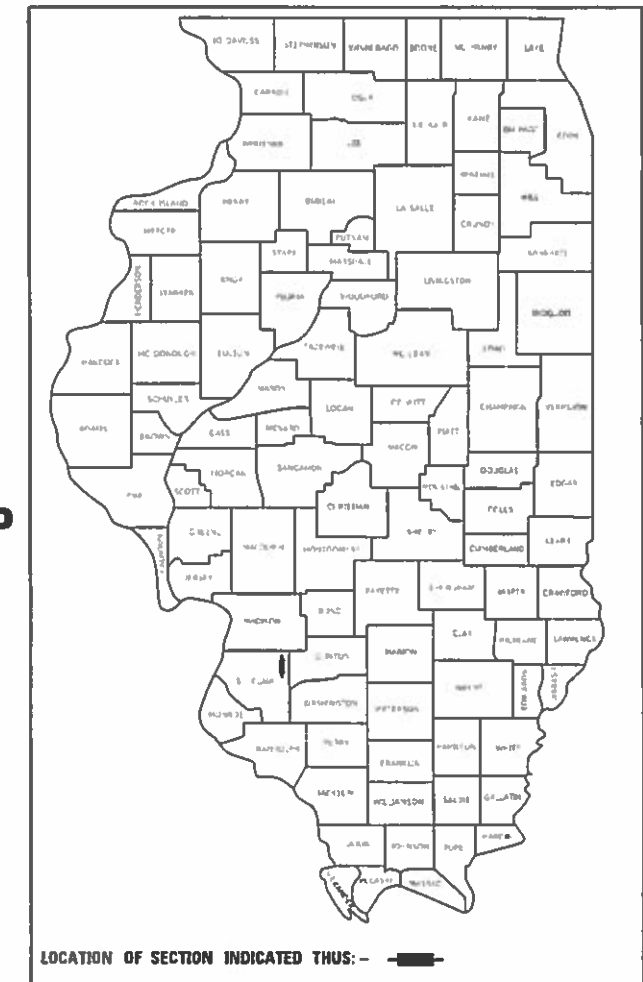


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.P. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
678	112-2TS-1	ST. CLAIR	9	3
		ILLINOIS	CONTRACT NO. 76L76	

D-98-092-18



# PROPOSED HIGHWAY PLANS

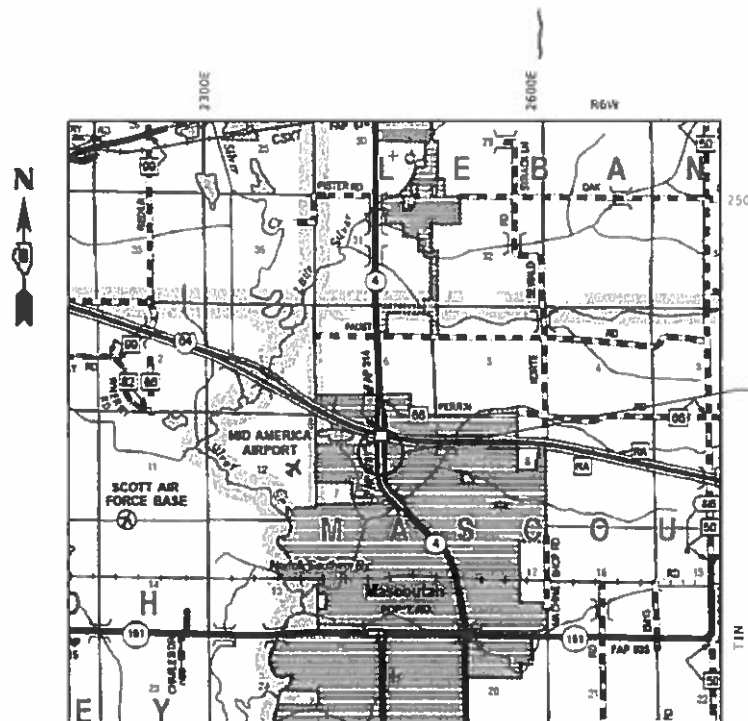
FAP ROUTE 678 (IL 004)  
SECTION 112-2TS-1  
PROJECT NHPP-SAGK(778)  
TRAFFIC SIGNALS INSTALL AT IL 4 & I-64 RAMP  
ST. CLAIR COUNTY

C-98-304-18

**INDEX OF SHEETS**

- 1 COVER SHEET
- 2 ELECTRICAL GENERAL NOTES & LEGEND
- 3-4 SUMMARY OF QUANTITIES
- 5-6 TRAFFIC SIGNAL PLANS
- 7 CABLE DIAGRAM
- 8 DETAILS
- 9 SOIL BORING LOGS

FOR LIST OF HIGHWAY STANDARDS, SEE SHEET NO. 2



IL. RTE. 4 STA. 597+86.4 TO 604+92  
I-64 EB RAMP C STA. 319+28.50 TO 322+65.16  
LATITUDE: 38.549515  
LONGITUDE: -89.807066



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

LOCATION MAP  
MASCOUTAH TOWNSHIP



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED Dec 6 2018  
Jeffrey Z. Kammer  
REGIONAL ENGINEER

Feb 1 2019  
E.A. Etk  
ENGINEER OF DESIGN AND ENVIRONMENT

Feb 1 2019  
Paul P. [Signature]  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PROJECT ENGINEER: HERVE GELIN (618) 346-3179  
PROJECT MANAGER: JEYCEA BOBO (618) 346-3190

CONTRACT NO. 76L76

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OF THE STATE OF ILLINOIS



CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE TRAFFIC SIGNALS 0021 URBAN
60618300	CONCRETE MEDIAN SURFACE, 4 INCH	SQ FT	82	82
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	1	1
67100100	MOBILIZATION	L SUM	1	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1
70100825	TRAFFIC CONTROL AND PROTECTION, STANDARD 701456	L SUM	1	1
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	1
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	30	30
*72000100	SIGN PANEL - TYPE 1	SQ FT	9	9
72400310	REMOVE SIGN PANEL - TYPE 1	SQ FT	27	27
*72400710	RELOCATE SIGN PANEL - TYPE 1	SQ FT	7.5	7.5
*78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	84	84
80500100	SERVICE INSTALLATION, TYPE A	EACH	1	1
81028320	UNDERGROUND CONDUIT, PVC, 1" DIA.	FOOT	79	79
81028340	UNDERGROUND CONDUIT, PVC, 1 1/2" DIA.	FOOT	894	894

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE TRAFFIC SIGNALS 0021 URBAN
81028350	UNDERGROUND CONDUIT, PVC, 2" DIA.	FOOT	149	149
81028370	UNDERGROUND CONDUIT, PVC, 3" DIA.	FOOT	108	108
81028390	UNDERGROUND CONDUIT, PVC, 4" DIA.	FOOT	8	8
81400700	HANDHOLE, PORTLAND CEMENT CONCRETE	EACH	6	6
81400720	DOUBLE HANDHOLE, PORTLAND CEMENT CONCRETE	EACH	1	1
85700200	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1	1
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1226	1226
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	403	403
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	2004	2004
87301815	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 3 C	FOOT	11	11
87502680	TRAFFIC SIGNAL POST, ALUMINUM 14 FT.	EACH	2	2
87700210	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	1	1
87702510	STEEL MAST ARM ASSEMBLY AND POLE WITH DUAL MAST ARMS, 34 FT.	EACH	1	1
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	6	6

\* SPECIALTY ITEM

REV. - MS

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PLOT DATE = 12/5/2018	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
678	112-2T5-1	ST. CLAIR	9	3
			CONTRACT NO. 76L76	
		ILLINOIS FED. AID PROJECT		





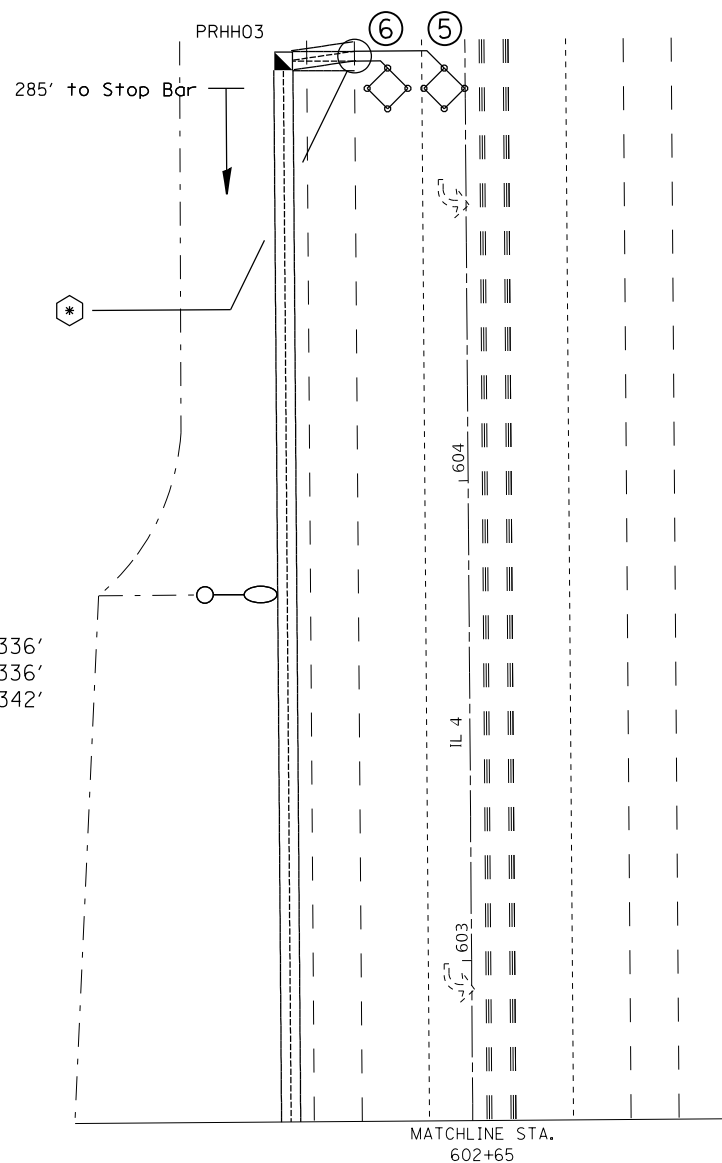
DETECTOR LOOP REQUIREMENTS AND CALCULATIONS

LOOP#	PHASE # (Φ)	LOOP SIZE (FT. X FT.)	REQUIRED # OF TURNS	CALCULATED INDUCTANCE MICROHENRIES (μH)	CALCULATED RESISTANCE OHMS (Ω)
1. WB CCO	4	6' X 6'	6	256.20	0.39
2. WB LT CD	4	6' x 50'(Q)	3-6-3	788.42	1.65
3. NB CCO	6	6' X 6'	6	259.06	0.46
4. NB THRU CD	6	6' x 50'(Q)	3-6-3	789.30	1.67
5. SB CCO 1	5	6' X 6'	6	259.50	0.47
6. SB CCO 2	2	6' X 6'	6	256.64	0.40
7. SB LT	5	6' x 50'(Q)	3-6-3	794.80	1.79
8. SB THRU	2	6' x 50'(Q)	3-6-3	787.32	1.62

THE ABOVE VALUES ARE CALCULATED OF COMBINED LOOP AND LEAD-IN INDUCTANCE AND RESISTANCE. ACTUAL MEASURED VALUES SHOULD BE WITHIN +/- 20% OF THESE VALUES.  
Q=QUADRAPOLE

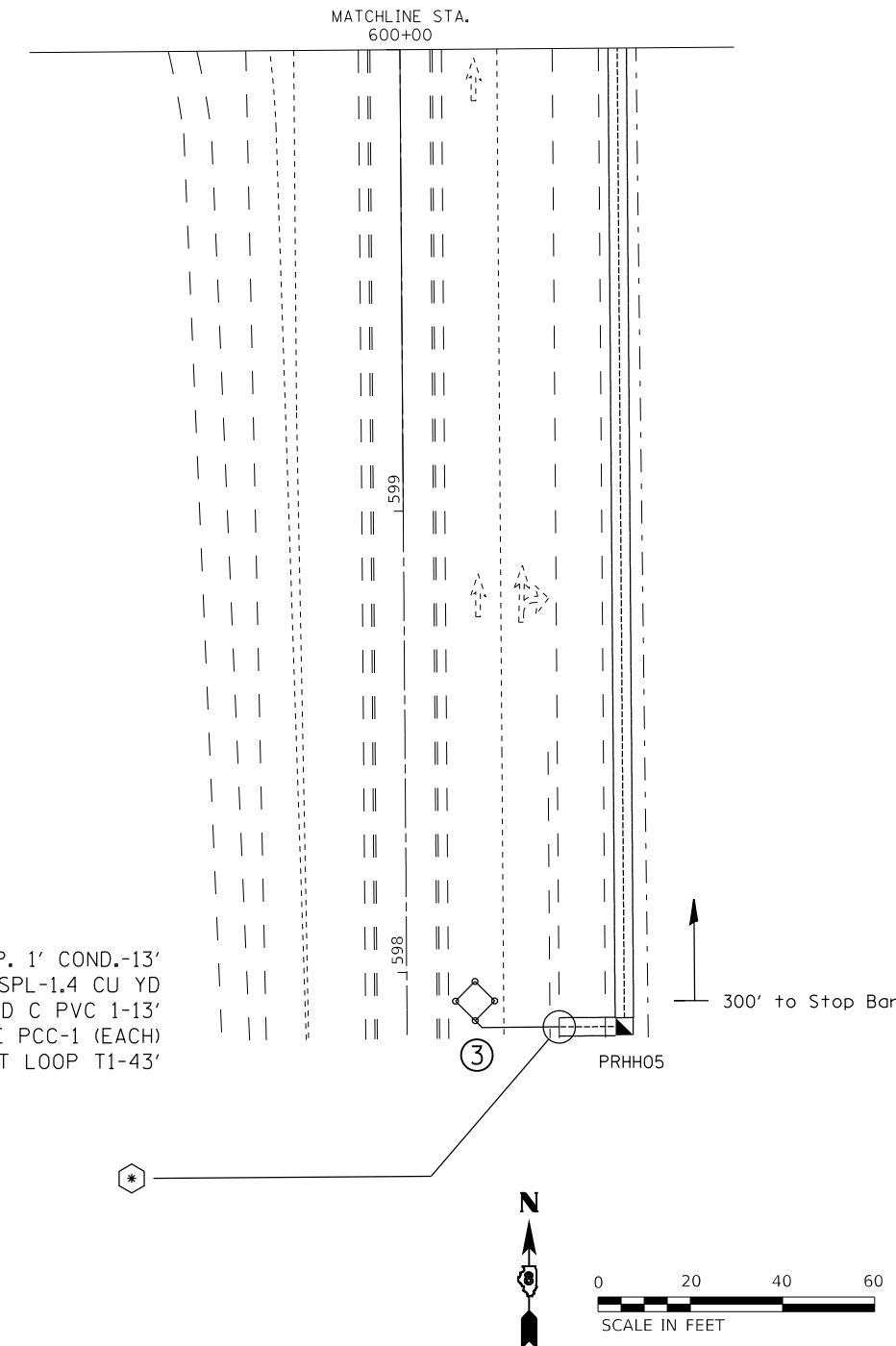
\* =SEE DETAIL "B"

NOTE: COORDINATE SIGNING WITH THE INSTALLATION OF TRAFFIC SIGNALS



#05 & #06 CCO-PRHH03, PROP. 1' (EA) COND.-14' (EA)  
TRENCH BACKFILL SPL-1.5 CU YD  
2-UNDRGRD C PVC 1-14' (EACH)  
HANDHOLE PCC-1 (EACH)  
DET LOOP T1-45'  
DET LOOP T1-32'

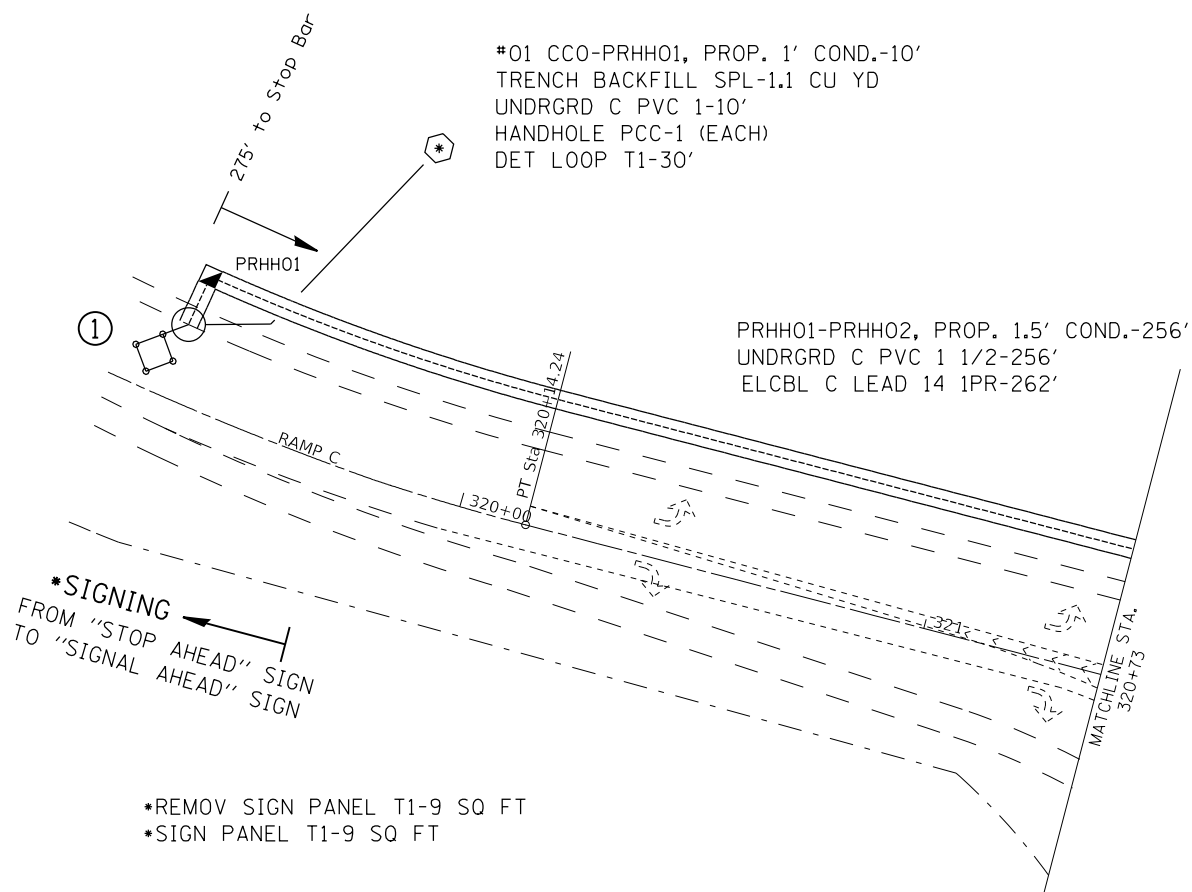
PRHH05-PRHH06, PROP. 1.5' COND.-297'  
UNDRGRD C PVC 1 1/2-297'  
ELCBL C LEAD 14 1PR-304'



#03 CCO-PRHH05, PROP. 1' COND.-13'  
TRENCH BACKFILL SPL-1.4 CU YD  
UNDRGRD C PVC 1-13'  
HANDHOLE PCC-1 (EACH)  
DET LOOP T1-43'

#01 CCO-PRHH01, PROP. 1' COND.-10'  
TRENCH BACKFILL SPL-1.1 CU YD  
UNDRGRD C PVC 1-10'  
HANDHOLE PCC-1 (EACH)  
DET LOOP T1-30'

PRHH01-PRHH02, PROP. 1.5' COND.-256'  
UNDRGRD C PVC 1 1/2-256'  
ELCBL C LEAD 14 1PR-262'



\*SIGNING FROM "STOP AHEAD" SIGN TO "SIGNAL AHEAD" SIGN

•REMOV SIGN PANEL T1-9 SQ FT  
•SIGN PANEL T1-9 SQ FT

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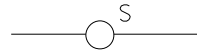

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DEPARTMENT OF TRANSPORTATION

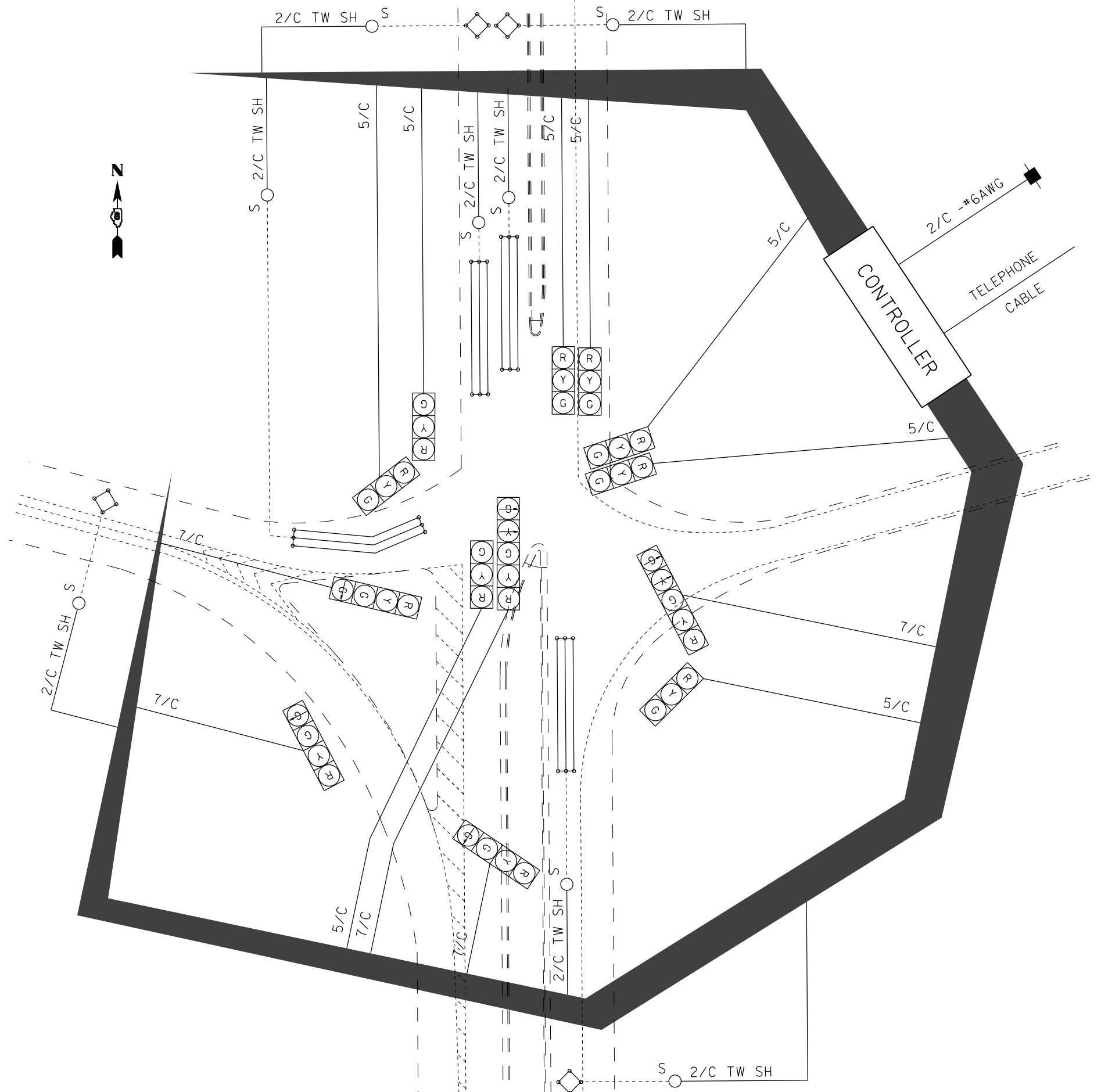
TRAFFIC SIGNAL PLANS  
IL 4 & I-64 EB RAMPS - 2 OF 2

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE. 678	SECTION 112-2TS-1	COUNTY ST. CLAIR	TOTAL SHEETS 9	SHEET NO. 6
CONTRACT NO. 76L76			ILLINOIS FED. AID PROJECT	

# CABLE DIAGRAM LEGEND

-  PROPOSED ELECTRIC CABLE IN CONDUIT
-  EXISTING ELECTRIC CABLE IN CONDUIT
-  EXISTING CABLE SPLICE
- 2/C INDICATES NUMBER OF CONDUCTORS IN CABLE
- TW SH TWISTED AND SHIELDED CABLE
- #6 INDICATES AMERICAN WIRE GAUGE (AWG) SIZE 6 CONDUCTOR
-  EXISTING SERVICE INSTALLATION



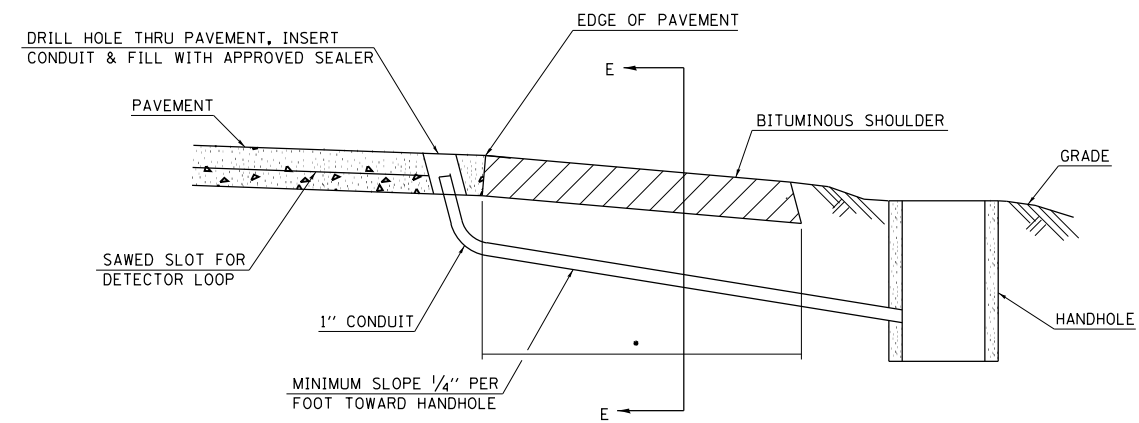
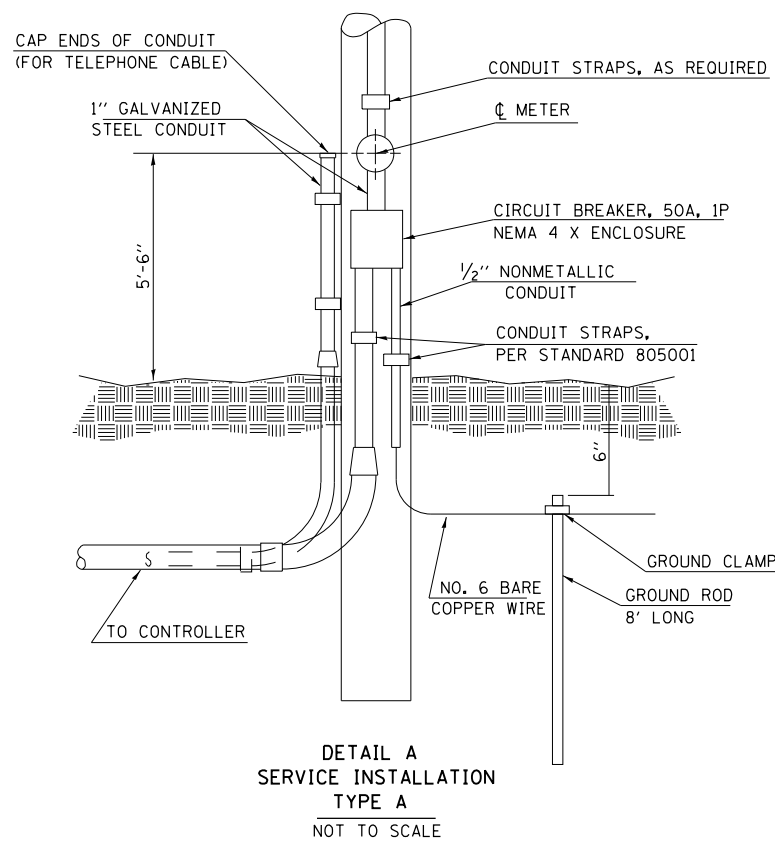
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PLOT DATE = 12/5/2018	DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

<b>CABLE DIAGRAM</b> <b>IL 4 &amp; I-64 EB RAMP</b>		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		678	112-2TS-1	ST. CLAIR	9	7
SCALE:		SHEET OF SHEETS		STA. TO STA.		ILLINOIS FED. AID PROJECT

CONTRACT NO. 76L76	
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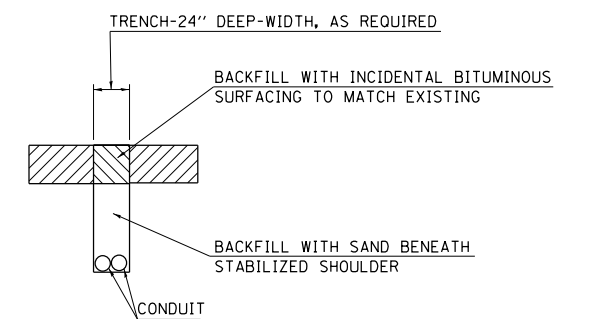


• LIMITS OF "TRENCH BACKFILL, SPECIAL"

**DETAIL B  
TRENCH BACKFILL, SPECIAL  
(NO SCALE)**

**NOTES:**

SEE TABLE "DETECTOR LOOP REQUIREMENTS AND CALCULATIONS" FOR LOOP SIZE AND CALCULATED NUMBER OF TURNS.  
SEE "DETAIL B" FOR INSTALLING DETECTOR LOOP WIRES IN NEW CONDUITS.



**SEC. E-E**

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>DETAILS</b>			
SCALE:	SHEET	OF	SHEETS
	STA.		TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
678	112-2TS-1	ST. CLAIR	9	8
			CONTRACT NO. 76L76	
ILLINOIS FED. AID PROJECT				





# SOIL BORING LOG

Date 5/8/18

ROUTE FAP 678 DESCRIPTION IL 4 at I-64 EB Ramps LOGGED BY VPG

SECTION 112-2TS-1 LOCATION N 1/2, SEC. 7, TWP. 1N, RNG. 6W, 3 PM

COUNTY St. Clair DRILLING METHOD Hand Auger HAMMER TYPE \_\_\_\_\_

STRUCT. NO. Station	D E P T H  ft	B L O W S  (/6")	U C S Qu  (tsf)	M O I S T  (%)	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft
N/A N/A				8	
BORING NO. #2 NE Quad Station 602+01 Offset 48.00ft Right Ground Surface Elev. _____ ft					Groundwater Elev.: First Encounter _____ ft ▼ Upon Completion _____ N/A ft After ** Hrs. _____ N/A ft
Gravel			1.75	16	
Brown Silt LOAM A-6(12) See Class @ 3 ft			1.75	19	
Brown Silty Clay LOAM A-6(13) See Class @ 10 ft			2.00	19	
			2.25	19	
			2.50	20	
			2.75	18	
			3.00	21	
			3.00	18	
			3.00	18	
			3.00	18	
			3.00	20	
			2.75	19	
			1.75	18	
Gray CLAY			2.00	18	
			2.25	18	
END OF HAND AUGER					
Pocket Penetrometer used for Qu					
** NOTE: Hole filled upon completion					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)



# SOIL BORING LOG

Date 5/8/18

ROUTE FAP 678 DESCRIPTION IL 4 at I-64 EB Ramps LOGGED BY VPG

SECTION 112-2TS-1 LOCATION N 1/2, SEC. 7, TWP. 1N, RNG. 6W, 3 PM

COUNTY St. Clair DRILLING METHOD Hand Auger HAMMER TYPE \_\_\_\_\_

STRUCT. NO. Station	D E P T H  ft	B L O W S  (/6")	U C S Qu  (tsf)	M O I S T  (%)	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft
N/A N/A					
BORING NO. #1 SW Quad Station 601+10 Offset 53.00ft Left Ground Surface Elev. _____ ft					Groundwater Elev.: First Encounter <u>Dry Hole</u> ft Upon Completion _____ N/A ft After ** Hrs. _____ N/A ft
17" Asphalt & Concrete					
Gray CLAY			1.50	24	
			2.75	24	
Brown CLAY			2.50	25	
			2.75	19	
Brown CLAY			2.75	19	
			2.50	19	
Brown & Black CLAY			2.50	18	
			2.25	18	
Brown & Black CLAY			2.50	20	
			2.75	21	
Brown Silty Clay LOAM A-6(17) See Class @ 10 ft			2.75	18	
			2.75	19	
Brown Silty Clay LOAM A-6(17) See Class @ 10 ft			2.75	19	
			2.75	19	
Brown Silty Clay LOAM A-6(17) See Class @ 10 ft			2.75	19	
			2.75	18	
Brown Silty Clay LOAM A-6(17) See Class @ 10 ft			2.75	19	
			2.75	18	
END OF HAND AUGER					
Pocket Penetrometer used for Qu					
** NOTE: Hole filled upon completion					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
678	112-2TS-1	ST. CLAIR	9	9
CONTRACT NO. 76L76			ILLINOIS FED. AID PROJECT	