DRAINAGE
PERFORMANCE SPECIFICATION

1.0 INTRODUCTION

The Design-Builder shall provide drainage facilities designed to safely and efficiently handle stormwater runoff, and to satisfy environmental commitments. The Design-Builder shall abide by the standards in this Drainage Performance Specification and elsewhere in the Design-Build Contract as they pertain to drainage facilities, including NPDES and other permit requirements. The Design-Builder shall obtain clarification of any unresolved ambiguity prior to proceeding with design and/or construction.

2.0 PERFORMANCE GOALS

The Design-Builder shall meet the following performance goals, (in the sole determination of the Louisiana Department of Transportation and Development (LA DOTD)):

A) Cross drain pipes must be sized to accommodate 50-year design peak discharge using SCS Method and selected material must have 70-year service life.

B) Side drain pipes must be sized to accommodate five-year design peak discharge. If the channel is providing an outfall or the major approach channel for a cross drain, side drain pipes must be sized to accommodate 50-year design peak discharge and selected material must have 30-year service life.

C) The hydraulic design must not create design exception requirements.

D) The hydraulic design must not increase the magnitude of existing deficiencies.

E) Effective drainage must be provided throughout the Project limits.

F) Drainage structures must extend beyond the clear zone.

3.0 STANDARD PERFORMANCES

The Design-Builder shall plan, design, construct, and implement drainage in accordance with this Drainage Performance Specification and the requirements of the following standards. Standards and references specifically cited in the body of this Drainage Performance Specification establish requirements that have precedence over all others. In this Drainage Performance Specification, if the requirements in any standard conflicts with those in another, the standard highest on the list will govern. Listed under references are guidelines that the Design-Builder may use in addressing the requirements as the Design-Builder sees fit. It is the Design-Builder's responsibilities to obtain clarification of any ambiguity within this Drainage Performance Specification prior to proceeding with design and/or construction.

3.1 STANDARDS

The standards for this Drainage Performance Specification are contained in the Engineering Directives and Standard Manual (EDSM), LA DOTD (http://webmail.dotd.louisiana.gov.ppmemos.nsf). Standards are listed in descending order of precedence. In case of conflict between or among standards, the order of precedence established by the LA DOTD will govern. See the table below for applicable EDSMs.

EDSM Reference	Title	Comment
II-2.1.1	Design Policy for Cross Drains, Side Drains, Underdrains, Storm Drains	The (3-20-07) "Revised Pipe Policy" will have precedence over any conflicting requirements
II-2.1.6	Procedures for Determining Coating And Thickness Requirements for Metal Pipe	
II-2.1.8	Shoulder Drainage Systems	
II-2.1.12	Pavement Structure Design	
II-2.1.13	Procedure for Determining Type of Plastic Pipes, Permissible Usage, Quality Control and Installation Requirement.	
III-1.1.4	Form No. 4206 Right of Entry	
III-1.1.13	Encroachments	
III-1.1.23	Development of a Traffic Control Plan	
III-2.5.1	Construction Joints Bridges and Structures	
III-2.6.3	Conduit Backfill Requirements	
IV-2.6.3	Communication Cable Installation on Highway Structures	
IV-2.1.9	Pipeline Crossings and the Use of Thermoplastic Pipe	
V-1.1.1	Policy for Using Embankment Materials with Swell Potential	

3.2 REFERENCES

The version of the following references in effect on the Proposal due date may apply:

A) The Louisiana Department of Transportation and Development's Roadway Design Procedures and Details.

B) The Louisiana Department of Transportation and Development's Hydraulics Manual.

C) The Louisiana Department of Transportation and Development's User's Manual for Hydraulics Programs.

D) The Federal Highway Administration's (FHWA) HEC-18 and HEC-20 for Scour Analysis.

4.0 SCOPE

The design and construction of all drainage and other culvert facilities must adequately address runoff control, safety, functionality, erosion mitigation, durability, ease of maintenance, maintenance access, and current uses. All ditches, outfalls, and pipe crossings must be designed to address all performance goals as well as functionality, headwater, discharge, design storm, minimum cover, and pipe/RCB size.

5.0 PERFORMANCE MEASURES

The Louisiana Department of Transportation and Development must be satisfied that the drainage design and materials will meet the performance goals and that the design and system will provide effective drainage throughout the Project limits.

6.0 REQUIREMENTS

A) Plastic pipe will not be allowed except in the application as described in the referenced Revised Pipe Policy (EDSM II-2.1.1).

B) Metal culverts are not allowed.