LA SPS-1

BRENT RAUHUT ENGINEERING, INC.

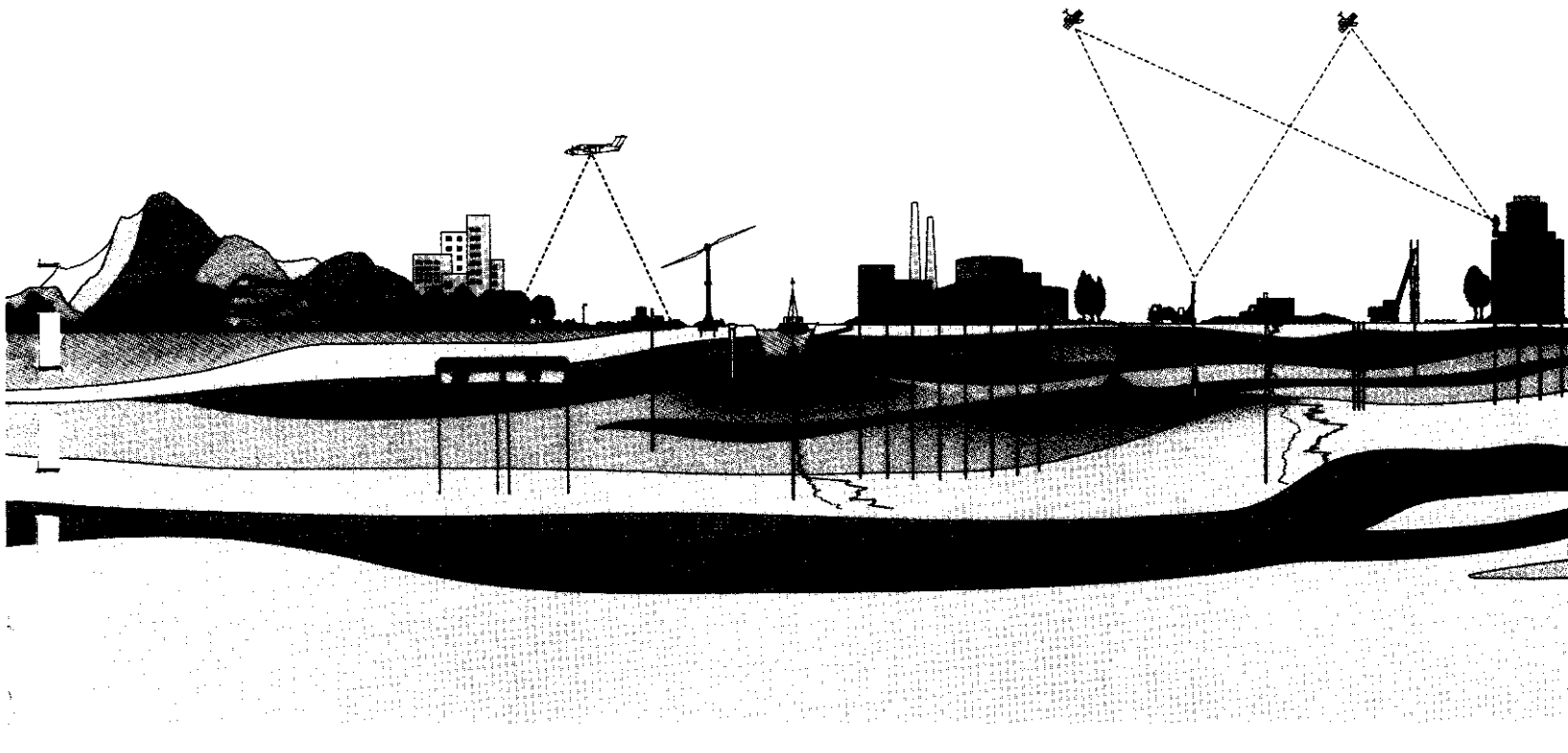
FUGRO

FINAL REPORT

SPS-1 PROJECT 2201
STRATEGIC STUDY OF STRUCTURAL FACTORS FOR FLEXIBLE PAVEMENTS
US-171 NORTHBOUND - CALCASIEU PARISH, LOUISIANA

FHWA/LTPP
SOUTHERN REGION COORDINATION OFFICE

May 1998



File
LA SPS-1

Long-Term Pavement Performance

LTPP Southern Regional Office - 8240 Mopac, Suite 220 - Austin, Texas 78759 - Tel 512-346-0870 - Fax 512-346-8750

12 May 1998

Mr. Aramis Lopez
Pavement Performance Division - LTPP (HNR-40)
Federal Highway Administration
Turner-Fairbanks Highway Research Center
6300 Georgetown Pike, Room F-215
McLean, Virginia 22101

Subject: Final Report - Construction of SPS-1 Project (2201) on US-171 in Calcasieu Parish, Louisiana

Dear Aramis,

Enclosed is the Final Report for the Specific Pavement Studies (SPS-1) project on US-171 in Calcasieu Parish, Louisiana. This report documents the construction of the Strategic Study of Structural Factors for Flexible Pavements test sections at this location, as well as the monitoring of the project to date.

Please feel free to contact me should you have any questions or comments regarding any of the information included in this report.

Sincerely,

Timothy J. Martin, M.S.
Graduate Engineer, SRO

JFD:dmj

Enclosure: As stated.

c.w/Enc: Masood Rasoulian, LA-TRC
Gonzalo Rado, PCS/LAW
Mark Gardner, SRO
Don Duberville, LA-DOT/Lk Charles
Shiraz Tayabji, ERES-MD

FINAL REPORT

SPS-1 PROJECT 2201
STRATEGIC STUDY OF STRUCTURAL FACTORS FOR FLEXIBLE PAVEMENTS
US-171 NORTHBOUND - CALCASIEU PARISH, LOUISIANA

FHWA/LTPP
SOUTHERN REGION COORDINATION OFFICE

May 1998

TABLE OF CONTENTS

Section	Page
INTRODUCTION	1
SPS-1 General Experiment Design	1
Selection/Nomination of US-171	1
PRECONSTRUCTION MONITORING	6
CONSTRUCTION MONITORING	6
POSTCONSTRUCTION MONITORING	7
Materials Sampling and Testing	7
SUMMARY	7
APPENDICES	
APPENDIX A. PROJECT NOMINATION FORMS AND OTHER CORRESPONDENCE	A.1
APPENDIX B. SURFACE PROFILE DATA	B.1
APPENDIX C. MATERIAL SAMPLING AND TESTING PLAN	C.1
APPENDIX D. CONSTRUCTION DATA	D.1
APPENDIX E. PHOTOGRAPHS	E.1

LIST OF FIGURES

Figure **Page**

1. Layout of Test Sections 5

LIST OF TABLES

Table **Page**

1. Experimental Design for SPS-1 2
2. Test Section Layout 3
3. Completion Schedule 9

FINAL REPORT - SPS-1 PROJECT 2201

STRATEGIC STUDY OF STRUCTURAL FACTORS FOR FLEXIBLE PAVEMENTS US-171, NORTHBOUND CALCASIEU PARISH, LOUISIANA

INTRODUCTION

The Strategic Highway Research Program (SHRP), in conjunction with the Federal Highway Administration (FHWA) developed the Long Term Pavement Performance (LTPP) program to study the various factors that affect pavement performance. These studies are designed to provide information about varying pavement design, materials, and environmental effects on pavement performance.

The objective of the SPS-1 experiment is discussed below. This SPS-1 project is located in the northbound lanes of US-171 between Moss Bluff and Gillis, Louisiana. This report covers the site-selection, coordination, and monitoring activities for all phases of construction of the SPS-1 project. Any detailed information not found in this report may be found in the LTPP data base on the Regional Information Management System (RIMS) at the Southern Region Coordination Office (SRCO), in Austin, Texas, and the National Information Management System (NIMS) at SAIC in Oak Ridge, Tennessee. Information pertaining to this project can also be found at the SRCO web site at www.ntrek.com\^srco.

SPS-1 General Experiment Design

The objective of the SPS-1 study is to enhance understanding of the strategic factors that influence the performance of flexible pavements. This SPS-1 project addresses factors including drainage, base type and thickness, and asphalt surface thickness as they relate to pavement performance. The experimental design for the SPS-1 experiment is shown in Table 1. The SPS-1 in Louisiana fulfills the requirements for the wet no-freeze climatic region with fine-grained subgrade (Column "O"). Twelve distinct test sections are located at the project site, varying in thickness and layer type. A detailed layout of each of the twelve sections is shown in Table 2 and Figure 1.

For additional information on the experimental design for the SPS-1 project, please refer to "Specific Pavement Studies Experiment Design and Research Plan for Experiment SPS-1, Strategic Study of Structural Factors for Flexible Pavements", dated February 1990.

Selection/Nomination of US-171

The SPS-1 project on US-171 in Calcasieu Parish, Louisiana was nominated on 5 October 1992. Appendix A includes the project nomination and information forms with pertinent correspondence. This project is a four-lane divided highway with 12-foot lanes, 10-foot outside shoulder and a 4-foot shoulder along the passing lane. The estimated traffic includes 23 percent heavy trucks, with an annual 523,920 ESALs. The project is located

TABLE 1. EXPERIMENT DESIGN FOR SPS-1

PAVEMENT STRUCTURE COMBINATIONS				FACTORS FOR MOISTURE, TEMPERATURE, SUBGRADE TYPE AND LOCATION															
				WET								DRY							
				FREEZE				NO FREEZE				FREEZE				NO FREEZE			
				FINE		COARSE		FINE		COARSE		FINE		COARSE		FINE		COARSE	
DRAINAGE	BASE TYPE	TOTAL BASE THICK	SURF. THICK	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
NO	AGG	8"	4"		K1		M1		O1		Q1		S1		U1		W1	X1	
			7"	J1		L1		N1		P1		R1		T1		V1			Y1
		12"	4"	J2		L2		N2		P2		R2		T2		V2			Y2
			7"		K2		M2		O2		Q2		S2		U2		W2	X2	
	ATB	8"	4"	J3		L3		N3		P3		R3		T3		V3			Y3
			7"		K3		M3		O3		Q3		S3		U3		W3	X3	
		12"	4"		K4		M4		O4		Q4		S4		U4		W4	X4	
			7"	J4		L4		N4		P4		R4		T4		V4			Y4
	ATB / 4" AGG	8"	4"	J5		L5		N5		P5		R5		T5		V5			Y5
			7"		K5		M5		O5		Q5		S5		U5		W5	X5	
		12"	4"		K6		M6		O6		Q6		S6		U6		W6	X6	
			7"	J6		L6		N6		P6		R6		T6		V6			Y6
YES	PATB / AGG	8"	4"	J7		L7		N7		P7		R7		T7		V7			Y7
			7"		K7		M7		O7		Q7		S7		U7		W7	X7	
		12"	4"		K8		M8		O8		Q8		S8		U8		W8	X8	
			7"	J8		L8		N8		P8		R8		T8		V8			Y8
		16"	4"		K9		M9		O9		Q9		S9		U9		W9	X9	
			7"	J9		L9		N9		P9		R9		T9		V9			Y9
	ATB / PATB	8"	4"		K10		M10		O10		Q10		S10		U10		W10	X10	
			7"	J10		L10		N10		P10		R10		T10		V10			Y10
		12"	4"	J11		L11		N11		P11		R11		T11		V11			Y11
			7"		K11		M11		O11		Q11		S11		U11		W11	X11	
		16"	4"	J12		L12		N12		P12		R12		T12		V12			Y12
			7"		K12		M12		O12		Q12		S12		U12		W12	X12	

AGG = Dense-graded Untreated Aggregate Base
ATB = Dense-graded Asphalt Treated Base
PATB = 4" Thick Open-graded Permeable Asphalt-treated Drainage Layer Underneath ATB or Over AGG Base
4" AGG = 4" Thick Dense-graded Untreated Aggregate Base Layer Underneath ATB

TABLE 2. TEST SECTION LAYOUT

Section (Cell ID)	Cross Section	Begin Station	End Station
220119 (O19)	7″ AC Surface	223 + 00	229 + 00
	4″ PATB		
	4″ DGAB		
220120 (O20)	4″ AC Surface	230 + 00	236 + 00
	4″ PATB		
	8″ DGAB		
220121 (O21)	4″ AC Surface	239 + 75	245 + 75
	4″ PATB		
	12″ DGAB		
220122 (O22)	4″ AC Surface	249 + 50	255 + 50
	4″ ATB		
	4″ PATB		
220123 (O23)	7″ AC Surface	257 + 25	263 + 25
	8″ ATB		
	4″ PATB		
220124 (O24)	7″ AC Surface	271 + 75	277 + 75
	12″ ATB		
	4″ PATB		

TABLE 2. TEST SECTION LAYOUT (Continued)

Section (Cell ID)	Cross Section	Begin Station	End Station
220118 (O18)	4″ AC Surface	282 + 75	288 + 75
	8″ ATB		
	4″ DGAB		
220116 (O16)	4″ AC Surface	293 + 75	299 + 75
	12″ ATB		
220115 (O15)	7″ AC Surface	300 + 75	306 + 75
	8″ ATB		
220117 (O17)	7″ AC Surface	307 + 75	313 + 75
	4″ ATB		
	4″ DGAB		
220114 (O14)	7″ AC Surface	317 + 00	323 + 00
	12″ DGAB		
220113 (O13)	4″ AC Surface	324 + 00	330 + 00
	8″ DGAB		

LOUISIANA SPS-1, US-171 NBL
Calcasieu Parish, Louisiana

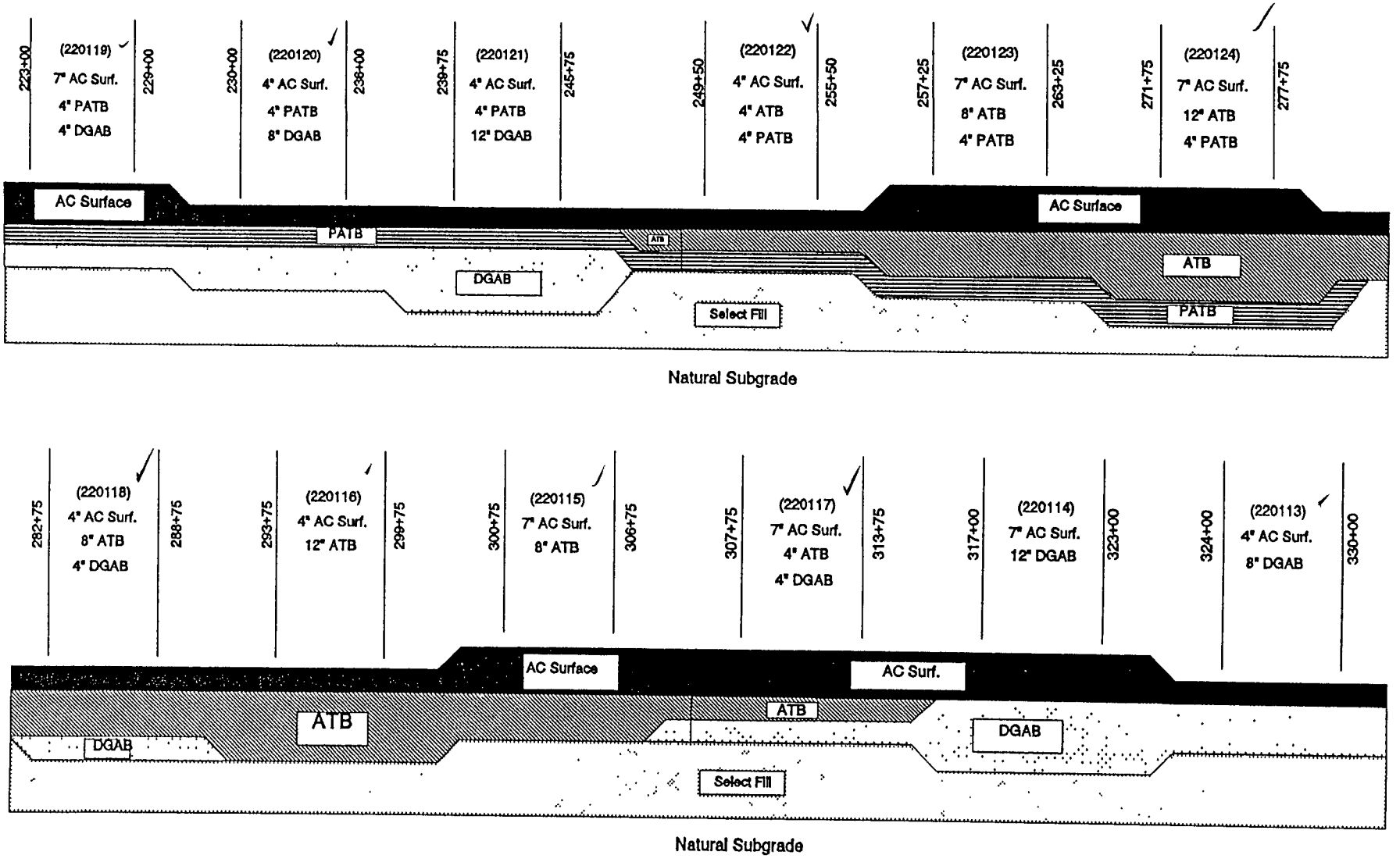


Figure 1. Layout of Test Sections

between Moss Bluff and Gillis, north of Lake Charles, Louisiana. There were several residential driveways located randomly throughout the project and several crossovers along the passing lane of the project. Any disruptions in the traffic stream along the project are considered to be negligible. The project begins at approximately Milepost 7.5 and ends approximately at Milepost 9.3, with a total length of 1.8 miles. All twelve sections were located in areas with light fill brought in to bring the level of the roadway to grade.

The project was accepted for inclusion in this experiment by the FHWA on 18 November 1992.

PRECONSTRUCTION MONITORING

Since this project included new construction, there was very little preconstruction monitoring required. Construction of the embankment subgrade materials began on 23 April 1996. The contractor encountered difficulties constructing on the clayey silt material found throughout the project site. This spurred conversations between the SHA, SRCO and FHWA about stabilizing the subgrade. Testing was conducted by the State Highway Laboratory with a 10 percent cement treatment of the silty material. The 10 percent cement resulted in an unconfined compressive strength of 300 PSI, which reduced our office concerns for the stabilization procedure. Louisiana Department of Transportation yielded to the FHWA request to use soil cement treatment for the subgrade on this project. In order to achieve final elevations, however, select material was brought in and placed in varying thicknesses throughout the length of the project. The fill material was brought to 93 percent compaction and the proper moisture content prior to cement treatment. Twelve percent cement was used throughout the entire project and the final treated embankment was brought to 95 percent compaction before construction commenced. On 18 September 1995, material sampling and testing of the subgrade was conducted. Preconstruction FWD testing, in accordance with Protocol P59, was conducted on top of the treated fill material on 23 April 1996, in conjunction with elevation measurements.

CONSTRUCTION

Placement of the dense-graded aggregate base (DGAB) material was completed in early May 1996, and was followed almost immediately with placement of lateral drains. Interceptor drains were deleted from the design of this project after determining that their function was not needed due to a bridge separating the drained and undrained sections. This was approved by John Miller from PCS/LAW and Shiraz Tayabji from the FHWA. The DGAB layer was placed in one lift of 4″, 8″ and 12″ for corresponding sections, and compacted with a Wacker steel-wheeled roller weighing 11.3 tons.

Once the drainage trench and final DGAB were completed, the geo-textile fabric was laid in accordance with LTPP construction guidelines. The asphalt treated base (ATB) was completed 12 June 1996, on sections 15, 16, 17, and 18. A Bomag 10-ton vibratory roller was used to compact the ATB material along with a CAT PS/180 12-ton pneumatic roller. Densities of 96.3 to 97.5 percent were achieved after compaction. The AC binder material was completed on 25 June 1996 for sections 13, 14, 15, 16, 17, and 18. The same rollers were used to compact the binder material. The rolling pattern consisted of two vibratory passes with 11

passes of the pneumatic roller, achieving densities ranging from 96 to 97.8 percent after compaction. The PATB layer was completed on 1 July 1996. It was paved with a barber-green mat-maker in one 4″ lift. Prior to laydown, it was noticed that the contractor did not have the sufficient 2′ geotextile fabric to wrap around and cover the trenched material. It was also noted that the aggregate used as fill material for the trench was not washed and contained some fines. The ATB for sections 22, 23, and 24 was completed on 12 July 1996. The same roller pattern used for sections 15, 16, 17, and 18 was used for sections 22, 23, and 24, with final density readings ranging from 95.6 to 97.2 percent. The AC binder for sections 19 through 24 were completed 16 July 1996. The same rollers and roller pattern used for the previous sections were used for these sections. A 1.5″ wearing course was completed in July 1997. Drainage outlets were retrofitted onto the longitudinal edge drain on 18 July 1997. A Weigh-in-Motion (WIM) sensor was installed in July 1996, approximately 500′ ahead of the project to collect the necessary traffic information. Table 3 contains a summarization of completion dates for each event for the 12 test sections.

Rain delays were also encountered during the construction of the test sections. In all cases, the contractor prevented equipment movement on the wet surfaces and waited for the surfaces to dry before resuming operations. It was necessary, on occasions, to remove trapped water in the ditches along the roadbed with pumps. Through the construction process, the asphalt plant functioned well. In general, the construction operations proceeded smoothly. Elevation readings and postconstruction coring indicated areas where layer thicknesses were out of specification. The DGAB thickness for sections 17 and 21 were over 1″ thicker on average from the design thicknesses. The ATB thickness for section 16 is approximately 1″ lower than the design thickness. The combined HMAC layer was 1.2″ greater on average than the design thickness for section 13; 2.3″ greater for section 14; and 0.8″ greater for section 16. There were no other deviations or unusual occurrences during construction.

POSTCONSTRUCTION MONITORING

Upon completion of construction of the SPS-1 project, it will be necessary to monitor the performance of the pavement. This involves manual surveys, FWD testing, and profilometer testing. LTPP directives indicate that the manual surveys and profilometer testing need to be performed biennially. FWD testing is to be performed annually. The first set of monitoring is scheduled to be performed in July 1998.

Material Sampling and Testing

Postconstruction coring was carried out in July 1997. The coring was performed successfully with a 24-inch long, 4-inch diameter drill bit. Specific samples and the corresponding tests to be performed are designated in the materials sampling plan located in Appendix C.

SUMMARY

Having completed the observations of the construction for this SPS-1 project located on US-171, north of Lake Charles, Louisiana, it appears that this project will contribute significantly to the LTPP objectives by providing valuable information about the structural factors affecting flexible pavements. The efforts of the Louisiana DOT, and their willingness to participate in

this study, is greatly appreciated. Special thanks goes to Don Duberville, whose work made this project possible.

Currently, monitoring efforts are scheduled and we will continue noting changes in the surface distress, surface profile, and structural capacity, and compare the data with other projects of this nature around the country in an attempt to improve existing structural design methods.

TABLE 3. COMPLETION SCHEDULE

Activity Completed	Test Section											
	220113	220114	220115	220116	220117	220118	220119	220120	220121	220122	220123	220124
Fill/Emb. Placement	Mar-96	Mar-96	Mar-96	Mar-96	Mar-96	Mar-96	Mar-96	Mar-96	Mar-96	Mar-96	Mar-96	Mar-96
Subgrade Sampling	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95
Subgrade Density	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95	Sep-95
Subgrade Elevation	Apr-96	Apr-96	Apr-96	Apr-96	Apr-96	Apr-96	Apr-96	Apr-96	Apr-96	Apr-96	Apr-96	Apr-96
DGAB Placement	May-96	May-96			May-96	May-96	May-96	May-96	May-96			
DGAB Sampling	May-96	May-96			May-96	May-96	May-96	May-96	May-96			
DGAB Density	May-96	May-96			May-96	May-96	May-96	May-96	May-96			
DGAB Elevation	May-96	May-96			May-96	May-96	May-96	May-96	May-96			
Edge Drain Trench							Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96
Edge Drain Placement *							Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96
Geotextile Placement										Jun-96	Jun-96	Jun-96
PATB Placement							Jul-96	Jul-96	Jul-96	Jul-96	Jul-96	Jul-96
PATB Sampling							Jul-96	Jul-96	Jul-96	Jul-96	Jul-96	Jul-96
PATB Elevation							Jul-96	Jul-96	Jul-96	Jul-96	Jul-96	Jul-96
ATB Placement			Jun-96	Jun-96	Jun-96	Jun-96				Jul-96	Jul-96	Jul-96
ATB Sampling			Jun-96	Jun-96	Jun-96	Jun-96				Jul-96	Jul-96	Jul-96
ATB Density			Jun-96	Jun-96	Jun-96	Jun-96				Jul-96	Jul-96	Jul-96
ATB Elevation			Jun-96	Jun-96	Jun-96	Jun-96				Jul-96	Jul-96	Jul-96
HMAC Placement	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jul-96	Jul-96	Jul-96	Jul-96	Jul-96	Jul-96
HMAC Bulk Sampling	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jul-96	Jul-96	Jul-96	Jul-96	Jul-96	Jul-96
HMAC Density	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jul-96	Jul-96	Jul-96	Jul-96	Jul-96	Jul-96
HMAC Elevation	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jul-96	Jul-96	Jul-96	Jul-96	Jul-96	Jul-96
OGFC Placement	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jul-97	Jun-96	Jun-96
OGFC Bulk Sampling	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96	Jun-96		Jun-96	Jun-96
OGFC Coring	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97
OGFC Density	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97
OGFC Elevation	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97	Jul-97
Weigh-In-Motion Inst.	Jul-96											

* Drainage outlets were retrofitted July 18, 1997.

APPENDIX A

PROJECT NOMINATION FORMS AND OTHER CORRESPONDENCE

Brent Rauhut Engineering Inc.

October 5, 1992

Mr. Monte Symons
Federal Highway Administration
LTPP Division (HNR-40)
Turner-Fairbank Highway Research Center
6300 Georgetown Pike, Room F 215
McLean, Virginia 22101

Subject: Potential SPS-1 Candidate Project from Louisiana.

Dear Monte,

This letter transmits to you a nominated candidate project for the SPS-1 Experiment, as submitted by Mr. Dempsey White with the Louisiana Department of Transportation and Development. Please find enclosed a copy of the June 30 transmittal letter submitted by Mr. White, copies of the candidate project nomination forms, and a tentative layout diagram. After review of this project, and consideration of the project's selection criteria, I submit the following comments for your consideration:

1. The project will include new construction of the northbound lanes of the roadway.

2. The construction project is of sufficient length to accommodate in excess of twelve 600′ long test sections with associated sampling and transition areas.

3. Subgrade soils information provided by the LA-DOTD indicate fine-grained soil types along the entire length of the project.

4. The horizontal and vertical alignments are relatively straight and have a uniform vertical grade.

5. From the plans provided, it appears all of the test sections will be located on shallow fill.

6. Information on when the test sections will be opened to traffic is provided in the nomination forms. Efforts will be made to ensure that the test sections are constructed and opened to traffic at approximately the same time.

8240 Mopac, Suite 220 • Austin, Texas (512) 346-0870 • FAX (512) 346-8750

7. In the preliminary layout, culverts, pipes, and other substructures have been avoided within the limits of each test section.

8. As provided in the candidate project nomination forms, the estimated 18 kip ESAL rate in the study lane is 523,920/year.

9. There are no indications in the plan sheets of obstructions or intersections which would effect the uniformity of traffic flow over the test sections.

Potential test section locations have been identified in the new northbound lanes. Possible test section locations are numbered sequentially in the direction of travel. Once we have reached agreement on the acceptability of the project, test section locations will be finalized through coordination with Steve Cumbaa of the LA-DOTD.

Given these comments, it is our recommendation that this project be considered as a viable candidate for the SPS-1 Experiment. We await your comments and suggestions after review of the information provided.

Sincerely,

Mark P. Gardner, P.E.
Project Engineer, SRCO

MPG:dmj

Attachment: As stated.

cc.w/Att: Shiraz Tayabji, PCS/Law

Homer Wheeler, RE-SRCO

cc.w/o Att: Dempsey White, LA-DOTD

Steve Cumbaa, LA-DOTD/TRC

RECEIVED JUL - 8 1992

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
P. O. Box 94245
Baton Rouge, Louisiana 70804-9245

EDWIN W. EDWARDS
GOVERNOR

JUDE W P. PATIN
SECRETARY

June 30, 1992

Mr. Homer G. Wheeler
Regional Engineer
Strategic Highway Research Program
Southern Region
8240 MoPac Expressway, Suite 250
Austin, TX 78759

Dear Mr. Wheeler: Hw

RE: STATE OF LOUISIANA PARTICIPATION IN THE SHRP SPS-1 & SPS-2 EXPERIMENTS

We are pleased to transmit the Candidate Project Nomination and Information Forms for our proposed SPS-1 and SPS-2 experimental pavements. Both sites are located on U.S. 171 and will be constructed under the following projects:

TYPE	PROJECT NO.	DESCRIPTION	PARISH
SPS-1	024-02-0014	Newton to Gillis	Calcasieu
SPS-2	025-06-0027	Grand Cane to Kickapoo	DeSoto

If any additional information is required, please contact Mr. Steven L. Cumbaa at (504) 767-9106.

Sincerely,

Dempsey D. White

Dempsey D. White
Chief Engineer

Enclosure
DDW:SLC:jl
pc: Mr. Jude W.P. Patin
Mr. Charles Higgins
Mr. Edward Breckwoldt
Dr. Peter Stopher
Mr. William Sussman
Mr. Virgil Page
Mr. William Hickey
Mr. John Davis
Mr. Newell Schindler, Jr.
Mr. William Temple
Mr. Steven Cumbaa

AN EQUAL OPPORTUNITY EMPLOYER
A DRUG FREE WORKPLACE

SHEET A. SPS-1 CANDIDATE PROJECT NOMINATION AND INFORMATION FORM

STATE LA SHRP SECTION NO _____

GENERAL PROJECT INFORMATION

PROJECT LOCATION

ROUTE NUMBER 171

ROUTE SIGNING [] Interstate [X] U.S. [] State [] County

Other _____

PROJECT LOCATION Start Milepost _____ End Milepost _____

Start Station 221+00 End Station 330+00

DIRECTION OF TRAVEL [X] North B. [] South B. [] West B. [] East B.

PROJECT LOCATION DESCRIPTION Newton-Gillis Highway

COUNTY Calcasieu

HIGHWAY AGENCY DISTRICT NUMBER 07

SHRP ENVIRONMENTAL ZONE

[] WET FREEZE [X] WET NO-FREEZE [] DRY FREEZE [] DRY NO-FREEZE

SIGNIFICANT DATES

LATEST DATE OF APPROVAL NOTIFICATION FROM SHRP NOV '92

CONTRACT LETTING DATE JUNE '93

ESTIMATED CONSTRUCTION START DATE SEPT '93

ESTIMATED DATE TEST SECTIONS OPENED TO TRAFFIC JUNE '95

ESTIMATED CONSTRUCTION COMPLETION DATE JUNE 95

PROJECT DESCRIPTION

PROJECT TYPE [] New Route [] Removal and Reconstruction [X] Parallel Roadway

Other _____

FACILITY [X] Divided [] Undivided NUMBER OF LANES (One Way) 2

DESIGN TRAFFIC DATA

ANNUAL AVERAGE DAILY TRAFFIC (TWO DIRECTIONS) 11,400

% HEAVY TRUCKS AND COMBINATIONS (OF AADT) 23%

ESTIMATED 18K ESAL RATE IN STUDY LANE (ESAL/YR) 523,920

TOTAL DESIGN 18K ESAL APPLICATIONS IN DESIGN LANE 10,478,390

DESIGN PERIOD (Years) 20

SHEET B. SPS-1 CANDIDATE PROJECT NOMINATION AND INFORMATION FORM

STATE LA SHRP SECTION NO _____

AGENCY'S PAVEMENT STRUCTURE DESIGN FOR SITE

LAYER[1] NO.	LAYER[2] DESCRIPTION CODE	MATERIAL TYPE[3] CLASS CODE	THICKNESS[4] (INCHES)	STRUCTURAL[5] COEFFICIENT
1	SUBGRADE (7)	5 6		
2	0 5	2 8	5.0	0.33
3	0 3	0 1	4.0	0.36
4	0 3	0 1	1.5	0.40
5				0.
6				0.
7				0.
8				0.
9				0.

STRUCTURAL DESIGN METHOD [X] 1972 AASHTO [] 1986 AASHTO [] Modified AASHTO

Other Chapter 3 Revised, 1981

AASHTO DESIGN RELIABILITY FACTORS R% _____ S_o _____

OUTSIDE SHOULDER TYPE

[] Turf [] Granular [X] Asphalt Concrete [] Surface Treatment

[] PCC [] Curb and Gutter Other _____

OUTSIDE SHOULDER WIDTH (Feet) 10'

SUBSURFACE EDGE DRAINS [] Yes [X] No

NOTES

1. Layer 1 is the natural occurring subgrade soil. The pavement surface will have the largest assigned layer number.

2. Layer description codes:

Surface Layer 03	Base Layer 05	Subgrade 07
Subsurface HMAC .. 04	Subbase Layer 06	Embankment (Fill) 11

3. Refer to Tables 1 through 4 for material class codes.

4. If subgrade depth to a rigid layer is known, enter this depth for subgrade thickness, otherwise leave subgrade layer thickness blank.

5. Enter AASHTO structural layer coefficient value, as appropriately modified, used in pavement design or typical coefficient used by agency for this material. For the subgrade, enter either AASHTO soil support value or resilient modulus value (psi) used in design.

SHEET C. SPS-1 CANDIDATE PROJECT NOMINATION AND INFORMATION FORM

STATE LA SHRP SECTION NO _____

TEST SECTION LAYOUT

NUMBER OF TEST SECTIONS ENTIRELY ON: FILL X CUT _____

SHORTEST TRANSITION BETWEEN CONSECUTIVE TEST SECTIONS (Feet) 100'

VERTICAL GRADE (Avg %) (+ upgrade; - downgrade) +0.1277% / -0.1977%

HORIZONTAL CURVATURE (Degrees) [X] Tangent _____ ±

COMMENTS ON DEVIATIONS FROM DESIRED SITE LOCATION CRITERIA _____

OTHER SHRP TEST SECTIONS

DOES AGENCY DESIGN CONFORM TO GPS-1 OR GPS-2 PROJECT CRITERIA? [X] YES [ ] NO

DISTANCE TO NEAREST GPS TEST SECTION ON SAME ROUTE (Miles) _____

TEST SECTION NUMBER OF NEAREST GPS SECTION _____

SUPPLEMENTAL TEST SECTIONS

IF SUPPLEMENTAL EXPERIMENTAL TEST SECTIONS ARE PROPOSED, COMPLETE THE FOLLOWING

TOTAL NUMBER OF SUPPLEMENTAL TEST SECTIONS NONE PROPOSED

FACTORS TO BE INVESTIGATED _____

Table 1. Pavement surface material type classification codes.

MATERIAL TYPE	CODE
Hot Mixed, Hot Laid, Asphalt Concrete, Dense graded	01
Hot Mixed, Hot Laid, Asphalt Concrete, Open Graded (Porous Friction Course)	02
Sand Asphalt	03
Jointed Plain Portland Cement Concrete	04
Jointed Reinforced Portland Cement Concrete	05
Continuously Reinforced Portland Cement Concrete	06
Prestressed Portland Cement Concrete	07
Fiber Reinforced Portland Cement Concrete	08
Plant Mix, Cold Laid, Emulsified Asphalt Material	09
Plant Mix, Cold Laid, Cutback Asphalt Material	10
Single Surface Treatment	11
Double Surface Treatment	12
Hot Recycled, Central Plant Mix, Asphalt Concrete	13
Central Plant Mix, Cold Laid, Recycled Asphalt Concrete	14
Mixed-in-place, Cold Laid, Recycled Asphalt Concrete	15
Heater Scarification/Recompaction, Recycled Asphalt Concrete	16
Jointed Plain Recycled Portland Cement Concrete	17
Jointed Reinforced Recycled Portland Cement Concrete	18
Other	20

Table 2. Base and subbase material type classification codes.

MATERIAL TYPE	CODE
No Base (Pavement Directly on Subgrade)	21
Uncrushed Gravel	22
Crushed Stone, Gravel or Slag	23
Sand	24
Soil-Aggregate Mixture, Predominately Fine-Grained Soil	25
Soil-Aggregate Mixture, Predominately Coarse-Grained Soil	26
Soil Cement	27
BITUMINOUS BOUND BASE OR SUBBASE MATERIALS	
Dense Graded, Hot laid, Central Plant Mix	28
Dense Graded, Cold Laid, Central Plant Mix	29
Dense Graded, Cold Laid, Mixed-in-Place	30
Open Graded, Hot Laid, Central Plant Mix	31
Open Graded, Cold Laid, Central Plant Mix	32
Open Graded, Cold Laid, Mixed-in-place	33
Recycled Asphalt Concrete, Plant Mix, Hot Laid	34
Recycled Asphalt Concrete, Plant Mix, Cold Laid	35
Recycled Asphalt Concrete, Mixed-in-Place	36
Sand Asphalt	46
Cement Aggregate Mixture	37
Lean Concrete (< 3 sacks/cy)	38
Recycled Portland Cement Concrete	39
Sand-Shell Mixture	40
Limerock, Caliche (Soft Carbonate Rock)	41
Lime-Treated Subgrade Soil	42
Cement Treated Subgrade Soil	43
Pozzolanic-Aggregate Mixture	44
Open graded, Untreated Aggregate Drainage Layer	47

Table 3. Subgrade soil description codes.

MATERIAL TYPE	CODE
FINE-GRAINED SUBGRADE SOILS	
Clay (Liquid Limit > 50)	51
Sandy Clay	52
Silty Clay	53
Silt	54
Sandy Silt	55
Clayey Silt	56
COARSE-GRAINED SOILS	
Sand	57
Poorly Graded Sand	58
Silty Sand	59
Clayey Sand	60
Gravel	61
Poorly Graded Gravel	62
Clayey Gravel	63
Shale	64
Rock	65

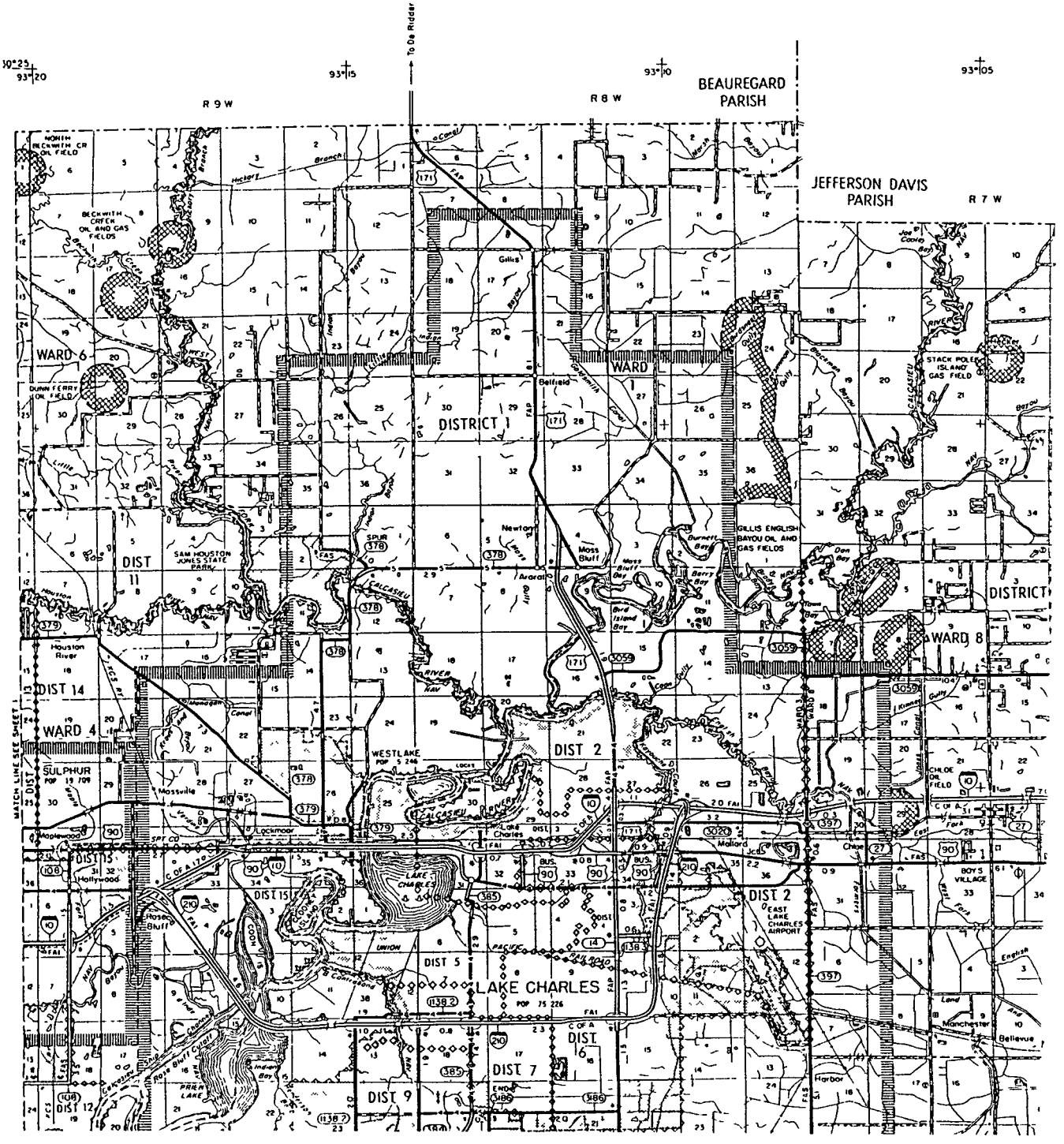
Table 4. Material type classification codes for thin seals and interlayers.

MATERIAL TYPE	CODE
Chip Seal Coat	71
Slurry Seal Coat	72
Fog Seal Coat	73
Woven Geotextile	74
Nonwoven Geotextile	75
Stress Absorbing Membrane Interlayer	77
Dense Graded Asphalt Concrete Interlayer	78
Aggregate Interlayer	79
Open Graded Asphalt Concrete Interlayer	80
Chip Seal with Modified Binder (Excluding Crumb Rubber)	81
Sand Seal	82
Asphalt Rubber Seal Coat (Stress Absorbing Membrane)	83
Sand Asphalt	84
Other	85

CALCASIEU PARISH

S.P. 024-02-0014
U.S. 171
NEWTON - GILLIS

SPS-1 PROJECT



RECEIVED NOV 24 1992

I will fax an acknowledgement to Mr. White w/cc. to Steve. HW

Memorandum

U.S. Department of Transportation
Federal Highway Administration

6300 Georgetown Pike
McLean, Virginia 22101

Subject: ACTION: Specific Pavement Study (SPS) - Louisiana Project Approval and Allocation of Incentive Funds

Date: NOV 18 1992

From: Director, Office of Engineering and Highway Operations Research and Development

Reply to Attn. of: HNR-40

To: Mr. Wesley S. Mendenhall, Jr.
Regional Federal Highway Administrator (HEO-06)
Fort Worth, Texas

We received and evaluated the nominations from the Louisiana Department of Transportation (DOT) for an SPS-1 test site on U.S. 171 in Calcasieu Parish and an SPS-2 test site on U.S. 171 in DeSoto Parish. These sites are acceptable for inclusion into the Long-Term Pavement Performance (LTPP) program. It is expected that the "0" group of sections as given in the experimental design will be constructed. Participation in the SPS-1 and SPS-2 experiments is appreciated. The opportunity to evaluate and directly compare flexible and rigid in-situ pavement in a controlled experiment is rare. The information from these two sites will greatly contribute to achieving the goals of the experiments.

The inclusion of these sites into the LTPP program allows Louisiana DOT to be eligible for $50,000 of special incentive funds for reimbursement of certain expenses associated with each of the SPS-1 and SPS-2 experiments. This memorandum authorizes the obligation of a total of $100,000 subject to the following:

1. Louisiana DOT's continued agreement to conform to all of the design and participation requirements of the experiments.

2. Funds are to be used for reimbursement of costs associated with the SPS sites for: (a) the purchase and/or installation of weigh-in-motion and/or automated vehicle classification equipment; (b) conventional sampling and materials testing; and/or (c) traffic control expenditures that are incurred as part of these data collection activities.

3. The expenditures were on projects completed after May 4, 1992. Funds are expected to be used within 5 years of this authorization.

4. The appropriation code is 380 and the Fiscal Management Information System and regular Federal-aid procedures are to be used. This authorization increases the State's obligation limit by the amount authorized for the 380 appropriation.

The cooperation and assistance of the Federal Highway Administration Region 6 and the Louisiana Division staff in the LTPP program is appreciated. Upon receipt of this memorandum, it is expected that the Louisiana Division office will officially notify the Louisiana DOT of this allotment and establish the appropriate accounts. Any questions concerning the requirements or this allocation should be directed to Mr. Monte Symons at (703) 285-2730. Questions related to the project status, testing, and/or coordination should be directed to either Mr. Symons, or Mr. Homer Wheeler, LTPP Southern Regional Engineer. Mr. Wheeler can be reached at (512) 346-7477.

Thomas J. Ptak

cc: Mr. Homer Wheeler

NATIONAL RESEARCH COUNCIL

STRATEGIC HIGHWAY RESEARCH PROGRAM

Southern Region 8240 MoPac Expressway, Suite 250, Austin TX 78759 Tel (512) 346-7477 Fax (512) 346-8750

FAX MESSAGE

HOMER G. WHEELER
Regional Engineer

TO: DEMPSEY D. WHITE,
CHIEF ENGINEER
LOUISIANA DOTD

NO. OF PAGES (INCLUDING THIS TRANSMITTAL PAGE) 1

DATE: NOVEMBER 24, 1992

TIME: _____ AM X PM

FAX NO.: 504-379-~~2398~~ -1394

- -

Subject: Nomination of SHRP SPS-1 and SPS-2 Experimental Projects.

Dear Mr. White:

I have just received word from the FHWA in Washington, DC that your nomination of the SPS-1 site on US-171 in Calcasieu Parish and the SPS-2 site on US-171 in DeSoto Parish have been accepted for inclusion in the Long Term Pavement Performance program. You will be receiving an official notification of approval from Mr. Sussmann's office, which will also include information about the $50,000 of special incentive funds for the SPS-1 and the $50,000 for the SPS-2 experiment.

Again, I wish to thank you for your support, effort and time devoted to these important "flagship" experiments, each of which will provide invaluable information to the nationwide experiment, but will also provide case history studies for the Louisiana DOTD.

Sincerely,

Homer G. Wheeler

Homer G. Wheeler, P.E.
SHRP Regional Engineer, SRCO

HGW:dmj

cc: Brent Rauhut, SRCO
Steve Cumbaa, LA-TRC
Monte Symons, FHWA/LTPP-DC

APPENDIX B

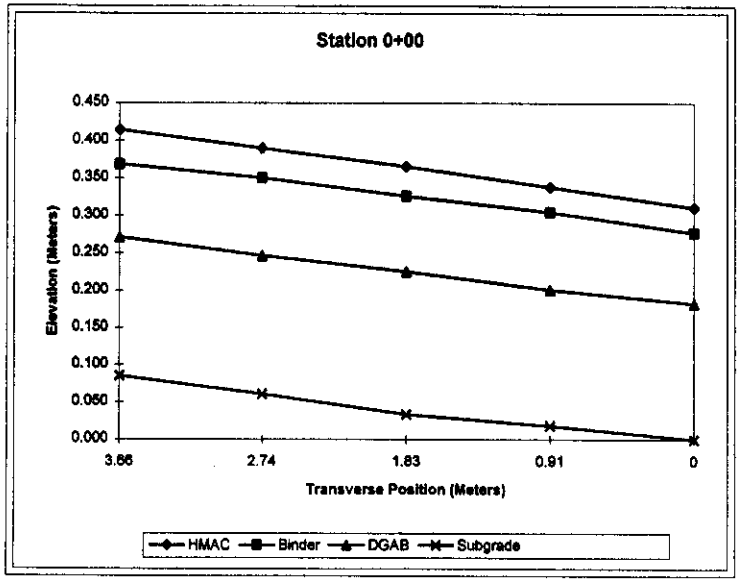
LAYER PROFILE RESULTS

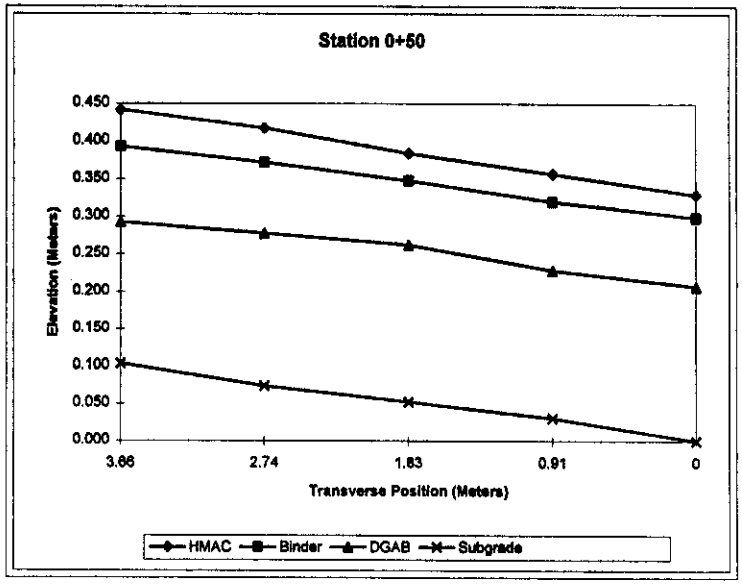
Louisiana SPS-1 (220113)

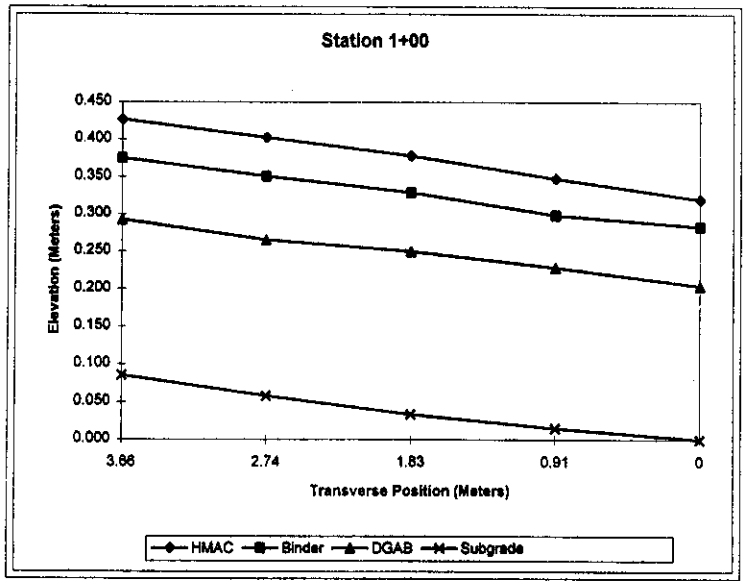
Station	Layer	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0+00	HMAC	1.414	0.034	0.094	0.183	1.442	0.034	0.104	0.183	1.469	0.040	0.101	0.192	1.494	0.040	0.104	0.186	1.518	0.046	0.098	0.186
	Binder	1.381				1.408				1.430				1.454				1.472			
	DGAB	1.286				1.306				1.329				1.350				1.375			
	Subgrade	1.103				1.122				1.137				1.164				1.189			
0+50	HMAC	1.414	0.030	0.091	0.207	1.442	0.037	0.091	0.198	1.469	0.037	0.085	0.210	1.503	0.046	0.094	0.204	1.527	0.049	0.101	0.189
	Binder	1.384				1.408				1.433				1.457				1.478			
	DGAB	1.292				1.314				1.347				1.362				1.378			
	Subgrade	1.085				1.116				1.137				1.156				1.189			
1+00	HMAC	1.417	0.037	0.079	0.204	1.445	0.049	0.070	0.213	1.475	0.049	0.079	0.216	1.500	0.052	0.085	0.207	1.524	0.052	0.082	0.207
	Binder	1.381				1.396				1.426				1.446				1.472			
	DGAB	1.301				1.326				1.347				1.362				1.390			
	Subgrade	1.097				1.113				1.131				1.155				1.183			
1+50	HMAC	1.426	0.037	0.094	0.189	1.448	0.043	0.091	0.189	1.478	0.046	0.098	0.192	1.506	0.052	0.091	0.198	1.530	0.055	0.088	0.204
	Binder	1.390				1.405				1.433				1.454				1.476			
	DGAB	1.295				1.314				1.335				1.362				1.387			
	Subgrade	1.106				1.125				1.143				1.164				1.183			
2+00	HMAC	1.426	0.034	0.088	0.195	1.454	0.043	0.088	0.201	1.481	0.043	0.088	0.204	1.509	0.049	0.091	0.201	1.533	0.049	0.091	0.210
	Binder	1.393				1.411				1.439				1.460				1.484			
	DGAB	1.305				1.323				1.350				1.369				1.393			
	Subgrade	1.109				1.122				1.146				1.167				1.183			
2+50	HMAC	1.420	0.046	0.073	0.210	1.445	0.046	0.073	0.216	1.475	0.049	0.079	0.223	1.503	0.052	0.079	0.232	1.524	0.055	0.076	0.229
	Binder	1.375				1.399				1.426				1.451				1.469			
	DGAB	1.301				1.326				1.347				1.372				1.393			
	Subgrade	1.091				1.109				1.125				1.140				1.164			
3+00	HMAC	1.414	0.040	0.088	0.195	1.439	0.043	0.098	0.189	1.469	0.046	0.098	0.201	1.494	0.049	0.082	0.216	1.521	0.055	0.082	0.216
	Binder	1.375				1.396				1.423				1.445				1.466			
	DGAB	1.286				1.298				1.326				1.362				1.384			
	Subgrade	1.091				1.109				1.125				1.146				1.167			
3+50	HMAC	1.405	0.034	0.082	0.204	1.433	0.040	0.079	0.207	1.463	0.043	0.088	0.210	1.487	0.046	0.085	0.213	1.515	0.052	0.082	0.219
	Binder	1.372				1.393				1.420				1.442				1.463			
	DGAB	1.289				1.314				1.332				1.356				1.381			
	Subgrade	1.085				1.106				1.122				1.143				1.161			
4+00	HMAC	1.414	0.037	0.094	0.204	1.439	0.040	0.094	0.204	1.466	0.040	0.104	0.201	1.497	0.046	0.104	0.201	1.521	0.052	0.101	0.198
	Binder	1.378				1.399				1.426				1.451				1.469			
	DGAB	1.283				1.305				1.323				1.347				1.369			
	Subgrade	1.079				1.100				1.122				1.146				1.170			
4+50	HMAC	1.402	0.030	0.088	0.207	1.433	0.040	0.085	0.210	1.463	0.046	0.082	0.213	1.490	0.049	0.091	0.204	1.512	0.049	0.076	0.229
	Binder	1.372				1.393				1.417				1.442				1.463			
	DGAB	1.283				1.308				1.335				1.350				1.387			
	Subgrade	1.076				1.097				1.122				1.146				1.158			
5+00	HMAC	1.408	0.027	0.098	0.198	1.436	0.037	0.098	0.198	1.466	0.037	0.104	0.195	1.494	0.043	0.104	0.195	1.521	0.049	0.101	0.198
	Binder	1.381				1.399				1.430				1.451				1.472			
	DGAB	1.283				1.301				1.326				1.347				1.372			
	Subgrade	1.085				1.103				1.131				1.152				1.173			
	AVG		0.035	0.088	0.200		0.041	0.088	0.201		0.043	0.092	0.205		0.047	0.092	0.206		0.051	0.089	0.208
	MAX		0.046	0.098	0.210		0.049	0.104	0.216		0.049	0.104	0.223		0.052	0.104	0.232		0.055	0.101	0.229
	MIN		0.027	0.073	0.183		0.034	0.070	0.183		0.037	0.079	0.192		0.040	0.079	0.186		0.046	0.076	0.186
	STD		0.005	0.007	0.008		0.004	0.011	0.011		0.004	0.009	0.010		0.004	0.009	0.012		0.003	0.010	0.015

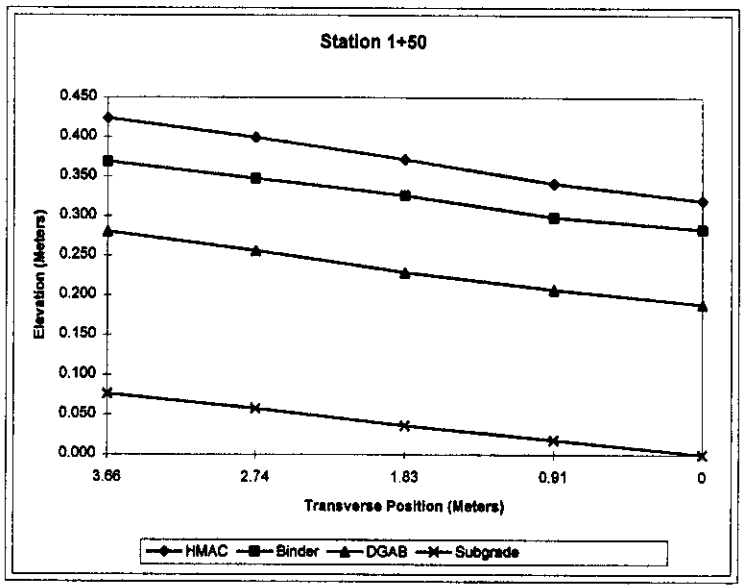
	HMAC	Binder	DGAB
SECTION AVG	0.043	0.090	0.204
SECTION MAX	0.055	0.104	0.232
SECTION MIN	0.027	0.070	0.183
SECTION STD	0.007	0.009	0.011

Louisiana SPS-1 (220113)

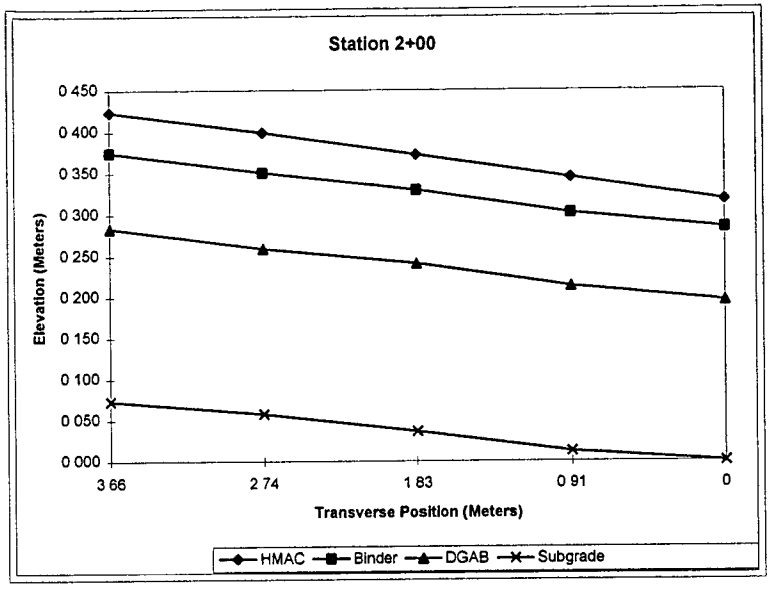


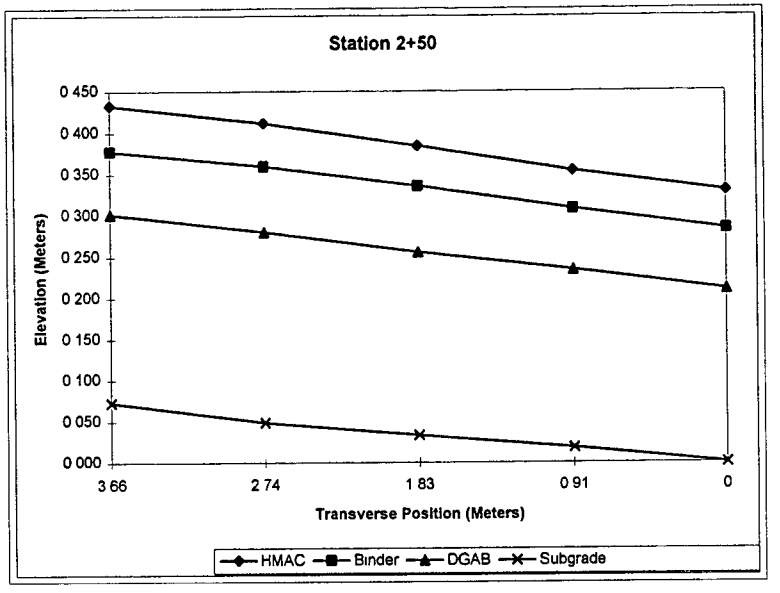


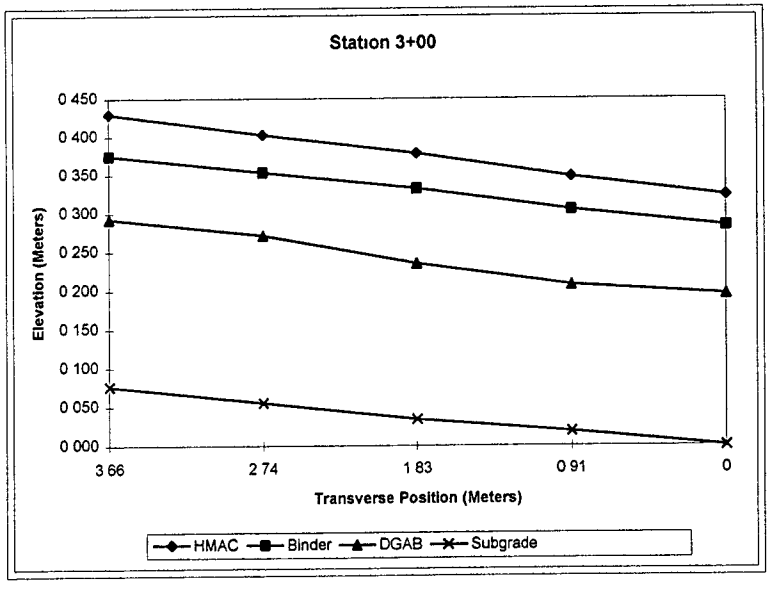


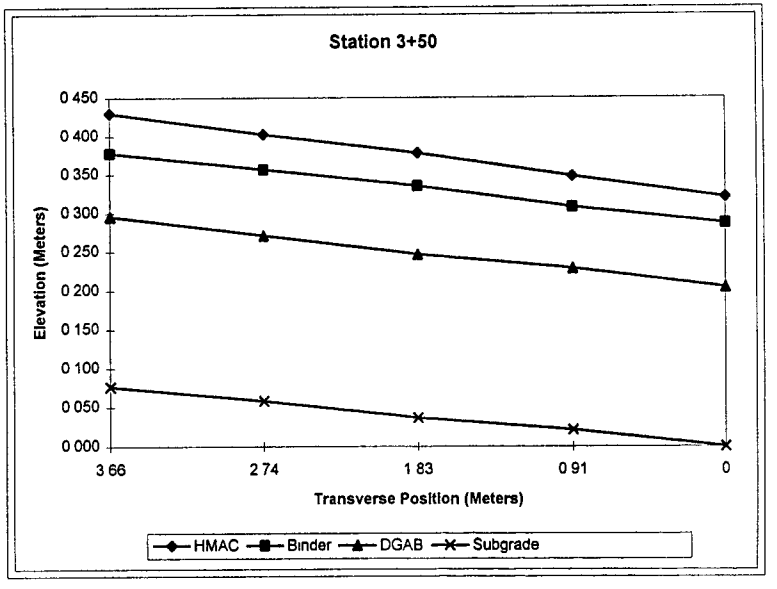


Louisiana SPS-1 (220113)

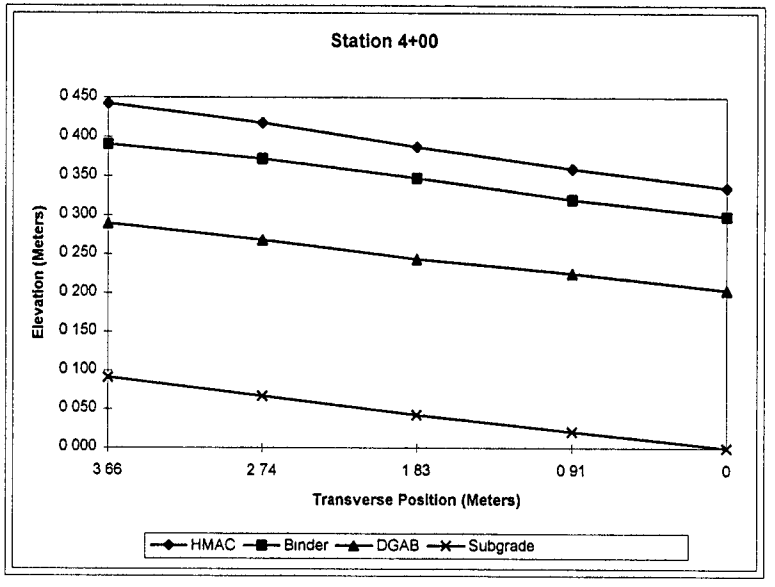


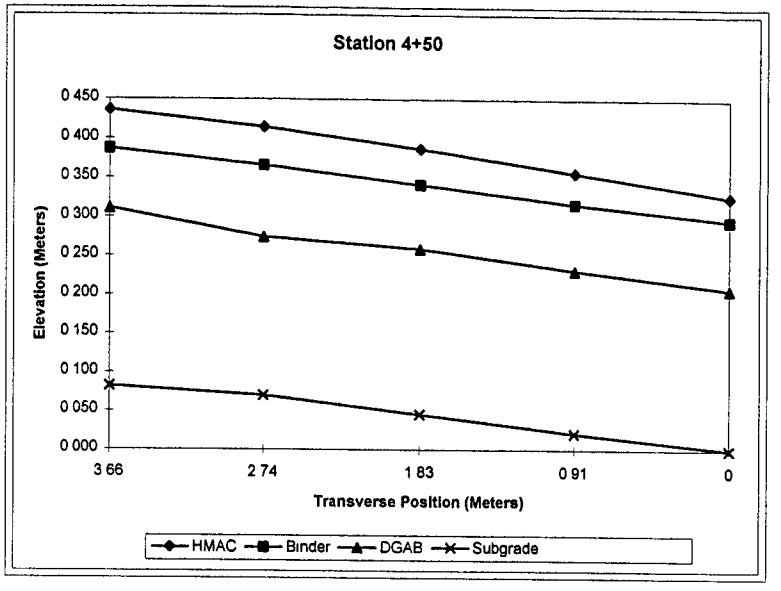


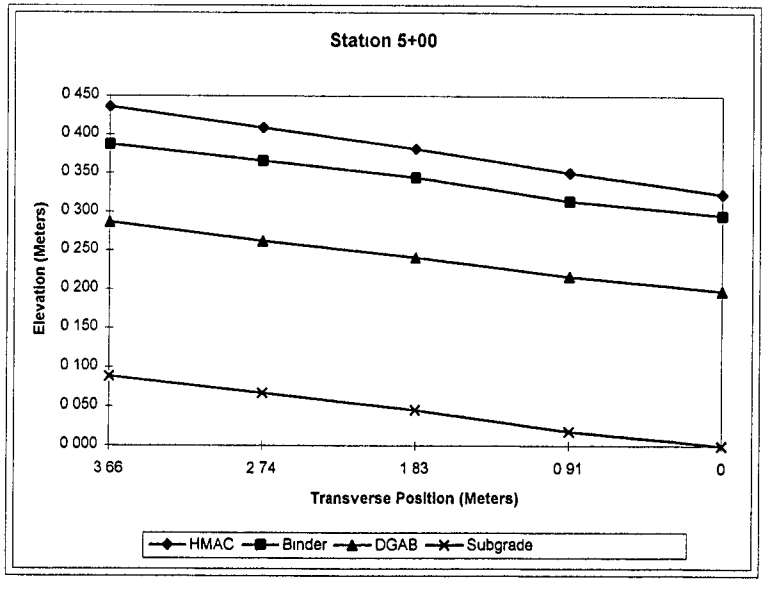




Louisiana SPS-1 (220113)





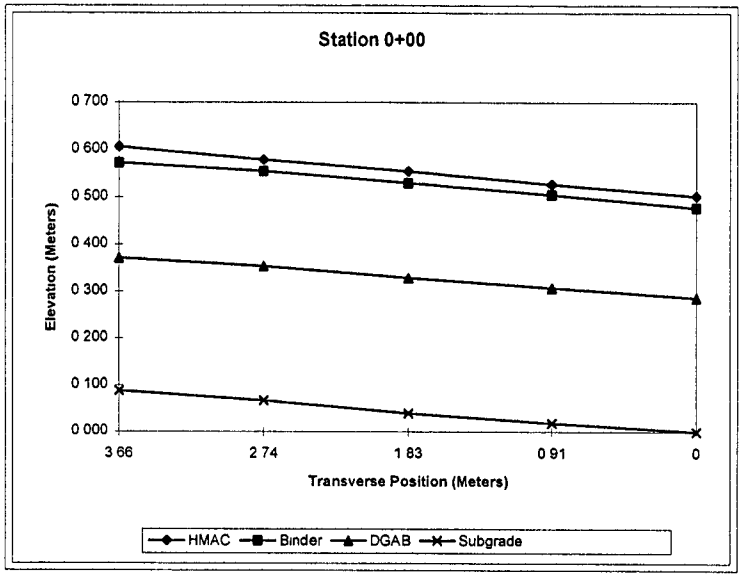


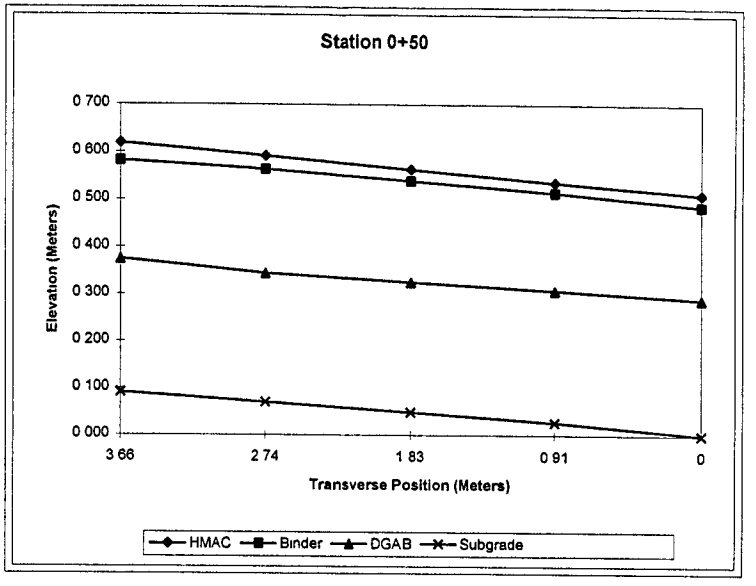
Louisiana SPS-1 (220114)

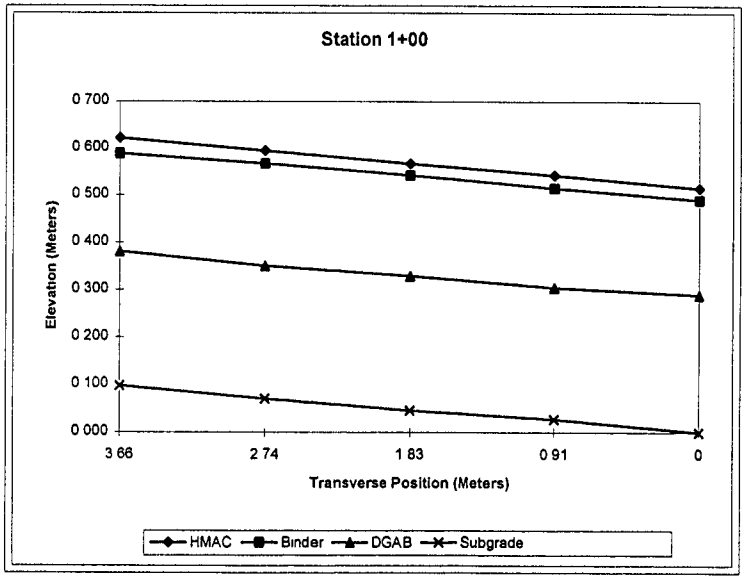
Transverse Offset	LAYERS	ELEVATION 0 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 0.91 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 1.83 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 2.74 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 3.66 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	DGAB THICKNESS Meters
0+00	HMAC	1 448	0 024	0 192	0 287	1 472	0 021	0 198	0 290	1 500	0 024	0 201	0 290	1 524	0 024	0 201	0 287	1 551	0 034	0 201	0 283
	Binder	1 423				1 451				1 475				1 500				1 518			
	DGAB	1 231				1 253				1 274				1 298				1 317			
	Subgrade	0 945				0 963				0 985				1 012				1 033			
0+50	HMAC	1 451	0 024	0 198	0 290	1 475	0 021	0 207	0 280	1 503	0 024	0 213	0 277	1 530	0 027	0 219	0 274	1 558	0 037	0 207	0 283
	Binder	1 426				1 454				1 478				1 503				1 521			
	DGAB	1 228				1 247				1 265				1 283				1 314			
	Subgrade	0 939				0 966				0 988				1 009				1 030			
1+00	HMAC	1 460	0 024	0 201	0 290	1 487	0 027	0 210	0 277	1 512	0 024	0 213	0 283	1 539	0 027	0 216	0 280	1 567	0 034	0 207	0 283
	Binder	1 436				1 460				1 487				1 512				1 533			
	DGAB	1 234				1 250				1 274				1 295				1 326			
	Subgrade	0 945				0 972				0 991				1 015				1 042			
1+50	HMAC	1 463	0 027	0 192	0 308	1 484	0 024	0 201	0 296	1 512	0 024	0 207	0 296	1 539	0 030	0 204	0 290	1 564	0 034	0 201	0 290
	Binder	1 436				1 460				1 487				1 509				1 530			
	DGAB	1 244				1 259				1 280				1 305				1 329			
	Subgrade	0 936				0 963				0 985				1 015				1 039			
2+00	HMAC	1 469	0 030	0 204	0 290	1 494	0 030	0 207	0 283	1 524	0 034	0 207	0 290	1 551	0 037	0 204	0 293	1 567	0 034	0 198	0 290
	Binder	1 439				1 463				1 490				1 515				1 533			
	DGAB	1 234				1 256				1 283				1 311				1 335			
	Subgrade	0 945				0 972				0 994				1 018				1 045			
2+50	HMAC	1 472	0 027	0 213	0 280	1 503	0 040	0 204	0 287	1 530	0 037	0 219	0 277	1 558	0 037	0 219	0 277	1 573	0 034	0 210	0 277
	Binder	1 445				1 463				1 494				1 521				1 539			
	DGAB	1 231				1 259				1 274				1 301				1 329			
	Subgrade	0 951				0 972				0 997				1 024				1 052			
3+00	HMAC	1 475	0 037	0 195	0 296	1 500	0 034	0 204	0 293	1 530	0 040	0 207	0 287	1 554	0 040	0 198	0 296	1 579	0 043	0 207	0 287
	Binder	1 439				1 466				1 490				1 515				1 536			
	DGAB	1 244				1 262				1 283				1 317				1 329			
	Subgrade	0 948				0 969				0 997				1 021				1 042			
3+50	HMAC	1 469	0 030	0 198	0 302	1 497	0 034	0 201	0 299	1 524	0 034	0 201	0 302	1 548	0 037	0 195	0 305	1 573	0 040	0 201	0 293
	Binder	1 439				1 463				1 490				1 512				1 533			
	DGAB	1 241				1 262				1 289				1 317				1 332			
	Subgrade	0 939				0 963				0 988				1 012				1 039			
4+00	HMAC	1 457	0 030	0 189	0 296	1 484	0 030	0 195	0 293	1 515	0 037	0 195	0 296	1 542	0 040	0 195	0 299	1 564	0 046	0 183	0 305
	Binder	1 426				1 454				1 478				1 503				1 518			
	DGAB	1 237				1 259				1 283				1 308				1 335			
	Subgrade	0 942				0 966				0 988				1 009				1 030			
4+50	HMAC	1 463	0 034	0 210	0 287	1 490	0 034	0 213	0 283	1 518	0 037	0 210	0 283	1 545	0 040	0 213	0 283	1 570	0 046	0 207	0 280
	Binder	1 430				1 457				1 481				1 506				1 524			
	DGAB	1 219				1 244				1 271				1 292				1 317			
	Subgrade	0 933				0 960				0 988				1 009				1 036			
5+00	HMAC	1 475	0 034	0 201	0 290	1 503	0 030	0 207	0 293	1 530	0 034	0 207	0 299	1 554	0 034	0 223	0 283	1 585	0 046	0 213	0 290
	Binder	1 442				1 472				1 497				1 521				1 539			
	DGAB	1 241				1 265				1 289				1 298				1 326			
	Subgrade	0 951				0 972				0 991				1 015				1 036			
	AVG		0 029	0 199	0 292		0 030	0 204	0 289		0 031	0 208	0 289		0 034	0 208	0 287		0 039	0 204	0 287
	MAX		0 037	0 213	0 308		0 040	0 213	0 299		0 040	0 219	0 302		0 040	0 223	0 305		0 046	0 213	0 305
	MIN		0 024	0 189	0 280		0 021	0 195	0 277		0 024	0 195	0 277		0 024	0 195	0 274		0 034	0 183	0 277
	STD		0 004	0 007	0 008		0 006	0 005	0 007		0 006	0 007	0 008		0 005	0 010	0 009		0 005	0 008	0 007

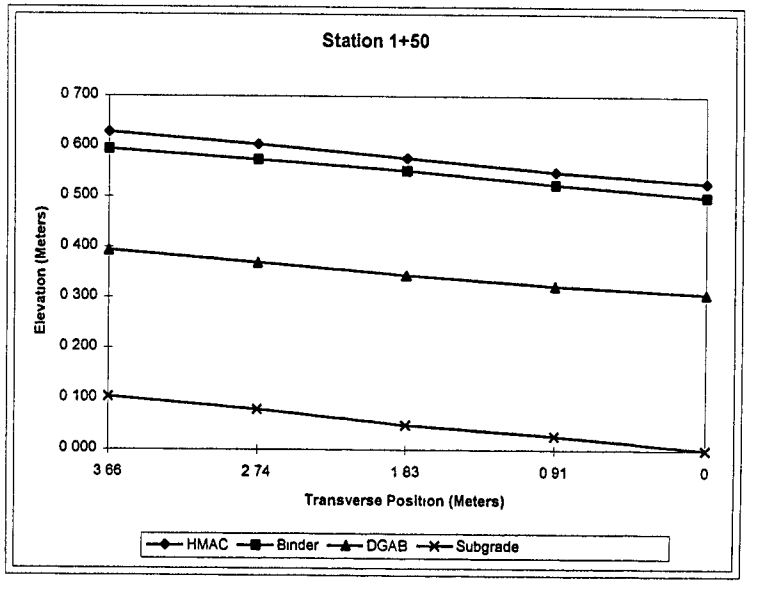
	HMAC	Binder	DGAB
SECTION AVG	0 033	0 205	0 289
SECTION MAX	0 046	0 223	0 308
SECTION MIN	0 021	0 183	0 274
SECTION STD	0 006	0 008	0 008

Louisiana SPS-1 (220114)

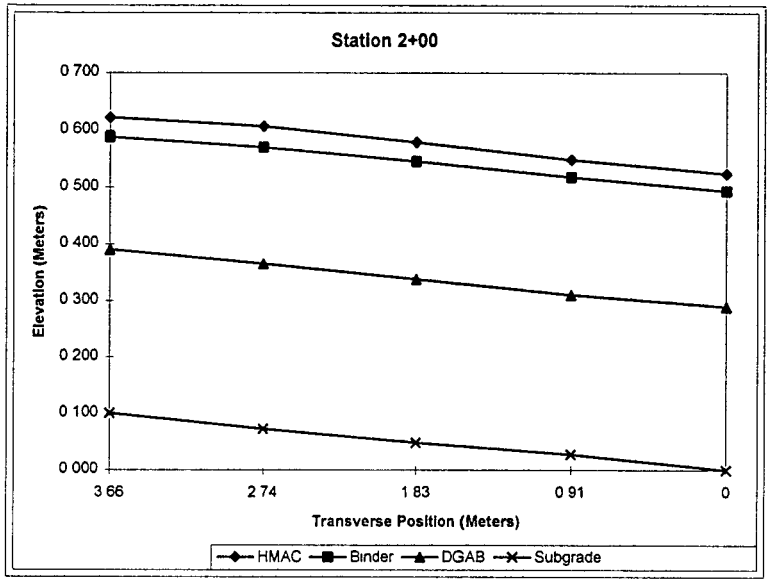


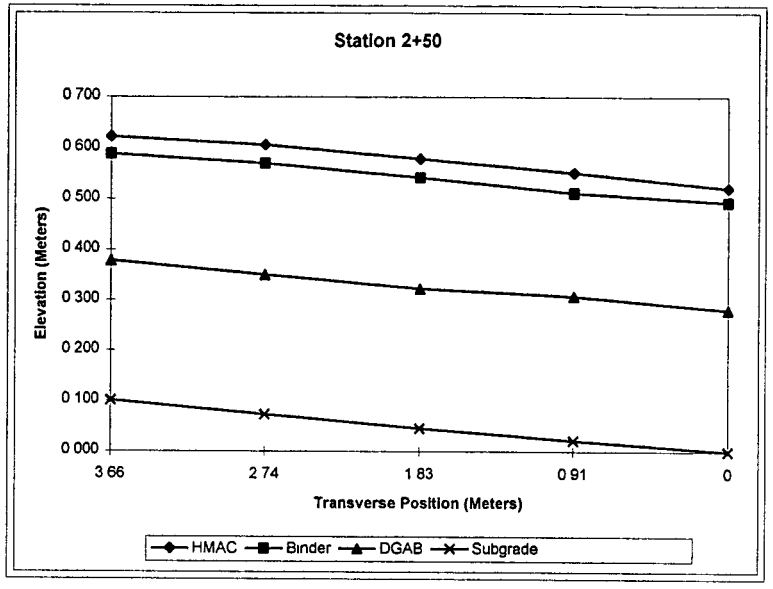


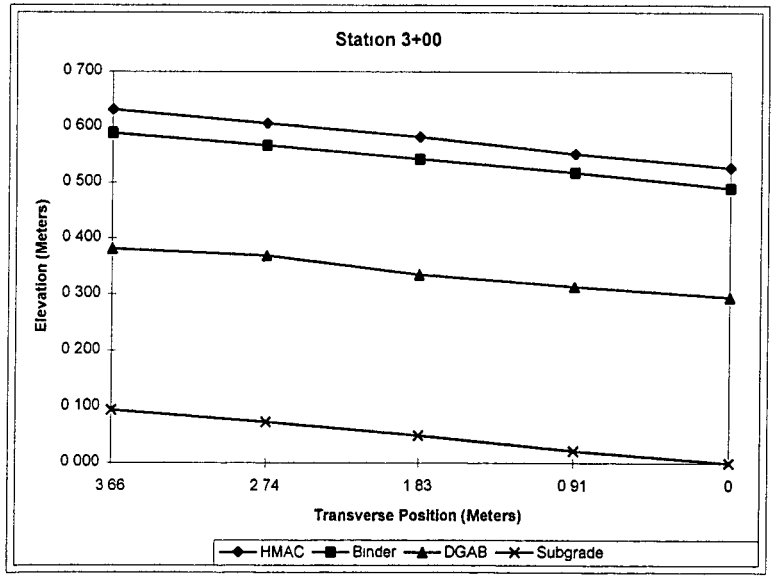


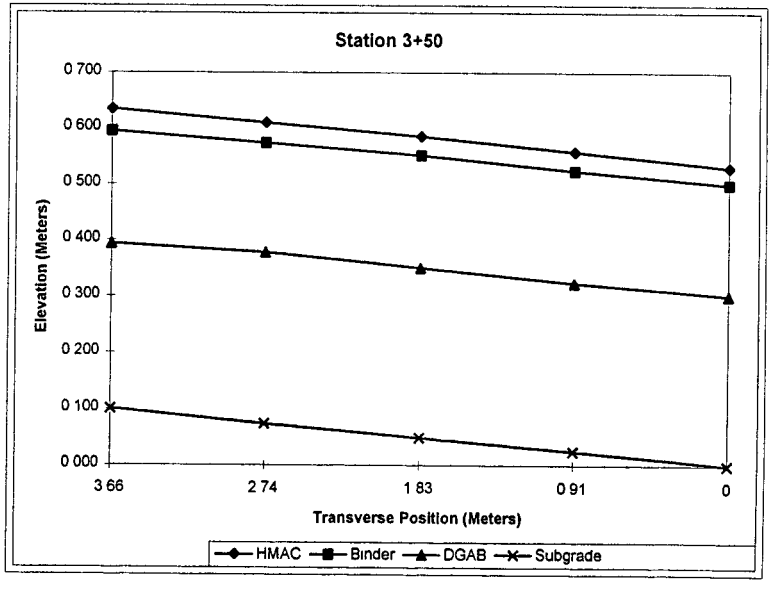


Louisiana SPS-1 (220114)

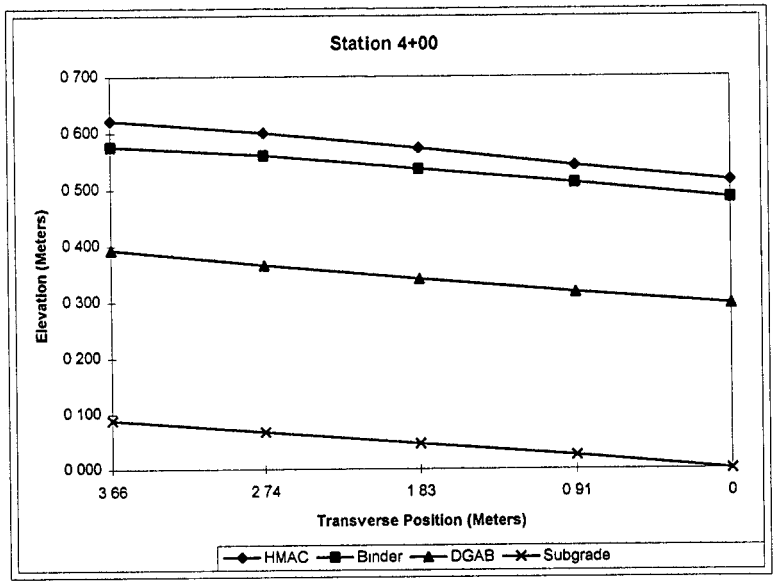


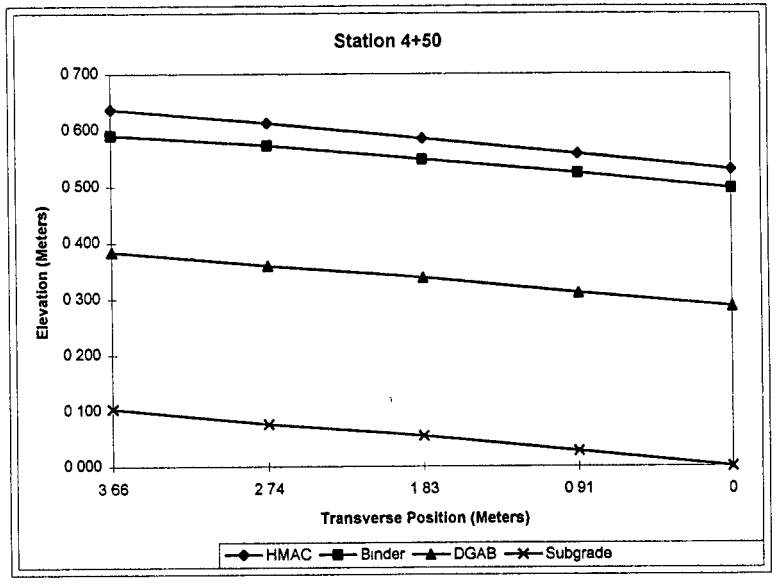


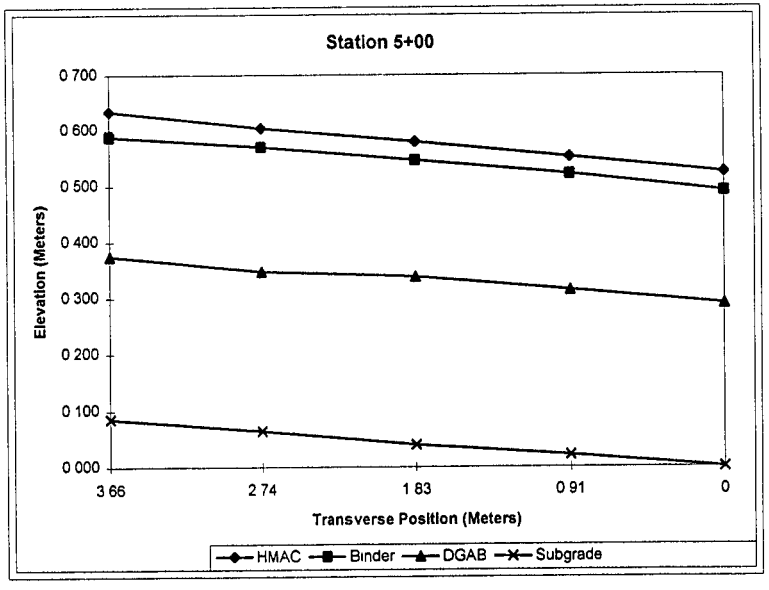




Louisiana SPS-1 (220114)





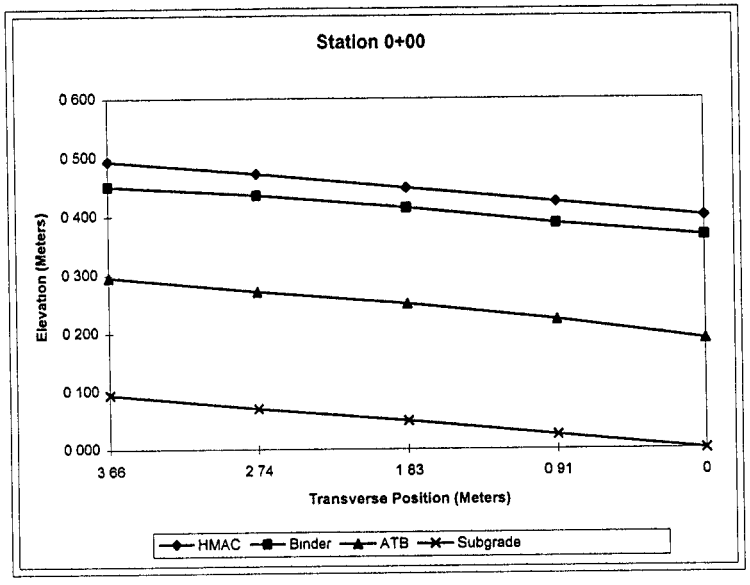


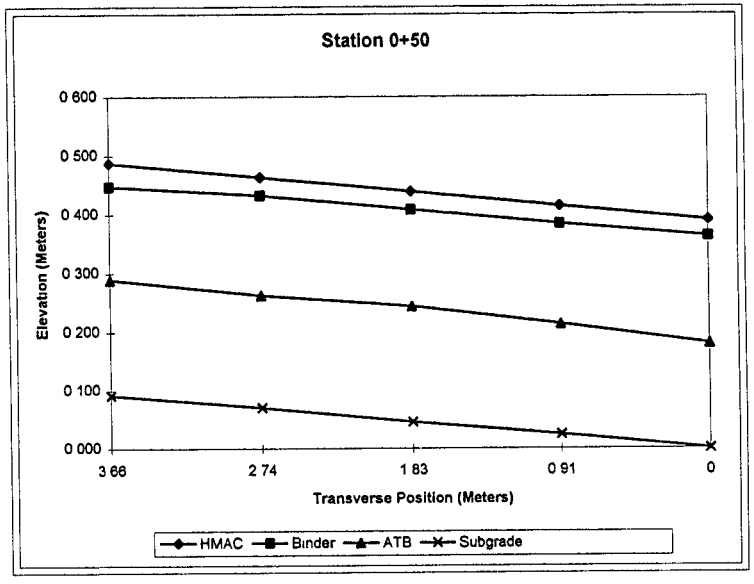
Louisiana SPS-1 (220115)

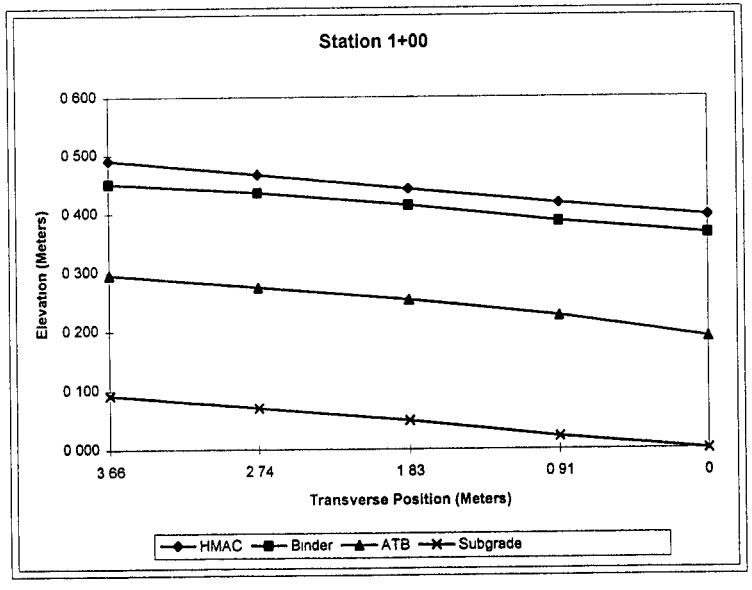
Transverse Offset	4 LAYERS	ELEVATION 0 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	ELEVATION 0 91 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	ELEVATION 1 83 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	ELEVATION 2 74 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	ELEVATION 3 66 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters
0+00	HMAC	2 109	0 034	0 177	0 189	2 134	0 037	0 165	0 198	2 158	0 034	0 165	0 201	2 182	0 037	0 165	0 201	2 204	0 043	0 155	0 201
	Binder	2 076				2 097				2 124				2 146				2 161			
	ATB	1 899				1 932				1 960				1 981				2 006			
	Subgrade	1 710				1 734				1 759				1 780				1 804			
0+50	HMAC	2 109	0 027	0 183	0 180	2 134	0 030	0 171	0 189	2 158	0 030	0 165	0 198	2 182	0 030	0 171	0 192	2 207	0 040	0 158	0 198
	Binder	2 082				2 103				2 128				2 152				2 167			
	ATB	1 899				1 932				1 963				1 981				2 009			
	Subgrade	1 719				1 743				1 765				1 789				1 811			
1+00	HMAC	2 100	0 030	0 177	0 189	2 121	0 030	0 162	0 204	2 146	0 027	0 162	0 204	2 170	0 030	0 162	0 204	2 195	0 040	0 155	0 204
	Binder	2 070				2 091				2 118				2 140				2 155			
	ATB	1 893				1 929				1 957				1 978				1 999			
	Subgrade	1 704				1 725				1 753				1 774				1 795			
1+50	HMAC	2 094	0 027	0 177	0 192	2 118	0 030	0 162	0 210	2 143	0 030	0 158	0 219	2 164	0 030	0 158	0 219	2 188	0 040	0 155	0 207
	Binder	2 067				2 088				2 112				2 134				2 149			
	ATB	1 890				1 926				1 954				1 975				1 993			
	Subgrade	1 698				1 716				1 734				1 756				1 786			
2+00	HMAC	2 088	0 027	0 174	0 192	2 112	0 034	0 162	0 204	2 137	0 034	0 155	0 216	2 161	0 034	0 158	0 219	2 182	0 043	0 152	0 219
	Binder	2 060				2 079				2 103				2 128				2 140			
	ATB	1 887				1 917				1 948				1 969				1 987			
	Subgrade	1 695				1 713				1 731				1 750				1 768			
2+50	HMAC	2 060	0 030	0 168	0 207	2 085	0 034	0 155	0 213	2 112	0 040	0 152	0 216	2 134	0 037	0 158	0 213	2 155	0 043	0 155	0 207
	Binder	2 030				2 051				2 073				2 097				2 112			
	ATB	1 862				1 896				1 920				1 939				1 957			
	Subgrade	1 655				1 682				1 704				1 725				1 750			
3+00	HMAC	2 033	0 030	0 162	0 213	2 057	0 030	0 155	0 232	2 085	0 034	0 152	0 241	2 106	0 030	0 162	0 229	2 131	0 043	0 152	0 223
	Binder	2 003				2 027				2 051				2 076				2 088			
	ATB	1 841				1 871				1 899				1 914				1 935			
	Subgrade	1 628				1 640				1 658				1 686				1 713			
3+50	HMAC	2 015	0 037	0 149	0 201	2 036	0 030	0 146	0 216	2 060	0 027	0 146	0 219	2 085	0 030	0 152	0 216	2 112	0 043	0 146	0 210
	Binder	1 978				2 006				2 033				2 054				2 070			
	ATB	1 829				1 859				1 887				1 902				1 923			
	Subgrade	1 628				1 643				1 667				1 686				1 713			
4+00	HMAC	1 975	0 030	0 155	0 192	1 999	0 030	0 152	0 204	2 027	0 034	0 152	0 207	2 045	0 030	0 152	0 216	2 070	0 037	0 149	0 210
	Binder	1 945				1 969				1 993				2 015				2 033			
	ATB	1 789				1 817				1 841				1 862				1 884			
	Subgrade	1 597				1 612				1 634				1 646				1 673			
4+50	HMAC	1 945	0 030	0 165	0 198	1 966	0 027	0 155	0 210	1 993	0 027	0 158	0 213	2 018	0 030	0 158	0 213	2 042	0 040	0 149	0 219
	Binder	1 914				1 939				1 966				1 987				2 003			
	ATB	1 750				1 783				1 807				1 829				1 853			
	Subgrade	1 551				1 573				1 594				1 615				1 634			
5+00	HMAC	1 917	0 024	0 152	0 201	1 945	0 027	0 143	0 204	1 969	0 027	0 140	0 223	1 993	0 027	0 149	0 219	2 021	0 037	0 149	0 213
	Binder	1 893				1 917				1 942				1 966				1 984			
	ATB	1 740				1 774				1 801				1 817				1 835			
	Subgrade	1 539				1 570				1 579				1 597				1 622			
	AVG		0 030	0 166	0 196		0 031	0 157	0 208		0 031	0 155	0 214		0 031	0 159	0 212		0 040	0 153	0 209
	MAX		0 037	0 183	0 213		0 037	0 171	0 232		0 040	0 165	0 241		0 037	0 171	0 229		0 043	0 158	0 223
	MIN		0 024	0 149	0 180		0 027	0 143	0 189		0 027	0 140	0 198		0 027	0 149	0 192		0 037	0 146	0 198
	STD		0 003	0 011	0 009		0 003	0 008	0 011		0 004	0 008	0 012		0 003	0 006	0 010		0 002	0 004	0 007

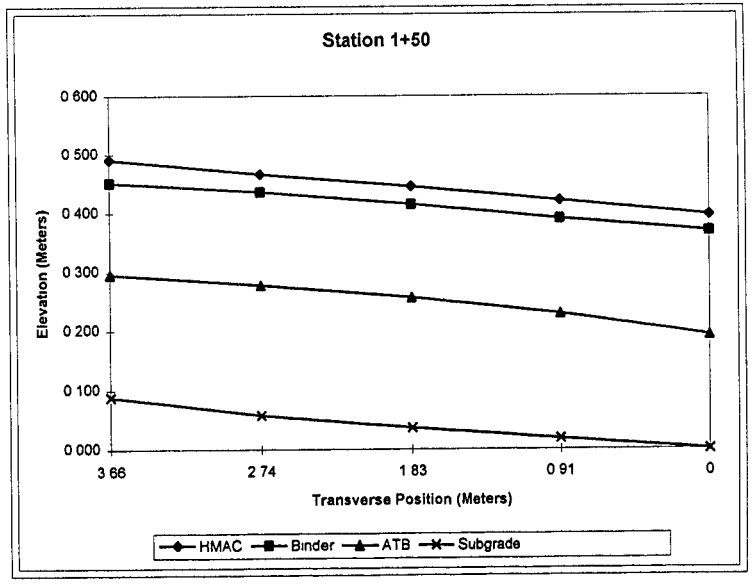
	HMAC	Binder	ATB
SECTION AVG	0 033	0 158	0 208
SECTION MAX	0 043	0 183	0 241
SECTION MIN	0 024	0 140	0 180
SECTION STD	0 005	0 009	0 012

Louisiana SPS-1 (220115)

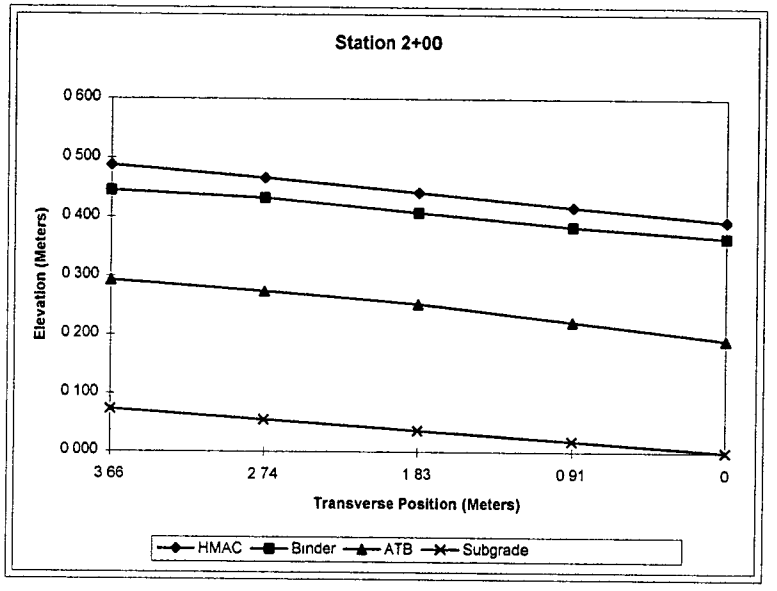


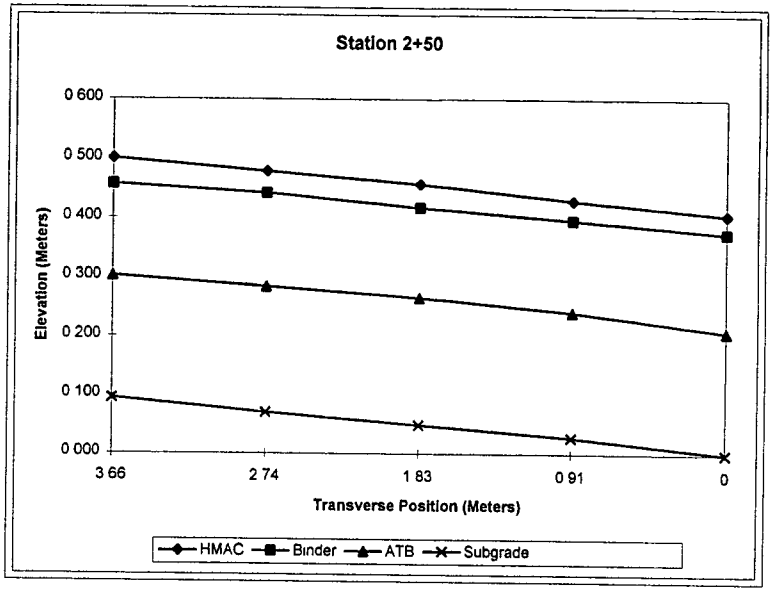


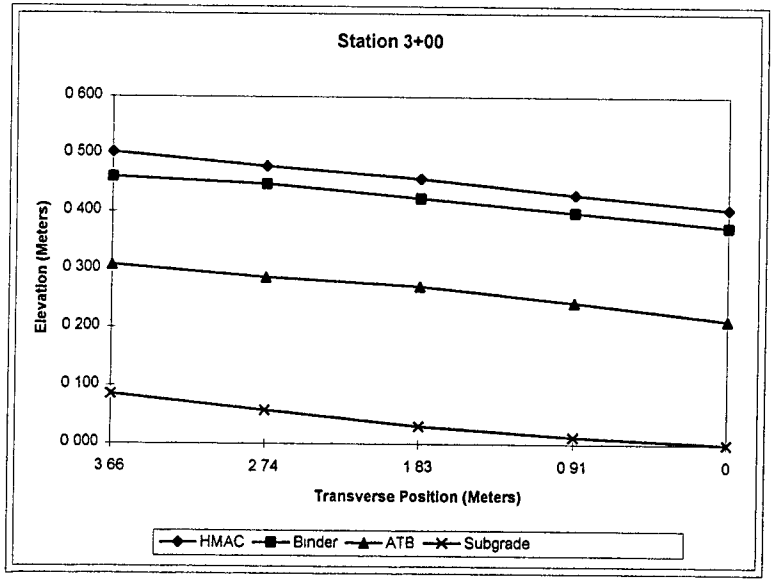


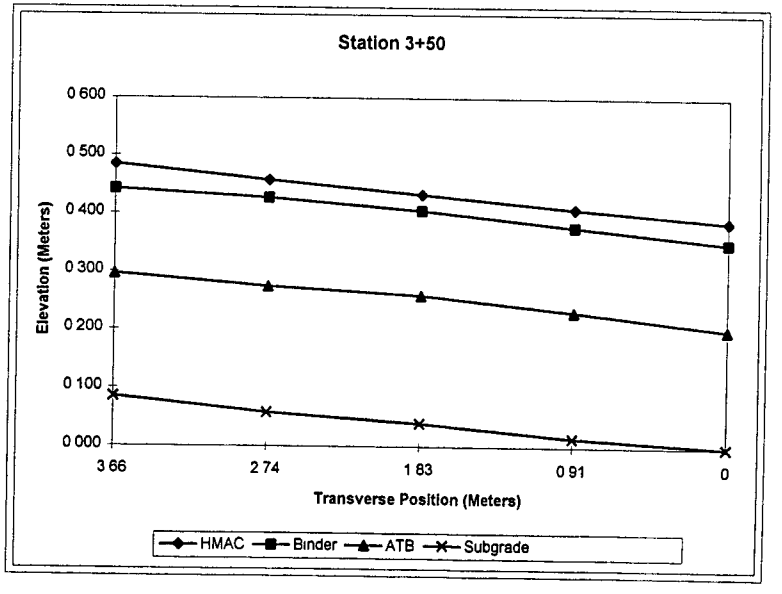


Louisiana SPS-1 (220115)

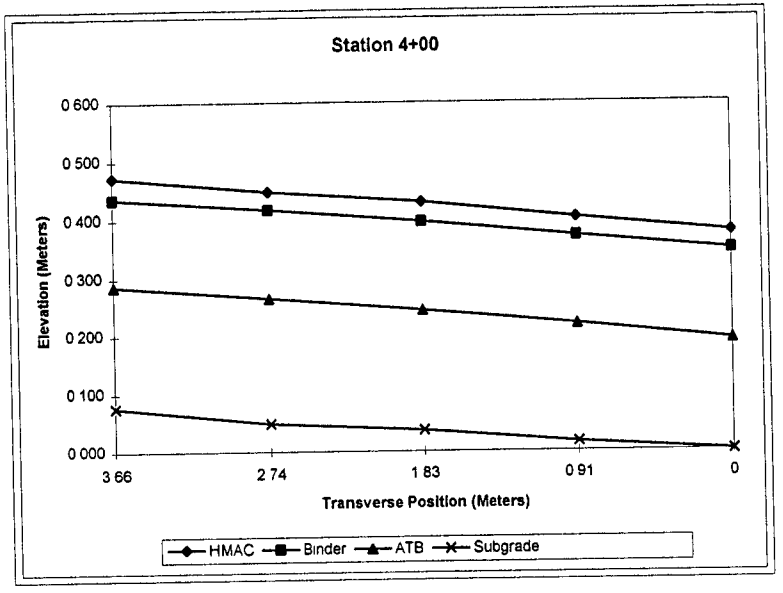


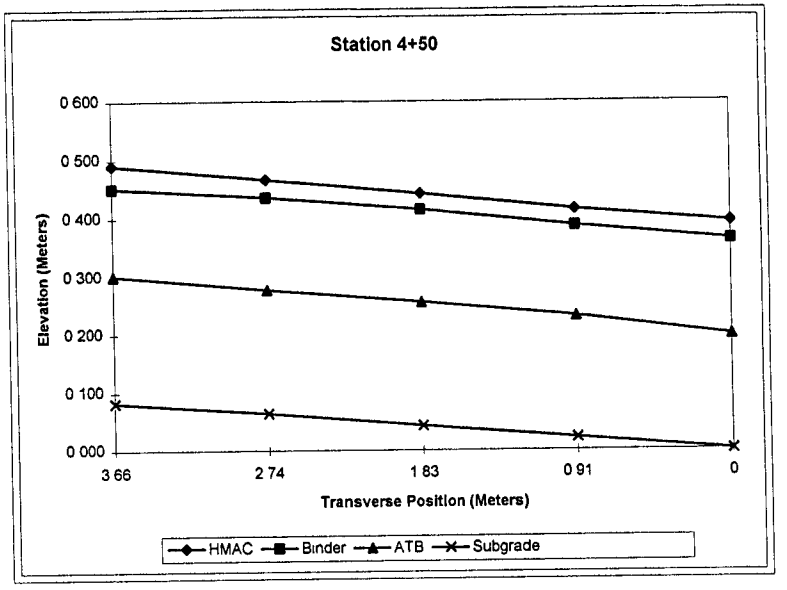


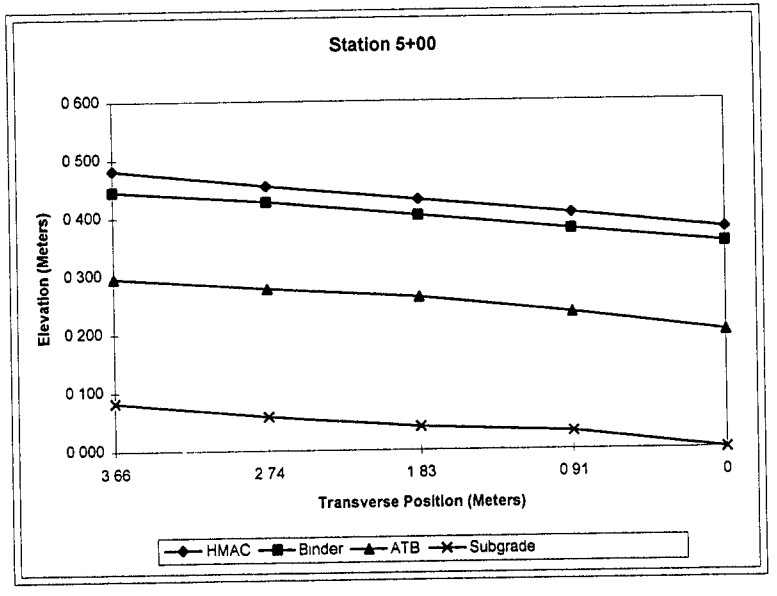




Louisiana SPS-1 (220115)





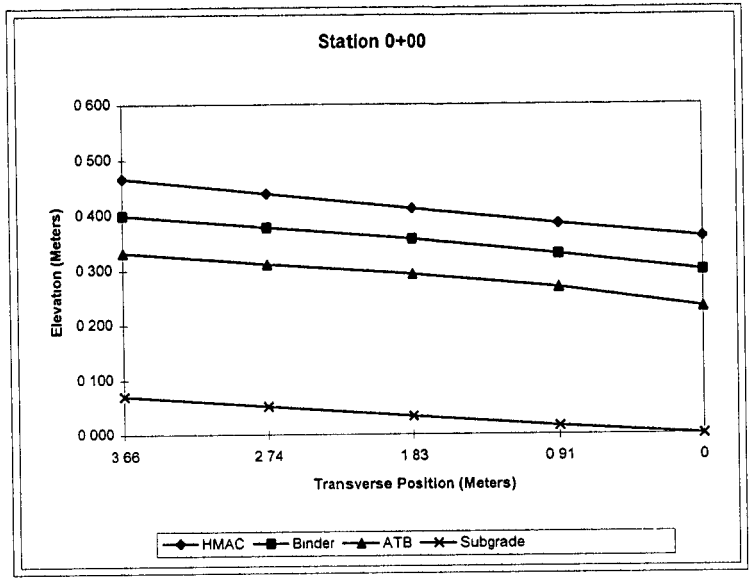


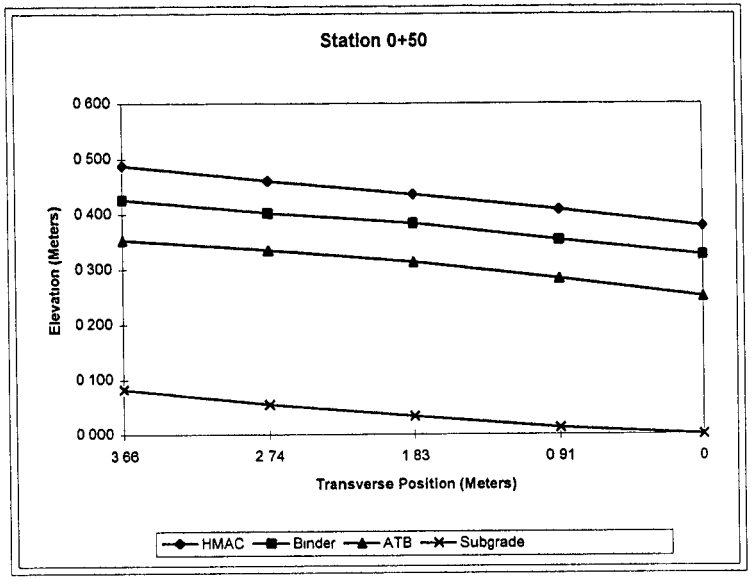
Louisiana SPS-1 (220116)

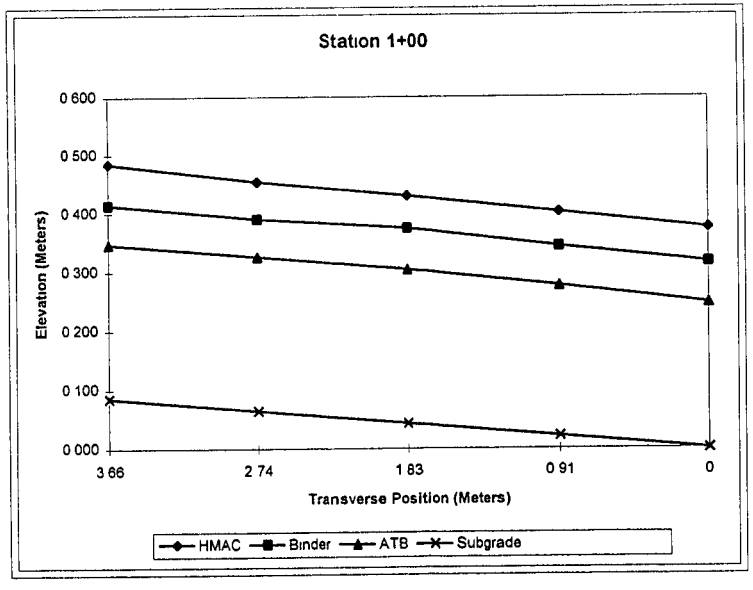
Transverse Offset	4 LAYERS	ELEVATION 0 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	ELEVATION 0.91 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	ELEVATION 1.83 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	ELEVATION 2.74 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	ELEVATION 3.66 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters
0+00	HMAC	1.917	0.061	0.067	0.232	1.942	0.055	0.061	0.253	1.969	0.055	0.064	0.259	1.996	0.061	0.067	0.259	2.024	0.067	0.067	0.262
	Binder	1.856				1.887				1.914				1.935				1.957			
	ATB	1.789				1.826				1.850				1.868				1.890			
	Subgrade	1.558				1.573				1.591				1.609				1.628			
0+50	HMAC	1.917	0.052	0.076	0.250	1.948	0.055	0.070	0.271	1.975	0.052	0.070	0.280	1.999	0.058	0.067	0.280	2.027	0.061	0.073	0.271
	Binder	1.865				1.893				1.923				1.942				1.966			
	ATB	1.789				1.823				1.853				1.875				1.893			
	Subgrade	1.539				1.551				1.573				1.594				1.622			
1+00	HMAC	1.935	0.058	0.070	0.247	1.963	0.058	0.067	0.256	1.990	0.055	0.070	0.262	2.015	0.064	0.064	0.262	2.045	0.070	0.067	0.262
	Binder	1.878				1.905				1.935				1.951				1.975			
	ATB	1.807				1.838				1.865				1.887				1.908			
	Subgrade	1.561				1.582				1.603				1.625				1.646			
1+50	HMAC	1.954	0.055	0.076	0.262	1.981	0.055	0.064	0.287	2.009	0.058	0.061	0.296	2.036	0.064	0.067	0.283	2.060	0.064	0.067	0.280
	Binder	1.899				1.926				1.951				1.972				1.996			
	ATB	1.823				1.862				1.890				1.905				1.929			
	Subgrade	1.561				1.576				1.594				1.622				1.649			
2+00	HMAC	1.957	0.049	0.073	0.265	1.984	0.046	0.070	0.274	2.012	0.049	0.070	0.274	2.036	0.052	0.070	0.271	2.063	0.058	0.070	0.268
	Binder	1.908				1.939				1.963				1.984				2.006			
	ATB	1.835				1.868				1.893				1.914				1.935			
	Subgrade	1.570				1.594				1.618				1.643				1.667			
2+50	HMAC	1.960	0.055	0.073	0.253	1.984	0.055	0.064	0.262	2.012	0.055	0.064	0.271	2.036	0.055	0.067	0.265	2.063	0.061	0.067	0.265
	Binder	1.905				1.929				1.957				1.981				2.003			
	ATB	1.832				1.865				1.893				1.914				1.935			
	Subgrade	1.579				1.603				1.622				1.649				1.670			
3+00	HMAC	1.984	0.049	0.073	0.256	2.012	0.049	0.067	0.265	2.042	0.049	0.067	0.260	2.067	0.052	0.070	0.274	2.094	0.058	0.073	0.274
	Binder	1.935				1.963				1.993				2.015				2.036			
	ATB	1.862				1.896				1.926				1.945				1.963			
	Subgrade	1.606				1.631				1.646				1.670				1.689			
3+50	HMAC	2.009	0.058	0.076	0.271	2.036	0.055	0.073	0.274	2.063	0.055	0.073	0.283	2.088	0.058	0.073	0.283	2.109	0.061	0.070	0.280
	Binder	1.951				1.981				2.009				2.030				2.048			
	ATB	1.875				1.908				1.935				1.957				1.978			
	Subgrade	1.603				1.634				1.652				1.673				1.698			
4+00	HMAC	2.009	0.052	0.046	0.290	2.033	0.049	0.070	0.274	2.060	0.052	0.067	0.283	2.085	0.052	0.073	0.277	2.109	0.058	0.070	0.274
	Binder	1.957				1.984				2.009				2.033				2.051			
	ATB	1.911				1.914				1.942				1.960				1.981			
	Subgrade	1.622				1.640				1.658				1.682				1.707			
4+50	HMAC	2.015	0.055	0.067	0.259	2.042	0.055	0.067	0.262	2.067	0.049	0.070	0.268	2.091	0.052	0.064	0.280	2.115	0.055	0.067	0.280
	Binder	1.960				1.987				2.018				2.039				2.060			
	ATB	1.893				1.920				1.948				1.975				1.993			
	Subgrade	1.634				1.658				1.679				1.695				1.713			
5+00	HMAC	2.024	0.046	0.076	0.250	2.051	0.049	0.064	0.259	2.079	0.046	0.070	0.268	2.103	0.049	0.067	0.271	2.128	0.055	0.067	0.271
	Binder	1.978				2.003				2.033				2.054				2.073			
	ATB	1.902				1.939				1.963				1.987				2.006			
	Subgrade	1.652				1.679				1.695				1.716				1.734			
	AVG		0.053	0.070	0.257		0.053	0.067	0.266		0.052	0.068	0.275		0.056	0.068	0.274		0.061	0.069	0.272
	MAX		0.061	0.076	0.290		0.058	0.073	0.287		0.058	0.073	0.296		0.064	0.073	0.283		0.070	0.073	0.280
	MIN		0.046	0.046	0.232		0.049	0.061	0.253		0.046	0.061	0.259		0.049	0.064	0.259		0.055	0.067	0.262
	STD		0.004	0.009	0.015		0.003	0.003	0.010		0.004	0.004	0.011		0.005	0.003	0.008		0.005	0.002	0.007

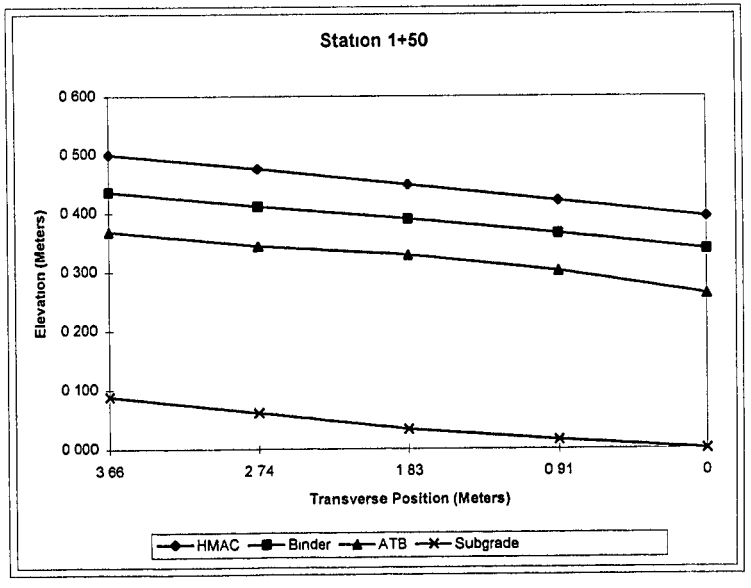
	HMAC	Binder	ATB
SECTION AVG	0.055	0.068	0.269
SECTION MAX	0.070	0.076	0.296
SECTION MIN	0.046	0.046	0.232
SECTION STD	0.005	0.005	0.012

Louisiana SPS-1 (220116)

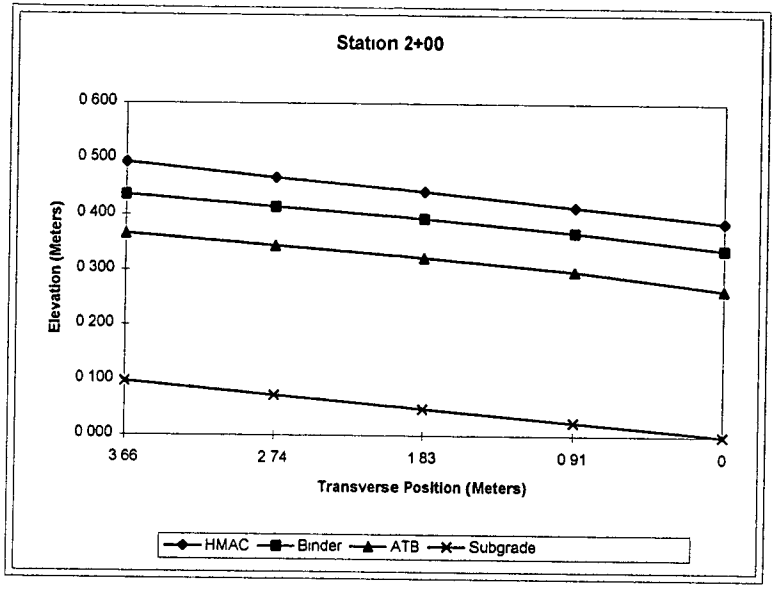


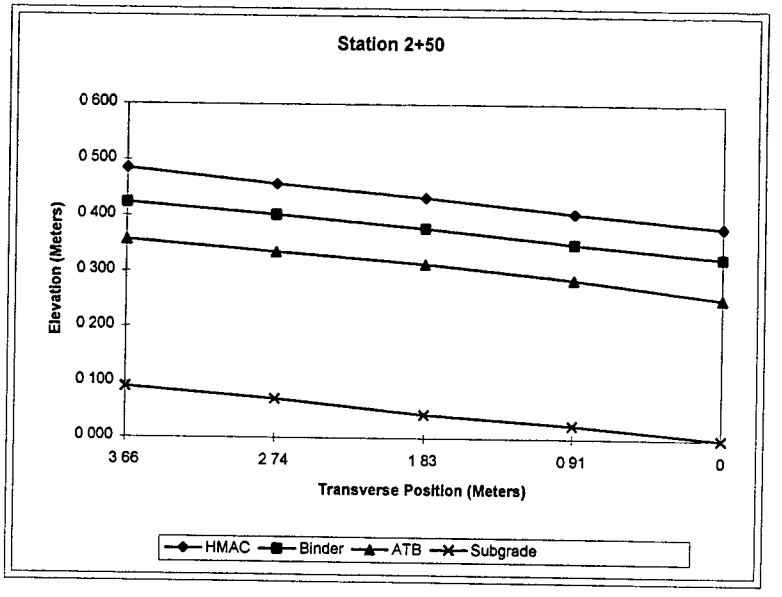


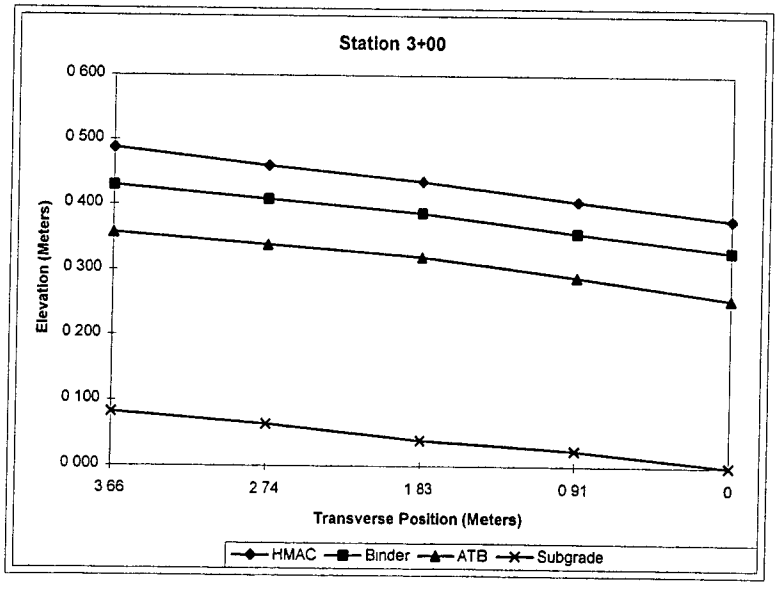


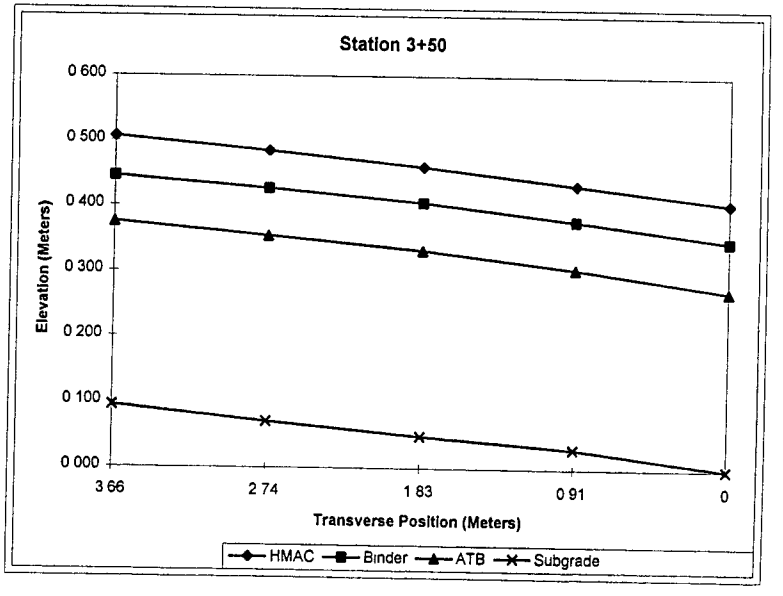


Louisiana SPS-1 (220116)

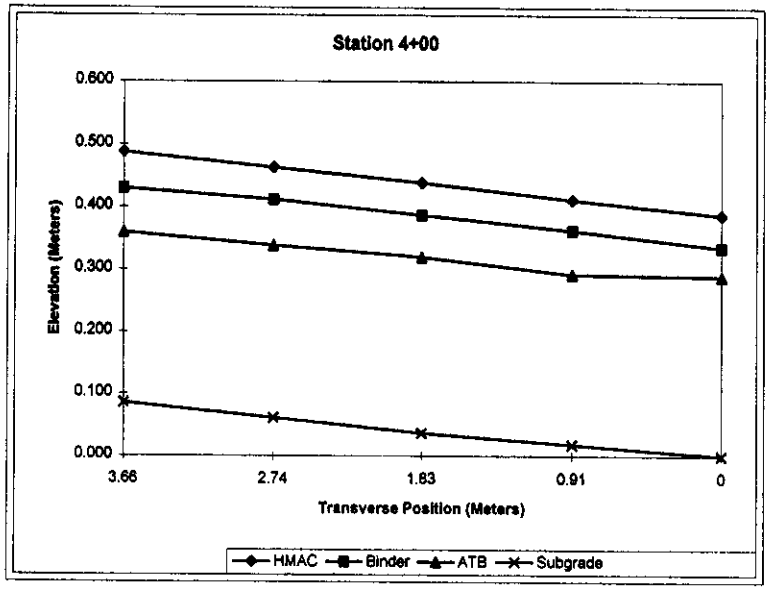


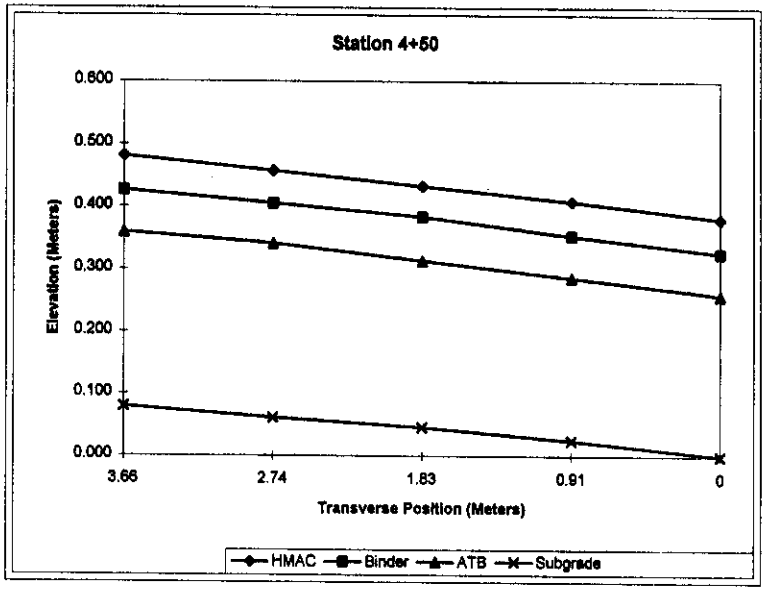


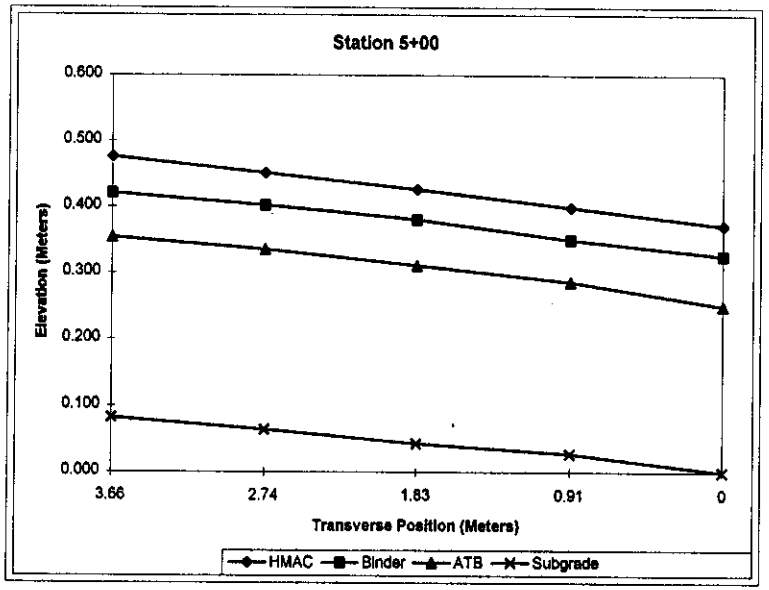




Louisiana SPS-1 (220116)





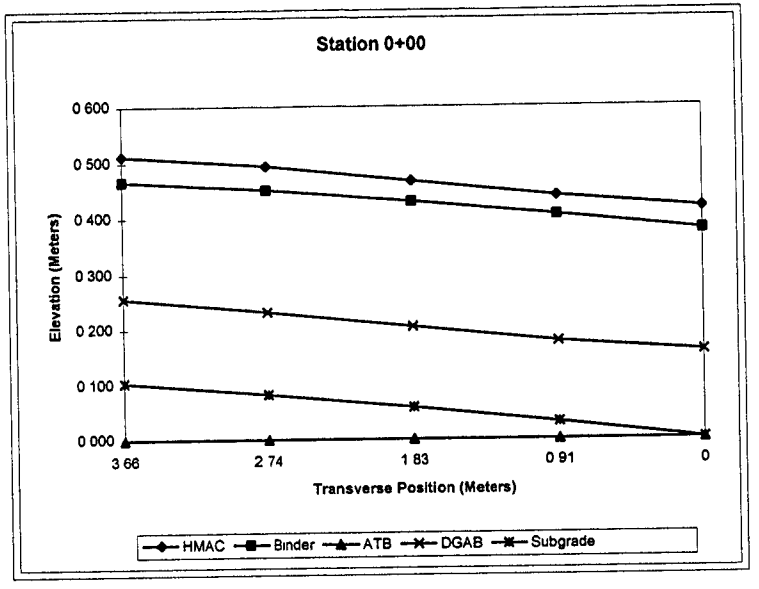


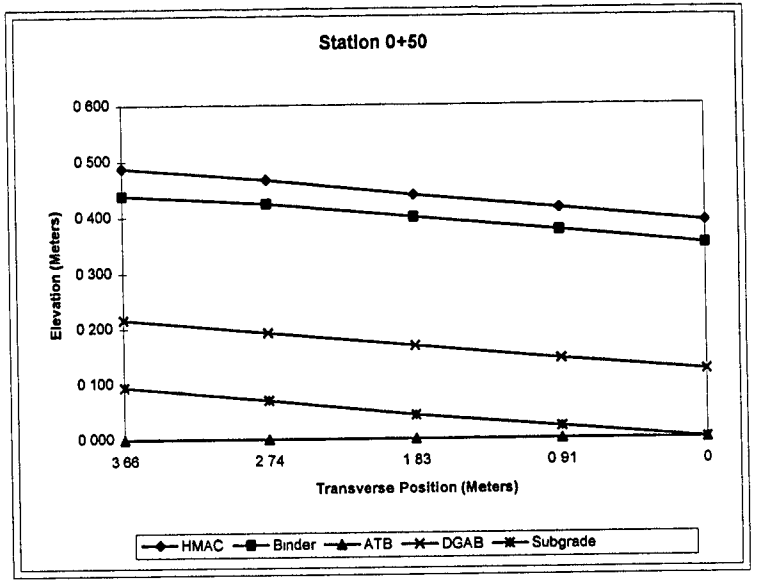
Louisiana SPS-1 (220117)

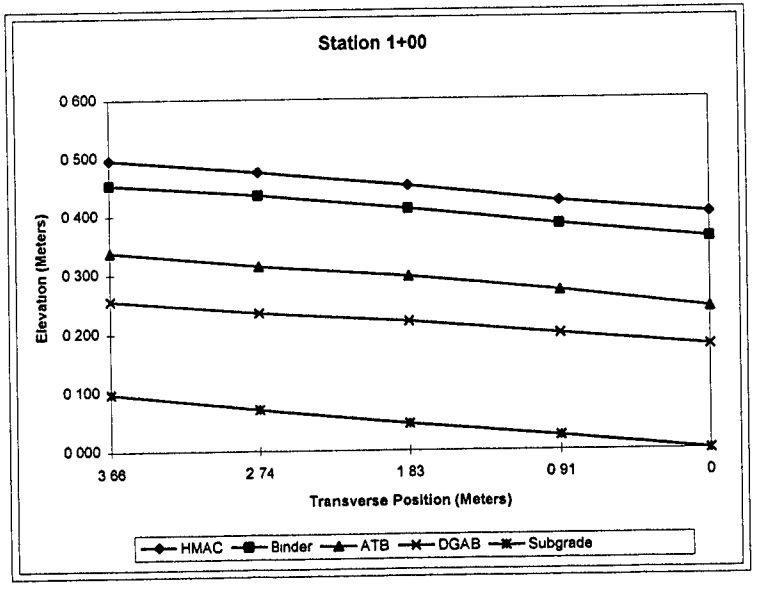
Transverse Offset	LAYERS	ELEVATION 0 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 0.91 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 1.83 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 2.74 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 3.66 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	DGAB THICKNESS Meters
0+00	HMAC	1 795	0 040	Unknown	Unknown	0 158	1 817	0 034	Unknown	Unknown	0 146	1 844	0 037	Unknown	Unknown	0 146	1 871	0 043	Unknown	Unknown	0 149	1 890	0 045	Unknown	Unknown	0 152
	Binder	1 756					1 783					1 807					1 829					1 844				
	ATB	0 000					0 000					0 000					0 000					0 000				
	DGAB	1 536					1 554					1 582					1 609					1 634				
	Subgrade	1 378					1 408					1 436					1 460					1 481				
0+50	HMAC	1 771	0 040	Unknown	Unknown	0 122	1 795	0 040	Unknown	Unknown	0 122	1 820	0 040	Unknown	Unknown	0 125	1 847	0 043	Unknown	Unknown	0 122	1 868	0 049	Unknown	Unknown	0 122
	Binder	1 731					1 756					1 780					1 804					1 820				
	ATB	0 000					0 000					0 000					0 000					0 000				
	DGAB	1 503					1 524					1 548					1 573					1 597				
	Subgrade	1 381					1 402					1 423					1 451					1 475				
1+00	HMAC	1 725	0 043	0 119	0 064	0 177	1 747	0 040	0 113	0 073	0 174	1 774	0 040	0 116	0 076	0 174	1 798	0 040	0 122	0 079	0 165	1 820	0 043	0 11[illegible]	0 082	0 158
	Binder	1 682					1 707					1 734					1 759					1 777				
	ATB	1 564					1 594					1 618					1 637					1 661				
	DGAB	1 500					1 521					1 542					1 558					1 579				
	Subgrade	1 323					1 347					1 369					1 393					1 420				
1+50	HMAC	1 698	0 040	0 146	0 076	0 137	1 719	0 037	0 140	0 091	0 122	1 750	0 043	0 137	0 101	0 113	1 771	0 040	0 146	0 088	0 107	1 789	0 040	0 140	0 085	0 107
	Binder	1 658					1 682					1 707					1 731					1 750				
	ATB	1 512					1 542					1 570					1 585					1 609				
	DGAB	1 436					1 451					1 469					1 497					1 524				
	Subgrade	1 298					1 329					1 356					1 390					1 417				
2+00	HMAC	1 670	0 043	0 149	0 079	0 131	1 692	0 040	0 140	0 085	0 128	1 719	0 043	0 137	0 088	0 143	1 743	0 043	0 143	0 088	0 134	1 765	0 046	0 140	0 091	0 137
	Binder	1 628					1 652					1 676					1 701					1 719				
	ATB	1 478					1 512					1 539					1 558					1 579				
	DGAB	1 399					1 426					1 451					1 469					1 487				
	Subgrade	1 268					1 298					1 308					1 335					1 350				
2+50	HMAC	1 628	0 037	0 128	0 073	0 158	1 649	0 034	0 122	0 082	0 155	1 673	0 034	0 119	0 085	0 162	1 701	0 040	0 122	0 088	0 155	1 719	0 040	0 119	0 082	0 168
	Binder	1 591					1 615					1 640					1 661					1 679				
	ATB	1 463					1 494					1 521					1 539					1 561				
	DGAB	1 390					1 411					1 436					1 451					1 478				
	Subgrade	1 231					1 256					1 274					1 295					1 311				
3+00	HMAC	1 612	0 043	0 158	0 061	0 134	1 634	0 037	0 158	0 073	0 122	1 661	0 040	0 149	0 085	0 125	1 686	0 043	0 152	0 079	0 131	1 710	0 049	0 152	0 082	0 131
	Binder	1 570					1 597					1 622					1 643					1 661				
	ATB	1 411					1 439					1 472					1 490					1 509				
	DGAB	1 350					1 366					1 387					1 411					1 426				
	Subgrade	1 216					1 244					1 262					1 280					1 295				
3+50	HMAC	1 567	0 040	0 128	0 088	0 146	1 591	0 040	0 116	0 101	0 143	1 615	0 040	0 104	0 104	0 149	1 640	0 040	0 113	0 101	0 143	1 664	0 049	0 104	0 101	0 155
	Binder	1 527					1 551					1 576					1 600					1 615				
	ATB	1 399					1 436					1 472					1 487					1 512				
	DGAB	1 311					1 335					1 369					1 387					1 411				
	Subgrade	1 164					1 192					1 219					1 244					1 256				
4+00	HMAC	1 524	0 037	0 128	0 091	0 104	1 548	0 040	0 113	0 104	0 104	1 573	0 040	0 107	0 113	0 107	1 597	0 040	0 113	0 107	0 104	1 622	0 046	0 107	0 107	0 113
	Binder	1 487					1 509					1 533					1 558					1 576				
	ATB	1 359					1 386					1 426					1 445					1 469				
	DGAB	1 268					1 292					1 314					1 338					1 362				
	Subgrade	1 164					1 189					1 207					1 234					1 250				
4+50	HMAC	1 490	0 037	0 119	0 076	0 131	1 515	0 040	0 113	0 088	0 119	1 542	0 040	0 116	0 094	0 119	1 567	0 040	0 119	0 101	0 116	1 588	0 043	0 119	0 101	0 116
	Binder	1 454					1 475					1 503					1 527					1 545				
	ATB	1 335					1 362					1 387					1 408					1 426				
	DGAB	1 259					1 274					1 292					1 308					1 326				
	Subgrade	1 128					1 155					1 173					1 192					1 210				
5+00	HMAC	1 475	0 043	0 140	0 091	0 125	1 494	0 034	0 134	0 104	0 137	1 524	0 040	0 131	0 113	0 122	1 548	0 037	0 143	0 107	0 116	1 573	0 046	0 131	0 104	0 119
	Binder	1 433					1 460					1 484					1 512					1 527				
	ATB	1 292					1 326					1 353					1 369					1 396				
	DGAB	1 201					1 222					1 241					1 262					1 292				
	Subgrade	1 076					1 085					1 119					1 146					1 173				
	AVG		0 040	0 133	0 078	0 139		0 037	0 128	0 090	0 134		0 039	0 122	0 096	0 134		0 040	0 129	0 094	0 131		0 045	0 123	0 093	0 134
	MAX		0 043	0 158	0 091	0 177		0 040	0 158	0 104	0 174		0 043	0 149	0 113	0 174		0 043	0 152	0 107	0 165		0 049	0 152	0 107	0 168
	MIN		0 037	0 119	0 061	0 104		0 034	0 113	0 073	0 104		0 034	0 104	0 076	0 107		0 037	0 113	0 079	0 104		0 040	0 104	0 082	0 107
	STD		0 002	0 013	0 011	0 019		0 003	0 016	0 012	0 020		0 002	0 015	0 013	0 021		0 002	0 015	0 011	0 020		0 003	0 016	0 010	0 021

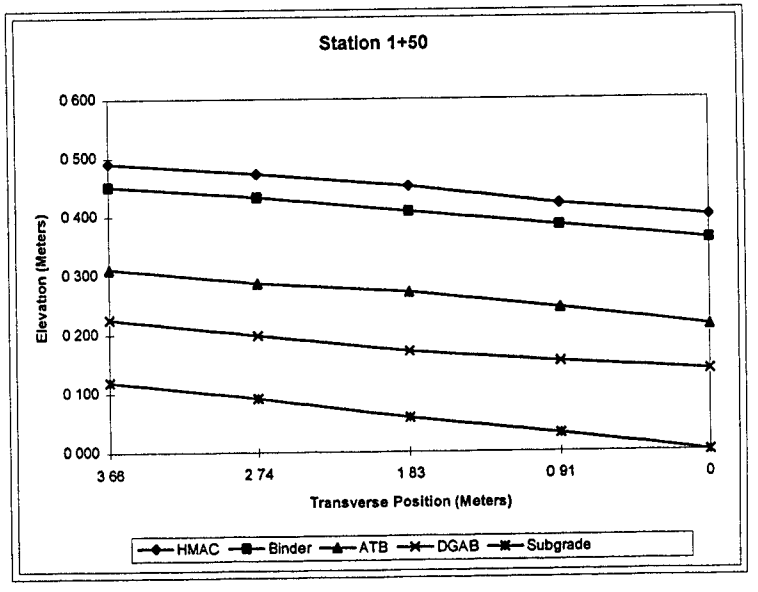
	HMAC	Binder	ATB	DGAB
SECTION AVG	0 040	0 128	0 090	0 135
SECTION MAX	0 049	0 158	0 113	0 177
SECTION MIN	0 034	0 104	0 061	0 104
SECTION STD	0 004	0 015	0 012	0 020

Louisiana SPS-1 (220117)

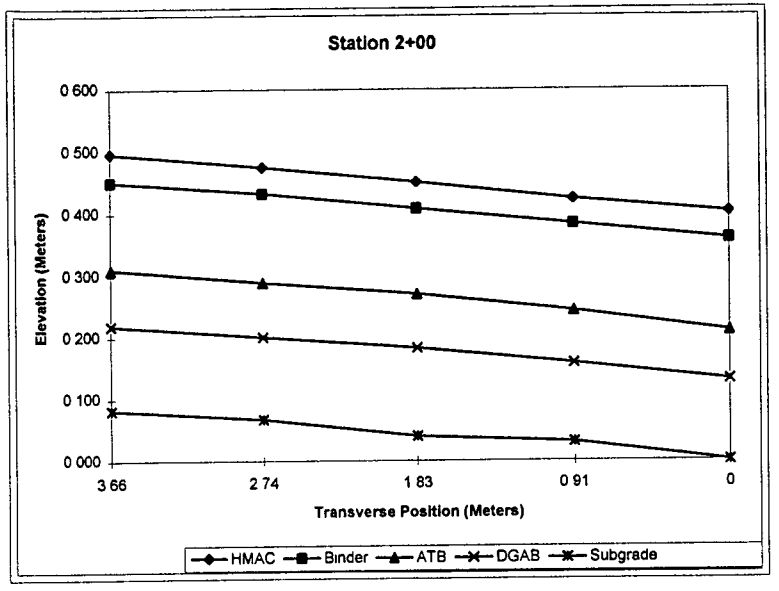


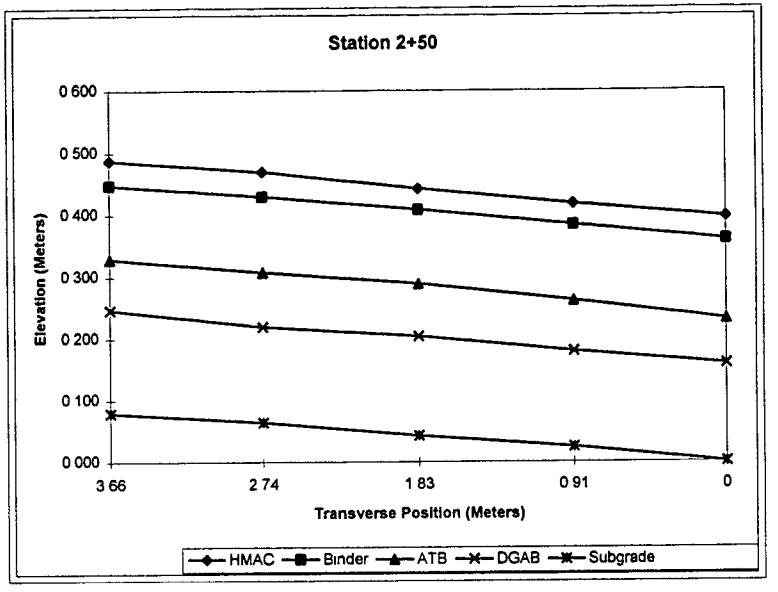


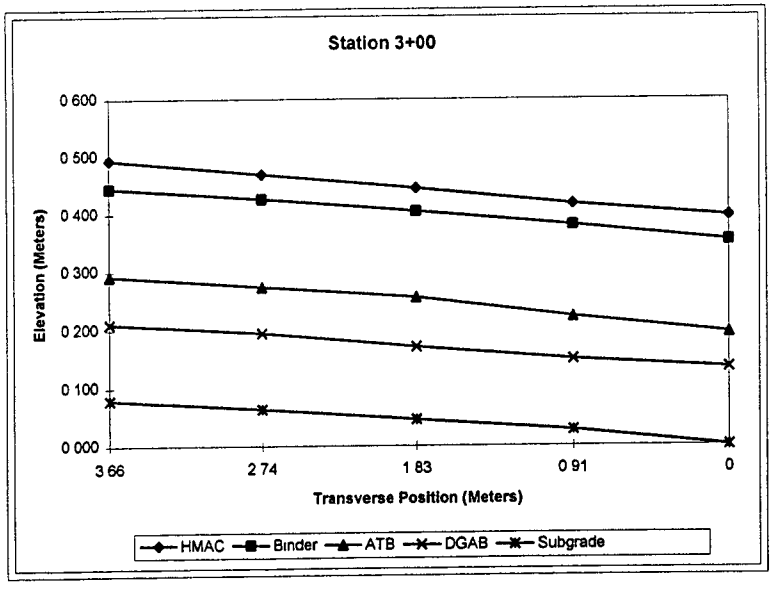


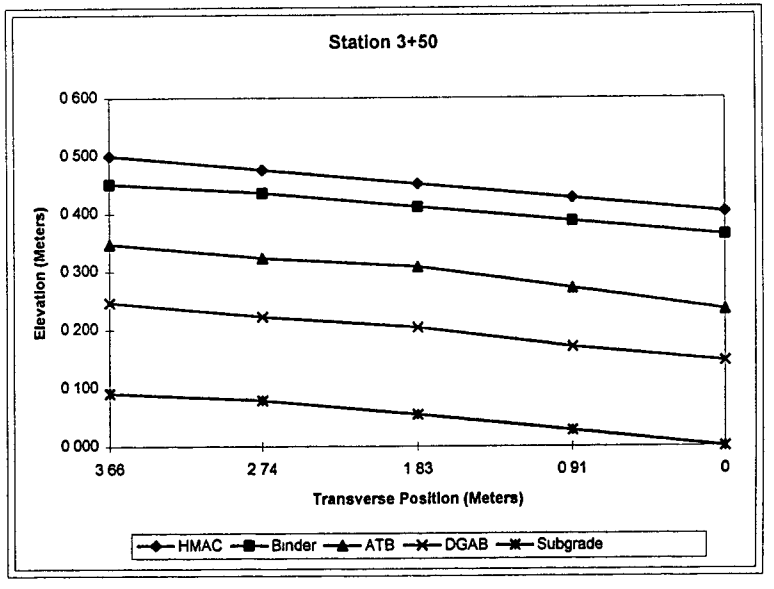


Louisiana SPS-1 (220117)

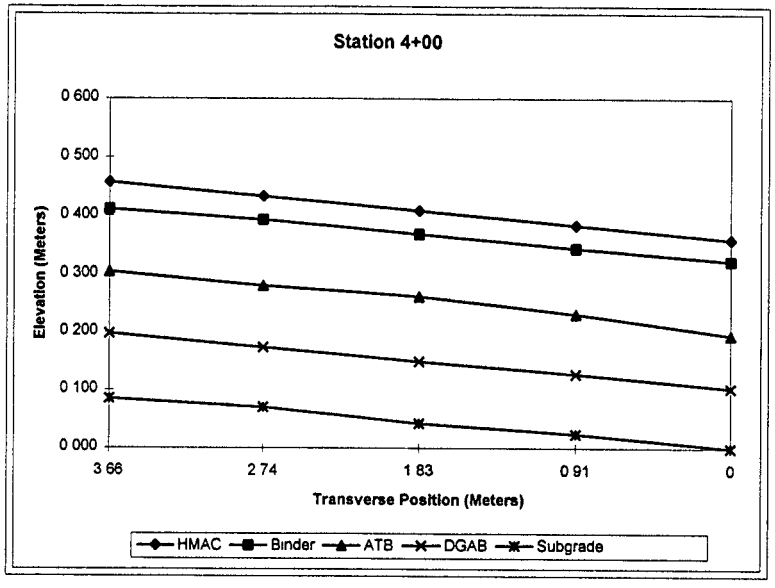


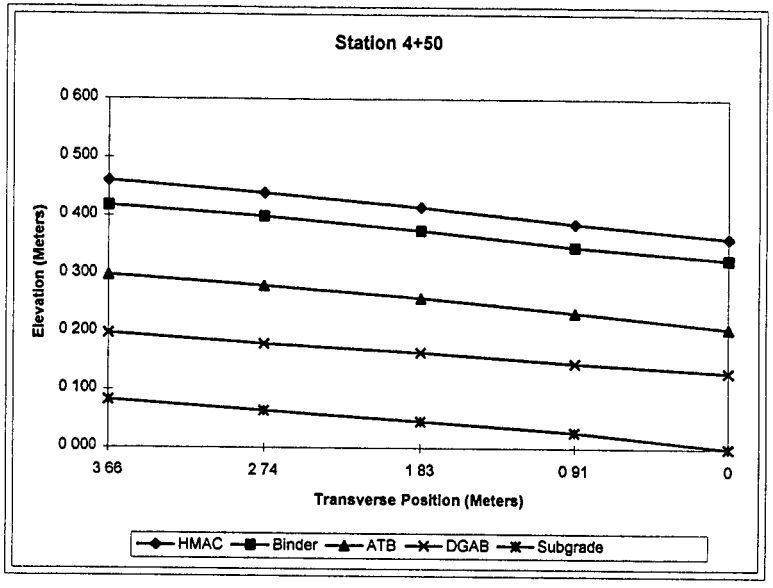


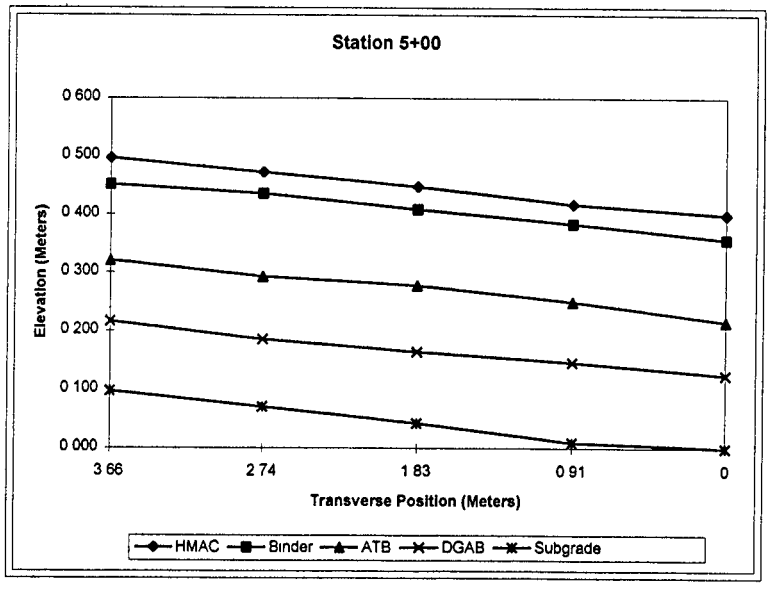




Louisiana SPS-1 (220117)





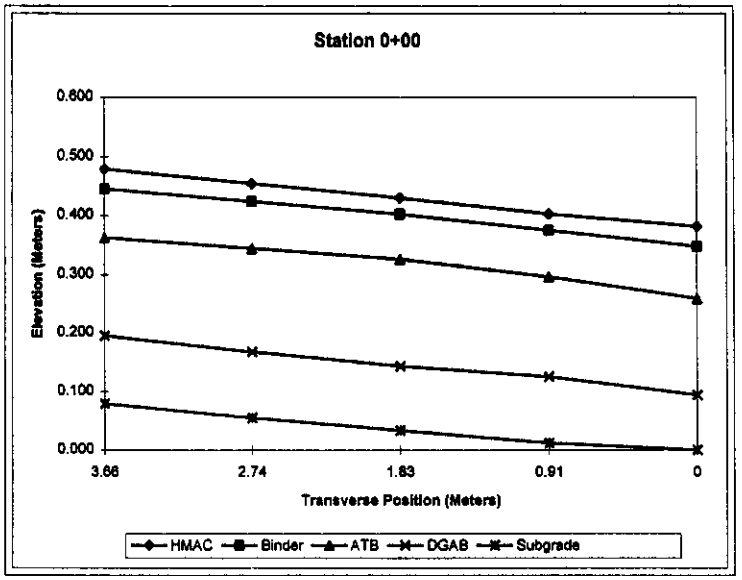


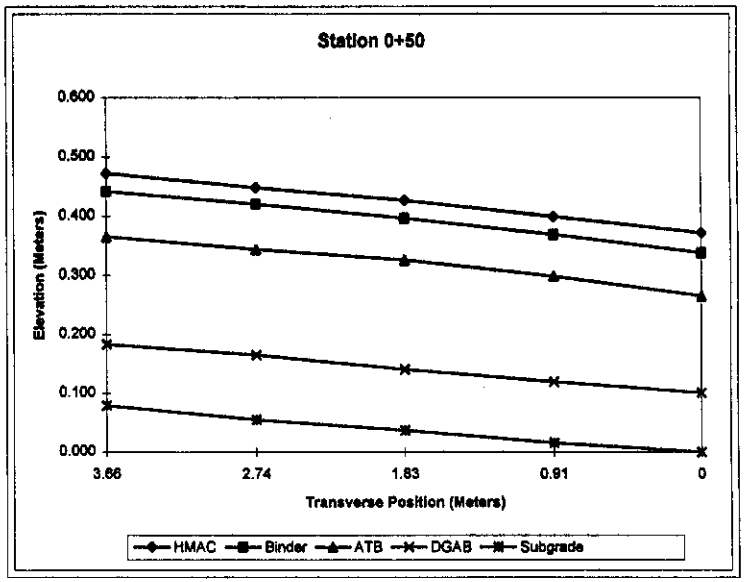
Louisiana SPS-1 (220118)

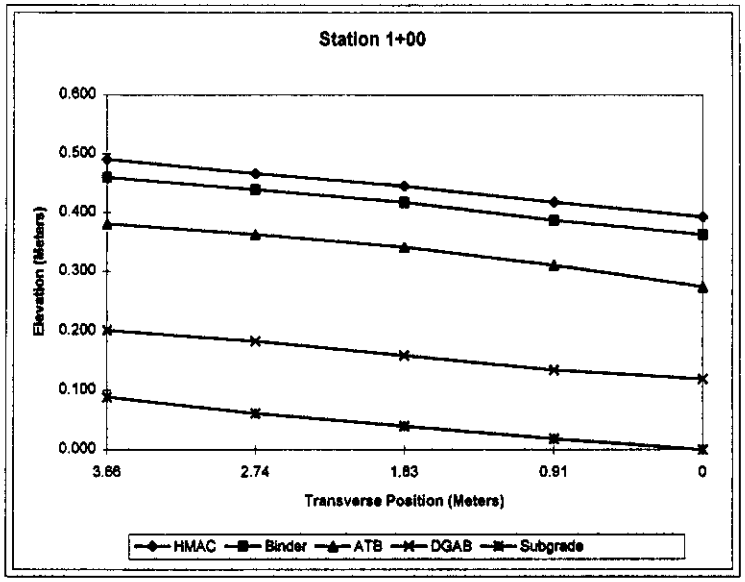
0+00	HMAC	1.670	0.034	0.088	0.165	0.094	1.692	0.027	0.078	0.171	0.113	1.719	0.027	0.076	0.183	0.110	1.743	0.030	0.078	0.177	0.113	1.766	0.034	0.082	0.168	0.116
	Binder	1.637					1.664					1.692					1.713					1.734				
	ATB	1.548					1.585					1.615					1.634					1.652				
	DGAB	1.384					1.414					1.433					1.457					1.484				
	Subgrade	1.289					1.301					1.323					1.344					1.368				
0+50	HMAC	1.667	0.034	0.073	0.165	0.101	1.695	0.030	0.070	0.180	0.104	1.722	0.030	0.070	0.186	0.104	1.743	0.027	0.076	0.180	0.110	1.766	0.030	0.076	0.183	0.104
	Binder	1.634					1.664					1.692					1.716					1.737				
	ATB	1.561					1.594					1.622					1.640					1.661				
	DGAB	1.398					1.414					1.436					1.460					1.478				
	Subgrade	1.295					1.311					1.332					1.350					1.375				
1+00	HMAC	1.678	0.030	0.088	0.165	0.119	1.701	0.030	0.076	0.177	0.116	1.728	0.027	0.076	0.183	0.119	1.750	0.027	0.076	0.180	0.122	1.774	0.030	0.079	0.180	0.113
	Binder	1.646					1.670					1.701					1.722					1.743				
	ATB	1.558					1.594					1.625					1.646					1.664				
	DGAB	1.402					1.417					1.442					1.466					1.484				
	Subgrade	1.283					1.301					1.323					1.344					1.372				
1+50	HMAC	1.679	0.034	0.082	0.174	0.088	1.701	0.024	0.073	0.198	0.082	1.729	0.024	0.076	0.186	0.098	1.756	0.030	0.082	0.180	0.088	1.774	0.027	0.085	0.171	0.107
	Binder	1.646					1.676					1.704					1.725					1.747				
	ATB	1.564					1.603					1.628					1.643					1.661				
	DGAB	1.390					1.405					1.442					1.463					1.480				
	Subgrade	1.301					1.323					1.344					1.366					1.384				
2+00	HMAC	1.686	0.034	0.085	0.168	0.098	1.710	0.030	0.076	0.183	0.101	1.734	0.030	0.076	0.186	0.104	1.759	0.030	0.082	0.180	0.107	1.783	0.034	0.079	0.183	0.101
	Binder	1.652					1.678					1.704					1.726					1.750				
	ATB	1.567					1.603					1.628					1.646					1.670				
	DGAB	1.389					1.420					1.442					1.466					1.487				
	Subgrade	1.301					1.320					1.338					1.359					1.387				
2+50	HMAC	1.695	0.034	0.088	0.162	0.113	1.716	0.024	0.082	0.177	0.107	1.747	0.027	0.082	0.180	0.104	1.768	0.027	0.082	0.177	0.107	1.789	0.030	0.079	0.177	0.116
	Binder	1.661					1.692					1.719					1.740					1.759				
	ATB	1.573					1.608					1.637					1.658					1.679				
	DGAB	1.411					1.433					1.457					1.481					1.503				
	Subgrade	1.298					1.326					1.353					1.375					1.387				
3+00	HMAC	1.713	0.037	0.087	0.192	0.098	1.734	0.030	0.081	0.204	0.098	1.762	0.030	0.084	0.207	0.101	1.789	0.037	0.084	0.210	0.094	1.811	0.040	0.084	0.201	0.094
	Binder	1.676					1.704					1.731					1.753					1.771				
	ATB	1.608					1.643					1.667					1.689					1.707				
	DGAB	1.417					1.438					1.460					1.478					1.506				
	Subgrade	1.320					1.341					1.359					1.384					1.411				
3+50	HMAC	1.719	0.049	0.076	0.148	0.134	1.747	0.049	0.070	0.152	0.140	1.774	0.049	0.073	0.158	0.140	1.785	0.049	0.070	0.162	0.134	1.820	0.052	0.067	0.171	0.128
	Binder	1.670					1.698					1.725					1.747					1.768				
	ATB	1.594					1.626					1.652					1.676					1.701				
	DGAB	1.448					1.475					1.494					1.515					1.530				
	Subgrade	1.314					1.335					1.353					1.381					1.402				
4+00	HMAC	1.750	0.055	0.076	0.163	0.085	1.774	0.049	0.076	0.186	0.088	1.804	0.052	0.079	0.198	0.079	1.829	0.052	0.079	0.195	0.084	1.853	0.052	0.076	0.198	0.101
	Binder	1.685					1.725					1.753					1.777					1.801				
	ATB	1.618					1.649					1.673					1.698					1.725				
	DGAB	1.436					1.463					1.476					1.503					1.527				
	Subgrade	1.350					1.375					1.398					1.406					1.426				
4+50	HMAC	1.762	0.058	0.084	0.188	0.085	1.789	0.058	0.059	0.201	0.082	1.817	0.052	0.067	0.201	0.082	1.841	0.052	0.070	0.201	0.078	1.865	0.055	0.067	0.198	0.078
	Binder	1.704					1.731					1.765					1.789					1.811				
	ATB	1.640					1.673					1.698					1.719					1.743				
	DGAB	1.451					1.472					1.487					1.518					1.546				
	Subgrade	1.368					1.390					1.414					1.442					1.468				
5+00	HMAC	1.753	0.055	0.061	0.171	0.088	1.780	0.052	0.058	0.180	0.091	1.811	0.049	0.070	0.174	0.088	1.832	0.052	0.064	0.177	0.091	1.856	0.058	0.064	0.171	0.094
	Binder	1.698					1.728					1.762					1.780					1.798				
	ATB	1.637					1.670					1.692					1.716					1.734				
	DGAB	1.466					1.480					1.518					1.539					1.564				
	Subgrade	1.376					1.399					1.420					1.448					1.468				
	AVG	0.041	0.077	0.170	0.100		0.037	0.070	0.183	0.102		0.037	0.073	0.189	0.103		0.038	0.074	0.184	0.104		0.041	0.074	0.182	0.105
	MAX	0.058	0.088	0.192	0.134		0.058	0.082	0.204	0.140		0.052	0.082	0.207	0.140		0.052	0.082	0.210	0.134		0.058	0.085	0.201	0.128
	MIN	0.030	0.061	0.148	0.085		0.024	0.058	0.152	0.082		0.024	0.064	0.158	0.078		0.027	0.064	0.162	0.078		0.027	0.064	0.168	0.078
	STD	0.010	0.010	0.014	0.015		0.012	0.008	0.015	0.017		0.011	0.005	0.013	0.017		0.011	0.007	0.013	0.016		0.011	0.007	0.012	0.014

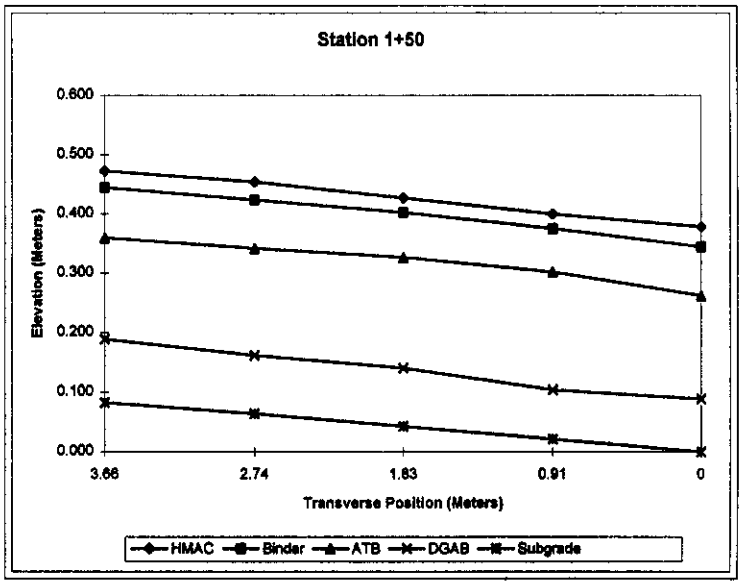
	HMAC	Binder	ATB	DGAB
SECTION AVG	0.036	0.074	0.181	0.103
SECTION MAX	0.058	0.088	0.210	0.140
SECTION MIN	0.024	0.058	0.148	0.078
SECTION STD	0.011	0.008	0.014	0.015

Louisiana SPS-1 (220118)

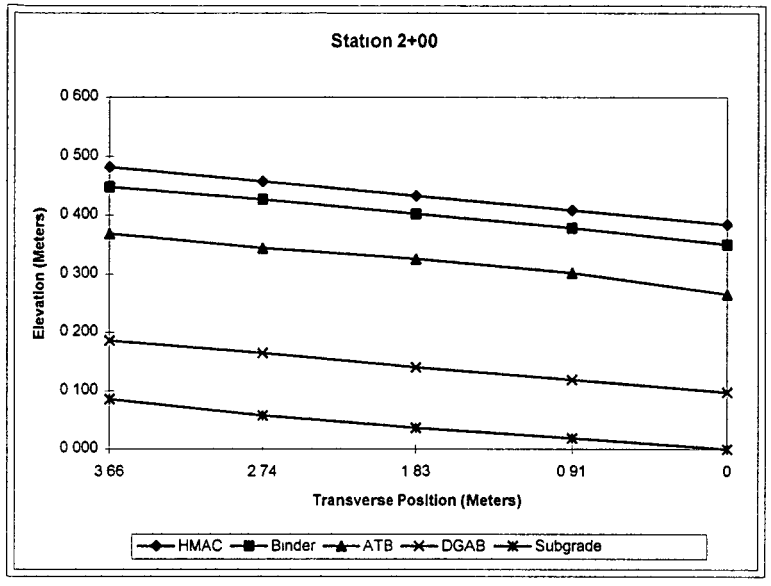


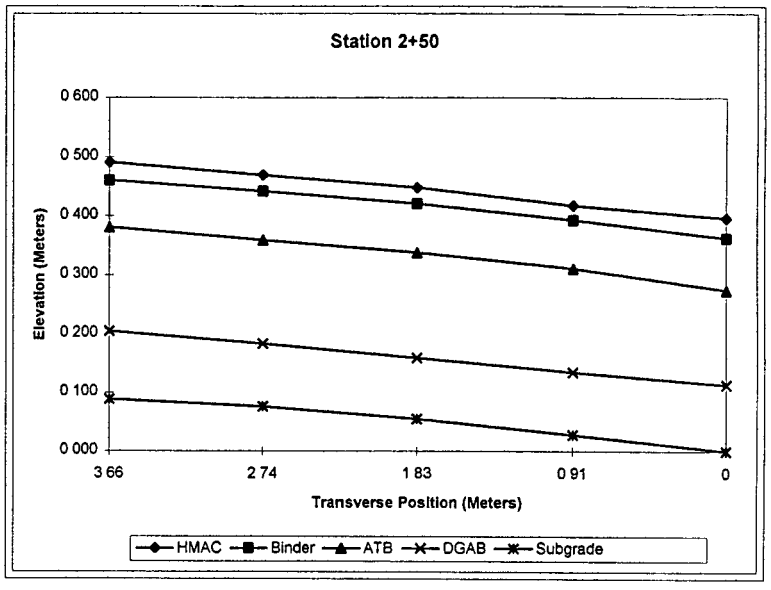


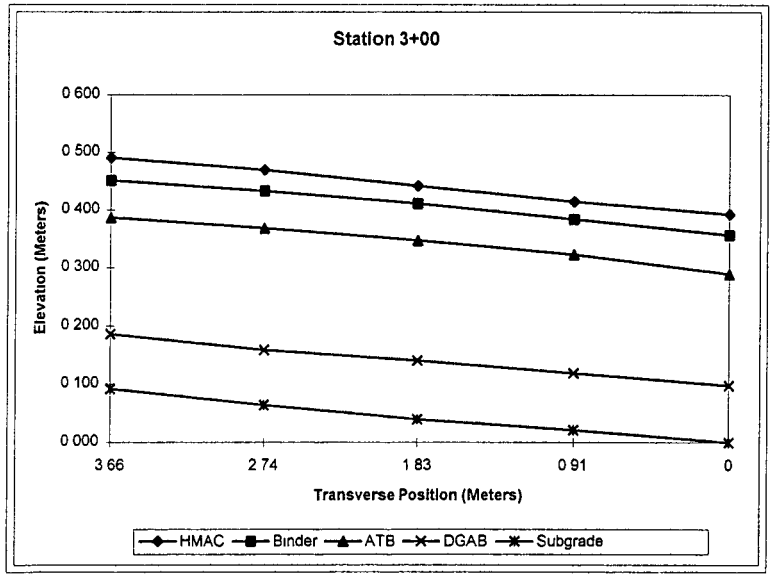


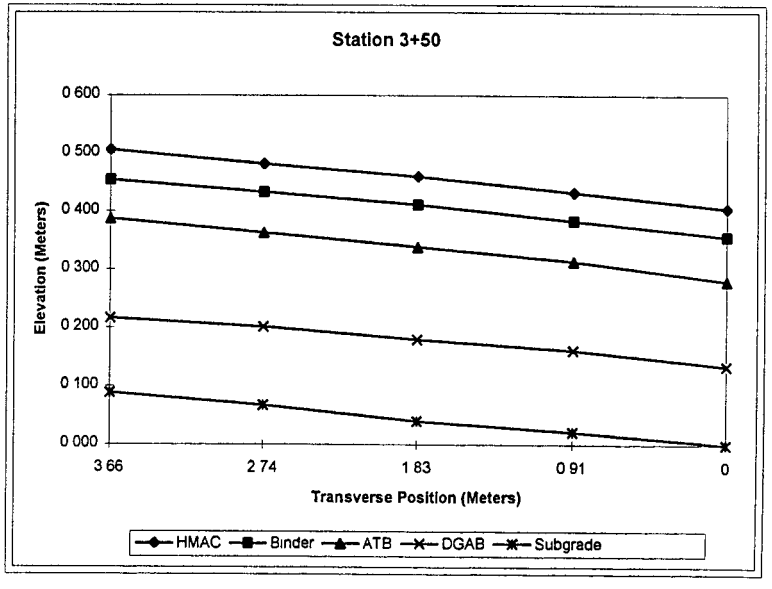


Louisiana SPS-1 (220118)

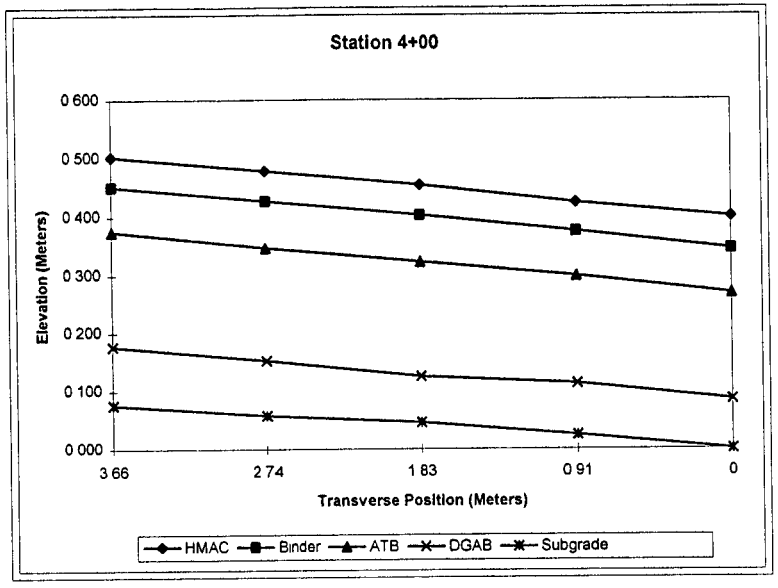


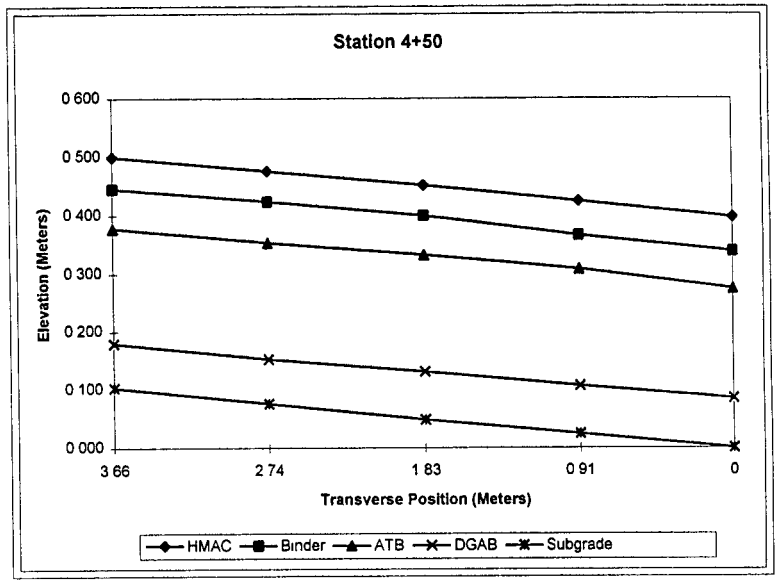


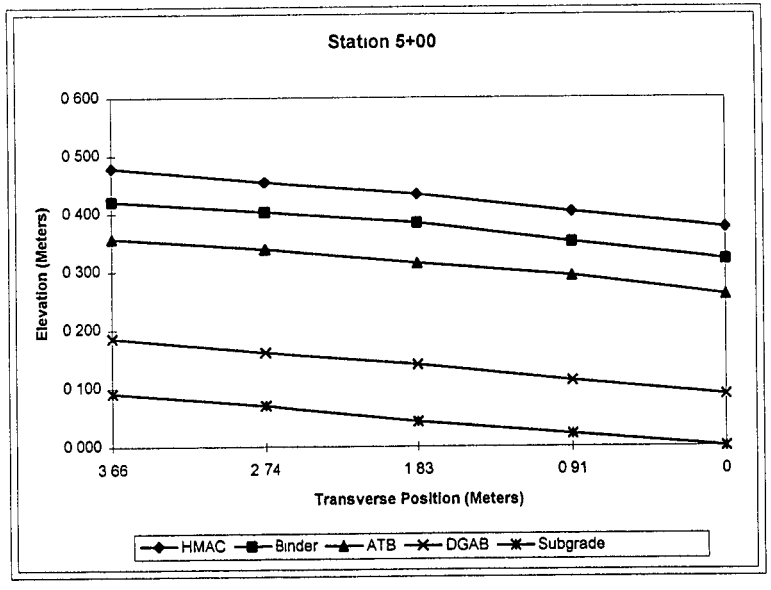




Louisiana SPS-1 (220118)





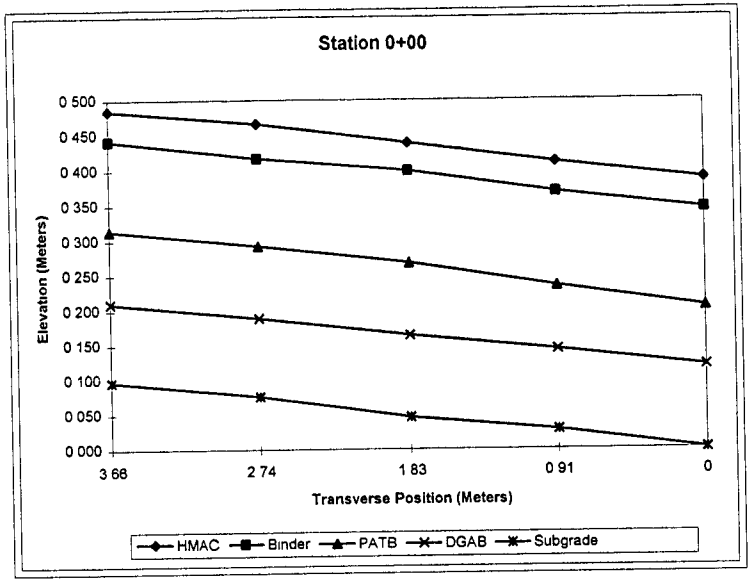


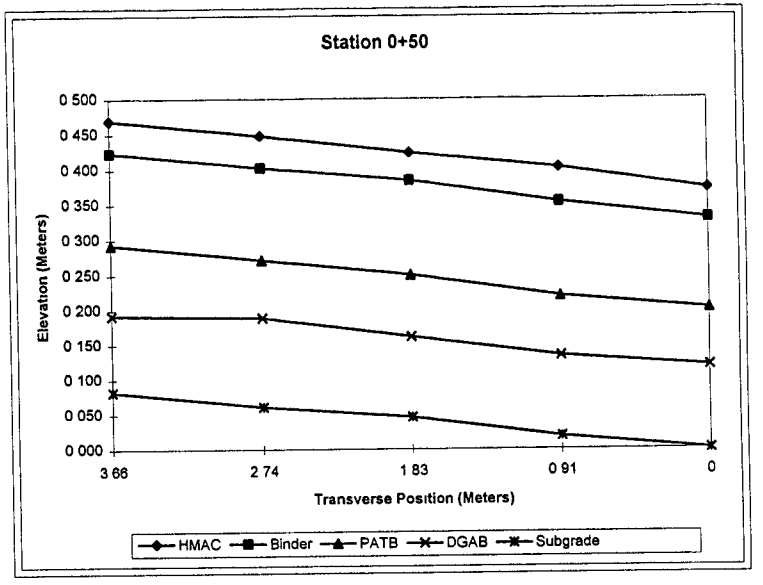
Louisiana SPS-1 (220119)

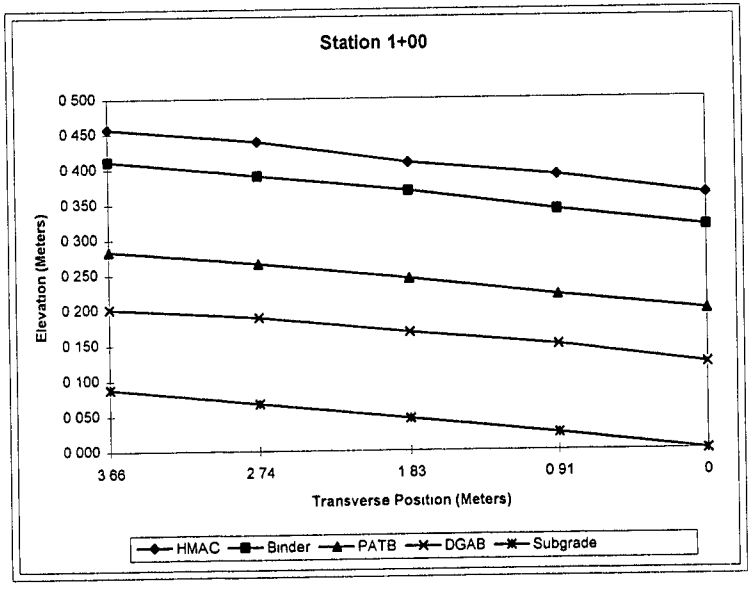
Transverse Offset	LAYERS	ELEVATION 0 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 0.91 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 1.83 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 2.74 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 3.66 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters
0+00	HMAC	2.085	0.043	0.140	0.085	0.119	2.109	0.043	0.134	0.091	0.116	2.137	0.040	0.131	0.104	0.119	2.164	0.049	0.125	0.104	0.113	2.182	0.043	0.128	0.104	0.113
	Binder	2.042					2.067					2.097					2.115					2.140				
	PATB	1.902					1.932					1.966					1.990					2.012				
	DGAB	1.817					1.841					1.862					1.887					1.908				
	Subgrade	1.698					1.725					1.743					1.774					1.795				
0+50	HMAC	2.063	0.043	0.128	0.082	0.119	2.094	0.049	0.134	0.085	0.116	2.115	0.040	0.134	0.088	0.116	2.140	0.046	0.131	0.082	0.128	2.161	0.046	0.131	0.101	0.110
	Binder	2.021					2.045					2.076					2.094					2.115				
	PATB	1.893					1.911					1.942					1.963					1.984				
	DGAB	1.811					1.826					1.853					1.881					1.884				
	Subgrade	1.692					1.710					1.737					1.753					1.774				
1+00	HMAC	2.036	0.046	0.119	0.076	0.122	2.063	0.049	0.122	0.070	0.125	2.082	0.040	0.125	0.076	0.122	2.112	0.049	0.125	0.076	0.122	2.131	0.046	0.128	0.082	0.113
	Binder	1.990					2.015					2.042					2.063					2.085				
	PATB	1.871					1.893					1.917					1.939					1.957				
	DGAB	1.795					1.823					1.841					1.862					1.875				
	Subgrade	1.673					1.698					1.719					1.740					1.762				
1+50	HMAC	2.015	0.043	0.116	0.076	0.122	2.042	0.046	0.119	0.076	0.118	2.063	0.040	0.116	0.098	0.104	2.094	0.049	0.119	0.094	0.104	2.112	0.043	0.125	0.085	0.107
	Binder	1.972					1.996					2.024					2.045					2.070				
	PATB	1.856					1.878					1.908					1.926					1.945				
	DGAB	1.780					1.801					1.811					1.832					1.859				
	Subgrade	1.658					1.682					1.707					1.728					1.753				
2+00	HMAC	2.009	0.046	0.119	0.101	0.110	2.033	0.046	0.119	0.088	0.113	2.057	0.046	0.116	0.101	0.116	2.088	0.055	0.119	0.101	0.113	2.103	0.046	0.122	0.104	0.107
	Binder	1.963					1.987					2.012					2.033					2.057				
	PATB	1.844					1.868					1.896					1.914					1.935				
	DGAB	1.743					1.771					1.795					1.814					1.832				
	Subgrade	1.634					1.658					1.679					1.701					1.725				
2+50	HMAC	1.996	0.043	0.131	0.088	0.110	2.024	0.043	0.140	0.082	0.113	2.045	0.037	0.122	0.110	0.110	2.073	0.048	0.119	0.113	0.094	2.097	0.049	0.131	0.091	0.101
	Binder	1.954					1.981					2.009					2.027					2.048				
	PATB	1.823					1.841					1.887					1.908					1.917				
	DGAB	1.734					1.759					1.777					1.795					1.826				
	Subgrade	1.625					1.646					1.667					1.701					1.725				
3+00	HMAC	1.966	0.046	0.119	0.082	0.119	1.996	0.049	0.125	0.079	0.110	2.021	0.046	0.119	0.091	0.107	2.045	0.052	0.119	0.088	0.110	2.070	0.055	0.122	0.082	0.110
	Binder	1.920					1.948					1.975					1.993					2.015				
	PATB	1.801					1.823					1.856					1.875					1.893				
	DGAB	1.719					1.743					1.765					1.786					1.811				
	Subgrade	1.600					1.634					1.658					1.676					1.701				
3+50	HMAC	1.957	0.043	0.125	0.088	0.107	1.984	0.046	0.125	0.088	0.110	2.006	0.040	0.116	0.110	0.104	2.033	0.052	0.113	0.107	0.107	2.057	0.052	0.122	0.104	0.104
	Binder	1.914					1.939					1.966					1.981					2.006				
	PATB	1.789					1.814					1.850					1.868					1.884				
	DGAB	1.701					1.725					1.740					1.762					1.780				
	Subgrade	1.594					1.615					1.637					1.655					1.676				
4+00	HMAC	1.923	0.043	0.116	0.088	0.098	1.951	0.046	0.116	0.085	0.107	1.975	0.043	0.116	0.094	0.104	2.003	0.049	0.116	0.088	0.110	2.024	0.046	0.122	0.082	0.116
	Binder	1.881					1.905					1.932					1.954					1.978				
	PATB	1.765					1.789					1.817					1.838					1.856				
	DGAB	1.676					1.704					1.722					1.750					1.774				
	Subgrade	1.579					1.587					1.618					1.640					1.658				
4+50	HMAC	1.905	0.052	0.119	0.070	0.119	1.929	0.046	0.116	0.085	0.122	1.951	0.040	0.116	0.094	0.116	1.978	0.049	0.113	0.091	0.113	2.003	0.049	0.122	0.085	0.113
	Binder	1.853					1.884					1.911					1.929					1.954				
	PATB	1.734					1.768					1.795					1.817					1.832				
	DGAB	1.664					1.682					1.701					1.725					1.747				
	Subgrade	1.545					1.561					1.585					1.612					1.634				
5+00	HMAC	1.887	0.055	0.119	0.076	0.107	1.914	0.055	0.122	0.079	0.104	1.932	0.046	0.119	0.088	0.104	1.960	0.052	0.122	0.091	0.091	1.978	0.049	0.125	0.091	0.088
	Binder	1.832					1.859					1.887					1.908					1.929				
	PATB	1.713					1.737					1.768					1.786					1.804				
	DGAB	1.637					1.658					1.679					1.695					1.713				
	Subgrade	1.530					1.554					1.576					1.603					1.625				
	AVG		0.045	0.123	0.081	0.114		0.047	0.125	0.082	0.114		0.041	0.121	0.095	0.110		0.049	0.120	0.094	0.109		0.048	0.126	0.091	0.107
	MAX		0.055	0.140	0.088	0.122		0.055	0.140	0.091	0.125		0.048	0.134	0.110	0.122		0.052	0.131	0.113	0.128		0.055	0.131	0.104	0.116
	MIN		0.043	0.116	0.070	0.098		0.043	0.116	0.070	0.104		0.037	0.116	0.076	0.104		0.046	0.113	0.076	0.091		0.043	0.122	0.082	0.088
	STD		0.004	0.007	0.006	0.008		0.003	0.008	0.006	0.006		0.003	0.006	0.010	0.007		0.002	0.005	0.011	0.011		0.004	0.004	0.008	0.008

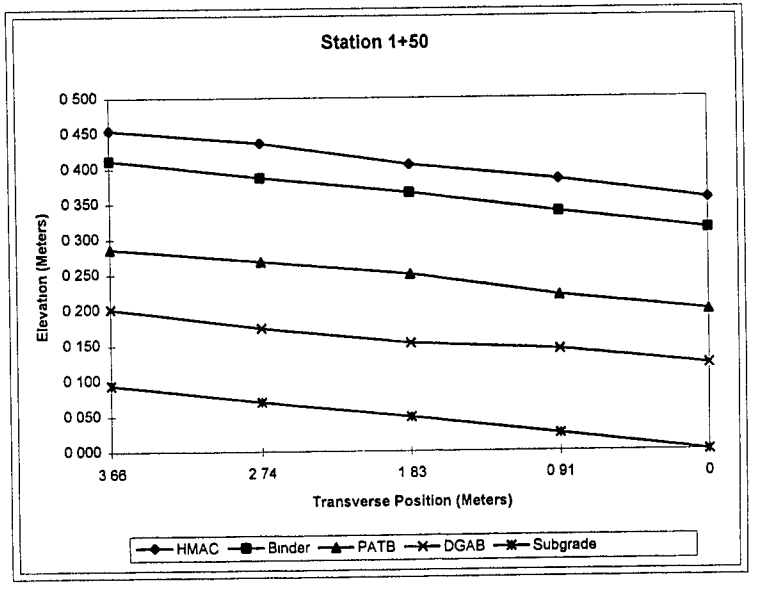
	HMAC	Binder	PATB	DGAB
SECTION AVG	0.046	0.123	0.090	0.111
SECTION MAX	0.055	0.140	0.113	0.128
SECTION MIN	0.037	0.113	0.070	0.088
SECTION STD	0.004	0.007	0.010	0.008

Louisiana SPS-1 (220119)

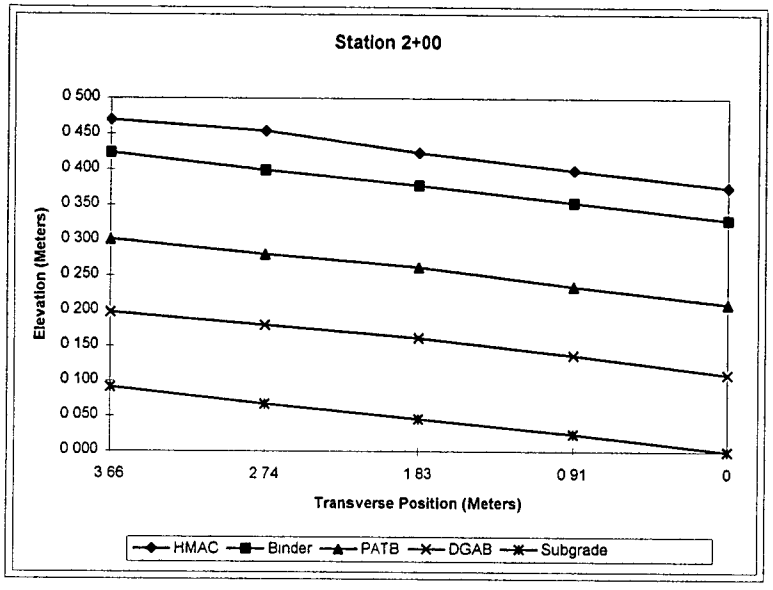


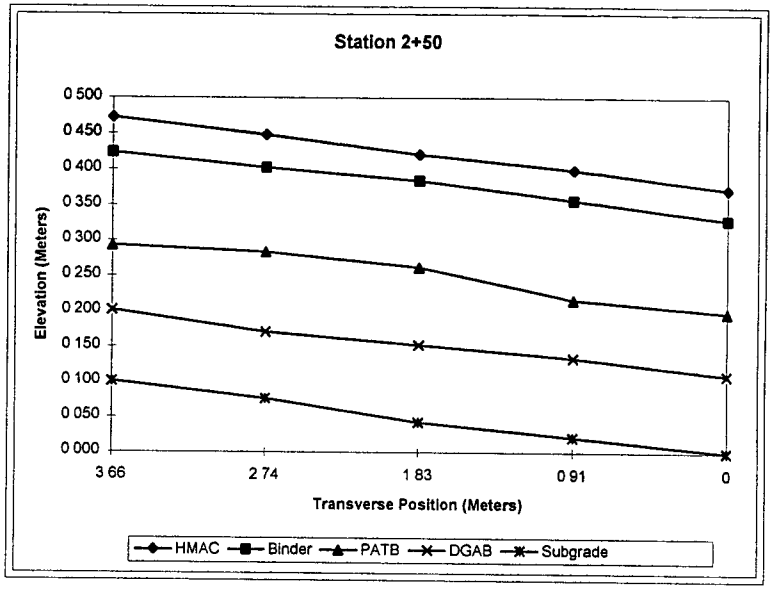


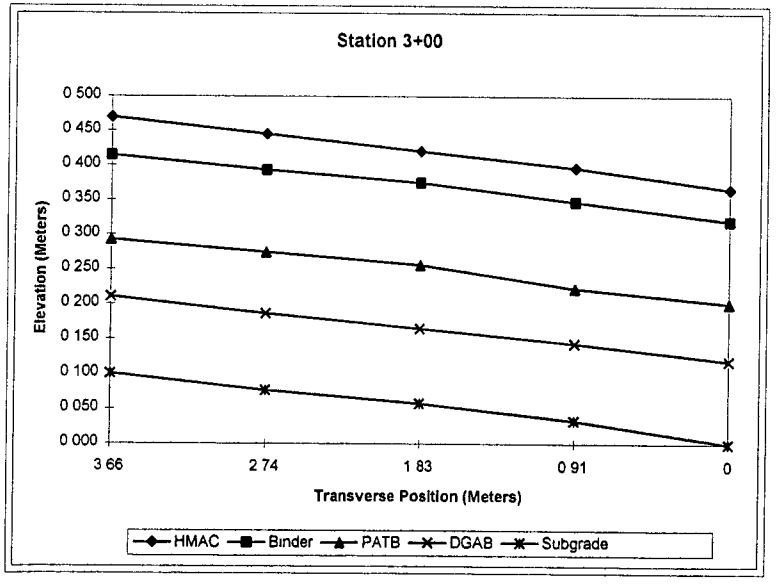


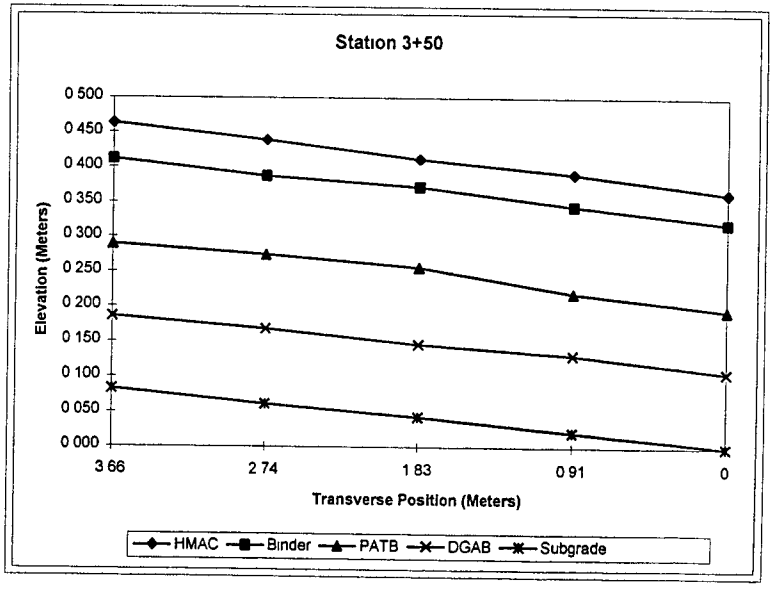


Louisiana SPS-1 (220119)

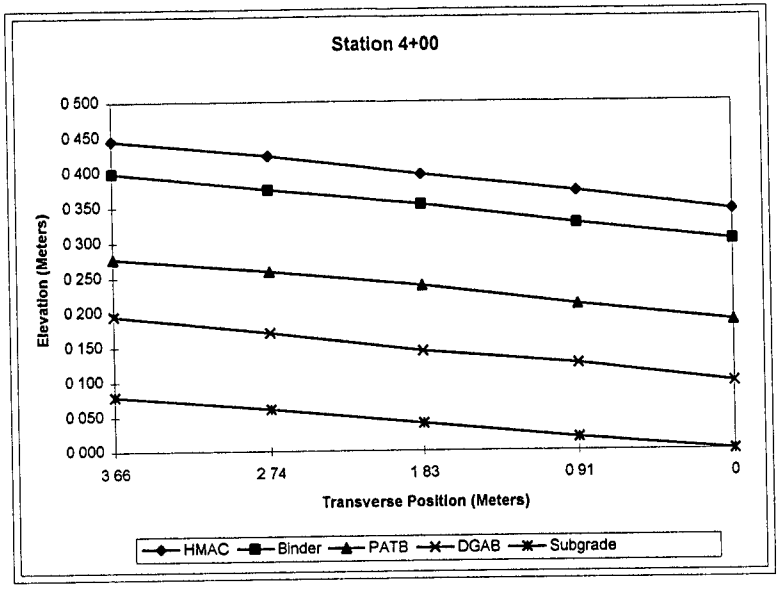


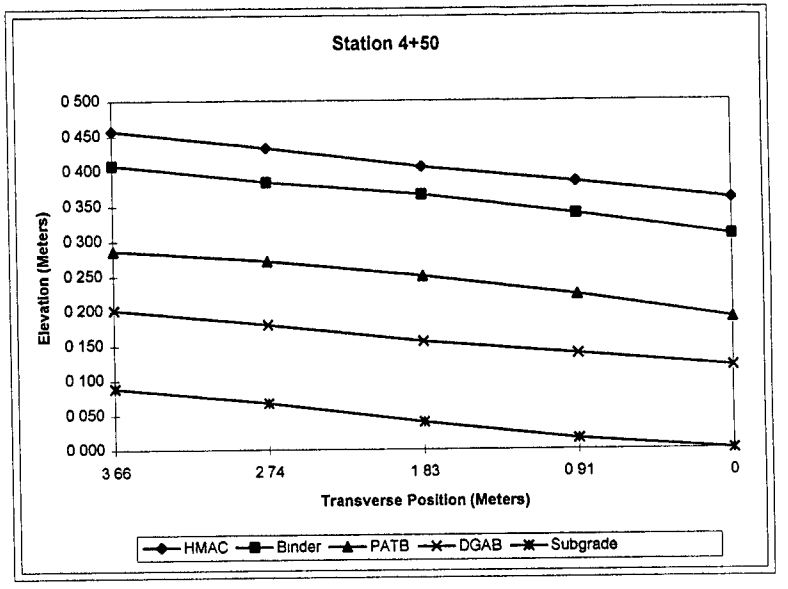


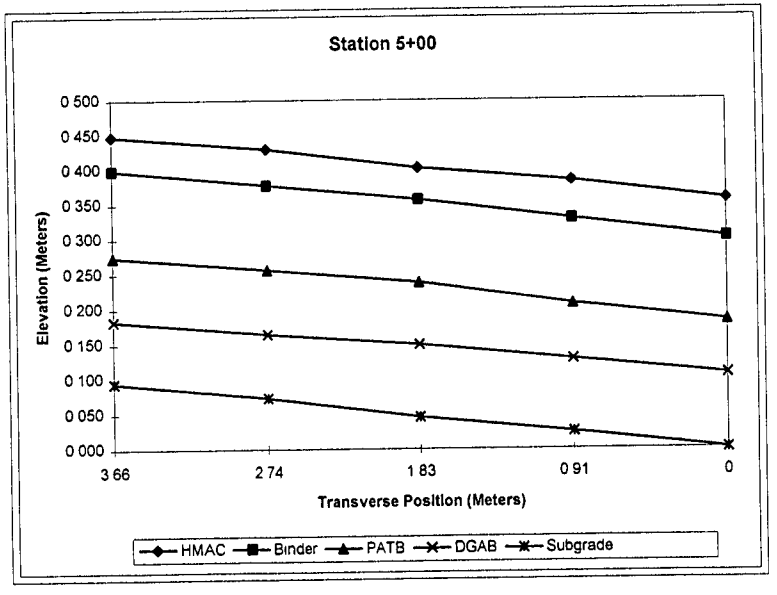




Louisiana SPS-1 (220119)





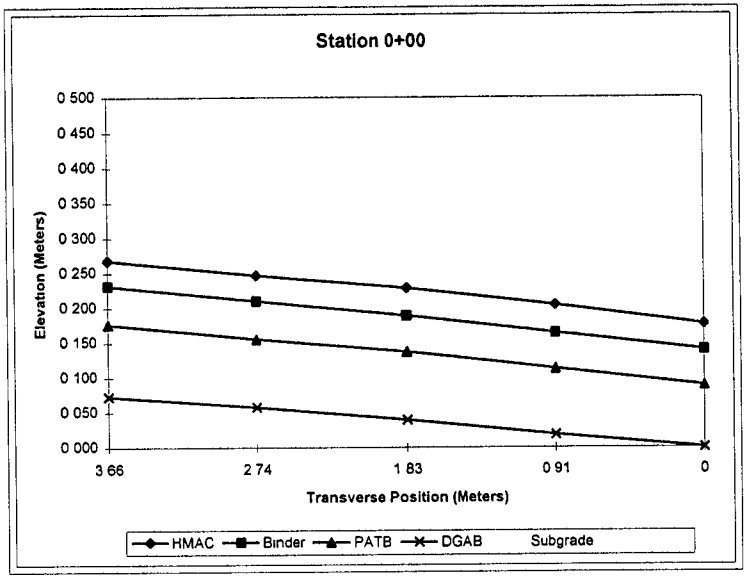


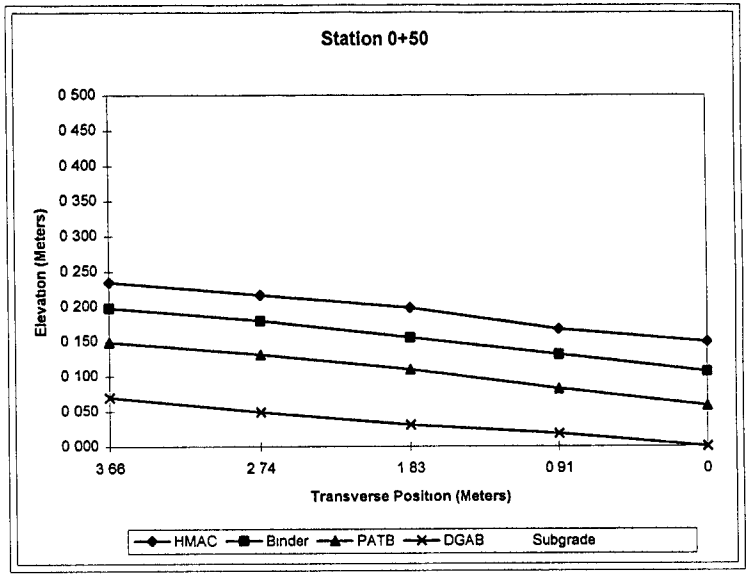
Louisiana SPS-1 (220120)

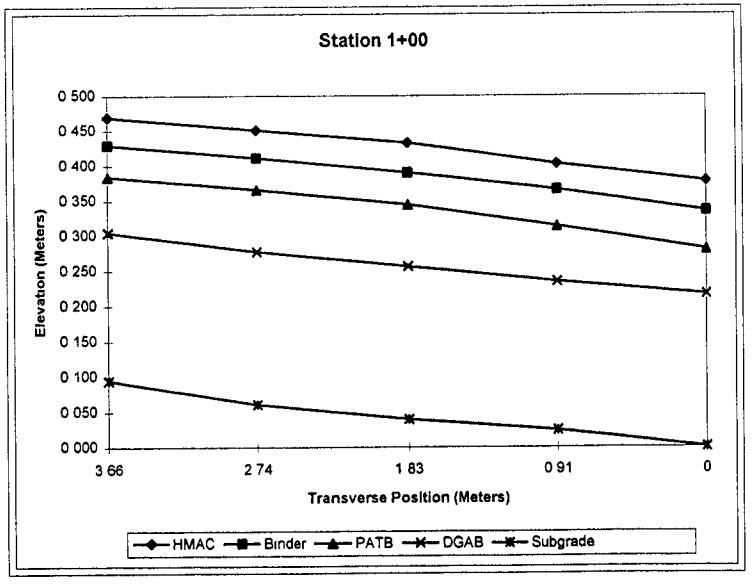
Transverse Offset	5 LAYERS	ELEVATION 0 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 0.91 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 1.83 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 2.74 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 3.66 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters
0+00	HMAC	1.820	0.037	0.052	0.088	Unknown	1.847	0.040	0.052	0.094	Unknown	1.871	0.040	0.052	0.098	Unknown	1.890	0.037	0.055	0.098	Unknown	1.911	0.037	0.055	0.104	Unknown
	Binder	1.783					1.807					1.832					1.853					1.875				
	PATB	1.731					1.756					1.780					1.798					1.820				
	DGAB	1.643					1.661					1.682					1.701					1.716				
	Subgrade	0.000					0.000					0.000					0.000					0.000				
0+50	HMAC	1.786	0.043	0.049	0.058	Unknown	1.804	0.037	0.049	0.064	Unknown	1.835	0.043	0.046	0.079	Unknown	1.853	0.037	0.049	0.082	Unknown	1.871	0.037	0.049	0.079	Unknown
	Binder	1.743					1.768					1.792					1.817					1.835				
	PATB	1.695					1.719					1.747					1.768					1.786				
	DGAB	1.637					1.655					1.667					1.686					1.707				
	Subgrade	0.000					0.000					0.000					0.000					0.000				
1+00	HMAC	1.762	0.043	0.055	0.064	0.216	1.786	0.037	0.052	0.079	0.210	1.817	0.043	0.046	0.088	0.216	1.835	0.040	0.046	0.088	0.216	1.853	0.040	0.046	0.079	0.210
	Binder	1.719					1.750					1.774					1.795					1.814				
	PATB	1.664					1.698					1.728					1.750					1.768				
	DGAB	1.600					1.618					1.640					1.661					1.689				
	Subgrade	1.384					1.408					1.423					1.445					1.478				
1+50	HMAC	1.750	0.043	0.061	0.076	0.216	1.771	0.034	0.055	0.088	0.216	1.801	0.034	0.049	0.104	0.201	1.823	0.037	0.052	0.098	0.201	1.847	0.040	0.052	0.094	0.204
	Binder	1.707					1.737					1.768					1.786					1.807				
	PATB	1.646					1.682					1.719					1.734					1.756				
	DGAB	1.570					1.594					1.615					1.637					1.661				
	Subgrade	1.353					1.378					1.414					1.436					1.457				
2+00	HMAC	1.731	0.049	0.061	0.061	0.207	1.759	0.052	0.052	0.076	0.201	1.786	0.043	0.049	0.098	0.198	1.804	0.046	0.043	0.091	0.201	1.826	0.043	0.055	0.070	0.210
	Binder	1.682					1.707					1.743					1.759					1.783				
	PATB	1.622					1.655					1.695					1.716					1.728				
	DGAB	1.561					1.579					1.597					1.625					1.658				
	Subgrade	1.353					1.378					1.399					1.423					1.448				
2+50	HMAC	1.722	0.052	0.058	0.073	0.210	1.747	0.043	0.058	0.091	0.198	1.777	0.046	0.049	0.113	0.189	1.795	0.043	0.052	0.107	0.192	1.820	0.046	0.058	0.085	0.207
	Binder	1.670					1.704					1.731					1.753					1.774				
	PATB	1.612					1.646					1.682					1.701					1.716				
	DGAB	1.539					1.554					1.570					1.594					1.631				
	Subgrade	1.329					1.356					1.381					1.402					1.423				
3+00	HMAC	1.710	0.049	0.052	0.088	0.207	1.734	0.043	0.052	0.098	0.204	1.765	0.046	0.046	0.107	0.210	1.780	0.043	0.052	0.094	0.204	1.804	0.046	0.052	0.088	0.210
	Binder	1.661					1.692					1.719					1.737					1.759				
	PATB	1.609					1.640					1.673					1.686					1.707				
	DGAB	1.521					1.542					1.567					1.591					1.618				
	Subgrade	1.314					1.338					1.356					1.387					1.408				
3+50	HMAC	1.686	0.043	0.055	0.085	0.204	1.710	0.040	0.058	0.091	0.198	1.743	0.046	0.052	0.098	0.207	1.762	0.043	0.049	0.098	0.204	1.783	0.043	0.055	0.091	0.201
	Binder	1.643					1.670					1.698					1.719					1.740				
	PATB	1.588					1.612					1.646					1.670					1.686				
	DGAB	1.503					1.521					1.548					1.573					1.594				
	Subgrade	1.298					1.323					1.341					1.369					1.393				
4+00	HMAC	1.655	0.043	0.058	0.070	0.213	1.679	0.040	0.061	0.070	0.216	1.707	0.040	0.058	0.079	0.216	1.731	0.046	0.055	0.076	0.216	1.750	0.043	0.058	0.055	0.226
	Binder	1.612					1.640					1.667					1.686					1.707				
	PATB	1.554					1.579					1.609					1.631					1.649				
	DGAB	1.484					1.509					1.530					1.554					1.594				
	Subgrade	1.271					1.292					1.314					1.338					1.369				
4+50	HMAC	1.640	0.049	0.064	0.070	0.207	1.664	0.043	0.067	0.076	0.210	1.689	0.043	0.055	0.091	0.207	1.716	0.049	0.058	0.091	0.198	1.734	0.043	0.061	0.094	0.195
	Binder	1.591					1.622					1.646					1.667					1.692				
	PATB	1.527					1.554					1.591					1.609					1.631				
	DGAB	1.457					1.478					1.500					1.518					1.536				
	Subgrade	1.250					1.268					1.292					1.320					1.341				
5+00	HMAC	1.628	0.046	0.064	0.088	0.189	1.649	0.043	0.058	0.098	0.186	1.676	0.043	0.052	0.107	0.186	1.701	0.046	0.052	0.107	0.183	1.722	0.046	0.058	0.091	0.189
	Binder	1.582					1.606					1.634					1.655					1.676				
	PATB	1.518					1.548					1.582					1.603					1.618				
	DGAB	1.430					1.451					1.475					1.497					1.527				
	Subgrade	1.241					1.265					1.289					1.314					1.338				
	AVG	0.045	0.057	0.076	0.208		0.040	0.058	0.085	0.205		0.042	0.050	0.096	0.204		0.042	0.052	0.094	0.202		0.042	0.054	0.086	0.205
	MAX	0.052	0.064	0.088	0.216		0.043	0.067	0.098	0.216		0.046	0.058	0.113	0.216		0.049	0.058	0.107	0.216		0.046	0.061	0.104	0.226
	MIN	0.037	0.049	0.058	0.189		0.034	0.049	0.064	0.186		0.034	0.046	0.079	0.186		0.037	0.046	0.076	0.183		0.037	0.046	0.055	0.189
	STD	0.004	0.005	0.010	0.008		0.003	0.005	0.011	0.010		0.004	0.004	0.011	0.011		0.004	0.003	0.009	0.011		0.003	0.004	0.013	0.010

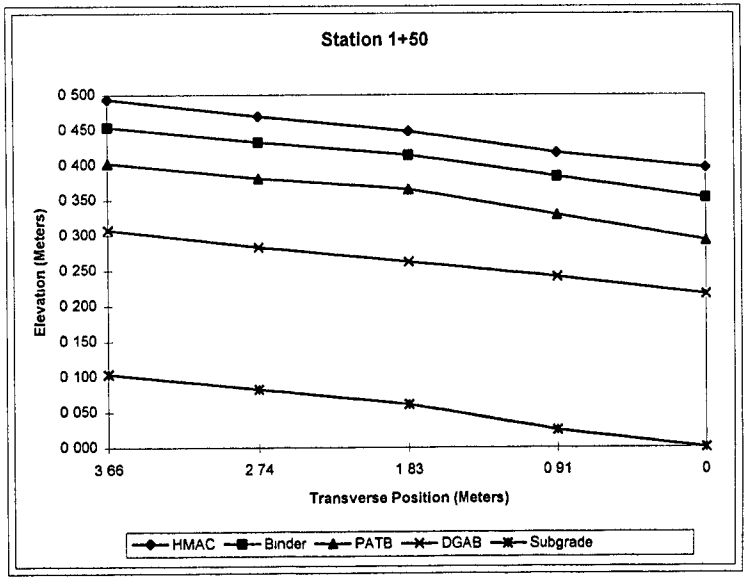
	HMAC	Binder	PATB	DGAB
SECTION AVG	0.042	0.054	0.087	0.205
SECTION MAX	0.052	0.067	0.113	0.226
SECTION MIN	0.034	0.048	0.055	0.183
SECTION STD	0.004	0.005	0.013	0.010

Louisiana SPS-1 (220120)

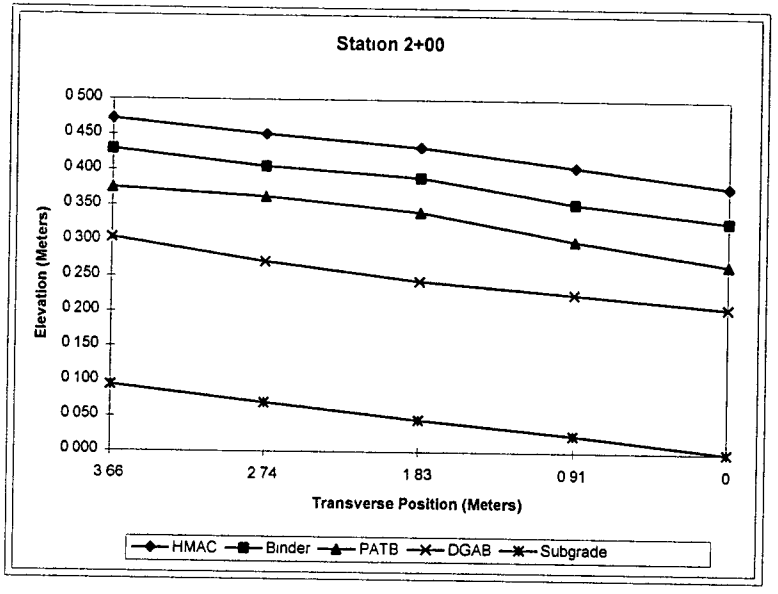


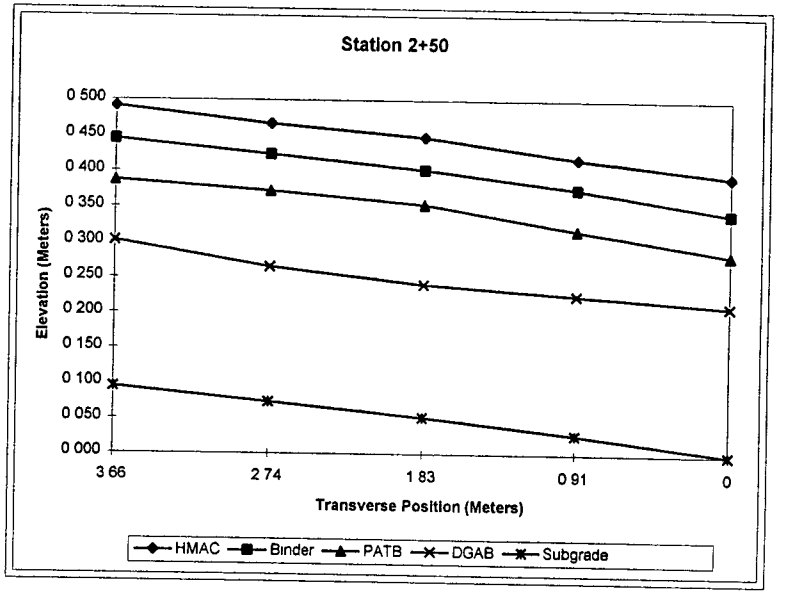


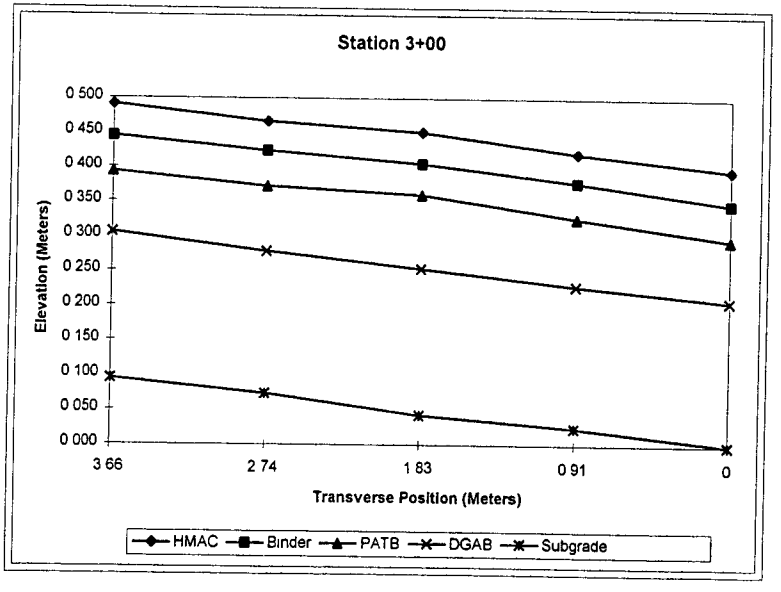


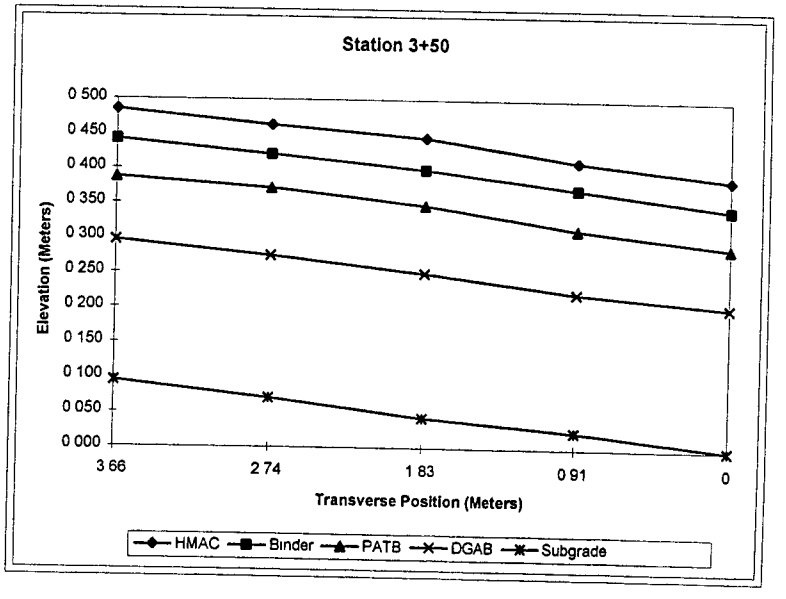


Louisiana SPS-1 (220120)

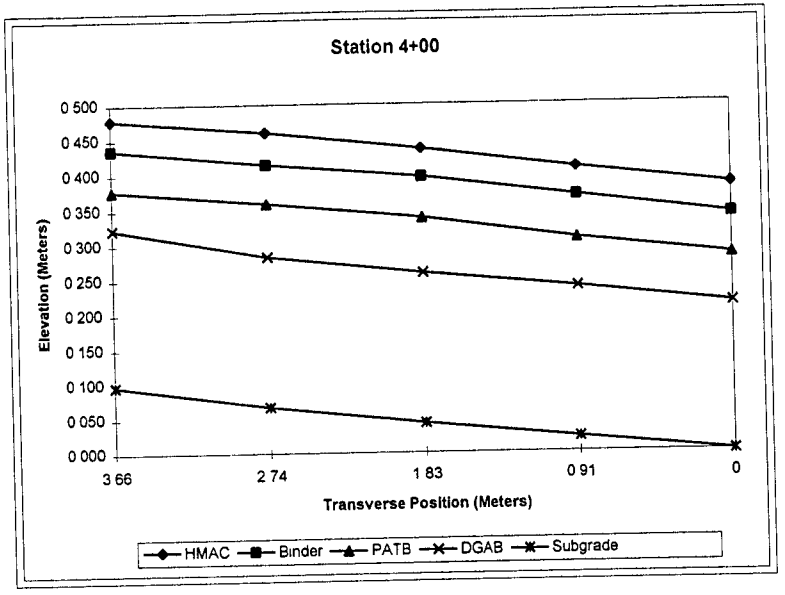


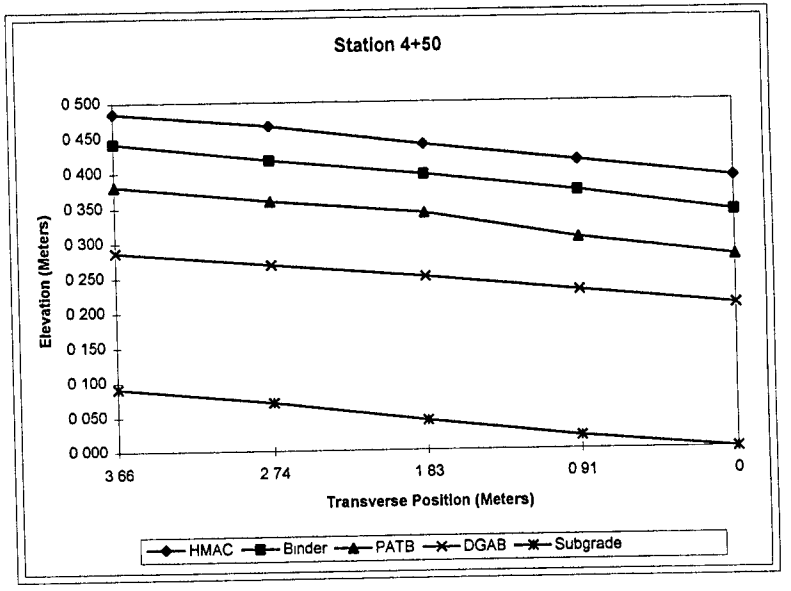


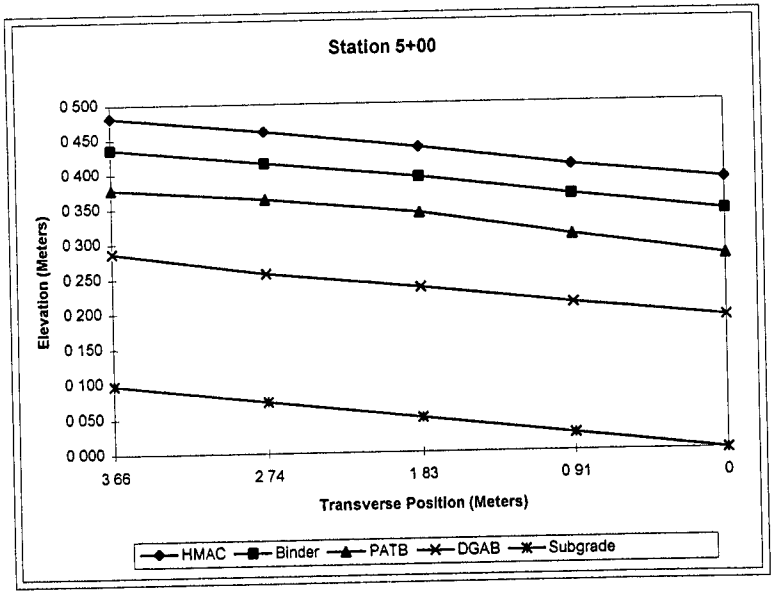




Louisiana SPS-1 (220120)





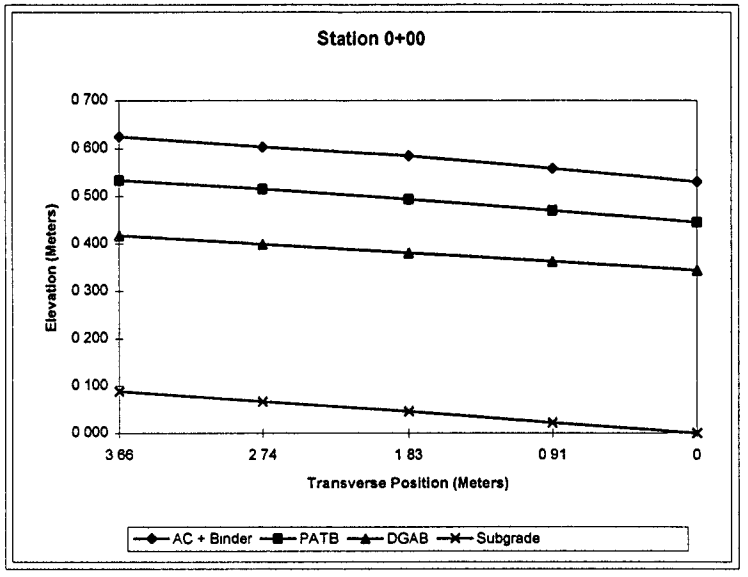


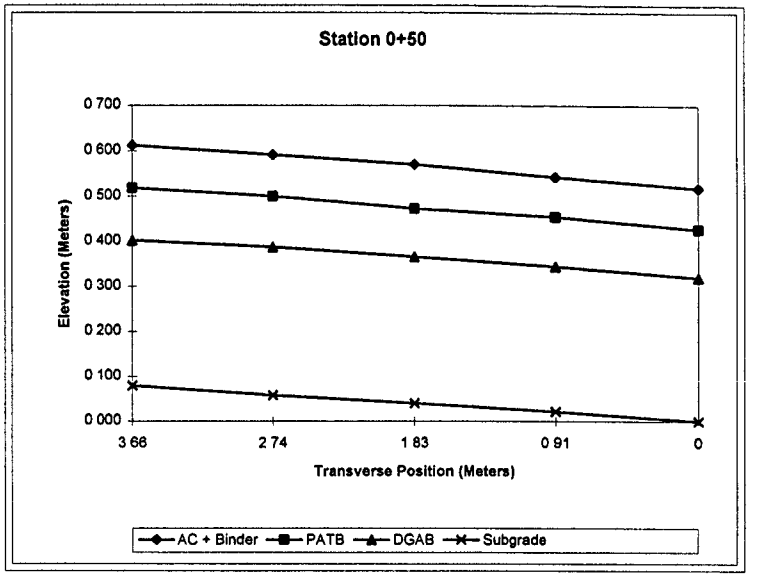
Louisiana SPS-1 (220121)

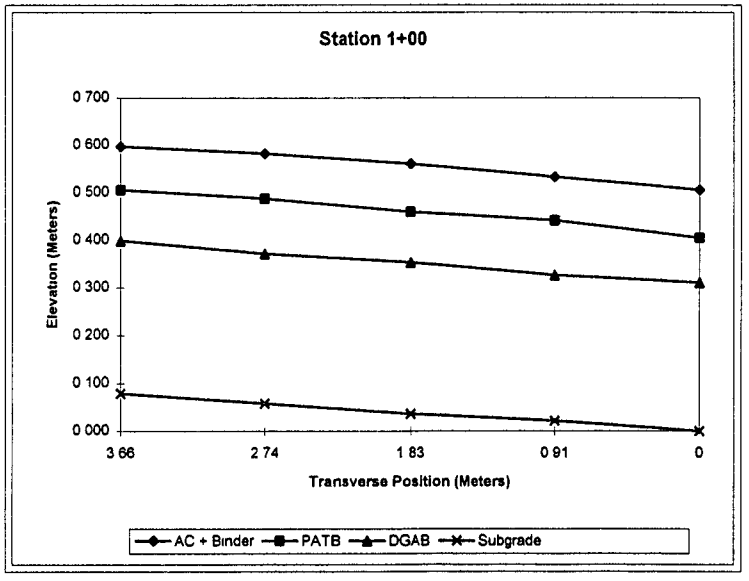
Transverse Offset 4 LAYERS	ELEVATION 0 Meters	AC + Binde THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 0 91 Meters	AC + Binde THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 1 83 Meters	AC + Binder THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 2.74 Meters	AC + Binde THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters	ELEVATION 3 66 Meters	AC + Binde THICKNESS Meters	PATB THICKNESS Meters	DGAB THICKNESS Meters
0+00 C + Binder	1 561	0 085	0 101	0 344	1 588	0 088	0 107	0 341	1 615	0 091	0 113	0 335	1 634	0 088	0 116	0 332	1 655	0 091	0 116	0 329
PATB	1 475				1 500				1 524				1 545				1 564			
DGAB	1 375				1 393				1 411				1 430				1 448			
Subgrade	1 030				1 052				1 076				1 097				1 119			
0+50 C + Binder	1 567	0 091	0 107	0 320	1 591	0 088	0 110	0 323	1 618	0 098	0 107	0 326	1 640	0 091	0 113	0 329	1 661	0 094	0 116	0 323
PATB	1 475				1 503				1 521				1 548				1 567			
DGAB	1 369				1 393				1 414				1 436				1 451			
Subgrade	1 049				1 070				1 088				1 106				1 128			
1+00 C + Binder	1 564	0 101	0 094	0 311	1 591	0 091	0 116	0 305	1 618	0 101	0 107	0 317	1 640	0 094	0 116	0 314	1 655	0 091	0 107	0 320
PATB	1 463				1 500				1 518				1 545				1 564			
DGAB	1 369				1 384				1 411				1 430				1 457			
Subgrade	1 058				1 079				1 094				1 116				1 137			
1+50 C + Binder	1 564	0 101	0 098	0 338	1 591	0 098	0 107	0 329	1 618	0 101	0 107	0 329	1 640	0 098	0 107	0 335	1 661	0 101	0 104	0 335
PATB	1 463				1 494				1 518				1 542				1 561			
DGAB	1 366				1 387				1 411				1 436				1 457			
Subgrade	1 027				1 058				1 082				1 100				1 122			
2+00 C + Binder	1 576	0 098	0 094	0 329	1 603	0 091	0 101	0 341	1 628	0 088	0 104	0 344	1 652	0 088	0 104	0 357	1 673	0 088	0 110	0 366
PATB	1 478				1 512				1 539				1 564				1 585			
DGAB	1 384				1 411				1 436				1 460				1 475			
Subgrade	1 055				1 070				1 091				1 103				1 109			
2+50 C + Binder	1 561	0 079	0 085	0 369	1 582	0 076	0 098	0 363	1 612	0 085	0 091	0 372	1 634	0 079	0 101	0 366	1 655	0 082	0 104	0 354
PATB	1 481				1 506				1 527				1 554				1 573			
DGAB	1 396				1 408				1 436				1 454				1 469			
Subgrade	1 027				1 045				1 064				1 088				1 116			
3+00 C + Binder	1 558	0 088	0 098	0 326	1 585	0 079	0 113	0 329	1 612	0 085	0 113	0 326	1 634	0 085	0 113	0 323	1 655	0 085	0 116	0 320
PATB	1 469				1 508				1 527				1 548				1 570			
DGAB	1 372				1 393				1 414				1 436				1 454			
Subgrade	1 045				1 064				1 088				1 113				1 134			
3+50 C + Binder	1 573	0 088	0 104	0 335	1 597	0 079	0 113	0 323	1 625	0 082	0 110	0 329	1 649	0 079	0 116	0 335	1 673	0 085	0 107	0 338
PATB	1 484				1 518				1 542				1 570				1 588			
DGAB	1 381				1 405				1 433				1 454				1 481			
Subgrade	1 045				1 082				1 103				1 119				1 143			
4+00 C + Binder	1 567	0 088	0 085	0 360	1 594	0 088	0 098	0 351	1 622	0 091	0 107	0 344	1 643	0 088	0 119	0 332	1 664	0 082	0 116	0 341
PATB	1 478				1 506				1 530				1 554				1 582			
DGAB	1 393				1 408				1 423				1 436				1 466			
Subgrade	1 033				1 058				1 079				1 103				1 125			
4+50 C + Binder	1 554	0 091	0 094	0 329	1 579	0 085	0 098	0 326	1 606	0 091	0 098	0 323	1 631	0 088	0 094	0 326	1 652	0 088	0 098	0 323
PATB	1 463				1 494				1 515				1 542				1 564			
DGAB	1 369				1 396				1 417				1 448				1 466			
Subgrade	1 039				1 070				1 094				1 122				1 143			
5+00 C + Binder	1 539	0 088	0 073	0 320	1 573	0 085	0 094	0 311	1 600	0 088	0 104	0 311	1 625	0 091	0 098	0 317	1 646	0 085	0 101	0 323
PATB	1 451				1 487				1 512				1 533				1 561			
DGAB	1 378				1 393				1 408				1 436				1 460			
Subgrade	1 058				1 082				1 097				1 119				1 137			
AVG		0 091	0 094	0 335		0 086	0 105	0 330		0 091	0 105	0 331		0 088	0 109	0 331		0 089	0 108	0 331
MAX		0 101	0 107	0 369		0 098	0 116	0 363		0 101	0 113	0 372		0 098	0 119	0 366		0 101	0 116	0 354
MIN		0 079	0 073	0 311		0 076	0 094	0 305		0 082	0 091	0 311		0 079	0 094	0 314		0 082	0 098	0 320
STD		0 006	0 010	0 017		0 008	0 007	0 017		0 006	0 006	0 016		0 006	0 008	0 014		0 006	0 007	0 011

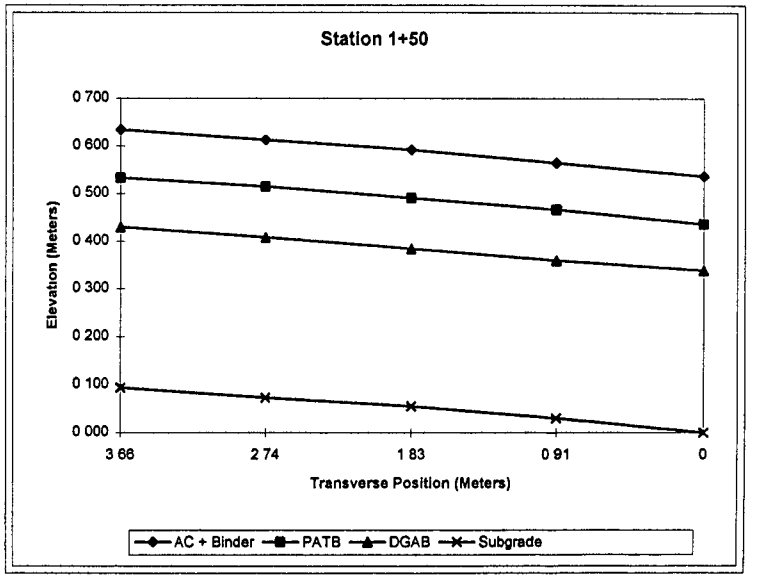
	AC + Binder	PATB	DGAB
SECTION AVG	0 089	0 104	0 333
SECTION MAX	0 101	0 119	0 372
SECTION MIN	0 076	0 073	0 305
SECTION STD	0 006	0 009	0 016

Louisiana SPS-1 (220121)

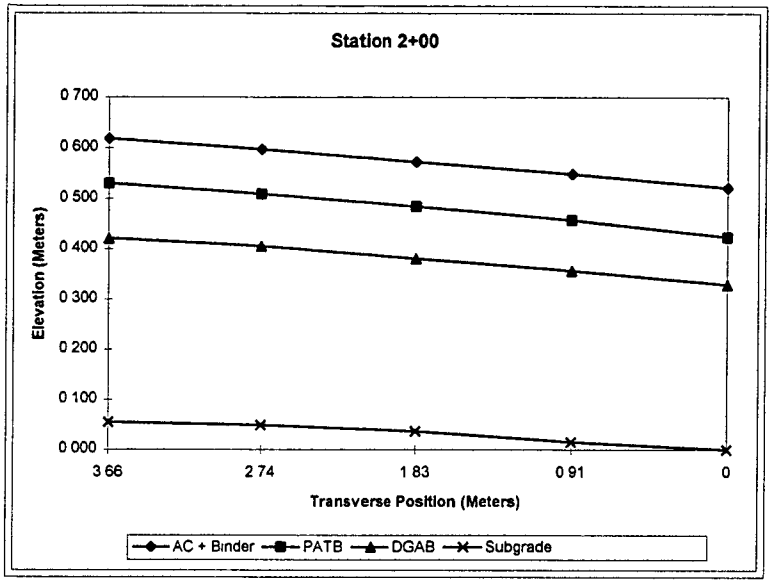


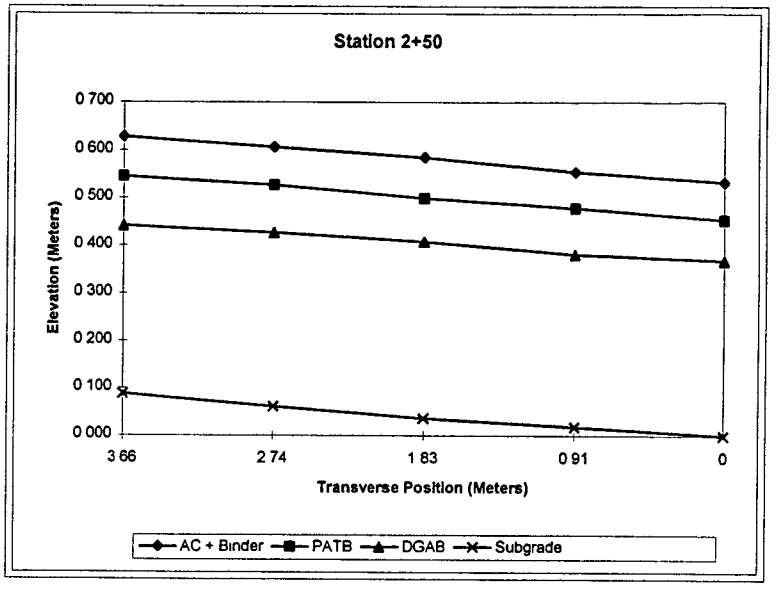


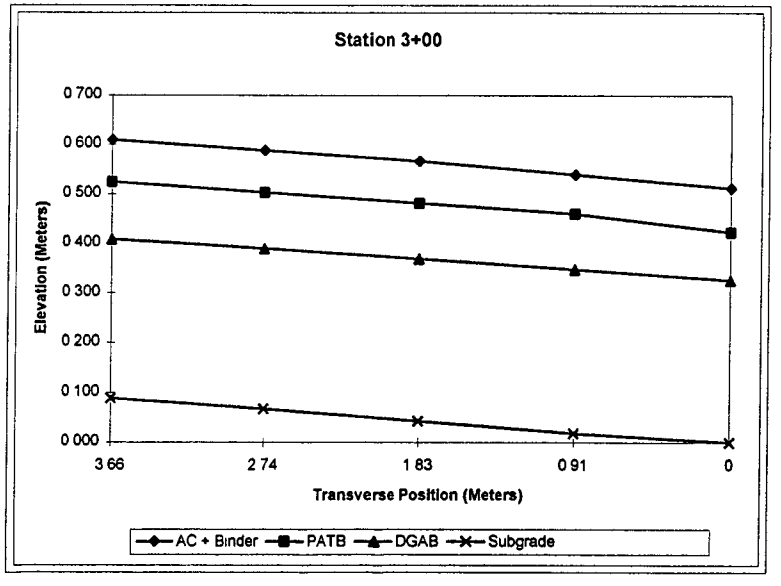


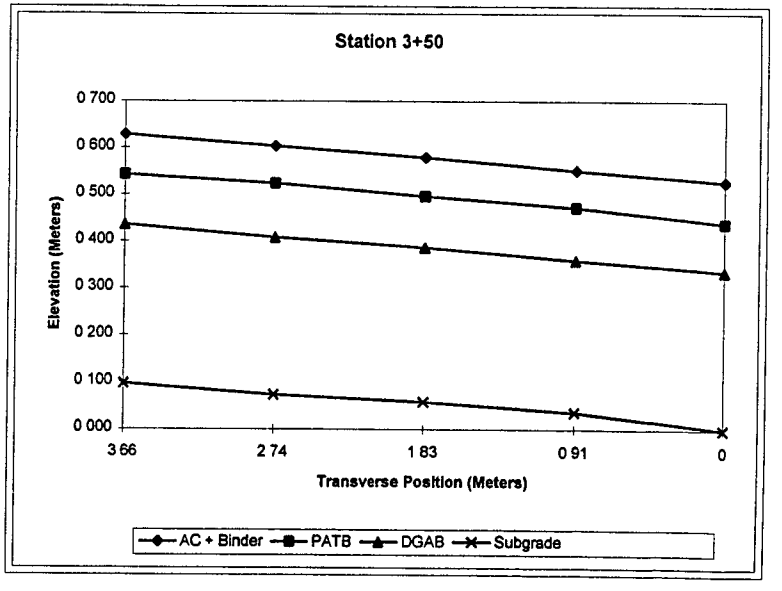


Louisiana SPS-1 (220121)

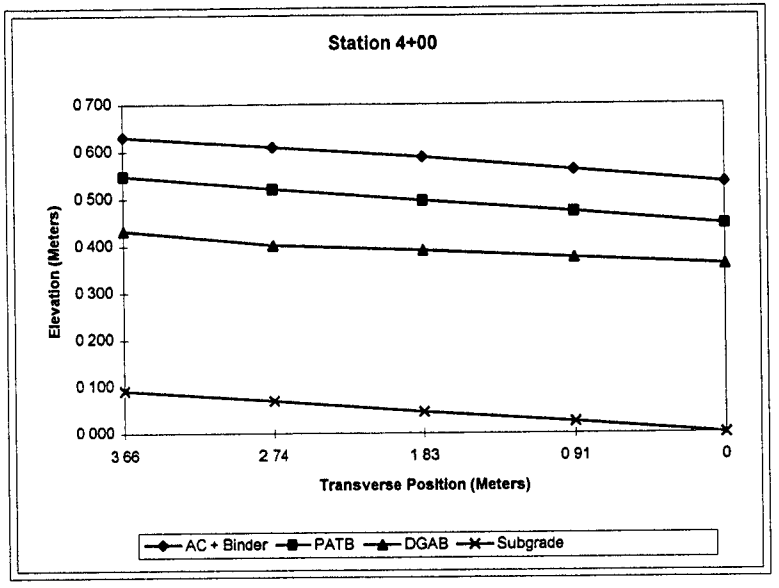


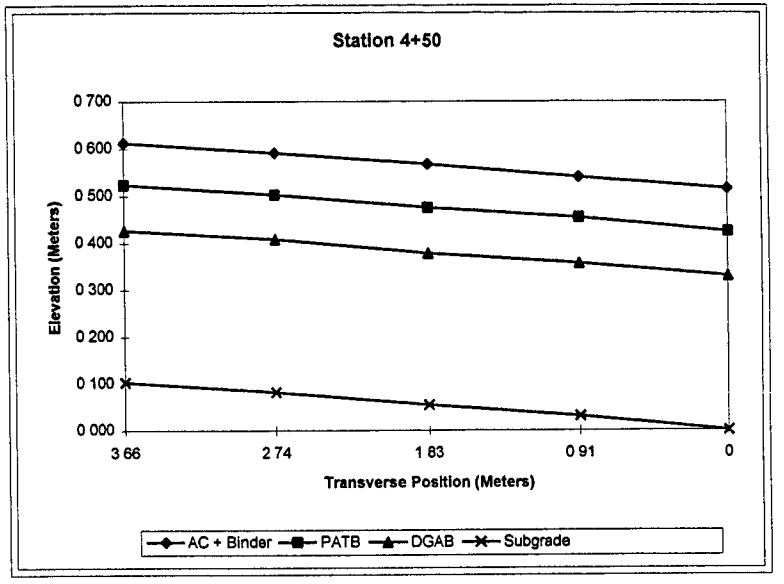


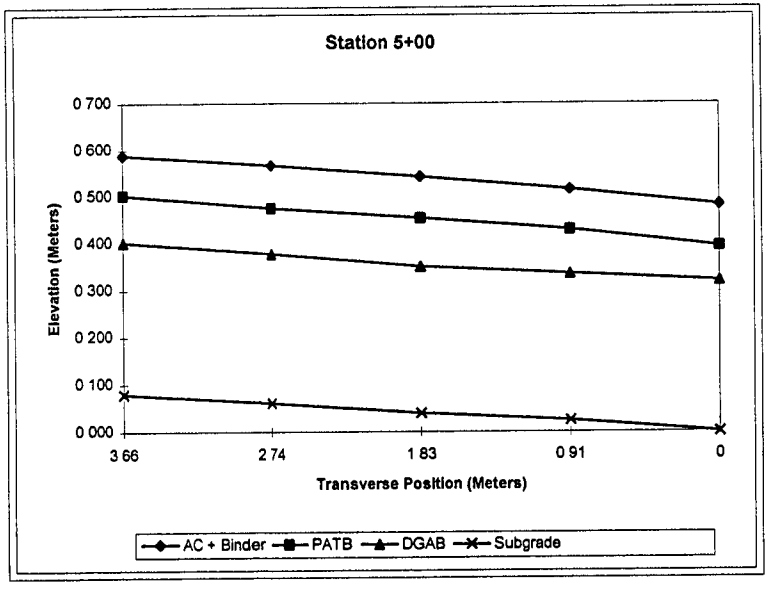




Louisiana SPS-1 (220121)





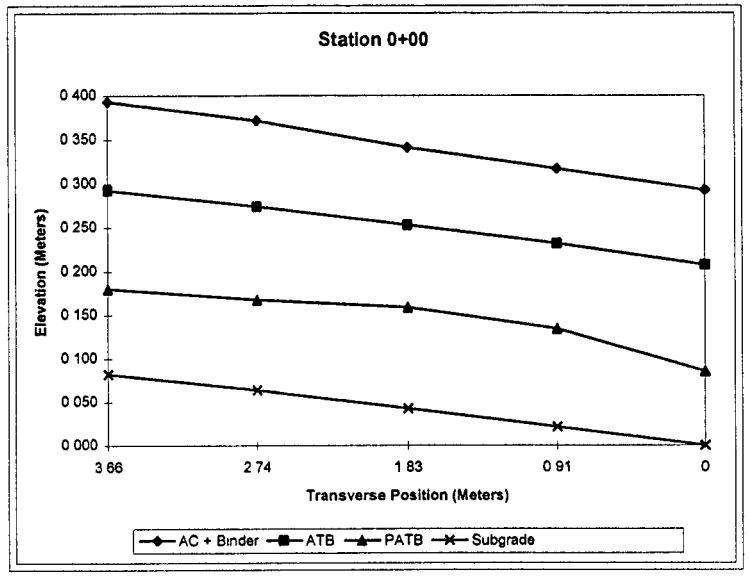


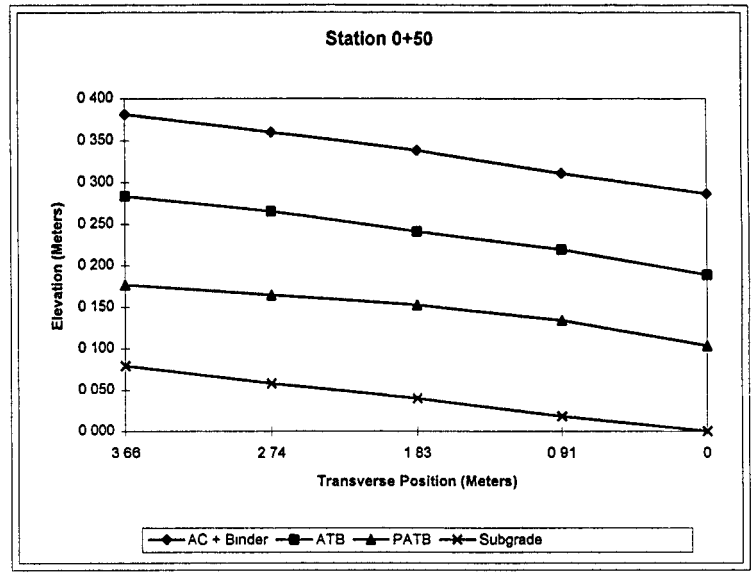
Louisiana SPS-1 (220122)

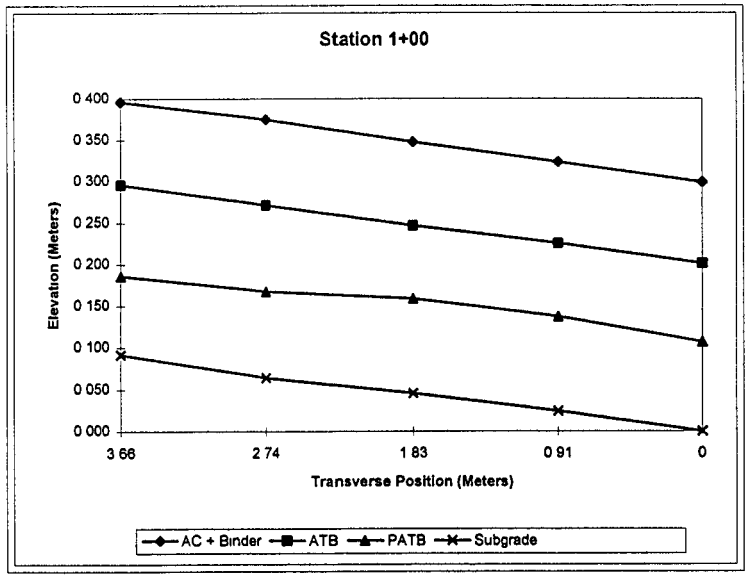
0+00 C + Binder	1.561	0.085	0.122	0.085	1.585	0.085	0.098	0.113	1.609	0.088	0.094	0.116	1.640	0.098	0.107	0.104	1.661	0.101	0.113	0.098
ATB	1.475				1.500				1.521				1.542				1.561			
PATB	1.353				1.402				1.426				1.436				1.448			
Subgrade	1.268				1.289				1.311				1.332				1.350			
0+50 C + Binder	1.567	0.098	0.085	0.104	1.581	0.091	0.085	0.116	1.618	0.095	0.088	0.113	1.640	0.094	0.101	0.107	1.651	0.098	0.107	0.098
ATB	1.469				1.500				1.521				1.545				1.564			
PATB	1.384				1.414				1.433				1.445				1.457			
Subgrade	1.280				1.298				1.320				1.338				1.359			
1+00 C + Binder	1.573	0.098	0.094	0.107	1.597	0.098	0.088	0.113	1.622	0.101	0.088	0.113	1.649	0.104	0.104	0.104	1.670	0.101	0.110	0.094
ATB	1.475				1.500				1.521				1.545				1.570			
PATB	1.381				1.411				1.433				1.442				1.460			
Subgrade	1.274				1.298				1.320				1.338				1.366			
1+50 C + Binder	1.582	0.098	0.091	0.104	1.606	0.094	0.091	0.110	1.631	0.094	0.094	0.110	1.655	0.098	0.107	0.101	1.679	0.101	0.113	0.091
ATB	1.484				1.512				1.536				1.558				1.579			
PATB	1.393				1.420				1.442				1.451				1.466			
Subgrade	1.289				1.311				1.332				1.350				1.375			
2+00 C + Binder	1.591	0.098	0.085	0.110	1.618	0.091	0.079	0.125	1.643	0.091	0.091	0.113	1.667	0.094	0.101	0.107	1.689	0.098	0.110	0.091
ATB	1.494				1.527				1.551				1.573				1.591			
PATB	1.408				1.448				1.460				1.472				1.481			
Subgrade	1.298				1.323				1.347				1.356				1.390			
2+50 C + Binder	1.603	0.091	0.091	0.110	1.631	0.094	0.085	0.119	1.655	0.091	0.088	0.122	1.676	0.091	0.101	0.104	1.695	0.094	0.104	0.098
ATB	1.512				1.536				1.564				1.585				1.600			
PATB	1.420				1.451				1.475				1.484				1.497			
Subgrade	1.311				1.332				1.353				1.381				1.399			
3+00 C + Binder	1.618	0.101	0.085	0.098	1.649	0.107	0.085	0.104	1.676	0.113	0.076	0.107	1.698	0.113	0.088	0.094	1.719	0.113	0.101	0.076
ATB	1.518				1.542				1.564				1.585				1.606			
PATB	1.433				1.457				1.487				1.497				1.506			
Subgrade	1.335				1.353				1.381				1.402				1.430			
3+50 C + Binder	1.643	0.098	0.088	0.098	1.670	0.101	0.076	0.107	1.695	0.101	0.079	0.104	1.719	0.110	0.085	0.091	1.740	0.110	0.094	0.079
ATB	1.545				1.570				1.594				1.609				1.631			
PATB	1.457				1.494				1.515				1.524				1.536			
Subgrade	1.359				1.387				1.411				1.433				1.457			
4+00 C + Binder	1.655	0.091	0.088	0.088	1.679	0.091	0.076	0.107	1.710	0.101	0.082	0.101	1.731	0.101	0.091	0.091	1.753	0.104	0.094	0.082
ATB	1.564				1.588				1.609				1.631				1.649			
PATB	1.475				1.512				1.527				1.539				1.554			
Subgrade	1.387				1.405				1.426				1.448				1.472			
4+50 C + Binder	1.689	0.094	0.076	0.104	1.713	0.091	0.085	0.094	1.740	0.098	0.079	0.094	1.765	0.104	0.085	0.085	1.789	0.107	0.094	0.079
ATB	1.594				1.622				1.643				1.661				1.682			
PATB	1.518				1.536				1.564				1.576				1.588			
Subgrade	1.414				1.442				1.469				1.490				1.509			
5+00 C + Binder	1.725	0.107	0.091	0.085	1.750	0.101	0.091	0.094	1.777	0.101	0.088	0.098	1.798	0.104	0.098	0.098	1.820	0.101	0.098	0.088
ATB	1.618				1.649				1.676				1.695				1.719			
PATB	1.527				1.558				1.579				1.597				1.622			
Subgrade	1.442				1.463				1.481				1.500				1.533			
AVG	0.096	0.091	0.098		0.095	0.086	0.108		0.098	0.087	0.108		0.101	0.097	0.098		0.103	0.103	0.088	
MAX	0.107	0.122	0.110		0.107	0.098	0.119		0.113	0.098	0.122		0.113	0.107	0.107		0.113	0.113	0.098	
MIN	0.085	0.076	0.085		0.085	0.076	0.094		0.088	0.076	0.094		0.091	0.085	0.085		0.094	0.094	0.076	
STD	0.005	0.011	0.008		0.006	0.006	0.008		0.006	0.007	0.008		0.006	0.008	0.007		0.005	0.007	0.008	

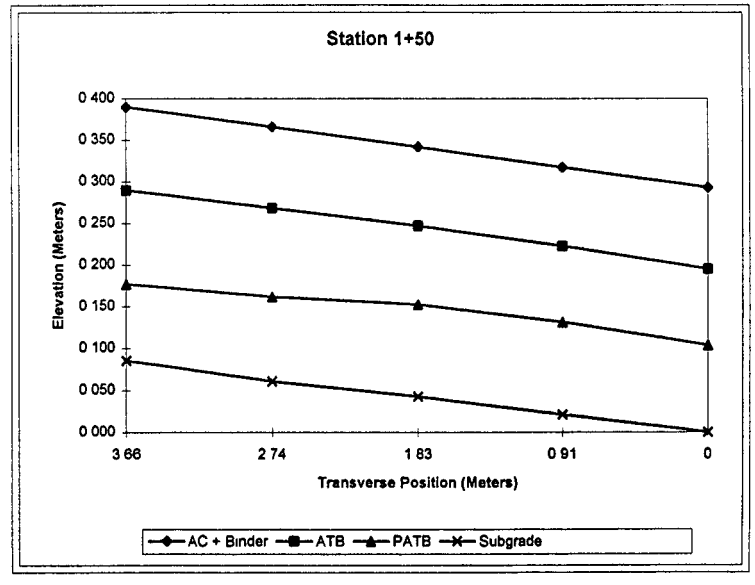
	AC + Binder	ATB	PATB
SECTION AVG	0.096	0.093	0.101
SECTION MAX	0.113	0.122	0.122
SECTION MIN	0.085	0.076	0.076
SECTION STD	0.006	0.010	0.011

Louisiana SPS-1 (220122)

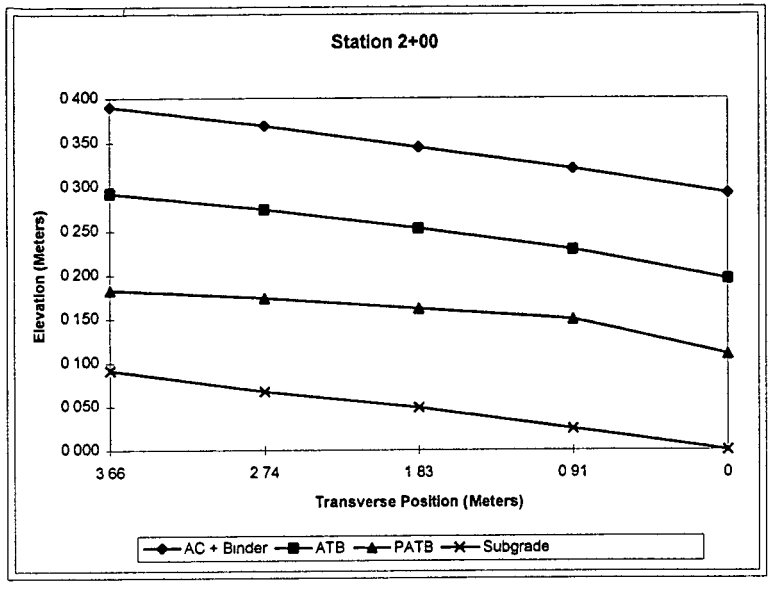


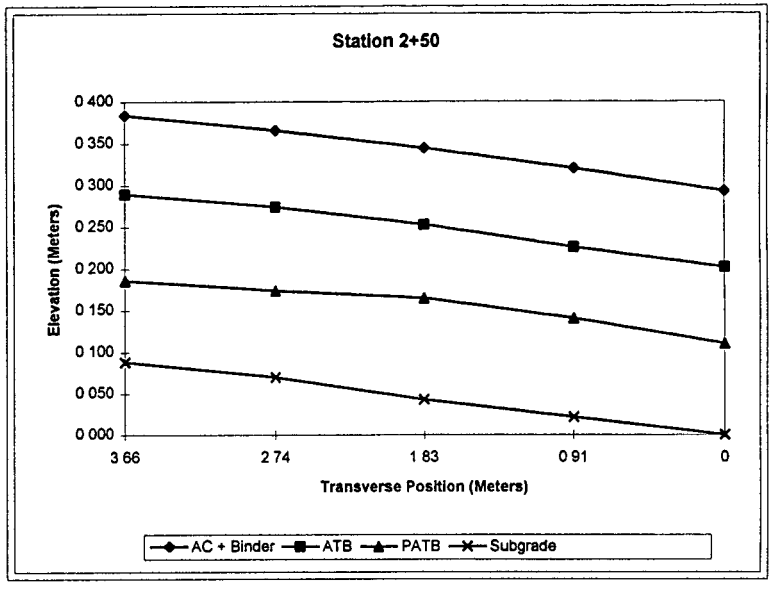


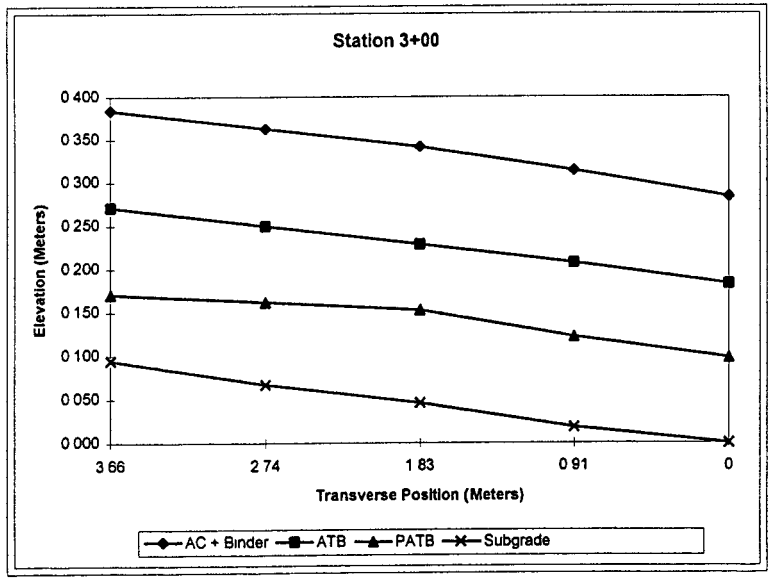


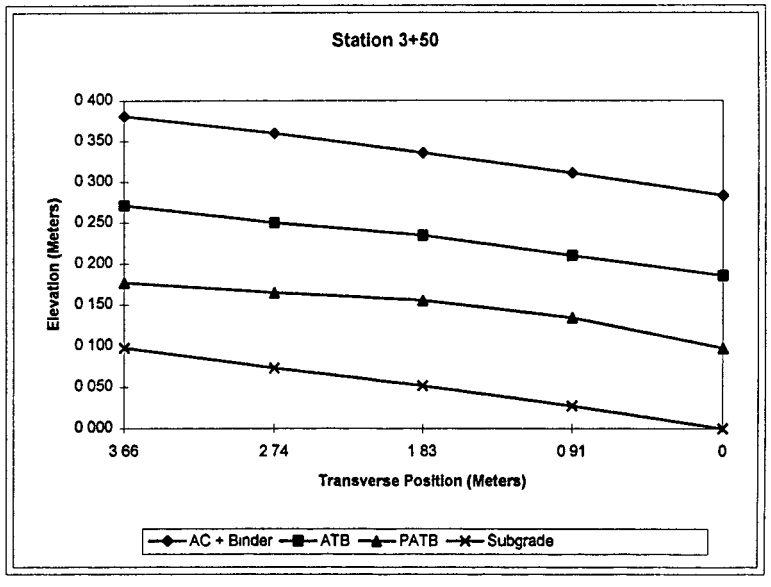


Louisiana SPS-1 (220122)

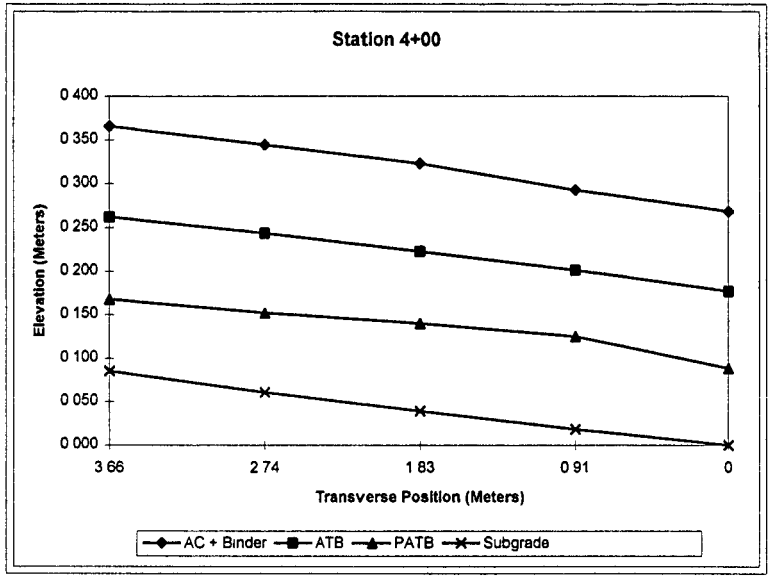


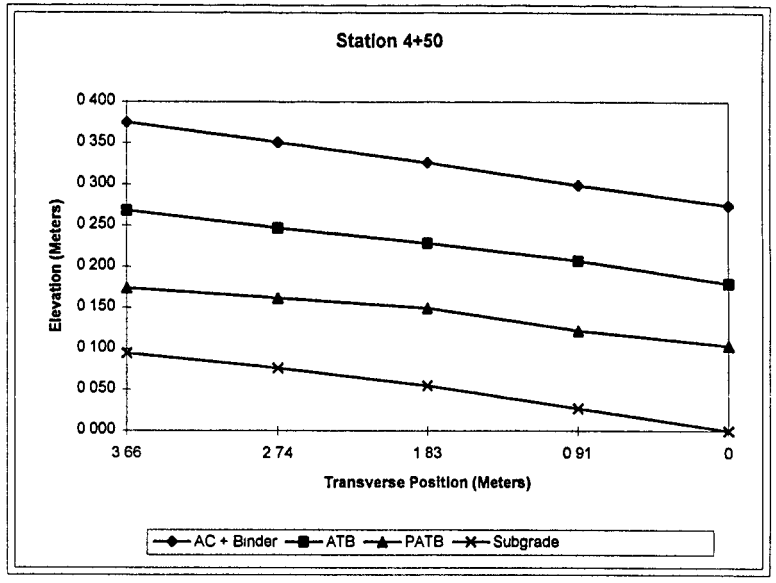


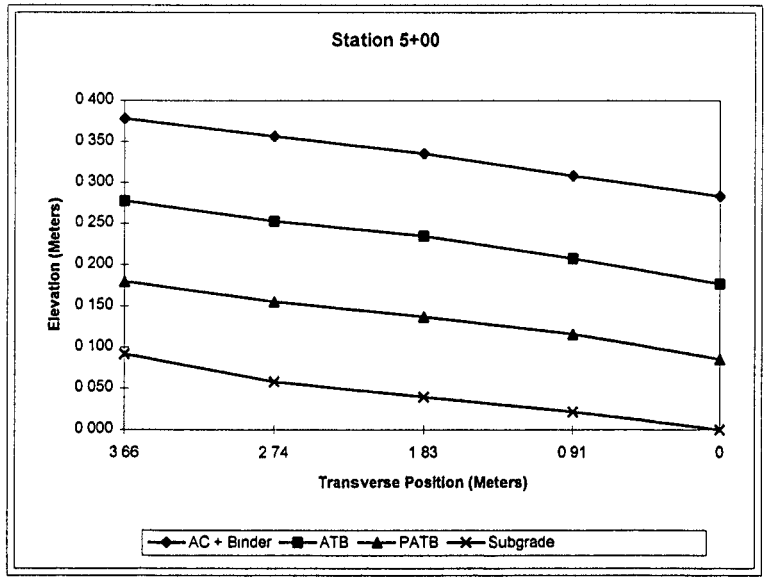




Louisiana SPS-1 (220122)





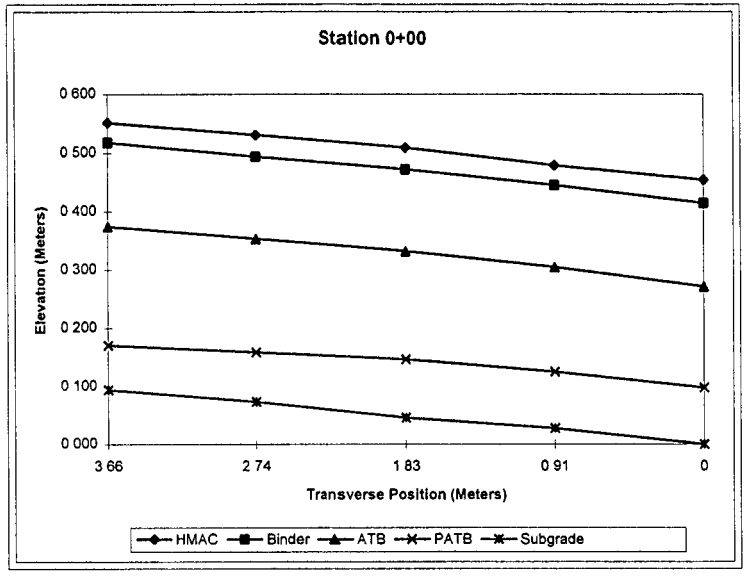


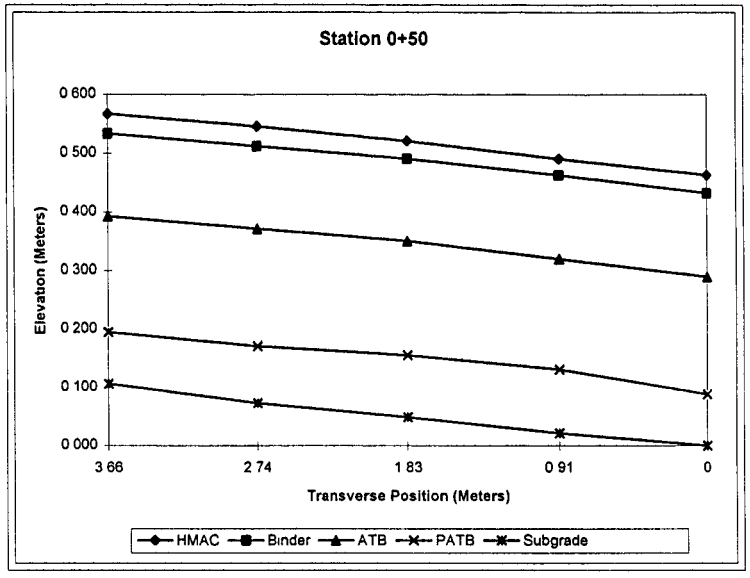
Louisiana SPS-1 (220123)

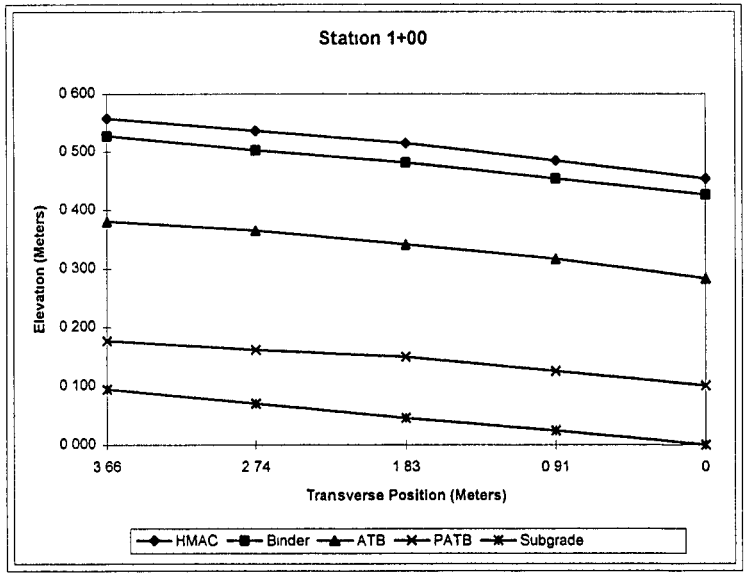
Transverse Offset	LAYERS	ELEVATION 0 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	PATB THICKNESS Meters	ELEVATION 0.91 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	PATB THICKNESS Meters	ELEVATION 1.83 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	PATB THICKNESS Meters	ELEVATION 2.74 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	PATB THICKNESS Meters	ELEVATION 3.66 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	PATB THICKNESS Meters
0+00	HMAC	1.725	0.040	0.143	0.174	0.098	1.750	0.034	0.140	0.180	0.098	1.780	0.037	0.140	0.186	0.101	1.801	0.037	0.140	0.195	0.085	1.823	0.034	0.143	0.204	0.076
	Binder	1.686					1.716					1.743					1.765					1.789				
	ATB	1.542					1.576					1.603					1.625					1.646				
	PATB	1.369					1.396					1.417					1.430					1.442				
	Subgrade	1.271					1.298					1.317					1.344					1.366				
0+50	HMAC	1.704	0.030	0.143	0.201	0.088	1.731	0.027	0.143	0.189	0.110	1.762	0.030	0.140	0.195	0.107	1.786	0.034	0.140	0.201	0.098	1.807	0.034	0.140	0.198	0.088
	Binder	1.673					1.704					1.731					1.753					1.774				
	ATB	1.530					1.561					1.591					1.612					1.634				
	PATB	1.329					1.372					1.396					1.411					1.436				
	Subgrade	1.241					1.262					1.289					1.314					1.347				
1+00	HMAC	1.670	0.027	0.143	0.183	0.101	1.701	0.030	0.137	0.192	0.101	1.731	0.034	0.140	0.192	0.104	1.753	0.034	0.137	0.204	0.091	1.774	0.030	0.146	0.204	0.082
	Binder	1.643					1.670					1.698					1.719					1.743				
	ATB	1.500					1.533					1.558					1.582					1.597				
	PATB	1.317					1.341					1.366					1.378					1.393				
	Subgrade	1.216					1.241					1.262					1.286					1.311				
1+50	HMAC	1.640	0.027	0.143	0.183	0.107	1.667	0.027	0.140	0.204	0.088	1.695	0.030	0.140	0.198	0.098	1.719	0.037	0.143	0.195	0.088	1.737	0.030	0.143	0.201	0.070
	Binder	1.612					1.640					1.664					1.682					1.707				
	ATB	1.469					1.500					1.524					1.539					1.564				
	PATB	1.286					1.295					1.326					1.344					1.362				
	Subgrade	1.180					1.207					1.228					1.256					1.292				
2+00	HMAC	1.618	0.024	0.146	0.180	0.107	1.649	0.027	0.140	0.192	0.110	1.673	0.024	0.146	0.186	0.107	1.698	0.030	0.140	0.201	0.079	1.719	0.030	0.140	0.198	0.076
	Binder	1.594					1.622					1.649					1.667					1.689				
	ATB	1.448					1.481					1.503					1.527					1.548				
	PATB	1.268					1.289					1.317					1.326					1.350				
	Subgrade	1.161					1.180					1.210					1.247					1.274				
2+50	HMAC	1.576	0.024	0.149	0.180	0.098	1.606	0.024	0.146	0.195	0.104	1.634	0.027	0.149	0.195	0.110	1.655	0.030	0.149	0.195	0.094	1.676	0.030	0.146	0.195	0.085
	Binder	1.551					1.582					1.606					1.625					1.646				
	ATB	1.402					1.436					1.457					1.475					1.500				
	PATB	1.222					1.241					1.262					1.280					1.305				
	Subgrade	1.125					1.137					1.152					1.166					1.219				
3+00	HMAC	1.548	0.027	0.140	0.171	0.107	1.576	0.024	0.140	0.168	0.110	1.603	0.024	0.140	0.177	0.104	1.628	0.030	0.140	0.189	0.079	1.652	0.034	0.143	0.195	0.073
	Binder	1.521					1.551					1.579					1.597					1.618				
	ATB	1.381					1.411					1.439					1.457					1.475				
	PATB	1.210					1.244					1.262					1.268					1.280				
	Subgrade	1.103					1.134					1.158					1.189					1.207				
3+50	HMAC	1.533	0.027	0.143	0.180	0.098	1.561	0.027	0.137	0.192	0.091	1.588	0.027	0.140	0.192	0.098	1.612	0.034	0.143	0.195	0.082	1.637	0.037	0.140	0.198	0.082
	Binder	1.506					1.533					1.561					1.579					1.600				
	ATB	1.362					1.396					1.420					1.436					1.460				
	PATB	1.183					1.204					1.228					1.241					1.262				
	Subgrade	1.085					1.113					1.131					1.158					1.180				
4+00	HMAC	1.506	0.021	0.146	0.174	0.098	1.539	0.024	0.140	0.183	0.101	1.567	0.021	0.143	0.186	0.104	1.591	0.030	0.140	0.189	0.094	1.615	0.034	0.140	0.192	0.088
	Binder	1.484					1.515					1.545					1.561					1.582				
	ATB	1.338					1.375					1.402					1.420					1.442				
	PATB	1.164					1.192					1.216					1.231					1.250				
	Subgrade	1.067					1.091					1.113					1.137					1.161				
4+50	HMAC	1.487	0.027	0.146	0.171	0.101	1.518	0.027	0.143	0.174	0.101	1.548	0.034	0.146	0.180	0.098	1.573	0.040	0.143	0.189	0.088	1.594	0.037	0.143	0.198	0.088
	Binder	1.460					1.490					1.515					1.533					1.558				
	ATB	1.314					1.347					1.369					1.390					1.414				
	PATB	1.143					1.173					1.189					1.201					1.216				
	Subgrade	1.042					1.073					1.091					1.113					1.128				
5+00	HMAC	1.500	0.021	0.143	0.189	0.116	1.524	0.018	0.140	0.180	0.113	1.551	0.021	0.134	0.186	0.107	1.576	0.027	0.137	0.189	0.088	1.606	0.037	0.134	0.195	0.088
	Binder	1.478					1.506					1.530					1.548					1.570				
	ATB	1.335					1.366					1.396					1.411					1.436				
	PATB	1.146					1.186					1.210					1.222					1.241				
	Subgrade	1.030					1.073					1.103					1.134					1.152				
	AVG		0.027	0.144	0.180	0.101		0.027	0.141	0.188	0.101		0.029	0.141	0.189	0.103		0.033	0.141	0.194	0.089		0.034	0.142	0.198	0.082
	MAX		0.040	0.149	0.201	0.116		0.034	0.146	0.204	0.113		0.037	0.149	0.198	0.110		0.040	0.149	0.204	0.098		0.037	0.146	0.204	0.088
	MIN		0.021	0.140	0.171	0.088		0.018	0.137	0.168	0.088		0.021	0.134	0.177	0.098		0.027	0.137	0.189	0.079		0.030	0.134	0.192	0.070
	STD		0.005	0.002	0.009	0.007		0.004	0.003	0.010	0.007		0.005	0.004	0.007	0.004		0.003	0.003	0.005	0.005		0.002	0.003	0.004	0.007

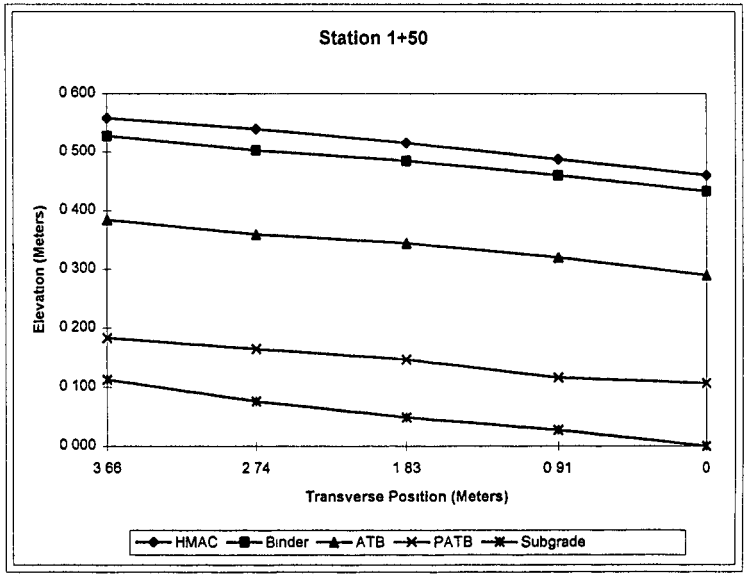
	HMAC	Binder	ATB	PATB
SECTION AVG	0.030	0.142	0.190	0.095
SECTION MAX	0.040	0.149	0.204	0.116
SECTION MIN	0.018	0.134	0.168	0.070
SECTION STD	0.005	0.003	0.010	0.011

Louisiana SPS-1 (220123)

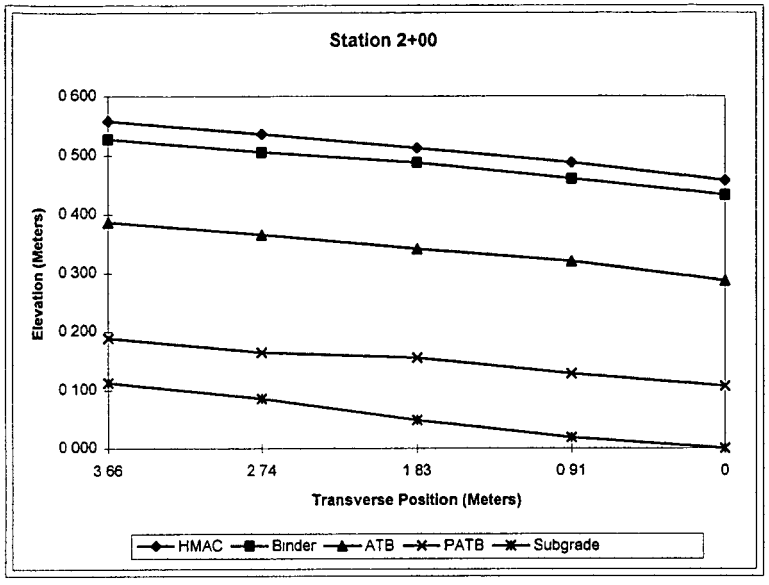


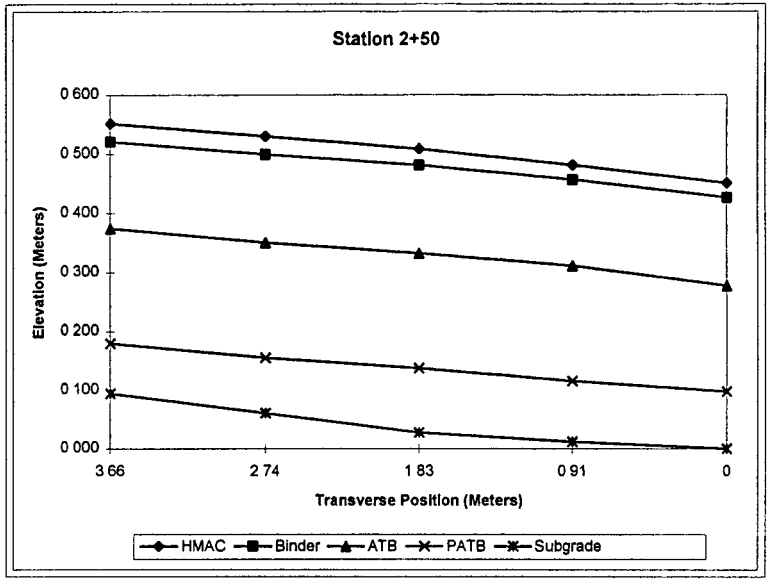


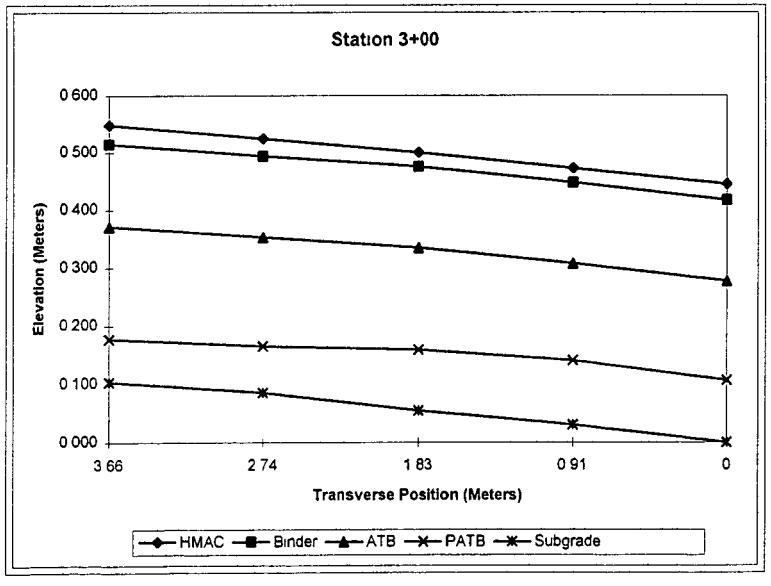


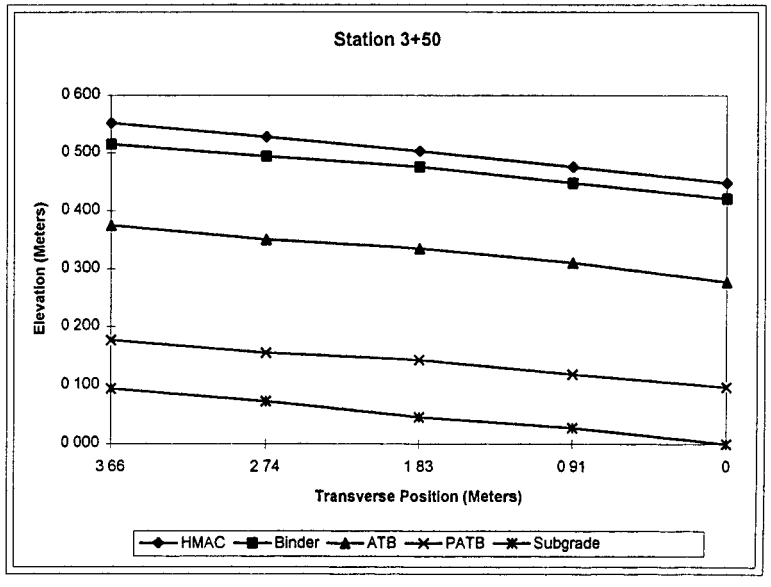


Louisiana SPS-1 (220123)

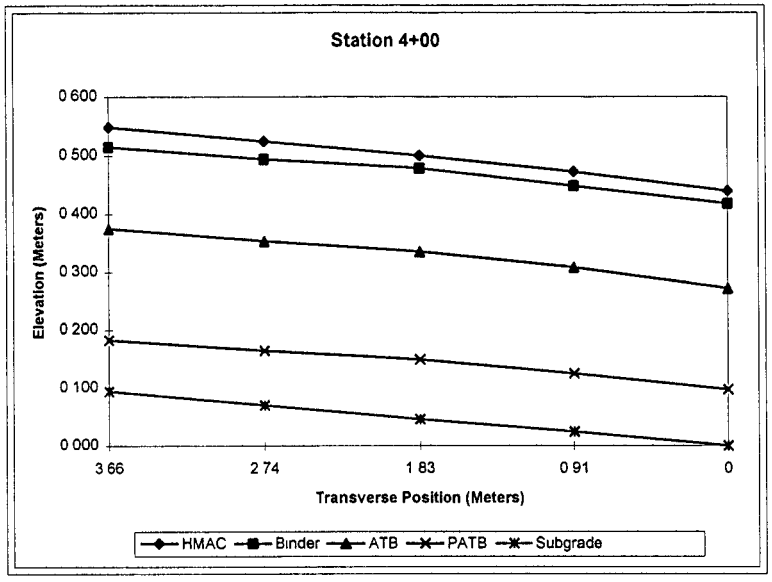


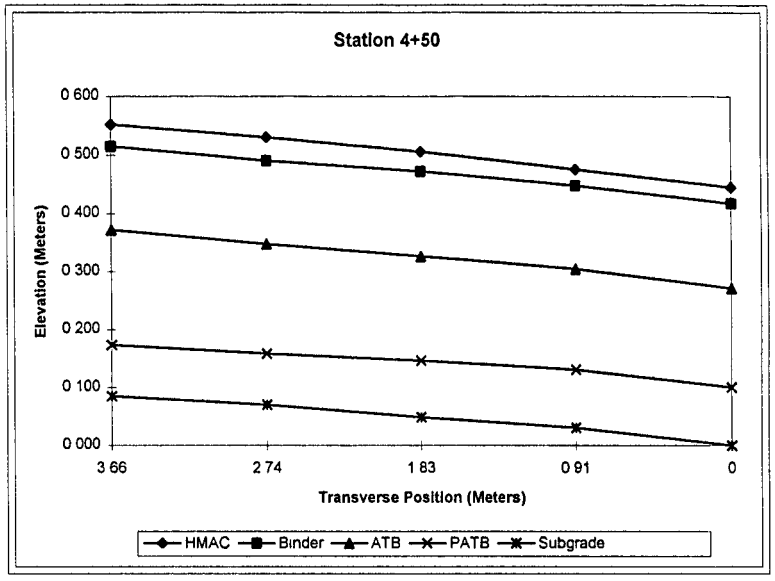


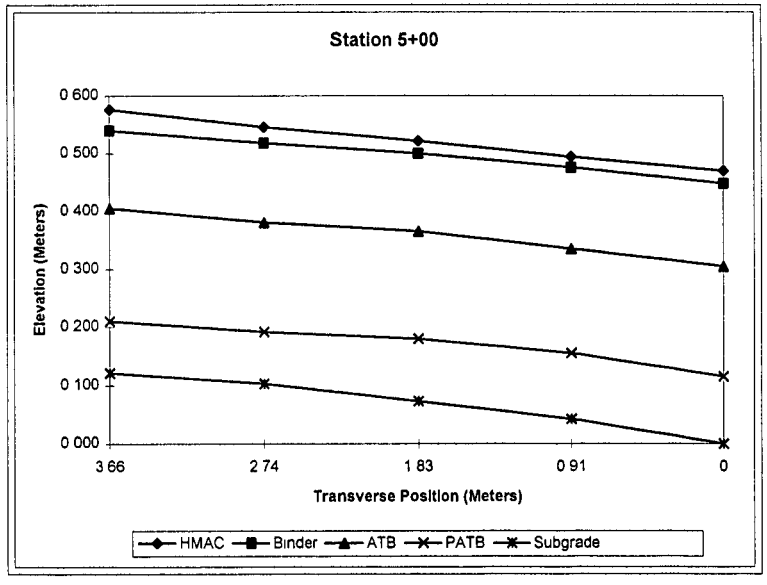




Louisiana SPS-1 (220123)





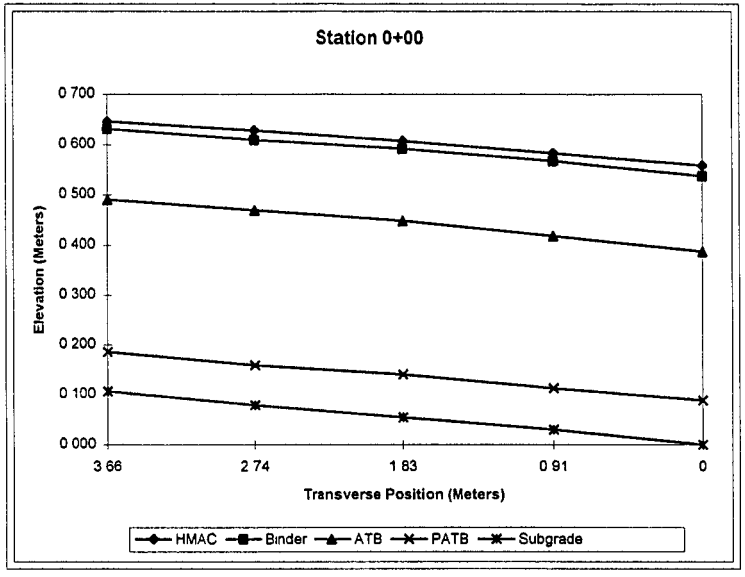


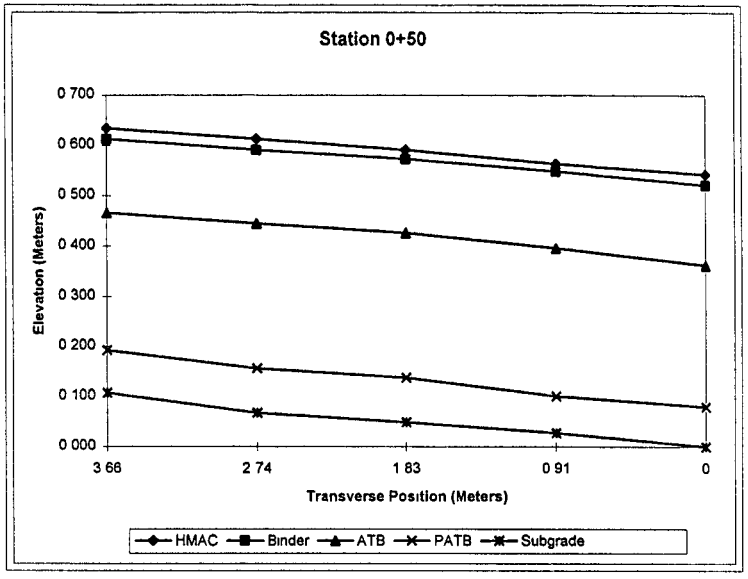
Louisiana SPS-1 (220124)

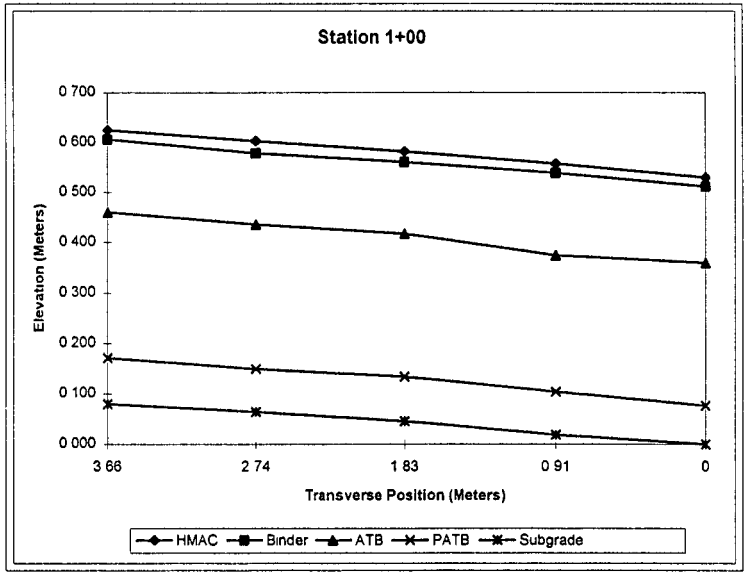
Transverse Offset	LAYERS	ELEVATION 0 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	PATB THICKNESS Meters	ELEVATION 0.91 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	PATB THICKNESS Meters	ELEVATION 1.83 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	PATB THICKNESS Meters	ELEVATION 2.74 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	PATB THICKNESS Meters	ELEVATION 3.66 Meters	HMAC THICKNESS Meters	Binder THICKNESS Meters	ATB THICKNESS Meters	PATB THICKNESS Meters
0+00	HMAC	1.472	0.021	0.149	0.299	0.088	1.497	0.015	0.149	0.305	0.082	1.521	0.015	0.143	0.308	0.085	1.542	0.018	0.140	0.311	0.079	1.561	0.015	0.140	0.305	0.079
	Binder	1.451					1.481					1.506					1.524					1.545				
	ATB	1.301					1.332					1.362					1.384					1.405				
	PATB	1.003					1.027					1.055					1.073					1.100				
	Subgrade	0.914					0.945					0.969					0.994					1.021				
0+50	HMAC	1.484	0.021	0.158	0.283	0.079	1.506	0.015	0.152	0.296	0.073	1.533	0.018	0.146	0.290	0.088	1.554	0.021	0.146	0.290	0.088	1.576	0.021	0.146	0.274	0.085
	Binder	1.463					1.490					1.515					1.533					1.554				
	ATB	1.305					1.338					1.369					1.387					1.408				
	PATB	1.021					1.042					1.079					1.097					1.134				
	Subgrade	0.942					0.969					0.991					1.009					1.049				
1+00	HMAC	1.478	0.018	0.152	0.283	0.076	1.506	0.018	0.165	0.271	0.085	1.530	0.021	0.143	0.283	0.088	1.551	0.024	0.143	0.287	0.085	1.573	0.018	0.146	0.290	0.091
	Binder	1.460					1.487					1.509					1.527					1.554				
	ATB	1.308					1.323					1.366					1.384					1.408				
	PATB	1.024					1.052					1.082					1.097					1.119				
	Subgrade	0.948					0.966					0.994					1.012					1.027				
1+50	HMAC	1.484	0.024	0.149	0.280	0.085	1.509	0.021	0.146	0.290	0.091	1.533	0.021	0.140	0.296	0.094	1.554	0.024	0.140	0.296	0.088	1.576	0.021	0.143	0.298	0.085
	Binder	1.460					1.487					1.512					1.530					1.554				
	ATB	1.311					1.341					1.372					1.390					1.411				
	PATB	1.030					1.052					1.076					1.094					1.116				
	Subgrade	0.945					0.960					0.981					1.006					1.030				
2+00	HMAC	1.494	0.021	0.158	0.287	0.082	1.518	0.021	0.146	0.293	0.085	1.539	0.018	0.140	0.287	0.094	1.564	0.024	0.143	0.283	0.091	1.585	0.021	0.143	0.287	0.088
	Binder	1.472					1.497					1.521					1.539					1.564				
	ATB	1.314					1.350					1.381					1.396					1.420				
	PATB	1.027					1.058					1.094					1.113					1.134				
	Subgrade	0.945					0.972					1.000					1.021					1.045				
2+50	HMAC	1.497	0.027	0.162	0.277	0.091	1.518	0.021	0.155	0.280	0.101	1.542	0.021	0.149	0.280	0.107	1.564	0.024	0.146	0.290	0.101	1.585	0.024	0.143	0.296	0.098
	Binder	1.469					1.497					1.521					1.539					1.561				
	ATB	1.308					1.341					1.372					1.393					1.417				
	PATB	1.030					1.061					1.091					1.103					1.122				
	Subgrade	0.939					0.960					0.985					1.003					1.024				
3+00	HMAC	1.506	0.037	0.158	0.293	0.088	1.527	0.030	0.152	0.305	0.091	1.551	0.030	0.143	0.308	0.098	1.570	0.027	0.146	0.305	0.088	1.588	0.027	0.140	0.302	0.085
	Binder	1.469					1.497					1.521					1.542					1.561				
	ATB	1.311					1.344					1.378					1.396					1.420				
	PATB	1.018					1.039					1.070					1.091					1.119				
	Subgrade	0.930					0.948					0.972					1.003					1.033				
3+50	HMAC	1.475	0.046	0.146	0.271	0.085	1.497	0.037	0.143	0.274	0.088	1.521	0.030	0.143	0.277	0.085	1.539	0.034	0.140	0.280	0.082	1.564	0.030	0.143	0.283	0.079
	Binder	1.430					1.460					1.490					1.506					1.533				
	ATB	1.283					1.317					1.347					1.366					1.390				
	PATB	1.012					1.042					1.070					1.085					1.106				
	Subgrade	0.927					0.954					0.985					1.003					1.027				
4+00	HMAC	1.472	0.040	0.152	0.244	0.091	1.494	0.034	0.146	0.256	0.088	1.518	0.030	0.143	0.262	0.091	1.536	0.030	0.140	0.268	0.088	1.561	0.034	0.140	0.268	0.088
	Binder	1.433					1.460					1.487					1.506					1.527				
	ATB	1.280					1.314					1.344					1.366					1.387				
	PATB	1.036					1.058					1.082					1.097					1.119				
	Subgrade	0.945					0.969					0.991					1.009					1.030				
4+50	HMAC	1.463	0.030	0.155	0.235	0.094	1.487	0.030	0.146	0.241	0.098	1.512	0.030	0.140	0.256	0.085	1.533	0.034	0.137	0.274	0.094	1.554	0.030	0.137	0.283	0.085
	Binder	1.433					1.457					1.481					1.500					1.524				
	ATB	1.277					1.311					1.341					1.362					1.387				
	PATB	1.042					1.070					1.085					1.088					1.103				
	Subgrade	0.948					0.972					1.000					0.994					1.018				
5+00	HMAC	1.466	0.040	0.146	0.235	0.088	1.487	0.034	0.140	0.247	0.091	1.512	0.034	0.137	0.253	0.094	1.533	0.037	0.137	0.262	0.082	1.554	0.037	0.137	0.265	0.079
	Binder	1.426					1.454					1.478					1.497					1.518				
	ATB	1.280					1.314					1.341					1.359					1.381				
	PATB	1.045					1.067					1.088					1.097					1.116				
	Subgrade	0.957					0.975					0.994					1.015					1.036				
	AVG	0.030	0.153	0.270	0.086		0.026	0.150	0.276	0.089		0.025	0.143	0.281	0.092		0.027	0.142	0.286	0.088		0.026	0.142	0.286	0.086
	MAX	0.046	0.162	0.299	0.094		0.037	0.165	0.305	0.101		0.034	0.149	0.308	0.107		0.037	0.146	0.311	0.101		0.037	0.146	0.305	0.098
	MIN	0.018	0.146	0.235	0.076		0.015	0.140	0.241	0.073		0.015	0.137	0.253	0.085		0.018	0.137	0.262	0.079		0.015	0.137	0.265	0.079
	STD	0.009	0.005	0.022	0.005		0.008	0.007	0.022	0.007		0.008	0.003	0.019	0.006		0.006	0.003	0.015	0.006		0.007	0.003	0.013	0.006

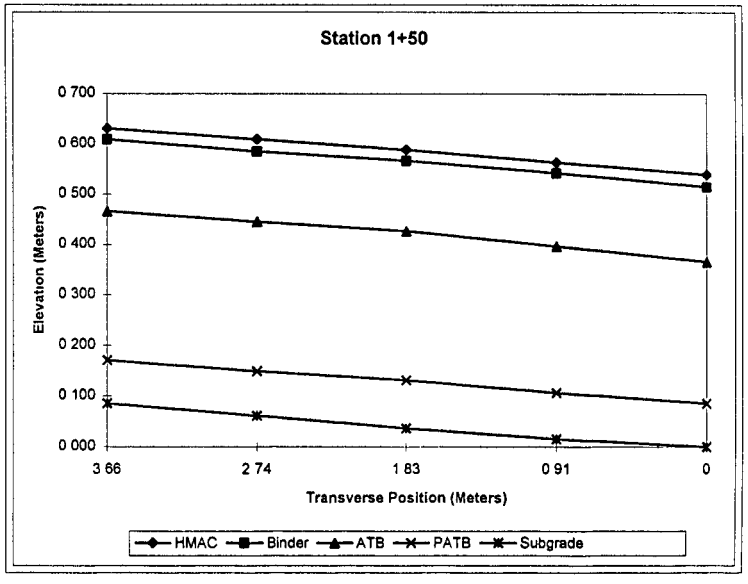
	HMAC	Binder	ATB	PATB
SECTION AVG	0.026	0.146	0.281	0.088
SECTION MAX	0.046	0.165	0.311	0.107
SECTION MIN	0.015	0.137	0.235	0.073
SECTION STD	0.007	0.006	0.019	0.006

Louisiana SPS-1 (220124)

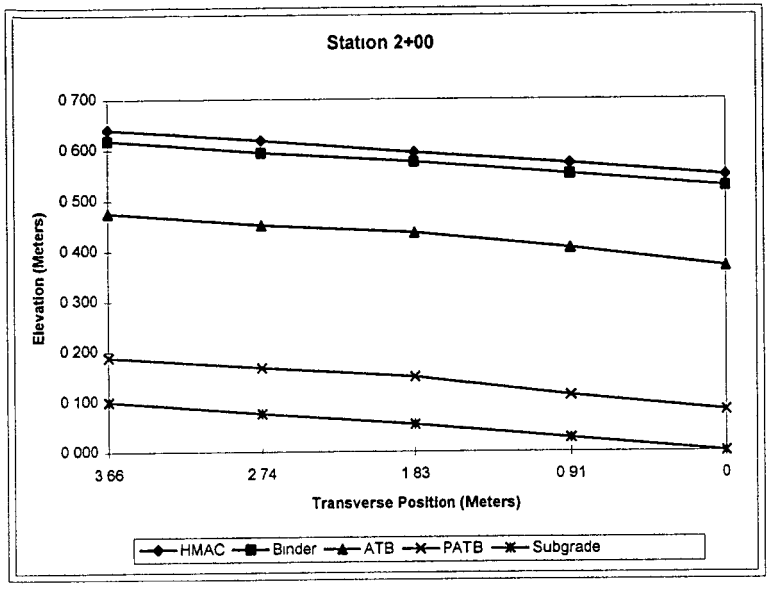


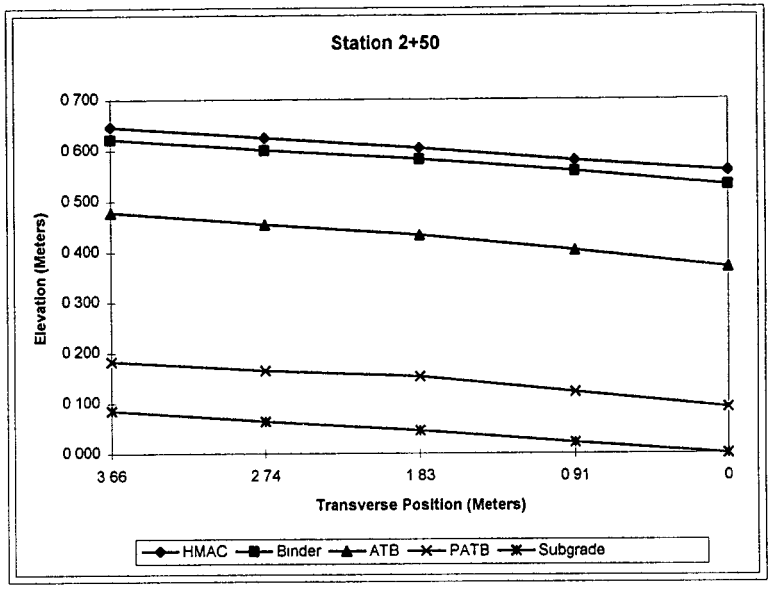


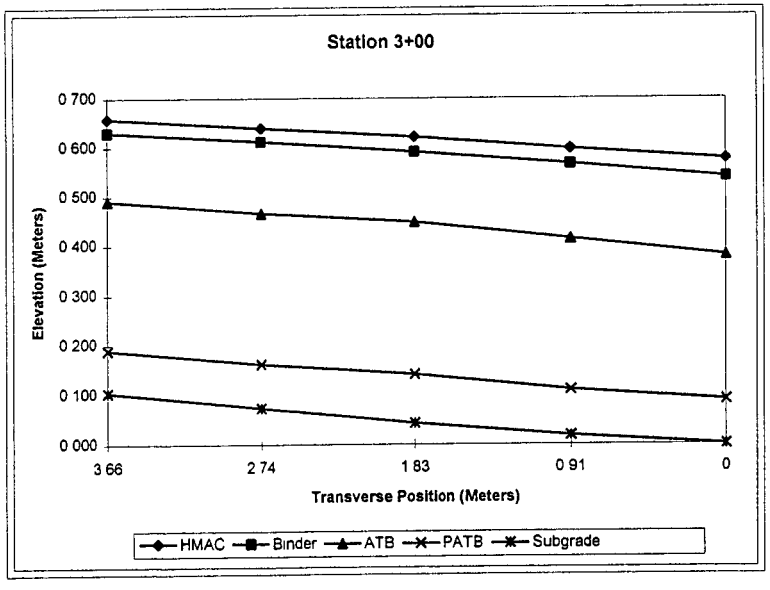


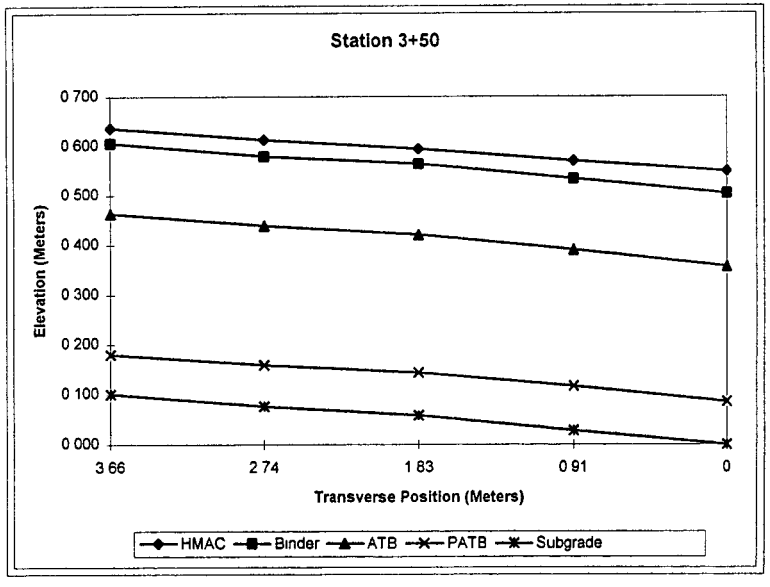


Louisiana SPS-1 (220124)

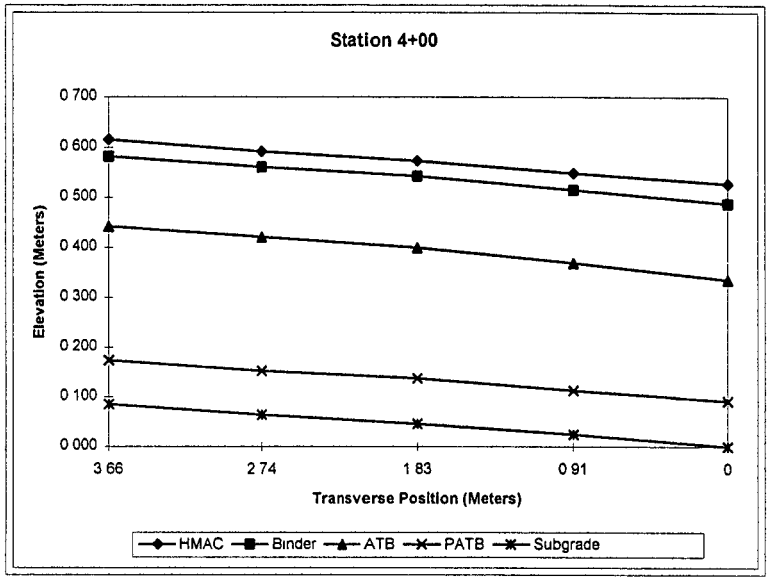


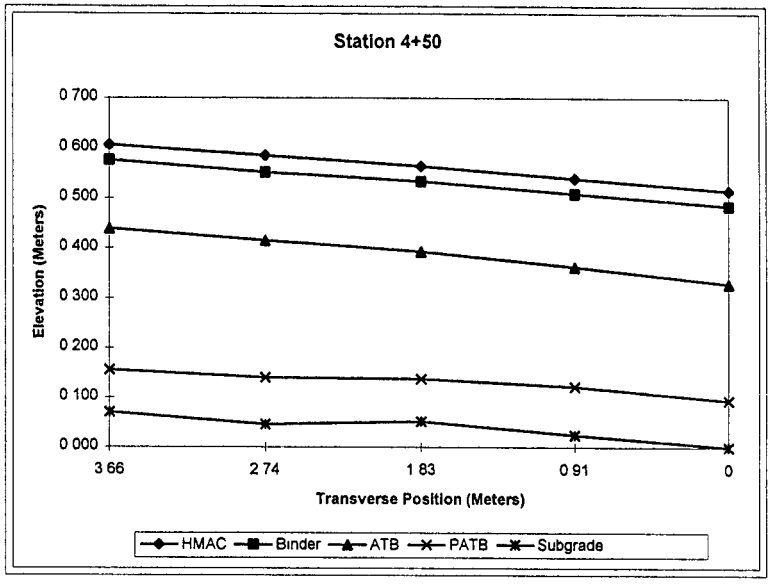


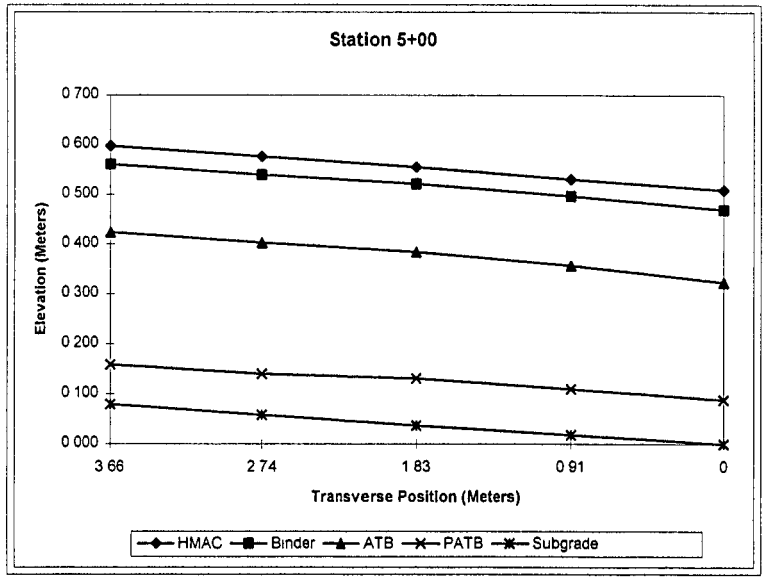




Louisiana SPS-1 (220124)







APPENDIX C

MATERIAL SAMPLING AND FIELD TESTING PLAN

Brent Rauhut Engineering Inc.

December 15, 1993

Mr. Steven L. Cumbaa, P.E.
Management Systems Research Administrator
Louisiana Transportation Research Center
4101 Gourrier Avenue
Baton Rouge, Louisiana 70808

Subject: Louisiana SPS-1 Project (220100) Revised Material Sampling and Testing Plan.

Dear Steve,

Enclosed is the revised plan for field sampling and material testing activities for the Louisiana SPS-1 project, located on US-171 in Calcasieu Parish, Louisiana. This plan details the field testing, material sampling and laboratory material testing to occur as part of the SPS-1 project construction. This plan has been revised to be consistent with recently updated guidelines prepared by the FHWA/LTPP Division.

If you have any questions or comments regarding the information provided in the material sampling and testing plan, do not hesitate to call me. This revised document has been submitted to the FHWA/LTPP and their Technical Assistance Contractor, for review.

Sincerely,

Mark P. Gardner, P.E.
Project Engineer, SRCO

MPG:dmj

Enclosure: As stated.

cc.w/Enc: Monte Symons, FHWA/LTPP-DC Shiraz Tayabji, PCS/Law

cc.w/o Enc: Homer Wheeler, RE-SRCO

8240 Mopac, Suite 220 • Austin, Texas (512) 346-0870 • FAX (512) 346-8750

MATERIAL SAMPLING
AND
TESTING PLAN

LOUISIANA SPS-1 PROJECT 220100
US-171 NBL, CALCASIEU PARISH, LOUISIANA

PREPARED BY:

BRENT RAUHUT ENGINEERING INC.
FHWA/LTPP SOUTHERN REGION COORDINATION OFFICE
8240 MOPAC, SUITE 220
AUSTIN, TEXAS 78759

REVISED
DECEMBER 1993

MATERIAL SAMPLING AND TESTING PLAN
LOUISIANA SPS-1 PROJECT (220100), US-171 NBL
CALCASIEU PARISH, LOUISIANA

INTRODUCTION

As part of their participation in the FHWA/LTPP studies, the State of Louisiana has elected to construct an SPS-1 project to study the structural factors for flexible pavements. This project will consist of multiple test sections with similar details and materials along U.S. Highway 171, in the northbound lane, in Calcasieu Parish, Louisiana. It is the intent of this document to provide a complete plan for the material sampling, testing, and laboratory material testing that will occur as a part of this project.

This document has been prepared in accordance with guidelines provided by the Federal Highway Administration entitled "Specific Pavement Studies Material Sampling and Testing Requirements for Experiment SPS-1, Strategic Study of Structural Factors for Flexible Pavements (Draft), September 1993". Recognizing the apparent variability in the construction of roadway projects, the goal of this effort is to develop a sampling and testing plan for the project materials that will be consistent with other projects in this experiment, and therefore make the information obtained suitable for analysis.

The objective of the SPS-1 study is to more precisely determine the relative influence of strategic factors on the performance of flexible pavements. The factors addressed in this study include drainage, base type and thickness, and asphalt surface thickness. Louisiana's involvement in the study will provide critical information in the wet, no freeze environmental zone, on a fine-grained subgrade soil. The data produced by this experiment will be used to evaluate existing design methods and performance equations. The interaction of the factors previously discussed will be determined in combination with the effect of environmental region and soil type. The effects of these factors will be studied under realistic performance conditions with significant materials and construction control. Herein lies the need for a sampling and testing plan, provided in the following pages.

This sampling and testing plan has been developed by Brent Rauhut Engineering, Inc. the Southern Region Coordination Office under contract to the Federal Highway Administration. If, during the construction activities, any questions arise regarding the sampling and/or testing to be conducted, one should first coordinate these questions with the Louisiana Department of Transportation and Development, who may refer them to the Southern Region Coordination Office.

This document has been prepared in three distinct parts, each covering a particular area of this rather formidable exercise. The three sections are:

A. General Layout Information

B. Materials Sampling and Testing

C. Laboratory Material Testing

The General Layout section provides tables and figures of the layout showing the twelve test sections along the roadway and the layer structure of each test section.

The Material Sampling and Testing section defines in detail all of the material samples to be obtained, testing to be performed in the field, and provides an itemized list showing where each sample is to be shipped for laboratory testing.

Finally, the Laboratory Material Testing section outlines the laboratory material test program to be conducted and provides tracking charts showing the testing to be performed on each sample of each material in each laboratory.

SECTION A.

GENERAL LAYOUT INFORMATION

SECTION A

GENERAL LAYOUT INFORMATION

This section of the plan provides a description of the SPS-1 project in terms of the location of the test sections along the roadway. Table A.1 lists the test sections in order of increasing station, providing an indication of the cross-section of each test section. Table A.2 tracks the test sections from the beginning of the first section at Station 223 + 00 to the end of the last section at Station 330 + 00. This table indicates transition areas between sections and the variation of pavement layer materials within these transitions.

Finally, Figure A.1 depicts the layout of the test sections along the roadway and shows the variation of material type and layer thickness.

The referenced project stationing was provided by the Louisiana DOTD in the form of preliminary project plans. If there are significant changes in alignment or stationing, this plan should be reviewed closely to determine if revisions are warranted.

TABLE A.1. TEST SECTION LAYOUT
LOUISIANA SPS-1, US-171 NBL, CALCASIEU PARISH, LOUISIANA

Section (Cell ID)	Cross Section	Begin Station	End Station
220119 (O19)	7″ AC Surface	223 + 00	229 + 00
	4″ PATB		
	4″ DGAB		
220120 (O20)	4″ AC Surface	230 + 00	236 + 00
	4″ PATB		
	8″ DGAB		
220121 (O21)	4″ AC Surface	239 + 75	245 + 75
	4″ PATB		
	12″ DGAB		
220122 (O22)	4″ AC Surface	249 + 50	255 + 50
	4″ ATB		
	4″ PATB		
220123 (O23)	7″ AC Surface	257 + 25	263 + 25
	8″ ATB		
	4″ PATB		
220124 (O24)	7″ AC Surface	271 + 75	277 + 75
	12″ ATB		
	4″ PATB		

TABLE A.1. TEST SECTION LAYOUT
LOUISIANA SPS-1, US-171 NBL, CALCASIEU PARISH, LOUISIANA
(Continued)

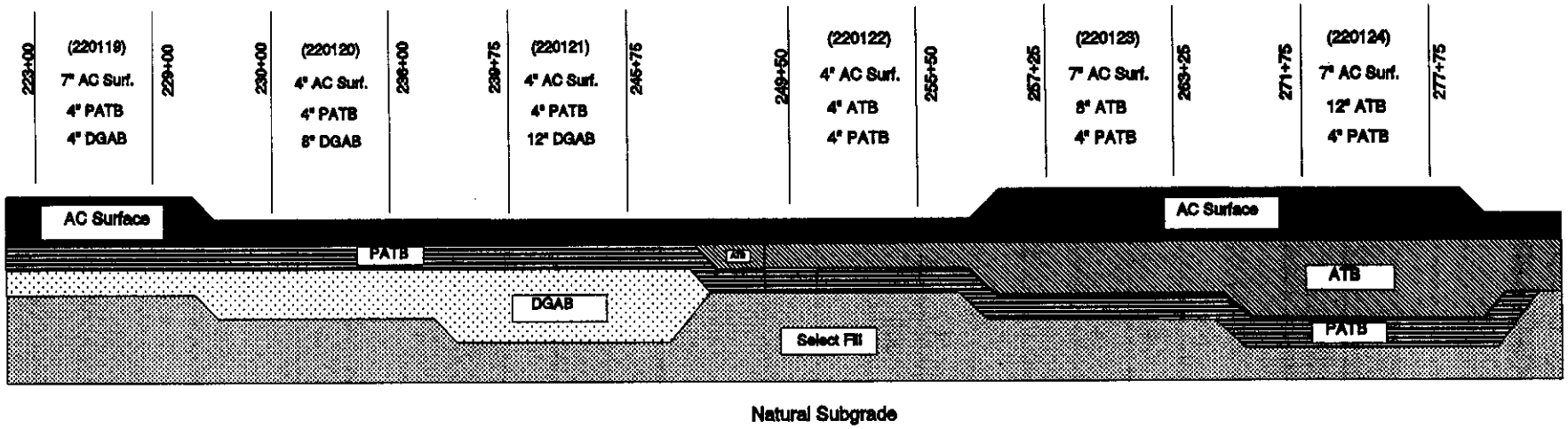
Section (Cell ID)	Cross Section	Begin Station	End Station
220118 (O18)	4″ AC Surface	282 + 75	288 + 75
	8″ ATB		
	4″ DGAB		
220116 (O16)	4″ AC Surface	293 + 75	299 + 75
	12″ ATB		
220115 (O15)	7″ AC Surface	300 + 75	306 + 75
	8″ ATB		
220117 (O17)	7″ AC Surface	307 + 75	313 + 75
	4″ ATB		
	4″ DGAB		
220114 (O14)	7″ AC Surface	317 + 00	323 + 00
	12″ DGAB		
220113 (O13)	4″ AC Surface	324 + 00	330 + 00
	8″ DGAB		

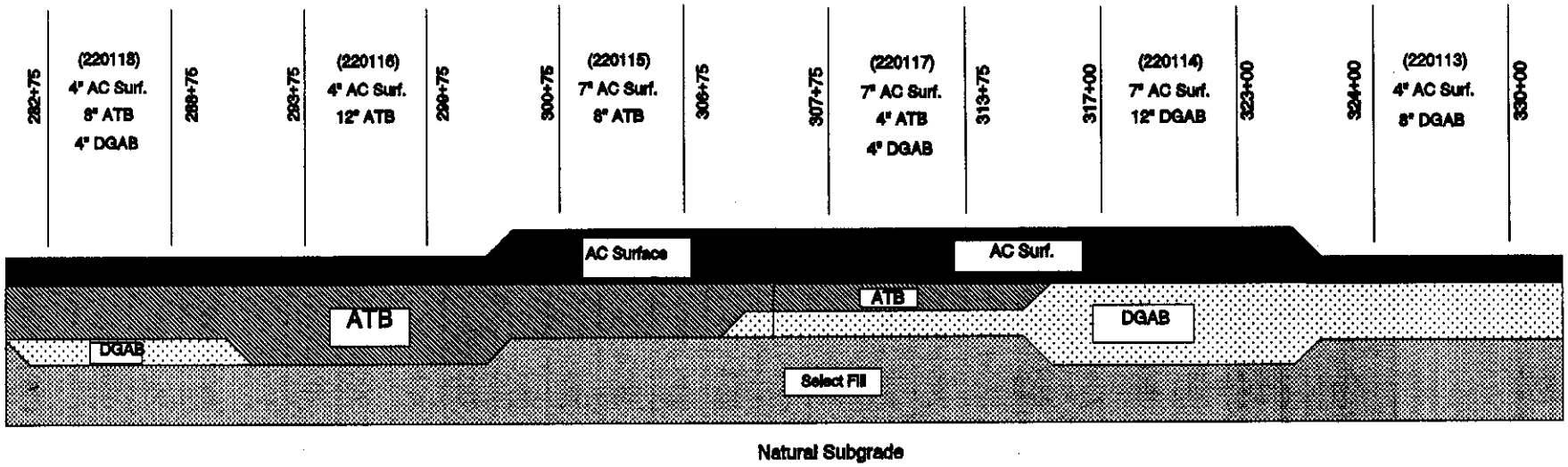
TABLE A.2. ORDERING OF SECTIONS ALONG CENTER LINE STATIONING LOUISIANA SPS-1, US-171 NBL, CALCASIEU PARISH, LOUISIANA

Begin Sta.	End Sta.	Section ID	Thickness (In.)			
			AC Surface*	ATB	PATB	DGAB
223+00	229+00	220119	7	0	4	4
229+00	230+00	Transition	7-4	0	4	4-8
230+00	236+00	220120	4	0	4	8
236+00	239+75	Transition	4	0	4	8-12
239+75	245+75	220121	4	0	4	12
245+75	249+50	Transition	4	0-4	4	12-0
249+50	255+50	220122	4	4	4	0
255+50	257+25	Transition	4-7	4-8	4	0
257+25	263+25	220123	7	8	4	0
263+25	271+75	Transition	7	8-12	4	0
271+75	277+75	220124	7	12	4	0
277+75	282+75	Transition	7-4	12-8	4-0	0-4
282+75	288+75	220118	4	8	0	4
288+75	293+75	Transition	4	8-12	0	4-0
293+75	299+75	220116	4	12	0	0
299+75	300+75	Transition	4-7	12-8	0	0
300+75	306+75	220115	7	8	0	0
306+75	307+75	Transition	7	8-4	0	0-4
307+75	313+75	220117	7	4	0	4
313+75	317+00	Transition	7	4-0	0	4-12
317+00	323+00	220114	7	0	0	12
323+00	324+00	Transition	7-4	0	0	12-8
324+00	330+00	220113	4	0	0	8

* Combined Binder and Wearing Course Thickness

Figure A.1. LAYOUT OF TEST SECTIONS
LOUISIANA SPS-1, US-171 NBL
Calcasieu Parish, Louisiana





SECTION B.

MATERIAL SAMPLING AND TESTING

SECTION B

MATERIAL SAMPLING AND TESTING

This section of the plan provides for the material sampling and testing activities that occur in the field. Tables B.1 and B.2 provide the scope of the material sampling and testing activities, respectively. Table B.3 describes special sampling needs for the Materials Reference Library and provides contact information to coordinate sample shipping arrangements.

Figures B.1 through B.18 show the locations and numbering scheme for the many samples and tests scheduled. Figures B.2 through B.6 show the sampling and testing to occur for each stage of the paving, while Figures B.7 through B.18 show all sampling and testing scheduled for each test section.

Finally, Tables B.4 and B.5 list samples to be shipped to the state laboratory (or their designee), and those samples to be shipped to the FHWA/LTPP testing contractor, respectively. At the time this document was being prepared, this contractor was not yet named. The identity and location of the FHWA/LTPP lab will be provided once the final selection has been made.

TABLE B.1. SCOPE OF MATERIAL SAMPLING
LOUISIANA SPS-1, US-171 NBL, CALCASIEU PARISH, LOUISIANA

Material And Sample Description	Number Of Samples	Sample Location
Asphalt Concrete		
Coring - 4" Diam. Cores	60	C1-C60
Bulk Sampling - Surface Mix (200 lb.)	3	B25,B26,B27-From Paver
Bulk Sampling - Binder Mix (200 lb.)	3	B22,B23,B24-From Paver
Bulk Sampling - Asphalt Cement (5 gal.)	3	B28,B29,B30-From Plant
Asphalt Treated Base		
Coring - 4" Diam. Cores	34	C17-C50
Bulk Sampling (200 lb.)	3	B19,B20,B21-From Paver
Permeable Asphalt Treated Base		
Bulk Sampling (100 lb.)	3	B16,B17,B18-From Paver
Dense-Graded Aggregate Base		
Bulk Sampling (400 lb.)	3	B13,B14,B15
Moisture Content Samples	3	B13,B14,B15
Embankment Fill (< 4' thick)		
Bulk Sampling (400 lb.)	6	B7-B12
Moisture Content Samples	6	B7-B12
Subgrade		
Thin-Walled Tubes (2 per hole)	36	A1-A18
Bulk Sampling (400 lb.)	6 *	B1-B6
Moisture Content Samples	6 *	B1-B6

B1 and B2 contained subbase material according to laboratory results.

TABLE B.2. SCOPE OF FIELD TESTING
LOUISIANA SPS-1, US-171 NBL, CALCASIEU PARISH, LOUISIANA

Material And Test Description	Number Of Tests	Location Designation
Asphalt Concrete In Situ Density (Nuclear Gauge)	36	T130-T165
Asphalt Treated Base In Situ Density (Nuclear Gauge)	21	T109-T129
Dense-Graded Aggregate Base In Situ Density, Moisture Content (Nuclear Gauge)	24	T85-T108
Embankment Fill (< 4′ thick) In Situ Density, Moisture Content (Nuclear Gauge)	42	T43-T84
Subgrade In Situ Density, Moisture Content (Nuclear Gauge)	42	T1-T42
Shoulder Auger Probe	4	S1-S4

T1 and T2 were taken on subbase material.

TABLE B.3. MATERIAL SAMPLING FOR THE MATERIALS REFERENCE LIBRARY (MRL) LOUISIANA SPS-1, US-171 NBL, CALCASIEU PARISH, LOUISIANA

Material And Sample Description	Number Of Samples	Sample Location
Asphalt Cement (5 Gallon Containers Each Type Used - Surface, Binder, ATB, PATB)	3	From Plant
Aggregate (55 Gallon Drum Each Blend - Surface, Binder, ATB)	1	From Plant
Finished Asphaltic Concrete Mix (5 Gallon Containers Each - Surface, Binder, ATB, PATB)	3	From Paver

Note: Containers for this sampling will be provided by the LTPP Materials Reference Library (MRL). Scheduling information including (1) date containers needed, (2) state agency contact name, and (3) shipping address and telephone number should be provided to the MRL Contractor as soon as it is feasible to do so. The contact name, address and telephone number for the MRL Contractor are as follows:

Mr. Andrew Brigg
Nichols Consulting Engineers, Chtd.
1885 So. Arlington Ave., Suite 111
Reno, Nevada 89509
(702) 329-4955

These samples should be labeled according to applicable guidelines provided elsewhere and shipped to the MRL Contractor upon completion of sampling activities.

FIGURE B.1 SITE LAYOUT WITH SAMPLING AREAS
LOUISIANA SPS-1, US-171 NBL
CALCASIEU PARISH, LOUISIANA

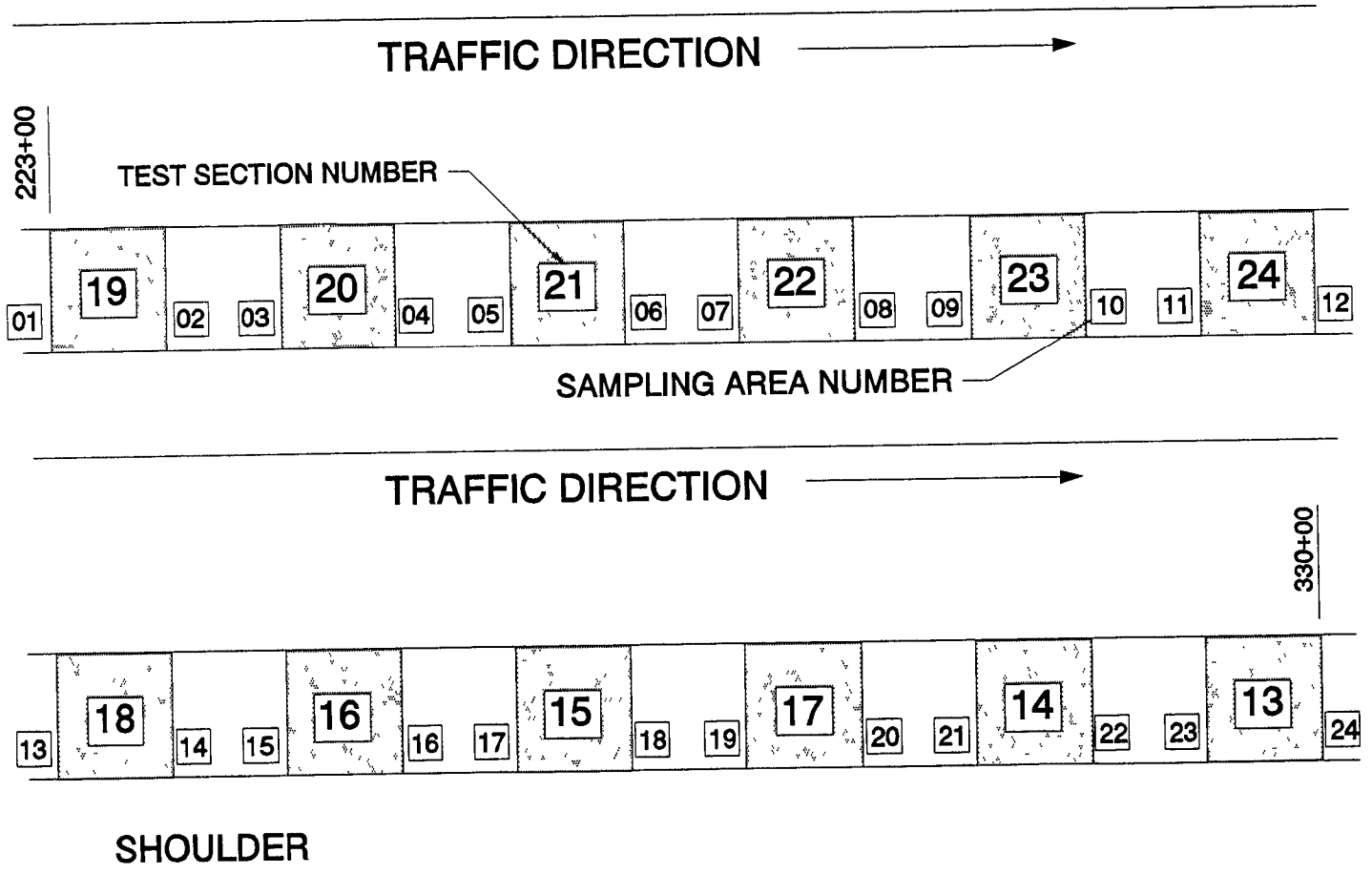
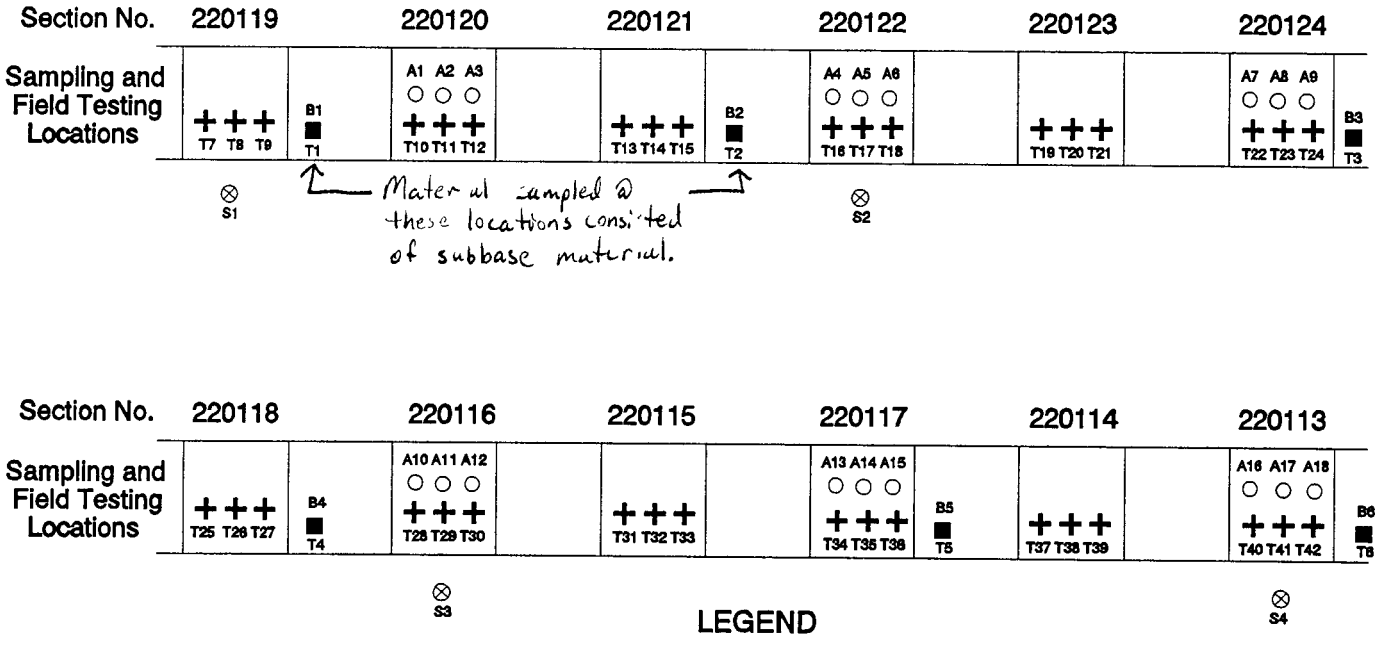


FIGURE B.2 SAMPLING AND TESTING LOCATIONS FOR SUBGRADE
LOUISIANA SPS-1, US-171 NBL
CALCASIEU PARISH, LOUISIANA



LEGEND

■ 2 X 2 bulk sampling location (B1 - B6)

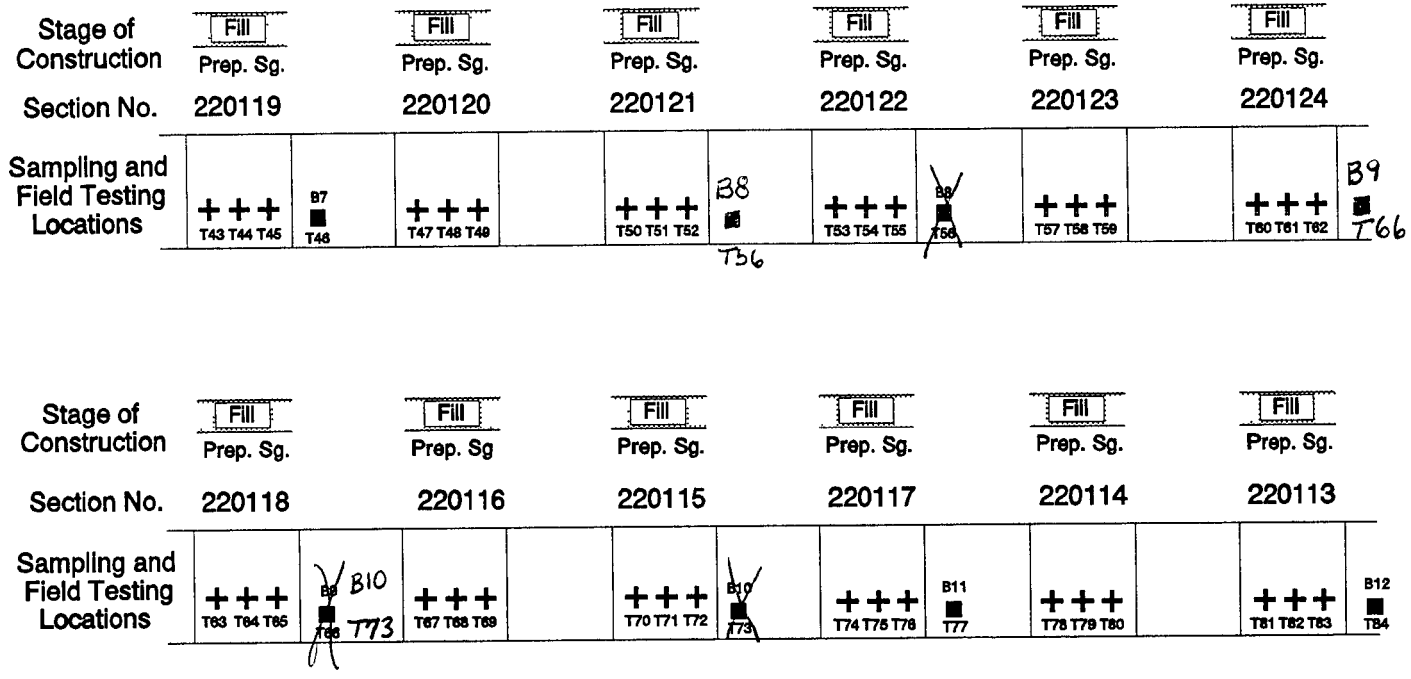
○ Shelby tube/splitspoon sampling to 4' below top of subgrade (A1 - A18).

⊗ Shoulder probe (S1 - S4)

\+ Location of in situ density testing (T1 - T42)

Note: Nuclear density/moisture testing must be conducted at bulk sampling locations prior to excavation.

FIGURE B.3 SAMPLING AND TESTING LOCATIONS FOR EMBANKMENT (SUBBASE)
LOUISIANA SPS-1, US-171 NBL
CALCASIEU PARISH, LOUISIANA



LEGEND

■ 2 X 2 bulk sampling location (B7 - B12)

+ Location of in situ density testing (T43 - T84)

Prep. Sg. - Prepared Subgrade

Fill - Embankment Fill (<4')

Note: Nuclear density/moisture testing must be conducted at bulk sampling locations prior to excavation.

FIGURE B.4 SAMPLING AND TESTING LOCATIONS FOR DGAB
LOUISIANA SPS-1, US-171 NBL
CALCASIEU PARISH, LOUISIANA

Stage of Construction	DGAB Fill Prep. Sg.		DGAB Fill Prep. Sg.		DGAB Fill Prep. Sg.		Fill Prep. Sg.		Fill Prep. Sg.		Fill Prep. Sg.	
Section No.	220119		220120		220121		220122		220123		220124	
Sampling and Field Testing Locations	+ + + T85 T86 T87	B13 ■ T88	+ + + T89 T90 T91		+ + + T92 T93 T94	B14 ■ T95	N/A		N/A		N/A	

Stage of Construction	DGAB Fill Prep. Sg.		Fill Prep. Sg.		Fill Prep. Sg.		DGAB Fill Prep. Sg.		DGAB Fill Prep. Sg.		DGAB Fill Prep. Sg.	
Section No.	220118		220116		220115		220117		220114		220113	
Sampling and Field Testing Locations	+ + + T96 T97 T98		N/A		N/A		+ + + T99 T100 T101		+ + + T102 T103 T104	B15 ■ T105	+ + + T106 T107 T108	

LEGEND

+ Location of in situ density testing (T85 - T108)

■ Location of bulk sampling of DGAB (B13 - B15)

Note: Nuclear density/moisture testing must be conducted at bulk sampling locations prior to excavation.

Prep. Sg. - Prepared Subgrade

Fill - Embankment Fill (<4')

DGAB - Dense Graded Aggregate Base

FIGURE B.5 TESTING LOCATIONS FOR ATB
LOUISIANA SPS-1, US-171 NBL
CALCASIEU PARISH, LOUISIANA

Stage of Construction	PATB / DGAB / Fill / Prep. Sg.		PATB / DGAB / Fill / Prep. Sg		PATB / DGAB / Fill / Prep. Sg.		ATB / PATB / Fill / Prep. Sg.		ATB / PATB / Fill / Prep. Sg.		ATB / PATB / Fill / Prep. Sg	
Section No.	220119		220120		220121		220122		220123		220124	
Sampling and Field Testing Locations	N/A		N/A		N/A		+++ T109 T110 T111		+++ T112 T113 T114		+++ T115 T116 T117	

Stage of Construction	ATB / DGAB / Fill / Prep. Sg.		ATB / Fill / Prep. Sg.		ATB / Fill / Prep. Sg		ATB / DGAB / Fill / Prep Sg		DGAB / Fill / Prep. Sg.		DGAB / Fill / Prep Sg	
Section No.	220118		220116		220115		220117		220114		220113	
Sampling and Field Testing Locations	+++ T118 T119 T120		+++ T121 T122 T123		+++ T124 T125 T126		+++ T127 T128 T129		N/A		N/A	

LEGEND

+ Location of in situ density testing (T109 - T129)

Prep. Sg. - Prepared Subgrade

Fill - Embankment Fill (<4')

PATB - Permeable Asphalt Treated Base

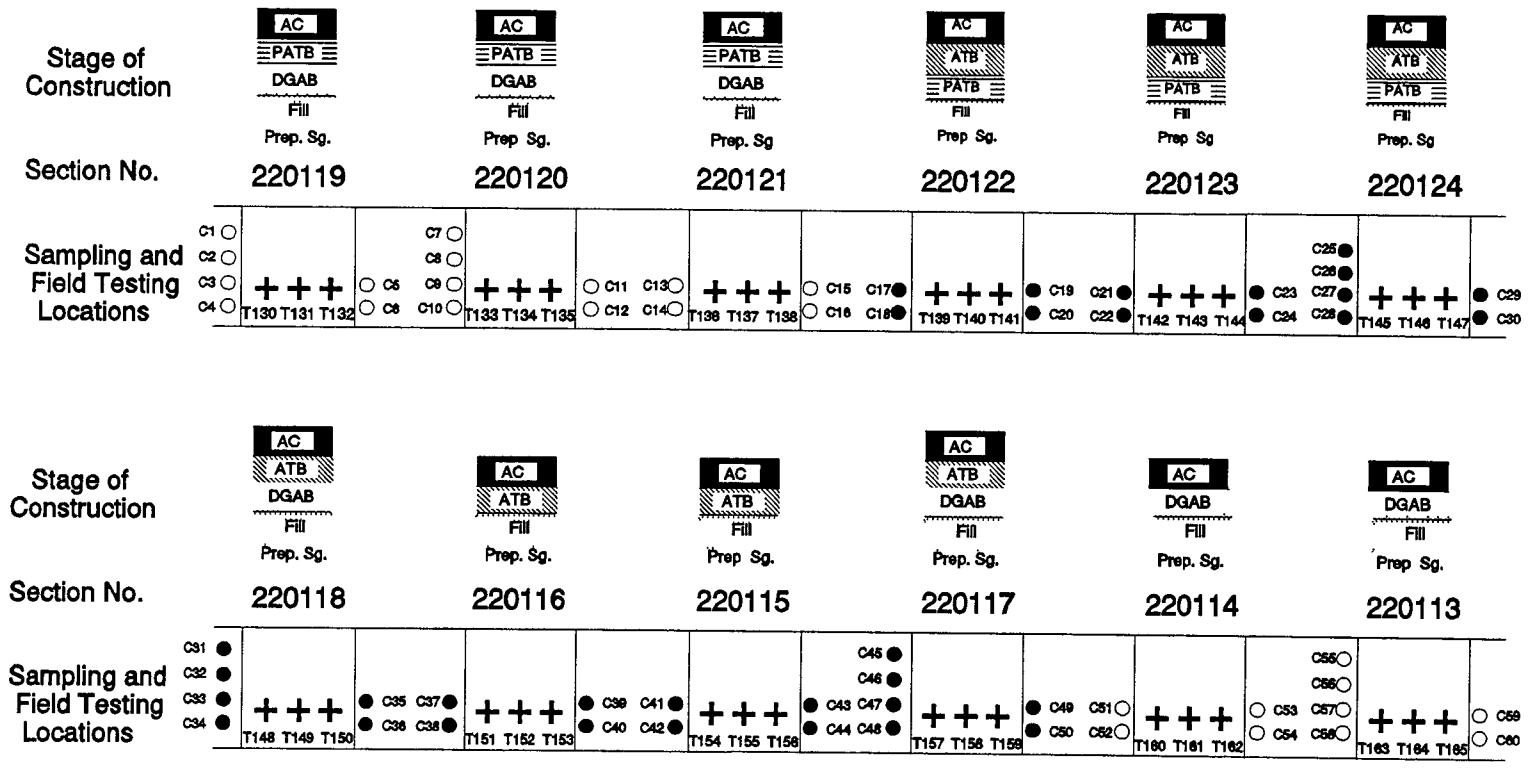
DGAB - Dense Graded Aggregate Base

ATB - Asphalt Treated Base

FIGURE B.6 SAMPLING AND TESTING LOCATIONS FOR AC SURFACE

LOUISIANA SPS-1 , US-171 NBL

CALCASIEU PARISH, LOUISIANA



LEGEND

○ 4" OD Core of Asphalt Concrete Surface (C1 - C16, C51-60)

● 4" OD Core of Asphalt Concrete Surface and Treated Base (C17 - C50)

+ Location of in situ density testing (T130 - T165)

Prep. Sg. - Prepared Subgrade

Fill - Embankment Fill (<4')

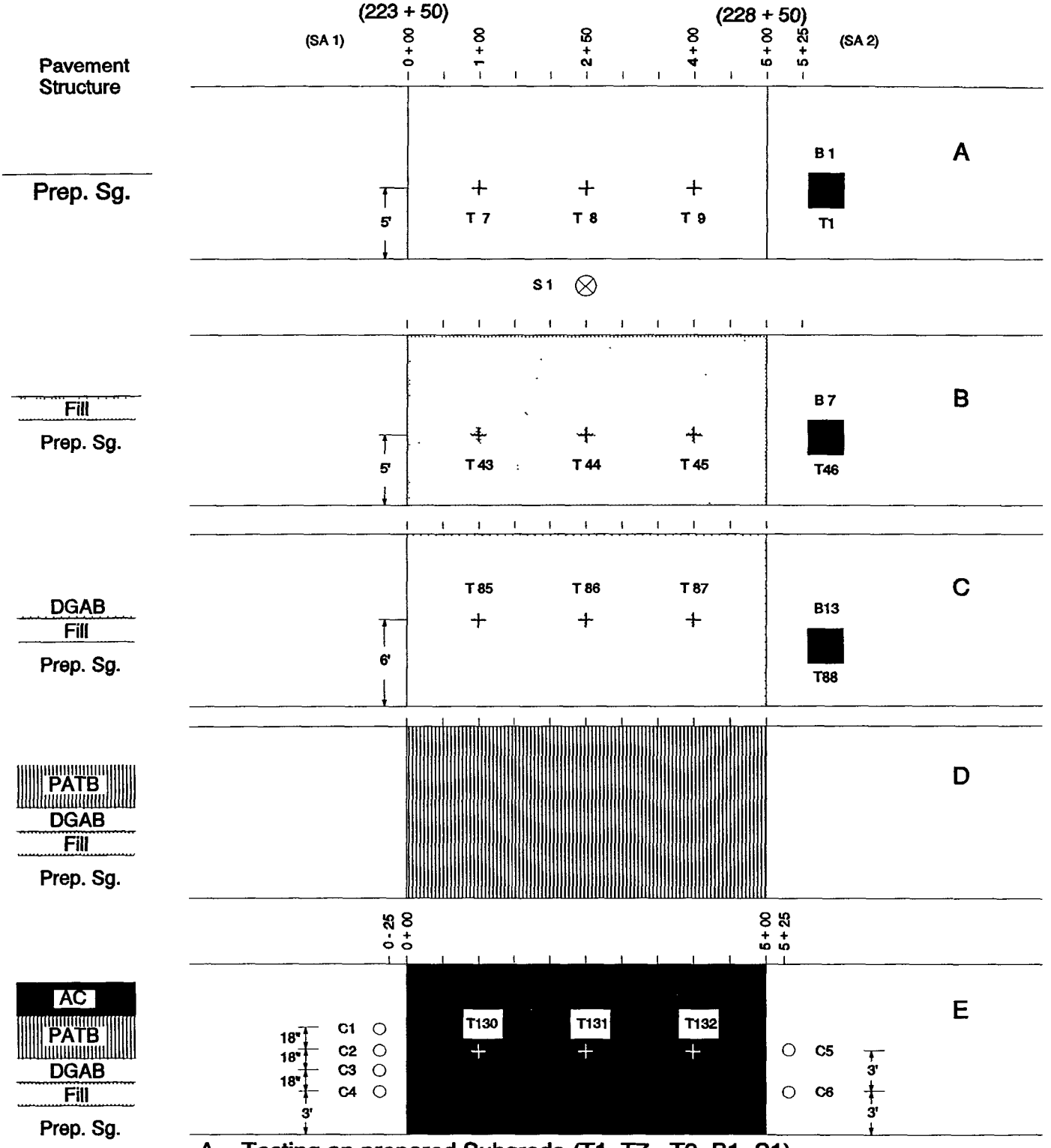
PATB - Permeable Asphalt Treated Base

DGAB - Dense Graded Aggregate Base

ATB - Asphalt Treated Base

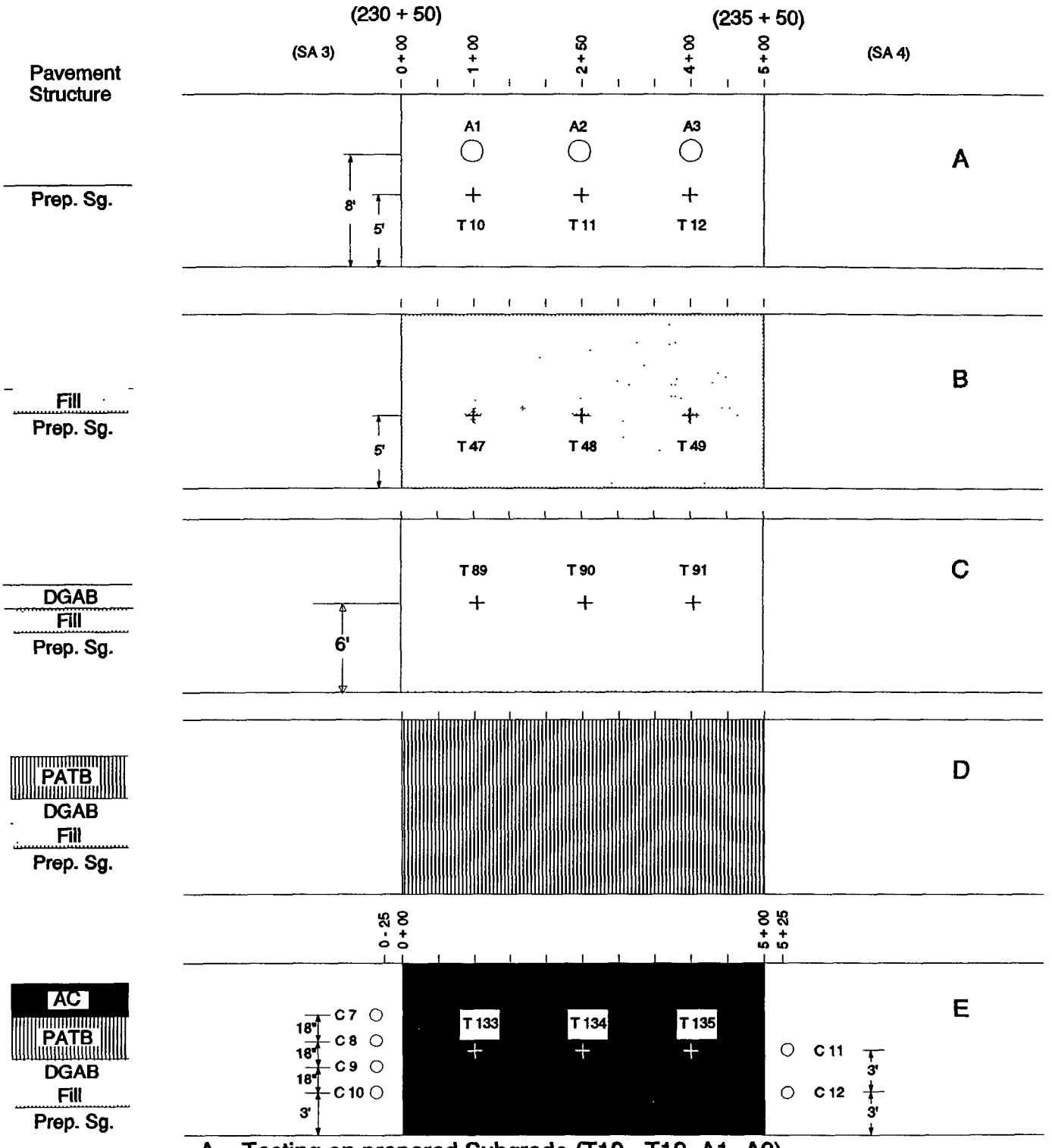
AC - Asphalt Concrete Surface

FIGURE B.7 SAMPLING AND TESTING PLAN FOR TEST SECTION 220119



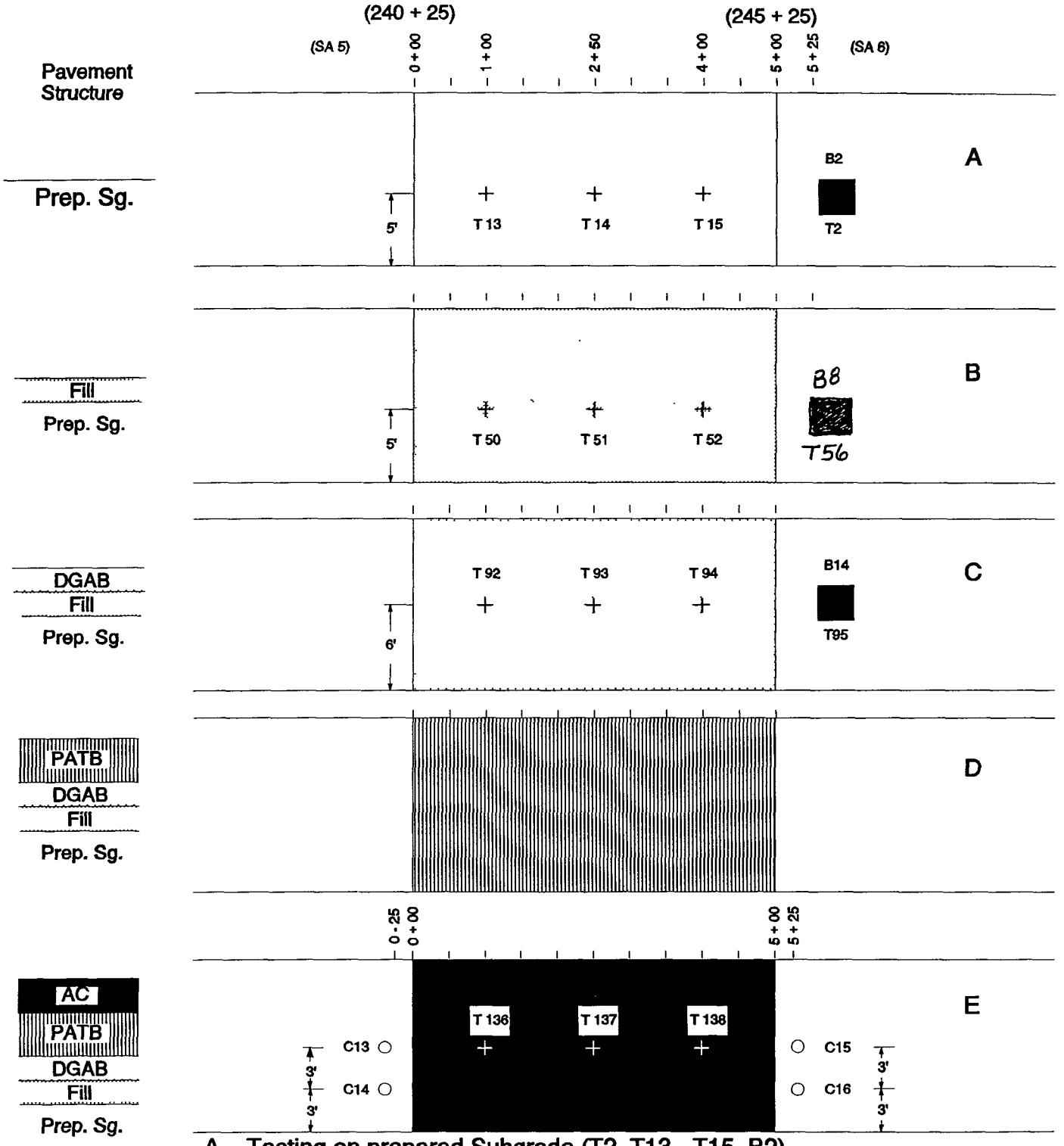
A Testing on prepared Subgrade (T1, T7 - T9, B1, S1)
B Testing on Embarkment Fill (T43 - T46, B7)
C Testing on compacted DGAB (T85 - T88, B13)
D No testing on compacted PATB
E Testing on finished AC Surface (T130 - T132)
Coring AC Surface only (C1 - C6)

FIGURE B.8 SAMPLING AND TESTING PLAN FOR TEST SECTION 220120



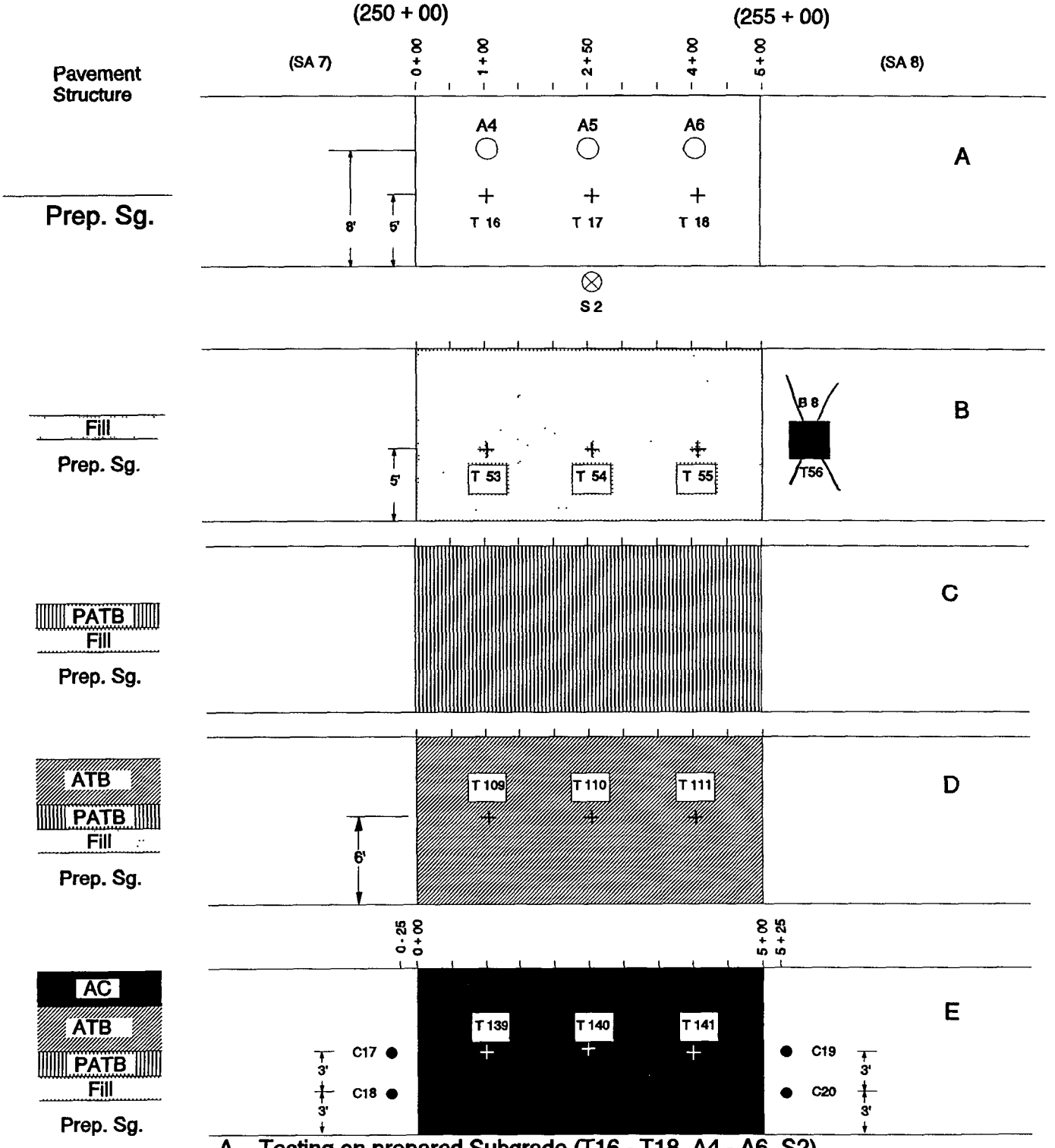
A Testing on prepared Subgrade (T10 - T12, A1- A3)
B Testing on Embankment Fill (T47 - T49)
C Testing on compacted DGAB (T89 - T91)
D No testing on compacted PATB
E Testing on finished AC Surface (T133 - T135)
Coring AC Surface only (C7 - C12)

FIGURE B.9 SAMPLING AND TESTING PLAN FOR TEST SECTION 220121



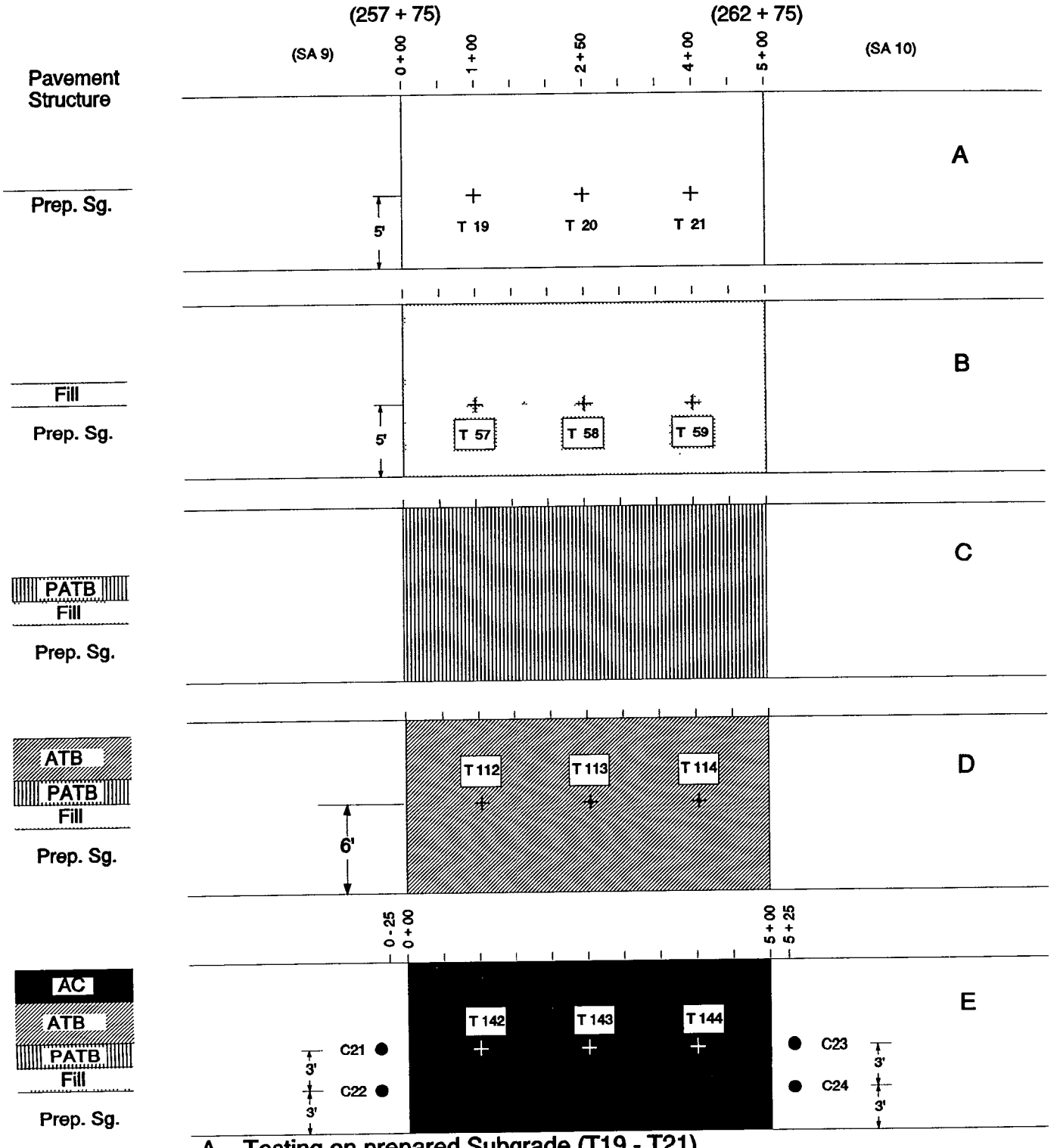
A Testing on prepared Subgrade (T2, T13 - T15, B2)
B Testing on Embankment Fill (T50 - T52)
C Testing on compacted DGAB (T92 - T95, B14)
D No testing on compacted PATB
E Testing on finished AC Surface (T136 - T138)
Coring AC Surface only (C13 - C16)

FIGURE B.10 SAMPLING AND TESTING PLAN FOR TEST S3ECTION 220122



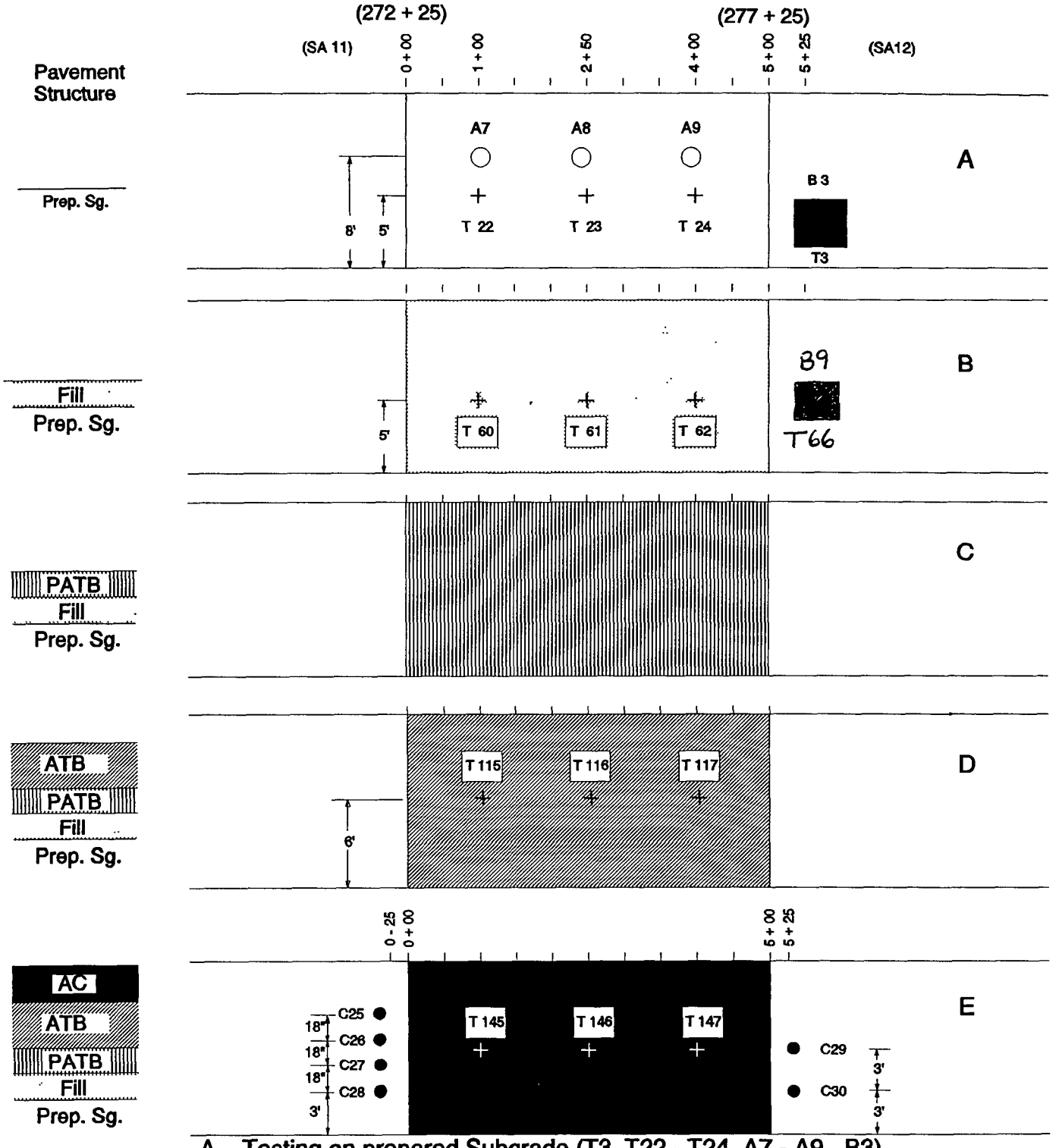
A Testing on prepared Subgrade (T16 - T18, A4 - A6, S2)
B Testing on Embankment Fill (T53 - T56, B8)
C No testing on compacted PATB
D Testing on compacted ATB (T109 - T111)
E Testing on finished AC Surface (T139 - T141)
Coring AC Surface and bound layers (C17 - C20)

FIGURE B.11 SAMPLING AND TESTING PLAN FOR TEST SECTION 220123



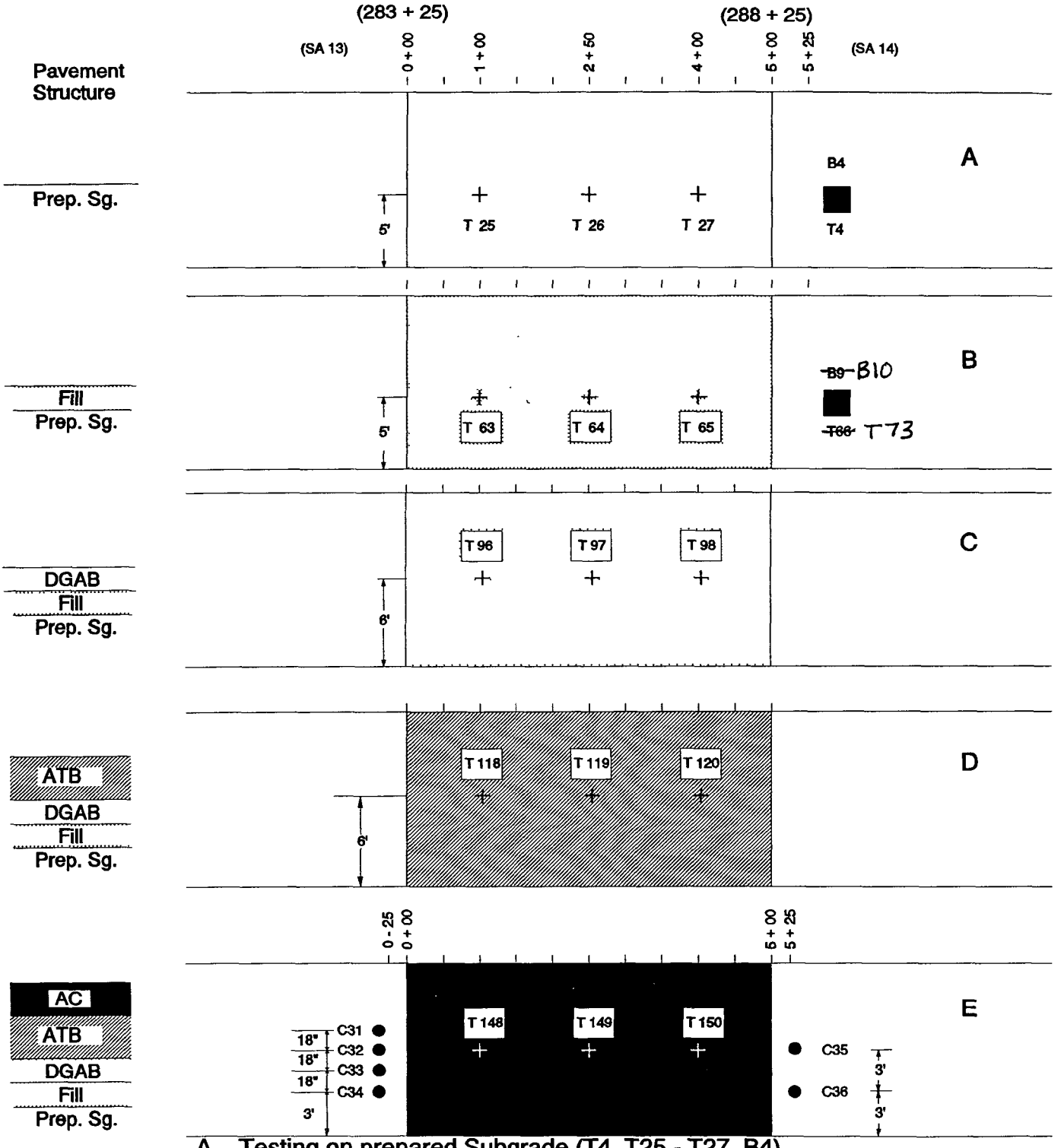
A Testing on prepared Subgrade (T19 - T21)
B Testing on Embankment Fill (T57 - T59)
C No testing on compacted PATB
D Testing on compacted ATB (T112 - T114)
E Testing on finished AC Surface (T142 - T144)
Coring AC Surface and bound layers (C21 - C24)

FIGURE B.12 SAMPLING AND TESTING PLAN FOR TEST SECTION 220124



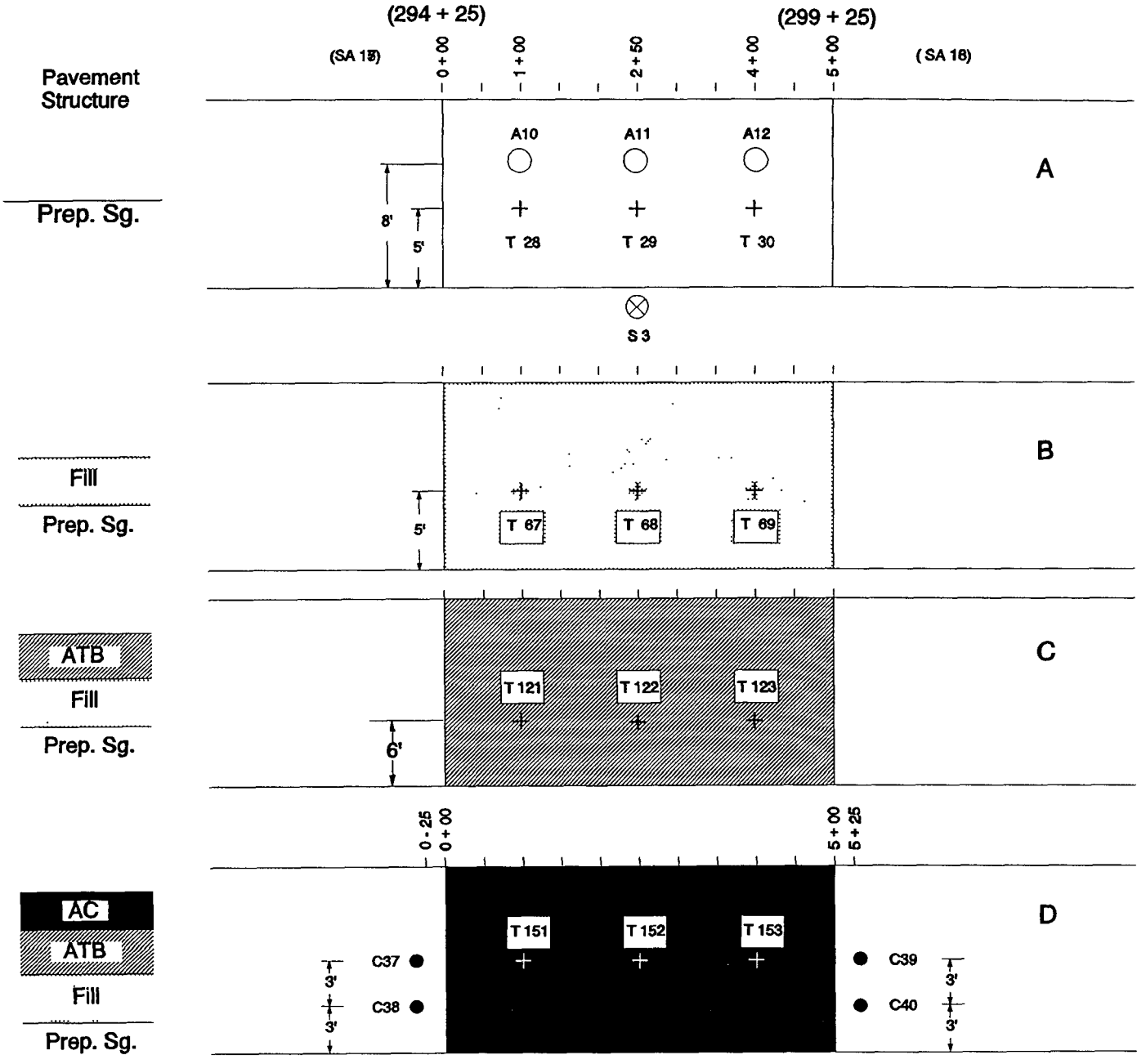
A Testing on prepared Subgrade (T3, T22 - T24, A7 - A9, B3)
B Testing on Embankment Fill (T60 -T62)
C No testing on compacted PATB
D Testing on compacted ATB(T115 - T117)
E Testing on finished AC Surface (T145 - T147)
Coring AC Surface and bound layers (C25 - C30)

FIGURE B.13 SAMPLING AND TESTING PLAN FOR TEST SECTION 220118



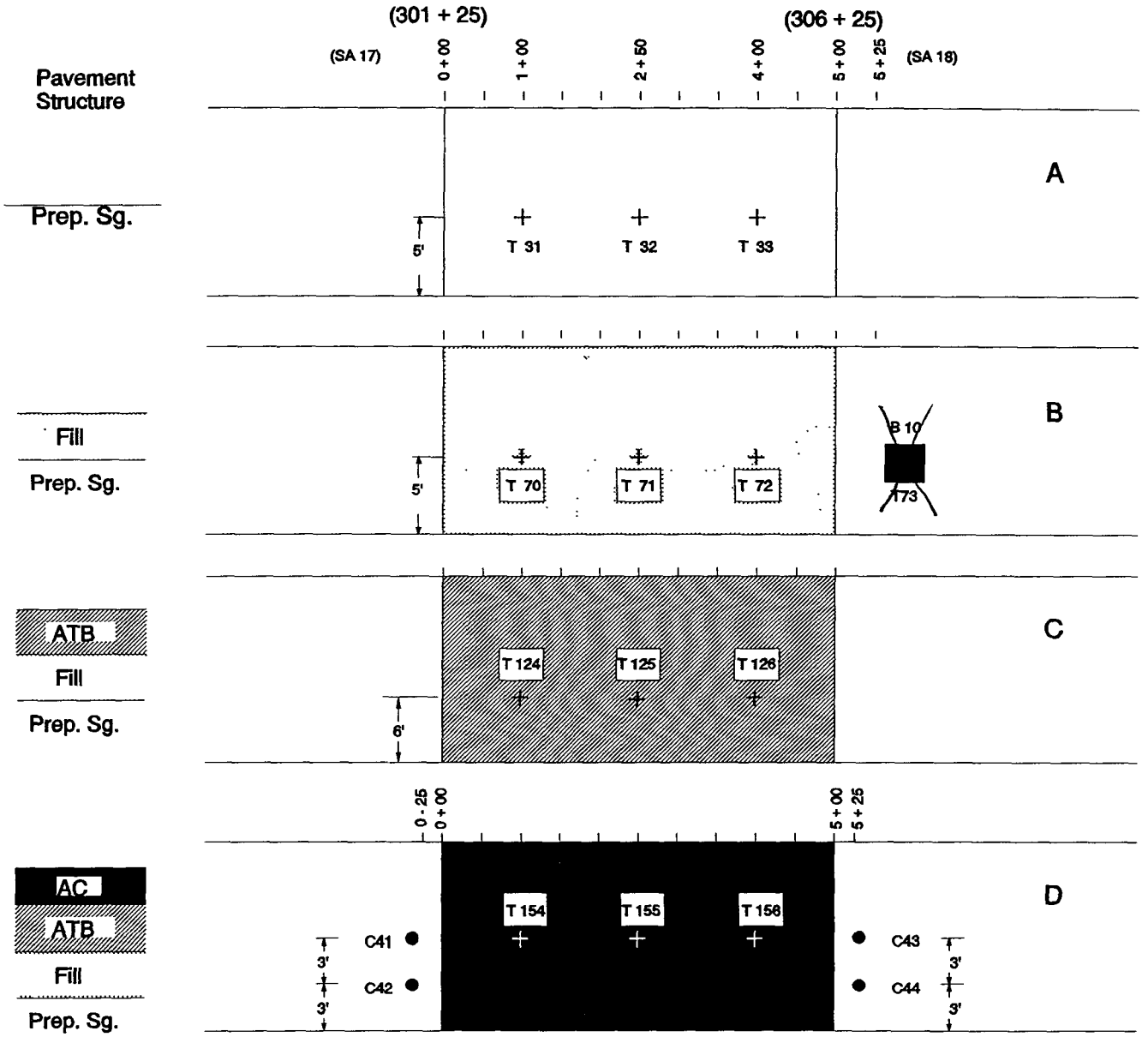
A Testing on prepared Subgrade (T4, T25 - T27, B4)
B Testing on Embankment Fill (T63 - T66, B9)
C Testing on compacted DGAB (T96 - T98)
D Testing on compacted ATB (T118 - T120)
E Testing on finished AC Surface (T148 - T150)
Coring AC Surface and bound layers (C31 - C36)

FIGURE B.14 SAMPLING AND TESTING PLAN FOR TEST SECTION 220116



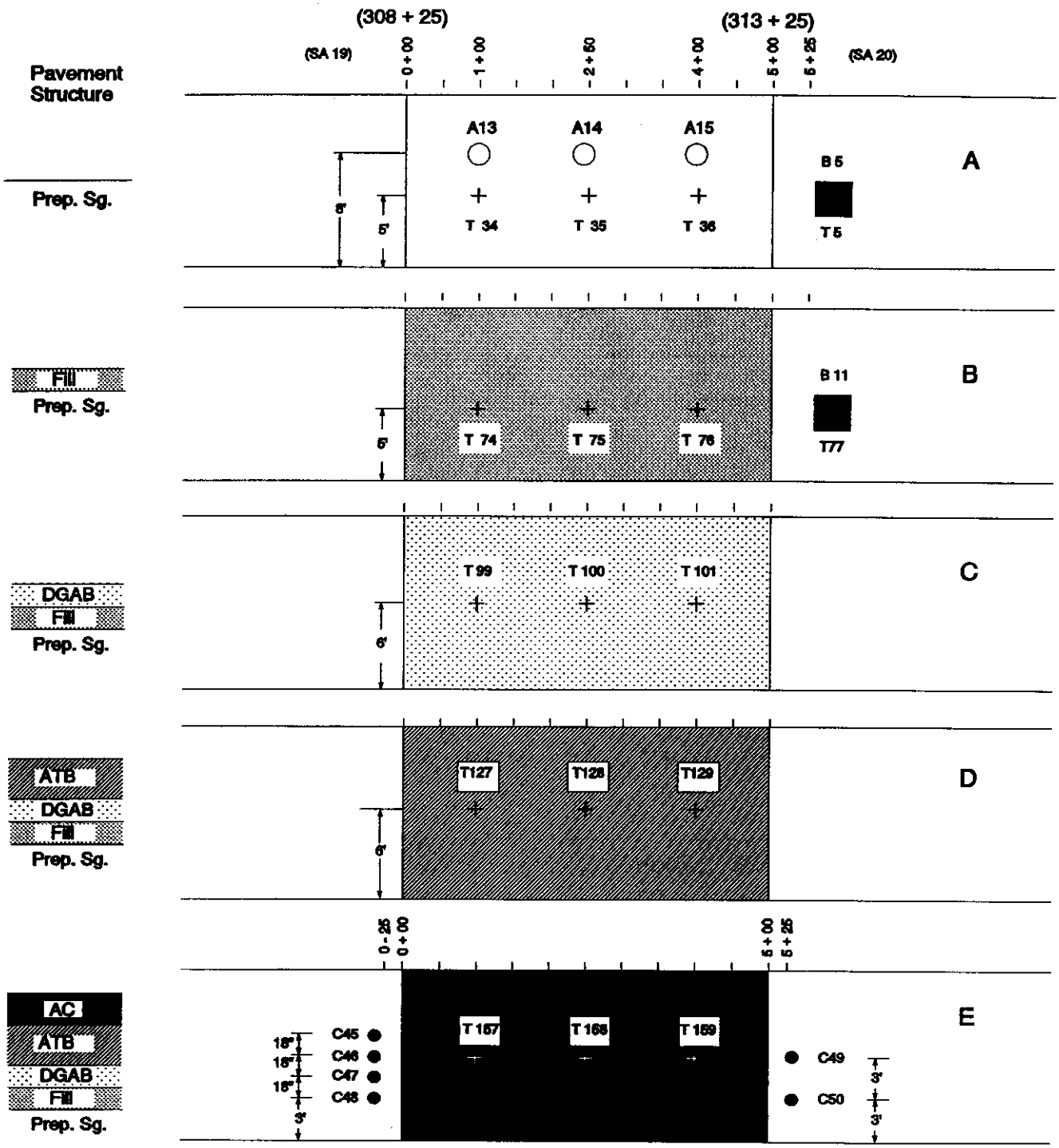
A Testing on prepared Subgrade (T28 - T30, A10 - A12, S3)
B Testing on Embankment Fill (T67 - T69)
C Testing on compacted ATB (T121 - T123)
D Testing on finished AC Surgace (T151 - T153)
Coring AC Surface and bound layers (C37 - C40)

FIGURE B.15 SAMPLING AND TESTING PLAN FOR TEST SECTION 220115



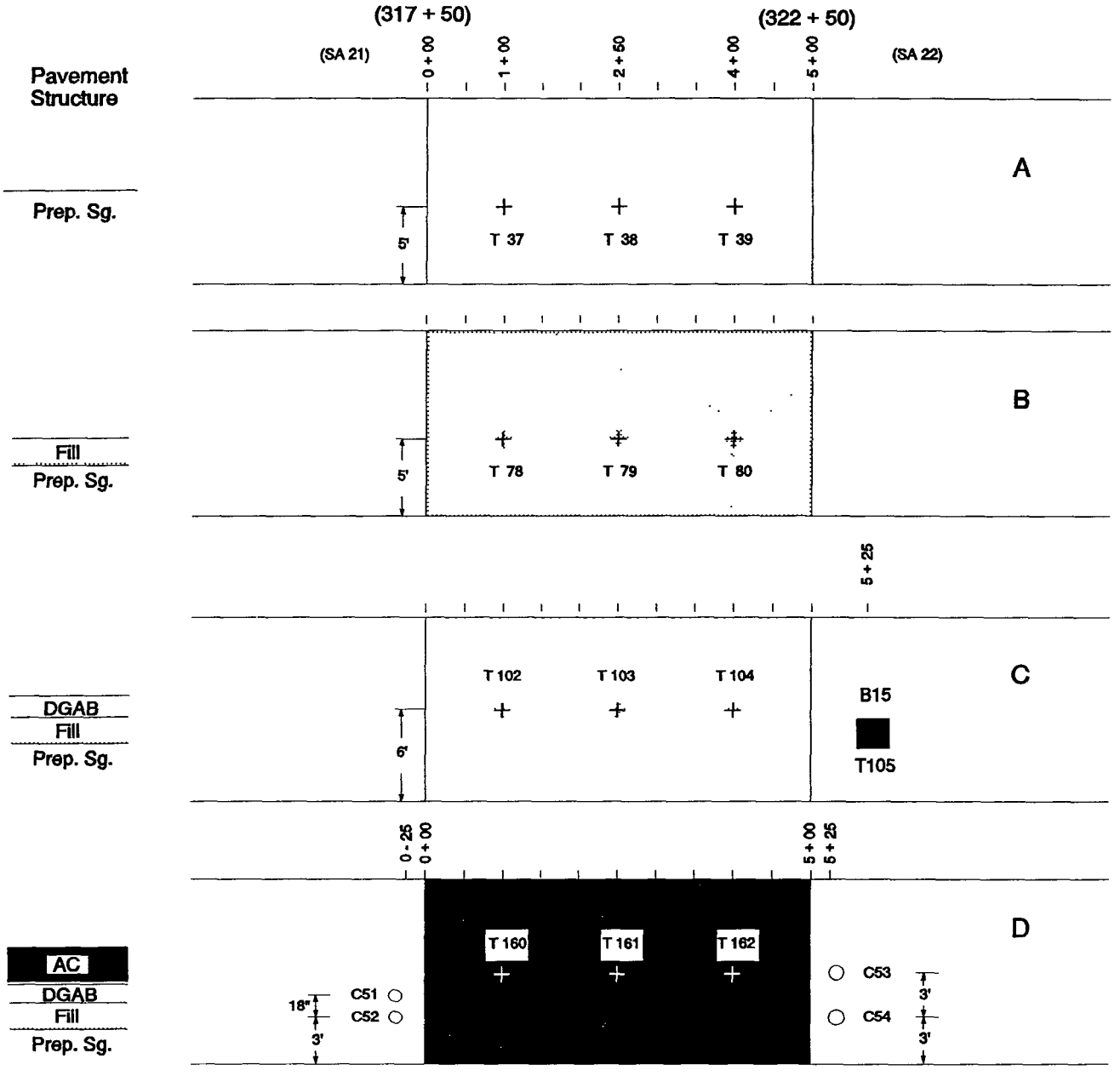
A Testing on prepared Subgrade (T31 - T33)
B Testing on Embankment Fill (T70 - T73, B10)
C Testing on compacted ATB (T124 - T126)
D Testing on finished AC Surface (T154 - T156)
Coring AC Surface and bound layers (C41 - C44)

FIGURE B.16 SAMPLING AND TESTING PLAN FOR TEST SECTION 220117



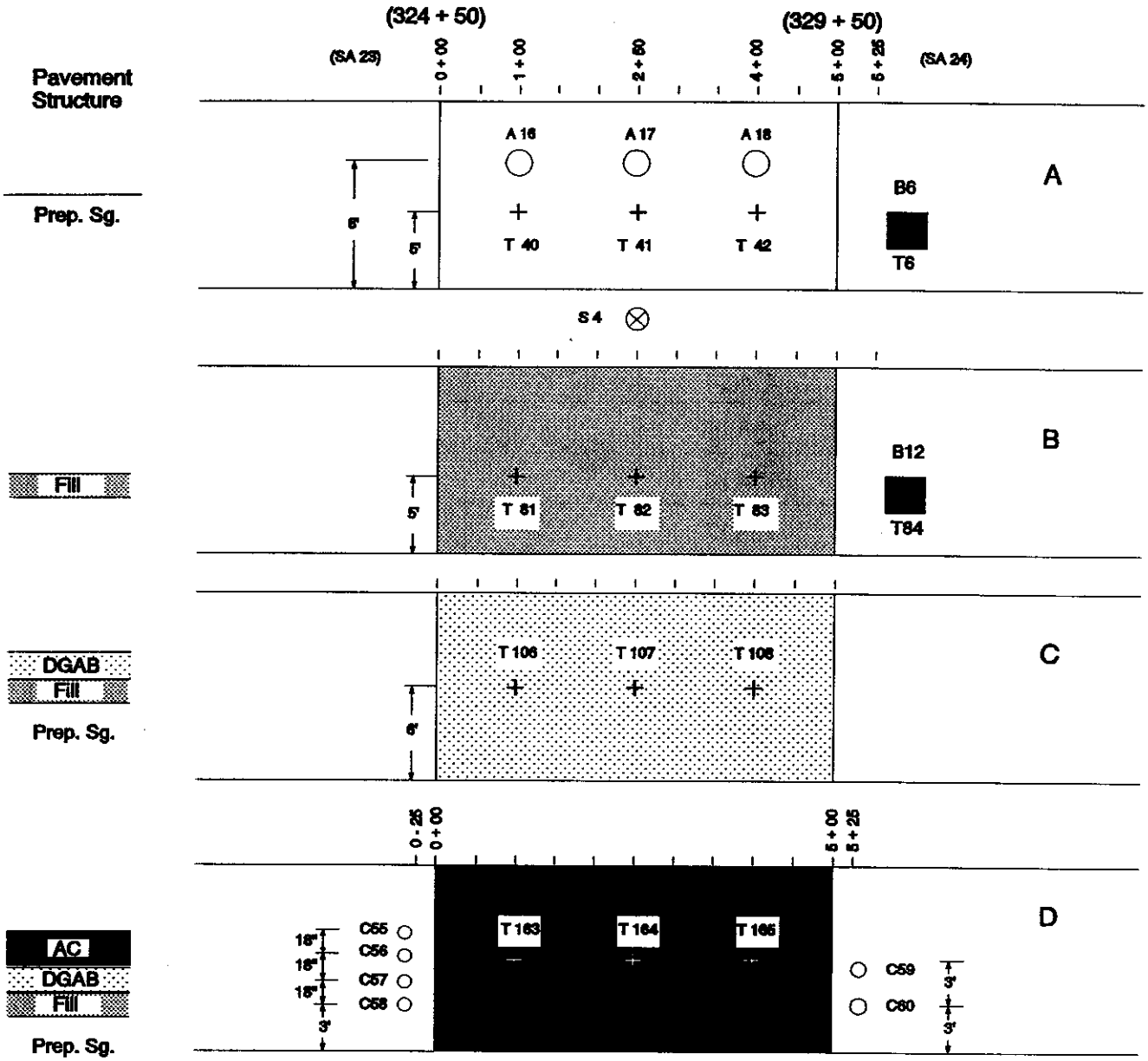
A Testing on prepared Subgrade (T5, T34 - T36, A13 - A15, B5)
B Testing on Embankment Fill (T74 - T77, B11)
C Testing on compacted DGAB (T99 - T101)
D Testing on compacted ATB (T127 - T129)
E Testing on finished AC Surface (T157 - T159)
Coring AC Surface and bound layers (C45 - C50)

FIGURE B.17 SAMPLING AND TESTING PLAN FOR TEST SECTION 220114



A Testing on prepared Subgrade (T37 - T39)
B Testing on Embankment Fill (T78 - T80)
C Testing on compacted DGAB (T102 - T105, B15)
D Testing on finished AC Surface (T160 - T162)
Coring AC Surface (C51 - C54)

FIGURE B.18 SAMPLING AND TESTING PLAN FOR TEST SECTION 220113



A Testing on prepared Subgrade (T6, T40 - T42, A16 - A18, S4, B6)
B Testing on Embankment Fill (T81 - T84, B12)
C Testing on compacted DGAB (T106 - T108)
D Testing on finished AC Surface (T163 - T165)
Coring AC Surface (C55 - C60)

TABLE B.4. SAMPLES TO BE SHIPPED TO THE STATE LABORATORY (OR THEIR DESIGNEE)

Sample Location Number	Sample Number	Lab Test Number	Type of Sample
Asphalt Concrete			
C5	CA05	2	102 mm (4 in. Core)
C6	CA06	2	102 mm (4 in. Core)
C11	CA11	2	102 mm (4 in. Core)
C12	CA12	2	102 mm (4 in. Core)
C13	CA13	1	102 mm (4 in. Core)
C14	CA14	1	102 mm (4 in. Core)
C15	CA15	2	102 mm (4 in. Core)
C16	CA16	2	102 mm (4 in. Core)
C17	CA17	1	102 mm (4 in. Core)
C18	CA18	1	102 mm (4 in. Core)
C20	CA20	2	102 mm (4 in. Core)
C21	CA21	1	102 mm (4 in. Core)
C22	CA22	1	102 mm (4 in. Core)
C23	CA23	2	102 mm (4 in. Core)
C24	CA24	2	102 mm (4 in. Core)
C29	CA29	2	102 mm (4 in. Core)
C30	CA30	2	102 mm (4 in. Core)
C35	CA35	2	102 mm (4 in. Core)
C36	CA36	2	102 mm (4 in. Core)
C37	CA37	1	102 mm (4 in. Core)
C38	CA38	1	102 mm (4 in. Core)
C40	CA40	2	102 mm (4 in. Core)
C42	CA42	1	102 mm (4 in. Core)

TABLE B.4. SAMPLES TO BE SHIPPED TO THE STATE LABORATORY (OR THEIR DESIGNEE) (Continued)

Sample Location Number	Sample Number	Lab Test Number	Type of Sample
C43	CA43	2	102 mm (4 in. Core)
C44	CA44	2	102 mm (4 in. Core)
C49	CA49	2	102 mm (4 in. Core)
C50	CA50	2	102 mm (4 in. Core)
C51	CA51	1	102 mm (4 in. Core)
C52	CA52	1	102 mm (4 in. Core)
C53	CA53	2	102 mm (4 in. Core)
C54	CA54	2	102 mm (4 in. Core)
C59	CA59	2	102 mm (4 in. Core)
C60	CA60	2	102 mm (4 in. Core)
B25	BA01	3	91 kg (200 lb) bulk sample
B26	BA02	3	91 kg (200 lb) bulk sample
B27	BA03	3	91 kg (200 lb) bulk sample
B28	BC01	3	19 l (5 gal) bulk sample of asphalt cement
B29	BC02	3	19 l (5 gal) bulk sample of asphalt cement
B30	BC03	3	19 l (5 gal) bulk sample of asphalt cement
Asphalt Treated Base			
C17	CT17	1	102 mm (4 in. Core)
C18	CT18	1	102 mm (4 in. Core)
C19	CT19	2	102 mm (4 in. Core)
C20	CT20	2	102 mm (4 in. Core)
C21	CT21	1	102 mm (4 in. Core)

TABLE B.4. SAMPLES TO BE SHIPPED TO THE STATE LABORATORY (OR THEIR DESIGNEE) (Continued)

Sample Location Number	Sample Number	Lab Test Number	Type of Sample
C22	CT22	1	102 mm (4 in. Core)
C23	CT23	2	102 mm (4 in. Core)
C24	CT24	2	102 mm (4 in. Core)
C29	CT29	2	102 mm (4 in. Core)
C30	CT30	2	102 mm (4 in. Core)
C35	CT35	2	102 mm (4 in. Core)
C36	CT36	2	102 mm (4 in. Core)
C37	CT37	1	102 mm (4 in. Core)
C38	CT38	1	102 mm (4 in. Core)
C39	CT39	2	102 mm (4 in. Core)
C40	CT40	2	102 mm (4 in. Core)
C41	CT41	1	102 mm (4 in. Core)
C42	CT42	1	102 mm (4 in. Core)
C43	CT43	2	102 mm (4 in. Core)
C44	CT44	2	102 mm (4 in. Core)
C49	CT49	2	102 mm (4 in. Core)
C50	CT50	2	102 mm (4 in. Core)
B19	BT20	3	91 kg (200 lb) bulk sample
B20	BT21	3	91 kg (200 lb) bulk sample
B21	BT22	3	91 kg (200 lb) bulk sample
Permeable Asphalt Treated Base			
B16	BT01	3	45 kg (100 lb) bulk sample
B17	BT02	3	45 kg (100 lb) bulk sample
B18	BT03	3	45 kg (100 lb) bulk sample

TABLE B.4. SAMPLES TO BE SHIPPED TO THE STATE LABORATORY (OR THEIR DESIGNEE) (Continued)

Sample Location Number	Sample Number	Lab Test Number	Type of Sample
Dense-Graded Aggregate Base			
B13	BG01	2	45 kg (100 lb) bulk sample
B14	BG02	2	45 kg (100 lb) bulk sample
B15	BG03	2	45 kg (100 lb) bulk sample
Embankment (Fill)			
B7	BG04	2	45 kg (100 lb) bulk sample
B8	BG05	2	45 kg (100 lb) bulk sample
B9	BG06	2	45 kg (100 lb) bulk sample
B10	BG07	2	45 kg (100 lb) bulk sample
B11	BG08	2	45 kg (100 lb) bulk sample
B12	BG09	2	45 kg (100 lb) bulk sample
Subbase Material **Subgrade**			
B1	BS01	2	45 kg (100 lb) bulk sample
B2	BS02	2	45 kg (100 lb) bulk sample
B3	BS03	2	45 kg (100 lb) bulk sample
B4	BS04	2	45 kg (100 lb) bulk sample
B5	BS05	2	45 kg (100 lb) bulk sample
B6	BS06	2	45 kg (100 lb) bulk sample
A1	TS01	3	Thin-Wall Tube
A3	TS05	3	Thin-Wall Tube
A4	TS07	3	Thin-Wall Tube
A6	TS11	3	Thin-Wall Tube

TABLE B.4. SAMPLES TO BE SHIPPED TO THE STATE LABORATORY (OR THEIR DESIGNEE) (Continued)

Sample Location Number	Sample Number	Lab Test Number	Type of Sample
A7	TS13	3	Thin-Wall Tube
A8	TS15	3	Thin-Wall Tube
A10	TS19	3	Thin-Wall Tube
A12	TS23	3	Thin-Wall Tube
A13	TS25	3	Thin-Wall Tube
A15	TS29	3	Thin-Wall Tube
A16	TS31	3	Thin-Wall Tube
A18	TS35	3	Thin-Wall Tube
A3	TS06	3	Thin-Wall Tube
A4	TS08	3	Thin-Wall Tube
A6	TS12	3	Thin-Wall Tube
A7	TS14	3	Thin-Wall Tube
A8	TS16	3	Thin-Wall Tube
A10	TS20	3	Thin-Wall Tube
A12	TS24	3	Thin-Wall Tube
A13	TS26	3	Thin-Wall Tube
A15	TS30	3	Thin-Wall Tube
A16	TS32	3	Thin-Wall Tube
A18	TS36	3	Thin-Wall Tube

TABLE B.5. SAMPLES TO BE SHIPPED TO THE FHWA-LTPP TESTING CONTRACTOR LABORATORY

Sample Location Number	Sample Number	Lab Test Number	Type of Sample
Asphalt Concrete			
C1	CA01	1	102 mm (4 in.) Core
C2	CA02	1	102 mm (4 in.) Core
C3	CA03	1	102 mm (4 in.) Core
C4	CA04	1	102 mm (4 in.) Core
C7	CA07	1	102 mm (4 in.) Core
C8	CA08	1	102 mm (4 in.) Core
C9	CA09	1	102 mm (4 in.) Core
C10	CA10	1	102 mm (4 in.) Core
C19	CA19	2	102 mm (4 in.) Core
C25	CA25	1	102 mm (4 in.) Core
C26	CA26	1	102 mm (4 in.) Core
C27	CA27	1	102 mm (4 in.) Core
C28	CA28	1	102 mm (4 in.) Core
C31	CA31	1	102 mm (4 in.) Core
C32	CA32	1	102 mm (4 in.) Core
C33	CA33	1	102 mm (4 in.) Core
C34	CA34	1	102 mm (4 in.) Core
C39	CA39	2	102 mm (4 in.) Core
C41	CA41	1	102 mm (4 in.) Core
C45	CA45	1	102 mm (4 in.) Core
C46	CA46	1	102 mm (4 in.) Core
C47	CA47	1	102 mm (4 in.) Core
C48	CA48	1	102 mm (4 in.) Core

TABLE B.5. SAMPLES TO BE SHIPPED TO THE FHWA-LTPP TESTING CONTRACTOR LABORATORY (Continued)

Sample Location Number	Sample Number	Lab Test Number	Type of Sample
C55	CA55	1	102 mm (4 in.) Core
C56	CA56	1	102 mm (4 in.) Core
C57	CA57	1	102 mm (4 in.) Core
C58	CA58	1	102 mm (4 in.) Core
Asphalt Treated Base			
C25	CT25	1	102 mm (4 in.) Core
C26	CT26	1	102 mm (4 in.) Core
C27	CT27	1	102 mm (4 in.) Core
C28	CT28	1	102 mm (4 in.) Core
C31	CT31	1	102 mm (4 in.) Core
C32	CT32	1	102 mm (4 in.) Core
C33	CT33	1	102 mm (4 in.) Core
C34	CT34	1	102 mm (4 in.) Core
C45	CT45	1	102 mm (4 in.) Core
C46	CT46	1	102 mm (4 in.) Core
C47	CT47	1	102 mm (4 in.) Core
C48	CT48	1	102 mm (4 in.) Core
Dense-Graded Aggregate Base			
B13	BG01	2	136 kg (300 lb) Bulk Sample
B14	BG02	2	136 kg (300 lb) Bulk Sample
B15	BG03	2	136 kg (300 lb) Bulk Sample
B13	MG01	2	Moisture Content Jar Sample
B14	MG02	2	Moisture Content Jar Sample
B15	MG03	2	Moisture Content Jar Sample

TABLE B.5. SAMPLES TO BE SHIPPED TO THE FHWA-LTPP TESTING CONTRACTOR LABORATORY (Continued)

Sample Location Number	Sample Number	Lab Test Number	Type of Sample
Embankment (Fill)			
B7	BG04	2	136 kg (300 lb) Bulk Sample
B8	BG05	2	136 kg (300 lb) Bulk Sample
B9	BG06	2	136 kg (300 lb) Bulk Sample
B10	BG07	2	136 kg (300 lb) Bulk Sample
B11	BG08	2	136 kg (300 lb) Bulk Sample
B12	BG09	2	136 kg (300 lb) Bulk Sample
B7	MG04	2	Moisture Content Jar Sample
B8	MG05	2	Moisture Content Jar Sample
B9	MG06	2	Moisture Content Jar Sample
B10	MG07	2	Moisture Content Jar Sample
B11	MG08	2	Moisture Content Jar Sample
B12	MG09	2	Moisture Content Jar Sample
Subbase Material		**Subgrade**	
B1	B~~S~~G01	2	136 kg (300 lb) Bulk Sample
B2	B~~S~~G02	2	136 kg (300 lb) Bulk Sample
B3	BS03	2	136 kg (300 lb) Bulk Sample
B4	BS04	2	136 kg (300 lb) Bulk Sample
B5	BS05	2	136 kg (300 lb) Bulk Sample
B6	BS06	2	136 kg (300 lb) Bulk Sample
A2	TS03	3	Thin wall Tube Sample
A2	TS04	3	Thin wall Tube Sample
A5	TS09	3	Thin wall Tube Sample
A5	TS10	3	Thin wall Tube Sample

TABLE B.5. SAMPLES TO BE SHIPPED TO THE FHWA-LTPP TESTING CONTRACTOR LABORATORY (Continued)

Sample Location Number	Sample Number	Lab Test Number	Type of Sample
A9	TS17	3	Thin wall Tube Sample
A9	TS18	3	Thin wall Tube Sample
A11	TS21	3	Thin wall Tube Sample
A11	TS22	3	Thin wall Tube Sample
A14	TS27	3	Thin wall Tube Sample
A14	TS28	3	Thin wall Tube Sample
A17	TS33	3	Thin wall Tube Sample
A17	TS34	3	Thin wall Tube Sample
B1 Subbase Material	M~~S~~G01	2	Moisture Content Jar Sample
B2	M~~S~~G02	2	Moisture Content Jar Sample
B3	MS03	2	Moisture Content Jar Sample
B4	MS04	2	Moisture Content Jar Sample
B5	MS05	2	Moisture Content Jar Sample
B6	MS06	2	Moisture Content Jar Sample

SECTION C.

LABORATORY MATERIAL TESTING

SECTION C

LABORATORY MATERIAL TESTING

It is the intent of this section of the sampling and testing plan to provide an outline for the laboratory testing that is planned for the Louisiana SPS-1 project. The previous section ended with lists of samples to be shipped to each of two laboratories; the state designated laboratory and the FHWA/LTPP contracted laboratory. In this section, the tests to be performed on each sample are listed.

Table C.1 provides a reference project layer numbering scheme. It is important that the two laboratories reference the same layer by number to ensure meaningful results.

Table C.2 provides a listing of the tests to be performed for each material type and pavement layer, and the associated laboratory testing protocol. It is imperative that the protocols listed be strictly followed during testing.

Tables C.3 through C.8 provide tracking tables for the state designated laboratory for each material type. These tables itemize the testing to occur on each sample and provide an indication of whether the sample is to be disposed of. Tables C.9 through C.14 provide similar information for the FHWA/LTPP contracted laboratory.

TABLE C.1. PROJECT LAYER NUMBERING

Layer No.	Description
1	Subgrade
2	Embankment (Fill)
3	Dense Graded Aggregate Base (DGAB)
4	Permeable Asphalt Treated Base (PATB)
5	Dense Graded Asphalt Treated Base (ATB)
6	Hot Mix Asphalt Concrete Binder Course
7	Hot Mix Asphalt Concrete Wearing Course

TABLE C.2. SAMPLES TO BE USED FOR LABORATORY MATERIALS TESTING

Material Type and Properties	LTPP Designation	LTPP Protocol	Minimum No. of Tests per Layer	Sampling Location	Test Conducted by: State	Test Conducted by: FHWA
SUBGRADE				* B1 and B2 consist of Subbase Material Identical tests were performed.		
Sieve Analysis	SS01	P51	6	B1-B6		X
Hydrometer to 0.001 mm	SS02	P42	6	B1-B6		X
Atterberg Limits	SS03	P43	6	B1-B6		X
Classification	SS04	P52	6	B1-B6		X
(Visual-manual only on thin-wall tubes)			18	A1-A18	X	X
Moisture-Density Relations	SS05	P55	6	B1-B6		X
Resilient Modulus	SS07	P46	6	A2, A5, A9, A11, A14, A17		X
(If thin-wall tube is not available)			6	B1-B6		X
Unit Weight (If thin-wall tube is not available, test is not conducted)	SS08	P56	6	A1, A4, A8, A10, A13, A16	X	
Natural Moisture Content	SS09	P49	6	B1-B6		X
Unconfined Comp. Strength (If thin-wall tube is not available, test is not conducted)	SS10	P54	6	A1, A4, A8, A10, A13, A16	X	
Permeability	SS11	P57	3	A3, A7, A18	X	
Permeability	UG09	P48	6	B1-B6	X	
EMBANKMENT (< 4' Thick)						
Sieve Analysis	SS01	P51	6	B7-B12		X
Hydrometer to 0.001 mm	SS02	P42	6	B7-B12		X
Atterberg Limits	SS03	P43	6	B7-B12		X
Classification	SS04	P52	6	B7-B12		X
Moisture-Density Relations	SS05	P55	6	B7-B12		X
Resilient Modulus	SS07	P46	6	B7-B12		X
Natural Moisture Content	SS09	P49	6	B7-B12	X	
Permeability	UG09	P48	6	B7-B12		X
DENSE GRADED AGGREGATE BASE						
Particle Size Analysis	UG01	P41	3	B13-B15		X
Sieve Analysis (Washed)	UG02	P41	3	B13-B15		X
Atterberg Limits	UG04	P43	3	B13-B15		X
Moisture-Density Relations	UG05	P44	3	B13-B15		X
Resilient Modulus	UG07	P46	3	B13-B15		X
Classification	UG08	P47	3	B13-B15		X
Permeability	UG09	P48	3	B13-B15	X	
Natural Moisture Content	UG10	P49	3	B13-B15		X

TABLE C.2. SAMPLES TO BE USED FOR LABORATORY MATERIALS TESTING (Continued)

Material Type and Properties	LTPP Designation	LTPP Protocol	Minimum No. of Tests per Layer	Sampling Location	Test Conducted by: State	FHWA
PERMEABLE ASPHALT TREATED BASE						
Asphalt Content (Extraction)	AC04	P04	3	B16-B18 From Paver	X	
Extracted Aggregate:						
Gradation of Aggregate	AG04	P14	3	B16-B18 From Paver	X	
ASPHALT TREATED BASE						
Core Examination/Thickness	AC01	P01	34	C17-C50	X	X
Bulk Specific Gravity	AC02	P02	34	C17-C50	X	X
Maximum Specific Gravity	AC03	P03	3	B19-B21 From Paver	X	
Asphalt Content (Extraction)	AC04	P04	3	B19-B21 From Paver	X	
Moisture Susceptibility	AC05	P05	3	B19-B21 From Paver	X	
Resilient Modulus	AC07	P07	9	C25-C27, C31-C33, C45-C47		X
Tensile Strength	AC07	P07	12	C25-C28, C31-C34, C45-C48		X
Extracted Aggregate:						
Specific Gravity:						
Coarse Aggregate	AG01	P11	3	B19-B21 From Paver	X	
Fine Aggregate	AG02	P12	3	B19-B21 From Paver	X	
Gradation of Aggregate	AG04	P14	3	B19-B21 From Paver	X	
NAA Test for Fine Aggregate	AG05	P14A	3	B19-B21 From Paver	X	
Particle Shape						
Asphalt Cement:						
Abson Recovery	AE01	P21	3	B19-B21 From Paver	X	
Penetration at 25° C, 46° C (77° F, 115° F)	AE02	P22	3	B19-B21 From Paver	X	
Specific Gravity 16° C (60° F)	AE03	P23	3	B19-B21 From Paver	X	
Viscosity at 25° C (77° F)	AE04	P24	3	B19-B21 From Paver	X	
Viscosity at 60° C, 135° C (140° F, 275° F)	AE05	P25	3	B19-B21 From Paver	X	
Asphalt Cement: (From Tanker or Plant)						
Penetration at 25° C, 46° C (77° F, 115° F)	AE02	P22	3	B28-B30 From Paver	X	
Specific Gravity 16° C (60° F)	AE03	P23	3	B28-B30 From Paver	X	
Viscosity at 25° C (77° F)	AE04	P24	3	B28-B30 From Paver	X	
Viscosity at 60° C, 135° C (140° F, 275° F)	AE05	P25	3	B28-B30 From Paver	X	

TABLE C.2. SAMPLES TO BE USED FOR LABORATORY MATERIALS TESTING (Continued)

Material Type and Properties	LTPP Designation	LTPP Protocol	Minimum No. of Tests per Layer	Sampling Location	Test Conducted by: State	FHWA
ASPHALTIC CONCRETE SURFACE AND BINDER						
Core Examination/Thickness	AC01	P01	60	C1-C60	X	X
Bulk Specific Gravity	AC02	P02	60	C1-C60	X	X
Maximum Specific Gravity	AC03	P03	3	B25-B27 From Paver	X	
Asphalt Content (Extraction)	AC04	P04	3	B25-B27 From Paver	X	
Moisture Susceptibility	AC05	P05	3	B25-B27 From Paver	X	
Creep Compliance	AC06	P06	3	C19, C39, C41		X
Resilient Modulus	AC07	P07	18	C1-C3, C7-C9, C25-C27, C31-C33, C45-C47, C55-C57		X
Tensile Strength	AC07	P07	24	C1-C4, C7-C10, C25-C28, C31-C34, C45-C48, C55-C58		X
Extracted Aggregate:						
Specific Gravity:						
Coarse Aggregate	AG01	P11	3	B25-B27 From Paver	X	
Fine Aggregate	AG02	P12	3	B25-B27 From Paver	X	
Gradation of Aggregate	AG04	P14	3	B25-B27 From Paver	X	
NAA Test for Fine Aggregate	AG05	P14A	3	B25-B27 From Paver	X	
Particle Shape						
Asphalt Cement:						
Abson Recovery	AE01	P21	3	B25-B27 From Paver	X	
Penetration at 25° C, 46° C (77° F, 115° F)	AE02	P22	3	B25-B27 From Paver	X	
Specific Gravity 16° C (60° F)	AE03	P23	3	B25-B27 From Paver	X	
Viscosity at 25° C (77° F)	AE04	P24	3	B25-B27 From Paver	X	
Viscosity at 60° C, 135° C (140° F, 275° F)	AE05	P25	3	B25-B27 From Paver	X	

TABLE C.3. TRACKING TABLE OF ASPHALTIC CONCRETE TESTING IN THE STATE LABORATORY (OR THEIR DESIGNEE)

Sample Location Number	Sample Number	Lab Test Number	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer				Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth			
C5	CA05	2	AC01/P01	AC02/P02			Yes	(a)	No
C6	CA06	2	AC01/P01	AC02/P02			Yes	(a)	No
C11	CA11	2	AC01/P01	AC02/P02			Yes	(a)	No
C12	CA12	2	AC01/P01	AC02/P02			Yes	(a)	No
C13	CA13	1	AC01/P01	AC02/P02			Yes	(a)	No
C14	CA14	1	AC01/P01	AC02/P02			Yes	(a)	No
C15	CA15	2	AC01/P01	AC02/P02			Yes	(a)	No
C16	CA16	2	AC01/P01	AC02/P02			Yes	(a)	No
C17	CA17	1	AC01/P01	AC02/P02			Yes	(a)	No
C18	CA18	1	AC01/P01	AC02/P02			Yes	(a)	No
C20	CA20	2	AC01/P01	AC02/P02			Yes	(a)	No
C21	CA21	1	AC01/P01	AC02/P02			Yes	(a)	No
C22	CA22	1	AC01/P01	AC02/P02			Yes	(a)	No
C23	CA23	2	AC01/P01	AC02/P02			Yes	(a)	No
C24	CA24	2	AC01/P01	AC02/P02			Yes	(a)	No
C29	CA29	2	AC01/P01	AC02/P02			Yes	(a)	No
C30	CA30	2	AC01/P01	AC02/P02			Yes	(a)	No
C35	CA35	2	AC01/P01	AC02/P02			Yes	(a)	No
C36	CA36	2	AC01/P01	AC02/P02			Yes	(a)	No
C37	CA37	1	AC01/P01	AC02/P02			Yes	(a)	No
C38	CA38	1	AC01/P01	AC02/P02			Yes	(a)	No
C40	CA40	2	AC01/P01	AC02/P02			Yes	(a)	No
C42	CA42	1	AC01/P01	AC02/P02			Yes	(a)	No
C43	CA43	2	AC01/P01	AC02/P02			Yes	(a)	No
C44	CA44	2	AC01/P01	AC02/P02			Yes	(a)	No
C49	CA49	2	AC01/P01	AC02/P02			Yes	(a)	No

TABLE C.3. TRACKING TABLE OF ASPHALTIC CONCRETE TESTING IN THE STATE LABORATORY (OR THEIR DESIGNEE) (Continued)

Sample Location Number	Sample Number	Lab Test Number	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer				Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth			
C50	CA50	2	AC01/P01	AC02/P02			Yes	(a)	No
C51	CA51	1	AC01/P01	AC02/P02			Yes	(a)	No
C52	CA52	1	AC01/P01	AC02/P02			Yes	(a)	No
C53	CA53	2	AC01/P01	AC02/P02			Yes	(a)	No
C54	CA54	2	AC01/P01	AC02/P02			Yes	(a)	No
C59	CA59	2	AC01/P01	AC02/P02			Yes	(a)	No
C60	CA60	2	AC01/P01	AC02/P02			Yes	(a)	No
B25	BA01	3	See Figure C.1				No	(a)	Yes
B26	BA02	3	See Figure C.1				No	(a)	Yes
B27	BA03	3	See Figure C.1				No	(a)	Yes
B28	BC01	3	AE02/P22	AE03/P23	AE04/P24	AE05/P25	No	(a)	Yes
B29	BC02	3	AE02/P22	AE03/P23	AE04/P24	AE05/P25	No	(a)	Yes
B30	BC03	3	AE02/P22	AE03/P23	AE04/P24	AE05/P25	No	(a)	Yes

Note: All of the core specimens noted herein shall be stored for possible future use. In the future, these specimens may be used to evaluate test procedures for the SUPERPAVE program.

TABLE C.4. TRACKING TABLE OF ASPHALT TREATED BASE TESTING IN THE STATE LABORATORY (OR THEIR DESIGNEE)

Sample Location Number	Sample Number	Lab Test Number	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer				Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth			
C17	CT17	1	AC01/P01	AC02/P02			Yes	(a)	No
C18	CT18	1	AC01/P01	AC02/P02			Yes	(a)	No
C19	CT19	2	AC01/P01	AC02/P02			Yes	(a)	No
C20	CT20	2	AC01/P01	AC02/P02			Yes	(a)	No
C21	CT21	1	AC01/P01	AC02/P02			Yes	(a)	No
C22	CT22	1	AC01/P01	AC02/P02			Yes	(a)	No
C23	CT23	2	AC01/P01	AC02/P02			Yes	(a)	No
C24	CT24	2	AC01/P01	AC02/P02			Yes	(a)	No
C29	CT29	2	AC01/P01	AC02/P02			Yes	(a)	No
C30	CT30	2	AC01/P01	AC02/P02			Yes	(a)	No
C35	CT35	2	AC01/P01	AC02/P02			Yes	(a)	No
C36	CT36	2	AC01/P01	AC02/P02			Yes	(a)	No
C37	CT37	1	AC01/P01	AC02/P02			Yes	(a)	No
C38	CT38	1	AC01/P01	AC02/P02			Yes	(a)	No
C39	CT39	2	AC01/P01	AC02/P02			Yes	(a)	No
C40	CT40	2	AC01/P01	AC02/P02			Yes	(a)	No
C41	CT41	1	AC01/P01	AC02/P02			Yes	(a)	No
C42	CT42	1	AC01/P01	AC02/P02			Yes	(a)	No
C43	CT43	2	AC01/P01	AC02/P02			Yes	(a)	No
C44	CT44	2	AC01/P01	AC02/P02			Yes	(a)	No
C49	CT49	2	AC01/P01	AC02/P02			Yes	(a)	No
C50	CT50	2	AC01/P01	AC02/P02			Yes	(a)	No
B19	BT20	3	See Figure C.1				No	(a)	Yes
B20	BT21	3	See Figure C.1				No	(a)	Yes
B21	BT22	3	See Figure C.1				No	(a)	Yes

TABLE C.5. TRACKING TABLE OF PERMEABLE ASPHALT TREATED BASE TESTING IN THE STATE LABORATORY (OR THEIR DESIGNEE)

Sample Location Number	Sample Number	Lab Test Number	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer				Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth			
B16	BT01	3	AC04/P04	AG04/P14			No	(a)	Yes
B17	BT02	3	AC04/P04	AG04/P14			No	(a)	Yes
B18	BT03	3	AC04/P04	AG04/P14			No	(a)	Yes

TABLE C.6. TRACKING TABLE OF DENSE GRADED AGGREGATE BASE TESTING IN THE STATE LABORATORY (OR THEIR DESIGNEE)

Sample Location Number	Sample Number	Lab Test Number	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer				Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth			
B13	BG01	2	UG09/P48				No	(b)	Yes
B14	BG02	2	UG09/P48				No	(b)	Yes
B15	BG03	2	UG09/P48				No	(b)	Yes

TABLE C.7. TRACKING TABLE OF EMBANKMENT (FILL) TESTING IN THE STATE LABORATORY (OR THEIR DESIGNEE)

Sample Location Number	Sample Number	Lab Test Number	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer				Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth			
B7	BG04	2	UG09/P48				No	(b)	Yes
B8	BG05	2	UG09/P48				No	(b)	Yes
B9	BG06	2	UG09/P48				No	(b)	Yes
B10	BG07	2	UG09/P48				No	(b)	Yes
B11	BG08	2	UG09/P48				No	(b)	Yes
B12	BG09	2	UG09/P48				No	(b)	Yes

TABLE C.8. TRACKING TABLE OF SUBGRADE TESTING IN THE STATE LABORATORY (OR THEIR DESIGNEE)

Sample Location Number	Sample Number	Lab Test Number	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer				Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth			
B1	~~BS~~G01	2	Subbase Material	No testing - samples stored			Yes	(b)	No
B2	~~BS~~G02	2		No testing - samples stored			Yes	(b)	No
B3	BS03	2		No testing - samples stored			Yes	(b)	No
B4	BS04	2		No testing - samples stored			Yes	(b)	No
B5	BS05	2		No testing - samples stored			Yes	(b)	No
B6	BS06	2		No testing - samples stored			Yes	(b)	No
A1	TS01	3	SS04/P52	SS08/P56	SS10/P54		No	(c)	Yes
A3	TS05	3	SS04/P52	SS11/P57			No	(c)	Yes
A4	TS07	3	SS04/P52	SS08/P56	SS10/P54		No	(c)	Yes
A6	TS11	3	SS04/P52				No	(c)	Yes
A7	TS13	3	SS04/P52	SS11/P57			No	(c)	Yes
A8	TS15	3	SS04/P52	SS08/P56	SS10/P54		No	(c)	Yes
A10	TS19	3	SS04/P52	SS08/P56	SS10/P54		No	(c)	Yes
A12	TS23	3	SS04/P52				No	(c)	Yes
A13	TS25	3	SS04/P52	SS08/P56	SS10/P54		No	(c)	Yes
A15	TS29	3	SS04/P52				No	(c)	Yes
A16	TS31	3	SS04/P52	SS08/P56	SS10/P54		No	(c)	Yes
A18	TS35	3	SS04/P52	SS11/P57			No	(c)	Yes
A3	TS06	3					Yes	(c)	No
A4	TS08	3					Yes	(c)	No
A6	TS12	3					Yes	(c)	No
A7	TS14	3					Yes	(c)	No
A8	TS16	3					Yes	(c)	No
A10	TS20	3					Yes	(c)	No
A12	TS24	3					Yes	(c)	No
A13	TS26	3					Yes	(c)	No
A15	TS30	3					Yes	(c)	No
A16	TS32	3					Yes	(c)	No
A18	TS36	3					Yes	(c)	No

TABLE C.9. TRACKING TABLE OF ASPHALTIC CONCRETE TESTING IN THE FHWA-LTPP TESTING CONTRACTOR LABORATORY

Sample Location Number	Sample Number	Lab Test Number	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer				Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth			
C1	CA01	1	AC01/P01	AC02/P02	AC06/P06		No	(a)	Yes
C2	CA02	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C3	CA03	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C4	CA04	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C7	CA07	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C8	CA08	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C9	CA09	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C10	CA10	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C19	CA19	2	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C25	CA25	1	AC01/P01	AC02/P02	AC06/P06		No	(a)	Yes
C26	CA26	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C27	CA27	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C28	CA28	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C31	CA31	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C32	CA32	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C33	CA33	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C34	CA34	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C39	CA39	2	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C41	CA41	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C45	CA45	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C46	CA46	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C47	CA47	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C48	CA48	1	AC01/P01	AC02/P02	AC06/P06		No	(a)	Yes
C55	CA55	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C56	CA56	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C57	CA57	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C58	CA58	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes

TABLE C.10. TRACKING TABLE OF ASPHALT TREATED BASE TESTING IN THE FHWA-LTPP TESTING CONTRACTOR LABORATORY

Sample Location Number	Sample Number	Lab Test Number	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer				Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth			
C25	CT25	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C26	CT26	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C27	CT27	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C28	CT28	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C31	CT31	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C32	CT32	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C33	CT33	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C34	CT34	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C45	CT45	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C46	CT46	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C47	CT47	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes
C48	CT48	1	AC01/P01	AC02/P02	AC07/P07	AC07/P07 (ITS)	No	(a)	Yes

TABLE C.11. TRACKING TABLE OF PERMEABLE ASPHALT TREATED BASE TESTING IN THE FHWA-LTPP TESTING CONTRACTOR LABORATORY

Sample Location Number	Sample Number	Lab Test Number	Steps Involved in Laboratory Handling and Testing Sequence						
			Required Laboratory Tests Per Layer (4)				Extra Sample	Sample Storage	Sample Disposed?
			First	Second	Third	Fourth			

No permable asphalt treated base testing will be conducted by the FWHA-LTPP Testing Contractor

TABLE C.12. TRACKING TABLE OF DENSE GRADED AGGREGATE BASE TESTING IN THE FHWA-LTPP TESTING CONTRACTOR LABORATORY

Sample Location Number	Sample No.	Lab Test No.	Steps Involved in Laboratory Handling and Testing Sequence								
			Required Laboratory Tests Per Layer						Extra Sample	Sample Storage	Sample Disposed ?
			First	Second	Third	Fourth	Fifth	Sixth			
B13	BG01	2	UG01/P41	UG02/P41	UG04/P43	UG08/P47	UG05/P44	UG07/P46	No	(b)	Yes
B14	BG02	2	UG01/P41	UG02/P41	UG04/P43	UG08/P47	UG05/P44	UG07/P46	No	(b)	Yes
B15	BG03	2	UG01/P41	UG02/P41	UG04/P43	UG08/P47	UG05/P44	UG07/P46	No	(b)	Yes
B13	MG01	2	UG10/P49						No	(b)	Yes
B14	MG02	2	UG10/P49						No	(b)	Yes
B15	MG03	2	UG10/P49						No	(b)	Yes

TABLE C.13. TRACKING TABLE OF EMBANKMENT (FILL) TESTING IN THE FHWA-LTPP TESTING CONTRACTOR LABORATORY

Sample Location No.	Sample No.	Lab Test No.	Steps Involved in Laboratory Handling and Testing Sequence								
			Required Laboratory Tests Per Layer						Extra Sample	Sample Storage	Sample Disposed ?
			First	Second	Third	Fourth	Fifth	Sixth			
B7	BG04	2	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55	SS07/P46	No	(b)	Yes
B8	BG05	2	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55	SS07/P46	No	(b)	Yes
B9	BG06	2	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55	SS07/P46	No	(b)	Yes
B10	BG07	2	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55	SS07/P46	No	(b)	Yes
B11	BG08	2	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55	SS07/P46	No	(b)	Yes
B12	BG09	2	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55	SS07/P46	No	(b)	Yes
B7	MG04	2	SS09/P49						No	(b)	Yes
B8	MG05	2	SS09/P49						No	(b)	Yes
B9	MG06	2	SS09/P49						No	(b)	Yes
B10	MG07	2	SS09/P49						No	(b)	Yes
B11	MG08	2	SS09/P49						No	(b)	Yes
B12	MG09	2	SS09/P49						No	(b)	Yes

TABLE C.14. TRACKING TABLE OF SUBGRADE TESTING IN THE FHWA-LTPP TESTING CONTRACTOR LABORATORY

Sample Location No.	Sample No.	Lab Test No.	Steps Involved in Laboratory Handling and Testing Sequence								
			Required Laboratory Tests Per Layer						Extra Sample	Sample Storage	Sample Disposed ?
			First	Second	Third	Fourth	Fifth	Sixth			
B1	BS01	2	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55		No	(b)	Yes
B2	BS02	2	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55		No	(b)	Yes
B3	BS03	2	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55		No	(b)	Yes
B4	BS04	2	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55		No	(b)	Yes
B5	BS05	2	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55		No	(b)	Yes
B6	BS06	2	SS01/P51	SS02/P42	SS03/P43	SS04/P52	SS05/P55		No	(b)	Yes
A2	TS03	3	SS04/P52	SS07/P46					No	(c)	Yes
A5	TS09	3	SS04/P52	SS07/P46					No	(c)	Yes
A9	TS17	3	SS04/P52	SS07/P46					No	(c)	Yes
A11	TS21	3	SS04/P52	SS07/P46					No	(c)	Yes
A14	TS27	3	SS04/P52	SS07/P46					No	(c)	Yes
A17	TS33	3	SS04/P52	SS07/P46					No	(c)	Yes
B1	MS01	2	SS09/P49						No	(b)	Yes
B2	MS02	2	SS09/P49						No	(b)	Yes
B3	MS03	2	SS09/P49						No	(b)	Yes
B4	MS04	2	SS09/P49						No	(b)	Yes
B5	MS05	2	SS09/P49						No	(b)	Yes
B6	MS06	2	SS09/P49						No	(b)	Yes
A2	TS04	3							Yes	(c)	No
A5	TS10	3							Yes	(c)	No
A9	TS18	3							Yes	(c)	No
A11	TS22	3							Yes	(c)	No
A14	TS28	3							Yes	(c)	No
A17	TS34	3							Yes	(c)	No

*B1 and B2 consist of Subbase Material.

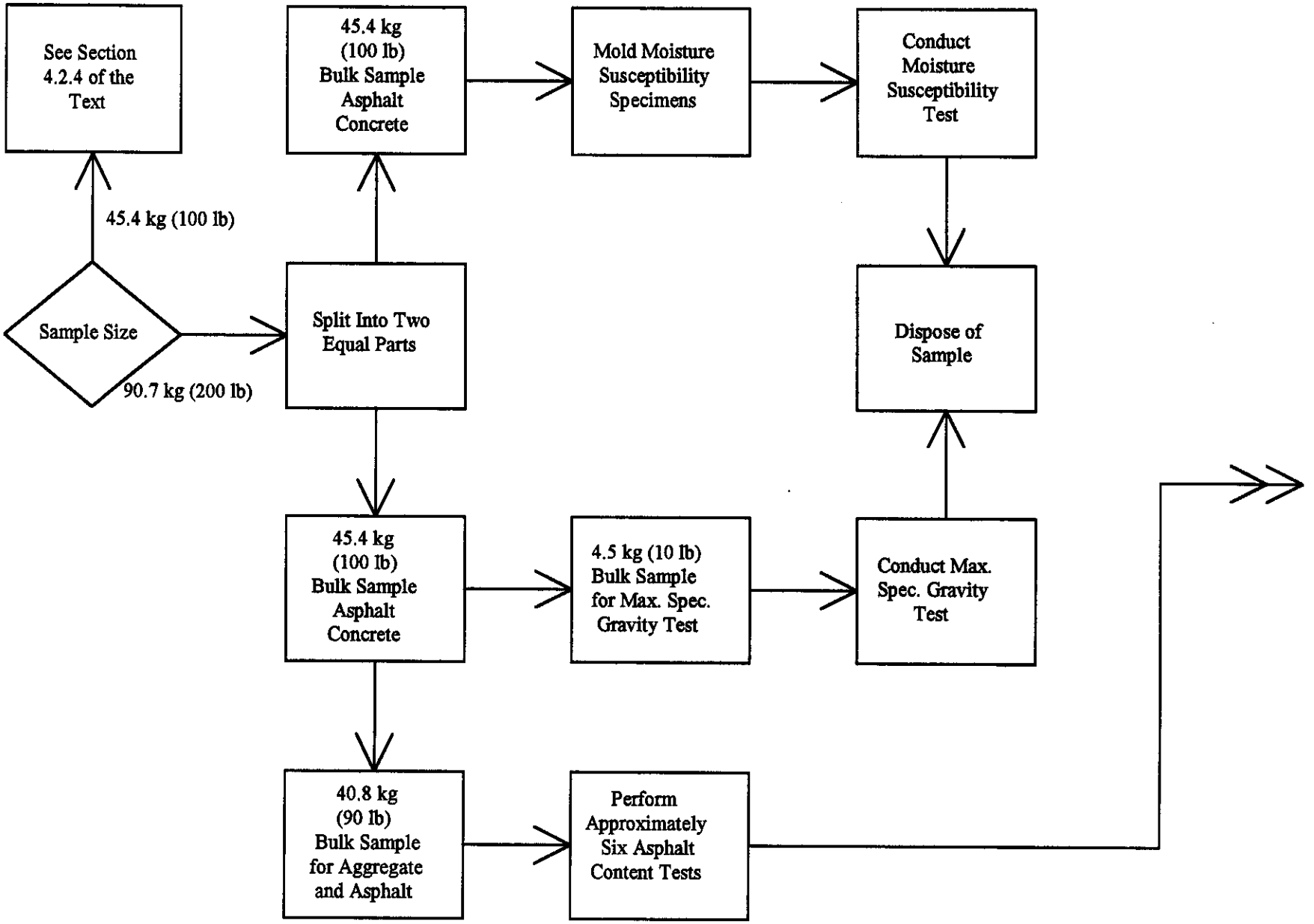


Figure C.1 Flowchart for Asphalt Concrete Bulk Samples

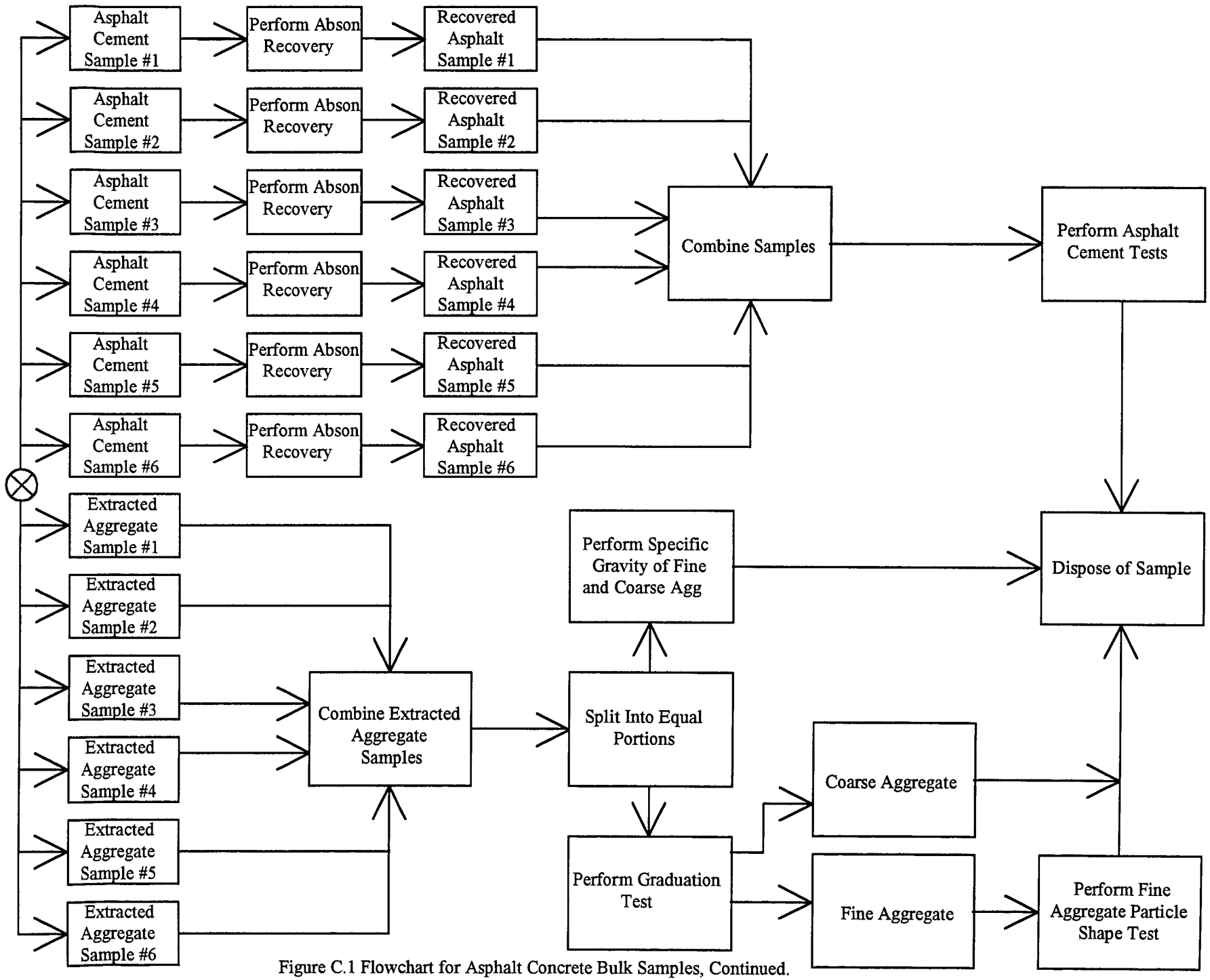


Figure C.1 Flowchart for Asphalt Concrete Bulk Samples, Continued.

APPENDIX D

CONSTRUCTION DATA

F.A.P.	STATE PROJECT	PARISH	SHEET NO.
	24-02-0014	CALCASIEU	1

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

LOUISIANA-SPS-1

S.P. 24-02-0014

PLANS OF PROPOSED
STATE HIGHWAY

STATE PROJECT NO. 24-02-0014

NEWTON - GILLIS HIGHWAY

CALCASIEU PARISH
U S 171

INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET AND LAYOUT MAP
2-2k	TYPICAL SECTIONS AND DETAILS
3-3l	SUMMARY SHEETS
4-25a	PLAN AND PROFILE SHEETS
26-31	EXISTING DRAINAGE MAP
32-37	DESIGN DRAINAGE MAP
38-43a	SUMMARY OF DRAINAGE STRUCTURES SHEETS
44	SPECIAL DETAILS (CONCRETE DRIVES)
44a-44b	SPECIAL DETAILS (TEMPORARY EROSION CONTOL DETAILS)
45-60	HORIZONTAL GEOMETRICS AND STRIPING DETAILS SHEETS
61-64b	SEQUENCE OF CONSTRUCTION AND CONSTRUCTION SIGNING LAYOUT
65	TYPICAL MINIMUM CONSTRUCTION SIGNING
66-68	SUBGRADE SOIL SURVEY SHEETS
69-96	RIGHT-OF-WAY MAPS
100-120	LANDSCAPE PLANS
201-223	BRIDGE PLANS
224-226	CORE BORINGS AND TEST PILES

	STANDARD PLANS	REVISION DATE
301	DW-03	9-21-82
302	RS-21	6-13-77
303	CB-01	6-25-82
304-313	GR-200(10 SHEETS)	5-30-93
314	CB-03	6-25-82
315	R-CB-11	4-6-76
316	R-CB-11 MOD	5-3-76
317-318	FN-02 (2 SHEETS)	2-10-78
319	S.W.B.S 100	6-8-83
320-322	PM-02 (3 SHEETS)	12-7-81
323-325	HS 01 (3 SHEETS)	2-10-87
326	RS-31	6-1-83
327-328	SAM 1 (2 SHEETS)	3-27-84
329	C.M. 97	2-21-74
330	FR-1	8-8-83
331-332	MB-01 (2 SHEETS)	1-14-92
333	PC-01	4-16-90
334	CB-02	6-25-82

CROSS SECTIONS

401 - 401b
402 - 462a
463 - 466a
467 - 471

TOTAL SHEETS WITHOUT CROSS SECTIONS 208
TOTAL SHEETS WITH CROSS SECTIONS 281

TRAFFIC DATA 1992 ADT = 11,400
2012 ADT = 20,700
D = 55%
K = 10%
T = 23%

DESIGN SPEED = 60 MPH

SCHEDULE OF REVISIONS

DATE	REVISION	DATE	RECOMMENDED	DATE	APPROVED

TYPE OF CONSTRUCTION

GRADING, DRAINAGE STRUCTURES, BASE COURSE
ASPHALTIC CONCRETE PAVEMENT

CONCRETE SLAB SPAN BRIDGES

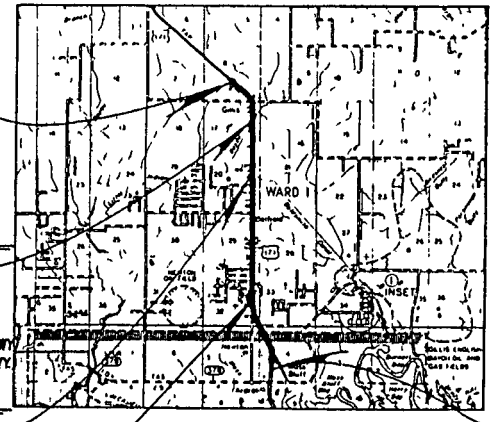
C. S. LOG MILE 5.248
STA. 377+14.53
END S.P. 24-02-0014

BRIDGE SITE (℄ LT. RDWY) 140.00'
STA 332+46.57 - 333+64.57
7 AT 20' CONCRETE SLAB
SPANS BRIDGE

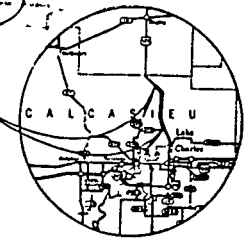
BRIDGE SITE (℄ RT. RDWY) 140.00'
STA 332+70.00 - 334+10.00
7 AT 20' CONCRETE SLAB
SPANS BRIDGE

BRIDGE SITE: 80.00'
STA. 279+68.50 - 280+48.50 (RT. RDWY)
STA. 279+61.00 - 280+61.00 (LT. RDWY)
4 AT 20' CONCRETE SLAB
SPANS BRIDGE

EQUA. = -17.16'
STA. 159+80.95 L.B. =
STA. 159+98.11 L.A.



C. S. LOG MILE 0.00
STA. 97+13.00
BEGIN S.P. 24-02-0014



VICINITY MAP

THE 1992 EDITION OF THE LOUISIANA DOTD STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES AS AMENDED BY THE PROJECT SPECIFICATIONS, SHALL GOVERN ON THIS PROJECT

DATUM USED: MEAN SEA LEVEL
MAG VAR.:
BEARINGS ARE GRID
TRANSIT BOOKS: 106-263, 138-493, 138-494, 138-496, 154-1624
LEVEL BOOKS: 138-561, 138-562, 138-563, 138-564, 140-541, 140-542, 140-544, 143-141
SCALES PLAN 1" = 50'
PROFILE, HOR 1" = 50'
VERT 1" = 5'

LAYOUT MAP

SCALE: 1 INCH = 5,280 FEET
0-MILE 1 MILE 2 MILE 3-MILE 4-MILE

LENGTH OF PROJECT

	DESCRIPTION	ALGEBRAIC SUM OF ALL DEVIATIONS	GROSS LENGTH	EXCEPTION	BRIDGE LENGTH		ROADWAY LENGTH	
	STA. TO STA.	FEET	FEET	FEET	FEET	MILES	FEET	MILES
①	97+13.00 - 377+14.53	-17.16	28048.69		220.00	0.042	27828.69	5.273
②	11+50.00 - 13+10.94	+398.81	1321.75		—	—	1370.75	0.260
③	50+13.06 - 53+45.00	—	301.96		—	—	301.96	0.057
④	20+61.34 - 25+66.39	—	505.05		—	—	505.05	0.096
	TOTAL LENGTH OF BRIDGES				220.00	0.042		
	TOTAL LENGTH OF ROADWAY						29,974.45	5.678
	TOTAL MILES						5.720	

① U.S. 171
② PARISH ROAD
③ PARISH ROAD CONNECTION
④ TOPSY ROAD

STATE OF LOUISIANA
LINDSEY J. ALCOIN
REG. No. 14215
CIVIL ENGINEER

PLANS PREPARED BY AND RECOMMENDED FOR APPROVAL

ALCOIN AND ASSOCIATES, INC.

DATE 4/23/92

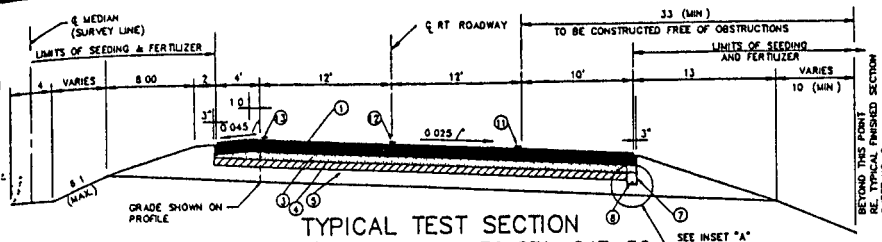
APPROVED

D.O.T.D. CHIEF ENGINEER

DATE 5-3-92

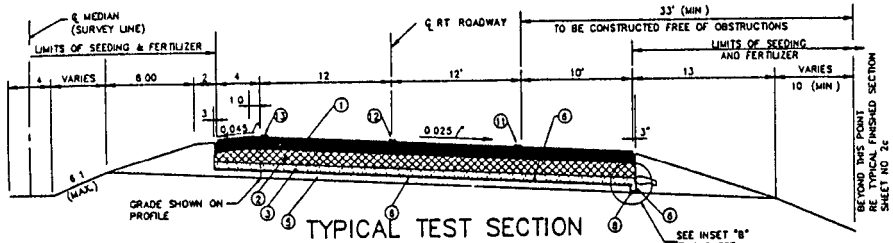
D.2

F.A.P.	STATE PROJECT	PARISH	SHEET NO.
F-01-01(009)	24-02-0014	CALCASIEU	2f



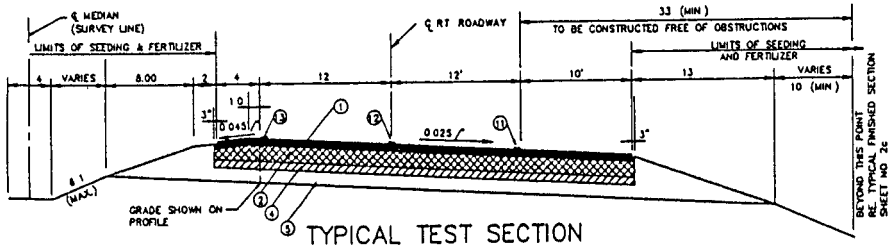
TYPICAL TEST SECTION
(RT. RDWY) STA. 221+00 TO STA. 247+50

	ASPHALTIC CONCRETE SURFACE *	ASPHALT TREATED BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED AGGREGATE BASE	EMBANKMENT MATERIAL
	①	②	③	④	⑤
221+00 219+50	7"	-	VARIES (4" NORMAL)	3"	8"
219+50 217+25	5"	-	VARIES (4" NORMAL)	3"	8"
217+25 247+50	5"	-	VARIES (4" NORMAL)	13"	5"



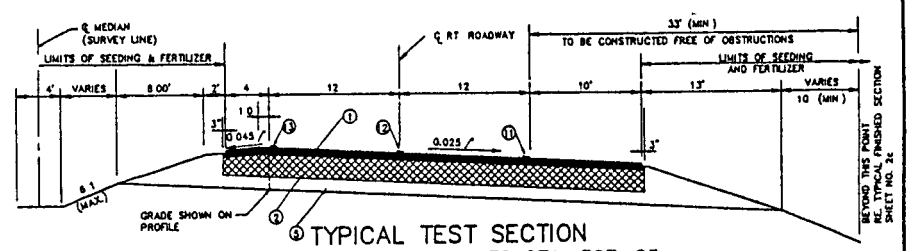
TYPICAL TEST SECTION
(RT. RDWY) STA. 247+50 TO STA. 280+25

	ASPHALTIC CONCRETE SURFACE *	ASPHALT TREATED BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED AGGREGATE BASE	EMBANKMENT MATERIAL
	①	②	③	④	⑤
247+50 256+25	5"	2"	VARIES (4" NORMAL)	-	11"
256+25 270+25	5"	8"	VARIES (4" NORMAL)	-	5"
270+25 279+25.50	7"	13"	VARIES (4" NORMAL)	-	-



TYPICAL TEST SECTION
(RT. RDWY) STA. 280+25 TO STA. 291+25
(RT. RDWY) STA. 307+25 TO STA. 315+25

	ASPHALTIC CONCRETE SURFACE *	ASPHALT TREATED BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED AGGREGATE BASE	EMBANKMENT MATERIAL
	①	②	③	④	⑤
280+25.50 291+25	4"	8"	-	4"	7"
307+25 315+25	5"	8"	-	4"	8"



TYPICAL TEST SECTION
(RT RDWY.) STA. 291+25 TO STA. 307+25

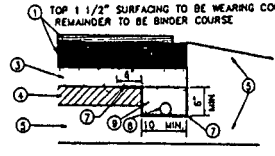
	ASPHALTIC CONCRETE SURFACE *	ASPHALT TREATED BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED AGGREGATE BASE	EMBANKMENT MATERIAL
	①	②	③	④	⑤
291+25 300+25	4"	12"	-	-	7"
300+25 307+25	5"	8"	-	-	8"

LEGEND:

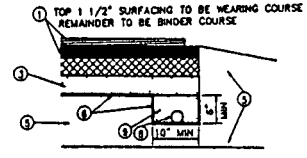
1. ASPHALTIC CONCRETE SURFACE TYPE 8F (REF TABLES FOR THICKNESS)
2. ASPHALT TREATED BASE (REF TABLES FOR THICKNESS)
3. PERMEABLE ASPHALT TREATED BASE (REF TABLES FOR THICKNESS)
4. DENSE GRADED AGGREGATE BASE (REF TABLES FOR THICKNESS)
5. EMBANKMENT MATERIAL (REF TABLES FOR THICKNESS)
6. FILTER FABRIC (CLASS D GEOTEXTILE)
7. FILTER FABRIC (CLASS D GEOTEXTILE)
8. 3" PLASTIC PIPE (SLOTTED)
9. PERMEABLE ASPHALT TREATED BASE OR AGGREGATE BACKFILL

10. PLASTIC PAVEMENT STRIPING (SOLID WHITE LINE, 4" WIDTH)
11. PLASTIC PAVEMENT STRIPING (BROKEN WHITE LINE, 4" WIDTH) AND REFLECTORIZED
12. RAISED PAVEMENT MARKERS (CLASS IV)
13. PLASTIC PAVEMENT STRIPING (SOLID YELLOW LINE, 4" WIDTH)

* TOP 1 1/2" TO BE WEARING COURSE (TYPE 8F) REMAINDER TO BE BINDER COURSE (TYPE 8)



INSET "A"



INSET "B"

TYPICAL SECTIONS

MR 10-8-99

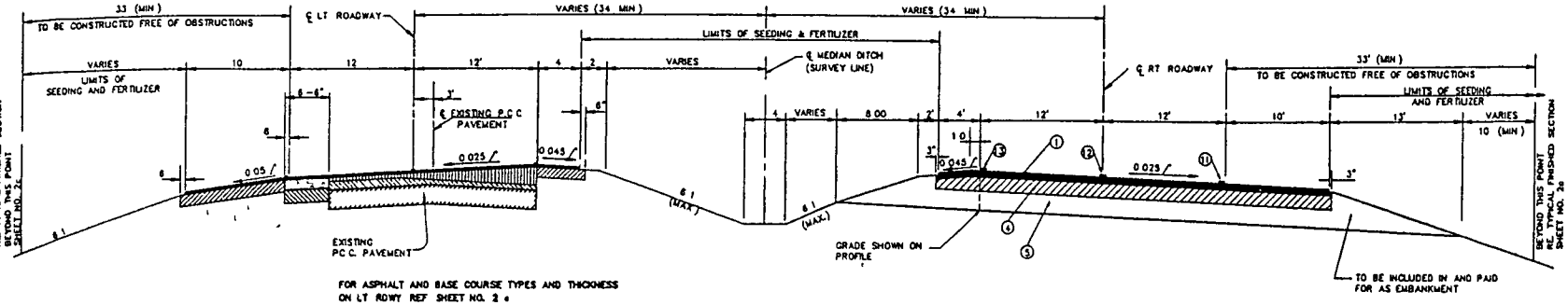
STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

DESIGNED: K.A. | DETAILED: J.F.M. | TRACED:
CHECKED: | CHECKED: | CHECKED:

AUCOIN AND ASSOCIATES, INC.
CONSULTING ENGINEERS
LAFAYETTE, LOUISIANA

DATE	DESCRIPTION	BY
	REVISIONS	

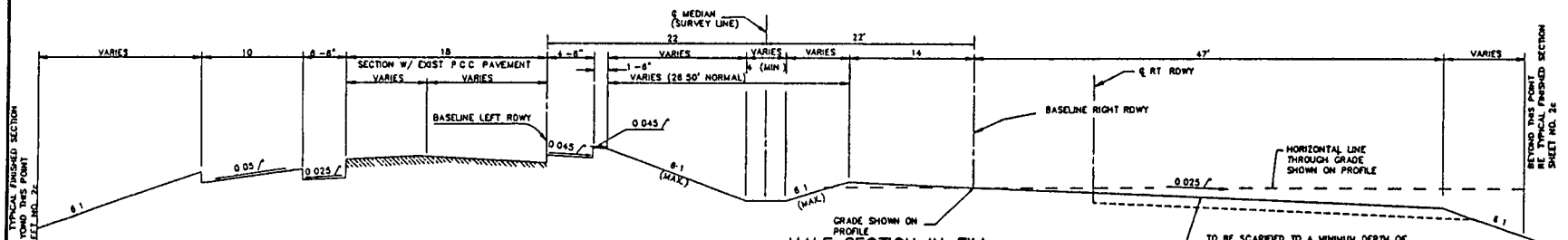
F.A.P.	STATE PROJECT	PARISH	SHEET NO.
F-01-01(009)	24-02-0014	CALCASIEU	2g



FOR ASPHALT AND BASE COURSE TYPES AND THICKNESS ON LT RDWY REF SHEET NO. 2 e

TYPICAL FINISHED TEST SECTION
(RT. RDWY.) STA. 315+25 TO STA. 331+00

	ASPHALTIC CONCRETE SURFACE ①	ASPHALT TREATED BASE ②	PERMEABLE ASPHALT TREATED BASE ③	DENSE GRADED AGGREGATE BASE ④	EMBANKMENT MATERIAL ⑤
315+25 323+50	7"	-	-	12"	4"
323+50 331+00	4"	-	-	8"	11"



HALF SECTION IN FILL

FOR FILLS LESS THAN 6" IN HEIGHT DENSITY CONTROL SHALL BE REQUIRED TO A MINIMUM OF 9" BELOW SUBGRADE. FOR FILLS GREATER THAN 6" IN HEIGHT DENSITY CONTROL SHALL BE REQUIRED FOR FULL HEIGHT OF EMBANKMENT UNLESS OTHERWISE SPECIFIED

TO BE SCARIFIED TO A MINIMUM DEPTH OF 9" AND COMPACTED TO 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE (NO DIRECT PAYMENT)

HALF SECTION IN CUT

LEGEND:

NOTE: TOP 1 1/2" OF ASPHALTIC CONCRETE SURFACING WILL BE WEARING COURSE (TYPE B F), REMAINDER TO BE BINDER COURSE (TYPE B)

1. ASPHALT CONCRETE SURFACE (REF TABLES FOR THICKNESS)
2. ASPHALT TREATED BASE (REF TABLES FOR THICKNESS)
3. PERMEABLE ASPHALT TREATED BASE (REF TABLES FOR THICKNESS)
4. DENSE GRADED AGGREGATE BASE (REF TABLES FOR THICKNESS)
5. EMBANKMENT MATERIAL (REF TABLES FOR THICKNESS)
6. FILTER FABRIC (CLASS D GEOTEXTILE)

11. PLASTIC PAVEMENT STRIPING (SOLID WHITE LINE, 4" WIDTH)
12. PLASTIC PAVEMENT STRIPING (BROKEN WHITE LINE, 4" WIDTH) AND REFLECTORIZED RAISED PAVEMENT MARKERS (CLASS IV)
13. PLASTIC PAVEMENT STRIPING (SOLID YELLOW LINE, 4" WIDTH)

TYPICAL GRADING SECTION
(RT. RDWY.) STA. 221+00 TO STA. 331+00

AUCOIN AND ASSOCIATES, INC. CONSULTING ENGINEERS ELMIRA, LOUISIANA

DATE	DESCRIPTION	BY
	REVISIONS	

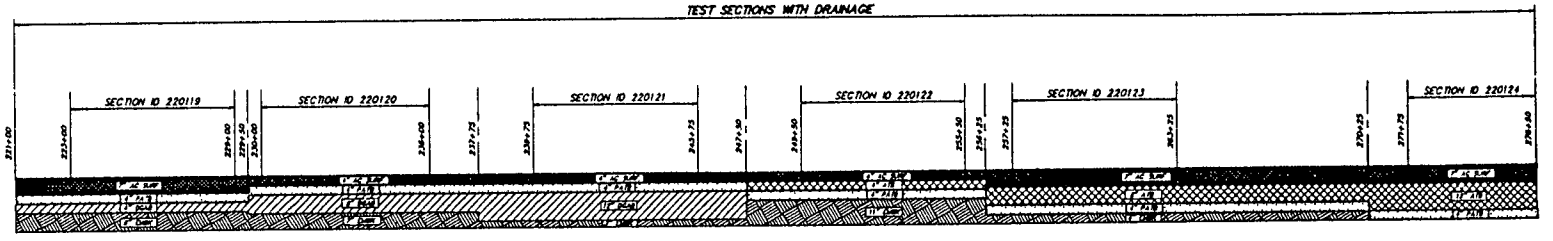
TYPICAL SECTIONS

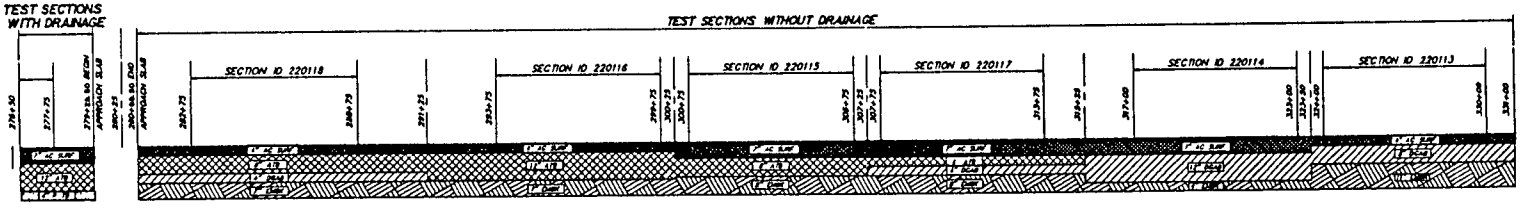
DATE: 10-6-93

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

DESIGNED K.A.	DETAILED L.R.J.	TRACED
CHECKED	CHECKED	CHECKED

F.A.P.	STATE PROJECT	PARISH	SHEET NO.
F-01-01(008)	24-02-0014	CALCASIEU	2 1





LEGEND:

- ASPHALTIC CONCRETE SURFACE
- ASPHALT TREATED BASE
- PERMEABLE ASPHALT TREATED BASE
- DENSE GRADED AGGREGATE BASE
- EMBANKMENT MATERIAL

NOTES:

1) THE ASPHALTIC CONCRETE SURFACE SHALL CONSIST OF 1 1/2" TYPE 8F WEARING COURSE WITH THE REMAINING THICKNESS TO BE BINDER COURSE (TYPE 8)

DATE	DESCRIPTION	BY
	REVISIONS	

AUCOIN AND ASSOCIATES, INC.
CONSULTING ENGINEERS
LAKE CHARLES, LOUISIANA

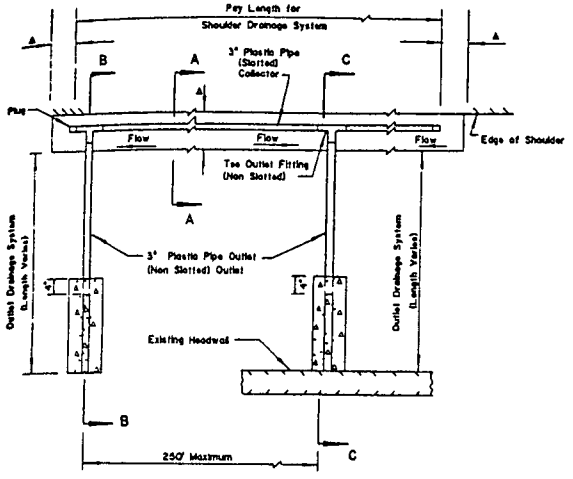
LAYOUT OF TEST SECTIONS

DATE 10-2-93

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

DESIGNED: K.A.	DETAILED: J.F.M.	TRACED:
CHECKED:	CHECKED: K.A.	CHECKED:

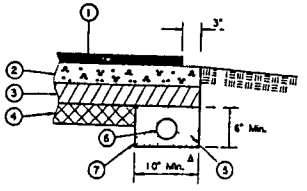
F.A.P.	STATE PROJECT	PARISH	SHEET NO.
-01-01(009)	24-02-0014	CALCASIEU	2 a



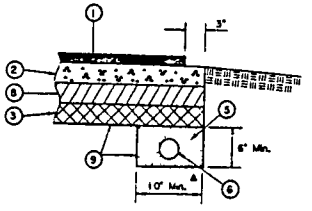
DETAIL OF CONCRETE SLOTTED HEADWALL

Not To Scale

ΔTrench as Required to Place Underdrain or as Directed by the Project Engineer



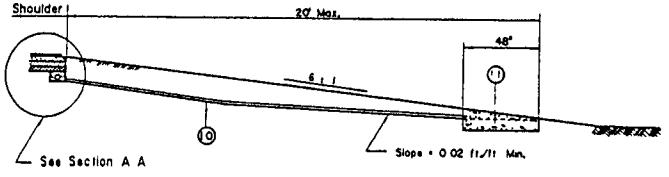
Detail For Test Sections With PATB Placed Over DGAB.



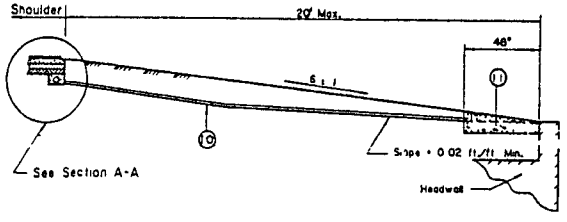
Details For Test Sections With PATB Placed Directly On the Subgrade.

SECTION A-A

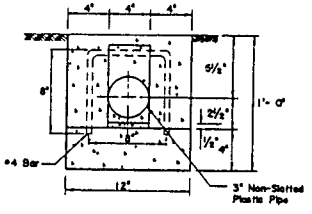
ΔTrench as Required to Place Underdrain or as Directed by the Project Engineer.



SECTION B-B

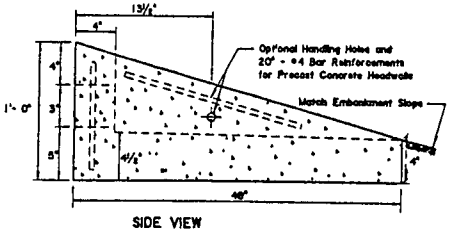


SECTION C-C



FRONT VIEW

(Concrete Slotted Headwalls)



SIDE VIEW

(Concrete Slotted Headwalls)

LEGEND :

1. Asphaltic Concrete (Wearing Course)
2. Asphaltic Concrete (Binder Course)
3. Permiable Asphalt Treated Base (PATB)
4. Dense Graded Aggregate Base (DGAB)
5. P A T B Or Aggregate Backfill
6. 3" Plastic Pipe (Slotted)
7. Filter Fabric (Class D Geotextile)
8. Dense Graded Asphalt Treated Base (ATB)
9. Filter Fabric (Class D Geotextile)
10. 3" Plastic Pipe (Non Slotted) Outlet
11. Concrete Slotted Headwall

NOTE: For the thicknesses of the various materials see sheet nos 2f, 2g & 2j

GENERAL NOTES:

1) The Shoulder Underdrain System shall be paid for per linear feet and shall include all required Trenching, 3" Plastic Pipe (Slotted), "Y" 's, Fittings, Filter Fabric, PATB Backfill, and Asphaltic Concrete Cap.

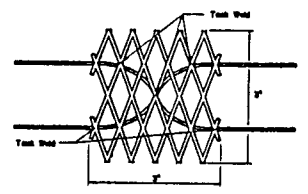
2) The Shoulder Outlet Underdrain System (Single and Double Headwall) shall be paid for per each and shall include all required Trenching, 3" Plastic Pipe (Non Slotted), Concrete Slotted Headwalls, Excavation, and Backfilling with suitable material removed from trenches.

3) The Layouts shown on this Sheet and Plan Sheets are general. Actual Layouts shall be as directed by the Project Engineer

4) There are to be no Open Excavation Areas at the end of each day

5) The Concrete Slotted Headwall can be either Precast or Cast-in-Place. The Uppermost Point of the Headwall shall be flush with the Roadway Slope. The Earthen Side Slopes adjacent to the Headwall shall then be shaped to conform to the Sides and Toe of the Headwall. If a Precast Concrete Headwall is used, the Drain Pipe shall be Grouted and Sealed to the Headwall with a Cement Mortar.

6) Pipes must be Capable of Withstanding the Temperature of the PATB Backfill without Damage.



3" x 3" Expanded Metal Shield with Two 30-inch Long Prefabricated 6 Gage Steel Wire Struts. Struts shall be cut for Snug Fit into the Slotted Concrete Headwall. Struts shall not be Cast in Concrete or Bent and Placed in Pipe.

RODENT SHIELD DETAIL

To be paid for and included in the Shoulder Underdrain Outlet System

DATE	DESCRIPTION	BY
	REVISIONS	

SHOULDER UNDERDRAIN DETAILS (SLOTTED PIPE)

DATED SEPTEMBER 1993

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

DESIGNED N.S.	DETAILED J.M.	DRAWING AREA G2423
CHECKED	CHECKED N.S.	FILENAME UDRAIN2.DGN

F.A.P.	STATE PROJECT	PARISH	SHEET NO.
F-01-01(009)	24-02-0014	CALCASIEU	3

EARTHWORK (CU YDS.)

STATION	STATION	DESCRIPTION	GENERAL EXCAVATION CU YDS.	EMBANKMENT CU YDS.
11+55.69	15+10.48	PARISH ROAD	4 678	775
50+00.00	53+61.00	PH RD CONNECTION	1 195	313
20+81.00	25+68.39	TOPSY RD	505	3,190
97+13.00	104+00.00	U.S. 171	2,219	1 186
108+00.00	125+00.00	U.S. 171	6 116	5 987
125+00.00	145+00.00	U.S. 171	10 460	2 181
145+00.00	165+00.00	U.S. 171	17 128	7 551
165+00.00	185+00.00	U.S. 171	19 329	2 491
185+00.00	205+00.00	U.S. 171	11 524	2,227
205+00.00	221+00.00	U.S. 171	5 303	2,128
221+00.00	245+00.00	U.S. 171	14 853	2,126
245+00.00	265+00.00	U.S. 171	14 139	3 549
265+00.00	285+00.00	U.S. 171	15 722	2,863
285+00.00	305+00.00	U.S. 171	14 210	1 294
305+00.00	325+00.00	U.S. 171	11,588	3 715
325+00.00	331+00.00	U.S. 171	1 563	3 329
331+00.00	365+00.00	U.S. 171	9 081	48 521
365+00.00	377+14.53	U.S. 171	1,778	6 033
SUBTOTAL			161 199	99 477
SELECT EMBANKMENT MATERIAL (AS SHOWN ON TYPICAL SECTION)				30 866
TOTAL			161 199	130,343

□ INCLUDES 25 CU YDS. OF EMBANKMENT MATERIAL BETWEEN STA. 279+68.50 AND STA. 280+48.50 BRIDGE RT ROWY

S.H.R.P. TEST SECTION

SELECT EMBANKMENT MATERIAL (AS SHOWN ON TYPICAL SECTION)

STATION	STATION	DESCRIPTION	LENGTH (FEET)	AV. WIDTH (FEET)	CU YDS. PER LIN. FT	EMBANKMENT MATERIAL CU YDS.
11+55.69	12+55.69	RT SHOULDER PH RD.	100.00	12.00	0.18658	19
11+55.69	15+13.05	LT SHOULDER PH RD	358.36	12.00	0.18658	67
13+83.13	15+13.05	RT SHOULDER PH RD	119.92	12.00	0.18658	22
15+15.05	18+13.05	LT SHOULDER PH RD	* 298.52	12.00	0.21193	63
15+15.05	18+13.05	RT SHOULDER PH RD	* 301.31	12.00	0.17845	54
18+13.05	21+74.75	RT SHOULDER PH RD	* 365.66	12.00	0.17032	62
18+13.05	21+74.75	LT SHOULDER PH RD	* 353.74	12.00	0.23727	84
21+74.75	14+75.94L.A.	RT SHOULDER PH RD	* 301.49	12.00	0.17845	54
21+74.75	14+75.94L.A.	LT SHOULDER PH. RD	* 298.50	12.00	0.21193	63
14+75.94L.A.	15+10.94L.A.	RT SHOULDER PH RD	35.00	12.00	0.18658	7
14+75.94L.A.	15+10.94L.A.	LT SHOULDER PH RD	35.00	12.00	0.18658	7
21+38.39	25+68.39	RT SHOULDER TOPSY RD	* 431.14	8.00	0.13874	60
21+38.39	25+68.39	LT. SHOULDER TOPSY RD.	* 429.71	8.00	0.13874	60
50+00.00	52+17.05	RT SHOULDER PH RD	* 228.83	12.00	0.18658	43
		CONNECTION				
50+00.00	52+17.05	LT SHOULDER PH RD	* 218.81	12.00	0.18658	40
		CONNECTION				
52+17.05	53+61.00	RT SHOULDER PH RD	* 141.14	18.00	0.53654	76
		CONNECTION				
52+17.05	53+61.00	LT SHOULDER PH. RD	* 141.14	18.00	0.53654	76
		CONNECTION				
106+80.00	107+93.16	RT SHOULDER	133.16	18.00	0.47352	63
107+93.16	110+78.81	RT SHOULDER	* 284.17	18.00	0.47485	138
110+78.81	112+08.84	TURNOUT RT	* 430.43	VARIES	0.33790 AVG.	145
112+08.84	119+33.85	RT SHOULDER	* 740.02	18.00	0.47485	351
119+33.85	120+78.24	TURNOUT RT	* 206.62	VARIES	0.34838 AVG.	72
120+30.43	121+72.81	TURNOUT LT	* 206.29	VARIES	0.35556 AVG.	73
120+78.24	127+76.96	RT SHOULDER	700.72	18.00	0.47485	333
127+76.96	134+15.17	RT SHOULDER	* 638.21	18.00	0.47485	303
134+15.17	135+57.31	TURNOUT RT	* 251.08	VARIES	0.35077 AVG.	88
135+57.31	138+88.44	RT SHOULDER	* 680.93	18.00	0.47485	284
138+88.44	143+30.58	LT SHOULDER	* 346.37	18.00	0.62860	230
138+88.44	156+12.72	RT SHOULDER	* 1636.51	18.00	0.58674	927
143+46.37	162+08.11	LT SHOULDER	* 1865.81	18.00	0.62860	1047
156+12.72	157+39.50	TURNOUT RT	* 188.33	VARIES	0.38947 AVG.	74
157+39.50	162+08.11	RT SHOULDER	* 449.80	18.00	0.58674	253
162+08.11	171+59.91	LT SHOULDER	951.80	18.00	0.47485	452
162+08.11	172+63.00	RT SHOULDER	* 1054.89	18.00	0.47485	501
171+59.91	172+83.91	TURNOUT LT	* 257.25	VARIES	0.35762 AVG.	92
172+63.00	173+87.00	TURNOUT RT	* 134.33	VARIES	0.36166 AVG.	49
172+83.91	178+87.04	LT SHOULDER	603.13	18.00	0.47485	286
173+87.00	179+17.39	RT SHOULDER	* 530.39	18.00	0.47485	252
178+87.04	180+11.08	TURNOUT LT	* 178.02	VARIES	0.35335 AVG.	63
179+17.39	195+21.58	RT SHOULDER	* 1604.01	18.00	0.47485	762
183+57.38	184+81.39	TURNOUT LT	* 167.20	VARIES	0.35504 AVG.	59
184+28.63	189+50.69	TURNOUT LT	* 179.84	VARIES	0.35307 AVG.	64
195+21.58	197+78.65	LT SHOULDER (RT ROWY)	* 198.48	10.50	0.32860	65
195+21.58	221+00.00	RT SHOULDER (RT ROWY)	* 2578.96	18.00	0.47485	1223
197+78.65	201+88.84	TURNING LANE (RT ROWY)	* 410.02	10.50	0.32860	135
201+88.84	203+49.23	CROSSOVER	* 161.67	10.50	0.32860	53
202+08.67	203+32.78	TURNOUT LT	* 138.80	VARIES	0.36050 AVG.	50
203+49.23	221+00.00	LT SHOULDER (RT ROWY)	* 1751.78	10.50	0.32860	576
242+56.82	243+80.87	TURNOUT LT	* 179.55	VARIES	0.35312 AVG.	63
268+61.26	269+85.58	TURNOUT LT	* 184.74	VARIES	0.35345 AVG.	59
289+21.43	290+99.43	TURNOUT LT	* 175.93	VARIES	0.35345 AVG.	62
221+00.00 RT ROWY						

REF SHEET 3J FOR SELECT EMBANKMENT MATERIAL IN STRATEGIC HIGHWAY RESEARCH PROGRAM (S.H.R.P.) TEST SECTIONS

331+00.00 RT ROWY					
331+00.00	332+34.82	RT SHOULDER (RT ROWY)	134.82	18.00	0.47485	64
331+00.00	332+34.82	LT SHOULDER (RT ROWY)	134.82	10.50	0.32860	44
334+54.82	336+61.90	TURNING LANE (RT ROWY)	* 207.28	10.50	0.32860	68
334+54.82	341+88.39	RT SHOULDER (RT ROWY)	733.57	18.00	0.47485	349
336+61.90	338+22.02	CROSSOVER	* 172.16	10.50	0.32860	57
336+79.85	338+03.85	TURNOUT LT	* 177.08	VARIES	0.35346 AVG.	63

SELECT EMBANKMENT MATERIAL (AS SHOWN ON TYPICAL SECTION)

STATION	STATION	DESCRIPTION	LENGTH (FEET)	AV. WIDTH (FEET)	CU YDS. PER LIN. FT	EMBANKMENT MATERIAL CU YDS.
338+22.02	341+88.39	LT SHOULDER (RT ROWY)	366.37	10.50	0.32860	120
341+88.39	344+36.84	RT SHOULDER (RT ROWY)	248.05	18.00	0.45702	113
341+88.39	344+38.24	LT SHOULDER (RT ROWY)	250.85	10.50	0.35378	88
344+36.84	348+69.58	TURNING LANE RT (RT ROWY)	* 448.58	18.00	0.45702	205
344+38.24	348+62.33	TURNING LANE LT (RT ROWY)	* 424.85	10.50	0.35378	150
348+62.33	350+68.31	CROSSOVER	* 189.31	10.50	0.35378	67
348+69.58	350+01.81	TURNOUT RT	* 1062.80	VARIES	0.17773 AVG.	189
348+30.36	350+78.04	TURNOUT LT	* 241.87	VARIES	0.39005 AVG.	94
350+01.81	361+44.48	RT SHOULDER (RT ROWY)	* 1173.29	18.00	0.45702	534
350+68.31	353+89.00	LT SHOULDER (RT ROWY)	* 336.28	10.50	0.35378	119
353+89.00	358+31.30	TURNING LANE (RT ROWY)	* 435.13	10.50	0.35378	154
358+31.30	359+81.30	CROSSOVER	* 172.65	10.50	0.35378	61
358+44.80	359+77.80	TURNOUT LT	* 326.92	VARIES	0.34142 AVG.	112
359+81.30	367+28.05	LT SHOULDER (DETOUR)	* 727.34	8.48	0.23418	187
367+28.05	368+51.50	LT SHOULDER (DETOUR)	123.45	VARIES	VARIES	18
361+44.49	373+00.00	RT SHOULDER (RT ROWY)	1155.51	18.00	0.47485	549
368+91.11	374+61.38	RT SHOULDER (DETOUR)	* 551.02	VARIES	VARIES	123
367+83.24	373+00.00	LT SHOULDER (RT ROWY)	506.76	VARIES	VARIES	118
374+20.92	375+78.89	TURNOUT LT	* 234.73	VARIES	0.35296 AVG.	63
374+41.38	377+14.53	RT SHOULDER (RT ROWY)	273.15	13.08	0.36096	99
TOTAL						13 938

* ACTUAL LENGTH ALONG ℄ EMBANKMENT

KARL J. AUCOIN REG. No. 21008 REGISTERED PROFESSIONAL ENGINEER

AUCOIN AND ASSOCIATES, INC. CONSULTING ENGINEERS LAKE CHARLES, LOUISIANA

DATE	DESCRIPTION	BY
11/93	REVISED EARTHWORK	ALF
	REVISIONS	

SUMMARY SHEET

DATE 3 16 93

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

DESIGNED K.A.	DETAILED M.B.P.	TRACED	
CHECKED L.J.A.	CHECKED K.A.	CHECKED	

F.A.P	STATE PROJECT	PARISH	SHEET NO.
F-01-01(009)	24-02-0014	CALCASIEU	31

ASPHALTIC CONCRETE AND BASE COURSE (STRATEGIC HIGHWAY RESEARCH PROGRAM) (S H R P)

STATION	STATION	DESCRIPTION	ASPHALTIC CONCRETE SURFACE 1-1/2 WEARING COURSE (TYPE 8F)				ASPHALTIC CONCRETE SURFACE BINDER COURSE (TYPE 8)				
			LENGTH (FEET)	AVG. WIDTH (FEET)	SQ. YDS.	TONS	LENGTH (FEET)	AVG. WIDTH (FEET)	SQ. YDS.	THICKNESS (INCHES)	TONS
221+00.00	223+08.03	ROADWAY AND SHOULDERS	208.03	38.00	878.35	72.5	208.03	38.50	889.91	5 1/2"	269.2
223+08.03	225+11.97	CROSSOVER	203.94	VARIES	618.34	51.0	203.94	VARIES	626.27	5 1/2	189.4
223+08.03	225+11.97	ROADWAY AND RT. SHOULDER	203.94	34.00	770.44	63.8	203.94	34.25	776.11	5 1/2"	234.8
225+11.97	229+50.00	ROADWAY AND SHOULDERS	438.03	38.00	1849.46	152.6	438.03	38.50	1873.80	5 1/2"	566.8
229+50.00	237+75.00	ROADWAY AND SHOULDERS	825.00	38.00	3483.33	287.4	825.00	38.50	3529.17	2 1/2	485.3
237+75.00	238+03.05	ROADWAY AND SHOULDERS	28.05	38.00	118.43	9.8	28.05	38.50	119.99	2 1/2	16.5
238+03.05	243+97.77	TURNLANE AND CROSS-OVER	594.72	VARIES	1237.18	102.1	594.72	VARIES	1254.53	2 1/2"	172.5
238+03.05	243+97.77	ROADWAY AND RT. SHOULDER	594.72	34.00	2246.72	185.4	594.72	34.25	2263.24	2 1/2	311.2
243+97.77	247+50.00	ROADWAY AND SHOULDERS	352.23	38.00	1487.19	122.7	352.23	38.50	1506.76	2 1/2	207.2
247+50.00	253+15.03	ROADWAY AND SHOULDERS	565.03	38.00	2385.68	196.8	565.03	38.50	2417.07	2 1/2	332.3
253+15.03	255+18.97	CROSS-OVER	203.94	VARIES	618.34	51.0	203.94	VARIES	626.27	2 1/2	86.1
253+15.03	255+18.97	ROADWAY AND RT. SHOULDER	203.94	34.00	770.44	63.6	203.94	34.25	776.11	2 1/2"	106.7
255+18.97	256+25.00	ROADWAY AND SHOULDERS	106.03	38.00	447.68	36.9	106.03	38.50	451.57	2 1/2"	62.4
256+25.00	264+06.36	ROADWAY AND SHOULDERS	781.36	38.00	3299.08	272.2	781.36	38.50	3342.48	5 1/2"	1011.1
264+06.36	270+00.91	TURNLANE AND CROSS-OVER	594.55	VARIES	1236.33	102.0	594.55	VARIES	1253.70	5 1/2"	379.2
264+06.36	270+00.91	ROADWAY AND RT. SHOULDER	594.55	34.00	2246.08	185.3	594.55	34.25	2262.59	5 1/2	684.4
270+00.91	270+25.00	ROADWAY AND SHOULDERS	24.09	38.00	101.71	8.4	24.09	38.25	103.05	5 1/2"	31.2
270+25.00	279+25.50	ROADWAY AND SHOULDERS	903.50	38.00	3983.67	314.7	903.50	38.50	4036.08	5 1/2"	1169.2
280+88.50	284+68.43	ROADWAY AND SHOULDERS	379.93	38.00	1777.04	132.3	379.93	38.50	1796.37	2 1/2"	223.5
284+68.43	290+63.43	TURNLANE AND CROSS-OVER	595.00	VARIES	1238.53	102.2	595.00	VARIES	1255.90	2 1/2"	172.7
284+68.43	290+63.43	ROADWAY AND RT. SHOULDER	595.00	34.00	2247.78	185.4	595.00	34.25	2264.31	2 1/2	311.3
290+63.43	291+25.00	ROADWAY AND SHOULDERS	61.57	38.00	259.98	21.4	61.57	38.50	261.38	2 1/2"	36.2
291+25.00	300+25.00	ROADWAY AND SHOULDERS	900.00	38.00	3800.00	313.5	900.00	38.50	3850.00	2 1/2	529.4
300+25.00	303+80.03	ROADWAY AND SHOULDERS	355.03	38.00	1499.02	123.7	355.03	38.50	1518.74	5 1/2"	459.4
303+80.03	305+83.97	CROSS-OVER	203.94	VARIES	618.34	51.0	203.94	VARIES	626.27	5 1/2"	189.4
303+80.03	305+83.97	ROADWAY AND RT. SHOULDER	203.94	34.00	770.44	63.6	203.94	34.25	776.11	5 1/2	234.8
305+83.97	307+25.00	ROADWAY AND SHOULDERS	141.03	38.00	595.46	49.1	141.03	38.50	603.30	5 1/2"	182.5
307+25.00	315+25.00	ROADWAY AND SHOULDERS	800.00	38.00	3377.78	278.7	800.00	38.50	3422.22	5 1/2"	1035.2
315+25.00	318+18.03	ROADWAY AND SHOULDERS	293.03	38.00	1237.24	102.1	293.03	38.50	1253.52	5 1/2"	379.2
318+18.03	320+21.97	CROSS-OVER	203.94	VARIES	618.34	51.0	203.94	VARIES	626.27	5 1/2"	189.4
318+18.03	320+21.97	ROADWAY AND RT. SHOULDER	203.94	34.00	770.44	63.6	203.94	34.25	776.11	5 1/2	234.8
320+21.97	323+50.00	ROADWAY AND SHOULDERS	328.03	38.00	1385.02	114.3	328.03	38.50	1403.24	5 1/2"	424.5
323+50.00	331+00.00	ROADWAY AND SHOULDERS	750.00	38.00	3166.67	261.3	750.00	38.50	3208.33	2 1/2"	441.1
SHEET TOTAL						4191.2					11,358.9

STATION	STATION	ASPHALTIC CONCRETE: ASPHALT TREATED BASE (ATB)				PERMEABLE ASPHALT TREATED BASE (PATB)			
		LENGTH (FEET)	THICKNESS (INCHES)	CU YDS./LIN FT	CU. YDS.	LENGTH (FEET)	THICKNESS (INCHES)	CU YDS./LIN. FT	CU YDS.
221+00.00	223+08.03					208.03	4	0.46181	96.0
223+08.03	225+11.97					203.94	4	0.32117	65.5
223+08.03	225+11.97					203.94	4	0.42284	86.2
225+11.97	229+50.00					438.03	4	0.46181	202.2
229+50.00	237+75.00					825.00	4	0.46181	380.8
237+75.00	238+03.05					28.05	4	0.46181	12.9
238+03.05	243+97.77					594.72	4	0.21977	130.7
238+03.05	243+97.77					594.72	4	0.42284	251.5
243+97.77	247+50.00					352.23	4	0.46181	162.6
247+50.00	253+15.03	565.03	4	0.46181	260.8	565.03	4	0.47531	268.6
253+15.03	255+18.97	203.94	4	0.32117	65.5	203.94	4	0.33932	69.2
253+15.03	255+18.97	203.94	4	0.42284	86.2	203.94	4	0.42284	86.2
255+18.97	256+25.00	106.03	4	0.46181	48.9	106.03	4	0.47531	50.4
256+25.00	264+06.36	781.36	8	0.93693	732.1	781.36	4	0.47531	371.4
264+06.36	270+00.91	594.55	8	0.45396	269.9	594.55	4	0.23429	139.3
264+06.36	270+00.91	594.55	8	0.84568	502.8	594.55	4	0.42284	251.4
270+00.91	270+25.00	24.09	8	0.93693	22.6	24.09	4	0.47531	11.5
270+25.00	279+25.50	903.50	12	1.41223	1276.0	903.50	4	0.47531	429.4
280+88.50	284+68.43	379.93	8	0.93693	355.9				
284+68.43	290+63.43	595.00	8	0.45445	270.4				
284+68.43	290+63.43	595.00	8	0.84568	503.2				
290+63.43	291+25.00	61.57	8	0.93693	57.7				
291+25.00	300+25.00	900.00	12	1.41223	1271.0				
300+25.00	303+80.03	355.03	8	0.93693	332.8				
303+80.03	305+83.97	203.94	8	0.66245	135.1				
303+80.03	305+83.97	203.94	8	0.84568	172.5				
305+83.97	307+25.00	141.03	8	0.93693	132.1				
307+25.00	315+25.00	800.00	4	0.46181	369.3				
315+25.00	318+18.03								
318+18.03	320+21.97								
318+18.03	320+21.97								
320+21.97	323+50.00								
323+50.00	331+00.00								
SHEET TOTAL					6864.6				3065.8

STATION	STATION	ASPHALTIC CONCRETE: DENSE GRADED AGGREGATE BASE (DGAB)				SELECT EMBANKMENT MATERIAL			
		LENGTH (FEET)	THICKNESS (INCHES)	CU YDS./LIN. FT	CU. YDS.	LENGTH (FEET)	AVG. WIDTH (FEET)	CU YDS./LIN FT	CU YDS.
221+00.00	223+08.03	208.03	4	0.46502	96.7	208.03	61.00	1.68107	350
223+08.03	225+11.97	203.94	4	0.33932	69.2	203.94	VARIES	1.06894	218
223+08.03	225+11.97	203.94	4	0.41253	84.1	203.94	47.00	1.28356	258
225+11.97	229+50.00	438.03	4	0.46502	203.7	438.03	61.00	1.68107	736
229+50.00	237+75.00	825.00	8	0.93004	767.3	825.00	61.00	1.58083	1304
237+75.00	238+03.05	28.05	12	1.39506	39.1	28.05	61.00	1.10751	31
238+03.05	243+97.77	594.72	12	0.70319	418.2	594.72	VARIES	0.49099	292
238+03.05	243+97.77	594.72	12	1.23765	736.1	594.72	47.00	0.75359	449
243+97.77	247+50.00	352.23	12	1.39506	491.4	352.23	61.00	1.10751	390
247+50.00	253+15.03					565.03	61.00	2.02727	1145
253+15.03	255+18.97					203.94	VARIES	1.31902	269
253+15.03	255+18.97					203.94	47.00	1.57041	320
255+18.97	256+25.00					106.03	61.00	2.02727	215
256+25.00	264+06.36					781.36	61.00	1.20062	938
264+06.36	270+00.91					594.55	VARIES	0.54831	326
264+06.36	270+00.91					594.55	47.00	0.83558	497
270+00.91	270+25.00					24.09	61.00	1.20062	29
270+25.00	279+25.50					903.50	61.00	0.73560	665
280+88.50	284+68.43	379.93	4	0.47531	180.6	379.93	61.00	1.56738	596
284+68.43	290+63.43	595.00	4	0.23445	139.5	595.00	VARIES	0.72269	430
284+68.43	290+63.43	595.00	4	0.42284	251.8	595.00	47.00	1.18299	692
290+63.43	291+25.00	61.57	4	0.47531	29.3	61.57	61.00	1.56738	97
291+25.00	300+25.00					900.00	61.00	1.56738	1411
300+25.00	303+80.03					355.03	61.00	1.68621	599
303+80.03	305+83.97					203.94	VARIES	1.06894	218
303+80.03	305+83.97					203.94	47.00	1.28870	259
305+83.97	307+25.00					141.03	61.00	1.68621	238
307+25.00	315+25.00	800.00	4	0.47531	380.2	800.00	61.00	1.68621	1349
315+25.00	318+18.03	293.03	12	1.41223	413.8	293.03	61.00	1.21090	355
318+18.03	320+21.97	203.94	12	1.00373	204.7	203.94	VARIES	0.73551	150
318+18.03	320+21.97	203.94	12	1.26852	258.7	203.94	47.00	0.84586	173
320+21.97	323+50.00	328.03	12	1.41223	463.3	328.03	61.00	1.21090	397
323+50.00	331+00.00	750.00	8	0.93693	702.7	750.00	61.00	2.04269	1532
SHEET TOTAL					5930.2				16,928

* ACTUAL LENGTH ALONG ℄ ROADWAY

STATE OF LOUISIANA
EARL J. AUCOIN
NO. 23008
REGISTERED
PROFESSIONAL ENGINEER
CIVIL ENGINEERING

DATE	DESCRIPTION	BY
	REVISIONS	

SUMMARY SHEET

DATE: 11/29/94

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

DESIGNED: K.A.	DETAILED: L.A.A.	TRACED:
CHECKED: L.A.A.	CHECKED: K.A.	CHECKED:

December 1991

RECEIVED OCT 2 7 1997

SPS-1 CONSTRUCTION DATA SHEET 1 PROJECT IDENTIFICATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [X X]

96 through 7/97

*1. DATE OF DATA COLLECTION OR UPDATE (Month/Year) [_ _/_ _]

*2. STATE HIGHWAY AGENCY (SHA) DISTRICT NUMBER [0 7.]

*3. COUNTY OR PARISH [0 1 9.]

4. FUNCTIONAL CLASS (SEE TABLE A.2, APPENDIX A) [0 2.]

*5. ROUTE SIGNING (NUMERIC CODE) [2.]
Interstate... 1 U.S.... 2 State... 3
Other... 4

*6. ROUTE NUMBER [_ _ 1 7 1.]

7. TYPE OF PAVEMENT (01 for Granular Base, 02 for Treated Base) [0 2.]

8. NUMBER OF THROUGH LANES (ONE DIRECTION) [2.]

*9. DATE OF CONSTRUCTION COMPLETION (Month/Year) [0 7/9 7]

*10. DATE OPENED TO TRAFFIC (Month/Year) [0 7/9 7]

11. CONSTRUCTION COSTS PER LANE MILE (In $1000) [_ _ 4 0 0.]

12. DIRECTION OF TRAVEL [3.]
East Bound... 1 West Bound... 2 North Bound... 3
South Bound... 4

PROJECT STARTING POINT LOCATION

*13. MILEPOINT [_ _ _._ _]

*14. ELEVATION [_ _ _ 2 [illegible] 7

*15. LATITUDE [3 0° 1 0' _ _ . _ _"]

*16. LONGITUDE [_ 9 3° 1 5' _ _ . _ _"]

17. ADDITIONAL LOCATION INFORMATION (SIGNIFICANT LANDMARKS): [0.2 miles North of route US 171's intersection w/ Route La 378 northwest of Moss Bluff, to 0.5 miles NW of Gillis Cut-off.]

18. HPMS SAMPLE NUMBER (HPMS ITEM 28) [0 0 0 2 4 0 0 0 0 2 0 2]

19. HPMS SECTION SUBDIVISION (HPMS ITEM 29)

9,162,126.20 TOTAL CONTRACT
÷ 5.72 LENGTH PROJECT IN MILES
1,601,770.30 COST/MILE
÷ 4.0 LANE
400,442.58 COST/MILE-LANE

HPMS 2402-1
12 DIGIT 000240000201
000240000202
000240000203
ROBERT FLUID
504-358-9135
U.S. 171

000240000105

PREPARER _____ EMPLOYER _____ DATE _____

SPS-1 CONSTRUCTION DATA SHEET 3 REFERENCE PROJECT STATION TABLE	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [* *]

ORDER	*1 TEST SECTION ID NO	REFERENCE PROJECT STATION NUMBER		*4 CUT-FILL[1]	
		*2 START	*3 END	TYPE	STATION
1	220119	0 + 0 0	5 + 0 0	2	+
2	220120	7 + 0 0	12 + 0 0	2	+
3	220121	16 + 75	21 + 75	2	+
4	220122	26 + 50	31 + 50	2	+
5	220123	34 + 25	39 + 25	2	+
6	220124	48 + 75	53 + 75	3	+
7	220118	59 + 75	64 + 75	2	+
8	220116	70 + 75	75 + 75	1	+
9	220115	77 + 75	82 + 75	2	+
10	220117	84 + 75	89 + 75	2	+
11	220114	94 + 00	99 + 00	2	+
12	220113	101 + 00	106 + 00	2	+
13		+	+		+
14		+	+		+
15		+	+		+
16		+	+		+
17		+	+		+
18		+	+		+
19		+	+		+
20		+	+		+

*5 INTERSECTIONS BETWEEN TEST SECTION ON THE PROJECT ROUTE	PROJECT STATION NO.	RAMPS EXIT	RAMPS ENT	INTERSECTION STOP	INTERSECTION SIGNAL	INTERSECTION UNSIG
	+					
	+					
	+					

Note 1. Indicate the type of subgrade section the test section is located on:
Cut.... 1 Fill..... 2 At-Grade..... 3 Cut and Fill..... 4
If cut-fill transition is located in a test section, enter test section station of the cut-fill transition location.

PREPARER Timothy Martin EMPLOYER BRE DATE 6/27/96

SPS-1 CONSTRUCTION DATA
SHEET 5
PLANT-MIXED ASPHALT BOUND LAYERS
AGGREGATE PROPERTIES

* STATE CODE [2 2]
* SPS PROJECT CODE [9 1]
* TEST SECTION NO. [0 1]

*1. LAYER NUMBER (FROM SHEET 4) Wearing Course (Surface AC) [ ]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
*2.	Crushed Stone... 1 Gravel... 2 Crushed Gravel... 3	[1]	[1 0 0]
*3.	Crushed Slag... 4 Manufactured Lightweight... 5	[ ]	[ ]
*4.	Other (Specify)... 6 _____	[ ]	[ ]

	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
*5.	Natural Sand... 1	[1]	[1 0 0]
*6.	Crushed or Manufactured Sand (from Crushed Gravel or	[ ]	[ ]
*7.	Stone... 2 Recycled Concrete... 3 Other (Specify)... 4 _____	[ ]	[ ]

*8 TYPE OF MINERAL FILLER [ ]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4
Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

*9.	Coarse Aggregate (AASHTO T85 or ASTM C127)	[2.7 1]
*10.	Fine Aggregate (AASHTO T84 or ASTM C128)	[2.6 9]
*11.	Mineral Filler (AASHTO T100 or ASTM D854)	[ ]
*12.	Aggregate Combination (Calculated)	[2.7 0]
13.	Effective Specific Gravity of Aggregate Combination (Calculated)	[2.6 9.4]

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14.	Coarse	[ ]	[ ]
15.	Coarse	[ ]	[ ]
16.	Coarse	[ ]	[ ]
17.	Coarse and Fine - Combined	[ ]	[ ]

18. POLISH VALUE OF COARSE AGGREGATES
SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)

PREPARED [signature] COMPANY FRE DATE 9/10/97

SPS 1 CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [X X]

*1. LAYER NUMBER (FROM SHEET 4) Wearing Course (Surface AC) [ ]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.10) [0 5]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [ ]
(IF OTHER, SPECIFY) Earl Asph. 4

4. SPECIFIC GRAVITY OF ASPHALT CEMENT [1.0 3]
(AASHTO T228)

GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)

5. VISCOSITY OF ASPHALT AT 140°F (POISES) [3 6 8 0.]
(AASHTO T202)

6. VISCOSITY OF ASPHALT AT 275°F (CENTISTOKES) [5 6 0.]
(AASHTO T202)

7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A MM) [6 2.]
(100 g., 5 sec.)

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

		TYPE	QUANTITY (%)
8.	MODIFIER #1	[ ]	[ ]
9.	MODIFIER #2 (IF OTHER, SPECIFY) _____	[ ]	[ ]

10. DUCTILITY AT 77°F (CM) [ ]
(AASHTO T51)

11. DUCTILITY AT 39.2°F (CM) [ ]
(AASHTO T51)

12. TEST RATE FOR DUCTILITY MEASUREMENT [ ]
AT 39.2°F (CM/MIN)

13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A MM) [ ]
(200 g., 60 sec.)

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [ ]

NOTE. If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER [signature] EMPLOYER BRE DATE 9/10/97

SPS-1 CONSTRUCTION DATA
SHEET 7
PLANT-MIXED ASPHALT BOUND LAYERS
MIXTURE PROPERTIES

* STATE CODE [2 2]
* SPS PROJECT CODE [1 1]
* TEST SECTION NO. [X X]

*1. LAYER NUMBER (FROM SHEET 4) [ ]

*2. TYPE OF SAMPLES [1]
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) [2.5 2 6]
(AASHTO T209 OR ASTM D2041)

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [2.4 3 7] NUMBER OF TESTS [ ]

5. MINIMUM [ ] MAXIMUM [ ]

6. STD. DEV. [ ]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX)
(AASHTO T164 OR ASTM D2172)

*7. MEAN [5.9] NUMBER OF SAMPLES [ ]

8. MINIMUM [ ] MAXIMUM [ ]

9. STD. DEV. [ ]

PERCENT AIR VOIDS

*10. MEAN [3.5] NUMBER OF SAMPLES [ ]

11. MINIMUM [ ] MAXIMUM [ ]

12. STD. DEV. [ ]

*13. VOIDS IN MINERAL AGGREGATE (PERCENT) [1 3.7]

*14. EFFECTIVE ASPHALT CONTENT (PERCENT) [ ]

*15. MARSHALL STABILITY (LBS) (AASHTO T245 OR ASTM D1559) [2 0 9 5.0]

*16. NUMBER OF BLOWS [50]

*17. MARSHALL FLOW (HUNDREDTHS OF AN INCH) [1 0]
(AASHTO T245 OR ASTM D1559)

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [ ]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25 MM OF WIDTH) [ ]
(AASHTO T246 OR ASTM D1561)

PREPARER [signature] EMPLOYER ERE DATE 4/10/97

SPS-1 CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES (CONTINUED)	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [* *]

*1. LAYER NUMBER (FROM SHEET 4) [_]

*2. TYPE OF SAMPLES [1]
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2

*3. TYPE ASPHALT PLANT [2]

BATCH PLANT... 1 DRUM MIX PLANT... 2

OTHER (SPECIFY)... 3 _____

*4. TYPE OF ANTISTRIPPING AGENT USED [7 0]
(SEE TYPE CODES, TABLE A.21)
OTHER (SPECIFY) Kling Beta 2550 HM

*5. AMOUNT OF ANTISTRIPPING AGENT USED LIQUID OR SOLID CODE [1]

*6. (If liquid, enter code 1, and amount as percent of asphalt cement weight. If solid, enter code 2 and amount as percent of aggregate weight.) [_ 0.6]

PREPARER Timothy J Mela EMPLOYER BRE DATE 9/10/97

SHRP-1 CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [9 2] * SHRP PROJECT CODE [0 1] * TEST SECTION NO. [* *]

*1. LAYER NUMBER (FROM SHEET 4) A.C. [_]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
*2.	Crushed Stone... 1 Gravel... 2 Crushed Gravel... 3	[1]	[1 0 0.]
*3.	Crushed Slag... 4 Manufactured Lightweight... 5	[_]	[_ _ _.]
*4.	Other (Specify)... 6 _____	[_]	[_ _ _.]

	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
*5.	Natural Sand... 1	[1]	[1 0 0.]
*6.	Crushed or Manufactured Sand (From Crushed Gravel or	[_]	[_ _ _.]
*7.	Slag... 2 Recycled Concrete... 3 Other (Specify)... 4 _____	[_]	[_ _ _.]

*8. TYPE OF MINERAL FILLER [_]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4
Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

*9. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.7 1 _]

*10. Fine Aggregate (AASHTO T84 or ASTM C128) [2.6 4 _]

*11. Mineral Filler (AASHTO T100 or ASTM D854) [_ _ _ _]

*12. Aggregate Combination (Calculated) [2.6 9 _]

13. Effective Specific Gravity of Aggregate Combination (Calculated) [2.6 9.5]

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14.	Coarse	[_ _]	[_ _ _ _ _ _]
15.	Coarse	[_ _]	[_ _ _ _ _ _]
16.	Coarse	[_ _]	[_ _ _ _ _ _]
17.	Coarse and Fine - Combined	[_ _]	[_ _ _ _ _ _]

18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319) [_ _]

PREPARER [signature] EMPLOYER FHE DATE 4/5/97

SPS-1 CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [* *]

*1. LAYER NUMBER (FROM SHEET 4) AC [__]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) [0 5]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [__ __]
(IF OTHER, SPECIFY) Eagle Asphalt

4. SPECIFIC GRAVITY OF ASPHALT CEMENT [1.0 3 __]
(AASHTO T228)

GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)

5. VISCOSITY OF ASPHALT AT 140°F (POISES) [__ __ 3 0 8 0.]
(AASHTO T202)

6. VISCOSITY OF ASPHALT AT 275°F (CENTISTOKES) [__ 5 0 0.__ __]
(AASHTO T202)

7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A MM) [__ __ 6 2.]
(100 g., 5 sec.)

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

		TYPE	QUANTITY (%)
8.	MODIFIER #1	[__ __]	[__ __.]
9.	MODIFIER #2 (IF OTHER, SPECIFY) _____	[__ __]	[__ __.]

10. DUCTILITY AT 77°F (CM) [__ __ __.]
(AASHTO T51)

11. DUCTILITY AT 39.2°F (CM) [__ __ __.]
(AASHTO T51)

12. TEST RATE FOR DUCTILITY MEASUREMENT [__ __ __.]
AT 39.2°f (CM/MIN)

13 PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A MM) [__ __ __.]
(200 g., 60 sec.)

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [__ __ __.]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/5/97

SPS-1 CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [* *]

AC

*1. LAYER NUMBER (FROM SHEET 4) [__]

*2. TYPE OF SAMPLES [1]
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) (AASHTO T209 OR ASTM D2041) [2.5 4 3]

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [2.4 6 0] NUMBER OF TESTS [__ __.]

5. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]

6. STD. DEV. [__.__ __ __]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX) (AASHTO T164 OR ASTM D2172)

*7. MEAN [3.7 __ __] NUMBER OF SAMPLES [__ __.]

8. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]

9. STD. DEV. [__.__ __ __]

PERCENT AIR VOIDS

*10. MEAN [3.3 __ __] NUMBER OF SAMPLES [__ __.]

11. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]

12. STD. DEV. [__.__ __ __]

*13. VOIDS IN MINERAL AGGREGATE (PERCENT) [1 2.1]

*14. EFFECTIVE ASPHALT CONTENT (PERCENT) [__ __.__]

*15. MARSHALL STABILITY (LBS) (AASHTO T245 OR ASTM D1559) [1 9 8 0].0

*16. NUMBER OF BLOWS [5 0]

*17. MARSHALL FLOW (HUNDREDTHS OF AN INCH) (AASHTO T245 OR ASTM D1559) [__ __ __ 9.]

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [__ __ __.]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25 MM OF WIDTH) (AASHTO T246 OR ASTM 1561) [__ __ __ __.]

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/5/97

SPS-1 CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES (CONTINUED)	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [* *]

*1. LAYER NUMBER (FROM SHEET 4) AC [__]

*2. TYPE OF SAMPLES [1]
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2

*3. TYPE ASPHALT PLANT [2]

BATCH PLANT... 1 DRUM MIX PLANT... 2

OTHER (SPECIFY)... 3 _____

*4. TYPE OF ANTISTRIPPING AGENT USED [7 0]
(SEE TYPE CODES, TABLE A.21)
OTHER (SPECIFY) Kling Beta 2550 HM

*5. AMOUNT OF ANTISTRIPPING AGENT USED LIQUID OR SOLID CODE [1]

*6. (If liquid, enter code 1, and amount as percent of asphalt cement weight. If solid, enter code 2 and amount as percent of aggregate weight.) [0.6]

PREPARER [signature] EMPLOYER BRE DATE 9/5/97

SPS-1 CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [X X]

*1. LAYER NUMBER (FROM SHEET 4) ATB [__]

		TYPE	PERCENT
	COMPOSITION OF COARSE AGGREGATE		
*2.	Crushed Stone... 1 Gravel... 2 Crushed Gravel... 3	[1]	[1 0 0.]
*3.	Crushed Slag... 4 Manufactured Lightweight... 5	[__]	[__ __ __.]
*4.	Other (Specify)... 6 _____	[__]	[__ __ __.]
	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
*5.	Natural Sand... 1	[1]	[1 0 0.]
*6.	Crushed or Manufactured Sand (From Crushed Gravel or	[__]	[__ __ __.]
*7.	Stone... 2 Recycled Concrete... 3 Other (Specify)... 4 _____	[__]	[__ __ __.]

*8. TYPE OF MINERAL FILLER [__]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4
Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

*9. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.7 2 __]

*10. Fine Aggregate (AASHTO T84 or ASTM C128) [2.6 4 __]

*11. Mineral Filler (AASHTO T100 or ASTM D854) [__.__ __ __]

*12. Aggregate Combination (Calculated) [2.6 9 __]

13. Effective Specific Gravity of Aggregate Combination (Calculated) [2.6 8 4]

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14.	Coarse	[__ __]	[__ __ __.__ __ __]
15.	Coarse	[__ __]	[__ __ __.__ __ __]
16.	Coarse	[__ __]	[__ __ __.__ __ __]
17.	Coarse and Fine - Combined	[__ __]	[__ __ __.__ __ __]

18. POLISH VALUE OF COARSE AGGREGATES __ __.
SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)

PREPARER [signature] EMPLOYER BRE DATE 9/10/97

SPS-1 CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [* *]

*1. LAYER NUMBER (FROM SHEET 4) ATB [__]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) [0 5]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [__ __]
(IF OTHER, SPECIFY) Eagle Asphalt

4. SPECIFIC GRAVITY OF ASPHALT CEMENT [1.0 3 0]
(AASHTO T228)

GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)

5. VISCOSITY OF ASPHALT AT 140°F (POISES) [__ __ 3 0 8 0.]
(AASHTO T202)

6. VISCOSITY OF ASPHALT AT 275°F (CENTISTOKES) [__ 5 0 0.__ __]
(AASHTO T202)

7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A MM) [__ __ 6 2.]
(100 g., 5 sec.)

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

		TYPE	QUANTITY (%)
8.	MODIFIER #1	[__ __]	[__ __.]
9.	MODIFIER #2 (IF OTHER, SPECIFY) _____	[__ __]	[__ __.]

10. DUCTILITY AT 77°F (CM) [__ __ __.]
(AASHTO T51)

11. DUCTILITY AT 39.2°F (CM) [__ __ __.]
(AASHTO T51)

12. TEST RATE FOR DUCTILITY MEASUREMENT [__ __ __.]
AT 39.2°f (CM/MIN)

13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A MM) [__ __ __.]
(200 g., 60 sec.)

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [__ __ __.]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER [signature] EMPLOYER BRE DATE 9/10/97

SPS-1 CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [X X]

*1. LAYER NUMBER (FROM SHEET 4) ATB [__]

*2. TYPE OF SAMPLES [1]
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) (AASHTO T209 OR ASTM D2041) [2.5 2 6]

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [2.4 3 8] NUMBER OF TESTS [0 4.]

5. MINIMUM [2.4 3 2] MAXIMUM [2.4 4 5]

6. STD. DEV. [0.0 0 5]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX) (AASHTO T164 OR ASTM D2172)

*7. MEAN [3.9 __ __] NUMBER OF SAMPLES [__ __.]

8. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]

9. STD. DEV. [__.__ __ __]

PERCENT AIR VOIDS

*10. MEAN [3.5 __ __] NUMBER OF SAMPLES [0 4.]

11. MINIMUM [3.2 __ __] MAXIMUM [3.7 __ __]

12. STD. DEV. [0.2 2 __]

*13. VOIDS IN MINERAL AGGREGATE (PERCENT) [1 2.7]

*14. EFFECTIVE ASPHALT CONTENT (PERCENT) [__ __.__]

*15. MARSHALL STABILITY (LBS) (AASHTO T245 OR ASTM D1559) [2 1 2 0].0

*16. NUMBER OF BLOWS [5 0]

*17. MARSHALL FLOW (HUNDREDTHS OF AN INCH) (AASHTO T245 OR ASTM D1559) [__ __ 1 0.]

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [__ __ __.]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25 MM OF WIDTH) (AASHTO T246 OR ASTM 1561) [__ __ __ __.]

PREPARER [signature] EMPLOYER BRE DATE 9/10/97

SPS-1 CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES (CONTINUED)	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [* *]

*1. LAYER NUMBER (FROM SHEET 4) ATB [__]

*2. TYPE OF SAMPLES [1]
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2

*3. TYPE ASPHALT PLANT [2]

BATCH PLANT... 1 DRUM MIX PLANT... 2

OTHER (SPECIFY)... 3 _____

*4. TYPE OF ANTISTRIPPING AGENT USED [7 0]
(SEE TYPE CODES, TABLE A.21)
OTHER (SPECIFY) Kling Beta 2550 HM

*5. AMOUNT OF ANTISTRIPPING AGENT USED LIQUID OR SOLID CODE [1]

*6. (If liquid, enter code 1, and amount as percent of asphalt cement weight. If solid, enter code 2 and amount as percent of aggregate weight.) [_ 0.6]

PREPARER [signature] EMPLOYER BRE DATE 9/10/97

SPS-1 CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [* *]

*1. LAYER NUMBER (FROM SHEET 4) PATB [__]

		TYPE	PERCENT
	COMPOSITION OF COARSE AGGREGATE		
*2.	Crushed Stone... 1 Gravel... 2 Crushed Gravel... 3	[1]	[1 0 0.]
*3.	Crushed Slag... 4 Manufactured Lightweight... 5	[__]	[__ __ __.]
*4.	Other (Specify)... 6 _____	[__]	[__ __ __.]
	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
*5.	Natural Sand... 1	[2]	[1 0 0.]
*6.	Crushed or Manufactured Sand (From Crushed Gravel or	[__]	[__ __ __.]
*7.	Stone... 2 Recycled Concrete... 3 Other (Specify)... 4 _____	[__]	[__ __ __.]

*8. TYPE OF MINERAL FILLER [__]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4
Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

*9.	Coarse Aggregate (AASHTO T85 or ASTM C127)	[__.__ __ __]
*10.	Fine Aggregate (AASHTO T84 or ASTM C128)	[__.__ __ __]
*11.	Mineral Filler (AASHTO T100 or ASTM D854)	[__.__ __ __]
*12.	Aggregate Combination (Calculated)	[__.__ __ __]
13.	Effective Specific Gravity of Aggregate Combination (Calculated)	[__.__ __ __]

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14.	Coarse	[__ __]	[__ __ __.__ __ __]
15.	Coarse	[__ __]	[__ __ __.__ __ __]
16.	Coarse	[__ __]	[__ __ __.__ __ __]
17.	Coarse and Fine - Combined	[__ __]	[__ __ __.__ __ __]

18. POLISH VALUE OF COARSE AGGREGATES __ __.
SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)

PREPARER [signature] EMPLOYER BRE DATE 9/5/97

SPS-1 CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [* *]

PATB

*1. LAYER NUMBER (FROM SHEET 4) [_]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) [0 5]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [_ _]
(IF OTHER, SPECIFY) Eagle Asphalt

4. SPECIFIC GRAVITY OF ASPHALT CEMENT [1.0 3 0]
(AASHTO T228)

GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)

5. VISCOSITY OF ASPHALT AT 140°F (POISES) [_ _ 3 0 8 0.]
(AASHTO T202)

6. VISCOSITY OF ASPHALT AT 275°F (CENTISTOKES) [_ 5 0 0._ _]
(AASHTO T202)

7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A MM) [_ _ 6 2.]
(100 g., 5 sec.)

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

		TYPE	QUANTITY (%)
8.	MODIFIER #1	[_ _]	[_ _.]
9.	MODIFIER #2 (IF OTHER, SPECIFY) _____	[_ _]	[_ _.]

10. DUCTILITY AT 77°F (CM) [_ _ _.]
(AASHTO T51)

11. DUCTILITY AT 39.2°F (CM) [_ _ _.]
(AASHTO T51)

12. TEST RATE FOR DUCTILITY MEASUREMENT [_ _ _.]
AT 39.2°f (CM/MIN)

13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A MM) [_ _ _.]
(200 g., 60 sec.)

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [_ _ _.]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER Timothy J. Martin EMPLOYER ERE DATE 9/5/97

SPS-1 CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES	* STATE CODE [2 2] * SPS PROJECT CODE [0 7] * TEST SECTION NO. [* *]

PATB

*1. LAYER NUMBER (FROM SHEET 4) [__]

*2. TYPE OF SAMPLES [1]
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) [__.__ __ __]
(AASHTO T209 OR ASTM D2041)

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [__.__ __ __] NUMBER OF TESTS [__ __.]

5. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]

6. STD. DEV. [__.__ __ __]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX)
(AASHTO T164 OR ASTM D2172)

*7. MEAN [__.__ __ __] NUMBER OF SAMPLES [__ __.]

8. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]

9. STD. DEV. [__.__ __ __]

PERCENT AIR VOIDS

*10. MEAN [__.__ __ __] NUMBER OF SAMPLES [__ __.]

11. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]

12. STD. DEV. [__.__ __ __]

*13. VOIDS IN MINERAL AGGREGATE (PERCENT) [__ __.__]

*14. EFFECTIVE ASPHALT CONTENT (PERCENT) [__ __.__]

*15. MARSHALL STABILITY (LBS) (AASHTO T245 OR ASTM D1559) [__ __ __.__]

*16. NUMBER OF BLOWS [__ __]

*17. MARSHALL FLOW (HUNDREDTHS OF AN INCH) [__ __ __ __.]
(AASHTO T245 OR ASTM D1559)

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [__ __ __.]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25 MM OF WIDTH) [__ __ __ __.]
(AASHTO T246 OR ASTM 1561)

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/5/97

SPS-1 CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES (CONTINUED)	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [* *]

*1. LAYER NUMBER (FROM SHEET 4) PATB [ ]

*2. TYPE OF SAMPLES [1]
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2

*3. TYPE ASPHALT PLANT [2]

BATCH PLANT... 1 DRUM MIX PLANT... 2

OTHER (SPECIFY)... 3 _____

*4. TYPE OF ANTISTRIPPING AGENT USED [7 0]
(SEE TYPE CODES, TABLE A.21)
OTHER (SPECIFY) Kling Beta 2550 HM

*5. AMOUNT OF ANTISTRIPPING AGENT USED LIQUID OR SOLID CODE [1]

*6. (If liquid, enter code 1, and amount as percent of asphalt cement weight. If solid, enter code 2 and amount as percent of aggregate weight.) [0.6]

PREPARER Timothy J Maitas EMPLOYER BRE DATE 9/5/97

RECEIVED OCT 2 7 1997

SPS-1 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 3]

*1. LANE WIDTH (FEET) [1 2.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

*3. SUBSURFACE DRAINAGE LOCATION [3.]
Continuous Along Test Section... 1 Intermittent... 2 None... 3

*4. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5. SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[2.]	[2.]
*6. TOTAL WIDTH (FEET)	[0 4.]	[1 0.]
*7. PAVED WIDTH (FEET)	[0 4.]	[1 0.]
8. SHOULDER BASE TYPE (CODES-TABLE A.6)	[2 3.]	[2 3.]
9. SURFACE THICKNESS (INCHES)	[_ 4. 0]	[_ 4. 0]
10. SHOULDER BASE THICKNESS (INCHES)	[_ 8. 0]	[_ 8. 0]
11. DIAMETER OF LONGITUDINAL DRAINPIPES (INCHES)		[_. _]
12. SPACING OF LATERALS (FEET)		[_ _ _.]

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 3]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[5 1]				
2	[1 1]	[2 5]	[_ 1 1._]	_ _ _._	_ _ _._	_ _ _._
3	[0 5]	[2 3]	[_ _ 8.1]	_ _ 7.2	_ _ 9.2	_ _ 0.4
4	[0 3]	[0 1]	[_ _ 5.3]	_ _ 4.6	_ _ 6.0	_ _ 0.4
5	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
6	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
7	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
8	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
9	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
10	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
11	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
12	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
13	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
14	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
15	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (FEET) [_ _ . _]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 3/29/97

SPS-1 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 3]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 6-0 5-9 6]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers
Plant 1	[2]	B.E. Heidt	[1 0]	[1 5]	[4] [5] [__]
Plant 2	[__]		[__ __ __]	[__ __]	[__] [__] [__]
Plant 3	[__]		[__ __ __]	[__ __]	[__] [__] [__]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify_____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER Blaw Know

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER _____

6. SINGLE PASS LAYDOWN WIDTH (Feet) [1 2.0]

7. ATB PLACEMENT LIFTS
   - Layer Number [__ __]
   - Nominal First Lift Placement Thickness (Inches) [__.__]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]
   - Nominal Third Lift Placement Thickness (Inches) [__.__]
   - Nominal Fourth Lift Placement Thickness (Inches) [__.__]

8. PATB PLACEMENT LIFTS
   - Layer Number [__ __]
   - Nominal First Lift Placement Thickness (Inches) [__.__]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

9. AC BINDER COURSE LIFT
   - Layer Number [__ 4]
   - Nominal First Lift Placement Thickness (Inches) [4.0]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

10. AC SURFACE COURSE LIFT
    - Layer Number [__ 4]
    - Nominal First Lift Placement Thickness (Inches) [1.5]
    - Nominal Second Lift Placement Thickness (Inches) [__.__]

11. SURFACE FRICTION COURSE (If Placed)
    - Layer Number [__ __]
    - Nominal Placement Thickness (Inches) [__.__]

12. TEST SECTION STATION OF TRANSVERSE JOINTS (within test section)
    - Binder Course [__ + __ __]
    - Surface Course [__ + __ __]
    - Surface Friction Course [__ + __ __]

13. LOCATION OF LONGITUDINAL SURFACE JOINT [1]
    - Between lanes.. 1 Within lane.. 2
    - (specify offset from O/S feet) [1 2.0]

14. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.)_____

PREPARER BRE EMPLOYER [signature] DATE 9/10/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 3]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 4 - 1 5 - 9 7]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6 - 2 0 - 9 7]
*3. LAYER NUMBER AC [4]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.
Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA Ingersoll-Rand used only. (3 Vib - 2 Stat)

	Roller Code =	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _._				
8	C	Steel-Whl Tandem	_ _._				
9	D	Steel-Whl Tandem	_ _._				
10	E	Pneumatic-Tired	_ _._	_ _ _ _.			
11	F	Pneumatic-Tired	_ _._	_ _ _ _.			
12	G	Pneumatic-Tired	_ _._	_ _ _ _.			
13	H	Pneumatic-Tired	_ _._	_ _ _ _.			
14	I	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
15	J	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
16	K	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
17	L	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _	_ _._
19	N	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
20	O	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
21	P	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	_	_
24	Coverages	_ 3.	_ 3.	_ _.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	_	_
28	Coverages	_ 2.	_ 2.	_ _.	_ _.
29	Air Temperature (°F)	_ 9 0.	_ 9 0.	_ _ _.	_ _ _.
30	Compacted Thickness (In)	2.5	1.5	_._	_._
31	Curing Period (Days)	_ _._	_ _ _	_ _._	_ _._

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 3]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	ATB	Binder Course	Surface Course	Surface Friction Layer
Measurement Method (A, B, C)[1]	__	__	A	__
Number of Measurements	__ __	__ __	0 3	__ __
Average (pcf)	__ __ __.__	__ __ __.__	1 4 3.6	__ __ __.__
Maximum (pcf)	__ __ __.__	__ __ __.__	1 4 5.4	__ __ __.__
Minimum (pcf)	__ __ __.__	__ __ __.__	1 4 0.6	__ __ __.__
Standard Deviation (pcf)	__ __ __.__	__ __ __.__	__ __ 2.6	__ __ __.__
Layer Number	__ __	__ __	0 4	__ __

[1]Measurement Method Backscatter... A Direct Transmission... B Air Gap... C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER 8350

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER 4311 B

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION __ __ __ __ __

6. PROFILOGRAPH MEASUREMENTS

Profilograph Type California... 1 Rainhart... 2 __
Profile Index (Inches/Mile) __ __
Interpretation Method Manual.. 1 Mechanical.. 2 Computer.. 3 __
Height of Blanking Band (Inches) __.__ __
Cutoff Height (Inches) __.__ __

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) NO

PREPARER [signature] EMPLOYER BRE DATE 9/4/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 3]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
0+00	0	7.2			5.0	
	36	7.2			5.4	
	72	7.6			5.5	
	109	7.3			5.6	
	144	7.3			5.6	
0+50	0	8.2			4.8	
	36	7.8			5.0	
	72	8.3			4.8	
	109	8.0			5.5	
	144	7.4			5.9	
1+00	0	8.0			4.6	
	36	8.4			4.7	
	72	8.5			5.0	
	108	8.2			5.4	
	144	8.2			5.3	
1+50	0	7.4			5.2	
	36	7.4			5.3	
	72	7.6			5.6	
	109	7.8			5.6	
	144	8.0			5.6	
2+00	0	7.7			4.8	
	36	7.9			5.2	
	72	8.0			5.2	
	109	7.9			5.5	
	144	8.3			5.5	
2+50	0	8.3			4.7	
	36	8.5			4.7	
	72	8.8			5.0	
	108	9.1			5.2	
	144	9.0			5.2	
3+00	0	7.7			5.0	
	36	7.4			5.5	
	72	7.9			5.6	
	108	8.5			5.2	
	144	8.5			5.4	
LAYER NUMBER[1]		03			04	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [6 1] * TEST SECTION NO. [1 3]

LAYER THICKNESS MEASUREMENTS (Inches)

SHEET 2 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
3+5 C	0	8.0			4.6	
	36	8.2			4.7	
	72	8.3			5.2	
	108	8.4			5.2	
	144	8.6			5.3	
4+0 C	0	8.0			5.2	
	36	8.0			5.3	
	72	7.9			5.6	
	108	7.9			5.9	
	144	7.8			6.0	
4+5 C	0	8.2			4.7	
	36	8.3			4.9	
	72	8.4			5.0	
	108	8.0			5.5	
	144	9.0			4.9	
5+0 C	0	7.8			4.9	
	36	7.8			5.3	
	72	7.7			5.5	
	108	7.7			5.8	
	144	7.8			5.9	
+						
+						
+						
LAYER NUMBER[1]		0 3			0 4	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 13 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 3]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [0 4 - 2 5 - 9 6]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [0 5 - 0 6 - 9 6]

*3. LAYER NUMBER (From Sheet 4) [3]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [3]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (TONS) [1 1.3]

*6. LIFT THICKNESSES
Nominal First Lift Placement Thickness (inches) [0 8]
Nominal Second Lift Placement Thickness (inches) [_ _]
Nominal Third Lift Placement Thickness (inches) [_ _]
Nominal Fourth Lift Placement Thickness (inches) [_ _]

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) Rained hard 4/22 and 4/23 (standing water along roadbed.)

PREPARER [signature] EMPLOYER BRE DATE 8/29/87

SPS-1 CONSTRUCTION DATA SHEET 14 SUBGRADE PREPARATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 3]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [0 4-0 9-9 6]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [0 4-2 2-9 6]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (TONS) [2 0.0]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[1]	[1 2.0]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (INCHES) [1 1]
(For Fill Sections Only)

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER [signature] EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 15 CUT-FILL SECTION LOCATIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 3]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NO
		*2 START	*3 END	
1	2	0 + 0 0	5 + 0 0	2 2 0 1 1 3
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

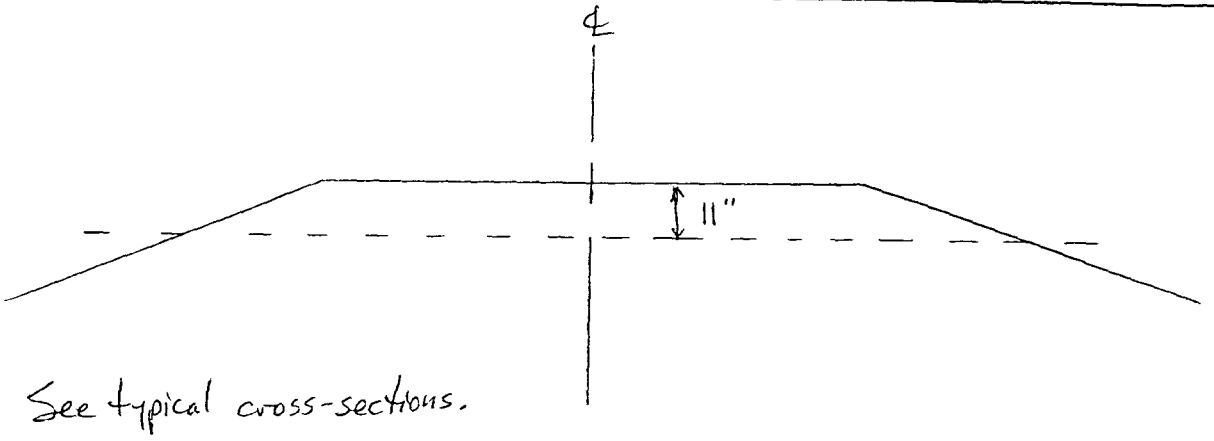
NOTES:

1. Indicate the type of subgrade section with one of the following: Cut... 1 Fill... 2

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER Timothy J. Martz EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 16 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 3]



See typical cross-sections.

Fill material used was the surrounding natural soil (clay + silt) with additional silt brought from stock piles where neccessary. 12% cement stabilizer was used to provide a working platform.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/3/97

SPS-1 CONSTRUCTION DATA SHEET 17 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 3]

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

- Rained hard 4/22 and 4/23 (standing water along roadbed)
- Subgrade compacted to 95%
- Final HMAC layer is approximately 1.2 inches over the design thickness.

PREPARER [signature] EMPLOYER BRE DATE 8/29/97

RECEIVED OCT 2 7 1997

SPS-1 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 4]

*1. LANE WIDTH (FEET) [1 2.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

*3. SUBSURFACE DRAINAGE LOCATION [3.]
Continuous Along Test Section... 1 Intermittent... 2 None... 3

*4. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5. SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[2.]	[2.]
*6. TOTAL WIDTH (FEET)	[0 4.]	[1 0.]
*7. PAVED WIDTH (FEET)	[0 4.]	[1 0.]
8. SHOULDER BASE TYPE (CODES-TABLE A.6)	[2 3.]	[2 3.]
9. SURFACE THICKNESS (INCHES)	[_ 7. 0]	[_ 7. 0]
10. SHOULDER BASE THICKNESS (INCHES)	[1 2. 0]	[1 2. 0]
11. DIAMETER OF LONGITUDINAL DRAINPIPES (INCHES)		[_. _]
12. SPACING OF LATERALS (FEET)		[_ _ _.]

PREPARER [signature] EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 4]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[5 1]	[redacted]	[redacted]	[redacted]	[redacted]
2	[1 1]	[2 5]	[_ _ 4._]	_ _ _._	_ _ _._	_ _ _._
3	[0 5]	[2 3]	[_ 11.4]	_ 10.9	_ 12.2	_ _ 0.3
4	[0 3]	[0 1]	[_ _ 9.4]	_ _ 8.6	_ 10.3	_ _ 0.4
5	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
6	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
7	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
8	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
9	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
10	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
11	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
12	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
13	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
14	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
15	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (FEET) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER [signature] EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 4]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 6-0 5-9 6]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers
Plant 1	[2]	R.E. Herdt	[1 0]	[1 5]	[4] [5] [__]
Plant 2	[__]		[__ __ __]	[__ __]	[__] [__] [__]
Plant 3	[__]		[__ __ __]	[__ __]	[__] [__] [__]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify_____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER Blaw-Know

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER _____

6. SINGLE PASS LAYDOWN WIDTH (Feet) [1 2.0]

7. ATB PLACEMENT LIFTS
   - Layer Number [__ __]
   - Nominal First Lift Placement Thickness (Inches) [__.__]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]
   - Nominal Third Lift Placement Thickness (Inches) [__.__]
   - Nominal Fourth Lift Placement Thickness (Inches) [__.__]

8. PATB PLACEMENT LIFTS
   - Layer Number [__ __]
   - Nominal First Lift Placement Thickness (Inches) [__.__]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

9. AC BINDER COURSE LIFT
   - Layer Number [__ 4]
   - Nominal First Lift Placement Thickness (Inches) [4.0]
   - Nominal Second Lift Placement Thickness (Inches) [4.0]

10. AC SURFACE COURSE LIFT
    - Layer Number [__ 4]
    - Nominal First Lift Placement Thickness (Inches) [2.0]
    - Nominal Second Lift Placement Thickness (Inches) [__.__]

11. SURFACE FRICTION COURSE (If Placed)
    - Layer Number [__ __]
    - Nominal Placement Thickness (Inches) [__.__]

12. TEST SECTION STATION OF TRANSVERSE JOINTS (within test section)
    - Binder Course [__ + __ __]
    - Surface Course [__ + __ __]
    - Surface Friction Course [__ + __ __]

13. LOCATION OF LONGITUDINAL SURFACE JOINT [1]
    - Between lanes.. 1 Within lane.. 2
    - (specify offset from O/S feet) [1 2.0]

14. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.)_____

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/10/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 4]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 4-1 5-9 7]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]
*3. LAYER NUMBER AC [4]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.
Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA

Ingersoll-Rand used only. (3 Vib - 2 Stat)

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _._				
8	C	Steel-Whl Tandem	_ _._				
9	D	Steel-Whl Tandem	_ _._				
10	E	Pneumatic-Tired	_ _._	_ _ _ _.			
11	F	Pneumatic-Tired	_ _._	_ _ _ _.			
12	G	Pneumatic-Tired	_ _._	_ _ _ _.			
13	H	Pneumatic-Tired	_ _._				
14	I	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
15	J	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
16	K	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
17	L	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _	_ _._
19	N	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
20	O	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
21	P	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	M	_
24	Coverages	_ 3.	_ 3.	_ 3.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	A	_
28	Coverages	_ 2.	_ 2.	_ 2.	_ _.
29	Air Temperature (°F)	_ 9 0.	_ 9 0.	_ 9 0.	_ _ _.
30	Compacted Thickness (In)	3 0	2.5	1.5	_._
31	Curing Period (Days)	_ _._	_ _ _	_ _._	_ _._

PREPARER [signature] EMPLOYER BRF DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 4]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	ATB	Binder Course	Surface Course	Surface Friction Layer
Measurement Method (A, B, C)[1]	__	__	A	__
Number of Measurements	__ __	__ __	0 3	__ __
Average (pcf)	__ __ __.__	__ __ __.__	1 4 4.4	__ __ __.__
Maximum (pcf)	__ __ __.__	__ __ __.__	1 4 6.0	__ __ __.__
Minimum (pcf)	__ __ __.__	__ __ __.__	1 4 3.0	__ __ __.__
Standard Deviation (pcf)	__ __ __.__	__ __ __.__	__ 1.5	__ __ __.__
Layer Number	__ __	__ __	0 4	__ __

[1]Measurement Method Backscatter... A Direct Transmission... B Air Gap... C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER 8350

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER 3411B

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION __ __ __ __ __

6. PROFILOGRAPH MEASUREMENTS

Profilograph Type California... 1 Rainhart... 2 __
Profile Index (Inches/Mile) __ __
Interpretation Method Manual.. 1 Mechanical.. 2 Computer.. 3 __
Height of Blanking Band (Inches) __.__ __
Cutoff Height (Inches) __.__ __

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) NO

PREPARER [signature] EMPLOYER BRE DATE 9/4/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 4]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
0+00	0	11.3			8.5	
	36	11.4			8.6	
	72	11.4			8.9	
	108	11.3			8.9	
	144	11.2			9.2	
0+50	0	11.4			8.8	
	36	11.0			9.0	
	72	10.9			9.4	
	108	10.9			9.7	
	144	11.2			9.6	
1+00	0	11.4			8.9	
	36	10.9			9.4	
	72	11.2			9.4	
	108	11.0			9.6	
	144	11.2			9.5	
1+50	0	12.1			8.6	
	36	11.6			8.9	
	72	11.6			9.1	
	108	11.4			9.2	
	144	11.4			9.2	
2+00	0	11.4			9.2	
	36	11.2			9.4	
	72	11.4			9.5	
	108	11.5			9.5	
	144	11.4			9.1	
2+50	0	11.0			9.5	
	36	11.3			9.6	
	72	10.9			10.1	
	108	10.9			10.1	
	144	10.9			9.6	
3+00	0	11.6			9.1	
	36	11.5			9.4	
	72	11.3			9.7	
	108	11.6			9.4	
	144	11.3			9.8	
LAYER NUMBER[1]		03			04	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 4]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 2 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
3+50	0	11.9			9.0	
	36	11.8			9.2	
	72	11.9			9.2	
	108	12.0			9.1	
	144	11.5			9.5	
4+00	0	11.6			8.6	
	36	11.5			8.9	
	72	11.6			9.1	
	108	11.9			9.2	
	144	12.0			9.0	
4+50	0	11.3			9.6	
	36	11.2			9.7	
	72	11.2			9.7	
	108	11.2			10.0	
	144	11.0			10.0	
5+00	0	11.4			9.2	
	36	11.5			9.4	
	72	11.3			9.5	
	108	11.2			10.1	
	144	11.4			10.2	
+						
+						
+						
LAYER NUMBER[1]		03			04	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 13 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 4]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [0 4-2 5-9 6]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [0 5-0 6-9 6]

*3. LAYER NUMBER (From Sheet 4) [3]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [3]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (TONS) [1 1.3]

*6. LIFT THICKNESSES
Nominal First Lift Placement Thickness (inches) [1 2]
Nominal Second Lift Placement Thickness (inches) [_ _]
Nominal Third Lift Placement Thickness (inches) [_ _]
Nominal Fourth Lift Placement Thickness (inches) [_ _]

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) Rained hard 4/22 and 4/23 (standing water along roadbed)

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 14 SUBGRADE PREPARATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 4]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [0 4-0 9-9 6]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [0 4-2 2-9 6]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (TONS) [2 0.0]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[1]	[1 2.0]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (INCHES) [0 4]
(For Fill Sections Only)

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER [signature] EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 15 CUT-FILL SECTION LOCATIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 4]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NO
		*2 START	*3 END	
1	2	0 + 0 0	5 + 0 0	2 2 0 1 1 4
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

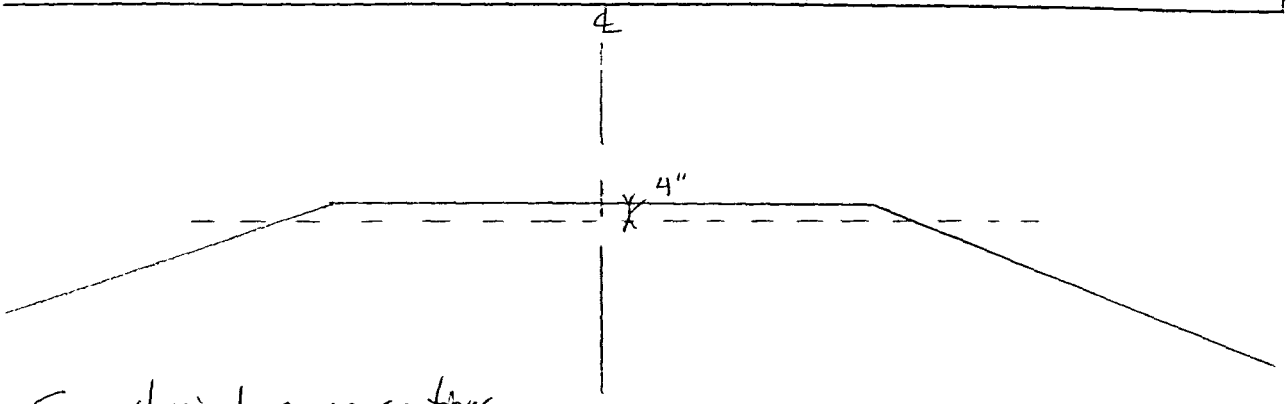
NOTES:

1. Indicate the type of subgrade section with one of the following: Cut... 1 Fill... 2

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER Timothy A. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 16 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 4]



See typical cross-sections.

Fill material used was the surrounding natural soil (clay + silt) with additional silt brought from stock piles where neccessary. 12% cement stabilizer was used to provide a working platform.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/3/97

SPS-1 CONSTRUCTION DATA SHEET 17 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 4]

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

- Rained hard 4/22 and 4/23 (standing water along roadbed)
- Subgrade Compacted to 95%.
- Final HMAC layer is approximately 2.3" over the design thickness.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

RECEIVED OCT 2 7 1997

December 1991

SPS-1 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 5]

*1. LANE WIDTH (FEET) [1 2.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

*3. SUBSURFACE DRAINAGE LOCATION [3.]
Continuous Along Test Section... 1 Intermittent... 2 None... 3

*4. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5. SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[3.]	[3.]
*6. TOTAL WIDTH (FEET)	[0 4.]	[1 0.]
*7. PAVED WIDTH (FEET)	[0 4.]	[1 0.]
8. SHOULDER BASE TYPE (CODES-TABLE A.6)	[2 8.]	[2 8.]
9. SURFACE THICKNESS (INCHES)	[_ 7. 0]	[_ 7. 0]
10. SHOULDER BASE THICKNESS (INCHES)	[_ 8. 0]	[_ 8. 0]
11. DIAMETER OF LONGITUDINAL DRAINPIPES (INCHES)		[_. _]
12. SPACING OF LATERALS (FEET)		[_ _ _.]

PREPARER Timothy J. Nichols EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 5]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[5 1]	[redacted]	[redacted]	[redacted]	[redacted]
2	[1 1]	[2 5]	[_ _8._]	_ _ _._	_ _ _._	_ _ _._
3	[0 5]	[2 8]	[_ _8.2]	_ _7.1	_ _9.5	_ _0.5
4	[0 3]	[0 1]	[_ _7.6]	_ _6.7	_ _8.3	_ _0.4
5	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
6	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
7	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
8	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
9	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
10	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
11	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
12	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
13	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
14	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
15	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (FEET)
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 5]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 6-0 5-9 6]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers
Plant 1	[2]	R.E. Heidt	[5]	[1 0]	[3] [4] [ ]
Plant 2	[ ]		[ ]	[ ]	[ ] [ ] [ ]
Plant 3	[ ]		[ ]	[ ]	[ ] [ ] [ ]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify_____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER Blaw-Knox

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER _____

6. SINGLE PASS LAYDOWN WIDTH (Feet) [1 2.0]

7. ATB PLACEMENT LIFTS
   - Layer Number [3]
   - Nominal First Lift Placement Thickness (Inches) [3.0]
   - Nominal Second Lift Placement Thickness (Inches) [3.0]
   - Nominal Third Lift Placement Thickness (Inches) [3.0]
   - Nominal Fourth Lift Placement Thickness (Inches) [.]

8. PATB PLACEMENT LIFTS
   - Layer Number [ ]
   - Nominal First Lift Placement Thickness (Inches) [.]
   - Nominal Second Lift Placement Thickness (Inches) [.]

9. AC BINDER COURSE LIFT
   - Layer Number [4]
   - Nominal First Lift Placement Thickness (Inches) [3.0]
   - Nominal Second Lift Placement Thickness (Inches) [3.0]

10. AC SURFACE COURSE LIFT
    - Layer Number [4]
    - Nominal First Lift Placement Thickness (Inches) [1.5]
    - Nominal Second Lift Placement Thickness (Inches) [.]

11. SURFACE FRICTION COURSE (If Placed)
    - Layer Number [ ]
    - Nominal Placement Thickness (Inches) [.]

12. TEST SECTION STATION OF TRANSVERSE JOINTS (within test section)
    - Binder Course [+]
    - Surface Course [+]
    - Surface Friction Course [+]

13. LOCATION OF LONGITUDINAL SURFACE JOINT [1]
    - Between lanes.. 1 Within lane.. 2
    - (specify offset from O/S feet) [1 2.0]

14. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.)_____

PREPARER [signature] EMPLOYER BRE DATE 9/10/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 5]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 7-3 0-9 6]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 8-1 0-9 6]
*3. LAYER NUMBER ATB [3]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0. Number of Tests ..... __ __.
Minimum..... __ __ __. Maximum..... __ __ __.
Standard Deviation... __ __.__

ROLLER DATA Ingersoll-Rand used only (3 Vib 2 Stat)

	Roller Code *	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	__ __.__				
8	C	Steel-Whl Tandem	__ __.__				
9	D	Steel-Whl Tandem	__ __.__				
10	E	Pneumatic-Tired	__ __.__	__ __ __ __.			
11	F	Pneumatic-Tired	__ __.__	__ __ __ __.			
12	G	Pneumatic-Tired	__ __.__	__ __ __ __.			
13	H	Pneumatic-Tired	__ __.__	.			
14	I	Single-Drum Vibr.	__ __.__		__ __ __ __.	__ __ __	__ __.__
15	J	Single-Drum Vibr.	__ __.__		__ __ __ __.	__ __ __	__ __.__
16	K	Single-Drum Vibr.	__ __.__		__ __ __ __.	__ __ __	__ __.__
17	L	Single-Drum Vibr.	__ __.__		__ __ __ __.	__ __ __	__ __.__
18	M	Double-Drum Vibr.	1 4.2		__ __ __ __.	__ __ __	__ __.__
19	N	Double-Drum Vibr.	__ __.__		__ __ __ __.	__ __ __	__ __.__
20	O	Double-Drum Vibr.	__ __.__		__ __ __ __.	__ __ __	__ __.__
21	P	Double-Drum Vibr.	__ __.__		__ __ __ __.	__ __ __	__ __.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	M	__
24	Coverages	__ 3.	__ 3.	__ 3.	__ __.
	INTERMEDIATE				
25	Roller Code (A-Q)	__	__	__	__
26	Coverages	__ __.	__ __.	__ __.	__ __.
	FINAL				
27	Roller Code (A-Q)	A	A	A	__
28	Coverages	__ 2.	__ 2.	__ 2.	__ __.
29	Air Temperature (°F)	__ 9 0.	__ 9 0.	__ 9 0.	__ __ __.
30	Compacted Thickness (In)	3.0	2.5	2 5	__.__
31	Curing Period (Days)	__ __ __	__ __ __	__ __ __	__ __.__

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 T] * TEST SECTION NO. [I 5]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 4-1 5-9 7]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]
*3. LAYER NUMBER [4]

AC

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.__

Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _.__				
8	C	Steel-Whl Tandem	_ _.__				
9	D	Steel-Whl Tandem	_ _.__				
10	E	Pneumatic-Tired	_ _.__	_ _ _ _.			
11	F	Pneumatic-Tired	_ _.__	_ _ _ _.			
12	G	Pneumatic-Tired	_ _.__	_ _ _ _.			
13	H	Pneumatic-Tired	_ _.__				
14	I	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
15	J	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
16	K	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
17	L	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _.	_ _.__
19	N	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
20	O	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
21	P	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	M	_
24	Coverages	_ 3.	_ 3.	_ 3.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	A	_
28	Coverages	_ 2.	_ 2.	_ 2.	_ _.
29	Air Temperature (°F)	_ 9 0.	_ 9 0.	_ 9 0.	_ _ _.
30	Compacted Thickness (In)	3.0	2.5	1.5	_.__
31	Curing Period (Days)	_ _.__	_ _.__	_ _.__	_ _.__

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 5]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	ATB	Binder Course	Surface Course	Surface Friction Layer
Measurement Method (A, B, C)[1]	B		A	
Number of Measurements	0 3		0 3	
Average (pcf)	1 4 3.8	.	1 4 4.3	.
Maximum (pcf)	1 4 7.0	.	1 4 6.1	.
Minimum (pcf)	1 4 0.9	.	1 4 3.1	.
Standard Deviation (pcf)	3.1	.	1.5	.
Layer Number	0 3	0 4	0 4	

[1]Measurement Method Backscatter... A Direct Transmission... B Air Gap... C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER 8350

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER 3411B

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION

6. PROFILOGRAPH MEASUREMENTS

Profilograph Type California... 1 Rainhart... 2
Profile Index (Inches/Mile)
Interpretation Method Manual.. 1 Mechanical.. 2 Computer.. 3
Height of Blanking Band (Inches) .
Cutoff Height (Inches) .

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) NO

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/4/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 5]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
0+00	0			7.4	8.3	
	36			7.8	7.9	
	72			7.9	7.8	
	108			7.9	7.9	
	144			7.9	7.8	
0+50	0			7.1	8.3	
	36			7.4	7.9	
	72			7.8	7.7	
	108			7.6	7.9	
	144			7.8	7.8	
1+00	0			7.4	8.2	
	36			8.0	7.6	
	72			8.0	7.4	
	108			8.0	7.6	
	144			8.0	7.7	
1+50	0			7.6	8.1	
	36			8.3	7.6	
	72			8.6	7.4	
	108			8.6	7.4	
	144			8.2	7.7	
2+00	0			7.6	7.9	
	36			8.0	7.7	
	72			8.5	7.4	
	108			8.6	7.6	
	144			8.6	7.7	
2+50	0			8.2	7.8	
	36			8.4	7.4	
	72			8.5	7.6	
	108			8.4	7.7	
	144			8.2	7.8	
3+00	0			8.4	7.6	
	36			9.1	7.3	
	72			9.5	7.3	
	108			9.0	7.6	
	144			8.8	7.7	
LAYER NUMBER[1]				03	04	

[1] from Sheet 4

PREPARER Geoffrey J. Martin EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 5]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 2 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
3+5 C	0			7.9	7.3	
	36			8.5	7.0	
	72			8.6	6.8	
	109			8.5	7.2	
	144			8.3	7.3	
4+C C	0			7.6	7.3	
	36			8.0	7.2	
	72			8.2	7.3	
	108			8.5	7.2	
	144			8.3	7.3	
4+5 C	0			7.8	7.7	
	36			8.3	7.2	
	72			8.4	7.3	
	108			8.4	7.4	
	144			8.6	7.4	
5+C C	0			7.9	7.0	
	36			8.0	6.7	
	72			8.8	6.6	
	108			8.6	7.0	
	144			8.4	7.3	
+_						
+_						
+_						
LAYER NUMBER[1]				0 3	0 4	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 14 SUBGRADE PREPARATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 5]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [0 4-0 9-9 6]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [0 4-2 2-9 6]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (TONS) [2 0.0]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[1]	[1 2.0]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (INCHES) [0 8]
(For Fill Sections Only)

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 15 CUT-FILL SECTION LOCATIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 5]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NO
		*2 START	*3 END	
1	2	0 + 0 0	5 + 0 0	2 2 0 1 1 5
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

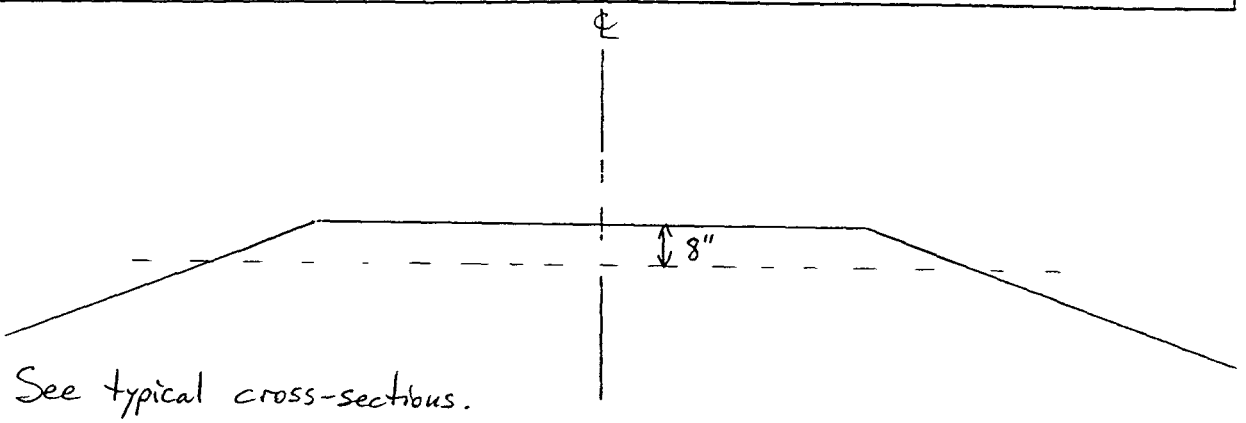
NOTES:

1. Indicate the type of subgrade section with one of the following: Cut... 1 Fill... 2

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 16 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 5]



See typical cross-sections.

Fill material used was the surrounding natural ground (clay+silt) with additional silt brought from stock piles where necessary. 12 % cement stabilizer was used to provide a working platform.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/3/97

SPS-1 CONSTRUCTION DATA SHEET 17 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 5]

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

- Rained hard 4/22 and 4/23 (standing water along roadbed)
- Subgrade compacted to 95%

PREPARER Timothy J Pasko EMPLOYER BRE DATE 8/29/97

RECEIVED OCT 2 7 1997

December 1991

SPS-1 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 6]

*1. LANE WIDTH (FEET) [1 2.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

*3. SUBSURFACE DRAINAGE LOCATION [3.]
Continuous Along Test Section... 1 Intermittent... 2 None... 3

*4. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

	SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5.	SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[3.]	[3.]
*6.	TOTAL WIDTH (FEET)	[0 4.]	[1 0.]
*7.	PAVED WIDTH (FEET)	[0 4.]	[1 0.]
8.	SHOULDER BASE TYPE (CODES-TABLE A.6)	[2 8.]	[2 8.]
9.	SURFACE THICKNESS (INCHES)	[_ 4. 0]	[_ 4. 0]
10.	SHOULDER BASE THICKNESS (INCHES)	[1 2. 0]	[1 2. 0]
11.	DIAMETER OF LONGITUDINAL DRAINPIPES (INCHES)		[_. _]
12.	SPACING OF LATERALS (FEET)		[_ _ _.]

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 6]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[5 3]				
2	[0 5]	[2 8]	[10.7]	9.2	11.7	0.5
3	[0 3]	[0 1]	[4.9]	3.9	5.4	0.3
4	[ ]	[ ]	[.]	.	.	.
5	[ ]	[ ]	[.]	.	.	.
6	[ ]	[ ]	[.]	.	.	.
7	[ ]	[ ]	[.]	.	.	.
8	[ ]	[ ]	[.]	.	.	.
9	[ ]	[ ]	[.]	.	.	.
10	[ ]	[ ]	[.]	.	.	.
11	[ ]	[ ]	[.]	.	.	.
12	[ ]	[ ]	[.]	.	.	.
13	[ ]	[ ]	[.]	.	.	.
14	[ ]	[ ]	[.]	.	.	.
15	[ ]	[ ]	[.]	.	.	.

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (FEET) [.]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/3/97

SPS-1 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 6]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 6-0 5-9 6]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers
Plant 1	[2]	R.E. Heidt	[1 0]	[1 5]	[2] [3] [ ]
Plant 2	[ ]		[ ]	[ ]	[ ] [ ] [ ]
Plant 3	[ ]		[ ]	[ ]	[ ] [ ] [ ]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify_____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER BLAW-KNOX

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER _____

6. SINGLE PASS LAYDOWN WIDTH (Feet) [.]

7. ATB PLACEMENT LIFTS
   - Layer Number [2]
   - Nominal First Lift Placement Thickness (Inches) [4.0]
   - Nominal Second Lift Placement Thickness (Inches) [4.0]
   - Nominal Third Lift Placement Thickness (Inches) [4.0]
   - Nominal Fourth Lift Placement Thickness (Inches) [.]

8. PATB PLACEMENT LIFTS
   - Layer Number [ ]
   - Nominal First Lift Placement Thickness (Inches) [.]
   - Nominal Second Lift Placement Thickness (Inches) [.]

9. AC BINDER COURSE LIFT
   - Layer Number [3]
   - Nominal First Lift Placement Thickness (Inches) [3.0]
   - Nominal Second Lift Placement Thickness (Inches) [.]

10. AC SURFACE COURSE LIFT
    - Layer Number [3]
    - Nominal First Lift Placement Thickness (Inches) [1.5]
    - Nominal Second Lift Placement Thickness (Inches) [.]

11. SURFACE FRICTION COURSE (If Placed)
    - Layer Number [ ]
    - Nominal Placement Thickness (Inches) [.]

12. TEST SECTION STATION OF TRANSVERSE JOINTS (within test section)
    - Binder Course [+]
    - Surface Course [-]
    - Surface Friction Course [+]

13. LOCATION OF LONGITUDINAL SURFACE JOINT [1]
    - Between lanes.. 1 Within lane.. 2
    - (specify offset from O/S feet) [12.0]

14. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.)_____

PREPARER [signature] EMPLOYER BRE DATE 9/10/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 6]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 6-0 5-9 6]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 8-1 0-9 6]
*3. LAYER NUMBER ATB [2]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.
Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA

Ingersoll-Rand used only (3 Vib - 2 Stat)

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _._				
8	C	Steel-Whl Tandem	_ _._				
9	D	Steel-Whl Tandem	_ _._				
10	E	Pneumatic-Tired	_ _._	_ _ _ _.			
11	F	Pneumatic-Tired	_ _._	_ _ _ _.			
12	G	Pneumatic-Tired	_ _._	_ _ _ _.			
13	H	Pneumatic-Tired	_ _._				
14	I	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
15	J	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
16	K	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
17	L	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _	_ _._
19	N	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
20	O	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
21	P	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	M	_
24	Coverages	_ 3.	_ 3.	_ 3.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	A	_
28	Coverages	_ 2.	_ 2.	_ 2.	_ _.
29	Air Temperature (°F)	_ 9 0.	_ 9 0.	_ 9 0.	_ _ _.
30	Compacted Thickness (In)	4.0	4.0	4.0	_._
31	Curing Period (Days)	_ _._	_ _ _	_ _._	_ _._

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 6]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 4-1 5-9 7]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]
*3. LAYER NUMBER AC [3]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.
Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA Ingersoll-Rand used only. (3 Vib, 2 Stat)

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _._				
8	C	Steel-Whl Tandem	_ _._				
9	D	Steel-Whl Tandem	_ _._				
10	E	Pneumatic-Tired	_ _._	_ _ _ _.			
11	F	Pneumatic-Tired	_ _._	_ _ _ _.			
12	G	Pneumatic-Tired	_ _._	_ _ _ _.			
13	H	Pneumatic-Tired	_ _._	_ _ _ _.			
14	I	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
15	J	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
16	K	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
17	L	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _	_ _._
19	N	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
20	O	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
21	P	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	_	_
24	Coverages	_ 3.	_ 3.	_ _.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	_	_
28	Coverages	_ 2.	_ 2.	_ _.	_ _.
29	Air Temperature (°F)	_ 9 0.	_ 9 0.	_ _ _.	_ _ _.
30	Compacted Thickness (In)	2.5	1.5	_._	_._
31	Curing Period (Days)	_ _._	_ _._	_ _._	_ _._

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 6]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	ATB	Binder Course	Surface Course	Surface Friction Layer
Measurement Method (A, B, C)[1]	B		A	
Number of Measurements	0 3		0 3	
Average (pcf)	1 4 1.5		1 4 4.7	
Maximum (pcf)	1 4 3.1		1 4 9.1	
Minimum (pcf)	1 4 0.1		1 4 1.9	
Standard Deviation (pcf)	1.5		3.7	
Layer Number	0 2	0 3	0 3	

[1]Measurement Method Backscatter... A Direct Transmission... B Air Gap... C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER 8350

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER 3411B

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION

6. PROFILOGRAPH MEASUREMENTS

Profilograph Type California... 1 Rainhart... 2
Profile Index (Inches/Mile)
Interpretation Method Manual.. 1 Mechanical.. 2 Computer.. 3
Height of Blanking Band (Inches)
Cutoff Height (Inches)

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) NO

PREPARER Timothy J. Nash EMPLOYER BRE DATE 9/4/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 6]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
0+00	0			9.1	5.0	
	36			10.0	4.6	
	72			10.2	4.7	
	108			10.2	5.0	
	144			10.3	5.3	
0+50	0			9.8	5.0	
	36			10.7	4.9	
	72			11.0	4.8	
	108			11.0	4.9	
	144			10.7	5.3	
1+00	0			9.7	5.0	
	36			10.1	4.9	
	72			10.3	4.9	
	108			10.3	5.0	
	144			10.3	5.4	
1+50	0			10.3	5.2	
	36			11.3	4.7	
	72			11.6	4.7	
	108			11.2	5.2	
	144			11.0	5.2	
2+00	0			10.4	4.8	
	36			10.8	4.6	
	72			10.8	4.7	
	108			10.7	4.8	
	144			10.6	5.0	
2+50	0			10.0	5.0	
	36			10.3	4.7	
	72			10.7	4.7	
	108			10.4	4.8	
	144			10.4	5.0	
3+00	0			10.1	4.8	
	36			10.4	4.6	
	72			11.0	4.6	
	108			10.8	4.8	
	144			10.8	5.2	
LAYER NUMBER[1]				02	03	

[1] from Sheet 4

PREPARER Geoffrey J. Martin EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 6]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 2 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
3+5 0	0			10.7	5.3	
	36			10.8	4.9	
	72			11.2	5.0	
	108			11.2	5.2	
	144			11.0	5.2	
4+0 0	0			11.4	3.8	
	36			10.8	4.7	
	72			11.2	4.7	
	108			10.9	4.9	
	144			10.8	5.0	
4+5 0	0			10.2	4.8	
	36			10.3	4.8	
	72			10.6	4.7	
	108			11.6	4.6	
	144			11.0	4.8	
5+0 0	0			9.8	4.8	
	36			10.2	4.4	
	72			10.6	4.6	
	108			10.7	4.6	
	144			10.7	4.8	
+_ _						
+_ _						
+_ _						

LAYER NUMBER[1]			02	03	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 14 SUBGRADE PREPARATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 6]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [0 4-0 9-9 6]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [0 4-2 2-9 6]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (TONS) [2 0.0]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[1]	[1 2.0]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (INCHES) [__ __]
(For Fill Sections Only)

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER [signature] EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 15 CUT-FILL SECTION LOCATIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 6]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NO
		*2 START	*3 END	
1	1	0 + 0 0	5 + 0 0	2 2 0 1 1 6
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

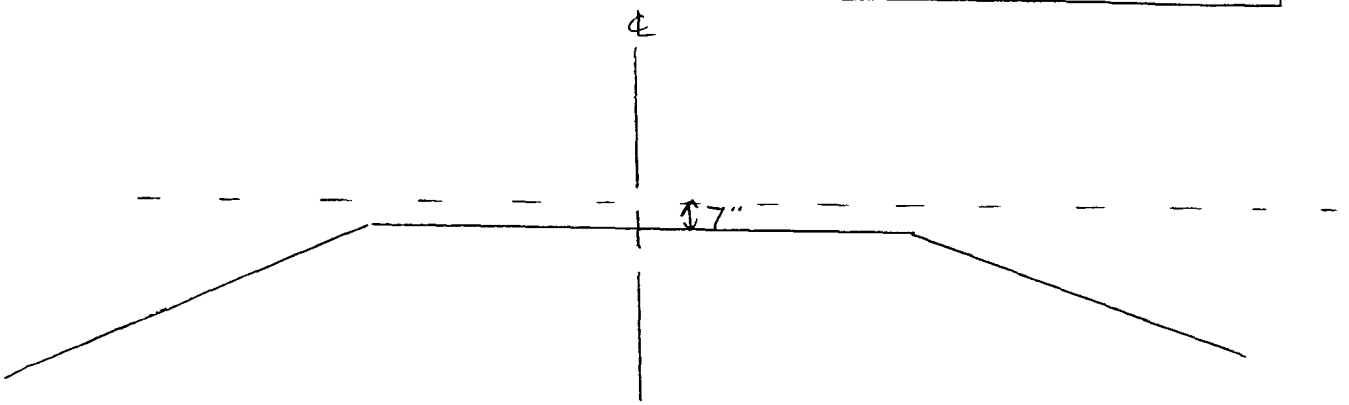
NOTES:

1. Indicate the type of subgrade section with one of the following: Cut... 1 Fill... 2

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER Timothy J. Nash EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 16 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 6]



See typical cross-section.

Seven inches were removed from the natural ground to achieve grade.

PREPARER [signature] EMPLOYER BRE DATE 9/3/97

SPS-1 CONSTRUCTION DATA SHEET 17 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 6]

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

- Rained hard 4/22 and 4/23 (standing water along roadbed)
- Subgrade compacted to 95%
- HMAC layer is approximately 0.8 inches greater than the design thickness.
- ATB layer is approximately 1.35 inches lower than the design thickness.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

RECEIVED OCT 2 7 1997

December 1991

SPS-1 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 7]

*1. LANE WIDTH (FEET) [1 2.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

*3. SUBSURFACE DRAINAGE LOCATION [3.]
Continuous Along Test Section... 1 Intermittent... 2 None... 3

*4. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5. SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[3.]	[3.]
*6. TOTAL WIDTH (FEET)	[0 4.]	[1 0.]
*7. PAVED WIDTH (FEET)	[0 4.]	[1 0.]
8. SHOULDER BASE TYPE (CODES-TABLE A.6)	[2 8.]	[2 8.]
9. SURFACE THICKNESS (INCHES)	[_ 7.0]	[_ 7.0]
10. SHOULDER BASE THICKNESS (INCHES)	[_ 4.0]	[_ 4.0]
11. DIAMETER OF LONGITUDINAL DRAINPIPES (INCHES)		[_.]
12. SPACING OF LATERALS (FEET)		[_ _ _.]

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 7]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[5 3]				
2	[1 1]	[2 5]	[8.]	---.-	---.-	---.-
3	[0 6]	[2 3]	[5.3]	4.1	7.0	0.8
4	[0 5]	[2 8]	[3.6]	2.4	4.5	0.5
5	[0 3]	[0 1]	[6.7]	5.7	8.0	0.6
6	[ ]	[ ]	[---.-]	---.-	---.-	---.-
7	[ ]	[ ]	[---.-]	---.-	---.-	---.-
8	[ ]	[ ]	[---.-]	---.-	---.-	---.-
9	[ ]	[ ]	[---.-]	---.-	---.-	---.-
10	[ ]	[ ]	[---.-]	---.-	---.-	---.-
11	[ ]	[ ]	[---.-]	---.-	---.-	---.-
12	[ ]	[ ]	[---.-]	---.-	---.-	---.-
13	[ ]	[ ]	[---.-]	---.-	---.-	---.-
14	[ ]	[ ]	[---.-]	---.-	---.-	---.-
15	[ ]	[ ]	[---.-]	---.-	---.-	---.-

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (FEET) [.]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER [signature] EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 7]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 6 - 0 5 - 9 6]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6 - 2 0 - 9 7]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers
Plant 1	[2]	R.E. Hoid	[1 0]	[1 5]	[4] [5] [ ]
Plant 2	[ ]		[ ]	[ ]	[ ] [ ] [ ]
Plant 3	[ ]		[ ]	[ ]	[ ] [ ] [ ]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify _____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER Blaw Knox

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER _____

6. SINGLE PASS LAYDOWN WIDTH (Feet) [1 2.0]

7. ATB PLACEMENT LIFTS
   - Layer Number [4]
   - Nominal First Lift Placement Thickness (Inches) [4.0]
   - Nominal Second Lift Placement Thickness (Inches) [.]
   - Nominal Third Lift Placement Thickness (Inches) [.]
   - Nominal Fourth Lift Placement Thickness (Inches) [.]

8. PATB PLACEMENT LIFTS
   - Layer Number [ ]
   - Nominal First Lift Placement Thickness (Inches) [.]
   - Nominal Second Lift Placement Thickness (Inches) [.]

9. AC BINDER COURSE LIFT
   - Layer Number [5]
   - Nominal First Lift Placement Thickness (Inches) [3.0]
   - Nominal Second Lift Placement Thickness (Inches) [3.0]

10. AC SURFACE COURSE LIFT
    - Layer Number [5]
    - Nominal First Lift Placement Thickness (Inches) [1.5]
    - Nominal Second Lift Placement Thickness (Inches) [.]

11. SURFACE FRICTION COURSE (If Placed)
    - Layer Number [ ]
    - Nominal Placement Thickness (Inches) [.]

12. TEST SECTION STATION OF TRANSVERSE JOINTS (within test section)
    - Binder Course [+]
    - Surface Course [+]
    - Surface Friction Course [+]

13. *LOCATION OF LONGITUDINAL SURFACE JOINT* [1]
    - Between lanes.. 1 Within lane.. 2
    - (specify offset from O/S feet) [1 2.0]

14. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) _____

PREPARER [signature] EMPLOYER BRE DATE 9/10/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 7]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 7-3 0-9 6]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 8-1 0-9 6]
*3. LAYER NUMBER [4]

ATB

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.
Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA

Ingersoll-Rand used only (3 Vib, 2 Stat)

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _._				
8	C	Steel-Whl Tandem	_ _._				
9	D	Steel-Whl Tandem	_ _._				
10	E	Pneumatic-Tired	_ _._	_ _ _ _.			
11	F	Pneumatic-Tired	_ _._	_ _ _ _.			
12	G	Pneumatic-Tired	_ _._	_ _ _ _.			
13	H	Pneumatic-Tired	_ _._	_ _ _ _.			
14	I	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
15	J	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
16	K	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
17	L	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _	_ _._
19	N	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
20	O	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
21	P	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	_	_	_
24	Coverages	_ 3.	_ _.	_ _.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	_	_	_
28	Coverages	_ 2.	_ _.	_ _.	_ _.
29	Air Temperature (°F)	_ 9 0.	_ _ _.	_ _ _.	_ _ _.
30	Compacted Thickness (In)	4.0	_._	_._	_._
31	Curing Period (Days)	_ _._	_ _ _	_ _._	_ _._

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 7]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 4-1 5-9 7]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]
*3. LAYER NUMBER AC [5]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.__
Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _.__				
8	C	Steel-Whl Tandem	_ _.__				
9	D	Steel-Whl Tandem	_ _.__				
10	E	Pneumatic-Tired	_ _.__	_ _ _ _.			
11	F	Pneumatic-Tired	_ _.__	_ _ _ _.			
12	G	Pneumatic-Tired	_ _.__	_ _ _ _.			
13	H	Pneumatic-Tired	_ _.__				
14	I	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
15	J	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
16	K	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
17	L	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _	_ _.__
19	N	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
20	O	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
21	P	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	M	_
24	Coverages	_ 3.	_ 3.	_ 3.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	A	_
28	Coverages	_ 2.	_ 2.	_ 2.	_ _.
29	Air Temperature (°F)	_ 9 0.	_ 9 0.	_ 9 0.	_ _ _.
30	Compacted Thickness (In)	3.0	2.5	1.5	_.__
31	Curing Period (Days)	_ _.__	_ _.__	_ _.__	_ _.__

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 7]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	ATB	Binder Course	Surface Course	Surface Friction Layer
Measurement Method (A, B, C)[1]	B		A	
Number of Measurements	0 3		0 3	
Average (pcf)	1 4 5.5		1 4 4.8	
Maximum (pcf)	1 4 7.4		1 4 7.7	
Minimum (pcf)	1 4 4.5		1 4 3.0	
Standard Deviation (pcf)	1.5		2.4	
Layer Number	0 4	0 5	0 5	

[1]Measurement Method Backscatter... A Direct Transmission... B Air Gap... C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER 8350

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER 3411 B

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION

6. PROFILOGRAPH MEASUREMENTS

Profilograph Type California... 1 Rainhart... 2
Profile Index (Inches/Mile)
Interpretation Method Manual.. 1 Mechanical.. 2 Computer.. 3
Height of Blanking Band (Inches)
Cutoff Height (Inches)

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) NO

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/4/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 7]

LAYER THICKNESS MEASUREMENTS (Inches)

SHEET 1 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
0+00	0	6.2				
	36	5.8				
	72	5.8				
	108	5.9				
	144	6.0				
0+50	0	4.8				
	36	4.8				
	72	4.9				
	108	4.8				
	144	4.8				
1+00	0	7.0		2.5	6.4	
	36	6.8		2.9	6.0	
	72	6.8		3.0	6.1	
	108	6.5		3.1	6.4	
	144	6.2		3.2	6.2	
1+50	0	5.4		3.0	7.3	
	36	4.8		3.6	7.0	
	72	4.4		4.0	7.1	
	108	4.2		3.5	7.3	
	144	4.2		3.4	7.1	
2+00	0	5.2		3.1	7.8	
	36	5.0		3.4	7.1	
	72	5.6		3.5	7.3	
	108	5.3		3.5	7.3	
	144	5.4		3.6	7.3	
2+50	0	6.2		2.9	6.5	
	36	6.1		3.2	6.1	
	72	6.4		3.4	6.0	
	108	6.1		3.5	6.4	
	144	6.6		3.2	6.2	
3+00	0	5.3		2.4	7.9	
	36	4.8		2.9	7.7	
	72	4.9		3.4	7.4	
	108	5.2		3.1	7.7	
	144	5.2		3.2	7.9	
LAYER NUMBER[1]		03		04	05	

[1] from Sheet 4

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [6 1] * TEST SECTION NO. [1 7]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 2 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
3+5 0	0	5.8		3.5	6.6	
	36	5.6		4.0	6.1	
	72	5.9		4.1	5.6	
	108	5.6		4.0	6.0	
	144	6.1		4.0	6.0	
4+0 0	0	4.1		3.6	6.5	
	36	4.1		4.1	6.0	
	72	4.2		4.4	5.8	
	108	4.1		4.2	6.0	
	144	4.4		4.2	6.0	
4+5 0	0	5.2		3.0	6.1	
	36	4.7		3.5	6.0	
	72	4.7		3.7	6.1	
	108	4.6		4.0	6.2	
	144	4.6		4.0	6.4	
5+0 0	0	4.9		3.6	7.2	
	36	5.4		4.1	6.6	
	72	4.8		4.4	6.7	
	108	4.6		4.2	7.1	
	144	4.7		4.1	7.0	
+						
+						
+						
LAYER NUMBER[1]		03		04	05	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 13 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 7]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [0 4 - 2 5 - 9 6]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [0 5 - 0 6 - 9 6]

*3. LAYER NUMBER (From Sheet 4) [3]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [3]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (TONS) [1 1 . 3]

*6. LIFT THICKNESSES
Nominal First Lift Placement Thickness (inches) [0 4]
Nominal Second Lift Placement Thickness (inches) [ ]
Nominal Third Lift Placement Thickness (inches) [ ]
Nominal Fourth Lift Placement Thickness (inches) [ ]

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) Rained hard 4/22 and 4/23 (Standing water along roadbed)

PREPARER Timothy J. Nash EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 14 SUBGRADE PREPARATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 7]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [04-09-96]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [04-22-96]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (TONS) [20.0]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[1]	[12.0]
*6. STABILIZING AGENT 2	[__]	[__.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (INCHES) [08]
(For Fill Sections Only)

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 15 CUT-FILL SECTION LOCATIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 7]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NO
		*2 START	*3 END	
1	2	0 + 0 0	5 + 0 0	2 2 0 1 1 7
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

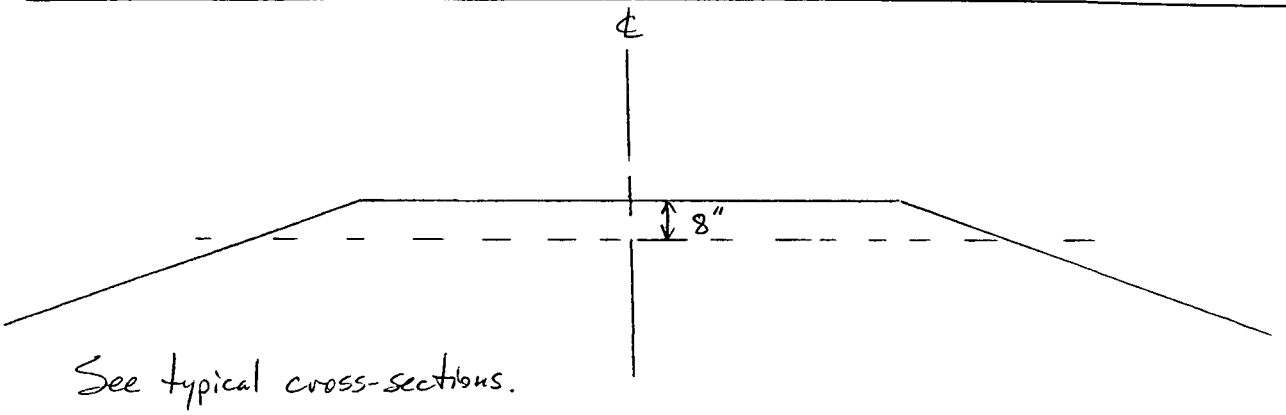
NOTES:

1. Indicate the type of subgrade section with one of the following: Cut... 1 Fill... 2

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER Timothy G. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 16 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 7]



See typical cross-sections.

Fill material used was the surrounding natural ground (clay+silt) with additional silt brought from stock piles where necessary. 12% cement stabilizer was used to provide a working platform.

PREPARER Timothy J Martin EMPLOYER BRE DATE 9/3/97

SPS-1 CONSTRUCTION DATA SHEET 17 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 7]

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

- Rained hard 4/22 and 4/23 (standing water along roadbed)
- Subgrade compacted to 95%
- DGAB is approximately 1.3" high.

PREPARER Timothy J. Pasko EMPLOYER BRE DATE 8/29/97

December 1991

RECEIVED OCT 2 7 1997

SPS-1 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 8]

*1. LANE WIDTH (FEET) [1 2.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

*3. SUBSURFACE DRAINAGE LOCATION [3.]
Continuous Along Test Section... 1 Intermittent... 2 None... 3

*4. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5. SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[3.]	[3.]
*6. TOTAL WIDTH (FEET)	[0 4.]	[1 0.]
*7. PAVED WIDTH (FEET)	[0 4.]	[1 0.]
8. SHOULDER BASE TYPE (CODES-TABLE A.6)	[2 8.]	[2 8.]
9. SURFACE THICKNESS (INCHES)	[_ 4. 0]	[_ 4. 0]
10. SHOULDER BASE THICKNESS (INCHES)	[_ 8. 0]	[_ 8. 0]
11. DIAMETER OF LONGITUDINAL DRAINPIPES (INCHES)		[_. _]
12. SPACING OF LATERALS (FEET)		[_ _ _.]

PREPARER [signature] EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 8]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[5 3]				
2	[1 1]	[2 5]	[_ _7._]	_ _ _._	_ _ _._	_ _ _._
3	[0 6]	[2 3]	[_ _4.1]	_ _3.0	_ _5.5	_ _0.6
4	[0 5]	[2 8]	[_ _7.2]	_ _5.8	_ _8.3	_ _0.6
5	[0 3]	[0 1]	[_ _4.5]	_ _3.6	_ _5.2	_ _0.4
6	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
7	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
8	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
9	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
10	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
11	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
12	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
13	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
14	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
15	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (FEET) [_ _ . _]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 8]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 6-0 5-9 6]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers
Plant 1	[2]	RE Heidt H709	[1 0]	[1 5]	[4] [5] [__]
Plant 2	[__]	_____	[__ __]	[__ __]	[__] [__] [__]
Plant 3	[__]	_____	[__ __]	[__ __]	[__] [__] [__]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify_____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER BLAW-KNOX

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER _____

6. SINGLE PASS LAYDOWN WIDTH (Feet) [1 2.0]

7. ATB PLACEMENT LIFTS
   - Layer Number [__ 4]
   - Nominal First Lift Placement Thickness (Inches) [4.0]
   - Nominal Second Lift Placement Thickness (Inches) [4.0]
   - Nominal Third Lift Placement Thickness (Inches) [__.__]
   - Nominal Fourth Lift Placement Thickness (Inches) [__.__]

8. PATB PLACEMENT LIFTS
   - Layer Number [__ __]
   - Nominal First Lift Placement Thickness (Inches) [__.__]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

9. AC BINDER COURSE LIFT
   - Layer Number [__ 5]
   - Nominal First Lift Placement Thickness (Inches) [3.0]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

10. AC SURFACE COURSE LIFT
    - Layer Number [__ 5]
    - Nominal First Lift Placement Thickness (Inches) [1.5]
    - Nominal Second Lift Placement Thickness (Inches) [__.__]

11. SURFACE FRICTION COURSE (If Placed)
    - Layer Number [__ __]
    - Nominal Placement Thickness (Inches) [__.__]

12. TEST SECTION STATION OF TRANSVERSE JOINTS (within test section)
    - Binder Course [__ + __ __]
    - Surface Course [__ + __ __]
    - Surface Friction Course [__ + __ __]

13. LOCATION OF LONGITUDINAL SURFACE JOINT [1]
    - Between lanes.. 1 Within lane.. 2
    - (specify offset from O/S feet) [1 2.0]

14. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) BRIEF SHOWERS - DID NOT STOP CONSTRUCTION

PREPARER _____ EMPLOYER _____ DATE _____

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 8]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 7-3 0-9 6]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 8-1 0-9 6]
*3. LAYER NUMBER ATB [4]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.__
Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA Ingersoll-Rand used only (3 Vib, 2 Stat)

	Roller Code =	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _.__				
8	C	Steel-Whl Tandem	_ _.__				
9	D	Steel-Whl Tandem	_ _.__				
10	E	Pneumatic-Tired	_ _.__	_ _ _ _.			
11	F	Pneumatic-Tired	_ _.__	_ _ _ _.			
12	G	Pneumatic-Tired	_ _.__	_ _ _ _.			
13	H	Pneumatic-Tired	_ _.__	.			
14	I	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
15	J	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
16	K	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
17	L	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _	_ _.__
19	N	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
20	O	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
21	P	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	_	_
24	Coverages	_ 3.	_ 3.	_ _.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	_	_
28	Coverages	_ 2.	_ 2.	_ _.	_ _.
29	Air Temperature (°F)	_ 9 0.	_ 9 0	_ _ _.	_ _ _.
30	Compacted Thickness (In)	4.0	4 0	_.__	_.__
31	Curing Period (Days)	_ _ _	_ _ _	_ _.__	_ _.__

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 8]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 4-1 5-9 7]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]
*3. LAYER NUMBER AC [5]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.__
Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA Ingersoll-Rand used only (3 Vib. 2 Stat)

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _.__				
8	C	Steel-Whl Tandem	_ _.__				
9	D	Steel-Whl Tandem	_ _.__				
10	E	Pneumatic-Tired	_ _.__	_ _ _ _.			
11	F	Pneumatic-Tired	_ _.__	_ _ _ _.			
12	G	Pneumatic-Tired	_ _.__	_ _ _ _.			
13	H	Pneumatic-Tired	_ _.__				
14	I	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
15	J	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
16	K	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
17	L	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _.	_ _.__
19	N	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
20	O	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
21	P	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	_	_
24	Coverages	_ 3.	_ 3.	_ _.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	_	_
28	Coverages	_ 2.	_ 2.	_ _.	_ _.
29	Air Temperature (°F)	_ 9 0.	_ 9 0.	_ _ _.	_ _ _.
30	Compacted Thickness (In)	2.5	1.5	_.__	_.__
31	Curing Period (Days)	_ _.__	_ _.__	_ _.__	_ _.__

PREPARER Timothy G. Martin EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 8]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	ATB	Binder Course	Surface Course	Surface Friction Layer
Measurement Method (A, B, C)[1]	B		A	
Number of Measurements	0 3		0 3	
Average (pcf)	1 4 0.1	.	1 4 9.6	.
Maximum (pcf)	1 4 2.0	.	1 5 0.0	.
Minimum (pcf)	1 3 9.2	.	1 4 9.3	.
Standard Deviation (pcf)	1.5	.	0.4	.
Layer Number	0 4	0 5	0 5	

[1]Measurement Method Backscatter... A Direct Transmission... B Air Gap... C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER 8350

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER 3411B

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION

6. PROFILOGRAPH MEASUREMENTS

Profilograph Type California... 1 Rainhart... 2
Profile Index (Inches/Mile)
Interpretation Method Manual.. 1 Mechanical.. 2 Computer.. 3
Height of Blanking Band (Inches) .
Cutoff Height (Inches) .

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) NO

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/4/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 8]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
0+00	0	3.7	6.5	6.5	4.8	
	36	4.4	6.7	6.7	4.2	
	72	4.3	7.2	7.2	4.1	
	108	4.4		7.0	4.3	
	144	4.6		6.6	4.6	
0+50	0	4.0		6.5	4.2	
	36	4.1		7.1	4.0	
	72	4.1		7.3	4.0	
	108	4.3		7.1	4.1	
	144	4.1		7.2	4.2	
1+00	0	4.7		6.1	4.7	
	36	4.6		7.0	4.2	
	72	4.7		7.2	4.1	
	108	4.8		7.1	4.1	
	144	4.4		7.1	4.3	
1+50	0	3.5		6.8	4.5	
	36	3.2		7.8	3.8	
	72	3.8		7.3	4.0	
	108	3.8		7.1	4.4	
	144	4.2		6.7	4.4	
2+00	0	3.8		6.6	4.7	
	36	4.0		7.2	4.2	
	72	4.1		7.3	4.2	
	108	4.2		7.1	4.4	
	144	4.0		7.2	4.4	
2+50	0	4.4		6.4	4.8	
	36	4.2		7.0	4.2	
	72	4.1		7.1	4.3	
	108	4.2		7.0	4.3	
	144	4.6		7.0	4.3	
3+00	0	3.8		7.6	4.1	
	36	3.8		8.0	3.6	
	72	4.0		8.2	3.7	
	108	3.7		8.3	4.0	
	144	3.7		7.9	4.1	
LAYER NUMBER[1]		03		04	05	

[1] from Sheet 4

PREPARER Timothy J. Muha EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 8]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 2 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
3+5 C	0	5.3	~~5.8~~	5.8	4.9	
	36	5.5	~~6.0~~	6.0	4.7	
	72	5.5	~~6.2~~	6.2	4.8	
	108	5.3	~~6.4~~	6.4	4.7	
	144	5.0	~~6.7~~	6.7	4.7	
4+0 C	0	3.4		7.2	5.2	
	36	3.5		7.3	4.9	
	72	3.1		7.8	5.2	
	108	3.7		7.7	5.2	
	144	4.0		7.8	5.0	
4+5 C	0	3.4		7.4	4.8	
	36	3.2		7.9	4.6	
	72	3.2		7.9	4.7	
	108	3.0		7.9	4.8	
	144	3.0		7.8	4.8	
5+0 C	0	3.5		6.7	4.6	
	36	3.6		7.1	4.3	
	72	3.8		6.8	4.7	
	108	3.6		7.0	4.6	
	144	3.7		6.7	4.8	
+						
+						
+						
LAYER NUMBER[1]		03		04	05	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 13 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 8]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [0 4-2 5-9 6]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [0 5-0 6-9 6]

*3. LAYER NUMBER (From Sheet 4) [3]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [3]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (TONS) [1 1.3]

*6. LIFT THICKNESSES
Nominal First Lift Placement Thickness (inches) [0 4]
Nominal Second Lift Placement Thickness (inches) [_ _]
Nominal Third Lift Placement Thickness (inches) [_ _]
Nominal Fourth Lift Placement Thickness (inches) [_ _]

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) Rained hard 4/22 and 4/23 (standing water along roadbed)

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 14 SUBGRADE PREPARATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 8]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [0 4-0 9-9 6]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [0 4-2 2-9 6]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (TONS) [2 0.0]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[1]	[1 2.0]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (INCHES) [0 7]
(For Fill Sections Only)

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER [signature] EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 15 CUT-FILL SECTION LOCATIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 8]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NO
		*2 START	*3 END	
1	2	0 + 0 0	5 + 0 0	2 2 0 1 1 8
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

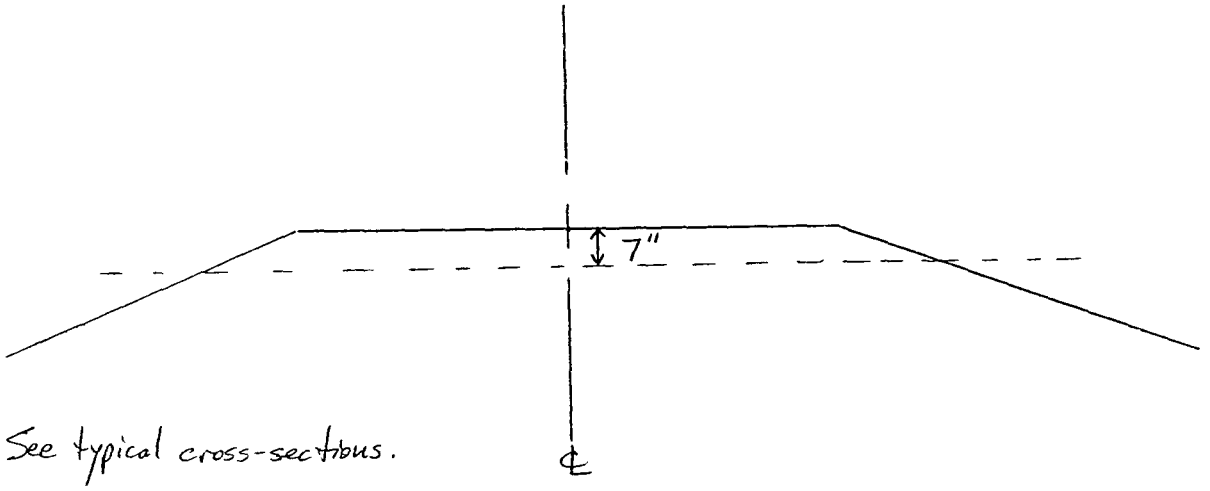
NOTES:

1. Indicate the type of subgrade section with one of the following:
   Cut... 1 Fill... 2

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER BRE EMPLOYER Timothy J. Martin DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 16 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 8]



See typical cross-sections.

Fill material used was the surrounding natural ground (clay + silt) with additional silt brought from stock piles where necessary. 12% cement stabilizer was used to provide a working platform.

PREPARER [signature] EMPLOYER BRE DATE 9/3/97

SPS-1 CONSTRUCTION DATA SHEET 17 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 8]

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

- Rained hard 4/22 and 4/23 (standing water along roadbed)
- Subgrade compacted to 95%

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

RECEIVED OCT 27 1997

SPS-1 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 9]

*1. LANE WIDTH (FEET) [1 2.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

*3. SUBSURFACE DRAINAGE LOCATION [1.]
Continuous Along Test Section... 1 Intermittent... 2 None... 3

*4. SUBSURFACE DRAINAGE TYPE [2.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5. SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[3.]	[3.]
*6. TOTAL WIDTH (FEET)	[0 4.]	[1 0.]
*7. PAVED WIDTH (FEET)	[0 4.]	[1 0.]
8. SHOULDER BASE TYPE (CODES-TABLE A.6)	[3 1.]	[3 1.]
9. SURFACE THICKNESS (INCHES)	[_ 7. 0]	[_ 7. 0]
10. SHOULDER BASE THICKNESS (INCHES)	[_ 4. 0]	[_ 4. 0]
11. DIAMETER OF LONGITUDINAL DRAINPIPES (INCHES)		[4. 0]
12. SPACING OF LATERALS (FEET)		[2 0 0.]

PREPARER Lindsay J. Martin EMPLOYER BRE DATE 7/14/97

SPS-1 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 9]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[5 3]	[redacted]	[redacted]	[redacted]	[redacted]
2	[1 1]	[2 5]	[8.]	.	.	.
3	[0 6]	[2 3]	[4.4]	3.5	5.1	0.3
4	[0 5]	[3 1]	[3.6]	2.8	4.5	0.4
5	[0 3]	[0 1]	[6.7]	6.1	7.2	0.3
6	[ ]	[ ]	[.]	.	.	.
7	[ ]	[ ]	[.]	.	.	.
8	[ ]	[ ]	[.]	.	.	.
9	[ ]	[ ]	[.]	.	.	.
10	[ ]	[ ]	[.]	.	.	.
11	[ ]	[ ]	[.]	.	.	.
12	[ ]	[ ]	[.]	.	.	.
13	[ ]	[ ]	[.]	.	.	.
14	[ ]	[ ]	[.]	.	.	.
15	[ ]	[ ]	[.]	.	.	.

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (FEET) [.]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 7/14/97

SPS-1 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 9]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 7-1 0-9 6]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers		
Plant 1	[2]	R.E. Heidt H709	[1 0]	[1 5]	[4]	[5]	[__]
Plant 2	[__]		[__ __ __]	[__ __]	[__]	[__]	[__]
Plant 3	[__]		[__ __ __]	[__ __]	[__]	[__]	[__]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify_____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER (AC) Blaw-Knox
(PATB) Matmaker SA-150, Barber Green

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER _____

6. SINGLE PASS LAYDOWN WIDTH (Feet) [1 2.0]

7. ATB PLACEMENT LIFTS
Layer Number [__ __]
Nominal First Lift Placement Thickness (Inches) [__.__]
Nominal Second Lift Placement Thickness (Inches) [__.__]
Nominal Third Lift Placement Thickness (Inches) [__.__]
Nominal Fourth Lift Placement Thickness (Inches) [__.__]

8. PATB PLACEMENT LIFTS
Layer Number [__ 4]
Nominal First Lift Placement Thickness (Inches) [4.5]
Nominal Second Lift Placement Thickness (Inches) [__.__]

9. AC BINDER COURSE LIFT
Layer Number [__ 5]
Nominal First Lift Placement Thickness (Inches) [3.5]
Nominal Second Lift Placement Thickness (Inches) [3.0]

10. AC SURFACE COURSE LIFT
Layer Number [__ 5]
Nominal First Lift Placement Thickness (Inches) [7.5]
Nominal Second Lift Placement Thickness (Inches) [__.__]

11. SURFACE FRICTION COURSE (If Placed)
Layer Number [__ __]
Nominal Placement Thickness (Inches) [__.__]

12. TEST SECTION STATION OF TRANSVERSE JOINTS (within test section)
Binder Course [__ + __ __]
Surface Course [__ - __ __]
Surface Friction Course [__ + __ __]

13. LOCATION OF LONGITUDINAL SURFACE JOINT [1]
Between lanes.. 1 Within lane.. 2
(specify offset from O/S feet) [1 2.0]

14. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.)_____

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/8/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 7] * TEST SECTION NO. [1 9]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 6-2 9-9 6]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 7-2 3-9 6]
*3. LAYER NUMBER [4]

PATB

*4. MIXING TEMPERATURE (°F) [2 8 0.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 5 0.
Minimum..... _ _ _.
Standard Deviation... _ _.

Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA Roller was a Ingersoll-Rand (3 Vib passes, and 2 Std passes)

	Roller Code *	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _.				
8	C	Steel-Whl Tandem	_ _.				
9	D	Steel-Whl Tandem	_ _.				
10	E	Pneumatic-Tired	_ _.	_ _ _ _			
11	F	Pneumatic-Tired	_ _.	_ _ _ _			
12	G	Pneumatic-Tired	_ _.	_ _ _ _			
13	H	Pneumatic-Tired	_ _.	_ _ _ _			
14	I	Single-Drum Vibr.	_ _.		_ _ _ _	_ _ _	_ _ _
15	J	Single-Drum Vibr.	_ _.		_ _ _ _	_ _ _	_ _ _
16	K	Single-Drum Vibr.	_ _.		_ _ _ _	_ _ _	_ _ _
17	L	Single-Drum Vibr.	_ _.		_ _ _ _	_ _ _	_ _ _
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _	_ _ _	_ _ _
19	N	Double-Drum Vibr.	_ _.		_ _ _ _	_ _ _	_ _ _
20	O	Double-Drum Vibr.	_ _.		_ _ _ _	_ _ _	_ _ _
21	P	Double-Drum Vibr.	_ _.		_ _ _ _	_ _ _	_ _ _
22	Q	Other:					

	COMPACTION DATA	First Life	Second Life	Third Life	Fourth Life
	BREAKDOWN				
23	Roller Code (A-Q)	M	_	_	_
24	Coverages	_ 3.	_ _.	_ _.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)		_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	M	_	_	_
28	Coverages	_ 2.	_ _.	_ _.	_ _.
29	Air Temperature (°F)	_ 8 0.	_ _ _	_ _ _	_ _ _
30	Compacted Thickness (In)	4.0	_.__	_.__	...
31	Curing Period (Days)	_ 2.0	..._	_.__	_ _..

PREPARER [signature] EMPLOYER BGE DATE 10/24/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 9]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 4 - 1 5 - 9 7]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6 - 2 0 - 9 7]
*3. LAYER NUMBER [5] AC
*4. MIXING TEMPERATURE (°F) [3 1 5 .]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0 .
Minimum..... _ _ _ .
Standard Deviation... _ _ . _
Number of Tests ..... _ _ .
Maximum..... _ _ _ .

ROLLER DATA *Ingersoll Rand used only (3 Vib, 2 Stat)*

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4 . 2				
7	B	Steel-Whl Tandem	_ _ . _				
8	C	Steel-Whl Tandem	_ _ . _				
9	D	Steel-Whl Tandem	_ _ . _				
10	E	Pneumatic-Tired	_ _ . _	_ _ _ _ .			
11	F	Pneumatic-Tired	_ _ . _	_ _ _ _ .			
12	G	Pneumatic-Tired	_ _ . _	_ _ _ _ .			
13	H	Pneumatic-Tired	_ _ . _				
14	I	Single-Drum Vibr.	_ _ . _		_ _ _ _ .	_ _ _	_ _ . _
15	J	Single-Drum Vibr.	_ _ . _		_ _ _ _ .	_ _ _	_ _ . _
16	K	Single-Drum Vibr.	_ _ . _		_ _ _ _ .	_ _ _	_ _ . _
17	L	Single-Drum Vibr.	_ _ . _		_ _ _ _ .	_ _ _	_ _ . _
18	M	Double-Drum Vibr.	1 4 . 2		_ _ _ _ .	_ _ _	_ _ . _
19	N	Double-Drum Vibr.	_ _ . _		_ _ _ _ .	_ _ _	_ _ . _
20	O	Double-Drum Vibr.	_ _ . _		_ _ _ _ .	_ _ _	_ _ . _
21	P	Double-Drum Vibr.	_ _ . _		_ _ _ _ .	_ _ _	_ _ . _
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	M	_
24	Coverages	_ 3 .	_ 3 .	_ 3 .	_ _ .
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _ .	_ _ .	_ _ .	_ _ .
	FINAL				
27	Roller Code (A-Q)	A	A	A	_
28	Coverages	_ 2 .	_ 2 .	_ 2 .	_ _ .
29	Air Temperature (°F)	_ 9 5 .	_ 9 5 .	_ 9 5 .	_ _ _ .
30	Compacted Thickness (In)	3 . 0	2 . 5	1 . 5	_ . _
31	Curing Period (Days)	_ _ . _	_ _ . _	_ _ . _	_ _ . _

PREPARER *Timothy J. Martin* EMPLOYER *BRE* DATE *10/24/97*

SPS-1 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 9]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	ATB	Binder Course	Surface Course	Surface Friction Layer
Measurement Method (A, B, C)[1]	__	B	A	__
Number of Measurements	__ __	0 3	0 3	__ __
Average (pcf)	__ __ __.__	1 3 6.8	1 4 1.4	__ __ __.__
Maximum (pcf)	__ __ __.__	1 3 9.0	1 4 3.3	__ __ __.__
Minimum (pcf)	__ __ __.__	1 3 2.9	1 3 9.1	__ __ __.__
Standard Deviation (pcf)	__ __ __.__	__ __ 3.2	__ __ 2.1	__ __ __.__
Layer Number	0 4	0 5	0 5	__ __

[1]Measurement Method Backscatter... A Direct Transmission... B Air Gap... C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER 8350

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER 3411 B

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION __ __ __ __ __

6. PROFILOGRAPH MEASUREMENTS

Profilograph Type California... 1 Rainhart... 2 __
Profile Index (Inches/Mile) __ __
Interpretation Method Manual.. 1 Mechanical.. 2 Computer.. 3 __
Height of Blanking Band (Inches) __.__ __
Cutoff Height (Inches) __.__ __

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) NO

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/4/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 9]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
0+00	0	4.7	3.4	—	7.2	—
	36	4.6	3.6	—	7.0	—
	72	4.7	4.1	—	6.7	—
	108	4.4	4.1	—	6.8	—
	144	4.4	4.1	—	6.7	—
0+50	0	4.7	3.2	—	6.7	—
	36	4.6	3.4	—	7.2	—
	72	4.6	3.5	—	6.8	—
	108	5.0	3.2	—	7.0	—
	144	4.3	4.0	—	7.0	—
1+00	0	4.8	3.0	—	6.5	—
	36	4.9	2.8	—	6.7	—
	72	4.8	3.0	—	6.5	—
	108	4.8	3.0	—	6.8	—
	144	4.4	3.2	—	6.8	—
1+50	0	4.8	3.0	—	6.2	—
	36	4.7	3.0	—	6.5	—
	72	4.1	3.8	—	6.1	—
	108	4.1	3.7	—	6.6	—
	144	4.2	3.4	—	6.6	—
2+00	0	4.3	4.0	—	6.5	—
	36	4.4	3.8	—	6.5	—
	72	4.6	4.0	—	6.4	—
	108	4.4	4.0	—	6.8	—
	144	4.2	4.1	—	6.6	—
2+50	0	4.3	3.5	—	6.8	—
	36	4.4	3.2	—	7.2	—
	72	4.3	4.3	—	6.2	—
	108	3.7	4.4	—	6.5	—
	144	4.0	3.6	—	7.1	—
3+00	0	4.7	3.2	—	6.5	—
	36	4.3	3.1	—	6.8	—
	72	4.2	3.6	—	6.5	—
	108	4.3	3.5	—	6.7	—
	144	4.3	3.2	—	7.0	—
LAYER NUMBER[1]		03	02	—	01	—

[1] from Sheet 4

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 9]

LAYER THICKNESS MEASUREMENTS (Inches)

SHEET 2 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
3+50	0	4.2	3.5		6.6	
	36	4.3	3.5		6.7	
	72	4.1	4.3		6.1	
	108	4.2	4.2		6.5	
	144	4.1	4.1		6.8	
4+00		3.8	3.5		6.2	
		4.2	3.4		6.4	
		4.1	3.7		6.2	
		4.3	3.5		6.5	
		4.6	3.2		6.6	
4+50		4.7	2.8		6.7	
		4.8	3.4		6.4	
		4.6	3.7		6.1	
		4.4	3.6		6.4	
		4.4	3.4		6.7	
5+00		4.2	3.0		6.8	
		4.1	3.1		7.0	
		4.1	3.5		6.5	
		3.6	3.6		6.8	
		3.5	3.6		6.8	
+						
+						
+						
LAYER NUMBER[1]		03	02		01	

[1] from Sheet 4

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 13 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 9]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [0 4-2 5-9 6]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [0 5-0 3-9 6]

*3. LAYER NUMBER (From Sheet 4) [3]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [3]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (TONS) [1 1.3]

*6. LIFT THICKNESSES
Nominal First Lift Placement Thickness (inches) [0 4]
Nominal Second Lift Placement Thickness (inches) [_ _]
Nominal Third Lift Placement Thickness (inches) [_ _]
Nominal Fourth Lift Placement Thickness (inches) [_ _]

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) Rained 4/22 and 4/23 (standing water along roadside)

PREPARER [signature] EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 14 SUBGRADE PREPARATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 9]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [0 4-0 9-9 6]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [0 4-2 2-9 6]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (TONS) [2 0.0]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[1]	[1 2.0]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (INCHES) [0 8]
(For Fill Sections Only)

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER Timothy J Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 15 CUT-FILL SECTION LOCATIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 9]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NO
		*2 START	*3 END	
1	2	0 + 0 0	5 + 0 0	2 2 0 1 1 9
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

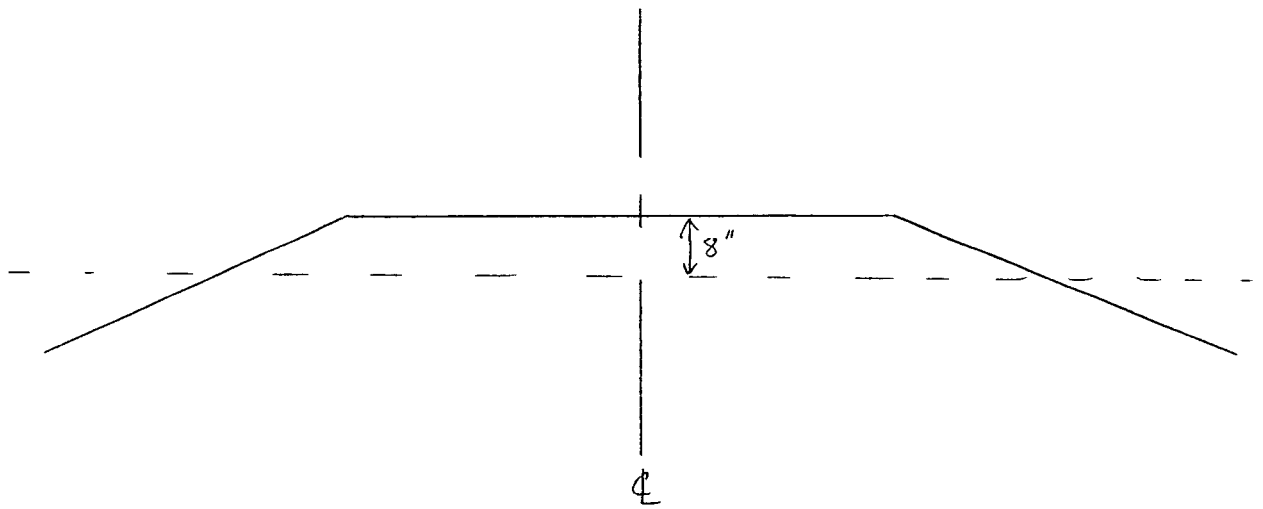
NOTES:

1. Indicate the type of subgrade section with one of the following: Cut... 1 Fill... 2

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 16 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 9]



Fill material used was natural ground (clay and silt) with additional silt brought from stock pile where needed. 12% cement was then added as a working platform.

PREPARER BRE EMPLOYER [illegible] DATE 9/3/97

SPS-1 CONSTRUCTION DATA SHEET 17 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [1 9]

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

Rained hard 4/22 and 4/23 (Standing water along roadbed)
Subgrade compacted to 95%
Drainage outlets were retrofited to the longitudinal pipe after the paving of the final surface.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

RECEIVED OCT 27 1997

December 1991

SPS-1 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 0]

*1. LANE WIDTH (FEET) [1 2.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

*3. SUBSURFACE DRAINAGE LOCATION [1.]
Continuous Along Test Section... 1 Intermittent... 2 None... 3

*4. SUBSURFACE DRAINAGE TYPE [2.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5. SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[3.]	[3.]
*6. TOTAL WIDTH (FEET)	[0 4.]	[1 0.]
*7. PAVED WIDTH (FEET)	[0 4.]	[1 0.]
8. SHOULDER BASE TYPE (CODES-TABLE A.6)	[3 1.]	[3 1.]
9. SURFACE THICKNESS (INCHES)	[4.0]	[4.0]
10. SHOULDER BASE THICKNESS (INCHES)	[4.0]	[4.0]
11. DIAMETER OF LONGITUDINAL DRAINPIPES (INCHES)		[4.0]
12. SPACING OF LATERALS (FEET)		[2 0 0.]

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/27/97

SPS-1 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 0]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[5 3]				
2	[1 1]	[2 5]	[7.]	.	.	.
3	[0 6]	[2 3]	[8.1]	7.2	8.9	0.4
4	[0 5]	[3 1]	[3.4]	2.2	4.5	0.5
5	[0 3]	[0 1]	[3.8]	3.2	4.5	0.3
6	[ ]	[ ]	[.]	.	.	.
7	[ ]	[ ]	[.]	.	.	.
8	[ ]	[ ]	[.]	.	.	.
9	[ ]	[ ]	[.]	.	.	.
10	[ ]	[ ]	[.]	.	.	.
11	[ ]	[ ]	[.]	.	.	.
12	[ ]	[ ]	[.]	.	.	.
13	[ ]	[ ]	[.]	.	.	.
14	[ ]	[ ]	[.]	.	.	.
15	[ ]	[ ]	[.]	.	.	.

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (FEET) [.]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 0]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 7-1 0-9 6]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers		
Plant 1	[2]	R E Heidt H709	[1 0]	[1 5]	[4]	[5]	[__]
Plant 2	[__]	_____	[__ __]	[__ __]	[__]	[__]	[__]
Plant 3	[__]	_____	[__ __]	[__ __]	[__]	[__]	[__]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify_____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER (AC) Blaw Knox (PATB) Barber Greene.

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER Matmaker SA150

6. SINGLE PASS LAYDOWN WIDTH (Feet) [1 2.0]

7. ATB PLACEMENT LIFTS
   - Layer Number [__ __]
   - Nominal First Lift Placement Thickness (Inches) [__.__]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]
   - Nominal Third Lift Placement Thickness (Inches) [__.__]
   - Nominal Fourth Lift Placement Thickness (Inches) [__.__]

8. PATB PLACEMENT LIFTS
   - Layer Number [__ 4]
   - Nominal First Lift Placement Thickness (Inches) [4.5]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

9. AC BINDER COURSE LIFT
   - Layer Number [__ 5]
   - Nominal First Lift Placement Thickness (Inches) [3.0]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

10. AC SURFACE COURSE LIFT
    - Layer Number [__ 5]
    - Nominal First Lift Placement Thickness (Inches) [1.5]
    - Nominal Second Lift Placement Thickness (Inches) [__.__]

11. SURFACE FRICTION COURSE (If Placed)
    - Layer Number [__ __]
    - Nominal Placement Thickness (Inches) [__.__]

12. TEST SECTION STATION OF TRANSVERSE JOINTS (within test section)
    - Binder Course [__ + __ __]
    - Surface Course [__ + __ __]
    - Surface Friction Course [__ + __ __]

13. LOCATION OF LONGITUDINAL SURFACE JOINT [1]
    - Between lanes.. 1 Within lane.. 2
    - (specify offset from O/S feet) [1 2.0]

14. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.)_____

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/29/97

SPS-5 CONSTRUCTION DATA
SHEET 10
PLANT-MIXED ASPHALT BOUND LAYERS
COMPACTION DATA

* STATE CODE [2 2]
* SPS PROJECT CODE [0 1]
* TEST SECTION NO. [2 D]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 6-2 7-9 6]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 7-2 3-9 6]
*3. LAYER NUMBER [4]

PATB

*4. MIXING TEMPERATURE (°F) [2 5 0]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 5 0
Minimum.....
Standard Deviation.
Number of Tests .....
Maximum.....

ROLLER DATA 1 rubber-tired and only (3 w/b, 2 tired)

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibe./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem					
8	C	Steel-Whl Tandem					
9	D	Steel-Whl Tandem					
10	E	Pneumatic-Tired					
11	F	Pneumatic-Tired					
12	G	Pneumatic-Tired					
13	H	Pneumatic-Tired					
14	I	Single-Drum Vibr.					
15	J	Single-Drum Vibr.					
16	K	Single-Drum Vibr.					
17	L	Single-Drum Vibr.					
18	M	Double-Drum Vibr.	1 4.2				
19	N	Double-Drum Vibr.					
20	O	Double-Drum Vibr.					
21	P	Double-Drum Vibr.					
22	Q	Other					

	COMPACTION DATA	First Life	Second Life	Third Life	Fourth Life
	BREAKDOWN				
23	Roller Code (A-Q)	A			
24	Coverages	3			
	INTERMEDIATE				
25	Roller Code (A-Q)				
26	Coverages				
	FINAL				
27	Roller Code (A-Q)	A			
28	Coverages	3			
29	Air Temperature (°F)	5 0			
30	Compacted Thickness (In)	4.0			
31	Curing Period (Days)	1 0			

PREPARER [signature] EMPLOYER BRL DATE 10/24/87

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 0]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) AC [0 4-1 5-9 7]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]
*3. LAYER NUMBER [5]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.__
Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA Ingersoll-Rand used only (3 Vib, 2 Stat)

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _.__				
8	C	Steel-Whl Tandem	_ _.__				
9	D	Steel-Whl Tandem	_ _.__				
10	E	Pneumatic-Tired	_ _.__	_ _ _ _.			
11	F	Pneumatic-Tired	_ _.__	_ _ _ _.			
12	G	Pneumatic-Tired	_ _.__	_ _ _ _.			
13	H	Pneumatic-Tired	_ _.__	.			
14	I	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
15	J	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
16	K	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
17	L	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _	_ _.__
19	N	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
20	O	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
21	P	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	_	_
24	Coverages	_ 3.	_ 3.	_ _.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	_	_
28	Coverages	_ 2.	_ 2.	_ _.	_ _.
29	Air Temperature (°F)	_ 9 5.	_ 9 5.	_ _ _.	_ _ _.
30	Compacted Thickness (In)	2.5	1.5	_.__	_.__
31	Curing Period (Days)	_ _.__	_ _.__	_ _.__	_ _.__

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 0]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	ATB	Binder Course	Surface Course	Surface Friction Layer
Measurement Method (A, B, C)[1]	__	B	A	__
Number of Measurements	__ __	0 3	0 3	__ __
Average (pcf)	__ __ __.__	1 4 1.9	1 3 8.0	__ __ __.__
Maximum (pcf)	__ __ __.__	1 4 3.0	1 4 1.6	__ __ __.__
Minimum (pcf)	__ __ __.__	1 4 0.9	1 3 3.5	__ __ __.__
Standard Deviation (pcf)	__ __ __.__	__ __ 1.1	__ __ 4.1	__ __ __.__
Layer Number	0 4	0 5	0 5	__ __

[1]Measurement Method Backscatter... A Direct Transmission... B Air Gap... C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER 3411B

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION __ __ __ __ __

6. PROFILOGRAPH MEASUREMENTS

Profilograph Type California... 1 Rainhart... 2 __
Profile Index (Inches/Mile) __ __
Interpretation Method Manual.. 1 Mechanical.. 2 Computer.. 3 __
Height of Blanking Band (Inches) __.__ __
Cutoff Height (Inches) __.__ __

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) NO

PREPARER [signature] EMPLOYER BRE DATE 9/4/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 0]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
0+00	0	—	3.5	—	3.5	—
	36	—	3.7	—	3.6	—
	72	—	3.8	—	3.6	—
	108	—	3.8	—	3.6	—
	144	—	4.1	—	3.6	—
0+50	0	—	2.3	—	3.6	—
	36	—	2.5	—	3.4	—
	72	—	3.1	—	3.5	—
	108	—	3.2	—	3.4	—
	144	—	3.1	—	3.4	—
1+00	0	8.5	2.5	—	3.8	—
	36	8.3	3.1	—	3.5	—
	72	8.5	3.5	—	3.5	—
	108	8.5	3.5	—	3.4	—
	144	8.3	3.1	—	3.4	—
1+50	0	8.5	3.0	—	4.1	—
	36	8.5	3.5	—	3.5	—
	72	7.9	4.1	—	3.3	—
	108	7.9	3.8	—	3.5	—
	144	8.0	3.7	—	3.6	—
2+00	0	8.2	2.4	—	4.3	—
	36	7.9	3.0	—	4.1	—
	72	7.8	3.8	—	3.6	—
	108	7.9	3.6	—	3.5	—
	144	8.3	2.8	—	3.8	—
2+50	0	8.3	2.9	—	4.3	—
	36	7.9	3.6	—	4.0	—
	72	7.4	4.4	—	3.7	—
	108	7.6	4.2	—	3.7	—
	144	8.2	3.4	—	4.1	—
3+00	0	8.2	3.5	—	4.0	—
	36	8.0	3.8	—	3.7	—
	72	8.3	4.2	—	3.6	—
	108	8.0	3.7	—	3.7	—
	144	8.3	3.5	—	3.8	—
LAYER NUMBER[1]		03	04	—	05	—

[1] from Sheet 4

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 0]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 2 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
3+50	0	8.0	3.4		3.8	
	36	7.8	3.6		3.8	
	72	8.2	3.8		3.8	
	108	8.0	3.8		3.6	
	144	7.9	3.6		3.8	
4+00	0	8.4	2.8		4.0	
	36	8.5	2.8		4.0	
	72	8.5	3.1		3.8	
	108	8.5	3.0		4.0	
	144	8.9	2.2		4.0	
4+50	0	8.2	2.8		4.4	
	36	8.3	3.0		4.3	
	72	8.2	3.6		3.8	
	108	7.8	3.6		4.2	
	144	7.7	3.7		4.1	
5+00	0	7.4	3.5		4.3	
	36	7.3	3.8		4.0	
	72	7.3	4.2		3.7	
	108	7.2	4.2		3.8	
	144	7.4	3.6		4.1	
+						
+						
+						
LAYER NUMBER[1]		03	04		05	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 13 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 0]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [0 4-2 5-9 6]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [0 5-0 3-9 6]

*3. LAYER NUMBER (From Sheet 4) [3]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [3]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (TONS) [1 1.3]

*6. LIFT THICKNESSES
Nominal First Lift Placement Thickness (inches) [0 8]
Nominal Second Lift Placement Thickness (inches) [ ]
Nominal Third Lift Placement Thickness (inches) [ ]
Nominal Fourth Lift Placement Thickness (inches) [ ]

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) Rained 4/22 and 4/23 (standing water along side roadway)

PREPARER Timothy J Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 14 SUBGRADE PREPARATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 0]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [0 4-0 9-9 6]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [0 4-2 2-9 6]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (TONS) [2 0.0]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[1]	[1 2.0]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (INCHES) [0 7]
(For Fill Sections Only)

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 15 CUT-FILL SECTION LOCATIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 0]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NO
		*2 START	*3 END	
1	2	0 + 0 0	5 + 0 0	2 2 0 1 2 0
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

NOTES:

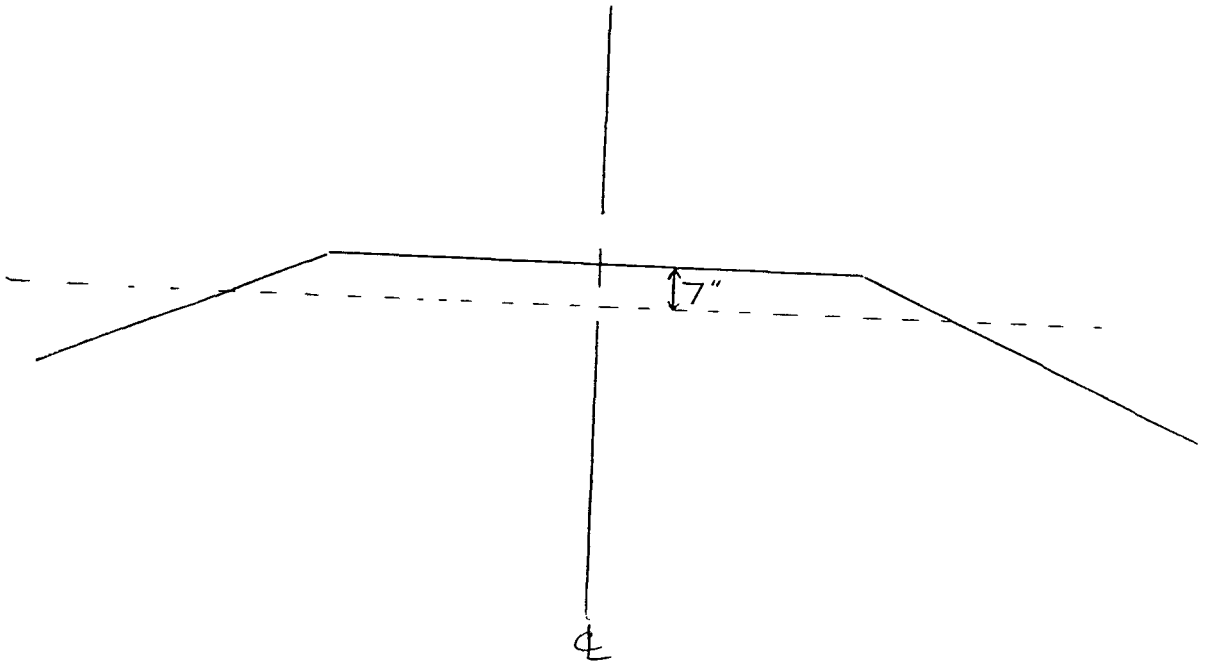
1. Indicate the type of subgrade section with one of the following: Cut... 1 Fill... 2

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 16 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 0]

See typical cross-sections.



Fill material used was the surrounding natural ground (clay and silt) with additional silt brought from stockpiles where necessary. 12% cement was then added as a working platform

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/3/97

SPS-1 CONSTRUCTION DATA SHEET 17 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 0]

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

Rained hard 4/22 and 4/23 (Standing water along roadbed)
Subgrade compacted to 95%
Drainage outlets were retrofitted to the longitudinal pipe after the paving of the final surfaces.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

RECEIVED OCT 2 7 1997

December 1991

SPS-1 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 1]

*1. LANE WIDTH (FEET) [1 2.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

*3. SUBSURFACE DRAINAGE LOCATION [1.]
Continuous Along Test Section... 1 Intermittent... 2 None... 3

*4. SUBSURFACE DRAINAGE TYPE [2.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5. SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[3.]	[3.]
*6. TOTAL WIDTH (FEET)	[0 4.]	[1 0.]
*7. PAVED WIDTH (FEET)	[0 4.]	[1 0.]
8. SHOULDER BASE TYPE (CODES-TABLE A.6)	[3 1.]	[3 1.]
9. SURFACE THICKNESS (INCHES)	[_ 4. 0]	[_ 4. 0]
10. SHOULDER BASE THICKNESS (INCHES)	[_ 4. 0]	[_ 4. 0]
11. DIAMETER OF LONGITUDINAL DRAINPIPES (INCHES)		[4. 0]
12. SPACING OF LATERALS (FEET)		[2 0 0.]

PREPARER Timothy J Martin EMPLOYER BRE DATE 8/27/97

SPS-1 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 1]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[5 6]				
2	[1 1]	[2 5]	[_ _3._]	_ _ _._	_ _ _._	_ _ _._
3	[0 6]	[2 3]	[_13.2]	_12.1	_14.7	_ _0.6
4	[0 5]	[3 1]	[_ _4.1]	_ _2.9	_ _4.7	_ _0.4
5	[0 3]	[0 1]	[_ _3.5]	_ _3.0	_ _4.0	_ _0.2
6	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
7	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
8	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
9	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
10	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
11	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
12	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
13	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
14	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
15	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (FEET) [_ _ . _]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 1]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 7-1 0-9 6]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers		
Plant 1	[2]	R.E. Heidt H709	[1 0]	[1 5]	[4]	[5]	[__]
Plant 2	[__]	_____	[__ __ __]	[__ __]	[__]	[__]	[__]
Plant 3	[__]	_____	[__ __ __]	[__ __]	[__]	[__]	[__]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify_____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER (AC) Blaw-Knox (PATB) Barber-Greene

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER Matmaker SA-150

6. SINGLE PASS LAYDOWN WIDTH (Feet) [1 2.0]

7. ATB PLACEMENT LIFTS
   - Layer Number [__ __]
   - Nominal First Lift Placement Thickness (Inches) [__.__]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]
   - Nominal Third Lift Placement Thickness (Inches) [__.__]
   - Nominal Fourth Lift Placement Thickness (Inches) [__.__]

8. PATB PLACEMENT LIFTS
   - Layer Number [__ 4]
   - Nominal First Lift Placement Thickness (Inches) [4.5]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

9. AC BINDER COURSE LIFT
   - Layer Number [__ 5]
   - Nominal First Lift Placement Thickness (Inches) [2.5]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

10. AC SURFACE COURSE LIFT
    - Layer Number [__ 5]
    - Nominal First Lift Placement Thickness (Inches) [2.0]
    - Nominal Second Lift Placement Thickness (Inches) [__.__]

11. SURFACE FRICTION COURSE (If Placed)
    - Layer Number [__ __]
    - Nominal Placement Thickness (Inches) [__.__]

12. TEST SECTION STATION OF TRANSVERSE JOINTS (within test section)
    - Binder Course [__ + __ __]
    - Surface Course [__ + __ __]
    - Surface Friction Course [__ + __ __]

13. LOCATION OF LONGITUDINAL SURFACE JOINT [1]
    - Between lanes.. 1 Within lane.. 2
    - (specify offset from O/S feet) [1 2.0]

14. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.)_____

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/10/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 1]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) PATB [0 6-2 9-9 6]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 7-2 3-9 6]
*3. LAYER NUMBER [4]

*4. MIXING TEMPERATURE (°F) [2 8 0.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 5 0.
Minimum..... _ _ _.
Standard Deviation... _ _.
Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA Ingersoll-Rand used only (3 Vib, 2 Stat)

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _._				
8	C	Steel-Whl Tandem	_ _._				
9	D	Steel-Whl Tandem	_ _._				
10	E	Pneumatic-Tired	_ _._	_ _ _ _.			
11	F	Pneumatic-Tired	_ _._	_ _ _ _.			
12	G	Pneumatic-Tired	_ _._	_ _ _ _.			
13	H	Pneumatic-Tired	_ _._	.			
14	I	Single-Drum Vibr.	_ _._		_ _ _ _.	. _ _ _	_ _._
15	J	Single-Drum Vibr.	_ _._		_ _ _ _.	. _ _ _	_ _._
16	K	Single-Drum Vibr.	_ _._		_ _ _ _.	. _ _ _	_ _._
17	L	Single-Drum Vibr.	_ _._		_ _ _ _.	. _ _ _	_ _._
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	. _ _ _	_ _._
19	N	Double-Drum Vibr.	_ _._		_ _ _ _.	. _ _ _	_ _._
20	O	Double-Drum Vibr.	_ _._		_ _ _ _.	. _ _ _	_ _._
21	P	Double-Drum Vibr.	_ _._		_ _ _ _.	. _ _ _	_ _._
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	_	_	_
24	Coverages	_ 3.	_ _.	_ _.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	_	_	_
28	Coverages	_ 2.	_ _.	_ _.	_ _.
29	Air Temperature (°F)	_ 8 0.	_ _ _.	_ _ _.	_ _ _.
30	Compacted Thickness (In)	4.0	_._	_._	_._
31	Curing Period (Days)	_ 2.0	_ _._	_ _._	_ _._

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA
SHEET 10
PLANT-MIXED ASPHALT BOUND LAYERS
COMPACTION DATA

* STATE CODE [2 2]
* SPS PROJECT CODE [0 1]
* TEST SECTION NO. [2 1]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) AC [0 4-1 5-9 7]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]
*3. LAYER NUMBER [5]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.__

Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA Ingersoll-Rand used only (3 Vib., 2 Stat)

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _.__				
8	C	Steel-Whl Tandem	_ _.__				
9	D	Steel-Whl Tandem	_ _.__				
10	E	Pneumatic-Tired	_ _.__	_ _ _ _.			
11	F	Pneumatic-Tired	_ _.__	_ _ _ _.			
12	G	Pneumatic-Tired	_ _.__	_ _ _ _.			
13	H	Pneumatic-Tired	_ _.__	.			
14	I	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
15	J	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
16	K	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
17	L	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _	_ _.__
19	N	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
20	O	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
21	P	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	_	_
24	Coverages	_ 3.	_ 3.	_ _.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	_	_
28	Coverages	_ 2.	_ 2.	_ _.	_ _.
29	Air Temperature (°F)	_ 9 5.	_ 9 5.	_ _ _.	_ _ _.
30	Compacted Thickness (In)	2.5	1.5	_.__	_.__
31	Curing Period (Days)	_ _.__	_ _.__	_ _.__	_ _.__

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 1]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	ATB	Binder Course	Surface Course	Surface Friction Layer
Measurement Method (A, B, C)[1]	__	B	A	__
Number of Measurements	__ __	0 3	0 3	__ __
Average (pcf)	__ __ __.__	1 4 2.1	1 4 8.2	__ __ __.__
Maximum (pcf)	__ __ __.__	1 4 3.6	1 5 1.3	__ __ __.__
Minimum (pcf)	__ __ __.__	1 4 0.0	1 4 5.8	__ __ __.__
Standard Deviation (pcf)	__ __ __.__	__ __ 1.8	__ __ 2.8	__ __ __.__
Layer Number	0 4	0 5	0 5	__ __

[1]Measurement Method Backscatter... A Direct Transmission... B Air Gap... C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER 8350

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER 3411B

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION __ __ __ __ __

6. PROFILOGRAPH MEASUREMENTS

Profilograph Type California... 1 Rainhart... 2 __
Profile Index (Inches/Mile) __ __
Interpretation Method Manual.. 1 Mechanical.. 2 Computer.. 3 __
Height of Blanking Band (Inches) __.__ __
Cutoff Height (Inches) __.__ __

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) NO

PREPARER [signature] EMPLOYER BRE DATE 9/4/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 1]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
0+00	0	13.6	4.0	—	3.4	—
	36	13.4	4.2	—	3.5	—
	72	13.2	4.4	—	3.6	—
	108	13.1	4.6	—	3.5	—
	144	13.0	4.6	—	3.6	—
0+50	0	12.6	4.2	—	3.6	—
	36	12.7	4.3	—	3.5	—
	72	12.8	4.2	—	3.8	—
	108	13.0	4.4	—	3.6	—
	144	12.7	4.6	—	3.7	—
1+00	0	12.2	3.7	—	4.0	—
	36	12.0	4.6	—	3.6	—
	72	12.5	4.2	—	4.0	—
	108	12.4	4.6	—	3.7	—
	144	12.6	4.2	—	3.6	—
1+50	0	13.3	3.8	—	4.0	—
	36	13.0	4.2	—	3.8	—
	72	13.0	4.2	—	4.0	—
	108	13.2	4.2	—	3.8	—
	144	13.2	4.1	—	4.0	—
2+00	0	13.0	3.7	—	3.8	—
	36	13.4	4.0	—	3.6	—
	72	13.6	4.1	—	3.5	—
	108	14.0	4.1	—	3.5	—
	144	14.4	4.3	—	3.5	—
2+50	0	14.5	3.4	—	3.1	—
	36	14.3	3.8	—	3.0	—
	72	14.6	3.6	—	3.4	—
	108	14.4	4.0	—	3.1	—
	144	13.9	4.1	—	3.2	—
3+00	0	12.8	3.8	—	3.5	—
	36	13.0	4.04	—	3.1	—
	72	12.8	4.4	—	3.4	—
	108	12.7	4.4	—	3.4	—
	144	12.6	4.6	—	3.4	—
LAYER NUMBER[1]		03	04	—	05	—

[1] from Sheet 4

PREPARER Geoffrey J. Martin EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 1]

LAYER THICKNESS MEASUREMENTS (Inches)

SHEET 2 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
3+5 C	0	13.2	4.1	—	3.5	—
	36	12.7	4.4	—	3.1	—
	72	13.0	4.3	—	3.2	—
	108	13.2	4.6	—	3.1	—
	144	13.3	4.2	—	3.4	—
4+0 C	0	14.2	3.4	—	3.5	—
	36	13.8	3.8	—	3.5	—
	72	13.6	4.2	—	3.6	—
	108	13.1	4.7	—	3.5	—
	144	13.4	4.6	—	3.2	—
4+5 C	0	13.0	3.7	—	3.6	—
	36	12.8	3.8	—	3.4	—
	72	12.7	3.8	—	3.6	—
	108	12.8	3.7	—	3.5	—
	144	12.7	3.8	—	3.5	—
5+0 C	0	12.6	2.9	—	3.5	—
	36	12.2	3.7	—	3.4	—
	72	12.2	4.1	—	3.5	—
	108	12.5	3.8	—	3.6	—
	144	12.7	4.0	—	3.4	—
— + —	—	—	—	—	—	—
	—	—	—	—	—	—
	—	—	—	—	—	—
	—	—	—	—	—	—
	—	—	—	—	—	—
— + —	—	—	—	—	—	—
	—	—	—	—	—	—
	—	—	—	—	—	—
	—	—	—	—	—	—
	—	—	—	—	—	—
— + —	—	—	—	—	—	—
	—	—	—	—	—	—
	—	—	—	—	—	—
	—	—	—	—	—	—
	—	—	—	—	—	—
LAYER NUMBER[1]		03	04	—	05	—

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 13 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 1]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [0 4-2 5-9 6]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [0 5-0 3-9 6]

*3. LAYER NUMBER (From Sheet 4) [3]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [3]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (TONS) [1 1.3]

*6. LIFT THICKNESSES
Nominal First Lift Placement Thickness (inches) [1 2]
Nominal Second Lift Placement Thickness (inches) [_ _]
Nominal Third Lift Placement Thickness (inches) [_ _]
Nominal Fourth Lift Placement Thickness (inches) [_ _]

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) Rained 4/22 and 4/23 (standing water along side roadway.)

PREPARER Timothy J. Mack EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 14 SUBGRADE PREPARATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 1]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [0 4-0 9-9 6]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [0 4-2 2-9 6]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (TONS) [2 0.0]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[1]	[1 2.0]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (INCHES) [0 3]
(For Fill Sections Only)

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 15 CUT-FILL SECTION LOCATIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 1]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NO
		*2 START	*3 END	
1	2	0 + 0 0	5 + 0 0	2 2 0 1 2 1
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

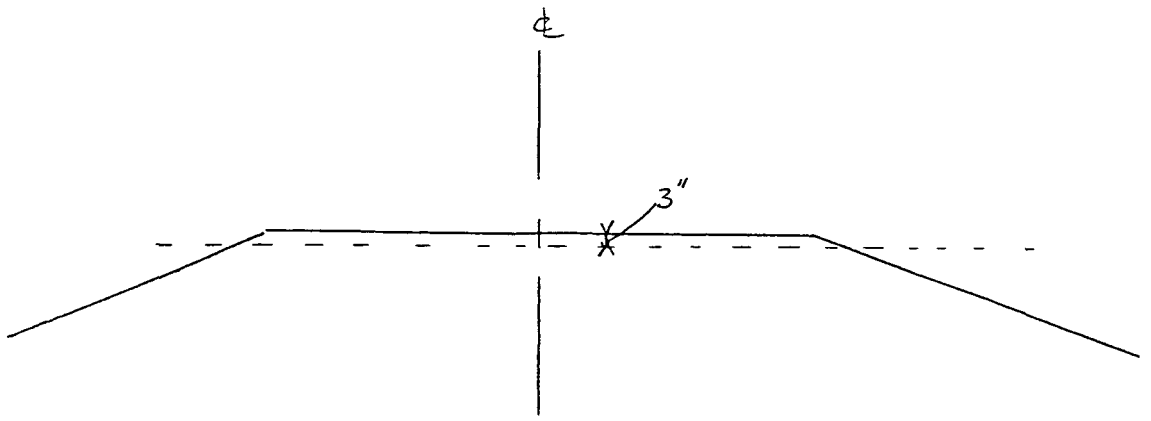
NOTES:

1. Indicate the type of subgrade section with one of the following:
   Cut... 1 Fill... 2

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/27/97

SPS-1 CONSTRUCTION DATA SHEET 16 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 1]



See Typical Cross-sections.

Fill material used was the surrounding natural ground (clay + silt) with additional silt brought from stock piles where necessary. 12% cement was added as stabilizer for a working platform.

PREPARER [signature] EMPLOYER BRE DATE 9/3/97

SPS-1 CONSTRUCTION DATA SHEET 17 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 1]

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

- Rained hard 4/22 and 4/23 (Standing water along roadbed)
- Subgrade compacted to 95%
- Drainage outlets were retrofitted to the longitudinal pipe after paving the final surface.
- The DGAB is approximately 1 inch greater than the design thickness.

PREPARER Timothy J. Martin EMPLOYER BKE DATE 8/29/97

RECEIVED OCT 2 7 1997 December 1991

SPS-1 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 2]

*1. LANE WIDTH (FEET) [1 2.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

*3. SUBSURFACE DRAINAGE LOCATION [1.]
Continuous Along Test Section... 1 Intermittent... 2 None... 3

*4. SUBSURFACE DRAINAGE TYPE [6.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

	SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5.	SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[3.]	[3.]
*6.	TOTAL WIDTH (FEET)	[0 4.]	[1 0.]
*7.	PAVED WIDTH (FEET)	[0 4.]	[1 0.]
8.	SHOULDER BASE TYPE (CODES-TABLE A.6)	[2 8.]	[2 8.]
9.	SURFACE THICKNESS (INCHES)	[4.0]	[4.0]
10.	SHOULDER BASE THICKNESS (INCHES)	[4.0]	[4.0]
11.	DIAMETER OF LONGITUDINAL DRAINPIPES (INCHES)		[4.0]
12.	SPACING OF LATERALS (FEET)		[2 0 0.]

PREPARER Timothy J Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 2]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[5 6]				
2	[1 1]	[2 5]	[_ 1 1._]	_ _ _._	_ _ _._	_ _ _._
3	[0 8]	[7 4]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
4	[0 6]	[3 1]	[_ _ 4.0]	_ _3.0	_ _4.8	_ _0.4
5	[0 5]	[2 8]	[_ _ 3.7]	_ _3.0	_ _4.8	_ _0.4
6	[0 3]	[0 1]	[_ _3.9]	_ _3.4	_ _4.5	_ _0.2
7	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
8	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
9	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
10	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
11	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
12	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
13	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
14	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
15	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (FEET) [_ _ . _]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 2]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [07-10-96]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [06-20-97]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers
Plant 1	[2]	R.E. Heidt H709	[10]	[15]	[4] [5] [6]
Plant 2	[__]		[__ __]	[__ __]	[__] [__] [__]
Plant 3	[__]		[__ __]	[__ __]	[__] [__] [__]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify_____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER (AC) Blaw-Knox (PATB) Barber-Greene Mainmaker SA-150

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER _____

6. SINGLE PASS LAYDOWN WIDTH (Feet) [12.0]

7. ATB PLACEMENT LIFTS
   - Layer Number [05]
   - Nominal First Lift Placement Thickness (Inches) [2.0]
   - Nominal Second Lift Placement Thickness (Inches) [2.0]
   - Nominal Third Lift Placement Thickness (Inches) [__.__]
   - Nominal Fourth Lift Placement Thickness (Inches) [__.__]

8. PATB PLACEMENT LIFTS
   - Layer Number [04]
   - Nominal First Lift Placement Thickness (Inches) [4.5]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

9. AC BINDER COURSE LIFT
   - Layer Number [06]
   - Nominal First Lift Placement Thickness (Inches) [3.0]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

10. AC SURFACE COURSE LIFT
    - Layer Number [06]
    - Nominal First Lift Placement Thickness (Inches) [2.0]
    - Nominal Second Lift Placement Thickness (Inches) [__.__]

11. SURFACE FRICTION COURSE (If Placed)
    - Layer Number [__ __]
    - Nominal Placement Thickness (Inches) [__.__]

12. TEST SECTION STATION OF TRANSVERSE JOINTS (within test section)
    - Binder Course [__ + __ __]
    - Surface Course [__ + __ __]
    - Surface Friction Course [__ + __ __]

13. LOCATION OF LONGITUDINAL SURFACE JOINT [1]
    - Between lanes.. 1 Within lane.. 2
    - (specify offset from O/S feet) [12.0]

14. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.)_____

PREPARER Timothy A. Martin EMPLOYER BRE DATE 9/10/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 2]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) PATB [0 7 - 1 0 - 9 6]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 7 - 1 2 - 9 6]
*3. LAYER NUMBER [4]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.__
Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA

Ingersall-Rand only used (3 Vib - 2 Stat)

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _.__				
8	C	Steel-Whl Tandem	_ _.__				
9	D	Steel-Whl Tandem	_ _.__				
10	E	Pneumatic-Tired	_ _.__	_ _ _ _.			
11	F	Pneumatic-Tired	_ _.__	_ _ _ _.			
12	G	Pneumatic-Tired	_ _.__	_ _ _ _.			
13	H	Pneumatic-Tired	_ _.__				
14	I	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
15	J	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
16	K	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
17	L	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _.	_ _.__
19	N	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
20	O	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
21	P	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	_	_	_
24	Coverages	_ 3.	_ _.	_ _.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	_	_	_
28	Coverages	_ 2.	_ _.	_ _.	_ _.
29	Air Temperature (°F)	_ 8 0.	_ _ _.	_ _ _.	_ _ _.
30	Compacted Thickness (In)	4.0	_.__	_.__	_.__
31	Curing Period (Days)	_ 2 0	_ _.__	_ _.__	_ _.__

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 2]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) ATB [0 7-3 0-9 6]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 8-1 0-9 6]
*3. LAYER NUMBER [5]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.__

Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA

Ingersoll-Rand only used (3 Vib - 2 Stat)

	Roller Code *	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _.__				
8	C	Steel-Whl Tandem	_ _.__				
9	D	Steel-Whl Tandem	_ _.__				
10	E	Pneumatic-Tired	_ _.__	_ _ _ _.			
11	F	Pneumatic-Tired	_ _.__	_ _ _ _.			
12	G	Pneumatic-Tired	_ _.__	_ _ _ _.			
13	H	Pneumatic-Tired	_ _.__	.			
14	I	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
15	J	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
16	K	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
17	L	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _	_ _.__
19	N	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
20	O	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
21	P	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	_	_
24	Coverages	_ 3.	_ 3.	_ _.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	_	_
28	Coverages	_ 2.	_ 2.	_ _.	_ _.
29	Air Temperature (°F)	_ 9 0.	_ 9 0.	_ _ _.	_ _ _.
30	Compacted Thickness (In)	2.0	2.0	_.__	_.__
31	Curing Period (Days)	_ _.__	_ _.__	_ _.__	_ _.__

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 2]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) AC [0 4-1 5-9 7]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]
*3. LAYER NUMBER [6]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.__

Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA

Ingersall-Rand used only (3 Vib-2 Stat)

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _.__				
8	C	Steel-Whl Tandem	_ _.__				
9	D	Steel-Whl Tandem	_ _.__				
10	E	Pneumatic-Tired	_ _.__	_ _ _ _.			
11	F	Pneumatic-Tired	_ _.__	_ _ _ _.			
12	G	Pneumatic-Tired	_ _.__	_ _ _ _.			
13	H	Pneumatic-Tired	_ _.__	_ _ _ _.			
14	I	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
15	J	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
16	K	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
17	L	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _.	_ _.__
19	N	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
20	O	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
21	P	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	_	_
24	Coverages	_ 3.	_ 3.	_ _.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	_	_
28	Coverages	_ 2.	_ 2.	_ _.	_ _.
29	Air Temperature (°F)	_ 9 0.	_ 9 0.	_ _ _.	_ _ _.
30	Compacted Thickness (In)	2.5	1.5	_.__	_.__
31	Curing Period (Days)	_ _.__	_ _.__	_ _.__	_ _.__

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 2]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	ATB	Binder Course	Surface Course	Surface Friction Layer
Measurement Method (A, B, C)[1]	__	__	A	__
Number of Measurements	__ __	__ __	0 3	__ __
Average (pcf)	__ __ __.__	__ __ __.__	1 4 6.5	__ __ __.__
Maximum (pcf)	__ __ __.__	__ __ __.__	1 4 7.8	__ __ __.__
Minimum (pcf)	__ __ __.__	__ __ __.__	1 4 5.3	__ __ __.__
Standard Deviation (pcf)	__ __ __.__	__ __ __.__	__ 1.3	__ __ __.__
Layer Number	__ __	__ __	0 6	__ __

[1]Measurement Method Backscatter... A Direct Transmission... B Air Gap... C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER 8350

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER 3411 B

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION __ __ __ __ __

6. PROFILOGRAPH MEASUREMENTS

Profilograph Type California... 1 Rainhart... 2 __
Profile Index (Inches/Mile) __ __
Interpretation Method Manual.. 1 Mechanical.. 2 Computer.. 3 __
Height of Blanking Band (Inches) __.__ __
Cutoff Height (Inches) __.__ __

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) NO

PREPARER Timothy J Martin EMPLOYER BRE DATE 9/4/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 2]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
0+00	0		3.4	4.8	4.4	
	36		4.4	3.8	3.4	
	72		4.6	3.7	3.5	
	108		4.1	4.2	3.8	
	144		3.8	4.4	4.0	
0+50	0		4.1	3.4	3.8	
	36		4.6	3.4	3.6	
	72		4.4	3.5	3.8	
	108		4.2	4.0	3.7	
	144		3.8	4.2	3.8	
1+00	0		4.2	3.7	3.8	
	36		4.4	3.5	3.8	
	72		4.4	3.5	4.0	
	108		4.1	4.1	4.1	
	144		3.7	4.3	4.0	
1+50	0		4.1	3.6	3.8	
	36		4.3	3.6	3.7	
	72		4.3	3.7	3.7	
	108		4.0	4.2	3.8	
	144		3.6	4.4	4.0	
2+00	0		4.3	3.4	3.8	
	36		4.9	3.1	3.6	
	72		4.4	3.6	3.6	
	108		4.2	4.0	3.7	
	144		3.6	4.3	3.8	
2+50	0		4.3	3.6	3.6	
	36		4.7	3.4	3.7	
	72		4.8	3.5	3.6	
	108		4.1	4.0	3.6	
	144		3.8	4.1	3.7	
3+00	0		3.8	3.4	4.0	
	36		4.1	3.4	4.2	
	72		4.2	3.0	4.4	
	108		3.7	3.5	4.4	
	144		3.0	4.0	4.4	
LAYER NUMBER[1]			04	05	06	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 2]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 2 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
3+50	0		3.8	3.5	3.8	
	36		4.2	3.0	4.0	
	72		4.1	3.1	4.0	
	108		3.6	3.4	4.3	
	144		3.1	3.7	4.3	
4+00	0		3.5	3.5	3.6	
	36		4.2	3.0	3.6	
	72		4.0	3.2	4.0	
	108		3.6	3.6	4.0	
	144		3.2	3.7	4.1	
4+50	0		4.1	3.0	3.7	
	36		3.7	3.4	3.6	
	72		3.7	3.1	3.8	
	108		3.4	3.4	4.1	
	144		3.1	3.7	4.2	
5+00	0		3.4	3.6	4.2	
	36		3.7	3.6	4.0	
	72		3.8	3.8	4.0	
	108		3.8	3.8	4.1	
	144		3.5	3.8	4.0	
__+__						
__+__						
__+__						
LAYER NUMBER[1]			04	05	06	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 14 SUBGRADE PREPARATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 2]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [0 4 - 0 9 - 9 6]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [0 4 - 2 2 - 9 6]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (TONS) [2 0.0]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[1]	[1 2.0]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (INCHES) [1 1]
(For Fill Sections Only)

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER [signature] EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 15 CUT-FILL SECTION LOCATIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 2]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NO
		*2 START	*3 END	
1	2	0 + 0 0	5 + 0 0	2 2 0 1 2 2
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

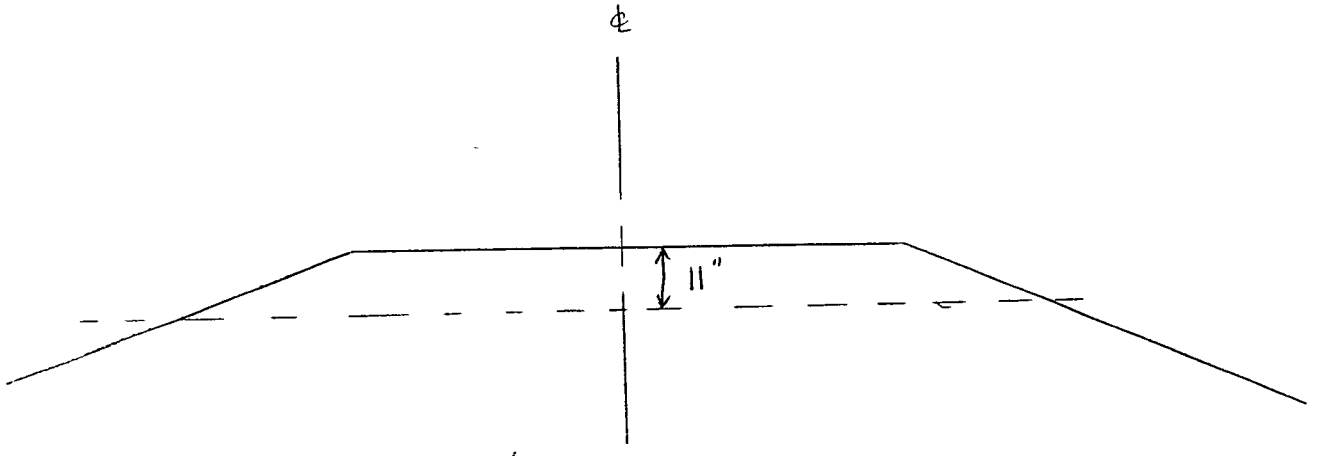
NOTES:

1. Indicate the type of subgrade section with one of the following:
   Cut... 1 Fill... 2

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 16 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 2]



See typical Cross-sections.

Fill material used was the surrounding natural ground (clay + silt) with additional silt brought from stock piles where necessary. 12% cement was added to stabilize the layer for a working platform.

PREPARER [signature] EMPLOYER BRE DATE 9/3/97

SPS-1 CONSTRUCTION DATA SHEET 17 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 2]

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

- Rained hard 4/22 and 4/23 (Standing water along roadbed)
- Subgrade compacted to 95%
- Drainage outlets were retrofitted to the longitudinal pipe after paving the final surface.
- Soft spot in subgrade dug up @ Station 254+50 approximately 30' in length, 20' in width.

PREPARER Timothy J Martin EMPLOYER BRE DATE 8/29/97

RECEIVED OCT 2 7 1997

December 1991

SPS-1 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 3]

*1. LANE WIDTH (FEET) [1 2.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

*3. SUBSURFACE DRAINAGE LOCATION [1.]
Continuous Along Test Section... 1 Intermittent... 2 None... 3

*4. SUBSURFACE DRAINAGE TYPE [6.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5. SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[3.]	[3.]
*6. TOTAL WIDTH (FEET)	[0 4.]	[1 0.]
*7. PAVED WIDTH (FEET)	[0 4.]	[1 0.]
8. SHOULDER BASE TYPE (CODES-TABLE A.6)	[2 8.]	[2 8.]
9. SURFACE THICKNESS (INCHES)	[7.0]	[7.0]
10. SHOULDER BASE THICKNESS (INCHES)	[8.0]	[8.0]
11. DIAMETER OF LONGITUDINAL DRAINPIPES (INCHES)		[4.0]
12. SPACING OF LATERALS (FEET)		[2 0 0.]

PREPARER [signature] EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 3]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[5 1]	[redacted]	[redacted]	[redacted]	[redacted]
2	[1 1]	[2 5]	[_ _4._]	_ _ _._	_ _ _._	_ _ _._
3	[0 8]	[7 4]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
4	[0 6]	[3 1]	[_ _3.8]	_ _2.8	_ _4.6	_ _0.4
5	[0 5]	[2 8]	[_ _7.5]	_ _6.7	_ _8.1	_ _0.4
6	[0 3]	[0 1]	[_ _6.8]	_ _6.1	_ _7.2	_ _0.2
7	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
8	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
9	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
10	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
11	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
12	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
13	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
14	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
15	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (FEET) [_ _ . _]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER Timothy J. Marks EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 3]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 7 - 1 0 - 9 6]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6 - 2 0 - 9 7]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers
Plant 1	[2]	R.E Heidt H709	[1 0]	[1 5]	[4] [5] [6]
Plant 2	[ ]		[ ]	[ ]	[ ] [ ] [ ]
Plant 3	[ ]		[ ]	[ ]	[ ] [ ] [ ]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify _____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER (AC) Blaw-Knox (PATB) Barber Greene

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER Matmaker SP-150

6. SINGLE PASS LAYDOWN WIDTH (Feet) [1 2.0]

7. ATB PLACEMENT LIFTS
   - Layer Number [5]
   - Nominal First Lift Placement Thickness (Inches) [3.0]
   - Nominal Second Lift Placement Thickness (Inches) [3.0]
   - Nominal Third Lift Placement Thickness (Inches) [3.0]
   - Nominal Fourth Lift Placement Thickness (Inches) [.]

8. PATB PLACEMENT LIFTS
   - Layer Number [4]
   - Nominal First Lift Placement Thickness (Inches) [4.5]
   - Nominal Second Lift Placement Thickness (Inches) [.]

9. AC BINDER COURSE LIFT
   - Layer Number [6]
   - Nominal First Lift Placement Thickness (Inches) [3.0]
   - Nominal Second Lift Placement Thickness (Inches) [3.0]

10. AC SURFACE COURSE LIFT
    - Layer Number [6]
    - Nominal First Lift Placement Thickness (Inches) [2.0]
    - Nominal Second Lift Placement Thickness (Inches) [.]

11. SURFACE FRICTION COURSE (If Placed)
    - Layer Number [ ]
    - Nominal Placement Thickness (Inches) [.]

12. TEST SECTION STATION OF TRANSVERSE JOINTS (within test section)
    - Binder Course [+]
    - Surface Course [+]
    - Surface Friction Course [+]

13. LOCATION OF LONGITUDINAL SURFACE JOINT [1]
    - Between lanes.. 1 Within lane.. 2
    - (specify offset from O/S feet) [1 2.0]

14. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) _____

PREPARER [signature] EMPLOYER BRE DATE 9/10/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 3]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [07-10-96]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [07-12-96]
*3. LAYER NUMBER PATB [4]

*4. MIXING TEMPERATURE (°F) [2 8 0.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 5 0.
Minimum..... _ _ _.
Standard Deviation... _ _.
Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA Ingersoll-Rand used only (3 Vib-2 Stat)

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _._				
8	C	Steel-Whl Tandem	_ _._				
9	D	Steel-Whl Tandem	_ _._				
10	E	Pneumatic-Tired	_ _._	_ _ _ _.			
11	F	Pneumatic-Tired	_ _._	_ _ _ _.			
12	G	Pneumatic-Tired	_ _._	_ _ _ _.			
13	H	Pneumatic-Tired	_ _._				
14	I	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
15	J	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
16	K	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
17	L	Single-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _	_ _._
19	N	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
20	O	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
21	P	Double-Drum Vibr.	_ _._		_ _ _ _.	_ _ _	_ _._
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	_	_	_
24	Coverages	_ 3.	_ _.	_ _.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	_	_	_
28	Coverages	_ 2.	_ _.	_ _.	_ _.
29	Air Temperature (°F)	_ 8 0.	_ _ _.	_ _ _.	_ _ _.
30	Compacted Thickness (In)	4.0	_._	_._	_._
31	Curing Period (Days)	_ 2.0	_ _._	_ _._	_ _._

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 3]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 7-3 0-9 6]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 8-1 0-9 6]
*3. LAYER NUMBER ATB [5]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.__

Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA Ingersoll-Rand used only (3 Vib - 2 Stat)

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _.__				
8	C	Steel-Whl Tandem	_ _.__				
9	D	Steel-Whl Tandem	_ _.__				
10	E	Pneumatic-Tired	_ _.__	_ _ _ _.			
11	F	Pneumatic-Tired	_ _.__	_ _ _ _.			
12	G	Pneumatic-Tired	_ _.__	_ _ _ _.			
13	H	Pneumatic-Tired	_ _.__				
14	I	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
15	J	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
16	K	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
17	L	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _.	_ _.__
19	N	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
20	O	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
21	P	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	M	_
24	Coverages	_ 3.	_ 3.	_ 3.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	A	_
28	Coverages	_ 2.	_ 2.	_ 2.	_ _.
29	Air Temperature (°F)	_ 9 0.	_ 9 0.	_ 9 0.	_ _ _.
30	Compacted Thickness (In)	3.0	2.5	2.5	_.__
31	Curing Period (Days)	_ _.__	_ _.__	_ _.__	_ _.__

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 3]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 4 - 1 5 - 9 7]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6 - 2 0 - 9 7]
*3. LAYER NUMBER AC [6]

*4. MIXING TEMPERATURE (°F) [3 1 5 .]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0 .
Minimum..... _ _ _ .
Standard Deviation... _ _ . _
Number of Tests ..... _ _ .
Maximum..... _ _ _ .

ROLLER DATA

Ingersoll-Rand used only (3 Vib - 2 Stat)

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4 . 2				
7	B	Steel-Whl Tandem	_ _ . _				
8	C	Steel-Whl Tandem	_ _ . _				
9	D	Steel-Whl Tandem	_ _ . _				
10	E	Pneumatic-Tired	_ _ . _	_ _ _ _ .			
11	F	Pneumatic-Tired	_ _ . _	_ _ _ _ .			
12	G	Pneumatic-Tired	_ _ . _	_ _ _ _ .			
13	H	Pneumatic-Tired	_ _ . _				
14	I	Single-Drum Vibr.	_ _ . _		_ _ _ _ .	_ _ _ .	_ _ . _
15	J	Single-Drum Vibr.	_ _ . _		_ _ _ _ .	_ _ _ .	_ _ . _
16	K	Single-Drum Vibr.	_ _ . _		_ _ _ _ .	_ _ _ .	_ _ . _
17	L	Single-Drum Vibr.	_ _ . _		_ _ _ _ .	_ _ _ .	_ _ . _
18	M	Double-Drum Vibr.	1 4 . 2		_ _ _ _ .	_ _ _ .	_ _ . _
19	N	Double-Drum Vibr.	_ _ . _		_ _ _ _ .	_ _ _ .	_ _ . _
20	O	Double-Drum Vibr.	_ _ . _		_ _ _ _ .	_ _ _ .	_ _ . _
21	P	Double-Drum Vibr.	_ _ . _		_ _ _ _ .	_ _ _ .	_ _ . _
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	M	_
24	Coverages	_ 3 .	_ 3 .	_ 3 .	_ _ .
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _ .	_ _ .	_ _ .	_ _ .
	FINAL				
27	Roller Code (A-Q)	A	A	A	_
28	Coverages	_ 2 .	_ 2 .	_ 2 .	_ _ .
29	Air Temperature (°F)	_ 9 0 .	_ 9 0 .	_ 9 0 .	_ _ _ .
30	Compacted Thickness (In)	2 . 5	2 . 5	2 . 0	_ . _
31	Curing Period (Days)	_ _ . _	_ _ . _	_ _ . _	_ _ . _

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 3]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	ATB	Binder Course	Surface Course	Surface Friction Layer
Measurement Method (A, B, C)[1]	__	__	A	__
Number of Measurements	__ __	__ __	0 3	__ __
Average (pcf)	__ __ __.__	__ __ __.__	1 4 9.4	__ __ __.__
Maximum (pcf)	__ __ __.__	__ __ __.__	1 5 1.2	__ __ __.__
Minimum (pcf)	__ __ __.__	__ __ __.__	1 4 7.0	__ __ __.__
Standard Deviation (pcf)	__ __ __.__	__ __ __.__	__ __ 2.1	__ __ __.__
Layer Number	__ __	__ __	0 6	__ __

[1]Measurement Method Backscatter... A Direct Transmission... B Air Gap... C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER 8350

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER 3411B

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION _ _ _ _ _

6. PROFILOGRAPH MEASUREMENTS

Profilograph Type California... 1 Rainhart... 2 __
Profile Index (Inches/Mile) __ __
Interpretation Method Manual.. 1 Mechanical.. 2 Computer.. 3 __
Height of Blanking Band (Inches) __.__ __
Cutoff Height (Inches) __.__ __

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) NO

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/4/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 3]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
0+00	0		3.8	6.8	7.2	
	36		3.8	7.1	6.8	
	72		4.0	7.3	7.0	
	108		3.4	7.7	7.0	
	144		3.0	8.0	7.0	
0+50	0		3.5	7.9	6.8	
	36		4.3	7.4	6.7	
	72		4.2	7.7	6.7	
	108		3.8	7.9	6.8	
	144		3.5	7.8	6.8	
1+00	0		4.0	7.2	6.7	
	36		4.0	7.6	6.6	
	72		4.1	7.6	6.8	
	108		3.6	8.0	6.7	
	144		3.2	8.0	7.0	
1+50	0		4.2	7.2	6.7	
	36		3.5	8.0	6.6	
	72		3.8	7.8	6.7	
	108		3.5	7.7	7.1	
	144		2.8	7.9	6.8	
2+00	0		4.2	7.1	6.7	
	36		4.3	7.6	6.6	
	72		4.2	7.3	6.7	
	108		3.1	7.9	6.7	
	144		3.0	7.8	6.7	
2+50	0		3.8	7.1	6.8	
	36		4.1	7.7	6.7	
	72		4.3	7.7	7.0	
	108		3.7	7.7	7.1	
	144		3.4	7.7	7.0	
3+00	0		4.2	6.7	6.6	
	36		4.3	6.6	6.5	
	72		4.1	7.0	6.5	
	108		3.1	7.4	6.7	
	144		2.9	7.7	7.0	
LAYER NUMBER[1]			04	05	06	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 3]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 2 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
3+5 C	0		3.8	7.1	6.7	
	36		3.6	7.6	6.5	
	72		3.8	7.6	6.6	
	108		3.2	7.7	7.0	
	144		3.2	7.8	7.0	
4+0 C	0		3.8	6.8	6.6	
	36		4.0	7.2	6.5	
	72		4.1	7.3	6.5	
	108		3.7	7.4	6.7	
	144		3.5	7.6	6.8	
4+5 C	0		4.0	6.7	6.8	
	36		4.0	6.8	6.7	
	72		3.8	7.1	7.1	
	108		3.5	7.4	7.2	
	144		3.5	7.8	7.1	
5+0 C	0		4.6	7.4	6.5	
	36		4.4	7.1	6.2	
	72		4.2	7.3	6.1	
	108		3.5	7.4	6.5	
	144		3.5	7.7	6.7	
+—						
+—						
+—						
LAYER NUMBER[1]			04	05	06	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 14 SUBGRADE PREPARATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 3]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [0 4-0 9-9 6]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [0 4-2 2-9 6]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (TONS) [2 0.0]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[1]	[1 2.0]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (INCHES) [0 4]
(For Fill Sections Only)

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 15 CUT-FILL SECTION LOCATIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 3]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NO
		*2 START	*3 END	
1	2	0 + 0 0	5 + 0 0	2 2 0 1 2 3
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

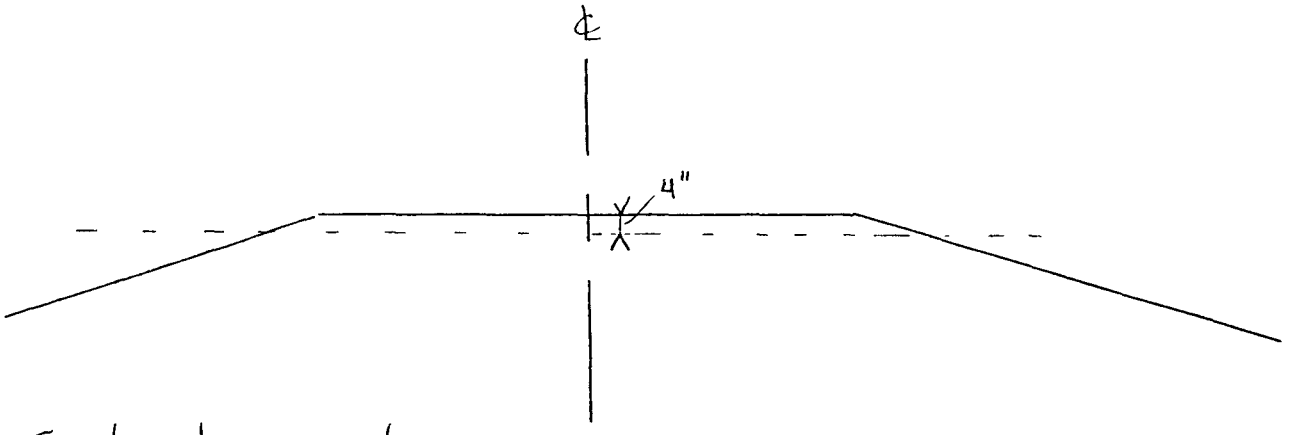
NOTES:

1. Indicate the type of subgrade section with one of the following:
   Cut... 1 Fill... 2

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER Timothy J Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 16 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 3]



See typical cross-sections.

Fill material used was the surrounding natural ground (clay + silt) with additional silt brought from stock piles where necessary. 12% cement was used to stabilize the layer to provide a working platform.

PREPARER Timothy J Martin EMPLOYER BRE DATE 9/3/97

SPS-1 CONSTRUCTION DATA SHEET 17 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 3]

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

- Rained hard 4/22 and 4/23 (standing water along roadbed)
- Subgrade compacted to 95%
- Drainage outlets were retrofitted to the longitudinal pipe after paving the final surface.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

RECEIVED OCT 2 7 1997

SPS-1 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 4]

*1. LANE WIDTH (FEET) [1 2.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

*3. SUBSURFACE DRAINAGE LOCATION [1.]
Continuous Along Test Section... 1 Intermittent... 2 None... 3

*4. SUBSURFACE DRAINAGE TYPE [6.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5. SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[3.]	[3.]
*6. TOTAL WIDTH (FEET)	[0 4.]	[1 0.]
*7. PAVED WIDTH (FEET)	[0 4.]	[1 0.]
8. SHOULDER BASE TYPE (CODES-TABLE A.6)	[2 8.]	[2 8.]
9. SURFACE THICKNESS (INCHES)	[_ 7.0]	[_ 7.0]
10. SHOULDER BASE THICKNESS (INCHES)	[1 2.0]	[1 2.0]
11. DIAMETER OF LONGITUDINAL DRAINPIPES (INCHES)		[4.0]
12. SPACING OF LATERALS (FEET)		[2 0 0.]

PREPARER [signature] EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 4]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[5 3]				
2	[0 8]	[7 4]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
3	[0 6]	[3 1]	[_ _3.5]	_ _2.9	_ _4.2	_ _0.2
4	[0 5]	[2 8]	[_ 11.1]	_ _9.3	_ 12.3	_ _0.8
5	[0 3]	[0 1]	[_ _6.8]	_ _6.1	_ _7.7	_ _0.4
6	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
7	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
8	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
9	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
10	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
11	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
12	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
13	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
14	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
15	[_ _]	[_ _]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (FEET) [_ _ . _]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER [signature] EMPLOYER BRE DATE 9/3/97

SPS-1 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 4]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 7-1 0-9 6]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers
Plant 1	[2]	R.E. Heldt 4709	[1 0]	[1 5]	[3] [4] [5]
Plant 2	[ ]		[ ]	[ ]	[ ] [ ] [ ]
Plant 3	[ ]		[ ]	[ ]	[ ] [ ] [ ]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify _____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER (AC) Blaw-Knox (PATB) Barber-Greene Matmaker SA-150

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER _____

6. SINGLE PASS LAYDOWN WIDTH (Feet) [1 2.0]

7. ATB PLACEMENT LIFTS
   - Layer Number [4]
   - Nominal First Lift Placement Thickness (Inches) [3.0]
   - Nominal Second Lift Placement Thickness (Inches) [3.0]
   - Nominal Third Lift Placement Thickness (Inches) [3.0]
   - Nominal Fourth Lift Placement Thickness (Inches) [3.0]

8. PATB PLACEMENT LIFTS
   - Layer Number [3]
   - Nominal First Lift Placement Thickness (Inches) [4.5]
   - Nominal Second Lift Placement Thickness (Inches) [.]

9. AC BINDER COURSE LIFT
   - Layer Number [5]
   - Nominal First Lift Placement Thickness (Inches) [3.0]
   - Nominal Second Lift Placement Thickness (Inches) [3.0]

10. AC SURFACE COURSE LIFT
    - Layer Number [5]
    - Nominal First Lift Placement Thickness (Inches) [1.5]
    - Nominal Second Lift Placement Thickness (Inches) [.]

11. SURFACE FRICTION COURSE (If Placed)
    - Layer Number [ ]
    - Nominal Placement Thickness (Inches) [.]

12. TEST SECTION STATION OF TRANSVERSE JOINTS (within test section)
    - Binder Course [+]
    - Surface Course [-]
    - Surface Friction Course [+]

13. LOCATION OF LONGITUDINAL SURFACE JOINT [1]
    - Between lanes.. 1 Within lane.. 2
    - (specify offset from O/S feet) [1 2.0]

14. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) _____

PREPARER [signature] EMPLOYER BRE DATE 9/10/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 4]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 7-1 0-9 6]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 7-1 2-9 6]
*3. LAYER NUMBER PATB [3]

*4. MIXING TEMPERATURE (°F) [2 8 0.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 5 0.
Minimum..... — — —.
Standard Deviation... — —.—
Number of Tests ..... — —.
Maximum..... — — —.

ROLLER DATA Ingersoll Rand used only (3 Vib, 2-Stat)

	Roller Code =	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4 .2				
7	B	Steel-Whl Tandem	— —.—				
8	C	Steel-Whl Tandem	— —.—				
9	D	Steel-Whl Tandem	— —.—				
10	E	Pneumatic-Tired	— —.—	— — — —.			
11	F	Pneumatic-Tired	— —.—	— — — —.			
12	G	Pneumatic-Tired	— —.—	— — — —.			
13	H	Pneumatic-Tired	— —.—	— — — —.			
14	I	Single-Drum Vibr.	— —.—		— — — —.	— — —	— —.—
15	J	Single-Drum Vibr.	— —.—		— — — —.	— — —	— —.—
16	K	Single-Drum Vibr.	— —.—		— — — —.	— — —	— —.—
17	L	Single-Drum Vibr.	— —.—		— — — —.	— — —	— —.—
18	M	Double-Drum Vibr.	1 4 .2		— — — —.	— — —	— —.—
19	N	Double-Drum Vibr.	— —.—		— — — —.	— — —	— —.—
20	O	Double-Drum Vibr.	— —.—		— — — —.	— — —	— —.—
21	P	Double-Drum Vibr.	— —.—		— — — —.	— — —	— —.—
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	—	—	—
24	Coverages	— 3.	— —.	— —.	— —.
	INTERMEDIATE				
25	Roller Code (A-Q)	—	—	—	—
26	Coverages	— —.	— —.	— —.	— —.
	FINAL				
27	Roller Code (A-Q)	A	—	—	—
28	Coverages	— 2.	— —.	— —.	— —.
29	Air Temperature (°F)	— 9 0.	— — —.	— — —	— — —.
30	Compacted Thickness (In)	4.0	—.—	—.—	—.—
31	Curing Period (Days)	— 2.0	— —.—	— —.—	— —.—

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 4]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 7-3 0-9 6]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 8-1 0-9 6]
*3. LAYER NUMBER ATB [4]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.__
Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA

Ingersall-Rand used only (3 Vib, 2 Stat)

	Roller Code =	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _.__				
8	C	Steel-Whl Tandem	_ _.__				
9	D	Steel-Whl Tandem	_ _.__				
10	E	Pneumatic-Tired	_ _.__	_ _ _ _.			
11	F	Pneumatic-Tired	_ _.__	_ _ _ _.			
12	G	Pneumatic-Tired	_ _.__	_ _ _ _.			
13	H	Pneumatic-Tired	_ _.__	_ _ _ _.			
14	I	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
15	J	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
16	K	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
17	L	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _	_ _.__
19	N	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
20	O	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
21	P	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _	_ _.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	M	M
24	Coverages	_ 3.	_ 3.	_ 3.	_ 3.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	A	A
28	Coverages	_ 2.	_ 2.	_ 2.	_ 2.
29	Air Temperature (°F)	_ 9 0.	_ 9 0.	_ 9 0.	_ _ _.
30	Compacted Thickness (In)	3.0	3.0	3.0	3.0
31	Curing Period (Days)	_ _.__	_ _.__	_ _.__	_ _.__

PREPARER [signature] EMPLOYER BRE DATE 9/29/87

SPS-1 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS COMPACTION DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 4]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 4-1 5-9 7]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 6-2 0-9 7]
*3. LAYER NUMBER AC [5]

*4. MIXING TEMPERATURE (°F) [3 1 5.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 2 8 0.
Minimum..... _ _ _.
Standard Deviation... _ _.__
Number of Tests ..... _ _.
Maximum..... _ _ _.

ROLLER DATA Ingersoll-Rand used only. (3 Vib - 2 Stat)

	Roller Code =	Roller Description	Gross Wt (Tons)	Tire Press. (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 4.2				
7	B	Steel-Whl Tandem	_ _.__				
8	C	Steel-Whl Tandem	_ _.__				
9	D	Steel-Whl Tandem	_ _.__				
10	E	Pneumatic-Tired	_ _.__	_ _ _ _.			
11	F	Pneumatic-Tired	_ _.__	_ _ _ _.			
12	G	Pneumatic-Tired	_ _.__	_ _ _ _.			
13	H	Pneumatic-Tired	_ _.__				
14	I	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
15	J	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
16	K	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
17	L	Single-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
18	M	Double-Drum Vibr.	1 4.2		_ _ _ _.	_ _ _.	_ _.__
19	N	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
20	O	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
21	P	Double-Drum Vibr.	_ _.__		_ _ _ _.	_ _ _.	_ _.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	M	M	M	_
24	Coverages	_ 3.	_ 3.	_ 3.	_ _.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	_ _.	_ _.	_ _.	_ _.
	FINAL				
27	Roller Code (A-Q)	A	A	A	_
28	Coverages	_ 2.	_ 2.	_ 2.	_ _.
29	Air Temperature (°F)	_ 9 0.	_ 9 0.	_ 9 0.	_ _ _.
30	Compacted Thickness (In)	3.0	2.5	1.5	_.__
31	Curing Period (Days)	_ _.__	_ _.__	_ _.__	_ _.__

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 4]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	ATB	Binder Course	Surface Course	Surface Friction Layer
Measurement Method (A, B, C)[1]	__	__	A	__
Number of Measurements	__ __	__ __	0 3	__ __
Average (pcf)	__ __ __.__	__ __ __.__	1 4 6.9	__ __ __.__
Maximum (pcf)	__ __ __.__	__ __ __.__	1 5 1.4	__ __ __.__
Minimum (pcf)	__ __ __.__	__ __ __.__	1 3 9.0	__ __ __.__
Standard Deviation (pcf)	__ __ __.__	__ __ __.__	__ __ 6.4	__ __ __.__
Layer Number	__ __	__ __	0 5	__ __

[1]Measurement Method Backscatter... A Direct Transmission... B Air Gap... C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE Troxler

3. NUCLEAR DENSITY GAUGE MODEL NUMBER 3350

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER 3411 B

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION __ __ __ __ __

6. PROFILOGRAPH MEASUREMENTS

Profilograph Type California... 1 Rainhart... 2 __
Profile Index (Inches/Mile) __ __
Interpretation Method Manual.. 1 Mechanical.. 2 Computer.. 3 __
Height of Blanking Band (Inches) __.__ __
Cutoff Height (Inches) __.__ __

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, (NO)) NO

PREPARER Timothy J. Martin EMPLOYER BRE DATE 9/4/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 4]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
0+00	0		3.5	18.8	6.7	
	36		3.2	12.0	6.5	
	72		3.4	12.1	6.2	
	108		3.1	12.2	6.2	
	144		3.1	12.0	6.1	
0+50	0		3.1	11.2	7.1	
	36		2.9	11.6	6.6	
	72		3.5	11.4	6.5	
	108		3.5	11.4	6.6	
	144		3.4	10.8	6.6	
1+00	0		3.0	11.2	6.7	
	36		3.4	10.7	7.2	
	72		3.5	11.2	6.5	
	108		3.4	11.3	6.6	
	144		3.6	11.4	6.5	
1+50	0		3.4	11.0	6.8	
	36		3.6	11.4	6.6	
	72		3.7	11.6	6.4	
	108		3.5	11.6	6.5	
	144		3.4	11.6	6.5	
2+00	0		3.2	11.3	7.1	
	36		3.4	11.5	6.6	
	72		3.7	11.3	6.2	
	108		3.6	11.2	6.6	
	144		3.5	11.3	6.5	
2+50	0		3.6	10.9	7.4	
	36		4.0	11.0	7.0	
	72		4.2	11.0	6.7	
	108		4.0	11.4	6.7	
	144		3.8	11.6	6.6	
3+00	0		3.5	11.5	7.7	
	36		3.6	12.0	7.2	
	72		3.9	12.1	6.8	
	108		3.5	12.0	6.8	
	144		3.4	11.9	6.6	
LAYER NUMBER[1]			03	04	05	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 4]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 2 OF 2

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
3+5 C	0		3.4	10.7	7.6	
	36		3.5	10.8	7.1	
	72		3.4	10.9	6.8	
	109		3.2	11.0	6.8	
	144		3.1	11.2	6.8	
4+0 C	0		3.6	9.6	7.6	
	36		3.5	10.1	7.1	
	72		3.6	10.3	6.8	
	103		3.5	10.6	6.7	
	144		3.5	10.6	6.8	
4+5 C	0		3.7	9.2	7.3	
	36		3.8	9.5	7.0	
	72		3.4	10.1	6.7	
	109		3.7	10.9	6.7	
	144		3.4	11.2	6.6	
5+0 C	0		3.5	9.2	7.3	
	36		3.6	9.7	6.8	
	72		3.7	10.0	6.7	
	108		3.2	10.3	6.8	
	144		3.1	10.4	6.8	
+—						
+—						
+—						
LAYER NUMBER[1]			03	04	05	

[1] from Sheet 4

PREPARER [signature] EMPLOYER BRE DATE 9/29/97

SPS-1 CONSTRUCTION DATA SHEET 14 SUBGRADE PREPARATION	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 4]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [0 4-0 9-9 6]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [0 4-2 2-9 6]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (TONS) [2 0.0]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[1]	[1 2 0]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (INCHES) [__ __]
(For Fill Sections Only)

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 15 CUT-FILL SECTION LOCATIONS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 4]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NO
		*2 START	*3 END	
1	3	0 + 0 0	5 + 0 0	2 2 0 1 2 4
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

NOTES:

1. Indicate the type of subgrade section with one of the following:
   Cut... 1 Fill... 2 At Grade .. 3

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

SPS-1 CONSTRUCTION DATA SHEET 16 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 4]

Not Applicable.
See Typical Cross-sections.

PREPARER [signature] EMPLOYER BRE DATE 9/3/97

SPS-1 CONSTRUCTION DATA SHEET 17 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [2 2] * SPS PROJECT CODE [0 1] * TEST SECTION NO. [2 4]

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

- Rained hard 4/22 and 4/23 (standing water along roadbed)
- Subgrade compacted to 95%
- Drainage outlets were retrofitted to the longitudinal pipe after paving the final surface.

PREPARER Timothy J. Martin EMPLOYER BRE DATE 8/29/97

APPENDIX E

PHOTOGRAPHS

		Page Nº.
1	Project Site Prior to Construction	E.2
2	Sampling Subgrade Material	E.2
3	Fill/Embankment Material on Natural Subgrade	E.3
4	Primed and Treated Embankment	E.3
5	Placement of DGAB	E.4
6	Finished and Primed DGAB Surface	E.4
7	Asphalt Plant	E.5
8	Asphalt Plant Drum and Belt Feeder	E.5
9	Geotextile Tacked Together with 3′ Overlap	E.6
10	Edge Drain Placement	E.6
11	Fill Material Used for Edge Drain Trench	E.7
12	Laydown of PATB on Geotextile	E.7
13	Paver used for PATB on Geotextile	E.8
14	Laydown of PATB on DGAB	E.8
15	Paver used for PATB on DGAB	E.9
16	ROADTEC Feeder Used for AC and ATB	E.9
17	Paver Used for All Bound Material Except on Geotextile	E.10
18	Nuclear Density Testing on Bound Layers	E.10
19	Laydown of Wearing Course	E.11
20	Retrofitted Trench for Drainage Outlet	E.11
21	Drainage Outlet Retrofitted	E.12
22	Weigh-in-Motion (WIM) Sensor	E.12

Photo 1. Project Site Prior to Construction

Photo 2. Sampling Subgrade Material

Photo 3. Fill/Embankment Material on Natural Subgrade

Photo 4. Primed and Treated Embankment

Photo 5. Placement of DGAB

Photo 6. Finished and Primed DGAB Surface

Photo 7. Asphalt Plant

Photo 8. Asphalt Plant Drum and Belt Feeder

Photo 9. Geotextile Tacked Together with 3′ Overlap

Photo 10. Edge Drain Placement

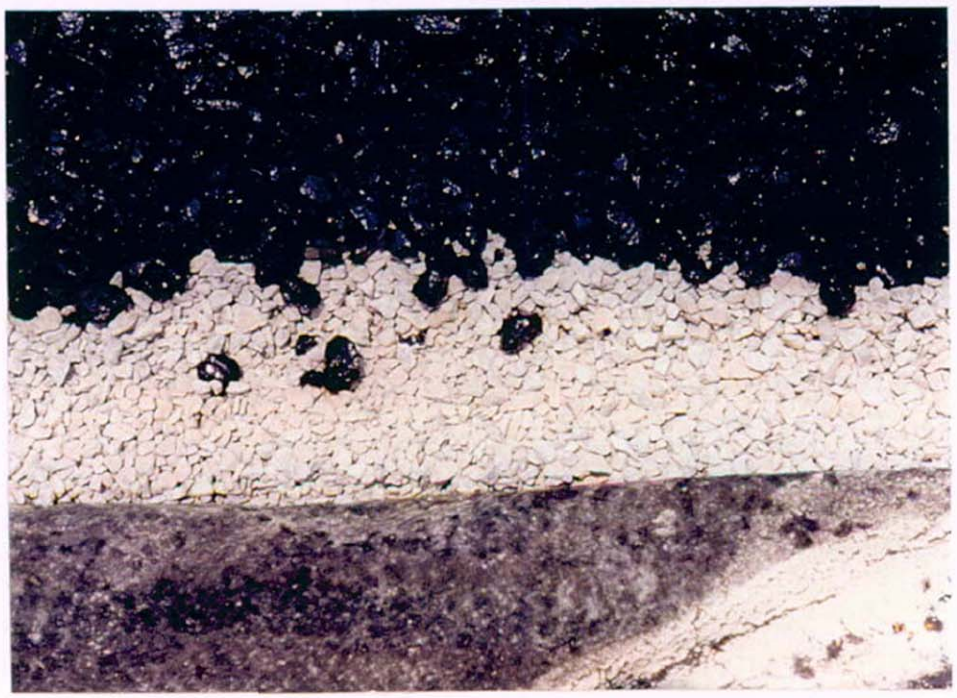


Photo 11. Fill Material Used for Edge Drain Trench

Photo 12. Laydown of PATB on Geotextile

Photo 13. Paver used for PATB on Geotextile

Photo 14. Laydown of PATB on DGAB

Photo 15. Paver used for PATB on DGAB

Photo 16. ROADTEC Feeder Used for AC and ATB

Photo 17. Paver Used for All Bound Material Except on Geotextile

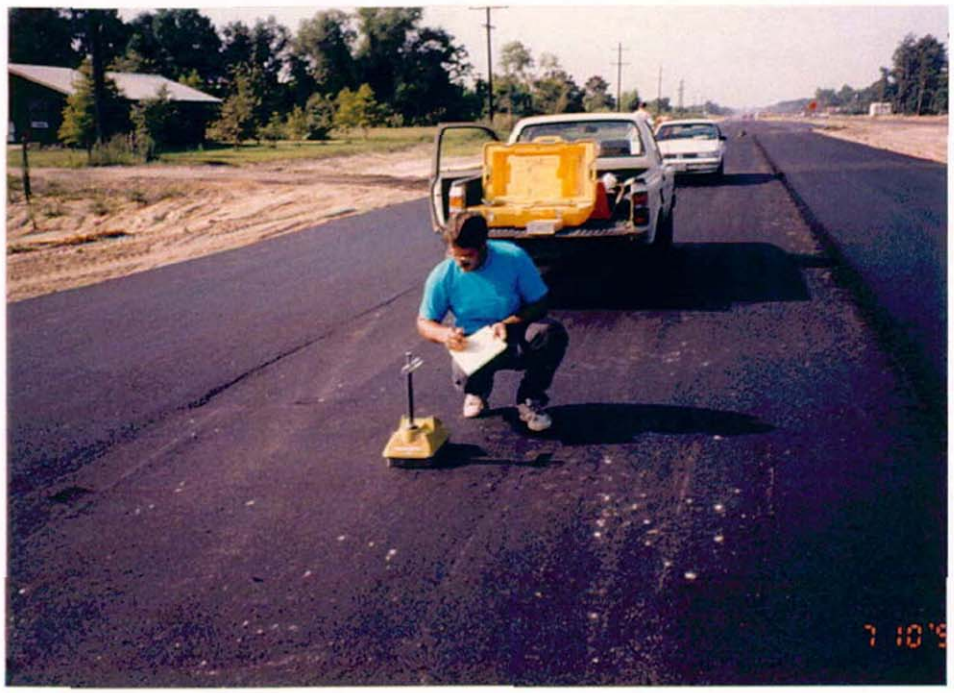


Photo 18. Nuclear Density Testing on Bound Layers

Photo 19. Laydown of Wearing Course

Photo 20. Retrofitted Trench for Drainage Outlet

Photo 21. Drainage Outlet Retrofitted

Photo 22. Weigh-in-Motion (WIM) Sensor