Texas Department of Transportation
Technical Provisions

SH 183 Managed Lanes Project

Attachment 2-1
Project Management Plan Contents

Attachment 2-1 – Project Management Plan Contents

The Project Management Plan Contents and Schedule for provision of the component parts.

Legend:
A = Submitted by Developer within 30 days of NTP 1 and approved by TxDOT prior to Commencement of Design and issuance of NTP 2
A1=Submitted by Developer within 30 days of NTP1 and concurrence by TxDOT prior to issuance of NTP2
B = Submitted by Developer within 90 days of NTP 1 and approved by TxDOT prior to Commencement of Construction
C = Submitted by Developer 60 days prior to NTP 2 and approved by TxDOT prior issuance of NTP 2

Part	Ref	Section	Contents	Required by
1. Project Administration				
	1.1	Organization	Organization diagram	A
	1.2	Personnel	Names and contract details, titles, and job roles	A
	1.3	Contractors	Procedures to establish how the Developer will manage Contractors	A
	1.4	Schedule	Project Baseline Schedule in accordance with the Technical Provision Section 2	A
	1.5	Quality Control	Procedures to establish and encourage continuous improvement	A
	1.6	Audit	Procedures to facilitate review and audit by TxDOT and/or the Independent Reviewers	A
			Auditing and management review of Developer's own activities under the PMP	A
			Auditing and management review of Contractor's activities and management procedures	A
	1.7	PMP Update	Procedures for preparation of amendments and submission of amendments to any part of the PMP	A
	1.8	Document Management	The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems Developer will use	A
			Document management procedures in compliance with the Technical Provisions Section 2	A
			Procedures for documenting all required Plans not specifically stated in this attachment, including but not limited to: Aesthetics and Landscaping Plan, ITS Implementation Plan, Haul Route Plan, Maintenance Management Plan (MMP), Emergency Response Plan, etc.	
2. Quality Management Plan				
2A. Design Quality Management				
	2A.1	Organization	Developer's main contractual arrangements	A
			Organizational structure covering the activities to be performed in accordance with the Contract Documents	A
	2A.2	Personnel	Resource Plan for the Developer and its subcontractors	A

2. Quality Management Plan				
2A. Design Quality Management (Continued)				
	2A.2	Personnel	Arrangements for coordinating and managing staff interaction with TxDOT and its consultants including collocation of Key Personnel and description of approach to coordinating work of off-site personnel	A
			Names and contact details, titles, job roles and specific experience required for the Key Personnel and for other principal personnel during the period of Design Work	A
			Names and contact details, titles, job roles and specific experience required for the principal personnel for Contractors and any third party with which Developer will coordinate activities.	A
	2A.3	Offices and equipment	Description of the necessary offices and office equipment to be provided by Developer during the period of Design Work	A
	2A.4	Contractors	Overall control procedures for Contractors, including consultants and Subconsultants	A
			Responsibility of Contractors and Affiliates	A
			Steps taken to ensure Contractors and Suppliers meet the obligations imposed by their respective Contracts	A
	2A.5	Interfaces	Interfacing between the Developer, Contractors and the Independent certifiers during the period of Design Work	A
			Coordination with Utility Owners	A
	2A.6	Environmental	Integration of the interface between environmental requirements (including landscaping) and the design of the Project	A
	2A.7	Procedures	Procedures describing how the principal activities will be performed during the design stage: to include geotechnical site investigation, surveys and mapping, environmental management, safety audit, structural audit, and checking	A
	2A.8	Quality Control	Design Quality Management Plan (DQMP), including control procedures including a resource table for monitoring and auditing all design services, design review and certification, and verification of	A
			Procedures for environmental compliance	A
			Procedures to establish Developer's hold points in the design process at which checking and review will take place	A
			Procedures to ensure accuracy, completion, and quality in submittals to TxDOT, Governmental Entities and other third parties.	A
			Procedures to establish and encourage continuous improvement	A
	2A.9	Audit	Name of Developer's representative(s) with defined authority for establishing, maintaining, auditing and reporting on the PMP	A
			Name, title, roles and responsibilities of supporting quality management staff reporting to the person with defined authority	A
	2A.10	Document Management	The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems Developer will use	A
			Document management procedures in compliance with the Technical Provisions Section 2	A
			Identify environmental documentation and reporting requirements, including Environmental Permits, Issues and Commitments (EPIC) sheets	A

2. Quality Management Plan				
2B. Construction Quality Management				
	2B.1	Organization	Developer's main contractual arrangements	A
			Organizational structure covering the activities to be performed in accordance with the Contract Documents	A
	2B.2	Personnel	Resource Plan for the Developer and its Contractors	B
			Arrangements for coordinating and managing staff interaction with TxDOT and its consultants including collocation of Key Personnel and description of approach to coordinating work of off-site personnel	B
			Names and contact details, titles, job roles and specific experience required for the Key Personnel as related to construction	A
			Names and contact details, titles, job roles of principal personnel for Contractors and any third party with which Developer will coordinate his activities	B
			Procedures for implementation of the Environmental Protection Training Plan (EPTP) for all employees in accordance with the Technical Provisions Section 4	B
	2B.3	Offices and equipment	Description of the necessary offices and office equipment to be provided by Developer during construction	A
	2B.4	Contractors	Overall control procedures for Contractors, including consultants and subconsultants	B
			Responsibility of Contractors and affiliates	B
			Steps taken to ensure Contractors and Suppliers meet the obligations imposed by their respective Contracts	B
			Procedures for implementation of Environmental Protection Training Plan (EPTP) for employees of subcontractors in accordance with the Technical Provisions Section 4	B
	2B.5	Interfaces	Interfacing between the Developer, Contractors, including any testing contractor, and the Independent verifiers during construction	A
	2B.6	Procedures	List of Project specific construction procedures	B
			Construction detailed procedure for each major activity whether directly undertaken or subcontracted to include pavement, structures, drainage, communications	B
			Traffic Management Plan	B
	2B.7	Quality Control/ Quality Assurance	Construction Quality Management Plan (CQMP)	B
			Integration of component parts of the Comprehensive Environmental Protection Program (CEPP) into construction quality management	B
			Control, identification and traceability of materials, including any material or samples temporarily or otherwise removed from site for testing or other reasons.	B
			Examinations and audit of Construction Work, review of examination and audit, issue of certificates	B
			Observation and reporting of all tests in compliance with the Technical Provisions Section 2	B
			Procedures for tests and inspections for the purpose of the Contractor certifying that prior to burying, each part of the Works is complete and conforms to the Contract Documents	B
			Quality control procedures including a resource table for monitoring and auditing during construction any work and testing undertaken by Contractors and Suppliers both on and off Site	B

	2. Quality Management Plan			
	2B. Construction Quality Management (continued)			
	2B.7	Quality Control	Procedures to establish Developer's hold points in construction	B
			Procedures to ensure accuracy, completion, and quality in submittals to TxDOT, Governmental Entities and other third parties	B
			Procedures to establish and encourage continuous improvement	A
	2B.8	Audit	Inspection and test plans that identify the proforma and/or databases to be used for recording the inspection and test results and a methodology for transmitting acceptance testing and inspection reports to TxDOT	B
			Name of Developer's representative with defined authority for establishing, maintaining, auditing and reporting on the PMP	A
			Name, title, roles and responsibilities of supporting quality management staff reporting to the person with defined authority.	B
	2B.9	Document Management	The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems Developer will use	B
			Document management procedures in compliance with the Technical Provisions Section 2	A
	2C. O&M Quality Management			
	2C.1	Organization	Developer's main contractual arrangements	C
			Organizational structure covering the activities to be performed in accordance with the Contract Documents	C
	2C.2	Personnel	Resource Plan for the Developer and its Contractors	C
			Arrangements for coordinating and managing staff interaction with TxDOT and its consultants including collocation of Key Personnel and description of approach to coordinating work of off-site personnel	C
			Names and contact details, titles, job roles and specific experience required for the Key Personnel and for other principal personnel during the O&M Period.	C
			Names and contact details, titles, job roles and specific experience required for the principal personnel for Contractors and any third party with which Developer will coordinate activities.	C
			Procedures for implementation of the Environmental Protection Training Plan (EPTP) for all employees in accordance with the Technical Provisions Section 4	C
	2C.3	Offices and equipment	Description of the necessary offices and office equipment to be provided by Developer during the O&M Period	C
	2C.4	Contractors	Overall control procedures for Contractors, including consultants and Subconsultants	C
			Responsibility of Contractors and Affiliates	C
			Steps taken to ensure Contractors and Suppliers meet the obligations imposed by their respective Contracts	C
	2C.5	Interfaces	Interfacing between the Developer, Contractors, including any testing contractor, and the Independent verifiers during operations and maintenance including Renewal Work	C
			Coordination with Utility Owners	C
			Procedures to minimize the impact of the Project's operations on neighboring facilities	C
	2C.6	Environmental	Coordination of the interface between environmental requirements and the operation and maintenance of the Project	C

2C.7	Procedures	Maintenance Management Plan	C
		Procedures describing how the principal activities will be performed during the O&M Period: to Include routine maintenance, renewal work, inspections, corridor management, traffic control plan, and incident management	C
		Traffic Management Plan	C
2C.8	Quality Control/ Quality Assurance	O&M Quality Management Plan (O&M-QMP)	C
		Quality control procedures including a resource table for monitoring and auditing all O&M Work	C
		All applicable controls, procedures, testing, acceptance, certification and reporting for O&M Renewal Work as described in Section 2B above.	C
		Procedures for establishing assets conditions score including compatibility of data sharing and transfer	C
		Procedures to ensure accuracy, completion, and quality in submittals to TxDOT, Governmental Entities and other third parties.	C
		Procedures to establish and encourage continuous improvement	C
2C.9	Audit	Inspection and test plans that identify the proforma and/or databases to be used for recording the inspection and test results and a methodology for transmitting inspection reports to TxDOT	C
		Name of Developer's representative(s) with defined authority for establishing, maintaining, auditing and reporting on the PMP	
		Name, title, roles and responsibilities of supporting quality management staff reporting to the person with defined authority	C
2C.10	Document Management	The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems Developer will use	C
		Document management procedures in compliance with the Technical Provisions Section 2	C

3. Safety Plan

3.1		Policies, plans, training programs, Work Site controls, and Incident response plans to ensure the health and safety of personnel involved in the Project and the general public affected by the Project	A1
3.2		Procedures for notifying TxDOT of Incidents arising out of or in connection with the performance of the Work	A1

4. TxDOT - Developer Communications Plan

4.1		The manner in which the Developer's organization will respond to unexpected requests for information, communicate changes or revisions to necessary Developer personnel and notify the affected stakeholders before and after the changes are made.	A
4.2		Processes and procedures for communication of Project information between the Developer's organization and TxDOT	A

5. Public Information and Communications Plan

5.1	Organization	Developer's main contractual arrangements	A
		Organizational structure covering the activities to be performed in accordance with the Contract Documents.	A
5.2	Personnel	Resource Plan for the Developer and its Contractors	A
		Arrangements for coordinating and managing staff interaction with TxDOT and its consultants, including colocation of Key Personnel and description of approach to coordinating work of off-site personnel	A
		Names and contact details, titles, job roles and specific experience required for Key Personnel and for other principal personnel	A

			Names and contact details, titles, job roles of principal personnel for Contractors and any third party with which Developer will coordinate his activities	A
	5.3	Offices and equipment	Description of the necessary offices and office equipment to be provided by Developer during design	A

5. Public Information and Communications Plan (Continued)

	5.4	Contractors	Overall control procedures for Contractors, including consultants and subconsultants	A
			Responsibility of Contractors and Affiliates	A
			Steps taken to ensure Contractors and Suppliers meet the obligations imposed by their respective Contracts	A
			Procedures for implementation of EPTP for employees of Contractors	A
	5.5	Interfaces	Procedures for liaison with the public, the media and other Customer Groups in accordance with the Technical Provisions Section 3 and the press media policy of TxDOT	A
			Procedures to coordinate with Project Stakeholders such as Governmental Entities and other Customer Groups	A
	5.6	Procedures	Procedures describing how the principal activities will be performed	A
	5.7	Quality Control	Quality control procedures including a resource table for monitoring and auditing all public information and communication services	A
			Procedures to ensure accuracy, completion, and quality in submittals to TxDOT, Governmental Entities and Customer Groups	A
	5.7	Quality Control	Procedures to establish and encourage continuous improvement	A
	5.8	Audit	Name of Developer's representatie with defined authority for establishing, maintaining, auditing and reporting on PMP	A
			Name, title, roles and responsibilities of supporting quality management staff reporting to the person with defined authority	A
	5.9	Document Management	The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems Developer will use	A
			Document management procedures in compliance with the Technical Provisions Section 2	A

6. Comprehensive Environmental Protection Program (CEPP)

	6.1	Organization	Developer's main contractual arrangements	A
			Organizational structure covering the activities to be performed in accordance with the Contract Documents	A
			Environmental Contact Tree	A
	6.2	Personnel	Resource Plan for the Developer and its Contractors	B
			Arrangements for coordinating and managing staff interaction with TxDOT and its consultants, including collocation of Key Personnel and description of approach to coordinating work of off-site personnel	A
			Names and contact details, titles, job roles and specific experience required for Key Personnel and for other environmental personnel	A
			Implement Environmental Protection Training Plan (EPTP) for all employees in accordance with the Technical Provisions Section 4	A

6. Comprehensive Environmental Protection Plan (continued)				
	6.3	Contractors	Overall control procedures for Contractors, including consultants and subconsultants	A
			Responsibility of Contractors and Affiliates	A
			Implement Environmental Protection Training Plan (EPTP) for employees of Contractors in accordance with the Technical Provisions Section 4	
	6.4	Environmental	Establishment of the component parts of the Environmental Compliance Mitigation Program (ECMP)	B
	6.5	Quality Control	Procedures to ensure accuracy, completion, and quality in submittals to TxDOT, Governmental Entities and other third parties	A
			Procedures to establish and encourage continuous improvement	A
			Procedures for environmental compliance	A
	6.6	Audit	Name, title, roles and responsibilities of supporting quality management staff reporting to the person with defined authority	B
	6.7	Document Management	The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems Developer will use	A
			Identify environmental documentation and reporting requirements	A
7. Affected Third Parties Plan				
	7.1		Description and procedures on how Developer will mitigate the impact of the Work upon potentially impacted third parties and coordinate Work with other projects along the project corridor.	
8. Right-of-Way Acquisition Plan				
	8.1	Organization	Developer's main contractual arrangements	A
			Organizational structure covering the activities to be performed in accordance with the Contract Documents	A
	8.2	Personnel	Resource Plan for the Developer and its Contractors	A
			Arrangements for coordinating and managing staff interaction with TxDOT and its consultants, including collocation of Key Personnel and description of approach to coordinating work of off-site personnel	A
			Names and contact details, titles, job roles and specific experience required for the Key Personnel as related to ROW acquisition and Utility Adjustment activities.	A
			Names and contact details, titles, job roles of principal personnel for Contractors and any third party with which Developer will coordinate activities	A
	8.3	Contractors	Overall control procedures for Contractors, including consultants and subconsultants	A
			Responsibility of Contractors and Affiliates	A
			Steps taken to ensure Contractors and Suppliers meet the obligations imposed by their respective Contracts	A
			Procedures for implementation of the EPTP for employees of Contractors in accordance with the Technical Provisions Section 4	A

	8. ROW Acquisition Plan (continued)			
	8.4	Interfaces	Interfacing between the Developer, Contractors and the Independent Reviewers during Project ROW acquisition, including the interfaces between Project ROW acquisition, Project design, and quality review processes	A
	8.4	Interfaces	Coordination with Utility Owners	A
			Procedures for establishing Utility Adjustment Concept Plans and Utility Adjustment Plans	B
	8.5	Relocation	Relocation Plan (ROW)	B
	8.6	Environmental	Integration of the interface between environmental requirements (including Hazardous Materials and demolition) and Project ROW acquisition activities	A
			Applicable procedures for the Hazardous Materials Management Plan (HMMP) in accordance with the Technical Provisions Section 4	A
			Applicable procedures to implement the Storm Water Pollution Prevention Plan (SW3P), recycling program and waste management in accordance with the Technical Provisions Section 4	A
			Address CEPP requirements	A
	8.7	Schedule	Logic linked ROW acquisition activities on a parcel-by-parcel basis as part of the Facility Baseline Schedule, including adequate time periods for TxDOT review and condemnation activities in accordance with the Technical Provisions Section 7	A
	8.8	Procedures	Procedures describing how the principal activities will be performed during the Project ROW acquisition, whether directly undertaken or subcontracted	A
	8.9	Quality Control	Procedures to ensure accuracy, completion, and quality in submittals to TxDOT and Governmental Entities	A
			Procedures to establish and encourage continuous improvement	A
			Quality control procedures and quality review standards for Project ROW acquisition in accordance with the Technical Provisions Section 7	A
			Integration of component parts of the CEPP into ROW acquisition management	A
	8.10	Audit	Name, title, roles and responsibilities of supporting quality management staff reporting to the person with defined authority	A
	8.11	Document Management	The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems Developer will use	A
			Document management procedures in compliance with the Technical Provisions Section 2	A
			Identify environmental documentation and reporting requirements	A

9. Maintenance Management Plan				
	9.1	Procedures	Procedures describing how the principal activities will be performed during the maintenance period including the general maintenance and operations obligations	C
			Procedures for managing records of inspection and maintenance activities	C
			Procedures setting out Developer's response to maintenance issues such as mitigation of hazards, and defects that require prompt attention or are a safety concern	C
	9.2	Performance Standards	Procedures to be followed by Developer pursuant to the Technical Provisions to comply with all applicable maintenance requirements for the term of the Agreement	C
	9.3	Emergency Response	Procedures setting out how Developer will respond to accidents and incidents on the Project	C
10. Operations Management Plan				
	10.1		Procedures for identifying, assessing, analyzing, controlling and managing operations to meet its obligations under the Agreement.	C
11. Emergency Management Plan				
	11.1		Procedures for Force Majeure events and vehicle accidents that may disrupt construction or damage facilities.	A
12. Cost Management Plan				
	12.1		Procedures for identifying, assessing, analyzing, controlling and managing project costs to meet its obligations under the Agreement.	A
13. Risk Management Plan				
	13.1		Procedures for identifying, assessing, analyzing, controlling and managing project risks to meet its obligations under the Agreement.	A

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Attachment 2-2
Work Breakdown Structure Requirements

Table 1 represents the minimum levels of the WBS that all cost and schedule information shall rollup to once the Project Baseline Schedule is fully developed. The WBS incorporates various geographic segments, regions, areas or phases of Work to better facilitate management of construction sequencing.

Table 1: WBS Minimum Requirements

1. **General**
   1.1. **Project Administration**
      1.1.1. Project Summary & Milestones
      1.1.2. Mobilization
         1.1.2.1. Developer
         1.1.2.2. DB Contractor
      1.1.3. Submittals and Permitting
         1.1.3.1. (By Governmental Agency)
            1.1.3.1.1. (By Specific Permit/Submittal Requirement)
2. **Segment [A]**
   2.1. Segment [A] Summary & Milestones
   2.2. Segment [A] Right-of-Way Acquisition
      2.2.1. Acquisition By TxDOT
         2.2.1.1. (By Parcel No.)
      2.2.2. Acquisition by Developer
         2.2.2.1. (By Parcel No.)
   2.3. Segment [A] Utility Adjustments
      2.3.1. Utility Coordination
         2.3.1.1. Administration and Planning
            2.3.1.1.1. Site Utility Engineering
            2.3.1.1.2. Conceptual Design
         2.3.1.2. (By Owner)
            2.3.1.2.1. Master Agreements
            2.3.1.2.2. Utility Assemblies
      2.3.2. Utility Relocations
         2.3.2.1. (By Owner)
            2.3.2.1.1. (By Line)
   2.4. Segment A Design
      2.4.1. General Activities and Field Work
         2.4.1.1. Design Mobilization
         2.4.1.2. Schematics
         2.4.1.3. Survey Work
         2.4.1.4. Geotechnical Investigations
         2.4.1.5. Additional Field Investigations
      2.4.2. Develop Specifications
         2.4.2.1. (By Discipline)
      2.4.3. Geotechnical Design
         2.4.3.1. General
         2.4.3.2. Earthwork Geotech
         2.4.3.3. Bridge Geotech
         2.4.3.4. Culvert Geotech
         2.4.3.5. Wall Geotech
      2.4.4. Pavement Design
         2.4.4.1. Data Analysis and Draft Report

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Attachment 2-3
Organizational Structure for Cost Reporting

Organizational Structure for Cost Reporting

1. **PROJECT DESCRIPTION**
    1.1. **Project Administration**
        1.1.1.   Mobilization
        1.1.2.   Submittals and Permitting
    1.2. **Right-of Way Acquisition**
        1.2.1.   Acquisition By TxDOT
        1.2.2.   Acquisition by Developer
    1.3. **Utility Adjustments**
        1.3.1.   Utility Coordination
        1.3.2.   Utility Relocations
    1.4. **Design**
        1.4.1.   General Activities and Field Work
        1.4.2.   Develop Specifications
        1.4.3.   Geotechnical Design
        1.4.4.   Pavement Design
        1.4.5.   Drainage Design
        1.4.6.   Roadway Design
        1.4.7.   Bridge Design
        1.4.8.   Retaining Wall Design
        1.4.9.   Traffic Management
        1.4.10. Environmental Design
        1.4.11. Landscape and Aesthetic Design
        1.4.12. Electrical Design
        1.4.13. ITS & TCS Design
        1.4.14. Signage and Marking Design
        1.4.15. Design Packages
    1.5. **Construction**
        1.5.1.   Traffic Control and Temporary Work
        1.5.2.   Environmental Mitigation
        1.5.3.   Hazardous Materials
        1.5.4.   Removals
        1.5.5.   Earthwork
        1.5.6.   Subgrade Treatment and Base
        1.5.7.   Drainage
        1.5.8.   Pavement
        1.5.9.   Retaining Walls
        1.5.10. Bridges
        1.5.11. Permanent Barriers
        1.5.12. Signals and Illumination
        1.5.13. ITS/TCS
        1.5.14. Landscaping
        1.5.15. Permanent Signing and Marking
    1.6 **Changes Modifications**
        1.6.1.   Change Order #xx

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Attachment 2-4
I2MS Test Field Forms

I2MS Test Field Report

File: I2MSFieldReport.xls
File Type: Microsoft Excel (spreadsheet)
File Description: Describes what fields are required to be submitted per test, including pertinent header and footer information. All fields are required to be submitted if possible.

I2MS Test Form Fields

Purpose

The purpose of this document is to provide information on the tables and fields within I2MS.

Material Test Forms

Material Test Forms are forms used to run tests for a sample. A test form contains header and footer information which all forms have in common. Each test form also has a form body containing fields specific to the test method(s) being performed.

Header Fields

The header information is the metadata of the form. It is vital for searching for and analyzing records. All of the test forms have similar header information.

Table Name: HEADER_VALUE_OVT   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Course Lift	course_lift	nvarchar	250		TRUE
Direction	direction	nvarchar	250	CVL	TRUE
Distance From CL	dist_from_cl	nvarchar	250		TRUE
Feature	feature	nvarchar	250	CVL	TRUE
Grade	grade	nvarchar	100	CVL	TRUE
Material	material	nvarchar	100	CVL	TRUE
Misc	misc	nvarchar	250		TRUE
Report Type	report_type	nvarchar	250	CVL	TRUE
Roadway	roadway	nvarchar	250	CVL	TRUE
Sample ID	sample_id	nvarchar	13		TRUE
Sample Location	sample_location	nvarchar	250		TRUE
Sample Type	sample_type	nvarchar	100	CVL	TRUE
Sampled By	sampled_by	nvarchar	250	CVL	TRUE
Sampled Date	sampled_date	datetime		MM/dd/yyyy	TRUE
Section	section	nvarchar	100	CVL	TRUE
Spec Item	spec_item	nvarchar	100	CVL	TRUE
Spec Year	spec_year	nvarchar	250		TRUE
Special Provision	special_provision	nvarchar	250	CVL	TRUE
Split Sample ID	split_sample_id	nvarchar	250		TRUE
Station	station	nvarchar	250	Pattern: [0-9]+\+[0-9][0-9](\.[0-9][0-9])?	TRUE
Structure Number	structure_number	nvarchar	250	CVL	TRUE
Supplier	supplier	nvarchar	100	CVL	TRUE

Footer Fields

The footer contains approval data and comments for each of the test forms.

Table Name: FOOTER_VALUE_OVT   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Authorized By	authorized_by	nvarchar	100	CVL	TRUE
Authorized Date	authorized_date	smalldatetime		MM/dd/yyyy	TRUE
Completed Date	completed_date	smalldatetime		MM/dd/yyyy	TRUE
Digital Signature ID 1	dig_sig_id1	int			FALSE
Digital Signature ID 2	dig_sig_id2	int			FALSE
Remarks	remarks	text			TRUE
Reviewed By	reviewed_by	nvarchar	100	CVL	TRUE

Body Fields

Moisture Content of Aggregates (DB-103-E)

Table Name: VALUE_DB103E   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Dish No.	dish_no	nvarchar	100		FALSE
Mass of Dry Sample	dry_sample_tare	decimal	(19, 8)		FALSE
Moisture Content	moisture_content	decimal	(19, 8)		TRUE
Payable Weight of Class 2 Flex Base	payable_weight	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tare Mass	tare_mass	decimal	(19, 8)		FALSE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Mass of Wet Sample Tare	wet_sample_tare	decimal	(19, 8)		FALSE

Liquid Limit, Plastic Limit, Plastic Index (DB-104-6)

Table Name: VALUE_DB104E   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Liquid Limit	liquid_limit_total	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB104E_SAMPLE   **Maximum Rows: 6**

Field Description	Field Name	Datatype	Length	Values	Required
Dish No.	dish_no	nvarchar	100		FALSE
Liquid Limit (%)	liquid_limit	decimal	(19, 8)		FALSE
Mass of Dry Sample + Tare (g)	mass_dry_sample	decimal	(19, 8)		FALSE
Mass of Wet Sample + Tare (g)	mass_wet_sample	decimal	(19, 8)		FALSE
Moisture Content, %	moisture_content	decimal	(19, 8)		FALSE
Number of Blows	number_blows	int			FALSE
Tare Mass (g)	tare_mass	decimal	(19, 8)		FALSE

Table Name: VALUE_DB105E   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Plastic Limit	plastic_limit_total	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB105E_SAMPLE   **Maximum Rows: 3**

Field Description	Field Name	Datatype	Length	Values	Required
Dish No.	dish_no	nvarchar	100		FALSE
Mass of Dry Sample + Tare (g)	mass_dry_sample	decimal	(19, 8)		FALSE
Mass of Wet Sample + Tare (g)	mass_wet_sample	decimal	(19, 8)		FALSE
Plastic Limit (%)	plastic_limit	decimal	(19, 8)		FALSE
Tare Mass (g)	tare_mass	decimal	(19, 8)		FALSE
Mass of Water (g)	water_mass	decimal	(19, 8)		FALSE

Table Name: VALUE_DB106E   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Plastic Index	plasticity_index	int			TRUE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE
Use Bar Linear Shrinkage to Calculate Plasticity Index?	use_bar_linear	nvarchar	100	{Yes, No}	FALSE

Bar Linear Shrinkage (DB-107-E)

Table Name: VALUE_DB107E   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Calculate Plasticity Index	calculate_plasticity_index	bit		{Yes, No}	FALSE
Final Length	final_length	decimal	(19, 8)		FALSE
Initial Length	initial_length	decimal	(19, 8)		FALSE
Linear Shrinkage	linear_shrinkage	decimal	(19, 8)		TRUE
Maximum By Specification	maximum_by_specification	decimal	(19, 8)		FALSE
Minimum By Specification	minimum_by_specification	decimal	(19, 8)		FALSE
Plasticity Index	plasticity_index	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Unit	unit	nvarchar	100		FALSE

Particle Size Analysis (DB-110-E)

Table Name: VALUE_DB110E_SIEVE   **Maximum Rows: 6**

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Percent Retained	cumulative_pct_retained	decimal	(19, 8)		TRUE
Cumulative Weight Retained	cumulative_weight_retained	decimal	(19, 8)		FALSE
Lower Spec Limit	lower_spec_limit	decimal	(19, 8)		FALSE
Master Grading	master_grading	nvarchar	100		TRUE
Sieve Size	sieve_size	nvarchar	100	CVL	TRUE
Upper Spec Limit	upper_spec_limit	decimal	(19, 8)		FALSE
Weight Retained	weight_retained	decimal	(19, 8)		FALSE

Table Name: VALUE_DB110E_TEST   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Method	individual_cumulative	nvarchar	100	{Cumulative, Individual}	FALSE
Negative No.40	negative_no_40	nvarchar	100		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE
Total	total	nvarchar	100		FALSE

Moisture-Density Work Sheet (DB-113-E)

Table Name: VALUE_DB113E   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Dry Density Scale Max	dry_density_scale_max	decimal	(19, 8)		FALSE
Dry Density Scale Min	dry_density_scale_min	decimal	(19, 8)		FALSE
Dry Density Scale unit	dry_density_scale_unit	decimal	(19, 8)		FALSE
Hygroscopic Moisture	hygroscopic_moisture	decimal	(19, 8)		FALSE
Max Density(kg)	max_density_kg	decimal	(19, 8)		FALSE
Max Density (pcf)	max_density_pcf	decimal	(19, 8)		TRUE
Moisture scale max	moisture_scale_max	decimal	(19, 8)		FALSE
Moisture scale min	moisture_scale_min	decimal	(19, 8)		FALSE
Moisture scale unit	moisture_scale_unit	decimal	(19, 8)		FALSE
Optimum Moisture	optimum_moisture	decimal	(19, 8)		TRUE
Oven Dry Weight	oven_dry_weight	decimal	(19, 8)		FALSE
Soil Description	soil_desc	nvarchar	100		TRUE
Specific Gravity (Apparent)	specific_gravity	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Weight of Aggr., Pycn. & Water	weight_of_aggr	decimal	(19, 8)		FALSE
Weight of Pycnometer & Water	weight_of_pycnometer	decimal	(19, 8)		FALSE

Table Name: VALUE_DB113E_SPECIMEN   **Maximum Rows: 4**

Field Description	Field Name	Datatype	Length	Values	Required
Dry Density	dry_density	decimal	(19, 8)		FALSE
Dry Mass Material	dry_mass_material	decimal	(19, 8)		FALSE
Dry Mass Pan & Specimen	dry_mass_pan_specimen	decimal	(19, 8)		FALSE
Estimated Dry Density	est_dry_density	decimal	(19, 8)		FALSE
Height of Specimen	height_specimen	decimal	(19, 8)		FALSE
Mass Material	mass_material	decimal	(19, 8)		FALSE
Mass Water	mass_water	decimal	(19, 8)		FALSE
Mass Water Added	mass_water_added	decimal	(19, 8)		FALSE
Percent Water Content	pct_water_content	decimal	(19, 8)		FALSE
Percent Water On Total	pct_water_total	decimal	(19, 8)		FALSE
Tare Mass Mold	tare_mass_mold	decimal	(19, 8)		FALSE
Tare Mass Pan	tare_mass_pan	decimal	(19, 8)		FALSE
Volume Per Linear	volume_per_linear	decimal	(19, 8)		FALSE
Volume of Specimen	volume_specimen	decimal	(19, 8)		FALSE
Wet Density of Specimen	wet_density_specimen	decimal	(19, 8)		FALSE
Wet Mass Of Pan & Specimen	wet_mass_pan_specimen	decimal	(19, 8)		FALSE
Wet Mass Specimen	wet_mass_specimen	decimal	(19, 8)		FALSE
Wet Mass Specimen & Mold	wet_mass_specimen_mold	decimal	(19, 8)		FALSE

Moisture-Density Relationship of Subgrade and Embankment Soils (DB-114-E)

Table Name: VALUE_DB114E   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Dry Density Scale Max	dry_density_scale_max	decimal	(19, 8)		FALSE
Dry Density Scale Min	dry_density_scale_min	decimal	(19, 8)		FALSE
Dry Density Scale unit	dry_density_scale_unit	decimal	(19, 8)		FALSE
Hygroscopic Moisture	hygroscopic_moisture	decimal	(19, 8)		FALSE
Max Density (kg)	max_density_kg	decimal	(19, 8)		FALSE
Max Density (pcf)	max_density_pcf	decimal	(19, 8)		TRUE
Moisture scale max	moisture_scale_max	decimal	(19, 8)		FALSE
Moisture scale min	moisture_scale_min	decimal	(19, 8)		FALSE
Moisture scale unit	moisture_scale_unit	decimal	(19, 8)		FALSE
Optimum Moisture	optimum_moisture	decimal	(19, 8)		TRUE
Oven Dry Weight	oven_dry_weight	decimal	(19, 8)		FALSE
Soil Descript	soil_description	nvarchar	100		TRUE
Specific Gravity	specific_gravity	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Weight of Aggr., Pycn. & Water	weight_of_aggr	decimal	(19, 8)		FALSE
Weight of Pycnometer & Water	weight_of_pycnometer	decimal	(19, 8)		FALSE

Table Name: VALUE_DB114E_SPECIMEN   **Maximum Rows: 4**

Field Description	Field Name	Datatype	Length	Values	Required
Dry Density	dry_density	decimal	(19, 8)		FALSE
Dry Mass Material	dry_mass_material	decimal	(19, 8)		FALSE
Dry Mass Pan & Specimen	dry_mass_pan_specimen	decimal	(19, 8)		FALSE
Estimated Dry Density	est_dry_density	decimal	(19, 8)		FALSE
Height of Specimen	height_specimen	decimal	(19, 8)		FALSE
Mass Material	mass_material	decimal	(19, 8)		FALSE
Mass Water	mass_water	decimal	(19, 8)		FALSE
Mass Water Added	mass_water_added	decimal	(19, 8)		FALSE
Percent Water Content	pct_water_content	decimal	(19, 8)		FALSE
Percent Water Total	pct_water_total	decimal	(19, 8)		FALSE
Tare Mass Mold	tare_mass_mold	decimal	(19, 8)		FALSE
Tare Mass Pan	tare_mass_pan	decimal	(19, 8)		FALSE
Volume Per Linear mm	volume_per_linear	decimal	(19, 8)		FALSE
Volume of Specimen	volume_specimen	decimal	(19, 8)		FALSE
Wet Density of Specimen	wet_density_specimen	decimal	(19, 8)		FALSE
Wet Mass of Pan & Specimen	wet_mass_pan_specimen	decimal	(19, 8)		FALSE
Wet Mass Specimen	wet_mass_specimen	decimal	(19, 8)		FALSE
Wet Mass Specimen & Mold	wet_mass_specimen_mold	decimal	(19, 8)		FALSE

Nuclear Density and Moisture Determination (DB-115-1)

Table Name: VALUE_DB115_1 Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Density Count	density_count	int			FALSE
Density, %	density_pct	decimal	(19, 8)		TRUE
Pass/Fail	density_pct_pass_fail	nvarchar	100		FALSE
Max Density Specification Requirement	density_specification_req_max	decimal	(19, 8)		FALSE
Low Density Specification Req	density_specification_req_min	decimal	(19, 8)		FALSE
density_standard	density_standard	int			FALSE
Determined By Test Method	determined_by_test_method	nvarchar	100	{DB-113-E, DB-114-E}	FALSE
Dry Density, pcf	dry_density_pcf	decimal	(19, 8)		TRUE
Gauge No.	gauge_no	nvarchar	100		TRUE
Maximum Dry Density	max_dry_density_pcf	decimal	(19, 8)		TRUE
Moisture Content, %	moisture_content_pct	decimal	(19, 8)		TRUE
Moisture Content Pct Pass or Fail	moisture_content_pct_pass_fail	nvarchar	100	{Pass, Fail}	FALSE
Moisture Count	moisture_count	int			FALSE
Max Moisture Specification Requirement	moisture_specification_req_max	decimal	(19, 8)		FALSE
Low Moisture Specification Req	moisture_specification_req_min	decimal	(19, 8)		FALSE
Moisture Standard	moisture_standard	int			FALSE
Optimum Moisture Content	optimum_moisture_content_pct	decimal	(19, 8)		TRUE
Probe Depth	probe_depth	decimal	(19, 8)		TRUE
Soil Description	soil_desc	nvarchar	100		TRUE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE
Wet Density , pcf	wet_density_pcf	decimal	(19, 8)		FALSE

Soil /Aggregate Field Unit Weight Tests (DB-115-2)

Table Name: VALUE_DB115_2 Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Compaction, %	compaction_pct	decimal	(19, 8)		FALSE
Compaction Required	compaction_req_pct	decimal	(19, 8)		FALSE
Dry unit weight	dry_unit_weight	decimal	(19, 8)		FALSE
Dry Weight Total Moisture Sample	dry_weight_total_moisture	decimal	(19, 8)		FALSE
Final Weight Apparatus & Sand	final_weight_apparatus	decimal	(19, 8)		FALSE
Final Weight of Sand	final_weight_sand	decimal	(19, 8)		FALSE
Initial Weight Apparatus & Sand	initial_weight_apparatus	decimal	(19, 8)		FALSE
Initial Weight of Sand	initial_weight_sand	decimal	(19, 8)		FALSE
Maximum dry unit weight	max_dry_unit_weight	decimal	(19, 8)		FALSE
Moisture Required	moisture_req_pct	decimal	(19, 8)		FALSE
Optium Moisture (% if of dry unit weight)	optimum_moisture	decimal	(19, 8)		FALSE
Pass/Fail % Density	pass_fail_pct_density	nvarchar	100		FALSE
Pass/Fail % Moisture	pass_fail_pct_moisture	nvarchar	100		FALSE
% Moisture	pct_moisture	decimal	(19, 8)		FALSE
Sand bulk unit weight	sand_bulk_unit_weight	decimal	(19, 8)		FALSE
Soil Descript	soil_desc	nvarchar	100		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	datetime		MM/dd/yyyy	FALSE
Total Volume-Sand Userd	total_volume	decimal	(19, 8)		FALSE
Volume of Hole	volume_hole	decimal	(19, 8)		FALSE
Volume of Surface	volume_surface	decimal	(19, 8)		FALSE
Weight of Material From Hole	weight_material_hole	decimal	(19, 8)		FALSE
Wet Unit Weight	wet_unit_weight	decimal	(19, 8)		FALSE
Wet Weight Total Moisture Sample	wet_weight_total_moisture	decimal	(19, 8)		FALSE

Test Resistance to Degradation By Wet Ball Mill Method (DB-116-E)

Table Name: VALUE_DB116E   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Method	cumulative_method	nvarchar	50	{Cumulative, Individual}	FALSE
Total of 3000g weight retained	individual_weight_retained_3000g_total	decimal	(19, 8)		FALSE
Total of 3500g weight retained	individual_weight_retained_3500g_total	decimal	(19, 8)		FALSE
Percent Soil Binder	pct_soil_binder	decimal	(19, 8)		FALSE
Percent Soil Binder Increase	pct_soil_binder_increase	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Wet Ball Mill -No.40 Individual Percent Retained	wbm_individual_pct_retained_minusno40	decimal	(19, 8)		FALSE
Wet Ball Mill No.40 Individual Percent Retained	wbm_individual_pct_retained_no40	decimal	(19, 8)		FALSE
Wet Ball Mill Initial Weight	wbm_initial_weight	decimal	(19, 8)		FALSE
Wet Ball Mill Value	wbm_value	decimal	(19, 8)		TRUE
Wet Ball Mill -No.40 Weight Retained	wbm_weight_retained_minusno40	decimal	(19, 8)		FALSE
Wet Ball Mill No.40 Weight Retained	wbm_weight_retained_no40	decimal	(19, 8)		FALSE
Total of weight retained	weight_retained_total	decimal	(19, 8)		FALSE
Washed Sieve Analysis No.40 Individual Percent Retained	wsa_individual_pct_retained_no40	decimal	(19, 8)		FALSE
Washed Sieve Analysis -No.40 Individual Percent Retained	wsa_inidividual_pct_retained_minusno40	decimal	(19, 8)		FALSE
Washed Sieve Analysis Initial Weight	wsa_initial_weight	decimal	(19, 8)		FALSE
Washed Sieve Analysis -No.40 Weight Retained	wsa_weight_retained_minusno40	decimal	(19, 8)		FALSE
Washed Sieve Analysis No.40 Weight Retained	wsa_weight_retained_no40	decimal	(19, 8)		FALSE

Table Name: VALUE_DB116E_SIEVE   Maximum Rows: 7

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Percent Retained	cumulative_pct_retained	decimal	(19, 8)		FALSE
3000g Cumulative Weight Retained	cumulative_weight_retained_3000g	decimal	(19, 8)		FALSE
3500g Cumulative Weight Retained	cumulative_weight_retained_3500g	decimal	(19, 8)		FALSE
Individual Percent Retained	individual_pct_retained	decimal	(19, 8)		FALSE
3000g Individual Weight Retained	individual_weight_retained_3000g	decimal	(19, 8)		FALSE
3500g Individual Weight Retained	individual_weight_retained_3500g	decimal	(19, 8)		FALSE
Sieve Size	sieve_size	nvarchar	100		FALSE
Weight Retained	weight_retained	decimal	(19, 8)		FALSE

Triaxial Compression Tests (DB-117-E)

Table Name: VALUE_DB117E   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Average Corrected Strength, 00 psi	average_corrected_strength_0psi	decimal	(19, 8)		TRUE
Average Corrected Strength, 15 psi	average_corrected_strength_15psi	decimal	(19, 8)		TRUE
Classification	classification	nvarchar	100		FALSE
Cohesion, psi	cohesion_psi	decimal	(19, 8)		FALSE
Correlation Factor	correlation_factor	decimal	(19, 8)		FALSE
Grade, 00 psi	grade_0psi	nvarchar	100		FALSE
Grade, 15 psi	grade_15psi	nvarchar	100		FALSE
Internal Angle of Friction	internal_angle_friction	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB117E_SPECIMEN   **Maximum Rows: 8**

Field Description	Field Name	Datatype	Length	Values	Required
Area, in.^2	area	decimal	(19, 8)		FALSE
Avg. Cross Sectional Area, in^2	avg_cross_sectional_area	decimal	(19, 8)		FALSE
Average Diameter, in.	avg_diameter	decimal	(19, 8)		FALSE
Corrected Stress, psi.	corrected_stress_psi	decimal	(19, 8)		FALSE
Dry Density of Specimen, pcf	dry_density_specimen_pcf	decimal	(19, 8)		FALSE
Final Weight of Stones	final_weight_stones	decimal	(19, 8)		FALSE
Height of Stone 1, in.	height_stone1	decimal	(19, 8)		FALSE
Height of Stone 2, in.	height_stone2	decimal	(19, 8)		FALSE
I-Strain, in./in.	i_strain	decimal	(19, 8)		FALSE
Initial Height of Specimen, in.	initial_height	decimal	(19, 8)		FALSE
Lateral Pressure, psi.	lateral_pressure_psi	decimal	(19, 8)		FALSE
New Height of Specimen, in.	new_height	decimal	(19, 8)		FALSE
Moisture of Specimen, %	pct_moisture_specimen	decimal	(19, 8)		FALSE
% Strain , in./in.	pct_strain	decimal	(19, 8)		FALSE
Uncorrected Stress, psi.	uncorrected_stress_psi	decimal	(19, 8)		FALSE
Weight of Specimen	weight_specimen	decimal	(19, 8)		FALSE
Weight of Stones and Specimen	weight_stones_specimen	decimal	(19, 8)		FALSE

Determining Soil pH (DB-128-E)

Table Name: VALUE_DB128E   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Soil pH	soil_ph	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE

Measuring Resistivity of Soil Materials (DB-129-E)

Table Name: VALUE_DB129E   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Resistance using resistivity meter	resistance_using_meter	decimal	(19, 8)		FALSE
Resistivity	resistivity_result	decimal	(19, 8)		TRUE
A= Area of one electrode	sbf_area	decimal	(19, 8)		FALSE
Distance between electrodes	sbf_distance	decimal	(19, 8)		FALSE
Soil Box Factor	sbf_factor	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE

Measuring Thickness of Pavement Layer (DB-140-E)

Table Name: VALUE_DB140E   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Average Depth:	avg_depth	decimal	(19, 8)		TRUE
Depth 1:	depth_1	decimal	(19, 8)		FALSE
Depth 2:	depth_2	decimal	(19, 8)		FALSE
Depth 3:	depth_3	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

OVF HMAC Test Data: DB-200-F, DB-207-FPR, DB-227-F, DB-236-F, DB-207-F (DB-200/07/36)

Table Name: VALUE_DB207F   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Specific Gravity of Asphalt Binder	specific_gravity	decimal	(19, 3)		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	FALSE
Voids in Mineral Aggregate (VMA)	vma	decimal	(19, 1)		TRUE

Table Name: VALUE_DB207FPR   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Average Actual Specific Gravity (Ga):	GA	nvarchar	100		TRUE
Lab Molded Density, %:	LMD	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	nvarchar	100	CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB227F   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Rice Specific Gravity (Gr):	rice_specific_gravity	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	nvarchar	100	CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB229F   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Stamp Code	stamp_code	nvarchar	100	CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB229F_SIEVE   Maximum Rows: 10

Field Description	Field Name	Datatype	Length	Values	Required
Current JMF	Current_JMF	nvarchar	100		FALSE
Design JMF	Design_JMF	nvarchar	100		FALSE
Adjusted Individual % Retained	pct	decimal	(19, 8)		TRUE
Sieve Size	sieve_size	nvarchar	100	CVL	TRUE

Table Name: VALUE_DB236F   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Asphalt Content, %:	AC	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	nvarchar	100	CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Sieve Analysis of Non-Surface Treatment Aggregates (DB-200-F)

Table Name: VALUE_DB200F   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Weight Retained Minusno14	cumulative_weight_retained_minusno14	decimal	(19, 8)		FALSE
Dry Weight After Washing	dry_weight_after_washing	decimal	(19, 8)		FALSE
Limit As Percent	limit_as_percent	nvarchar	100	{Passing, Retained}	FALSE
Original Dry Weight	original_dry_weight	decimal	(19, 8)		FALSE
Sieve Analysis Result 1	sieve_analysis_result1	nvarchar	100		FALSE
Sieve Analysis Result 2	sieve_analysis_result2	decimal	(19, 8)		FALSE
Sieve Analysis Result 3	sieve_analysis_result3	decimal	(19, 8)		FALSE
Sieve Analysis Result 4	sieve_analysis_result4	decimal	(19, 8)		FALSE
Sieving Loss	sieving_loss	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Total Weight	total_weight	decimal	(19, 8)		FALSE
Washing Loss	washing_loss	decimal	(19, 8)		FALSE

Table Name: VALUE_DB200F_SIEVE   **Maximum Rows: 12**

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Percent Passing	cumulative_pct_passing	decimal	(19, 8)		TRUE
Cumulative Percent Retained	cumulative_pct_retained	decimal	(19, 8)		FALSE
Cumulative Weight Retained	cumulative_weight_retained	decimal	(19, 8)		FALSE
Individual Weight Retained	individual_weight_retained	decimal	(19, 8)		FALSE
Lower Limit Grading	lower_limit_grading	decimal	(19, 8)		FALSE
Sieve Size	sieve_size	nvarchar	100	{2", 1-3/4", 1-1/2", 1-1/4", 1", 7/8", 3/4", 5/8", 1/2", 7/16", 3/8", 5/16", 1/4", No. 4, No. 6, No. 8, No. 10, No. 14, No. 16, No. 20, No. 30, No. 40, No. 50, No. 80, No. 100, No. 200 }	TRUE
Upper Limit Grading	upper_limit_grading	decimal	(19, 8)		FALSE
Within Grading Limits	within_grading_limits	bit			TRUE

Sand Equivalent (DB-203-F)

Table Name: VALUE_DB203F   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Average Sand Equivalent	average_sand_equivalent	decimal	(19, 8)		TRUE
Clay No.1 Reading	clay1_reading	decimal	(19, 8)		FALSE
Clay No.2 Reading	clay2_reading	decimal	(19, 8)		FALSE
Sand No.1 Calculated	sand1_calculated	decimal	(19, 8)		FALSE
Sand No.1 Reading	sand1_reading	decimal	(19, 8)		FALSE
Sand No.1 Reported	sand1_reported	decimal	(19, 8)		FALSE
Sand No.2 Calculated	sand2_calculated	decimal	(19, 8)		FALSE
Sand No.2 Reading	sand2_reading	decimal	(19, 8)		FALSE
Sand No.2 Reported	sand2_reported	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE

QC/QA Test Data (DB-207-FPL)

Table Name: VALUE_DB207FPL   **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
In Place Air Void, %	air_void	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	nvarchar	100	CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Deleterious Material & Decantation For Coarse Aggr (DB-217-F)

Table Name: VALUE_DB217F **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Original Weight Retained	part1_orig_weight_retained	decimal	(19, 8)		FALSE
Percent Deterious Material	part1_pct_deleterious_material	decimal	(19, 8)		TRUE
Sieve Size	part1_sieve_size	nvarchar	100		FALSE
Weight Deleterious Material	part1_weight_deleterious_material	decimal	(19, 8)		FALSE
Dry Weight after Washing	part2_dry_weight_after_washing	decimal	(19, 8)		FALSE
Percent Loss By Decantation	part2_loss_by_decantation	decimal	(19, 8)		TRUE
Original Weight Retained	part2_orig_weight_retained	decimal	(19, 8)		FALSE
Sieve Size	part2_sieve_size	nvarchar	53		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Sieve Analysis for Fine & Coarse Aggregate (DB-401-A)

Table Name: VALUE_DB401A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Equivalent Exceed 85	equivalent_exceed_85	bit			FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Total	total	decimal	(19, 8)		FALSE

Table Name: VALUE_DB401A _SIEVE **Maximum Rows: 8**

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Percent Passing	cumulative_pct_passing	decimal	(19, 8)		FALSE
Cumulative Percent Retained	cumulative_pct_retained	decimal	(19, 8)		TRUE
Cumulative Weight Retained	cumulative_weight_retained	decimal	(19, 8)		FALSE
Individual Weight Retained	individual_weight_retained	decimal	(19, 8)		FALSE
Lower Spec Limit	lower_retained_spec_limit	decimal	(19, 8)		FALSE
Sieve Size	sieve_size	nvarchar	100		TRUE
Upper Spec Limit	upper_retained_spec_limit	decimal	(19, 8)		FALSE
Within Master Grading	within_master_grading	varchar	20		TRUE

Table Name: VALUE_DB402A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Fineness Modulus	fineness_modulus	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	FALSE

Decantation Test For Concrete Aggregates (DB-406-A)

Table Name: VALUE_DB406A **Maximum Rows: 1**

Field Description	Field Name	Datatype	Length	Values	Required
Dry Mass After Washing	dry_mass_after_washing	decimal	(19, 8)		FALSE
Mass of Pycnometer Containing Sample and Water To Fill After Washing	mass_of_pycnometer_after_washing	decimal	(19, 8)		FALSE
Mass of Pycnometer Containing Sample and Water To Fill Before Washing	mass_of_pycnometer_before_washing	decimal	(19, 8)		FALSE
Mass of Pycnometer Filled With Water at Approx. Same Temperature as above	mass_of_pycnometer_with_water	decimal	(19, 8)		FALSE
Original Dry Mass of Sample	original_dry_mass	decimal	(19, 8)		FALSE
% Loss	percent_loss_part1	decimal	(19, 8)		TRUE
Percent Loss	percent_loss_part2	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Test By:	test_by	nvarchar	100	{Part I - Lab Method, Part II - Field Method}	FALSE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested By - Part II	tested_by_part2	nvarchar	100	CVL	FALSE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Tested Date - Part II	tested_date_part2	datetime		MM/dd/yyyy	FALSE

Organic Impurities in Fine Aggregate for Concrete (DB-408-A)

Table Name: VALUE_DB408A   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Color of the Supernatant Liquid	color_of_supernatant_liquid	nvarchar	100	{LIGHTER THAN STANDARD, EQUAL TO STANDARD, DARKER THAN STANDARD}	TRUE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE

Deleterious Material (DB-413-A)

Table Name: VALUE_DB413A   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Clay	clay_value1	decimal	(19, 8)		FALSE
Clay Percentage	clay_value2	decimal	(19, 8)		TRUE
Friable	friable_value1	decimal	(19, 8)		FALSE
Friable Percentage	friable_value2	decimal	(19, 8)		TRUE
Laminated	laminated_value1	decimal	(19, 8)		FALSE
Laminated Percentage	laminated_value2	decimal	(19, 8)		TRUE
Other	other_value1	decimal	(19, 8)		FALSE
Othesr Percentage	other_value2	decimal	(19, 8)		FALSE
Deleterious Material Retained	percent_deleterious_material_retained	decimal	(19, 8)		TRUE
Shale	shale_value1	decimal	(19, 8)		FALSE
Shale Percentage	shale_value2	decimal	(19, 8)		TRUE
Sieve Size	sieve_size	nvarchar	100		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE
Total	total	decimal	(19, 8)		FALSE
Total Weight Sample	total_weight_sample	decimal	(19, 8)		FALSE

Field Form Concrete Sample - Cylinders (DB-418-A)

Table Name: VALUE_DB418A   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Actual Water	actual_water	nvarchar	100		TRUE
Agg. Correction Factor	agg_correction_factor	nvarchar	100	CVL	TRUE
Agg. Size	agg_size	nvarchar	100	CVL	TRUE
Air Temperature	air_temperature	nvarchar	100		TRUE
Batch Size	batch_size	nvarchar	100		TRUE
Batch Time	batch_time	nvarchar	100		TRUE
Class of Concrete	class_of_concrete	nvarchar	100	CVL	TRUE
Concrete Temperature	concrete_temperature	nvarchar	100		TRUE
Corrected Air Content	corrected_air_content	decimal	(19, 8)		TRUE
Design Water	design_water	nvarchar	100		TRUE
Mix ID	mix_id	nvarchar	100		TRUE
Placement Air	placement_air	decimal	(19, 8)		TRUE
Placement Slump	placement_slump	decimal	(19, 8)	CVL	TRUE
Pump Air Loss	pump_air_loss	decimal	(19, 8)		TRUE
Pump Slump Loss	pump_slump_loss	decimal	(19, 8)		TRUE
Req. Strength	req_strength	nvarchar	100		TRUE
Sample Time	sample_time	nvarchar	100		TRUE
Average 7 Day Compressive Strength	seven_day_average	decimal	(19, 8)		FALSE
Slump	slump	decimal	(19, 8)		TRUE
Specimen Size	specimen_size	nvarchar	100	{4x8, 6x12}	TRUE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Ticket #	ticket_number	nvarchar	100		TRUE
Total Water	total_water	nvarchar	100		TRUE
Truck #	truck_number	nvarchar	100		TRUE
Average 28 Day Compressive Strength	twenty_eight_day_average	decimal	(19, 8)		FALSE
Unit Wt.	unit_weight	nvarchar	100		TRUE
Water Added	water_added	nvarchar	100		TRUE

Table Name: VALUE_DB418A _AVERAGE   Maximum Rows: 3

Field Description	Field Name	Datatype	Length	Values	Required
Average Age	average_age	nvarchar	100		TRUE
Average Strength	average_strength	decimal	(19, 8)		TRUE

Table Name: VALUE_DB418A _SPECIMEN   Maximum Rows: 7

Field Description	Field Name	Datatype	Length	Values	Required
Age(days)	age	nvarchar	100	CVL	TRUE
Area	area	decimal	(19, 8)		TRUE
Load(lbs)	load_lbs	decimal	(19, 8)		TRUE
Pass/Fail	pass_fail	nvarchar	5		FALSE
Specimen	specimen	nvarchar	100		FALSE
Strength	strength	decimal	(19, 8)		TRUE
Test Date	test_date	smalldatetime		MM/dd/yyyy	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Type Fracture	type_fracture	varchar	50	{A, B, C, D, E}	TRUE

Determining Pavement Thickness By Direct Measurement (DB-423-A)

Table Name: VALUE_DB423A   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Measure Unit	measure_unit	nvarchar	100	{Inches, Millimeters}	FALSE
Pavement Depth	pavement_depth	decimal	(19, 8)		TRUE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB423A _LOCATION   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Average	average	decimal	(19, 8)		TRUE
Measurement 1	measurement_1	decimal	(19, 8)		FALSE
Measurement 2	measurement_2	decimal	(19, 8)		FALSE
Measurement 3	measurement_3	decimal	(19, 8)		FALSE
Measurement Identification / Location	measurement_id_location	nvarchar	100		FALSE

Soil-Cement, Soil-Lime Testing (DB-120-E) ** INACTIVE **

Table Name: VALUE_DB120E   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Avg. Corrected Stress, psi:	avg_corrected_stress_psi	decimal	(19, 8)		FALSE
Percent Cement, (%)	percent_cement	decimal	(19, 8)		TRUE
Performed By DB-120-E:	performed_by	nvarchar	200		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Target Percent Cement, %:	target_percent_cement	decimal	(19, 8)		FALSE
Target Stress, psi:	target_stress_psi	decimal	(19, 8)		FALSE
Tested By	tested_by	nvarchar	200	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB120E_SPECIMEN   Maximum Rows: 3

Field Description	Field Name	Datatype	Length	Values	Required
Area, in.^2:	area	decimal	(19, 8)		FALSE
Avg. Corrected Stress, psi:	avg_corrected_stress	decimal	(19, 8)		FALSE
Avg. Cross Sectional Area, in^2:	avg_cross_section_area	decimal	(19, 8)		FALSE
Average Diameter, in.:	avg_diameter	decimal	(19, 8)		FALSE
Circumference, in.:	circumference	decimal	(19, 8)		FALSE
Corrected Stress, psi.:	corrected_stress	decimal	(19, 8)		FALSE
Dead Load, lbs.:	dead_load	decimal	(19, 8)		FALSE
Deformation at Max Load, in.	deformation_at_max_load	decimal	(19, 8)		FALSE
Height of Stone 1, in.	height_stone1	decimal	(19, 8)		FALSE
Height of Stone 2, in.	height_stone2	decimal	(19, 8)		FALSE
I-Strain, in./in.:	i_strain	decimal	(19, 8)		FALSE
Initial Height of Specimen, in.:	initial_height_specimen	decimal	(19, 8)		FALSE
Lateral Pressure, psi.:	lateral_pressure	decimal	(19, 8)		FALSE
Max. Load Reading, div.	max_load_reading	decimal	(19, 8)		FALSE
New Height of Specimen, in.:	new_height_specimen	decimal	(19, 8)		FALSE
% Strain , in./in.:	pct_strain	decimal	(19, 8)		FALSE
Percent Cement, (%)	percent_cement	decimal	(19, 8)		FALSE
Ring Factor, lbs./div	ring_factor	decimal	(19, 8)		FALSE
Specimen Number:	specimen_no	int			FALSE
Uncorr'd Stress, psi.:	uncorrected_stress	decimal	(19, 8)		FALSE

Soil-Lime Testing: DB-121-E (DB-121-E) ** INACTIVE **

Table Name: VALUE_DB121E   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Average Corrected Strength, 00 psi	average_corrected_strength_0psi	decimal	(19, 8)		TRUE
Average Corrected Strength, 15 psi	average_corrected_strength_15psi	decimal	(19, 8)		FALSE
Classification	classification	nvarchar	100		FALSE
Cohesion, psi	cohesion_psi	decimal	(19, 8)		FALSE
Correlation Factor	correlation_factor	decimal	(19, 8)		FALSE
Grade, 00 psi	grade_0psi	nvarchar	100		FALSE
Grade, 15 psi	grade_15psi	nvarchar	100		FALSE
Internal Angle of Friction	internal_angle_friction	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE

Table Name: VALUE_DB121E_SPECIMEN   Maximum Rows: 8

Field Description	Field Name	Datatype	Length	Values	Required
Area, in.^2	area	decimal	(19, 8)		FALSE
Avg. Cross Sectional Area, in^2	avg_cross_sectional_area	decimal	(19, 8)		FALSE
Average Diameter, in.	avg_diameter	decimal	(19, 8)		FALSE
Corrected Stress, psi.	corrected_stress_psi	decimal	(19, 8)		FALSE
Dry Density of Specimen, pcf	dry_density_specimen_pcf	decimal	(19, 8)		FALSE
Final Weight of Stones	final_weight_stones	decimal	(19, 8)		FALSE
Height of Stone 1, in.	height_stone1	decimal	(19, 8)		FALSE
Height of Stone 2, in.	height_stone2	decimal	(19, 8)		FALSE
I-Strain, in./in.	i_strain	decimal	(19, 8)		FALSE
Initial Height of Specimen, in.	initial_height	decimal	(19, 8)		FALSE
Lateral Pressure, psi.	lateral_pressure_psi	decimal	(19, 8)		FALSE
New Height of Specimen, in.	new_height	decimal	(19, 8)		FALSE
Moisture of Specimen, %	pct_moisture_specimen	decimal	(19, 8)		FALSE
% Strain , in./in.	pct_strain	decimal	(19, 8)		FALSE
Uncorrected Stress, psi.	uncorrected_stress_psi	decimal	(19, 8)		FALSE
Weight of Specimen	weight_specimen	decimal	(19, 8)		FALSE
Weight of Stones and Specimen	weight_stones_specimen	decimal	(19, 8)		FALSE

**Density of Asphalt Stabilized Base (DB-126-E) ** INACTIVE **

Table Name: VALUE_DB126E   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Percent Asphalt in Mix(max)	asphalt_pct_max	decimal	(19, 8)		FALSE
Percent Asphalt in Mix(min)	asphalt_pct_min	decimal	(19, 8)		FALSE
Broken Method	broken_method	nvarchar	20	{Fast Break, Slow Break}	FALSE
Date Broken(max)(max)	date_broken_max	smalldatetime		MM/dd/yyyy	FALSE
Date Broken(min)	date_broken_min	smalldatetime		MM/dd/yyyy	FALSE
Density of Specimen(max)	density_of_specimen_max	decimal	(19, 8)		FALSE
Density of Specimen(min)	density_of_specimen_min	decimal	(19, 8)		FALSE
Gauge Reading(max)	gague_reading_psi_max	decimal	(19, 8)		FALSE
Gauge Reading (min)	gague_reading_psi_min	decimal	(19, 8)		FALSE
Height of Specimen(max)	height_max	decimal	(19, 8)		FALSE
Height of Specimen(min)	height_min	decimal	(19, 8)		FALSE
Measured Weight(max)	measured_weight_max	decimal	(19, 8)		FALSE
Measured Weight(min)	measured_weight_min	decimal	(19, 8)		FALSE
Minimum Allowable Density	min_allowable_density	decimal	(19, 8)		FALSE
Minimum Percent Density	min_pct_density	decimal	(19, 8)		FALSE
Minimum Specimen Unconfined Compressive Strength	min_specimen_UCS	decimal	(19, 8)		FALSE
Mold Number(max)	mold_number_max	nvarchar	100		FALSE
Mold Number(min)	mold_number_min	nvarchar	100		FALSE
Date Molded(max)	molded_date_max	smalldatetime		MM/dd/yyyy	FALSE
Date Molded(min)	molded_date_min	smalldatetime		MM/dd/yyyy	FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	datetime		MM/dd/yyyy	FALSE
Unconfined Compressive Strength (max)	UCS_max	nvarchar	100		FALSE
Unconfined Compressive Strength (min)	UCS_min	nvarchar	100		FALSE
Volume of Mold(max)	volume_of_mold_max	decimal	(19, 8)		FALSE
Volume of Mold(min)	volume_of_mold_min	decimal	(19, 8)		FALSE
Volume of Specimen(max)	volume_of_specimen_max	decimal	(19, 8)		FALSE
Volume of Specimen(min)	volume_of_specimen_min	decimal	(19, 8)		FALSE
Weight of Filters(max)	weight_of_filters_max	decimal	(19, 8)		FALSE
Weight of Filters(min)	weight_of_filters_min	decimal	(19, 8)		FALSE
Weight of Material(max)	weight_of_mat_max	decimal	(19, 8)		FALSE
Weight of Material(min)	weight_of_mat_min	decimal	(19, 8)		FALSE
Weight of Plates(max)	weight_of_plates_max	decimal	(19, 8)		FALSE
Weight of Plates(min)	weight_of_plates_min	decimal	(19, 8)		FALSE
Weight of Specimen(max)	weight_of_specimen_max	decimal	(19, 8)		FALSE
Weight of Specimen(min)	weight_of_specimen_min	decimal	(19, 8)		FALSE

Sieve Analysis of Surface Treatment Aggregate (DB-200-ST) ** INACTIVE **

Table Name: VALUE_DB200ST   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Sphalt	asphalt_pct	decimal	(19, 8)		FALSE
Dry Weight After Washing	dry_weight_after_washing	decimal	(19, 8)		FALSE
Moisture	moisture_pct	decimal	(19, 8)		FALSE
Original Dry Weight	orig_dry_weight	decimal	(19, 8)		FALSE
Total	pan_weight	decimal	(19, 8)		FALSE
Percent Difference	percent_difference	decimal	(19, 8)		FALSE
Sieving Loss	sieving_loss	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	datetime		MM/dd/yyyy	FALSE
Total Weight	total_weight	decimal	(19, 8)		FALSE
Type	type	nvarchar	100	{A, B, C, D, E, L, PA, PB, PC, PD, PE, PL}	FALSE
Washing Loss	washing_loss	decimal	(19, 8)		FALSE
Weight Difference	weight_difference	decimal	(19, 8)		FALSE
PrePan	weight_retained	decimal	(19, 8)		FALSE

Table Name: VALUE_DB200ST_SIEVE   Maximum Rows: 8

Field Description	Field Name	Datatype	Length	Values	Required
Cumulative Percent Passing	cumulative_percent_passing	decimal	(19, 8)		FALSE
Lower Retained Limit	lower_retained_limit	decimal	(19, 8)		FALSE
Cumulative Percent Retained	percent_retained_cumulative	decimal	(19, 8)		FALSE
Individual Percent Retained	percent_retained_individual	decimal	(19, 8)		FALSE
Sieve Size	sieve_size	nvarchar	100		FALSE
Upper Retained Limit	upper_retained_limit	decimal	(19, 8)		FALSE
Cumulative Weight Retained	weight_retained_cumulative	decimal	(19, 8)		FALSE
Individual weight Retained	weight_retained_individual	decimal	(19, 8)		FALSE
Within Master Grading	within_master_grading	nvarchar	100		FALSE

Determining Flakiness Index (DB-224-F) ** INACTIVE **

Table Name: VALUE_DB224F   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Flakiness Index	flakiness_index	decimal	(19, 8)		TRUE
Number of Particles	num_particles_1	decimal	(19, 8)		FALSE
Number of Particles	num_particles_2	decimal	(19, 8)		FALSE
Number of Particles	num_particles_3	decimal	(19, 8)		FALSE
Number of Particles Passing for 1/4" slot	slot_1_4	decimal	(19, 8)		FALSE
Number of Particles Passing for 3/8" slot	slot_3_8	decimal	(19, 8)		FALSE
Number of Particles Passing for 5/32" slot	slot_5_32	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE
Total Particles	total_particles	decimal	(19, 8)		FALSE
Total Passing Particles	total_passing_particles	decimal	(19, 8)		FALSE

Determining Draindown Characteristics in Bituminous Materials (DB-235-F) ** INACTIVE *

Table Name: VALUE_DB235F   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Average Percent of Draindown for Two Samples	avg_pct_draindown	decimal	(19, 8)		FALSE
Final Weight Plate	final_weight_plate_1	decimal	(19, 8)		FALSE
Final Weight Plate	final_weight_plate_2	decimal	(19, 8)		FALSE
Initial Sample Weight	init_sample_weight_1	decimal	(19, 8)		FALSE
Initial Sample Weight	init_sample_weight_2	decimal	(19, 8)		FALSE
Initial Weight Plate	init_weight_plate_1	decimal	(19, 8)		FALSE
Initial Weight Plate	init_weight_plate_2	decimal	(19, 8)		FALSE
Percent Of Draindown	pct_draindown_1	decimal	(19, 8)		FALSE
Percent Of Draindown	pct_draindown_2	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	datetime		MM/dd/yyyy	TRUE

Resistance To Degradation By Abrasion & Impact in Los Angeles Machine (DB-410-A) ** INACTIVE *

Table Name: VALUE_DB410A   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Final Weight	final_weight	decimal	(19, 8)		FALSE
Initial Weight	initial_weight	decimal	(19, 8)		FALSE
La Abrasion Type	la_abrasion_type	nvarchar	100	CVL	FALSE
La Abrasion Value	la_abrasion_value	decimal	(19, 8)		FALSE
Loss of Weight	loss_of_weight	decimal	(19, 8)		FALSE
Number of Spheres	number_of_spheres	int			FALSE
Percent Loss	percent_loss	decimal	(19, 8)		FALSE
Sieve	sieve	nvarchar	100		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	datetime		MM/dd/yyyy	FALSE
Weight of Charge	weight_of_charge	nvarchar	100		FALSE

Table Name: VALUE_DB410A _SAMPLE   Maximum Rows: 4

Field Description	Field Name	Datatype	Length	Values	Required
Actual Weight	actual_weight	decimal	(19, 8)		FALSE
Passing Sieve	passing_sieve	nvarchar	100		FALSE
Projected Weight	projected_weight	nvarchar	100		FALSE
Retained Sieve	retained_sieve	nvarchar	100		FALSE
Within Range	within_range	bit			FALSE

Magnesium Sulfate Soundness (DB-411-M) ** INACTIVE **

Table Name: **VALUE_DB411M**   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Normalized Individual Percent Retained Total	ni_pct_retained_total	decimal	(19, 8)		FALSE
% Loss Total	pct_loss_total	decimal	(19, 8)		FALSE
Soundness Loss	soundness_loss	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Weighted Average % Loss Total	weighted_avg_pct_loss_total	decimal	(19, 8)		FALSE

Table Name: **VALUE_DB411M_CYCLE**   Maximum Rows: 5

Field Description	Field Name	Datatype	Length	Values	Required
Cycle	cycle	nvarchar	5		FALSE
In Oven Date	in_oven_date	smalldatetime		MM/dd/yyyy	FALSE
In Oven Time In	in_oven_time_in	smalldatetime		MM/dd/yyyy	FALSE
In Oven Time Out	in_oven_time_out	smalldatetime		MM/dd/yyyy	FALSE
In Solution Date	in_solution_date	smalldatetime		MM/dd/yyyy	FALSE
In Solution Time In	in_solution_time_in	smalldatetime		MM/dd/yyyy	FALSE
In Solution Time Out	in_solution_time_out	smalldatetime		MM/dd/yyyy	FALSE
Out Oven Date	out_oven_date	smalldatetime		MM/dd/yyyy	FALSE
Out Oven Time In	out_oven_time_in	smalldatetime		MM/dd/yyyy	FALSE
Out Oven Time Out	out_oven_time_out	smalldatetime		MM/dd/yyyy	FALSE
Out Solution Date	out_solution_date	smalldatetime		MM/dd/yyyy	FALSE
Out Solution Time In	out_solution_time_in	smalldatetime		MM/dd/yyyy	FALSE
Out Solution Time Out	out_solution_time_out	smalldatetime		MM/dd/yyyy	FALSE
Remarks	remarks	nvarchar	250		FALSE

Table Name: **VALUE_DB411M_PARTICLE**   Maximum Rows: 8

Field Description	Field Name	Datatype	Length	Values	Required
Final Weight (g)	final_weight	decimal	(19, 8)		FALSE
Initial Weight (g)	initial_weight	decimal	(19, 8)		FALSE
Loss of Weight (g)	loss_of_weight	decimal	(19, 8)		FALSE
Normalized Individual Percent Retained	ni_pct_retained	decimal	(19, 8)		FALSE
% Loss	pct_loss	decimal	(19, 8)		FALSE
Particle Size Range Passing	size_range_passing	nvarchar	100		FALSE
Particle Size Range Retained	size_range_retained	nvarchar	100		FALSE
Weighted Average % Loss	weighted_avg_pct_loss	decimal	(19, 8)		FALSE

Testing Of Drilled Cores Of Portland Cement Concrete (DB-424-A, Part III) ** INACTIVE *

Table Name: VALUE_DB424A   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested By - Part II	tested_by_part2	nvarchar	100	CVL	FALSE
Tested By - Part III	tested_by_part3	nvarchar	100	CVL	FALSE
Tested Date	tested_date	datetime		MM/dd/yyyy	FALSE
Tested Date - Part II	tested_date_part2	datetime		MM/dd/yyyy	FALSE
Tested Date - Part III	tested_date_part3	datetime		MM/dd/yyyy	FALSE

Table Name: VALUE_DB424A _CORE   Maximum Rows: 4

Field Description	Field Name	Datatype	Length	Values	Required
Age (Days)	age	int			FALSE
Compressive Strength	compressive_strength1	decimal	(19, 8)		FALSE
Compressive Strength	compressive_strength2	decimal	(19, 8)		FALSE
Diameter of Core (inches)	core_diameter1	decimal	(19, 8)		FALSE
Diameter of Core (inches)	core_diameter2	decimal	(19, 8)		FALSE
Length of Core (inches)	core_length1	decimal	(19, 8)		FALSE
Length of Core (inches)	core_length2	decimal	(19, 8)		FALSE
Core Number	core_number1	nvarchar	100		FALSE
Core Number	core_number2	nvarchar	100		FALSE
Failure Type	failure_type1	nvarchar	100		FALSE
Failure Type	failure_type2	nvarchar	100		FALSE
Max Load (Lbs)	max_load1	decimal	(19, 8)		FALSE
Max Load (Lbs)	max_load2	decimal	(19, 8)		FALSE

Texture Depth By Sand Patch Method (DB-436-A) ** INACTIVE *

Table Name: VALUE_DB436A   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Average Diameter	avg_diameter	decimal	(19, 8)		FALSE
Diameter 1	measurement_1	decimal	(19, 8)		FALSE
Diameter 2	measurement_2	decimal	(19, 8)		FALSE
Diameter 3	measurement_3	decimal	(19, 8)		FALSE
Diameter 4	measurement_4	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	varchar	200	CVL	FALSE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	FALSE
Thickness	thickness	decimal	(19, 8)		FALSE
Volume of Cylinder	vol_cylinder	decimal	(19, 8)		FALSE

Concrete Sample - Beams (DB-448-A) ** INACTIVE **

Table Name: VALUE_DB448A   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Actual Water	act_water	decimal	(19, 8)		FALSE
Added Gal	added_gal	decimal	(19, 8)		FALSE
Agg. Correction Factor	agg_corr_factor	decimal	(19, 8)	CVL	FALSE
Agg Size	agg_size	nvarchar	100	CVL	FALSE
Air Temperature	air_temp	decimal	(19, 8)		FALSE
Batch Size	batch_size	decimal	(19, 8)		FALSE
Batch Time	batch_time	smalldatetime		MM/dd/yyyy	FALSE
Class of Concrete	class_concrete	nvarchar	100	CVL	FALSE
Concrete Temperature	concrete_temp	decimal	(19, 8)		FALSE
Corrected Air Content	corrected_air_content	decimal	(19, 8)	CVL	FALSE
Design Water	des_water	decimal	(19, 8)		FALSE
Mix ID	mix_id	nvarchar	100	CVL	FALSE
Qty Load	qty_load	decimal	(19, 8)		FALSE
Req. Strength, psi	req_strength	decimal	(19, 8)		FALSE
Sample Time	sample_time	smalldatetime		MM/dd/yyyy	FALSE
Slump	slump	decimal	(19, 8)	CVL	FALSE
Specimen Dimensions	spec_dimensions	nvarchar	100	CVL	FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	datetime		MM/dd/yyyy	FALSE
Ticket Number	ticket_num	decimal	(19, 8)		FALSE
Total Water	total_water	decimal	(19, 8)		FALSE
Truck Number	truck_num	decimal	(19, 8)		FALSE
Unit Weight	unit_weight	decimal	(19, 8)		FALSE

Table Name: VALUE_DB448A _SPECIMEN   Maximum Rows: 6

Field Description	Field Name	Datatype	Length	Values	Required
Age	age	nvarchar	100	CVL	FALSE
Avg Depth	avg_depth	decimal	(19, 8)		FALSE
Avg. Width	avg_width	decimal	(19, 8)		FALSE
Correction Factor	corr_factor	decimal	(19, 8)		FALSE
Max Load, lbs	max_load_psi	decimal	(19, 8)		FALSE
Mod Rupture	mod_rupture	decimal	(19, 8)		FALSE
Pass Fail	pass_fail	nvarchar	100		FALSE
Specimen	specimen	nvarchar	100		FALSE
Test Date	test_date	smalldatetime		MM/dd/yyyy	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE

Coarse Aggregate Angularity By Fractured Faces Count (DB-460-A) ** INACTIVE **

Table Name: VALUE_DB460A   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Number of Particles w/ one or no FF	number_of_particles_with_one	int			FALSE
Number of Particles w/ 2 or more FF	number_of_particles_with_two	int			FALSE
Number of Questionable Particles	number_of_questionable_particles	int			FALSE
Percent Crushed Particles	percent_crushed_particles	decimal	(19, 8)		FALSE
Percent Crushed Particles	percent_crushed_particles_result	decimal	(19, 8)		TRUE
Sieve Size	sieve_size	nvarchar	100		FALSE
Stamp Code	stamp_code	int		CVL	TRUE
Tested By	tested_by	nvarchar	100	CVL	TRUE
Tested Date	tested_date	smalldatetime		MM/dd/yyyy	TRUE
Total Number of Particles	total_number_of_particles	int			FALSE

Effect of Water On Bituminous Paving Mixtures (DB-530-C) ** INACTIVE **

Table Name: VALUE_DB530C   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Estimated Percent of Stripping	est_pct_stripping	nvarchar	100		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	datetime		MM/dd/yyyy	FALSE

Determining Chloride and Sulfate Content in Soils (DB-620-J) ** INACTIVE **

Table Name: VALUE_DB620J   Maximum Rows: 1

Field Description	Field Name	Datatype	Length	Values	Required
Chloride (CL) (PPM)	chloride_ppm	decimal	(19, 8)		FALSE
Crucible + Residue Weight	crucible_residue_weight	decimal	(19, 8)		FALSE
Crucible Weight	crucible_weight	decimal	(19, 8)		FALSE
Ending	ending	decimal	(19, 8)		FALSE
Normality of AgNO3	normality_of_agno3	decimal	(19, 8)		FALSE
Residue Weight	residue_weight	decimal	(19, 8)		FALSE
Sample Weight	sample_weight_chloride	decimal	(19, 8)		FALSE
Sample Weight	sample_weight_sulfate	decimal	(19, 8)		FALSE
Stamp Code	stamp_code	int		CVL	FALSE
Starting	starting	decimal	(19, 8)		FALSE
Sulfate (SO4) (PPM)	sulfate_ppm	decimal	(19, 8)		FALSE
Tested By	tested_by	nvarchar	100	CVL	FALSE
Tested Date	tested_date	nvarchar	100		FALSE
Total	total	decimal	(19, 8)		FALSE

CQAF Sample

File: CQAFSample.xml
File Type: XML (Extensible Markup Language). The de facto standard for transferring data.
File Description: An example of an electronic submission that can be read into I2MS. The example provided was used for a previous project and passed the verification process for that particular project's inputs. This file can be submitted to I2MS via a web service run on I2MS using SOAP (Simple Object Access Protocol), which is a standard programming protocol by which software developers send data between systems.

CQAF Sample

```xml
<?xml version='1.0' encoding='UTF-8'?>
<form    name="DB-115-1"    version_no="1.0"    key="0020905270501151"    date="2009-05-27T00:00:00" display_key="00209052705">
        <owner_name value="CQAF" />
        <security username="CQAFDataXfer" password="as9-3958$h@" />
        <header>
                <column name="sample_id" value="00209052705" />
                <column name="sampled_date" value="5/27/2009 12:00:00 AM" />
                <column name="sample_type" value="Random-Independent" />
                <column name="split_sample_id" />
                <column name="report_type" value="Original" />
                <column name="section" value="5.1" />
                <column name="sampled_by" value="Al Jones" />
                <column name="spec_year" value="2004" />
                <column name="material" value="14" />
                <column name="spec_item" value="247" />
                <column name="supplier" value="Pit" />
                <column name="special_provision" />
                <column name="structure_number" />
                <column name="grade" value="1" />
                <column name="sample_location" />
                <column name="feature" value="Mainlane" />
                <column name="course_lift" value="2" />
                <column name="station" value="342+49" />
                <column name="dist_from_cl" value="5' LT" />
                <column name="misc" />
                <column name="roadway" value="Loop 375" />
                <column name="direction" value="NB" />
        </header>
        <test name="DB-115-1">  <!-- This can be the same value as the form name. -->
                <table name="VALUE_DB115_1">
                        <row>
                                <column  name="determined_by_test_method"  value="DB-113-E" />
                                <column name="max_dry_density_pcf" value="132.5" />
                                <column name="optimum_moisture_content_pct" value="7.7" />
                                <column name="density_standard" value="4200" />
                                <column name="moisture_standard" value="420" />
                                <column name="density_count" value="1045" />
                                <column name="moisture_count" value="231" />
                                <column name="probe_depth" value="10" />
                                <column name="wet_density_pcf" value="140.5" />
                                <column name="dry_density_pcf" value="133.5" />
                                <column name="moisture_content_pct" value="5.2" />
                                <column name="gauge_no" value="3242" />
                                <column name="moisture_content_pct_pass_fail" />
                                <column name="density_pct" value="100.7" />
                                <column name="density_pct_pass_fail" />
```

CQAF Sample

```
                        <column name="density_specification_req_max" />
                        <column name="moisture_specification_req_max" />
                        <column name="soil_desc" />
                        <column name="density_specification_req_min" value="100" />
                        <column name="moisture_specification_req_min" value="5.2" />
                        <column name="tested_by" value="Al Jones" />
                        <column name="tested_date" value="5/27/2009 12:00:00 AM" />
                        <column name="stamp_code" value="1" />
                </row>
        </table>
    </test>
    <footer>
        <column name="remarks" />
        <column name="reviewed_by" />
        <column name="completed_date" />
        <column name="authorized_by" />
        <column name="authorized_date" />
    </footer>
</form>
```

Web Form Validation

File: WebFormValidation.xsd
File Type: XSD (XML Schema Document). Describes a schema used for an XML document.
File Description: Describes elements, annotations, and documentation used in the aforementioned XML. XSD files are the standard used to describe XML file formats and are often used to assist in developing XML files with added features such as intellisense (which is an added type ahead feature used by developers).

Web Form Validation

```xml
<?xml version="1.0" encoding="utf-8"?>
<xs:schema id="FormValidation" xmlns:xs="http://www.w3.org/2001/XMLSchema">
   <xs:element name="form">
     <xs:complexType>
       <xs:sequence>
         <xs:choice minOccurs="1" maxOccurs="1" id="owner">
             <xs:annotation>
                 <xs:documentation>
                         The owner of the record must be supplied to upload successfully. The user login provided in the security element
                         must have permission to add a record for the owner as part of the validation process.

                         The record owner can be identified by a variety of properties.  In general, when submitting XML from an external source,
                         the owner_name attribute is the preferred method.
                 </xs:documentation>
             </xs:annotation>
           <xs:element name="owner_name" minOccurs="1" maxOccurs="1">
             <xs:annotation>
                 <xs:documentation>
                         The name of the owner of this record.  For example, "OVF" or "CQAF".
                 </xs:documentation>
             </xs:annotation>
             <xs:complexType>
                 <xs:attribute name="value" type="xs:string" use="required" />
             </xs:complexType>
           </xs:element>
           <xs:element name="owner_guid" minOccurs="1" maxOccurs="1">
             <xs:complexType>
                 <xs:attribute name="value" type="xs:string" use="required" />
             </xs:complexType>
           </xs:element>
           <xs:element name="owner_id" minOccurs="1" maxOccurs="1">
             <xs:complexType>
                 <xs:attribute name="value" type="xs:int" use="required" />
             </xs:complexType>
           </xs:element>
         </xs:choice>
         <xs:element name="security" minOccurs="1" maxOccurs="1">
             <xs:annotation>
                 <xs:documentation>
                         User login credentials must be provided to upload a record. Supply a username and password.
                 </xs:documentation>
             </xs:annotation>
             <xs:complexType>
```

Web Form Validation

```
            <xs:attribute name="user_guid" type="xs:string" />
            <xs:attribute name="username" type="xs:string" />
            <xs:attribute name="password" type="xs:string" />
        </xs:complexType>
    </xs:element>
    <xs:element name="header" minOccurs="0" maxOccurs="1">
        <xs:annotation>
            <xs:documentation>
                The collection of header column values common to multiple forms.
            </xs:documentation>
        </xs:annotation>
    <xs:complexType>
        <xs:sequence>
            <xs:element name="column" type="ColumnType" maxOccurs="unbounded" />
        </xs:sequence>
    </xs:complexType>
    </xs:element>
    <xs:element name="test" minOccurs="0" maxOccurs="unbounded">
        <xs:annotation>
            <xs:documentation>
                Container element for Body Table elements, which contain the
data specific to the form type being uploaded.
                This element can be used to logically group the body tables by the
test method they represent, but it is not required to do so.
                All body table elements can be placed under one test element,
and the test name attribute is inconsequential.
            </xs:documentation>
        </xs:annotation>
    <xs:complexType>
        <xs:sequence>
            <xs:element name="table" minOccurs="1" maxOccurs="unbounded">
                <xs:annotation>
                    <xs:documentation>
                        A collection of rows of form data for a specific table.

                        The number of rows permitted for each table depends on
the form and table name. For testing forms, the number of rows allowed for each table can be
found in the I2MS Test Form Fields report.
                    </xs:documentation>
                </xs:annotation>
            <xs:complexType>
                <xs:sequence>
                    <xs:element name="row" minOccurs="0" maxOccurs="unbounded">
                        <xs:annotation>
                            <xs:documentation>
                                A collection of body column values.
                            </xs:documentation>
                        </xs:annotation>
```

Web Form Validation

```
<xs:complexType>
    <xs:sequence>
        <xs:element          name="column"          type="ColumnType"
minOccurs="0" maxOccurs="unbounded" />
    </xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required">
    <xs:annotation>
        <xs:documentation>
            The name of the body table.

            For testing forms, the list of supported table names
can be found in the I2MS Test Form Fields report.
        </xs:documentation>
    </xs:annotation>
</xs:attribute>
</xs:complexType>
</xs:element>
</xs:sequence>
<xs:attribute name="name" type="xs:string" use="required" />
</xs:complexType>
</xs:element>
<xs:element name="footer" minOccurs="0" maxOccurs="1">
    <xs:annotation>
        <xs:documentation>
            The collection of footer column values common to multiple forms.
        </xs:documentation>
    </xs:annotation>
    <xs:complexType>
        <xs:sequence>
            <xs:element          name="column"          type="ColumnType"          minOccurs="0"
maxOccurs="unbounded" />
        </xs:sequence>
    </xs:complexType>
</xs:element>
</xs:sequence>
<xs:attribute name="name" form="unqualified" type="xs:string" use="required" >
    <xs:annotation>
        <xs:documentation>
            The short name of the I2MS form for which data is being
submitted.  This value determines the data columns that are supported and required
            for the header, body, and footer elements.

            For testing forms, the list of supported form names can be found
in the I2MS Test Form Fields report.
```

Web Form Validation

The form name is the value in parentheses for each subheading under the Body Fields section.
```
                </xs:documentation>
            </xs:annotation>
        </xs:attribute>
        <xs:attribute name="key" form="unqualified" use="required">
            <xs:annotation>
                <xs:documentation>
```
A value representing the test record in I2MS. This value is required to be unique for each owner (OVF/CQAF).

The same key is used for all revisions of the record. To add a new revision, supply the same key with the new form data and a
```
                    new value for the version_no attribute.
                </xs:documentation>
            </xs:annotation>
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:maxLength value="100"></xs:maxLength>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:attribute name="version_no" use="required">
            <xs:annotation>
                <xs:documentation>
```
The version number of this revision within the series of revisions identified by the key attribute.

The revision in the series with the greatest version number will be considered the latest revision regardless of the order in which revisions were submitted to I2MS.

Submitting a record with the same key and version number as another record in the system is an error.
```
                </xs:documentation>
            </xs:annotation>
            <xs:simpleType>
                <xs:restriction base="xs:decimal">
                    <xs:totalDigits value="19" />
                    <xs:fractionDigits value="9" />
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:attribute name="display_key">
            <xs:annotation>
                <xs:documentation>
```
The value displayed to users as the ID value of the record (for example, Sample ID for testing forms).

This value is not required to be unique.
```
                </xs:documentation>
            </xs:annotation>
            <xs:simpleType>
                <xs:restriction base="xs:string">
```

Web Form Validation

```xml
                                    <xs:maxLength value="100"></xs:maxLength>
                            </xs:restriction>
                    </xs:simpleType>
            </xs:attribute>
            <xs:attribute name="version_key">
                    <xs:annotation>
                            <xs:documentation>
                                    An optional identifier for this revision.  For example, when
submitting XML to I2MS from an external source,
                                    this could be the Version ID of the record in the external system.
                            </xs:documentation>
                    </xs:annotation>
                    <xs:simpleType>
                            <xs:restriction base="xs:string">
                                    <xs:maxLength value="100"></xs:maxLength>
                            </xs:restriction>
                    </xs:simpleType>
            </xs:attribute>
            <xs:attribute name="action_name" type="xs:string">
                    <xs:annotation>
                            <xs:documentation>
                                    The name of a custom workflow action to execute when
submitting the form.  The user login submitting the form
                                    must have permissions in I2MS for the action and validation rules
must pass before allowing the action.

                                    When submitting XML to I2MS from an external source, this
attribute should generally be omitted unless other
                                    instructions have been provided.
                            </xs:documentation>
                    </xs:annotation>
            </xs:attribute>
            <xs:attribute name="date" type="xs:dateTime">
                    <xs:annotation>
                            <xs:documentation>
                                    The value displayed to users as the date of the record (for
example, Sampled Date for testing forms).
                            </xs:documentation>
                    </xs:annotation>
            </xs:attribute>
        </xs:complexType>
    </xs:element>

        <xs:complexType name="ColumnType">
        <xs:attribute name="name" type="xs:string" use="required">
                <xs:annotation>
                        <xs:documentation>
                                The name of the column for which a value is being provided.
```

Web Form Validation

For testing forms, the list of supported data columns can be found in the I2MS Test Form Fields report.

```
            </xs:documentation>
        </xs:annotation>
    </xs:attribute>
    <xs:attribute name="value" type="xs:string" use="optional">
        <xs:annotation>
            <xs:documentation>
                The value of the column.
            </xs:documentation>
        </xs:annotation>
    </xs:attribute>
        </xs:complexType>

</xs:schema>
```

Form Submission Service

File: FormSubmissionService.wsdl
File Type: WSDL (Web Services Description Language). Describes a web service and its respective protocols in XML format.
File Description: Describes the web service used by I2MS for submitting data electronically for the purposes of Validation (i.e. Verification) and Submission. The I2MS system takes in data electronically via a web service (often via the SOAP protocol), for the purposes of verifying or submitting a test (submitted in XML format).

Form Submission Service

```xml
<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions                                    xmlns:s="http://www.w3.org/2001/XMLSchema"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"          xmlns:tns="http://tempuri.org/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:tm="http://microsoft.com/wsdl/mime/textMatching/"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
targetNamespace="http://tempuri.org/" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
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Form Submission Service

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Form Submission Service

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Form Submission Service

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Texas Department of Transportation
Technical Provisions

SH 183 Managed Lanes Project

Attachment 4-1
Permits/Commitments/Mitigation

SH 183 Managed Lanes Project - Permits/Commitments/Mitigation

Project Issue/ Resource	Phase	SH 183 Segment 2E: SH 183 from SH 121/SH 183 to SH 161 Transition (Airport Freeway EA/2E Re-evaluation)	SH 183 from SH 161 to I-35E (excludes Carl Rd. to SH 114) (SH 183 EA/Re-evaluation)	SH 114 from International Parkway to SH 183 (SH 114 EA/Re-evaluation)	Loop 12 from SH 183 to I-35E: toll lanes (Loop 12 EA/Re-evaluation)
Vegetation	Ultimate	1.68 acres of proposed compensatory mitigation	7.75 acres of non-regulatory mitigation proposed at LLELA	Mitigation for 30.06 acres of overstory/understory woodlands, 2.24 acres of riparian habitat, and one 20-inch dbh post oak proposed	TxDOT has provided mitigation for 2.5 acres of trees.
	Interim*	No compensatory mitigation is required for interim phase	7.75 acres of non-regulatory mitigation proposed at LLELA	No compensatory mitigation is required for interim phase	No compensatory mitigation is required for interim phase
Threatened & Endangered Species	Ultimate	No impacts anticipated	Mussel presence/absence survey to be completed prior to construction	No impacts anticipated	No impacts anticipated
	Interim*	Prior to construction, review current T&E species list for changes of list used in NEPA Approvals, if changes occur refer to Section 4.3.2.6 of Technical Provisions	Mussel surveys required prior to construction; Prior to construction, review current T&E species list for changes of list used in NEPA Approvals, if changes occur refer to Section 4.3.2.6 of Technical Provisions	Prior to construction, review current T&E species list for changes of list used in NEPA Approvals, if changes occur refer to Section 4.3.2.6 of Technical Provisions	Prior to construction, review current T&E species list for changes of list used in NEPA Approvals, if changes occur refer to Section 4.3.2.6 of Technical Provisions
Migratory Birds	Ultimate	Comply with the MBTA	Comply with the MBTA	Comply with the MBTA	Comply with the MBTA.
	Interim*	Comply with the MBTA	Comply with the MBTA	Comply with the MBTA	Comply with the MBTA
Waters of the U.S., including Wetlands/Section 404 Permits	Ultimate	Impacts authorized by NWPs Non-PCN	**NWP 3/14 applicable for fill activities in Section 404 waters of the U.S. provided that NWP terms and conditions are met. This includes waters of the U.S. previously impacted during the interim improvements.	10 sites require NWP w/ PCN, 8 sites a NWP Non-PCN, and 3 sites an IP	NWP w/ PCN required.
	Interim	NWP 14 Non-PCN required	Section 404 impacts not associated with the Elm Fork Trinity River will be authorized under NWP 3/14 and 25 Non-PCNs (8 sites). Section 404 impacts at the Elm Fork Trinity River and associated sump drainage	NWP 14 Non- PCN required (4 sites)	No Section 404 Permits.

*Re-Evaluations for the interim phase are pending review and approval by FHWA; analyses provided in this table are subject to change.
**Because the Nationwide Permits are renewed every five years (last renewal March 2012), it is incumbent upon the Developer to confirm that the indicated Nationwide Permits continue to be applicable for project activities that would occur during subsequent Nationwide Permit renewal periods.

SH 183 Managed Lanes Project - Permits/Commitments/Mitigation

Project Issue/ Resource	Phase	SH 183 Segment 2E: SH 183 from SH 121/SH 183 to SH 161 Transition	SH 183 from SH 161 to I-35E (excludes Carl Rd. to SH 114)	SH 114 from International Parkway to SH 183	Loop 12 from SH 183 to I-35E: toll lanes
			channels will be assessed and authorized under the Section 408/RGP 12 approval process.		
Traffic Noise	Ultimate	Noise barriers proposed	Noise barriers proposed	No noise barriers proposed	No noise barriers proposed
	Interim*	Noise barriers proposed on both sides of SH 183 between Industrial Boulevard and Ector Drive and at a residential area on the south side of SH 183 immediately west of the Bear Creek Parkway crossing	Noise barrier proposed along the westbound mainlanes at the O'Connor Road overpass. A previously constructed barrier along the eastbound frontage road lanes between Wm. Brewster and West Park would be extended approximately 100 feet to match the approved length identified in the 2012 Reevaluation.	No noise barriers proposed	No noise barriers proposed
Cultural Resources	Ultimate	No impacts to historic or archeological resources	No impacts to historic or archeological resources	No impacts to historic resources\n\n~2.7 acres of proposed ROW remains to be surveyed for archeological resources (Survey Area 2)	No impacts to historic or archeological resources
	Interim*	No impacts to historic or archeological resources	No impacts to historic or archeological resources	No impacts to historic or archeological resources\n\nIf purchase of property or work is proposed within Survey Area 2, archeological survey of Survey Area 2 would be required	No impacts to historic or archeological resources
Hazardous Materials	Ultimate	Numerous regulatory facilities with recognized environmental conditions identified	Further investigations during ROW acquisition	18 "high risk" sites were identified; Recommended that subsurface investigations be conducted prior to construction	3 "high risk" sites were identified; Further investigations during ROW acquisition
	Interim*	Ten (10) sites of potential concern identified within	Draft 2014 Re-evaluation recommends that seven sites	18 "high risk" sites were identified in 2009 EA;	9 additional sites identified; 8 "high risk", 1 "moderate risk".

*Re-Evaluations for the interim phase are pending review and approval by FHWA; analyses provided in this table are subject to change.

**Because the Nationwide Permits are renewed every five years (last renewal March 2012), it is incumbent upon the Developer to confirm that the indicated Nationwide Permits continue to be applicable for project activities that would occur during subsequent Nationwide Permit renewal periods.

SH 183 Managed Lanes Project - Permits/Commitments/Mitigation

Project Issue/ Resource	Phase	SH 183 Segment 2E: SH 183 from SH 121/SH 183 to SH 161 Transition	SH 183 from SH 161 to I-35E (excludes Carl Rd. to SH 114)	SH 114 from International Parkway to SH 183	Loop 12 from SH 183 to I-35E: toll lanes
		interim phase construction limits, all "low risk" Asbestos and lead based paint assessments/inspections of bridges and structures required prior to rehabilitation or demolition	previously identified in the approved 2004 EA as "high risk" be downgraded to "low risk"; No additional sites identified Asbestos and lead based paint assessments/inspections of bridges and structures required prior to rehabilitation or demolition	Recommended that subsurface investigations be conducted prior to construction Asbestos and lead based paint assessments/inspections of bridges and structures required prior to rehabilitation or demolition	HMMP to be developed by the Developer. Asbestos and lead based paint assessments/inspections of bridges and structures required prior to rehabilitation or demolition
Section 408	Ultimate	N/A	Section 408/RGP 12 required	N/A	N/A
	Interim*	N/A	Section 408/RGP 12 required	N/A	N/A
Corridor Development Certificate (CDC)	Ultimate	N/A	CDC required.	CDC required.	CDC required.
	Interim*	N/A	CDC required.	CDC required.	CDC required.

*Re-Evaluations for the interim phase are pending review and approval by FHWA; analyses provided in this table are subject to change.

**Because the Nationwide Permits are renewed every five years (last renewal March 2012), it is incumbent upon the Developer to confirm that the indicated Nationwide Permits continue to be applicable for project activities that would occur during subsequent Nationwide Permit renewal periods.

Texas Department of Transportation
Technical Provisions

SH 183 Managed Lanes Project

Attachment 4-2
Special Specification 1122
Temporary Erosion, Sedimentation, and Environmental Controls

SPECIAL SPECIFICATION

1122

Temporary Erosion, Sedimentation, and Environmental Controls

1. **Description.** Install, maintain, and remove erosion, sedimentation, and environmental control measures to prevent or reduce the discharge of pollutants in accordance with the Storm Water Pollution Prevention Plan (SWP3) as provided in the plans and the Texas Pollutant Discharge Elimination System (TPDES) General Permit TXR150000. Control measures are defined as Best Management Practices used to prevent or reduce the discharge of pollutants. Control measures include but are not limited to rock filter dams, temporary pipe slope drains, temporary paved flumes, construction exits, earthwork for erosion control, pipe, construction perimeter fence, sandbags, temporary sediment control fence, biodegradable erosion control logs, vertical tracking, temporary or permanent seeding, and other measures. Perform work in a manner to prevent degradation of receiving waters, facilitate project construction, and comply with applicable federal, state, and local regulations. Ensure the installation and maintenance of control measures is performed in accordance with the manufacturer's or designer's specifications.

   By signing the Contractor Certification of Compliance, the Contractor certifies they have read and understand the requirements applicable to this project pertaining to the SWP3, the plans, and the TPDES General Permit TXR150000. The Contractor is responsible for any penalties associated with non-performance of installation or maintenance activities required for compliance. Provide the Contractor Certification of Compliance to the Engineer prior to performing earthwork operations. The most current version of the Contractor Certification of Compliance can be found at http://txdot.gov/business/ems_courses.htm. A sample of the language has been attached to this specification. Ensure the most current version of the certificate is executed for this project.

2. **Materials.** Furnish materials in accordance with the following:
   * Item 161, "Compost"
   * Item 432, "Riprap"
   * Item 556, "Pipe Underdrains"

A. **Rock Filter Dams.**
   1. **Aggregate.** Furnish aggregate with hardness, durability, cleanliness, and resistance to crumbling, flaking, and eroding acceptable to the Engineer. Provide the following:
      * **Types 1, 2, and 4 Rock Filter Dams.** Use 3 to 6 in. aggregate.
      * **Type 3 Rock Filter Dams.** Use 4 to 8 in. aggregate.

   2. **Wire.** Provide minimum 20 gauge galvanized wire for the steel wire mesh and tie wires for Types 2 and 3 rock filter dams. Type 4 dams require:

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- A double-twisted, hexagonal weave with a nominal mesh opening of 2-1/2 in. x 3-1/4 in.;
- Minimum 0.0866 in. steel wire for netting;
- Minimum 0.1063 in. steel wire for selvages and corners; and minimum 0.0866 in. for binding or tie wire.

   3. **Sandbag Material.** Furnish sandbags meeting "Sandbags for Erosion Control," except that any gradation of aggregate may be used to fill the sandbags.

B. **Temporary Pipe Slope Drains.** Provide corrugated metal pipe, polyvinyl chloride (PVC) pipe, flexible tubing, watertight connection bands, grommet materials, prefabricated fittings, and flared entrance sections that conform to the plans. Recycled and other materials meeting these requirements are allowed if approved.

   Furnish concrete in accordance with Item 432, "Riprap."

C. **Temporary Paved Flumes.** Furnish asphalt concrete, hydraulic cement concrete, or other comparable non-erodible material that conforms to the plans. Provide rock or rubble with a minimum diameter of 6 in. and a maximum volume of 1/2 cu. ft. for the construction of energy dissipaters.

D. **Construction Exits.** Provide materials that meet the details shown on the plans and this Section.

   1. **Rock Construction Exit.** Provide crushed aggregate for long and short-term construction exits. Furnish aggregates that are clean, hard, durable, and free from adherent coatings such as salt, alkali, dirt, clay, loam, shale, soft or flaky materials and organic and injurious matter. Use 4- to 8-in. aggregate for Type 1 and 2- to 4-in. aggregate for Type 3.

   2. **Timber Construction Exit.** Furnish No. 2 quality or better railroad ties and timbers for long-term construction exits, free of large and loose knots and treated to control rot. Fasten timbers with nuts and bolts or lag bolts, of at least 1/2 in. diameter, unless otherwise shown on the plans or allowed. For short-term exits, provide plywood or pressed wafer board at least 1/2 in. thick.

   3. **Foundation Course.** Provide a foundation course consisting of flexible base, bituminous concrete, hydraulic cement concrete, or other materials as shown on the plans or directed.

E. **Embankment for Erosion Control.** Provide rock, loam, clay, topsoil, or other earth materials that will form a stable embankment to meet the intended use.

F. **Pipe.** Provide pipe outlet material in accordance with Item 556, "Pipe Underdrains," and details shown on the plans.

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G. **Construction Perimeter Fence.**

1. **Posts.** Provide essentially straight wood or steel posts that are at least 60 in. long. Furnish soft wood posts with a minimum diameter of 3 in. or use 2 x 4 boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 x 1-1/5 in. Furnish T- or L-shaped steel posts with a minimum weight of 1.3 lb. per foot.

2. **Fence.** Provide orange construction fencing as approved by the Engineer.

3. **Fence Wire.** Provide 12-1/2 gauge or larger galvanized smooth or twisted wire. Provide 16 gauge or larger tie wire.

4. **Flagging.** Provide brightly-colored flagging that is fade-resistant and at least 3/4 in. wide to provide maximum visibility both day and night.

5. **Staples.** Provide staples with a crown at least 1/2 in. wide and legs at least 1/2 in. long.

6. **Used Materials.** Previously used materials meeting the applicable requirements may be used if accepted by the Engineer.

H. **Sandbags.** Provide sandbag material of polypropylene, polyethylene, or polyamide woven fabric with a minimum unit weight of 4 oz. per square yard, a Mullen burst-strength exceeding 300 psi, and an ultraviolet stability exceeding 70%.

Use natural coarse sand or manufactured sand meeting the gradation given in Table 1 to fill sandbags. Filled sandbags must be 24 to 30 in. long, 16 to 18 in. wide, and 6 to 8 in. thick.

Table 1
Sand Gradation

Sieve #	Retained (% by Weight)
4	MAXIMUM 3%
100	MINIMUM 80%
200	MINIMUM 95%

Aggregate may be used in lieu of sand for situations where sandbags are not adjacent to traffic. The aggregate size shall not exceed 3/8 in.

I. **Temporary Sediment Control Fence.** Provide a net-reinforced fence using woven geo-textile fabric. Logos visible to the traveling public will not be allowed.

1. **Fabric.** Provide fabric materials in accordance with DMS-6230, "Temporary Sediment Control Fence Fabric."

2. **Posts.** Provide essentially straight wood or steel posts with a minimum length of 48 in., unless otherwise shown on the plans. Soft wood posts must be at least 3 in. in diameter or nominal 2 x 4in. Hardwood posts must have a minimum cross-section of 1-1/2 x 1-1/2 in. T- or L-shaped steel posts must have a minimum weight of 1.3 lb. per foot.

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3. **Net Reinforcement.** Provide net reinforcement of at least 12-1/2 gauge galvanized welded wire mesh, with a maximum opening size of 2 x 4 in., at least 24 in. wide, unless otherwise shown on the plans.

4. **Staples.** Provide staples with a crown at least 3/4 in. wide and legs 1/2 in. long.

5. **Used Materials.** Use recycled material meeting the applicable requirements if accepted by the Engineer.

J. **Biodegradable Erosion Control Logs.**

1. **Core Material.** Furnish core material that is biodegradable or recyclable. Except where specifically called out in plans, material may be compost, mulch, aspen excelsior wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or any other acceptable material. No more than 5% of the material is permitted to escape from the containment mesh. Furnish compost meeting the requirements of Item 161, "Compost."

2. **Containment Mesh.** Furnish containment mesh that is 100% biodegradable, photodegradable or recyclable such as burlap, twine, UV photodegradable plastic, polyester, or any other acceptable material.

    a. Furnish biodegradable or photodegradable containment mesh when log will remain in place as part of a vegetative system.

    b. Furnish recyclable containment mesh for temporary installations.

3. **Size.** Furnish biodegradable erosion control logs with diameters shown on the plans or as directed. Stuff containment mesh densely so logs do not deform.

3. **Qualifications, Training, and Employee Requirements.**

A. **Contractor Responsible Person Environmental (CRPe) Qualifications and Responsibilities.** Provide and designate in writing at the preconstruction conference a CRPe who has overall responsibility for the storm water management program. The CRPe will identify and implement storm water and erosion control practices; will oversee and observe storm water control measure monitoring and management; will monitor the project site daily to ensure compliance with the SWP3 and TPDES General Permit TXR150000; and will document daily monitoring reports and provide the reports to the Department within 48 hours. The CRPe will provide recommendations to the Engineer on how to improve the effectiveness of control measures. Attend the Department's preconstruction conference for the project. Administer the training identified in Article 3.C. *Training*. Document and submit a list to the Engineer of employees who have completed the training. The list should include the employee's name, the training course name, and date the employee completed the training. Provide the most current list to the Engineer at the preconstruction conference or prior to earth disturbing activities. Maintain the list as needed and make available for inspection.

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B. Contractor Superintendent Qualifications and Responsibilities. Provide a superintendent that is competent and has experience with and knowledge of storm water management and is knowledgeable of the requirements and the conditions of the TPDES General Permit TXR150000. The superintendent is responsible for managing and overseeing the day to day operations and activities at the project site; working with the CRPe to provide effective storm water management at the project site; representing and acting on-behalf of the Contractor; and attending the Department's preconstruction conference for the project.

C. Training. All Contractor and subcontractor employees directly involved in the earthwork activities, small or large structures, storm water control measures, and seeding activities are required to complete the training identified by the Department prior to working in the right of way. Training may take place at a location at the discretion of the Contractor.

4. Construction.

A. Contractor Responsibilities. Implement the SWP3 for the project site in accordance with in accordance with the plans and specifications, TPDES General Permit TXR150000, and as directed by the Engineer. Coordinate storm water management with all other work on the project. Develop and implement an SWP3 for project-specific material supply plants within and outside of the Department's right of way in accordance with the specific or general storm water permit requirements. Prevent water pollution from storm water associated with construction activity from entering any surface water or private property on or adjacent to the project site.

B. Implementation. The CRPe, or an alternate, must be accessible by phone and able to respond to storm water management emergencies 24 hours per day.

1. **Commencement.** Implement the SWP3 as shown and as directed. Contractor proposed recommendations for changes will be allowed as approved. Conform to the established guidelines in the TPDES General Permit TXR150000 to make changes. Do not implement changes until approval has been received and changes have been incorporated into the plans by the Engineer. Minor adjustments to meet field conditions are allowed and will be recorded by the Engineer in the SWP3.

2. **Phasing.** Implement control measures prior to the commencement of activities that result in soil disturbance. Phase and minimize the soil disturbance to the areas shown on the plans. Coordinate temporary control measures with permanent control measures and all other work activities on the project to assure economical, effective, safe, continuous water pollution prevention. Provide control measures that are appropriate to the construction means, methods, and sequencing allowed by the Contract. Exercise precaution throughout the life of the project to prevent pollution of ground waters and surface waters. Schedule and perform clearing and grubbing operations so that stabilization measures will follow immediately thereafter if project conditions permit. Bring all grading sections to final grade as soon as possible and implement temporary and permanent control measures at the earliest time possible. Implement temporary control measures when required by the TPDES General Permit TXR150000 or otherwise necessitated by project conditions.

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Do not prolong final grading and shaping. Preserve vegetation where possible throughout the project and minimize clearing, grubbing, and excavation within stream banks, bed, and approach sections.

C. **General.**

1. **Temporary Alterations or Control Measure Removal.** Altering or removal of control measures is allowed when control measures are restored within the same working day.

2. **Stabilization.** Initiate stabilization for disturbed areas no more than 14 days after the construction activities in that portion of the site has temporarily or permanently ceased. Establish a uniform vegetative cover or utilize another stabilization practice in accordance with the TPDES General Permit TXR150000.

3. **Finished Work.** Upon the Engineer's acceptance of vegetative cover or other stabilization practice, remove and dispose of all temporary control measures unless otherwise directed. Complete soil disturbing activities and establish a uniform perennial vegetative cover. A project will not be considered for acceptance until a vegetative cover of 70% density of existing adjacent undisturbed areas is obtained or equivalent permanent stabilization is obtained in accordance with the TPDES General Permit TXR150000. An exception will be allowed in arid areas as defined in the TPDES General Permit TXR150000.

4. **Restricted Activities and Required Precautions.** Do not discharge onto the ground or surface waters any pollutants such as chemicals, raw sewage, fuels, lubricants, coolants, hydraulic fluids, bitumens, or any other petroleum product. Operate and maintain equipment on site in a manner as to prevent actual or potential water pollution. Manage, control, and dispose of litter on site such that no adverse impacts to water quality occur. Prevent dust from creating a potential or actual unsafe condition, public nuisance, or condition endangering the value, utility, or appearance of any property. Wash out concrete trucks only as described in the TPDES General Permit TXR150000. Utilize appropriate controls to minimize the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water (i.e. dewatering). Prevent discharges that would contribute to a violation of Edwards Aquifer Rules, water quality standards, the impairment of a listed water body, or other state or federal law.

D. **Installation, Maintenance, and Removal Work.** Perform work in accordance with the SWP3, according to manufacturers' guidelines, and in accordance with the TPDES General Permit TXR150000. Install and maintain the integrity of temporary erosion and sedimentation control devices to accumulate silt and debris until earthwork construction and permanent erosion control features are in place or the disturbed area has been adequately stabilized as determined by the Engineer.

The Department will inspect and document the condition of the control measures at the frequency shown on the plans and will provide the Construction SWP3 Field Inspection and Maintenance Reports to the Contractor. Make corrections as soon as possible before the next anticipated rain event or within 7 calendar days after being able to enter the work site for each control measure.

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The only acceptable reason for not accomplishing the corrections with the time frame specified is when site conditions are "Too Wet to Work". If a correction is deemed critical by the Engineer, immediate action is required. When corrections are not made within the established time frame, all work will cease on the project and time charges will continue while the control measures are brought into compliance. Once the Engineer reviews and documents the project is in compliance, work may commence. Commencing work does not release the contractor of the liability for noncompliance of the SWP3, plans, or TPDES General Permit TXR150000.

The Engineer may limit the disturbed area if in the opinion of the Engineer the Contractor cannot control soil erosion and sedimentation resulting from the Contractor's operations. Implement additional controls as directed.

Remove devices upon approval or as directed. Upon removal, finish-grade and dress the area. Stabilize disturbed areas in accordance with the permit, and as shown on the plans or directed. The Contractor retains ownership of stockpiled material and must remove it from the project when new installations or replacements are no longer required.

1. **Rock Filter Dams for Erosion Control.** Remove trees, brush, stumps, and other objectionable material that may interfere with the construction of rock filter dams. Place sandbags as a foundation when required or at the Contractor's option.

   For Types 1, 2, 3, and 5, place the aggregate to the lines, height, and slopes specified, without undue voids. For Types 2 and 3, place the aggregate on the mesh and then fold the mesh at the upstream side over the aggregate and secure it to itself on the downstream side with wire ties, or hog rings, or as directed. Place rock filter dams perpendicular to the flow of the stream or channel unless otherwise directed. Construct filter dams according to the following criteria, unless otherwise shown on the plans:

   a. **Type 1 (Non-reinforced).**

      (1) Height. At least 18 in. measured vertically from existing ground to top of filter dam.

      (2) Top Width. At least 2 ft.

      (3) Slopes. At most 2:1.

   b. **Type 2 (Reinforced).**

      (1) Height. At least 18 in. measured vertically from existing ground to top of filter dam.

      (2) Top Width. At least 2 ft.

      (3) Slopes. At most 2:1.

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c. Type 3 (Reinforced).

    (1) Height. At least 36 in. measured vertically from existing ground to top of filter dam.

    (2) Top Width. At least 2 ft.

    (3) Slopes. At most 2:1.

d. Type 4 (Sack Gabions). Unfold sack gabions and smooth out kinks and bends. For vertical filling, connect the sides by lacing in a single loop–double loop pattern on 4- to 5-in. spacing. At one end, pull the end lacing rod until tight, wrap around the end, and twist 4 times. At the filling end, fill with stone, pull the rod tight, cut the wire with approximately 6 in. remaining, and twist wires 4 times.

For horizontal filling, place sack flat in a filling trough, fill with stone, and connect sides and secure ends as described above.

Lift and place without damaging the gabion. Shape sack gabions to existing contours.

e. Type 5. Provide rock filter dams as shown on the plans.

2. **Temporary Pipe Slope Drains.** Install pipe with a slope as shown on the plans or as directed. Construct embankment for the drainage system in 8-in. lifts to the required elevations. Hand-tamp the soil around and under the entrance section to the top of the embankment as shown on the plans or as directed. Form the top of the embankment or earth dike over the pipe slope drain at least 1 ft. higher than the top of the inlet pipe at all points. Secure the pipe with hold-downs or hold-down grommets spaced a maximum of 10 ft. on center. Construct the energy dissipaters or sediment traps as shown on the plans or as directed. Construct the sediment trap using concrete or rubble riprap in accordance with Item 432, "Riprap," when designated on the plans.

3. **Temporary Paved Flumes.** Construct paved flumes as shown on the plans or as directed. Provide excavation and embankment (including compaction of the subgrade) of material to the dimensions shown on the plans, unless otherwise indicated. Install a rock or rubble riprap energy dissipater, constructed from the materials specified above to a minimum depth of 9 in. at the flume outlet to the limits shown on the plans or as directed.

4. **Construction Exits.** When tracking conditions exist, prevent traffic from crossing or exiting the construction site or moving directly onto a public roadway, alley, sidewalk, parking area, or other right of way areas other than at the location of construction exits. Construct exits for either long or short-term use.

    a. **Long-Term.** Place the exit over a foundation course, if necessary. Grade the foundation course or compacted subgrade to direct runoff from the construction exits to a sediment trap as shown on the plans or as directed. Construct exits with a

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width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed.

    (1) Type 1. Construct to a depth of at least 8 in. using crushed aggregate as shown on the plans or as directed.

    (2) Type 2. Construct using railroad ties and timbers as shown on the plans or as directed.

  b. Short-Term.

    (1) Type 3. Construct using crushed aggregate, plywood, or wafer board. This type of exit may be used for daily operations where long-term exits are not practical.

    (2) Type 4. Construct as shown on the plans or as directed.

5. **Earthwork for Erosion Control.** Perform excavation and embankment operations to minimize erosion and to remove collected sediments from other erosion control devices.

  a. Excavation and Embankment for Erosion Control Features. Place earth dikes, swales, or combinations of both along the low crown of daily lift placement, or as directed, to prevent runoff spillover. Place swales and dikes at other locations as shown on the plans or as directed to prevent runoff spillover or to divert runoff. Construct cuts with the low end blocked with undisturbed earth to prevent erosion of hillsides. Construct sediment traps at drainage structures in conjunction with other erosion control measures as shown on the plans or as directed.

  Where required, create a sediment basin providing 3,600 cu. ft. of storage per acre drained, or equivalent control measures for drainage locations that serve an area with 10 or more disturbed acres at one time, not including offsite areas.

  b. Excavation of Sediment and Debris. Remove sediment and debris when accumulation affects the performance of the devices, after a rain, and when directed.

6. **Construction Perimeter Fence.** Construct, align, and locate fencing as shown on the plans or as directed.

  a. Installation of Posts. Embed posts 18 in. deep or adequately anchor in rock, with a spacing of 8 to 10 ft.

  b. Wire Attachment. Attach the top wire to the posts at least 3 ft. from the ground. Attach the lower wire midway between the ground and the top wire.

  c. Flag Attachment. Attach flagging to both wire strands midway between each post. Use flagging at least 18 in. long. Tie flagging to the wire using a square knot.

7. **Sandbags for Erosion Control.** Construct a berm or dam of sandbags that will intercept sediment-laden storm water runoff from disturbed areas, create a retention pond, detain

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sediment, and release water in sheet flow. Fill each bag with sand so that at least the top 6 in. of the bag is unfilled to allow for proper tying of the open end. Place the sandbags with their tied ends in the same direction. Offset subsequent rows of sandbags 1/2 the length of the preceding row. Place a single layer of sandbags downstream as a secondary debris trap. Place additional sandbags as necessary or as directed for supplementary support to berms or dams of sandbags or earth.

8. **Temporary Sediment-Control Fence.** Provide temporary sediment-control fence near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the fence into erosion-control measures used to control sediment in areas of higher flow. Install the fence as shown on the plans, as specified in this Section, or as directed.

   a. **Installation of Posts.** Embed posts at least 18 in. deep, or adequately anchor, if in rock, with a spacing of 6 to 8 ft. and install on a slight angle toward the run-off source.

   b. **Fabric Anchoring.** Dig trenches along the uphill side of the fence to anchor 6 to 8 in. of fabric. Provide a minimum trench cross-section of 6 x 6 in. Place the fabric against the side of the trench and align approximately 2 in of fabric along the bottom in the upstream direction. Backfill the trench, then hand-tamp.

   c. **Fabric and Net Reinforcement Attachment.** Unless otherwise shown under the plans, attach the reinforcement to wooden posts with staples, or to steel posts with T-clips, in at least 4 places equally spaced. Sewn vertical pockets may be used to attach reinforcement to end posts. Fasten the fabric to the top strand of reinforcement by hog rings or cord every 15 in. or less.

   d. **Fabric and Net Splices**. Locate splices at a fence post with a minimum lap of 6 in. attached in at least 6 places equally spaced, unless otherwise shown under the plans. Do not locate splices in concentrated flow areas.

   Requirements for installation of used temporary sediment-control fence include the following:

   - fabric with minimal or no visible signs of biodegradation (weak fibers),
   - fabric without excessive patching (more than 1 patch every 15 to 20 ft.),
   - posts without bends, and
   - backing without holes.

9. **Biodegradable Erosion Control Logs.** Install biodegradable erosion control logs near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the biodegradable erosion control logs into the erosion measures used to control sediment in areas of higher flow. Install, align and locate the biodegradable erosion control logs as specified below, as shown in plans or as directed.

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Secure biodegradable erosion control logs in a method adequate to prevent displacement as a result of normal rain events, prevent damage to the logs, and to the satisfaction of the Engineer such that flow is not allowed under the logs. Temporarily removing and replacing biodegradable erosion logs as to facilitate daily work is allowed at the Contractor's expense.

10. **Vertical Tracking.** Perform vertical tracking on slopes to temporarily stabilize soil. Provide equipment with a track undercarriage capable of producing a linear soil impression measuring a minimum of 12 inches in length by 2 to 4 inches in width by 1/2 to 2 inches in depth. Do not exceed 12 inches between track impressions. Install continuous linear track impressions where the 12 inch length impressions are perpendicular to the slope.

E. **Monitoring and Documentation.** Monitor the control measures on a daily basis. Monitoring will consist of, but is not limited to, observing, inspecting, and documenting site locations with control measures and discharge points to provide maintenance and inspection of controls as described in the SWP3. Keep written records of daily monitoring. Document in the daily monitoring report the control measure condition, the date of inspection, required corrective actions, responsible person for making the corrections, and the date corrective actions were completed. Maintain records of all monitoring reports at the project site or at a place approved by the Engineer. Provide copies to the Engineer. Together, the CRPe and an Engineer's representative will complete the Construction Stage Gate Checklist on a periodic basis as determined by the Engineer.

5. **Measurement.**

A. **Rock Filter Dams.** Installation or removal of rock filter dams will be measured by the foot or by the cubic yard. The measured volume will include sandbags, when used.

1. **Linear Measurement.** When rock filter dams are measured by the foot, measurement will be along the centerline of the top of the dam.

2. **Volume Measurement.** When rock filter dams are measured by the cubic yard, measurement will be based on the volume of rock computed by the method of average end areas.

   a. **Installation.** Measurement will be made in final position.

   b. **Removal.** Measurement will be made at the point of removal.

B. **Temporary Pipe Slope Drains.** Temporary pipe slope drains will be measured by the foot.

C. **Temporary Paved Flumes.** Temporary paved flumes will be measured by the square yard of surface area. The measured area will include the energy dissipater at the flume outlet.

D. **Construction Exits.** Construction exits will be measured by the square yard of surface area.

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E. Earthwork for Erosion and Sediment Control.

    1. Equipment and Labor Measurement. Equipment and labor used will be measured by the actual number of hours the equipment is operated and the labor is engaged in the work.

    2. Volume Measurement.

      a. In Place.

        (1) Excavation. Excavation will be measured by the cubic yard in its original position and the volume computed by the method of average end areas.

        (2) Embankment. Embankment will be measured by the cubic yard in its final position by the method of average end areas. The volume of embankment will be determined between:
- the original ground surfaces or the surface upon that the embankment is to be constructed for the feature and
- the lines, grades and slopes of the accepted embankment for the feature.

      b. In Vehicles. Excavation and embankment quantities will be combined and paid for under "Earthwork (Erosion and Sediment Control, In Vehicle)." Excavation will be measured by the cubic yard in vehicles at the point of removal. Embankment will be measured by the cubic yard in vehicles measured at the point of delivery. Shrinkage or swelling factors will not be considered in determining the calculated quantities.

F. Construction Perimeter Fence. Construction perimeter fence will be measured by the foot.

G. Sandbags for Erosion Control. Sandbags will be measured as each sandbag or by the foot along the top of sandbag berms or dams.

H. Temporary Sediment-Control Fence. Installation or removal of temporary sediment-control fence will be measured by the foot.

I. Biodegradable Erosion Control Logs. Installation or removal of biodegradable erosion control logs will be measured by the linear foot along the centerline of the top of the control logs.

J. Vertical Tracking. Vertical tracking will not be measured or paid for directly but is considered subsidiary to this Item.

6. Payment. The following will not be paid for directly but are subsidiary to pertinent Items:

- erosion-control measures for Contractor project-specific locations (PSLs) inside and outside the right of way (such as construction and haul roads, field offices, equipment and supply areas, plants, and material sources);

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- removal of litter; unless a separate pay item is shown in the plans.
- repair to devices and features damaged by Contractor operations;
- added measures and maintenance needed due to negligence, carelessness, lack of maintenance, and failure to install permanent controls;
- removal and reinstallation of devices and features needed for the convenience of the Contractor;
- finish grading and dressing upon removal of the device; and
- minor adjustments including but not limited to plumbing posts, reattaching fabric, minor grading to maintain slopes on an erosion embankment feature, or moving small numbers of sandbags.

Stabilization of disturbed areas will be paid for under pertinent Items.

Furnishing and installing pipe for outfalls associated with sediment traps and ponds will not be paid for directly but is subsidiary to the excavation and embankment under this Item.

A. **Rock Filter Dams.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

1. **Installation.** Installation will be paid for as "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

2. **Removal.** Removal will be paid for as "Rock Filter Dams (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

When the Engineer directs that the rock filter dam installation or portions thereof be replaced, payment will be made at the unit price bid for "Rock Filter Dams (Remove)" and for "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

B. **Temporary Pipe Slope Drains.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Pipe Slope Drains" of the size specified. This price is full compensation for furnishing materials, removal and disposal, furnishing and operating equipment, labor, tools, and incidentals.

Removal of temporary pipe slope drains will not be paid for directly but is subsidiary to the installation Item. When the Engineer directs that the pipe slope drain installation or portions thereof be replaced, payment will be made at the unit price bid for "Temporary Pipe Slope Drains" of the size specified, which is full compensation for the removal and reinstallation of the pipe drain.

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Earthwork required for the pipe slope drain installation, including construction of the sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

Riprap concrete or stone, when used as an energy dissipater or as a stabilized sediment trap, will be measured and paid for in accordance with Item 432, "Riprap."

C. **Temporary Paved Flumes.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Paved Flume (Install)" or "Temporary Paved Flume (Remove)." This price is full compensation for furnishing and placing materials, removal and disposal, equipment, labor, tools, and incidentals.

When the Engineer directs that the paved flume installation or portions thereof be replaced, payment will be made at the unit prices bid for "Temporary Paved Flume (Remove)" and "Temporary Paved Flume (Install)." These prices are full compensation for the removal and replacement of the paved flume and for equipment, labor, tools, and incidentals.

Earthwork required for the paved flume installation, including construction of a sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

D. **Construction Exits.** Contractor-required construction exits from off right of way locations or on-right of way PSLs will not be paid for directly but are subsidiary to pertinent Items.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" for construction exits needed on right of way access to work areas required by the Department will be paid for at the unit price bid for "Construction Exits (Install)" of the type specified or "Construction Exits (Remove)." This price is full compensation for furnishing and placing materials, excavating, removal and disposal, cleaning vehicles, labor, tools, and incidentals.

When the Engineer directs that a construction exit or portion thereof be removed and replaced, payment will be made at the unit prices bid for "Construction Exit (Remove)" and "Construction Exit (Install)" of the type specified. These prices are full compensation for the removal and replacement of the construction exit and for equipment, labor, tools, and incidentals.

Construction of sediment traps used in conjunction with the construction exit will be measured and paid for under "Earthwork for Erosion and Sediment Control."

E. **Earthwork for Erosion and Sediment Control.**

1. **Initial Earthwork for Erosion and Sediment Control.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Excavation (Erosion and Sediment Control, In Place)", "Embankment (Erosion and Sediment Control, In Place)", "Excavation (Erosion and Sediment Control, In Vehicle)", "Embankment (Erosion and

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Sediment Control, In Vehicle)", or "Earthwork (Erosion and Sediment Control, In Vehicle)".

This price is full compensation for excavation and embankment including hauling, disposal of material not used elsewhere on the project; embankments including furnishing material from approved sources and construction of erosion-control features; equipment, labor; tools, and incidentals.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

2. **Maintenance Earthwork for Erosion and Sediment Control for Cleaning and/or Restoring Control Measures.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for by a Contractor Force Account Item.

This price is full compensation for excavation, embankment, and re-grading including removal of accumulated sediment in various erosion control installations as directed, hauling, and disposal of material not used elsewhere on the project; excavation for construction of erosion-control features; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor; tools, and incidentals.

Earthwork needed to remove and obliterate of erosion-control features will not be paid for directly but is subsidiary to pertinent Items unless otherwise shown on the plans.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

F. **Construction Perimeter Fence.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Construction Perimeter Fence." This price is full compensation for furnishing and placing the fence; digging, fence posts, wire, and flagging; removal and disposal; and materials, equipment, labor, tools, and incidentals.

Removal of construction perimeter fence will be not be paid for directly but is subsidiary to the installation Item. When the Engineer directs that the perimeter fence installation or portions thereof be removed and replaced, payment will be made at the unit price bid for "Construction Perimeter Fence," which is full compensation for the removal and reinstallation of the construction perimeter fence.

G. **Sandbags for Erosion Control.** Sandbags will be paid for at the unit price bid for "Sandbags for Erosion Control" (of the height specified when measurement is by the foot). This price is full compensation for materials, placing sandbags, removal and disposal, equipment, labor, tools, and incidentals.

Removal of sandbags will not be paid for directly but is subsidiary to the installation Item. When the Engineer directs that the sandbag installation or portions thereof be replaced,

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payment will be made at the unit price bid for "Sandbags for Erosion Control," which is full compensation for the reinstallation of the sandbags.

H. **Temporary Sediment-Control Fence.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

1. **Installation.** Installation will be paid for as "Temporary Sediment-Control Fence (Install)." This price is full compensation for furnishing and operating equipment finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

2. **Removal.** Removal will be paid for as "Temporary Sediment-Control Fence (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

I. **Biodegradable Erosion Control Logs.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

1. **Installation.** Installation will be paid for as "Biodegradable Erosion Control Logs (Install)" of the size specified. This price is full compensation for furnishing and operating equipment finish backfill and grading, staking, proper disposal, labor, materials, tools, and incidentals.

2. **Removal.** Removal will be paid for as "Biodegradable Erosion Control Logs (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

J. **Vertical Tracking.** Vertical tracking will not be measured or paid for directly but is considered subsidiary to this Item.

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CONTRACTOR CERTIFICATION OF COMPLIANCE
WITH STORM WATER REQUIREMENTS

I, _____ certify that I am the duly appointed representative of the Contractor with authority to make this Contractor certification. I have read and understand the requirements applicable to this project pertaining to storm water discharge authorization under Texas Pollutant Discharge Elimination System (TPDES) General Permit (GP) TXR150000. The Contractor agrees to comply with the terms of the permit that are expressly stated in the contract documents as being the responsibility of the Contractor. I have read and understand the Storm Water Pollution Prevention Plan (SWP3) developed by the Department for this project. The Contractor agrees it will be implemented prior to construction according to permit requirements and the contract documents. I understand that failure to comply with the terms of the permit that are expressly stated in the contract documents, plans, and specifications as being the responsibility of the Contractor may result in civil penalties.

The Contractor acknowledges its responsibility to satisfy the following requirements:

- Implement the SWP3 for the project in accordance with the plans and specifications and the TPDES GP TXR150000.

- Install and maintain control measures on the project in accordance with the manufacturer's or designer's specifications.

- Collaborate with the Department for joint monitoring of best management practices (BMPs) on a regular basis to verify that BMPs are performing as intended in accordance with the plans and specifications and with TPDES GP TXR150000.

- Collaborate with the Department for joint identification of BMP maintenance needs and carry out such maintenance in accordance with the plans and specifications, TPDES GP TXR150000 and as directed by the Engineer.

- Repair the integrity of any BMP as directed by the Engineer as soon as reasonably possible.

- If appropriate, recommend changes needed in the SWP3 to the Engineer in order to prevent, to the extent practicable, water pollution associated with construction activities from entering any surface water or private property on or adjacent to the project site by storm water discharges.

- Stabilize disturbed areas, as soon as practicable, in accordance with the TPDES GP TXR150000 and as directed by the Engineer.

- If applicable, obtain appropriate authorizations for activities associated with any Project Specific Location under the authority of the Contractor and provide appropriate documentation of compliance to the Engineer.

- Satisfy any other responsibility indicated in the contract documents that are expressly stated as the responsibility of the Contractor.

Signature and Title: _____

Date: _____

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Texas Department of Transportation
Technical Provisions

SH 183 Managed Lanes Project

Attachment 4-3
Form 2118
Construction Storm Water Pollution Prevention
Plan Field Inspection and Maintenance Report

CONSTRUCTION STORM WATER POLLUTION PREVENTION PLAN
FIELD INSPECTION AND MAINTENANCE REPORT

Project Information

Inspection Cycle (select only one):

☐ At least once every 7 calendar days.

☐ At least once every 14 calendar days and within 24 hours after 0.5 inches or more of rainfall.

☐ *Other _____

CSJ: _____

Project: _____

Highway: _____

County: _____

Inspection Date: _____

TCEQ Authorization No.: _____

Date of Last Rainfall: _____

Amount of Last Rainfall: _____ (inches)

*For "other" options, the Engineer must verify compliance with Part III.F.7(a) of the TPDES Construction General Permit (CGP).

Inspected Best Management Practice (BMP)/Areas

All of these BMPs/areas must be inspected when present on the right-of-way

☐ Disturbed areas
☐ Discharge locations
☐ Erosion control BMPs
☐ Sediment control BMPs

☐ Concrete truck washout areas
☐ Areas where litter/debris/trash collect
☐ Areas that generate dust
☐ Postings

☐ Material stockpiles
☐ Areas where vehicles enter/leave site
☐ Portable sanitary facilities

☐ Construction material storage areas
☐ Parking/equipment storage areas
☐ Chemical/fuel storage areas

Other _____

Corrective Actions, Maintenance, Upgrading or Additional Controls

Except the items listed below, all areas/BMPs indicated above have been inspected and do not require maintenance, upgrading or additional controls. If multiple highways or project locations are involved, identify the highway or project location of the BMPs/areas requiring maintenance or improvement. Document all changes to the SWP3.

Station(s) or Location	Left or Right of Centerline	Issue/BMP	Corrective Action	Priority*	Date of Corrective Action Completed
Other/Notes			Cause		
Other/Notes			Cause		
Other/Notes			Cause		
Other/Notes			Cause		
Other/Notes			Cause		

* **High** - must be addressed immediately; all other project work is stopped until issue is resolved.
  Med - address as soon as practicable or as directed; other work can continue.
  Low - address within 7 days or before the next rainfall event.

| **Stabilization** | | | | |

Stabilization

When construction activities cease on a disturbed portion of the site for 21 or more days, stabilization must be initiated within 14 days unless excepted by Part III.F.2(b)(iii) of the CGP. Indicate the stabilization measures taken.

Station		Left or Right of Centerline	Stabilization Measure	Date Initiated	Other/Notes
to					
to					
to					
to					
to					

Compliance Certification

Check One and Complete Signature.

☐ With the corrective actions noted (if any), the site is in compliance with the CGP regulations and the SWP3.

☐ The site is in potential non-compliance with the CGP regulations and/or the SWP3. Potential non-compliance issues are described below.

TxDOT's Representative's Name (Print clearly):	Title:	Date:
TxDOT's Representative's Signature:		

Potential Non-Compliance Issues

Potential non-compliance issues may include the failure to address previously noted corrective actions, repeated failure of a control measure, off-site discharges of sediment, off-site discharges of other pollutants, or other potential non-compliance issues identified in the CGP. Notify the Engineer immediately of any potential non-compliance issues.

Station		Left or Right of Centerline	Describe Potential Non-Compliance Issue
to			
to			
to			
to			
to			

Contractor Notification

Furnish a copy of this inspection report to the Contractor within one calendar day of the inspection. Corrective actions must be taken as soon as possible and before the next anticipated rain event, but in no case later than 7 calendar days after being able to access the site. If corrective actions are not made within this timeframe and become potential noncompliance issues, other work on the project may be suspended by the Engineer. Time charges will continue until the project is brought into compliance and documentation of corrective action is provided. This in no way releases the contractor of liability for noncompliance.

Contractor's Representative's Name (Print clearly):	Title:	Date:
Contractor's Representative's Signature:		

Inspection Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

TxDOT's Certifying Representative's Name (Print clearly):	Title:	Date:
TxDOT's Certifying Representative's Signature:		

Texas Department of Transportation
Technical Provisions

SH 183 Managed Lanes Project

Attachment 4-4
Form 2448
Environmental Management System
Construction Stage Gate Checklist

Environmental Management System
Construction Stage Gate Checklist (CSGC)

Highway	Project Number	Project CCSJ	County	Area Office

Project Personnel Completing CSGC (Joint Inspection)	
TxDOT Representative	Contractor Representative
Print Name:	Print Name:
Signature/Date:	Signature/Date:

CSGC Inspection Period			
From	Date of beginning initial construction activities, or Date of previous CSGC Inspection	To	Date of this CSGC Inspection

List Project Permits

National Environmental Policy Act (NEPA) Document

☐ Yes ☐ No		1. Have the project limits or scope changed? (If yes, complete question 2)
☐ Yes ☐ No		2. Has coordination with Advance Planning & Development occurred to ensure NEPA compliance?

Storm Water Resources

☐ Yes ☐ No		3. Does the project require a Construction Site Notice (CSN)?
☐ Yes ☐ No	☐ N/A	4. Is the CSN posted in a publicly accessible location near where the construction activity is underway?
☐ Yes ☐ No	☐ N/A	5. Does the CSN contain all required information?
☐ Yes ☐ No		6. Does the project require a Notice of Intent (NOI)?
☐ Yes ☐ No	☐ N/A	7. Is the NOI posted in a publicly accessible location near where the construction activity is underway?
☐ Yes ☐ No	☐ N/A	8. Does the NOI contain all required information?
☐ Yes ☐ No	☐ N/A	9. Does the project have a Storm Water Pollution Prevention Plan (SWP3)?
☐ Yes ☐ No	☐ N/A	10. Is there a copy of the TCEQ Construction General Permit onsite or with the SWP3?
☐ Yes ☐ No	☐ N/A	11. Is there a copy of a Delegation of Authority Letter authorizing the signing of inspection reports in the SWP3 file?
☐ Yes ☐ No	☐ N/A	12. Is the SWP3 retained and available for inspection at the work site that generates the storm water? (If no, complete question 13)
		13. Where is it located?
☐ Yes ☐ No	☐ N/A	14. Is the SWP3 updated for any changes in design or project change orders?
☐ Yes ☐ No	☐ N/A	15. Are the SWP3 drawings updated for changes to Best Management Practices (BMPs)? (i.e. type, location and install/remove dates)
☐ Yes ☐ No	☐ N/A	16. Is the description of construction and waste materials stored on-site updated with the Contractor?
☐ Yes ☐ No	☐ N/A	17. Are the dates when major grading activities occur updated?
☐ Yes ☐ No	☐ N/A	18. Are the dates when construction activities temporarily or permanently cease on a portion of the site updated?
☐ Yes ☐ No	☐ N/A	19. Did stabilization occur within 14 days at locations where soil disturbing activities have ceased? (If yes, complete question 20)

Environmental Management System
Construction Stage Gate Checklist (CSGC)

Highway	Project Number	Project CCSJ	County	Area Office

☐ Yes ☐ No ☐ N/A	20. Is the stabilization documented? (i.e. DWR's, methods, seeding rates, etc)
☐ Yes ☐ No ☐ N/A	21. Did stabilization occur within 14 days at locations where work temporarily ceased (at least 21 days)? (If yes, complete question 22)
☐ Yes ☐ No ☐ N/A	22. Is the stabilization documented? (i.e. DWR's, methods, seeding rates, etc)
☐ Yes ☐ No ☐ N/A	25. Are control measures installed in accordance with the SWP3?
☐ Yes ☐ No ☐ N/A	26. Are control measures properly selected?
☐ Yes ☐ No ☐ N/A	27. Are control measures performing?
☐ Yes ☐ No ☐ N/A	28. Are control measures properly maintained?
☐ Yes ☐ No ☐ N/A	29. Are on-site accumulations of sediment removed as soon as practicable to prevent off-site impacts? (i.e. sediment near off-site inlets, etc)
☐ Yes ☐ No ☐ N/A	30. Is sediment removed from control devices when design capacity is reduced by 50%?
☐ Yes ☐ No ☐ N/A	31. Are litter, construction debris, and construction chemicals exposed to wind or water erosion? (i.e. screening outfalls, picked up daily)
☐ Yes ☐ No ☐ N/A	32. Is a lidded dumpster on the project to dispose of litter, construction debris, etc.?
☐ Yes ☐ No ☐ N/A	33. Were velocity dissipation devices (i.e. rock filter dams, holding ponds, etc) placed at discharge locations and along the length of any outfall channel to provide a non-erosive flow velocity from the structure to the water course?
☐ Yes ☐ No ☐ N/A	34. Were the inspections performed per the contract/SWP3?
☐ Yes ☐ No ☐ N/A	35. Are deficiencies and nonconformance issues identified on the inspections being addressed before off-site discharge occurs?
☐ Yes ☐ No ☐ N/A	36. Are controls in place to minimize off-site vehicle tracking of sediments?
☐ Yes ☐ No ☐ N/A	37. Has TxDOT approved PSLs on Right-of-Way?
☐ Yes ☐ No ☐ N/A	38. Are the contractor's on and off Right-of-Way PSLs shown on the SWP3 site plan? (If yes, complete question 39)
☐ Yes ☐ No	39. Are the contractor's on and off Right-of-Way PSLs shown on the SWP3 site plan identified as contractor's PSL?
☐ Yes ☐ No	40. Is the contractor required to have a concrete washout area? (If yes, complete questions 41 - 42)
☐ Yes ☐ No	41. Is the concrete washout area shown on the SWP3 site plan?
☐ Yes ☐ No	42. Is the concrete washout area properly constructed and maintained?
☐ Yes ☐ No	43. Is the inspection cycle option for this project "At least every 14 calendar days and within 24 hours after 0.5 inches or more of rainfall"? (If yes, complete questions 44 - 45)
☐ Yes ☐ No	44. Is there a rain gauge on the project?
☐ Yes ☐ No	45. Are there records documenting rainfall amounts?
☐ Yes ☐ No ☐ N/A	46. Did the inspection summary report include the name of the inspector?
☐ Yes ☐ No ☐ N/A	47. Did the inspection summary report include the date(s) of the inspection?
☐ Yes ☐ No ☐ N/A	48. Did the inspection summary report include measures/area inspected?
☐ Yes ☐ No ☐ N/A	49. Did the inspection summary report include actions needed/taken as a result of the inspection?
☐ Yes ☐ No ☐ N/A	50. Did the inspection summary report include major observations? (i.e. locations of discharges of sediment or pollutants, BMPs that require maintenance, BMPS that failed to operate as designed or proved inadequate, BMPs are needed)
☐ Yes ☐ No ☐ N/A	51. Did the SWP3 include appropriately signed certification statement?
☐ Yes ☐ No ☐ N/A	52. Did the SWP3 include the inspector qualification document?
☐ Yes ☐ No	53. Does the project require a Municipal Separate Storm Sewer System (MS4) permit? (If yes, complete question 54)
☐ Yes ☐ No	54. Have the MS4 operator(s) been notified?

Environmental Management System
Construction Stage Gate Checklist (CSGC)

Highway	Project Number	Project CCSJ	County	Area Office

Jurisdictional Waters of the United States, including Wetlands

☐ Yes ☐ No		55. Does the project require a USACE permit? (If yes, complete questions 56 - 62)
☐ Yes ☐ No		56. Are wetlands and waters of the US being protected in accordance with the authorization/permit and the PS&E?
☐ Yes ☐ No		57. Are the proper USACE permits maintained at the site?
☐ Yes ☐ No		58. Is clearance of off Right-of-Way PSLs required by a special condition of TxDOT's USACE permit? (If yes, complete question 59)
☐ Yes ☐ No	☐ N/A	59. Has clearance of these PSLs been obtained?
☐ Yes ☐ No		60. Are the BMPs for protecting wetlands and water of the US working effectively?
☐ Yes ☐ No		61. Are construction activities meeting all USACE general permit conditions?
☐ Yes ☐ No		62. Are construction activities meeting all other USACE special permit conditions?

Navigable Waters

☐ Yes ☐ No		63. Is a US Coast Guard Section 9 permit applicable? (If yes, complete questions 64 - 65)
☐ Yes ☐ No		64. Is the US Coast Guard Section 9 permit maintained on site?
☐ Yes ☐ No		65. Are construction activities meeting US Coast Guard Section 9 permit conditions?
☐ Yes ☐ No		66. Is a USACE Section 10 permit applicable? (If yes, complete questions 67 - 68)
☐ Yes ☐ No		67. Is the USACE Section 10 permit maintained on site?
☐ Yes ☐ No		68. Are construction activities meeting USACE Section 10 permit conditions?

Edwards Aquifer

☐ Yes ☐ No		69. Does the project require an Edwards Aquifer Protection Plan? (If yes, complete questions 70 - 73)
☐ Yes ☐ No		70. Is a copy of the Water Pollution Abatement Plan (WPAP) kept on-site?
☐ Yes ☐ No		71. Is a copy of the Contributing Zone Plan kept on-site?
☐ Yes ☐ No		72. Are project requirements met for groundwater protection? (i.e. Item 103 Disposal of Wells, staging requirements from WPAP, etc)
☐ Yes ☐ No		73. Are construction activities meeting permit conditions?

International Boundary Water Commission (IBWC)

☐ Yes ☐ No		74. Is an IBWC License applicable? (If yes, complete questions 75 - 76)
☐ Yes ☐ No		75. Is the IBWC maintained on site?
☐ Yes ☐ No		76. Are construction activities meeting IBWC License conditions?

Biological Resources

☐ Yes ☐ No	☐ N/A	77. Is work compliant with the plans for protection of vegetation, including trees?
☐ Yes ☐ No	☐ N/A	78. Are migratory bird nesting requirements being followed?
☐ Yes ☐ No	☐ N/A	79. Is the work compliant with the plans and/or mitigation requirements for protection of threatened or endangered species/habitats?

Noise

☐ Yes ☐ No		80. Are there any proposed noise impacts? (If yes, complete question 81)
☐ Yes ☐ No		81. Is the work being performed in accordance with the noise mitigation plan?

Air Quality

☐ Yes ☐ No	☐ N/A	82. Are controls being practiced and are they effective for minimizing dust?

Environmental Management System
Construction Stage Gate Checklist (CSGC)

Highway	Project Number	Project CCSJ	County	Area Office

☐ Yes	☐ No	☐ N/A	83. Were the procedures for the Texas Emission Reduction Plan or other incentive measures met and documented? (i.e. contractor is using highest tier level equipment and best fuel grade)
☐ Yes	☐ No	☐ N/A	84. Are measures being taken for reducing idling of equipment and vehicles?

Cultural Resources

☐ Yes	☐ No	☐ N/A	85. Are known historical and archeological properties being protected and preserved in accordance with the plans?
☐ Yes	☐ No		86. Have historical and archeological properties been encountered during construction? (If yes, complete questions 87 - 88)
☐ Yes	☐ No		87. Were the historical and archeological properties protected?
☐ Yes	☐ No		88. Were the TxDOT Emergency Discovery Guidelines followed?

DSHS Notification

☐ Yes	☐ No		89. Is DSHS notification(s) required? (if yes, complete questions 90 - 92)
☐ Yes	☐ No		90. Has DSHS notification(s) been mailed?
☐ Yes	☐ No		91. Was the DSHS notification(s) postmarked at least 10 working days prior to initiating demolition or renovation?
☐ Yes	☐ No		92. Were there any amendments to the DSHS notification(s)?

Hazardous Materials

☐ Yes	☐ No	☐ N/A	93. Are hazardous materials mitigation and abatement procedures being followed?
☐ Yes	☐ No		94. Have unknown hazardous materials been encountered during construction? (If yes, complete questions 95 - 96)
☐ Yes	☐ No		95. Have the proper TxDOT and agency contacts been made and documented?
☐ Yes	☐ No		96. Has mitigation or abatement been addressed?
☐ Yes	☐ No		97. Do the project plans include a soil and/or groundwater management plan? (If yes, complete question 98)
☐ Yes	☐ No		98. Is the abatement/mitigation plan being adhered to?
☐ Yes	☐ No		99. Has a spill of less than reportable quantity occurred? (If yes, complete question 100)
☐ Yes	☐ No		100. Were Spill Response Plan procedures followed for reporting and cleanup?
☐ Yes	☐ No		101. Has a spill of reportable quantity occurred? (If yes, complete question 102)
☐ Yes	☐ No		102. Were Spill Response Plan procedures followed for reporting and cleanup?

Change Orders

☐ Yes	☐ No		103. Are there change orders on this project? (If yes, complete questions 104 - 106)
☐ Yes	☐ No		104. Are change orders assessed for NEPA re-evaluation and/or resource agency coordination?
☐ Yes	☐ No		105. Do the change orders require environmental mitigation, abatement, or clearance actions? (If yes, complete question 106)
☐ Yes	☐ No		106. Have environmental mitigation, abatement, or clearance actions occurred?

Environmental Management System
Construction Stage Gate Checklist (CSGC)

Highway	Project Number	Project CCSJ	County	Area Office

SUMMARY OF PROJECT INSPECTION

Reference Item Number	Finding	Person Responsible For Corrective Action (Print Name)	Date Corrective Action Expected To Be Completed	Date Corrective Action Completed	TxDOT Representative Verifying Completed Corrective Action
					Print Name: _____ Signature: _____
					Print Name: _____ Signature: _____
					Print Name: _____ Signature: _____
					Print Name: _____ Signature: _____

Comments

Reviewer (Optional)			
Print Name:	Signature:	Title:	Date of Review:

Texas Department of Transportation
Technical Provisions

SH 183 Managed Lanes Project

Attachment 6-1
Utility Forms

County:
Highway:
Limits:
Fed. Proj. No.:
ROW CSJ No.:
Const. CSJ No.:

PROJECT UTILITY ADJUSTMENT AGREEMENT
(Developer Managed)
Agreement No.: -U-_____

THIS AGREEMENT, by and between   , hereinafter identified as the "**Developer**", and _____, hereinafter identified as the "**Owner**", is as follows:

WITNESSETH

WHEREAS, the STATE OF TEXAS, acting by and through the Texas Department of Transportation, hereinafter identified as "TxDOT", is authorized to design, construct, operate, maintain, and improve turnpike projects as part of the state highway system throughout the State of Texas, all in conformance with the provisions of Chapters 201, 203, 222, 223, 224, and 228 Texas Transportation Code, as amended; and

WHEREAS, the TxDOT proposes to construct a toll project identified as the _____ Project (the "Project"); and

WHEREAS, pursuant to that certain Development Agreement by and between TxDOT and the Developer with respect to the Project (the "DA"), the Developer has undertaken the obligation to design, construct, finance, operate and maintain the Project and adhere to all requirements in the DA; and

WHEREAS, the Developer's duties pursuant to the DA include causing the relocation, removal or other necessary adjustment of existing utilities impacted by the Project (collectively, "Adjustment"), subject to the provisions herein; and

WHEREAS, the Project may receive Federal funding, financing and/or credit assistance; and

WHEREAS, the Developer has notified the Owner that certain of its facilities and appurtenances (the "Owner Utilities") are in locational conflict with the Project (and/or with the "Ultimate Configuration" of the Project), and the Owner has requested that the Developer undertake the Adjustment of the Owner Utilities as necessary to accommodate the Project (and the Ultimate Configuration) and Owner agrees that the "Project" will be constructed in accordance with §203.092, Texas Transportation Code, as amended, Rule 21.23 of Title 43 Tex. Admin. Code, and 23 CFR 645 Subpart A (Utility Relocations, Adjustments and Reimbursement); and

WHEREAS, the Owner Utilities and the proposed Adjustment of the Owner Utilities are described as follows *[insert below a description of the affected facilities (by type, size and location) as well as a brief description of the nature of the Adjustment work to be performed (e.g., "adjust 12" waterline from approximately Highway Station 100+00 to approximately Highway Station 200+00")]:*
_____; and

WHEREAS, the Owner recognizes that time is of the essence in completing the work contemplated herein; and

Project Utility Adjustment Agreement (Developer Managed)

WHEREAS, the Developer and the Owner desire to implement the Adjustment of the Owner Utilities by entering into this Agreement.

<div align="center">

AGREEMENT

</div>

NOW, THEREFORE, in consideration of these premises and of the mutual covenants and agreements of the parties hereto and other good and valuable consideration, the receipt and sufficiency of which being hereby acknowledged, the Developer and the Owner agree as follows:

1.   **Preparation of Plans.**   [Check one box that applies:]

☐   The Developer has hired engineering firm(s) acceptable to the Owner to perform all engineering services needed for the preparation of plans, required specifications, and cost estimates, attached hereto as Exhibit A (collectively, the "Plans"), for the proposed Adjustment of the Owner Utilities. The Developer represents and warrants that the Plans conform to the most recent Utility Accommodation Rules issued by the Texas Department of Transportation ("TxDOT"), set forth in 43 Tex. Admin. Code Part 1, Chapter 21, Subchapter C *et seq.*, (the "UAR"). By its execution of this Agreement or by the signing of the Plans, the Owner hereby approves the Plans and confirms that the Plans are in compliance with the "standards" described in Paragraph 3(a)(4).

☐   The Owner has provided plans, required specifications and cost estimates, attached hereto as Exhibit A (collectively, the "Plans"), for the proposed Adjustment of the Owner Utilities. The Owner represents and warrants that the Plans conform to the UAR. By its execution of this Agreement, the Developer and the Owner hereby approve the Plans. The Owner also has provided to the Developer a utility plan view map illustrating the location of existing and proposed utility facilities on the Developer's right of way map of the Project. With regard to its preparation of the Plans, the Owner represents as follows *[check one box that applies]*:

☐   The Owner's employees were utilized to prepare the Plans, and the charges therefore do not exceed the Owner's typical costs for such work.

☐   The Owner utilized consulting engineers to prepare the Plans, and the fees for such work are not based upon a percentage of construction costs. Further, such fees encompass only the work necessary to prepare the Plans for Adjustment of the Owner Utilities described herein, and do not include fees for work done on any other project. The fees of the consulting engineers are reasonable and are comparable to the fees typically charged by consulting engineers in the locale of the Project for comparable work for the Owner.

2.   **Review by TxDOT.**   The parties hereto acknowledge and agree as follows:

(a)   Upon execution of this Agreement by the Developer and the Owner, the Developer will submit this Agreement, together with the attached Plans, to TxDOT for its review and approval as part of a package referred to as a "Utility Assembly". The parties agree to cooperate in good faith to modify this Agreement and/or the Plans, as necessary and mutually acceptable to all parties, to respond to any comments made by TxDOT thereon. Without limiting the generality of the foregoing, (i) the Owner agrees to respond (with comment and/or acceptance) to any modified Plans and/or Agreement prepared by the Developer in response to TxDOT comments within **fourteen (14) business days** after receipt of such modifications; and (ii) if the Owner originally prepared the Plans, the

Project Utility Adjustment Agreement (Developer Managed)

Owner agrees to modify the Plans in response to TxDOT comments and to submit such modified Plans to the Developer for its comment and/or approval (and re-submittal to TxDOT for its comment and/or approval) within **fourteen (14) business days** after receipt of TxDOT's comments. The Owner's failure to timely respond to any modified Plans submitted by the Developer pursuant to this paragraph shall be deemed the Owner's approval of same. If the Owner fails to timely prepare modified Plans which are its responsibility hereunder, then the Developer shall have the right to modify the Plans for the Owner's approval as if the Developer had originally prepared the Plans. The process set forth in this paragraph will be repeated until the Owner, Developer and TxDOT have all approved this Agreement and accepted the Plans.

(b)   The parties hereto acknowledge and agree that TxDOT's review, comments, and/or approval of a Utility Assembly or any component thereof shall constitute TxDOT's approval of the location and manner in which a Utility Assembly will be installed, adjusted, or relocated within the state highway right of way (the "ROW"), subject to the Developer's and Owner's satisfactory performance of the Adjustment work in accordance with the approved Plans. TxDOT has no duty to review Owner Facilities or components for their quality or adequacy to provide the intended utility service.

3.   **Design and Construction Standards**.

(a)   All design and construction performed for the Adjustment work which is the subject of this Agreement shall comply with and conform to the following:

(1)   All applicable local and state laws, regulations, decrees, ordinances and policies, including the UAR, the Utility Manual issued by TxDOT (to the extent its requirements are mandatory for the Adjustment necessitated by the Project, as communicated to the Owner by the Developer, or TxDOT), the requirements of the DA, and the policies of TxDOT;

(2)   All Federal laws, regulations, decrees, ordinances and policies applicable to projects receiving Federal funding, financing and/or credit assistance, including without limitation 23 CFR 645 Subparts A and B;

(3)   The terms of all governmental permits or other approvals, as well as any private approvals of third parties necessary for such work; and

(4)   The standard specifications, standards of practice, and construction methods (collectively, "standards") which the Owner customarily applies to utility facilities comparable to the Owner Utilities that are constructed by the Owner or for the Owner by its contractors at the Owner's expense, which standards are current at the time this Agreement is signed by the Owner, and which the Owner has submitted to the Developer in writing.

(5)   Owner agrees that all service meters must be placed outside of the State ROW.

(b)   Such design and construction also shall be consistent and compatible with (i) the Developer's current design and construction of the   Project, (ii)   the   "Ultimate Configuration" for the Project, and (iii) any other utilities being   installed   in   the   same vicinity. The Owner acknowledges receipt from the Developer   of   Project   plans   and Ultimate Configuration documents as necessary to   comply   with   the   foregoing. In

Project Utility Adjustment Agreement (Developer Managed)

case of any inconsistency among any of the standards   referenced   in   this   Agreement, the most stringent standard shall apply.

(c)   The plans, specifications, and cost estimates contained in Exhibit A shall identify and detail all utility facilities that the Owner intends to abandon in place rather than remove, including material type, quantity, size, age, and condition. No facilities containing hazardous or contaminated materials may be abandoned, but shall be specifically identified and removed in accordance with the requirements of subparagraph (a). It is understood and agreed that the Developer shall   not   pay   for   the   assessment   and remediation or other corrective action relating to soil and ground water   contamination caused by the utility facility prior to the removal.

4.   **Responsibility for Costs of Adjustment Work**.   With   the   exception   of   any   Betterment (hereinafter defined), the parties shall allocate the cost of any Adjustment between themselves as identified in Exhibit A and in accordance with § 203.092, Texas Transportation Code. An allocation percentage may be determined by application of an eligibility ratio, if appropriate, as detailed in Exhibit A.

5.   **Construction by the Developer**.

(a)   The Owner hereby requests that the Developer perform the construction necessary to adjust the Owner Utilities and the Developer hereby agrees to perform such construction. All construction work hereunder shall be performed in a good and workmanlike manner, and in accordance with the Plans (except as modified pursuant to Paragraph 16).

(b)   The Developer shall retain such contractor or contractors as are necessary to adjust the Owner Utilities.

(c)   The Developer shall obtain all permits necessary for the construction to be performed by the Developer hereunder, and the Owner shall cooperate in that process as needed.

6.   **Reimbursement of Owner's Indirect Costs**.

(a)   Developer agrees to reimburse the Owner its share of the Owner's indirect costs (e.g., engineering, inspection, testing, ROW) as identified in Exhibit A. When requested by the Owner, monthly progress payments will be made. The monthly payment will not exceed 80% of the estimated indirect work done to date. Once the indirect work is complete, final payment of the eligible indirect costs will be made. Intermediate payments shall not be construed as final payment for any items included in the intermediate payment.

(b)   The Owner's indirect costs associated with Adjustment of the Owner Utilities shall be developed pursuant to the method checked and described below *[check only one box]*:

☐   (1)   Actual related indirect costs accumulated in accordance with (i) a work order   accounting   procedure   prescribed   by   the   applicable   Federal   or   State regulatory   body,   or   (ii)   established   accounting   procedure   developed   by   the Owner   and   which   the   Owner   uses   in   its   regular   operations   (either   (i)   or   (ii) referred to as "Actual Cost") or,

☐   (2)   The agreed sum of $_____ ("Agreed Sum") as supported by the analysis of the Owner's estimated costs attached hereto as part of Exhibit A.

(c)   All indirect costs charged to the Developer by the Owner shall be reasonable and shall be computed   using   rates   and   schedules   not   exceeding   those   applicable   to   similar   work

Project Utility Adjustment Agreement (Developer Managed)

performed by or for the Owner at the Owner's expense. Developer's performance of the Adjustment work hereunder and payment of the Developer's share of the Owner's costs pursuant to this Agreement, if applicable, shall be full compensation to the Owner for all costs incurred by the Owner in Adjusting the Owner Utilities (including without limitation costs of relinquishing and/or acquiring right of way).

7. **Advancement of Funds by Owner for Construction Costs**.

(a) Advancement of Owner's share, if any, of estimated costs

Exhibit A shall identify all estimated engineering and construction-related costs, including labor, material, equipment and other miscellaneous construction items. Exhibit A shall also identify the Owner's and Developer's respective shares of the estimated costs.

The Owner shall advance to the Developer its allocated share, if any, of the estimated costs for construction and engineering work to be performed by the Developer, in accordance with the following terms:

☐ The adjustment of the Owner's Utilities does not require advancement of funds.

☐ The adjustment of the Owner's Utilities does require advancement of funds and the terms agreed to between the Developer and Owner are listed below.

[Insert terms of advance funding to be agreed between Developer and Owner.]

(b) Adjustment Based on Actual Costs or Agreed Sum

[Check the __one__ appropriate provision, if advancement of funds is required]:

☐ The Owner is responsible for its share of the Developer's actual cost for the Adjustment, including the identified Betterment. Accordingly, upon completion of all Adjustment work to be performed by both parties pursuant to this Amendment, (i) the Owner shall pay to the Developers the amount, if any, by which the actual cost of the Betterment (as determined in Paragraph 9(b)) plus the actual cost of Owner's share of the Adjustment (based on the allocation set forth in Exhibit A) exceeds the estimated cost advanced by the Owner, or (ii) the Developer shall refund to the Owner the amount, if any, by which such advance exceeds such actual cost, as applicable.

☐ The Agreed Sum is the agreed and final amount due for the Adjustment, including any Betterment, under this Amendment. Accordingly, no adjustment (either up or down) of such amount shall be made based on actual costs.

Project Utility Adjustment Agreement (Developer Managed)

8.   **Invoices.** On invoices prepared by either the Owner or the Developer, all costs developed using the "Actual Cost" method described in Section 6(b)(1) shall be itemized in a format allowing for comparisons to the approved estimates, including listing each of the services performed, the amount of time spent and the date on which the service was performed. The original and three (3) copies of each invoice, together with (1) such supporting information to substantiate all invoices as reasonably requested, and (2) such waivers and releases of liens as the other party may reasonably require, shall be submitted to the other party at the address for notices stated in Paragraph 22, unless otherwise directed pursuant to Paragraph 22. The Owner and the Developer shall make commercially reasonable efforts to submit final invoices not later than one hundred twenty (120) days after completion of work. The Owner and the Developer hereby acknowledge and agree that any costs not submitted to the other party within eighteen months following completion of all Adjustment work to be performed by the parties pursuant to this Agreement shall be deemed to have been abandoned and waived.

9.   **Betterment and Salvage**

   (a)   For purposes of this Agreement, the term "Betterment" means any upgrading of an Owner Utility being adjusted that is not attributable to the construction of the Project and is made solely for the benefit of and at the election of the Owner, including but not limited to an increase in the capacity, capability, efficiency or function of the adjusted Utility over that provided by the existing Utility facility or an expansion of the existing Utility facility; provided, however, that the following are not considered Betterments:

      (i)   any upgrading which is required for accommodation of the Project;

      (ii)   replacement devices or materials that are of equivalent standards although not identical;

      (iii)   replacement of devices or materials no longer regularly manufactured with the next highest grade or size;

      (iv)   any upgrading required by applicable laws, regulations or ordinances;

      (v)   replacement devices or materials which are used for reasons of economy (e.g., non-stocked items may be uneconomical to purchase); or

      (vi)   any upgrading required by the Owner's written "standards" meeting the requirements of Paragraph 3(d).

      [Include the following for fiber optic Owner Utilities only:] Extension of an Adjustment to the nearest splice boxes shall not be considered a Betterment if required by the Owner in order to maintain its written telephony standards.

      Any upgrading required by the Owner's written "standards" meeting the requirements of Paragraph 3(a)(4) shall be deemed to be of direct benefit to the Project.

   (b)   It is understood and agreed that the Developer shall not pay for any Betterments and that the Owner shall be solely responsible therefor. No Betterment may be performed hereunder which is incompatible with the Project or the Ultimate Configuration or which cannot be performed within the other constraints of applicable law, any applicable governmental approvals, including without limitation the scheduling requirements thereunder. Accordingly, the parties agree as follows *[check one box that applies, and complete if appropriate]*:

Project Utility Adjustment Agreement (Developer Managed)

☐   The Adjustment of the Owner Utilities pursuant to the Plans does not include any Betterment.

☐   The Adjustment of the Owner Utilities pursuant to the Plans includes Betterment to the Owner Utilities by reason of *[insert explanation, e.g. "replacing 12" pipe with 24" pipe]*:_____. The Developer has provided to the Owner comparative estimates for (i) all work to be performed by the Developer pursuant to this Agreement, including work attributable to the Betterment, and (ii) the cost to perform such work without the Betterment, which estimates are hereby approved by the Owner. The estimated cost of the Developer's work hereunder which is attributable to Betterment is $_____, calculated by subtracting (ii) from (i). The percentage of the total cost of the Developer's work hereunder which is attributable to Betterment is _____%, calculated by subtracting (ii) from (i), which remainder is divided by (i).

(c)   If Paragraph 9(b) identifies Betterment, the Owner shall advance to the Developer, at least **fourteen (14) business days** prior to the date scheduled for commencement of construction for Adjustment of the Owner Utilities, the estimated cost attributable to Betterment as set forth in Paragraph 9(b). Should the Owner fail to advance payment to the Developer fourteen (14) business days prior to commencement of the Adjustment construction, the Developer shall have the option of commencing and completing (without delay) the Adjustment work without installation of the applicable Betterment. *[If Paragraph 9(b) identifies Betterment, check the one appropriate provision]*:

☐   The estimated cost stated in Paragraph 9(b) is the agreed and final amount due for Betterment hereunder, and accordingly no adjustment (either up or down) of such amount shall be made based on actual costs.

☐   The Owner is responsible for the Developer's actual cost for the identified Betterment. Accordingly, upon completion of all Adjustment work to be performed by both parties pursuant to this Agreement, (i) the Owner shall pay to the Developer the amount, if any, by which the actual cost of the Betterment (determined as provided below in this paragraph) exceeds the estimated cost advanced by the Owner, or (ii) the Developer shall refund to the Owner the amount, if any, by which such advance exceeds such actual cost, as applicable. Any additional payment by the Owner shall be due within **sixty (60) calendar days** after the Owner's receipt of the Developer's invoice therefor, together with supporting documentation; any refund shall be due within **sixty (60) calendar days** after completion of the Adjustment work hereunder. The actual cost of Betterment incurred by the Developer shall be calculated by multiplying (i) the Betterment percentage stated in Paragraph 9(b), by (ii) the actual cost of all work performed by the Developer pursuant to this Agreement (including work attributable to the Betterment), as invoiced by the Developer to the Owner.

(d)   If Paragraph 9(b) identifies Betterment, the amount allocable to Betterment in Owner's indirect costs shall be determined by applying the percentage of the Betterment calculated in Paragraph 9(b) to the Owner's indirect costs. The Owner's invoice to the Developer for the Developer's share of the Owner's indirect costs shall credit the Developer with any Betterment amount determined pursuant to this Paragraph 9(d).

(e)   For any Adjustment from which the Owner recovers any materials and/or parts and retains or sells the same, after application of any applicable Betterment credit, the

Project Utility Adjustment Agreement (Developer Managed)

    Owner's invoice to the Developer for its costs shall credit the Developer with the salvage value for such materials and/or parts..

  (f) The determinations and calculations of Betterment described in this Paragraph 9 shall exclude right of way acquisition costs. Betterment in connection with right-of-way acquisition is addressed in Paragraph 15.

10. **Management of the Adjustment Work.** The Developer will provide project management during the Adjustment of the Owner Utilities.

11. **Utility Investigations.** At the Developer's request, the Owner shall assist the Developer in locating any Utilities (including appurtenances) which are owned and/or operated by Owner and may be impacted by the Project. Without limiting the generality of the foregoing, in order to help assure that neither the adjusted Owner Utilities nor existing, unadjusted utilities owned or operated by the Owner are damaged during construction of the Project, the Owner shall mark in the field the location of all such utilities horizontally on the ground in advance of Project construction in the immediate area of such utilities.

12. **Inspection and Acceptance by the Owner**.

  (a) Throughout the Adjustment construction hereunder, the Owner shall provide adequate inspectors for such construction. The work shall be inspected by the Owner's inspector(s) at least once each working day, and more often if such inspections are deemed necessary by Owner. Further, upon request by the Developer or its contractors, the Owner shall furnish an inspector at any reasonable time in which construction is underway pursuant to this Agreement, including occasions when construction is underway in excess of the usual forty (40) hour work week and at such other times as reasonably required. The Owner agrees to promptly notify the Developer of any concerns resulting from any such inspection.

  (b) The Owner shall perform a final inspection of the adjusted Owner Utilities, including conducting any tests as are necessary or appropriate, within **five (5) business days** after completion of construction hereunder. The Owner shall accept such construction if it is consistent with the performance standards described in Paragraph 3, by giving written notice of such acceptance to the Developer within said **five (5) day** period. If the Owner does not accept the construction, then the Owner shall, not later than the expiration of said **five (5) day** period, notify the Developer in writing of its grounds for non-acceptance and suggestions for correcting the problem, and if the suggested corrections are justified, the Developer will comply. The Owner shall re-inspect any revised construction (and re-test if appropriate) and give notice of acceptance, not later than **five (5) business days** after completion of corrective work. The Owner's failure to inspect and/or to give any required notice of acceptance or non-acceptance within the specified time period shall be deemed acceptance.

  (c) From and after the Owner's acceptance (or deemed acceptance) of an adjusted Owner Utility, the Owner agrees to accept ownership of, and full operation and maintenance responsibility for, such Owner Utility.

13. **Design Changes.** The Developer will be responsible for additional Adjustment design and construction costs necessitated by design changes to the Project, upon the terms specified herein.

Project Utility Adjustment Agreement (Developer Managed)

14. **Field Modifications.** The Developer shall provide the Owner with documentation of any field modifications, including Utility Adjustment Field Modifications as well as minor changes described in Paragraph 16(b), occurring in the Adjustment of the Owner Utilities.

15. **Real Property Interests.**

(a) The Owner has provided, or upon execution of this Agreement shall promptly provide to the Developer, documentation acceptable to TxDOT indicating any right, title or interest in real property claimed by the Owner with respect to the Owner Utilities in their existing location(s). Such claims are subject to TxDOT's approval as part of its review of the Developer Utility Assembly as described in Paragraph 2. Claims approved by TxDOT as to rights or interests are referred to herein as "Existing Interests".

(b) If acquisition of any new easement or other interest in real property ("New Interest") is necessary for the Adjustment of any Owner Utilities, then the Owner shall be responsible for undertaking such acquisition. The Owner shall implement each acquisition hereunder expeditiously so that related Adjustment construction can proceed in accordance with the Developer's Project schedules. The Developer shall be responsible for its share (as specified in Paragraph 4) of the actual and reasonable acquisition costs of any such New Interest (including without limitation the Owner's reasonable overhead charges and reasonable legal costs as well as compensation paid to the landowner), excluding any costs attributable to Betterment as described in Paragraph 15(c), and subject to the provisions of Paragraph 15(e); provided, however, that all acquisition costs shall be subject to the Developer's prior written approval. Eligible acquisition costs shall be segregated from other costs on the Owner's estimates and invoices. Any such New Interest shall have a written valuation and shall be acquired in accordance with applicable law.

(c) The Developer shall pay its share only for a replacement in kind of an Existing Interest (e.g., in width and type), unless a New Interest exceeding such standard (i) is required in order to accommodate the Project or by compliance with applicable law, or (ii) is called for by the Developer in the interest of overall Project economy. Any New Interest which is not the Developer's responsibility pursuant to the preceding sentence shall be considered a Betterment to the extent that it upgrades the Existing Interest which it replaces, or in its entirety if the related Owner Utility was not installed pursuant to an Existing Interest. Betterment costs shall be solely the Owner's responsibility.

(d) For each Existing Interest located within the final Project right of way, upon completion of the related Adjustment work and its acceptance by the Owner, the Owner agrees to execute a quitclaim deed or other appropriate documentation relinquishing such Existing Interest to TxDOT, unless the affected Owner Utility is remaining in its original location or is being reinstalled in a new location within the area subject to such Existing Interest. All quitclaim deeds or other relinquishment documents shall be subject to TxDOT's approval as part of its review of the Utility Assembly as described in Paragraph 2. For each such Existing Interest relinquished by the Owner, the Developer shall do one of the following to compensate the Owner for such Existing Interest, as appropriate:

(e) (i) If the Owner acquires a New Interest for the affected Owner Utility, the Developer shall reimburse the Owner for the Developer's share of the Owner's actual and reasonable acquisition costs in accordance with Paragraph 15(b), subject to Paragraph 15(c); or

Project Utility Adjustment Agreement (Developer Managed)

(ii)   If the Owner does not acquire a New Interest for the affected Owner Utility, the Developer shall compensate the Owner for the Developer's share of the fair market value of such relinquished Existing Interest, as mutually agreed between the Owner and the Developer and supported by a written valuation.

The compensation provided to the Owner pursuant to either subparagraph (i) or subparagraph (ii) above shall constitute complete compensation to the Owner for the relinquished Existing Interest and any New Interest, and no further compensation shall be due to the Owner from the Developer or TxDOT on account of such Existing Interest or New Interest(s).

(f)   The Owner shall execute a Utility Joint Use Acknowledgment (ROW-U-JUAA-DA) for each Adjustment where required pursuant to TxDOT policies. All Utility Joint Use Acknowledgments shall be subject to TxDOT approval as part of its review of the Utility Assembly as described in Paragraph 2.

16.   **Amendments and Modifications.** This Agreement may be amended or modified only by a written instrument executed by the parties hereto, in accordance with Paragraph 16(a) or Paragraph 16(b) below.

(a)   Except as otherwise provided in Paragraph 16(b), any amendment or modification to this Agreement or the Plans attached hereto shall be implemented by a Utility Adjustment Agreement Amendment ("UAAA") in the form of Exhibit B hereto (TxDOT-DA-U-35A-DM). The UAAA form can be used for a new scope of work with concurrence of the Developer and TxDOT as long as the design and construction responsibilities have not changed. Each UAAA is subject to the review and approval of TxDOT, prior to its becoming effective for any purpose and prior to any work being initiated thereunder. The Owner agrees to keep and track costs for each UAAA separately from other work being performed.

(b)   For purposes of this Paragraph 16(b), "Utility Adjustment Field Modification" shall mean any horizontal or vertical design change from the Plans included in a Utility Assembly previously approved by TxDOT, due either to design of the Project or to conditions not accurately reflected in the approved Utility Assembly (e.g., shifting the alignment of an 8 in. water line to miss a modified or new roadway drainage structure). A Utility Adjustment Field Modification agreed upon by the Developer and Owner does not require a UAAA, provided that the modified Plans have been submitted to TxDOT for its review and comment. A minor change (e.g., an additional water valve, an added utility marker at a ROW line, a change in vertical bend, etc.) will not be considered a Utility Adjustment Field Modification and will not require a UAAA, but shall be shown in the documentation required pursuant to Paragraph 14.

(c)   This Agreement does not alter and shall not be construed in any way to alter the obligations, responsibilities, benefits, rights, remedies, and claims between the Developer and TxDOT to design and construct the Project, including the Adjustment.

17.   **Entire Agreement.** This Agreement embodies the entire agreement between the parties and there are no oral or written agreements between the parties or any representations made which are not expressly set forth herein.

18.   **Assignment; Binding Effect; TxDOT as Third Party Beneficiary.** Neither the Owner or the Developer may assign any of its rights or delegate any of its duties under this Agreement without the prior written consent of the other party and of TxDOT, which consent may not be

Project Utility Adjustment Agreement (Developer Managed)

unreasonably withheld or delayed; provided, however, that the Developer may assign any of its rights and/or delegate any of its duties to TxDOT or to any other entity engaged by TxDOT to fulfill the Developer's obligations, at any time without the prior consent of the Owner.

This Agreement shall bind the Owner, the Developer and their successors and permitted assigns, and nothing in this Agreement nor in any approval subsequently provided by any party hereto shall be construed as giving any benefits, rights, remedies, or claims to any other person, firm, corporation or other entity, including, without limitation, any contractor or other party retained for the Adjustment work or the public in general; provided, however, that the Owner and the Developer agree that although TxDOT is not a party to this Agreement, TxDOT is intended to be a third-party beneficiary to this Agreement.

19. **Breach by the Parties.**

    (a)   If the Owner claims that the Developer has breached any of its obligations under this Agreement, the Owner will notify the Developer and TxDOT in writing of such breach, and the Developer shall have 30 days following receipt of such notice in which to cure such breach, before the Owner may invoke any remedies which may be available to it as a result of such breach; provided, however, that both during and after such period TxDOT shall have the right, but not the obligation, to cure any breach by the Developer. Without limiting the generality of the foregoing, (a) TxDOT shall have no liability to the Owner for any act or omission committed by the Developer in connection with this Agreement, including without limitation any claimed defect in any design or construction work supplied by the Developer or by its contractors, and (b) in no event shall TxDOT be responsible for any repairs or maintenance to the Owner Utilities Adjusted pursuant to this Agreement.

    (b)   If the Developer claims that the Owner has breached any of its obligations under this Agreement, the Developer will notify the Owner and TxDOT in writing of such breach, and the Owner shall have 30 days following receipt of such notice in which to cure such breach, before the Developer may invoke any remedies which may be available to it as a result of such breach.

20. **Traffic Control.** The Developer shall provide traffic control or shall reimburse the Owner for the Developer's share (if any, as specified in Paragraph 4) of the costs for traffic control made necessary by the Adjustment work performed by either the Developer or the Owner pursuant to this Agreement, in compliance with the requirements of the Texas Manual on Uniform Traffic Control Devices. Betterment percentages calculated in Paragraph 9 shall also apply to traffic control costs.

21. **Notices.** Except as otherwise expressly provided in this Agreement, all notices or communications pursuant to this Agreement shall be sent or delivered to the following:

The Owner:

                        Phone:
                        Fax:

The Developer:

                        Phone:

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Fax:

A party sending a notice of default of this Agreement to another party shall also send a copy of such notice to TxDOT and the DA Utility Manager at the following addresses:

TxDOT: TxDOT Department of Transportation
         Attention: Donald C. Toner, Jr., SR/WA
         125 E. 11th Street
         Austin, Texas 78701-2483
         Phone: (512) 936-0980

DA Utility Manager:

Any notice or demand required herein shall be given (a) personally, (b) by certified or registered mail, postage prepaid, return receipt requested, or (c) by reliable messenger or overnight courier to the appropriate address set forth above. Any notice served personally shall be deemed delivered upon receipt, and any notice served by certified or registered mail or by reliable messenger or overnight courier shall be deemed delivered on the date of receipt as shown on the addressee's registry or certification of receipt or on the date receipt is refused as shown on the records or manifest of the U.S. Postal Service or such courier. Any party may from time to time designate any other address for this purpose by written notice to all other parties; TxDOT may designate another address by written notice to all parties.

22. **Approvals.** Any acceptance, approval, or any other like action (collectively "Approval") required or permitted to be given by either the Developer, , the Owner or TxDOT pursuant to this Agreement:

  (a) Must be in writing to be effective (except if deemed granted pursuant hereto),

  (b) Shall not be unreasonably withheld or delayed; and if Approval is withheld, such withholding shall be in writing and shall state with specificity the reason for withholding such Approval, and every effort shall be made to identify with as much detail as possible what changes are required for Approval, and

  (c) Except for approvals by TxDOT, and except as may be specifically provided otherwise in this Agreement, shall be deemed granted if no response is provided to the party requesting an Approval within the time period prescribed by this Agreement (or if no time period is prescribed, then fourteen (14) calendar days), commencing upon actual receipt by the party from which an Approval is requested or required, of a request for Approval from the requesting party. All requests for Approval shall be sent out by the requesting party to the other party in accordance with Paragraph 21.

23. **Time**.

  (a) Time is of the essence in the performance of this Agreement.

  (b) All references to "days" herein shall be construed to refer to calendar days, unless otherwise stated.

  (c) No party shall be liable to another party for any delay in performance under this Agreement from any cause beyond its control and without its fault or negligence ("Force

Project Utility Adjustment Agreement (Developer Managed)

Majeure"), such as acts of God, acts of civil or military authority, fire, earthquake, strike, unusually severe weather, floods or power blackouts.

24. **Continuing Performance.** In the event of a dispute, the Owner and the Developer agree to continue their respective performance hereunder to the extent feasible in light of the dispute, including paying billings, and such continuation of efforts and payment of billings shall not be construed as a waiver of any legal right.

25. **Equitable Relief.** The Developer and the Owner acknowledge and agree that delays in Adjustment of the Owner Utilities will impact the public convenience, safety and welfare, and that (without limiting the parties' remedies hereunder) monetary damages would be inadequate to compensate for delays in the construction of the Project. Consequently, the parties hereto (and TxDOT as well, as a third party beneficiary) shall be entitled to specific performance or other equitable relief in the event of any breach of this Agreement which threatens to delay construction of the Project; provided, however, that the fact that specific performance or other equitable relief may be granted shall not prejudice any claims for payment or otherwise related to performance of the Adjustment work hereunder.

26. **Authority.** The Owner and the Developer each represent and warrant to the other party that the warranting party possesses the legal authority to enter into this Agreement and that it has taken all actions necessary to exercise that authority and to lawfully authorize its undersigned signatory to execute this Agreement and to bind such party to its terms. Each person executing this Agreement on behalf of a party warrants that he or she is duly authorized to enter into this Agreement on behalf of such party and to bind it to the terms hereof.

27. **Cooperation.** The parties acknowledge that the timely completion of the Project will be influenced by the ability of the Owner (and its contractors) and the Developer to coordinate their activities, communicate with each other, and respond promptly to reasonable requests. Subject to the terms and conditions of this Agreement, the Owner and the Developer agree to take all steps reasonably required to coordinate their respective duties hereunder in a manner consistent with the Developer's current and future construction schedules for the Project.

28. **Termination.** If the Project is canceled or modified so as to eliminate the necessity of the Adjustment work described herein, then the Developer shall notify the Owner in writing and the Developer reserves the right to thereupon terminate this Agreement. Upon such termination, the parties shall negotiate in good faith an amendment that shall provide mutually acceptable terms and conditions for handling the respective rights and liabilities of the parties relating to such termination.

29. **Nondiscrimination**. Each party hereto agrees, with respect to the work performed by such party pursuant to this Agreement, that such party shall not discriminate on the grounds of race, color, sex, national origin or disability in the selection and/or retention of contractors and consultants, including procurement of materials and leases of equipment.

30. **Applicable Law, Jurisdiction and Venue**. This Agreement shall be governed by the laws of the State of Texas, without regard to the conflict of laws principles thereof. Venue for any action brought to enforce this Agreement or relating to the relationship between any of the parties shall be the District Court of Travis County, Texas or the United States District Court for the Western District of Texas (Austin).

31. **Waiver of Consequential Damages.** No party hereto shall be liable to any other party to this Agreement, whether in contract, tort, equity, or otherwise (including negligence, warranty, indemnity, strict liability, or otherwise,) for any punitive, exemplary, special, indirect, incidental,

Project Utility Adjustment Agreement (Developer Managed)

or consequential damages, including, without limitation, loss of profits or revenues, loss of use, claims of customers, or loss of business opportunity.

32. **Captions**. The captions and headings of the various paragraphs of this Agreement are for convenience and identification only, and shall not be deemed to limit or define the content of their respective paragraphs.

33. **Counterparts.** This Agreement may be executed in any number of counterparts. Each such counterpart hereof shall be deemed to be an original instrument but all such counterparts together shall constitute one and the same instrument.

34. **Effective Date.** This Agreement shall become effective upon the later of (a) the date of signing by the last party (either the Owner or Developer) signing this Agreement, and (b) the date of TxDOT's approval as indicated by the signature of TxDOT's representative, below.

APPROVED BY:
TEXAS DEPARTMENT OF TRANSPORTATION

OWNER

_____
[Print Owner Name]

By: _____
        Authorized Signature

By: _____
        Duly Authorized Representative

Printed
Name: Donald C. Toner, Jr. SR/WA
      Director – Strategic Projects Right of Way
      Strategic Projects Division
      Texas Department of Transportation

Printed
Name: _____

Title: _____

Date: _____

Date: _____

DEVELOPER

By: _____
        Duly Authorized Representative

Printed
Name: _____

Title: _____

Date: _____

Project Utility Adjustment Agreement (Developer Managed)

County:
ROW CSJ No.:
Const. CSJ No.:
Highway:
Limits:
Fed. Proj. No.:

EXHIBIT A

PLANS, SPECIFICATIONS, COST ESTIMATES AND ALLOCATION

Project Utility Adjustment Agreement (Developer Managed)

County:
ROW CSJ No.:
Const. CSJ No.:
Highway:
Limits:
Fed. Proj. No.:

EXHIBIT B

UTILITY ADJUSTMENT AGREEMENT AMENDMENT
(TxDOT-DA-U-35A-DM)

Project Utility Adjustment Agreement (Developer Managed)

County:
Highway:
Limits:
Fed. Proj. No.:
ROW CSJ No.:
Const. CSJ No.:

PROJECT UTILITY ADJUSTMENT AGREEMENT
(Owner Managed)
Agreement No.: -U-_____

THIS AGREEMENT, by and between _____, hereinafter identified as the "**Developer**", and _____, hereinafter identified as the "**Owner**", is as follows:

WITNESSETH

WHEREAS, the STATE OF TEXAS, acting by and through the Texas Department of Transportation, hereinafter identified as "TxDOT", is authorized to design, construct, operate, maintain, and improve turnpike projects as part of the state highway system throughout the State of Texas, all in conformance with the provisions of Chapters 201, 203, 222, 223, 224 and 228, Texas Transportation Code, as amended; and

WHEREAS, TxDOT proposes to construct a toll project identified as the _____ Project (the "Project"); and

WHEREAS, pursuant to that certain Development Agreement by and between TxDOT and the Developer with respect to the Project (the "DA"), the Developer has undertaken the obligation to design, construct, finance, operate and maintain the Project and adhere to all requirements in the DA; and

WHEREAS, the Developer's duties pursuant to the DA include causing the relocation, removal, or other necessary adjustment of existing utilities impacted by the Project (collectively, "Adjustment"), subject to the provisions herein; and

WHEREAS, the Project may receive Federal funding, financing and/or credit assistance; and

WHEREAS, the Developer has notified the Owner that certain of its facilities and appurtenances (the "Owner Utilities") are in locational conflict with the Project (and/or the "Ultimate Configuration" of the Project), and the Owner has decided to undertake the Adjustment of the Owner Utilities and agrees that the "Project" will be constructed in accordance with §203.092, Texas Transportation Code, as amended, Rule 21.23 of Title 43 Tex. Admin. Code, and 23 CFR 645A (Utility Relocations, Adjustments and Reimbursement); and

WHEREAS, the Owner Utilities and the proposed Adjustment of the Owner Utilities are described as follows *[insert below a description of the affected facilities (by type, size and location) as well as a brief description of the nature of the Adjustment work to be performed (e.g., "adjust 12" waterline from approximately Highway Station 100+00 to approximately Highway Station 200+00")]:*
_____; and

WHEREAS, the Owner recognizes that time is of the essence in completing the work contemplated herein; and

Project Utility Adjustment Agreement (Owner Managed)

WHEREAS, the Developer and the Owner desire to implement the Adjustment of the Owner Utilities by entering into this Agreement.

<center>**AGREEMENT**</center>

NOW, THEREFORE, in consideration of these premises and of the mutual covenants and agreements of the parties hereto and other good and valuable consideration, the receipt and sufficiency of which being hereby acknowledged, the Developer and the Owner agree as follows:

1. **Preparation of Plans.** *[Check one box that applies:]*

    ☐   The Developer has hired engineering firm(s) acceptable to the Owner to perform all engineering services needed for the preparation of plans, required specifications, and cost estimates, attached hereto as Exhibit A (collectively, the "Plans"), for the proposed Adjustment of the Owner Utilities. The Developer represents and warrants that the Plans conform to the most recent Utility Accommodation Rules issued by the Texas Department of Transportation ("TxDOT"), set forth in 43 Tex. Admin. Code, Part 1, Chapter 21, Subchapter C, *et seq*. (the "UAR"). By its execution of this Agreement or by the signing of the Plans, Owner hereby approves and confirms that the Plans are in compliance with the "standards" described in Paragraph 3(d).

    ☐   The Owner has provided plans, required specifications and cost estimates, attached hereto as Exhibit A (collectively, the "Plans"), for the proposed Adjustment of the Owner Utilities. The Owner represents and warrants that the Plans conform to the UAR. By its execution of this Agreement theDeveloper hereby approves the Plans. The Owner also has provided to the Developer a utility plan view map illustrating the location of existing and proposed utility facilities on the Developer's right of way map of the Project. With regard to its preparation of the Plans, Owner represents as follows *[check one box that applies]*:

    ☐   The Owner's employees were utilized to prepare the Plans, and the charges therefore do not exceed the Owner's typical costs for such work.

    ☐   The Owner utilized consulting engineers to prepare the Plans, and the fees for such work are not based upon a percentage of construction costs. Further, such fees encompass only the work necessary to prepare the Plans for Adjustment of the Owner Utilities described herein, and do not include fees for work done on any other project. The fees of the consulting engineers are reasonable and are comparable to the fees typically charged by consulting engineers in the locale of the Project for comparable work for the Owner.

2. **Review by TxDOT.** The parties hereto acknowledge and agree as follows:

    (a)   Upon execution of this Agreement by the Developer and the Owner, the Developer will submit this Agreement, together with the attached Plans, to TxDOT for its review and approval as part of a package referred to as a "Utility Assembly". The parties agree to cooperate in good faith to modify this Agreement and/or the Plans, as necessary and mutually acceptable to all parties, to respond to any comments made by TxDOT thereon. Without limiting the generality of the foregoing, (i) the Owner agrees to respond (with comment and/or acceptance) to any modified Plans and/or Agreement prepared by the Developer in response to TxDOT comments within **fourteen (14) business days** after receipt of such modifications; and (ii) if the Owner originally prepared the Plans, the

Project Utility Adjustment Agreement (Owner Managed)

Owner agrees to modify the Plans in response to TxDOT comments and to submit such modified Plans to the Developer for its comment and/or approval (and re-submittal to TxDOT for its comment and/or approval) within **fourteen (14) business days** after receipt of TxDOT's comments. The Owner's failure to timely respond to any modified Plans submitted by the Developer pursuant to this paragraph shall be deemed the Owner's approval of same. If the Owner fails to timely prepare modified Plans which are its responsibility hereunder, then the Developer shall have the right to modify the Plans for the Owner's approval as if the Developer had originally prepared the Plans. The Developer shall be responsible for providing Plans to and obtaining comments on and approval of the Plans from the Developer. The process set forth in this paragraph will be repeated until the Owner, the Developer and TxDOT have all approved this Agreement and the Plans.

(b)   The parties hereto acknowledge and agree that TxDOT's review, comments, and/or approval of a Utility Assembly or any component thereof shall constitute TxDOT's approval of the location and manner in which a Utility Assembly will be installed, adjusted, or relocated within the state highway right of way, subject to the Developer's and Owner's satisfactory performance of the Adjustment work in accordance with the approved Plans. TxDOT has no duty to review Owner facilities or components for their quality or adequacy to provide the intended utility service.

3.   **Design and Construction Standards.**

(a)   All design and construction performed for the Adjustment work which is the subject of this Agreement shall comply with and conform to the following:

(1)   All applicable local and state laws, regulations, decrees, ordinances and policies, including the UAR, the Utility Manual issued by TxDOT (to the extent its requirements are mandatory for Utility Adjustments necessitated by the Project, communicated to the Owner by the Developer or TxDOT), the requirements of the DA, and the policies of TxDOT;

(2)   All Federal laws, regulations, decrees, ordinances and policies applicable to projects receiving Federal funding, financing and/or credit assistance, including without limitation 23 CFR 645 Subparts A and B;

(3)   The terms of all governmental permits or other approvals, as well as any private approvals of third parties necessary for such work; and

(4)   The standard specifications, standards of practice, and construction methods (collectively, "standards") which the Owner customarily applies to facilities comparable to the Owner Utilities that are constructed by the Owner or for the Owner by its contractors at the Owner's expense, which standards are current at the time this Agreement is signed by the Owner, and which the Owner has submitted to the Developer in writing.

(5)   Owner agrees that all service meters must be placed outside of the State ROW.

(b)   Such design and construction also shall be consistent and compatible with (i) the Developer's current design and construction of the Project, (ii) the "Ultimate Configuration" for the Project, and (iii) any other utilities being installed in the same

Project Utility Adjustment Agreement (Owner Managed)

vicinity. The Owner acknowledges receipt from the Developer of Project plans and Ultimate Configuration documents as necessary to comply with the foregoing. In case of any inconsistency among any of the standards referenced in this Agreement, the most stringent standard shall apply.

(c) The plans, specifications, and cost estimates contained in Exhibit A shall identify and detail all utility facilities that the Owner intends to abandon in place rather than remove, including material type, quantity, size, age, and condition. No facilities containing hazardous or contaminated materials may be abandoned, but shall be specifically identified and removed in accordance with the requirements of subparagraph (a). It is understood and agreed that the Developer shall not pay for the assessment and remediation or other corrective action relating to soil and ground water contamination caused by the utility facility prior to the removal.

4. **Construction by the Owner; Scheduling.**

(a) The Owner hereby agrees to perform the construction necessary to adjust the Owner Utilities. All construction work hereunder shall be performed in a good and workmanlike manner, and in accordance with the Plans (except as modified pursuant to Paragraph 17). The Owner agrees that during the Adjustment of the Owner Utilities, the Owner and its contractors will coordinate their work with the Developer so as not to interfere with the performance of work on the Project by the Developer or by any other party. "Interfere" means any action or inaction that interrupts, interferes, delays or damages Project work.

(b) The Owner may utilize its own employees or may retain such contractor or contractors as are necessary to adjust the Owner Utilities, through the procedures set forth in Form TxDOT-U-48 "Statement Covering Contract Work" attached hereto as Exhibit C. If the Owner utilizes its own employees for the Construction work portion of the Adjustment of Owner Utilities, a Form TxDOT-U-48 is not required. If the Adjustment of the Owner Utilities is undertaken by the Owner's contractor under a competitive bidding process, all bidding and contracting shall be conducted in accordance with all federal and state laws and regulations applicable to the Owner and the Project.

(c) The Owner shall obtain all permits necessary for the construction to be performed by the Owner hereunder, and the Developer shall cooperate in that process as needed. The Owner shall submit a traffic control plan to the Developer as required for Adjustment work to be performed on existing road rights of way.

(d) The Owner shall commence its construction for Adjustment of each Owner Utility hereunder promptly after (i) receiving written notice to proceed therewith from the Developer, and (ii) any Project right of way necessary for such Adjustment has been acquired either by Developer (for adjusted facilities to be located within the Project right of way) or by the Owner (for adjusted facilities to be located outside of the Project right of way), or a right-of-entry permitting Owner's construction has been obtained from the landowner by the Developer or by the Owner with the Developer's prior approval. The Owner shall notify the Developer at least 72 hours prior to commencing construction for the Adjustment of each Owner Utility hereunder.

Project Utility Adjustment Agreement (Owner Managed)

(e) The Owner shall expeditiously stake the survey of the proposed locations of the Owner Utilities being adjusted, on the basis of the final approved Plans. The Developer shall verify that the Owner's Utilities, whether moving to a new location or remaining in place, clear the planned construction of the Project as staked in the field as well as the Ultimate Configuration.

(f) The Owner shall complete all of the Utility reconstruction and relocation work, including final testing and acceptance thereof *[check one box that applies]*:

☐ on or before _____, 20___.

☐ a duration not to exceed _____ calendar days upon notice to proceed by the Developer.

(g) The amount of reimbursement due to the Owner pursuant to this Agreement for the affected Adjustment(s) shall be reduced by ten percent (10%) for each 30-day period (and by a pro rata amount of said ten percent (10%) for any portion of a 30-day period) by which the final completion and acceptance date for the affected Adjustment(s) exceeds the applicable deadline. The provisions of this Paragraph 4(g) shall not limit any other remedy available to the Developer at law or in equity as a result of the Owner's failure to meet any deadline hereunder.

The above reduction applies except to the extent due to (i) Force Majeure as described in Paragraph 24(c), (ii) any act or omission of the Developer, if the Owner fails to meet any deadline established pursuant to Paragraph 4(f), or (iii) if the Developer and/or TxDOT determine, in their sole discretion, that a delay in the relocation work is the result of circumstances beyond the control of the Owner or Owner's contractor and the Developer will not reduce the reimbursement.

5. **Costs of the Work.**

(a) The Owner's costs for Adjustment of each Owner Utility shall be derived from (i) the accumulated total of costs incurred by the Owner for design and construction of such Adjustment, plus (ii) the Owner's other related costs to the extent permitted pursuant to Paragraph 5(c) (including without limitation the eligible engineering costs incurred by the Owner for design prior to execution of this Agreement), plus (iii) the Owner's right of way acquisition costs, if any, which are reimbursable pursuant to Paragraph 16.

(b) The Owner's costs associated with Adjustment of the Owner Utilities shall be developed pursuant to the method checked and described below *[check only one box]*:

☐ (1) Actual costs accumulated in accordance with a work order accounting procedure prescribed by the applicable Federal or State regulatory body ("Actual Cost"); or

☐ (2) Actual costs accumulated in accordance with an established accounting procedure developed by the Owner and which the Owner uses in its regular operations ("Actual Cost"); or

☐ (3) The agreed sum of $ _____ ("Agreed Sum"), as supported by the analysis of estimated costs attached hereto as part of Exhibit A.

Project Utility Adjustment Agreement (Owner Managed)

6.   **Responsibility for Costs of Adjustment Work.**

The Agreed Sum or Actual Cost, as applicable, of all work to be performed pursuant to this Agreement shall be allocated between the Developer and the Owner as identified in Exhibit A and in accordance with §203.092, Texas Transportation Code. An allocation percentage may be determined by application of an eligibility ratio, if appropriate, as detailed in Exhibit A; provided, however, that any portion of an Agreed Sum or Actual Cost attributable to Betterment shall be allocated 100% to the Owner in accordance with Paragraph 10. All costs charged to the Developer by the Owner shall be reasonable and shall be computed using rates and schedules not exceeding those applicable to similar work performed by or for the Owner at the Owner's expense. Payment of the costs allocated to the Developer pursuant to this Agreement (if any) shall be full compensation to the Owner for all costs incurred by the Owner in Adjusting the Owner Utilities (including without limitation costs of relinquishing and/or acquiring right of way).

7.   **Billing, Payment, Records and Audits: Actual Cost Method.** The following provisions apply if the Owner's costs are developed under procedure (1) or (2) described in Paragraph 5(b):

(a)   After (i) completion of all Adjustment work to be performed pursuant to this Agreement, (ii) the Developer's final inspection of the Adjustment work by Owner hereunder (and resolution of any deficiencies found), and (iii) receipt of an invoice complying with the applicable requirements of Paragraph 9, the Developer shall pay to the Owner an amount equal to ninety percent (90%) of the Developer's share of the Owner's costs as shown in such final invoice (less amounts previously paid, and applicable credits). After completion of the Developer's audit referenced in Paragraph 7(c) and the parties' mutual determination of any necessary adjustment to the final invoice resulting therefrom, the Developer shall make any final payment due so that total payments will equal the total amount of the Developer's share reflected on such final invoice (as adjusted, if applicable).

(b)   When requested by the Owner and properly invoiced in accordance with Paragraph 9, the Developer shall make intermediate payments to the Owner based upon the progress of the work completed at not more than monthly intervals, and such payments shall not exceed eighty percent (80%) of the Developer's share of the Owner's eligible costs as shown in each such invoice (less applicable credits). Intermediate payments shall not be construed as final payment for any items included in the intermediate payment.

(c)   The Owner shall maintain complete and accurate cost records for all work performed pursuant to this Agreement,. The Owner shall maintain such records for four (4) years after receipt of final payment hereunder. The Developer and their respective representatives shall be allowed to audit such records during the Owner's regular business hours. Unsupported charges will not be considered eligible for reimbursement. The parties shall mutually agree upon (and shall promptly implement by payment or refund, as applicable) any financial adjustment found necessary by the Developer's audit. TxDOT, the Federal Highway Administration, and their respective representatives also shall be allowed to audit such records upon reasonable notice to the Owner, during the Owner's regular business hours.

8.   **Billing and Payment: Agreed Sum Method.** If the Owner's costs are developed under procedure (3) described in Paragraph 5(b), then the Developer shall pay its share of the Agreed Sum to the Owner after (a) completion of all Adjustment work to be performed pursuant to this Agreement, (b) the Developer's final inspection of the Adjustment work by Owner hereunder

Project Utility Adjustment Agreement (Owner Managed)

(and resolution of any deficiencies found), and (c) receipt of an invoice complying with the applicable requirements of Paragraph 9.

9. **Invoices.** If the Owner's costs are developed under procedure (1) or (2) described in Paragraph 5(b), then Owner shall list each of the services performed, the amount of time spent and the date on which the service was performed. The original and three (3) copies of each invoice shall be submitted to the Developer at the address for notices stated in Paragraph 22, unless otherwise directed by the Developer pursuant to Paragraph 22, together with (1) such supporting information to substantiate all invoices as reasonably requested by the Developer, and (2) such waivers or releases of liens as the Developer may reasonably require. The Owner shall make commercially reasonable efforts to submit final invoices not later than one hundred twenty (120) days after completion of work. Final invoices shall include any necessary quitclaim deeds pursuant to Paragraph 16, and all applicable record drawings accurately representing the Adjustment as installed. The Owner hereby acknowledges and agrees that any right it may have for reimbursement of any of its costs not submitted to the Developer within eighteen months following completion of all Adjustment work to be performed by both parties pursuant to this Agreement shall be deemed to have been abandoned and waived. Invoices shall clearly delineate total costs, and those costs that are reimbursable pursuant to the terms of this Agreement.

10. **Betterment.**

(a) For purposes of this Agreement, the term "Betterment" means any upgrading of an Owner Utility being adjusted that is not attributable to the construction of the Project and is made solely for the benefit of and at the election of the Owner, including but not limited to an increase in the capacity, capability, efficiency or function of the adjusted Utility over that provided by the existing Utility facility or an expansion of the existing Utility facility; provided, however, that the following are not considered Betterments:

(i) any upgrading which is required for accommodation of the Project;

(ii) replacement devices or materials that are of equivalent standards although not identical;

(iii) replacement of devices or materials no longer regularly manufactured with the next highest grade or size;

(iv) any upgrading required by applicable laws, regulations or ordinances;

(v) replacement devices or materials which are used for reasons of economy (e.g., non-stocked items may be uneconomical to purchase); or

(vi) any upgrading required by the Owner's written "standards" meeting the requirements of Paragraph 3(a)(4).

[Include the following for fiber optic Owner Utilities only:] Extension of an Adjustment to the nearest splice boxes shall not be considered a Betterment if required by the Owner in order to maintain its written telephony standards.

Any upgrading required by the Owner's written "standards" meeting the requirements of Paragraph 3(a)(4) shall be deemed to be of direct benefit to the Project.

Project Utility Adjustment Agreement (Owner Managed)

(b)   It is understood and agreed that the Developer will not pay for any Betterments and that the Owner shall not be entitled to payment therefor. No Betterment may be performed in connection with the Adjustment of the Owner Utilities which is incompatible with the Project or the Ultimate Configuration or which cannot be performed within the other constraints of applicable law, any applicable governmental approvals, including without limitation the scheduling requirements thereunder. Accordingly, the parties agree as follows *[check the one box that applies, and complete if appropriate]*:

☐   (i) The Adjustment of the Owner Utilities pursuant to the Plans does not include any Betterment.

☐   The Adjustment of the Owner Utilities pursuant to the Plans includes Betterment to the Owner Utilities by reason of *[insert explanation, e.g. "replacing 12" pipe with 24" pipe]*: _____. The Owner has provided to the Developer comparative estimates for (i) all costs for work to be performed by the Owner pursuant to this Agreement, including work attributable to the Betterment, and (ii) the cost to perform such work without the Betterment, which estimates are hereby approved by the Developer. The estimated amount of the Owner's costs for work hereunder which is attributable to Betterment is $_____, calculated by subtracting (ii) from (i). The percentage of the total cost of the Owner's work hereunder which is attributable to Betterment is _____%, calculated by subtracting (ii) from (i), which remainder shall be divided by (i).

(c)   If Paragraph 10(b) identifies Betterment, then the following shall apply:

(i)   If the Owner's costs are developed under procedure (3) described in Paragraph 5(b), then the Agreed Sum stated in that Paragraph includes any credits due to the Developer on account of the identified Betterment, and no further adjustment shall be made on account of same.

(ii)   If the Owner's costs are developed under procedure (1) or (2) described in Paragraph 5(b), the parties agree as follows *[If Paragraph 10(b) identifies Betterment and the Owner's costs are developed under procedure (1) or (2), check the one appropriate provision]*:

☐   The estimated cost stated in Paragraph 10(b) is the agreed and final amount due for Betterment hereunder. Accordingly, each intermediate invoice submitted pursuant to Paragraph 7(b) shall include a credit for an appropriate percentage of the agreed Betterment amount, proportionate to the percentage of completion reflected in such invoice. The final invoice submitted pursuant to Paragraph 7(a) shall reflect the full amount of the agreed Betterment credit. For each invoice described in this paragraph, the credit for Betterment shall be applied before calculating the Developer's share (pursuant to Paragraph 6) of the cost of the Adjustment work. No other adjustment (either up or down) shall be made based on actual Betterment costs.

☐   The Owner is responsible for the actual cost of the identified Betterment, determined by multiplying (a) the Betterment percentage stated in Paragraph 10(b), by (b) the actual cost of all work performed by the Owner pursuant to this Agreement (including work attributable to the Betterment), as invoiced by the Owner to the Developer. Accordingly, each invoice submitted pursuant to either Paragraph 7(a) or Paragraph 7(b) shall credit the Developer

Project Utility Adjustment Agreement (Owner Managed)

with an amount calculated by multiplying (x) the Betterment percentage stated in Paragraph 10(b), by (y) the amount billed on such invoice.

(d) The determinations and calculations of Betterment described in this Paragraph 10 shall exclude right of way acquisition costs. Betterment in connection with right-of-way acquisition is addressed in Paragraph 16.

11. **Salvage.** For any Adjustment from which the Owner recovers any materials and/or parts and retains or sells the same, after application of any applicable Betterment credit, the Developer is entitled to a credit for the salvage value of such materials and/or parts. If the Owner's costs are developed under procedure (1) or (2) described in Paragraph 5(b), then the final invoice submitted pursuant to Paragraph 7(a) shall credit the Developer with the full salvage value. If the Owner's costs are developed under procedure (3) described in Paragraph 5(b), then the Agreed Sum includes any credit due to the Developer on account of salvage.

12. **Utility Investigations.** At the Developer's request, the Owner shall assist the Developer in locating any Utilities (including appurtenances) which are owned and/or operated by Owner and may be impacted by the Project. Without limiting the generality of the foregoing, in order to help assure that neither the adjusted Owner Utilities nor existing, unadjusted utilities owned or operated by the Owner are damaged during construction of the Project, the Owner shall mark in the field the location of all such utilities horizontally on the ground in advance of Project construction in the immediate area of such utilities.

13. **Inspection and Ownership of Owner Utilities.**

(a) The Developer shall have the right, at its own expense, to inspect the Adjustment work performed by the Owner or its contractors, during and upon completion of construction. All inspections of work shall be completed and any comment provided within **five (5) business days** after request for inspection is received.

(b) The Owner shall accept full responsibility for all future repairs and maintenance of said Owner Utilities. In no event shall the Developer or TxDOT become responsible for making any repairs or maintenance, or for discharging the cost of same. The provisions of this Paragraph 13(b) shall not limit any rights which the Owner may have against the Developer if either party respectively damages any Owner Utility as a result of its respective Project activities.

14. **Design Changes.** The Developer will be responsible for additional Adjustment design and responsible for additional construction costs necessitated by design changes to the Project made after approval of the Plans, upon the terms specified herein.

15. **Field Modifications.** The Owner shall provide the Developer with documentation of any field modifications, including Utility Adjustment Field Modifications as well as minor changes as described in Paragraph 17(b), occurring in the Adjustment of the Owner Utilities.

16. **Real Property Interests.**

(a) The Owner has provided, or upon execution of this Agreement shall promptly provide to the Developer, documentation acceptable to TxDOT indicating any right, title or interest in real property claimed by the Owner with respect to the Owner Utilities in their existing location(s). Such claims are subject to TxDOT's approval as part of its review of the Developer's Utility Assembly as described in Paragraph 2. Claims approved by TxDOT as to rights or interests are referred to herein as "Existing Interests".

Project Utility Adjustment Agreement (Owner Managed)

(b)   If acquisition of any new easement or other interest in real property ("New Interest") is necessary for the Adjustment of any Owner Utilities, then the Owner shall be responsible for undertaking such acquisition. The Owner shall implement each acquisition hereunder expeditiously so that related Adjustment construction can proceed in accordance with the Developer's Project schedules. The Developer shall be responsible for its share (if any, as specified in Paragraph 6) of the actual and reasonable acquisition costs of any such New Interest (including without limitation the Owner's reasonable overhead charges and reasonable legal costs as well as compensation paid to the landowner), excluding any costs attributable to Betterment as described in Paragraph 16(c), and subject to the provisions of Paragraph 16(e); provided, however, that all acquisition costs shall be subject to the Developer's prior written approval. Eligible acquisition costs shall be segregated from other costs on the Owner's estimates and invoices. Any such New Interest shall have a written valuation and shall be acquired in accordance with applicable law.

(c)   The Developer shall pay its share only for a replacement in kind of an Existing Interest (e.g., in width and type), unless a New Interest exceeding such standard (i) is required in order to accommodate the Project or by compliance with applicable law, or (ii) is called for by the Developer in the interest of overall Project economy. Any New Interest which is not the Developer's cost responsibility pursuant to the preceding sentence shall be considered a Betterment to the extent that it upgrades the Existing Interest which it replaces, or in its entirety if the related Owner Utility was not installed pursuant to an Existing Interest. Betterment costs shall be solely the Owner's responsibility.

(d)   For each Existing Interest located within the final Project right of way, upon completion of the related Adjustment work and its acceptance by the Owner, the Owner agrees to execute a quitclaim deed or other appropriate documentation relinquishing such Existing Interest to TxDOT, unless the affected Owner Utility is remaining in its original location or is being reinstalled in a new location within the area subject to such Existing Interest. All quitclaim deeds or other relinquishment documents shall be subject to TxDOT's approval as part of its review of the Utility Assembly as described in Paragraph 2. For each such Existing Interest relinquished by the Owner, the Developer shall do one of the following to compensate the Owner for such Existing Interest, as appropriate:

    (i)   If the Owner acquires a New Interest for the affected Owner Utility, the Developer shall reimburse the Owner for the Developer's share of the Owner's actual and reasonable acquisition costs in accordance with Paragraph 16(b) and subject to Paragraph 16(c); or

    (ii)   If the Owner does not acquire a New Interest for the affected Owner Utility, the Developer shall compensate the Owner for the Developer's share of the fair market value of such relinquished Existing Interest, as mutually agreed between the Owner and the Developer and supported by a written valuation.

    The compensation, if any, provided to the Owner pursuant to either subparagraph (i) or subparagraph (ii) above shall constitute complete compensation to the Owner for the relinquished Existing Interest and any New Interest, and no further compensation shall be due to the Owner from the Developer or TxDOT on account of such Existing Interest or New Interest(s).

(e)   The Owner shall execute a Utility Joint Use Acknowledgment (ROW-U-JUAA-DA) for each Adjustment where required pursuant to TxDOT policies. All Utility Joint Use

Project Utility Adjustment Agreement (Owner Managed)

Acknowledgments shall be subject to TxDOT approval as part of its review of the Utility Assembly as described in Paragraph 2.

17. **Amendments and Modifications.** This Agreement may be amended or modified only by a written instrument executed by the parties hereto, in accordance with Paragraph 17(a) or Paragraph 17(b) below.

   (a)   Except as otherwise provided in Paragraph 17(b), any amendment or modification to this Agreement or the Plans attached hereto shall be implemented by a Utility Adjustment Agreement Amendment ("UAAA") in the form of Exhibit B hereto (TxDOT-DA-U-35A-OM). The UAAA form can be used for a new scope of work with concurrence of the Developer and TxDOT as long as the Design and Construction responsibilities have not changed. Each UAAA is subject to the review and approval of TxDOT, prior to its becoming effective for any purpose and prior to any work being initiated thereunder. The Owner agrees to keep and track costs for each UAAA separately from other work being performed.

   (b)   For purposes of this Paragraph 17(b), "Utility Adjustment Field Modification" shall mean any horizontal or vertical design change from the Plans included in a Utility Assembly previously approved by TxDOT, due either to design of the Project or to conditions not accurately reflected in the approved Utility Assembly (e.g., shifting the alignment of an 8 in. water line to miss a modified or new roadway drainage structure). A Utility Adjustment Field Modification agreed upon by the Developer and the Owner does not require a UAAA, provided that the modified Plans have been submitted to TxDOT for its review and comment. A minor change (e.g., an additional water valve, an added Utility marker at a ROW line, a change in vertical bend, etc.) will not be considered a Utility Adjustment Field Modification and will not require a UAAA, but shall be shown in the documentation required pursuant to Paragraph 15.

18. **Entire Agreement.** This Agreement embodies the entire agreement between the parties and there are no oral or written agreements between the parties or any representations made which are not expressly set forth herein.

19. **Assignment; Binding Effect; TxDOT as Third Party Beneficiary.** The Owner and the Developer may not assign any of its rights or delegate any of its duties under this Agreement without the prior written consent of the other parties and of TxDOT, which consent may not be unreasonably withheld or delayed; provided, however, that the Developer may assign any of its rights and/or delegate any of its duties to TxDOT or to any other entity with which TxDOT contracts to fulfill the Developer's obligations at any time without the prior consent of the Owner.

   This Agreement shall bind the Owner, the Developer and their successors and permitted assigns, and nothing in this Agreement nor in any approval subsequently provided by any party hereto shall be construed as giving any benefits, rights, remedies, or claims to any other person, firm, corporation or other entity, including, without limitation, any contractor or other party retained for the Adjustment work or the public in general; provided, however, that the Owner and the Developer agree that although TxDOT is not a party to this Agreement, TxDOT is intended to be a third-party beneficiary to this Agreement.

20. **Breach by the Parties.**

   (a)   If the Owner claims that the Developer has breached any of its obligations under this Agreement, the Owner will notify the Developer and TxDOT in writing of such breach, and the Developer shall have 30 days following receipt of such notice in which to cure such breach, before the Owner may invoke any remedies which may be available to it as a

Project Utility Adjustment Agreement (Owner Managed)

result of such breach; provided, however, that both during and after such period TxDOT shall have the right, but not the obligation, to cure any breach by the Developer. Without limiting the generality of the foregoing, (a) TxDOT shall have no liability to the Owner for any act or omission committed by the Developer in connection with this Agreement, and (b) in no event shall TxDOT be responsible for any repairs or maintenance to the Owner Utilities adjusted pursuant to this Agreement.

(b)   If the Developer claims that the Owner has breached any of its obligations under this Agreement, the Developer will notify the Owner and TxDOT in writing of such breach, and the Owner shall have 30 days following receipt of such notice in which to cure such breach, before the Developer or the Developer may invoke any remedies which may be available to it as a result of such breach.

21.   **Traffic Control.** The Developer shall provide traffic control or shall reimburse the Owner for the Developer's share (if any, as specified in Paragraph 6) of the costs for traffic control made necessary by the Adjustment work performed by either the Developer or the Owner pursuant to this Agreement, in compliance with the requirements of the Texas Manual on Uniform Traffic Control Devices. Betterment percentages calculated in Paragraph 10 shall also apply to the traffic control costs.

22.   **Notices.**   Except as otherwise expressly provided in this Agreement, all notices or communications pursuant to this Agreement shall be sent or delivered to the following:

The Owner:

                          Phone:
                          Fax:

The Developer:

                          Phone:
                          Fax:

A party sending a notice of default of this Agreement to another party shall also send a copy of such notice to TxDOT and to the DA Utility Manager at the following addresses:

TxDOT: TxDOT Department of Transportation
                           Attention: Donald C. Toner, Jr., SR/WA
                           125 E. 11th Street
                           Austin, Texas 78701-2483
                           Phone: (512) 936-0980

DA Utility Manager:

Any notice or demand required herein shall be given (a) personally, (b) by certified or registered mail, postage prepaid, return receipt requested, or (c) by reliable messenger or overnight courier to the appropriate address set forth above. Any notice served personally shall be deemed delivered upon receipt and served by certified or registered mail or by reliable messenger or overnight courier shall be deemed delivered on the date of receipt as shown on the addressee's

Project Utility Adjustment Agreement (Owner Managed)

registry or certification of receipt or on the date receipt is refused as shown on the records or manifest of the U.S. Postal Service or such courier. Any party may from time to time designate any other address for this purpose by written notice to all other parties; TxDOT may designate another address by written notice to all parties.

23. **Approvals.** Any acceptance, approval, or any other like action (collectively "Approval") required or permitted to be given by either the Developer or the Owner pursuant to this Agreement:

   (a)   Must be in writing to be effective (except if deemed granted pursuant hereto),

   (b)   Shall not be unreasonably withheld or delayed; and if Approval is withheld, such withholding shall be in writing and shall state with specificity the reason for withholding such Approval, and every effort shall be made to identify with as much detail as possible what changes are required for Approval, and

   (c)   Except for approvals by TxDOT, and except as may be specifically provided otherwise in this Agreement, shall be deemed granted if no response is provided to the party requesting an Approval within the time period prescribed by this Agreement (or if no time period is prescribed, then fourteen (14) calendar days), commencing upon actual receipt by the party from which an Approval is requested or required, of a request for Approval from the requesting party. All requests for Approval shall be sent out by the requesting party to the other party in accordance with Paragraph 22.

24. **Time; Force Majeure.**

   (a)   Time is of the essence in the performance of this Agreement.

   (b)   All references to "days" herein shall be construed to refer to calendar days, unless otherwise stated.

   (c)   No party shall be liable to another party for any delay in performance under this Agreement from any cause beyond its control and without its fault or negligence ("Force Majeure"), such as acts of God, acts of civil or military authority, fire, earthquake, strike, unusually severe weather, floods or power blackouts. If any such event of Force Majeure occurs, the Owner agrees, if requested by the Developer, to accelerate its efforts hereunder if reasonably feasible in order to regain lost time, so long as the Developer agrees to reimburse the Owner for the reasonable and actual costs of such efforts.

25. **Continuing Performance.** In the event of a dispute, the Owner and the Developer agree to continue their respective performance hereunder to the extent feasible in light of the dispute, including paying billings, and such continuation of efforts and payment of billings shall not be construed as a waiver of any legal right.

26. **Equitable Relief**. The Developer and the Owner acknowledge and agree that delays in Adjustment of the Owner Utilities will impact the public convenience, safety and welfare, and that (without limiting the parties' remedies hereunder) monetary damages would be inadequate to compensate for delays in the construction of the Project. Consequently, the parties hereto (and TxDOT as well, as a third party beneficiary) shall be entitled to specific performance or other equitable relief in the event of any breach of this Agreement which threatens to delay construction of the Project; provided, however, that the fact that specific performance or other equitable relief may be granted shall not prejudice any claims for payment or otherwise related to performance of the Adjustment work hereunder.

Project Utility Adjustment Agreement (Owner Managed)

27. **Authority.** The Owner and the Developer each represent and warrant to the other party that the warranting party possesses the legal authority to enter into this Agreement and that it has taken all actions necessary to exercise that authority and to lawfully authorize its undersigned signatory to execute this Agreement and to bind such party to its terms. Each person executing this Agreement on behalf of a party warrants that he or she is duly authorized to enter into this Agreement on behalf of such party and to bind it to the terms hereof.

28. **Cooperation.** The parties acknowledge that the timely completion of the Project will be influenced by the ability of the Owner (and its contractors) and the Developer to coordinate their activities, communicate with each other, and respond promptly to reasonable requests. Subject to the terms and conditions of this Agreement, the Owner and the Developer agree to take all steps reasonably required to coordinate their respective duties hereunder in a manner consistent with the Developer's current and future construction schedules for the Project. The Owner further agrees to require its contractors to coordinate their respective work hereunder with the Developer.

29. **Termination.** If the Project is canceled or modified so as to eliminate the necessity of the Adjustment work described herein, then the Developer shall notify the Owner in writing and the Developer reserves the right to thereupon terminate this Agreement. Upon such termination, the parties shall negotiate in good faith an amendment that shall provide mutually acceptable terms and conditions for handling the respective rights and liabilities of the parties relating to such termination.

30. **Nondiscrimination**. Each party hereto agrees, with respect to the work performed by such party pursuant to this Agreement, that such party shall not discriminate on the grounds of race, color, sex, national origin or disability in the selection and/or retention of contractors and consultants, including procurement of materials and leases of equipment.

31. **Applicable Law, Jurisdiction and Venue**. This Agreement shall be governed by the laws of the State of Texas, without regard to the conflict of laws principles thereof. Venue for any action brought to enforce this Agreement or relating to the relationship between any of the parties shall be the District Court of Travis County, Texas or the United States District Court for the Western District of Texas (Austin).

32. **Waiver of Consequential Damages**. No party hereto shall be liable to any other party to this Agreement, whether in contract, tort, equity, or otherwise (including negligence, warranty, indemnity, strict liability, or otherwise), for any punitive, exemplary, special, indirect, incidental, or consequential damages, including, without limitation, loss of profits or revenues, loss of use, claims of customers, or loss of business opportunity.

33. **Captions**. The captions and headings of the various paragraphs of this Agreement are for convenience and identification only, and shall not be deemed to limit or define the content of their respective paragraphs.

34. **Counterparts.** This Agreement may be executed in any number of counterparts. Each such counterpart hereof shall be deemed to be an original instrument but all such counterparts together shall constitute one and the same instrument.

35. **Effective Date.** This Agreement shall become effective upon the later of (a) the date of signing by the last party (either the Owner or the Developer) signing this Agreement, and (b) the date of TxDOT's approval as indicated by the signature of TxDOT's representative, below.

Project Utility Adjustment Agreement (Owner Managed)

APPROVED BY:
**TEXAS DEPARTMENT OF
TRANSPORTATION**

By: _____
             Authorized Signature

Printed
Name: Donald C. Toner, Jr. SR/WA
         Director – Strategic Projects Right of Way
         Strategic Projects Division
         Texas Department of Transportation

Date: _____

OWNER

_____

[Print Owner Name]

By: _____
             Duly Authorized Representative

Printed
Name: _____

Title: _____

Date: _____

DEVELOPER

By: _____
             Duly Authorized Representative

Printed
Name: _____

Title: _____

Date: _____

Project Utility Adjustment Agreement (Owner Managed)

County:
ROW CSJ No.:
Const. CSJ No.:
Highway:
Limits:
Fed. Proj. No.:

EXHIBIT A

PLANS, SPECIFICATIONS, COST ESTIMATES AND ALLOCATION

Project Utility Adjustment Agreement (Owner Managed)

County:
ROW CSJ No.:
Const. CSJ No.:
Highway:
Limits:
Fed. Proj. No.:

EXHIBIT B

UTILITY ADJUSTMENT AGREEMENT AMENDMENT
(TxDOT-DA-U-35A-OM)

Project Utility Adjustment Agreement (Owner Managed)

County:
ROW CSJ No.:
Const. CSJ No.:
Highway:
Limits:
Fed. Proj. No.:

EXHIBIT C

STATEMENT COVERING CONTRACT WORK
(TxDOT-U-48)

Project Utility Adjustment Agreement (Owner Managed)

County:
Highway:
Limits:
Fed. Proj. No.:
ROW CSJ No.:

UTILITY ADJUSTMENT AGREEMENT AMENDMENT (Developer Managed)

(Amendment No.   to Agreement No.: -U-_____)

THIS AMENDMENT TO PROJECT UTILITY ADJUSTMENT AGREEMENT (this
"Amendment"), by and between , hereinafter identified as the "**Developer**", and _____, hereinafter
identified as the "**Owner**", is as follows:

WITNESSETH

WHEREAS, the STATE of TEXAS, acting by and through the Texas Department of Transportation,
hereinafter identified as "TxDOT", proposes to construct the toll project identified above (the "Project",
as more particularly described in the "Original Agreement", defined below); and

WHEREAS, pursuant to that certain Development Agreement ("DA") by and between TxDOT and the
Developer with respect to the Project, the Developer has undertaken the obligation to design, construct,
and potentially maintain the Project, including causing the removal, relocation, or other necessary
adjustment of existing utilities impacted by the Project (collectively, "Adjustment"); and

WHEREAS, the Owner and Developer are parties to that certain executed Project Utility Adjustment
Agreement designated by the "Agreement No." indicated above, as amended by previous amendments, if
any (the "Original Agreement"), which provides for the adjustment of certain utilities owned and/or
operated by the Owner (the "Utilities"); and

WHEREAS, the parties are required to utilize this Amendment form in order to modify the Original
Agreement to add the adjustment of Owner facilities not covered by the Original Agreement; and

WHEREAS, the parties desire to amend the Original Agreement to add additional Owner utility
facility(ies), on the terms and conditions hereinafter set forth.

NOW, THEREFORE, in consideration of the agreements contained herein, the parties hereto agree as
follows:

1.   **Amendment.** The Original Agreement is hereby amended as follows:

   1.1 **Plans.**

      (a)   The description of the Owner Utilities and the proposed Adjustment of the Owner
             Utilities in the Original Agreement is hereby amended to add the following utility
             facility(ies) ("Additional Owner Utilities") and proposed Adjustment(s) to the Owner
             Utilities described in the Original Agreement *[insert below a description of the affected
             facilities (by type, size and location) as well as a brief description of the nature of the
             Adjustment work to be performed (e.g., "adjust 12" waterline from approximately
             Highway Station 100+00 to approximately Highway Station 200+00)];* and

Utility Adjustment Agreement Amendment (Developer Managed)

(b)   The Plans, as defined in Paragraph 1 of the Original Agreement, are hereby amended to add thereto the plans, specifications and cost estimates attached hereto as Exhibit A.

(c)   The Plans attached hereto as Exhibit A, along with this Amendment, shall be submitted upon execution to TxDOT in accordance with Paragraph 2 of the Original Agreement, and Paragraph 2 shall apply to this Amendment and the Plans attached hereto in the same manner as if this Amendment were the Original Agreement. If the Owner claims an Existing Interest for any of the Additional Owner Utilities, documentation with respect to such claim shall be submitted to TxDOT as part of this Amendment and the attached Plans, in accordance with Paragraph 15(a) of the Original Agreement.

1.2   **Reimbursement of Owner's Indirect Costs.** For purposes of Paragraph 6 of the Original Agreement, the following terms apply to the Additional Owner Utilities and proposed Adjustment:

(a)   Developer agrees to reimburse the Owner its share of the Owner's indirect costs (e.g., engineering, inspection, testing, ROW) as identified in Exhibit A. When requested by the Owner, monthly progress payments will be made. The monthly payment will not exceed 80% of the estimated indirect work done to date. Once the indirect work is complete, final payment of the eligible indirect costs will be made. Intermediate payments shall not be construed as final payment for any items included in the intermediate payment.

(b)   The Owner's indirect costs associated with Adjustment of the Owner Utilities shall be developed pursuant to the method checked and described below *[check only one box]*:

☐   (1)   Actual related indirect costs accumulated in accordance with (i) a work order accounting procedure prescribed by the applicable Federal or State regulatory body, or (ii) established accounting procedure developed by the Owner and which the Owner uses in its regular operations (either (i) or (ii) referred to as "Actual Cost") or,

☐   (2)   The agreed sum of $_____ ("Agreed Sum") as supported by the analysis of the Owner's estimated costs attached hereto as part of Exhibit A.

1.3   **Advancement of Funds by Owner for Construction Costs.**

(a)   Advancement of Owner's Share, if any, of Estimated Costs

Utility Adjustment Agreement Amendment (Developer Managed)

Exhibit A shall identify all estimated engineering and construction-related costs, including labor, material, equipment and other miscellaneous construction items. Exhibit A shall also identify the Owner's and Developer's respective shares of the estimated costs.

The Owner shall advance to the Developer its allocated share, if any, of the estimated costs for construction and engineering work to be performed by Developer, in accordance with the following terms:

☐   The adjustment of the Owner's Utilities does not require advancement of funds.

☐   The adjustment of the Owner's Utilities does require advancement of funds and the terms agreed to between the Developer and Owner are listed below.

[Insert terms of advance funding to be agreed between Developer and Owner.]

(b)   Adjustment Based on Actual Costs or Agreed Sum

[Check the <u>one</u> appropriate provision, if advancement of funds is required]:

☐   The Owner is responsible for its share of the Developer actual cost for the Adjustment, including the identified Betterment. Accordingly, upon completion of all Adjustment work to be performed by both parties pursuant to this Amendment, (i) the Owner shall pay to the Developer the amount, if any, by which the actual cost of the Betterment (as determined in Paragraph 9(b)) plus the actual cost of Owner's share of the Adjustment (based on the allocation set forth in Exhibit A) exceeds the estimated cost advanced by the Owner, or (ii) the Developer shall refund to the Owner the amount, if any, by which such advance exceeds such actual cost, as applicable.

☐   The Agreed Sum is the agreed and final amount due for the Adjustment, including any Betterment, under this Amendment. Accordingly, no adjustment (either up or down) of such amount shall be made based on actual costs.

1.4   **Reimbursement of Owner's Indirect Costs.** For purposes of Paragraph 6 of the Original Agreement, the following terms apply to the Additional Owner Utilities and proposed Adjustment:

(a)   Developer agrees to reimburse the Owner its share of the Owner's indirect costs (e.g., engineering, inspection, testing, ROW) as identified in Exhibit A. When requested by the Owner, monthly progress payments will be made. The monthly payment will not exceed 80% of the estimated indirect work done to date. Once the indirect work is complete, final payment of the eligible indirect costs will be made. Intermediate payments shall not be construed as final payment for any items included in the intermediate payment.

(b)   The Owner's indirect costs associated with Adjustment of the Owner Utilities shall be developed pursuant to the method checked and described below *[check only one box]*:

☐   (1)   Actual related indirect costs accumulated in accordance with (i) a work order accounting procedure prescribed by the applicable Federal or State regulatory body, or (ii) established accounting procedure developed by the Owner and which the Owner uses in its regular operations (either (i) or (ii) referred to as "Actual Cost") or,

Utility Adjustment Agreement Amendment (Developer Managed)

☐   (2)   The agreed sum of $_____ ("Agreed Sum") as supported by the analysis of the Owner's estimated costs attached hereto as part of Exhibit A.

1.5   **Responsibility for Costs of Adjustment Work.** For purposes of Paragraph 4 of the Original Agreement, responsibility for the Agreed Sum or Actual Cost, as applicable, of all Adjustment work to be performed pursuant to this Amendment shall be allocated between the Developer and the Owner as identified in Exhibit A hereto and in accordance with §203.092, Texas Transportation Code. An allocation percentage may be determined by application of an Eligibility Ratio, if appropriate, as detailed in Exhibit A, provided however, that any portion of an Agreed Sum or Actual Cost attributable to Betterment shall be allocated 100% to the Owner in accordance with Paragraph 9 of the Original Agreement.

1.6   **Betterment.**

(a)   Paragraph 9(b) (Betterment and Salvage) of the Original Agreement is hereby amended to add the following *[Check the one box that applies, and complete if appropriate]*:

☐   The Adjustment of the Additional Owner Utilities, pursuant to the Plans as amended herein, does not include any Betterment.

☐   The Adjustment of the Additional Owner Utilities, pursuant to the Plans as amended herein, includes Betterment to the Additional Owner Utilities by reason of *[insert explanation, e.g. "replacing 12" pipe with 24" pipe]*: _____. The Developer has provided to the Owner comparative estimates for (i) all work to be performed by the Developer pursuant to this Amendment, including work attributable to the Betterment, and (ii) the cost to perform such work without the Betterment, which estimates are hereby approved by the Owner. The estimated cost of the Developer work under this Amendment which is attributable to Betterment is $_____, calculated by subtracting (ii) from (i). The percentage of the total cost of the Developer work under this Amendment which is attributable to Betterment is _____ %, calculated by subtracting (ii) from (i), which remainder is divided by (i).

(b)   If the above Paragraph 1.6(a) identifies Betterment, the Owner shall advance to the Developer, at least **fourteen (14) days** prior to the date scheduled for commencement of construction for Adjustment of the Additional Owner Utilities, the estimated cost attributable to Betterment as set forth in Paragraph 1.6(a) of this Amendment. If the Owner fails to advance payment to the Developer on or before the foregoing deadline, the Developer shall have the option of commencing and completing (without delay) the Adjustment work without installation of the applicable Betterment. *[Check the <u>one</u> appropriate provision]*:

☐   The estimated cost stated in Paragraph 1.6(a) of this Amendment is the agreed and final amount due for Betterment under this Amendment, and accordingly no adjustment (either up or down) of such amount shall be made based on actual costs.

☐   The Owner is responsible for the Developer Actual Cost for the identified Betterment. Accordingly, upon completion of all Adjustment work to be performed by both parties pursuant to this Amendment, (i) the Owner shall pay to the Developer the amount, if any, by which the actual cost of the Betterment (determined as provided below in this paragraph) exceeds the estimated cost advanced by the Owner, or (ii) the Developer shall refund to the Owner the

Utility Adjustment Agreement Amendment (Developer Managed)

amount, if any, by which such advance exceeds such actual cost, as applicable. Any additional payment by the Owner shall be due within **sixty (60) days** after the Owner's receipt of the Developers invoice therefor, together with supporting documentation; any refund shall be due within **sixty (60) days** after completion of the Adjustment work under this Amendment. The Actual Cost of Betterment incurred by the Developer shall be calculated by multiplying (i) the Betterment percentage stated in Paragraph 1.6(a) of this Amendment, by (ii) the Actual Cost of all work performed by the Developer pursuant to this Amendment (including work attributable to the Betterment), as invoiced by the Developer to the Owner.

(c)   The determinations and calculations of Betterment described in this Amendment shall exclude right-of-way acquisition costs. Betterment in connection with right-of-way acquisition is addressed in Paragraph 15 of the Original Agreement.

1.7   **Miscellaneous.**

(a)   Owner and Developer agree to refer to this Amendment, designated by the "Amendment No." and "Agreement Number" indicated on page 1 above, on all future correspondence regarding the Adjustment work that is the subject of this Amendment and to track separately all costs relating to this Amendment and the Adjustment work described herein.

(b)   [*Include any other proposed amendments allowed by applicable law.*]

2.   **General.**

(a)   All capitalized terms used in this Amendment shall have the meanings assigned to them in the Original Agreement, except as otherwise stated herein.

(b)   This Amendment may be executed in any number of counterparts. Each such counterpart hereof shall be deemed to be an original instrument but all such counterparts together shall constitute one and the same instrument.

(c)   Except as amended hereby, the Original Agreement shall remain in full force and effect. In no event shall the responsibility, as between the Owner and the Developer, for the preparation of the Plans and the Adjustment of the Owner Utilities be deemed to be amended hereby.

(d)   This Amendment shall become effective upon the later of (a) the date of signing by the last party (either the Owner or the Developer) signing this Amendment, and (b) the completion of TxDOT's review and approval as indicated by the signature of TxDOT's representative, below.

Utility Adjustment Agreement Amendment (Developer Managed)

APPROVED BY:

TEXAS DEPARTMENT OF TRANSPORTATION

OWNER

_____
[Print Owner Name]

By: _____
            Authorized Signature

By: _____
            Duly Authorized Representative

Printed
Name: _____

Printed
Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

DEVELOPER

By: _____
            Duly Authorized Representative

Printed
Name: _____

Title: _____

Date: _____

Utility Adjustment Agreement Amendment (Developer Managed)

County:
Highway:
Limits:
Fed. Proj. No.:
ROW CSJ No.:
Const. CSJ No.:

UTILITY ADJUSTMENT AGREEMENT AMENDMENT (Owner Managed)

(Amendment No.   to Agreement No.: -U-   )

THIS AMENDMENT TO PROJECT UTILITY ADJUSTMENT AGREEMENT (this
"Amendment"), by and between, hereinafter identified as the "**Developer**", and _____, hereinafter
identified as the "**Owner**", is as follows:

WITNESSETH

WHEREAS, the STATE of TEXAS, acting by and through the Texas Department of Transportation,
hereinafter identified as "TxDOT", proposes to construct the toll project identified above (the "Project",
as more particularly described in the "Original Agreement", defined below); and

WHEREAS, pursuant to that certain Development Agreement ("DA") by and between TxDOT and the
Developer with respect to the Project, the Developer has undertaken the obligation to design, construct,
and potentially maintain the Project, including causing the removal, relocation, or other necessary
adjustment of existing utilities impacted by the Project (collectively, "Adjustment"); and

WHEREAS, the Owner and Developer are parties to that certain executed Project Utility Adjustment
Agreement designated by the "Agreement No." indicated above, as amended by previous amendments, if
any (the "Original Agreement"), which provides for the adjustment of certain utilities owned and/or
operated by the Owner (the "Utilities"); and

WHEREAS, the parties are required to utilize this Amendment form in order to modify the Original
Agreement to add the adjustment of Owner utilities facilities not covered by the Original Agreement; and

WHEREAS, the parties desire to amend the Original Agreement to add additional Owner utility
facility(ies), on the terms and conditions hereinafter set forth.

NOW, THEREFORE, in consideration of the agreements contained herein, the parties hereto agree as
follows:

1.   **Amendment.** The Original Agreement is hereby amended as follows:

(a)   The description of the Owner Utilities and the proposed Adjustment of the Owner
Utilities in the Original Agreement is hereby amended to add the following facility(ies)
("Additional Owner Utilities") and proposed Adjustment(s) *[insert below a description of
the affected facilities (by type, size and location) as well as a brief description of the
nature of the Adjustment work to be performed (e.g., "adjust 12" waterline from
approximately Highway Station 100+00 to approximately Highway Station 200+00")]*:

(b)   The Plans, as defined in Paragraph 1 of the Original Agreement, are hereby amended to
add thereto the plans, specifications and cost estimates attached hereto as Exhibit A.

Utility Adjustment Agreement Amendment (Owner Managed)

(c)   The Plans attached hereto as Exhibit A, along with this Amendment, shall be submitted upon execution to TxDOT in accordance with Paragraph 2 of the Original Agreement, and Paragraph 2 shall apply to this Amendment and the Plans attached hereto in the same manner as if this Amendment were the Original Agreement. If the Owner claims an Existing Interest for any of the Additional Owner Utilities, documentation with respect to such claim shall be submitted to TxDOT as part of this Amendment and the attached Plans, in accordance with Paragraph 16(a) of the Original Agreement.

(d)   Paragraph 4(f) of the Original Agreement is hereby amended to add the following deadline for the Adjustment of the Additional Owner Utilities *[check one box that applies]*:

☐   Owner shall complete all of the utility reconstruction and relocation work, including final testing and acceptance thereof, on or before _____, 20_____.

☐   Owner shall complete all of the utility reconstruction and relocation work, including final testing and acceptance thereof, within _____ calendar days after delivery to Owner of a notice to proceed by Developer.

(e)   For purposes of Paragraph 5(b) of the Original Agreement, the Owner's costs associated with Adjustment of the Additional Owner Utilities shall be developed pursuant to the method checked and described below, *[check only one box]*:

☐   (1)   Actual costs accumulated in accordance with a work order accounting procedure prescribed by the applicable Federal or State regulatory body ("Actual Cost"); or

☐   (2)   Actual costs accumulated in accordance with an established accounting procedure developed by the Owner and which the Owner uses in its regular operations ("Actual Cost"); or

☐   (3)   The agreed sum of $_____ ("Agreed Sum"), as supported by the analysis of estimated costs attached hereto as part of Exhibit A

(f)   For purposes of Paragraph 6 of the Original Agreement, responsibility for the Agreed Sum or Actual Cost, as applicable, of all Adjustment work to be performed pursuant to this Amendment shall be allocated between the Developer and the Owner as identified in Exhibit A and in accordance with §203.092 of the Texas Transportation Code. An allocation percentage may be determined by application of an Eligibility Ratio, if appropriate, as detailed in Exhibit A; provided, however, that any portion of an Agreed Sum or Actual Cost attributable to Betterment shall be allocated 100% to the Owner in accordance with Paragraph 10 of the Original Agreement.

(g)   Paragraph 10(b) of the Original Agreement is hereby amended to add the following *[Check the one box that applies]*:

☐   The Adjustment of the Additional Owner Utilities, pursuant to the Plans as amended herein, does not include any Betterment.

☐   The Adjustment of the Additional Owner Utilities, pursuant to the Plans as amended herein, includes Betterment to the Additional Owner Utilities by reason of *[insert explanation, e.g. "replacing 12" pipe with 24" pipe]*: _____. The Owner has provided to the Developer comparative estimates for (i) all costs for work to be performed by the Owner pursuant to this Amendment, including work

Utility Adjustment Agreement Amendment (Owner Managed)

attributable to the Betterment, and (ii) the cost to perform such work without the Betterment, which estimates are hereby approved by the Developer. The estimated amount of the Owner's costs for work under this Agreement which is attributable to Betterment is $_____, calculated by subtracting (ii) from (i). The percentage of the total cost of the Owner's work hereunder which is attributable to Betterment is _____%, calculated by subtracting (ii) from (i) which remainder shall be divided by (i).

(h)   The following shall apply to any Betterment described in Paragraph 1(g) of this Amendment:

(i)   If the Owner's costs are developed under procedure (3) described in Paragraph 1(e) of this Amendment, then the agreed sum stated in that Paragraph includes any credits due to the Developer on account of the identified Betterment, and no further adjustment shall be made on account of same.

(ii)   If the Owner's costs are developed under procedure (1) or (2) described in Paragraph 1(e) of this Amendment, the parties agree as follows *[check the <u>one</u> appropriate provision]*:

☐ The estimated cost stated in Paragraph 1(g) of this Amendment is the agreed and final amount due for Betterment under this Amendment. Accordingly, each intermediate invoice submitted for Adjustment(s) of the Additional Owner Utilities pursuant to Paragraph 7(b) of the Original Agreement shall credit the Developer with an appropriate amount of the agreed Betterment amount, proportionate to the percentage of completion reflected in such invoice. The final invoice submitted for Adjustment(s) of the Additional Owner Utilities pursuant to Paragraph 7(a) of the Original Agreement shall reflect the full amount of the agreed Betterment credit. For each invoice described in this paragraph, the credit for Betterment shall be applied before calculating the Developer's share (pursuant to Paragraph 1(e) of this Amendment) of the cost of the Adjustment work. No other adjustment (either up or down) shall be made based on actual Betterment costs.

☐ The Owner is responsible for the actual cost of the identified Betterment, determined by multiplying (a) the Betterment percentage stated in Paragraph 1(g) of this Amendment, by (b) the actual cost of all work performed by the Owner pursuant to this Amendment (including work attributable to the Betterment), as invoiced by the Owner to the Developer. Accordingly, each invoice submitted for Adjustment of the Additional Owner Utilities pursuant to either Paragraph 7(a) or Paragraph 7(b) of the Original Agreement shall credit the Developer with an amount calculated by multiplying (x) the Betterment percentage stated in Paragraph 1(g) of this Amendment, by (y) the amount billed on such invoice.

(i)   The determinations and calculations of Betterment described in this Amendment shall exclude right-of-way acquisition costs. Betterment in connection with right-of-way acquisition is addressed in Paragraph 16 of the Original Agreement.

(j)   Owner and the Developer agree to refer to this Amendment, designated by the "Amendment No." and "Agreement number" indicated on page 1 above, on all future correspondence regarding the Adjustment work that is the subject of this Amendment and to track separately all costs relating to this Amendment and the Adjustment work described herein.

Utility Adjustment Agreement Amendment (Owner Managed)

(k)　　　[*Include any other proposed amendments in compliance with the applicable law*.]

2.　　**General**.

(a)　　All capitalized terms used in this Amendment shall have the meanings assigned to them in the Original Agreement, except as otherwise stated herein.

(b)　　This Amendment may be executed in any number of counterparts. Each such counterpart hereof shall be deemed to be an original instrument but all such counterparts together shall constitute one and the same instrument.

(c)　　Except as amended hereby, the Original Agreement shall remain in full force and effect. In no event shall the responsibility, as between the Owner and the Developer, for the preparation of the Plans and the Adjustment of the Owner Utilities be deemed to be amended hereby.

(d)　　This Amendment shall become effective upon the later of (a) the date of signing by the last party (either the Owner or the Developer) signing this Amendment, and (b) the completion of TxDOT's review and approval as indicated by the signature of TxDOT's representative, below.

Utility Adjustment Agreement Amendment (Owner Managed)

APPROVED BY:

**TEXAS DEPARTMENT OF
TRANSPORTATION**

OWNER

_____
[Print Owner Name]

By: _____
               Authorized Signature

By: _____
           Duly Authorized Representative

Printed
Name: _____

Printed
Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

DEVELOPER

By: _____
           Duly Authorized Representative

Printed
Name: _____

Title: _____

Date: _____

Utility Adjustment Agreement Amendment (Owner Managed)

Texas Department of Transportation
Technical Provisions

SH 183 Managed Lanes Project

Attachment 8-1
Minimum Pavement Design Requirements

TRAFFIC ANALYSIS FOR HIGHWAY DESIGN

Description of Location	Average Daily Traffic*		Base Year				ATHWLD	% Tandem Axles in ATHWLD	Total Number of Equivalent 18K ESAL			
									Single Axle Load Applications in One Direction Expected for a 20 Year Period (2015 to 2035)			
			Dir. Dist. %	K Factor	Percent Truck				Flexible	S N	Rigid	SLAB
	2015	2035			ADT	DHV			Pavement		Pavement	
SH 183 Section 1 From SH 121 To SH 360 Tarrant County	146,300	201,500	54-46	9.1	6.3	4.2	13,100 13,100 13,100	20 20 20	32,941,000 32,941,000 32,941,000	3 3 3	43,510,000 44,444,000 44,746,000	8" 10" 12"

Data for Use in Air & Noise Analysis		
Vehicle Class	Base Year	
	% of ADT	% of DHV
Light Duty	93.7	95.8
Medium Duty	2.7	1.8
Heavy Duty	3.6	2.4

Description of Location	Average Daily Traffic*		Base Year				ATHWLD	% Tandem Axles in ATHWLD	Total Number of Equivalent 18K ESAL			
									Single Axle Load Applications in One Direction Expected for a 30 Year Period (2015 to 2045)			
			Dir. Dist. %	K Factor	Percent Truck				Flexible	S N	Rigid	SLAB
	2015	2045			ADT	DHV			Pavement		Pavement	
SH 183 Section 1 From SH 121 To SH 360 Tarrant County	146,300	229,100	54-46	9.1	6.3	4.2	13,100 13,100 13,100	20 20 20	53,333,000 53,333,000 53,333,000	3 3 3	70,446,000 71,957,000 72,447,000	8" 10" 12"

*Average Daily Traffic values reflect corridor traffic in both directions and include frontage roads.

TRAFFIC ANALYSIS FOR HIGHWAY DESIGN

Description of Location	Average Daily Traffic*		Base Year				ATHWLD	% Tandem Axles in ATHWLD	Total Number of Equivalent 18K ESAL			
									Single Axle Load Applications in One Direction Expected for a 20 Year Period (2015 to 2035)			
			Dir. Dist. %	K Factor	Percent Truck				Flexible	S N	Rigid	SLAB
	2015	2035			ADT	DHV			Pavement		Pavement	
SH 183 Section 2 From SH 360 To SH 161 Tarrant and Dallas Counties	206,700	284,700	54-46	9.1	5.4	3.6	13,200 13,200 13,200	20 20 20	39,972,000 39,972,000 39,972,000	3 3 3	52,745,000 53,875,000 54,242,000	8" 10" 12"

Data for Use in Air & Noise Analysis		
Vehicle Class	Base Year	
	% of ADT	% of DHV
Light Duty	94.6	96.4
Medium Duty	2.3	1.5
Heavy Duty	3.1	2.1

Description of Location	Average Daily Traffic*		Base Year				ATHWLD	% Tandem Axles in ATHWLD	Total Number of Equivalent 18K ESAL			
									Single Axle Load Applications in One Direction Expected for a 30 Year Period (2015 to 2045)			
			Dir. Dist. %	K Factor	Percent Truck				Flexible	S N	Rigid	SLAB
	2015	2045			ADT	DHV			Pavement		Pavement	
SH 183 Section 2 From SH 360 To SH 161 Tarrant and Dallas Counties	206,700	323,700	54-46	9.1	5.4	3.6	13,200 13,200 13,200	20 20 20	64,717,000 64,717,000 64,717,000	3 3 3	85,397,000 87,228,000 87,820,000	8" 10" 12"

*Average Daily Traffic values reflect corridor traffic in both directions and include frontage roads.

TRAFFIC ANALYSIS FOR HIGHWAY DESIGN

Description of Location	Average Daily Traffic*		Base Year				ATHWLD	% Tandem Axles in ATHWLD	Total Number of Equivalent 18K ESAL			
									Single Axle Load Applications in One Direction Expected for a 20 Year Period (2015 to 2035)			
			Dir. Dist. %	K Factor	Percent Truck				Flexible	S N	Rigid	SLAB
	2015	2035			ADT	DHV			Pavement		Pavement	
SH 183 Section 3 From SH 161 To I-35E Dallas County	164,300	226,300	54-46	9.1	6.0	4.0	13,100	20	35,253,000	3	46,551,000	8"
							13,100	20	35,253,000	3	47,549,000	10"
							13,100	20	35,253,000	3	47,873,000	12"

Data for Use in Air & Noise Analysis		
Vehicle Class	Base Year	
	% of ADT	% of DHV
Light Duty	94.0	96.0
Medium Duty	2.5	1.7
Heavy Duty	3.5	2.3

Description of Location	Average Daily Traffic*		Base Year				ATHWLD	% Tandem Axles in ATHWLD	Total Number of Equivalent 18K ESAL			
									Single Axle Load Applications in One Direction Expected for a 30 Year Period (2015 to 2045)			
			Dir. Dist. %	K Factor	Percent Truck				Flexible	S N	Rigid	SLAB
	2015	2045			ADT	DHV			Pavement		Pavement	
SH 183 Section 3 From SH 161 To I-35E Dallas County	164,300	257,300	54-46	9.1	6.0	4.0	13,200	20	57,077,000	3	75,369,000	8"
							13,200	20	57,077,000	3	76,985,000	10"
							13,200	20	57,077,000	3	77,509,000	12"

*Average Daily Traffic values reflect corridor traffic in both directions and include frontage roads.

TRAFFIC ANALYSIS FOR HIGHWAY DESIGN

								Total Number of Equivalent 18K ESAL			
Description of Location	Average Daily Traffic*		Base Year				ATHWLD	% Tandem Axles in ATHWLD	Single Axle Load Applications in One Direction Expected for a 20 Year Period (2015 to 2035)			
			Dir. Dist. %	K Factor	Percent Truck				Flexible	S N	Rigid	SLAB
	2015	2035			ADT	DHV			Pavement		Pavement	
SH 114

From International Parkway (Dallas County Line)
To SH 183

Dallas County | 116,600 | 160,600 | 54-46 | 9.1 | 6.3 | 4.2 | 12,900
12,900
12,900 | 30
30
30 | 27,622,000
27,622,000
27,622,000 | 3
3
3 | 37,479,000
38,344,000
38,621,000 | 8"
10"
12" |

Data for Use in Air & Noise Analysis		
Vehicle Class	Base Year	
	% of ADT	% of DHV
Light Duty	93.7	95.8
Medium Duty	2.2	1.5
Heavy Duty	4.1	2.7

								Total Number of Equivalent 18K ESAL			
Description of Location	Average Daily Traffic*		Base Year				ATHWLD	% Tandem Axles in ATHWLD	Single Axle Load Applications in One Direction Expected for a 30 Year Period (2015 to 2045)			
			Dir. Dist. %	K Factor	Percent Truck				Flexible	S N	Rigid	SLAB
	2015	2045			ADT	DHV			Pavement		Pavement	
SH 114

From International Parkway (Dallas County Line)
To SH 183

Dallas County | 116,600 | 182,600 | 54-46 | 9.1 | 6.3 | 4.2 | 13,000
13,000
13,000 | 30
30
30 | 44,721,000
44,721,000
44,721,000 | 3
3
3 | 60,680,000
62,082,000
62,529,000 | 8"
10"
12" |

*Average Daily Traffic values reflect corridor traffic in both directions and include frontage roads.

TRAFFIC ANALYSIS FOR HIGHWAY DESIGN

February 5, 2014

Description of Location	Average Daily Traffic*		Base Year				ATHWLD	% Tandem Axles in ATHWLD	Total Number of Equivalent 18K ESAL			
									Single Axle Load Applications in One Direction Expected for a 20 Year Period (2015 to 2035)			
			Dir. Dist. %	K Factor	Percent Truck				Flexible	S N	Rigid	SLAB
	2015	2035			ADT	DHV			Pavement		Pavement	
SH 12 From I-35E To South of SH 183 Dallas County	106,000	146,000	54-46	9.1	6.6	4.4	12,900	30	26,293,000	3	35,685,000	8"
							12,900	30	26,293,000	3	36,509,000	10"
							12,900	30	26,293,000	3	36,773,000	12"

Data for Use in Air & Noise Analysis		
Vehicle Class	Base Year	
	% of ADT	% of DHV
Light Duty	93.4	95.6
Medium Duty	2.3	1.5
Heavy Duty	4.3	2.9

Description of Location	Average Daily Traffic*		Base Year				ATHWLD	% Tandem Axles in ATHWLD	Total Number of Equivalent 18K ESAL			
									Single Axle Load Applications in One Direction Expected for a 30 Year Period (2015 to 2045)			
			Dir. Dist. %	K Factor	Percent Truck				Flexible	S N	Rigid	SLAB
	2015	2045			ADT	DHV			Pavement		Pavement	
SH 12 From I-35E To South of SH 183 Dallas County	106,000	166,000	54-46	9.1	6.6	4.4	12,900	30	42,569,000	3	57,776,000	8"
							12,900	30	42,569,000	3	59,111,000	10"
							12,900	30	42,569,000	3	59,537,000	12"

*Average Daily Traffic values reflect corridor traffic in both directions and include frontage roads.

Texas Department of Transportation
Technical Provisions

SH 183 Managed Lanes Project

Attachment 11-1
Roadway Design Criteria

	TABLE 1: Geometric Design Criteria							
	Mainlanes	**Managed Lanes**	**Frontage Roads**	**Ramps (Managed Lanes Ingress/Egress)**	**Ramps (Freeway)**	**Direct Connectors (DC)/ Collector Distributors (CD)**	**Turnarounds**	**Crossing Streets**
General								
Roadway Classification	Urban Freeway or Tollway	Urban Freeway or Tollway	Low Speed Urban Street	Urban Freeway or Tollway	Freeway	Urban Freeway or Tollway	Low Speed Urban Street	Low Speed Urban Street
Design Speed (mph)	70 / 60[A] /50[B]	70 / 60[A] /50[B]	40 / 35[A]	70 / 60[A] / 50[B]	45 / 40[A] / 25[J]	50 (DC) / 40 (CD)	15	40 / 35 [C]
Stopping Sight Distance (ft)	730 / 570 / 425	730 / 570 / 425	305 / 250	730 / 570 / 425	360 / 305 / 155	425 (DC) / 305 (CD)	80	305 / 250
Horizontal Alignment								
Max. Superelevation (%)	6	6	4	6	6	6	4	N/A
Min. Radius of Curvature (ft)	2050 / 1340 / 835	2050 / 1340 / 835	490 / 345	2050 / 1340 / 835	660 / 510 / 185	835 (DC) / 510 (CD)	45	490 / 345
Vertical Alignment								
Minimum Grade (%)	0.35 [K]	0.35 [K]	0.5 [K]	0.35	0.5 / 0.35 [I]	0.5	0.35	0.5
Maximum Grade (%)	3 / 3 / 4	3 / 3 / 4	7	3 / 3 / 6	6	6	4	7
Crest (Min. K-Value)	247 / 151 / 84	247 / 151 / 84	44 / 29	247 / 151 / 84	61 / 44 / 12	84 (DC) / 44 (CD)	3	44 / 29
Sag (Min. K-Value)	181 / 136 / 96	181 / 136 / 96	64 / 49	181 / 136 / 96	79 / 64 / 26	96 (DC) / 64 (CD)	10	64 / 49
Cross Section								
Lane Width (ft) [Q]	12	12	11	12	14	14 (DC) / 12 (CD)	14	12
Min. Inside Shoulder (ft) [P, Q]	10	2[D]	None[F]	4	2 (Uncurbed) 2 (Curbed)	4[G (DC)]	2	N/A
Min. Outside Shoulder (ft) [P, Q]	10	10[D,E]	4[F]	4	8 (Uncurbed) 6 (Curbed)	8[G (DC)]	6	N/A
Cross Slope (%)	2.0[C]	2.0 [C]	2.0	2.0 [C]	2.0	2.0	2.0	2.0
Clear Zone (from edge of travel lane) (ft)	30	30	10 (Uncurbed) 5 (Curbed)[H]	16	16	N/A (DC) / 10[H] (CD)	N/A	(See Attachment 11-1, Table 2)[H]
Side Slopes within Clear Zone	6:1 Usual (4:1 Max.)	6:1 Usual (4:1 Max.)	6:1 Usual (4:1 Max.)	6:1 Usual (4:1 Max.)	6:1 Usual (4:1 Max.)	6:1 Usual (4:1 Max.)	6:1 Usual (4:1 Max.)	6:1 Usual (4:1 Max.)
Side Slopes outside Clear Zone	3:1 Max.	3:1 Max.	3:1 Max.	3:1 Max.	3:1 Max.	3:1 Max.	3:1 Max.	3:1 Max.
Vertical Clearance								
Roadway (ft)[R]	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Railroad (ft)	23	23	23	23	23	23	23	23
Electrified Light Rail (ft)	26	26	26	26	26	26	26	26
Under Overhead Signs (ft)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Pedestrian Facilities (ft)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Other								
Design Vehicles	WB-62	WB-62	WB-62	WB-62	WB-62	WB-62	WB-62	See Attachment 11-1, Table 2

TABLE 1: Geometric Design Criteria

	Mainlanes	Managed Lanes	Frontage Roads	Ramps (Managed Lanes Ingress/Egress)	Ramps (Freeway)	Direct Connectors (DC)/ Collector Distributors (CD)	Turnarounds	Crossing Streets
Min. Driveway Radius Return (ft)	N/A	N/A	30 (Commercial) [L,N] 25 (Commercial) [M,N,O] 15 (Residential) [O]	N/A	N/A	N/A	N/A	30 (Commercial) [L,N] 25 (Commercial) [M,N,O] 15 (Residential) [O]

Notes:

A. Design criteria apply to Interim improvements.
B. Design criteria allowed only in Interim Areas where the Footnote A values are not met, as depicted on the Draft Schematics. Lower values may be allowed for applicable items in the RID Exhibit 11-1 Roadway Design Deviations.
C. Steeper cross slopes, as required by the *TxDOT Roadway Design Manual*, shall apply. Lines joining two different cross slopes shall be placed along or within one foot of the edge of traveled lanes.
D. Developer shall coordinate with Governmental Entities during final design to ensure adequate enforcement zones are provided.
E. Developer shall provide a minimum 14 feet immediately downstream from each tolling gantry to allow for enforcement areas in accordance with AASHTO Guide for HOV Facilities, unless otherwise approved by TxDOT.
F. Developer shall include curb on newly constructed and reconstructed frontage road sections as needed to match existing frontage road section.
G. To mitigate restrictions on the design imposed by site distance, it is acceptable to position the wider shoulder on the inside of the curve.
H. The face of the new bridge columns shall be located 6 feet or more from the face of curb.
I. Design criteria applicable to ramps connecting to mainlanes.
J. Design criteria apply to loop ramps.
K. Lower values allowed for widening of existing roadways and pavement rehabilitation-only sections, as well as, when matching existing or widened at-grade and bridge profiles with lower values.
L. Design criteria apply to driveways with one entry and one exit lane and driveways serving at least (600) total vehicles per day and (4) SU-type vehicles per day.
M. Design criteria apply to all other driveways not listed in Note L.
N. Where restricted by available ROW or border width, the maximum values attainable must be used with an absolute minimum of 15 feet. The design vehicle must be accommodated.
O. Where restricted by available ROW or border width, driveways less than 24 feet in throat width and less than (600) total vehicles per day and (4) SU-type vehicles per day may use flare/apron type driveway per applicable TxDOT District Standards.
P. Deviation ranges for this criteria noted in RID Exhibit 11-1 Roadway Design Deviations shall be applied to meet or exceed the design in the Draft Schematic.
Q. Existing widths may remain in areas of existing pavement where no change in lane configuration is proposed
R. Deviations for this criteria noted in RID Exhibit 11-1 Roadway Design Deviations are based on the best available information. Developer shall maintain existing vertical clearance that is physically available at those locations.

TABLE 2: Crossing Street Functional Classification and Additional Design Criteria

Intersecting Street	Juris-diction	Functional Classification/ Roadway Classification	Design Speed (mph)	Position (Over/ Under)	Design Vehicle	EBWB Turn-around	WBEB Turn-around	Southbound			Turn Lanes	Northbound			Clear Zone for Thru Lanes	Pedestrian Rail Protection/ Barrier (Y/N)
								Sidewalk	Curb & Gutter	Thru Lanes		Thru Lanes	Curb & Gutter	Sidewalk		
FM 157 (Industrial Blvd.)	TxDOT, Bedford, Euless	Arterial Urban	45	Under	WB-62	Y	Y	Y[4]	Y	3	1	3	Y	Y[4]	3' from Curb Face	N
Ector Dr.	Euless	Collector Urban	40	Under	WB-62	Y	Y	Y[4]	Y	2	1	2	Y	Y[4]	3' from Curb Face	N
Main St.	Euless	Arterial Urban	40	Over	WB-62	Y	Y	Y[4]	Y	2	1	2	Y	Y[4]	3' from Curb Face	Y
Esters Rd.	Irving	Arterial Urban	35	Over	WB-62	Y	Y	Y[4]	Y	2	2	2	Y	Y[4]	3' from Curb Face	N
Story Rd.	Irving	Arterial Urban	40	Under	WB-62	Y	Y	Y[4]	Y	North of SH 183: 3 South of SH 183: 2	1 / 2[3]	North of SH 183: 3 South of SH 183: 2	Y	Y[4]	3' from Curb Face	N
Macarthur Blvd.	Irving	Arterial Urban	40	Under	WB-62	Y	Y	Y[4]	Curb, no gutter	North of SH 183: 3 South of SH 183: 2 / 3[3]	2	North of SH 183: 3 South of SH 183: 2 / 3[3]	Curb, no gutter	Y[4]	3' from Curb Face	N
O'Connor Rd.	Irving	Arterial Urban	40	Under	WB-62	Y	Y	Y[4]	Y	2	2	2	Y	Y[4]	3' from Curb Face	N
Carl Rd.	Irving	Collector Urban	40	Under	WB-62	Y	Y	Y[4]	Curb, no gutter	2	2	2	Curb, no gutter	Y[4]	3' from Curb Face	N
Maryland Dr.	Irving	Collector Urban	40	N/A	WB-62	N	N	Y[4] South of SH 183 EB FR	Curb, no gutter	2	N/A	2	Curb, no gutter	Y[4] South of SH 183 EB FR	3' from Curb Face	N
Spur 482	Irving	Arterial Urban	40	Over	WB-62	N	N	N	N	N/A	N/A	2	N	N	10'	N
Grauwyler Rd.	Irving	Collector Urban	40	N/A	WB-62	N	N	Y[4]	Y	N/A / 2[3]	N/A	N/A / 2[3]	Y	Y[4]	3' from Curb Face	N
Regency Dr.	Irving	Collector Urban	40	N/A	WB-62	N	N	Y[4]	Curb, no gutter	1	N/A	1	Curb, no gutter	Y[4]	3' from Curb Face	N
Regal Row	Dallas	Arterial Urban	40	Under	WB-62	N	Y	Y[4]	Curb, no gutter	3	1	3	Curb, no gutter	Y[4]	3' from Curb Face	N

Notes:

1. Crossing streets not requiring sidewalks shall be designed and constructed to accommodate sidewalk construction in the future.

2. Sidewalks shall be designed in accordance with applicable standards and Section 20.3.2.

3. Applies to corresponding Scope Component 1 or 2.

4. The extent of required sidewalk shall correspond to the extent of improvements along the crossing street.

Texas Department of Transportation
Request for Proposals

SH 183 Managed Lanes Project

Attachment 11-2
Roadway Design Deviations

SH 183 Managed Lanes Project
Technical Provisions Attachment 11-2: Roadway Design Deviations

	Category	General Location			Specific Location				Criteria	
Facility	**Design Deviation Type**	**General Reference Baseline**	**Reference Baseline Station (Rounded/ Approximate)**	**Roadway Type**	**Specific Alignment Name/GEOPAK Chain**	**Begin Station**	**End Station**	**Description**	**Minimum (from TxDOT RDM)**	**Designed or Existing to Remain**
Loop 12	Clearance	LP12CL	1445+50	Arterial	LP12CL	1445+50.00	n/a	NB-SB U @ Loop 12	16'-6"	14'-5"
Loop 12	Clearance	LP12CL	1464+50	Arterial	LP12CL	1464+60.00	n/a	SB-NB U @ Loop 12	16'-6"	14'-5"
Loop 12	Clearance	LP12CL	1499+50	GP Lane	LP12CL	1499+30.00	n/a	LP 12 GPL & ML @ NW Hwy	16'-6"	15'-5"
Loop 12	Clearance	LP12CL	1499+50	Arterial	LP12CL	1499+50.00	n/a	Nw Hwy NB to SB U-turn	16'-6"	15'-10"
SH 114	Clearance	SH114CL	577+50	Arterial	SH114CL	577+50.00	n/a	Freeport Pkwy SB	16'-6"	16'-5"
SH 114	Clearance	SH114CL	578+00	Arterial	SH114CL	578+00.00	n/a	Freeport Pkwy NB	16'-6"	16'-5"
SH 114	Clearance	SH114CL	622+50	GP Lane	SH114CL	622+36.37	n/a	SH114 WB @ Esters	16'-6"	15'-11"
SH 114	Clearance	SH114CL	686+50	GP Lane	SH114CL	686+38.20	n/a	SH114 EB @ Beltline	16'-6"	16'-1"
SH 114	Clearance	SH114CL	686+50	GP Lane	SH114CL	686+38.20	n/a	SH114 WB @ Beltline	16'-6"	16'-1"
SH 114	Clearance	SH114CL	750+50	Arterial	SH114CL	750+28.19	n/a	SH114 EB @ Valley View (PGBT) EB-WB U	16'-6"	15'-5"
SH 114	Clearance	SH114CL	752+00	GP Lane	SH114CL	751+81.27	n/a	SH114 WB @ Valley View SB	16'-6"	16'-5"
SH 114	Clearance	SH114CL	756+00	Arterial	SH114CL	755+89.99	n/a	SH114 WB @ Valley View (PGBT) WB-EB U	16'-6"	16'-0"
SH 114	Clearance	SH114CL	789+00	GP Lane	SH114CL	788+93.86	n/a	SH 114 EB @ MacArthur	16'-6"	16'-3"
SH 114	Clearance	SH114CL	789+00	GP Lane	SH114CL	788+93.86	n/a	SH 114 WB @ MacArthur	16'-6"	16'-2"
SH 114	Clearance	SH114CL	796+00	Ramp	114WBWH-ENT	10+23.64	n/a	Ramp @ Mac Arthur	16'-6"	16'-1"
SH 114	Clearance	SH114CL	813+00	GP Lane	SH114CL	813+20.85	n/a	SH 114 EB @ Walnut Hill	16'-6"	16'-2"
SH 114	Clearance	SH114CL	813+00	GP Lane	SH114CL	813+20.85	n/a	SH 114 WB @ Walnut Hill	16'-6"	15'-10"
SH 114	Clearance	SH114CL	845+00	Ramp	114EBNW-EXT	15+02.36	n/a	WBGP SH 114 (844+50) @ SH 114 EB-NW Hwy	16'-6"	14'-11"
SH 114	Clearance	SH114CL	850+50	GP Lane	SH114CL	850+71.58	n/a	SH 114 WB @ Hidden Ridge	16'-6"	15'-10"
SH 114	Clearance	SH114CL	895+00	Arterial	OC	104+56.42	n/a	NB O'Connor @ EB SH 114	16'-6"	15'-10"
SH 114	Clearance	SH114CL	895+00	Arterial	OC	104+56.42	n/a	SB O'Connor @ WB SH 114	16'-6"	15'-8"
SH 114	Clearance	SH114CL	916+00	GP Lane	SH114CL	916+09.03	n/a	EB SH 114 @ Wingren	16'-6"	15'-11"
SH 114	Clearance	SH114CL	916+00	GP Lane	SH114CL	916+09.03	n/a	WB SH 114 @Wingren	16'-6"	16'-5"
SH 114	Clearance	SH114CL	944+50	GP Lane	SH114CL	944+51.31	n/a	WB SH 114 @ Rochelle	16'-6"	15'-6"
SH 183	Clearance	EGPX	3405+50	GP Lane	EGPX	3405+50.00	n/a	EB SH 183 @ SH 10	16'-6"	16'-1"
SH 183	Clearance	EGPX	3407+00	GP Lane	WGPX	4407+00.00	n/a	WB SH 183 @ SH 10	16'-6"	16'-0"
SH 183	Clearance	EGPX	3452+00	GP Lane	EGPX	3452+00.00	n/a	EB SH 183 @ SH 360	16'-6"	16'-4"
SH 183	Clearance	EGPX	3518+00	GP Lane	WGPX	4518+00.00	n/a	EB-NB SH-96 Ramp over SH-183	16'-6"	16'-3"
SH 183	Clearance	PEB183GP	148+50	GP Lane	EGPX	148+50.00	n/a	EB SH 183 @ Valley View	16'-6"	16'-1"
SH 183	Clearance	PEB183GP	164+50	GP Lane	EGPX	164+50.00	n/a	WB SH 183 @ SH 161	16'-6"	16'-1"
SH 183	Clearance	PEB183GP	164+50	GP Lane	EGPX	164+50.00	n/a	EB SH 183 @ SH 161	16'-6"	16'-1"
SH 183	Clearance	PEB183GP	235+50	GP Lane	PWB183GP	235+51.25	n/a	Belt Line SB @ SH183	16'-6"	15'-11"
SH 183	Clearance	PEB183GP	236+00	GP Lane	PEB183GP	236+16.76	n/a	Belt Line NB @ SH183	16'-6"	16'-4"
SH 183	Clearance	PEB183GP	247+00	GP Lane	PEB183GP	247+00.00	n/a	SH356 WB @ SH183	16'-6"	16'-4"
SH 183	Clearance[A]	PEB183GP	288+00	GP Lane	PEB183GP	287+95.37	n/a	Story Rd EB U @ SH183	16'-6"	15'-3"
SH 183	Clearance[A]	PEB183GP	288+50	Managed Lane	P183WBML	288+37.95	n/a	Story Rd SB @ SH183	16'-6"	14'-1"

A - Designates Design Exceptions or Project Criteria Deviations that are not applicable to the Project. Utilizing any of these items to benefit the project will be at the discretion of TxDOT.

B - Designates Design Exceptions or Project Criteria Deviations that are partially not applicable to Project. Utilizing the non-applicable portion of any of these items to benefit the project will be at the discretion of TxDOT.

SH 183 Managed Lanes Project
Technical Provisions Attachment 11-2: Roadway Design Deviations

			DESIGN EXCEPTIONS							
	Category	General Location			Specific Location				Criteria	
Facility	Design Deviation Type	General Reference Baseline	Reference Baseline Station (Rounded/ Approximate)	Roadway Type	Specific Alignment Name/GEOPAK Chain	Begin Station	End Station	Description	Minimum (from TxDOT RDM)	Designed or Existing to Remain
SH 183	Clearance[A]	PEB183GP	288+50	GP Lane	PEB183GP	288+69.84	n/a	Story Rd NB @ SH183	16'-6"	13'-10"
SH 183	Clearance[A]	PEB183GP	289+00	Managed Lane	P183WBML	289+01.07	n/a	Story Rd WB U @ SH183	16'-6"	13'-11"
SH 183	Clearance[A]	PEB183GP	341+00	Managed Lane	P183EBML	341+23.46	n/a	MacArthur Blvd EB U @ SH183	16'-6"	14'-3"
SH 183	Clearance[A]	PEB183GP	341+50	GP Lane	PWB183GP	341+69.84	n/a	MacArthur Blvd SB @ SH183	16'-6"	14'-0"
SH 183	Clearance[A]	PEB183GP	342+00	Managed Lane	P183EBML	341+92.54	n/a	MacArthur Blvd NB @ SH183	16'-6"	13'-11"
SH 183	Clearance[A]	PEB183GP	342+50	GP Lane	PWB183GP	342+47.04	n/a	MacArthur Blvd WB U @ SH183	16'-6"	14'-3"
SH 183	Clearance	PEB183GP	342+50	GP Lane	PWB183GP	478+00.00	n/a	Loop 12 @ WBGP	16'-6"	14'-9"
SH 183	Clearance[A]	PEB183GP	365+50	GP Lane	PEB183GP	365+49.49	n/a	O'Connor EB U @ SH 183	16'-6"	13'-11"
SH 183	Clearance[A]	PEB183GP	366+00	Managed Lane	P183WBML	365+88.79	n/a	O'Connor SB @ SH 183	16'-6"	14'-1"
SH 183	Clearance[A]	PEB183GP	366+00	GP Lane	PEB183GP	366+09.16	n/a	O'Connor NB @ SH 183	16'-6"	14'-2"
SH 183	Clearance[A]	PEB183GP	366+50	Managed Lane	P183WBML	366+54.57	n/a	O'Connor WB U @ SH 183	16'-6"	13'-6"
SH 183	Clearance[A]	PEB183GP	404+00	GP Lane	PEB183GP	404+00.00	n/a	SH 183 EB & ML over service road west of BNSF	16'-6"	14'-2"
SH 183	Clearance[A]	PEB183GP	430+00	GP Lane	PEB183GP	430+01.63	n/a	Carl Rd EB U @ SH 183	16'-6"	14'-0"
SH 183	Clearance[A]	PEB183GP	430+50	Managed Lane	P183EBML	430+40.55	n/a	Carl Rd SB @ SH 183	16'-6"	15'-9"
SH 183	Clearance[A]	PEB183GP	430+50	GP Lane	PEB183GP	430+67.70	n/a	Carl Rd NB @ SH 183	16'-6"	14'-0"
SH 183	Clearance[A]	PEB183GP	431+00	Managed Lane	P183EBML	431+05.75	n/a	Carl Rd WB U @ SH 183	16'-6"	14'-2"
SH 183	Clearance	PEB183GP	478+00	Managed Lane	P183EBML	478+00.00	n/a	Loop 12 @ EBML	16'-6"	14'-9"
SH 183	Clearance	PEB183GP	478+00	Managed Lane	P183WBML	478+00.00	n/a	Loop12 @ WBML	16'-6"	14'-9"
SH 183	Clearance	PEB183GP	478+00	GP Lane	PEB183GP	478+00.00	n/a	Loop 12 SB @ Exist SH183 EB	16'-6"	14'-10"
SH 183	Clearance	PEB183GP	478+00	GP Lane	PEB183GP	478+00.00	n/a	Loop 12 NB @ Exist SH183 EB	16'-6"	14'-10"
SH 183	Clearance	PEB183GP	478+00	C/D Rd	PWBCOLL	24+17.00	n/a	Loop 12 @ WB Collector Rd	16'-6"	14'-9"
SH 183	Clearance	PEB183GP	479+00	GP Lane	PEB183GP	479+00.00	n/a	Loop 12 @ Prop SH183	16'-6"	14'-4"
SH 183	Clearance	PEB183GP	479+00	GP Lane	PEB183GP	479+00.00	n/a	Loop 12 NB @ Exist SH183 EBFR	16'-6"	14'-4"
SH 183	Clearance	PEB183GP	479+00	GP Lane	PEB183GP	479+00.00	n/a	Loop 12 SB @ Exist SH183 EBFR	16'-6"	14'-4"
SH 183	Clearance	PEB183GP	506+50	GP Lane	P114GP183GP	11+00.00	n/a	SB Spur 482 @ SH114	16'-6"	15'-3"
SH 183	Clearance	PEB183GP	507+50	GP Lane	P114GP183GP	12+50.00	n/a	NB Spur 482 @ SH114	16'-6"	16'-0"
SH 183	Clearance	PEB183GP	576+50	GP Lane	P183EBGP	576+50.00	n/a	Regal Row NB @ SH183	16'-6"	14'-6"
SH 183	Clearance	PEB183GP	577+00	Managed Lane	P183WBML	577+00.00	n/a	Regal Row SB @ SH183	16'-6"	14'-6"
SH 183	Clearance	PEB183GP	578+00	Managed Lane	P183WBML	577+75.00	n/a	Regal Row WB U @ SH183	16'-6"	14'-2"
SH 183	Clearance	PEB183GP	635+00	GP Lane	PEB183GP	635+00.00	n/a	SH 183 @ Mockingbird Lane	16'-6"	14'-3"
Loop 12	K, Crest	LP12CL	1405+00	Ramp	M12NB183-ENT	24+01.01	28+41.11	NB ML onramp north of Texas Plaza	61	44
Loop 12	K, Crest	LP12CL	1510+00	DC	DCLP12NB35	102+48.70	105+00.70	NB ML ramp from Lp 12 to IH 35E	84	44
Loop 12	K, Crest	LP12CL	1510+00	DC	DCLP12SB35	101+93.44	104+13.44	SB ramp from 35E to LP12	84	44
SH 183	K, Crest[A]	GP-EB	288+57	GP Lane	EB183GP	285+41.66	291+71.66	Story Road Overpass	151	84
SH 183	K, Crest[A]	GP-EB	366+14	GP Lane	EB183GP	364+45.67	367+81.67	O'Connor Road Overpass	151	84
SH 183	K, Crest[A]	GP-EB	368+86	GP Lane	EB183GP	368+08.22	369+63.22	O'Connor Road Overpass	151	84

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SH 183 Managed Lanes Project
Technical Provisions Attachment 11-2: Roadway Design Deviations

DESIGN EXCEPTIONS

Facility	Category — Design Deviation Type	General Location — General Reference Baseline	Reference Baseline Station (Rounded/ Approximate)	Roadway Type	Specific Location — Specific Alignment Name/GEOPAK Chain	Begin Station	End Station	Description	Criteria — Minimum (from TxDOT RDM)	Designed or Existing to Remain
SH 183	K, Crest[A]	GP-EB	430+65	GP Lane	EB183GP	427+58.73	433+71.93	Carl Road Overpass	151	84
SH 183	K, Crest[B]	GP-EB	545+38	GP Lane	EB183GP	543+65.05	547+10.65	Grauwyler U-Turn	151	96
SH 183	K, Crest[A]	GP-EB	577+75	GP Lane	EB183GP	575+84.33	579+65.13	Regal Row Overpass	151	136
SH 183	K, Crest	GP-EB	634+80	GP Lane	EB183GP	631+81.63	637+78.03	Mockingbird Lane Overpass	151	84
SH 183	K, Crest	GP-EB	648+25	GP Lane	EB183GP	646+39.12	650+11.12	East of Mockingbird Lane Overpass	151	120
SH 183	K, Crest[A]	GP-WB	341+42	GP Lane	WB183GP	338+62.07	344+22.35	MacArthur Blvd Overpass	151	84
SH 183	K, Crest[A]	ML-EB	341+68	Managed Lane	EB183ML	338+59.14	344+76.54	MacArthur Blvd Overpass	151	84
SH 183	K, Crest[A]	ML-EB	365+24	Managed Lane	EB183ML	362+34.04	368+14.04	O'Connor Road Overpass	151	84
SH 183	K, Crest[A]	ML-EB	430+12	Managed Lane	EB183ML	427+26.07	432+97.27	Carl Road Overpass	151	84
SH 183	K, Crest[A]	ML-WB	341+68	Managed Lane	WB183ML	338+59.20	344+76.60	MacArthur Blvd Overpass	151	84
SH 183	K, Crest[A]	ML-WB	365+24	Managed Lane	WB183ML	362+34.09	368+14.09	O'Connor Road Overpass	151	84
SH 183	K, Crest	ML-WB	578+35	Managed Lane	WB183ML	576+36.53	580+34.03	Regal Row Overpass	151	150
SH 183	K, Crest	PEB183GP	478+50	Ramp	PRENB12	14+05.00	15+85.00	Cloverleaf from NB Loop 12 to WB 183	44	30
SH 183	K, Crest	PEB183GP	500+00	Ramp	PNB482	1127+65.00	1130+95.00	NB ramp to Spur 482 (off EBFR)	44	29
Loop 12	K, Sag	LP12CL	1401+50	Ramp	M12NB183-ENT	19+64.07	22+44.07	NB Slip Ramp Entrance	79	64
Loop 12	K, Sag	LP12CL	1511+50	DC	DCLP12NB35	105+42.50	108+00.50	Direct Conn Lp 12 to NB 35E	96	32
Loop 12	K, Sag	LP12CL	1515+00	DC	DCLP12SB35	107+06.00	109+18.00	Direct Conn SB 35E to Lp 12	96	32
SH 183	K, Sag[A]	GP-WB	335+86	GP Lane	WB183GP	334+58.06	337+14.06	MacArthur Blvd Overpass	136	64
SH 183	K, Sag[A]	ML-EB	360+58	Managed Lane	EB183ML	359+04.20	362+11.40	O'Connor Road Overpass	136	64
SH 183	K, Sag[A]	ML-WB	360+58	Managed Lane	WB183ML	359+04.21	362+11.41	O'Connor Road Overpass	136	64
Loop 12	Lane Width	LP12CL	1434+00	GP Lane	LP12CL	1434+17.68	1471+92.14	NB LP12 GPLTrinity River Bridge	12'	11'
Loop 12	Lane Width	LP12CL	1438+00	GP Lane	LP12CL	1438+02.92	1472+85.34	SB LP12 GPLTrinity River Bridge	12'	11'
Loop 12	Lane Width	LP12CL	1494+00	GP Lane	LP12CL	1493+96.19	1509+90.09	SB LP12 GPLLP 12 @ NW Hwy	12'	11'
Loop 12	Lane Width	LP12CL	1494+50	GP Lane	LP12CL	1494+37.23	1507+32.40	NB LP12 GPLLP 12 @ NW Hwy	12'	11'
SH 183	Lane Width	EGPX	3424+50	GP Lane	WGPX	4424+44.54	4503+73.28	SH 183 WB GPL - SH 360 & PGBT Interchanges	12'	11'
SH 183	Lane Width	PEB183GP	129+00	GP Lane	WGPX	129+11.26	196+41.62	SH 183 WB GPL - SH 360 & PGBT Interchanges	12'	11'
SH 183	Lane Width	PEB183GP	135+50	GP Lane	EGPX	135+63.54	207+16.84	SH 183 EB GPL - SH 360 & PGBT Interchanges	12'	11'
SH 183	Lane Width	PEB183GP	450+00	DC	P183ML12ML	18+00.00	61+80.00	SH 183 ML/Loop 12 ML DC (both directions)	14'	12'
SH 183	Lane Width	PEB183GP	506+00	Managed Lane	P114ML183ML	10+00.00	33+87.00	SH 114 ML to SH 183 ML DC	14'	12'
SH 183	Lane Width	PEB183GP	506+00	Managed Lane	P183ML114ML	10+00.00	35+78.00	SH 183 ML to SH 114 ML DC	14'	12'
SH 114	Maximum Grade	SH114CL	838+00	Managed Lane	SH114CL	826+50.00	838+00.32	SH 114 MLs near Meadow Creek Drive	3.00%	4.00%
SH 183	Maximum Grade	GP-EB	162+87	GP Lane	EB183GP	160+56.87	162+86.87	EB GPL at SH 161 Interchange	3.00%	3.30%
SH 183	Maximum Grade	GP-WB	162+49	GP Lane	WB183GP	159+99.23	162+86.87	WB GPL at SH 161 Interchange	3.00%	3.50%
SH 183	Maximum Grade	ML-EB	155+24	Managed Lane	EB183ML	155+24.13	158+59.63	EB ML at SH 161 Interchange	3.00%	3.50%
SH 183	Maximum Grade	ML-EB	162+50	Managed Lane	EB183ML	159+75.09	162+50.09	EB ML at SH 161 Interchange	3.00%	3.50%
SH 183	Maximum Grade[A]	ML-EB	288+82	Managed Lane	EB183ML	285+62.55	292+00.95	Story Road Overpass	3.00%	4.30%

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B - Designates Design Exceptions or Project Criteria Deviations that are partially not applicable to Project. Utilizing the non-applicable portion of any of these items to benefit the project will be at the discretion of TxDOT.

SH 183 Managed Lanes Project

Technical Provisions Attachment 11-2: Roadway Design Deviations

	Category	General Location			Specific Location				Criteria	
Facility	Design Deviation Type	General Reference Baseline	Reference Baseline Station (Rounded/Approximate)	Roadway Type	Specific Alignment Name/GEOPAK Chain	Begin Station	End Station	Description	Minimum (from TxDOT RDM)	Designed or Existing to Remain
SH 183	Maximum Grade[A]	ML-EB	296+30	Managed Lane	EB183ML	294+59.87	296+30.29	Story Road Overpass	3.00%	4.30%
SH 183	Maximum Grade	ML-WB	155+35	Managed Lane	WB183ML	155+35.46	157+90.46	WB ML at SH 161 Interchange	3.00%	3.20%
SH 183	Maximum Grade	ML-WB	163+32	Managed Lane	WB183ML	161+06.77	163+31.77	WB ML at SH 161 Interchange	3.00%	3.20%
SH 183	Maximum Grade[A]	ML-WB	288+82	Managed Lane	WB183ML	285+62.70	292+00.70	Story Road Overpass	3.00%	4.30%
SH 183	Maximum Grade[A]	ML-WB	296+30	Managed Lane	WB183ML	294+59.69	296+30.11	Story Road Overpass	3.00%	4.30%
Loop 12	Radius	LP12CL	1508+50	DC	DCLP12NB35	101+00.00	102+60.03	Lp 12 to IH 35E NB DC	835'	510'
Loop 12	Radius	LP12CL	1510+00	DC	DCLP12NB35	104+19.05	105+47.10	NB Lp 12 to IH 35E	835'	600'
Loop 12	Radius	LP12CL	1510+00	DC	DCLP12SB35	105+86.92	108+22.75	SB DC from 35E to Lp 12	835'	510'
Loop 12	Radius	LP12CL	1510+00	DC	DCLP12SB35	109+39.58	110+88.22	DC SB 35E Loop 12	835'	510'
SH 114	Radius	SH114CL	617+00	Ramp	114WBEST-ENT	12+99.06	14+03.12	WB Entrance from Esters	660'	185'
SH 114	Radius	SH114CL	885+50	Ramp	114WBOC-ENT	12+25.86	14+55.00	WB O'Connor Entrance	660'	480'
SH 183	Radius	PEB183GP	474+00	Cloverleaf	PRWXLP12	10+00.00	11+99.08	Cloverleaf WB to Lp12	510'	90'
SH 183	Radius	PEB183GP	479+00	Ramp	PRENB12	12+00.00	14+10.16	FR ramp to NB Lp 12	510'	90'
SH 183	Radius	PEB183GP	480+00	Ramp	PRENB12	14+44.98	16+47.99	FR ramp to NB Lp 12	510'	90'
SH 183	Radius	PEB183GP	481+00	Ftg Rd	PWB183FR2	12+10.00	15+65.00	WB Frontage Road near old Texas Stadium	380'	345'
SH 183	Radius	PEB183GP	512+50	Ftg Rd	PWB183FR3	16+58.38	20+39.53	WB Frontage Road near old Texas Stadium	380'	345'
Loop 12	Shoulder, Inside	LP12CL	1392+00	GP Lane	LP12CL	1391+12.53	1397+03.61	NB GP	10'	2'-10'
Loop 12	Shoulder, Inside	LP12CL	1402+00	GP Lane	LP12CL	1401+77.02	1415+00.00	SB GP	10'	2'-10'
Loop 12	Shoulder, Inside	LP12CL	1406+00	GP Lane	LP12CL	1406+22.04	1410+35.96	NB GP	10'	3'-10'
Loop 12	Shoulder, Inside	LP12CL	1429+00	GP Lane	LP12CL	1429+14.95	1488+08.89	NB GP	10'	2'-10'
Loop 12	Shoulder, Inside	LP12CL	1430+00	GP Lane	LP12CL	1430+04.03	1488+70.13	SB GP	10'	2'-10'
Loop 12	Shoulder, Inside	LP12CL	1493+00	GP Lane	LP12CL	1492+86.02	1508+10.00	NB GP	10'	2'-10'
Loop 12	Shoulder, Inside	LP12CL	1495+50	GP Lane	LP12CL	1495+58.26	1508+10.00	SB GP	10'	2'-10'
SH 114	Shoulder, Inside	SH114CL	555+50	GP Lane	SH114CL	555+46.74	725+35.74	WB GP	10'	2'-4'
SH 114	Shoulder, Inside	SH114CL	677+00	GP Lane	SH114CL	677+21.04	685+66.36	EB GP	2'	2'
SH 114	Shoulder, Inside	SH114CL	735+00	GP Lane	SH114CL	733+95.54	796+96.91	WB GP	10'	2'-4'
SH 114	Shoulder, Inside	SH114CL	750+50	GP Lane	SH114CL	750+53.80	805+38.00	EB GP	10'	2'-4'
SH 114	Shoulder, Inside	SH114CL	812+00	GP Lane	SH114CL	812+20.45	832+30.00	EB GP	10'	2'-10'
SH 114	Shoulder, Inside	SH114CL	813+50	GP Lane	SH114CL	813+72.79	836+96.55	WB GP	10'	2'-8'
SH 114	Shoulder, Inside	SH114CL	852+00	GP Lane	SH114CL	851+25.00	869+97.00	WB GP	4'	2'-4'
SH 114	Shoulder, Inside	SH114CL	855+00	GP Lane	SH114CL	852+45.00	870+00.00	EB GP	4'	2'-4'
SH 114	Shoulder, Inside	SH114CL	870+00	GP Lane	SH114CL	869+96.06	897+36.20	EB GP	4'	2'-4'
SH 114	Shoulder, Inside	SH114CL	870+00	GP Lane	SH114CL	869+97.31	898+17.75	WB GP	4'	2'-4'
SH 114	Shoulder, Inside	SH114CL	1032+50	GP Lane	SH114CL	1031+44.00	1037+41.44	WB GP	4'	2'-4'
SH 114	Shoulder, Inside	SH114CL	1033+00	GP Lane	SH114CL	1032+77.49	1034+06.51	WB ML @ TX Stadium Bridge #1	4'	2'-4'
SH 114	Shoulder, Inside	SH114CL	1033+00	GP Lane	SH114CL	1032+77.49	1034+06.51	EB ML @ TX Stadium Bridge #1	4'	2'-4'

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B - Designates Design Exceptions or Project Criteria Deviations that are partially not applicable to Project. Utilizing the non-applicable portion of any of these items to benefit the project will be at the discretion of TxDOT.

SH 183 Managed Lanes Project
Technical Provisions Attachment 11-2: Roadway Design Deviations

		DESIGN EXCEPTIONS								
	Category	**General Location**			**Specific Location**				**Criteria**	
Facility	Design Deviation Type	General Reference Baseline	Reference Baseline Station (Rounded/ Approximate)	Roadway Type	Specific Alignment Name/GEOPAK Chain	Begin Station	End Station	Description	Minimum (from TxDOT RDM)	Designed or Existing to Remain
SH 114	Shoulder, Inside	SH114CL	1035+00	GP Lane	SH114CL	1033+81.00	1053+79.55	EB GP	4'	2'-4'
SH 114	Shoulder, Inside	SH114CL	1039+50	GP Lane	SH114CL	1039+32.05	1040+51.78	WB ML @ TX Stadium Bridge #2	4'	2'-4'
SH 114	Shoulder, Inside	SH114CL	1039+50	GP Lane	SH114CL	1039+32.05	1040+51.78	EB ML @ TX Stadium Bridge #2	4'	2'-4'
SH 114	Shoulder, Inside	SH114CL	1040+50	GP Lane	SH114CL	1040+51.78	1053+78.19	SH 114 EB ML Near SH183	4'	2'-4'
SH 114	Shoulder, Inside	SH114CL	1041+00	GP Lane	SH114CL	1041+01.79	1053+78.19	SH 114 WB ML Near SH183	4'	2'-4'
SH 183	Shoulder, Inside	EGPX	3425+50	Managed Lane	EGPX	3425+52.39	3426+38.19	Under Existing Bridges (ML) - EB	4'	2'
SH 183	Shoulder, Inside	EGPX	3495+00	Managed Lane	EGPX	3494+57.86	3495+29.44	Under Existing Bridges (ML)	2'	2'
SH 183	Shoulder, Inside	EGPX	3516+00	Managed Lane	EGPX	3515+75.84	3517+88.10	Under Existing Bridges (ML) - EB	4'	2'
SH 183	Shoulder, Inside	EGPX	3541+50	Managed Lane	EGPX	3541+39.10	117+37.02	Under Existing Bridges (ML)	2'	2'
SH 183	Shoulder, Inside	PEB183GP	122+00	GP Lane	EGPX	122+10.67	123+73.37	Under Existing Bridges (ML)	4';10'(6+GPL)	0.5'
SH 183	Shoulder, Inside	PEB183GP	148+00	GP Lane	EGPX	148+08.36	149+09.07	Under Existing Bridges (ML)	4';10'(6+GPL)	0.5'
SH 183	Shoulder, Inside[B]	PEB183GP	235+00	GP Lane	PEB183GP	235+00.00	317+76.00	Beginning of Prop EB GP lanes	10'	2'-10'
SH 183	Shoulder, Inside	PEB183GP	235+00	GP Lane	PWB183GP	235+00.00	270+42.00	Beginning of Prop WB GP lanes	10'	2'-10'
SH 183	Shoulder, Inside[A]	PEB183GP	303+50	GP Lane	PWB183GP	303+59.00	352+13.00	WB GP lanes near Texas Dr	10'	2'-10'
SH 183	Shoulder, Inside[A]	PEB183GP	307+00	GP Lane	WGPX	307+20.00	343+70.00	Interim Area - SH 183 WB GPL	10'	2'
SH 183	Shoulder, Inside[B]	PEB183GP	362+50	GP Lane	PEB183GP	362+66.00	616+28.00	EB GP lanes near O'Connor Rd	10'	2'-8'
SH 183	Shoulder, Inside	PEB183GP	438+00	GP Lane	PWB183GP	437+81.00	468+58.00	WB GP lanes near Carl Rd	10'	2'-10'
SH 183	Shoulder, Inside	PEB183GP	506+00	GP Lane	P114GP183GP	10+00.00	16+36.00	Beginning of Prop GP lanes	4'	2'-4'
SH 183	Shoulder, Inside	PEB183GP	506+00	DC	P114ML183ML	10+00.00	31+27.00	Beginning of ML lanes	4'	2'
SH 183	Shoulder, Inside	PEB183GP	506+00	DC	P183ML114ML	10+00.00	31+47.00	Beginning of ML lanes	4'	2'
SH 183	Shoulder, Inside	PEB183GP	610+50	GP Lane	PWB183GP	611+35.00	617+17.00	SH 183 WB GPL - Near end of project	10'	8'
SH 183	Shoulder, Inside	PEB183GP	654+50	GP Lane	PEB183GP	654+65.00	664+05.00	SH 183 EB GP lanes (IH35E)	10'	2'-10'
Loop 12	Shoulder, Outside	LP12CL	1409+00	Managed Lane	LP12CL	1409+15.65	1416+49.49	SB ML	6'	2'-6'
Loop 12	Shoulder, Outside	LP12CL	1409+00	Slip Ramp	P183ML12ML	62+38.90	69+54.55	SB - SH183 to Loop 12 ML DC	6'	4'-6'
Loop 12	Shoulder, Outside	LP12CL	1415+50	Managed Lane	LP12CL	1415+39.15	1474+65.75	NB ML	6'	2'-10'
Loop 12	Shoulder, Outside	LP12CL	1419+00	Managed Lane	LP12CL	1419+21.71	1480+77.71	SB ML	6'	2'-6'
Loop 12	Shoulder, Outside	LP12CL	1438+00	GP Lane	LP12CL	1438+02.92	1439+92.92	SB GP	10'	3'-10'
Loop 12	Shoulder, Outside	LP12CL	1444+00	GP Lane	LP12CL	1444+20.84	1465+22.46	SB GP	10'	2'-10'
Loop 12	Shoulder, Outside	LP12CL	1445+00	GP Lane	LP12CL	1445+05.66	1465+22.43	NB GP	10'	2'-4'
Loop 12	Shoulder, Outside	LP12CL	1445+00	Ramp	LP12NB114-ENT	17+78.05	1445+05.66	LP 12 to NB SH 114 Ent. Ramp	6'	2'-6'
Loop 12	Shoulder, Outside	LP12CL	1480+50	Slip Ramp	LP12CL	1480+61.24	1482+27.47	NB Slip Ramp	4'	2'-6'
Loop 12	Shoulder, Outside	LP12CL	1482+00	Managed Lane	LP12CL	1482+25.19	1483+33.20	NB ML	6'	2'-6'
Loop 12	Shoulder, Outside	LP12CL	1484+50	Slip Ramp	LP12CL	1484+32.68	1488+70.13	SB Slip Ramp	4'	1.5'-6'
Loop 12	Shoulder, Outside	LP12CL	1495+00	Managed Lane	LP12CL	1495+12.89	1508+44.24	NB ML	6'	2'-6'
Loop 12	Shoulder, Outside	LP12CL	1495+00	GPL	LP12CL	1495+12.89	1508+89.75	SB ML	6'	2'-6'
Loop 12	Shoulder, Outside	LP12CL	1497+50	GP Lane	LP12CL	1497+63.98	1501+15.74	NB GP	10'	2'-10'

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SH 183 Managed Lanes Project
Technical Provisions Attachment 11-2: Roadway Design Deviations

	Category	General Location			Specific Location				Criteria	
Facility	**Design Deviation Type**	**General Reference Baseline**	**Reference Baseline Station (Rounded/ Approximate)**	**Roadway Type**	**Specific Alignment Name/GEOPAK Chain**	**Begin Station**	**End Station**	**Description**	**Minimum (from TxDOT RDM)**	**Designed or Existing to Remain**
Loop 12	Shoulder, Outside	LP12CL	1497+50	GP Lane	LP12CL	1497+65.20	1501+51.74	SB GP	10'	2'-10'
Loop 12	Shoulder, Outside	LP12CL	1500+50	GP Lane	LP12CL	1500+26.00	1513+00.00	Interim Area - SB GPL	10'	2'-10'
Loop 12	Shoulder, Outside	LP12CL	1506+50	GP Lane	LP12CL	1506+41.18	1513+00.00	NB GP	10	3'-10'
SH 114	Shoulder, Outside	SH114CL	576+00	GP Lane	SH114CL	575+99.09	581+90.00	WB GP	10'	2'-10'
SH 114	Shoulder, Outside	SH114CL	677+00	GP Lane	SH114CL	676+83.52	683+69.74	WB GP	10'	5.5'-10'
SH 114	Shoulder, Outside	SH114CL	705+00	GP Lane	SH114CL	705+11.81	707+51.89	WB GP	10'	7'-10'
SH 114	Shoulder, Outside	SH114CL	750+50	Managed Lane	SH114CL	750+53.79	760+72.60	EB Managed Lane Begins	6'	4'-10'
SH 114	Shoulder, Outside	SH114CL	767+00	GP Lane	SH114CL	746+80.00	758+65.70	EB GP	10'	5'-10'
SH 114	Shoulder, Outside	SH114CL	795+50	Managed Lane	SH114CL	795+63.52	800+17.00	WB ML	6'	2'-6'
SH 114	Shoulder, Outside	SH114CL	797+00	Managed Lane	SH114CL	796+97.26	800+17.34	WB Managed Lane Entrance	6'	2'-10'
SH 114	Shoulder, Outside	SH114CL	804+00	GP Lane	SH114CL	804+01.79	819+44.47	EB GP	10'	4.5'-10'
SH 114	Shoulder, Outside	SH114CL	812+00	Slip Ramp	SH114CL	812+20.45	818+75.24	EB Slip Ramp for ML	4'	2'-6'
SH 114	Shoulder, Outside	SH114CL	813+50	Slip Ramp	SH114CL	813+72.72	818+49.55	WB Slip Ramp for ML	4'	2'-6'
SH 114	Shoulder, Outside	SH114CL	816+50	Managed Lane	SH114CL	816+39.93	821+33.08	WB Managed Lane Exit	4'	3'-10'
SH 114	Shoulder, Outside	SH114CL	853+00	GP Lane	SH114CL	852+77.79	862+69.23	WB GPL Near Hidden Ridge Bridge	10'	6.3'-10'
SH 114	Shoulder, Outside	SH114CL	860+00	GP Lane	SH114CL	859+92.45	862+76.21	EB GP	10'	3'-10'
SH 114	Shoulder, Outside	SH114CL	860+00	GP Lane	SH114CL	860+13.95	862+06.29	WB GP	10'	5.5'-10'
SH 114	Shoulder, Outside	SH114CL	892+50	GP Lane	SH114CL	892+71.46	896+98.86	WB GP	10'	3'-10'
SH 114	Shoulder, Outside	SH114CL	893+00	GP Lane	SH114CL	893+20.41	896+96.70	EB GP	10'	4'-10'
SH 114	Shoulder, Outside	SH114CL	946+00	GP Lane	SH114CL	943+20.00	945+20.00	WB Near Rochelle Blvd	10'	6'-10'
SH 114	Shoulder, Outside	SH114CL	1030+00	GP Lane	SH114CL	1030+23.19	1053+77.79	WB ML East of Loop 12 to SH183	6'	4'-10'
SH 114	Shoulder, Outside	SH114CL	1030+50	GP Lane	SH114CL	1030+20.00	1053+80.00	WB Managed Lane	6'	2'-6'
SH 114	Shoulder, Outside	SH114CL	1031+50	GP Lane	SH114CL	1031+50.00	1053+80.00	EB Managed Lane	6'	2'-6'
SH 114	Shoulder, Outside	SH114CL	1036+00	GP Lane	SH114CL	1035+99.75	1042+71.54	EB GP	10'	5.5'-10'
SH 183	Shoulder, Outside	EGPX	225+00	GP Lane	EGPX	221+19.20	223+00.00	EB GPL	10'	4'
SH 183	Shoulder, Outside	EGPX	3400+00	GP Lane	EGPX	3400+15.02	3407+01.48	Interim Widening Areas (GP) - EB	10'	2'
SH 183	Shoulder, Outside	EGPX	3405+50	GP Lane	WGPX	4405+25.10	4412+20.58	Interim Widening Areas (GP) - WB	10'	2'
SH 183	Shoulder, Outside	EGPX	3424+50	Managed Lane	WMX	2424+81.00	2476+54.98	Interim Widening Areas (ML) - WB	10'	4'
SH 183	Shoulder, Outside	EGPX	3447+00	GP Lane	WGPX	4446+83.01	4457+87.60	Interim Widening Areas (GP) - WB	10'	2'
SH 183	Shoulder, Outside	EGPX	3513+00	GP Lane	WGPX	4512+96.88	4522+59.26	Interim Widening Areas (GP) - WB	10'	2'
SH 183	Shoulder, Outside	PEB183GP	121+50	GP Lane	WGPX	121+38.90	128+65.19	Interim Widening Areas (GP) - WB	10'	2'
SH 183	Shoulder, Outside	PEB183GP	132+00	GP Lane	WMX	131+94.07	194+07.33	Interim Widening Areas (ML)	6'	4'
SH 183	Shoulder, Outside	PEB183GP	137+50	GP Lane	WGPX	137+59.76	148+19.56	Interim Widening Areas (GP) - WB	10'	4'
SH 183	Shoulder, Outside	PEB183GP	138+50	GP Lane	EMX	138+46.35	194+07.50	Interim Widening Areas (ML)	6'	4'
SH 183	Shoulder, Outside	PEB183GP	141+00	GP Lane	EGPX	141+11.18	146+98.28	Interim Widening Areas (GP) - EB	10'	4'
SH 183	Shoulder, Outside	PEB183GP	147+50	GP Lane	WGPX	147+68.95	153+16.33	Interim Widening Areas (GP)	10'	6'

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B - Designates Design Exceptions or Project Criteria Deviations that are partially not applicable to Project. Utilizing the non-applicable portion of any of these items to benefit the project will be at the discretion of TxDOT.

SH 183 Managed Lanes Project
Technical Provisions Attachment 11-2: Roadway Design Deviations

	DESIGN EXCEPTIONS									
	Category	**General Location**			**Specific Location**				**Criteria**	
Facility	Design Deviation Type	General Reference Baseline	Reference Baseline Station (Rounded/ Approximate)	Roadway Type	Specific Alignment Name/GEOPAK Chain	Begin Station	End Station	Description	Minimum (from TxDOT RDM)	Designed or Existing to Remain
SH 183	Shoulder, Outside	PEB183GP	148+00	GP Lane	EGPX	148+00.00	151+00.00	Interim Area - SH 183 EB GPL	10'	8'
SH 183	Shoulder, Outside	PEB183GP	149+00	GP Lane	EMX	148+80.00	188+60.00	EB ML	10'	4'
SH 183	Shoulder, Outside	PEB183GP	171+00	GP Lane	WGPX	171+00.11	177+43.29	Interim Widening Areas (GP) - WB	10'	4'
SH 183	Shoulder, Outside	PEB183GP	172+00	GP Lane	EGPX	171+89.32	177+09.08	Interim Widening Areas (GP) - EB	10'	2'
SH 183	Shoulder, Outside	PEB183GP	178+50	GP Lane	WMX	187+70.00	187+78.58	WB ML	6'	4'
SH 183	Shoulder, Outside	PEB183GP	185+50	GP Lane	EGPX	185+40.00	188+40.00	Interim Area - SH 183 EB GPL	10'	2'
SH 183	Shoulder, Outside	PEB183GP	185+50	GP Lane	WGPX	185+40.00	188+40.00	Interim Area - SH 183 WB GPL	10'	5'
SH 183	Shoulder, Outside	PEB183GP	194+00	GP Lane	EGPX	194+07.50	199+50.00	EB GP lanes	10'	8'
SH 183	Shoulder, Outside	PEB183GP	221+00	GP Lane	WGPX	220+87.89	235+00.00	Interim Widening Areas (ML)	6'	2'
SH 183	Shoulder, Outside	PEB183GP	221+00	GP Lane	WGPX	220+87.90	228+70.28	Interim Widening Areas (GP) - WB	10'	2'
SH 183	Shoulder, Outside	PEB183GP	221+00	GP Lane	WMX	217+40.00	235+00.00	WB ML	6'	3'
SH 183	Shoulder, Outside	PEB183GP	230+00	GP Lane	WGPX	230+00.00	235+00.00	Interim Area - SH 183 WB GPL	10'	8'
SH 183	Shoulder, Outside	PEB183GP	231+00	GP Lane	EGPX	230+88.29	235+00.00	Interim Widening Areas (ML)	6'	2'
SH 183	Shoulder, Outside	PEB183GP	231+00	GP Lane	EGPX	230+90.00	241+00.00	Interim Area - SH 183 EB GPL	10'	2'-8'
SH 183	Shoulder, Outside	PEB183GP	231+00	GP Lane	EGPX	230+92.77	235+00.00	Interim Widening Areas (GP) - EB	10'	2'
SH 183	Shoulder, Outside[B]	PEB183GP	235+00	Managed Lane	P183EBML	235+00.00	594+86.00	Beginning of Project - EB ML	6'	3'-10'
SH 183	Shoulder, Outside[B]	PEB183GP	235+00	Managed Lane	P183WBML	235+00.00	417+65.00	Beginning of Project - WB ML	6'	3'-9'
SH 183	Shoulder, Outside[B]	PEB183GP	235+00	GP Lane	PEB183GP	235+00.00	305+50.00	Beginning of Prop EB GP lanes	10'	2'-8'
SH 183	Shoulder, Outside	PEB183GP	235+00	GP Lane	PWB183GP	235+00.00	250+00.00	Beginning of project - WB GPL	10'	2'-10'
SH 183	Shoulder, Outside	PEB183GP	236+50	GP Lane	WGPX	236+50.00	246+00.00	Interim Area - SH 183 WB GPL	10'	2'
SH 183	Shoulder, Outside	PEB183GP	250+50	Managed Lane	EGPX	250+30.00	252+30.00	Interim Area - SH 183 EB ML	6'	2'
SH 183	Shoulder, Outside	PEB183GP	259+50	Ramp	NOCHAIN	259+50.00	265+00.00	Exit Ramp off EBGP lanes	8'	2'-8'
SH 183	Shoulder, Outside[A]	PEB183GP	265+00	GP Lane	EGPX	265+00.00	278+00.00	Interim Area - SH 183 EB GPL	10'	8
SH 183	Shoulder, Outside[A]	PEB183GP	284+00	GP Lane	EGPX	284+00.00	287+00.00	Interim Area - SH 183 EB GPL	10'	2'
SH 183	Shoulder, Outside[A]	PEB183GP	303+50	GP Lane	PWB183GP	303+59.00	307+00.00	Near Texas Dr - WB GPL	10'	8'-10'
SH 183	Shoulder, Outside[A]	PEB183GP	373+00	Ramp	PREXBRIT	10+00.00	18+17.00	Beginning of ramp	8'	1'-8'
SH 183	Shoulder, Outside[A]	PEB183GP	394+50	GP Lane	PEB183GP	394+35.00	398+00.00	EB GP lanes near BNSF RR	10'	6'-10'
SH 183	Shoulder, Outside[A]	PEB183GP	418+50	GP Lane	PEB183GP	418+33.00	445+11.00	EB GP lanes near Carl Rd	10'	8'-10'
SH 183	Shoulder, Outside	PEB183GP	506+00	Managed Lane	P114ML183ML	10+00.00	34+20.00	Beginning of ML lanes	8'	2'-8'
SH 183	Shoulder, Outside	PEB183GP	506+00	Managed Lane	P183ML114ML	10+00.00	11+30.00	Beginning of ML lanes	8'	4'-8'
SH 183	Shoulder, Outside[A]	PEB183GP	541+50	GP Lane	PEB183GP	541+30.00	569+44.00	EB GP lanes near Grauwyler Rd	10'	3'-8'
SH 183	Shoulder, Outside	PEB183GP	655+50	GP Lane	PEB183GP	655+56.00	664+05.00	IH35E GP lanes	10'	2'-10'
SH 183	Shoulder, Outside	PEB183GP	2435+00	GP Lane	WMX	2435+04.66	2454+70.88	WB ML	10'	4'
SH 183	SSD	EB183ML	1436+30	Managed Lane	EB183ML	1436+21.89	1450+13.99	E of SH 360	570'	513'
SH 183	SSD	EGPX	3466+20	GP Lane	WGPX	4454+80.59	4476+82.54	Along SH 183, East of SH 360	730'	481'
SH 183	SSD	PEB183GP	509+50	DC	P183ML114ML	16+30.00	26+20.00	Temp WB DC structure	425'	394'

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SH 183 Managed Lanes Project
Technical Provisions Attachment 11-2: Roadway Design Deviations

	Category	General Location			Specific Location				Criteria	
Facility	Design Deviation Type	General Reference Baseline	Reference Baseline Station (Rounded/ Approximate)	Roadway Type	Specific Alignment Name/GEOPAK Chain	Begin Station	End Station	Description	Minimum (from TxDOT RDM)	Designed or Existing to Remain
								DESIGN EXCEPTIONS		
SH 183	SSD	PEB183GP	510+50	DC	P114ML183ML	18+00.00	28+50.00	Temp EB DC structure	425'	396'
SH 183	SSD	WB183ML	2476+55	Managed Lane	WB183ML	2454+81.63	2476+54.98	W of SH 360	570'	480'
SH 183	SSD, Left Shoulder	PEB183GP	475+00	DC	P183ML12ML	35+76.08	49+33.25	DC, SH 183 ML & LP 12 ML	425'	234'
SH 183	SSD, Right Shoulder	PEB183GP	476+00	DC	P183ML12ML	52+97.39	56+02.25	DC, SH 183 ML & LP 12 ML	425'	252'
SH 183	Superelevation[A]	PEB183GP	410+00	Managed Lane	P183EBML	409+97.73	414+46.73	EB 183 -Rose St to Nursery St	2.30%	1.56%
SH 183	Superelevation[A]	PEB183GP	410+00	Managed Lane	P183WBML	409+97.77	413+85.16	WB 183- Nursery St to Rose St	2.30%	1.56%
SH 183	Superelevation	PEB183GP	540+00	Managed Lane	P183EBML	540+03.06	549+54.87	EB- Grauwyler to Levee	3.24%	2.50%
SH 183	Superelevation	PEB183GP	540+00	Managed Lane	P183WBML	540+09.57	549+62.37	WB- Levee to Grauwyler	3.24%	2.50%
SH 183	Superelevation	PEB183GP	651+00	GP Lane	PEB183GP	651+08.86	655+54.77	Widening on SB 35E	3.50%	3.00%
SH 183	Superelevation	PEB183GP	657+50	GP Lane	PEB183GP	657+53.55	662+05.92	Widening on SB 35E	3.50%	3.00%

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SH 183 Managed Lanes Project
Technical Provisions Attachment 11-2: Roadway Design Deviations

	Category	General Location			Specific Location				Criteria	
Facility	Design Deviation Type	General Reference Baseline	Reference Baseline Station (Rounded/ Approximate)	Roadway Type	Specific Alignment Name/GEOPAK Chain	Begin Station	End Station	Description	Minimum (from Technical Provisions)	Designed or Existing to Remain
SH 114	Clearance	SH114CL	764+00	Ramp	SH114CL	764+00.00	n/a	SH114 EB Ramp @ PGBT	16'-6"	16'-1"
SH 114	Clearance	SH114CL	768+00	Ramp	SH114CL	768+00.00	n/a	SH114 WB Ramp @ PGBT	16'-6"	15'-11"
SH 114	Clearance	SH114CL	789+00	Ramp	114WBPGBT-EXT	10+23.64	n/a	WB @ MacArthur	16'-6"	16'-3"
SH 114	Clearance	SH114CL	813+00	Ramp	SH114CL	813+20.85	n/a	SH 114 EB Ramp @ Walnut Hill	16'-6"	14'-5"
SH 114	Clearance	SH114CL	813+00	Ramp	SH114CL	813+20.85	n/a	SH 114 WB Ramp @ Walnut Hill	16'-6"	15'-2"
SH 114	Clearance	SH114CL	916+00	Ramp	SH114CL	916+09.03	n/a	WB SH 114 Ramp @Wingren	16'-6"	16'-1"
SH 183	Clearance	PEB183GP	658+40	GP Lane	PEB183GP	658+40.00	n/a	SH 183/IH 35E undercrosses rail	16'-6"	14'-4"
SH 183	Design Speed	PEB183GP	506+00	GP Lane	P114GP183GP	10+00.00	End	SH 114 to SH 183 GP lanes	60 mph	50 mph
Loop 12	K, Crest	LP12CL	1475+00	Ramp	LP12NBNWH-EXT	17+75.00	19+40.00	NB Exit Ramp for NW Highway	61	44
Loop 12	K, Crest	LP12CL	1478+00	Ramp	LP12SBNWH-ENT	19+50.00	20+50.00	SB Entrance Ramp for NW Highway	61	44
SH 183	K, Crest[A]	PEB183GP	466+50	GP Lane	CP1-EB183GP	466+35.00	468+15.00	SH 183, Interim GP lanes	151	150
Loop 12	K, Sag	LP12CL	1475+00	Ramp	LP12NBNWH-EXT	19+40.00	22+25.00	NB Exit Ramp for NW Highway	79	64
Loop 12	K, Sag	LP12CL	1478+00	Ramp	LP12SBNWH-ENT	20+50.00	22+50.00	SB Entrance Ramp for NW Highway	79	64
Loop 12	K, Sag	LP12CL	1491+00	GP Lane	LP12	1490+81.00	1494+31.00	South of NW Hwy	136	129
SH 114	K, Sag	SH114CL	944+50	Managed Lane	SH114CL	845+04.53	848+04.53	Between NW Hwy and Hidden Ridge	136	113
SH 114	K, Sag	SH114CL	946+50	Managed Lane	SH114CL	844+96.17	848+11.17	Between NW Hwy and Hidden Ridge	136	69
SH 183	K, Sag	EGPX	155+25	Managed Lane	EMX	155+20.00	159+00.00	EB ML	136	110
SH 183	K, Sag	EGPX	155+35	Managed Lane	WMX	152+50.00	158+00.00	WB ML	136	100
SH 183	K, Sag	PEB183GP	152+50	GP Lane	EGPX	152+55.00	158+55.00	EB SH 183 GPLs west of SH 161	136	102
SH 183	K, Sag	PEB183GP	152+50	GP Lane	WGPX	152+55.00	158+55.00	WB SH 183 GPLs west of SH 162	136	102
SH 183	K, Sag	PEB183GP	186+00	Arterial	CLESTERS	4+80.00	5+50.00	Along Esters, where Xing Ftg Rd	64	49
SH 183	K, Sag	PEB183GP	186+00	Arterial	CLESTERS	6+50.00	8+20.00	Along Esters, where Xing Ftg Rd	64	52
SH 183	K, Sag	PEB183GP	186+00	Arterial	CLESTERS	12+15.00	13+75.00	Along Esters, where Xing Ftg Rd	64	49
SH 183	K, Sag	PEB183GP	186+00	Arterial	CLESTERS	14+75.00	16+75.00	Along Esters, where Xing Ftg Rd	64	50
SH 183	K, Sag[A]	PEB183GP	335+95	Managed Lane	EB183ML	334+50.00	337+50.00	EB ML	136	70
SH 183	K, Sag[A]	PEB183GP	335+95	Managed Lane	WB183ML	334+50.00	337+50.00	WB ML	136	70
SH 183	K, Sag[A]	PEB183GP	336+00	Managed Lane	EB183EBML	334+50.00	337+50.00	EB ML	136	70
SH 183	K, Sag[A]	PEB183GP	336+00	Managed Lane	EB183WBML	334+50.00	337+50.00	WB ML	136	70
SH 183	K, Sag[A]	PEB183GP	347+30	Managed Lane	WB183ML	345+95.00	348+70.00	WB ML	136	70
SH 183	K, Sag[A]	PEB183GP	347+35	Managed Lane	EB183ML	345+95.00	348+70.00	EB ML	136	70
SH 183	K, Sag[A]	PEB183GP	371+50	Managed Lane	EB183ML	369+80.00	373+20.00	EB ML	136	75
SH 183	K, Sag[A]	PEB183GP	371+50	Managed Lane	WB183ML	369+85.00	373+20.00	WB ML	136	75
SH 183	K, Sag[A]	PEB183GP	371+70	GP Lane	EB183GP	369+95.00	373+50.00	EB GPL	136	75
SH 183	K, Sag	PEB183GP	478+00	Ramp	PRENB12	10+85.00	11+85.00	FR to NB Loop 12	64	26
SH 183	K, Sag	PEB183GP	500+00	Ramp	PMARY	1123+20.00	1127+10.00	Maryland Ramp	64	49
SH 183	K, Sag	PEB183GP	501+00	Ramp	PNB482	1123+25.00	1126+95.00	Spur 482 Ramp	64	50

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SH 183 Managed Lanes Project
Technical Provisions Attachment 11-2: Roadway Design Deviations

PROJECT CRITERIA DEVIATIONS

Facility	Category — Design Deviation Type	General Location — General Reference Baseline	Reference Baseline Station (Rounded/ Approximate)	Roadway Type	Specific Location — Specific Alignment Name/GEOPAK Chain	Begin Station	End Station	Description	Criteria — Minimum (from Technical Provisions)	Designed or Existing to Remain
Loop 12	Lane Width	LP12CL	1507+50	DC	DCLP12NB35	100+00.00	101+42.88	DC from Lp 12 to 35E	14'	12'
Loop 12	Lane Width	LP12CL	1509+00	DC	DCLP12SB35	100+00.00	100+96.59	DC from 35E to Lp 12	14'	12'
SH 183	Lane Width	EGPX	3415+00	Ramp	EGPX	3414+50.00	3418+70.00	EB GPL Ingress Ramp	14'	12'
SH 183	Maximum Grade[A]	PEB183GP	289+00	Managed Lane	EB183ML	288+50.00	296+50.00	EB ML East of Story Rd	0.03	0.043
SH 183	Maximum Grade[A]	PEB183GP	289+00	Managed Lane	WB183ML	288+50.00	296+50.00	WB ML East of Story Rd	0.03	0.043
SH 183	Maximum Grade	PEB183GP	501+00	Ramp	PNB482	1128+00.00	1135+00.00	Maryland Dr to SP 482	6.00%	7.00%
SH 183	Minimum Grade	PEB183GP	436+00	Ftg Rd	PEB183FR2	436+00.00	450+10.00	EB FR	0.50%	0.35%
SH 183	Minimum Grade	PEB183GP	440+50	Managed Lane	P183WBML	440+50.00	454+41.00	WB ML	0.50%	0.48%
SH 183	Minimum Grade	PEB183GP	454+50	Managed Lane	P183WBML	454+41.00	458+10.00	WB ML	0.50%	0.45%
SH 183	Minimum Grade	PEB183GP	458+00	Managed Lane	P183WBML	458+10.00	481+00.00	WB ML	0.50%	0.44%
SH 183	Minimum Grade	PEB183GP	458+00	GP Lane	PWB183GP	458+15.00	480+89.00	WB GPL	0.50%	0.44%
SH 183	Minimum Grade	PEB183GP	501+00	GP Lane	PWB183GP	501+00.00	509+00.00	WB GPL	0.50%	0.35%
SH 183	Minimum Grade	PEB183GP	545+50	Managed Lane	P183EBML	454+41.00	481+00.00	EB ML	0.50%	0.44%
SH 183	Radius	PEB183GP	474+00	Cloverleaf	PRWXLP12	12+21.88	16+93.65	Exit Loop from WB SH 183 to LP 12	510'	190'
Loop 12	Shoulder, Inside	LP12CL	1410+00	Slip Ramp	MLSB183-EXT	10+00.00	18+00.00	SB ML Slip Ramp	4'	2'
Loop 12	Shoulder, Inside	LP12CL	1417+50	Managed Lane	LP12CL	1417+29.07	1467+88.59	NB ML	2'	2'-4'
Loop 12	Shoulder, Inside	LP12CL	1417+50	Managed Lane	LP12CL	1417+29.07	1482+22.60	SB ML	2'	2'-4'
SH 114	Shoulder, Inside	SH114CL	557+00	Slip Ramp	M114WB121-EXT	10+00.00	22+00.00	WB ML Slip Ramp	4'	2'-4'
SH 114	Shoulder, Inside	SH114CL	730+00	Slip Ramp	M114WBBL-EXT	10+00.00	28+00.00	WB ML Slip Ramp	4'	2'
SH 114	Shoulder, Inside	SH114CL	751+00	Slip Ramp	M114EBBL-ENT	10+00.00	18+00.00	EB ML Slip Ramp	4'	2'
SH 114	Shoulder, Inside	SH114CL	753+00.00	GP Lane	SH114CL	753+00.00	759+00.00	SH 183 WB GP	10'	4'
SH 114	Shoulder, Inside	SH114CL	795+50	Managed Lane	SH114CL	796+00.00	796+54.74	WB ML @ Slip Ramp Gantry	2'	2'
SH 114	Shoulder, Inside	SH114CL	795+50	Managed Lane	SH114CL	796+97.00	800+66.00	EB ML @ Slip Ramp Gantry	4'	2'-4'
SH 114	Shoulder, Inside	SH114CL	797+00.00	GP Lane	SH114CL	797+00.00	814+00.00	SH 183 WB GP	4';10'(6+GPL)	2'-4'
SH 114	Shoulder, Inside	SH114CL	800+50	GP Lane	SH114CL	806+66.00	812+72.00	SH 114 WB GP	10'	4'
SH 114	Shoulder, Inside	SH114CL	812+50	Slip Ramp	M114EBPG-ENT	10+00.00	30+00.00	EB ML Slip Ramp	4'	2'
SH 114	Shoulder, Inside	SH114CL	830+50	GP Lane	SH114CL	850+87.00	860+64.00	EB GP (NW Hwy/Hidden Ridge vicinity)	10'	4'-10'
SH 114	Shoulder, Inside	SH114CL	837+00	GP Lane	SH114CL	836+96.55	852+77.00	WB GP (NW Hwy/Hidden Ridge vicinity)	10'	4'-10'
SH 114	Shoulder, Inside	SH114CL	897+50	GP Lane	SH114CL	897+36.20	953+23.00	EB GP (Wingren & Rochelle crossings vicinity)	10'	4'-10'
SH 114	Shoulder, Inside	SH114CL	898+50	GP Lane	SH114CL	898+17.75	947+92.00	WB GP (Wingren & Rochelle crossings vicinity)	10'	4'-10'
SH 183	Shoulder, Inside	EGPX	3308+00	Managed Lane	EGPX	3305+00.00	235+00.00	Under Existing Bridges (ML) - EB	4'	0.5'-2'
SH 183	Shoulder, Inside	EGPX	3308+00	Managed Lane	WGPX	4304+00.00	235+00.00	Under Existing Bridges (ML) - WB	4'	0.5'-2'
SH 183	Shoulder, Inside	EGPX	3372+00	GP Lane	EGPX	3372+20.00	3376+20.00	SH 183 EB GP	4';10'(6+GPL)	2'
SH 183	Shoulder, Inside	EGPX	3372+00	GP Lane	EGPX	3372+20.00	3376+20.00	SH 183 EB GPL	4';10'(6+GPL)	2'-10'
SH 183	Shoulder, Inside	EGPX	3372+00	GP Lane	WGPX	4371+51.00	4381+75.00	SH 183 WB GP	4';10'(6+GPL)	2'
SH 183	Shoulder, Inside	EGPX	3373+50	Slip Ramp	WMX	2373+15.00	2381+60.00	SH 183 WB ML Egress Ramp	4'	2'

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SH 183 Managed Lanes Project
Technical Provisions Attachment 11-2: Roadway Design Deviations

	Category	General Location			Specific Location				Criteria	
Facility	Design Deviation Type	General Reference Baseline	Reference Baseline Station (Rounded/Approximate)	Roadway Type	Specific Alignment Name/GEOPAK Chain	Begin Station	End Station	Description	Minimum (from Technical Provisions)	Designed or Existing to Remain
SH 183	Shoulder, Inside	EGPX	3378+50	Slip Ramp	EMX	1378+20.00	1388+08.00	SH 183 EB ML Egress Ramp	4'	2'
SH 183	Shoulder, Inside	EGPX	3383+00	GP Lane	WGPX	4383+54.10	235+00.00	Interim Widening Areas (GP)	10'	2'
SH 183	Shoulder, Inside	EGPX	3388+00	GP Lane	EGPX	3388+11.16	235+00.00	Interim Widening Areas (GP)	10'	2'
SH 183	Shoulder, Inside[A]	PEB183GP	283+00	Slip Ramp	EB2	10+00.00	28+45.00	Slip Ramp	2'	2'
SH 183	Shoulder, Inside[A]	PEB183GP	386+00	Slip Ramp	EB3	10+00.00	16+99.00	EB ML Ingress Ramp	2'	2'
SH 183	Shoulder, Inside[A]	PEB183GP	433+50	Slip Ramp	EB4	10+00.00	36+52.00	EB ML Egress Ramp	2'	2'
SH 183	Shoulder, Inside	PEB183GP	438+00	Slip Ramp	WB3	10+00.00	19+93.00	WB ML Ingress Ramp	4'	2'
SH 183	Shoulder, Inside	PEB183GP	443+00	Slip Ramp	P183ML12ML	18+15.00	72+64.00	EB/WB ML 183 to LP12 DC	4'	2'-4'
SH 183	Shoulder, Inside[A]	PEB183GP	448+50	Slip Ramp	P183EBML	448+25.00	535+90.00	Near P183ML12ML painted gore - EB ML	4'	2'
SH 183	Shoulder, Inside	PEB183GP	449+00	Slip Ramp	P183WBML	448+75.00	499+84.00	Near P183ML12ML painted gore - WB ML	4'	2'-4'
SH 183	Shoulder, Inside	PEB183GP	473+00	GP Lane	PRWECOLL	15+36.00	16+98.00	WB GP Aux Ingress to WBGP (for Gore)	4'	2'
SH 183	Shoulder, Inside	PEB183GP	536+00	Slip Ramp	P183EBML	535+90.00	604+00.00	EB ML Egress Ramp (Terminus)	4'	2'
Loop 12	Shoulder, Outside	LP12CL	1392+00	Slip Ramp	M12NB183-ENT	10+00.00	30+00.00	NB ML Slip Ramp	4'	2'
Loop 12	Shoulder, Outside	LP12CL	1410+00	Slip Ramp	M12SB183-EXT	10+00.00	18+00.00	SB ML Slip Ramp	4'	2'
Loop 12	Shoulder, Outside	LP12CL	1434+00	GP Lane	LP12CL	1434+17.68	1436+07.71	NB GP	10'	5.5'-10'
Loop 12	Shoulder, Outside	LP12CL	1465+00	GP Lane	LP12CL	1465+17.00	1466+00.00	Interim Area - NB & SB GPL	10'	2'-6'
Loop 12	Shoulder, Outside	LP12CL	1465+00	Ramp	LP12NBNWH-EXT	10+00.00	11+01.80	NB LP 12 exit at NW Hwy	6'	2'-6'
Loop 12	Shoulder, Outside	LP12CL	1472+00	Ramp	LP12SBNWH-ENT	10+00.00	10+50.15	SB LP 12 ent. at NW Hwy	6'	2'-6'
Loop 12	Shoulder, Outside	LP12CL	1482+50	Managed Lane	LP12CL	1483+33.20	1495+12.89	NB ML	10'	2'-8'
Loop 12	Shoulder, Outside	LP12CL	1488+50	Managed Lane	LP12CL	1495+12.89	1508+89.86	SB ML	10'	2'-8'
Loop 12	Shoulder, Outside	LP12CL	1509+00	Managed Lane	DCLP12NB35	101+00.00	101+95.77	ML from LP 12 to NB IH 35E	10'	7'
Loop 12	Shoulder, Outside	LP12CL	1509+00	Managed Lane	DCLP12SB35	100+00.00	103+85.00	ML from SB I35E to LP 12	8'	2'-8'
SH 114	Shoulder, Outside	SH114CL	550+20	Managed Lane	SH114CL	549+15.00	552+91.00	SH 114 WB ML	10'	6'-10
SH 114	Shoulder, Outside	SH114CL	554+00	Managed Lane	SH114CL	552+91.00	557+22.00	SH 114 WB ML	10'	4'-6'
SH 114	Shoulder, Outside	SH114CL	554+50	Slip Ramp	SH114CL	515+25.00	532+57.00	WB ML @ Slip Ramp	10'	7'
SH 114	Shoulder, Outside	SH114CL	561+50	Managed Lane	SH114CL	561+59.00	570+37.00	SH 114 WB ML	10'	6'-10'
SH 114	Shoulder, Outside	SH114CL	570+50	Managed Lane	SH114CL	561+91.00	582+97.00	WB ML - Freeport Prkwy Bridge	10'	3.5'-6'
SH 114	Shoulder, Outside	SH114CL	583+00	Managed Lane	SH114CL	582+97.00	585+91.00	SH 114 WB ML	10'	6'-10'
SH 114	Shoulder, Outside	SH114CL	789+50	Slip Ramp	SH114CL	795+70.00	796+85.00	WB Managed Lane Entrance	4'	2'-4'
SH 114	Shoulder, Outside	SH114CL	807+00	Managed Lane	SH114CL	802+90.00	812+70.00	EB ML	10'	7'-8'
SH 114	Shoulder, Outside	SH114CL	810+50	Managed Lane	SH114CL	810+28.00	813+52.00	WB Managed Lane Exit	10'	2'-10'
SH 114	Shoulder, Outside	SH114CL	812+00	Managed Lane	SH114CL	812+10.45	812+60.45	EB Managed Lane Gantry	10'	7.5'-10'
SH 114	Shoulder, Outside	SH114CL	812+50	Slip Ramp	SH114CL	812+40.03	812+60.45	Gantry of EB Slip Ramp	4'	1.5'-2'
SH 114	Shoulder, Outside	SH114CL	828+00	Managed Lane	SH114CL	828+10.00	861+16.00	SH 114 WB ML	6'	2'-6'
SH 114	Shoulder, Outside	SH114CL	861+00	Managed Lane	SH114CL	861+16.00	866+00.00	SH 114 WB ML	10'	6'-10'
SH 114	Shoulder, Outside	SH114CL	928+50	Managed Lane	SH114CL	928+30.00	947+93.00	SH 114 WB ML	10'	6'-10'

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SH 183 Managed Lanes Project
Technical Provisions Attachment 11-2: Roadway Design Deviations

PROJECT CRITERIA DEVIATIONS

	Category	General Location			Specific Location				Criteria	
Facility	Design Deviation Type	General Reference Baseline	Reference Baseline Station (Rounded/ Approximate)	Roadway Type	Specific Alignment Name/GEOPAK Chain	Begin Station	End Station	Description	Minimum (from Technical Provisions)	Designed or Existing to Remain
SH 114	Shoulder, Outside	SH114CL	928+50	Managed Lane	SH114CL	928+51.87	953+06.08	EB Managed Lane	10'	6'-10'
SH 114	Shoulder, Outside	SH114CL	930+00	GP Lane	SH114CL	930+00.00	947+00.00	WB Managed Lane	10'	7'-10'
SH 183	Shoulder, Outside	EGPX	193+00	Managed Lane	EMX	192+02.31	195+02.51	EB ML	10'	8'
SH 183	Shoulder, Outside	EGPX	218+00	Managed Lane	EMX	215+40.00	220+00.00	EB ML	10'	3'-6'
SH 183	Shoulder, Outside	EGPX	3305+00	Managed Lane	EMX	1305+00.00	1376+07.00	EB ML	10'	8'
SH 183	Shoulder, Outside	EGPX	3308+50	GP Lane	WGPX	4308+25.17	4312+25.17	Interim Widening Areas (GP) - WB	10'	8'-10'
SH 183	Shoulder, Outside	EGPX	3325+50	Ftg Rd	WR28Y	Begin	End	WB FR	4'	2'
SH 183	Shoulder, Outside	EGPX	3328+00	Ftg Rd	EF127Y	Begin	End	EB FR	4'	2'
SH 183	Shoulder, Outside	EGPX	3378+50	Managed Lane	EMX	1378+20.00	1386+40.00	EB ML	6'	2'-6'
SH 183	Shoulder, Outside	EGPX	3385+50	Slip Ramp	WMX	2383+40.00	2384+35.00	WB ML Egress Ramp	4'	2'-4'
SH 183	Shoulder, Outside	EGPX	3386+50	Managed Lane	EMX	1386+40.00	1388+05.00	EB ML	10'	6'-10'
SH 183	Shoulder, Outside	EGPX	3390+00	Ftg Rd	TWF288Y	12+70.00	15+80.00	WB FR	4'	3'
SH 183	Shoulder, Outside	EGPX	3400+00	Managed Lane	WMX	2390+47.76	2424+81.00	WB ML	10'	8'
SH 183	Shoulder, Outside	EGPX	3404+50	GP Lane	EGPX	3404+50.00	3406+00.00	Interim Area - SH 183 EB GPL	10'	2'
SH 183	Shoulder, Outside	EGPX	3410+00	Managed Lane	EMX	1394+39.88	1542+16.78	EB ML	10'	8'
SH 183	Shoulder, Outside[A]	EGPX	3479+50	GP Lane	WGPX	4479+36.20	4509+45.70	Interim Widening Areas (GP) - WB	10'	2'-8'
SH 183	Shoulder, Outside	EGPX	3480+00	Managed Lane	WMX	2476+54.98	2542+32.24	WB ML	10'	8'
SH 183	Shoulder, Outside	PEB183GP	171+00	Ftg Rd	FRW2-W	171+91.00	225+08.00	SH 183 WB Frontage Road	4'	2'
SH 183	Shoulder, Outside	PEB183GP	171+50	Ftg Rd	TEMP-FRW2W1	10+00.00	13+93.00	SH 183 WB Frontage Road	4'	2'
SH 183	Shoulder, Outside	PEB183GP	172+00	Ftg Rd	FRE-W	175+16.00	221+29.00	SH 183 EB Frontage Road	4'	2'
SH 183	Shoulder, Outside	PEB183GP	172+00	Ftg Rd	TEMP-FREW1	10+00.00	14+33.00	SH 183 EB Frontage Road	4'	2'
SH 183	Shoulder, Outside	PEB183GP	194+00	Managed Lane	WMX	191+25.00	214+60.00	WB ML	10'	8'
SH 183	Shoulder, Outside	PEB183GP	214+50	Managed Lane	EMX	214+00.00	215+40.00	EB ML	10'	2'-4'
SH 183	Shoulder, Outside	PEB183GP	220+00	Managed Lane	EMX	220+00.00	235+00.00	EB ML	10'	3'
SH 183	Shoulder, Outside	PEB183GP	221+00	Ftg Rd	TEMP-FREW2	10+00.00	13+74.00	SH 183 EB Frontage Road	4'	2'
SH 183	Shoulder, Outside	PEB183GP	225+00	Ftg Rd	TEMP-FRW2W2	10+00.00	49+79.00	SH 183 WB FR from Beltline Rd	4'	2'
SH 183	Shoulder, Outside	PEB183GP	229+50	Ftg Rd	TEMP-FRW2W2	14+95.00	End	WB FR	4'	3'
SH 183	Shoulder, Outside[B]	PEB183GP	270+00	Managed Lane	P183WBML	261+50.00	285+00.00	Interim Area - SH 183 WB ML	10'	9'
SH 183	Shoulder, Outside[A]	PEB183GP	303+00	Managed Lane	P183WBML	303+00.00	313+00.00	Interim Area - SH 183 WB ML	10'	9'
SH 183	Shoulder, Outside[A]	PEB183GP	381+50	Managed Lane	P183WBML	381+60.00	396+90.00	Interim Area - SH 183 WB ML	10'	9'
SH 183	Shoulder, Outside[A]	PEB183GP	394+50	Ramp	PREEBRIT	16+22.00	18+42.00	End of ramp	8'	6'-8'
SH 183	Shoulder, Outside[A]	PEB183GP	408+00	Managed Lane	P183WBML	408+00.00	418+00.00	Interim Area - SH 183 WB ML	10'	9'
SH 183	Shoulder, Outside[A]	PEB183GP	433+50	Managed Lane	P183EBML	433+50.00	447+00.00	Interim Area - SH 183 EB ML	10'	9'
SH 183	Shoulder, Outside[A]	PEB183GP	434+50	Managed Lane	P183WBML	434+50.00	437+75.00	Interim Area - SH 183 WB ML	10'	8'
SH 183	Shoulder, Outside	PEB183GP	438+00	Managed Lane	P183WBML	437+75.00	604+69.00	WB ML - Near WB3 slip ramp painted gore	10'	8'-9'
SH 183	Shoulder, Outside[A]	PEB183GP	447+00	Managed Lane	P183EBML	446+10.00	462+00.00	Interim Area - SH 183 EB ML	10'	8'

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B - Designates Design Exceptions or Project Criteria Deviations that are partially not applicable to Project. Utilizing the non-applicable portion of any of these items to benefit the project will be at the discretion of TxDOT.

SH 183 Managed Lanes Project
Technical Provisions Attachment 11-2: Roadway Design Deviations

PROJECT CRITERIA DEVIATIONS

	Category	General Location			Specific Location				Criteria	
Facility	Design Deviation Type	General Reference Baseline	Reference Baseline Station (Rounded/ Approximate)	Roadway Type	Specific Alignment Name/GEOPAK Chain	Begin Station	End Station	Description	Minimum (from Technical Provisions)	Designed or Existing to Remain
SH 183	Shoulder, Outside	PEB183GP	462+00	Managed Lane	P183EBML	461+50.00	522+80.00	Interim Area - SH 183 EB ML	10'	9'
SH 183	Shoulder, Outside[A]	PEB183GP	474+00	Ramp	PRWXLP12	13+27.00	18+97.00	Cloverleaf @ Loop 12	8'	4'
SH 183	Shoulder, Outside[B]	PEB183GP	480+00	Managed Lane	P183EBML	522+78.00	595+25.00	Interim Area - SH 183 EB ML	10'	7'
SH 183	Shoulder, Outside[A]	PEB183GP	480+00	Managed Lane	P183WBML	480+20.00	499+00.00	Interim Area - SH 183 WB ML	10'	9'
SH 183	Shoulder, Outside	PEB183GP	506+00	Direct Connector	P114GP183GP	15+00.00	33+87.00	SB 114 TO EB 183 DC	8'	2'-8'
SH 183	Shoulder, Outside[A]	PEB183GP	527+50	Managed Lane	P183EBML	527+25.00	540+00.00	Interim Area - SH 183 EB ML	10'	8'
SH 183	Shoulder, Outside	PEB183GP	540+00	Managed Lane	P183WBML	537+00.00	612+25.00	Interim Area - SH 183 WB ML	10'	7'
SH 183	Shoulder, Outside[A]	PEB183GP	541+00	Ramp	PREEMARY	18+24.00	22+55.00	End of EB GPL Ingress ramp	8'	3'-8'
SH 183	Shoulder, Outside	PEB183GP	2309+00	Managed Lane	WMX	2305+00.00	2364+05.92	WB ML	10'	6'-8'
SH 183	Shoulder, Outside	PEB183GP	2371+50	Managed Lane	WMX	2365+05.00	2381+60.00	WB ML	10'	4'-6'
SH 183	Shoulder, Outside	PEB183GP	2382+00	Managed Lane	WMX	2390+55.00	2429+75.00	WB ML	10'	6'-8'
SH 183	Shoulder, Outside	PEB183GP	2435+00	Managed Lane	WMX	2429+75.00	2470+60.00	WB ML	10'	4'-6'
SH 183	Shoulder, Outside	PEB183GP	2476+50	Managed Lane	WMX	2470+60.00	134+75.00	WB ML	10'	6'-8'
SH 183	Spacing, Ramps	PEB183GP	474+00	GP Lane	PWBCOLL	17+00.00	18+00.00	SH 183 WB CD between exit & loop ramp	800'	~100'
SH 183	Spacing, Ramps	PEB183GP	475+00	GP Lane	PRWECOLL	18+25.00	25+15.00	SH 183 WB CD between Loop 12 loop ramps	800'	~690'
SH 183	Spacing, Ramps	PEB183GP	481+00	GP Lane	PRWEFR2	481+00.00	11+00.00	SH 183 WB CD between loop & entrance ramps	800'	~500'
SH 183	Spacing, Ramps	PEB183GP	553+00	GP Lane	PWB183WB3/4	60+00.00	559+00.00	SH 183 WB GP between FR ent. & exit ramps	1500'	~1200'
SH 114	SSD	SH114CL	828+00	Managed Lane	SH114CL	828+10.17	838+79.72	WB ML	570'	425'
SH 114	SSD	SH114CL	846+00	Managed Lane	SH114CL	845+88.12	855+99.08	WB ML	570'	425'
SH 114	SSD	SH114CL	850+00	GP Lane	SH114CL	845+60.00	866+10.00	WB GPL	570'	495'
SH 114	SSD	SH114CL	856+00	Managed Lane	SH114CL	855+99.08	857+80.26	WB ML	570'	425'
SH 114	SSD	SH114CL	858+00	Managed Lane	SH114CL	857+80.26	865+28.38	WB ML	570'	495'
SH 114	SSD	SH114CL	870+00	Managed Lane	SH114CL	869+97.31	895+73.34	EB ML	570'	495'
SH 183	SSD	EGPX	3367+80	GP Lane	WMX	2364+05.92	2371+44.79	Along SH 183, East of Ector	730'	454'
SH 183	SSD	EGPX	3368+20	GP Lane	EMX	1364+21.34	1372+07.40	Along SH 183, East of Ector	730'	419'
SH 183	SSD	EGPX	3368+30	GP Lane	EGPX	3364+24.75	3372+20.01	Along SH 183, East of Ector	730'	596'
SH 183	SSD	EGPX	3383+40	GP Lane	WGPX	4378+46.21	4388+04.51	Along SH 183, at Main St	730'	364'
SH 183	SSD	EGPX	3385+70	GP Lane	EMX	1378+01.00	1392+96.94	Along SH 183, at Main St	730'	454'
SH 183	SSD	EGPX	3419+70	GP Lane	EGPX	3414+65.34	3424+69.56	Along SH 183, West of American Blvd	730'	606'
SH 183	SSD	EGPX	3442+90	GP Lane	WMX	2435+04.66	2450+43.93	Along SH 183, West of SH 360	730'	600'
SH 183	SSD	EGPX	3443+40	GP Lane	EGPX	3436+91.68	3449+57.13	Along SH 183, East of American Blvd	730'	489'
SH 183	SSD	EGPX	3457+00	GP Lane	EMX	1455+06.03	1458+78.06	Along SH 183, East of SH 360	730'	637'
SH 183	SSD	EGPX	3468+10	GP Lane	EMX	1458+78.06	1476+99.05	Along SH 183, East of SH 360	730'	661'
SH 183	SSD	EGPX	3499+10	GP Lane	EGPX	3494+47.51	3503+53.88	Along SH 183, East of Amon Carter Blvd	730'	502'
SH 183	SSD	EGPX	3499+10	GP Lane	WMX	2494+56.10	2503+55.54	Along SH 183, East of Amon Carter Blvd	730'	660'
SH 183	SSD, Left Shoulder	PEB183GP	468+50	DC	PSB12WB183	26+99.51	40+18.43	DC, SB LP 12 & WB SH 183	425'	332'

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SH 183 Managed Lanes Project
Technical Provisions Attachment 11-2: Roadway Design Deviations

	Category	General Location			Specific Location				Criteria	
Facility	Design Deviation Type	General Reference Baseline	Reference Baseline Station (Rounded/ Approximate)	Roadway Type	Specific Alignment Name/GEOPAK Chain	Begin Station	End Station	Description	Minimum (from Technical Provisions)	Designed or Existing to Remain
SH 183	SSD, Left Shoulder	PEB183GP	469+00	DC	PEB183NB12	27+52.81	43+19.83	DC, EB SH 183 & NB LP 12	425'	301'
SH 183	SSD, Left Shoulder	PEB183GP	511+00	DC	P114GP183GP	19+45.67	28+21.48	DC, SH 114 GP & SH 183 GP	425'	335'
SH 183	SSD, Right Shoulder	PEB183GP	502+50	Managed Lane	P183EBML	502+71.13	516+85.16	SH 183 EB ML lanes	730'	550'
SH 183	SSD, Right Shoulder	PEB183GP	503+50	Managed Lane	P183WBML	503+72.32	515+74.25	SH 183 WB ML lanes	730'	632'
SH 183	SSD, Right Shoulder	PEB183GP	505+50	GP Lane	PWB183GP	505+56.81	515+53.76	SH 183 WB GP lanes	730'	541'
SH 183	SSD, Right Shoulder	PEB183GP	540+00	Managed Lane	P183EBML	540+06.04	549+51.66	SH 183 EB ML lanes	730'	655'
SH 183	SSD, Right Shoulder	PEB183GP	540+00	Managed Lane	P183WBML	540+13.39	549+61.23	SH 183 WB ML lanes	730'	464'
SH 183	SSD, Right Shoulder	PEB183GP	542+00	GP Lane	PWB183GP	542+08.24	549+87.84	SH 183 WB GP lanes	730'	721'

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Texas Department of Transportation Technical Provisions

SH 183 Managed Lanes Project

Attachment 12-1

Drainage Report for Major Stream Crossings Guidelines

Drainage Report for Major Stream Crossings Guidelines

I.Cover Sheet

The cover sheet shall contain the following items:

- Highway and stream name
- Project CSJ
- County name
- TxDOT name and logo
- Consultant company name and firm number (if applicable)
- Responsible engineer's seal, signature and date

II.Table of Contents

The Table of Contents shall be:

- List of topics by page number
- List of tables
- List of figures
- List of Appendix items

III.Report Topics

A.Purpose

- Describe the site location
- Describe the type of roadway facility
- Provide an explanation in general terms of what improvements are proposed for the project, why a hydraulic study is being performed, and describe what is happening to the existing structure (rehabilitation or replacement).
- Describe the design frequency being used for the proposed structure. If the design frequency is different from what is recommended in the Hydraulic Manual (i.e., a city requests a higher frequency design and is providing additional funding for the structure), then it must be discussed in this section of the report.

B.Existing Conditions

The following discussion items must be included about the structure(s) to be replaced, if applicable:

- Existing structure type - bridge (concrete beam spans, steel truss, etc.), multiple box culvert, etc.
- Existing structure width, number of lanes, shoulder widths, etc.
- The current and projected future average daily traffic (ADT)
- Existing structure span lengths
- Skew of existing structure

- Existing type of rail
- Structural condition and sufficiency rating for the existing structure
- Low chord of existing structure (bridges)
- Headwater and tailwater elevations (culverts) for the design and 100-year discharge
- Discussion of existing hydraulic conditions (i.e., frequency of overtopping, field evidence of overtopping, debris blockage, etc.)
- FEMA – Whether in a Special Flood Hazard Area (SFHA) or not. If in an SFHA, the zone (A, AE, AO, AH, V, VE) and its implications
- Any discussions, information, or requests from the local Floodplain Administrator (FPA)

C.Discharges

For studied SFHAs:

- Describe the FIS data format and how the data was acquired
- Describe all assumptions, conversions, and corrections
- Describe any benchmark or datum used
- If the FEMA discharges need to be corrected, fully explain why
- If the FEMA discharges are not used, fully explain why not

For non-studied drainage basins, provide the following:

- Drainage area size (square miles or acres)
- Describe the type of watershed in the report (uncontrolled or controlled by reservoirs/dams, etc.). If a dam is located upstream, provide documentation concerning data provided by the owner.
- Description of land use (agricultural, pasture, single family subdivisions, commercial, etc.) and type of terrain
- Soil types within the watershed
- Stream gauge information, if applicable (very rare for most projects)
- Discharges from previous studies, if available
- Runoff method used for design and comparison (regression equations, NRCS, etc.). The regression equations are good to use as a check for other methods.
- Computer model used for runoff calculations (spreadsheet, HEC-HMS, Win TR- 55, etc.)
- Parameters used for the model (time of concentration, runoff curve numbers, etc.)
- Tabulation of the results of the calculations for each method (minimum of two methods for comparison)
- State the basis for the method selected for design frequency or AEP

Water Surface Profiles and Velocity Data

- Describe the computer software, including the version number, used for the analysis (HEC-RAS, HY-8, etc.). HEC-RAS should be must for crossings that involve FEMA detailed studies and for culverts with high flow over the road. FEMA considers HY-8 and other culvert programs to be approximate methods.
- Document the basis of the starting water surface profile or boundary conditions (i.e., the slope/area method was used assuming normal depth, etc.).
- Provide the vertical datum that is used for project elevations.
- Document any weir flow over the roadway (if applicable), for existing and proposed conditions.
- Document assumptions concerning Manning's n value for the channel and overbanks.
- The cross sections must be located far enough upstream and downstream from the site to show that water surface profiles for proposed conditions will match (or come close to matching) the existing profile.
- For SFHA's, document the use of the official FEMA model. Discuss any necessity for a corrected model. Provide a table of corrected water surface elevations (WSELs) compared to the current effective WSELs, as well as published FIS WSELs (if different from current effective),
- If the FEMA discharges were corrected, include a table comparing the WSELs using both the FIS and the corrected discharges.

D. Proposed Conditions

The discussion about the proposed structure must include the following items:

- Proposed structure type (TX prestressed concrete girders, box beams, slab-spans, multiple box culvert, etc.)
- Proposed structure width, number of lanes, offset to rail, etc.
- Proposed structure span length configuration
- Proposed skew of abutments and bents, or skew of culvert
- Proposed rail type
- Proposed low chord (bridges)
- Type of proposed wingwall (culverts)
- Freeboard based on the design storm (bridges) and why it should be necessary
- Basis for the allowable headwater and through-bridge velocity
- Proposed velocity/scour control measures (i.e., concrete riprap, etc.)
- Proposed upstream or downstream channel grading, if applicable

Water Surface Profiles and Velocity Data

- Include a table comparing existing and proposed (or corrected existing and proposed) WSELs and channel velocities for the channel cross sections used in the analysis.
- For studied zones with a floodway, include a table comparing existing and proposed floodway WSELs. Also include floodway widths.

- Provide a discussion of the tabulated results and describe if there are any adverse impacts to properties upstream or downstream of the site due to proposed construction.

E. Corridor Development Certificate (CDC) (if applicable)

The CDC permit applies to bridge construction on the West Fork, Elm Fork, or Main Stem of the Trinity River, as well as tributaries that experience backwater effects from these rivers. Refer to the current CDC manual and certificate form for details and requirements. This information is available on NCTCOG's web page at the following location:
http://www.nctcog.org/envir/SEEsafe/fpm/cdc/index.asp

- Tabulate current effective CDC model results (existing conditions) for 100-year flow and Standard Project Flood (SPF). If the current effective CDC model does not accurately depict actual existing conditions at your site (based on survey), then you will need to create a corrected effective CDC model with updated cross sections.
- Tabulate the CDC model results with proposed bridge and cross sections for 100- year flow and SPF.
- Tabulate the results of the valley storage analysis and determine if valley storage mitigation is required based on CDC requirements.
- Provide a discussion of the CDC analysis (i.e., was CDC criteria met?).

F. Scour Analysis and Stream Stability (if applicable)

This must be done in accordance with Bridge Division, Geotechnical Section guidance.

G. Coordination with Local Floodplain Administrator

- Document phone conversations, emails, or written correspondence with the local floodplain administrator concerning the proposed bridge or culvert. Include the date that the report and hydraulic data sheets were submitted to the local FPA in the report and on a note on the hydraulic data sheets.

J. Conclusion

- Include a discussion about how the proposed structure will meet the design requirements and why the chosen structure is the best alternative.

IV. Figures

The following items should be included in the list of Figures:

- Project location map (to scale with a north arrow)

- Drainage area map (to scale with a north arrow)
- Soils map(s) for the drainage basin
- A copy of the current FEMA FIRM for the site (if applicable)
- Proposed structure layout(s) and core boring sheets
- Proposed typical sections
- Roadway plan & profile sheets at the stream crossing
- A copy of the hydraulic data sheets to be submitted with the PS&E. One of these sheets should be a plan view drawing (to scale) showing location of channel cross sections used in the analysis. Preferably, this drawing should show topography and ground contours in the background.

V. Appendix

- Site photographs (in color)
- Runoff calculations (spread sheets, TR-55 output, HEC-HMS output, etc.)
- A copy of the current FIS for the stream reach (if applicable).
- Hydraulic calculation input and output (HECRAS, HEC-2, etc.) for existing and proposed conditions (include FEMA data, if applicable). Include the list of error messages generated by the software.
- Channel cross section plots
- Water surface profile plots
- HEC-RAS scour output and scour envelope plots (or spreadsheet calculations)
- CDC hydraulic calculations, valley storage calculations and completed CDC permit form (if applicable)
- Any other miscellaneous supporting data

VI. Submittals

- The number of hard copies will depend on District preference. Electronic copies shall contain the hydraulic report document (in Word or PDF format) as well as all appendices and hydrologic and hydraulic computer models for the project.

Notes:

1. Any drawing included as a figure or in the Appendix should be easy to read and preferably drawn to scale, with a north arrow when applicable. If USGS maps are used in the background of drainage area maps, the contours should be legible.
2. The latest version of software (HEC-HMS, TR-55, HEC-RAS, etc.) that is available at the time of preparing the report should be used. Beta versions of software shall not be used for TxDOT projects.
3. Many of the FEMA FIS computer models extend for miles upstream and downstream from the site. In that case, the Designer only needs to use the relevant portion of the model required for the design, based on engineering

judgment, which will reduce the size of the files the designer is working with, along with the paper output.

4. If hard copy reports are prepared, they should be bound using a three-ring or spiral binder, with labeled tabs used for Appendix dividers.

5. In general, the guidelines listed above are intended to apply to new location bridge class structures, replacement of existing bridge class structures, or modifications to existing structures that could potentially impact the design and 1% AEP (100-year) water surface profiles at stream crossings. Engineering judgment should be applied in each case.

Texas Department of Transportation
Technical Provisions

SH 183 Managed Lanes Project

Attachment 14-1
Amendments for the TxDOT Traffic Operations Manual: Railroad Operations Volume, February 2000

AMENDMENTS FOR THE:
TxDOT Traffic Operations Manual: Railroad Operations Volume, February 2000

Manual Notices
Delete

Chapter 1 – Introduction

Section	Subheading	Modification
3	Operations Involving Railroads	Replace text with "The Developer and TxDOT will jointly enter into agreements with railroad companies. The Developer shall be responsible for all costs related to force account work for construction or maintenance requirements during the term of the project. Where the Manual refers to actions the state normally takes, the Developer shall perform those actions."

Chapter 2 – Railroad Agreements – General

Section	Subheading	Modification
1	Overview	Replace text with "Developer shall be responsible for all costs normally assigned to TxDOT."
2	Railroad Force Account Work	Replace text with "Developer and TxDOT will jointly enter into agreements with railroad companies. The Developer shall be responsible for all costs related to force account work for construction or maintenance requirements during the term of the project. Where the Manual refers to actions the state normally takes, the Developer shall perform those actions."
3	District Responsibilities	For reference only
3	District Responsibilities	In all subsequent subheadings, where the text includes work to be performed by the District or TxDOT Traffic Operations Division (TRF), Developer shall perform.
4	TRF Responsibilities	Replace all text with the following: "The Developer shall provide all documents, estimates, and other information required by the TxDOT Traffic Operations Divisions (TRF) to prepare railroad agreements for the project."

Chapter 3 – Highway-Rail Grade Crossing Surfaces (Construction and Reconstruction)

Section	Subheading	Modification
1	Overview	Delete
2	Plan Layout	Replace "District" and "TxDOT" with "Developer". Under **Instruction**, delete "to be performed by TxDOT, TxDOT's contractor."
3	Agreement and Negotiating	Replace references to "Traffic Operations Division", "TRF", and "TxDOT" with the word "Developer". Delete **Construction and Maintenance** except for the first sentence. Under **Insurance Claims** delete all except the first sentence. Replace the word "contractor" with the word "Developer". Delete "Payment Clause", "Solicitations of Bids" clause, and "Conditions". Delete "Negotiating" and "After Execution".
4	Project Execution	Replace the words "District", "TxDOT's Contractor", and "TxDOT" with the word "Developer". Delete the section **Completion Letter**.

Chapter 4 – Grade Crossing Replanking Program
Delete

Chapter 5 – Spur Tracks
Delete

Chapter 6 – Warning Signals and Devices
Delete

Chapter 7 – Traffic Signal Preemption
Delete

Chapter 8 – Grade Separation
Delete

Chapter 9 – Drainage Structures and Common Ditches
Delete

Chapter 10 – Other Railroad Agreements
Delete

Chapter 11 – Crossing Closure, Relocation, and Consolidation
Delete

Appendix A – Forms
Delete

Texas Department of Transportation
Technical Provisions

SH 183 Managed Lanes Project

Attachment 18-1
TxDMV Permit Restriction Application

Texas Department of Motor Vehicles

Motor Carrier Division
Permit Restriction Application

Rev. 7/2012

District Number:	District Name:

New Restriction ☐	Amend Restriction ☐	Cancel Restriction ☐

Highway: _____   **County:** _____

From junction: _____

To junction: _____

Direction(s) affected: Northbound ☐   Southbound ☐   Eastbound ☐   Westbound ☐

Turns affected:

Maximum dimensions allowed. If a dimension is not affected, please put N/A in the space provided.
Please enter dimensions in feet and inches DO NOT enter "legal."

Width:	Height:	Overall Length:	Trailer Length:
Weight:	Overweight ONLY is Okay:		

NOTE: Do not over restrict your highways; loads with small dimensions might safely travel through the restricted area without any inconvenience to the construction crew and/or the traveling public.

Start date: _____   **End date:** _____

Type of work or reason:
   Construction: ☐   Maintenance: ☐   Sealcoat: ☐   Safety: (physical limits) ☐   Other: ☐

Comments:

Approved by: _____   Date: _____

Date restriction lifted: _____   Approved by: _____

MCD Mapping Coordinator   phone: 512-302-2166
e-mail: mcd_permit-restriction-@txdmv.gov

We cannot correctly restrict your roadway unless this form is filled out completely.