

Pavement Survey and Evaluation Report

State Road 45 (US 41) Manatee County

Financial Project Number 444612-1

Milepost 0.000 to 2.095

District 1 & 7 Materials

<u>Authors</u> Marlene Hebert Taylor F. Smith, PE

> Date of Report May 1, 2024

PAVEMENT SURVEY AND EVALUATION REPORT SR 45 (US 41) FROM EDWARDS DRIVE TO MAGELLAN DRIVE

INTRODUCTION

In response to your request, the District Materials Office conducted a pavement survey and evaluation on SR 45 (US 41) in Manatee County for the subject project, with current letting date in Project Suite Enterprise Edition of November 5, 2025. We understand this project includes milling and resurfacing from Edwards Drive to Magellan Drive.

The objective of this work was to identify the existing pavement composition, assess the pavement conditions, and to make recommendations for the milling depth and resurfacing plan. This work involves a field review, pavement coring, data analysis, and reporting.

FIELD REVIEW

The objective of the field review is to gain a good understanding of the overall pavement condition, and to help determine the layout of the core locations. This review was performed on February 20, 2024, by our asphalt field specialist Anthony Brown, Materials Pavement Assessment Specialist with Madrid Engineering Group, Inc. The results of this review are included in Appendix 1.

Typical Section

The typical section consists of a six-lane divided asphalt pavement structure with paved shoulders/bike lane, turn lanes and curb & gutter.

Pavement Condition

The pavement has open-graded friction course. The overall condition of the pavement is fair with light to moderate cracking, minimal rutting, and severe raveling. Due to the severe raveling, sections of the roadway have been repaired in multiple locations through the installation of patches.

The 2024 Pavement Condition Survey was performed by the State Materials Office and the results are included in the table below.

]	LEFT		RIGHT				
				RO	ADWA	Y	RO	DADWAY					
Roadway	Mile Post	Age	Posted	AADT	Creak	Ride	Rut	Crack	Ride	Rut			
ID			Speed		Trucks	Clack							
13010000	0.000 - 2.094	4.5	7.4	9.0	4.5	7.4	8.0						

CORING INFORMATION

The pavement coring was performed on December 8, 2020 by Roberts Consulting, Inc. and March 21, 2024 by Ardaman Engineering, Inc. according to Section 3.2 of the Materials Manual-*Flexible Pavement Coring and Evaluation*.

A total of ninety-three (93) cores were extracted, forty-three (43) from the mainline, four (4) cores from the shoulders/bike lanes, twenty-three (23) cores from the turn lanes, and twenty-three (23) from the side streets. The core layout and the coring data, including cross slope and the type of base materials, are presented in Appendix 2. Pictures of core samples and locations are presented in Appendix 3.

REHABILITATION RECOMMENDATIONS

For the following recommended milling depths, each lane was evaluated individually. Considerations included crack removal targets, scabbing concerns, design speeds and friction type to be resurfaced. Below are the most suitable milling recommendations based on the conditions mentioned above to develop a pavement design for this project.

MAINLINE R1, R2, R3, BIKE LANE, AND TURN LANES

- Mill 3.50 inches
- Resurface with 2.00 inches of SP-12.5 and 1.50 inches of FC-12.5.

MAINLINE L1, AND L2,

- Mill 4.00 inches
- Resurface with 2.50 inches of SP-12.5 and 1.50 inches of FC-12.5.

MAINLINE L3 AND BIKE LANE

- Mill 4.50 inches
- Resurface with 3.00 inches of SP-12.5 and 1.50 inches of FC-12.5.

Appendix 4 provides an illustration of the milling and resurfacing recommendations.

COMMENTS AND GENERAL NOTES

In addition to the recommendations made within this report, the following items should be considered when preparing the contract documents for the subject project:

Notes to the Designer

- 1. Due to the variable asphalt pavement thickness, and the frequency in which the preliminary pavement cores were taken, isolated areas of the base may be exposed. Areas of exposed base material should be cared in accordance with FDOT specification prior to the application of the bituminous material.
- 2. Milling may need to be adjusted at the beginning and end of the project, side streets, bridge deck, approach/departure slabs or areas in which constraints dictate. Appropriate plan details need to be illustrated in the plans in accordance with the FDOT Flexible Pavement Design Manual (FPDM).

If the recommendations in this report are not used within three years, please contact this office as the milling depth/proposed pavement structure may increase.

The identification of the different pavement layers is based on visual classification as well as familiarity with the site. The actual classification may be different due to variability in asphalt mixes and roadway construction. The information in this report is based on the conditions specific only at the locations cored at the time of the investigation. The Engineer shall notify the District Materials Office if the work proposed for the project changes and/or existing conditions change prior to the letting of the project. This report is based on the understanding that the project will be designed and constructed in accordance with Department standards and requirements unless stated otherwise within this report.

Please contact this office if additional service is required or if there are any questions regarding this report at <u>D1-D7Pavement@dot.state.fl.us</u>

ne Hebert

Marlene Hebert District Materials Pavement Coordinator

Taylor F. Smith, PE 88746 District Pavement Evaluations Engineer

1. Location Map and Field Review Findings

- 2. Core Data and Layout
- 3. Core Sample and Location Pictures
- 4. Illustration of Milling and Resurfacing Recommendations
- **5. Pavement Survey Request**

Location Map and Field Review Findings

Location Map

444612-1 / Manatee County SR 45 (US 41) 13010000 MP 0.000 – 2.095



444612-1

Bradenton, Manatee County

SR 45 from Edwards DR to Magellan DR, MP 0.000 – 2.095

<u>6 Lane Urban Principal Arterial Roadway</u>

Inspected by: Anthony Brown, 2/20/24

RT Rdway

50

20

 Rdwy Id # - 13010000

 MP 0.000 - 2.094
 LT Rdway

 MPH 50

 Age 20

 Cracking 4 5

Cracking -	4.5	4.5
Ride -	7.4	7.4
Rutting -	9.0	8.0
-		

Lane Width: 12' Inside C&G: Y Outside C&G: Y Inside Paved Shoulder: N Outside Paved Shoulder (Bike Lane): Y Median: Y, Grass & Concrete Sidestreets: Y, 24 Total Turn Lanes: Y, 16 Total Cross overs: Y, 2 Total Center Turn Lane: Y

<u>R1</u>

Right Roadway

MP 0.000 – 0.005 has light branch cracking. There is a pavement change at MP 0.005.

MP 0.005 – 0.718 has intermittent moderate to severe branch and longitudinal cracking (Picture 1).

MP 0.718 – 0.751 is a patch that is in fair condition.

MP 0.751 – 0.801 has moderate to severe longitudinal cracking.

MP 0.801 – 0.826 is a patch that is in fair condition.

MP 0.826 – 1.005 has intermittent moderate to severe branch and longitudinal cracking.

MP 1.005 – 1.447 has intermittent light to moderate branch and longitudinal cracking.

MP 1.447 – 1.646 has intermittent moderate to severe branch and longitudinal cracking (Picture 2).

MP 1.646 – 1.670 is a patch that is in fair condition.

MP 1.670 – 1.684 has moderate longitudinal cracking.

MP 1.684 – 1.706 is a patch that is in fair condition.

MP 1.706 – 1.709 is in fair condition.

MP 1.709 – 1.751 is a patch that is in fair condition.

MP 1.751 – 1.781 has moderate branch cracking.

MP 1.781 – 1.815 is a patch that is in fair condition.

MP 1.815 – 1.893 has intermittent light branch cracking.

- MP 1.893 1.910 is a patch that is in fair condition.
- MP 1.910 1.969 has light to moderate branch and longitudinal cracking.
- MP 1.969 1.994 is a patch that is in fair condition.
- MP 1.994 2.088 has intermittent light longitudinal cracking.
- MP 2.088 2.095 is a concrete bridge deck.

<u>R2</u>

- **MP 0.000 0.005** has moderate branch cracking. There is a pavement change at MP 0.005.
- MP 0.005 0.221 has intermittent light to moderate branch and longitudinal cracking (Picture 3).
- MP 0.221 0.238 is a patch that is in fair condition.
- MP 0.238 1.468 has intermittent light to moderate branch and longitudinal cracking (Picture 4).
- MP 1.468 1.486 is a patch that is in fair condition.
- MP 1.486 1.709 has intermittent light to moderate longitudinal cracking.
- **MP 1.709 1.765** is a patch that is in fair condition.
- MP 1.765 1.775 has light branch and transverse cracking.
- MP 1.775 1.819 is a patch that is in fair condition.
- MP 1.819 1.821 has moderate longitudinal cracking.
- MP 1.821 1.858 is a patch that is in fair condition.
- MP 1.858 1.906 has moderate branch and longitudinal cracking.
- MP 1.906 1.934 is a patch that is in fair condition.
- MP 1.934 1.995 has intermittent light longitudinal cracking.
- MP 1.995 2.013 is a patch that is in fair condition.
- MP 2.013 2.088 has light branch cracking.
- MP 2.088 2.095 is a concrete bridge deck.

<u>R3</u>

- MP 0.000 0.005 has severe block cracking. There is a pavement change at MP 0.005.
- **MP 0.005 0.781** has intermittent light to moderate branch and longitudinal cracking (Picture 5).
- MP 0.781 1.592 has intermittent light longitudinal cracking.
- MP 1.592 2.088 has intermittent light to moderate longitudinal and branch cracking (Picture 6).
- MP 2.088 2.095 is a concrete bridge deck.

Turn Lanes

The turn lanes are in fair condition.

Bike Lane

The bike lane has intermittent light longitudinal and transverse cracking.

Left Roadway

<u>L1</u>

MP 2.095 – 2.088 is a concrete bridge deck.

MP 2.088 – 1.520 has light to moderate longitudinal and branch cracking. There is moderate transverse cracking at MP 1.888 (Picture 8).

MP 1.520 – 0.005 has intermittent light to severe branch and longitudinal cracking (Picture 7). There is a pavement change at MP 0.005.

MP 0.005 – 0.000 has moderate block cracking.

<u>L2</u>

MP 2.095 – 2.088 is a concrete bridge deck.

MP 2.088 – 1.111 has intermittent light to moderate branch and longitudinal cracking (Picture 10).

MP 1.111 – 0.946 has intermittent light to moderate branch and longitudinal cracking. There is also intermittent deep gouging.

MP 0.946 – 0.005 has moderate to severe longitudinal and branch cracking (Picture 9).

MP 0.005 – 0.000 has moderate block cracking.

<u>L3</u>

MP 2.095 – 2.088 is a concrete bridge deck.

MP 2.088 – 1.885 has intermittent light longitudinal cracking (Picture 12).

MP 1.885 – 0.005 has intermittent light to moderate branch and longitudinal cracking (Picture 11).

MP 0.005 – 0.000 has moderate block cracking.

Turn Lanes

LLTL at MP 1.906 has light longitudinal cracking.

Bike Lane

The bike lane has intermittent light longitudinal and transverse cracking.

Center Turn Lane

The center turn lane has light to moderate longitudinal cracking.

		FPID:	PROJECT DESCRIPTIO	N:
FIELD REVIEW P	HUTU PAGES	444612-1	SR 45 from Edwards I	DR to Magellan DR
REVIEWED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:
Anthony Brown	2/20/2024	0.000	2.095	Manatee / 13010000





		FPID:	PROJECT DESCRIPTIO	N:						
FIELD REVIEW P	HUTU PAGES	444612-1	SR 45 from Edwards DR to Magellan DR							
REVIEWED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:						
Anthony Brown 2/20/2024		0.000	2.095	Manatee / 13010000						





		FPID:	PROJECT DESCRIPTIO	N:
	HUTU PAGES	444612-1	SR 45 from Edwards [DR to Magellan DR
REVIEWED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:
Anthony Brown 2/20/2024		0.000	2.095	Manatee / 13010000





Core Data and Layout

	Cored By:	Roberts	Consult	ing Serv	ices						Date: 12/8/2020 Typical Section: 13010000																	
	W.P.I. No.:	:											Name:	SR 45 (US 41)								Lanes:	3 lanes e	each dire	ction with	a center	cross over
F	in. Proj. ID:	444612-	1										From:	Edwards Drive	<u>,</u>							Sł	noulder T	ype and C	Condition:	Curb and	d Gutter	
F.A. F	Project No.:	:											To:	Magellan Driv	е								Inside:	Curb and	d Gutter			
	County:	Manatee)				SR No.	SR 45					Beg MP:	0.000		End MP:	2.035		Length:	2.035			Outside:	None				
	Overal	I Paveme	ent Condit	ion (from	DMO field	d review):	Fair				Me	edian Curb	ed (Y/N):	Ν	Paved	Х	Lawn		Other:			Cu	urb & Gut	ter (Y/N):	Y			
				•		,										-	(
			-		-									IMI:	ainlin	e Cores	5 (ML)							-				
						T	I	PAVEN	ENT LAY	'ER (IN.)		1	I.			BA	ASE				CR	ACK						
CORE NO.	MILE POST ¹	LANE TYPE	LANE	WP (Y/N)	FC12.5	FC9.5	FC5	FC3	S	SP1C	s	SAHM	BIND	TOTAL ASPHALT THICKNESS (IN.)	LR	CONC	ABC-2	SHEL	STABILIZED SUBGRADE ²	DEPTH (IN.)	TYPE	CLASS	EXTENT	PA VEMENT CONDITION	RUT DEPTH - LWP (IN.)	RUT DEPTH - RWP (IN.)	CROSS SLOPE (%) ³	COMMENTS
1	0.010	ML	R3	Y		0.9				1.0	1.2			3.1	12.0					2.7	С	2	S	Р	0.1	0.1	3.90	
2	0.010	ML	L3	Y		1.4				1.3			1.3	4.0	11.5					2.2	С	3	S	Р	0.1	0.1	2.90	
3	0.040	ML	R3	Y			0.7			2.6			0.7	4.0	17.5					2.8	С	3	М	F	0.1	0.1	5.30	
4	0.707	ML	R3	Y			0.6			1.8			0.6	3.0	10.5					3.0	С	3	S	Р	0.1	0.3	5.00	Base Crack
5	1.194	ML	R3	Y			0.9			1.6			1.4	3.9	11.5				12.5					F	0.1	0.1	4.10	
6	1.652	ML	R3	Y			1.1			1.8			1.6	4.5	11.0									F	0.2	0.1	4.10	
7	2.086	ML	R2	Ν			0.5			1.3			1.8	1.8					11.8	1.8	С	3	S	Р	0.1	0.1	2.80	Bridge Approach slab
8	2.086	ML	L2	Ν			0.9			1.1				2.0										F	0.1	0.1	1.50	Bridge Approach slab
9	1.953	ML	L3	Ν			0.9			2.3			1.2	4.4	11.3					0.9	С	2	М	F	0.1	0.1	5.50	
10	1.288	ML	L3	Y			0.9			1.8			0.7	3.4	11.5					3.4	С	3	S	Р	0.2	0.1	4.30	Base Crack
11	0.987	ML	L3	Y			0.8			2.5			1.2	4.5	12.3					4.5	С	3	S	Р	0.1	0.0	5.10	Base Crack
12	0.392	ML	L3	Y			1.0			1.5			0.8	3.3	9.5				12.2					F	0.1	0.1	3.30	
13	0.070	ML	R2	Ν			0.7			2.5			0.9	4.1	8.2					3.0	С	2	М	Р	0.2	0.0	3.30	Raveling
14	0.502	ML	R2	Y			1.0			2.3			1.2	4.5	7.5									F	0.1	0.1	3.60	Raveling
15	1.053	ML	R2	Ν			0.9			2.4			1.1	4.4	11.5					2.0	С	3	S	Р	0.1	0.1	3.40	
16	1.851	ML	R2	Ν			0.9			2.6			1.6	5.1	7.4					5.1	С	3	S	Р	0.3	0.1	3.10	Joint crack/Raveling/Base crack
17	1.830	ML	L2	Y			0.8			2.9			1.3	5.0	8.1					3.8	С	3	S	Р	0.2	0.1	3.20	
18	1.417	ML	L2	Ν			1.0			3.0			1.0	5.0	8.4					5.0	С	3	S	Р	0.4	0.1	3.30	Base Crack
19	0.605	ML	L2	N			0.8			2.3			1.4	4.5	9.0									F	0.3	0.3	3.00	
20	0.308	ML	L2	Y			0.9			2.8			1.0	4.7	10.2					2.4	С	3	S	Р	0.2	0.3	3.30	
21	0.285	ML	R1	N			1.0			3.1	0.6			4.7	12.8				11.5	4.7	С	3	S	Р	0.0	0.3	3.00	Base crack
22	0.705	ML	R1	N			1.1			2.9			1.5	5.5	8.6					2.1	С	3	S	Р	0.1	0.1	1.40	Raveling
23	1.104	ML	R1	Y			0.8			3.7				4.5			4.7							Р	0.3	0.2	4.40	
24	1.810	ML	R1	Y			0.8			3.4				4.2			3.1							Р	0.3	0.1	3.60	Raveling
25	2.011	ML	L1	Y			0.9			1.3	4.4			6.6				8.3	11.7					F	0.1	0.1	2.60	
26	1.459	ML	L1	Y			0.9			2.1	4.5			7.5	10.1									Р	0.1	0.1	3.10	Raveling, BOT of core broke of during extraction
27	0.835	ML	L1	Y			0.8			1.8	1.6			5.1	9.8					5.1	С	3	S	Р	0.1	0.1	3.40	
28	0.200	ML	L1	N			0.9			2.2	0.4			3.5			5.3			2.3	С	3	S	Р	0.3	0.2	2.90	
29	1.480	ML	R2	N			1.1			1.9	0.6		1.7	5.3	7.8					5.3	С	3	S	Р	0.1	0.1	2.70	Joint crack/Raveling/Base crack
76	1.991	ML	R1	N		ļ	0.8			1.8	0.9		1.5	5.0		L		9.0		2.4	С	3	М	Р	0.1	0.2	2.80	Raveling
77	1.880	ML	L3	Y			0.9			2.4	<u> </u>		1.0	4.3	12.0					4.3	С	3	S	Р	0.2	0.2	3.80	Base Crack
AVERAGE						1.2	0.9			2.2	1.8		1.2	4.36	10.41		4.37	8.65	11.94	3.27		2.86			0.2	0.1	3.47	
MAX			ļ			1.4	1.1			3.7	4.5		1.8	7.50	17.50	ļ	5.30	9.00	12.50	5.25		3.00			0.4	0.3	5.50	_
MIN			ļ			0.9	0.5			1.0	0.4		0.6	1.75	7.40	L	3.10	8.30	11.50	0.90		2.00			0.0	0.0	1.40	
LAYER COEF.					0.25	0.25	0.00	0.17	0.25	0.25	0.25	0.11	0.20		0.18	UNKW	0.16	0.18	0.08									

Notes:

1. Mile posts are approximate based on field recorded measurements using a Distance Measuring Instrument (DMI). 2. Stabilization thickness was checked on 10% of the coring locations. For pavement design assume 12 inches of thickness for stabilization. 3. The cross slope is measured in the center of the lane. 4. A blank cell indicates measurement was not recorded.

	Lane Designations	Crack Type	Crack Rating	Extent	Pavement Condition	
OL - Outside Left Shoulder	OR - Outside Right Shoulder	A - Alligator	Class IB - Hairline cracks that are $\leq 1/8$ inch wide	L - Light	G - Good	ML - N
L1 - 1st Lane Left of Centerline	R1 - 1st Lane Right of Centerline	B - Block	Class II - Cracks > than 1/8 inch and \leq 1/4 inch	M - Moderate	F - Fair	TL - Ti
		C - Combination	Class III - Cracks > 1/4 inch	S - Severe	P - Poor	CO - C

Mainline Turn Lane Crossover

Lane Type S - Shoulder SS - Side Street

	Cored By:	Roberts	Consul	ting Serv	ices						Date: 12/8/2020 Typical Section: 13010000														
	W.P.I. No.:												Name	SR 45 (US 41)								Lanes:	3 lanes (each dir
F	in. Proj. ID:	444612-	1										From	Edwards Drive	9							Sł	noulder T	vpe and (Conditio
F.A. F	Project No.:												To	Magellan Driv	е								Inside:	Curb and	d Gutte
	County:	Manatee)				SR No.	: SR 45					Beg MP	0.000	-	End MP:	2.035		Lenath:	2.035			Outside:	None	
	Overa	I Paveme	ent Condi	tion (from	DMO field	d review):	Fair				Me	edian Curb	ed (Y/N)	N	Paved	X	Lawn		Other:			Cı	urb & Gut	ter (Y/N):	Y
						/	-						_				-								
								DAVEN					Tu	rn Lane a	nd Cro	ossove	er Core	es (TL/C	CO)		<u>CD</u>	ACK			
							1	PAVEM		ER (IN.)		1		-		D/	132		-		URA		<u> </u>	-	
CORE NO.	MILE POST ¹	LANE TYPE	LANE	WP (Y/N)	FC12.5	FC9.5	FC5	FC3	S	SP1C	S	SAHM	BIND	TOTAL ASPHALT THICKNESS (IN.)	LR	CONC	ABC-2	SHEL	STABILIZED SUBGRADE ²	DEPTH (IN.)	JAYPE	CLASS	EXTENT	PA VEMENT CONDITION	RUT DEPTH - LWP (IN.)
30	0.542	TL/CO	R1	Y			1.1			1.7	1.7			4.5			3.0					'		F	0.0
36	1.357	TL/CO	R1	Y			1.1			1.4	1.5			4.0			4.1		12.7					F	0.0
38	1.550	TL/CO	R1	Y			0.4			2.2	2.5			5.1			3.5							Р	0.4
40	1.720	TL/CO	R1	Y			1.0			2.3				3.3			5.8			0.5	С	3	S	Р	0.3
43	1.950	TL/CO	R1	Y			0.8			1.6	3.4			5.8				14.8		3.2	С	3	М	F	0.1
44	2.036	TL/CO	R1	Ν			1.0			1.5	5.1			7.6				12.5						F	0.1
46	2.069	TL/CO	L1	Ν			0.6			2.0	3.7			6.3		1		17.0	12.3					F	0.1
47	1.982	TL/CO	L1	Ν			0.9			1.9	4.2			7.0				18.0						F	0.1
48	1.883	TL/CO	L1	Ν			0.9			2.1	1.8		2.6	6.4		1		12.5		0.8	С	2	М	F	0.0
49	1.751	TL/CO	L1	N			1.0			3.1				4.1			4.7			2.2	С	3	М	Р	0.0
51	1.590	TL/CO	L1	Y			0.9		3.6					4.5			4.2							F	0.1
53	1.399	TL/CO	L1	Y			0.8			1.6	1.3			3.7			6.8							Р	0.1
62	0.585	TL/CO	L1	Ν			0.8			1.9	0.8		2.0	5.5	9.0	1				5.5	С	3	S	Р	0.0
64	0.329	TL/CO	L3	Ν			0.6			1.8	7.4			9.8	13.5	1								F	0.0
65	0.246	TL/CO	L3	Y			0.9		3.7					4.6		1								F	0.0
66	0.170	TL/CO	L3	Y			1.0			3.0	1.3			5.3			10.3							F	0.1
69	0.090	TL/CO	L1	Y			0.8			1.2	1.9			3.9			4.6							F	0.0
70	0.374	TL/CO	L1	Ν			1.1		2.4					3.5			4.1		12.5					F	0.0
71	0.987	TL/CO	L1	Ν			1.1			2.0	1.0			4.1			4.5			1.1	С	3	М	Р	0.1
72	1.650	TL/CO	L1	Y			0.9			1.5	2.3			4.7			5.8							F	0.0
73	1.881	TL/CO	L1	Ν			1.5			1.5	1.1		1.7	5.8		7.7								F	0.0
74	1.962	TL/CO	L1	Ν			0.9			1.6	3.0			5.5				17.0						F	0.1
75	2.058	TL/CO	L1	Ν			0.3			1.5	3.7			5.5				17.5						F	0.0
AVERAGE							0.9		3.2	1.9	2.7		2.1	5.23	11.25	7.70	5.12	15.61	12.50	2.21		2.83			0.1
МАХ			1				1.5		3.7	3.1	7.4		2.6	9.75	13.50	7.70	10.30	18.00	12.70	5.50		3.00			0.4
MIN			1				0.3		2.4	1.2	0.8		1.7	3.30	9.00	7.70	3.00	12.50	12.30	0.50		2.00			0.0
LAYER COEF.			1		0.25	0.25	0.00	0.17	0.25	0.25	0.25	0.11	0.20		0.18	UNKW	0.16	0.18	0.08						

Notes:

1. Mile posts are approximate based on field recorded measurements using a Distance Measuring Instrument (DMI). 2. Stabilization thickness was checked on 10% of the coring locations. For pavement design assume 12 inches of thickness for stabilization. 3. The cross slope is measured in the center of the lane. 4. A blank cell indicates measurement was not recorded.

	Lane Designations	Crack Type	Crack Rating	Extent	Pavement Condition	
OL - Outside Left Shoulder	OR - Outside Right Shoulder	A - Alligator	Class IB - Hairline cracks that are $\leq 1/8$ inch wide	L - Light	G - Good	ML -
L1 - 1st Lane Left of Centerline	R1 - 1st Lane Right of Centerline	B - Block	Class II - Cracks > than $1/8$ inch and $\leq 1/4$ inch	M - Moderate	F - Fair	TL - 1
		C - Combination	Class III - Cracks > 1/4 inch	S - Severe	P - Poor	CO -

irection with a center cross over n: Curb and Gutter

(IN.)	RUT DEPTH - RWP (IN.)	CROSS SLOPE (%) ³	COMMENTS
)	0.0	24	
)	0.4	2.80	
1	0.4	1.40	Raveling Completely
3	0.0	2.40	
1	0.3	2.20	
1	0.0	1.40	
1	0.1	2.60	
1	0.1	2.80	
)	0.0	2.90	
)	0.1	2.10	
1	0.1	2.10	
1	0.2	3.30	
)	0.0	2.30	Base Crack
)	0.0	1.50	
)	0.1	2.00	
1	0.1	2.00	
)	0.1	2.80	
)	0.0	2.20	
1	0.1	2.90	
)	0.1	0.50	
)	0.1	2.00	Concrete Base
1	0.1	1.50	
)	0.2	0.70	
1	0.1	2.11	
!	0.4	3.30	
)	0.0	0.50	

	Lane Type	
Mainline	S - Shoulder	
urn Lane	SS - Side Street	
Crossover		

	Cored By:	Roberts	Consult	ing Serv	ices								Date	12/8/2020			Туріс	al Section	: 130100	00					
	W.P.I. No.:												Name	SR 45 (US 41)								Lanes	3 lanes (each dir
F	in. Proj. ID:	444612-	1										From	Edwards Drive))							S	houlder T	ype and (Conditio
F.A. F	Project No.:												To	Magellan Drive	е								Inside	Curb and	d Gutter
	County:	Manatee)				SR No.:	SR 45					Beg MP	0.000		End MP:	2.035		Length:	2.035			Outside:	None	
	Overa	ll Paveme	ent Condit	ion (from	DMO fiel	d review):	Fair				Me	edian Curb	bed (Y/N)	N	Paved	Х	Lawn		Other:			C	urb & Gu ^r	ter (Y/N):	Y
														S	hould	er Core	es (S)								
PAVEMENT LAYER (IN.) BASE CRACK															ACK										
CORE NO.	MILE POST ¹	LANE TYPE	LANE	WP (Y/N)	FC12.5	FC9.5	FC5	FC3	s	SP1C	s	SAHM	BIND	TOTAL ASPHALT THICKNESS (IN.)	LR	CONC	ABC-2	SHEL	STABILIZED SUBGRADE ²	DEPTH (IN.)	TYPE	CLASS	EXTENT	PAVEMENT CONDITION	RUT DEPTH - LWP (IN.)
78	0.150	S	OR	N			1.0			1.5			1.4	3.9	13.3									F	
79	0.510	S	OL	N			1.0			1.4			1.5	3.9	12.0									F	
80	1.194	S	OR	N			1.0			1.5			1.4	4.1	11.3									F	
81	1.760	S	OL	Ν			1.1			1.2	1.1			3.4	11.5									F	
AVERAGE							1.0			1.4	1.1		1.4	3.83	12.00										
MAX							1.1			1.5	1.1		1.5	4.10	13.25										
MIN							1.0			1.2	1.1		1.4	3.40	11.25										
LAYER COEF.					0.25	0.25	0.00	0.17	0.25	0.25	0.25	0.11	0.20		0.18	UNKW	0.16	0.18	0.08						
Notes:																									

1. Mile posts are approximate based on field recorded measurements using a Distance Measuring Instrument (DMI). 2. Stabilization thickness was checked on 10% of the coring locations. For pavement design assume 12 inches of thickness for stabilization. 3. The cross slope is measured in the center of the lane. 4. A blank cell indicates measurement was not recorded.

	Lane Designations	Crack Type	Crack Rating	Extent	Pavement Condition	
OL - Outside Left Shoulder	OR - Outside Right Shoulder	A - Alligator	Class IB - Hairline cracks that are $\leq 1/8$ inch wide	L - Light	G - Good	ML -
L1 - 1st Lane Left of Centerline	R1 - 1st Lane Right of Centerline	B - Block	Class II - Cracks > than 1/8 inch and \leq 1/4 inch	M - Moderate	F - Fair	TL - 1
		C - Combination	Class III - Cracks > 1/4 inch	S - Severe	P - Poor	CO -

irec	tion with	a center o	cross over
on:	Curb and	d Gutter	
er	_		
(-NI)	RUT DEPTH - RWP (IN.)	CROSS SLOPE (%) ³	COMMENTS
		4.30	
		3.70	
		3.70	
		5.00	
		4.18	
		5.00	
		3.70	

	<u>Lane Type</u>	
Mainline	S - Shoulder	
Furn Lane	SS - Side Street	
Crossover		

	Cored By: Roberts Consulting Services								Date:	12/8/2020			Туріс	al Section:	130100	00												
	W.P.I. No.:	:											Name:	SR 45 (US 41))								Lanes:	3 lanes e	each dire	ction with	a center	cross over
F	in. Proj. ID:	: 444612-	-1										From:	Edwards Drive	, ;							S	houlder Tr	ype and C	Condition	Curb and	d Gutter	
F.A.	Project No.:	:											To:	Magellan Drive	е								Inside:	Curb and	d Gutter	8		
	County	: Manatee	Э				SR No.	: SR 45					Beg MP:	0.000		End MP:	2.035		Length:	2.035			Outside:	None				
	Overa	I Paveme	ent Condi	tion (fron	n DMO fie	eld review)	: Fair				Me	dian Curb	ed (Y/N):	N	Paved	Х	Lawn		Other:			C	urb & Gut	ter (Y/N):	Y			
	Side Street Cores (SS)																											
								PAVEN	IENT LAY	ER (IN.)						BA	ASE				CRA	ICK						
CORE NO.	MILE POST ¹	LANE TYPE	LANE	WP (Y/N)	FC12.	5 FC9.5	FC5	FC3	s	SP1C	s	SAHM	BIND	TOTAL ASPHALT THICKNESS (IN.)	LR	солс	ABC-2	SHEL	STABILIZED SUBGRADE ²	DEPTH (IN.)	ТҮРЕ	CLASS	EXTENT	PAVEMENT CONDITION	RUT DEPTH - LWP (IN.)	RUT DEPTH - RWP (IN.)	CROSS SLOPE (%) ³	COMMENTS
31	0.563	SS	R1	N			1.0			1.5				2.5	11.0				Î					F	0.0	0.0	0.50	Braden Ave
32	0.646	SS	R1	N			0.5			2.0				2.5				12.0						F	0.0	0.1	0.30	Hernando Ave
33	0.736	SS	R1	N			0.9			3.1				4.0				11.8						F	0.2	0.2	0.30	Suwanee Ave
34	0.835	SS	R1	N			1.0			1.8	0.8			3.6	13.5									F	0.1	0.0	0.90	Pinehurst St, Raveling
35	1.253	SS	L1	Y			0.8			1.7			0.8	3.3	12.2									F	0.0	0.0	0.70	Ponce de Leon, Raveling
37	1.378	SS	L1	Ν				0.5	3.2					3.7	6.5					3.7	С	3	М	Р	0.5	0.6	0.50	Tallevast St
39	1.570	SS	R1	Ν				0.8	0.8			1.3		2.9	9.5									F	0.1	0.1	1.70	69th Ave
41	1.730	SS	L1	Ν		2.0								2.0	10.2									G	0.0	0.0	1.60	Pearl St, Left turn lane
42	1.881	SS	R1	Ν			0.7		3.5					4.2	9.8					4.2	С	3	М	F	0.1	0.1	3.10	Montgomery Ave, Raveling
45	2.058	SS	R1	N				0.5	3.4					3.9	10.1									F	0.1	0.1	1.90	Magellan Dr, Raveling
50	1.730	SS	R1	N		1.4				1.4				2.8	11.0									F	0.1	0.1	1.50	Pearl st (west)
52	1.570	SS	R1	N			1.0			1.7		1.2		3.9	9.4					3.9	С	3	М	Р	0.1	0.0	2.30	Whitfield (west), Raveling
54	1.378	SS	R1	Y			0.8			2.3		1.4		4.5	9.5									F	0.0	0.0	2.80	Gaines (west) top of core damaged retrieving
55	1.104	SS	L1	N			0.9			1.3			2.7	4.9	12.8				11.2					F	0.0	0.1	0.70	Westmoreland (west)
56	1.083	SS	R1	N				0.8	1.9					2.7	11.5									F	0.0	0.1	1.40	Westmoreland (west)
57	1.023	SS	L1	N			2.5		1.5					4.0	9.7									F	0.1	0.2	1.40	Scott Ave (west), Raveling
58	0.935	SS	R1	N			0.8			1.5			0.7	3.0	9.5									F	0.0	0.0	0.50	Benard Ave (west)
59	0.835	SS	L1	N			1.0			2.6				3.6	10.2									F	0.0	0.1	1.00	Somerset (west), Raveling
60	0.736	SS	L1	N			0.9			1.7			1.7	4.3	9.3					2.6	С	3	S	Р	0.0	0.0	1.20	Suwanee Ave (west), Raveling
61	0.646	SS	L1	Y			0.9			2.0			1.0	3.9	9.5									Р	0.1	0.3	1.80	Hernando (west), Raveling
63	0.563	SS	L1	N			0.9			1.9	2.5			5.3				10.3						F	0.1	0.1	1.80	Braden Ave
67	0.150	SS	L1	N			0.6			1.3	2.0			3.9			10.6							F	0.2	0.1	0.60	Seagate, Raveling
68	0.000	SS	L1	Y	1		1.2		2.9					4.1	12.0									F	0.1	0.1	1.10	Edwards Dr., Core sheared off and broke apart
AVERAGE						1.7	1.0	0.7	2.5	1.9	1.8	1.3	1.4	3.63	10.38		10.60	11.37	11.20	3.60		3.00			0.1	0.1	1.29	I
MAX				1	4	2.0	2.5	0.8	3.5	3.1	2.5	1.4	2.7	5.30	13.50		10.60	12.00	11.20	4.20		3.00			0.5	0.6	3.10	I
MIN						1.4	0.5	0.5	0.8	1.3	0.8	1.2	0.7	2.00	6.50		10.60	10.30	11.20	2.60		3.00			0.0	0.0	0.30	
LAYER COEF.					0.25	0.25	0.00	0.17	0.25	0.25	0.25	0.11	0.20		0.18	UNKW	0.16	0.18	0.08									

Notes:

1. Mile posts are approximate based on field recorded measurements using a Distance Measuring Instrument (DMI). 2. Stabilization thickness was checked on 10% of the coring locations. For pavement design assume 12 inches of thickness for stabilization. 3. The cross slope is measured in the center of the lane. 4. A blank cell indicates measurement was not recorded.

	Lane Designations	Crack Type	Crack Rating	Extent	Pavement Condition	
OL - Outside Left Shoulder	OR - Outside Right Shoulder	A - Alligator	Class IB - Hairline cracks that are $\leq 1/8$ inch wide	L - Light	G - Good	ML -
L1 - 1st Lane Left of Centerline	R1 - 1st Lane Right of Centerline	B - Block	Class II - Cracks > than 1/8 inch and \leq 1/4 inch	M - Moderate	F - Fair	TL - 1
		C - Combination	Class III - Cracks > 1/4 inch	S - Severe	P - Poor	CO -

	Lane Type	
Mainline	S - Shoulder	
urn Lane	SS - Side Street	
Crossover		

Cored By: Ardaman & Associates, Inc.						Coring Completion Date: 3/21/2024							Typical Section: 1														
	W.P.I. No.:												Name:	SR 45 (US 41)							Lanes: 6						
Fi	n. Proj. ID:	444612-1	1-31-01										From:	EDWARDS D	RIVE						Shoulder Type and Condition:						
F.A. F	Project No.:					Roa	adway ID	: 13010000					To:	To: MAGELLAN DRIVE							Inside: None						
	County:	Manatee					SR No.	.: 45					Beg MP:	0.000		End MP:	2.095	Length:	2.095			Outside:	Paved /	Curb			
	Overall	Pavemer	nt Conditio	on (from	DMO field	d review):	Fair				Median Curbed (Y/N):			N	Paved		Lawn	Other:			Curb & Gutter (Y/N): Y						
	All Cores																										
PAVEMENT LAYER (IN.)								BA	SE			CRA	CK														
CORE NO.	MILE POST ²	LANE TYPE	LANE	WP (Y/N)	FC5	SP9.5	s	BIND						TOTAL ASPHALT THICKNESS (IN.)	LR	ABC-2		STABILIZED SUBGRADE ³	DEPTH (IN.)	ТҮРЕ	CLASS	EXTENT	PAVEMENT CONDITION	RUT DEPTH - LWP (IN.)	RUT DEPTH - RWP (IN.)	CROSS SLOPE (%) ⁴	COMMENTS
1	0.705	ML	R1	Ν	1.0	1.2	1.6	1.7						5.5	6.9			12.0	3.2	С	III	S	Р	0.2	0.2	2.20	
2	1.635	ML	R1	Ν	0.8	1.1	1.6	0.8						4.3	7.6			12.0	4.3	С		S	Р	0.3	0.4	3.70	Base is half LR half ABC-2
3	0.060	ML	R2	Ν	0.8	1.1	0.9	1.2						4.0	8.7			12.0	2.8	С	III	М	Р	0.1	0.1	3.10	
4	1.052	ML	R2	Ν	1.0	1.2	1.3	0.9						4.4	9.0			12.0	3.4	С		S	Р	0.3	0.3	3.10	
5	0.028	ML	R3	Y	0.8	1.6	0.8	0.7						3.9	7.1			12.0	3.2	С		S	Р	0.2	0.2	4.60	
6	1.660	ML	R3	Y	1.0	1.5	1.1	0.9						4.5	8.5			12.0	4.5	С		S	Р	0.2	0.2	3.90	
7	0.195	ML	L1	Ν	0.9	1.6	2.5							5.0		4.0		12.0	3.8	С		S	Р	0.3	0.1	2.60	
8	1.896	ML	L1	Ν	1.0	1.6	1.2	1.0						4.8	9.1			12.0	4.8	В	III	S	Р	0.2	0.3	2.00	Base is half LR half CONC
9	0.297	ML	L2	Y	0.8	1.6	1.3	0.9						4.6	7.8			12.0	4.6	С	III	S	Р	0.3	0.4	3.00	
10	1.829	ML	L2	Y	0.8	1.5	1.5	1.2						5.0	7.4			12.0	4.2	С		S	Р	0.3	0.2	3.40	
11	0.746	ML	L3	Y	0.7	1.6	0.8	0.9						4.0	8.6			12.0	4.0	В		S	Р	0.3	0.1	4.50	
12	1.954	ML	L3	Ν	1.0	1.5	0.6	1.3						4.4	7.3			12.0	3.8	С		L	Р	0.2	0.2	5.10	
AVERAGE					0.88	1.43	1.27	1.05						4.53	8.00	4.00		12.00	3.88					0.2	0.2	3.43	
MAX					1.00	1.60	2.50	1.70						5.50	9.10	4.00		12.00	4.80					0.3	0.4	5.10	
MIN					0.70	1.10	0.60	0.70						3.90	6.90	4.00		12.00	2.80					0.1	0.1	2.00	
LAYER COEF.					0.00	0.25	0.25	0.20							0.18	0.16		0.08									

Notes:

1. The data presented on this table is specific only at the locations cored at the time of the investigation. Should questions arise regarding the pavement composition, it is incumbent upon those raising the question to perform additional exploration as necessary.

2. Mile posts are approximate based on field recorded measurements using a Distance Measuring Instrument (DMI) or a GPS unit.

3. Stabilization thickness was checked on all coring locations. For pavement design, assume 12 inches of thickness for stabilization.

4. The cross slope is approximate and measured in the center of the lane.

5. A blank cell indicates measurement was not recorded.

6. A value of "UNK" indicates material was encountered but the total thickness was not determined.

Lane Designations - Decreasing MP	Lane Designations - Increasing MP		Lane Type	Crack Type	Crack Rating	<u>Extent</u>	Pavement Condition
OL/IL - Outside/Inside Shoulder	OR/IR - Outside/Inside Shoulder	ML - Mainline	S - Shoulder	A - Alligator	Class IB - Hairline cracks that are \leq 1/8 inch wide	L - Light	G - Good
L1 - 1st Lane Left of Centerline	R1 - 1st Lane Right of Centerline	TL - Turn Lane	SS - Side Street	B - Block	Class II - Cracks > than $1/8$ inch and $\leq 1/4$ inch	M - Moderate	F - Fair
LL/LR - Left/Right Turn Lane	RL/RR - Left/Right Turn Lane	CO - Crossover	BR - Bridge Approach/Departure	C - Combination	Class III - Cracks > 1/4 inch	S - Severe	P - Poor

ition:	
/ Curb	
I): Y	



Notes:

1. Mile posts are approximate.

2. Core locations are not to scale.





NOTES

1. NOT TO SCALE

2. MILEPOSTS ARE APPROXIMATE

3. REFER TO PECCD TABLE FOR ADDITIONAL LOCATION DATA

Core Sample and Location Pictures





PAVEMENT COR	E PHOTO PAGE	FPID: 444612-1	PROJECT DESCRIPTION: SR 45 from Edwards Drive to Magellan Drive							
CORED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:						
Roberts Consulting	12/8/2020	0.000	2.035	Manatee / 13010000						
			ALT HILL BUILD B							



PAVEMENT COR	E PHOTO PAGE	FPID: 444612-1	PROJECT DESCRIPTION: SR 45 from Edwards Drive to Magellan Drive							
CORED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:						
Roberts Consulting	12/8/2020	0.000	2.035	Manatee / 13010000						



PAVEMENT COF	RE PHOTO PAGE	FPID: 444612-1	PROJECT DESCRIPTION: SR 45 from Edwards Drive to Magellan Drive							
CORED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:						
Roberts Consulting	12/8/2020	0.000	2.035	Manatee / 13010000						
	24									














PAVEMENT CORE PHOTO PAGE		FPID:	PROJECT DESCRIPTIC	Drive to Magellan Drive
CORED BY:	DATE:	BEGIN MP:	END MP: COUNTY / ROADWAY ID:	
Roberts Consulting	12/8/2020	0.000	2.035	Manatee / 13010000













PAVEMENT CORE PHOTO PAGE		FPID: 444612-1	PROJECT DESCRIPTION: SR 45 from Edwards Drive to Magellan Drive	
CORED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:
Roberts Consulting				
	R			



















PAVEMENT CORE PHOTO PAGE		FPID:	PROJECT DESCRIPTION: SR 45 from Edwards Drive to Magellan Drive	
		444612-1	SR 45 from Edwards	
CORED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:
Roberts consulting				







PAVEMENT CORE PHOTO PAGE		FPID: 444612-1	PROJECT DESCRIPTION SR 45 from Edwards	DN: Drive to Magellan Drive
CORED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:
Roberts Consulting	12/8/2020	0.000	2.035	Manatee / 13010000











PAVEMENT CORE PHOTO PAGES		FPID:	PROJECT DESCRIPTION	PROJECT DESCRIPTION:	
		444612-1-31-01	SR 45 (US 41) EDWARDS DRIVE TO MAGELLAN DRIVE		
CORED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:	
Ardaman & Associates	3/21/2024	0.000	2.095	Manatee/13010000	





PAVEMENT CORE PHOTO PAGES		FPID:	PROJECT DESCRIPTIC	PROJECT DESCRIPTION:	
		444612-1-31-01	SR 45 (US 41) EDWARDS DRIVE TO MAGELLAN DRIVE		
CORED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:	
Ardaman & Associates	3/21/2024	0.000	2.095	Manatee/13010000	





PAVEMENT CORE PHOTO PAGES		FPID:	PROJECT DESCRIPTION	PROJECT DESCRIPTION:	
		444612-1-31-01	SR 45 (US 41) EDWARDS DRIVE TO MAGELLAN DRIVE		
CORED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:	
Ardaman & Associates	3/21/2024	0.000	2.095	Manatee/13010000	





PAVEMENT CORE PHOTO PAGES		FPID: 444612-1-31-01	PROJECT DESCRIPTION: SR 45 (US 41) EDWARDS DRIVE TO MAGELLAN DRIVE	
CORED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:
Ardaman & Associates	3/21/2024	0.000	2.095	Manatee/13010000





PAVEMENT CORE PHOTO PAGES		FPID:	PROJECT DESCRIPTIC	PROJECT DESCRIPTION:	
		444612-1-31-01	SR 45 (US 41) EDWARDS DRIVE TO MAGELLAN DRIVE		
CORED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:	
Ardaman & Associates	3/21/2024	0.000	2.095	Manatee/13010000	





PAVEMENT CORE PHOTO PAGES		FPID: 444612-1-31-01	PROJECT DESCRIPTION: SR 45 (US 41) EDWARDS DRIVE TO MAGELLAN DRIVE	
CORED BY:	DATE:	BEGIN MP:	END MP:	COUNTY / ROADWAY ID:
Ardaman & Associates	3/21/2024	0.000	2.095	Manatee/13010000





APPENDIX 4

Illustration of Milling and Resurfacing Recommendations

Illustration of Milling and Resurfacing Recommendation

Design Sketch Not Drawn To Scale

MILL 4.50"	MILL 4.00"	MILL 3.50"
FC-12.5 / 1.50"	_	
SP-12.5 / 3.00"	SP-12.5 / 2.50"	SP-12.5 / 2.00"
	Demoining Apple 14 After	Remaining
Remaining Asphalt After Milling	Milling	Asphalt After Milling
Existing Base		
Subgrade		

Note:

- Structural requirements were not calculated in this design.
- If the depicted pavement design will not be adequate based on structural calculations, overbuild thickness should be adjusted to meet the required structural number and/or other constructability purposes. If modification to the milling depth will be necessary to meet the required structural number contact this office for a revised recommendation.

APPENDIX 5

Pavement Survey Request


Florida Department of Transportation

RON DESANTIS GOVERNOR 605 Suwannee Street Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E. SECRETARY

MEMORANDUM

Date: 2/20/2024 To: Pavement Evaluations From: Kellie Spurgeon Subject: Request for Asphalt Survey FM No: 444612-1 County: Manatee Begin MP: 0 End MP: 2.095 Description: SR 45 (US 41) EDWARDS DRIVE TO MAGELLAN DRIVE Coring Scope Responsibility:

These attached items are for your information in obtaining the necessary asphalt data needed for our preparation of the pavement design package:

Please specify if the project has any realignment involved and/or locations of widening/reconstruction:

Review of Project by Project Manager: Kellie Spurgeon Letting Date: 11/2025 Friction Course Type: Areas of Concern/Comments Deadline is April 5th

Is this a 'Goes With' Project? No To keep our project on schedule, we are requesting a return date of: 5/21/2024 If you have any questions, please contact me at: kellie.spurgeon@dot.state.fl.us