f) completion of the following training sponsored by an accredited agency:
  - work zone traffic control; and
  - flaggers in work zones.

### **1.3 Performance Requirements**

#### **1.3.1 Performance and Measurement Table**

DB Contractor's performance of the Maintenance Services shall be governed by the Performance and Measurement Table as may be updated in accordance with Section 1.3.4. The Performance and Measurement Table shows for each Maintained Element:

- (a) a performance objective;
- (b) the Defect Remedy Periods for each category of Defect;
- (c) inspection and measurement methods;
- (d) measurement records; and
- (e) Targets.

For each measurement record DB Contractor is required to achieve the stated Target, otherwise a Defect exists that shall be remedied or repaired as further described in this Exhibit 2.

The Defect Remedy Period set forth in the Performance and Measurement Table shall commence upon the earlier of: (i) the date and time DB Contractor became aware of the Defect; or (ii) the date and time DB Contractor should have known of the Defect.

#### **1.3.2 Defect Identification, Recording and Categorization**

##### **1.3.2.1 Definitions**

In this Exhibit 2 and as shown on the Performance and Measurement Table:

- (a) hazard mitigation is an action taken by DB Contractor to mitigate a hazard to Users or imminent risk of damage or deterioration to property or the environment such that the Category 1 Defect no longer exists;
- (b) permanent remedy is an action taken by DB Contractor to restore the condition of a Maintained Element following hazard mitigation of a Category 1 Defect;
- (c) permanent repair is an action taken by DB Contractor to restore the condition of a Maintained Element for which a Category 2 Defect has been recorded.

##### **1.3.2.2 Sources of Defects and Status**

DB Contractor shall identify and record Defects through inspections described in Section 1.4, notifications by TxDOT and reports or complaints by third parties. DB Contractor shall accurately record the status and categorization of Defects from all sources in the MMS. Where

multiple instances of Defects arise from the failure to achieve a given Target (for example simultaneous failure to achieve a ride quality Target in multiple locations), a separate Defect shall be recorded for each Performance Section within which the Target is not achieved.

### **1.3.2.3 Defects Identified by DB Contractor, TxDOT or Third Party**

Whenever DB Contractor identifies, becomes aware of or is notified by TxDOT or a third party of a Defect, DB Contractor shall create within the MMS a Maintenance Record containing details of the associated Maintained Element, the nature and categorization of the Defect and the proposed timing and details of hazard mitigation, permanent remedy and permanent repair of the Defect. TxDOT may provide notification of a Defect verbally, in writing or during the course of a joint inspection.

DB Contractor shall categorize each Defect, based upon its determination as to whether:

- (a) it represents an immediate or imminent health or safety hazard to Users or road workers;
- (b) there is a risk of immediate or imminent structural failure or deterioration;
- (c) there is an immediate or imminent risk of damage to a third party's property; or
- (d) there is an immediate or imminent risk of damage to the environment.

Should a Defect meet any of the above criteria, DB Contractor shall record it as a Category 1 Defect. Any other Defect not meeting the foregoing criteria shall be assigned as a Category 2 Defect. DB Contractor shall provide training to all relevant personnel on the categorization of Defects. DB Contractor shall maintain a record of the circumstances of the Defect and how it was categorized. DB Contractor shall facilitate the review by TxDOT of Maintenance Records in the MMS associated with DB Contractor-categorized Defects and shall enable TxDOT to flag any Defect where TxDOT disagrees with any attribute or categorization assigned by the DB Contractor.

### **1.3.3 Permanent Remedy and Permanent Repair of Defects**

Permanent remedy and permanent repair of Defects shall comply with the applicable requirements for Renewal Work as set forth in Section 2 (Renewal Work Requirements).

Where action is proposed to remedy or repair any Defect, DB Contractor shall promptly create a Maintenance Record that identifies the nature of the proposed remedy or repair and shall update the Maintenance Record with as-built details of the actual remedy or repair no later than 7 days after completion. DB Contractor shall include with the updated Maintenance Record verification that the remedy or repair meets the Performance Requirements.

DB Contractor shall take necessary action to avoid any Category 2 Defect from becoming a Category 1 Defect. DB Contractor shall monitor Category 2 Defects to verify the condition of the affected Maintained Element prior to permanent repair and shall inform TxDOT immediately should any such Defect deteriorate to a Category 1 Defect.

For Category 2 Defects, DB Contractor shall undertake the permanent repair within the period specified in the column with the heading "Category 2 Permanent Repair" in the Performance and Measurement Table unless an earlier permanent repair is required to prevent deterioration to a Category 1 Defect. Immediately upon completion of the permanent repair, DB Contractor shall perform necessary tests and inspections to verify that each Defect has been satisfactorily repaired and that each applicable Target is achieved throughout each Auditable Section within which a Defect was recorded. DB Contractor shall submit evidence to TxDOT to verify that the permanent repair of each Defect meets the above requirements. Such evidence shall include,



where applicable, Specialist Inspections performed in accordance with Section 1.4.4. If DB Contractor proposes a permanent repair that includes diamond grinding of the pavement surface, DB Contractor shall submit a work plan with the Renewal Work Submittal that provides information regarding equipment and work methods equivalent in detail to that provided in TxDOT Specification Item 585 (Ride Quality for Pavement Surfaces). The maximum cumulative depth of grinding of any pavement surface shall be  $\frac{3}{4}$ " and DB Contractor shall, at TxDOT's sole discretion, provide evidence that this requirement has been achieved by coring of the pavement.

The existence of a Defect Remedy Period for Category 2 Defects is the maximum period permitted for repair and shall not excuse DB Contractor from completing the repair of all Defects within the Maintenance Period. DB Contractor shall perform the Maintenance Services so that every Defect, including any Defect first identified within the final 6 months of the Maintenance Period, has been permanently repaired before the end of the Maintenance Period.

### **1.3.4 Hazard Mitigation of Category 1 Defects**

DB Contractor shall immediately implement hazard mitigation of any Category 1 Defect in a Maintained Element of which it is aware through its own inspections, from a third party or through notification by TxDOT to DB Contractor that TxDOT requires the DB Contractor to perform hazard mitigation for a Category 1 Defect.

For Category 1 Defects, DB Contractor shall take necessary action such that any hazard to Users is mitigated within the Defect Remedy Period specified in the column with the heading "Category 1 Hazard Mitigation" in the Performance and Measurement Table and shall permanently remedy the Defect within the period identified in the column with the heading "Category 1 Permanent Remedy" in the Performance and Measurement Table. DB Contractor shall continue hazard mitigation until a permanent remedy has been completed.

### **1.3.5 Performance and Measurement Table Update**

DB Contractor shall propose changes to the Performance and Measurement Table for TxDOT approval. In its annual update of the MMP, DB Contractor shall propose for TxDOT's approval such amendments to the "Inspection and Measurement Method" and "Measurement Record" as are necessary to cause these to comply with Good Industry Practice and this Exhibit 2. TxDOT may, at any time, require DB Contractor to adopt amendments to the columns with the headings "Measurement Record" and "Inspection and Measurement Method" in the Performance and Measurement Table where such updates are required to comply with then current Good Industry Practice.

TxDOT shall require the adoption of a new "Inspection and Measurement Method" or "Measurement Record" only when required because the current "Inspection and Measurement Method" or "Measurement Record" no longer complies with Good Industry Practice. In this case, the new "Inspection and Measurement Method" or "Measurement Record" shall be determined using the principle that it shall achieve no less than the standard of Maintenance Services that would have been achieved through DB Contractor's compliance with the original "Inspection and Measurement Method", "Measurement Record", and Target.

DB Contractor shall provide updates to the Performance and Measurement Table to take into consideration specific attributes of the Final Design (for example, where the Final Design incorporates a feature that is not included as a Maintained Element in the Performance and Measurement Table). Within this Exhibit 2, reference to the Performance and Measurement Table means the latest approved version of the Performance and Measurement Table as included within DB Contractor's MMP.

## 1.4 Inspections

### 1.4.1 General Inspections by DB Contractor

DB Contractor shall cause General Inspections of the Maintained Elements to be conducted by trained staff. The results of these inspections shall be used to:

- (a) identify and categorize newly identified Defects;
- (b) plan permanent remedy and permanent repair of Defects;
- (c) develop programs of Renewal Work;
- (d) update Maintenance Records to show condition and status of Maintained Elements;
- (e) develop and update the Renewal Work Submittal; and
- (f) confirm the adequacy of permanent remedy and permanent repair of previously identified Defects.

DB Contractor shall invite TxDOT to participate in all such inspections with a minimum of 7 days' notice and shall provide transportation and safety equipment for up to two TxDOT personnel.

DB Contractor shall conduct General Inspections at least monthly. The type, frequency and level of detail of General Inspections shall be contained in an inspection plan which shall be submitted to TxDOT no later than 7 days before the inspection date. The inspection plan may be submitted as part of the monthly report if it meets this deadline. At a minimum, DB Contractor shall conduct road speed inspection of all Maintained Elements. DB Contractor shall include more detailed visual or hands-on inspection of selected Maintained Elements when any of the following occur:

- (i) deterioration trends such as an increase in pattern and frequency of previously identified Defects has been identified by either party;
- (ii) Defects had been identified in a previous General Inspection or Audit Inspection that need to be monitored because there is a risk of their deterioration;
- (iii) extreme weather events or Incidents have occurred and TxDOT has notified the DB Contractor that these may have affected Maintained Elements; or
- (iv) reports or complaints have been received from a third party.

Where a more detailed visual or hands-on inspection is required as a result of items (i)-(iii) above, DB Contractor shall cause personnel performing or attending inspections of road pavements and structures to be certified as inspectors and/or raters in accordance with TxDOT's PMIS program or applicable certifying agency for the type of inspection being performed, capable of accurately identifying, categorizing and recording Defects in accordance with the requirements of Section 1.3.

The type, frequency and level of detail of General Inspections shall be adjusted as necessary to take into consideration asset condition information from all sources. DB Contractor shall record details of the manner of inspection (e.g., center Lane Closure or shoulder), the weather conditions and any other unusual features of the inspection in Maintenance Records.

### 1.4.2 Audit Inspections

DB Contractor shall undertake Audit Inspections every 6 months on Performance Sections randomly selected by TxDOT. DB Contractor shall invite TxDOT to participate in all such

inspections with a minimum of 7 days' notice and shall provide transportation and safety equipment for up to two TxDOT personnel.

Audit Inspections shall be conducted on a minimum of 10% of the available Performance Sections such that over a period of no more than 60 months the Audit Inspections provide coverage of 100% of the Project. DB Contractor shall assess the condition of each Maintained Element using the inspection and measurement methods set forth in the column entitled "Inspection and Measurement Method" in the Performance and Measurement Table.

DB Contractor shall conform at a minimum to the inspection standards set forth for the Maintained Element in the column entitled "Inspection and Measurement Method" in the Performance and Measurement Table.

DB Contractor shall cause personnel performing Audit Inspections of road pavements and structures to be certified as inspectors and/or raters in accordance with TxDOT's PMIS program or applicable certifying agency for the type of inspection being performed. Inspections, reviews, and testing conducted as part of Maintenance Services shall be performed only by personnel with appropriate training and qualifications, using appropriate equipment that is accurately calibrated and maintained in good operating condition at an AMRL (AASHTO R18, "Establishing and Implementing a Quality System for Construction Materials Testing Laboratories") accredited facility, or at a facility with comparable certification (e.g., ISO 17025, "General requirements for the competence of testing and Calibration laboratories").

DB Contractor shall record in the Audit Inspection all Defects identified during General Inspections undertaken over the 6 month period prior to the Audit Inspection, unless such Defects have been repaired. DB Contractor shall create a new Maintenance Record for each Maintained Element physically inspected during each Audit Inspection in accordance with the column entitled "Measurement Record" on the Performance and Measurement Table.

### 1.4.3 Construction Inspections by DB Contractor

DB Contractor shall cause all construction work and materials in connection with Renewal Work to be inspected at the frequencies required in compliance with Section 2.2 of the Technical Provisions.

### 1.4.4 Specialist Inspections

#### 1.4.4.1 Types and Responsibility

The responsibility for performing Specialist Inspections for specified Maintained Elements is defined in Table 1.

**Table 1 – Specialist Inspections**

Maintained Element	Specialist Inspection	Responsibility
Maintained Elements Ref. 1.1, and 1.2 in the Maintained Element Category 'Pavement' in the Performance and Measurement Table	Annual survey of pavement condition for the entire Project, including main lanes, ramps, cross streets and frontage roads, undertaken using automated condition survey equipment to measure ruts, and ride quality according to the "Inspection and Measurement Method" set forth in the Performance and Measurement Table. Surveys shall also be undertaken immediately upon the completion of permanent repairs to verify that permanent repairs of Defects meet	DB Contractor

	specified ride quality requirements.	
Maintained Elements Ref. 3.1 and 3.2 in the Maintained Element Category 'Structures' in the Performance and Measurement Table	Routine biennial inspections, to the extent required, for all structures within the Maintenance Limits in compliance with the latest FHWA / NBIS and TxDOT requirements.	TxDOT

#### 1.4.4.2 Requirements for DB Contractor-Performed Specialist Inspections

DB Contractor shall ensure that personnel performing inspections of road pavements and structures are certified as inspectors and/or raters in accordance with TxDOT's PMIS program or applicable certifying agency for the type of inspection being performed. Inspections, reviews, and testing shall only be performed by personnel with appropriate training and qualifications, using appropriate equipment that is accurately calibrated and maintained in good operating condition at an AMRL (AASHTO R18, "Establishing and Implementing a Quality System for Construction Materials Testing Laboratories") accredited facility, or at a facility with comparable certification (e.g., ISO 17025, "General requirements for the competence of testing and Calibration laboratories".)

Pavement automated condition surveys shall be subject to quality assurance by DB Contractor to verify the validity of all test data, either by causing the performance of independent testing on no less than 10% of the Performance Sections inspected or by validation against the results of the most recent annual automated condition inspections of the same type undertaken by TxDOT. TxDOT's annual automated condition survey results will be made available upon request by DB Contractor. DB Contractor shall submit all automated condition survey measurements and quality assurance results to TxDOT in electronic data files. Ride quality data shall use the format specified in TxDOT's Test Procedure for Operating Inertial Profilers and Evaluation Pavement Profiles (Tex-1001-S). DB Contractor's ride quality results will be acceptable provided that the IRI difference between DB Contractor's inertial profiler measurements (average IRI measured within each Performance Section) as compared to the quality assurance measurements or TxDOT-provided measurements is 6.0 in/mile or less.

#### 1.4.4.3 Use of Specialist Inspection Results

Upon receipt of Specialist Inspection results, DB Contractor shall:

- (a) immediately identify all Defects within each Performance Section established by the inspections and enter these Defects in the MMS with the appropriate Defect Remedy Period;
- (b) use the results of Specialist Inspections to prioritize Maintenance Services and update the Renewal Work Submittal;
- (c) identify any results of the Specialist Inspections that require further investigation and flag these for review within the next inspection plan;
- (d) as part of the General Inspections, conduct a detailed visual or hands on inspection with TxDOT at the earliest opportunity to resolve any differences in interpretation of the Specialist Inspection results;
- (e) use the routine biennial inspections and other available sources to determine the condition of all Maintained Elements of the Structures within the Maintenance Limits and identify structural and non-structural deficiencies that require repair; and

- (f) use the most recent Audit Inspections, supplemented by the Specialist Inspections, as a basis for the calculation of the Asset Condition Score.

## 1.5 Asset Condition Score

### 1.5.1 Performance Sections

As part of the MMP, DB Contractor shall prepare drawings identifying the Performance Sections and shall submit and update these plans with the applicable part of the MMP. The drawings shall identify the boundaries of each Performance Section and shall cross reference to an inventory describing each Maintained Element of the Project contained within each Performance Section.

DB Contractor shall implement the Texas Reference Marker (TRM) System used by TxDOT to establish Performance Sections. DB Contractor shall use the existing TRM System established on existing sections of the Project. DB Contractor shall coordinate with TxDOT prior to submittal of the MMP to establish the TRM System on newly constructed sections of roadway.

### 1.5.2 Asset Condition Score

Within ten days following each Audit Inspection, DB Contractor shall report to TxDOT in the Maintenance Services Report a Maintained Element Asset Condition Score for each Maintained Element and a Mean Asset Condition Score for each Maintained Element Category, to include all of the Performance Sections inspected in the most recent Audit Inspection. DB Contractor shall calculate the Maintained Element Asset Condition Scores according to the measurement criteria set forth in Table 2.

**Table 2 – Maintained Element Asset Condition Score Criteria**

Score	Criteria
5	<ul style="list-style-type: none"> <li>Targets for individual Maintained Elements are almost entirely met (90% to 100% compliance with the relevant Targets for each Maintained Element within each Performance Section), and</li> <li>Is fully functional and in nearly new condition, meeting or exceeding Performance Requirement.</li> </ul>
4	<ul style="list-style-type: none"> <li>Targets for individual Maintained Elements are substantially met (less than 90% compliance and 80% or greater compliance with the relevant Targets for each Maintained Element within each Performance Section), and</li> <li>Is functional and in good condition, meeting Performance Requirement.</li> </ul>
3	<ul style="list-style-type: none"> <li>Targets for individual Maintained Elements are mostly met (less than 80% compliance and 70% or greater compliance with the relevant Targets for each Maintained Element within each Performance Section), and</li> <li>Is in fair condition, but suggesting need for early replacement, renewal or repair of individual Maintained Element and/or maintenance or operation improvement action to meet Performance Requirement.</li> </ul>
2	<ul style="list-style-type: none"> <li>Targets for individual Maintained Elements are barely met (less than 70% compliance and 60% or greater compliance with the relevant Targets for each Maintained Element within each Performance Section), or</li> <li>In poor condition demonstrating need for immediate replacement, renewal or repair of individual Maintained Element and/or immediate change to MMP.</li> </ul>
1	<ul style="list-style-type: none"> <li>Targets for individual Maintained Elements are not met (less than 60% compliance with the relevant Targets for each Maintained Element within</li> </ul>

	<p>each Performance Section), or</p> <ul style="list-style-type: none"> <li>• In very poor condition demonstrating need for immediate replacement, renewal or repair of individual Maintained Element and/or immediate change to MMP.</li> </ul>
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Notes to Table 2:

1. The calculation of Maintained Element Asset Condition Score for a Maintained Element is demonstrated by the following example:

Assume there are 520 Performance Sections, of these 10%, or 52 are audited. There are four Targets to be assessed for Maintained Element “ride quality.” There are therefore,  $4 \times 52 = 208$  “Measurement Records” for ride quality. If 180 of these “Measurement Records” meet the Target, there would be 87% compliance and a Maintained Element Asset Condition Score of four assigned for that Maintained Element.

2. A Mean Asset Condition Score for each Maintained Element Category shall be calculated to 1 decimal point.
3. “Mean” in this context shall be the arithmetic mean of each of the Maintained Element Asset Conditions Scores within the Maintained Element Category.
4. Where a measurement record relates to a Maintained Element that is not represented in more than 25% of Performance Sections then the Maintained Element Asset Condition Score will be based on a measurement of overall Performance Sections and not a 10% random sample.
5. The Maintained Element Asset Condition Score is a mechanism to benchmark the performance of the Project against the performance of other similar facilities and TxDOT may, during the Maintenance Period, alter the Maintained Element Asset Condition Score criteria to reflect Good Industry Practice.

Where specific measurement criteria are not provided in the Performance and Measurement Table, DB Contractor shall use Good Industry Practice to assess the Maintained Element Asset Condition Score against the general criteria stated in Table 2.

## 1.6 Maintenance Management System (MMS)

### 1.6.1 MMS Attributes

DB Contractor shall implement a computer-based MMS to store all Maintenance Records and record the following attributes of the Maintained Elements:

- (a) asset inventory, description, location, condition, date of installation and repair history;
- (b) description, date-time of identification and categorization of Defects;
- (c) planned actions and date-time for the hazard mitigation and permanent remedy of Category 1 Defects;
- (d) planned actions and date-time for the permanent repair of Category 2 Defects;
- (e) details including date-time of actual repairs performed, reported by Function Code as shown in Attachment 7 to this Exhibit 2; and
- (f) date-time and types of inspections performed.

Horizontal and vertical locational accuracy of Maintenance Records shall meet or exceed Good Industry Practice. Maintenance Records shall be located using the posted TRM reference marker number, Geographic Information System (GIS) data and control number for bridge class structures.

#### **1.6.2 Noncompliance Reporting through MMS**

DB Contractor shall record within the MMS all required information in connection with Noncompliance Events in accordance with Section 19.2 of the CMA. Additionally DB Contractor shall include within the MMS a feature that automatically triggers a Noncompliance Event whenever an appropriate hazard mitigation, permanent remedy or permanent repair of a Defect has not been completed within the Defect Remedy Period.

#### **1.6.3 Recording of Complaints within MMS**

DB Contractor shall immediately refer to TxDOT all complaints and reports received by the DB Contractor from third parties and shall record within the MMS:

- (a) the date and time of the complaint;
- (b) the location and nature of the problem;
- (c) who made the complaint; and
- (d) date and action taken to address the complaint.

#### **1.6.4 Recording of Accidents and Incidents Related to Maintenance Services**

DB Contractor shall record within the MMS all accidents/Incidents involving Users, DB Contractor or Subcontractors that occurs in any of the following circumstances:

- (a) as a result of the performance of the Maintenance Services;
- (b) as a result of a Defect;
- (c) as a result of a Lane Closure implemented by the DB Contractor; or
- (d) within the work zone of a Traffic Control Plan implemented by the DB Contractor.

DB Contractor shall record the following:

- (i) date and time of the accident/Incident;
- (ii) location of the Incident;
- (iii) nature of the Incident;
- (iv) all parties involved in the Incident, including names, addresses, telephone numbers and their involvement (including witnesses);
- (v) responsible party and insurance information;
- (vi) action taken to address the Incident; and
- (vii) documentation of traffic control in place at location.

#### **1.6.5 MMS Functional and Timeliness Requirements**

The MMS shall facilitate the direct upload by DB Contractor personnel from handheld devices in the field of all applicable Defect information and attributes including description, date-time of identification and categorization. Any such upload of Defect information with Category 1 Defect

status shall trigger immediate automatic e-mail notification of TxDOT and the Maintenance Manager.

When a Maintained Element is constructed, installed, maintained, inspected, modified, replaced or removed, DB Contractor shall update the MMS no later than three days after completion of such work. Category 1 Defects shall be recorded in the MMS immediately upon the DB Contractor becoming aware of the Defect either by direct upload to the MMS by DB Contractor's inspection personnel in the field or by upload of the information to the MMS when Category 1 Defects are notified to DB Contractor by TxDOT or a third party. Category 2 Defects shall be recorded in the MMS no later than 3 days after coming to the attention of DB Contractor. All other recording requirements shall be recorded on the MMS within 15 days of completion or occurrence of the relevant activity.

#### **1.6.6 MMS Interfaces with TxDOT**

90 days prior to the Initial Maintenance Term Commencement Date, the MMS shall be fully populated and operational and DB Contractor shall demonstrate to TxDOT the functionality and use of the MMS and that it is fully compliant with the requirements of the CMA Documents. The MMS shall be kept updated and operational for the duration of the Maintenance Period.

From the date of the demonstration and throughout the Maintenance Period, DB Contractor shall provide equipment, facilities and training necessary to permit remote, real-time, dedicated high-speed access to the MMS, via one terminal each, for up to three TxDOT employees. DB Contractor shall repeat the training and demonstration annually and whenever system changes are implemented.

DB Contractor shall submit to TxDOT asset inventory, condition data, inspection history and repair history of the Maintained Elements (the "MMS transfer data") in a format compatible with the maintenance management system operated by TxDOT (the "TxDOT MMS"). Compatibility shall mean that TxDOT may from time to time issue to the DB Contractor the required data structure, file format, naming protocols and other database requirements for the MMS transfer data ("the TxDOT MMS data structure") and DB Contractor shall cause the next Submittal of the MMS transfer data to comply with the TxDOT MMS data structure. DB Contractor shall submit all available MMS transfer data to TxDOT when DB Contractor's MMS is fully operational before commencement of the Maintenance Services. DB Contractor shall submit the complete and updated MMS transfer data annually thereafter throughout the Maintenance Period.

DB Contractor shall handover the MMS and everything required for its operation to TxDOT, or other entity as directed by TxDOT, upon expiration of the Maintenance Period or earlier termination of the CMA.

## **2 RENEWAL WORK REQUIREMENTS**

### **2.1 Obligation to perform Renewal Work**

DB Contractor shall promptly perform Renewal Work to renew, repair, or replace any Maintained Element when any of the following conditions occur:

- (a) the Maintained Element is scheduled for replacement, rehabilitation or renewal in accordance with the Renewal Work Submittal;
- (b) the condition of any Maintained Element is such that early replacement, rehabilitation or renewal is needed to enable Targets for each measurement record to be reliably achieved; or



- (c) Defects have occurred or may be expected to occur on a frequent basis and there is a risk that DB Contractor will be unable to comply with its obligation to remedy and repair such Defects within the applicable Defect Remedy Period.

## **2.2 Technical Requirements for Renewal Work**

All Renewal Work shall follow the design and construction requirements within the Technical Provisions applicable to the original design, installation or construction unless superseded by an amendment to a Maintenance Standard. For any new pavement construction within the Maintenance Limits (including new pavement construction performed as a permanent repair of a Defect), Section 8.3.2 of the Technical Provisions (Smoothness Specification) shall apply and corrective action acceptable to TxDOT shall be performed, at DB Contractor's sole expense, for any 0.1-mile section that measures an average IRI in excess of 75 inches per mile for rigid pavements, in excess of 65 inches per mile for flexible pavements, or for correction of local roughness.

When a Maintained Element is renewed or replaced, and upon the first installation of the renewed or replaced Maintained Element into the Project, DB Contractor shall not have the benefit of any Defect Remedy Period and the Renewal Work shall not be considered complete until the Target for each affected Maintained Element is met or exceeded for each measurement record in the Performance and Measurement Table. Prior to the end of the Maintenance Period or earlier termination of the CMA, DB Contractor shall submit to TxDOT a complete set of Record Drawings and supporting calculations and details that accurately show all Renewal Work and any other changes to the Project during the performance of the Maintenance Services.

## **2.3 Quality Requirements for Renewal work**

Whenever Renewal Work is undertaken that requires design work or construction work, DB Contractor shall, unless otherwise approved by TxDOT, follow all the requirements of Section 2 of the Technical Provisions in connection with quality management. Depending upon the nature of the Renewal Work, TxDOT may waive any or all of the following requirements at its sole discretion:

- (a) submittal of design in stages of development (Section 2.2.7 of the Technical Provisions);
- (b) employment of one or more independent organization(s) complying with the requirements for the CQAF in accordance with Section 2.2 of the Technical Provisions;
- (c) employment of professional services personnel and staffing including the assignment of a Design Quality Manager and the Engineer of Record (Section 2.2.7.4 of the Technical Provisions); or
- (d) employment of construction services personnel and staffing including the assignment of a CQM and CQAM (Section 2.2.8 of the Technical Provisions).

## **2.4 Nonconforming Work**

DB Contractor shall submit to TxDOT non-conformance reports within seven Days of issuance and shall notify TxDOT of Nonconforming Work within two Days of discovering the Nonconforming Work. TxDOT will issue a non-conformance report if TxDOT discovers any Nonconforming Work. DB Contractor's responsibility to correct Nonconforming Work is set forth in Section 5.9 of the CMA.

## **2.5 Renewal Work Submittal**

Within 60 days after issuance of Maintenance NTP1, DB Contractor shall submit the Renewal Work Submittal for TxDOT review and approval. The Renewal Work Submittal shall include the timing, scope, and nature of Renewal Work that DB Contractor proposes for each year throughout the Maintenance Period with additional details of specific locations, maintenance types and scope of work provided for all planned Renewal Work in the five year period following the Submittal.

DB Contractor shall include in the Renewal Work Submittal, by Maintained Element:

- (a) the estimated Useful Life;
- (b) the description of the Renewal Work anticipated to be performed at the end of the Maintained Element's Useful Life;
- (c) a brief description of any Renewal Work anticipated to be performed before the end of the Maintained Element's Useful Life including reasons why this work should be performed at the proposed time; and
- (d) the Renewal Work Schedule.

Not later than 30 days before each anniversary of the Initial Maintenance Term Commencement Date, DB Contractor shall prepare and submit, for TxDOT's review and approval, either: (a) a revised Renewal Work Submittal or (b) the then-existing Renewal Work Submittal, accompanied by a written statement that DB Contractor intends to continue in effect the then-existing Renewal Work Submittal for each Maintained Element without revision for the upcoming year (in either case, referred to as the "updated Renewal Work Submittal").

DB Contractor shall make revisions as reasonably required by experience and then-existing conditions respecting the Project, changes in technology, changes in DB Contractor's planned means and methods of performing the Renewal Work, and other relevant factors. The updated Renewal Work Submittal shall show the revisions, if any, to the prior Renewal Work Submittal and include an explanation of reasons for revisions. If no revisions are proposed, DB Contractor shall include, for each Maintained Element, a justification as to why the prior Renewal Work Submittal still applies.

## **3 MAINTENANCE SERVICES DELIVERABLE SCHEDULE**

As part of the MMP, DB Contractor shall prepare a Maintenance Services Deliverable Schedule.

The Maintenance Services Deliverable Schedule shall include a listing of all Submittals or deliverables as called out in the CMA Documents. Submittal activity durations shall include specific durations for TxDOT review and/or approval of the DB Contractor's Submittals as called out elsewhere in the CMA Documents.

In updates to the MMP, DB Contractor shall update the Maintenance Services Deliverable Schedule to reflect the current status of the Project, including approved Change Orders or provide a notification of no change to the current schedule. Each Maintenance Services Deliverable Schedule update shall accurately reflect all activities as of the effective date of the updated schedule.

## **4 MAINTENANCE OBLIGATIONS**

### **4.1 Maintenance Safety**

DB Contractor shall provide the Maintenance Services in compliance with the Maintenance Safety Plan to preserve the safety of Users, adjacent communities and transportation workers.

## 4.2 Incident and Emergency Response

TxDOT will provide the response to Incidents and Emergencies. When instructed by TxDOT, DB Contractor shall repair any damage to Maintained Elements caused by an Incident or Emergency.

Where structural damage to structures is suspected, DB Contractor shall cause that a suitably qualified bridge engineer or specialist inspector is available to evaluate the structure and to advise on temporary repairs and shoring needed to provide safe clearance of the Incident or Emergency.

## 4.3 Environmental Compliance

### 4.3.1 Hazardous Materials Management Plan

DB Contractor shall handle Hazardous Materials encountered during the Maintenance Services in compliance with the requirements of Section 3.8 of the CMA and the Hazardous Materials Management Plan (HMMP). DB Contractor shall follow the requirements of Section 4.3.5 of the Technical Provisions for the preparation of Investigative Work Plans and Site Investigation Reports. Whenever the DB Contractor is required to handle Hazardous Materials as part of the Maintenance Services, TxDOT shall be entitled to require that, at its sole discretion, DB Contractor employ a Hazardous Materials Manager complying with Section 4.4.7 of the Technical Provisions. Where Hazardous Materials need to be handled as a result of an Incident (for example the clean-up of a spill that affects a Maintained Element), DB Contractor shall promptly perform Hazardous Materials Management upon instruction from TxDOT and shall cooperate with TxDOT in the agreement of a Change Order.

DB Contractor shall require: all personnel of DB Contractor-Related Entities handling Hazardous Materials to be trained and certified to a level equal to or greater than that established under OSHA 1910.120 (HAZWOPER Training); and all on-Site workers to have received awareness and recognition training on Hazardous Materials to which they may be exposed.

DB Contractor shall provide personal protective equipment to workers and all other personnel who may be exposed to Hazardous Materials within the Maintenance Limits.

As part of the MMP, DB Contractor shall prepare and submit a HMMP for the safe handling, storage, treatment and/or disposal of Hazardous Materials, whether encountered at or brought onto the Project by DB Contractor, encountered or brought onto the Project by a third party, or otherwise, during the Maintenance Period.

The HMMP shall include the identification and contact information for designated responsible individuals in the management of Hazardous Materials and the HMMP and procedures compliant with all applicable Environmental Laws, which at a minimum include:

- a) Updated materials safety data sheets, per OSHA requirements, for all chemicals used in connection with the Maintenance Services;
- b) identification and documentation of potential contaminated sites which might impact Users or the performance of the Maintenance Services;
- c) mitigation of contamination encountered during the Maintenance Services;
- d) a project-specific spill response plan including the prevention, control, and mitigation of fugitive noxious or toxic vapors or particulate matter (dust), contaminated soil, and contaminated groundwater during disturbance of noxious or hazardous materials and media;

- e) training of personnel for responding to and mitigating Incidents involving contamination or waste including a Hazardous Materials training module and worker training awareness so that workers recognize the potential Hazardous Materials to which they may be exposed;
- f) provisions for appropriate storage and disposal of all waste encountered or disposed of on the Project;
- g) an Investigative Work Plan (IWP) and Site Investigative Report (SIR) in the event that Hazardous Materials are discovered during Maintenance Services; and
- h) a list of all personal protection equipment available to protect workers from exposure in connection with the Maintenance Services.

#### **4.3.2 SW3P Implementation**

DB Contractor shall perform Maintenance Services in compliance with the TCEQ Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit, in accordance with the TxDOT Storm Water Management and Guidelines for Construction Activities Manual and in compliance with the Storm Water Pollution Prevention Plan (SW3P) requirements. As part of the MMP, DB Contractor shall prepare procedures for a SW3P including criteria determining the types of Maintenance Services for which SW3P requirements shall be followed.

#### **4.3.3 Pollution Prevention Plan**

As part of the MMP, DB Contractor shall prepare and submit a Pollution Prevention (P2) Plan when applicable in accordance with the Texas Waste Reduction Policy Act. The following items shall be included in the P2 Plan, at a minimum:

- a) large and small quantity generators of hazardous waste;
- b) toxics release inventory (TRI);
- c) list of all hazardous wastes and TRI chemicals;
- d) activities that generate the waste or TRI chemical;
- e) explanation of P2 projects;
- f) implementation schedule;
- g) measurable P2 goals;
- h) personnel awareness program; and
- i) P2 Plan Executive Summary.

#### **4.3.4 Environmental Compliance and Mitigation Plan**

DB Contractor shall meet the environmental requirements of Section 4 of the Technical Provisions during the performance of the Maintenance Services and shall implement the Environmental Compliance and Mitigation Plan (ECMP).

As part of the MMP, the ECMP shall include procedures and responsibilities for:

- a) maintaining the Environmental Commitments for all Maintenance Services including Project-specific identification of significant Environmental Commitments that will require monitoring after Substantial Completion;

- b) verification that any discharge from the Project into a sanitary sewer system complies with appropriate codes and standards of the sanitary sewer owner;
- c) identification and mitigation of any potential traffic noise caused by Maintenance Services;
- d) environmental monitoring within the Project area and submittal of all necessary environmental documentation and monitoring reports to the appropriate Governmental Entities and, when applicable, to TxDOT, to the extent necessary to maintain compliance with applicable Environmental Approvals; and
- e) training personnel to avoid or take appropriate action to minimize environmental impacts caused by Maintenance Services.

#### **4.4 Maintenance Records**

For all Maintenance Records, DB Contractor shall follow the document storage and retrieval requirements set forth in Section 2.1.2.1 of the Technical Provisions. DB Contractor's document management system shall be compatible with SharePoint ®.

DB Contractor shall cause all Maintenance Records and Project-related documents to be stored along with accurate information on the location consistent with reference markers in accordance with the TRM, so that all data and records can be retrieved by reference marker and Performance Section.

Maintenance Records shall be kept throughout the Maintenance Period and shall be provided to TxDOT at the time the Project is delivered to TxDOT, at either the expiration of the Maintenance Period or earlier termination of the CMA. All records obtained during the Warranty Periods shall be kept and provided to TxDOT at the end of the last Warranty Period.

Unless otherwise directed by TxDOT, record retention shall comply with the requirements of the Texas State Records Retention Schedule.

#### **4.5 Maintenance Communications Plan**

As part of the MMP, DB Contractor shall prepare and submit a comprehensive communications plan ("Maintenance Communications Plan").

The Maintenance Communications Plan shall describe the processes and procedures for communication of Project information between the DB Contractor's organization and TxDOT, other Governmental Entities, Utilities, and third parties. The Maintenance Communications Plan shall describe how the DB Contractor's organization will respond to unexpected requests for information, communicate changes or revisions to necessary DB Contractor personnel, and notify TxDOT before and after changes are made to the CMA Documents.

During the Maintenance Period, DB Contractor shall implement the requirements of the Section 3.2.9 of the Technical Provisions for Lane Closure notification and Section 3.2.10 of the Technical Provisions for Emergency event communication.

#### **4.6 Maintenance Transition Plan**

At sixty (60) days prior to the end of the Maintenance Period, or upon earlier termination of the CMA, DB Contractor shall submit a comprehensive transition plan ("Maintenance Transition Plan") to TxDOT which includes the following items:

- (a) Maintenance Transition punch list;
- (b) list and status of Warranties;

- (c) vendors' test reports;
- (d) DB Contractor's test reports;
- (e) Record Drawings for Renewal Work;
- (f) Maintenance Records; and
- (g) copies of Warranty and service contracts.

At sixty (60) days prior to the end of the Maintenance Period, DB Contractor shall submit to TxDOT a complete set of Record Drawings. The Record Drawings and documentation shall be an organized, complete record of drawings and supporting calculations and details that accurately represent what DB Contractor constructed. DB Contractor shall ensure that the Record Drawings reflect the actual condition of the Maintenance Services construction.

DB Contractor shall coordinate the identification of Maintenance Transition punch list items required to be completed by DB Contractor prior to maintenance transfer. Maintenance Transition punch list shall include (a) estimated completion dates, (b) responsible Party(s), and (c) items that must be completed prior to maintenance transfer.

DB Contractor shall be responsible to prepare (in conjunction with TxDOT), administer and complete all items on the Maintenance Transition punch list to the satisfaction of TxDOT prior to the transfer of maintenance responsibilities to TxDOT.

## **5 TRAFFIC MANAGEMENT REQUIREMENTS**

### **5.1 General Requirements**

Throughout the Maintenance Period, DB Contractor shall conform with the requirements set forth in this Section 5 of this Exhibit 2, and shall provide for the safe and efficient movement of people, goods, and services, through and around the Project, while minimizing negative impacts to Users, residents, and businesses.

While planning and carrying out Maintenance Services, DB Contractor shall take into account the restrictions set forth in Attachment 6 to this Exhibit 2 and shall coordinate its Traffic Management Plan (TMP) with the traffic management to be performed by others to minimize disruption to Users of the Project.

DB Contractor shall produce a traffic control plan for each and every phase of every planned Maintenance Services activity that impacts traffic and involves traffic control details and shall coordinate with appropriate Governmental Entities on the development of the plan. DB Contractor is responsible for obtaining all necessary permits from such local entities to implement the plans.

Refer to Section 12.5 of the CMA for Lane Rental Charges that shall apply for Lane Closures.

### **5.2 Traffic Management Plan**

As part of the MMP, DB Contractor shall prepare and submit a comprehensive TMP to be used throughout the Maintenance Period that includes the following contents:

- (a) obtaining acceptance of detours, road and Lane Closures and other traffic pattern modifications from applicable Governmental Entities, and implementing, maintaining and removing those modifications;
- (b) obtaining approval of Lane Closure and traffic control plan from TxDOT;

- (c) installation, maintenance and removal of interim signing and the corresponding handling of permanent signing during maintenance work
- (d) installation, maintenance, replacement and removal of traffic control devices, including pavement markings and traffic barriers, if used
- (e) safe ingress and egress of construction vehicles in the work zone;
- (f) continuous access to established truck routes and Hazardous Material (HazMat) routes, and to provide suitable detour routes, including obtaining any approvals required by the appropriate Governmental Entities for these uses. (Refer to Section 3.1 Hazardous Material Management Plan of the MMP)
- (g) comprehensive traffic control strategy to be implemented at the work site including an evaluation of the work operation, traffic conditions, safe ingress and egress of construction vehicles
- (h) modification of plans as needed to adapt to changing Project circumstances;
- (i) communication of TMP information to DB Contractor's public information personnel and notify the public of maintenance of traffic issues; and
- (j) contingency plan of how traffic congestion can be alleviated.

### 5.3 Traffic Control Plan

DB Contractor shall provide traffic control plans to TxDOT for review no later than 10 days before implementation for Partial Lane Closures and no later than 14 days before implementation for Full Lane Closures.

- (a) DB Contractor shall use the procedures in the TMP, TxDOT standard drawings, and TMUTCD requirements to develop detailed traffic control plans which provide for all construction stages and phasing, as well as all required switching procedures.
- (b) The traffic control plan shall include details for all detours, traffic control devices, striping, and signage applicable to each phase of construction. Information included in the traffic control plans shall be of sufficient detail to allow verification of design criteria and safety requirements, including typical sections, alignment, striping layout, drop off conditions, and temporary drainage. The traffic control plans shall clearly designate all temporary reductions in speed limits. Changes to posted speed limits will not be allowed unless specific prior approval is granted by TxDOT.
- (c) DB Contractor shall keep the number of Lane Closures to an absolute minimum and shall keep each Lane Closure to the shortest time and extent necessary for safe and efficient operations and in accordance with Attachment 6 to this Exhibit 2.
- (d) DB Contractor shall ensure that opposing traffic on a normally divided roadway shall be separated with appropriate traffic control devices, shall maintain signing continuity within the Project and intersecting streets at all times, and shall ensure all streets and intersections remain open to traffic to the greatest extent possible.
- (e) DB Contractor shall maintain access to all adjacent streets and shall provide for ingress and egress to public and private properties at all times.
- (f) If at any time the traffic queue resulting from the Maintenance Services cannot be dispersed within 10 minutes, DB Contractor shall immediately undertake modifications to alleviate the traffic congestion. A contingency plan of how traffic congestion can be alleviated should be included with the traffic control plan.

- (g) DB Contractor shall maintain signing continuity on all active roadways within or intersecting the Project at all times.
- (h) DB Contractor shall prepare public information notices, in coordination with Section 3 of the Technical Provisions, in advance of the implementation of any Lane Closures or traffic switches. These notices shall be referred to as traffic advisories.

## 6 REPORTING REQUIREMENTS

### 6.1 Monthly Maintenance Services Report

The Maintenance Services Report shall be submitted monthly throughout the Maintenance Period in accordance with Section 5.6 of the CMA. The Maintenance Services Report shall identify all of the Maintenance Services for the reporting period, the actual Maintenance Services performed for the reporting period and confirmation that all Maintenance Services performed were in compliance with the MMP. DB Contractor shall organize the Maintenance Services Report using the report sections and section reporting requirements shown in Table 3.

**Table 3 – Maintenance Services Report Sections**

Report Sections	Reporting Requirements/Description
Project Status	Report a high-level summary of Project condition and operational status, which shall include at a minimum: <ul style="list-style-type: none"> <li>i) summary of Maintained Element Asset Condition Score and Mean Asset Condition Score if available,</li> <li>ii) tracking log of accidents and Incidents for Maintenance Services (<u>Section 1.6.4</u> of this Exhibit 2),</li> <li>iii) tracking log of Lane Closures,</li> <li>iv) tracking log of public inquiries/complaints.</li> </ul>
Operational Status	Report a summary of Project condition and operational status, which shall include at a minimum: <ul style="list-style-type: none"> <li>i) Defects including the location, the nature and cause of the Defect and the steps that will be, or have been, taken to address the Defects per <u>Section 1.3.1</u> of this Exhibit 2,</li> <li>ii) Noncompliance Events Report submitted in accordance with <u>Section 18.2.1.3 of the CMA</u> and containing the information required in <u>Section 19.2.4.1 of the CMA</u>.</li> <li>iii) inspection results for General Inspections and Audit Inspections per <u>Section 1.4</u> and <u>Section 1.5.2</u> of this Exhibit 2,</li> <li>iv) any differences between DB Contractor and TxDOT in Defect status and categorization as referred to in <u>Section 1.3.2</u>, and</li> <li>v) workforce injuries and OSHA related accidents.</li> </ul>
Organizational Status	Report a summary of DB Contractor’s organizational status (or reference to the appropriate sections/attachments in the latest MMP for the information) for the items below. <ul style="list-style-type: none"> <li>i) list of personnel,</li> <li>ii) log of all training activities undertaken and planned,</li> <li>iii) list of major equipment, and</li> <li>iv) Subcontractors.</li> </ul>
Progress Report	Report a summary of DB Contractor’s activity, which shall include at a minimum from the previous month: <ul style="list-style-type: none"> <li>i) a tracking log of completed action items with start and end dates and</li> </ul>



Report Sections	Reporting Requirements/Description
	documentation supporting resolution, ii) a summary of the Maintenance Services performed including Renewal Work, iii) a summary of quality control activities and results, iv) list of any Nonconforming Work with explanation of non-conformance and associated risks, and v) meetings/correspondence logs.
Planned Activities	Report a summary of DB Contractor's planned activity, which shall include at a minimum: i) a tracking log of action items in progress with start and projected end dates with a description of proposed solutions, ii) schedule of planned Maintenance Services including Renewal Work for the upcoming month, iii) Details of the next General Inspection in accordance with <u>Section 1.4.1</u> , including any areas targeted for detailed visual or hands-on inspection, iv) future Lane Closures including location, duration and reason of each, v) a 3-month look ahead schedule of planned Maintenance Services including Renewal Work, and vi) a 1-month look ahead for any future Submittals included in the Maintenance Services Deliverable Schedule.

## 6.2 Annual Report

DB Contractor shall submit an annual report to TxDOT within 30 days after each anniversary of the Initial Maintenance Term Commencement Date. This annual report shall include the following elements:

- An assessment of the actual Maintenance Services achievements versus the planned goals established in the MMP, as well as corrective actions and measures to be taken in the ensuing year to ensure that any shortcomings are corrected.
- An assessment of compliance with the various traffic control requirements and limitations contained in Section 3.4 of the CMA and the traffic control plans developed in accordance with Section 5.2 of this Exhibit 2, as well as any corrective measures taken to correct any breach or violation of such requirements and limitations and any corrective measures necessary to prevent such future breach or violation of such requirement and limitations.
- A report of the inspections and tests performed as part of the MMP and as required by the Performance and Measurement Table, the results of such inspections and tests, and occurrences and the measures taken to correct Nonconforming Work.
- Any exceptions taken by DB Contractor to the results of Specialist Inspections undertaken by TxDOT, together with DB Contractor's plan for additional inspections to resolve any such differences.
- A report of the Renewal Work performed in the immediately preceding year. The report shall describe: (a) by location, the Maintained Element, as listed in the Renewal Work Submittal, and any other Project component for which Renewal Work was performed; (b) the type of Renewal Work performed; (c) each specific item replaced; (d) any warranty information associated with any replacement item; (e) the dates of commencement and

completion of such Renewal Work; and (f) such other information as is reasonably requested by TxDOT.

### **6.3 Meetings**

DB Contractor shall conduct regular status, progress and planning meetings with TxDOT at least once a month throughout the Maintenance Period. In addition, TxDOT and DB Contractor shall meet from time to time at the other Party's request to discuss and resolve matters relating to the Maintenance Services or Project. DB Contractor shall schedule all meetings with TxDOT at a date, time and place reasonably convenient to both Parties and, except in the case of urgency, shall provide TxDOT with written notice and a meeting agenda at least three Business Days in advance of each meeting.

## **7 ADDITIONAL REQUIREMENTS**

### **7.1 Rail**

Where the Project crosses a railroad right of way owned by an operating railroad, DB Contractor shall coordinate the Maintenance Services with the operating railroad and shall be responsible for obtaining the required approvals, permits, and agreements as required for the Maintenance Services, including any railroad related maintenance activities.

Whenever an agreement for construction, maintenance and use of railroad right-of-way between the operating railroad and TxDOT is required, DB Contractor shall prepare all the documentation required to obtain the agreement, including preparation of the agreement application on behalf of TxDOT, the drawings and specifications, making necessary modifications as required, and preparation of the agreement. DB Contractor shall submit the draft agreement to TxDOT for transmittal to the operating railroad. After all comments have been incorporated or satisfactorily resolved by DB Contractor, railroad or TxDOT, DB Contractor shall submit a complete and final agreement to TxDOT for execution. DB Contractor shall comply with all construction requirements and specifications set forth in the agreement.

DB Contractor shall arrange with, and pay for the operating railroad for railroad flagging as required. DB Contractor shall comply with the operating railroad's requirements for contractor safety training prior to performing Maintenance Services or other activities on the operating railroad's property.

DB Contractor shall cooperate and coordinate with all operating railroads for access by the operating railroad and/or their agents to the rail right-of-way as necessary for rail maintenance and operations activities.

DB Contractor shall procure and maintain, prior to working adjacent to and entry upon operating railroad property, insurance policies naming TxDOT, TxDOT's consultants, and the railroad(s) as additional insured. DB Contractor shall obtain insurance per Exhibit 10 of the CMA. All insurance policies shall be in a form acceptable to the operating railroad(s). Copies of all insurance policies shall be submitted to TxDOT prior to any entry by DB Contractor upon operating railroad property. DB Contractor shall be responsible for scheduling the work to be completed by operating railroad(s) as well as the work to be completed by its own forces. DB Contractor shall be responsible for all costs associated with the railroad/transit force account work.

### **7.2 Toll Interface**

#### **7.2.1 Maintenance Services affecting Tolling**

DB Contractor shall notify TxDOT with a copy to the TxDOT Statewide System Integrator (SI) no later than 2 hours following DB Contractor’s first awareness of any Maintenance Services that is adversely affecting or has the potential to adversely affect power, communications, or structures supporting Electronic Toll Collection System (ETCS) equipment.

**7.2.2 Maintenance Services affecting ETCS**

Whenever DB Contractor plans to undertake Maintenance Services that may adversely affect the performance of the ETCS equipment, could cause loss of toll revenue to TxDOT, or could adversely affect vehicle movement on mainlanes or ramps, DB Contractor shall inform TxDOT, in writing, 28 days in advance of performing any such Maintenance Services. DB Contractor shall avoid any adverse impact on ETCS equipment wherever possible and shall comply with any restrictions and requirements applicable to the Maintenance Services that may be imposed by TxDOT in its sole discretion.

Where adverse impact on ETCS equipment as a result of Maintenance Services is unavoidable, DB Contractor shall prepare and submit an ETCS equipment impact mitigation plan, no later than 28 days in advance of the planned Maintenance Services, for TxDOT’s approval in its sole discretion that shall identify the nature and duration of the potential impacts associated with the Maintenance Services and the mitigation measures DB Contractor proposes. Upon approval by TxDOT of the mitigation plan and completion of the Maintenance Services, DB Contractor shall provide safe access to TxDOT and the SI for the purpose of re-installation and/or re-calibration of affected ETCS equipment. DB Contractor shall be solely responsible for the provision of safe access to TxDOT and the SI including all necessary traffic control to facilitate and enable the SI to re-install and/or re-calibrate ETCS equipment (as needed).

**8 DELIVERABLES**

All Deliverables shall be in accordance with the schedule and for the purpose (approval, review and comment, for information) set forth on Table 4. Acceptable electronic formats include Microsoft Word, Microsoft Excel, or Adobe Acrobat files, unless otherwise required.

**Table 4: Deliverables to the Department**

Deliverables	Deliverable Schedule	Department Action	Reference Section
MMP	Within 60 days after issuance of Maintenance NTP1	Approval	CMA Ex 2 1.2.1
MMP Update	As required, or at least annually 30 Days prior to each anniversary of the Initial Maintenance Term Commencement Date	Approval	CMA Ex 2 1.2.1
General Inspection Plans	At least monthly, no later than 7 days prior to inspection date	For Information	CMA Ex 2 1.4.1
Maintenance Management System (MMS) Demonstration	At least 90 days prior to the Initial Maintenance Term Commencement Date	For Information	CMA Ex 2 1.6.6

**Table 4: Deliverables to the Department**

Deliverables	Deliverable Schedule	Department Action	Reference Section
MMS Training	As required, or at least annually prior to each anniversary of the Initial Maintenance Term Commencement Date	For Information	CMA Ex 2 1.6.6
Notification of Nonconforming Work	Within two Days of discovering the Nonconforming Work	For Information	CMA Ex 2 2.4
Non-conformance Report	Within seven Days of notification issuance	Review and comment	CMA Ex 2 2.4
Update of Renewal Work Submittal	Within 60 Days of Maintenance NTP1; No later than 30 Days prior to each anniversary of the Initial Maintenance Term Commencement Date	Approval	CMA Ex 2 2.5
Maintenance Transition Plan	At least 60 Days prior to the end of the Maintenance Period, or upon termination of the CMA	For Information	CMA Ex 2 4.7
Record Drawings	At least 60 Days prior to the end of the Maintenance Period	For Information	CMA Ex 2 4.7
Maintenance Services Report	As required, or at least monthly following the Initial Maintenance Term Commencement Date	For Information	CMA Ex 2 6.1
Annual Report	Within 30 days after each anniversary of the Initial Maintenance Term Commencement Date	For Information	CMA Ex 2 6.2

**ATTACHMENT 1: PERFORMANCE AND MEASUREMENT TABLE**

MAINTENANCE ELEMENT CATEGORY	REF	MAINTAINED ELEMENT	PERFORMANCE OBJECTIVE	DEFECT REMEDY PERIOD			INSPECTION AND MEASUREMENT METHOD	REF	MEASUREMENT RECORD	TARGET
				Cat 1	Cat 1	Cat 2				
				Hazard Mitigation	Permanent Remedy	Permanent Repair				
<b>1) PAVEMENT</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. Unless otherwise stated, pavement performance measurement records relate to 0.1-mile sections as described in the Pavement Management Information System Rater's Manual.</i>			
	1.1	Ruts	All roadways are free from surface depressions in wheel path exceeding measurement record thresholds.	24 hours	28 days	6 months	a. Depth as measured using an automated device in compliance with TxDOT Standards.	1.1.1	Percentage of wheel path length with ruts greater than 1/4" in depth in each Performance Section. • Mainlanes, shoulders, and ramps - less than or equal to 3% • Cross streets - less than or equal to 3% • Frontage roads - less than or equal to 10%	100%
							b. 10-ft straight edge used to measure rut depth for localized areas.	1.1.2	No depth of rut at any location greater than 1/2".	100%
	1.2	Ride quality	All roadways have a smooth surface course (including bridge deck approaches, covers, gratings, frames and boxes).	24 hours	28 days	6 months	a. Measurement of International Roughness Index (IRI) according to TxDOT standard Tex-1001-S, Operating Inertial Profilers and Evaluating Pavement Profiles.	1.2.1	For 100% of all Performance Sections measured excluding Performance Sections with bridge deck and/or bridge approach slab, average IRI is less than or equal to: • Mainlanes, ramps - 95" per mile • Cross Streets - 95" per mile • Frontage roads - 105" per mile	100%
							b. 10-ft straightedge used to measure discontinuities for localized areas.	1.2.2	For 100% of all Performance Sections measured in localized areas, excluding bridge decks and the 100' length of pavement on either side of the bridge decks, maximum 1/8" variation of the pavement surface from the testing edge of the straightedge between any two straightedge contact points with the pavement surface.	100%
								1.2.3	For 100% of all Performance Sections that include a bridge deck and/or bridge approach slab, maximum 1/4" 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 this measurement shall allow one contact point of the straightedge on the traveled surface supported by the structure	100%

MAINTENANCE ELEMENT CATEGORY	REF	MAINTAINED ELEMENT	PERFORMANCE OBJECTIVE	DEFECT REMEDY PERIOD			INSPECTION AND MEASUREMENT METHOD	REF	MEASUREMENT RECORD	TARGET
				Cat 1	Cat 1	Cat 2				
				Hazard Mitigation	Permanent Remedy	Permanent Repair				
								and the other contact point on the pavement approach to the structure.		
								1.2.4 For 100% of all mainlane Performance Sections that include a bridge deck and/or bridge approach slab, excluding the IRI profile lengths on bridge deck and the 100 feet of pavement on either side of the bridge deck, average IRI for each Performance Section is less than or equal to 95" per mile.	100%	
								1.2.5 For 100% of all Performance Sections, no localized roughness deviations calculated in accordance with the method set forth in Section 7 of TEX-1001-S exceeding 0.15" or less than -0.15" (positive deviations are bumps and negative deviations are dips).	100%	
	1.3	Cracking	All roadways are free from cracking exceeding measurement record thresholds.	24 hours	28 days	6 months	Physical measurement	1.3.1 No unsealed longitudinal cracking and/or transverse cracking in any Performance Section with a width greater than 1/8" measured at any point throughout the width of the pavement.	100%	
	1.4	Raveling	All roadways are free from raveling exceeding measurement record thresholds.	24 hours	28 days	6 months	Physical measurement	1.4.1 No areas of raveling exceeding 1% of pavement surface area in any Performance Section.	100%	
	1.5	Flushing / bleeding	All roadways are free from flushing / bleeding exceeding measurement record thresholds.	24 hours	28 days	6 months	Physical measurement	1.5.1 No areas of flushing / bleeding exceeding 2% of wheel path surface area in any Performance Section.	100%	
	1.6	Failures	All roadways are free from failures.	24 hours	28 days	N/A	Physical measurement	1.6.1 No failures exceeding the failure criteria set forth in the TxDOT PMIS Rater's Manual, including potholes, base failures, punchouts and jointed concrete pavement failures.	100%	
	1.7	Edge drop-offs	All roadways are free from edge drop-offs exceeding measurement record thresholds.	24 hours	28 days	6 months	Physical measurement	1.7.1 No edge drop-off greater than 2".	100%	
	1.8	Wet weather crash performance	All roadways have adequate wet weather crash performance.	24 hours	28 days	6 months	Number of crashes within 1.0 mile performance sections identified using Crash Record Information System (CRIS) data.	1.8.1 Perform a site investigation and corrective action as follows:  Rural Roadway Section (population less than 5,000 as determined by the most current population estimates provided by the State Data Center) - three (3) or more wet surface crashes within any 1.0 mile performance section in the most current complete calendar year.  Urban Roadway Section (population greater than or equal to 5,000 as determined by the most current population estimates provided by	100%	

MAINTENANCE ELEMENT CATEGORY	REF	MAINTAINED ELEMENT	PERFORMANCE OBJECTIVE	DEFECT REMEDY PERIOD			INSPECTION AND MEASUREMENT METHOD	REF	MEASUREMENT RECORD	TARGET
				Cat 1	Cat 1	Cat 2				
				Hazard Mitigation	Permanent Remedy	Permanent Repair				
			Road users warned of potential skidding hazards.	24 hours	28 days	N/A	Visual inspection	1.8.2	the State Data Center) - six (6) or more wet surface crashes within any 1.0 mile performance section in the most current complete calendar year. Road Users warned of potential skidding hazard where a requirement for corrective action is identified.	100%
	1.9	Joints in concrete	All joints exceeding measurement record thresholds in concrete paving are sealed. No tied longitudinal joint separation exceeding measurement record thresholds. No longitudinal or transverse joint discontinuity / faulting exceeding measurement record thresholds. No expansion joint separation exceeding measurement record thresholds.	24 hours	28 days	6 months	Physical measurement	1.9.1	No unsealed joints with width greater than 1/4".	100%
								1.9.2	No tied longitudinal joint width greater than 1/4"	100%
								1.9.3	No individual longitudinal or transverse joint with discontinuity / faulting greater than 1/4" between two sides of any joint.	100%
								1.9.4	No expansion joint width greater than 1.0".	100%
<b>2) DRAINAGE (NOT USED)</b>										
<b>3) STRUCTURES</b>										

MAINTENANCE ELEMENT CATEGORY	REF	MAINTAINED ELEMENT	PERFORMANCE OBJECTIVE	DEFECT REMEDY PERIOD			INSPECTION AND MEASUREMENT METHOD	REF	MEASUREMENT RECORD	TARGET
				Cat 1	Cat 1	Cat 2				
				Hazard Mitigation	Permanent Remedy	Permanent Repair				
	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)	(i) Substructures and superstructures are free of: <ul style="list-style-type: none"> <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> (ii) Expansion joints free of: <ul style="list-style-type: none"> <li>dirt, debris and vegetation</li> <li>defects in drainage system</li> <li>loose nuts and bolts</li> <li>defects in gaskets and/or seals</li> </ul> (iii) The deck drainage system is free of all debris and operates as intended. (iv) Parapets free of: <ul style="list-style-type: none"> <li>loose nuts and bolts</li> <li>blockages of hollow section drain holes</li> <li>undesirable vegetation</li> <li>impact damage</li> <li>concrete spalling</li> </ul>	24 hours	28 days	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.	100%



MAINTENANCE ELEMENT CATEGORY	REF	MAINTAINED ELEMENT	PERFORMANCE OBJECTIVE	DEFECT REMEDY PERIOD			INSPECTION AND MEASUREMENT METHOD	REF	MEASUREMENT RECORD	TARGET
				Cat 1	Cat 1	Cat 2				
				Hazard Mitigation	Permanent Remedy	Permanent Repair				
			v) Bearings and bearing seats are: <ul style="list-style-type: none"> <li>• properly aligned horizontally and vertically</li> <li>• clean and in full contact with each other</li> </ul> (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.					3.1.2	Condition rating equal to or greater than seven (7) for any deck, superstructure or substructure.	100%
	3.2	Load ratings	All structures maintain the design load capacity and no load restrictions for Texas legal loads (including legally permitted vehicles)	24 hours	28 days	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.	3.3.1	Performance objective met.	100%
	3.3	Gantries and high-masts	Sign gantries, signal gantries and 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> </ul>	24 hours	28 days	6 months	Visual inspection	3.4.1	Performance objective met.	100%
	3.4	Retaining walls	Retaining walls are free of: <ul style="list-style-type: none"> <li>• undesirable vegetation</li> <li>• defects in sealed joints</li> <li>• defects in pedestrian protection</li> <li>• scour damage</li> <li>• corrosion of rebar</li> <li>• paint system failure</li> <li>• concrete spalling</li> <li>• impact damage</li> <li>• 95% free of blocked weep holes</li> </ul>	24 hours	28 days	6 months	Visual inspection	3.6.1	Performance objective met.	100%

MAINTENANCE ELEMENT CATEGORY	REF	MAINTAINED ELEMENT	PERFORMANCE OBJECTIVE	DEFECT REMEDY PERIOD			INSPECTION AND MEASUREMENT METHOD	REF	MEASUREMENT RECORD	TARGET
				Cat 1	Cat 1	Cat 2				
				Hazard Mitigation	Permanent Remedy	Permanent Repair				
			Parapets are 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>					3.6.2	Performance objective met.	100%
<b>4) PAVEMENT MARKINGS, OBJECT MARKERS, BARRIER MARKERS AND DELINEATORS (NOT USED)</b>										
<b>5) CURBS, GUARDRAILS, SAFETY BARRIERS AND IMPACT ATTENUATORS (NOT USED)</b>										
<b>6) TRAFFIC SIGNS (NOT USED)</b>										
<b>7) TRAFFIC SIGNALS (NOT USED)</b>										
<b>8) LIGHTING (NOT USED)</b>										
<b>9) FENCES, WALLS AND SOUND ABATEMENT (NOT USED)</b>										
<b>10) ROADSIDE MANAGEMENT (NOT USED)</b>										
<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 hours	28 days	6 months	Visual inspection	12.1.1	Performance objective met.	100%
	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 hours	28 days	6 months	Visual inspection	12.2.1	Performance objective met.	100%
	12.3	Slopes – Erosion	Slopes are maintained to prevent erosion leading to further deterioration.	24 hours	28 days	3 months	Visual inspection	12.3.1	No erosion greater than six inches deep.	100%
	12.4	Slopes - Permanent Erosion Control Measures	Where permanent erosion control measures such as rock or concrete riprap are utilized: repair undermined or damaged erosion control measures and keep concrete slope protection joints sealed and free from vegetation.	24 hours	28 days	3 months	Visual inspection	12.4.1	Performance objective met.	100%
<b>13) ITS EQUIPMENT (NOT USED)</b>										
<b>14) TOLLING FACILITIES AND BUILDINGS (NOT USED)</b>										
<b>15) AMENITY (NOT USED)</b>										
<b>16) SNOW AND ICE CONTROL (NOT USED)</b>										
<b>17) INCIDENT RESPONSE (NOT USED)</b>										

MAINTENANCE ELEMENT CATEGORY	REF	MAINTAINED ELEMENT	PERFORMANCE OBJECTIVE	DEFECT REMEDY PERIOD			INSPECTION AND MEASUREMENT METHOD	REF	MEASUREMENT RECORD	TARGET
				Cat 1	Cat 1	Cat 2				
				Hazard Mitigation	Permanent Remedy	Permanent Repair				
<b>18) CUSTOMER RESPONSE (NOT USED)</b>										
<b>19) SWEEPING AND CLEANING (NOT USED)</b>										

**NOTES FOR PERFORMANCE AND MEASUREMENT TABLE**

<sup>1</sup>“Category 1 Hazard Mitigation” shall be an action taken by DB Contractor to mitigate a hazard to Users or imminent risk of damage or deterioration to property or the environment.

<sup>2</sup>“Category 1 Permanent Remedy” shall be an action taken by DB Contractor to restore the condition of a Maintenance Element following “Category 1 Hazard Mitigation” of a Category 1 Defect: (a) to the standard required for new construction; or (b) to a condition such that the Target is achieved for each Measurement Record.

<sup>3</sup>“Category 2 Permanent Repair” shall be an action taken by DB Contractor to restore the condition of a Maintenance Element for which a Category 2 Defect has been recorded: (a) to the standard required for new construction or (b) to a condition such that the Target is achieved for each Measurement Record.

**ATTACHMENT 2: MAINTENANCE ELEMENTS AND SCOPE OF MAINTENANCE SERVICES**

MAINTENANCE ELEMENT CATEGORY	MAINTENANCE ELEMENT	RESPONSIBILITY	
		DB CONTRACTOR	TxDOT
<b>1) PAVEMENT</b>			
1.1	Cracking	<b>X</b>	
1.2	Raveling	<b>X</b>	
1.3	Flushing / bleeding	<b>X</b>	
1.4	Failures	<b>X</b>	
1.5	Edge drop-offs	<b>X</b>	
1.6	Wet weather crash performance	<b>X</b>	
1.7	Cracking	<b>X</b>	
1.8	Raveling	<b>X</b>	
1.9	Flushing / bleeding	<b>X</b>	
<b>2) DRAINAGE</b>			
2.1	Pipes, ditches, and channels		<b>X</b>
2.2	Drainage treatment devices		<b>X</b>
2.3	Travel way		<b>X</b>
2.4	Discharge systems		<b>X</b>
2.5	Protected species		<b>X</b>
2.6	Erosion		<b>X</b>
2.7	Channels and ditches - Permanent Erosion Control Measures		<b>X</b>
2.8	Non-bridge class culverts		<b>X</b>
<b>3) STRUCTURES</b>			
3.1	Structure components	<b>X</b>	
3.2	Load ratings	<b>X</b>	
3.3	Gantries and high masts	<b>X</b>	
3.4	Mechanically stabilized earth and retaining walls	<b>X</b>	
<b>4) PAVEMENT MARKINGS, OBJECT MARKERS, BARRIER MARKERS AND DELINEATORS</b>			
4.1	Pavement markings	*	<b>X</b>
4.2	Raised reflective markers	*	<b>X</b>
4.3	Delineators and markers	*	<b>X</b>
<b>5) CURBS, GUARDRAILS, SAFETY BARRIERS AND IMPACT ATTENUATORS</b>			
5.1	Curbs		<b>X</b>
5.2	Guardrails and safety barriers		<b>X</b>
5.3	Impact attenuators		<b>X</b>
<b>6) TRAFFIC SIGNS</b>			
6.1	General - All signs		<b>X</b>
6.2	General - Safety critical signs		<b>X</b>
<b>7) TRAFFIC SIGNALS</b>			
7.1	General		<b>X</b>
7.2	Soundness		<b>X</b>
7.3	Identification marking		<b>X</b>
7.4	Pedestrian elements and vehicle detectors		<b>X</b>
<b>8) LIGHTING</b>			

MAINTENANCE ELEMENT CATEGORY	MAINTENANCE ELEMENT	RESPONSIBILITY	
		DB CONTRACTOR	TxDOT
8.1	Roadway lighting - General		X
8.2	Sign lighting		X
8.3	Electrical supply		X
8.4	Access panels		X
8.5	High mast lighting		X
9) FENCES AND SOUND ABATEMENT			
9.1	Design and location		X
9.2	Construction		X
9.3	Operation		X
10) ROADSIDE MANAGEMENT			
10.1	Vegetated areas - Except landscaped areas - General		X
10.2	Landscaped areas		X
10.3	Fire hazards		X
10.4	Trees, brush and ornamentals		X
10.5	Wetlands		X
10.6	Sidewalks and pedestrian curb ramps		X
11) REST AREAS AND PICNIC AREAS (NOT USED)			
12) EARTHWORKS, EMBANKMENTS AND CUTTINGS			
12.1	Slope failure	X	
12.2	Slopes - General	X	
12.3	Slopes - Erosion	X	
12.4	Slopes - Permanent Erosion Control Measures	X	
13) ITS EQUIPMENT			
13.1	ITS Equipment		X
13.2	Dynamic message sign equipment		X
13.3	CCTV equipment		X
13.4	Vehicle detection equipment		X
14) TOLLING FACILITIES AND BUILDINGS (NOT USED)			
15) AMENITY			
15.1	Graffiti		X
15.2	Animals		X
15.3	Abandoned vehicles and equipment		X
16) SNOW AND ICE CONTROL			
16.1	Travel lanes		X
16.2	Weather forecasting		X
16.3	Operational plans		X
17) INCIDENT RESPONSE			
17.1	General		X
17.2	Hazardous Materials		X
17.3	Structural assessment		X
17.4	Temporary and permanent remedy		X
18) CUSTOMER RESPONSE			
18.1	Response to inquiries		X

MAINTENANCE ELEMENT CATEGORY	MAINTENANCE ELEMENT	RESPONSIBILITY	
		DB CONTRACTOR	TxDOT
18.2	Customer contact line		X
19) SWEEPING AND CLEANING			
19.1	Obstructions and debris		X
19.2	Sweeping		X
19.3	Litter		X

\*DB Contractor is responsible for replacement of these Maintenance Elements when Maintenance Services is performed on Pavement Maintenance Elements.

**ATTACHMENT 3: MAINTENANCE LIMITS**

[SEE ATTACHED]

## ATTACHMENT 4: MAINTENANCE MANAGEMENT PLAN CONTENTS

Part	Reference	Section	Contents
1. General Management and Administration			
	1.1	Organization	DB Contractor's main contractual arrangements Organizational structure covering the activities to be performed in accordance with the CMA Documents
	1.2	Personnel	DB Contractor's approach to provide experienced personnel for the maintenance of the Project including a training program for personnel and Subcontractors Arrangements for coordinating and managing staff interaction with TxDOT and its consultants Names and contact details, titles, and job roles of personnel for Subcontractors and any third party with which DB Contractor will coordinate its activities Names and contact details, titles, and job roles of personnel Procedures for providing training for personnel involved with environmental mitigation activities and Hazardous Materials handling
	1.3	Maintenance Communications Plan	Procedures for communication of Project information between DB Contractor's organization and TxDOT and for communication with other Governmental Entities, Utilities, and third parties as appropriate
	1.4	Project Meetings	List of regularly scheduled meetings including frequency and personnel
	1.5	Procurement	Procedures for procurement of services, materials and products including methods to ensure best value
	1.6	Subcontractors	Overall control procedures for Subcontractors, including consultants and subconsultants Responsibility of Subcontractors and Affiliates Steps taken to ensure Subcontractors and Suppliers meet the obligations imposed by their respective Subcontracts Procedures for providing training for employees of Subcontractors involving with environmental mitigation activities and Hazardous Materials handling
	1.7	Resources	Procedures for maintaining equipment Tools and equipment list Maintenance and service manuals
	1.8	Insurances	The checklist of all required insurances required for the Maintenance Services with dates on which policies were renewed and dates proof of insurance was provided to TxDOT
2. Environmental Compliance			
	2.1	Governmental Approvals and Permits	The required permits for Governmental Entities and third parties as part of the Maintenance Services
	2.2	Hazardous Materials Management Plan	Procedures for handling Hazardous Materials
	2.3	SW3P Implementation	Procedures for implementation of SW3P including criteria determining the types of Maintenance Services for which SW3P requirements shall be followed
	2.4	Pollution Prevention Plan	Information required for P2 Plan when applicable in accordance with Texas Waste Reduction Policy Act.



Part	Reference	Section	Contents
	2.5	Environmental Compliance and Mitigation Plan	Compliance strategies and procedures to be employed in accordance with the requirements of applicable Environmental Laws and Environmental Approvals
<b>3. Maintenance Limits &amp; Schedules</b>			
	3.1	Maintenance Limits	Maintenance Limits as set forth in Section 3.1.1.1 of the Capital Maintenance Agreement
	3.2	Performance Sections	Performance Section drawings as set forth in Section 1.5.1 of <u>Exhibit 2</u>
	3.3	Maintenance Services Deliverable Schedule	Schedule to include all principal submittals in connection with the Maintenance Services
<b>4. Compliance with Performance Requirements</b>			
	4.1	Principal Activities	Procedures for how the principal activities will be performed during the Maintenance Period including inspections regime
	4.2	Performance Requirements	Procedures to meet the Performance Requirements, measurement procedures, threshold values at which maintenance is required, inspection procedures and frequencies, and subsequent maintenance to address Defects, as well as thresholds for rehabilitation in accordance with the Performance and Measurement Table and Good Industry Practice Performance and Measurement Table
	4.3	Maintenance Management System	Procedures for establishing Maintenance Management System Software including sample reports and links to MMS training Software updates Documentation and forms Procedures for tracking and reporting Noncompliance Events Procedures to respond to comments and/or complaints received from Users and others
	4.4	Defects	Process for identifying, recording, and categorizing Defects set forth in Section 1.3.2 of <u>Exhibit 2</u>
<b>5. Maintenance Safety Plan</b>			
	5.1	Procedures	Policies, plans, training programs, and work site controls to ensure the health and safety of personnel involved in the Project and the general public affected by the Project throughout the Maintenance Period
<b>6. Maintenance Services Quality Management Plan</b>			
	6.1	Organization	Quality organization and staffing plan
	6.2	Procedures	Procedures for quality control activities including a complete description of the quality policies and objectives
<b>7. Traffic Management Plan</b>			
	7.1	Personnel	Qualifications and responsibilities of personnel
	7.2	Procedures	Procedures for setting out how DB Contractor will coordinate Lane Closure, and traffic control for conducting Maintenance Services
<b>8. Maintenance Transition Plan</b>			
	8.1	Procedures	Procedures for preparing list of items to be transferred to TxDOT

<b>Part</b>	<b>Reference</b>	<b>Section</b>	<b>Contents</b>
9. Required Key Appendices			
	9.1	Contact List	Refer to 1.2 Personnel of this Attachment 4
	9.2	Resources and Manuals	Refer to 1.7 Resources of this Attachment 4
	9.3	Insurance Verification	Refer to 1.8 Insurances of this Attachment 4
	9.4	Maintenance Limits & Performance Sections	Refer to 3.1 Maintenance Limits and 3.2 Performance Sections of this Attachment 4
	9.5	Maintenance Services Deliverable Schedule	Refer to 3.3 Maintenance Services Deliverable Schedule of this Attachment 4
	9.6	Performance and Measurement Tables	Refer to 4.2 Performance Requirements of this Attachment 4
	9.7	Maintenance Management System Details	Refer to 4.3 Maintenance Management System of this Attachment 4

**ATTACHMENT 5: NOT USED**

## **ATTACHMENT 6: LANE CLOSURE REQUIREMENTS**

### 6.1 General Requirements

Lane Closures will be permitted as part of a traffic control plan when DB Contractor can demonstrate that the Lane Closure is necessary to complete Maintenance Services and complies with the restrictions set forth in Table 6-1 (for which the maximum number of lanes closed at any time during the Lane Closure does not exceed the “maximum lanes permitted for closure” for the applicable roadway type and time period). TxDOT will approve additional Lane Closures only if DB Contractor can demonstrate that the Lane Closure is essential for the safe performance of Maintenance Services and will subject to an approval of a traffic control plan.

Lane Closures must be coordinated with adjacent projects. Where multiple requests for traffic control are received from the DB Contractor and Governmental Entities that would adversely affect Users if implemented simultaneously, TxDOT will give priority to the closure submitted first. The safety of workers and the traveling public must be the first consideration when determining the appropriate time to implement a Lane Closure.

DB Contractor shall coordinate Lane Closures that may affect any roadways adjacent to, connecting with or crossing under or over the Project with TxDOT and Governmental Entities, to ensure that no conflicts occur.

The DB Contractor shall provide traffic control plans and advance notification of all Lane Closures as shown below:

- The traffic control plan for a Partial Lane Closure should be submitted to TxDOT for review no later than 10 days before implementation.
- The traffic control plan for a Full Lane Closure should be submitted for TxDOT approval no later than 14 days before implementation.

The following TxDOT policy and procedure manuals and references apply for all Lane Closures:

- Texas Manual of Uniform Traffic Control Devices (TMUTCD)
- TxDOT Traffic Control Plan Standards
- TxDOT Barricade and Construction Standards
- TxDOT Standard Specifications “Item 502 (Barricades Signs and Traffic Handling)

The Lane Closure requirements in Section 6.2 to 6.5 supplement the above list of manuals and references for the Project.

### 6.2 Lane Closure Restrictions

Table 6-1 defines the restrictions applicable to Lane Closures for the Project. In addition,

- DB Contractor shall maintain a minimum of one driveway per business at all times. For businesses with multiple driveways, when driveway closure is necessary to progress Maintenance Services, no driveway may be closed for more than thirty (30) consecutive days or more than forty-five (45) days in a ninety (90) day period.
- DB Contractor shall not close two consecutive entrance ramps or two consecutive exit ramps at the same time.

**Table 6-1: Lane Closure Restrictions**

Roadway	Roadway Lanes (one direction)	Lane Closure Types (Maximum Lanes Permitted for Closure )*		
		Peak Periods Monday-Friday	Off-Peak Periods Monday-Friday	Lowest Volume Periods Monday-Friday
Mainlanes	3 (if applicable)	None	Type 3	Type 4
	2	None	Type 2	Type 3
	1	None	Type 1	Type 2
Ramps	3 (if applicable)	None	Type 4	Type 5
	2	None	Type 3	Type 4
	1	None	Type 2	Type 3
Direct Connectors (if applicable)	3 (if applicable)	None	Type 4	Type 5
	2	None	Type 3	Type 4
	1	None	Type 2	Type 3
Frontage Roads	3 (if applicable)	None	Type 4	Type 5
	2	None	Type 3	Type 4
	1	None	Type 2	Type 3
Cross Streets	3 (if applicable)	None	Type 4	Type 5
	2	None	Type 3	Type 4
	1	None	Type 2	Type 3

\* Lane Closure Types (Type 1 with least lanes closed and Type 5 with most lanes closed):

- Type 1: Close 1 shoulder only
- Type 2: Close 1 travel lane or 1 shoulder but not both
- Type 3: Close 1 travel lane or 1 shoulder or 1 travel and 1 shoulder
- Type 4: Close 2 travel lanes or 2 travel lanes and 1 shoulder
- Type 5: Close 3 travel lanes or 3 travel lanes and 1 shoulder

### 6.3 Emergency Closures

Additionally, the following events are considered Emergency Closures and will not be subject to Lane Closure restrictions in Table 6-1.

- a Lane Closure due to a TxDOT-Directed Change;
- a Lane Closure specified, caused or ordered by, and continuing only for so long as required by, TxDOT or any Governmental Entity, or a Utility Owner performing work under a permit issued by TxDOT;
- a Lane Closure required due to a Force Majeure Event;
- a Lane Closure required due to an Incident; or
- a Lane Closure required solely for the hazard mitigation of a Category 1 Defect and persisting for no longer than the Defect Remedy Period.

For each event set forth above, the Lane Closure will be an Emergency Closure only if DB Contractor is using commercially reasonable efforts to: (i) mitigate the impact of such event, (ii) reopen the affected segment to traffic, and (iii) minimize the impact of DB Contractor's activities and the Lane Closure to traffic flow.

### 6.4 Detour Usage

DB Contractor shall use State routes for detour routes, wherever applicable. If State routes are unavailable, DB Contractor shall use local roadways, provided that DB Contractor has obtained TxDOT's approval and the necessary permits from the Governmental Entity having jurisdiction.

DB Contractor shall provide motorists with guidance on the use of alternate routes to divert traffic around the construction, detouring around specific construction sites, and traveling through the construction areas. This shall include the installation and maintenance of temporary regional signs and changeable message signs to divert traffic around the Project. Motorist guidance to and along detour routes shall be provided, together with regional guidance.

## 6.5 Restricted Hours

### A. Holiday Restrictions

No Lane Closure that restricts or interferes with traffic shall be allowed from 12:00 PM (noon) on the day proceeding to 10:00 PM on the day after the following holiday schedule. No additional lane or ramp closure that restricts or interferes with traffic shall be allowed. TxDOT has the right to lengthen, shorten, or otherwise modify these restrictions as actual traffic conditions may warrant.

- New Year's Eve and New Year's Day (December 31 through January 1)
- Easter Holiday Weekend (Friday through Sunday)
- Memorial Day Weekend (Friday through Monday)
- Independence Day (July 3 through noon on July 5)
- Labor Day Weekend (Friday through Monday)
- Thanksgiving Holiday (Wednesday through Sunday)
- Christmas Holiday (December 23 through December 26)

### B. Major Event Restrictions

DB Contractor shall coordinate with TxDOT regarding Lane Closures during regional events. TxDOT has the right to lengthen, shorten, or otherwise modify these restrictions as actual traffic conditions may warrant. TxDOT also has the right to modify the list of major events as they are added, rescheduled or warranted.

**ATTACHMENT 7: FUNCTION CODES, DESCRIPTIONS AND ALLOCATION OF RESPONSIBILITY**

CODE	TITLE	MAINTENANCE ACTIVITY	RESPONSIBILITY		ALLOCATION OF RESPONSIBILITY NOTES
			DB CONTRACTOR	TxDOT/THIRD PARTY	
<b>BASE AND SUBGRADE (TRAVEL LANE AND SHOULDERS)</b>					CMA responsible for all base and Subgrade maintenance activities. Where repairs solely due to accident damage by third party, DBC eligible for Change Order.
110+	Base Removal and Replacement (UM = CY)	The removal of base and/or subgrade materials from distressed or failed areas and replacement with suitable material. (Includes resurfacing.)	X		
120+	In Place Repair (UM = CY)	In place repair of existing base and/or subgrade material (Includes resurfacing, may or may not include additional stabilizing material).	X		
135+	Install and/or Maintain Under-drains (UM=EA)	Installation, repair and maintenance of all types of under-drains.	X		
145+	Unpaved Road Maintenance (UM = SY)	Repair of gravel or dirt roads, including blading, addition of base, etc.	X		
<b>ASPHALTIC SURFACES (Travel Lane and Shoulders)</b>					DB Contractor responsible for all Asphaltic Surfaces maintenance activities. Where repairs solely due to accident damage by third party, DB Contractor eligible for Change Order.
211+	Leveling or Overlay with Laydown Machine (UM = SY)	The application of asphaltic tack coat and placing asphaltic concrete material to improve the ride qualities or level up low spots.	X		
212+	Leveling or Overlay with Maintainer (UM = SY)	The application of asphaltic tack coat and placing layers of asphaltic concrete material.	X		
213+	Leveling by Hand (UM = SY)	The application of asphaltic tack coat and placing layers of asphaltic concrete material. This includes repair of pavement areas greater than one square yard.	X		
214+	Leveling or Overlay with Dragbox (UM=SY)	The application of asphaltic tack coat and placing layers of asphaltic concrete material.	X		
225+	Sealing Cracks (UM = LM)	Cleaning, filling and sealing cracks in the pavement using asphaltic rubber or other sealants.	X		
231+	Seal Coat (UM = SY)	Application of a single layer of asphaltic material followed by the application of a single layer of aggregate over the full width of the travel lane or shoulder (greater than 6' in width) for a minimum of 1000 continuous feet.	X		
232+	Strip or Spot Seal Coat (UM = SY)	Application of a single layer of asphaltic material followed by the application of a single layer of aggregate over areas that are not full width of the	X		

CODE	TITLE	MAINTENANCE ACTIVITY	RESPONSIBILITY		ALLOCATION OF RESPONSIBILITY NOTES
			DB CONTRACTOR	TxDOT/THIRD PARTY	
		travel lane or shoulder (6' or less in width), or the full width of the lane or shoulder but less than 1000 feet in length.			
233+	Fog Seal (UM = SY)	Retain aggregate, enliven surface and/or seal hairline cracks by the application of a thin layer of asphaltic material.	X		
235+	Microsurfacing (UM = SY)	The application of a polymer modified high performance emulsion coupled with fine graded aggregate, mineral fillers and special additives in a slurry, to fill ruts or to provide a new wearing surface. (Caution: Should not be used to seal cracked pavements.)	X		
241+	Pothole Repair (UM = EA)	The repair of holes with an area less than or equal to one square yard. Charge to Function 213 if greater than one square yard.	X		
245+	Adding or Widening Pavement (UM = SY)	Widening travel lanes up to two (2) feet or adding shoulders up to four (4) feet to correct a maintenance problem (includes subgrade, base and surfacing, or adding turn lanes to improve safety).	X		This activity is a DB Contractor responsibility only where widening is needed to correct a maintenance problem.
252+	Milling or Planing (UM = SY)	The removal of the pavement surface by planing or milling.	X		
253+	Spot Milling (UM=SY)	The removal of pavement surface by milling using a small milling machine (drum width is 4 feet or less).	X		
265+	Treat Bleeding Pavement (UM = SY)		X		
270+	Edge Repair (UM = LF)		X		
<b>CONCRETE PAVEMENT (Travel Lanes and Shoulders)</b>					DB Contractor responsible for all Concrete Pavement maintenance activities. Where repairs solely due to accident damage by third party, DB Contractor eligible for Change Order.
315	Slab Stabilization/Jacking (UM=SY)	Leveling concrete pavement through the use of hydraulically placed material.	X		
325+	Cleaning and Sealing Joints and Cracks (UM = LF)	Cleaning, filling and sealing of joints in concrete pavement.	X		
330	Blowouts and Stress Relief (UM=SY)	Repair of blowouts and cutting pavement for stress relief.	X		
345+	Repair Spalling (UM = SY)	Clean and fill spalled areas (not full depth of concrete slab).	X		
360+	Full Depth Removal and Replacement (UM = SY)	The removal and replacement of failed areas for the full depth of the concrete slab.	X		
<b>APPROACHES AND MISCELLANEOUS SHOULDER MAINTENANCE</b>					DB Contractor responsible for all Approaches and Miscellaneous Shoulder maintenance



CODE	TITLE	MAINTENANCE ACTIVITY	RESPONSIBILITY		ALLOCATION OF RESPONSIBILITY NOTES
			DB CONTRACTOR	TxDOT/THIRD PARTY	
					activities. Where repairs solely due to accident damage by third party, DB Contractor eligible for Change Order.
455+	Reshaping unpaved shoulders. (UM = LF)	Restore sod or flexible base shoulders to original sections. Includes reshaping frontslope to eliminate low pavement edges along a paved shoulder.	X		
480+	Side Road Approaches, Crossover and Turnouts (UM = SY)	The installation or maintenance of side road approaches, crossovers, historical markers, mailbox and litter barrel turnouts, etc.	X		
488+	Concrete Appurtenance Installation and Maintenance (UM=SY)	The maintenance, installation, or removal of concrete appurtenances which include curbs and/or gutters, raised medians, sidewalks and sound barriers.		X	
495+	Parking Area Maintenance (UM = SY)	Repair of subgrade, base or surface of areas including parking lots, park and ride lots and camping pads.	N/A		Not generally applicable to CMA
<b>ROADSIDE AND OTHER</b>					
511+	Mowing (UM = AC)	Mowing of the right-of-way		X	
513+	Spot Mowing (UM = HR)	Spot mowing of the right-of-way.		X	
520+	Illegal Dumpsite Removal and Disposal (UM=CY)	Removal and disposal of debris discarded or deposited in an unauthorized area in the right of way, such as under a bridge, overpass, culvert, etc.		X	
521+	Litter (UM = AC)	Removal and disposal of litter from the entire right-of-way, excluding paved areas, picnic and rest areas.		X	
522+	Street Sweeping (UM = MI)	Routine street sweeping. Units are the actual miles swept regardless of the centerline miles.		X	
523+	Debris (UM=MI)	Routine patrolling to remove and dispose of debris, including dead animals.		X	
524+	Spot Litter (UM = AC)	Spot removal and disposal of litter, including dead animals, from the right-of-way.		X	
525	Adopt-A-Highway (UM = HR)	Installation of posts and signs, materials furnished to groups, personnel and equipment used to assist in removal and disposal of collected litter.		X	
527	Hand Sweeping (UM=SY)	Hand sweeping of riprap, islands, medians, curb & gutter, bullpens, driveways, etc.		X	
530+	Removal of Graffiti (UM= SF)	Removal of graffiti from fixtures, wingwalls, bridge structures, etc. Not to be used in lieu of Function 733, Maintain Vandalized Signs, Function 731 or 732, Sign Maintenance.		X	
531+	Picnic Area Maintenance (Without Restrooms) (UM = HR)	Work performed in maintaining picnic areas, including mowing, litter pickup, emptying litter barrels, paved areas, maintenance of plantings, graffiti removal, etc.		X	

CODE	TITLE	MAINTENANCE ACTIVITY	RESPONSIBILITY		ALLOCATION OF RESPONSIBILITY NOTES
			DB CONTRACTOR	TxDOT/THIRD PARTY	
532+	Rest Area Facility Maintenance (UM = HR)	Work performed in janitorial and grounds maintenance, including mowing, litter pickup, emptying litter barrels, maintenance of plantings, cleaning restrooms, cleaning arbors, graffiti removal, minor painting, etc. This item shall also include special maintenance required to repair buildings, repair/replace arbors, picnic tables, fixtures, litter barrels, paved areas, etc. (including maintenance of treatment plants and dump stations).		X	
533+	Rest Area Facility Maintenance through Regional Contracts (UM = HR)	(Maintenance Division Use Only)		X	
535	Maintenance of Specialty Facilities (UM = HR)	All maintenance costs to specialty facilities including border safety inspection facilities (BSIFs), toll booths, service plazas, fences and associated appurtenances. The highway class code will determine the type of facility.		X	
536	Toll Road System Operations	All operating costs for all system toll roads. Maintenance costs should be charged to the appropriate segment 78 function.		X	
538	Pest Control (UM=AC)	Activities related to the use of predatory animal and insect control whether in turf and ornamental sites or on the ROW.		X	
540	Hand Vegetation Control (UM = HR)	Hand cleaning vegetation out of islands, medians, riprap, drainage channels, etc. by chemical, manual or mechanical means.		X	
541+	Chemical Vegetation Control, Edges (UM = AC)	Complete control of vegetation encroaching in pavement edges, shoulders, medians, islands and curbs with herbicides.		X	DB Contractor responsible for identifying to TxDOT where lack of vegetation control could affect Maintenance Element.
542+	Chemical Vegetation Control, Overspray (UM = AC)	Control of undesirable vegetation growth by overspraying the right-of-way including fixtures (i.e. signs, delineator, guardrails, culverts, etc) with herbicides.		X	DB Contractor responsible for identifying to TxDOT where lack of vegetation control could affect Maintenance Element.
544+	Chemical Vegetation Control, Ropewick (UM = AC)	Control of tall vegetation (i.e. Johnson grass) in the right of way with wick applicator.		X	
545	Chemical Vegetation Control, Basal Application (UM = HR)	Control of undesirable brush species in the right of way with a low volume basal bark application.		X	
548+	Seeding, Sodding, Hydromulching and Blanketing (UM = SY)	Seeding, sodding, hydromulching and/or placing soil retention blankets.	X	X	DB Contractor responsible if reason for activity is failure of Maintenance Element
551	Landscaping (UM=AC)	The installation or maintenance of landscape plantings and their facilities including planter walls, border, sprinkler systems, etc. (excluding picnic and		X	

CODE	TITLE	MAINTENANCE ACTIVITY	RESPONSIBILITY		ALLOCATION OF RESPONSIBILITY NOTES
			DB CONTRACTOR	TxDOT/THIRD PARTY	
		rest areas).			
552	Tree and Brush Control (UM=CL)	The trimming, pruning and disposal of shrubs, vines, and trees (excluding picnic and rest areas).		X	
558	Storm Water Pollution Protection (UM=LF)	Maintenance or Installation of storm water pollution protection plan (SW3P) in accordance with EPA regulation on projects designated by Area Engineers.		X	
560+	Riprap Installation and Maintenance (UM=SY)	Installation and maintenance of ditch liners, retards, down drains, riprap, flumes, concrete mowing strips, gabions, retaining walls and other erosion protection.		X	
561+	Ditch Maintenance (UM = CY)	Removal and hauling of silt, drift and/or filling eroded areas. Not to be used for work at culverts or bridges. (See Functions 570 and 620.)		X	
562+	Reshaping Ditches (UM = LF)	Reshaping ditches using maintainer and/or gradall, etc. Not to be used for work at culverts and bridges. (See Functions 570 and 620.)		X	
563+	Slope Repair/Stabilization (UM = SY)	Slope repair and/or stabilization. Not to be used for work at culverts and bridges. (See Functions 570 or 620)		X	
570	Culvert and Storm Drain Maintenance (UM=EA)	The repair and maintenance of culverts up to bridge classification (twenty feet measured along centerline of roadway). This work includes silt and debris removal from inlet, storm drains, retention ponds and culverts (except those costs associated with Function 571).		X	
571	Storm Water Pump Station Maintenance (UM=EA)	Repair and maintenance of motors, pumps, generators, wet wells, dry wells, debris screening baskets, buildings, etc., including costs of utility services.		X	
580+	Removal of Illegal Signs on ROW (Temporary, no special handling required.) (UM =EA)	Removal of illegal signs on right-of-way, including disposal and written notices to owners.		X	
581+	Removal of Illegal Signs on ROW (Permanent, special handling required.) (UM = EA)	Removal of illegal signs on right-of-way, including disposal and written notices to owners.		X	
582	Removal of Encroachments, Other than Signs (UM = HR)	Removal of illegal encroachments (other than signs) on the ROW, including disposal and written notice to owners.		X	
585+	Driveway Installation / Removal and Maintenance (UM = SY)	See access management policy		X	
591	Utilities and Driveway Inspection (UM = HR)			X	
593+	Cable Median Barrier (UM=LF)	Installation and maintenance of high tension cable median barrier systems, including the cable, posts	X	X	DB Contractor responsible only for work associated with Asphaltic and Concrete

CODE	TITLE	MAINTENANCE ACTIVITY	RESPONSIBILITY		ALLOCATION OF RESPONSIBILITY NOTES
			DB CONTRACTOR	TxDOT/THIRD PARTY	
		and other end treatments.			Pavement renewal maintenance activities.
594+	Concrete Barrier (UM = LF)	Installation, removal and maintenance of concrete barrier, including attached headlight barrier fence.	X	X	DB Contractor responsible only for work associated with Asphaltic and Concrete Pavement renewal maintenance activities.
595+	Guard Fence (UM = LF)	Installation and maintenance of guard fence, M.B.G.F. turn down ends, median barrier and attached headlight barrier fence, including posts, metal beams, etc. (End treatment other than turn down ends see Function 596)	X	X	DB Contractor responsible only for work associated with Asphaltic and Concrete Pavement renewal maintenance activities.
596+	Guardrail End Treatment Systems (UM=EA)	Installation and maintenance of guardrail end treatments systems. (For attenuators other than GETS, see function 725)		X	
597+	Mailboxes, Installation and Maintenance (UM = EA)			X	
598	Boat Ramp Maintenance (UM = HR)	Work performed in maintaining boat ramps including mowing, litter pick-up, emptying litter barrels, maintenance of paved and unpaved areas, etc.		X	
<b>BRIDGES AND BRIDGE CHANNELS</b>					
610+	Bridges, Movable Span (UM = HR)	Operation, routine maintenance and inspection of movable span bridges, (Swing barge, lift or turn). Restricted use: Beaumont, Houston, Pharr, and Yoakum District only.	X		
611+	Bridges, Portable (UM=HR)	Installation, removal, maintenance and inspection of portable bridges.	X		
620+	Bridge Channel Maintenance (UM=CY)	Removing of silt and drift, filling eroded areas, maintenance and repair of fenders, jetties, dikes, riprap and channel maintenance (including easements) except under bridges.	X		
628+	Bridges, Rail (UM = LF)	Maintenance of bridge rail, posts and post connections to deck, including painting.	X		
645+	Bridges, Joint Maintenance (UM =LF)	Repair of bridge joints including cleaning and sealing.	X		
646+	Bridges, Joint Replacement (UM =LF)	Replacement of bridge joints.	X		
650+	Bridges, Deck (UM = SF)	Repair to bridge decks.	X		
660+	Bridges, Superstructure, Concrete (UM=SF)	Routine maintenance of concrete components of the bridge superstructure.	X		
665+	Bridges, Superstructure, Steel (UM=SF)	Routine maintenance of the steel components of the bridge superstructure, including bearings, concrete diaphragm and beams.	X		
670+	Bridges, Substructure, Concrete (UM=SF)	Routine maintenance of the concrete components of the bridge substructure including caps, columns,	X		

CODE	TITLE	MAINTENANCE ACTIVITY	RESPONSIBILITY		ALLOCATION OF RESPONSIBILITY NOTES
			DB CONTRACTOR	TxDOT/THIRD PARTY	
		abutments, wingwalls, piling, etc.			
675+	Bridges, Substructure, Steel and Timber (UM=SF)	Routine maintenance of the steel or timber components of the bridge substructure including caps, abutments, pile extensions, etc.	X		
680+	Bridges, Painting (UM=SF)	Cleaning and painting of steel superstructure or steel substructure.	X		
690+	Bridges, Mechanical and Electrical (UM = HR)	Maintenance and repair of the electrical and mechanical components of a bridge.	X		
695+	Fender Systems (UM=HR)	Installation and maintenance of fender systems.	X		
<b>TRAFFIC OPERATIONS</b>					
711+	Paint and Bead Striping (UM=LF)	Striping or re-striping lane lines, center lines and edge lines using paint and beads.	X	X	DB Contractor responsible only for work associated with Asphaltic and Concrete Pavement renewal maintenance activities.
712+	High Performance Striping (UM=LF)	Striping or re-striping lanes lines, centerlines and edge lines using thermoplastic or other high performance materials.	X	X	DB Contractor responsible only for work associated with Asphaltic and Concrete Pavement renewal maintenance activities.
713	Specialty Markings (UM=EA)	Medians, islands and other pavement markings not covered under functions 711 or 712. (Including make-ready operations for all stripe alignment, such as spotting, tabs, temporary tape, etc.)	X	X	DB Contractor responsible only for work associated with Asphaltic and Concrete Pavement renewal maintenance activities.
715	Removing Pavement Striping (UM=LF)	Function 715 should be used for all activities associated with the removal or obliteration of pavement stripes when the stripe is not going to be replaced. Work items could include grinding, burning, scraping or covering existing pavement stripes by applying an asphaltic material.	X	X	DB Contractor responsible only for work associated with Asphaltic and Concrete Pavement renewal maintenance activities.
716	Performance-Based Contract Distribution (UM=LM)	These contracts are set up to pay the contractor a fixed price on a periodic basis regardless of the type of work performed and/or the amount of work performed.		N/A	
721+	Delineators (UM = EA)	Installation, maintenance and/or replacement of damaged or missing delineators and/or posts. This function shall include straightening of posts. Measured by each post and each reflector replaced.	X	X	DB Contractor responsible only for work associated with Asphaltic and Concrete Pavement renewal maintenance activities.
724	Roadway Access Control (UM=LF)	Installation and maintenance of barriers other than those covered by Functions 594 and 595, designed to control access on highways, including post and cable fences, ROW fences and cattle guards.		X	
725	Vehicle Attenuators (UM=EA)	Installation and maintenance of vehicle attenuator, crash cushions, etc. (Includes end treatment devices on guard fence).		X	
731+	Install or Reinstall Small Signs (UM=EA)	The installation of signs (less than 4' x 4'). Includes the installation of an old sign on a new post or the		X	

CODE	TITLE	MAINTENANCE ACTIVITY	RESPONSIBILITY		ALLOCATION OF RESPONSIBILITY NOTES
			DB CONTRACTOR	TxDOT/THIRD PARTY	
		installation of a new sign on an existing post. Not to be used in lieu of Function 733, Maintain Vandalized Signs, Installation of Large Signs Function 732, or Adopt-A-Highway Function 525.			
732+	Install or Reinstall Large Signs (UM=EA)	The installation of signs (equal to or greater than 4' x 4'). Includes the installation of an old sign on a new post or the installation of a new sign on an existing post. Not to be used in lieu of Function 733, Maintain Vandalized Signs, Installation of Small Signs Function 731, or Adopt-A-Highway Function 525.		X	DB Contractor responsible for Maintenance Services associated with sign gantries in accordance with Performance and Measurement Table Item 3.3
733+	Vandalized Signs (UM = EA)	Replacement or repair of signs damaged by vandalism.		X	
738	Installation and Maintenance of Flashing Beacons (UM=EA)	Installation and maintenance of overhead flashing beacons, pedestal or sign mounted flashing beacons, etc.		X	
742	Illumination (UM=EA)	Installation, maintenance and operation of illumination systems including continuous lighting, safety lighting, and sign illumination.	X	X	DB Contractor responsible for Maintenance Services associated with high masts in accordance with Performance and Measurement Table Item 3.3
743	Installation and Maintenance of Isolated Traffic Signals (UM=EA)	Maintenance and operation of isolated traffic signals, diamond interchange signals, etc.	X	X	DB Contractor responsible for Maintenance Services associated with signal gantries in accordance with Performance and Measurement Table Item 3.3
745	Traffic Management System (UM=CM)	Maintenance and operation of traffic management systems on freeways or non-freeways, entrance/exit ramps, motorist information (e.g. changeable message signs, highway advisory radio, etc.), surveillance and related communications equipment. (ITS Control Center personnel should charge to Segment 70, Detail 0570).		X	
750+	Installation & Removal of Pavement Markers (UM=EA)	Installation and/or removal of traffic buttons or reflective pavement markers.	X	X	DB Contractor responsible only for work associated with Asphaltic and Concrete Pavement renewal maintenance activities.
790	Miscellaneous Traffic Services (UM = HR)	All traffic surveys (including all motor vehicle and pedestrian counts at intersections) and directly related locations and other traffic services not covered elsewhere.		X	
799	Traffic Control Plan (UM = HR)	The placement, maintenance and removal of barricades, signs, cones, lights and other such devices needed to handle traffic during the maintenance operation.	X	X	TxDOT only responsible for TxDOT Maintained Elements.
<b>EXTRAORDINARY MAINTENANCE</b>					

CODE	TITLE	MAINTENANCE ACTIVITY	RESPONSIBILITY		ALLOCATION OF RESPONSIBILITY NOTES
			DB CONTRACTOR	TxDOT/THIRD PARTY	
811	Assistance to Traffic (Snow and Ice) (UM = HR)	Provide assistance to traffic caused by snow and ice conditions on all highways (includes sanding, deicing, clearing, removal, etc.).		X	
830	Hazardous Material Cleanup, Spill or Leaking Storage Tanks (UM = HR)	Investigation, testing, cleanup, removal, disposal, and restoration work associated with a spill or leaking storage tank.	X	X	DB Contractor responsible for Hazardous Materials clean-up of materials brought to the Maintenance Limits by DB Contractor. For Hazardous Materials where materials were deposited by a third party or associated with an Incident, DB Contractor eligible for a Change Order.
831	Hazardous Material Cleanup (Abandoned Materials) (UM = HR)	Investigation, testing, cleanup, removal, disposal, and restoration work associated with abandoned hazardous materials of unknown ownership.	X	X	DB Contractor responsible for Hazardous Materials clean-up of materials brought to the Maintenance Limits by DB Contractor. For Hazardous Materials where materials were deposited by a third party or associated with an Incident, DB Contractor eligible for a Change Order.