



Texas Department of Transportation

CMA SPECIFICATION

Item 9

Attachment 9-2 Maintenance Management Plan

September 2022

Maintenance Management Plan

NAME OF PROJECT
Contract #XXXXX

Day Month Year

Prepared By: DB Contractor's Name
Street Address
Suite XXX
City Name, Texas XXXX

Note: this MMP Template applies to Maintenance Services performed under the CMC
after Final Acceptance

MAINTENANCE MANAGEMENT PLAN

For The

NAME OF PROJECT

Approved By:

FirstName LastName
Maintenance Manager (MM) _____
Date

FirstName LastName
Maintenance Quality Manager (MQM) _____
Date

FirstName LastName
TxDOT's Authorized Representative _____
Date

Record of Revisions

Rev.	Date Issued	Pages Affected	Comments
0	XX/XX/XXXX	All	Initial Issue
1	XX/XX/XXXX	XX-XX	Add brief comment regarding revision

Rev.	Date Issued	Pages Affected	Comments

Instructions to DB Contractor:

(These instructions to be removed from completed MMP)

1. This Maintenance Management Plan (MMP) template defines the structure and required contents of the MMP. Use this template for each version and revision of the MMP submitted to TxDOT for approval.
2. Include the DB Contractor’s processes to achieve compliance with the obligations in the CMC Documents including the Performance Requirements. Describe who is responsible for each activity.
3. Processes should be clear, auditable, measurable, and achievable. Include control points at which the DB Contractor causes its own personnel or independent parties to verify that the Maintenance Services are in compliance with the CMC Documents. Identify points in the processes at which TxDOT is given the opportunity to witness or approve the Maintenance Services.
4. Identify the procedures (i.e. detailed steps) that will be utilized (see Appendix 5 for a listing of procedures that are needed at a minimum).
5. Describe the MMP updating process so that TxDOT knows who will be performing what actions when.
6. Section 4.2 of the CMA General Conditions sets forth TxDOT’s approval rights and the conditions attached to its approval of the MMP.
7. Where a Traffic Control Plan, Hazardous Materials Management Plan, Environmental Compliance and Mitigation Plan and similar plans or activities associated with Maintenance Services are needed during the Maintenance Period, transfer relevant plans and sections from the PMP and update as needed throughout the Maintenance Period.
8. Do not duplicate the CMA General Conditions or CMA Specification Item 9 within the MMP. Where necessary, cross reference relevant parts of the CMA General Conditions or CMA Specification Item 9.
9. Include within the MMP all Proposal Commitments related to the Maintenance Services and how TxDOT will be able to verify the Proposal Commitments have been fulfilled.
10. Instructions to the DB Contractor are shown in this template in parentheses and italics and shall be removed prior to submittal of the MMP to TxDOT.

TABLE OF CONTENTS

1. GENERAL MANAGEMENT AND ADMINISTRATION.....1

1.1. Organization and Personnel..... 1

1.1.1. DB Contractor Maintenance Organization Chart 1

1.1.2. Qualifications, Experience necessary and training requirements for DB Contractor staff positions..... 2

1.1.3. Personnel Training and Certification 2

1.2. Communication Protocols 2

1.2.1. Communications with TxDOT, Governmental Entities and Third Parties 2

1.2.2. Oversize / Overweight Permits..... 3

1.3. Project Meetings 3

1.4. Document Control and Information Management 3

1.5. Procurement and Subcontractors..... 4

1.6. Monitoring and Control of Subcontractors 4

2. ENVIRONMENTAL COMPLIANCE.....5

2.1. Hazardous Material Management Plan 5

2.2. SW3P Implementation 5

2.3. Environmental Compliance and Mitigation Plan 5

3. MAINTENANCE LIMITS, PERFORMANCE REQUIREMENTS AND MAINTENANCE SERVICES PROCEDURES.....5

3.1. Maintenance Limits, Layout and Limits of Performance Sections..... 5

3.2. Renewal Work Procedure 6

3.3. Performance and Measurement Tables 6

3.4. Maintenance Management System (MMS) 6

3.5. Defects and Inspections..... 6

3.6. Tracking and Reporting Noncompliance Events..... 7

4. MAINTENANCE SAFETY PLAN.....7

5. TRAFFIC MANAGEMENT PLAN AND COMMUNICATIONS PLAN.....8

5.1. Processes for Lane Closures and Traffic Control Plans 8

5.2. Public Information and Communications Plan 8

6. MAINTENANCE QUALITY MANAGEMENT PLAN.....8

6.1. Quality Management Organization 8

6.2. Quality Policies9

6.3. MQMP Processes9

7. TRANSITION PLAN10

APPENDIX 1: STAFF NAMES CONTACT DETAILS AND QUALIFICATIONS.....11

APPENDIX 2: CONTACT DETAILS FOR TXDOT AND THIRD PARTIES11

APPENDIX 3: MAINTENANCE LIMITS AND LIMITS OF PERFORMANCE SECTIONS11

APPENDIX 4: PERFORMANCE AND MEASUREMENT TABLES11

APPENDIX 5: MMP PROCEDURES.....12

APPENDIX 6: TEMPLATE FOR TYPICAL PROCEDURE13

APPENDIX 7: QUALITY POLICIES AND ORGANIZATION14

1. GENERAL MANAGEMENT AND ADMINISTRATION

[Provide an overview of the approach to delivering the Maintenance Services after Final Acceptance, identify the Project’s maintenance objectives and reference applicable quality policies in Appendix 7. Identify Proposal Commitments applicable to the Maintenance Services.]

Table 1.1 identifies key dates in connection with the MMP.

Table 1.1: Key Dates

Task	Date/Deadline
MMP version 2 rev.0: 120 days before Substantial Completion	
Substantial Completion	
Final Acceptance (Initial Maintenance Term Commencement Date)	
TxDOT Last Date to issue NTP for Second Maintenance Term (180 days before end of Initial Maintenance Term)	

[Example only: include at a minimum CMC milestones, Maintenance Terms and MMP Submittals and keep updated with upcoming milestones and MMP updates]

1.1. Organization and Personnel

1.1.1. DB Contractor Maintenance Organization Chart

Figure 1.1 below shows the organization chart for Maintenance Services after Final Acceptance.

[Describe the organizational structure and how it will enable the DB Contractor’s obligations for Maintenance Services to be met. Describe the reporting lines to TxDOT and internally. Describe the roles and responsibilities assigned to each position. Identify Major Subcontractors and describe the Maintenance Services to be performed by them. Describe continuity of organization and personnel between Maintenance Work before Final Acceptance and Maintenance Services after Final Acceptance.]

Figure 1.1: Organization Chart for Maintenance Services after Final Acceptance

[Insert organization chart (Figure 1.1) showing reporting lines to include at a minimum:

- *TxDOT Project Manager*
- *DB Contractor corporate management team*
- *Maintenance Manager**
- *Maintenance Quality Manager**
- *Maintenance Safety Manager**
- *Individual responsible for training program**
- *Individual responsible for assessing the condition of specified assets and scheduling Renewal Work**

For each individual () identify the employing organization. Show positions and activities to be undertaken by Major Subcontractors.]*

1.1.2. Qualifications, Experience necessary and training requirements for DB Contractor staff positions

Appendix 1 shows the individual(s) assigned to staff positions with their positions, contact information (email and mobile phone number), education/qualifications, role, and summary of previous experience.

[Include at a minimum the individuals required to be identified on the organization chart and marked with () above, including individuals employed by subcontractors]*

1.1.3. Personnel Training and Certification

Table 1.2 defines responsibility for development and implementation of training programs, who will be conducting the training and certification process for each staff position, including maintenance personnel, subcontractors and maintenance crew members on the topics below.

Table 1.2: Training Program Matrix

Training Program	Person responsible to develop and deliver	Staff positions requiring training	Frequency of training	Link to training program
Maintenance Management Plan training				
Inspections, Defect identification and categorization of Defects				
Maintenance Safety Plan, equipment use, all safety-related activities and enforcement of safety operations				
Work zone traffic control and flaggers in work zones				
<i>[Other training programs as appropriate (details to be added by DB Contractor)]</i>				

[Include at a minimum training requirements for the individuals required to be identified on the organization chart, including individuals employed by subcontractors]

1.2. Communication Protocols

[Transfer communications processes applicable to the Maintenance Services, with suitable amendments, from the PMP to the MMP.]

1.2.1. Communications with TxDOT, Governmental Entities and Third Parties

For communication with TxDOT, Governmental Entities, utilities, stakeholders and other third parties refer to the following procedure in Appendix 5:

- MMP-001 – Submittals and Coordination with TxDOT, Governmental Entities and Third Parties

Contact details for TxDOT, Governmental Entities, third parties, other stakeholders and their consultant offices with whom the DB Contractor will communicate are listed in Appendix 2.

[Within MMP-001 identify all adjacent highway agencies and address all interfaces with adjacent and connecting roadways.]

1.2.2. Oversize / Overweight Permits

The process for requests for permitting, issuance of permits and enforcement of permits through TxDOT is included in the following procedure in Appendix 5:

- MMP-002 –Agency Coordination for Oversize Loads

[State how TxDMV will be notified of closures associated with permits and how updates for roadway clearances during maintenance and Renewal Work will be provided.]

1.3. Project Meetings

[Complete the following information for meetings]

The meeting types, topics, required participants and frequencies of meetings in connection with Maintenance Services shall be in accordance with Table 1.3.

Table 1.3 Meetings in Connection with Maintenance Services

Meeting Type	Frequency	Attendees
Maintenance Work review meeting	Quarterly or more frequently as required by Section 9.8.1 of the CMA Specification	TxDOT, Maintenance Manager, other senior personnel

[Insert details of all other meetings in connection with the Maintenance Services including mandatory meetings required by TxDOT.]

1.4. Document Control and Information Management

[Complete the following information for document control and information management.]

Document Control and information management for *Maintenance Services* shall be as identified in Table 1.4.

Table 1.4: Document Control and Information Management

Person responsible for compliance with TxDOT maintenance and inspection of records requirements	<i>[Insert name of individual or staff position]</i>
Procedures applicable	<i>[Insert references to applicable procedures]</i>

Document management EDMS software system	<i>[Insert details of software and reference to manuals]</i>
Person responsible for the storage and retention of Maintenance Records	<i>[Insert name of individual or staff position]</i>
<i>[Insert other requirements applicable to document control and information management]</i>	

1.5. Procurement and Subcontractors

Maintenance Services activities including Renewal Work that will be subcontracted are shown in Table 1.5 below.

Table 1.5: Details of Subcontractors Performing Maintenance Services

Name of Subcontractor and start date	Key contact details	Work responsibility

[Add details of each subcontractor in accordance with the requirements of the CMC.]

1.6. Monitoring and Control of Subcontractors

The following procedure contained in Appendix 5 is designed to ensure all subcontractors' work is adequately monitored and action taken in the event of noncompliance:

- MMP-003 – Quality Control of Subcontractors Activities and Products.

[Include within MMP-003 processes and responsibility for:

- (i) Issuing instructions to subcontractors, including consultants and subconsultants*
- (ii) Ensuring steps taken to ensure subcontractors and suppliers meet the obligations imposed by their respective subcontracts*
- (iii) Monitoring the work of subcontractors, issuing noncompliance or nonconformance notices and providing feedback*
- (iv) Ensuring training for employees of Subcontractors.]*

2. ENVIRONMENTAL COMPLIANCE

2.1. Hazardous Material Management Plan

The Hazardous Materials Management Plan (HMMP) governs the safe handling, storage, treatment and/or disposal, spill prevention, countermeasures and pollution prevention measures of Hazardous Materials.

*[Whenever Maintenance Services require the handling, storage and/or disposal of **Hazardous Materials**, provide an HMMP consistent **with the scope and nature of the Maintenance Services and the HMMP requirements set forth in the DBC.**]*

2.2. SW3P Implementation

Maintenance Services will be undertaken 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.

[Transfer SW3P requirements applicable to Renewal Work, with suitable amendments from the PMP to the MMP and provide processes and responsibilities for Project-specific decision criteria regarding the types of Maintenance Services for which the SW3P requirements shall be followed (e.g. for any activity disturbing soil.)]

2.3. Environmental Compliance and Mitigation Plan

The Environmental Compliance and Mitigation Plan (ECMP) includes compliance strategies and processes to be employed in accordance with the requirements of applicable Environmental Laws and Environmental Approvals. Maintenance Services will be undertaken in compliance with the ECMP and the Environmental Commitments.

*[Whenever **Maintenance Services** may affect **environmental** resources, provide an ECMP consistent with the scope and nature of the Maintenance Services and the ECMP requirements set forth in the DBC.]*

3. MAINTENANCE LIMITS, PERFORMANCE REQUIREMENTS AND MAINTENANCE SERVICES PROCEDURES

3.1. Maintenance Limits, Layout and Limits of Performance Sections

Schematic Drawings showing the Maintenance Limits and the extents of the Performance Sections are included in Appendix 3, consistent with the requirements of CMA Exhibit 16.

[Include processes and responsibilities for:

- (i) Periodically validating that the Maintenance Limits are correctly and clearly identified in the field*
- (ii) Liaison with TxDOT and Governmental Entities at least annually to review the Maintenance Limits, identify any jurisdictional gaps or inefficiencies and recommend solutions]*

3.2. Renewal Work Procedure

The approach to Renewal Work consistent with Section 9.7.7 of the CMA Specification Item 9 is described in the following procedure in Appendix 5.

- MMP-004 – Renewal Work

[Include processes and responsibilities for determining when any element requires Renewal Work]

3.3. Performance and Measurement Tables

Appendix 4 to the MMP contains the most recent approved versions of the Performance and Measurement Tables updated in accordance with *Section 9.3.3 of CMA Specification Item 9*.

3.4. Maintenance Management System (MMS)

Refer to the following procedure in Appendix 5:

- MMP-005 – Establishing Maintenance Management System

3.5. Defects and Inspections

The approach to Maintenance Services consistent with the CMA Specification Item 9 is described the following procedures in Appendix 5:

- MMP-006 – Defect Categorization and Repair
- MMP-007 – Maintenance Inspection Plan
- MMP-008 – Maintenance Repair Submittal Plan

[Include within the above processes and responsibilities for:

- (i) Training of responsible personnel to identify and to categorize Defects discovered during inspection. This shall include training specific to the identification and recording of Category 1 Defects.*
- (ii) Tracking and reporting of Defects including fault detection logs, software output*
- (iii) Generation of corrective action work orders through the MMS including how backlog of corrective maintenance and repair activities will be populated and monitored in the MMS*
- (iv) Action by Defect category type, to include a description of how the actions are carried out stating the responsible individuals and the processes for specific Defect types with examples*
- (v) How Defects will be repaired, with examples provided for all common Defects, stating necessary notification and the individuals to be notified for such Defect repair.*
- (vi) Documentation including how Defects will be entered, updated and closed in the Maintenance Management System*
- (vii) Verification of the satisfactory completion of Maintenance Services and restoration of asset condition*

- (viii) Discovery of maintenance trends to determine the need for adjustments in the weekly, monthly and annual maintenance plan to address changing project conditions*
- (ix) Inspection and testing of Project items and the identification and classification of Defects and inspection failures*
- (x) Analysis of Specialist Inspections performed by TxDOT and how these inspections will be used to identify Defects*
- (xi) Monitoring instrumentation according to applicable specification*
- (xii) Field inspections of completed Maintenance Services and for preparing daily reports to document all inspections performed*
- (xiii) Identification of inspection agencies and organizations, including information on each agency's capability to provide the specific services required, certifications held, and equipment*
- (xiv) Hazard mitigation for any Category 1 Defect in a Maintained Element of which the DB Contractor is aware through its own inspections, from a third party or through notification by TxDOT*
- (xv) Proposal to TxDOT of a repair method for any Defect]*

3.6. Tracking and Reporting Noncompliance Events

[Include the following where Noncompliance Events are included in the CMC]

Refer to the following procedure in Appendix 5 for Noncompliance Events:

- MMP-009 – Tracking and Reporting Noncompliance Events

[Include within the above processes and responsibilities for:

- (i) Meeting self-reporting obligations*
- (ii) Identification of the start date of each Noncompliance Event*
- (iii) Accurate assessment and reporting of the date of cure*
- (iv) Proper use of the Noncompliance Events database and integration with the MMS.*
- (v) Validation of the data, times, dates and other information entered into the Noncompliance Event database including frequency of checks / audits]*

4. MAINTENANCE SAFETY PLAN

The Maintenance Safety Plan describes 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 is designed to preserve the safety of Users, adjacent communities, transportation workers and Emergency Services.

The Maintenance Safety Manager complying with the requirements of Section 9.2.3.3 of CMA Specification Item 9 is *[Insert name and contact details]*.

[Develop the plan based on the requirements of Section 5.1.3 of the CMA General Conditions and tailored specifically to meet the Project’s Maintenance Services requirements. Include within the Maintenance Safety Plan processes and responsibilities for:

- (i) Transition from safety of Maintenance Work before Final Acceptance to safety of Maintenance Services after Final Acceptance in order to provide continuity and apply lessons learned*
- (iii) The individual assigned during each shift during the Maintenance Services assigned to ensure compliance with the Maintenance Safety Plan*
- (iv) Project-specific amendments for any Renewal Work not covered by the existing plan*
- (v) Notification and recording of safety incidents associated with Maintenance Services including the location, number of vehicles involved, severity of incident, number of lanes affected, and duration of any associated Lane Closure.]*

5. TRAFFIC MANAGEMENT PLAN AND COMMUNICATIONS PLAN

5.1. Processes for Lane Closures and Traffic Control Plans

[Whenever Maintenance Services require Lane Closures, provide a Traffic Management Plan (TMP) and Traffic Control Plan (TCP) consistent with the scope and nature of the Maintenance Services and consistent with the traffic control requirements set forth in Item 26 of the Design-Build Specifications.]

5.2. Public Information and Communications Plan

*[Include within the MMP applicable procedures from the **Public Information and Communications Plan (PICP)** included in the PMP necessary for performance of Maintenance Services. This section may cross reference to the Traffic Management Plan if this contains the necessary processes.]*

6. MAINTENANCE QUALITY MANAGEMENT PLAN

6.1. Quality Management Organization

The Maintenance Quality Management Plan (MQMP) complies with *Section 9.2.2 of the CMA Specification Item 9.*

Table 6.1 below shows the maintenance quality management organization and staffing plan showing the period of time that each quality management staff member will be present on the site and the resumes of the Key Personnel.

Table 6.1 Maintenance Quality Management Organization

Name of Person within Maintenance Quality Organization	Start date and period required	Percentage of time allocated to Project	Required experience and qualifications

An organizational chart identifying all quality management personnel, their roles, authorities and line reporting relationships and resumes for all quality management personnel is included in Appendix 7.

A description of the roles and responsibilities of all quality management personnel and those who have the authority to stop activities is included in Appendix 7.

A list 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 is included in Appendix 7.

6.2. Quality Policies

The quality policies and objectives that DB Contractor shall implement throughout its organization are included in Appendix 7. The policies shall demonstrate the DB Contractor senior management’s commitment to implement and continually improve the maintenance quality system.

6.3. MQMP Processes

Processes in the MQMP are developed in accordance with the following:

- Objectives, targets and responsibilities are: consistent with TxDOT’s Quality Policy and QAP requirements; assigned for each organizational level within DB Contractor organization; clear, specific, measurable and achievable; and *[Insert name of individual]* is responsible for the measurement and analysis of their achievement.
- Sources of information used to identify opportunities for continuous improvement include: records available on systems such as MMS; customer complaints database; Noncompliance Events database; level of satisfaction of Users; and evidence of lack of effectiveness of existing processes.

Refer to the following procedures in Appendix 5 for the MQMP:

- MQMP-001 – Performance Requirements Compliance
- MQMP-002 – Verification of Records
- MQMP-003 – Records for TxDOT Review

[Include within the MQMP processes and responsibilities for:

- (i) How the DB Contractor will meet the Performance Requirements, including the necessary inspection procedures and frequencies to ensure compliance with Defect Repair Period to mitigate hazards, and permanently repair Defects.*
- (ii) Inspection and test plans, including the timing and frequency of testing*
- (iii) Control of quality records*

- (iv) Validation of the accuracy of Maintenance Records*
- (v) Management reviews*
- (vi) Measurement of customer satisfaction*
- (vii) Control of nonconforming products and services*
- (viii) Validation of the data, times, dates and other information entered into the MMS for Noncompliance Events*
- (ix) Verification of DB Contractor's compliance with the Performance Requirements including frequency of checks / audits*
- (x) Accuracy of all Maintenance Records including frequency of checks / audits*
- (xi) Making all quality records immediately available to TxDOT for review]*

The person responsible for updating the MMP is *[Insert the name of the position]*. The TxDOT individuals that will need to be consulted regarding revisions to the MMP are *[Insert names of individuals]*.

Refer to the following procedure in Appendix 5:

- MMP-011 – Procedure for updating the MMP

7. TRANSITION PLAN

The Maintenance Transition Plan complies with Section 9.7.11 of the CMA Specification Item 9 and is designed to coordinate the identification of Maintenance Transition punch list items required to be completed prior to maintenance transfer at the end of the Maintenance Term.

Refer to the following procedure in Appendix 5:

- MMP-010 – Implementation of Transition Plan

APPENDIX 1: STAFF NAMES CONTACT DETAILS AND QUALIFICATIONS

[Insert contact details, qualifications and training record for Maintenance Services]

Key Personnel or other personnel position	Staff name and start date	Contact details	Education, qualifications and experience	Link to training record in connection with Project
			<i>[Insert details or link to resume]</i>	

APPENDIX 2: CONTACT DETAILS FOR TXDOT AND THIRD PARTIES

[Insert contact details for Maintenance Services]

Organization	Contact name, e-mail and address	Business Phone
TxDOT <i>[List all TxDOT contacts in connection with Project]</i>		
Governmental Entities <i>[list all Governmental Entities]</i>		
Traffic Management Centers (TMC)		
Utilities <i>[list all utilities]</i>		
<i>[Other third parties]</i>		

APPENDIX 3: MAINTENANCE LIMITS AND LIMITS OF PERFORMANCE SECTIONS

[Include Schematic drawings that show the Maintenance Limits and the limits of the Performance Sections in accordance with CMA Exhibit 16]

APPENDIX 4: PERFORMANCE AND MEASUREMENT TABLES

[Insert the latest version of the Performance and Measurement Tables]

APPENDIX 5: MMP PROCEDURES

MMP Mandatory procedures are shown below. *[Add additional procedures as necessary and provide cross references to the applicable section of the MMP]*

MMP Procedure Number	MMP Procedure Name
MMP-001	Submittals and Coordination with TxDOT, Governmental Entities and Third Parties
MMP-002	Agency Coordination for Oversize Loads
MMP-003	Quality Control of Subcontractors Activities and Products
MMP-004	Renewal Work
MMP-005	Establishing Maintenance Management System
MMP-006	Defect Categorization and Repair
MMP-007	Maintenance Inspection Plan
MMP-008	Maintenance Repair Submittal Plan
MMP-009	Tracking and Reporting Noncompliance Events
MMP-010	Implementation of Transition Plan
MMP-011	Procedure for updating MMP
MQMP-001	Performance Requirements Compliance
MQMP-002	Verification of Records
MQMP-003	Records for TxDOT Review

APPENDIX 6: TEMPLATE FOR TYPICAL PROCEDURE

1. PURPOSE AND NEED

[List the reason for the procedure's implementation.]

1.1 Methodologies

[List the methodologies to be defined as part of the procedure.]

2. SCOPE

[Define the limits of the procedure. Define individuals or workgroups to whom the procedure applies.]

3. DEFINED TERMS

- *[List the terms defined as part of the procedure]*

4. STEPS IN PROCEDURE

[Describe the procedure, in detail. List all steps. Assign individual responsibility for implementing the procedure]

[Include tables, flowcharts and figures as applicable.]

5. DOCUMENT CONTROL

[List the methods by which the procedure will be documented and archived. Define the location at which the procedure's records will be filed.]

REFERENCES

[Reference applicable documents within the contract with specific section and page locations.]

Approved By:

FirstName Last Name
Maintenance Manager (MM)

Date

FirstName Last Name
Procedure Owner

Date

APPENDIX 7: QUALITY POLICIES AND ORGANIZATION

[Insert here links to or copies of the corporate quality policies and commitments of the DB Contractor and its Affiliates applicable to the Maintenance Services]