



Illinois Department of Transportation

To: Anthony J. Quigley Attn: John Baczek

From: Jack A. Elston

By: Michael Brand

MDB

Subject: Pavement Design Approval

Date: November 15, 2019

Route: 55th Street

Job No.: D-91-292-18

Section: 212-0103N-1

Contract No.: 62G37

County: Cook

Target Letting: June 2020

Limits: I-294 to Plainfield Road

We have reviewed the pavement design for the above referenced project which was submitted on October 9, 2019. The scope of the project involves widening and resurfacing to add a median as well as turn lanes at the intersections with Laurel Avenue and Willow Springs Road.

The pavement design resulted in three widening options which were then analyzed based upon first costs. The mechanistic HMA design was selected.

In summary, the approved pavement designs are as follows:

55th Street

10.5" Full-Depth HMA w/ PCC Curb & Gutter

12" Aggregate Subgrade Improvement

Willow Springs Road

7.75" Full-Depth HMA w/ PCC Curb & Gutter

12" Aggregate Subgrade Improvement

If you have any questions, please contact Mike Brand at (217) 782-7651.

J. Elston
October 9, 2019
Page Two

¹Designer Note 1: Use pay item **40605026, POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, SMA, 9.5, Mix "F", N80** paid for in tons.

²Designer Note 2: Use pay item **40603200, POLYMERIZED HMA BINDER COURSE, IL-4.75, N50** paid for in tons.

³Designer Note 3: For widening of six feet or less use pay item **35600708 HOT-MIX ASPHALT BASE COURSE WIDENING, 8"** paid for in square yards. For widening of greater than six feet use pay item **35501316 HOT-MIX ASPHALT BASE COURSE, 8"** paid for in square yards.

⁴Designer Note 4: Use pay item **40604062, HMA SURFACE COURSE, MIX D, IL-9.5, N70** paid for in tons.

⁵Designer Note 5: For widening of six feet or less use pay item **35600685 HOT-MIX ASPHALT BASE COURSE WIDENING, 5 ½"** paid for in square yards. For widening of greater than six feet use pay item **35501306 HOT-MIX ASPHALT BASE COURSE, 5 ½"** paid for in square yards.

⁶Designer Note 6: Use pay item **30300112, AGGREGATE SUBGRADE IMPROVEMENT, 12"** paid for in square yards.

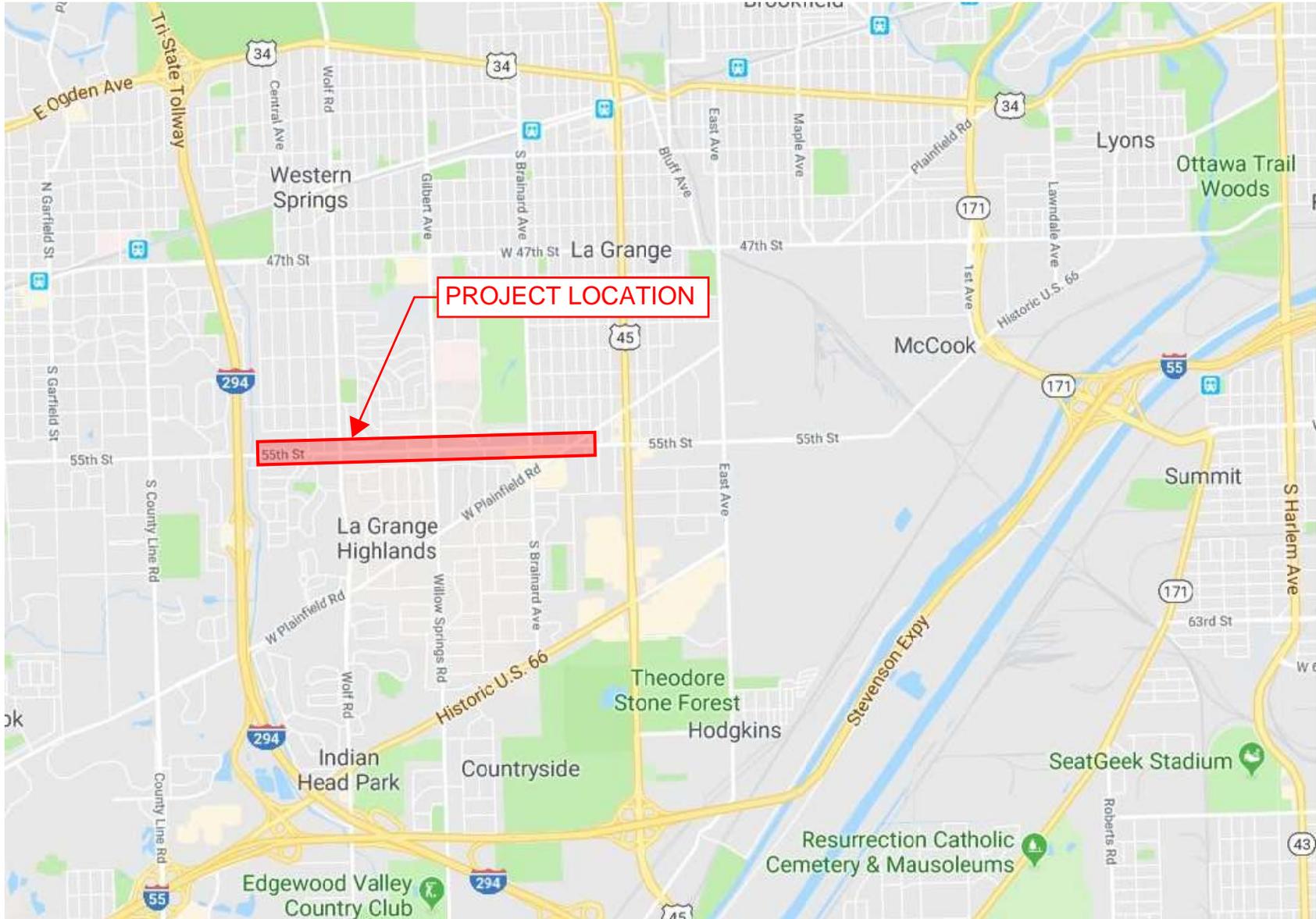
⁷Designer Note 7: Refer to the District One, Bureau of Materials' "Hot-Mix Asphalt – Mix Selection" tables to determine the corresponding HMA mix table requirements for the plans.

If you have any questions or need additional information, please contact Ojas Patel, Pavement Engineer, at (847) 705-4550.

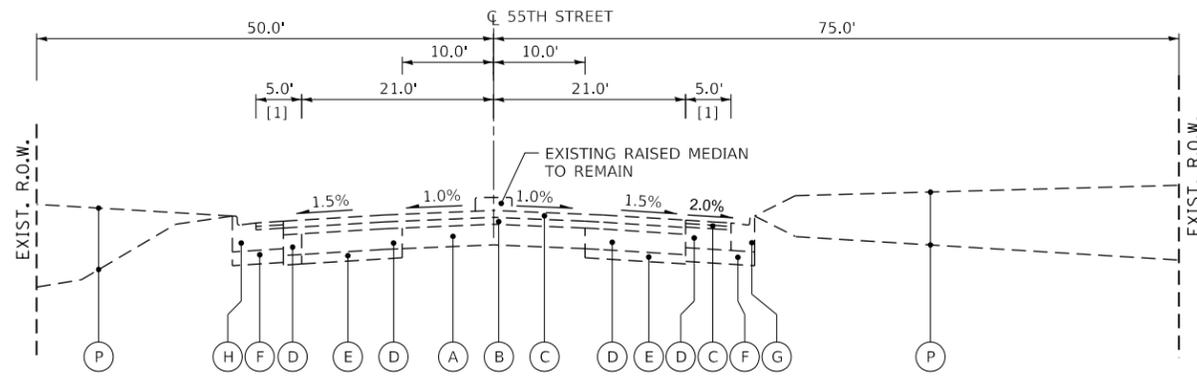


By:
Jose A. Dominguez, P.E.
Project Support Engineer

**55th Street from East of I-294 to East of Plainfield Road
PTB 188-005
62G37**



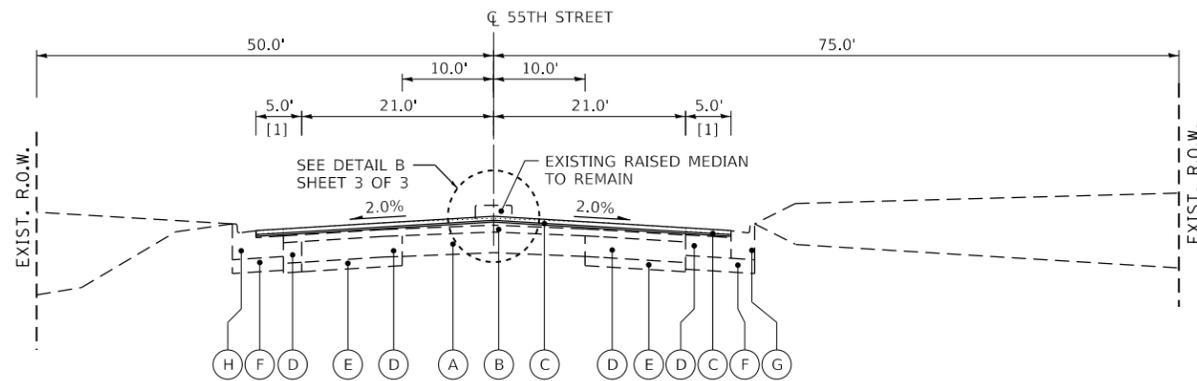
LOCATION MAP



**EXISTING TYPICAL SECTION
55TH STREET**

STA. 54+61.53 TO STA. 61+81.04 (WITH MEDIAN BARRIER)
STA. 61+81.04 TO STA. 80+15 (W/OUT MEDIAN BARRIER)

[1] STA 54+61.53 TO STA 63+70.53 (5.0')
STA 63+70.53 TO STA 66+24.00 (5' TO 0')
STA 66+24.00 TO STA 67+75.00 (0')
STA 67+75.00 TO STA 73+75.00 (0' TO 9.0')
STA 73+75.00 TO 80+15 (60.0')



**PROPOSED TYPICAL SECTION
55TH STREET**

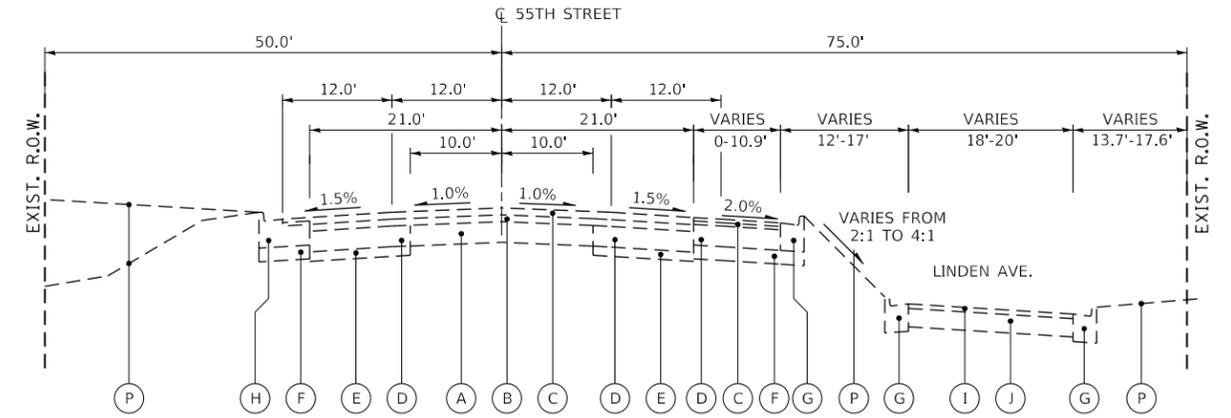
STA. 54+61.53 TO STA. 61+81.04 (WITH MEDIAN BARRIER)
STA. 61+81.04 TO STA. 78+00.00 (W/OUT MEDIAN BARRIER)

EXISTING LEGEND

- (A) EXISTING CONCRETE PAVEMENT, VARIES: 9"-7"-9" (1954)
- (B) EXISTING BITUMINOUS OVERLAY, 3" (1954)
- (C) EXISTING BITUMINOUS OVERLAY, 3" (1980)
- (D) EXISTING PORTLAND CEMENT CONCRETE BASE COURSE, 9"
- (E) EXISTING SUB-BASE GRANULAR MATERIAL, 4"
- (F) EXISTING SUB-BASE GRANULAR MATERIAL, TYPE B, 6"
- (G) EXISTING COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.24
- (H) EXISTING COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.24 (SPECIAL)
- (I) EXISTING BITUMINOUS MIXTURE COMPLETE, 2"
- (J) EXISTING AGGREGATE BASE COURSE, 8"
- (K) EXISTING PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- (L) EXISTING HMA PAVEMENT (COMMERCIAL PARKING)
- (M) EXISTING CONCRETE CURB, TYPE B
- (N) EXISTING AGGREGATE SUBGRADE, 12"
- (O) EXISTING COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.24 (MODIFIED)
- (P) EXISTING LANDSCAPE AREA

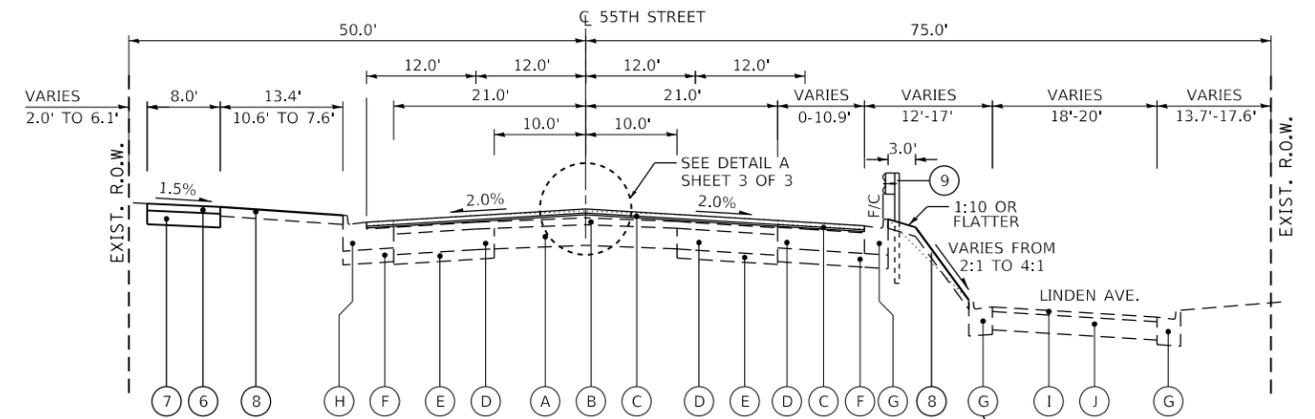
PROPOSED LEGEND

- (1) PROPOSED POLYMERIZED HMA SURFACE COURSE, MIX "E", N70, 1 3/4" (40603565)
- (2) PROPOSED POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 3/4" (40600827)
- (3) PROPOSED HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70, 7 1/2" (40603085)
- (4) PROPOSED AGGREGATE SUBGRADE IMPROVEMENT 12" (30300112)
- (5) PROPOSED COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24 (60605000)
- (6) PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50, 3" (40603335)
- (7) PROPOSED AGGREGATE BASE COURSE, TYPE A 6", (35100500)
- (8) PROPOSED TOPSOIL FURNISH AND PLACE, 4" (21101615)
- (9) PROPOSED STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS (63000003)
- (10) PROPOSED CONCRETE CURB, TYPE B (60600605)
- (11) PROPOSED HMA PAVEMENT, 4" (PARKING)
- (12) PROPOSED PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH (42400200)
- (13) PROPOSED SUBBASE GRANULAR MATERIAL, TYPE B 2" (31101180)



**EXISTING TYPICAL SECTION
55TH STREET**

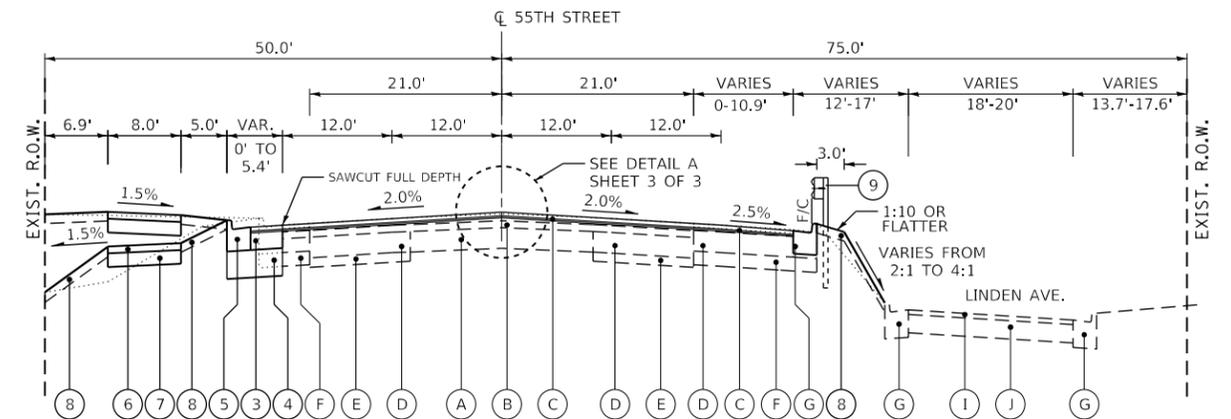
STA. 78+00 TO STA. 89+00



**PROPOSED TYPICAL SECTION
55TH STREET**

STA. 78+00 TO STA. 80+15

REMOVE AND REPLACE AS NEEDED TO CONSTRUCT PROPOSED DRAINAGE
PROPOSED STORM SEWER



**PROPOSED TYPICAL SECTION
55TH STREET**

STA. 80+15 TO STA. 89+00

REMOVE AND REPLACE AS NEEDED TO CONSTRUCT PROPOSED DRAINAGE
PROPOSED STORM SEWER

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DRAWN - JTF
CHECKED - E/JG
DATE - 08/30/2019

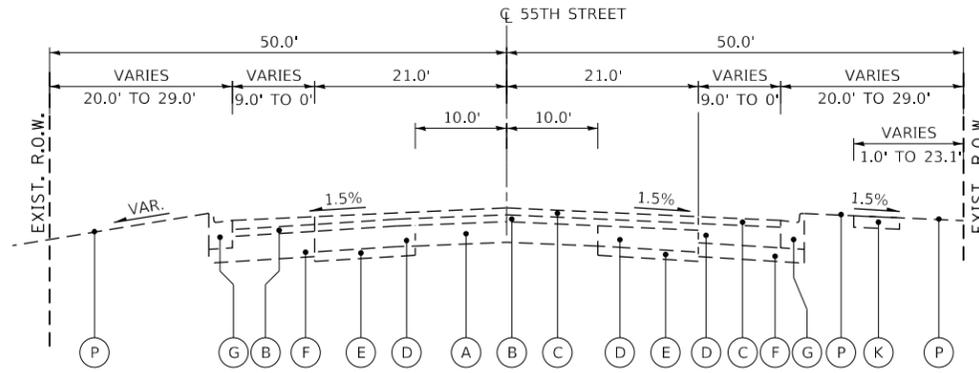
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS
55TH STREET

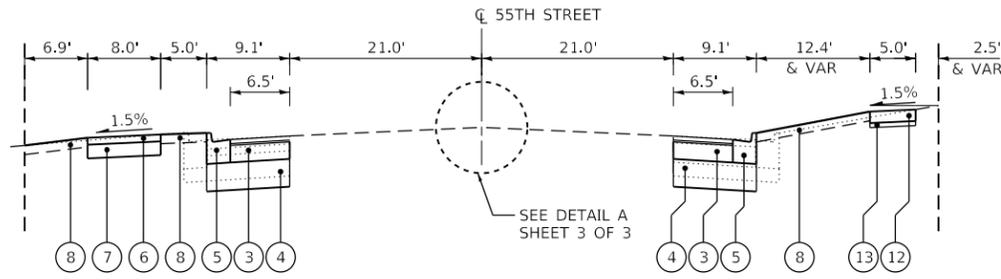
SCALE: 1" = 10' SHEET 1 OF 3 SHEETS STA. 5 TO STA. 5

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1504	212-0103 N-1	COOK		
CONTRACT NO. 62G37				
ILLINOIS FED. AID PROJECT				



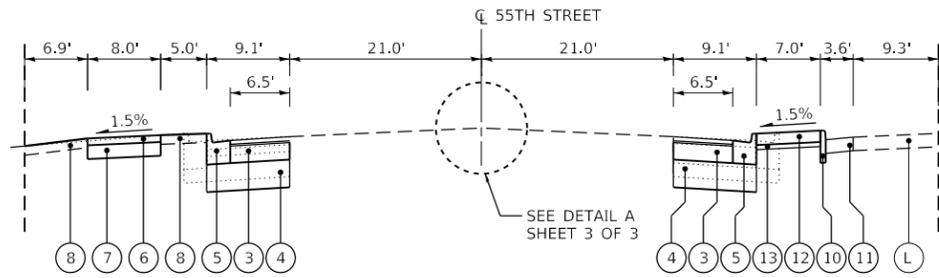
EXISTING TYPICAL SECTION - 55TH STREET

STA. 89+00 TO STA. 101+00
STA. 109+53 TO STA. 147+48



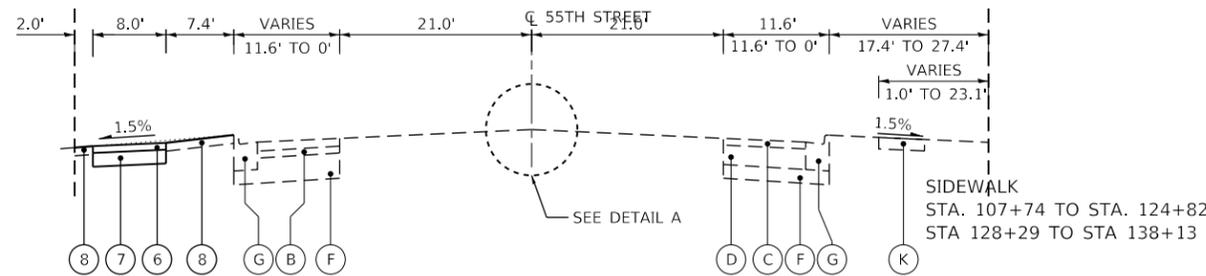
SHARED - USE PATH (8')
STA. 89+00 TO STA. 101+00

PROPOSED PCC SIDEWALK (5')
STA. 91+72.13 TO STA. 101+64



SHARED - USE PATH (8')
STA. 109+53 TO STA. 129+00

PROPOSED PCC SIDEWALK (5')
STA. 101+64 TO STA. 102+15



SHARED - USE PATH (8')
STA. 129+00 TO STA. 134+40

STA. 128+29 TO STA. 147+48
REPLACE SIDEWALK AS NEEDED
FOR ADA COMPLIANCE

PROPOSED TYPICAL SECTION - 55TH STREET

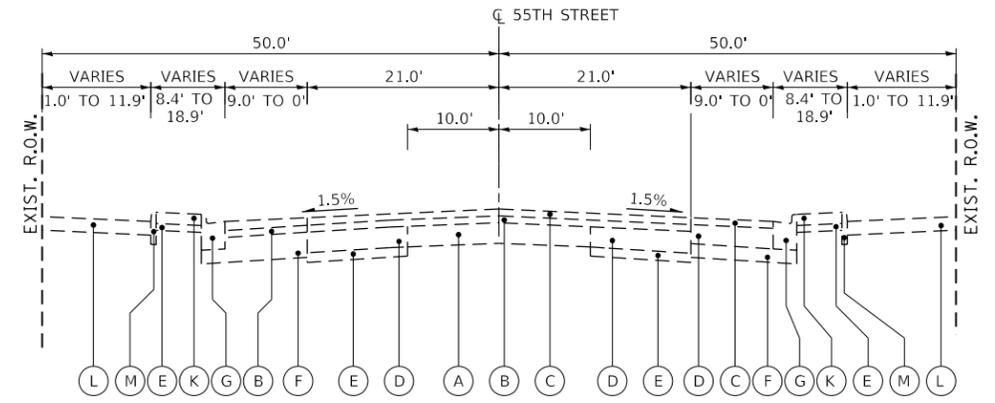
STA. 89+00 TO STA. 110+37 (WIDENING & RESURFACING)
STA. 129+00 TO STA. 147+48 (RESURFACING)

EXISTING LEGEND

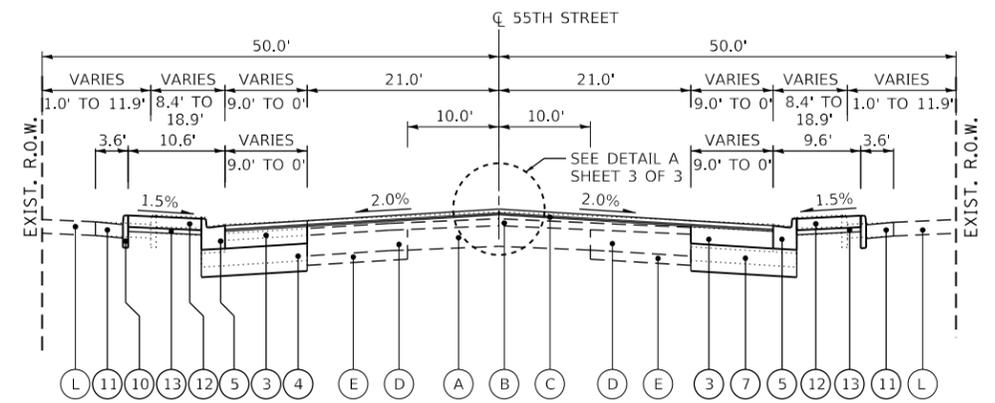
- (A) EXISTING CONCRETE PAVEMENT, VARIES: 9"-7"-9" (1954)
- (B) EXISTING BITUMINOUS OVERLAY, 3" (1954)
- (C) EXISTING BITUMINOUS OVERLAY, 3" (1980)
- (D) EXISTING PORTLAND CEMENT CONCRETE BASE COURSE, 9"
- (E) EXISTING SUB-BASE GRANULAR MATERIAL, 4"
- (F) EXISTING SUB-BASE GRANULAR MATERIAL, TYPE B, 6"
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- (H) EXISTING COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.24 (SPECIAL)
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- (J) EXISTING AGGREGATE BASE COURSE, 8"
- (K) EXISTING PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- (L) EXISTING HMA PAVEMENT (COMMERCIAL PARKING)
- (M) EXISTING CONCRETE CURB, TYPE B
- (N) EXISTING AGGREGATE SUBGRADE, 12"
- (O) EXISTING COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.24 (MODIFIED)
- (P) EXISTING LANDSCAPE AREA

PROPOSED LEGEND

- (1) PROPOSED POLYMERIZED HMA SURFACE COURSE, MIX "E", N70, 1 3/4" (40603565)
- (2) PROPOSED POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 3/4" (40600827)
- (3) PROPOSED HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70, 7 1/2" (40603085)
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- (12) PROPOSED PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH (42400200)
- (13) PROPOSED SUBBASE GRANULAR MATERIAL, TYPE B 2" (31101180)



EXISTING TYPICAL SECTION 55TH STREET
STA. 101+00 TO STA. 107+50 STA. 101+00 TO STA. 107+50
STA. 101+00 TO STA. 109+53



PROPOSED TYPICAL SECTION 55TH STREET
PROPOSED SIDEWALK (8') STA. 101+00 TO STA. 109+53 STA. 102+15 TO STA. 107+50
STA. 124+90 TO STA. 127+90
STA. 101+00 TO STA. 109+53

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PLOT DATE = 9/5/2019	CHECKED - E/JG	REVISED -
	DATE - 08/30/2019	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

TYPICAL SECTIONS 55TH STREET	
SCALE: 1" = 10'	SHEET 2 OF 3 SHEETS
STA. 5	TO STA. 5

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1504	212-0103 N-1	COOK		
CONTRACT NO. 62G37				
ILLINOIS FED. AID PROJECT				

First Cost Analysis of Widening Project

Date: 9/27/2019
 Quantities by: ONP
 Unit prices by: MA

Checked by:
 Checked by:
 Net Length 4800

Route 55th Street
 Section 201-0103 N-1
 Count Kane
 Project I-294 to Plainfield Rd
 Contract 62G37

Mechanistic Flexible							
Area (Sq. Yd.)	Height (inches)	Weight (Tons)	Material		Unit Cost	Total	ITEM #
		0	HMA Surface Course, MIX "D" N50	@		\$0.00	40603335
		0	HMA Surface Course, MIX "D" N70	@		\$0.00	40603340
		0	Poly HMA Surface Course, MIX "E" N70	@		\$0.00	40603565
5200	1.75	510	Poly HMA Surface Course, SMA N80	@	\$120	\$61,152.00	40605026
5200	0.75	218	Poly Binder, IL-4.75, N50	@	\$107	\$23,368.80	40600827
		0	Binder (MM), N70	@		\$0.00	40600635
		0	HMA Binder course, IL-19, N50	@		\$0.00	40603080
		0	HMA Binder course, IL-19, N70	@		\$0.00	40603085
5200	8	2330	HMA Binder course, IL-19, N90	@	\$68	\$158,412.80	40603090
		0	HMA Binder course, SMA, N80	@		\$0.00	40603148
	NA	NA	12" Aggregate Subgrade	@		\$0.00	30300112
Total						\$242,933.60	

Modified AASHTO							
Area (Sq. Yd.)	Height (inches)	Weight (Tons)	Material		Unit Cost	Total	ITEM #
		0	HMA Surface Course, MIX "D" N50	@		\$0.00	40603335
		0	HMA Surface Course, MIX "D" N70	@		\$0.00	40603340
		0	Poly HMA Surface Course, MIX "E" N70	@		\$0.00	40603565
5200	1.75	510	Poly HMA Surface Course, SMA N80	@	\$120	\$61,152.00	40605026
5200	0.75	218	Poly Binder, IL-4.75, N50	@	\$107	\$23,368.80	40600827
		0	Binder (MM), N70	@		\$0.00	40600635
		0	HMA Binder course, IL-19, N50	@		\$0.00	40603080
		0	HMA Binder course, IL-19, N70	@		\$0.00	40603085
5200	10.5	3058	HMA Binder course, IL-19, N90	@	\$68	\$207,916.80	40603090
		0	HMA Binder course, SMA, N80	@		\$0.00	40603148
	NA	NA	12" Aggregate Subgrade	@		\$0.00	30300112
Total						\$292,437.60	

Composite							
Area (Sq. Yd.)	Height (inches)	Weight (Tons)	Material		Unit Cost	Total	ITEM #
		0	HMA Surface Course, MIX "D" N50	@		\$0.00	40603335
		0	HMA Surface Course, MIX "D" N70	@		\$0.00	40603340
		0	Poly HMA Surface Course, MIX "E" N70	@		\$0.00	40603565
5200	1.75	510	Poly HMA Surface Course, SMA N80	@	\$120	\$61,152.00	40605026
5200	0.75	218	Poly Binder, IL-4.75, N50	@	\$107	\$23,368.80	40600827
		0	Binder (MM), N70	@		\$0.00	40600635
5200	9.25	NA	PCC Base Course	@	\$60	\$312,000.00	35300405
	NA	NA	12" Aggregate Subgrade	@		\$0.00	30300112
Total						\$396,520.80	

First Cost Analysis of Widening Project

Date: 9/27/2019
 Quantities by: ONP
 Unit prices by: MA

Checked by:
 Checked by:
 Net Length 4800

Route Willow Springs Road
 Section 201-0103 N-1
 Count Kane
 Project I-294 to Plainfield Rd
 Contract 62G37

Mechanistic Flexible							
Area (Sq. Yd.)	Height (inches)	Weight (Tons)	Material		Unit Cost	Total	ITEM #
		0	HMA Surface Course, MIX "D" N50	@		\$0.00	40603335
330	1.5	28	HMA Surface Course, MIX "D" N70	@	\$340	\$9,424.80	40603340
		0	Poly HMA Surface Course, MIX "E" N70	@		\$0.00	40603565
		0	Poly HMA Surface Course, SMA N80	@		\$0.00	40605026
330	0.75	14	Poly Binder, IL-4.75, N50	@	\$200	\$2,772.00	40603200
		0	Binder (MM), N70	@		\$0.00	40600635
		0	HMA Binder course, IL-19, N50	@		\$0.00	40603080
330	5.5	102	HMA Binder course, IL-19, N70	@	\$120	\$12,196.80	40603085
		0	HMA Binder course, IL-19, N90	@		\$0.00	40603090
		0	HMA Binder course, SMA, N80	@		\$0.00	40603148
	NA	NA	12" Aggregate Subgrade	@		\$0.00	30300112
Total						\$24,393.60	

Modified AASHTO							
Area (Sq. Yd.)	Height (inches)	Weight (Tons)	Material		Unit Cost	Total	ITEM #
		0	HMA Surface Course, MIX "D" N50	@		\$0.00	40603335
330	1.5	28	HMA Surface Course, MIX "D" N70	@	\$340	\$9,424.80	40603340
		0	Poly HMA Surface Course, MIX "E" N70	@		\$0.00	40603565
		0	Poly HMA Surface Course, SMA N80	@		\$0.00	40605026
330	0.75	14	Poly Binder, IL-4.75, N50	@	\$200	\$2,772.00	40603200
		0	Binder (MM), N70	@		\$0.00	40600635
		0	HMA Binder course, IL-19, N50	@		\$0.00	40603080
330	7.5	139	HMA Binder course, IL-19, N70	@	\$120	\$16,632.00	40603085
		0	HMA Binder course, IL-19, N90	@		\$0.00	40603090
		0	HMA Binder course, SMA, N80	@		\$0.00	40603148
	NA	NA	12" Aggregate Subgrade	@		\$0.00	30300112
Total						\$28,828.80	

Composite							
Area (Sq. Yd.)	Height (inches)	Weight (Tons)	Material		Unit Cost	Total	ITEM #
		0	HMA Surface Course, MIX "D" N50	@		\$0.00	40603335
330	1.5	28	HMA Surface Course, MIX "D" N70	@	\$340	\$9,424.80	40603340
		0	Poly HMA Surface Course, MIX "E" N70	@		\$0.00	40603565
		0	Poly HMA Surface Course, SMA N80	@		\$0.00	40605026
330	0.75	14	Poly Binder, IL-4.75, N50	@	\$200	\$2,772.00	40603200
		0	Binder (MM), N70	@		\$0.00	40600635
330	6.5	NA	PCC Base Course	@	\$45	\$14,850.00	35300110
	NA	NA	12" Aggregate Subgrade	@		\$0.00	30300112
Total						\$27,046.80	