Volume : I Effective Date :
Chapter : 1 Revision Date : 01/28/2013
Section : 1 Subject : **DATA FOR DESIGN OF PAVEMENT PRESERVATION PROJECTS**
Directive : 11

1. PURPOSE:

The purpose of this Directive is to establish standards for the quantity and type of data to be obtained for the design of minor rehabilitation, major rehabilitation, and replacement projects. This directive is necessary to eliminate the need for extremely large and unnecessary change orders. The information listed herein is not all inclusive. The District is required to obtain all pertinent information needed for plan development. Plan/Constructability/Biddability is part of the process and covered under a separate EDSM.

2. SCOPE:

This directive covers all Federal Aid and/or State projects when minor rehabilitation, major rehabilitation, or replacement is considered. It does not cover projects adding capacity, correcting major geometric deficiencies, or any projects requiring a detailed topographic survey to develop the plans.

3. GENERAL:

Where it is anticipated that base work may be necessary, a DCP subgrade stiffness survey, as well as a subgrade soil survey, shall be required at intervals indicated in 4A (1) listed below. Subgrade soil surveys, or other suitable means to determine thickness of existing structure, are also required when pavement surfacing is to be cold planed.
For concrete or composite pavements, concrete cores should not be taken solely for the purpose of obtaining depth measurements or samples of base material under the concrete for patching and/or overlay when measurements can be derived from existing plans or edge of pavement cores. DCP stiffness tests, cores, and subgrade classifications will be required to determine if a pavement is a suitable candidate for rubblization as outlined in 4A (2). Holes from pavement cores are to be filled with similar pavement material.

4. PROCEDURE

A. Roadway

1. When required, the District Laboratory shall obtain the DCP subgrade stiffness measurements at intervals of approximately 2100’ (0.4 mi.) and subgrade soil survey measurements at intervals of approximately 1000’ (0.2 mi.). In addition, measurements will be made at any apparent or suspected change in depth, width, or type of any of these roadway features. The information from the subgrade soil survey and DCP stiffness survey shall be placed in Attachments 1A and 1B. Additionally, the DCP subgrade stiffness information in electronic format as outlined in the Testing Procedures Manual (TR 645-10) shall be transmitted to the Pavement and Geotechnical Engineer.

   At the discretion of the designer and District Laboratory Engineer, the intervals may be modified or the entire survey may be waived. Waiving of the survey requirements shall be justified in writing and this justification shall replace Attachment 1B. Any modifications to the survey intervals shall be noted on Attachment 1A.

2. When a project is being considered for rubblization, DCP tests shall be conducted every 0.2 miles in the right wheel path of the outside lane in both directions for roadways with four or more lanes. The exception to this is when an additional lane has been added to an existing roadway; in which case, the DCP readings should be taken beneath the older pavement. For two lane highways, DCP readings shall be taken in only one direction. Additionally, one subgrade and base course specimen should be obtained and classified every one mile beneath the pavement, not shoulder. The specimen should be near (5 to 10-ft.) from a DCP test.

3. In order to determine the need for any super-elevation corrections, existing roadway cross slopes and degree and location of curves must be established. Conventional survey methods used to determine curve information may be substituted with information obtained from data collected by the Pavement Management Section. This information shall be recorded on/as Attachment 2.

B. Bridges

If construction impacts a bridge, record structure number on Attachment 3 where indicated. The type, depth and width of the deck and overlay (if applicable) shall be measured and recorded on Attachment 3. In addition, the type of railing, its height and curb height (If applicable) shall be recorded on the same form. The person responsible for these measurements shall sign Attachment 3.

C. Drainage Structures

The location, condition, size, type and length of each drainage structure other than bridges shall be recorded on Attachment 4. Whether the structure has headwalls shall also be noted on this form. The condition notation for the structure shall indicate whether replacement is necessary. The person responsible for gathering the data shall sign Attachment 4. The Area Engineer shall also sign Attachment 4 to verify the recommendations for pipe replacements.

If plans include an option for installation of new metal drainage structures, pH and resistivity readings are to be obtained.

D. Guard Rail

If existing guard rail is within the limits of construction, record the location, type, height, length, type of end treatment, type of bridge attachment, condition of rail and posts, and distance to protected object (if not a bridge end). The person responsible for these measurements shall sign Attachment 5.

E. Traffic

The District Traffic Operations Engineer shall review the crash history, abnormal locations, and any other pertinent traffic information within the limits of the project in accordance with the Safety Assessment Process. The District Traffic Operations Engineer will sign Attachment 8 and summarize recommendations on the attachment and in the Road Safety Assessment Report, as applicable.

5. RESPONSIBILITY:

The Area Engineer, Project Delivery/Design Engineer, District Traffic Operations Engineer, and District Laboratory Engineer shall be responsible for obtaining and reviewing the data on Attachments 1 through 5.

6. RECOMMENDATIONS:

Recommendations for the rehabilitation of the roadway shall be made by the Area Engineer, the District Laboratory Engineer, and the District Traffic Operations Engineer on the forms provided (Attachments 6, 7 and 8). The recommendations should be detailed and comprehensive.

7. PRELIMINARY PLAN SUBMITTAL:

The District will maintain all data and information on Attachments 1 through 5 in the District Design Files. If requested, the District is to provide the attachments to the Program Manager. The District Administrator will transmit the recommendations (Attachments 6, 7 & 8), and preliminary plans to the Pavement Preservation Gang together with a signed copy of the District Administrator's Certificate (Attachment 9). The preliminary estimate is to be entered into the appropriate program for access at this time.

8. FINAL PLAN SUBMITTAL:

Upon completion of final plans, the District Administrator will send the signed final plans and estimate, and the District's "Recommended for Approval" signatures (Attachment 10), to the Pavement Preservation Gang.

9. OTHER ISSUANCES AFFECTED:

All directives, memoranda or instructions issued heretofore that conflict with this directive are hereby rescinded.

10. EFFECTIVE DATE:

This directive will be effective immediately upon receipt.

RICHARD L. SAVOIE
CHIEF ENGINEER

Attachment 1 A

ROADWAY
DESIGN INFORMATION

Project or Control Section No._____ Total Length_____* Route _____

Control Section Log Mile	Pavement			Overlay			Base			Sub-Base			Shoulder Surface			Shoulder Base		
	Type	Depth	Width	Type	Depth	Width	Type	Depth	Width	Type	Depth	Width	Type	Depth	Width	Type	Depth	Width

* **Describe starting and ending locations in this space:**

_____

District Laboratory Engineer Date

DISTRICT MAY SUBSTITUTE ALTERNATE FORMAT PROVIDED ALL APPLICABLE INFORMATION, TO PROPERLY DESIGN PROJECT, IS OBTAINED. STATIONS AND CSLM SHOULD BE CORRELATED.

Attachment 1 B

ROADWAY
DESIGN INFORMATION (DCP measurements)

Project or Control Section No._____ Total Length_____* Route _____

Control Section Log Mile	Pavement Depth		Base Course Depth		Base Course AVG. DCPI	Subbase Depth		Subbase AVG. DCPI	Subgrade Depth		Subgrade AVG. DCPI	Comments
	From	To	From	To		From	To		From	To		
***Describe starting and ending locations in this space:**												

District Laboratory Engineer Date

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Attachment 2

CROSS SECTIONS
ROD READINGS

DESIGN INFORMATION

PROJECT OR CONTROL SECTION NO._____ TOTAL LENGTH_____ ROUTE _____

	LEFT								RIGHT							
CONTROL SECTION LOG MILE	R/W LINE DIST	OUTER SLOPE EDGE RDG/DIST	0UTER DITCH BOTTOM RDG/DIST	INNER DITCH BOTTOM RDG/DIST	SHLDER AT CROWN EDGE RDG/DIST	SHLDR AT PVMT EDGE RDG/DIST	PVMT EDGE RDG/DIST	C/L RDG	PVMT EDGE RDG/DIST	SHLDR AT PVMT EDGE RDG/DIST	SHLDR AT CROWN EDGE RDG/DIST	INNER DITCH BOTTOM RDG/DIST	0UTER DITCH BOTTOM RDG/DIST	OUTER SLOPE EDGE RDG/DIST	R/W LINE DIST	REMARKS

_____

SIGNATURE DATE

NOTE: EXTENT OF CROSS SECTIONS IS DEPENDENT ON SCOPE OF PROJECT; THEREFORE, ALL ABOVE INFORMATION MAY NOT BE REQUIRED.
DISTRICT MAY SUBSTITUE ALTERNATE FORMAT PROVIDED ALL APPLICABLE INFORMATION, TO PROPERLY DESIGN PROJECT, IS OBTAINED. STATIONS AND CSLM SHOULD BE CORRELATED.

Attachment 3

BRIDGES

DESIGN INFORMATION

Project or Control Section No._____ Route_____

Location			Deck			Existing Overlay			Railing		
Control Section Log Mile	Struc. #	Length	Type	Depth	Width	Type	Depth	Width	Depth	Total Height*	Height of Curb*
* Rail and Curb Height measured from top of existing roadway surface.											

_____

Signature Date

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Attachment 4

DRAINAGE STRUCTURES

DESIGN INFORMATION

Control Section No._____ Route _____

Control Section Log Mile	Condition	Size	Type	Length		Thickness	Headwall (Yes or No)	Replace (Yes or No)
				LT	RT			
				¢	¢			

Signature **Date** **Area Engineer** **Date**

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Attachment 5

GUARD RAILS

DESIGN INFORMATION

Project or
Control Section No._____ Route_____

Location	Height	Length	Type	End Treatment Type	Bridge Attachment Type	Condition of Rail	Condition of Posts	Distance to Object *

*** Distance to object if object is not a bridge end**

_____

Signature **Date**

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Attachment 6

Recommendations: **Area Engineer**

Considerations:
Has this roadway been patched extensively and if so, have you provided recommendations for handling and possible removal and disposal of the patching material?
Have you indicated any new drainage structures or extensions that are needed in addition to the ones that may need replacement?

State your recommendations for the rehabilitation of this roadway in full. Use as many additional sheets as necessary.

_____

Area Engineer Date

Attachment 7

Recommendations: **District Laboratory Engineer**

Considerations:
If reconstruction of the base is recommended, have you conducted sufficient tests to ensure the recommended base will be satisfactory?
Are in-place materials suitable for treatment/stabilization? Is excessive material a problem? Will borrow be needed?, etc….

State your recommendations for the rehabilitation of this roadway in full. Use as many additional sheets as necessary. Attach subgrade soil survey with this submittal.

_____

District Laboratory Engineer Date

Attachment 8

District Traffic Operations Engineer

I have reviewed the crash history, abnormal locations, and other pertinent traffic data within the project limits. Any identifiable countermeasures and associated recommendations are noted herein and in the Road Safety Assessment Report, as applicable.

_____

District Traffic Operations Engineer Date

Attachment 9

District Administrator's Certification

I certify I have reviewed the data and recommendations contained herein and based on my knowledge of this roadway, I concur with these recommendations.

_____

District Administrator Date

Attachment 10 (to be submitted with final plans)

Date:

State Project No.:
F.A.P. No.:
Project Name:
Route:
Parish:

Final Plans Recommended for Approval:

_____

Project Engineer Date

_____

ADA Engineering Date

_____

AREA Engineer Date

_____

District Traffic Operations Engineer Date

_____

District Utility Representative Date

Note:

The Plan/Constructability/Biddability form is to be submitted with Final Plans.
An individual document for each listed above may be submitted in lieu of one document.
Project Engineer's and Area Engineer's signatures may be omitted from this sheet at the discretion of the District Administrator.
ADA of Engineering's signature may be omitted if signing the plans.