CORRESPONDENCE MEMORANDUM

Wisconsin Department of Transportation

DT1175 1/2003

Date: June 15, 2009

To: Mark Hughes,
Project Development Group Manager
DTSD Northwest Region – Eau Claire and Superior HQ

From: Michael Perkins,
Soils Engineer
DTSD Northwest Region

Subject: Site Investigation Report – Pavement Investigation
8100-03-02
STH 25
(STH 64 - NCL)
Dunn County

This report presents the results of a 2009 existing pavement investigation request by Randy Luedtke, D6 Pavement Design Engineer. Pavement core thicknesses and recommended pavement design soil parameters are provided.

PROJECT IDENTIFICATION AND PROPOSED CONCEPTS

- The project is located along STH 25 beginning at STH 64 E and proceeding to the north county line of Dunn County. Project length is 6.56 miles.
- The project is scheduled for Preventive Maintenance (RDMTN) type improvement.
- STH 25 is functionally classified as a principal arterial.
- The project's current, rescheduled program fiscal year is 2014.

GENERAL GEOLOGY AND SOILS TYPES

- The project traverses somewhat level and gently undulating soils along stream terraces and outwash to rolling and steep Upland soils. The types of soil deposits include sands, silty loams and silty clays overlying bedrock, and loamy alluvium.
- The Upland project soils are typically underlain by bedrock, within 5' of the surface.
- Alluvial soils occur along the project length as well. Alluvial and some marsh deposits are found along the drainage ways and poorly drained areas of the project.
- The soil maps issued by the Soil Conservation Service (SCS) in 1975 for Dunn County identify predominant soils series along the project to be:
  - Plainfield for the southern 1.25 miles of the project alongside Little Otter Creek (outwash plain and stream terrace deposits),
  - Seaton and Urne-Elkmound (Upland soils), and
  - Boaz (alluvial deposits in the poorly drained areas from the higher ground soils)

GEOTECHNICAL INVESTIGATION

Central Office Geotechnical contracted the field investigation to PSI from Waukesha Wisconsin for the asphalt coring work. Asphalt core locations were approximately one-half mile intervals and noted by the decimal mile on the project field core log. The ***Pavement Field Core Log*** is attached. Thirteen cores taken near the northbound travel lane note the asphalt thickness. Asphalt depths measured 4 ¾" to 9 ¼".

RECOMMENDATIONS

Pavement Design Parameters

Recommended pavement design parameters for the project length along STH 25 are:

- Design Group Index: 12
- Soil Support Value: 4.2
- Frost Index F-3

Although Plainfield sands are SCS mapped through the southern 1.25 mile of the project, these sands can lean toward a fine-grained, loamy sand. The remainder of the project displays Upland soils with silty clays and loamy material in the upper soil layers. A conservative recommended DGI value is the result.

IN CONCLUSION

If you have any questions regarding this report, please contact the writer. Recommendations in this report are based on the project information provided or made known to the writer. If changes in the nature, design, or location of the proposed improvements are made, please contact the writer for an opportunity for review of the recommendations and possible changes as deemed appropriate.

Attachments

cc: Central File (original)
NW Region Pavement Design Engineer
Soils File – Eau Claire

Pavement
Field Core Log

Project	Road	
8100-03-02	STH 25 (STH 64 - NCL)	
County: DUNN	Region / District HQ: NW-EC	Date: JUNE 10, 2009
other: Consultant Drill crew: PSI, Waukesha WI		Page 1 of 1
		Core diameter : 5½"

Core No.	Sta/Mile	Off Set	Pavement Thickness	Base Thickness	Comments/Subgrade
—	0.04	—	—	—	STH 64 East Intersection
—	0.0	—	—	—	beginning of sealcoat
1	0.5	6' RT	6½"	—	
2	1.0	6' RT	5½"	—	
3	1.5	8' RT	5"	—	
4	2.0	7½' RT	5¼" see comment	—	additional ¼" of asphalt part. mat'l. measured in core hole; total = 6¼"
5	2.5	7' RT	6"	—	
6	3.0	7' RT	6¼"		
—	3.13	—	—	—	CTH W / RT
7	3.5	7' RT	8¼"	—	
8	4.0	8' RT	6"	—	
9	4.5	7' RT	9¼"		
—	4.70	—	—	—	B-17-115 over BEAVER CREEK
10	5.0	7' RT	6"	—	
—	5.34	—	—	—	CTH WW / RT
11	5.5	7' RT	7¾"	—	
—	5.	—	—	—	Village of Ridgeland
12	6.0	7' RT	7"	—	
—	6.19	—	—	—	CTH V / LT
13	6.5	7' RT	4¾"	—	
—	6.61	—	—	—	Village of Ridgeland
—	6.65	—	—	—	CTH AA / LT & CTH V / RT

PAVEMENT
FIELD CORE LOG

SHEET 1 of 1

PROJECT 8100-08-02 ROAD STH 25 - STH 64 to NCL

COUNTY Dunn DISTRICT NW-EC

CORE No.	STATION	OFFSET	CORE In INCHES	CORE DIAMETER	INCHES of BASE	PAVEMENT TYPE	DATE	
1	0.5	6' RT of c/L	6.5"	5.5"		Base	6-9-09	
2	1.0	6' RT of c/L	5.5"	5.5"		Base	6-9-09	
3	1.5	8' RT of c/L	5.0"	5.5"		Base	6-9-09	split
* 4	2.0	7.5' RT of c/L	5 1/4"	5.5"		~~Base~~	6-9-09	
5	2.5	7' RT of c/L	6"	5.5"		Base	6-9-09	
6	3.0	7' RT of c/L	6 1/4"	5.5"		Base	6-9-09	
7	3.5	7' RT of c/L	8 1/4"	5.5"		Base	6-9-09	
8	4.0	8' Rt of c/L	6"	5.5"		Base	6-9-09	
9	4.5	7' RT of c/L	9 1/4"	5.5"		Base	6-9-09	
10	5.0	7' Rt of c/L	6"	5.5"		Base	6-9-09	
11	5.5	7' Rt of c/L	7 3/4"	5.5"		Base	6-9-09	
12	6.0	7' Rt of c/L	7"	5.5"		Base	6-9-09	
13	6.5	7' Rt of c/L	4 3/4"	5.5"		Base	6-9-09	
						Chip Seal		

* 1" of old ~~pavement~~ asphalt material underneath core