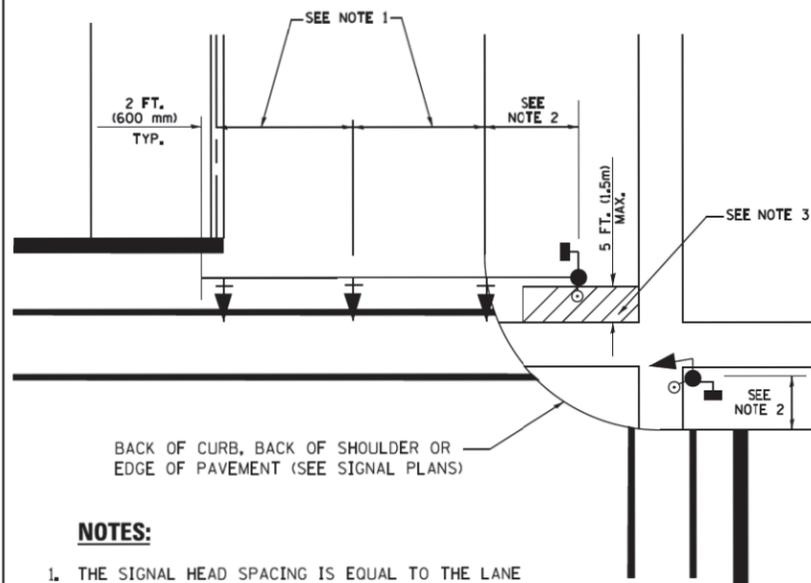


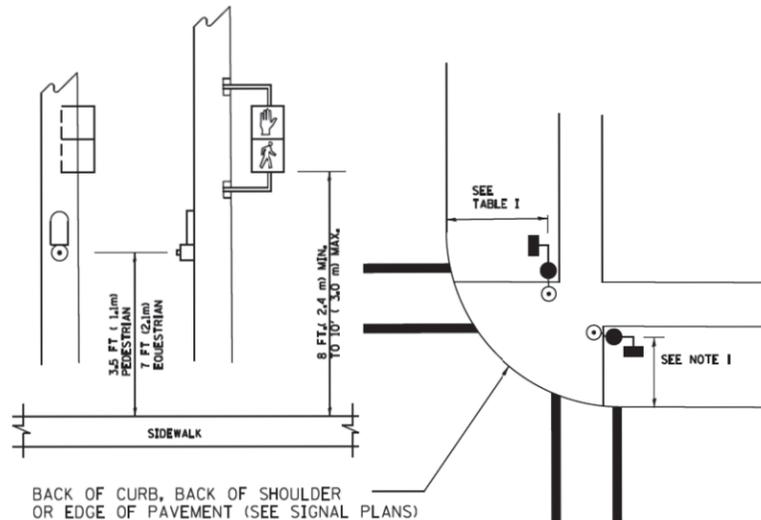
**TRAFFIC SIGNAL MAST ARM AND SIGNAL POST  
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR  
FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN  
WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.**



**NOTES:**

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

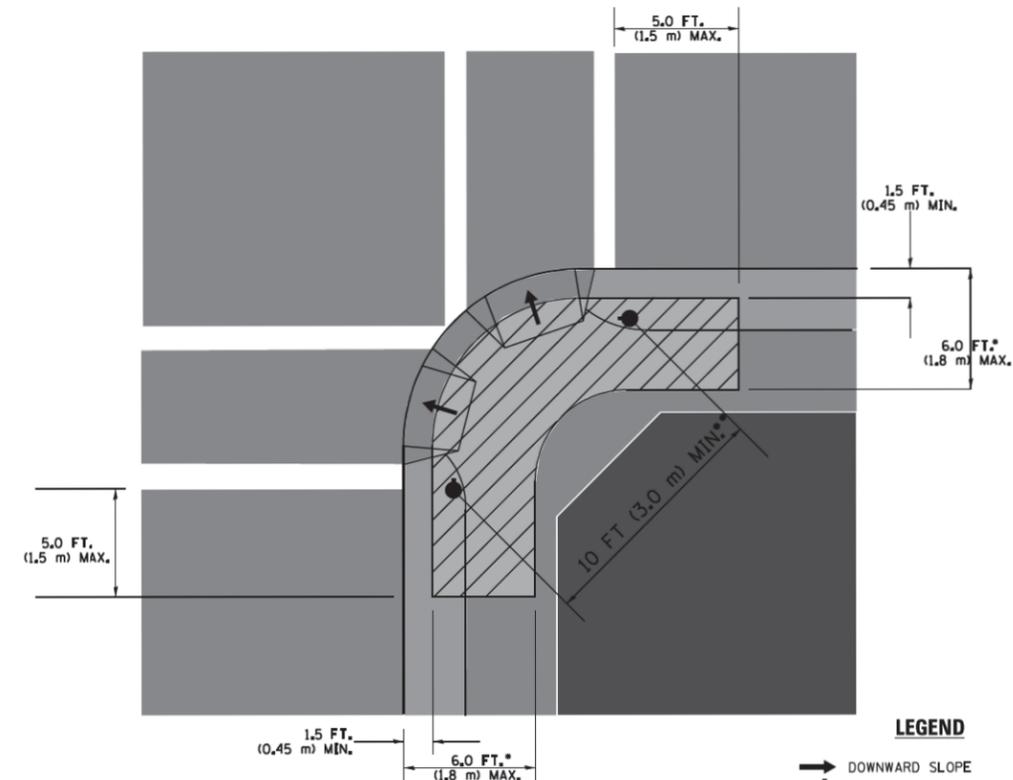
**PEDESTRIAN SIGNAL POST  
AND  
PEDESTRIAN PUSH BUTTON POST**



**NOTES:**

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

**RECOMMENDED PUSHBUTTON LOCATIONS**



**LEGEND**

- DOWNWARD SLOPE
- PEDESTRIAN PUSHBUTTON
- ▨ RECOMMENDED PUSHBUTTON LOCATIONS

- WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT ( 1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

**NOTES:**

1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

**TRAFFIC SIGNAL EQUIPMENT OFFSET**

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

**NOTES:**

1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.

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Downers Grove, IL 60515

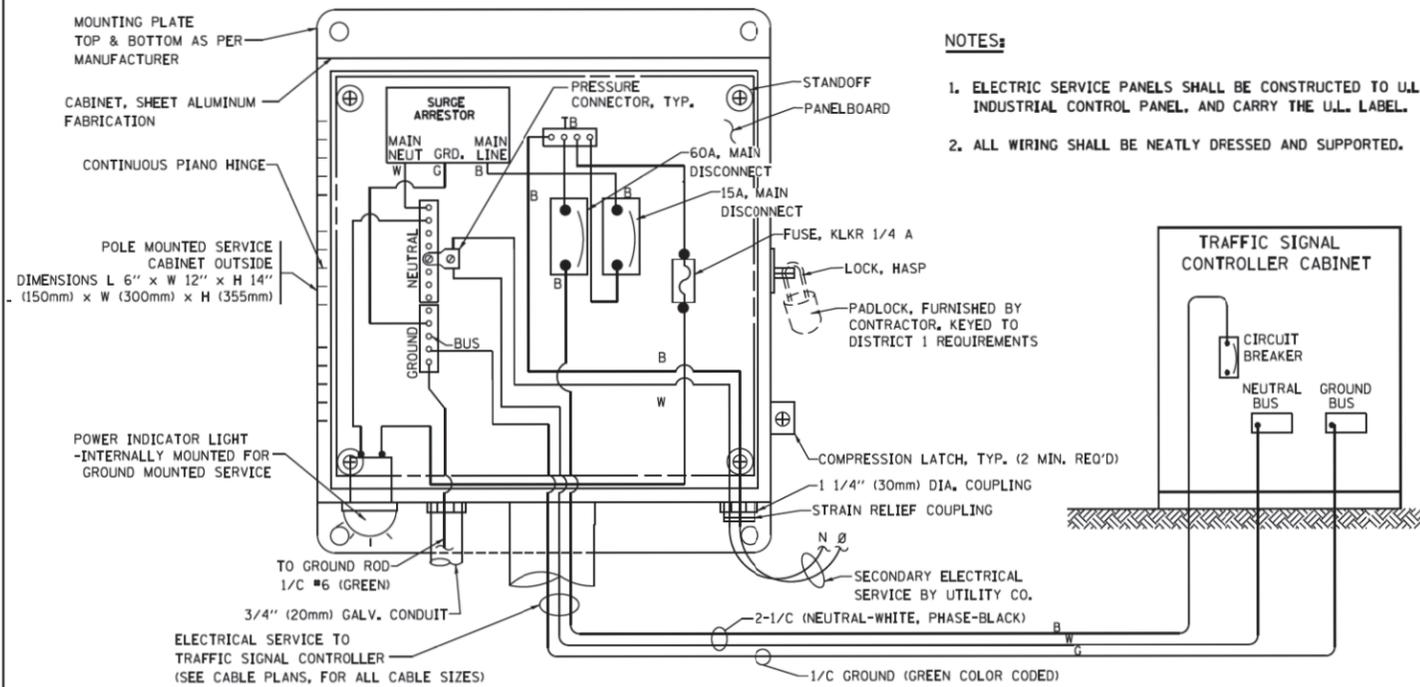
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

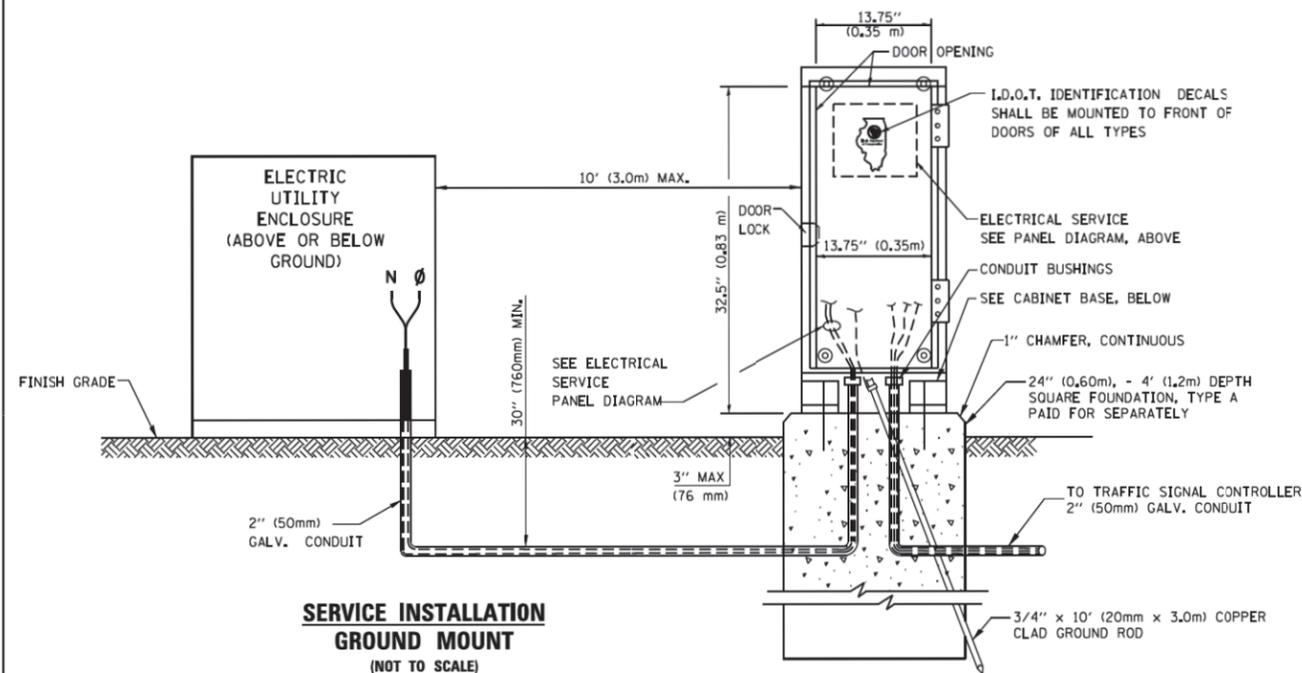
**District One Standard Traffic Signal Design Details  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST)**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

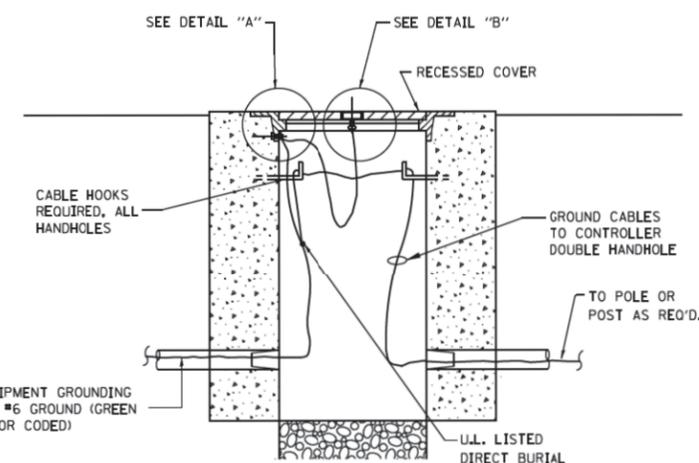
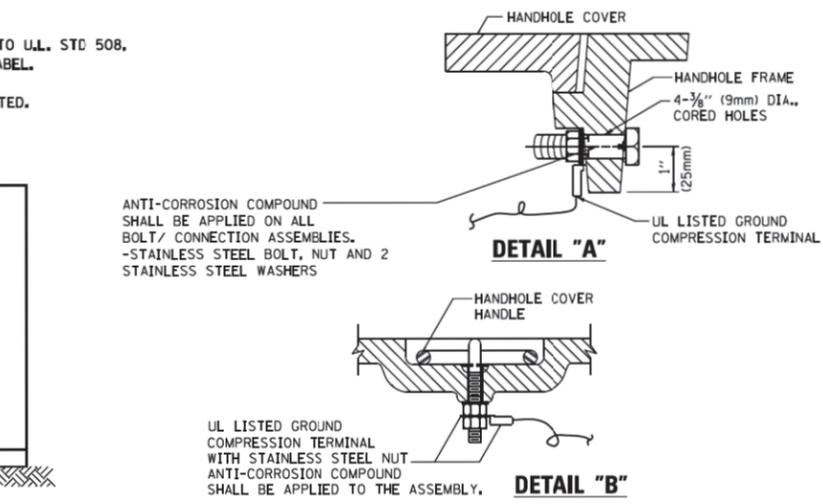
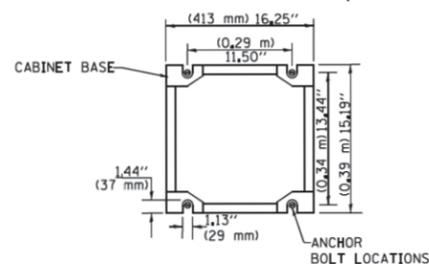
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	201
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				



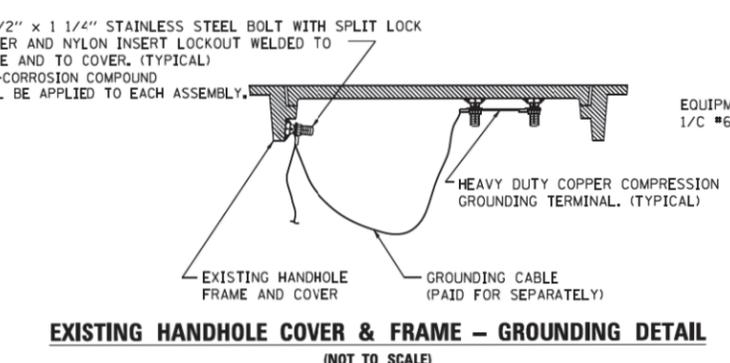
**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE) SERVICE INSTALLATION POLE MOUNT (SHOWN) (NOT TO SCALE)**



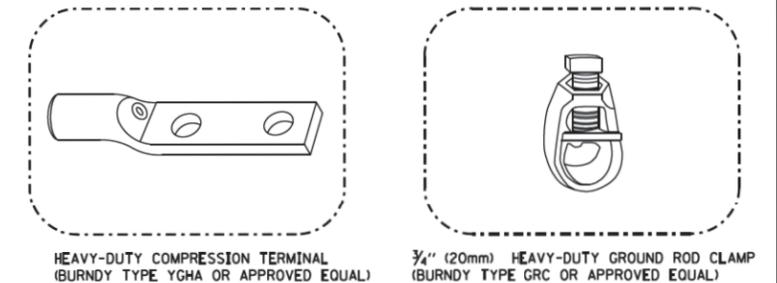
**CABINET - BASE BOLT PATTERN (NOT TO SCALE)**



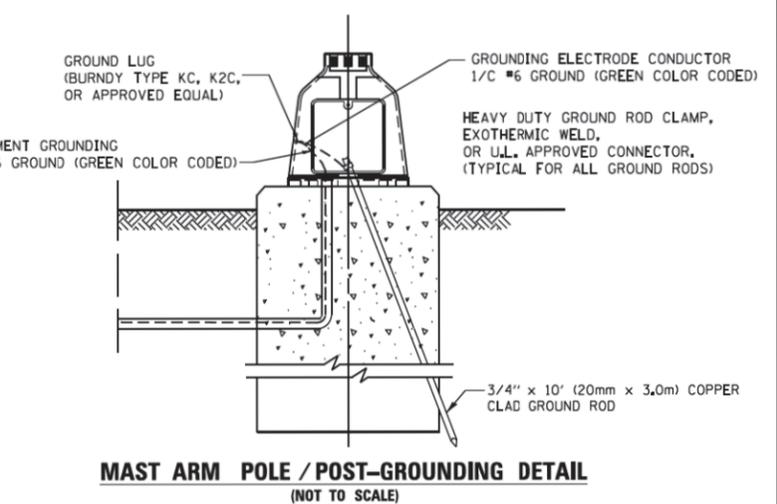
**HANDHOLE COVER & FRAME - GROUNDING DETAIL (NOT TO SCALE)**



**EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL (NOT TO SCALE)**



- NOTES:**
- ALL CLAMPS SHALL BE BRONZE OR COPPER, U.L. APPROVED.
  - GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES
  - 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES
  - 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES.
  - 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



**MAST ARM POLE / POST-GROUNDING DETAIL (NOT TO SCALE)**

**NOTES: GROUNDING SYSTEM**

1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD, ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.

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CONSULTING ENGINEERS  
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Downers Grove, IL 60515

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PLOT DATE : *DATE*	CHECKED -	REVISED -
	DATE -	REVISED -

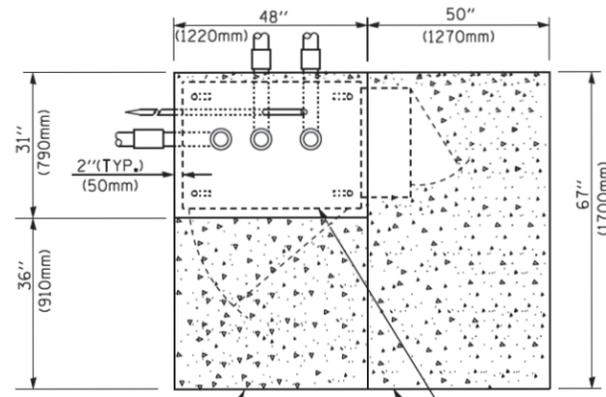
**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**District One Standard Traffic Signal Design Details**  
**IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST)**

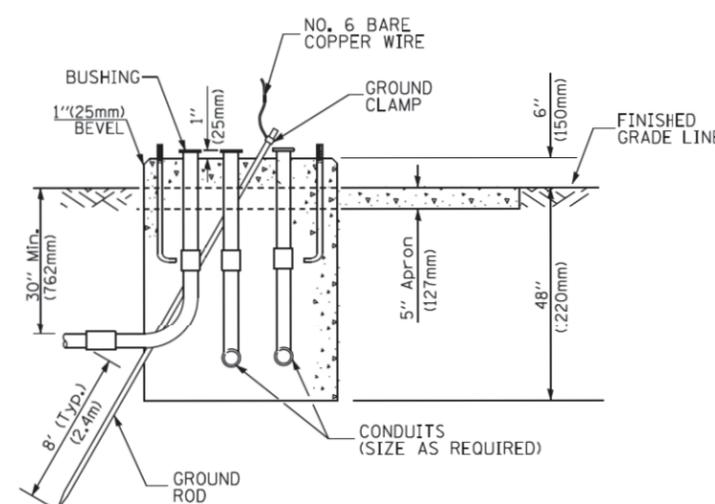
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	202
CONTRACT NO. 60V57				

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

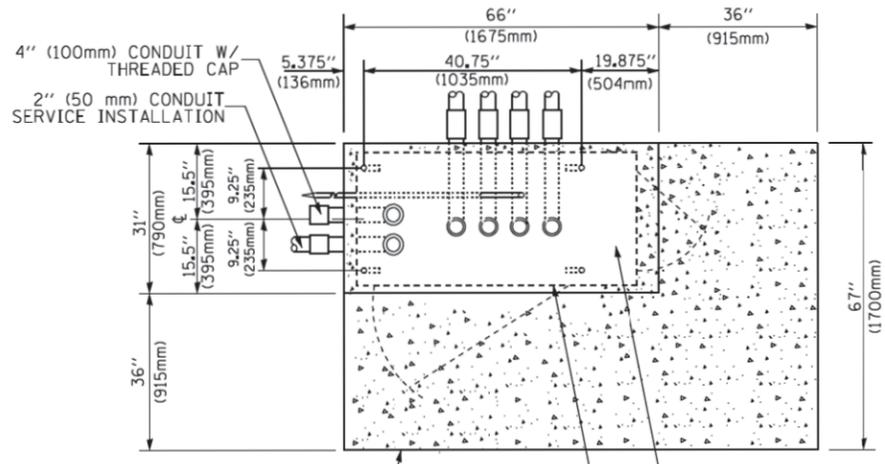
ILLINOIS FED. AID PROJECT



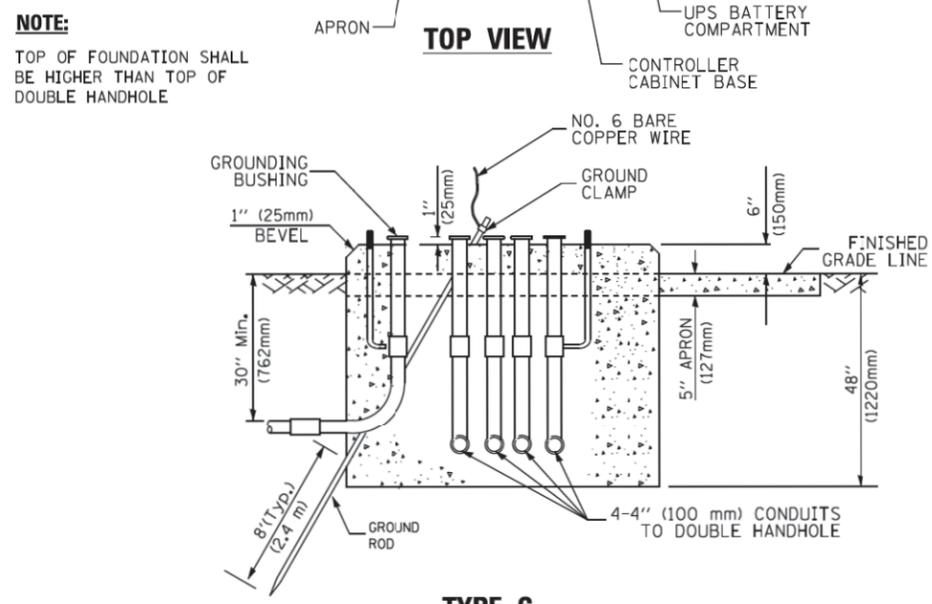
**TOP VIEW**



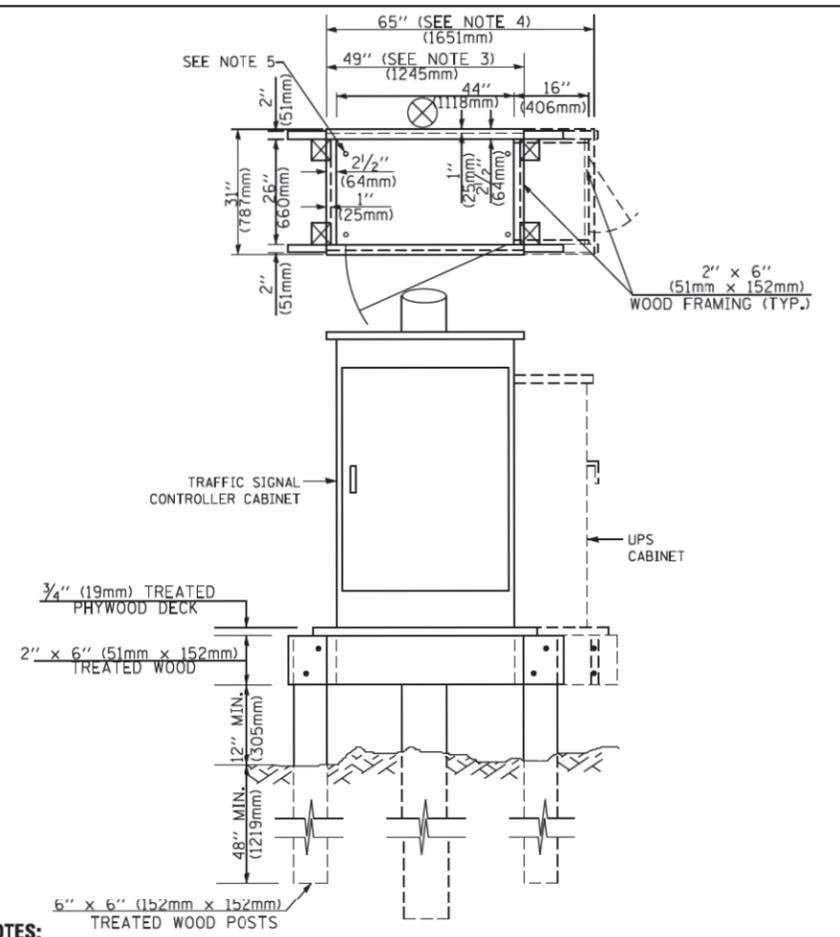
**TYPE D  
FOR GROUND MOUNTED  
CONTROLLER CABINET  
AND UPS BATTERY CABINET**



**TOP VIEW**



**TYPE C  
FOR GROUND MOUNTED  
SUPER P (TYPE IV) AND SUPER R (TYPE V)  
CONTROLLER CABINETS**



**NOTES:**

1. BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
2. BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
3. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
4. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
5. DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
6. FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

**TEMPORARY SIGNAL CONTROLLER  
WOOD SUPPORT PLATFORM**

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

**CABLE SLACK**

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

**VERTICAL CABLE LENGTH**

FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE	4'-0" (1.2m)

**DEPTH OF FOUNDATION**

MAST ARM LENGTH	① FOUNDATION DEPTH	FOUNDATION DIAMETER	SPIRAL DIAMETER	QUANTITY OF REBARS	SIZE OF REBARS
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 55' (16.8 m) and up to 65' (19.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 65' (19.8 m) and less than 75' (22.9 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 75' (22.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

**NOTES:**

1. These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average unconfined compressive strength (Qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & Structures should be contacted for a revised design if other conditions are encountered.
2. Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
4. For mast arm assemblies with dual arms refer to state standard 878001..

**DEPTH OF MAST ARM FOUNDATIONS, TYPE E**

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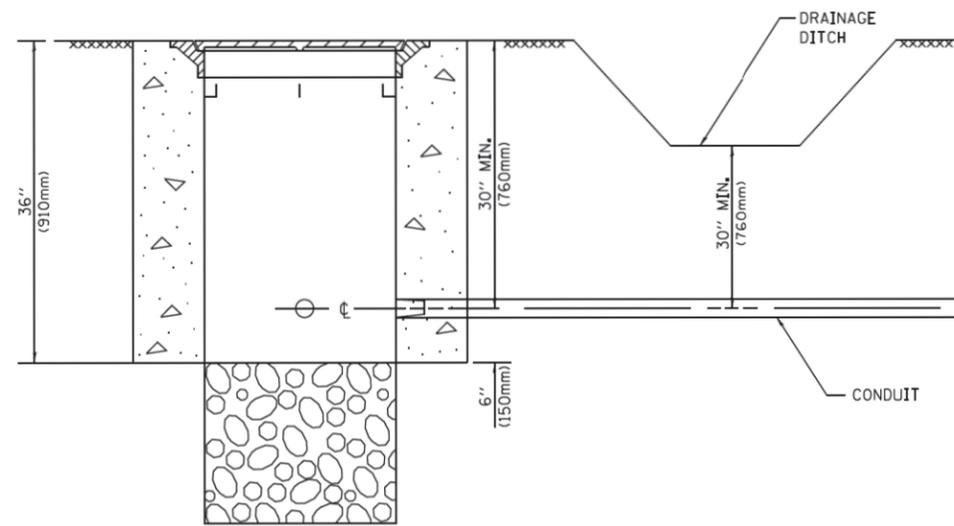
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	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**District One Standard Traffic Signal Design Details  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST)**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

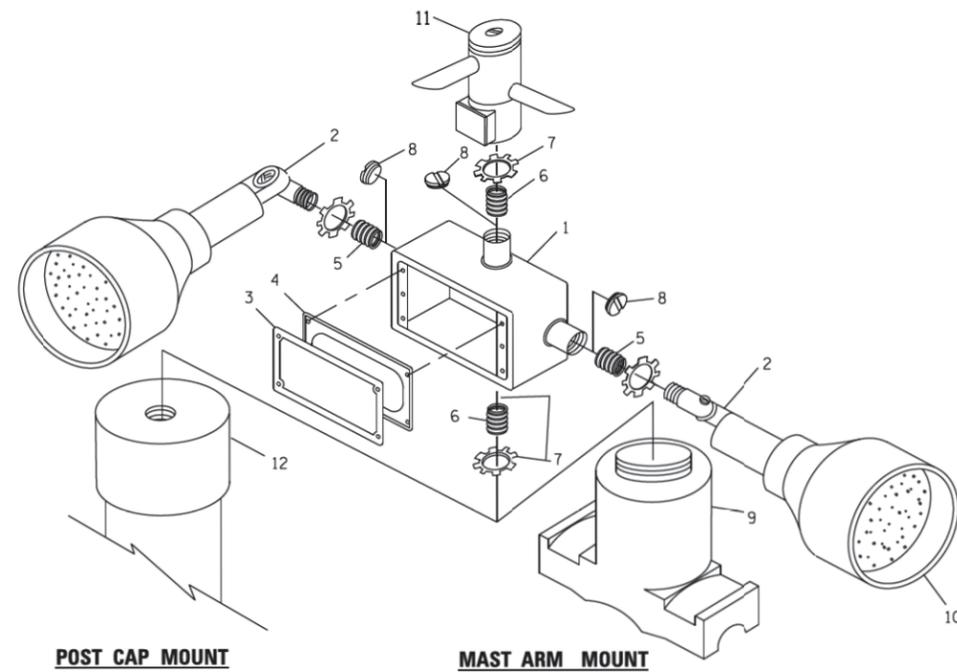
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	203
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				



**NOTES:**

1. CONDUIT DEPTH SHALL BE A MINIMUM OF 30" (760mm) BELOW THE BOTTOM OF THE DRAINAGE DITCH OR ANY SLOPING GROUND
2. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL CONDUIT PLACED UNDER ROADWAY PAVEMENT, MULTI-USE PATHS, SIDEWALKS AND SOIL SURFACES.
3. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL HANDHOLES, HEAVY DUTY HANDHOLES AND DOUBLE HANDHOLES.

**HANDHOLE WITH MINIMUM CONDUIT DEPTH**  
(NOT TO SCALE)

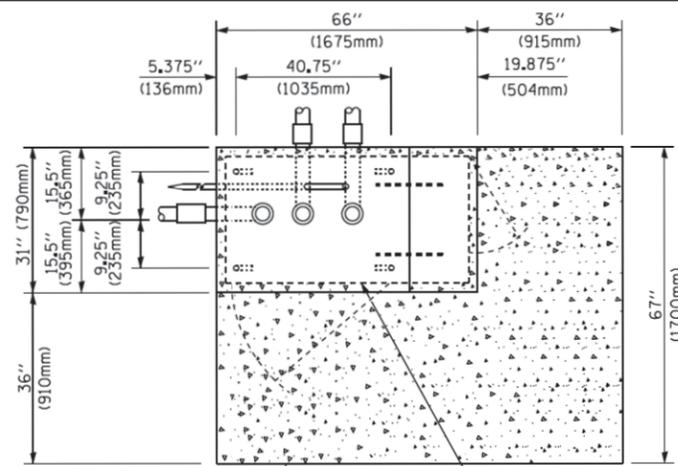


**EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL**

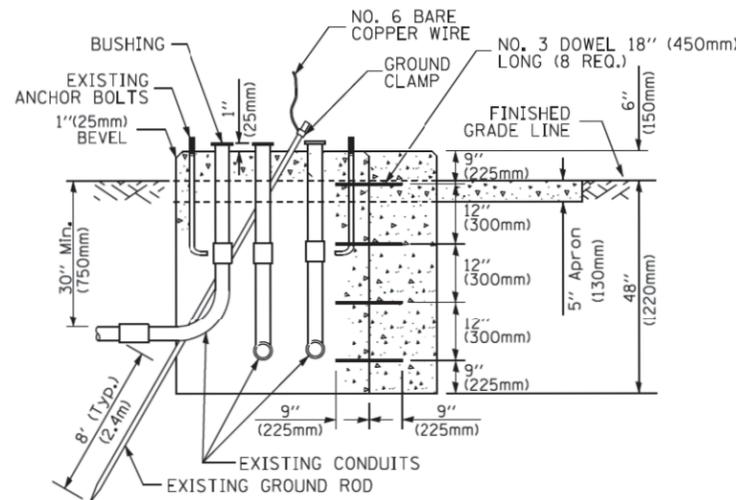
ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0,000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4" (19 mm) CLOSE NIPPLE
7	3/4" (19 mm) LOCKNUT
8	3/4" (19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

**NOTES:**

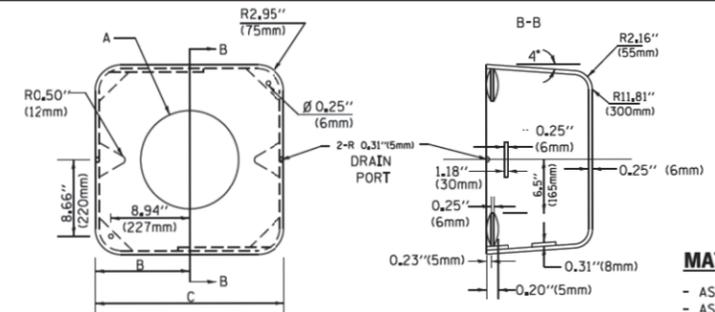
1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT  
ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT  
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4" (19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



**TOP VIEW**  
(NOT TO SCALE)



**MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION**  
(NOT TO SCALE)



**MATERIAL:**  
- ASTM A36 STEEL  
- ASTM A-123 HOT DIPPED GALVANIZED

A	B	C	HEIGHT	WEIGHT
VARIABLES	9.5" (241mm)	19" (483mm)	7" (178mm) - 12" (300mm)	53 lbs (24kg)
VARIABLES	10.75" (273mm)	21.5" (546mm)	7" (178mm) - 12" (300mm)	68 lbs (31 kg)
VARIABLES	13.0" (330mm)	26" (660mm)	7" (178mm) - 12" (300mm)	81 lbs (37 kg)
VARIABLES	18.5" (470mm)	37" (940mm)	7" (178mm) - 12" (300mm)	126 lbs (57 kg)

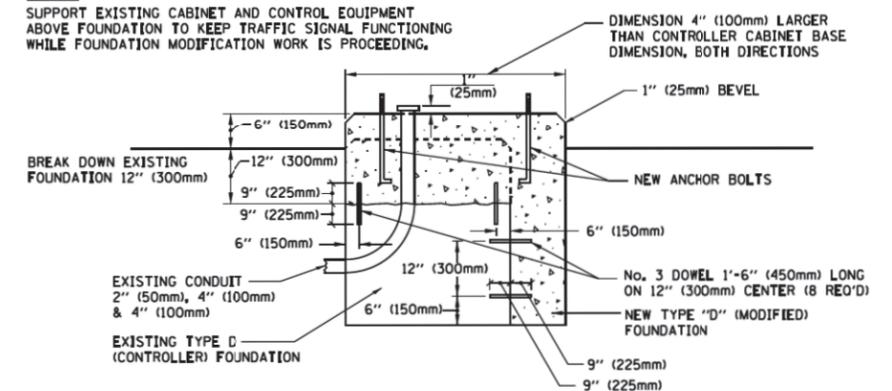
**SHROUD**

**NOTES:**

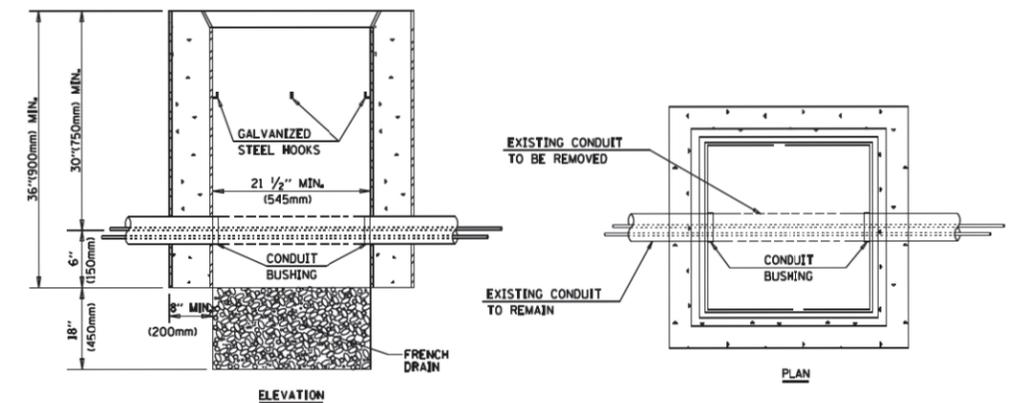
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

**NOTE:**

SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



**MODIFY EXISTING TYPE "D" FOUNDATION**



**NOTES:**

1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
2. REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCLUDED WITH THE COST OF THE HANDHOLE.

**HANDHOLE TO INTERCEPT EXISTING CONDUIT**

TS SHT NO. 07

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Downers Grove, IL 60515

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PLOT DATE = #DATE*	CHECKED -	REVISED -
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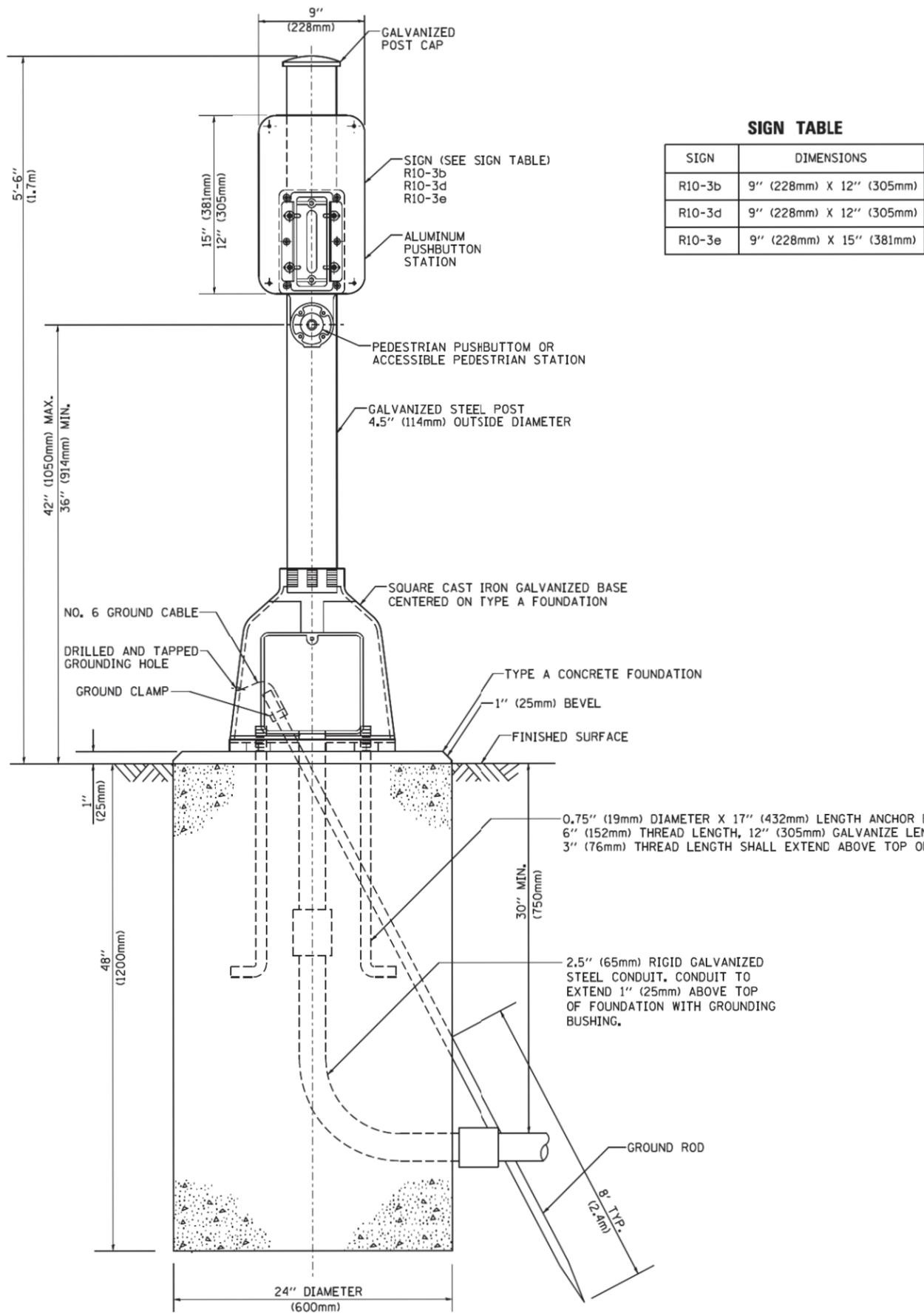
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**District One Standard Traffic Signal Design Details**  
**IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST)**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

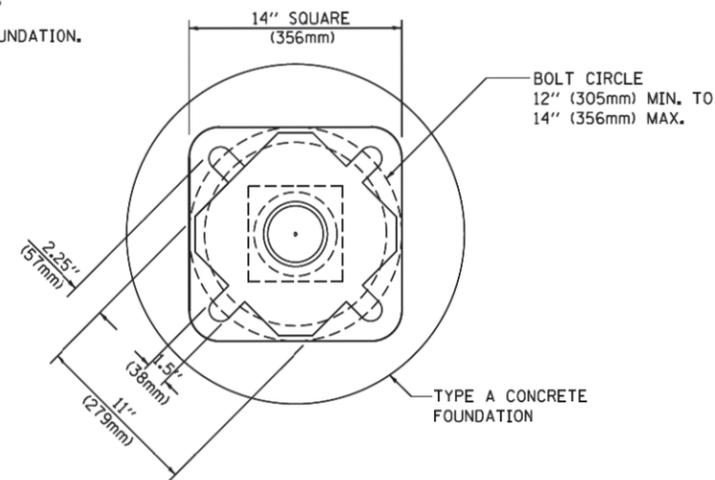
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	204
CONTRACT NO. 60V57				

ILLINOIS FED. AID PROJECT



**SIGN TABLE**

SIGN	DIMENSIONS
R10-3b	9" (228mm) X 12" (305mm)
R10-3d	9" (228mm) X 12" (305mm)
R10-3e	9" (228mm) X 15" (381mm)



**BOLT PATTERN**

**PEDESTRIAN PUSH BUTTON POST, TYPE A**

TS SHT NO. 08

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Downers Grove, IL 60515

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PLOT SCALE = *SCALE*	DRAWN -	REVISED -
PLOT DATE = *DATE*	CHECKED -	REVISED -
	DATE -	REVISED -

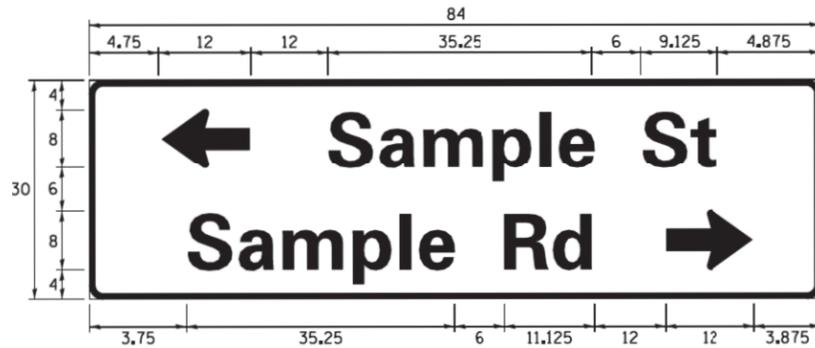
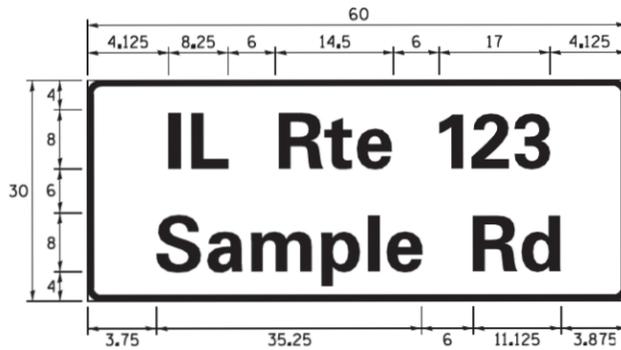
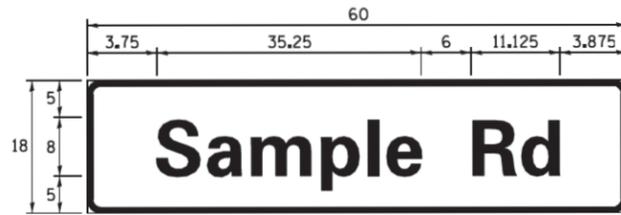
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**District One Standard Traffic Signal Design Details  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST)**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	205
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**SIGN PANEL – TYPE 1 OR TYPE 2**



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D OR C	-	1 OR 2	ZZ	-

**COMMON STREET NAME ABBREVIATIONS AND WIDTHS**

NAME	ABBREVIATION	WIDTH (INCH)	
		SERIES "C"	SERIES "D"
AVENUE	Ave	15,000	18,250
BOULEVARD	Blvd	17,125	20,000
CIRCLE	Clr	11,125	13,000
COURT	Ct	8,250	9,625
DRIVE	Dr	8,625	10,125
HIGHWAY	Hwy	18,375	22,000
ILLINOIS	IL	7,000	8,250
LANE	Ln	9,125	10,750
PARKWAY	Pkwy	23,375	27,375
PLACE	Pl	7,125	7,750
ROAD	Rd	9,625	11,125
ROUTE	Rte	12,625	14,500
STREET	St	8,000	9,125
TERRACE	Ter	12,625	14,625
TRAIL	Tr	7,750	9,125
UNITED STATES	US	10,375	12,250

**GENERAL NOTES**

- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 877001, 877002, 877006, 877011 AND 877012, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 8'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
- ALL SIGNS SHALL CONSIST OF A WHITE LEGEND AND BORDER (TYPE ZZ SHEETING) ON A GREEN BACKGROUND (TYPE ZZ SHEETING)
- THE SIGN LENGTH SHALL BE IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHALL NOT EXCEED 8'-0". ALL BORDERS SHALL BE 3/4" WIDE. CORNER RADIUS SHALL BE 1-7/8". THE SPACING BETWEEN THE WORDS SHOULD BE 6", IF POSSIBLE, BUT MAY BE REDUCED TO 5" WHEN SPACING IS CRITICAL. A MINIMUM OF 2-1/2" SHALL BE INCLUDED BETWEEN THE WORD AND THE RIGHT AND LEFT EDGES OF THE SIGN.
- A PREFERRED METHOD FOR THE SIGN DESIGN IS TO USE SERIES "D" LETTER ON A ONE-LINE SIGN 18" IN HEIGHT AND A MAXIMUM OF 8'-0" IN WIDTH, IF SERIES "D" DOES NOT FIT ON A 8'-0" SIGN, THEN SERIES "C" SHOULD BE TRIED. IF SERIES "C" DOES NOT FIT ON A 8'-0" SIGN, A 30" HIGH TWO-LINE SIGN CAN BE USED. THE CROSSROAD DESIGNATION AS TO STREET, AVENUE, ETC. SHOULD BE SPELLED OUT ON THE SECOND LINE, IF THERE IS SPACE AVAILABLE.
- LED ILLUMINATED STREET NAME SIGNS CAN BE USED IN PLACE OF REGULAR SIGN PANELS BUT ANY SPECIAL WORDING AND SYMBOLOGY MUST BE APPROVED BY THE DEPARTMENT. GENERAL DESIGN REQUIREMENT AS LISTED ABOVE (COLOR, FONT, SIZE, ETC.) MUST BE FOLLOWED.
- SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS.

**LOCAL SUPPLIERS:**

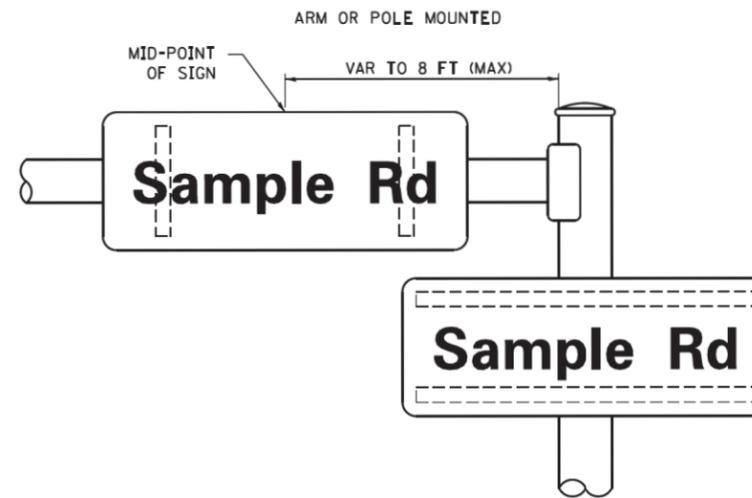
- J.O. HERBERT COMPANY, INC  
MIDLOTHIAN, VA
- WESTERN REMAC, INC.  
WOODRIDGE, IL

**PARTS LISTING:**

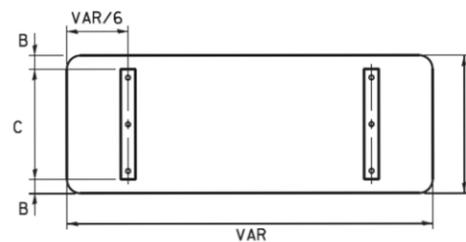
- SIGN CHANNEL PART #HPN053 (MED. CHANNEL)  
1/4" x 14 x 1" H.W.H. #3  
SELF TAPPING WITH NEOPRENE WASHER
- SIGN SCREWS PART #HPN034 (UNIVERSAL)  
CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING
- BRACKETS

OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BACKET OF THE ABOVE PRODUCT.

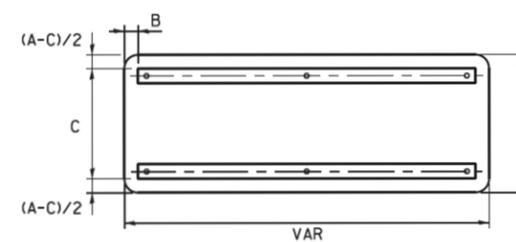
**MOUNTING LOCATION**



**SUPPORTING CHANNELS**



A	B	C
18"	2"	14"
30"	2"	24"



A	B	C
18"	2"	12"
30"	2"	22"

**STANDARD ALPHABETS SPACING CHART**

(8") UPPER CASE AND (6") LOWER CASE

CHARACTER	FHWA SERIES "C"			FHWA SERIES "D"			
	LEFT SPACING (INCH)	WIDTH (INCH)	RIGHT SPACING (INCH)	CHARACTER	LEFT SPACING (INCH)	WIDTH (INCH)	RIGHT SPACING (INCH)
A	0.240	5.122	0.240	A	0.240	6.804	0.240
B	0.880	4.482	0.480	B	0.960	5.446	0.400
C	0.720	4.482	0.720	C	0.800	5.446	0.800
D	0.880	4.482	0.720	D	0.960	5.446	0.800
E	0.880	4.082	0.480	E	0.960	4.962	0.400
F	0.880	4.082	0.240	F	0.960	4.962	0.240
G	0.720	4.482	0.720	G	0.800	5.446	0.800
H	0.880	4.482	0.880	H	0.960	5.446	0.960
I	0.880	1.120	0.880	I	0.960	1.280	0.960
J	0.240	4.082	0.880	J	0.240	5.122	0.960
K	0.880	4.482	0.480	K	0.960	5.604	0.400
L	0.880	4.082	0.240	L	0.960	4.962	0.240
M	0.880	5.284	0.880	M	0.960	6.244	0.960
N	0.880	4.482	0.880	N	0.960	5.446	0.960
O	0.720	4.722	0.720	O	0.800	5.684	0.800
P	0.880	4.482	0.720	P	0.960	5.446	0.240
Q	0.720	4.722	0.720	Q	0.800	5.684	0.800
R	0.880	4.482	0.480	R	0.960	5.446	0.400
S	0.480	4.482	0.480	S	0.400	5.446	0.400
T	0.240	4.082	0.240	T	0.240	4.962	0.240
U	0.880	4.482	0.880	U	0.960	5.446	0.960
V	0.240	4.962	0.240	V	0.240	6.084	0.240
W	0.240	6.084	0.240	W	0.240	7.124	0.240
X	0.240	4.722	0.240	X	0.400	5.446	0.400
Y	0.240	5.122	0.240	Y	0.240	6.884	0.240
Z	0.480	4.482	0.480	Z	0.400	5.446	0.400
a	0.320	3.842	0.640	a	0.400	4.562	0.720
b	0.720	4.082	0.480	b	0.800	4.802	0.480
c	0.480	4.002	0.240	c	0.480	4.722	0.240
d	0.480	4.082	0.720	d	0.480	4.802	0.800
e	0.480	4.082	0.320	e	0.480	4.722	0.320
f	0.320	2.480	0.160	f	0.320	2.882	0.160
g	0.480	4.082	0.720	g	0.480	4.802	0.800
h	0.720	4.082	0.640	h	0.800	4.722	0.720
i	0.720	1.120	0.720	i	0.800	1.280	0.800
j	0.000	2.320	0.720	j	0.000	2.642	0.800
k	0.720	4.322	0.160	k	0.800	5.122	0.160
l	0.720	1.120	0.720	l	0.800	1.280	0.800
m	0.720	6.724	0.640	m	0.800	7.926	0.720
n	0.720	4.082	0.640	n	0.800	4.722	0.720
o	0.480	4.082	0.480	o	0.480	4.882	0.480
p	0.720	4.082	0.480	p	0.800	4.802	0.480
q	0.480	4.082	0.720	q	0.480	4.802	0.800
r	0.720	2.642	0.160	r	0.800	3.042	0.160
s	0.320	3.362	0.240	s	0.320	3.762	0.240
t	0.080	2.882	0.080	t	0.080	3.202	0.080
u	0.640	4.082	0.720	u	0.720	4.722	0.800
v	0.160	4.722	0.160	v	0.160	5.684	0.160
w	0.160	7.524	0.160	w	0.160	9.046	0.160
x	0.000	5.202	0.000	x	0.000	6.244	0.000
y	0.160	4.962	0.160	y	0.160	6.004	0.160
z	0.240	3.362	0.240	z	0.240	4.002	0.240
1	0.720	1.680	0.880	1	0.800	2.000	0.960
2	0.480	4.482	0.480	2	0.800	5.446	0.800
3	0.480	4.482	0.480	3	1.440	5.446	0.800
4	0.240	4.962	0.720	4	0.160	6.004	0.960
5	0.480	4.482	0.480	5	0.800	5.446	0.800
6	0.720	4.482	0.720	6	0.800	5.446	0.800
7	0.240	4.482	0.720	7	0.560	5.446	0.560
8	0.480	4.482	0.480	8	0.800	5.446	0.800
9	0.480	4.482	0.480	9	0.800	5.446	0.800
0	0.720	4.722	0.720	0	0.800	5.684	0.800
-	0.240	2.802	0.240	-	0.240	2.802	0.240

TS SHT NO. 09

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PLOT DATE : *DATE*	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

District One Mast Arm Mounted Street Signs  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST)  
SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	206
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				



**REMOVAL AND RELOCATION NOTES:**

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 1 EACH UNINTERRUPTABLE POWER SUPPLY

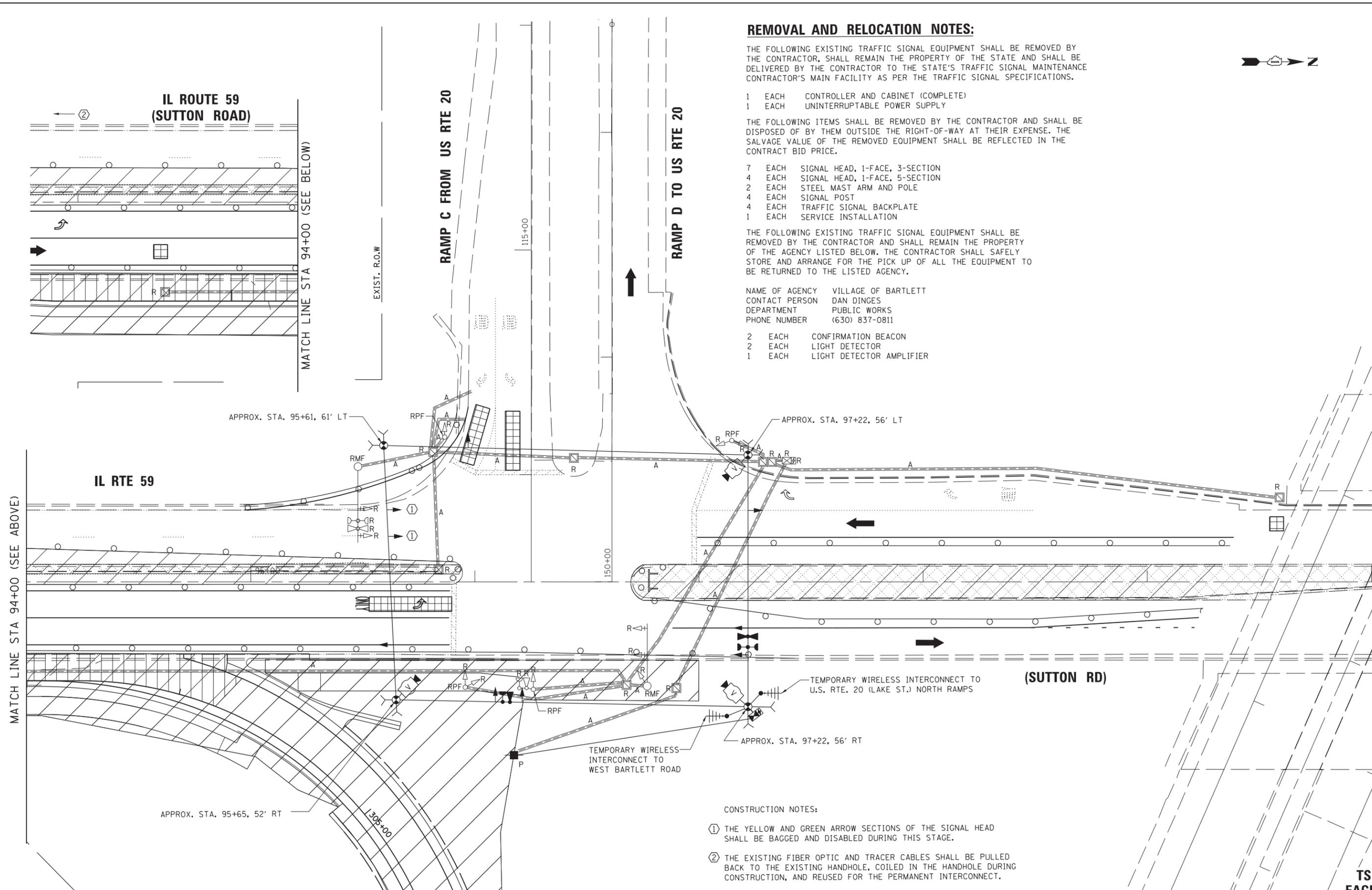
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 7 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 4 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 2 EACH STEEL MAST ARM AND POLE
- 4 EACH SIGNAL POST
- 4 EACH TRAFFIC SIGNAL BACKPLATE
- 1 EACH SERVICE INSTALLATION

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR AND SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR THE PICK UP OF ALL THE EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY.

NAME OF AGENCY VILLAGE OF BARTLETT  
 CONTACT PERSON DAN DINGES  
 DEPARTMENT PUBLIC WORKS  
 PHONE NUMBER (630) 837-0811

- 2 EACH CONFIRMATION BEACON
- 2 EACH LIGHT DETECTOR
- 1 EACH LIGHT DETECTOR AMPLIFIER



**CONSTRUCTION NOTES:**

- ① THE YELLOW AND GREEN ARROW SECTIONS OF THE SIGNAL HEAD SHALL BE BAGGED AND DISABLED DURING THIS STAGE.
- ② THE EXISTING FIBER OPTIC AND TRACER CABLES SHALL BE PULLED BACK TO THE EXISTING HANDHOLE, COILED IN THE HANDHOLE DURING CONSTRUCTION, AND REUSED FOR THE PERMANENT INTERCONNECT.

TS SHT NO. 10

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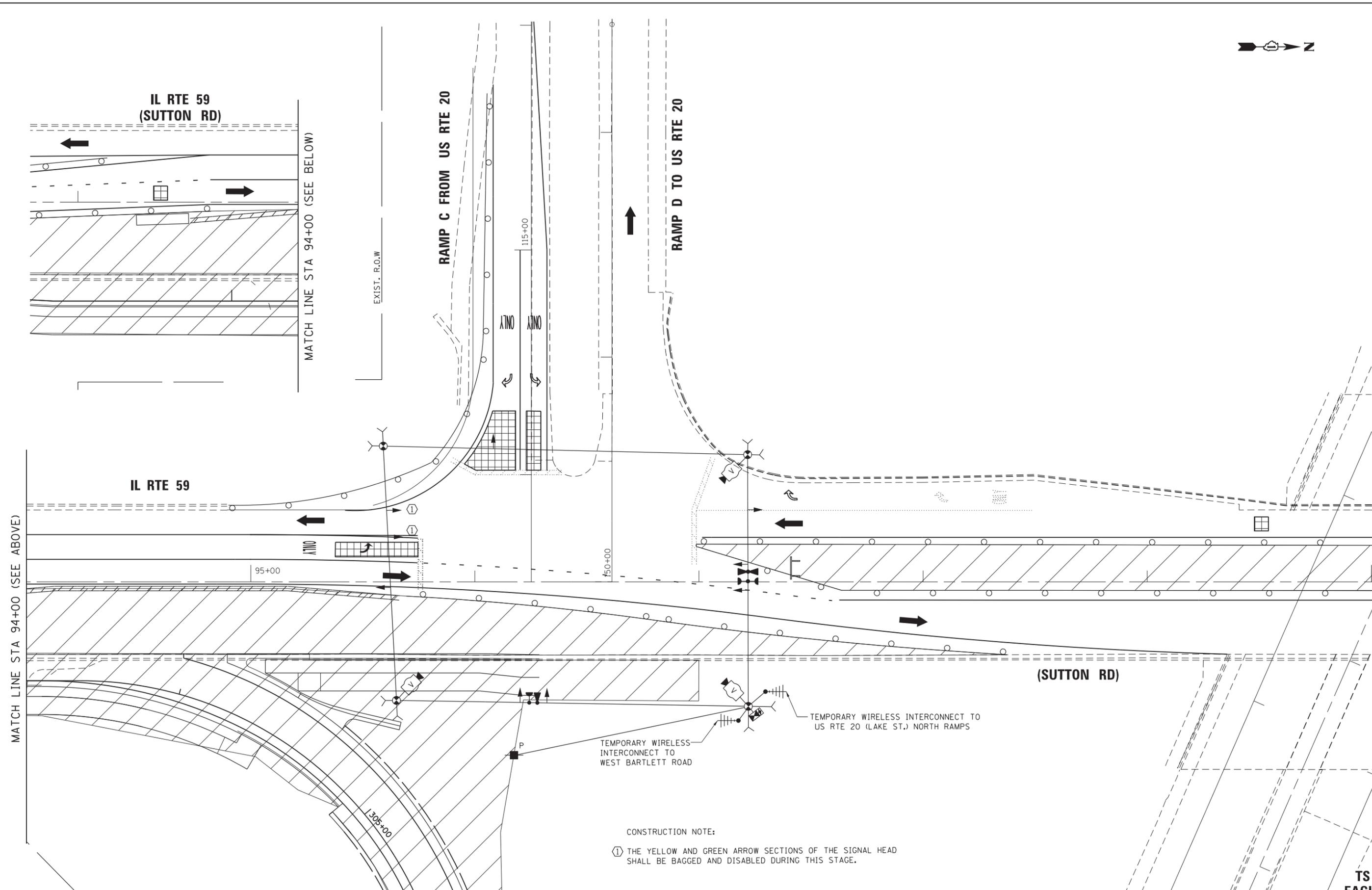
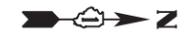
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	DATE - 08/23/2017	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**STAGE 1 TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND  
 REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN  
 IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) SOUTH RAMPS**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	207
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**TS 1022  
 EAGLE 5N**



CONSTRUCTION NOTE:  
 ① THE YELLOW AND GREEN ARROW SECTIONS OF THE SIGNAL HEAD SHALL BE BAGGED AND DISABLED DURING THIS STAGE.

TS SHT NO. 11

**TS 1022  
EAGLE 5N**

**AMES Engineering, Inc.**  
 CONSULTING ENGINEERS  
 5413 Walnut Avenue, Suite 2F  
 Downers Grove, IL 60515

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	DATE - 08/23/2017	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

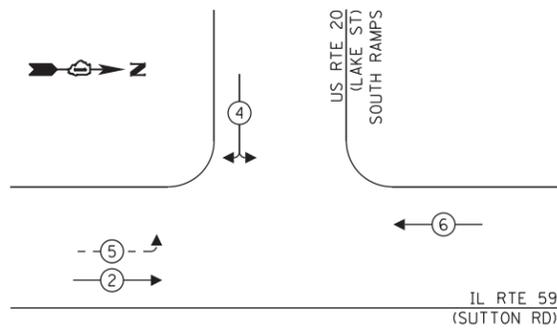
**STAGE 1A TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) SOUTH RAMPS**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	208
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

FILE NAME: \*FILE\*

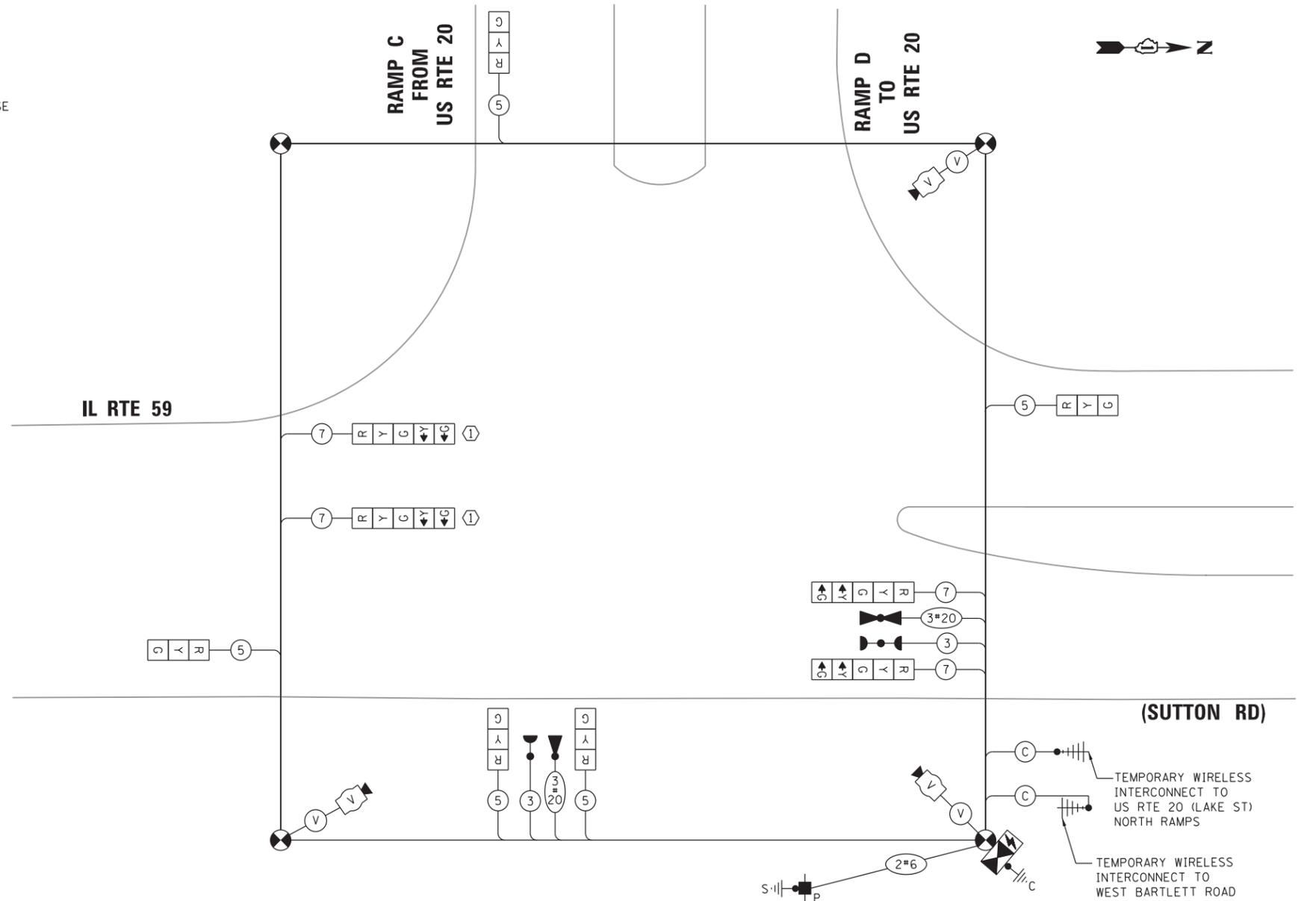
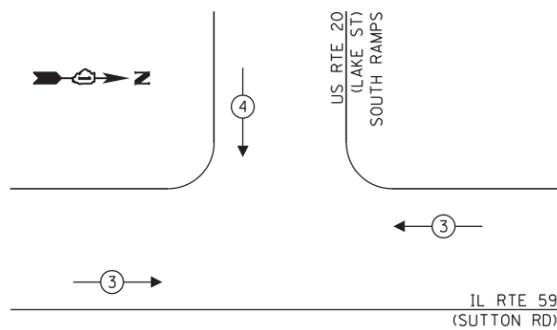
**STAGES 1 & 1A  
TEMPORARY CONTROLLER SEQUENCE**



**LEGEND:**

- ← ⊛ ← PROTECTED PHASE
- ← ⊛ ← PROTECTED/PERMITTED PHASE
- ← ⊛ → PEDESTRIAN PHASE
- ← ⊛ OL OVERLAP

**STAGES 1 & 1A  
TEMPORARY EMERGENCY VEHICLE  
PREEMPTION SEQUENCE**



**TEMPORARY CABLE PLAN**  
(NOT TO SCALE)

**CONSTRUCTION NOTE:**

- ① THE YELLOW AND GREEN ARROW SECTIONS OF THE SIGNAL HEAD SHALL BE BAGGED AND DISABLED DURING THIS STAGE.

**TRAFFIC SIGNAL  
ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	9	11	50	49.5
(YELLOW)	9	20	5	9.0
(GREEN)	9	12	45	48.6
PERMISSIVE ARROW	4	10	10	4.0
PED. SIGNAL	-	20	100	-
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	1	150	100	150.0
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	-	-	-
TOTAL =				386.1

**ENERGY COSTS TO:**

VILLAGE OF BARTLETT  
228 S MAIN STREET  
BARTLETT, IL 60103

ENERGY SUPPLY: CONTACT: VIVIANA FELICIANO  
PHONE: 630-360-0146  
COMPANY: COMED  
ACCOUNT NUMBER: 2833152008

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = #USER#	DESIGNED - AS	REVISED -
PLOT SCALE = #SCALE#	DRAWN - RV/SR	REVISED -
PLOT DATE = #DATE#	CHECKED - TM	REVISED -
	DATE - 08/23/2017	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGES 1 & 1A TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION  
DIAGRAM, AND TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) SOUTH RAMPS**

SCALE: SHEET OF SHEETS STA. TO STA.

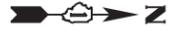
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	209
CONTRACT NO. 60V57				

ILLINOIS FED. AID PROJECT

TS SHT NO. 12

**TS 1022  
EAGLE 5N**

FILE NAME: #FILE#



IL RTE 59  
(SUTTON RD)

MATCH LINE STA 94+00 (SEE BELOW)

RAMP C FROM US RTE 20

RAMP D TO US RTE 20

EXIST. R.O.W

EXIST. R.O.W

IL RTE 59

MATCH LINE STA 94+00 (SEE ABOVE)

95+00

150+00

115+00

1305+00

(SUTTON RD)

TEMPORARY WIRELESS INTERCONNECT TO U.S. RTE. 20 (LAKE ST.) NORTH RAMPS

TEMPORARY WIRELESS INTERCONNECT TO WEST BARTLETT ROAD

**LEGEND**

WORKZONE

**CONSTRUCTION NOTE:**

① THE YELLOW AND GREEN ARROW SECTIONS OF THE SIGNAL HEAD SHALL BE BAGGED AND DISABLED DURING THIS STAGE.

TS SHT NO. 13

TS 1022  
EAGLE 5N

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = #USER*	DESIGNED - AS	REVISED -
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	DATE - 08/23/2017	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

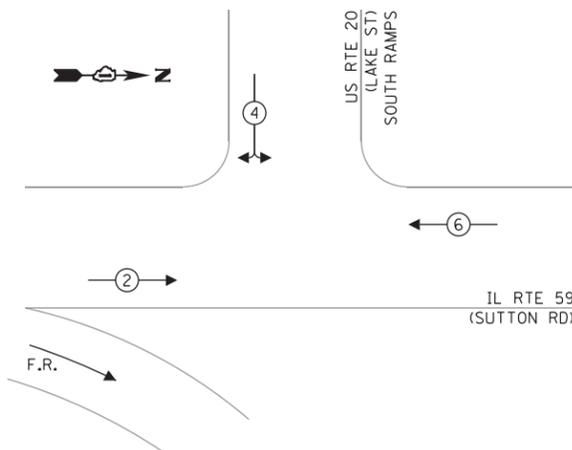
STAGE 1B TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) SOUTH RAMPS

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	210
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

FILE NAME: #FILE#

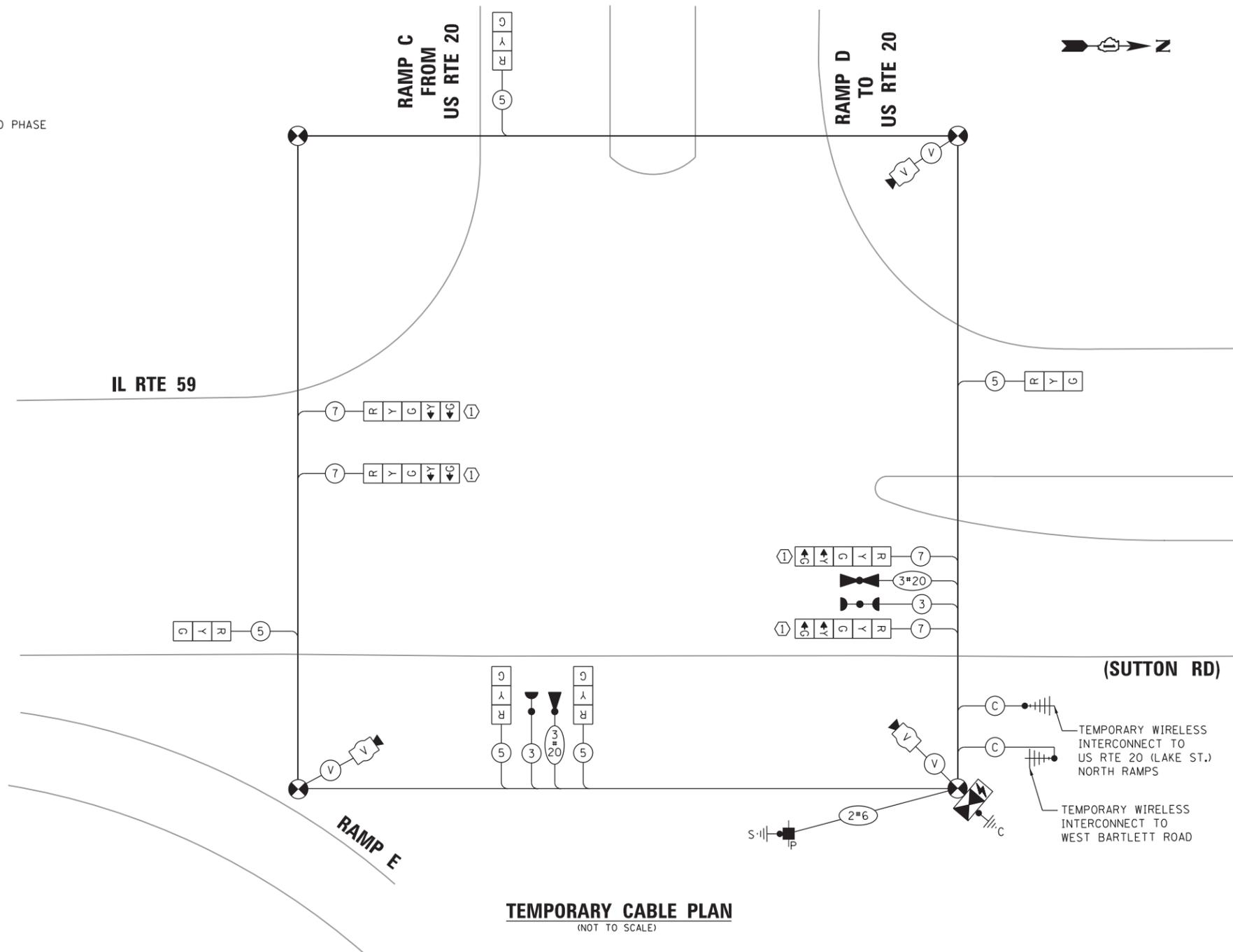
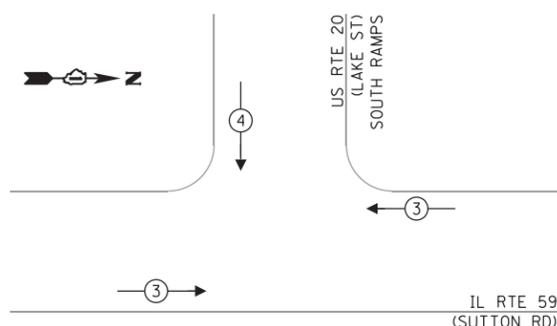
**STAGE 1B  
TEMPORARY CONTROLLER SEQUENCE**



**LEGEND:**

- ← (⊛) ← PROTECTED PHASE
- ← - (⊛) ← PROTECTED/PERMITTED PHASE
- ← (⊛) → PEDESTRIAN PHASE
- ← (⊛) OL OVERLAP

**STAGE 1B  
TEMPORARY EMERGENCY VEHICLE  
PREEMPTION SEQUENCE**



**TEMPORARY CABLE PLAN**  
(NOT TO SCALE)

CONSTRUCTION NOTE:

- ① THE YELLOW AND GREEN ARROW SECTIONS OF THE SIGNAL HEAD SHALL BE BAGGED AND DISABLED DURING THIS STAGE.

**TRAFFIC SIGNAL  
ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	9	11	50	49.5
(YELLOW)	9	20	5	9.0
(GREEN)	9	12	45	48.6
PERMISSIVE ARROW	-	10	10	-
PED. SIGNAL	-	20	100	-
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	1	150	100	150.0
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	-	-	-
TOTAL =				382.1

ENERGY COSTS TO:

VILLAGE OF BARTLETT  
228 S MAIN STREET  
BARTLETT, IL 60103

ENERGY SUPPLY: CONTACT: VIVIANA FELICIANO  
PHONE: 630-360-0146  
COMPANY: COMED  
ACCOUNT NUMBER: 2833152008

TS SHT NO. 14

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = #USER#	DESIGNED - AS	REVISED -
PLOT SCALE = #SCALE#	DRAWN - RV/SR	REVISED -
PLOT DATE = #DATE#	CHECKED - TM	REVISED -
	DATE - 08/23/2017	REVISED -

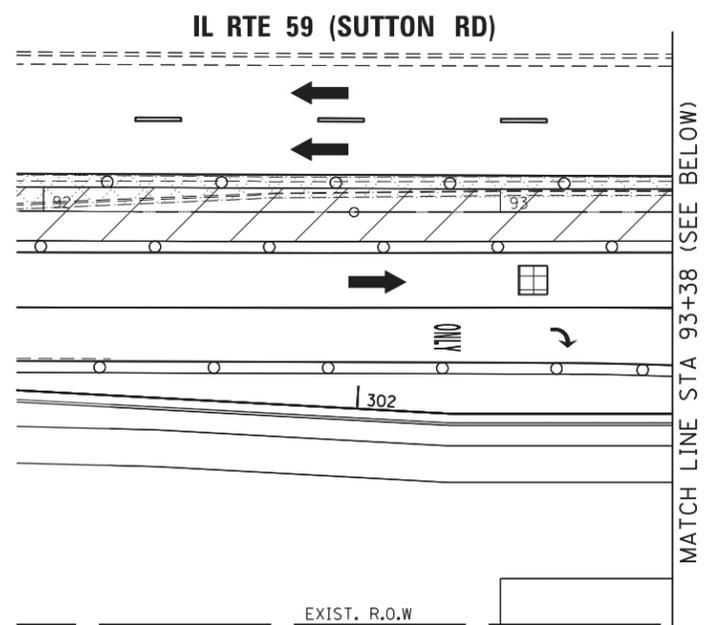
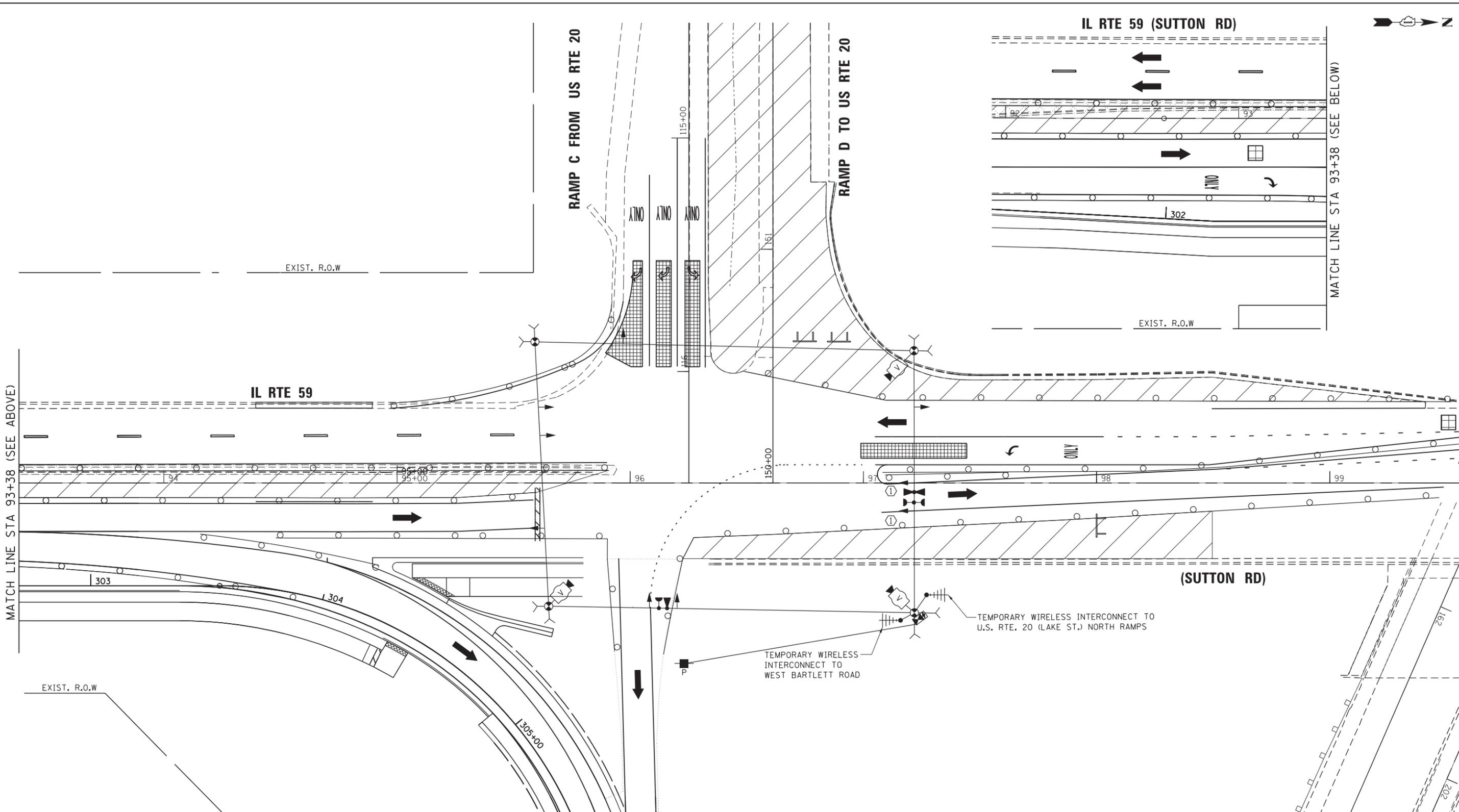
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**STAGE 1B TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION  
DIAGRAM, AND TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) SOUTH RAMPS**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	211
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**TS 1022  
EAGLE 5N**



**LEGEND**

WORKZONE

**CONSTRUCTION NOTE:**

① THE YELLOW AND GREEN ARROW SECTIONS OF THE SIGNAL HEAD SHALL BE BAGGED AND DISABLED DURING THIS STAGE.

TS SHT NO. 15

TS 1022  
EAGLE 5N

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Downers Grove, IL 60515

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PLOT SCALE = *SCALE*	DRAWN - RV/SR	REVISED -
PLOT DATE = *DATE*	CHECKED - TM	REVISED -
	DATE - 08/23/2017	REVISED -

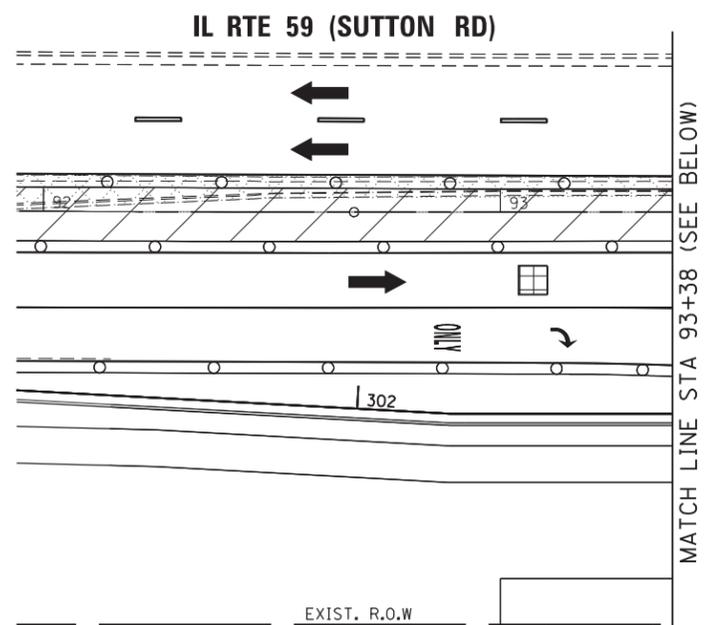
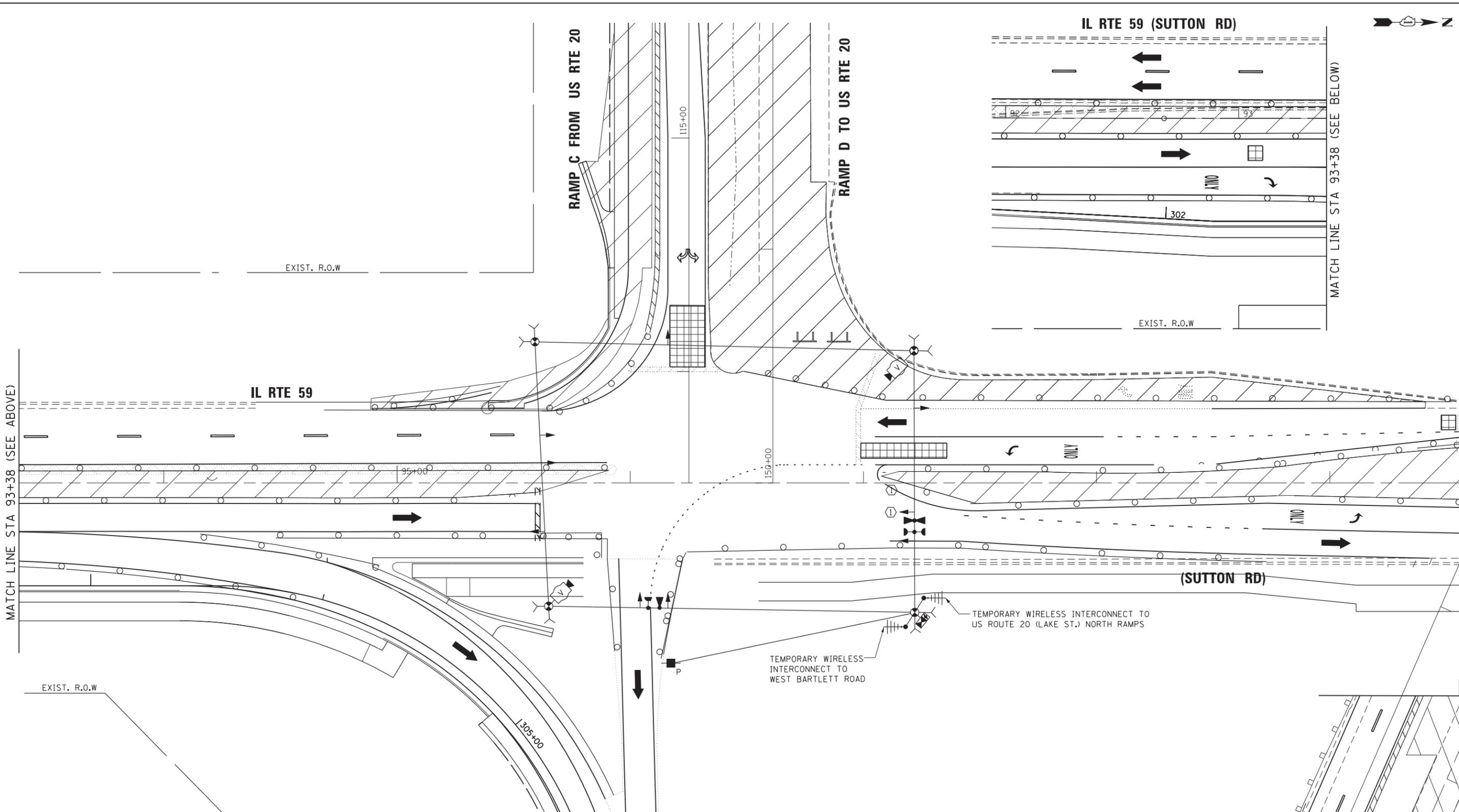
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STAGE 2 TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) SOUTH RAMPS

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	212
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

FILE NAME: \*FILE\*



**LEGEND**



**CONSTRUCTION NOTE:**

① THE YELLOW AND GREEN ARROW SECTIONS OF THE SIGNAL HEAD SHALL BE BAGGED AND DISABLED DURING THIS STAGE.

TS SHT NO. 16

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CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME : *USER*	DESIGNED - AS	REVISED -
PLOT SCALE : *SCALE*	DRAWN - RV/SR	REVISED -
PLOT DATE : *DATE*	CHECKED - TM	REVISED -
	DATE - 08/23/2017	REVISED -

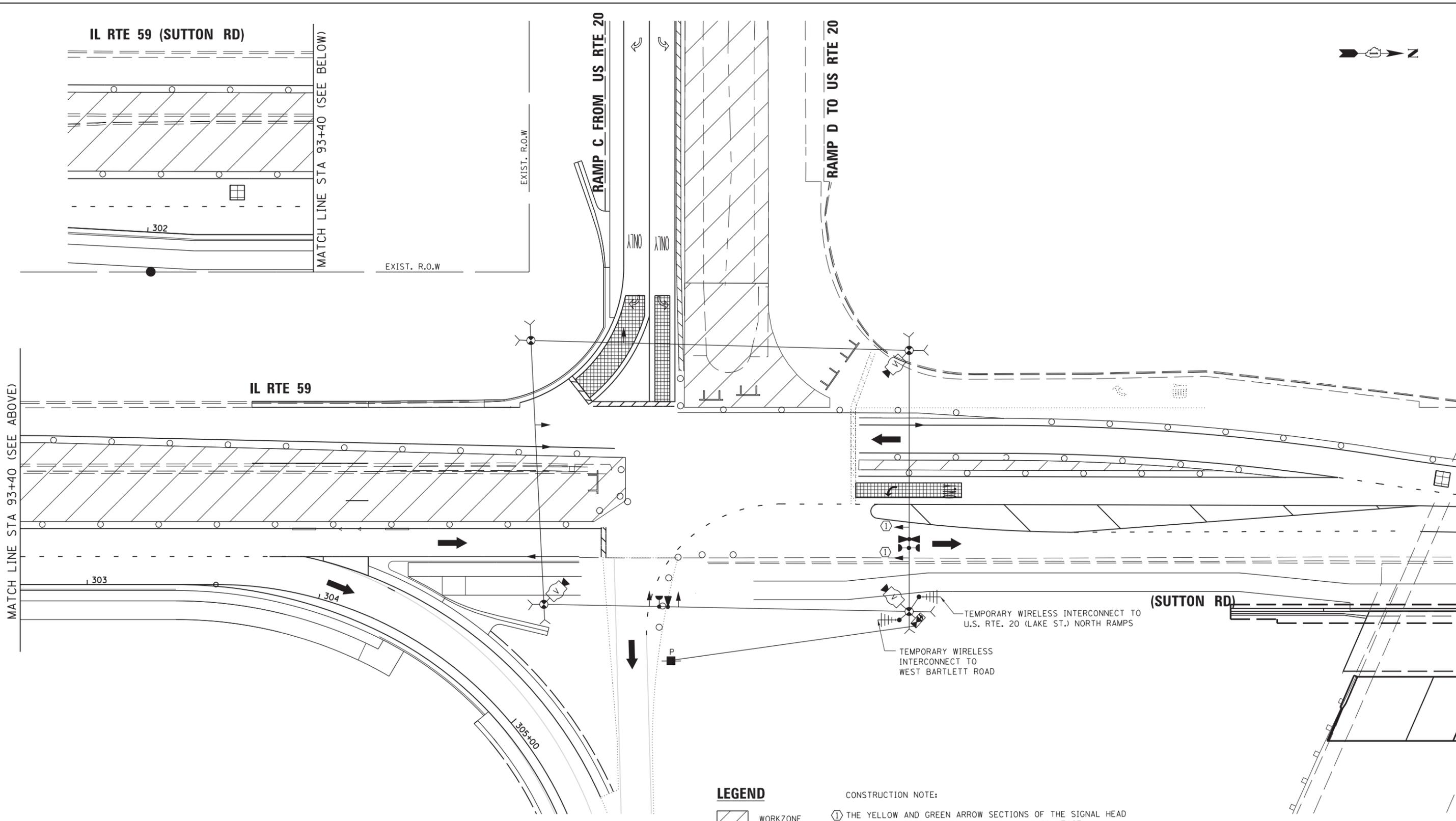
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGE 2A TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) SOUTH RAMP**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	212A
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**TS 1022  
EAGLE 5N**



**LEGEND**

WORKZONE

**CONSTRUCTION NOTE:**

① THE YELLOW AND GREEN ARROW SECTIONS OF THE SIGNAL HEAD SHALL BE BAGGED AND DISABLED DURING THIS STAGE.

TS SHT NO. 17

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = *USER*	DESIGNED - AS	REVISED -
DRAWN - RV/SR	CHECKED - TM	REVISED -
PLOT SCALE = *SCALE*	DATE - 08/23/2017	REVISED -
PLOT DATE = *DATE*		

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

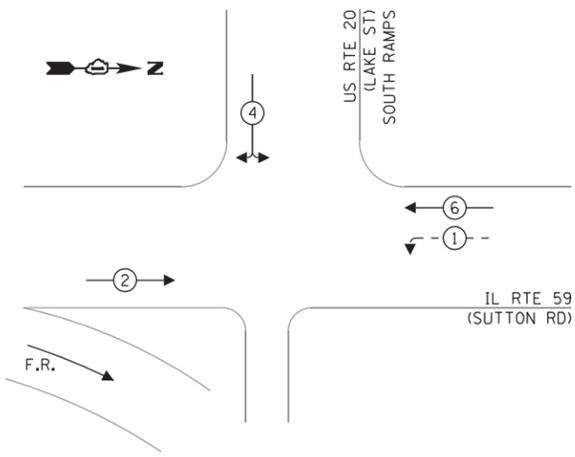
**STAGE 3 TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) SOUTH RAMPS**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	213
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

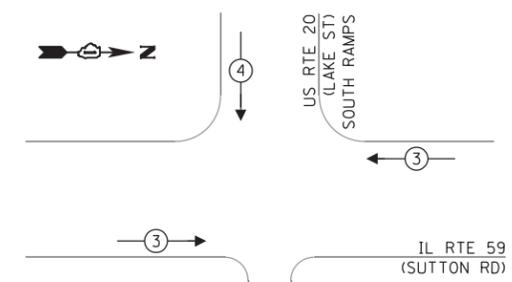
**TS 1022  
EAGLE 5N**

**STAGES 2, 2A & 3  
TEMPORARY CONTROLLER SEQUENCE**



- LEGEND:**
- ← (⊙) → PROTECTED PHASE
  - ← - (⊙) - → PROTECTED/PERMITTED PHASE
  - ← (⊙) → PEDESTRIAN PHASE
  - ← (⊙) OL → OVERLAP

**STAGES 2, 2A & 3  
TEMPORARY EMERGENCY VEHICLE  
PREEMPTION SEQUENCE**



**TRAFFIC SIGNAL  
ELECTRICAL SERVICE REQUIREMENTS**

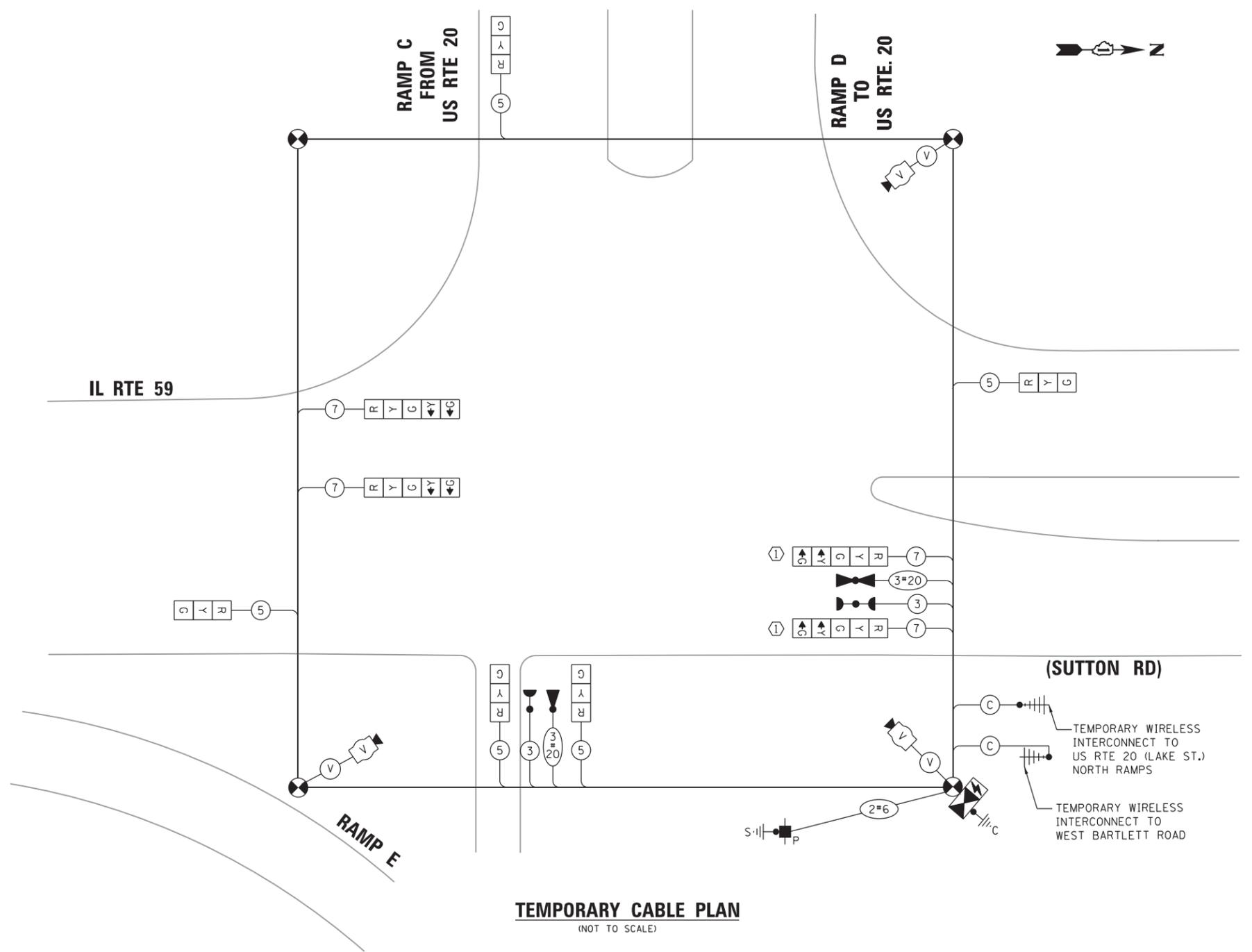
TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	9	11	50	49.5
(YELLOW)	9	20	5	9.0
(GREEN)	9	12	45	48.6
PERMISSIVE ARROW	4	10	10	4.0
PED. SIGNAL	-	20	100	-
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	1	150	100	150.0
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	-	-	-
TOTAL =				386.1

ENERGY COSTS TO:  
 VILLAGE OF BARTLETT  
 228 S MAIN STREET  
 BARTLETT, IL 60103  
 ENERGY SUPPLY: CONTACT: VIVIANA FELICIANO  
 PHONE: 630-360-0146  
 COMPANY: COMED  
 ACCOUNT NUMBER: 2833152008

**AMES Engineering, Inc.**  
 CONSULTING ENGINEERS  
 5413 Walnut Avenue, Suite 2F  
 Downers Grove, IL 60515

DESIGNED - AS	REVISED -
DRAWN - RV/SR	REVISED -
CHECKED - TM	REVISED -
DATE - 08/23/2017	REVISED -

IL RTE 59



**TEMPORARY CABLE PLAN**  
(NOT TO SCALE)

CONSTRUCTION NOTE:  
 ① THE YELLOW AND GREEN ARROW SECTIONS OF THE SIGNAL HEAD SHALL BE BAGGED AND DISABLED DURING THIS STAGE.

TS SHT NO. 18

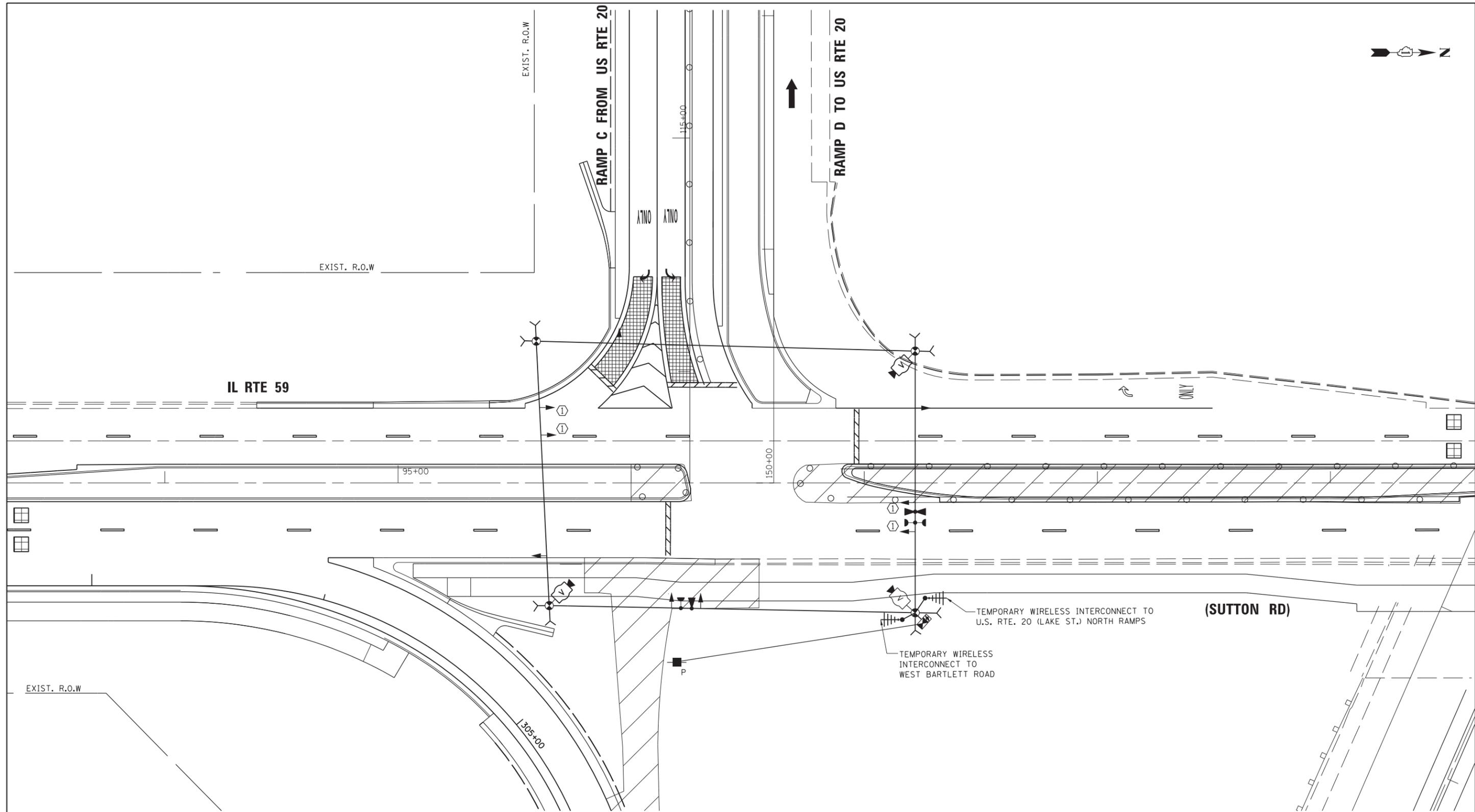
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

STAGES 2, 2A & 3 TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION  
 DIAGRAM, AND TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE  
 IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) SOUTH RAMPS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	214
CONTRACT NO. 60V57				

TS 1022  
 EAGLE 5N

ILLINOIS FED. AID PROJECT



**LEGEND**

WORKZONE

**CONSTRUCTION NOTE:**

① THE YELLOW AND GREEN ARROW SECTIONS OF THE SIGNAL HEAD SHALL BE BAGGED AND DISABLED DURING THIS STAGE.

TS SHT NO. 19

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = #USER*	DESIGNED - AS	REVISED -
	DRAWN - RV/SR	REVISED -
PLOT SCALE = #SCALE*	CHECKED - TM	REVISED -
PLOT DATE = #DATE*	DATE - 08/23/2017	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

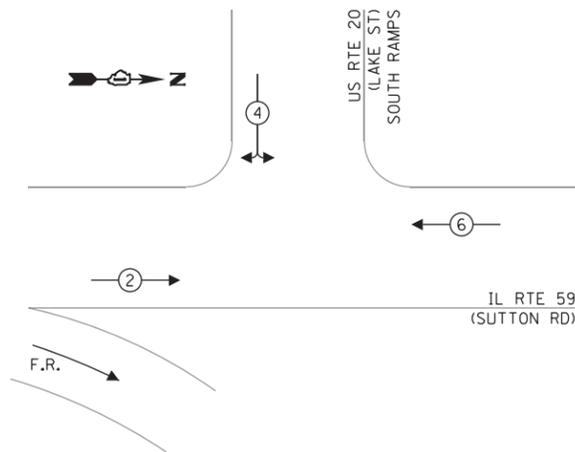
**STAGE 4 TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) SOUTH RAMPS**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

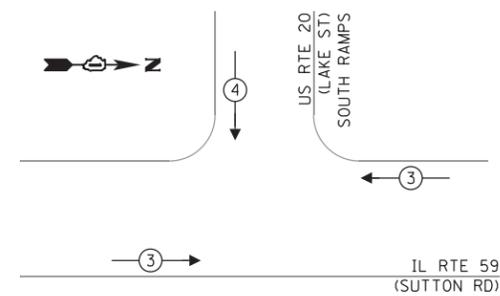
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	215
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**TS 1022  
EAGLE 5N**

**STAGE 4  
TEMPORARY CONTROLLER SEQUENCE**

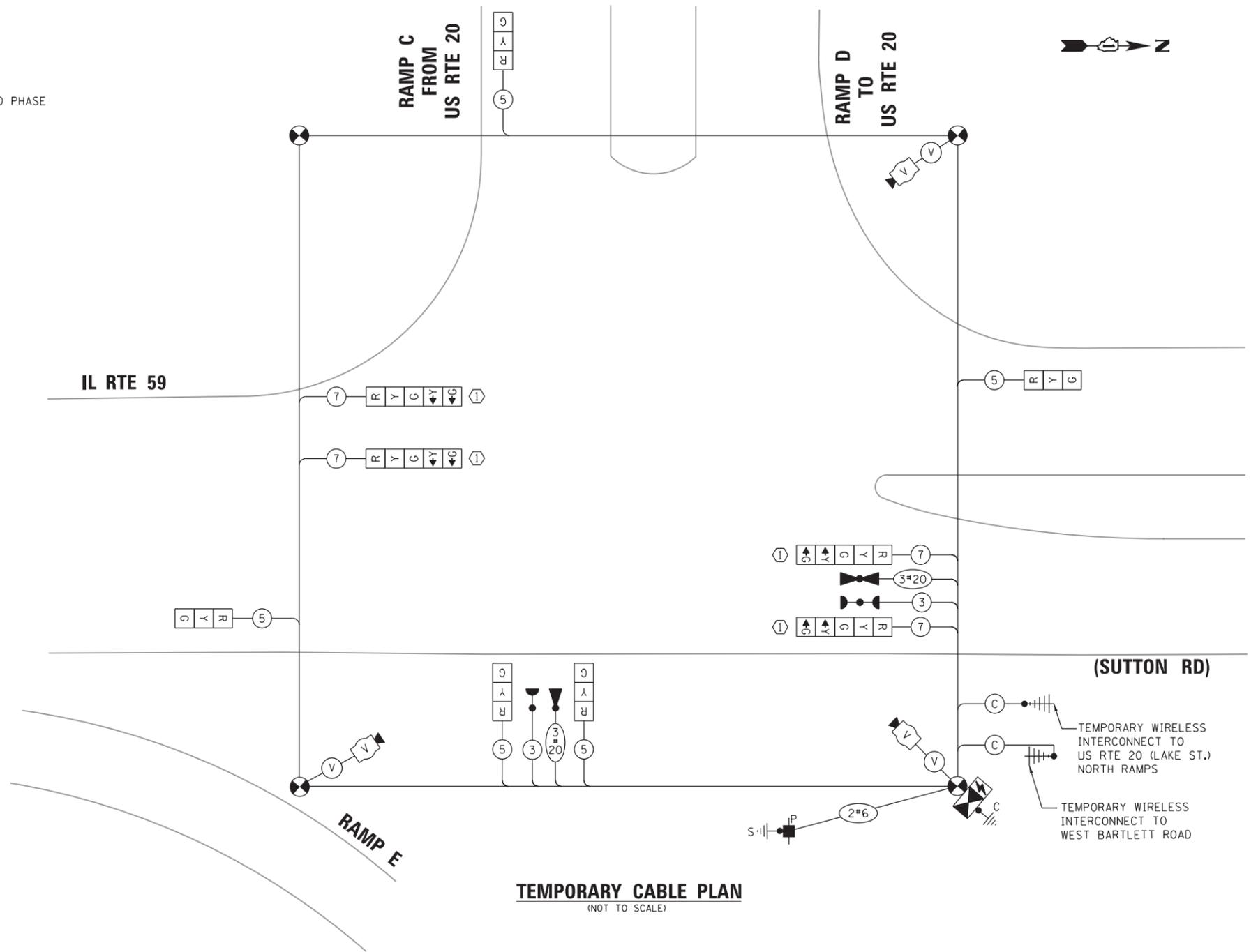


**STAGE 4  
TEMPORARY EMERGENCY VEHICLE  
PREEMPTION SEQUENCE**



**LEGEND:**

- ← ⊙ ← PROTECTED PHASE
- ← ⊙ - - PROTECTED/PERMITTED PHASE
- ← ⊙ → PEDESTRIAN PHASE
- ← ⊙ OL OVERLAP



**TEMPORARY CABLE PLAN**  
(NOT TO SCALE)

CONSTRUCTION NOTE:

- ① THE YELLOW AND GREEN ARROW SECTIONS OF THE SIGNAL HEAD SHALL BE BAGGED AND DISABLED DURING THIS STAGE.

**TRAFFIC SIGNAL  
ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	9	11	50	49.5
(YELLOW)	9	20	5	9.0
(GREEN)	9	12	45	48.6
PERMISSIVE ARROW	-	10	10	-
PED. SIGNAL	-	20	100	-
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	1	150	100	150.0
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	-	-	-
TOTAL =				382.1

ENERGY COSTS TO:

VILLAGE OF BARTLETT  
228 S MAIN STREET  
BARTLETT, IL 60103

ENERGY SUPPLY: CONTACT: VIVIANA FELICIANO  
PHONE: 630-360-0146  
COMPANY: COMED  
ACCOUNT NUMBER: 2833152008

TS SHT NO. 20

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = #USER#	DESIGNED - AS	REVISED -
PLOT SCALE = #SCALE#	DRAWN - RV/SR	REVISED -
PLOT DATE = #DATE#	CHECKED - TM	REVISED -
	DATE - 08/23/2017	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGE 4 TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION  
DIAGRAM, AND TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) SOUTH RAMPS**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	216
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

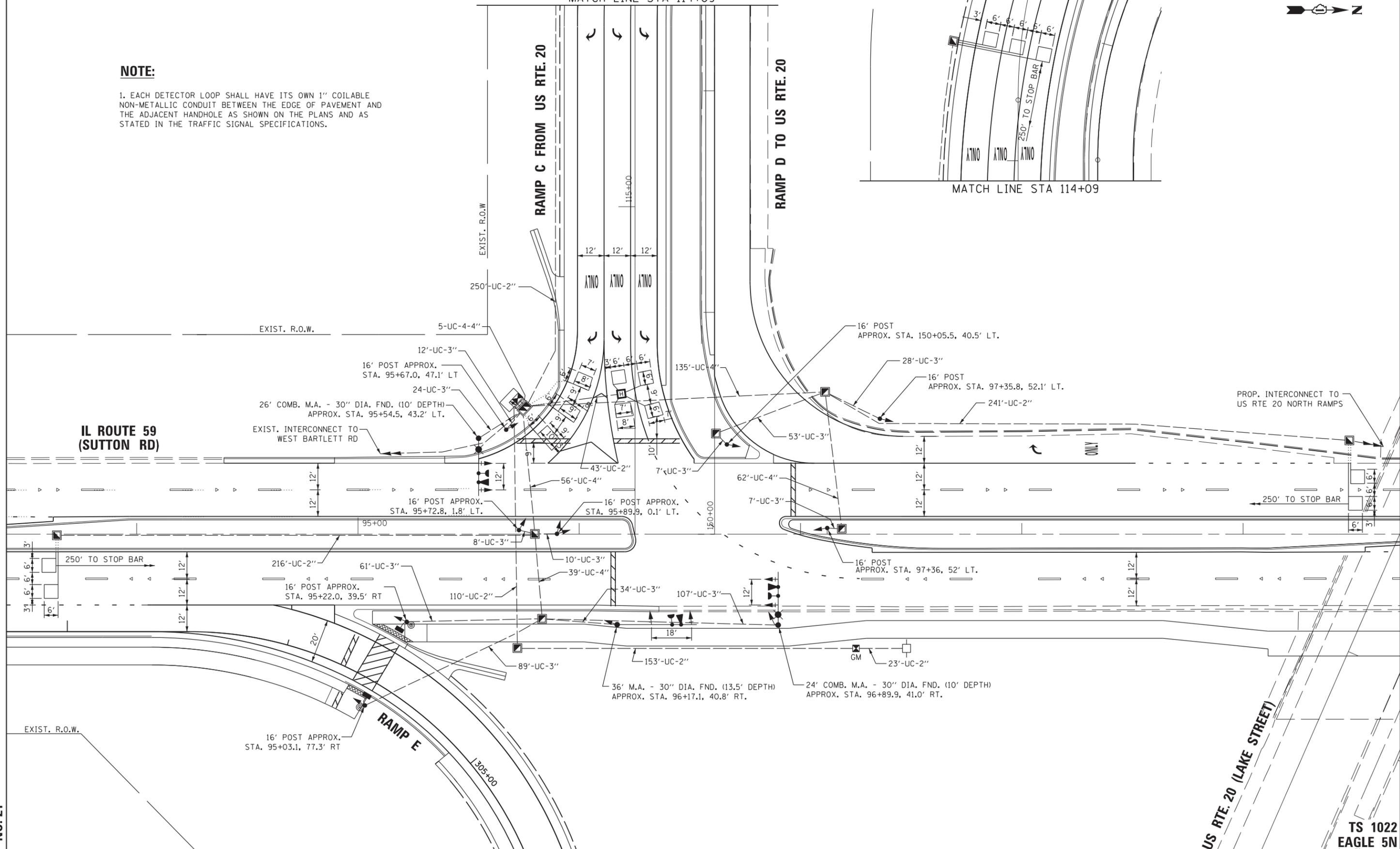
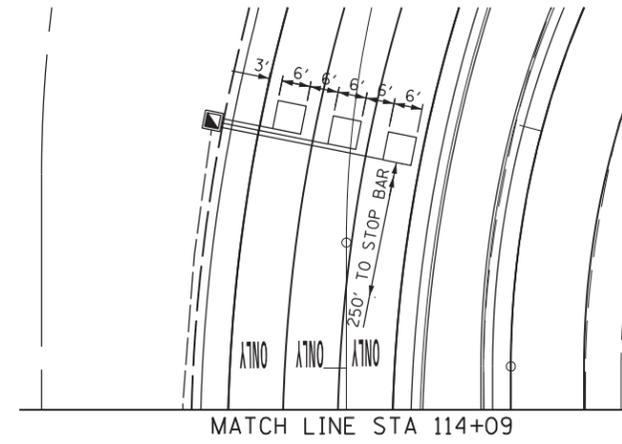
**TS 1022  
EAGLE 5N**

FILE NAME: #FILE#

**NOTE:**

1. EACH DETECTOR LOOP SHALL HAVE ITS OWN 1" COILABLE NON-METALLIC CONDUIT BETWEEN THE EDGE OF PAVEMENT AND THE ADJACENT HANDHOLE AS SHOWN ON THE PLANS AND AS STATED IN THE TRAFFIC SIGNAL SPECIFICATIONS.

MATCH LINE STA 114+09



TS SHT NO. 21

US RTE. 20 (LAKE STREET)

TS 1022  
EAGLE 57

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = *USER*	DESIGNED - AS	REVISED -
PLOT SCALE = *SCALE*	DRAWN - RV/SR	REVISED -
PLOT DATE = *DATE*	CHECKED - TM	REVISED -
	DATE - 08/23/2017	REVISED -

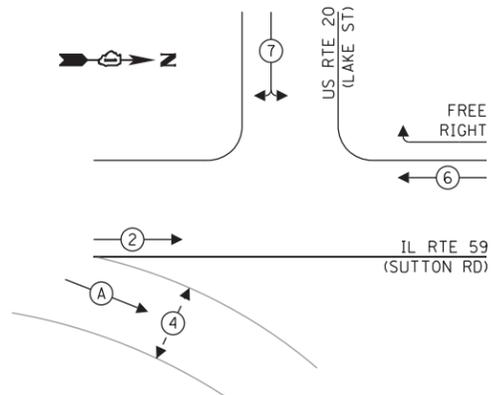
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODERNIZATION PLAN  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) SOUTH RAMPS  
SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	217
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

FILE NAME: \*FILE\*

**PROPOSED CONTROLLER SEQUENCE**



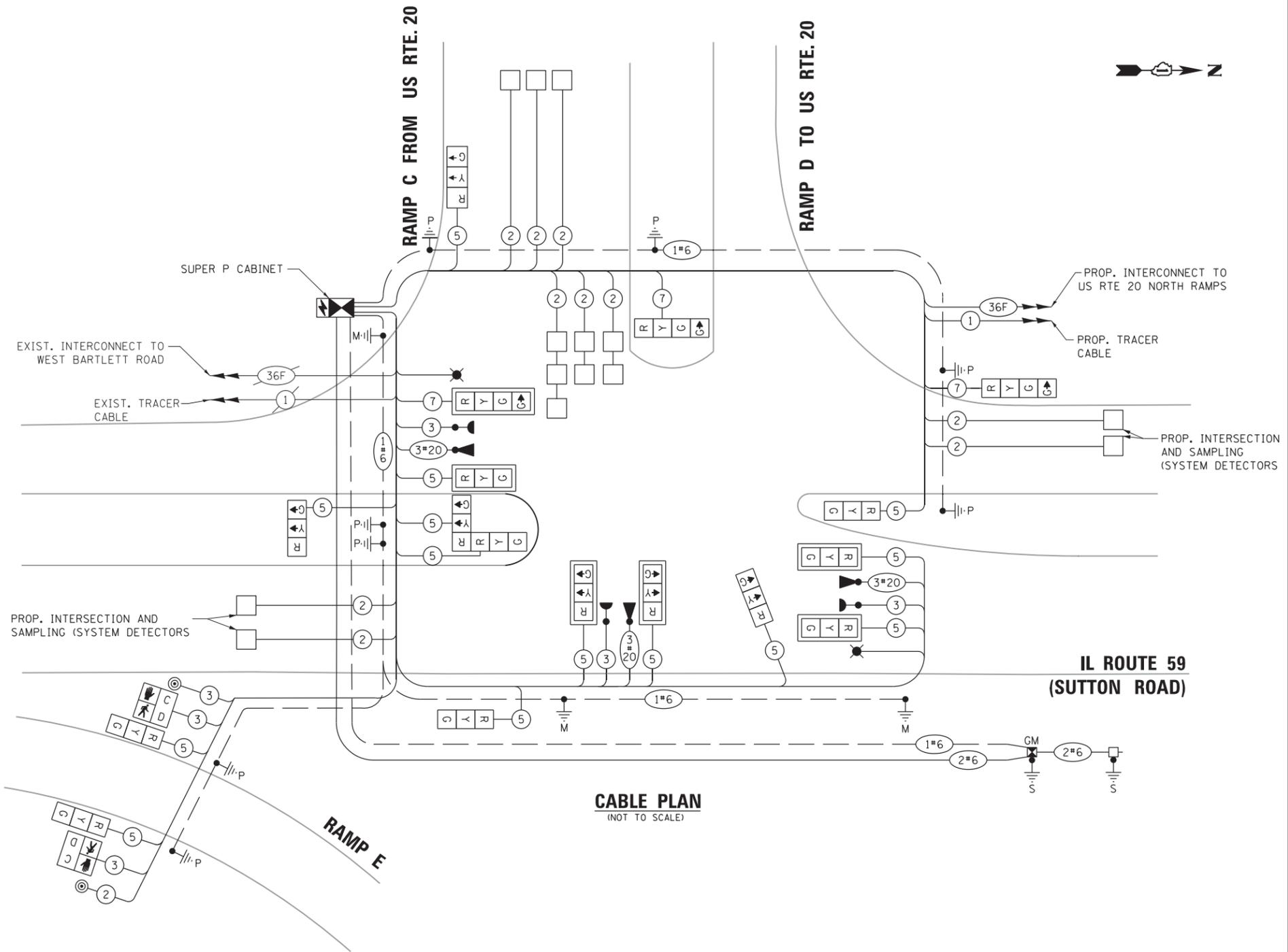
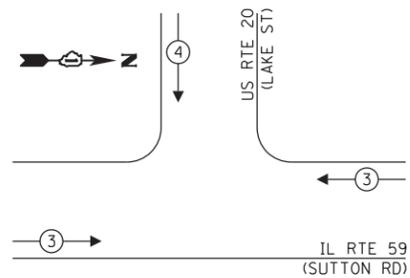
**LEGEND:**

- ⊙ — PROTECTED PHASE
- ⊙ — PROTECTED/PERMITTED PHASE
- ⊙ — PEDESTRIAN PHASE
- OL — OVERLAP

**RIGHT TURN OVERLAP PHASE DESIGNATION:**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A	2	3
.	FREE RIGHT	

**PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE**



**CABLE PLAN**  
(NOT TO SCALE)

**TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	17	11	50	93.5
(YELLOW)	17	20	5	17.0
(GREEN)	17	12	45	91.8
PERMISSIVE ARROW	3	10	100	30.0
PED. SIGNAL	2	20	100	40.0
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	-	150	100	-
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	2	285	50	285.0
TOTAL =				682.3

ENERGY COSTS TO:  
 VILLAGE OF BARTLETT  
 228 S MAIN STREET  
 BARTLETT, IL 60103  
 ENERGY SUPPLY: CONTACT: VIVIANA FELICIANO  
 PHONE: 630-360-0146  
 COMPANY: COMED  
 ACCOUNT NUMBER: 2833152008

TS SHT NO. 22

**AMES Engineering, Inc.**  
 CONSULTING ENGINEERS  
 5413 Walnut Avenue, Suite 2F  
 Downers Grove, IL 60515

DESIGNED - AS	REVISED -
DRAWN - RV/SR	REVISED -
CHECKED - TM	REVISED -
DATE - 08/23/2017	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**CABLE PLAN, PHASE DESIGNATION DIAGRAM, AND  
 EMERGENCY VEHICLE PREEMPTION SEQUENCE  
 IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) SOUTH RAMPS**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	218
CONTRACT NO. 60V57				

**TS 1022  
 EAGLE 5N**

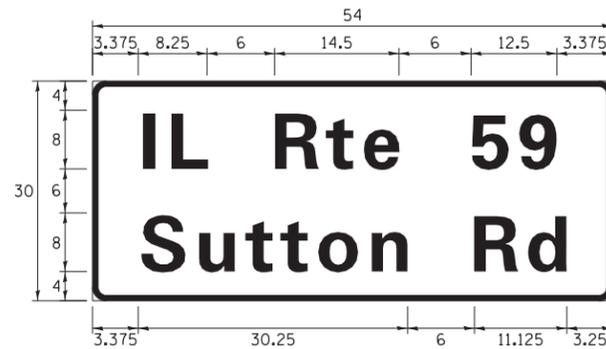
**SCHEDULE OF QUANTITIES**

ITEM DESCRIPTION	UNIT	TOTAL QTY.
SIGN PANEL - TYPE 2	SO FT	36.25
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	1,036
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	440
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	312
HANDHOLE	EACH	9
HEAVY-DUTY HANDHOLE	EACH	1
DOUBLE HANDHOLE	EACH	1
TRANSCEIVER - FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	433
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1,037
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2,609
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	293
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1,605
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	318
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	1,020
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	8
STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 24 FT.	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 26 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	36
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	33.5
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	5
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	9
SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST ARM MOUNTED	EACH	1
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	2
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	6
INDUCTIVE LOOP DETECTOR	EACH	10
DETECTOR LOOP, TYPE I	FOOT	472
* LIGHT DETECTOR	EACH	3
* LIGHT DETECTOR AMPLIFIER	EACH	1
* PEDESTRIAN PUSH-BUTTON	EACH	2
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	8
REMOVE EXISTING CONCRETE FOUNDATION	EACH	7
* EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	590
SERVICE INSTALLATION - GROUND MOUNTED, METERED	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET, SPECIAL	EACH	1
UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	1
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1

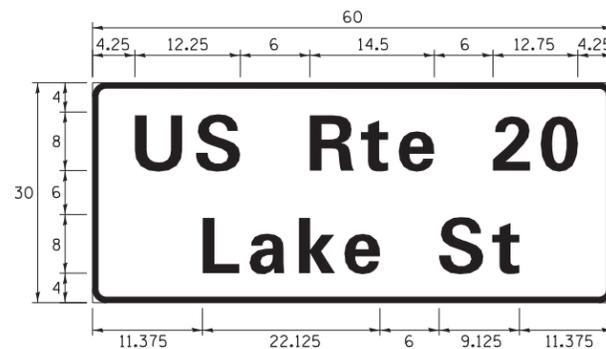
\* 100% COST TO VILLAGE OF BARTLETT

**SIGN PANEL – TYPE 1 OR TYPE 2**

ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	11.25	2	ZZ	1



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	12.5	2	ZZ	2

NOTE: FOR ADDITIONAL DESIGN AND INSTALLATION INFORMATION PLEASE SEE DISTRICT ONE MAST ARM MOUNTED STREET NAME SIGNS DETAIL.

TS SHT NO. 23

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = *USER*	DESIGNED - AS	REVISED -
	DRAWN - RV/SR	REVISED -
PLOT SCALE = *SCALE*	CHECKED - TM	REVISED -
PLOT DATE = *DATE*	DATE - 08/23/2017	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**MAST ARM MOUNTED STREET NAME SIGNS AND  
SCHEDULE OF QUANTITIES  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) SOUTH RAMPS**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-(112)	COOK	384	219
				CONTRACT NO. 60V57
ILLINOIS FED. AID PROJECT				

**TS 1022  
EAGLE 5N**

FILE NAME: \*FILE\*

**REMOVAL AND RELOCATION NOTES:**

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 1 EACH UNINTERRUPTABLE POWER SUPPLY

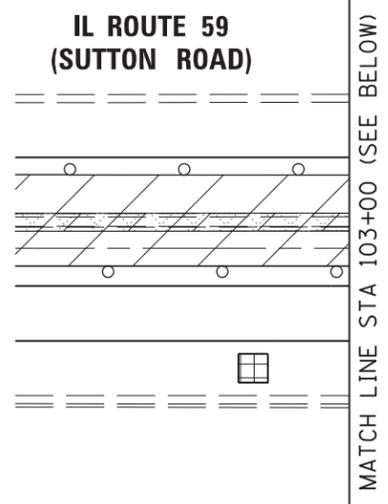
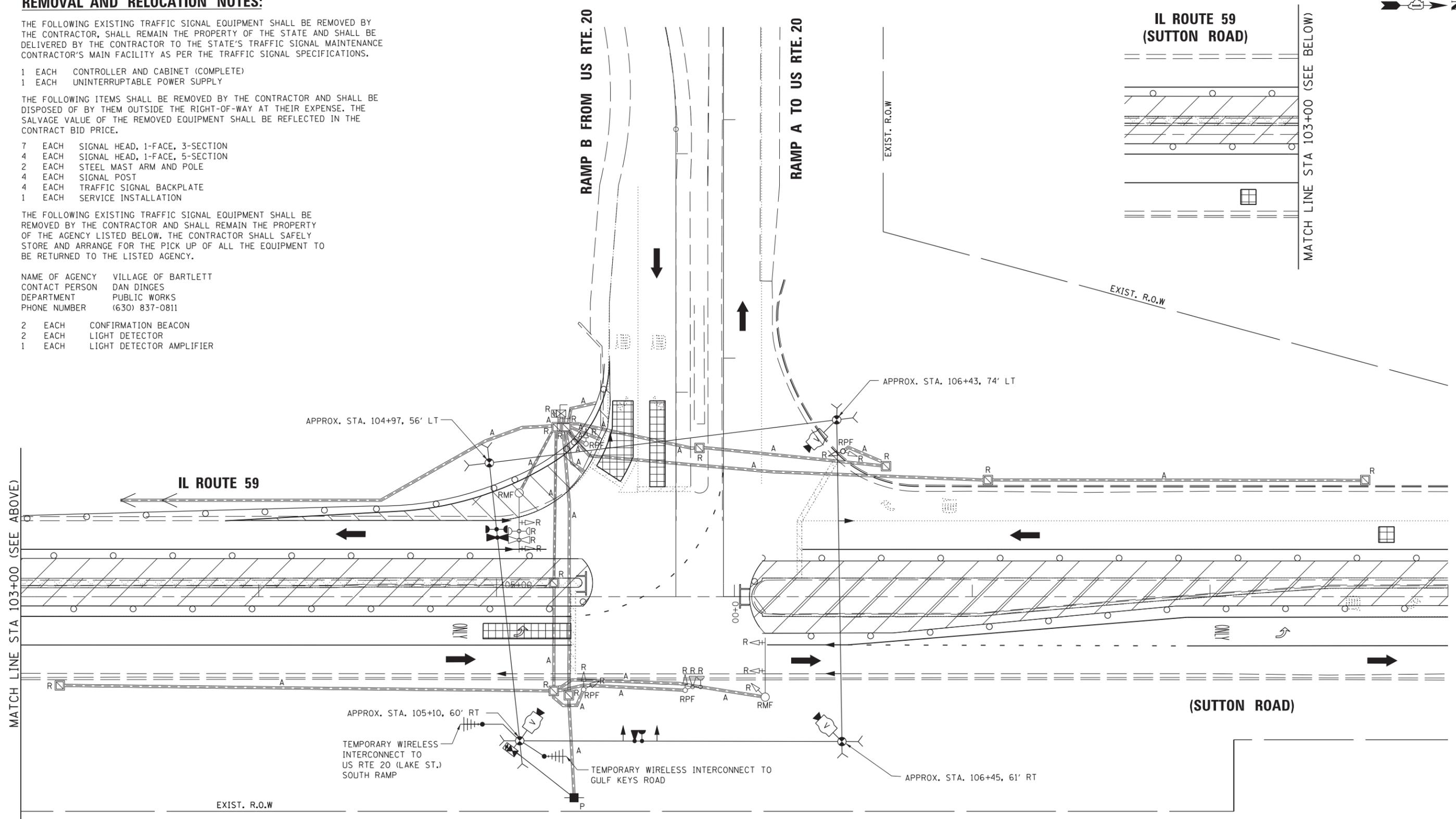
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 7 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 4 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 2 EACH STEEL MAST ARM AND POLE
- 4 EACH SIGNAL POST
- 4 EACH TRAFFIC SIGNAL BACKPLATE
- 1 EACH SERVICE INSTALLATION

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR AND SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR THE PICK UP OF ALL THE EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY.

NAME OF AGENCY VILLAGE OF BARTLETT  
 CONTACT PERSON DAN DINGES  
 DEPARTMENT PUBLIC WORKS  
 PHONE NUMBER (630) 837-0811

- 2 EACH CONFIRMATION BEACON
- 2 EACH LIGHT DETECTOR
- 1 EACH LIGHT DETECTOR AMPLIFIER



**LEGEND**

WORKZONE

TS SHT NO. 24

**TS 1022  
EAGLE 5N**

**AMES Engineering, Inc.**  
 CONSULTING ENGINEERS  
 5413 Walnut Avenue, Suite 2F  
 Downers Grove, IL 60515

USER NAME = #USER#	DESIGNED - AS	REVISED -
PLOT SCALE = #SCALE#	DRAWN - RV/SR	REVISED -
PLOT DATE = #DATE#	CHECKED - TM	REVISED -
	DATE - 08/23/2017	REVISED -

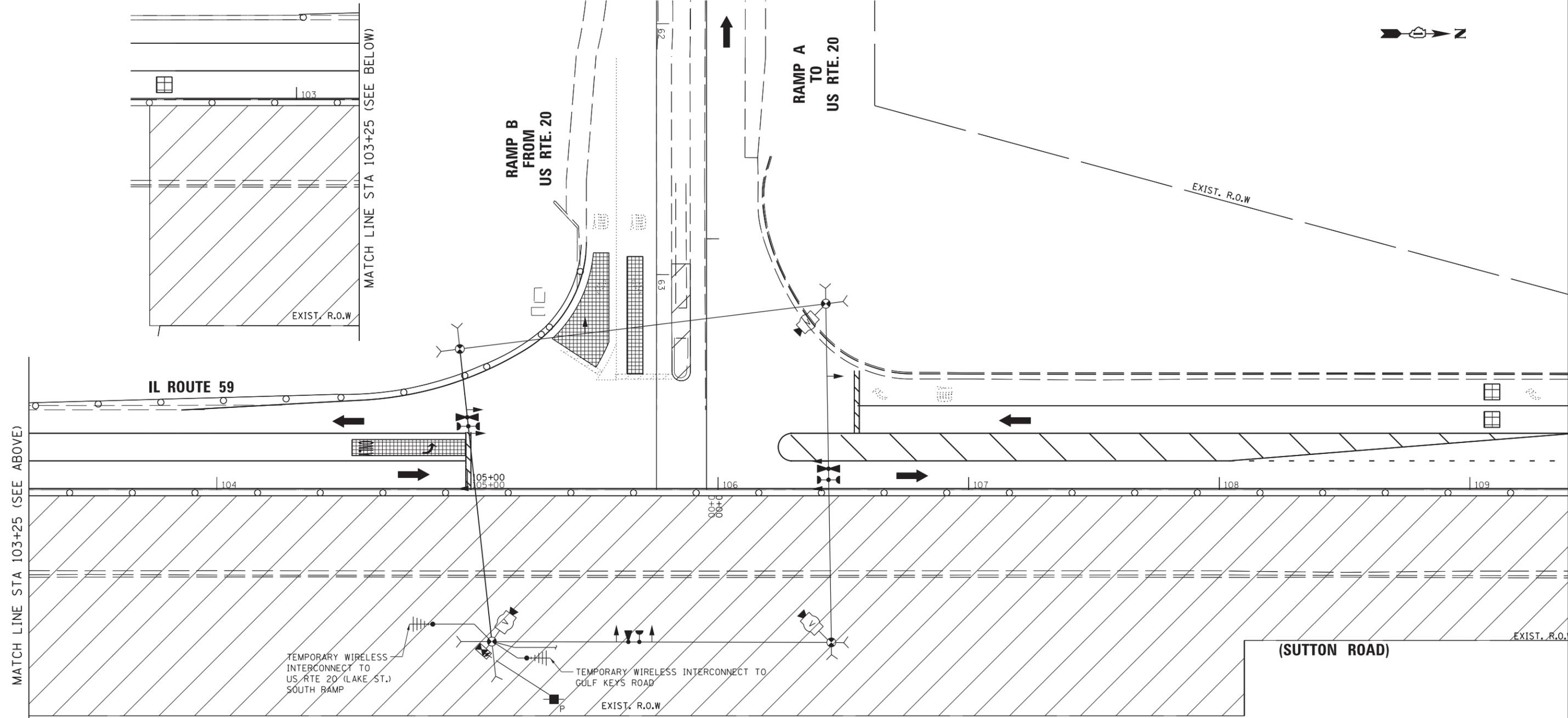
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGE 1 TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN  
AND REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) NORTH RAMPS**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	220
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

FILE NAME: #FILE#



MATCH LINE STA 103+25 (SEE ABOVE)

MATCH LINE STA 103+25 (SEE BELOW)

IL ROUTE 59

RAMP A  
TO  
US RTE. 20

RAMP B  
FROM  
US RTE. 20

TEMPORARY WIRELESS  
INTERCONNECT TO  
US RTE 20 (LAKE ST.)  
SOUTH RAMP

TEMPORARY WIRELESS INTERCONNECT TO  
GULF KEYS ROAD

(SUTTON ROAD)

TS SHT NO. 25

TS 1022  
EAGLE 5N

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = #USER#	DESIGNED - AS	REVISED -
	DRAWN - RV/SR	REVISED -
PLOT SCALE = #SCALE#	CHECKED - TM	REVISED -
PLOT DATE = #DATE#	DATE - 08/23/2017	REVISED -

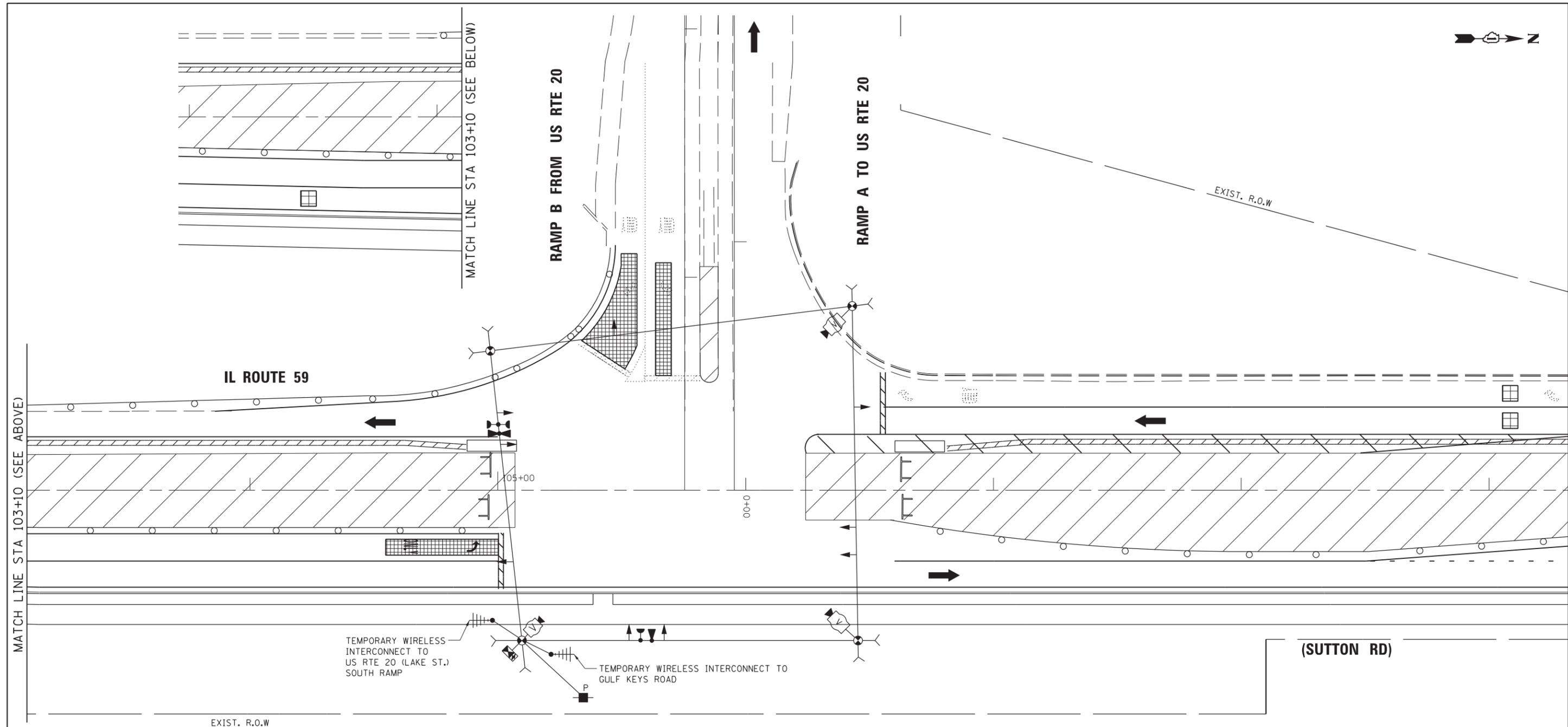
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STAGE 2 TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) NORTH RAMPS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	221
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

FILE NAME: #FILE#

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.



TS SHT NO. 26

TS 1022  
EAGLE 5N

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = *USER*	DESIGNED - AS	REVISED -
DRAWN - RV/SR	CHECKED - TM	REVISED -
PLOT SCALE = *SCALE*	DATE - 08/23/2017	REVISED -
PLOT DATE = *DATE*		

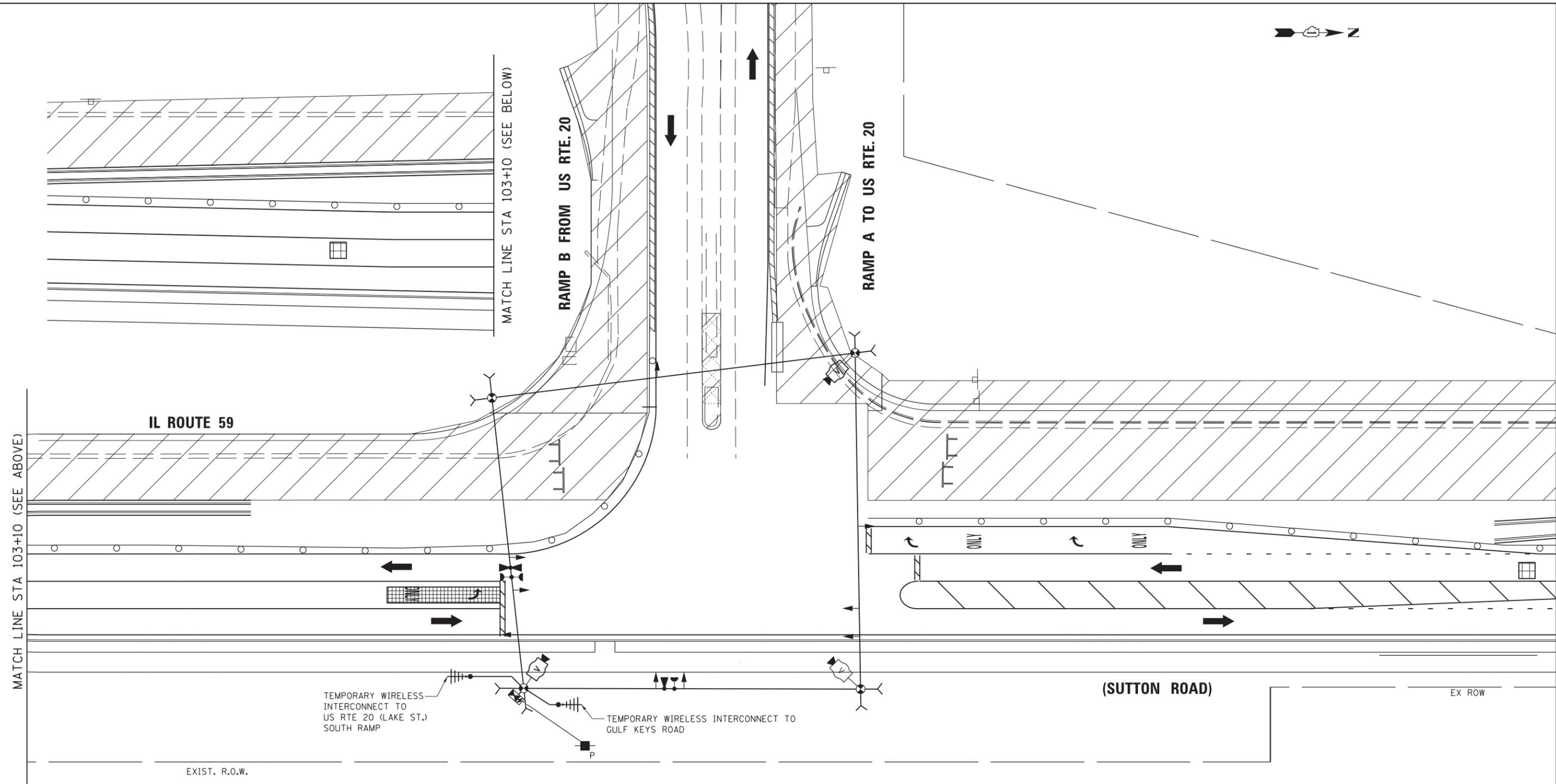
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGE 2A TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) NORTH RAMPS**

SCALE: 1"=50'    SHEET    OF    SHEETS    STA.    TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	222
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

FILE NAME: \*FILE\*



TS SHT NO. 27

**AMES Engineering, Inc.**  
 CONSULTING ENGINEERS  
 5413 Walnut Avenue, Suite 2F  
 Downers Grove, IL 60515

USER NAME = #USER*	DESIGNED - AS	REVISED -
PLOT SCALE = #SCALE*	DRAWN - RV/SR	REVISED -
PLOT DATE = #DATE*	CHECKED - TM	REVISED -
	DATE - 08/23/2017	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**STAGE 3 TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN  
 IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) NORTH RAMPS**

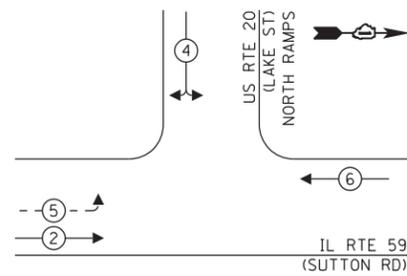
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	223
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

FILE NAME: #FILE#

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

**TS 1022  
 EAGLE 5N**

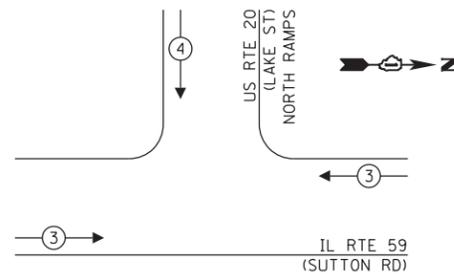
**STAGES 1, 2, 2A & 3  
TEMPORARY CONTROLLER SEQUENCE**



**LEGEND:**

- ⊙\* PROTECTED PHASE
- ⊙\*- PROTECTED/PERMITTED PHASE
- ⊙\* PEDESTRIAN PHASE
- ⊙\* OL OVERLAP

**STAGES 1, 2, 2A & 3  
TEMPORARY EMERGENCY VEHICLE  
PREEMPTION SEQUENCE**



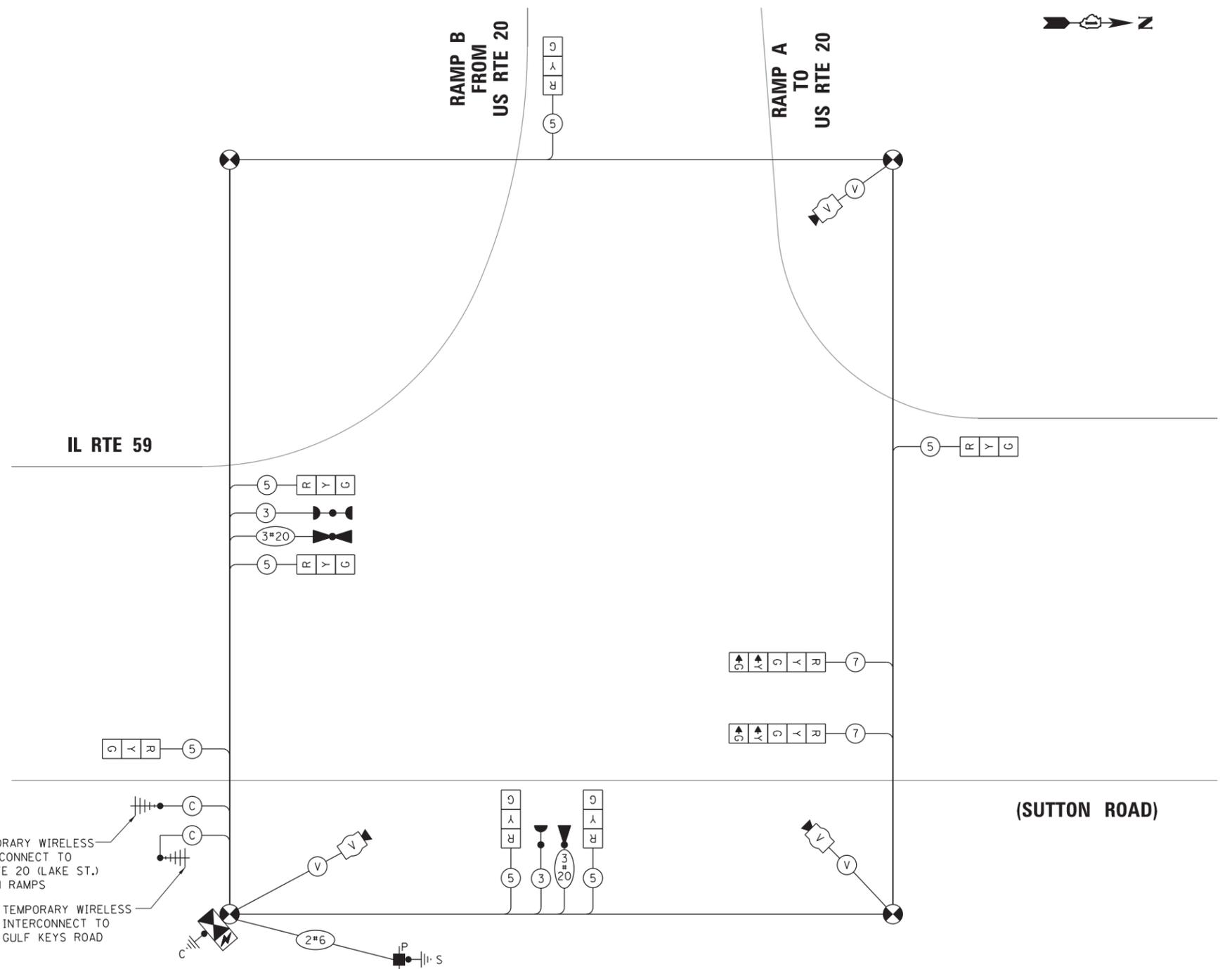
**TRAFFIC SIGNAL  
ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	9	11	50	49.5
(YELLOW)	9	20	5	9.0
(GREEN)	9	12	45	48.6
PERMISSIVE ARROW	4	10	10	4.0
PED. SIGNAL	-	20	100	-
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	1	150	100	150.0
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	-	-	-
TOTAL =				386.1

ENERGY COSTS TO:

VILLAGE OF BARTLETT  
228 S MAIN STREET  
BARTLETT, IL 60103

ENERGY SUPPLY: CONTACT: VIVIANA FELICIANO  
PHONE: 630-360-0146  
COMPANY: COMED  
ACCOUNT NUMBER: 0403114090



**TEMPORARY CABLE PLAN**  
(NOT TO SCALE)

TS SHT NO. 28

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = #USER\*  
DRAWN - RV/SR  
CHECKED - TM  
DATE - 08/23/2017

DESIGNED - AS  
REVISOR -  
REVISOR -  
REVISOR -  
REVISOR -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGES 1, 2, 2A, & 3 TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION  
DIAGRAM, AND TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) NORTH RAMPS**

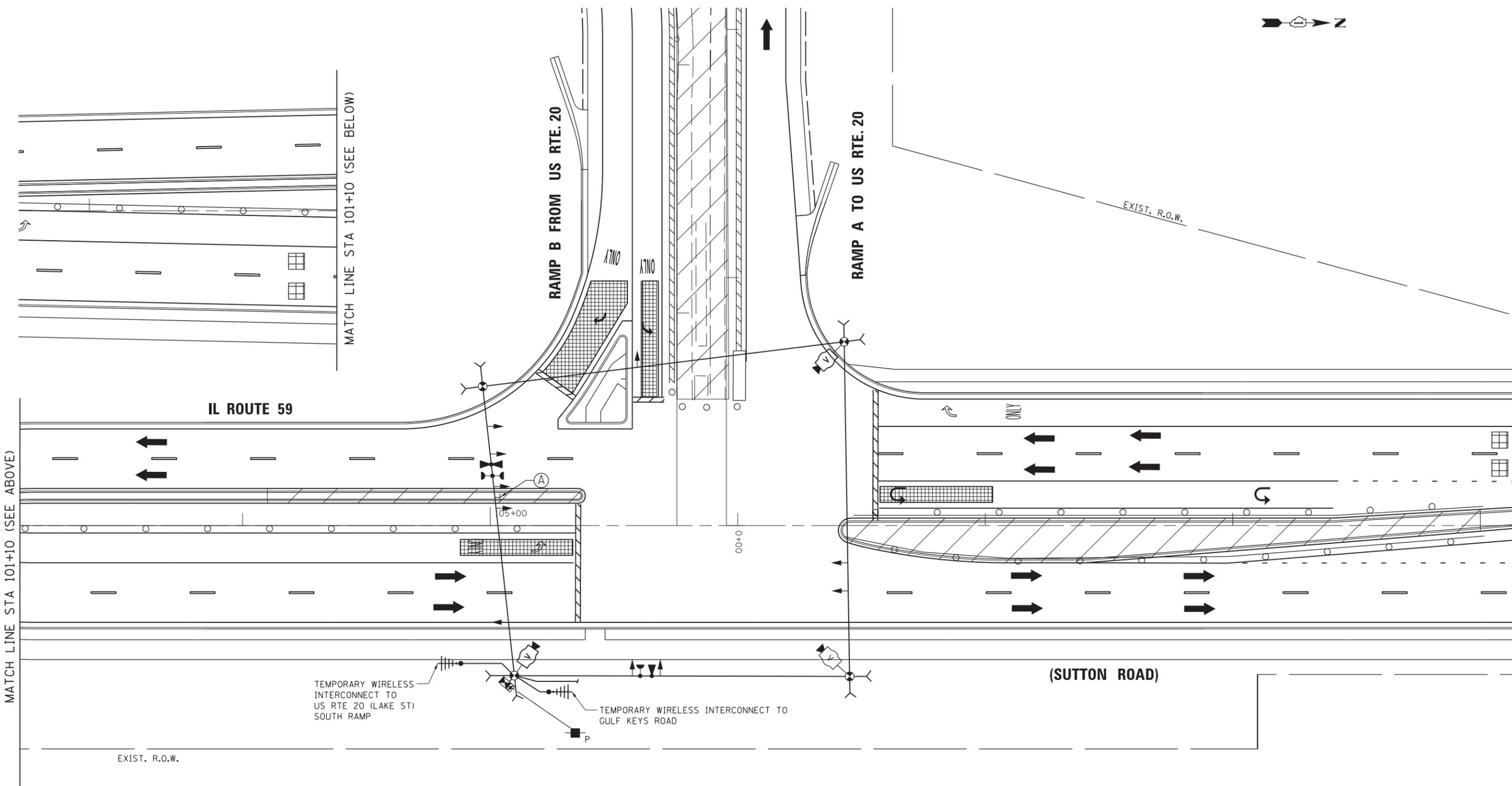
SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	224
CONTRACT NO. 60V57				

**TS 1022  
EAGLE 5N**

(SUTTON ROAD)





30"x36"  
SIGN PANEL - TYPE 1  
1 REQUIRED

TS SHT NO. 29

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = *USER*	DESIGNED - AS	REVISED -
PLOT SCALE = *SCALE*	DRAWN - RV/SR	REVISED -
PLOT DATE = *DATE*	CHECKED - TM	REVISED -
	DATE - 08/23/2017	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGE 4 TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) NORTH RAMPS**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	225
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

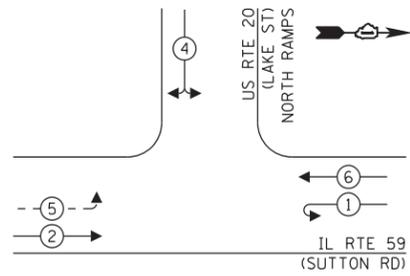
**TS 1022  
EAGLE 5N**

FILE NAME: \*FILE\*

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.



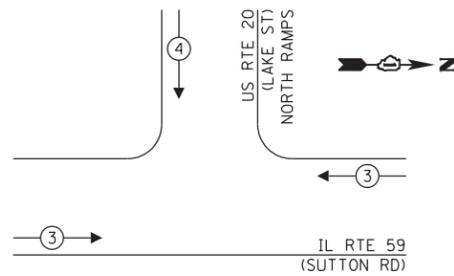
**STAGE 4  
TEMPORARY CONTROLLER SEQUENCE**



**LEGEND:**

- ← \* → PROTECTED PHASE
- ← \* - - PROTECTED/PERMITTED PHASE
- ← \* → PEDESTRIAN PHASE
- ← \* OL → OVERLAP

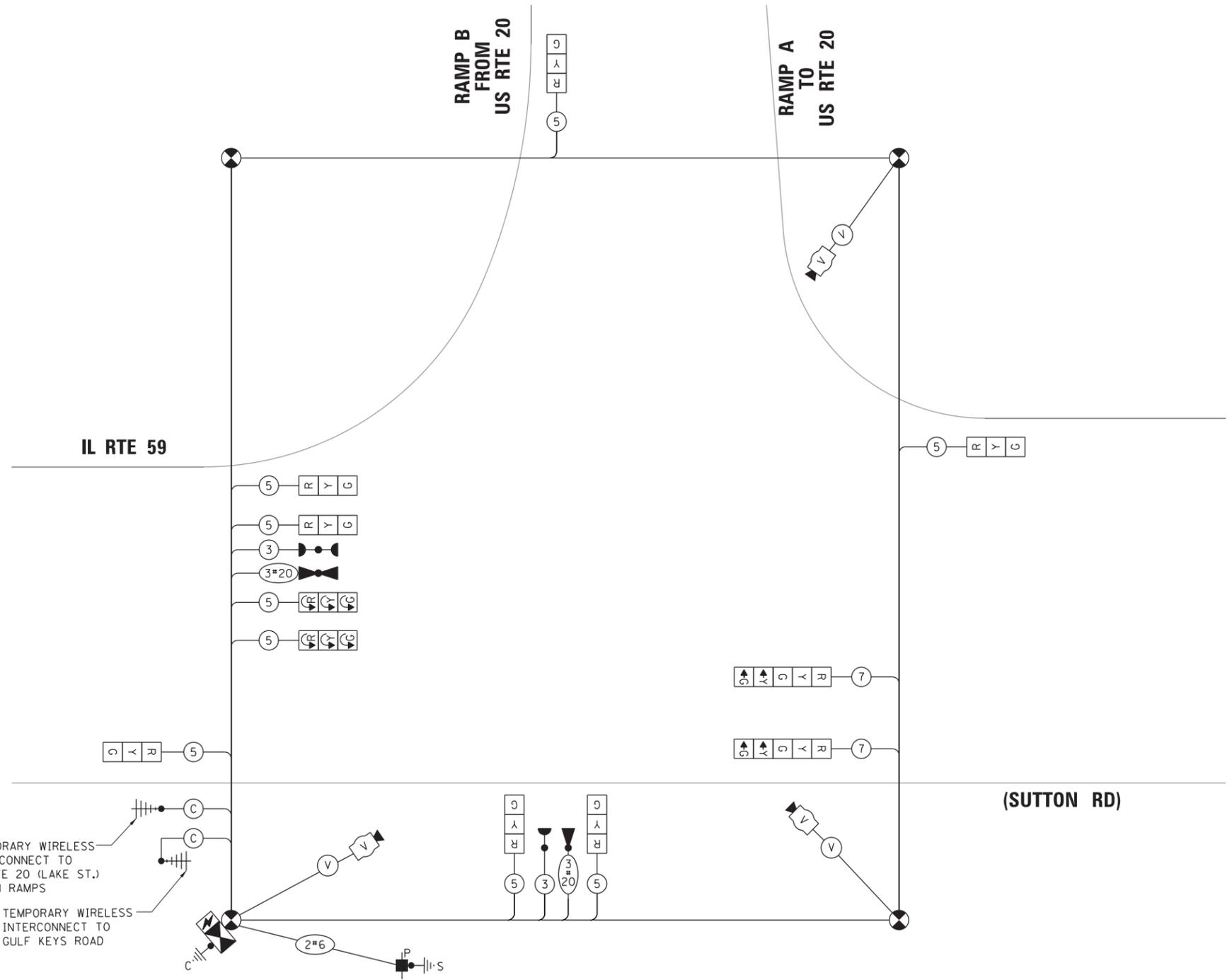
**STAGE 4  
TEMPORARY EMERGENCY VEHICLE  
PREEMPTION SEQUENCE**



**TRAFFIC SIGNAL  
ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	11	11	50	60.5
(YELLOW)	11	20	5	11.0
(GREEN)	11	12	45	59.4
PERMISSIVE ARROW	4	10	100	40.0
PED. SIGNAL	-	20	100	-
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	1	150	100	150.0
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	-	-	-
TOTAL =				445.9

ENERGY COSTS TO:  
VILLAGE OF BARTLETT  
228 S MAIN STREET  
BARTLETT, IL 60103  
ENERGY SUPPLY: CONTACT: VIVIANA FELICIANO  
PHONE: 630-360-0146  
COMPANY: COMED  
ACCOUNT NUMBER: 0403114090



**TEMPORARY CABLE PLAN**  
(NOT TO SCALE)

TS SHT NO. 30

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = #USER#	DESIGNED - AS	REVISED -
PLOT SCALE = #SCALE#	DRAWN - RV/SR	REVISED -
PLOT DATE = #DATE#	CHECKED - TM	REVISED -
	DATE - 08/23/2017	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGE 4 TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION  
DIAGRAM, AND TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) NORTH RAMPS**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	226
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**TS 1022  
EAGLE 5N**

MATCH LINE STA 61+43

(A)

LEFT ON GREEN  
ARROW ONLY

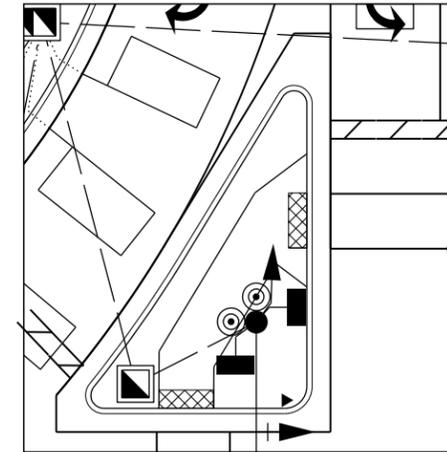
R10-5  
30"X36"  
SIGN PANEL - TYPE 1  
2 REQUIRED

(B)

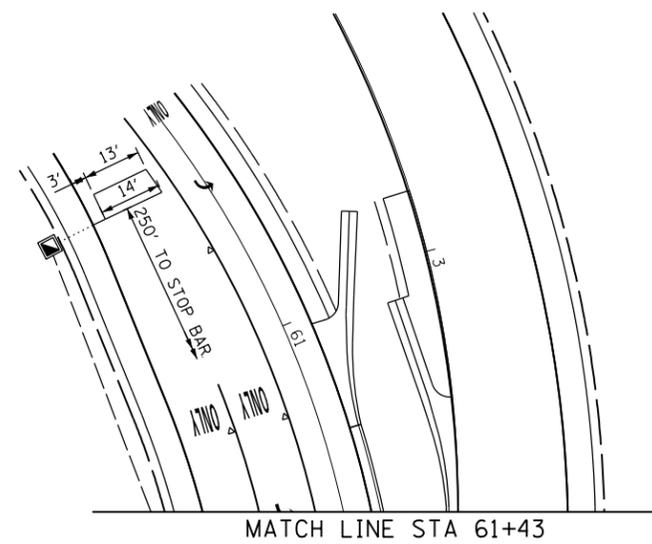
U-TURN  
ON GREEN  
ARROW ONLY

30"X36"  
SIGN PANEL - TYPE 1  
2 REQUIRED

EXIST. R.O.W.



ISLAND DETAIL (1" = 10')



MATCH LINE STA 61+43

RAMP B FROM  
US RTE 20 WB

RAMP A TO  
US RTE 20 WB

IL ROUTE 59  
(SUTTON ROAD)

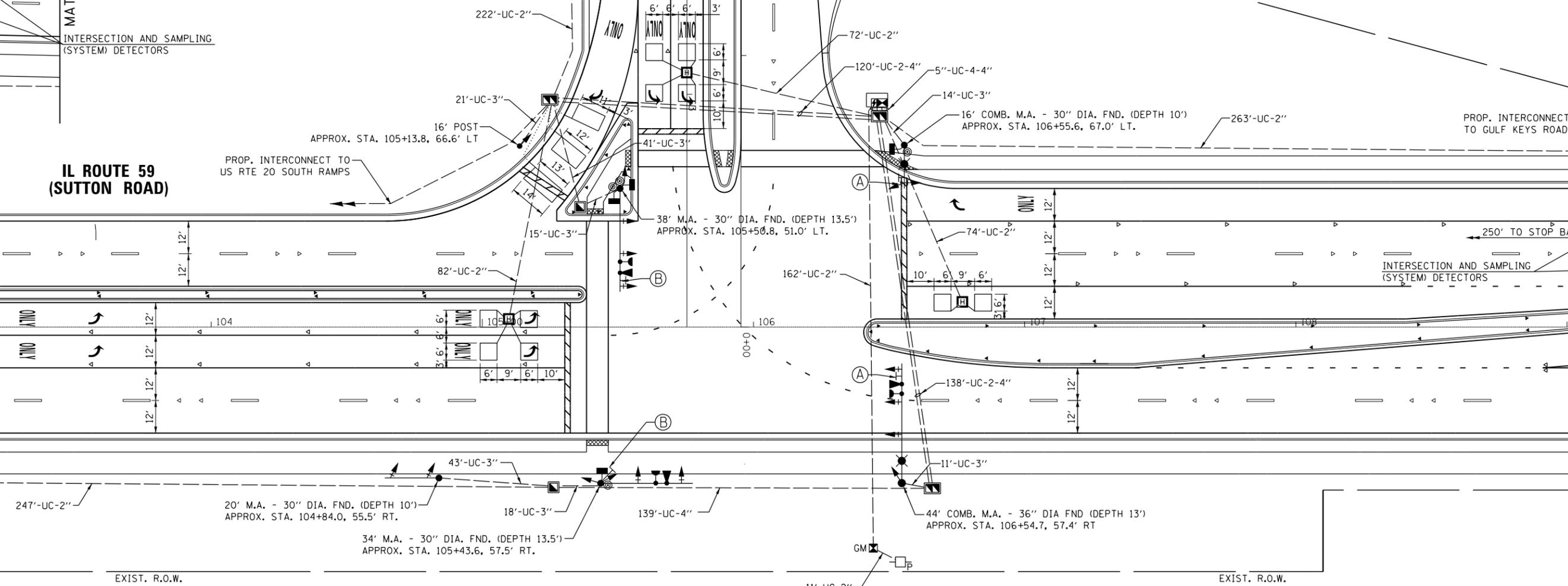
MATCH LINE STA 103+05

INTERSECTION AND SAMPLING  
(SYSTEM) DETECTORS

PROP. INTERCONNECT TO  
US RTE 20 SOUTH RAMPS

PROP. INTERCONNECT  
TO GULF KEYS ROAD

INTERSECTION AND SAMPLING  
(SYSTEM) DETECTORS



EXIST. R.O.W.

EXIST. R.O.W.

**NOTE:**

1. EACH DETECTOR LOOP SHALL HAVE ITS OWN 1" COILABLE NON-METALLIC CONDUIT BETWEEN THE EDGE OF PAVEMENT AND THE ADJACENT HANDHOLE AS SHOWN ON THE PLANS AND AS STATED IN THE TRAFFIC SIGNAL SPECIFICATIONS.

TS SHT NO. 31

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = S.Rahman  
DESIGNED - AS  
DRAWN - RV/SR  
CHECKED - TM  
DATE - 08/23/2017

DESIGNED - AS  
DRAWN - RV/SR  
CHECKED - TM  
DATE - 08/23/2017

REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODERNIZATION PLAN  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) NORTH RAMPS

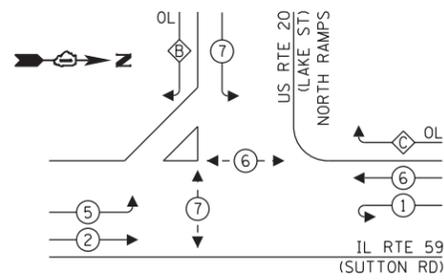
SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	227
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

TS 1022  
EAGLE 5N

FILE NAME: #FILE#

**PROPOSED CONTROLLER SEQUENCE**



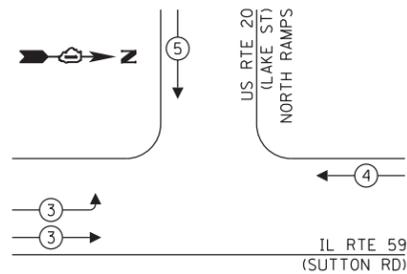
**LEGEND:**

- ← ⊙ ← PROTECTED PHASE
- ← ⊙ - PROTECTED/PERMITTED PHASE
- ← ⊙ → PEDESTRIAN PHASE
- ← ⊙ OL OVERLAP

**RIGHT TURN OVERLAP PHASE DESIGNATION:**

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B	7	5
C	6	7

**PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE**



**TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	17	11	50	93.5
(YELLOW)	17	20	5	17.0
(GREEN)	17	12	45	91.8
PERMISSIVE ARROW	14	10	10	14.0
PED. SIGNAL	4	20	100	40.0
CONTROLLER	1	100	100	100.0
UPS	1	25	100	25.0
VIDEO SYSTEM	-	150	100	-
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	2	285	50	285.0
TOTAL =				666.3

ENERGY COSTS TO:

VILLAGE OF BARTLETT  
228 S MAIN STREET  
BARTLETT, IL 60103

ENERGY SUPPLY: CONTACT: VIVIANA FELICIANO  
PHONE: 630-360-0146  
COMPANY: COMED  
ACCOUNT NUMBER: 0403114090

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

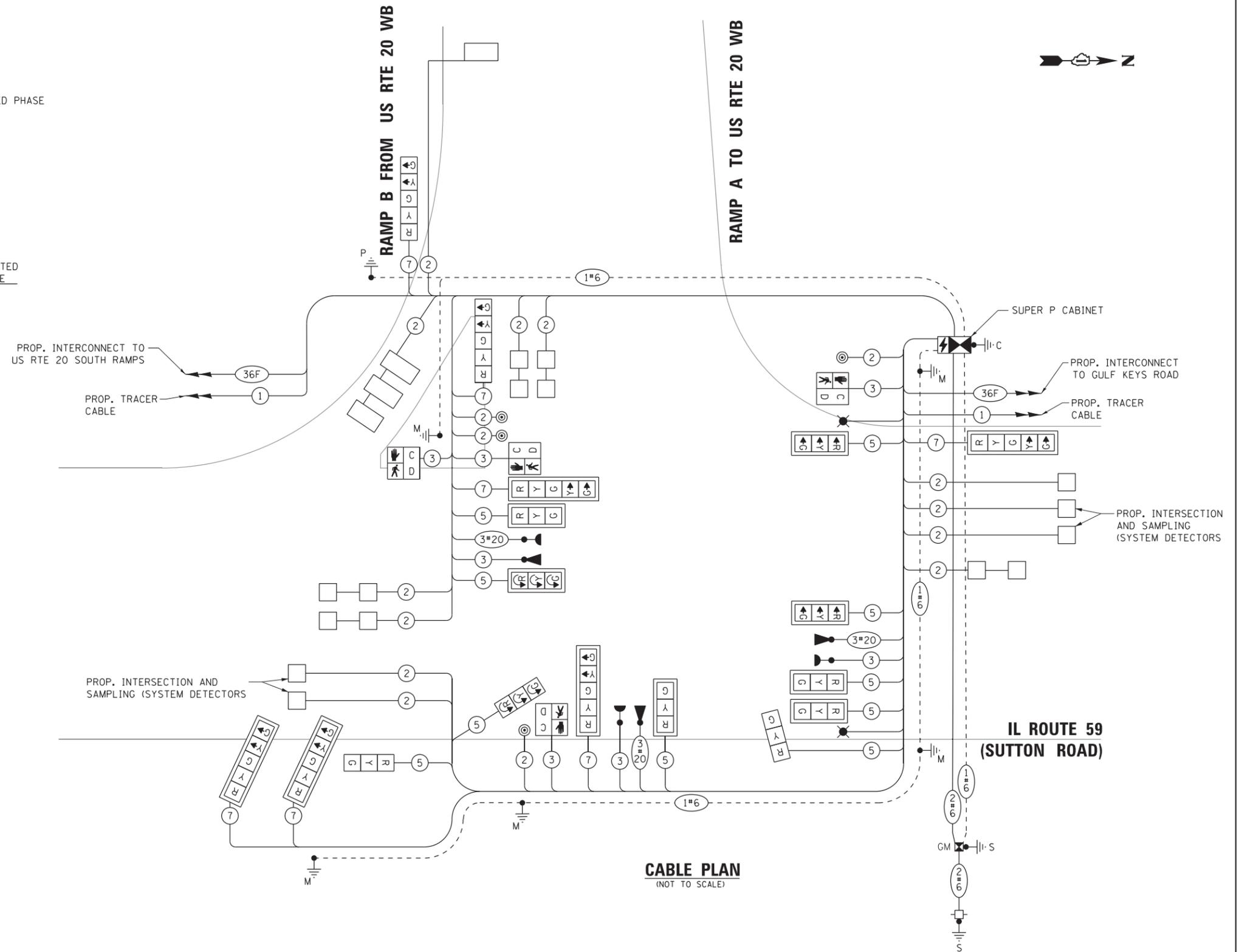
DESIGNED - AS	REVISED -
DRAWN - RV/SR	REVISED -
CHECKED - TM	REVISED -
DATE - 08/23/2017	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**CABLE PLAN, PHASE DESIGNATION DIAGRAM,  
AND EMERGENCY VEHICLE PREEMPTION SEQUENCE  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) NORTH RAMPS**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	228
CONTRACT NO. 60V57				

**CABLE PLAN**  
(NOT TO SCALE)



TS SHT NO. 32

TS 1022  
EAGLE 5N

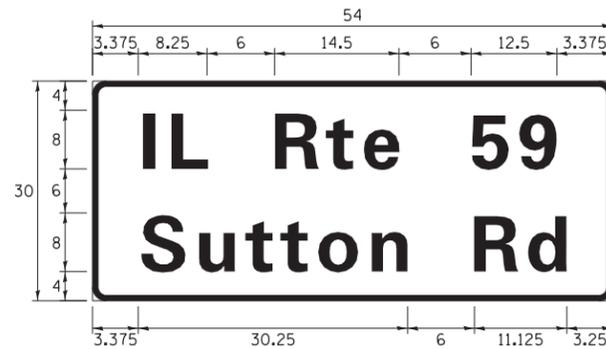
**SCHEDULE OF QUANTITIES**

ITEM DESCRIPTION	UNIT	TOTAL QTY.
SIGN PANEL - TYPE 1	SQ FT	15
SIGN PANEL - TYPE 2	SQ FT	36.25
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	1,133
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	163
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	675
HANDHOLE	EACH	5
HEAVY-DUTY HANDHOLE	EACH	3
DOUBLE HANDHOLE	EACH	3
TRANSCEIVER - FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	854
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1,774
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2,645
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1,932
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	3,056
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	196
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	814
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 20 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 16 FT.	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 44 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	8
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	47
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	13
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	7
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	5
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	12
INDUCTIVE LOOP DETECTOR	EACH	12
DETECTOR LOOP, TYPE I	FOOT	627
* LIGHT DETECTOR	EACH	3
* LIGHT DETECTOR AMPLIFIER	EACH	1
PEDESTRIAN PUSH-BUTTON	EACH	4
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	9
REMOVE EXISTING CONCRETE FOUNDATION	EACH	7
* EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	893
FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET (SPECIAL)	EACH	1
SERVICE INSTALLATION - GROUND MOUNTED, METERED	EACH	1
UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	1
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1

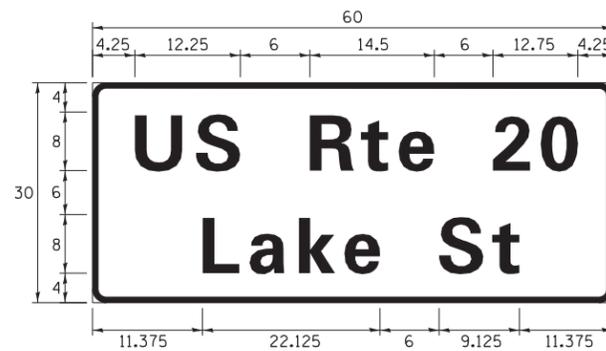
\*100% COST TO VILLAGE OF BARTLETT

**SIGN PANEL – TYPE 1 OR TYPE 2**

ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	11.25	2	ZZ	1



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	12.5	2	ZZ	2

NOTE: FOR ADDITIONAL DESIGN AND INSTALLATION INFORMATION PLEASE SEE DISTRICT ONE MAST ARM MOUNTED STREET NAME SIGNS DETAIL.

TS SHT NO. 33

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = #USER#	DESIGNED - AS	REVISED -
PLOT SCALE = #SCALE#	DRAWN - RV/SR	REVISED -
PLOT DATE = #DATE#	CHECKED - TM	REVISED -
	DATE - 08/23/2017	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

MAST ARM MOUNTED STREET NAME SIGNS AND  
SCHEDULE OF QUANTITIES  
IL RTE 59 (SUTTON RD) AT US RTE 20 (LAKE ST) NORTH RAMPS

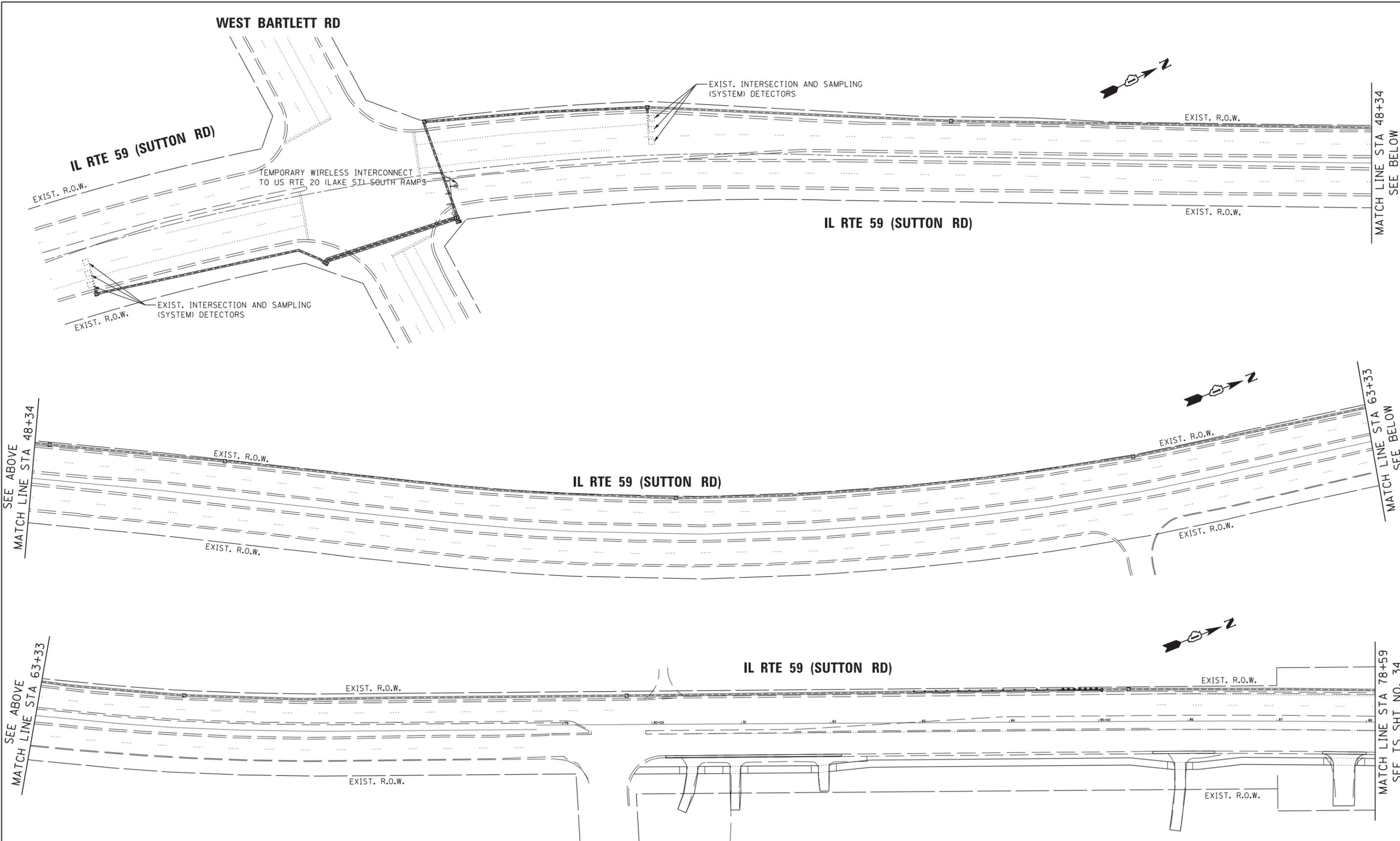
SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	229
			CONTRACT NO. 60V57	
ILLINOIS FED. AID PROJECT				

TS 1022  
EAGLE 5N

FILE NAME: #FILE#

TS SHT NO. 34



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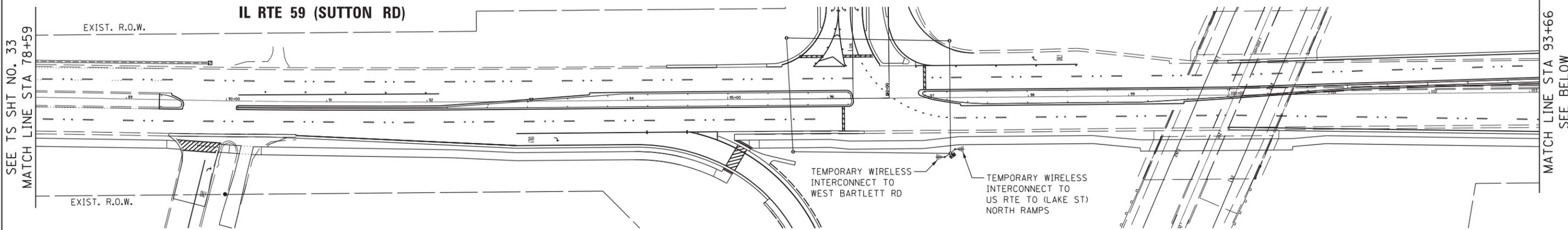
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**TEMPORARY INTERCONNECT PLAN (SHEET 1 OF 2)**  
**IL RTE 59 (SUTTON RD) -**  
**WEST BARTLETT RD TO GULF KEYS RD**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	230
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**EAGLE 5N**

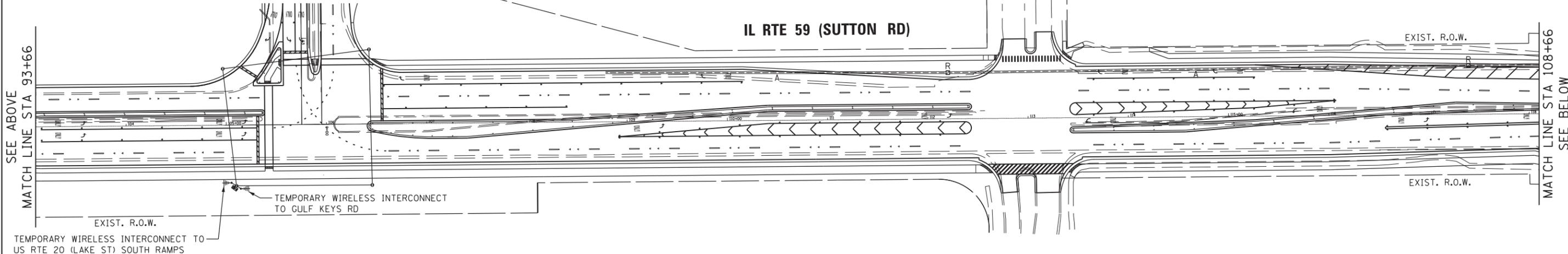
**US RTE. 20  
(LAKE ST) SOUTH RAMPS**



SEE TS SHT NO. 33  
MATCH LINE STA 78+59

MATCH LINE STA 93+66  
SEE BELOW

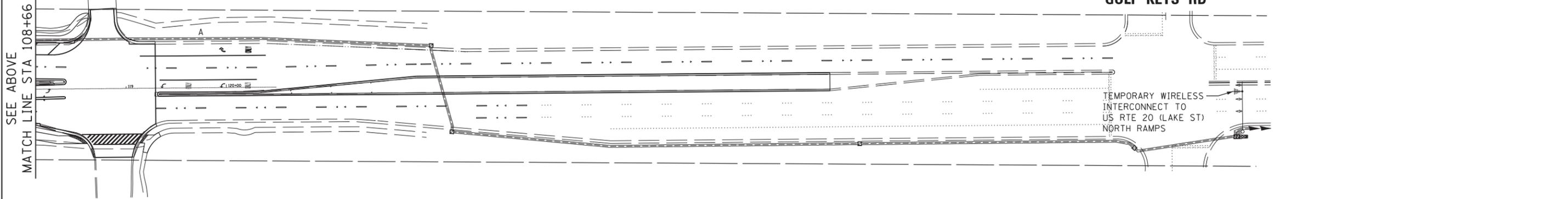
**US RTE. 20  
(LAKE ST) NORTH RAMPS**



SEE ABOVE  
MATCH LINE STA 93+66

MATCH LINE STA 108+66  
SEE BELOW

**IL RTE 59 (SUTTON RD)**



SEE ABOVE  
MATCH LINE STA 108+66

TS SHT NO. 35

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
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Downers Grove, IL 60515

USER NAME = #USER#	DESIGNED - AS	REVISED -
DRAWN - RV/SR	CHECKED - TM	REVISED -
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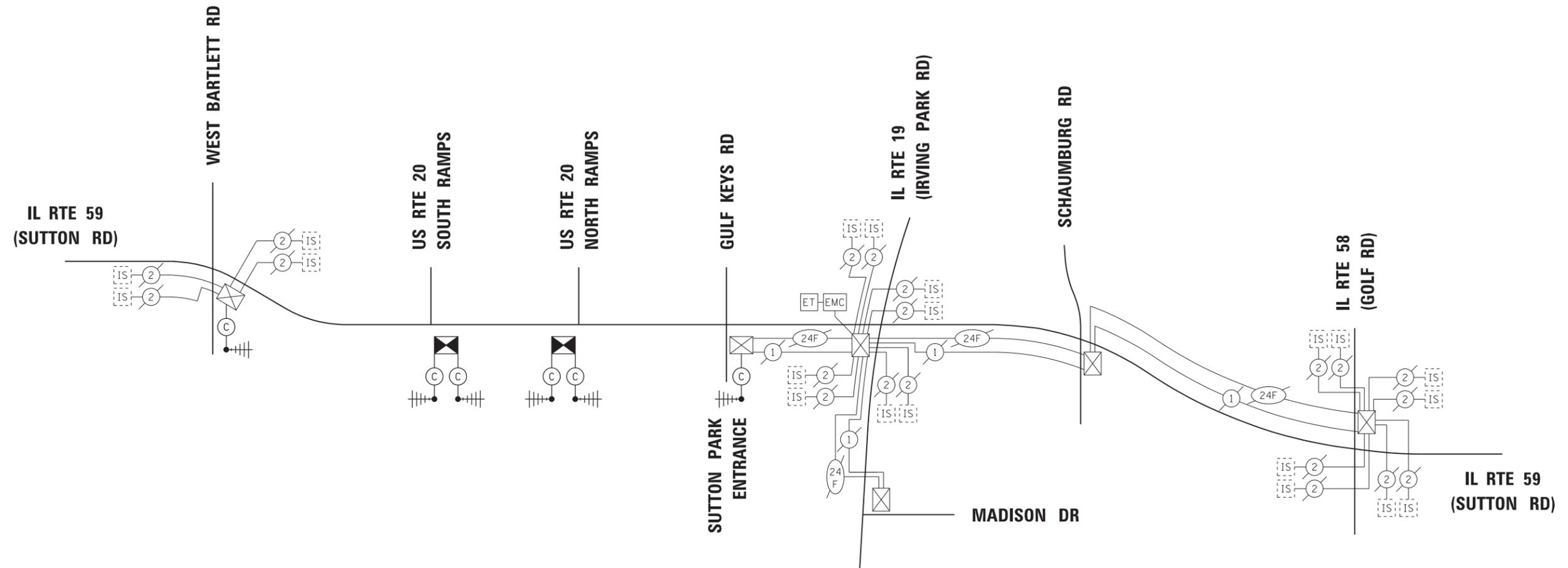
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY INTERCONNECT PLAN (SHEET 2 OF 2)  
IL RTE 59 (SUTTON RD) -  
WEST BARTLETT RD TO GULF KEYS RD**

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	231
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**EAGLE 5N**



TS SHT NO. 36

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = *USER*	DESIGNED - AS	REVISED -
DRAWN - RV/SR	CHECKED - TM	REVISED -
PLOT SCALE = *SCALE*	DATE - 08/23/2017	REVISED -
PLOT DATE = *DATE*		

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

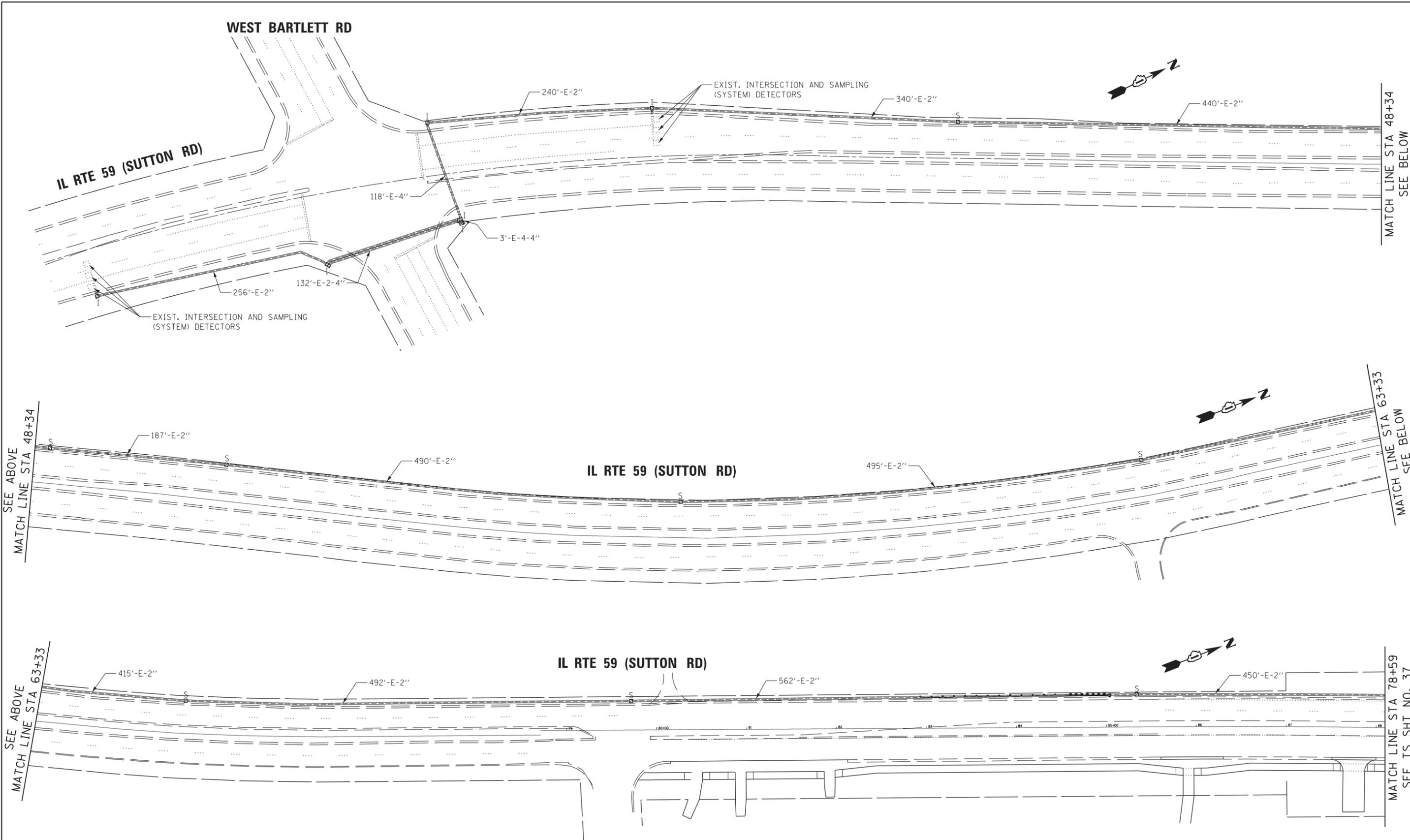
**TEMPORARY INTERCONNECT SCHEMATIC  
IL 59 (SUTTON RD) -  
WEST BARTLETT RD TO IL RTE 58 (GOLF RD)**

SCALE: N.T.S. SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	232
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**EAGLE 5N**

TS SHT NO. 37



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 CONSULTING ENGINEERS  
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USER NAME = *USER*	DESIGNED - AS	REVISED -
DRAWN - RV/SR	CHECKED - TM	REVISED -
PLOT SCALE = *SCALE*	DATE - 08/23/2017	REVISED -
PLOT DATE = *DATE*		

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

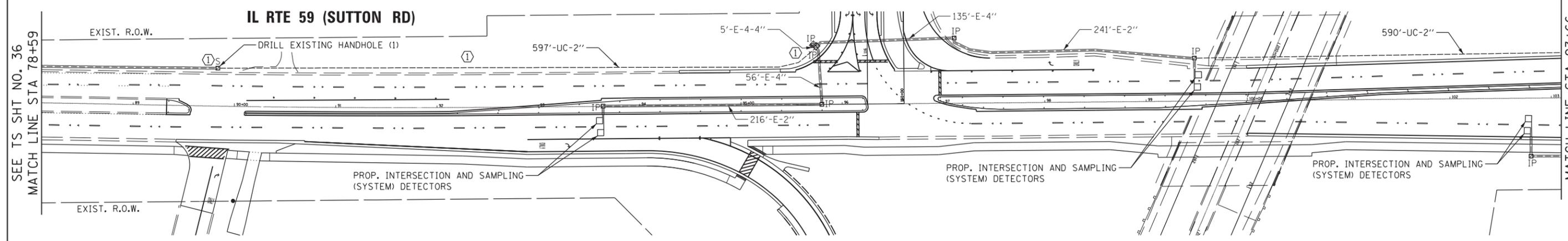
**PROPOSED INTERCONNECT PLAN (SHEET 1 OF 2)  
 IL RTE 59 (SUTTON RD) -  
 WEST BARTLETT RD TO GULF KEYS RD**

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	233
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**EAGLE 5N**

**US RTE. 20  
(LAKE ST) SOUTH RAMPS**



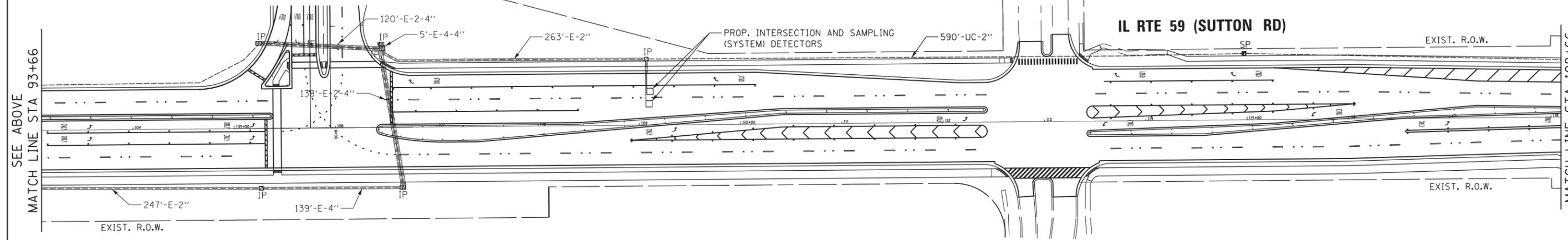
SEE TS SHT NO. 36  
MATCH LINE STA 78+59

MATCH LINE STA 93+66  
SEE BELOW

**CONSTRUCTION NOTE:**

① THE EXISTING FIBER OPTIC AND TRACER CABLES SHALL BE PULLED BACK TO THE EXISTING HANDHOLE, COILED IN THE HANDHOLE DURING CONSTRUCTION, AND RE-INSTALLED IN THE PROPOSED CONDUIT TO THE PROPOSED CONTROLLER.

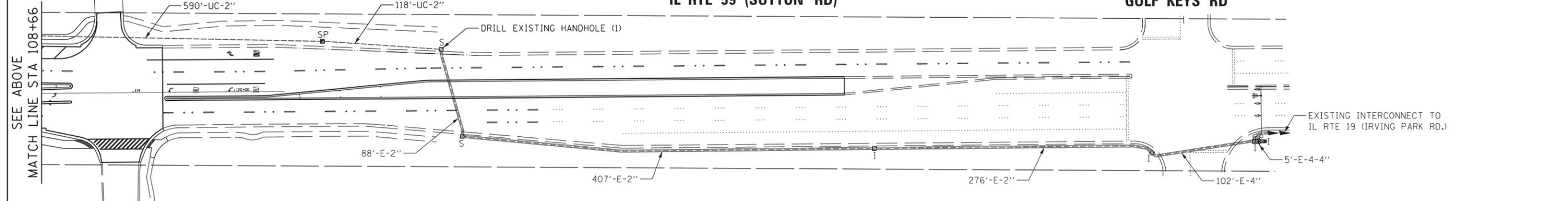
**US RTE. 20  
(LAKE ST) NORTH RAMPS**



SEE ABOVE  
MATCH LINE STA 93+66

MATCH LINE STA 108+66  
SEE BELOW

**IL RTE 59 (SUTTON RD)**



SEE ABOVE  
MATCH LINE STA 108+66

TS SHT NO. 38

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
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USER NAME = #USER*	DESIGNED - AS	REVISED -
PLOT SCALE = #SCALE*	DRAWN - RV/SR	REVISED -
PLOT DATE = #DATE*	CHECKED - TM	REVISED -
	DATE - 08/23/2017	REVISED -

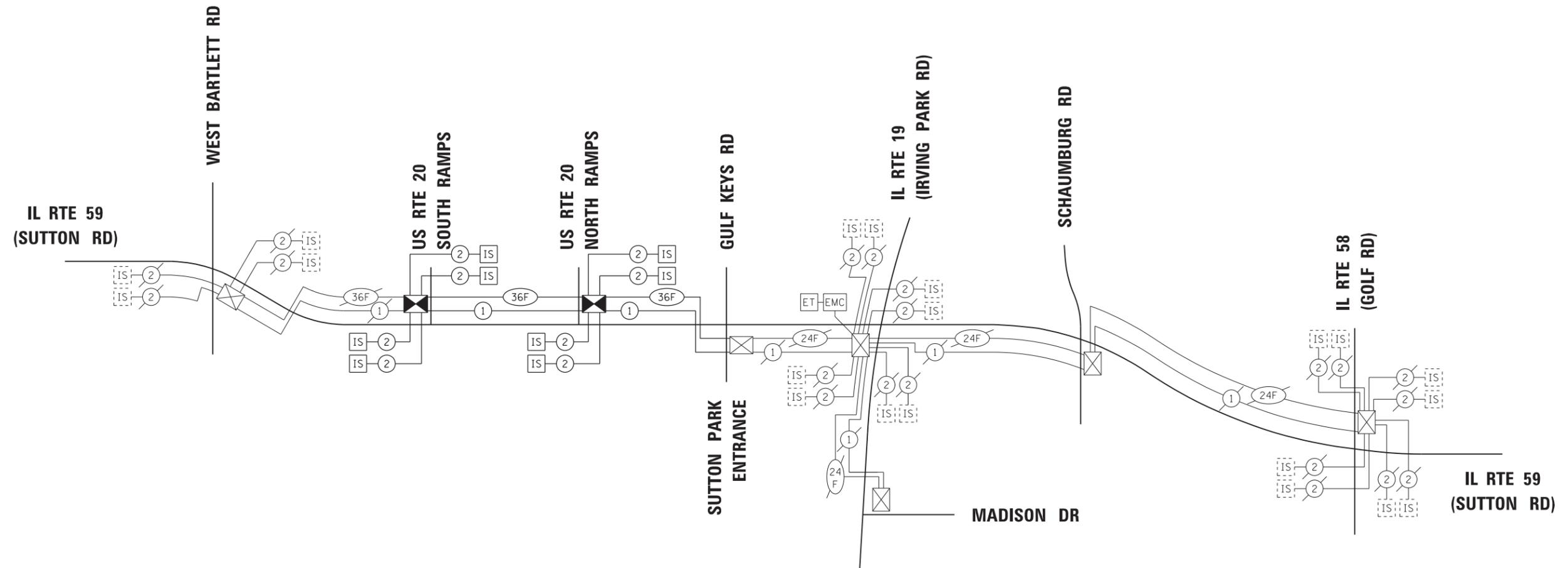
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED INTERCONNECT PLAN (SHEET 2 OF 2)  
IL RTE 59 (SUTTON RD) -  
WEST BARTLETT RD TO GULF KEYS RD**

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	234
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**EAGLE 5N**



**SCHEDULE OF QUANTITIES**

ITEM DESCRIPTION	UNITS	TOTAL QTY.
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	2,485
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	3,675
DRILL EXISTING HANDHOLE	EACH	2
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	1,838
REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	FOOT	620
REMOVE EXISTING HANDHOLE	EACH	2
FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM24F	FOOT	3,675
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2	EACH	2

TS SHT NO. 39

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PLOT SCALE = *SCALE*	DRAWN - RV/SR	REVISED -
PLOT DATE = *DATE*	CHECKED - TM	REVISED -
	DATE - 08/23/2017	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED INTERCONNECT SCHEMATIC AND SCHEDULE OF QUANTITIES  
IL 59 (SUTTON RD) -  
WEST BARTLETT RD TO IL RTE 58 (GOLF RD)**

SCALE: N.T.S. SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	235
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**EAGLE 5N**

**NOTES:**

1. THIS PROJECT INCLUDES THE INSTALLATION OF A NEW LIGHTING SYSTEM AT THE INTERCHANGE OF IL ROUTE 59 AND US ROUTE 20. PROPOSED LIGHTING SHALL BE OWNED AND MAINTAINED BY THE STATE OF ILLINOIS.
2. THE CONTRACTOR SHALL REQUEST A FORMAL MAINTENANCE TRANSFER OF EXISTING LIGHTING FROM THE STATE OF ILLINOIS BEFORE ANY LIGHTING WORK, OR OTHERWISE BEGINS.
3. THE CONTRACTOR SHALL CONTACT THE ELECTRIC UTILITY COMPANY TO COORDINATE THE ELECTRIC SERVICE WORK. THE FIELD CONTACT PERSON IS SHERON GEETERS AT (847) 608-2400.
4. THE QUANTITIES OF RACEWAY WHERE INDICATED ON THESE PLANS ARE APPROXIMATIONS ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND SHALL INSTALL RACEWAYS IN COMPLETE COMPLIANCE WITH THE SPECIFIED REQUIREMENTS.
5. THE CONTRACTOR SHALL NOTIFY J.U.L.I.E. TO LOCATE AND MARK/STAKE ALL UNDERGROUND UTILITIES.
6. THE CONTRACTOR SHALL VERIFY LOCATIONS OF UNDERGROUND/OVERHEAD UTILITIES PRIOR TO INSTALLATION OF LIGHT POLES AND CONDUITS. IF THERE IS A CONFLICT WITH THE LIGHT POLES/CONDUITS AS SHOWN ON PLANS, THE CONTRACTOR SHALL SUGGEST ALTERNATIVE LOCATIONS AND COORDINATE WITH THE ENGINEER PRIOR TO PERFORMING CONSTRUCTION WORK.
7. TRENCHES FOR LIGHTING RACEWAYS SHALL HAVE A MINIMUM DEPTH OF 30".
8. LIGHTING SYSTEM INSTALLATION SHALL CONFORM TO THE LATEST IDOT STANDARDS, NEC AND LOCAL CODES.
9. ALL ELECTRICAL EQUIPMENT AND PRODUCTS SHALL BE U/L LISTED AND LABELED.
10. THE CONTRACTOR SHALL TAKE CARE WHEN INSTALLING UNIT DUCT TO AVOID CONFLICTS WITH EXISTING UNDERGROUND UTILITIES AND TREES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE AS DETERMINED BY THE ENGINEER.
11. THE CONTRACTOR SHALL TAKE CARE WHEN INSTALLING LIGHT POLE FOUNDATIONS TO AVOID CONFLICTS WITH UNDERGROUND UTILITIES. WHEN CONFLICTS ARE ENCOUNTERED, THE CONTRACTOR SHALL REQUEST TO RELOCATE THE FOUNDATION. THE NEW LOCATION SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

**BILL OF MATERIALS**

DESCRIPTION	UNIT	QUANTITY
ELECTRIC SERVICE INSTALLATION	EACH	1
ELECTRIC UTILITY SERVICE CONNECTION	L SUM	1
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	1138
CONDUIT ATTACHED TO STRUCTURE, 1" DIA., PVC COATED GALVANIZED STEEL	FOOT	354
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 6" X 6" X 4"	EACH	9
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" X 10" X 6"	EACH	2
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 16" X 14" X 6"	EACH	2
UNIT DUCT, 600V, 3-1/C NO. 10, 1/C NO. 10 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE	FOOT	895
UNIT DUCT, 600V, 3-1/C NO. 2, 1/C NO. 4 GROUND, (XLP-TYPE USE), 1 1/4" DIA. POLYETHYLENE	FOOT	16481
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 10	FOOT	1678
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 4	FOOT	290
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C 350MCM	FOOT	150
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYE USE) 3-1/C NO. 2	FOOT	290
AERIAL CABLE, 3-1/C NO. 2 WITH MESSENGER WIRE	FOOT	4730
LIGHT POLE, ALUMINUM, 47.5FT. M.H. 15FT. DAVIT ARM	EACH	79
LIGHT POLE, WOOD, 60 FOOT, CLASS 4, WITH 15FT MAST ARM	EACH	22
LIGHT POLE, WOOD, 60 FOOT, CLASS 4, WITH TWO 15FT MAST ARMS	EACH	2
LIGHT POLE FOUNDATION, 24" DIAMETER	FOOT	790
BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE	EACH	79
REMOVAL OF TEMPORARY LIGHTING UNIT	EACH	24
REMOVAL OF LIGHTING UNIT, SALVAGE	EACH	75
REMOVAL OF POLE FOUNDATION	EACH	67
REMOVAL OF LIGHTING CONTROLLER	EACH	1
REMOVAL OF LIGHTING CONTROLLER FOUNDATION	EACH	1
ELECTRIC CABLE ASSEMBLY IN CONDUIT, 600 (XLP-TYPE TC) 2/C NO. 10 AND 1C NO. 10 GROUND	FOOT	470
LUMINAIRE, LED, HORIZONTAL MOUNT, TYPE C	EACH	83
TEMPORARY LUMINAIRE, HIGH PRESSURE SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	26
LUMINAIRE, UNDERPASS, LED, TYPE D	EACH	9
COMBINATION LIGHTING CONTROLLER	EACH	2
LIGHTING CONTROLLER, BASE MOUNTED, 480 VOLT, 200 AMP (DUAL), RADIO SCADA	EACH	1
LUMINAIRE SAFETY CABLE ASSEMBLY	EACH	83
MAINTENANCE OF LIGHTING SYSTEM	CAL MO	24

**LEGEND**

-  PROPOSED LIGHTING UNIT, 47.5 FT. MH, 15 FT. DAVIT ARM, 240V LED LUMINAIRE TYPE C, WITH BREAKAWAY DEVICE
-  EXISTING LIGHTING UNIT TO BE REMOVED
-  TEMPORARY WOOD POLE, 50 FT. MH, 2-15 FT. MAST ARMS, 400W, 240V MCIII HPS LUMINAIRES
-  TEMPORARY WOOD POLE, 50 FT. MH, 15 FT. MAST ARM WITH 400W, 240V MCIII HPS LUMINAIRE
-  UNIT DUCT, 600V, 3-1/C #2, 1/C #4 GROUND (XLP-TYPE USE) 1 1/4" DIA. POLYETHYLENE
-  AERIAL CABLE, 3-1/C NO. 2 WITH MESSENGER WIRE
-  ComEd ELECTRIC SERVICE 240/480V, SINGLE PHASE 3 WIRE
-  PROPOSED LIGHTING CONTROLLER "AC" 240/480V, 1 PHASE, 3 WIRE 200 AMP, PAD MOUNTED
-  EXISTING LIGHTING CONTROLLER TO BE REMOVED
-  RIGID GALVANIZED STEEL CONDUIT
-  ELECTRIC CABLE IN CONDUIT 4" DIA., 3-1/C NO. 350 MCM
-  EXISTING COMBINATION SIGNAL/LIGHT POLE TO BE REMOVED
-  PROPOSED COMBINATION SIGNAL/LIGHT POLE, 45 FT MH, 15 FT MAST ARM, LED LUMINAIRE
-  GROUND ROD 5/8" X 10 FT
-  EXISTING UNDERPASS LUMINAIRES TO BE REMOVED

LT-01

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PLOT SCALE = 100.0000' / in.	CHECKED - MB	REVISED -
PLOT DATE = 8/22/2017	DATE - 08/23/2017	REVISED -

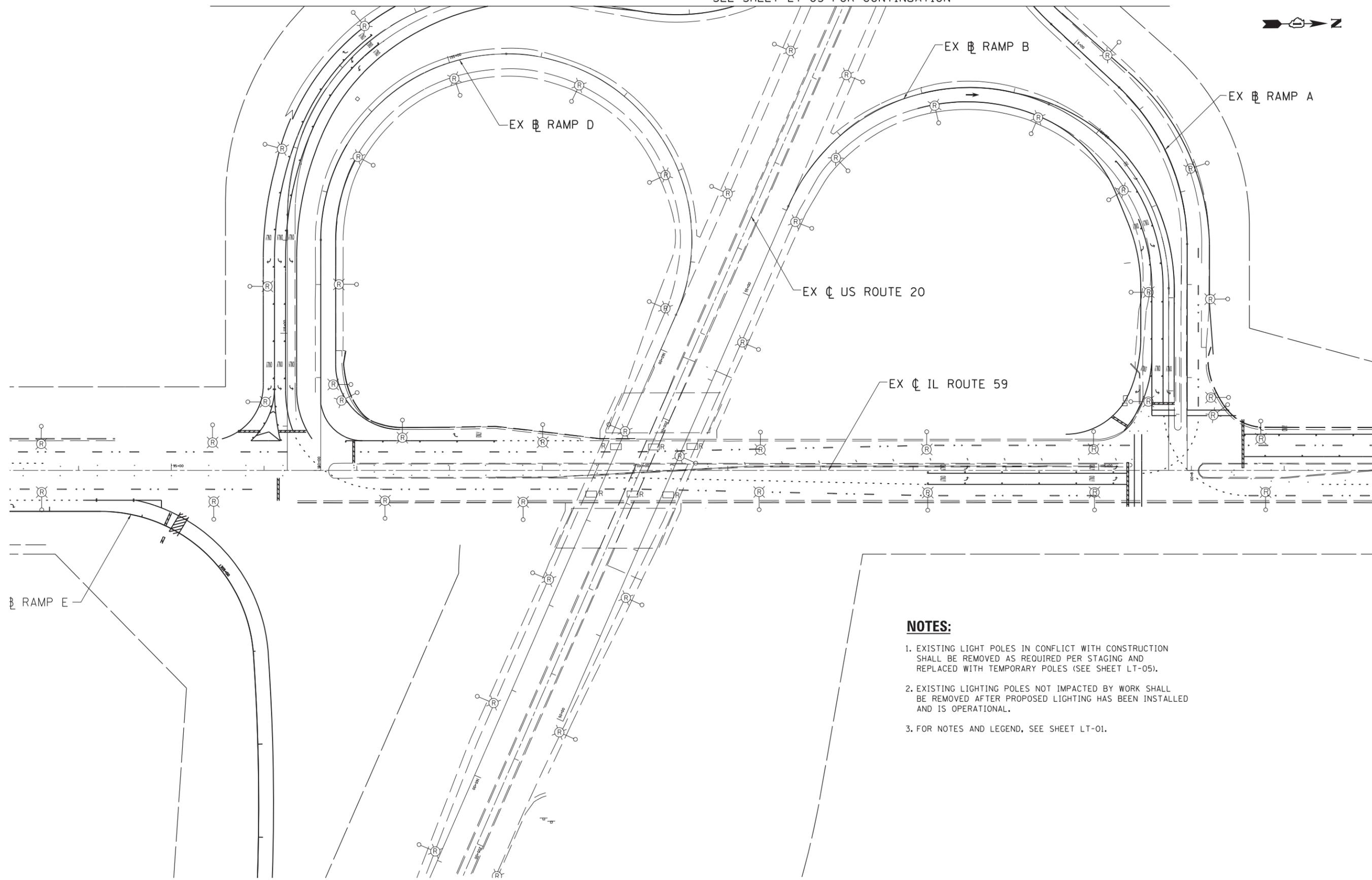
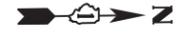
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**LIGHTING NOTES, BILL OF MATERIALS AND LEGEND  
IL 59 (SUTTON ROAD) AT US 20 (LAKE STREET)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	236
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

SEE SHEET LT-03 FOR CONTINUATION



MATCH LINE STA. 108+00 (SEE SHEET LT-03)

**NOTES:**

1. EXISTING LIGHT POLES IN CONFLICT WITH CONSTRUCTION SHALL BE REMOVED AS REQUIRED PER STAGING AND REPLACED WITH TEMPORARY POLES (SEE SHEET LT-05).
2. EXISTING LIGHTING POLES NOT IMPACTED BY WORK SHALL BE REMOVED AFTER PROPOSED LIGHTING HAS BEEN INSTALLED AND IS OPERATIONAL.
3. FOR NOTES AND LEGEND, SEE SHEET LT-01.

**LT-02**

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue, Suite 2F  
Downers Grove, IL 60515

USER NAME = *USER*	DESIGNED - BL	REVISED -
PLOT SCALE = *SCALE*	DRAWN - RV/SR	REVISED -
PLOT DATE = *DATE*	CHECKED - MB	REVISED -
	DATE - 08/23/2017	REVISED -

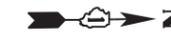
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**LIGHTING REMOVAL PLAN  
IL 59 (SUTTON ROAD) AT US 20 (LAKE STREET)**

SCALE: 1"=50' SHEET 1 OF 2 SHEETS STA. TO STA.

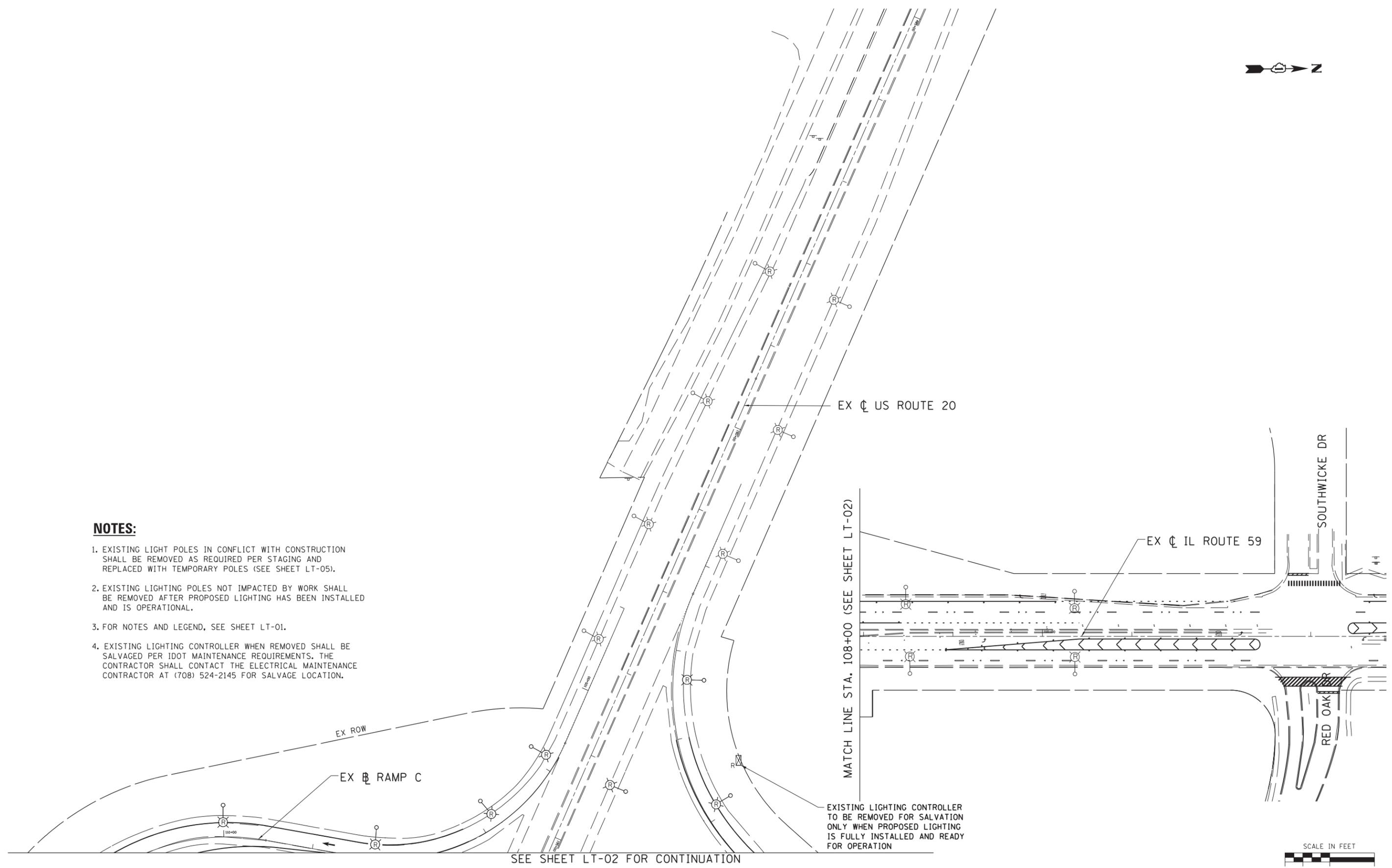
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	237
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

FILE NAME: \*FILE\*



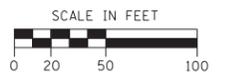
**NOTES:**

1. EXISTING LIGHT POLES IN CONFLICT WITH CONSTRUCTION SHALL BE REMOVED AS REQUIRED PER STAGING AND REPLACED WITH TEMPORARY POLES (SEE SHEET LT-05).
2. EXISTING LIGHTING POLES NOT IMPACTED BY WORK SHALL BE REMOVED AFTER PROPOSED LIGHTING HAS BEEN INSTALLED AND IS OPERATIONAL.
3. FOR NOTES AND LEGEND, SEE SHEET LT-01.
4. EXISTING LIGHTING CONTROLLER WHEN REMOVED SHALL BE SALVAGED PER IDOT MAINTENANCE REQUIREMENTS. THE CONTRACTOR SHALL CONTACT THE ELECTRICAL MAINTENANCE CONTRACTOR AT (708) 524-2145 FOR SALVAGE LOCATION.



SEE SHEET LT-02 FOR CONTINUATION

EXISTING LIGHTING CONTROLLER TO BE REMOVED FOR SALVATION ONLY WHEN PROPOSED LIGHTING IS FULLY INSTALLED AND READY FOR OPERATION



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PLOT SCALE = *SCALE*	DRAWN - RV/SR	REVISED -
PLOT DATE = *DATE*	CHECKED - MB	REVISED -
	DATE - 08/23/2017	REVISED -

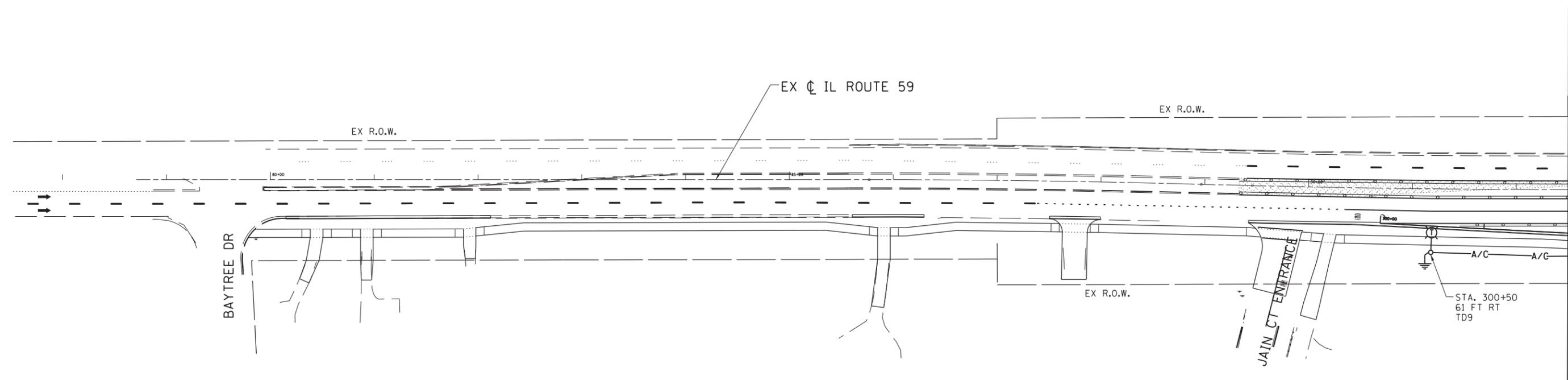
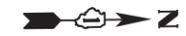
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**LIGHTING REMOVAL PLAN**  
**IL 59 (SUTTON ROAD) AT US 20 (LAKE STREET)**  
SCALE: 1"=50' SHEET 2 OF 2 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	238
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**LT-03**

FILE NAME: \*FILE\*



**NOTES:**

1. FOR NOTES AND LEGEND, SEE SHEET LT-01.



**LT-04**

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Downers Grove, IL 60515

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	DRAWN - RV/SR	REVISED -
PLOT SCALE = *SCALE*	CHECKED - MB	REVISED -
PLOT DATE = *DATE*	DATE - 08/23/2017	REVISED -

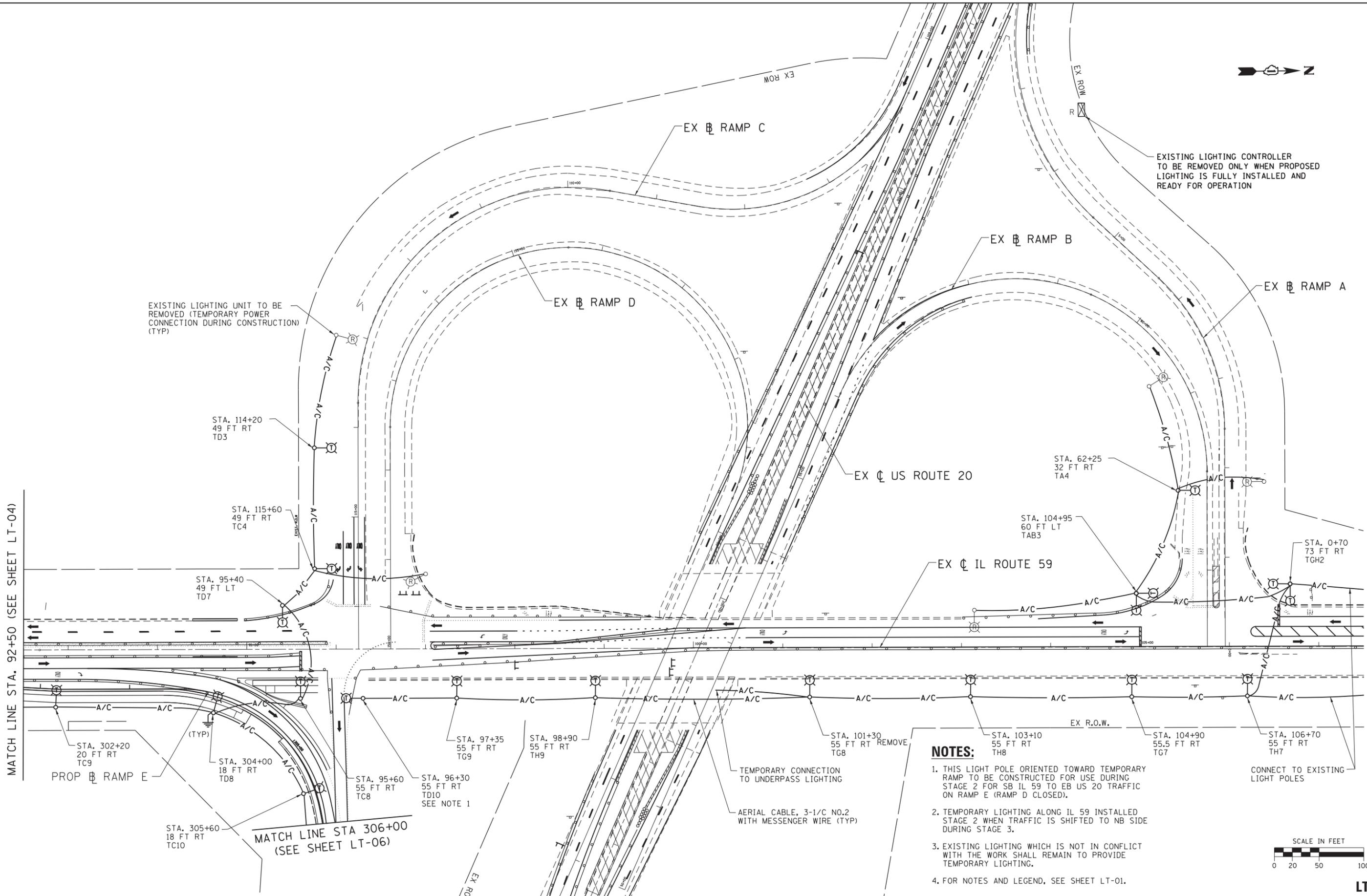
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY LIGHTING PLAN  
IL 59 (SUTTON ROAD) AT US 20 (LAKE STREET)**

SCALE: 1"=50' SHEET 1 OF 3 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	239
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

FILE NAME: \*FILE\*



EXISTING LIGHTING UNIT TO BE REMOVED (TEMPORARY POWER CONNECTION DURING CONSTRUCTION) (TYP)

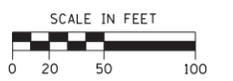
EXISTING LIGHTING CONTROLLER TO BE REMOVED ONLY WHEN PROPOSED LIGHTING IS FULLY INSTALLED AND READY FOR OPERATION

MATCH LINE STA. 92+50 (SEE SHEET LT-04)

MATCH LINE STA 306+00 (SEE SHEET LT-06)

**NOTES:**

1. THIS LIGHT POLE ORIENTED TOWARD TEMPORARY RAMP TO BE CONSTRUCTED FOR USE DURING STAGE 2 FOR SB IL 59 TO EB US 20 TRAFFIC ON RAMP E (RAMP D CLOSED).
2. TEMPORARY LIGHTING ALONG IL 59 INSTALLED STAGE 2 WHEN TRAFFIC IS SHIFTED TO NB SIDE DURING STAGE 3.
3. EXISTING LIGHTING WHICH IS NOT IN CONFLICT WITH THE WORK SHALL REMAIN TO PROVIDE TEMPORARY LIGHTING.
4. FOR NOTES AND LEGEND, SEE SHEET LT-01.



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Downers Grove, IL 60515

USER NAME = #USER#  
PLOT SCALE = #SCALE#  
PLOT DATE = #DATE#

DESIGNED - BL  
DRAWN - RV/SR  
CHECKED - MB  
DATE - 08/23/2017

REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY LIGHTING PLAN  
IL 59 (SUTTON ROAD) AT US 20 (LAKE STREET)**

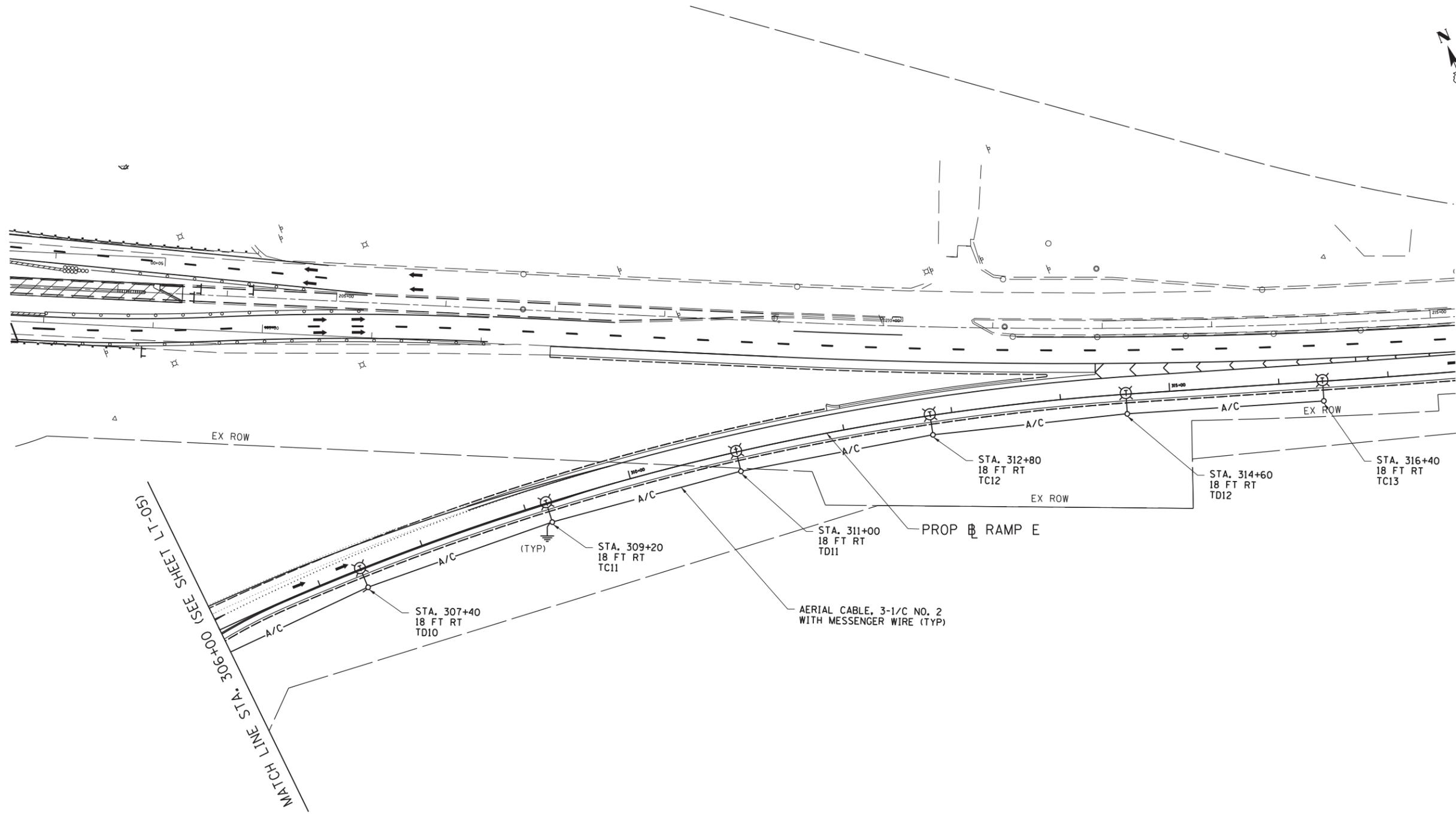
SCALE: 1"=50' SHEET 2 OF 3 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	240
CONTRACT NO. 60V57				

**LT-05**

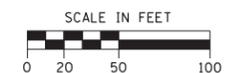
FILE NAME: #FILE#

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**NOTES:**

1. FOR NOTES AND LEGEND, SEE SHEET LT-01.



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PLOT DATE = *DATE*	CHECKED - MB	REVISED -
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**STATE OF ILLINOIS  
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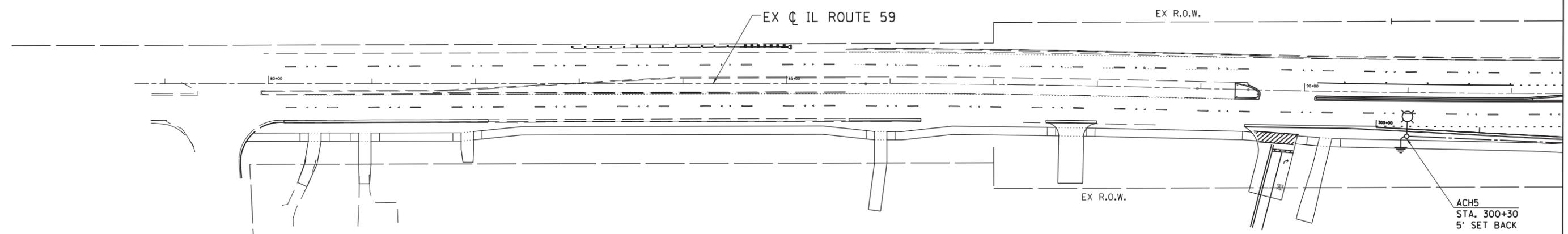
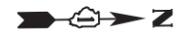
**TEMPORARY LIGHTING LAYOUT RAMP E  
 IL 59 (SUTTON ROAD) AT US 20 (LAKE STREET)**

SCALE: 1"=50' SHEET 3 OF 3 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	241
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**LT-06**

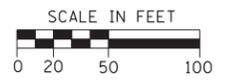
FILE NAME: \*FILE\*



MATCH LINE STA 92+50 (SEE SHEET LT-08)

**NOTES:**

1. SET BACK IS FROM FACE OF CURB TO CENTER OF POLE. WHERE THERE IS NO CURB SET BACK IS FROM EDGE OF TRAVELED PAVEMENT TO CENTER OF POLE.
2. FOR NOTES AND LEGEND, SEE SHEET LT-01.



**LT-07**

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PLOT SCALE = *SCALE*	CHECKED - MB	REVISED -
PLOT DATE = *DATE*	DATE - 08/23/2017	REVISED -

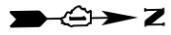
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED LIGHTING PLAN  
IL 59 (SUTTON ROAD) AT US 20 (LAKE STREET)**

SCALE: 1" = 50'    SHEET 1 OF 7 SHEETS    STA.                    TO STA. 92+50

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	242
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

FILE NAME: \*FILE\*



PROPOSED PAD MOUNTED LIGHTING  
CONTROLLER 240/480V, SINGLE PHASE,  
3 WIRE, 200 AMP "AC" STA. 193+00  
SEE SHEET LT-11

SEE SHEET LT-11  
FOR CONTINUATION

ACA2  
STA. 4+00  
15' SET BACK

EX RAMP A

ACB2  
STA. 2+45  
16' SET BACK

SEE SHEET LT-11  
FOR CONTINUATION

ACA6  
STA. 61+20  
11' SET BACK

ACB4  
STA. 62+75  
5' SET BACK

ACA5  
STA. 105+10  
5' SET BACK

ACA3  
STA. 0+90  
4' SET BACK

4" DIA.  
RGS 100'

SEE SHEET LT-11  
FOR CONTINUATION

TO CIRCUIT G & H  
TO CIRCUIT I & J

ACG1  
STA. 101+40  
5' SET BACK

ACH1  
STA. 103+30  
5' SET BACK

EX IL ROUTE 59

ACH2  
STA. 101+40  
16' SET BACK

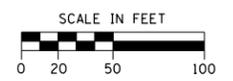
ACG2  
STA. 103+30  
16' SET BACK

ACH3  
STA. 105+20  
16' SET BACK

JUNCTION BOX 16"X14"X6"  
ATTACHED TO STRUCTURE  
SEE SHEET LT-15 FOR  
UNDERPASS LIGHTING PLANS

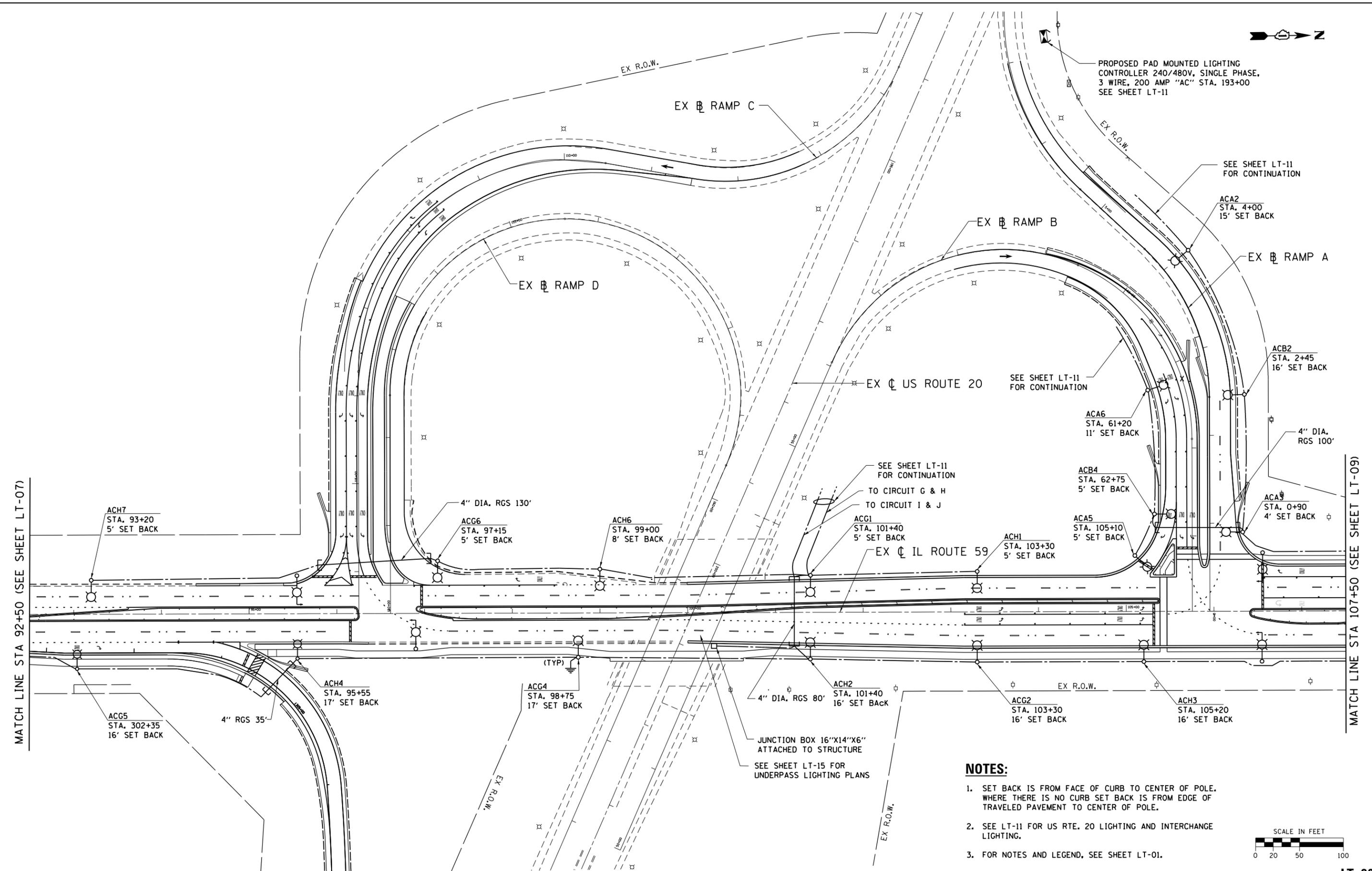
**NOTES:**

1. SET BACK IS FROM FACE OF CURB TO CENTER OF POLE. WHERE THERE IS NO CURB SET BACK IS FROM EDGE OF TRAVELED PAVEMENT TO CENTER OF POLE.
2. SEE LT-11 FOR US RTE. 20 LIGHTING AND INTERCHANGE LIGHTING.
3. FOR NOTES AND LEGEND, SEE SHEET LT-01.



MATCH LINE STA 92+50 (SEE SHEET LT-07)

MATCH LINE STA 107+50 (SEE SHEET LT-09)



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PLOT DATE = #DATE#	CHECKED - MB	REVISED -
	DATE - 08/23/2017	REVISED -

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DEPARTMENT OF TRANSPORTATION**

**PROPOSED LIGHTING PLAN  
IL 59 (SUTTON ROAD) AT US 20 (LAKE STREET)**

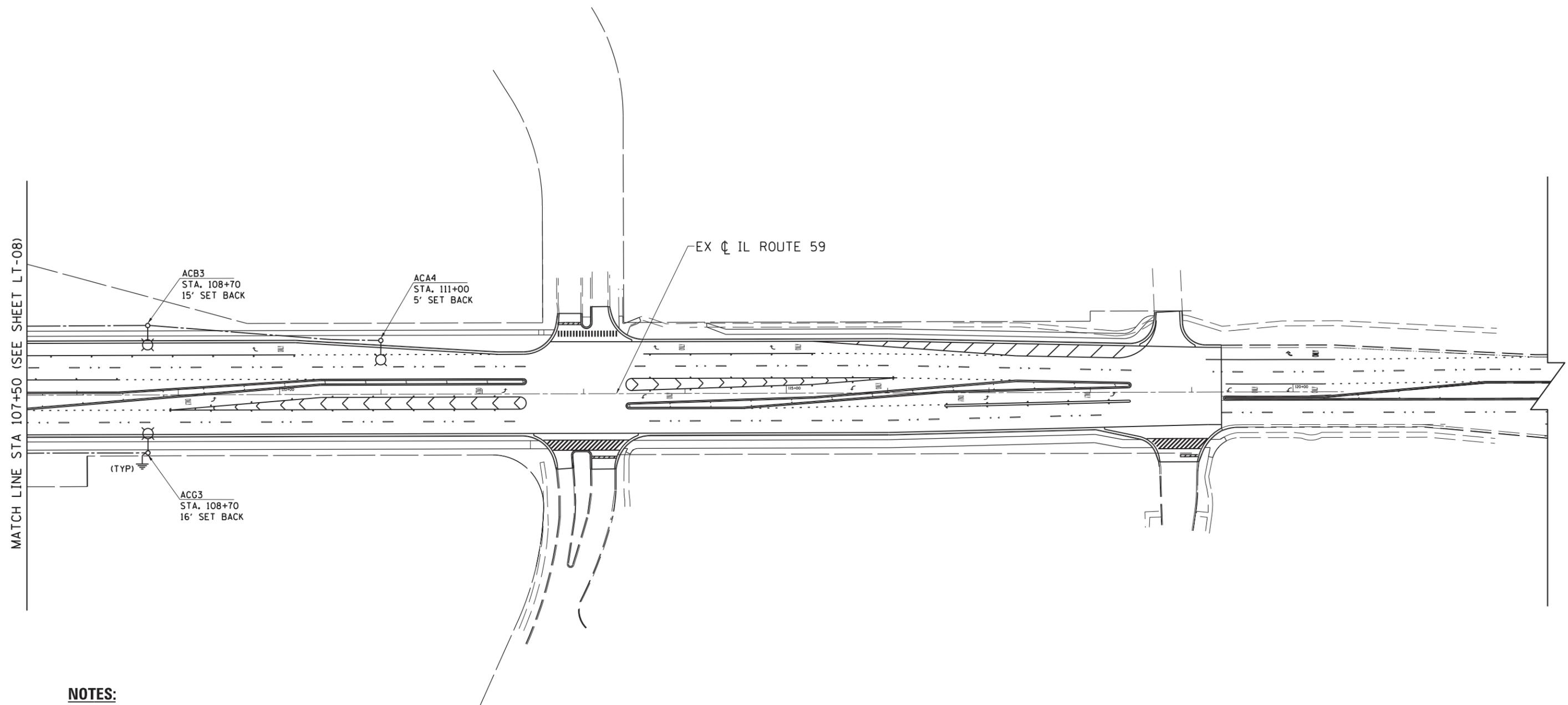
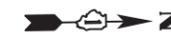
SCALE: 1" = 50' SHEET 2 OF 7 SHEETS STA. 92+50 TO STA. 107+50

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	243
CONTRACT NO. 60V57				

ILLINOIS FED. AID PROJECT

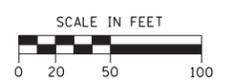
**LT-08**

FILE NAME: #FILE#



**NOTES:**

1. SET BACK IS FROM FACE OF CURB TO CENTER OF POLE. WHERE THERE IS NO CURB SET BACK IS FROM EDGE OF TRAVELED PAVEMENT TO CENTER OF POLE.
2. FOR NOTES AND LEGEND, SEE SHEET LT-01.



**LT-09**

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	DRAWN - RV/SR	REVISED -
PLOT SCALE = *SCALE*	CHECKED - MB	REVISED -
PLOT DATE = *DATE*	DATE - 08/23/2017	REVISED -

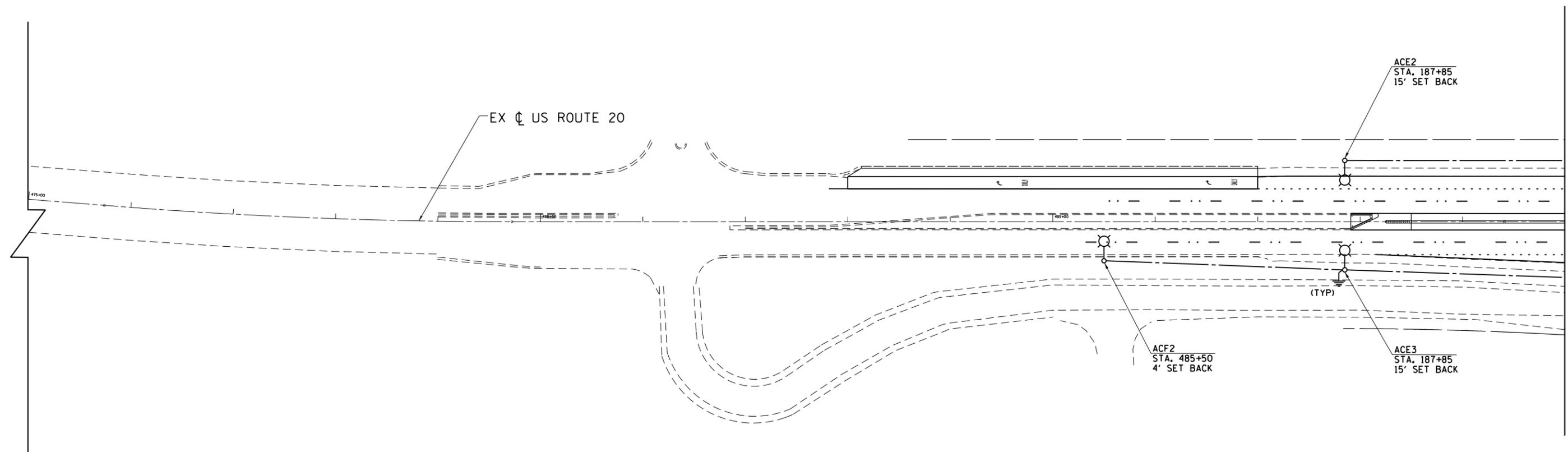
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED LIGHTING PLAN  
IL 59 (SUTTON ROAD) AT US 20 (LAKE STREET)**

SCALE: 1" = 50' SHEET 3 OF 7 SHEETS STA. 107+50 TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	244
<b>CONTRACT NO. 60V57</b>				
<small>ILLINOIS FED. AID PROJECT</small>				

FILE NAME: \*FILE\*



**NOTES:**

1. SET BACK IS FROM FACE OF CURB TO CENTER OF POLE. WHERE THERE IS NO CURB SET BACK IS FROM EDGE OF TRAVELED PAVEMNT TO CENTER OF POLE.
2. FOR NOTES AND LEGEND, SEE SHEET LT-01.



**LT-10**

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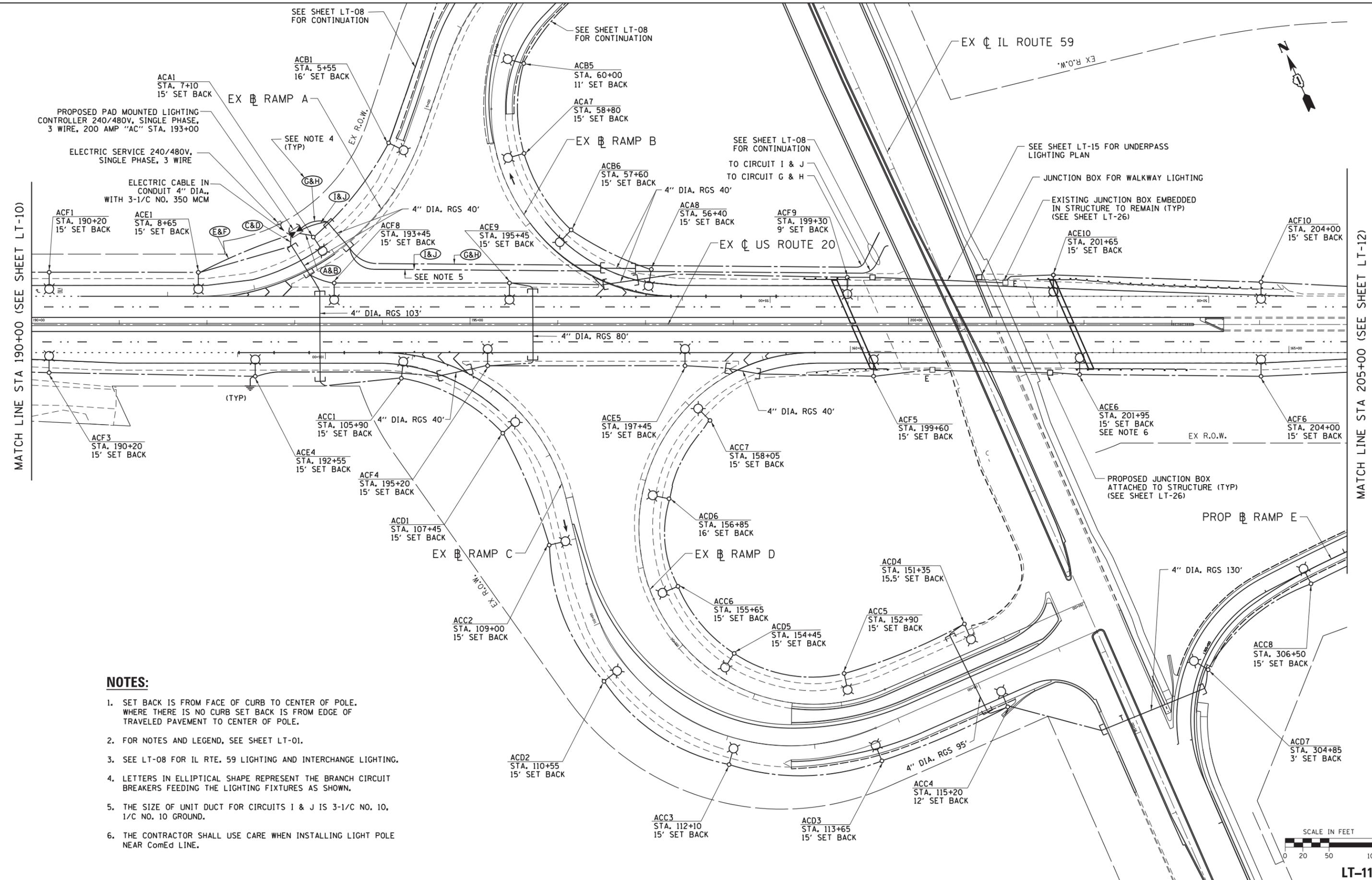
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DRAWN - RV/SR	CHECKED - MB	REVISED -
PLOT SCALE = *SCALE*	DATE - 08/23/2017	REVISED -
PLOT DATE = *DATE*		

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED LIGHTING PLAN  
IL 59 (SUTTON ROAD) AT US 20 (LAKE STREET)**  
SCALE: 1" = 50' SHEET 4 OF 7 SHEETS STA. TO STA. 190+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	245
				CONTRACT NO. 60V57
ILLINOIS FED. AID PROJECT				

FILE NAME: \*FILE\*



**NOTES:**

1. SET BACK IS FROM FACE OF CURB TO CENTER OF POLE. WHERE THERE IS NO CURB SET BACK IS FROM EDGE OF TRAVELED PAVEMENT TO CENTER OF POLE.
2. FOR NOTES AND LEGEND, SEE SHEET LT-01.
3. SEE LT-08 FOR IL RTE. 59 LIGHTING AND INTERCHANGE LIGHTING.
4. LETTERS IN ELLIPTICAL SHAPE REPRESENT THE BRANCH CIRCUIT BREAKERS FEEDING THE LIGHTING FIXTURES AS SHOWN.
5. THE SIZE OF UNIT DUCT FOR CIRCUITS I & J IS 3-1/2 NO. 10, 1/2 NO. 10 GROUND.
6. THE CONTRACTOR SHALL USE CARE WHEN INSTALLING LIGHT POLE NEAR ComEd LINE.

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 PLOT DATE = #DATE\*

DESIGNED - BL  
 DRAWN - RV/SR  
 CHECKED - MB  
 DATE - 08/23/2017

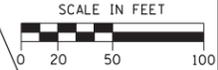
REVISED -  
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

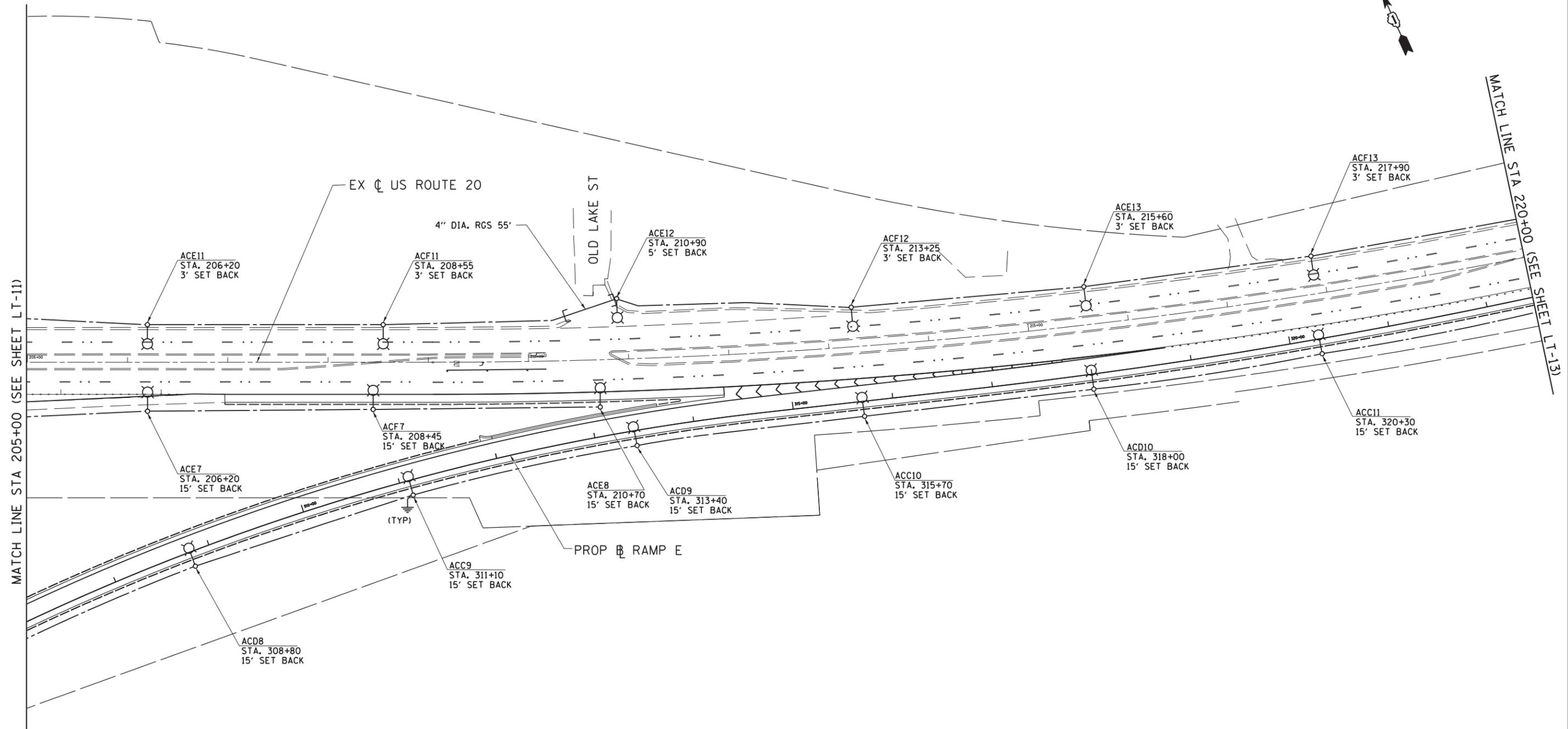
**PROPOSED LIGHTING PLAN  
 IL 59 (SUTTON ROAD) AT US 20 (LAKE STREET)**

SCALE: 1" = 50' SHEET 5 OF 7 SHEETS STA. 190+00 TO STA. 205+00

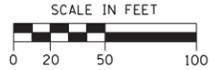
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	246
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				



**LT-11**



- NOTES:**
1. SET BACK IS FROM FACE OF CURB TO CENTER OF POLE. WHERE THERE IS NO CURB SET BACK IS FROM EDGE OF TRAVELED PAVEMENT TO CENTER OF POLE.
  2. FOR NOTES AND LEGEND, SEE SHEET LT-01.



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USER NAME = *USER*	DESIGNED - BL	REVISED -
PLOT SCALE = *SCALE*	DRAWN - RV/SR	REVISED -
PLOT DATE = *DATE*	CHECKED - MB	REVISED -
	DATE - 08/23/2017	REVISED -

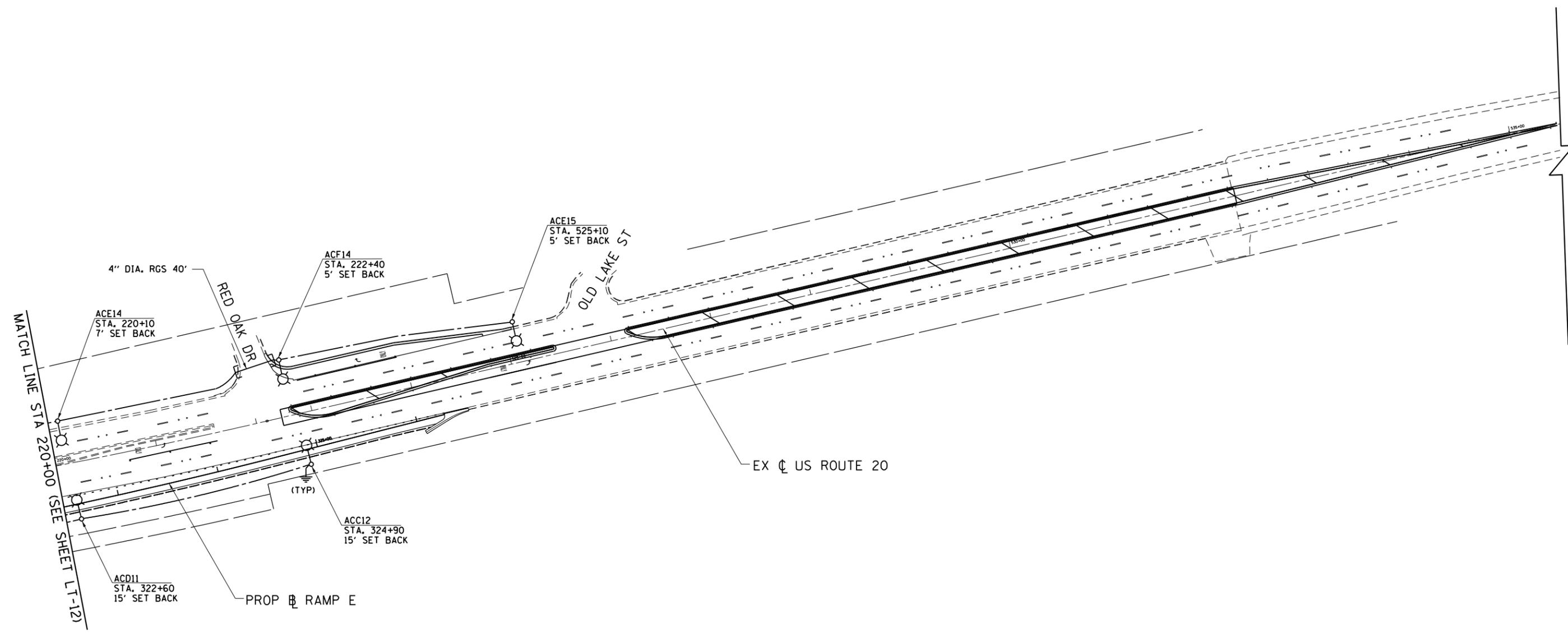
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PROPOSED LIGHTING PLAN  
 IL 59 (SUTTON ROAD) AT US 20 (LAKE STREET)**  
 SCALE: 1" = 50' SHEET 6 OF 7 SHEETS STA. 205+00 TO STA. 220+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	247
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

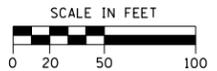
**LT-12**

FILE NAME: \*FILE\*



**NOTES:**

1. SET BACK IS FROM FACE OF CURB TO CENTER OF POLE. WHERE THERE IS NO CURB SET BACK IS FROM EDGE OF TRAVELED PAVEMENT TO CENTER OF POLE.
2. FOR NOTES AND LEGEND, SEE SHEET LT-01.



LT-13

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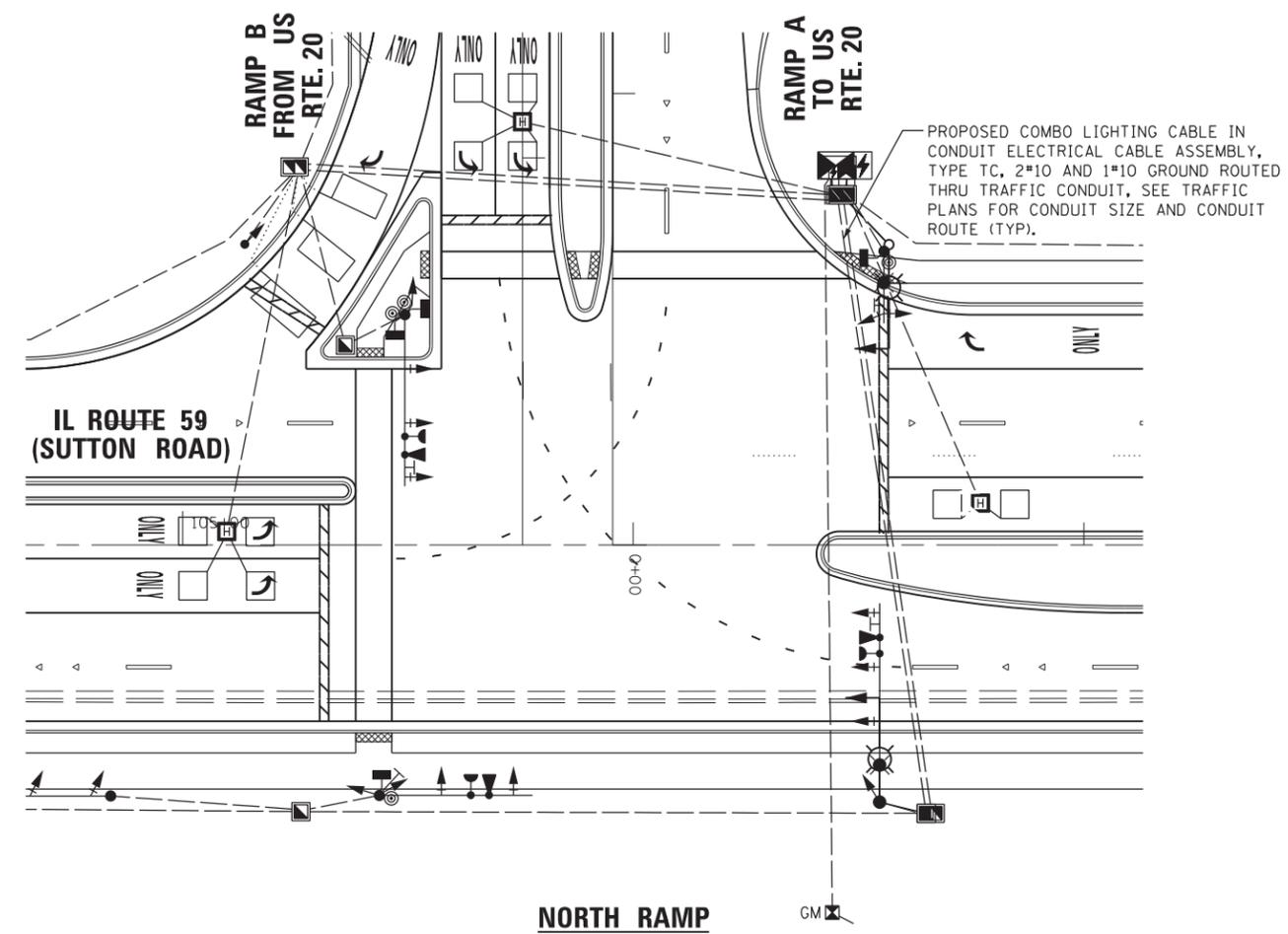
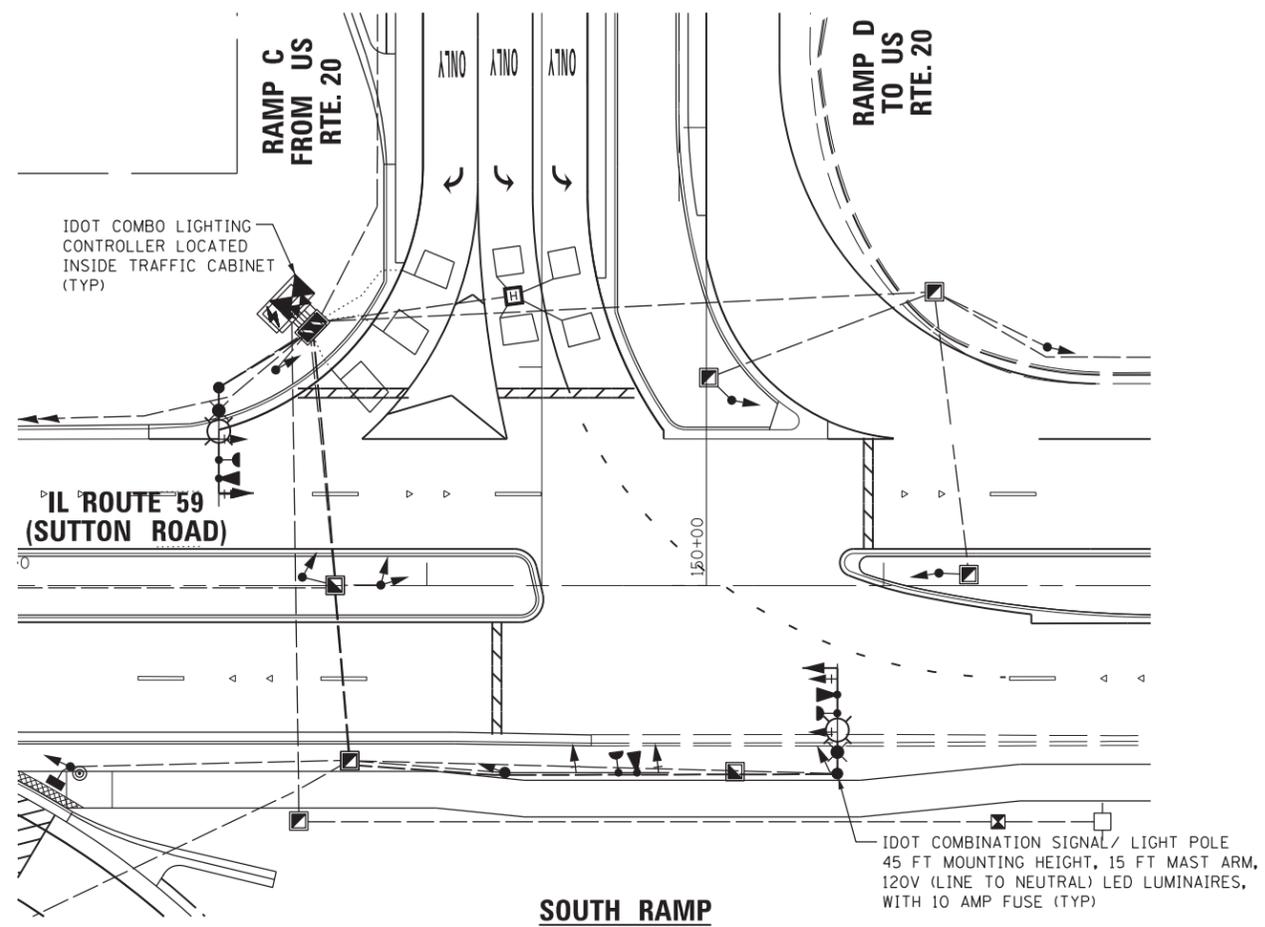
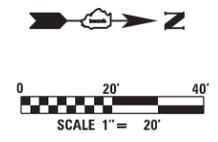
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PLOT SCALE = *SCALE*	DRAWN - RV/SR	REVISED -
PLOT DATE = *DATE*	CHECKED - MB	REVISED -
	DATE - 08/23/2017	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PROPOSED LIGHTING PLAN  
 IL 59 (SUTTON ROAD) AT US 20 (LAKE STREET)**  
 SCALE: 1" = 50' SHEET 7 OF 7 SHEETS STA. 220+00 TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	248
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

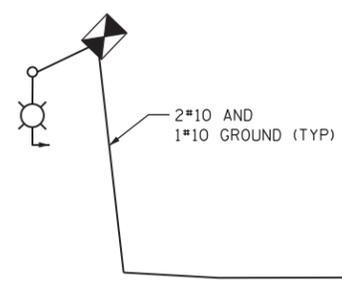
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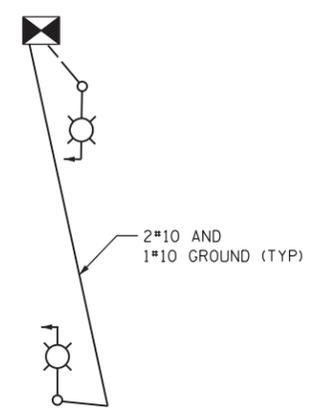
**NOTES:**

1. THE COMBO LIGHTING CABLE AND SIGNAL CABLES WILL BE IN SHARED CONDUIT.
2. LUMINAIRES SHOWN ON THIS SHEET SHALL BE POWERED FROM IDOT TRAFFIC CONTROLLERS. SEE SHEET LT-30.
3. SEE TRAFFIC PLANS FOR LOCATION OF COMBO POLES, HANDHOLES AND CONDUITS.

IDOT COMBO LIGHTING SCHEDULE OF QUANTITIES		
DESCRIPTION	UNIT	QNTY.
LUMINAIRE LED HORIZONTAL MOUNT, TYPE C	EACH	4
COMBINATION LIGHTING CONTROLLER	EACH	2
LUMINAIRE SAFETY CABLE ASSEMBLY	EACH	4
ELECTRICAL CABLE ASSEMBLY IN CONDUIT, 600V, (XLP TYPE TC) 2C NO. 10 AND 1C NO. 10 GROUND	FOOT	470



**SINGLE LINE WIRING DIAGRAM  
SOUTH RAMP**

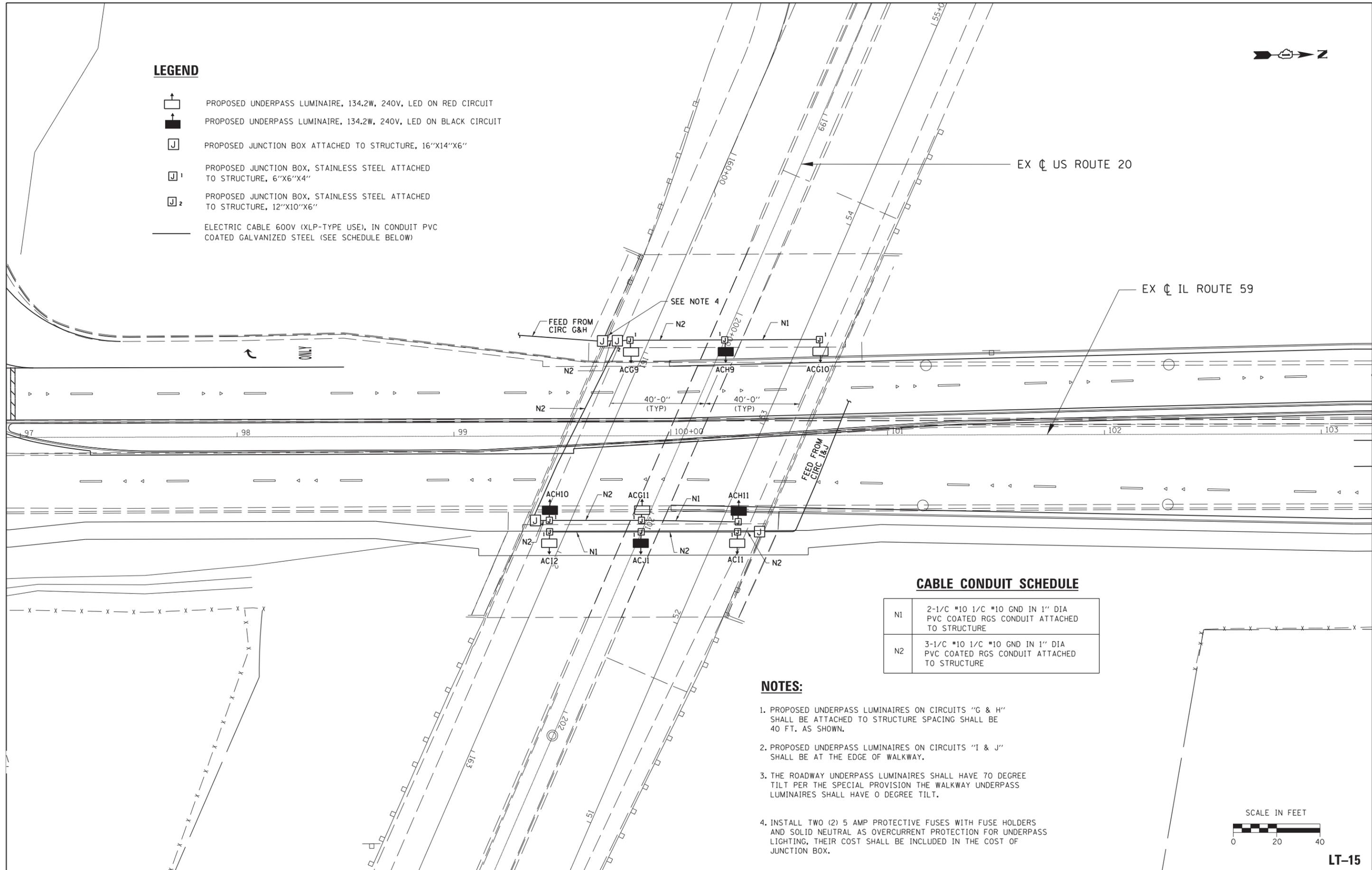


**SINGLE LINE WIRING DIAGRAM  
NORTH RAMP**



**LEGEND**

-  PROPOSED UNDERPASS LUMINAIRE, 134.2W, 240V, LED ON RED CIRCUIT
-  PROPOSED UNDERPASS LUMINAIRE, 134.2W, 240V, LED ON BLACK CIRCUIT
-  PROPOSED JUNCTION BOX ATTACHED TO STRUCTURE, 16"X14"X6"
-  PROPOSED JUNCTION BOX, STAINLESS STEEL ATTACHED TO STRUCTURE, 6"X6"X4"
-  PROPOSED JUNCTION BOX, STAINLESS STEEL ATTACHED TO STRUCTURE, 12"X10"X6"
-  ELECTRIC CABLE 600V (XLP-TYPE USE), IN CONDUIT PVC COATED GALVANIZED STEEL (SEE SCHEDULE BELOW)

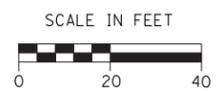


**CABLE CONDUIT SCHEDULE**

N1	2-1/C #10 1/C #10 GND IN 1" DIA PVC COATED RGS CONDUIT ATTACHED TO STRUCTURE
N2	3-1/C #10 1/C #10 GND IN 1" DIA PVC COATED RGS CONDUIT ATTACHED TO STRUCTURE

**NOTES:**

1. PROPOSED UNDERPASS LUMINAIRES ON CIRCUITS "G & H" SHALL BE ATTACHED TO STRUCTURE SPACING SHALL BE 40 FT. AS SHOWN.
2. PROPOSED UNDERPASS LUMINAIRES ON CIRCUITS "I & J" SHALL BE AT THE EDGE OF WALKWAY.
3. THE ROADWAY UNDERPASS LUMINAIRES SHALL HAVE 70 DEGREE TILT PER THE SPECIAL PROVISION THE WALKWAY UNDERPASS LUMINAIRES SHALL HAVE 0 DEGREE TILT.
4. INSTALL TWO (2) 5 AMP PROTECTIVE FUSES WITH FUSE HOLDERS AND SOLID NEUTRAL AS OVERCURRENT PROTECTION FOR UNDERPASS LIGHTING, THEIR COST SHALL BE INCLUDED IN THE COST OF JUNCTION BOX.



**LT-15**

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PLOT DATE: *DATE*	CHECKED - MB	REVISED -
	DATE - 08/23/2017	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**UNDERPASS LIGHTING PLAN  
IL 59 (SUTTON ROAD) AT US 20 (LAKE STREET)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	250
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

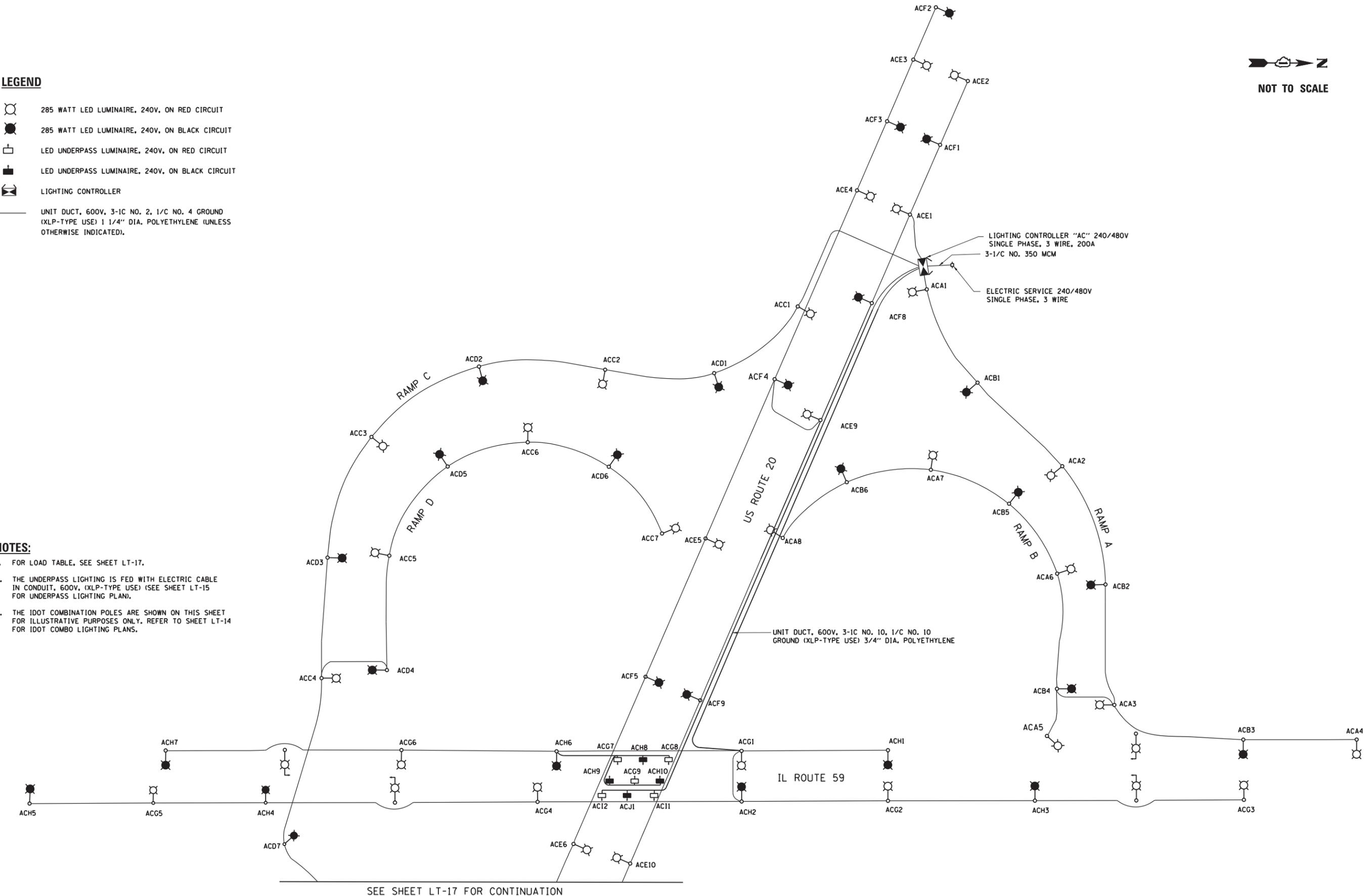
FILE NAME: \*FILE\*

**LEGEND**

-  285 WATT LED LUMINAIRE, 240V, ON RED CIRCUIT
-  285 WATT LED LUMINAIRE, 240V, ON BLACK CIRCUIT
-  LED UNDERPASS LUMINAIRE, 240V, ON RED CIRCUIT
-  LED UNDERPASS LUMINAIRE, 240V, ON BLACK CIRCUIT
-  LIGHTING CONTROLLER
-  UNIT DUCT, 600V, 3-1C NO. 2, 1/C NO. 4 GROUND (XLP-TYPE USE) 1 1/4" DIA. POLYETHYLENE (UNLESS OTHERWISE INDICATED).

**NOTES:**

1. FOR LOAD TABLE, SEE SHEET LT-17.
2. THE UNDERPASS LIGHTING IS FED WITH ELECTRIC CABLE IN CONDUIT, 600V, (XLP-TYPE USE) (SEE SHEET LT-15 FOR UNDERPASS LIGHTING PLAN).
3. THE IDOT COMBINATION POLES ARE SHOWN ON THIS SHEET FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO SHEET LT-14 FOR IDOT COMBO LIGHTING PLANS.



  
NOT TO SCALE

USER NAME = *USER*	DESIGNED - BL	REVISED -
PLOT SCALE = *SCALE*	DRAWN - RV/SR	REVISED -
PLOT DATE = *DATE*	CHECKED - MB	REVISED -
	DATE - 08/23/2017	REVISED -

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	251
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

SEE SHEET LT-16 FOR CONTINUATION



**PANEL SCHEDULE AND LOAD TABULATION**

LIGHTING CONTROLLER "AC" 240/480V, SINGLE PHASE, 3 WIRE, 200A

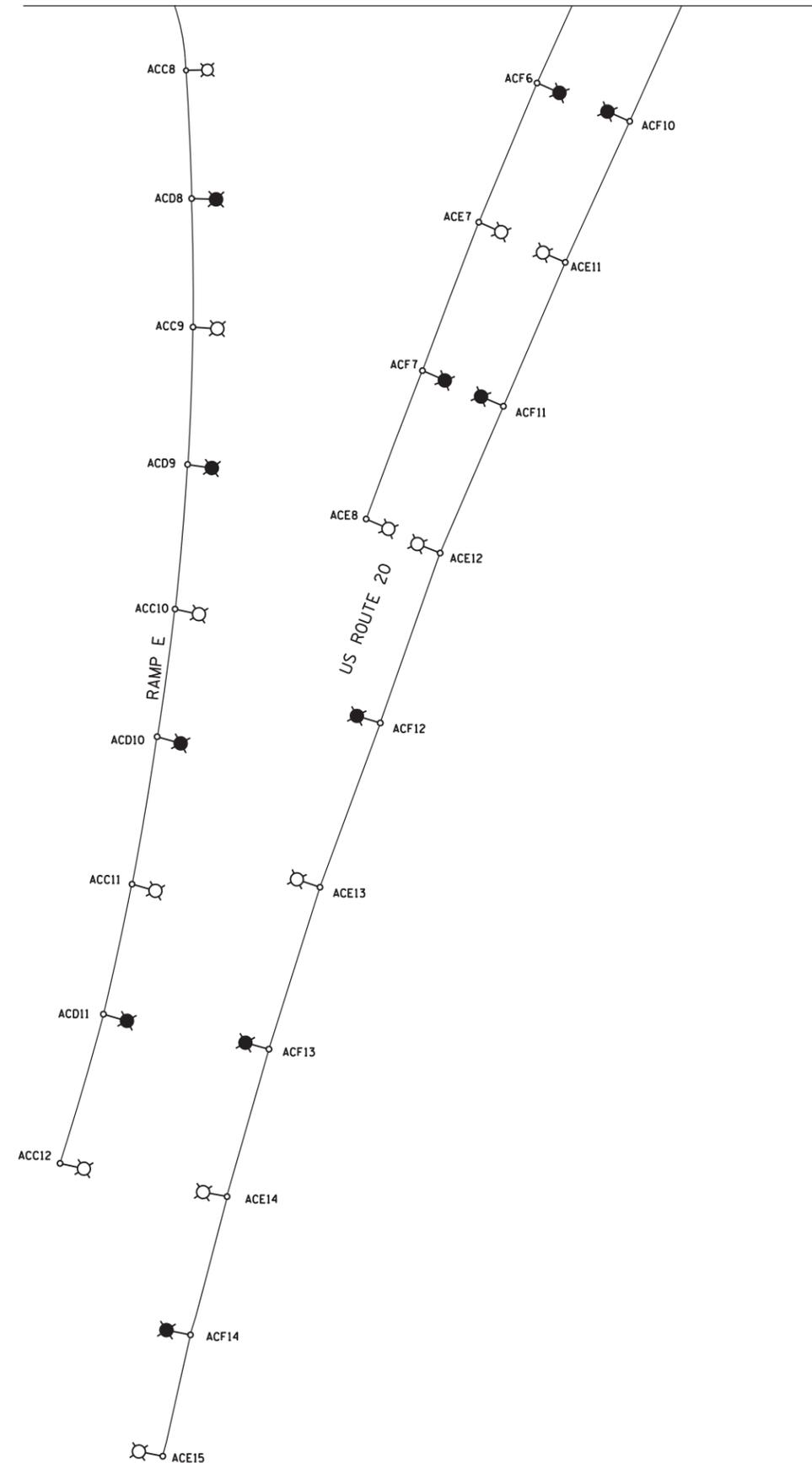
ROADWAY LUMINAIRE 285W, 1.0A  
UNDERPASS LUMINAIRE 134.2W, 0.62A

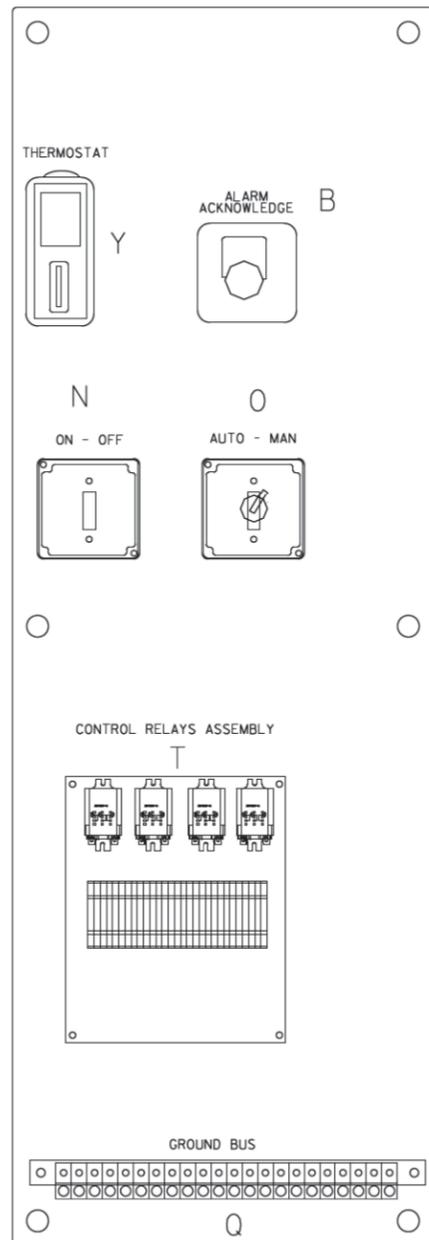
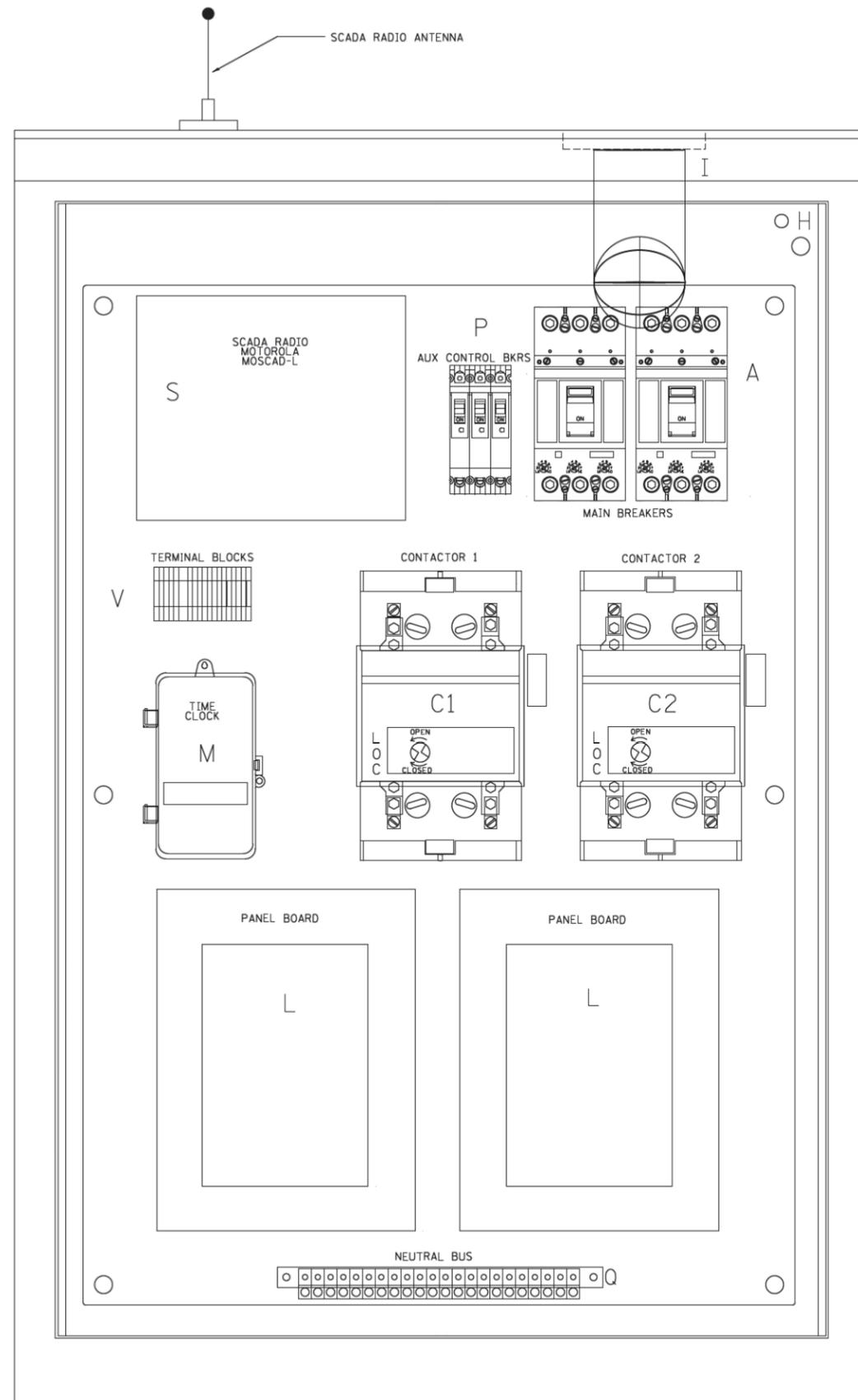
CIRCUIT	ROADWAY LUMINAIRES	UNDERPASS LUMINAIRES	TOTAL AMPS	TOTAL WATTS
A	8	0	8.0	2,280
B	6	0	6.0	1,710
C	12	0	12.0	3,420
D	11	0	11.0	3,135
E	15	0	15.0	4,275
F	14	0	14.0	3,990
G	6	3	8.0	2,112
H	7	3	9.0	2,397
I	0	2	1.2	268
J	0	1	0.6	134
SUB TOTAL	79	9	85.0	23,730
FUTURE GROWTH 20%			17.0	4,750
TOTAL			102.0	28,480

RATING OF CONTROLLER = 200 AMPS, ALLOWED 160 AMPS

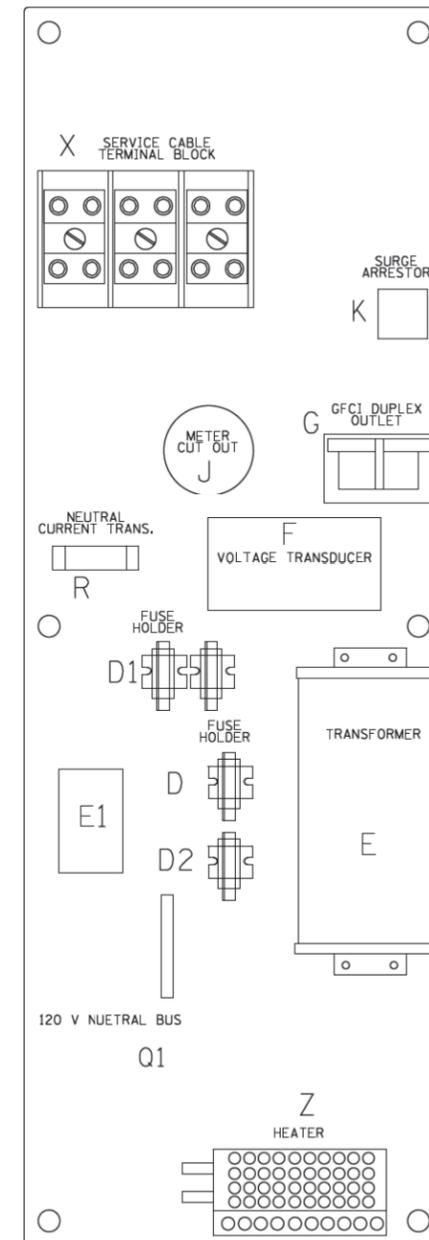
**NOTES:**

- 1. FOR NOTES AND LEGEND, SEE SHEET LT-16.





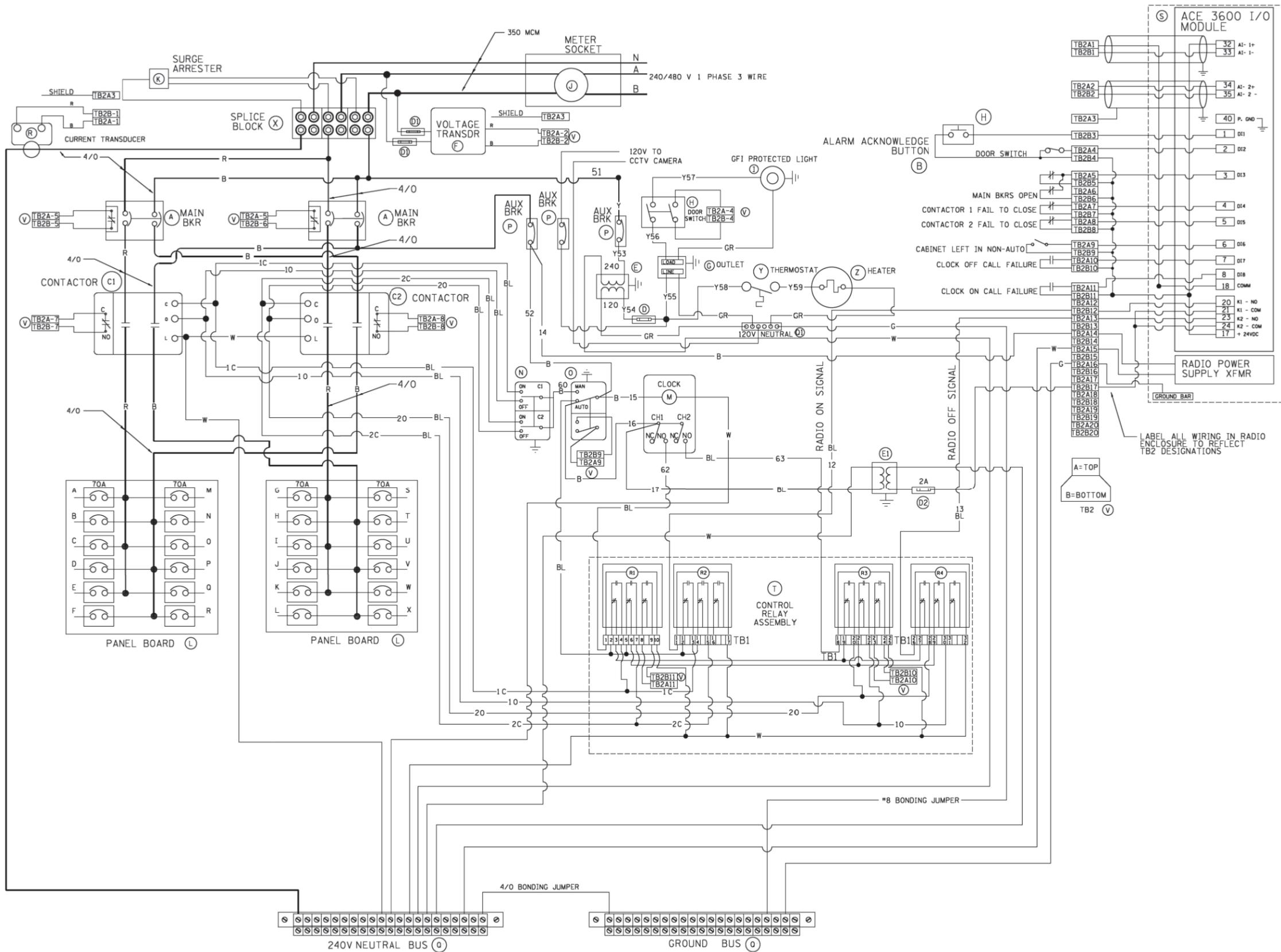
LEFT SIDE PANEL



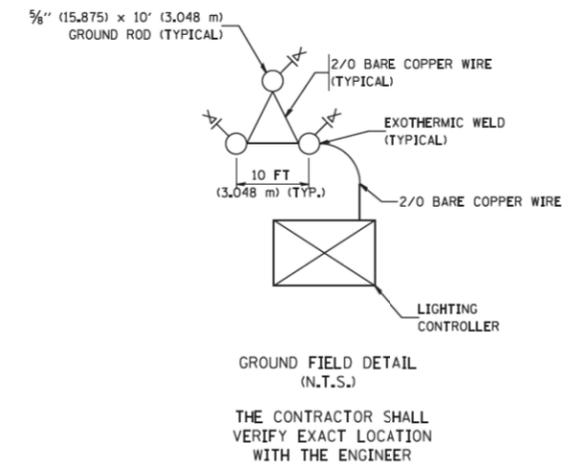
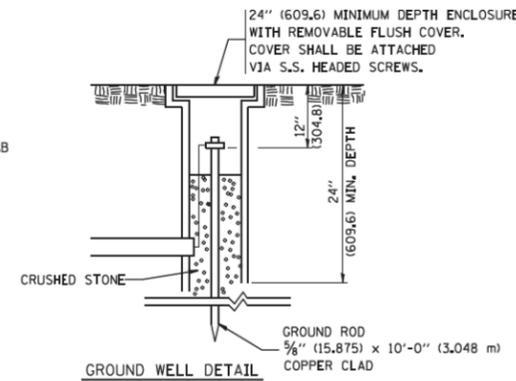
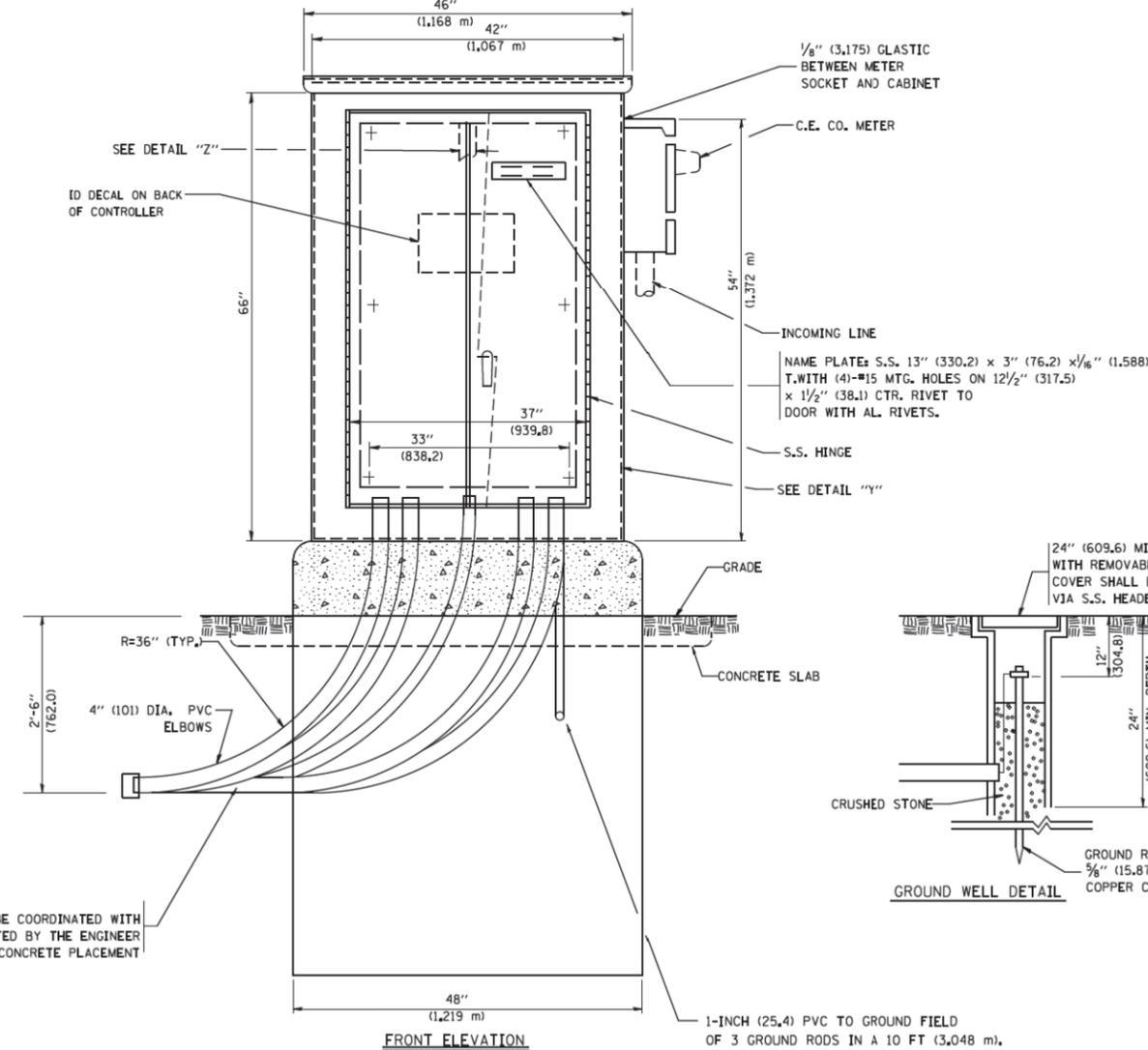
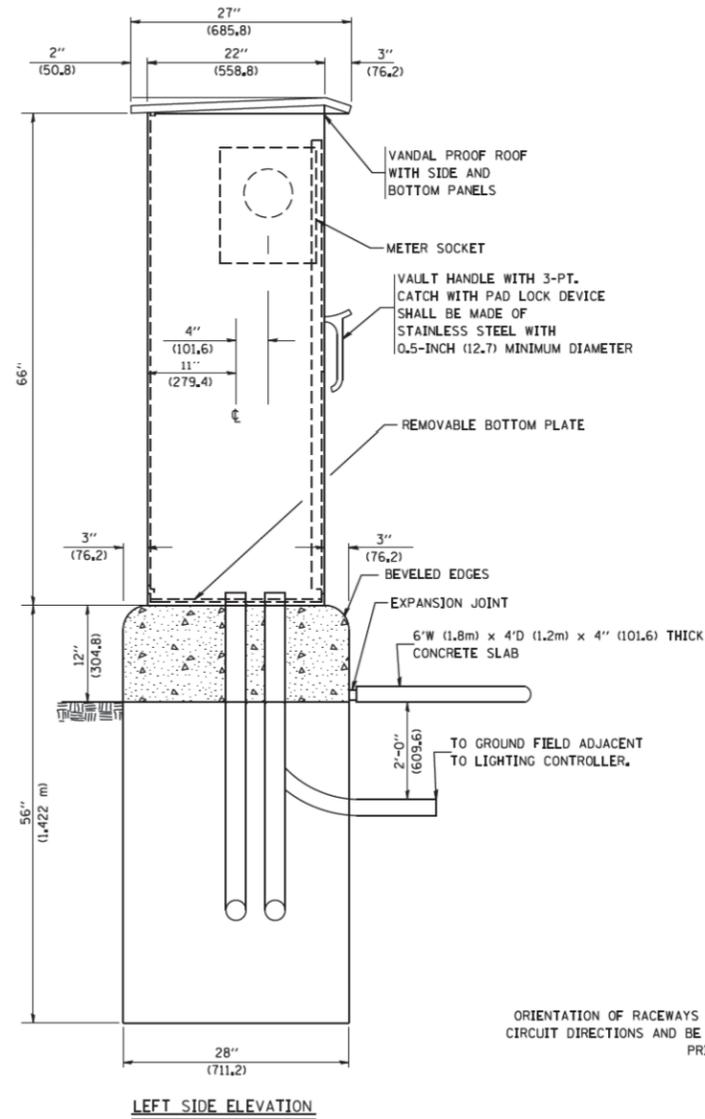
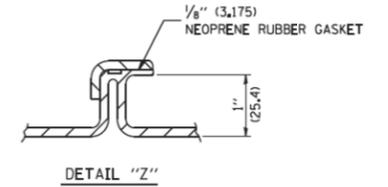
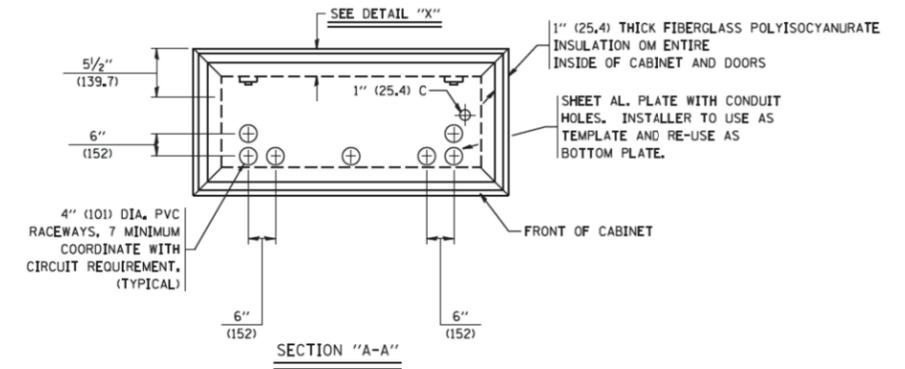
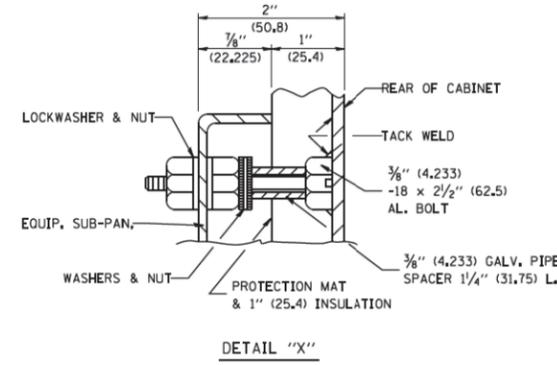
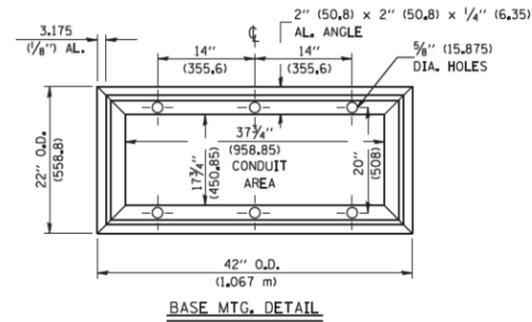
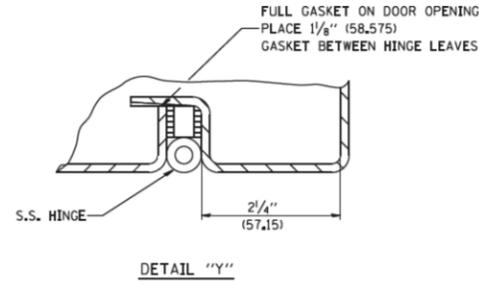
RIGHT SIDE PANEL

BILL OF MATERIALS		
ITEM	QTY	DESCRIPTION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 200 AMP WITH AUX CONTACT
B	1	ACKNOWLEDGE SWITCH, PUSH BUTTON WITH YELLOW INSERT
C1, C2*	2	CONTACTOR 2 POLE 200 AMP 240V COIL WITH AUX CONTACTS
D	1	FINGERSAFE FUSE HOLDER WITH KTK-20 FUSE
D1	2	FINGERSAFE FUSE HOLDER WITH KTK-1/2 FUSE
D2	1	FINGERSAFE FUSE HOLDER WITH KTK-2A FUSE
E	1	2.0 KVA 277V-240/120 TRANSFORMER
E1	1	0.25 KVA 240/120 - 24 VAC TRANSFORMER
F	1	VOLTAGE TRANSDUCER WITH COVERED TERMINALS
G	1	20 AMP GFCI DUPLEX OUTLET W/COVER
H	2	DOOR SWITCH
I	1	LIGHT FIXTURE
J	1	METER FITTING 1 PHASE 3 WIRE 200 AMP
K	1	SURGE ARRESTER
L	2	PANEL BOARD 480/240V 1 PHASE, 250 AMP COPPER BUS
M	1	2 CHANNEL DIGITAL TIME CLOCK
N	1	MOMENTARY SWITCH ON - OFF
O	1	SQUARE D, 9001KS11BH13, 2 POSITION SWITCH IN 9001KY1 ENCLOSURE OR APPROVED EQUAL
P	2	BREAKER 1P 15A
Q	2	COPPER GROUND AND NEUTRAL BUS 1 x 16 x 1/4
Q1	1	COPPER NEUTRAL BUS WITH 1 #6 AND 8 #12 CONDUCTOR POINTS
R	1	CURRENT TRANSDUCER
S	1	MOTOROLA MOSCAD-L RADIO, 240 V
T*	1	CONTROL RELAY ASSEMBLY 240V COILS WITH 4 3 PDT 25A RELAYS (W389ACX-15) (R1, R2, R3, R4) . QTY 32 TERMINAL BLOCKS
V	20	TERMINAL BLOCKS
X*	1	620 AMP SLPICE BLOCK
Y	1	40-80 DEG THERMOSTAT
Z	1	375 WATT HEATER

\* TERMINALS SHALL BE COVERED WITH CLEAR PLEXIGLASS SHEET



BILL OF MATERIALS		
ITEM #	QTY	DESCRIPTION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 200 AMP WITH AUX CONTACT
B	1	ACKNOWLEDGE SWITCH, PUSH BUTTON WITH YELLOW INSERT
C1, C2	2	CONTACTOR 2 POLE 200 AMP 240V COIL WITH AUX CONTACTS
D1	2	FINGERSAFE FUSE HOLDER WITH KTK-20A FUSE
D2	1	FINGERSAFE FUSE HOLDER WITH KTK-2A FUSE
E	1	2.0 KVA 277V-240/120 TRANSFORMER
E1	1	0.25 KVA 240/120-24 VAC TRANSFORMER
F	1	VOLTAGE TRANSDUCER
G	1	15 AMP GFCI DUPLEX OUTLET W/COVER
H	2	DOOR SWITCH A-20G0-B7-K
I	1	LIGHT FIXTURE
J	1	METER FITTING 1 PHASE 3 WIRE 200 AMP
K	1	SURGE ARRESTER
L	2	PANEL BOARD 480/240V 1 PHASE, 250 AMP COPPER BUS
M	1	2 CHANNEL DIGITAL TIME CLOCK
N	1	MOMENTARY SWITCH ON - OFF
O	1	SQUARE D, 900K1S1B1H3, 2 POSITION SWITCH IN 900KY1 ENCLOSURE
P	2	BREAKER 1P 15A
Q1	1	COPPER GROUND AND NEUTRAL BUS 1 x 16 x 1/4
R	1	CURRENT TRANSDUCER
S	1	MOTOROLA ACE 3600
T	1	CONTROL RELAY ASSEMBLY 240V COILS WITH 4 3 PDT 25A RELAYS (W389ACX-15) (R1, R2, R3, R4) - QTY 32 TERMINAL BLOCKS
V	20	TERMINAL BLOCKS
X	1	620 AMP SPLICE BLOCK
Y	1	40-80 DEG THERMOSTAT
Z	1	375 WATT HEATER



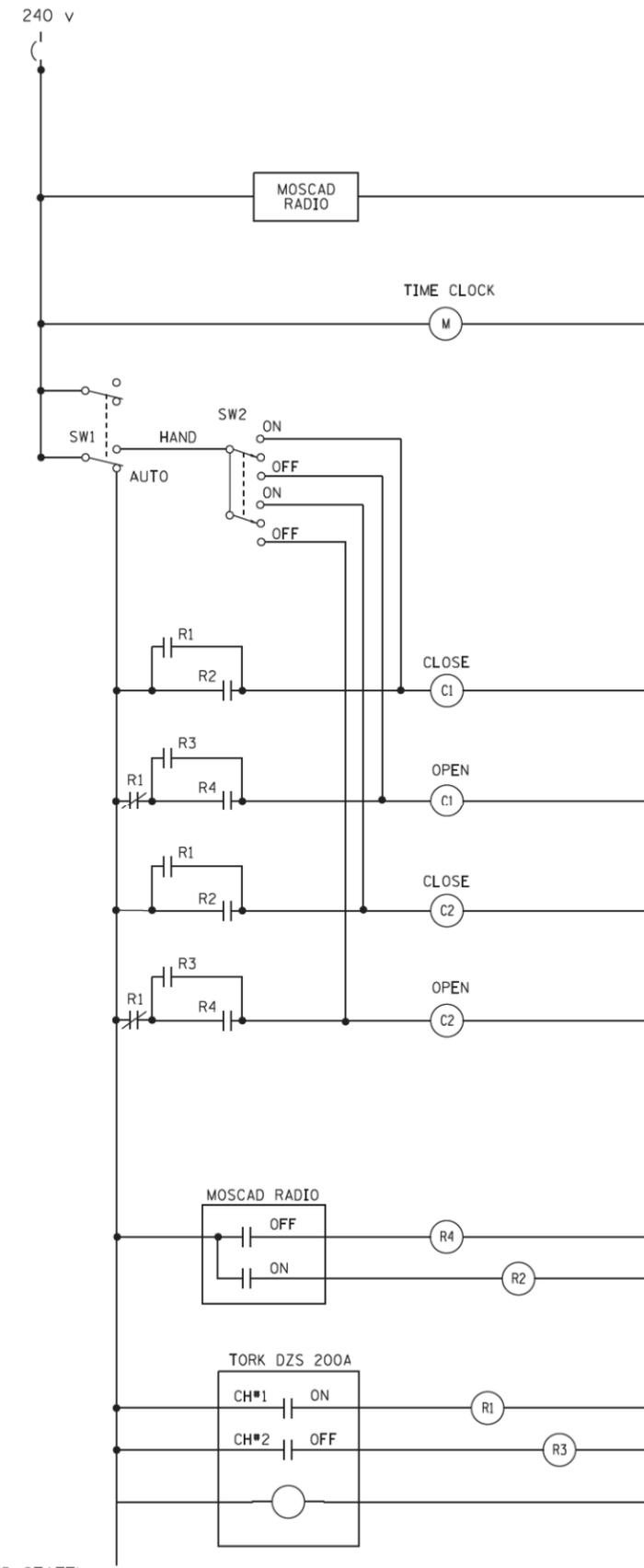
ORIENTATION OF RACEWAYS SHALL BE COORDINATED WITH CIRCUIT DIRECTIONS AND BE INSPECTED BY THE ENGINEER PRIOR TO CONCRETE PLACEMENT

1-INCH (25.4) PVC TO GROUND FIELD OF 3 GROUND RODS IN A 10 FT (3.048 m). TRIANGLE CONNECTED VIA BARE COPPER WIRE. VERIFY EXACT LOCATION OF GROUND FIELD WITH THE ENGINEER. NO GROUND WELL SHALL BE PLACED IN CONCRETE PAD IN FRONT OF CONTROLLER.

NOTES

- CABINET SHALL BE FABRICATED FROM 0.125-INCH (3.175) SHEET ALUMINUM #3003H14, FORMED AND ARC WELDED.
- ALL SCREWS AND HARDWARE SHALL BE PLATED, GALVANIZED, OR MADE OF BRASS, ALUMINUM OR STAINLESS STEEL, UNLESS OTHERWISE NOTED.
- NAME PLATE SHALL HAVE ENGRAVED 0.75-INCH (19.05) HIGH LETTERS FILLED IN BLACK: "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED.
- ONE INCH THICK POLYISOCYANURATE INSULATION SHALL BE INSTALL AND PERMANENTLY CEMENTED ON ALL SIDES OF THE CABINET AND DOORS.
- CABINET SHALL BE PRIMED AND PAINTED AS SPECIFIED.
- ELECTRIC UTILITY METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET AS SHOWN ON THE PANEL LAYOUT DIAGRAM.
- THE COMPLETED CONTROLLER SHALL BE U.L. LISTED AS AN INDUSTRIAL CONTROL PANEL UNDER UL508.
- METAL MOUNTING PANEL SHALL BE FABRICATED FROM THE SAME MATERIAL AS THE CABINET AND SHALL BE FLANGED BACK 0.75-INCHES I.D. ON 4 SIDES.
- CIRCUIT BREAKERS AND CONTACTORS AND OTHER COMPONENTS SHALL BE MOUNTED ON 0.125-INCH (3.175) THICK GLASTIC INSULATION BACK PANEL.
- ALL DEVICES SHALL BE FRONT REMOVABLE.
- TIME CLOCK CHANNEL 1 N.O. CONTACT IS CLOSED NIGHT AND OPEN DAY (LIGHTS ON).
- SET LATITUDE TO 42 DEGREES, SET CH.1 TO 23 MINUTES AFTER ASTRONOMICAL SUNSET, 50 MINUTES BEFORE ASTRONOMICAL SUNRISE. SET CH.2 TO 60 MINUTES AFTER ASTRONOMICAL SUNSET (WITH A SIGNAL LENGTH OF 1 SECOND), +28 MINUTES AFTER ASTRONOMICAL SUNRISE (WITH A SIGNAL LENGTH OF 7 SECONDS.)
- BUS BAR SHALL HAVE 22 LUG TERMINALS SIZED TO ACCOMMODATE REQUIRED WIRE SIZES. 240V NEUTRAL BUS SHALL BE PAINTED WHITE, GROUND BUS SHALL BE PAINTED GREEN, AND THE 120V NEUTRAL BUS SHALL BE PAINTED GREY.
- ALL LUGS SHALL BE OF COPPER SCREWS AND CONNECTORS, SPRING HELD.
- ALL WIRING TERMINATIONS SHALL BE RATED NOT LESS THAN 75 DEGREE CENTIGRADE.
- ALL CONTROL WIRING SHALL BE 600V #12 TYPE MTW, SCADA WIRING SHALL BE #18.
- ALL POWER WIRING SHALL BE 600V TYPE RHH/RHW.
- ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED:
 

R - RED	Y - YELLOW
B - BLACK	W - WHITE
BL- BLUE	G - GREEN
	G - GREY
- MOSCAD I/O WIRING SHALL BE:
  - DIGITAL INPUT (DI) WIRING SHALL BE #18 MTW PURPLE.
  - ANALOG INPUT (AI) WIRING SHALL BE #18, 2/C SHIELDED.
  - AI AND DI WIRING MAY BE BUNDLED TOGETHER, BUT SHALL NOT BE BUNDLED WITH OTHER WIRING.
- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.
- SCHEMATIC SHOWN WITH BREAKER OPEN, CONTACTOR OPEN, CABINET DOOR CLOSED, CLOCK NOT ACTIVE (DE-ENERGIZED STATE).
- A LAMINATED COPY OF THE CIRCUIT SCHEMATIC AND SCADA I/O DIAGRAM (NO SMALLER THAN 11"x17" EACH) SHALL BE ATTACHED TO THE INSIDE OF THE CONTROLLER WITH STAINLESS STEEL SCREWS.

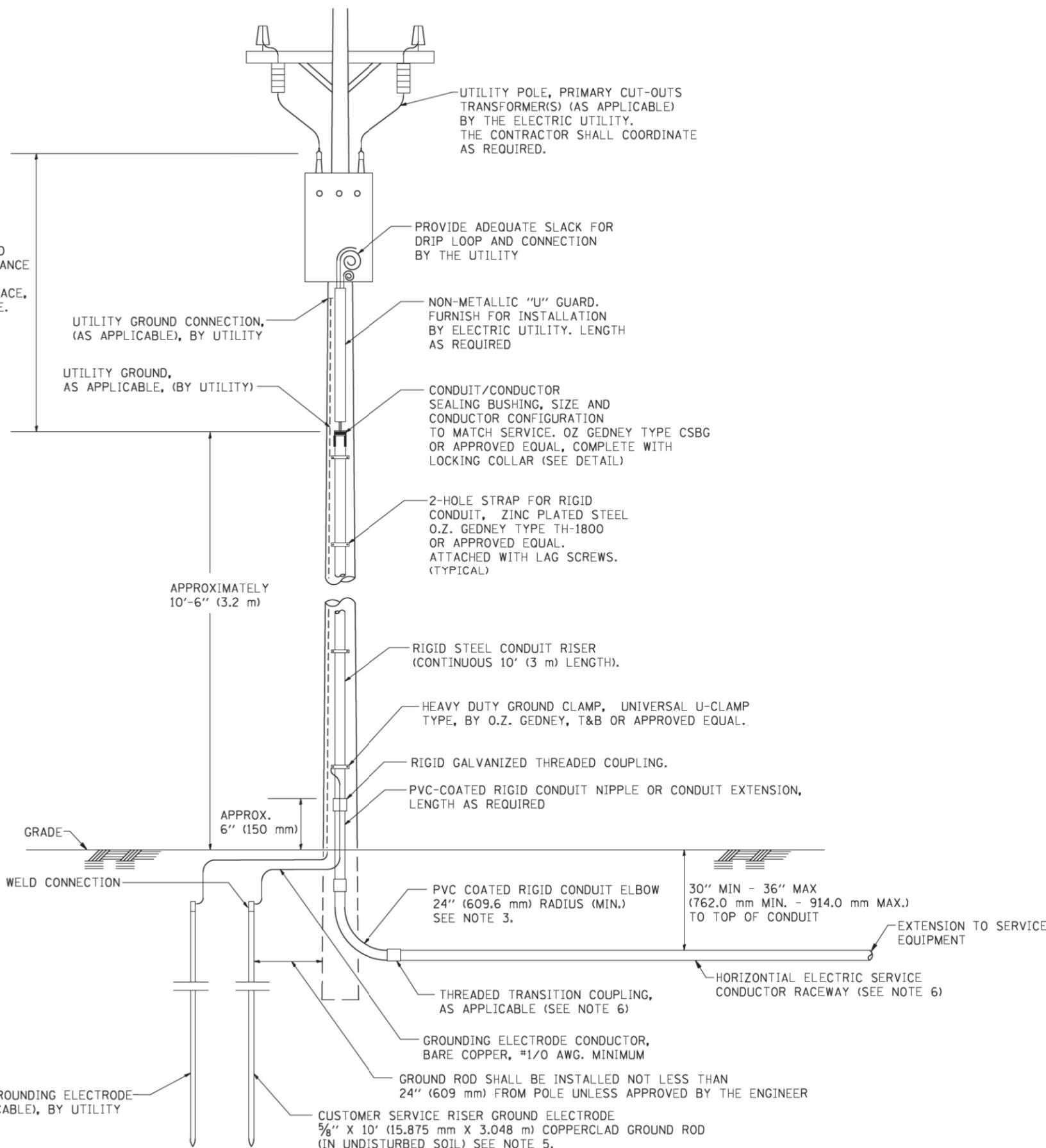


CONTROL CIRCUIT LADDER LOGIC DIAGRAM

MOSCAD I/O ASSIGNMENTS		
TERM	MOSCAD DESTINATION	DESCRIPTION OF INPUT
1	DIGITAL INPUT 1	ALARM KNOWLEDGE
2	DIGITAL INPUT 2	DOOR OPEN
3	DIGITAL INPUT 3	MAINS) BREAKER OPEN
4	DIGITAL INPUT 4	CONTACTOR 1 OPEN
5	DIGITAL INPUT 5	CONTACTOR 2 OPEN
6	DIGITAL INPUT 6	CABINET IN NON-AUTO
7	DIGITAL INPUT 7	BACK-UP CLOCK OFF CALL
8	DIGITAL INPUT 8	BACK-UP CLOCK ON CALL
17	24 V+	24+VDC
18	DI COMMON	COMMON
21	K1 C	K1 COMMON
22	K1 NO	LIGHTS ON CALL
24	K2 C	K2 COMMON
25	K2 NO	LIGHTS OFF CALL
32	ANALOG INPUT 1 (+)	CABINET NEUTRAL CURRENT
33	ANALOG INPUT 1 (-)	CABINET NEUTRAL CURRENT
34	ANALOG INPUT 2 (+)	CABINET SERVICE VOLTAGE
35	ANALOG INPUT 2 (-)	CABINET SERVICE VOLTAGE
40	P. GROUND	GROUND

ALL ANALOG INPUTS WILL BE 4-20 MA ONLY. DIGITAL OUTPUT RELAYS WILL BE ELECTRICALLY ENERGIZED AND MOMENTARILY HELD  
MIXED I/O MODULE MODEL NUMBER V436

ASCERTAIN AND ASSURE CLEARANCE FROM UTILITY SECONDARY SPACE, AS APPLICABLE.

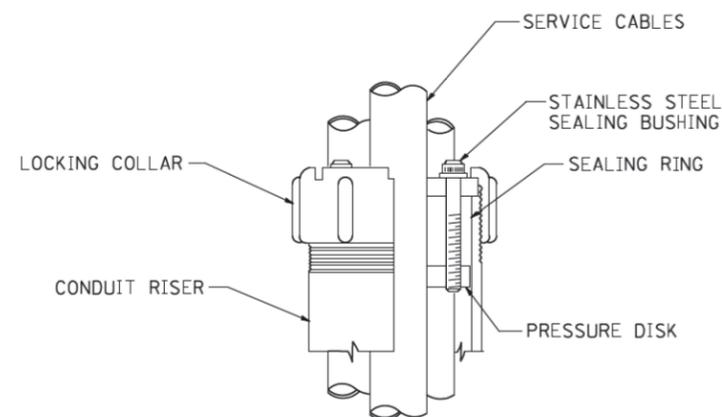


**APPLICATION**

THIS DETAIL APPLIES FOR LOW VOLTAGE ELECTRIC SERVICE (660 V OR LESS) FROM AN OVERHEAD UTILITY SUPPLY TO SEPERATLY-MOUNTED SERVICE EQUIPMENT.

**NOTES**

- SERVICE VOLTAGE SHALL BE AS INDICATED ELSEWHERE IN THE DRAWINGS.
- UNLESS OTHERWISE INDICATED, ITEMS AND WORK SHALL BE INCLUDED AND PAID AS PART OF THE ELECTRIC UTILITY SERVICE INSTALLATION PAY ITEM.
- CONDUIT AND CONNECTOR DIAMETER SHALL MATCH THE DIAMETER OF THE SERVICE CONDUCTOR RACEWAY AS INDICATED ON THE PLANS.
- PVC COATED RACEWAYS AND ACCESSORIES SHALL BE CAREFULLY INSTALLED WITH MFR RECOMMENDED TOOLS AND PROCEDURES TO AVOID DAMAGE. ANY DAMAGE SHALL BE REPAIRED WITH COMPATIBLE PVC TOUCH-UP MATERIAL TO THE SATISFACTION OF THE ENGINEER OR THE DAMAGED MATERIAL SHALL BE REPLACED AT NO ADDITIONAL COST.
- THE CONTRACTOR SHALL OBTAIN INSPECTION AND APPROVAL BY THE ENGINEER OF SERVICE RISER GROUND ELECTRODE, RISER ELBOW, NIPPLE AND CONNECTION TO SERVICE CONDUCTOR RACEWAY EXTENSION BEFORE BACKFILL AND SHALL ALSO OBTAIN INSPECTION OF SERVICE RISER AND SEALING BUSHING BEFORE UTILITY "U" GUARD INSTALLATION AND SERVICE CONNECTION.
- THE HORIZONTAL ELECTRIC SERVICE CONDUCTOR RACEWAY SHALL BE AS INDICATED AND SHALL BE MEASURED SEPARATELY FOR PAYMENT. WHEN THE RACEWAY IS PVC-COATED RIGID GALVANIZED STEEL, THE COUPLING SHALL BE THE SAME. WHEN THE RACEWAY IS PVC CONDUIT (IN CONCRETE), THE COUPLING SHALL BE A METALIC TO NON METALIC ADAPTER. WHEN THE RACEWAY IS ENCASED IN CONCRETE, THE CONCRETE SHALL EXTEND TO COVER THE COUPLING.
- PLANS AND DETAILS INDICATE THE GENERAL NATURE AND REQUIREMENTS. THEY DO NOT SHOW EVERY ACCESSORY AND ATTACHMENT, AND THEY DO NOT RELIEVE THE CONTRACTOR OF THE REQUIREMENTS OF THE SPECIFICATIONS AND SPECIAL PROVISIONS TO ASCERTAIN UTILITY REQUIREMENTS AND TO COORDINATE ACCORDINGLY, FURNISHING ALL ITEMS AND WORK NOT PROVIDED BY THE UTILITY, BUT NECESSARY FOR A COMPLETE SERVICE INSTALLATION IS REQUIRED AND SHALL BE INCLUDED IN THE ELECTRIC UTILITY SERVICE INSTALLATION PAY ITEM.



**SEALING BUSHING DETAIL**

LT-22

**AMES Engineering, Inc.**  
CONSULTING ENGINEERS  
5413 Walnut Avenue  
Downers Grove, IL 60515

USER NAME = geglanoht  
PLOT SCALE = 50.0000' / IN.  
PLOT DATE = 1/4/2008

DESIGNED -  
DRAWN -  
CHECKED - MEA  
DATE -

REVISED - 03-03-06  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

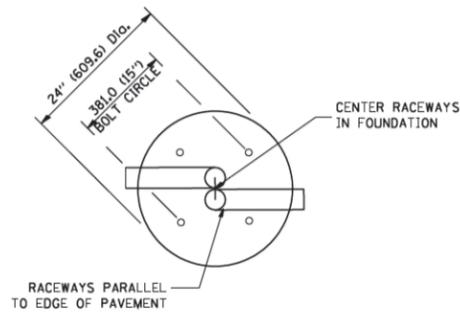
**ELECTRIC SERVICE INSTALLATION  
AERIAL, REMOTE DISCONNECT**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

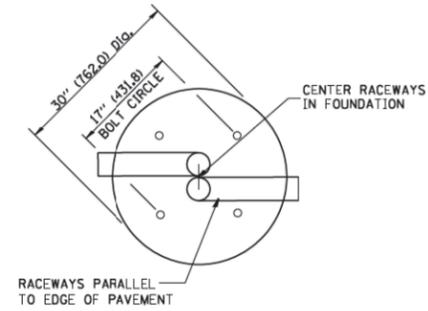
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	257
BE-220			CONTRACT NO. 60V57	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

**LIGHT POLE FOUNDATION DEPTH TABLE**  
40 FT. (12.192 m) TO 47.5 FT. (14.478 m) MOUNTING HEIGHT

SOIL CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION	
	SINGLE ARM POLE	TWIN ARM POLE
SOFT CLAY Ou = 0.375 TON/SQ. FT.	13'-0" (3.96 m)	15'-0" (4.57 m)
MEDIUM CLAY Ou = 0.75 TON/SQ.FT	9'-6" (2.93 m)	10'-9" (3.23 m)
STIFF CLAY Ou = 1.50 TON/SQ. FT.	7'-0" (2.13 m)	8'-0" (2.44 m)
LOOSE SAND φ = 34°	9'-0" (2.74 m)	10'-0" (3.05 m)
MEDIUM SAND φ = 37.5°	8'-3" (2.52 m)	9'-0" (2.74 m)
DENSE SAND φ = 40°	7'-9" (2.36 m)	7'-0" (2.13 m)



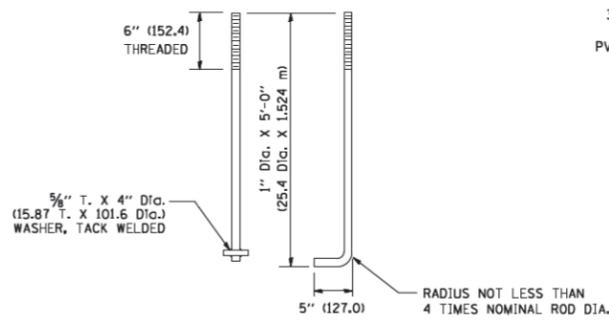
**TOP VIEW**



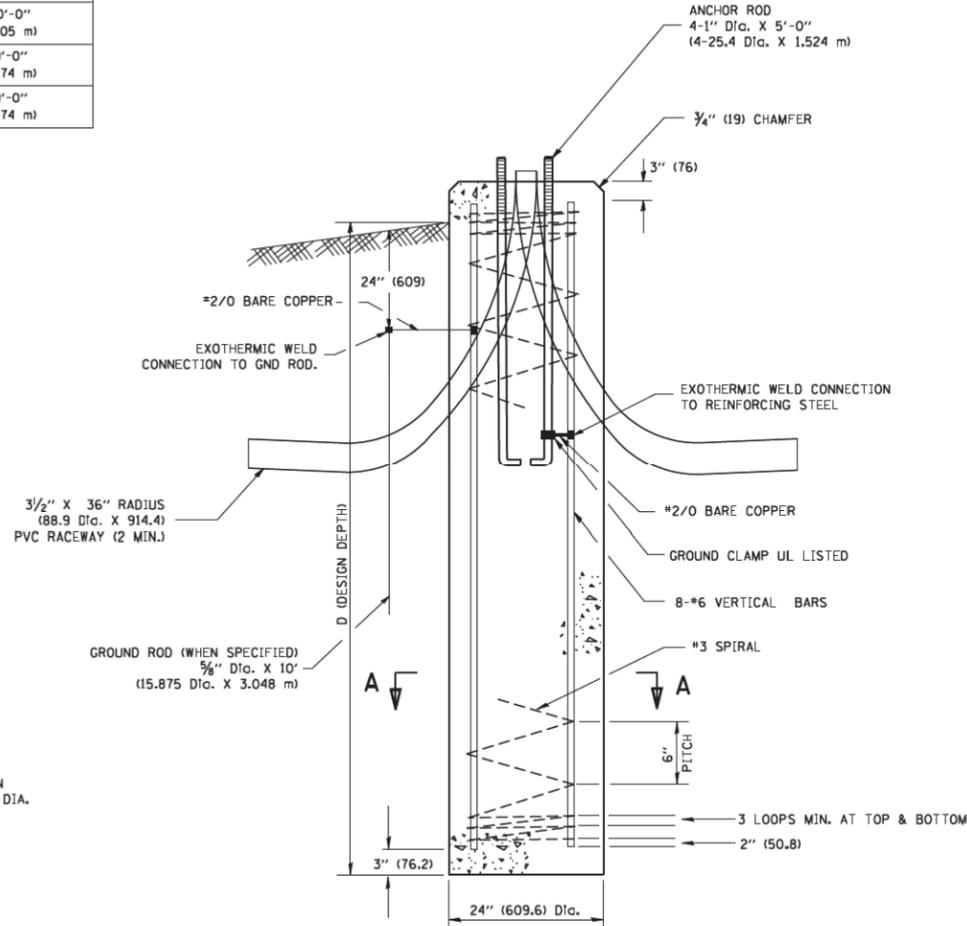
**TOP VIEW**

**NOTES**

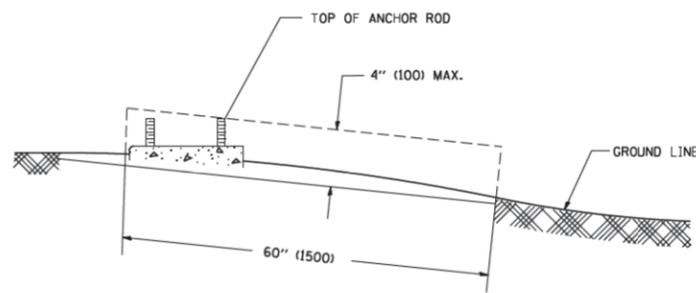
- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED.
- THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED, IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
- THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
- THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED 3/4-IN. (20 mm).
- THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
- THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 D4, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
- ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UMG MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
- THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
- ANCHOR RODS SHALL PROJECT 2 3/4" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
- THE CONTRACTOR SHALL USE A #3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE #3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
- THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
- THE RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.



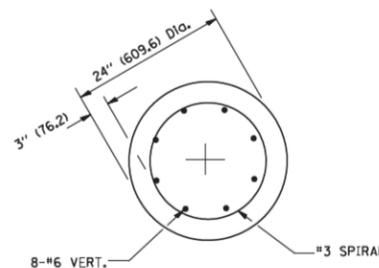
**ANCHOR ROD DETAIL**



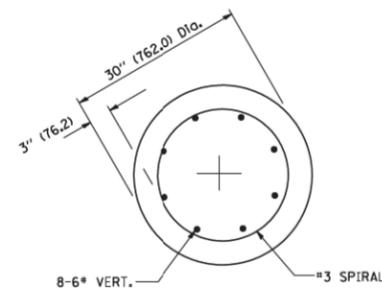
**FOUNDATION DETAIL**



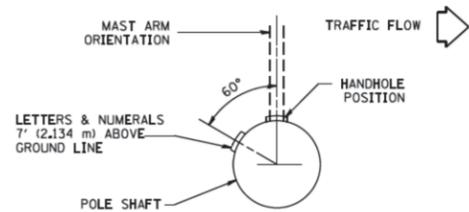
**FOUNDATION EXTENSION DETAIL**



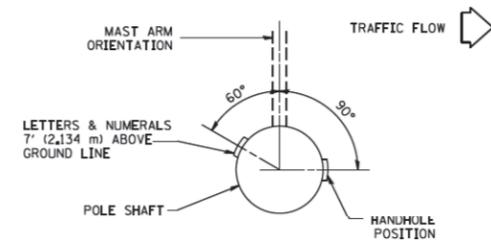
**SECTION A-A**



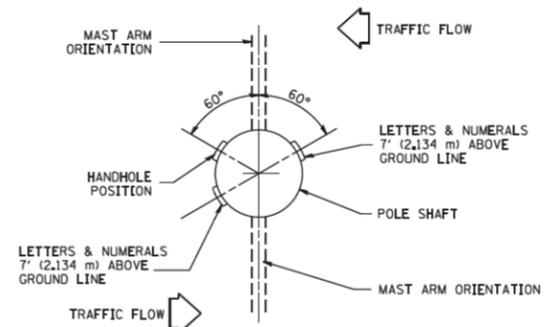
**SECTION A-A**



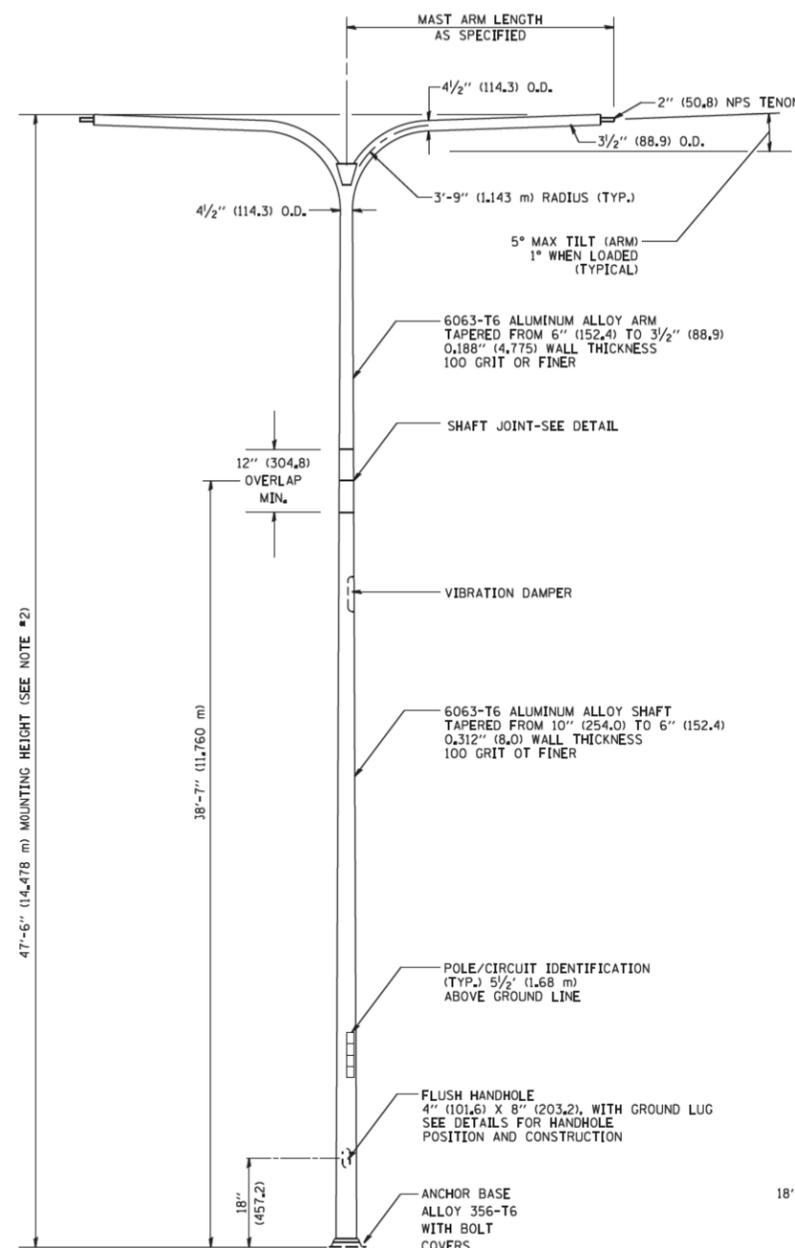
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES MOUNTED ON BRIDGE PARAPET OR BARRIER WALL



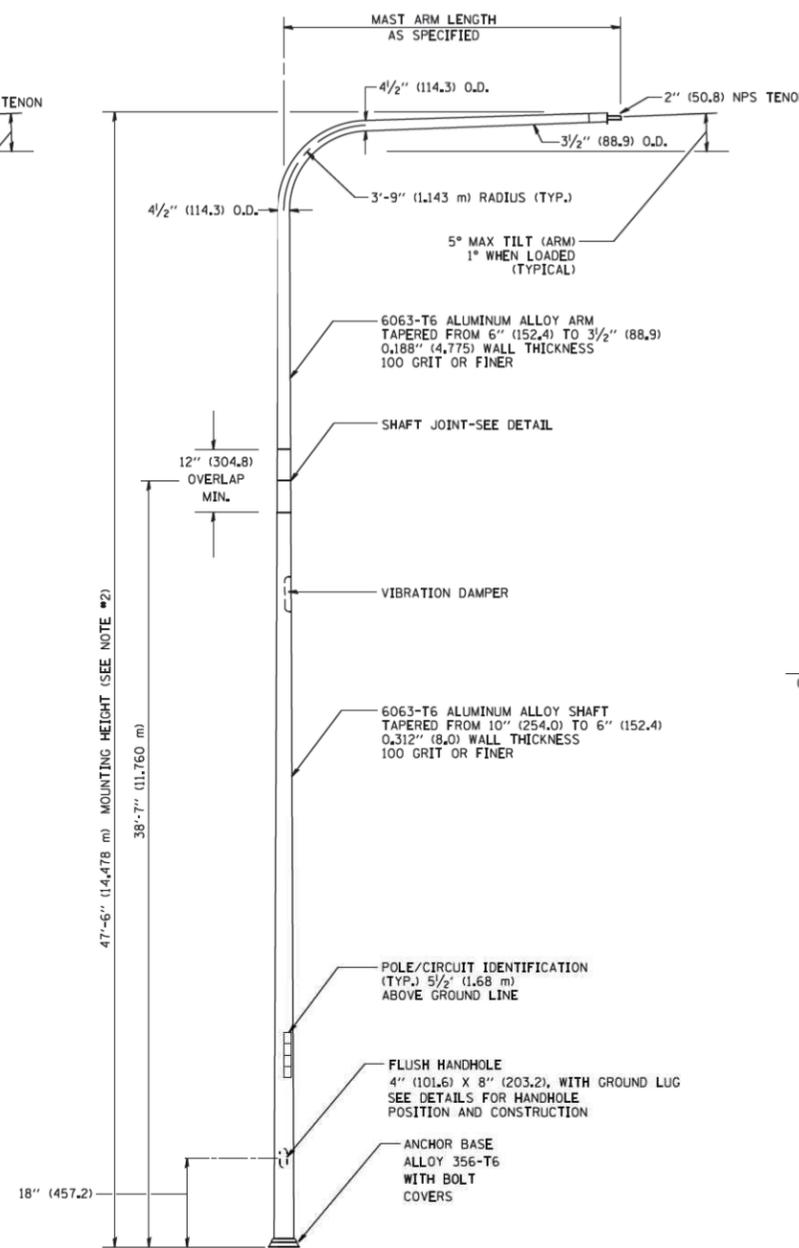
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



POSITION OF HANDHOLE AND POLE NUMBER FOR TWIN MAST ARM POLES

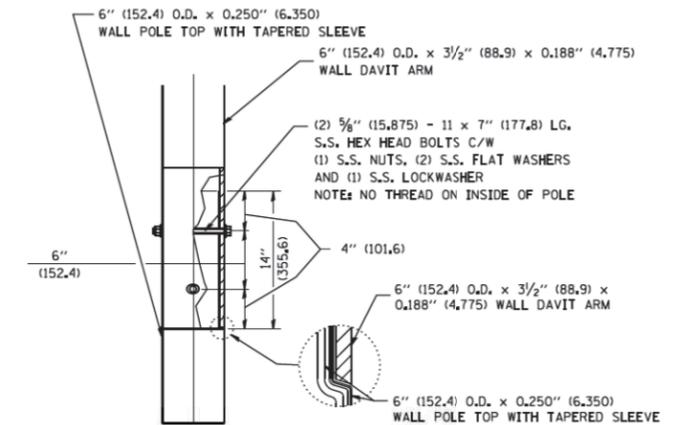


TWIN ARM POLE

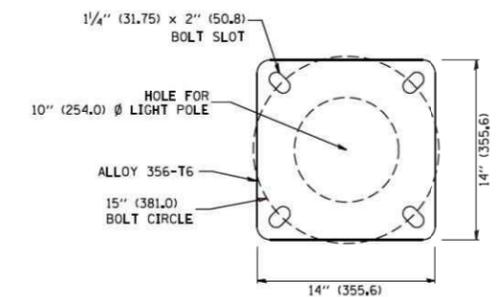


SINGLE ARM POLE

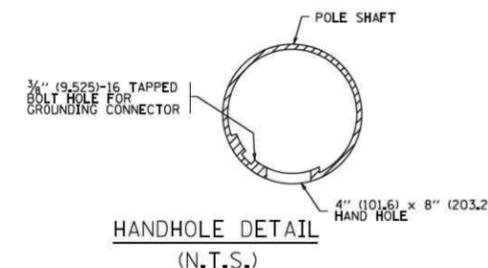
- NOTES:
1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
  2. MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
  3. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE HOLES WILL NOT BE ALLOWED.
  4. THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
  5. THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR, BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.
  6. LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.
  7. LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.
  8. LIGHTING UNIT IDENTIFICATION NUMBERS SHALL BE INSTALLED BEFORE THE LIGHTING UNIT IS ENERGIZED.



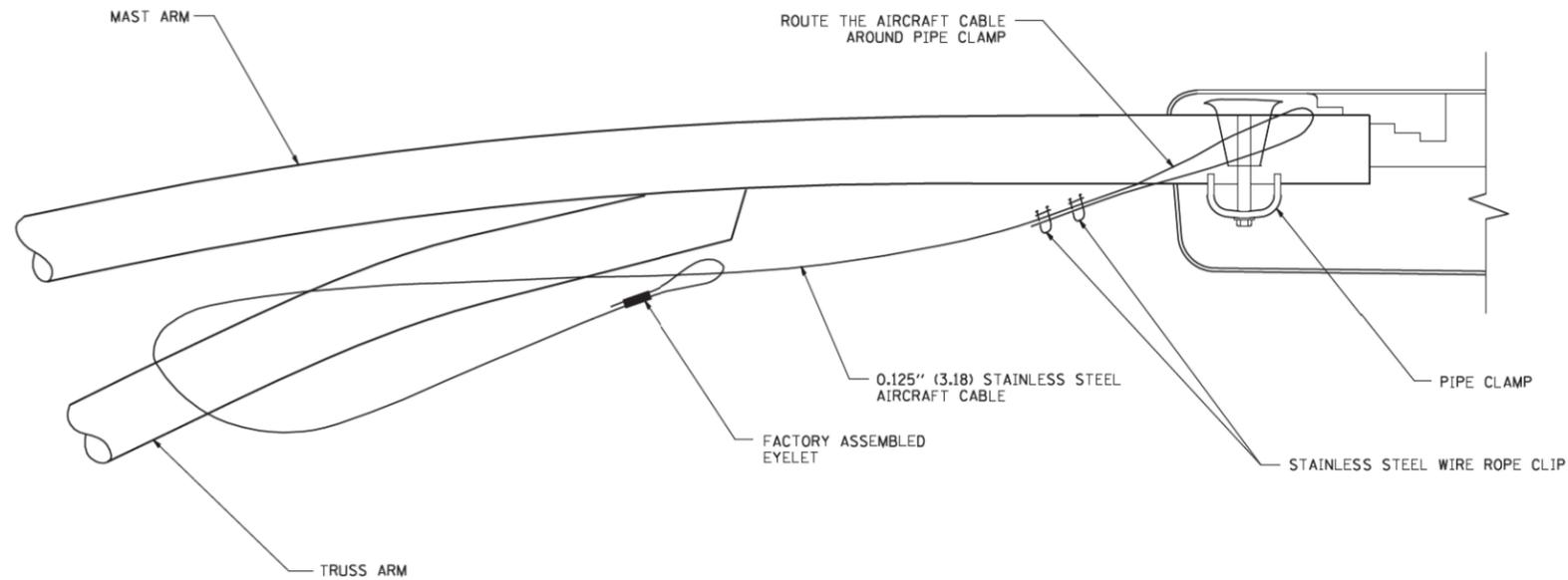
DAVIT ARM CONNECTION  
[14" (355.6) OVERLAP SHOWN]



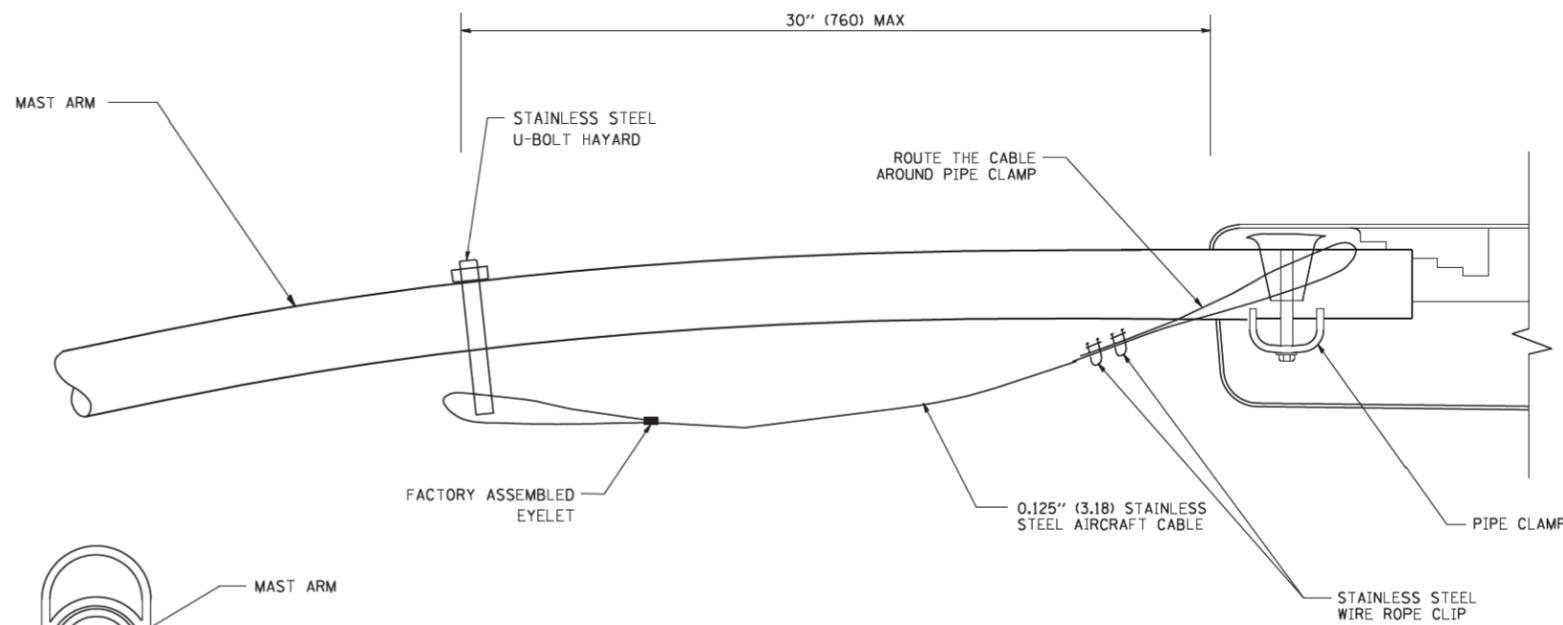
LIGHT POLE BASE PLATE DETAIL  
(FOR POLE MOUNTED ON 15 INCH (381.0) BOLT CIRCLE FOUNDATION)



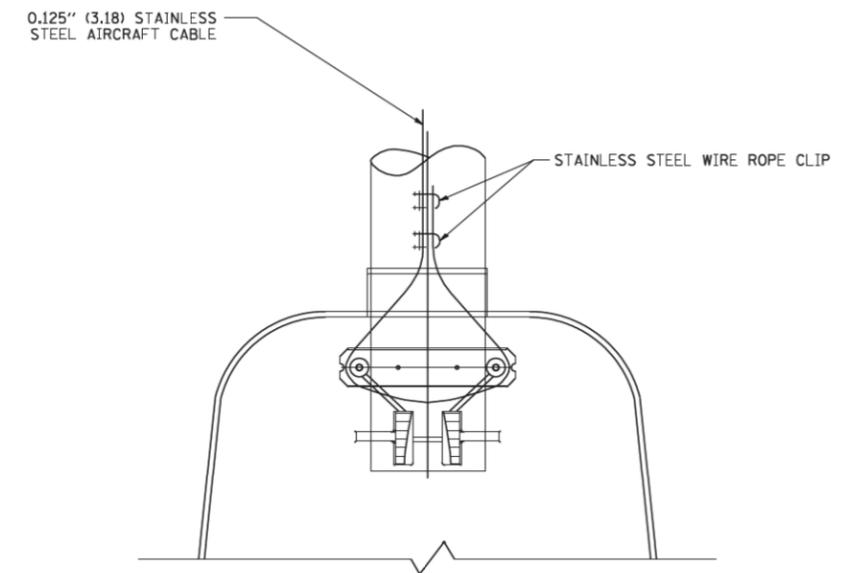
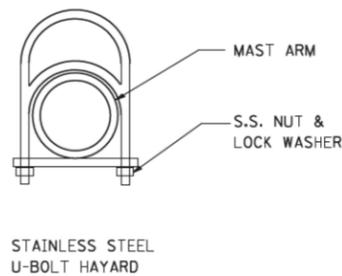
HANDHOLE DETAIL  
(N.T.S.)



**SIDE VIEW (TRUSS ARM)**  
N.T.S.



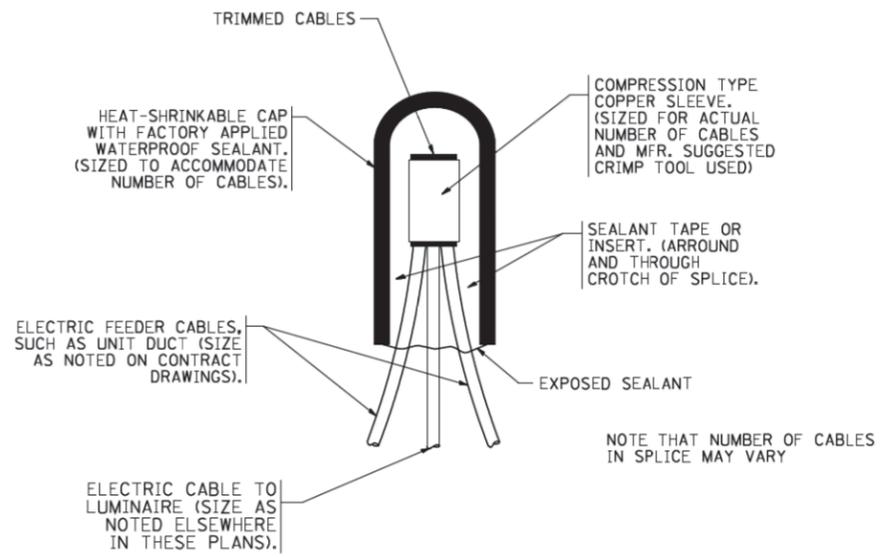
**SIDE VIEW (SINGLE MEMBER OR DAVIT ARM)**  
N.T.S.



**BOTTOM VIEW**  
N.T.S.

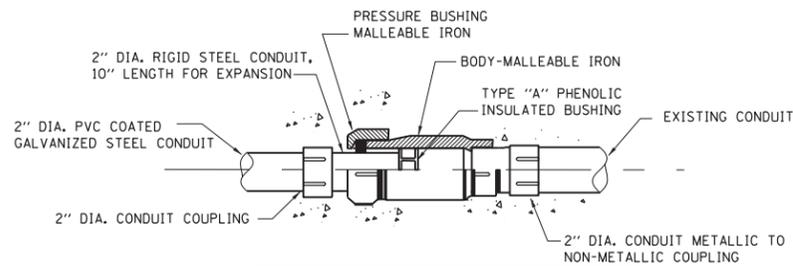
**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
2. CONTRACTOR SHALL ADJUST THE WIRE CLIP TO ELIMINATE ANY SLACK FROM THE WIRE ROPE.
3. THE 0.125" (3.18) STAINLESS STEEL AIRCRAFT CABLE SHALL REMAIN VISIBLE FROM THE GROUND LEVEL.
4. THE BREAKING STRENGTH OF THE CABLE SHALL BE 1700 LBS. MIN.



TYPICAL SPLICE DETAIL

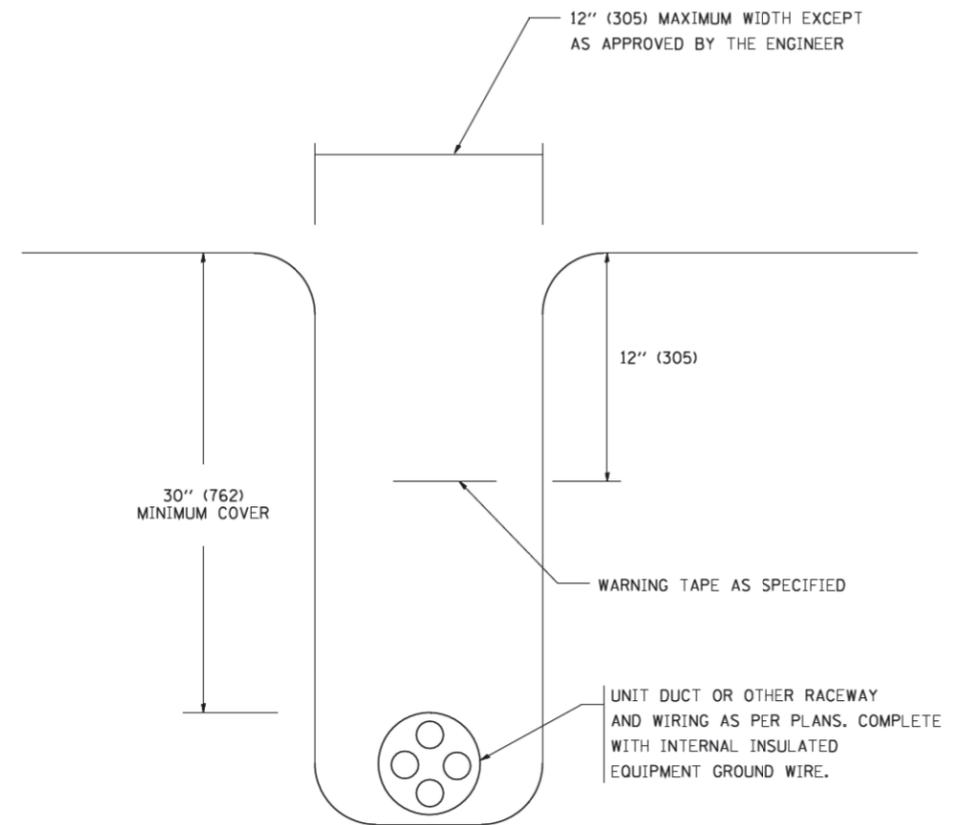
N.T.S.



NOTE:  
ALL CONDUIT FITTINGS, AND COUPLINGS SHALL BE INCLUDED IN THE COST OF 2" DIA. CONDUIT

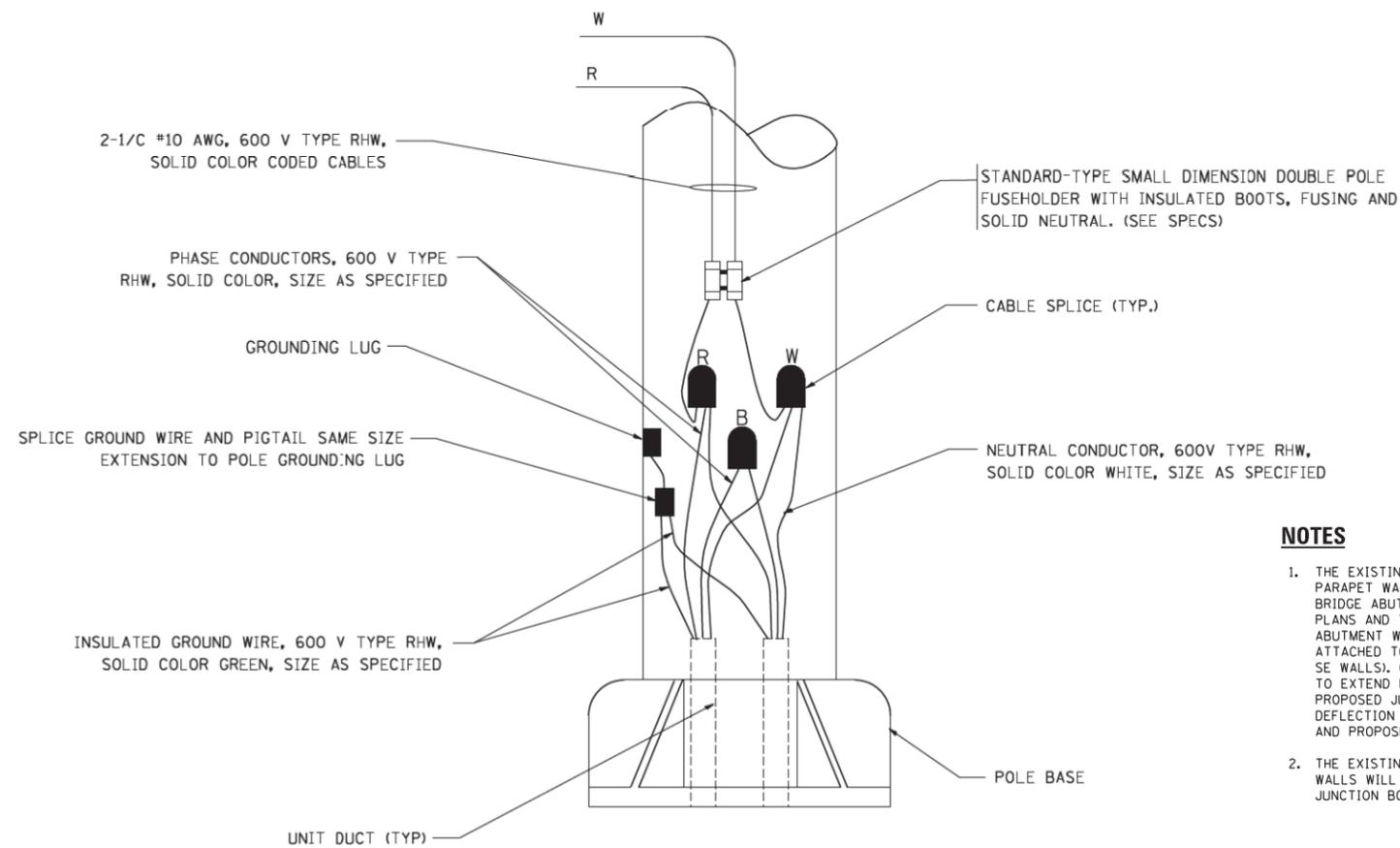
**CONDUIT EXPANSION FITTING**

USE 0-2 GEDNEY AX-8-200, OR APPROVED EQUAL



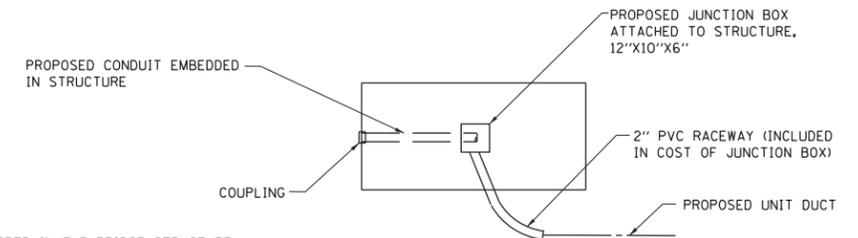
TYPICAL WIRING IN TRENCH DETAIL

N.T.S.



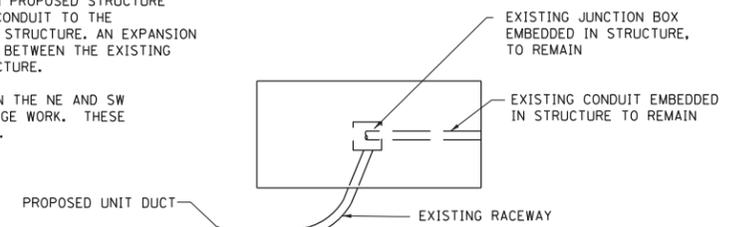
POLE WIRING DETAIL

N.T.S.



ELEVATION (NW+SE)

N.T.S.

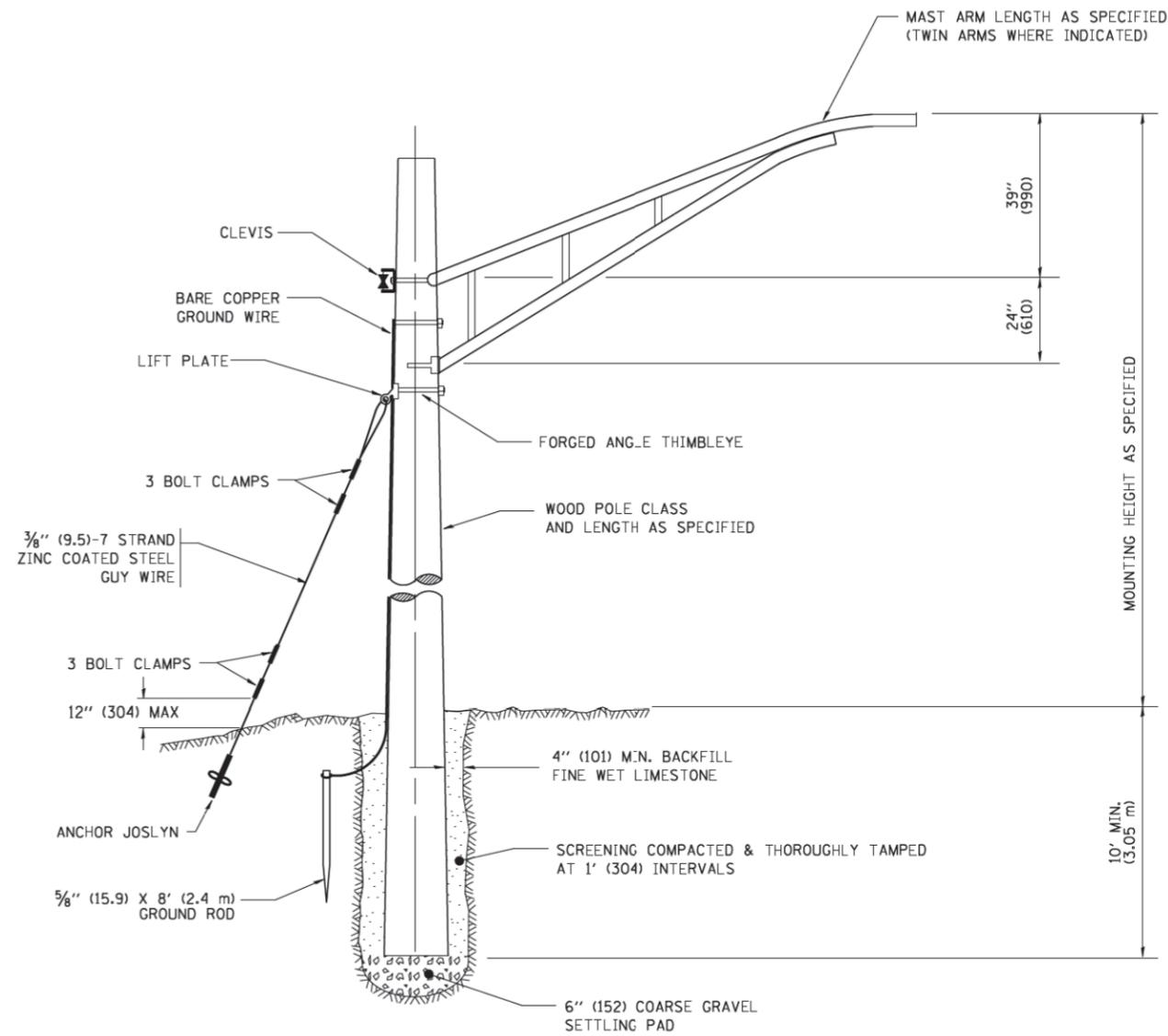


ELEVATION (NE+SW)

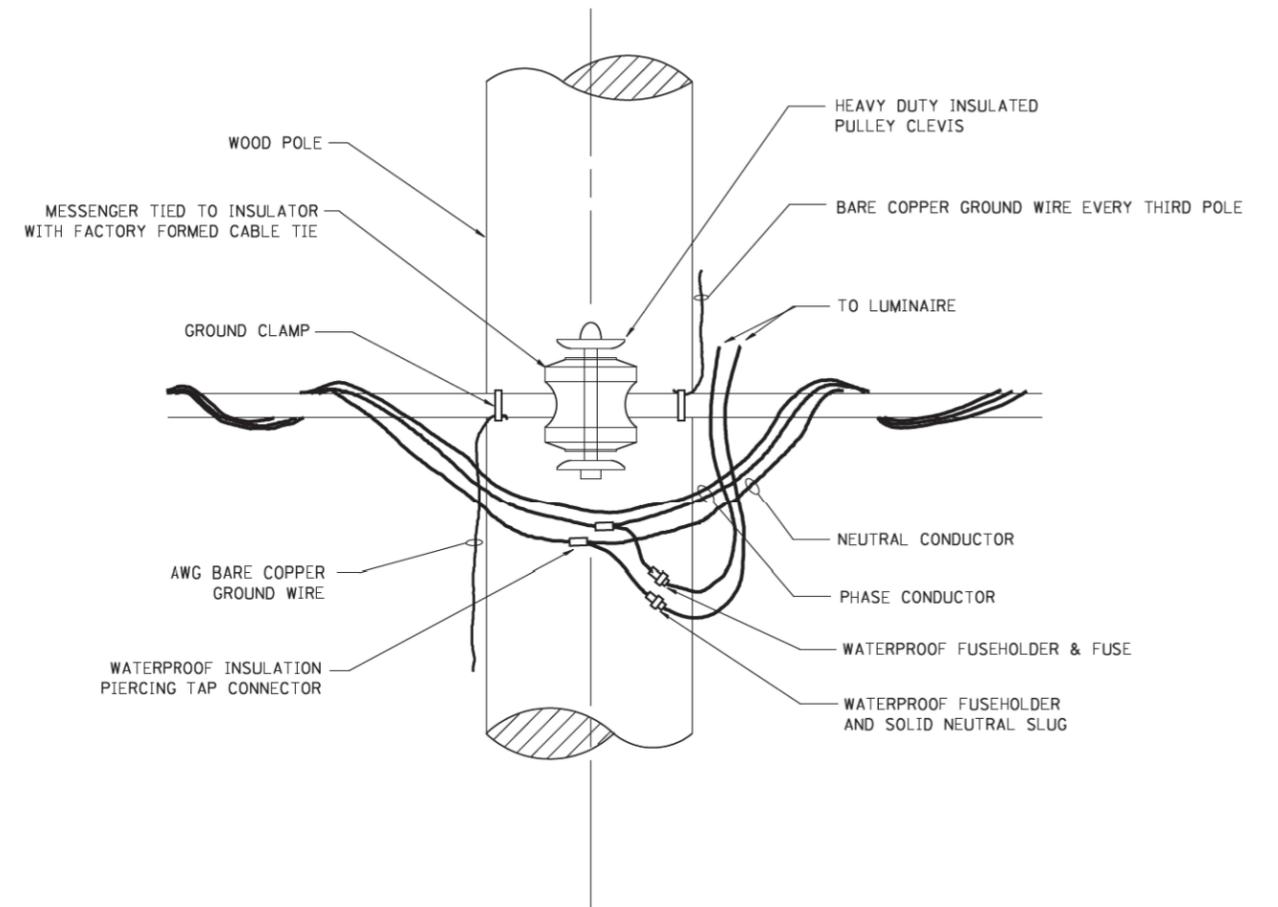
N.T.S.

**NOTES**

1. THE EXISTING CONDUIT EMBEDDED IN THE BRIDGE STRUCTURE PARAPET WALLS SHALL REMAIN FOR RE-USE. THE EXISTING BRIDGE ABUTMENT WALLS WILL BE REPLACED PER BRIDGE PLANS AND THE EXISTING JUNCTION BOXES EMBEDDED IN THE ABUTMENT WALLS SHALL BE REPLACED WITH NEW JUNCTION BOXES ATTACHED TO THE BACK OF THE NEW ABUTMENT WALL (NW AND SE WALLS). CONDUIT SHALL BE EMBEDDED IN PROPOSED STRUCTURE TO EXTEND FROM THE EXISTING EMBEDDED CONDUIT TO THE PROPOSED JUNCTION BOX ATTACHED TO THE STRUCTURE. AN EXPANSION DEFLECTION COUPLING SHALL BE INSTALLED BETWEEN THE EXISTING AND PROPOSED CONDUIT EMBEDDED IN STRUCTURE.
2. THE EXISTING JUNCTION BOXES EMBEDDED IN THE NE AND SW WALLS WILL NOT BE IMPACTED BY THE BRIDGE WORK. THESE JUNCTION BOXES SHALL REMAIN FOR RE-USE.



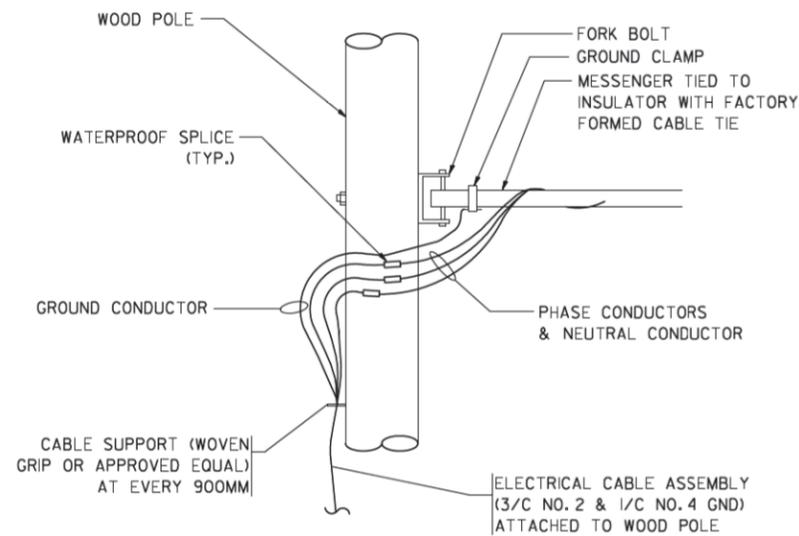
TEMPORARY LIGHT POLE DETAIL



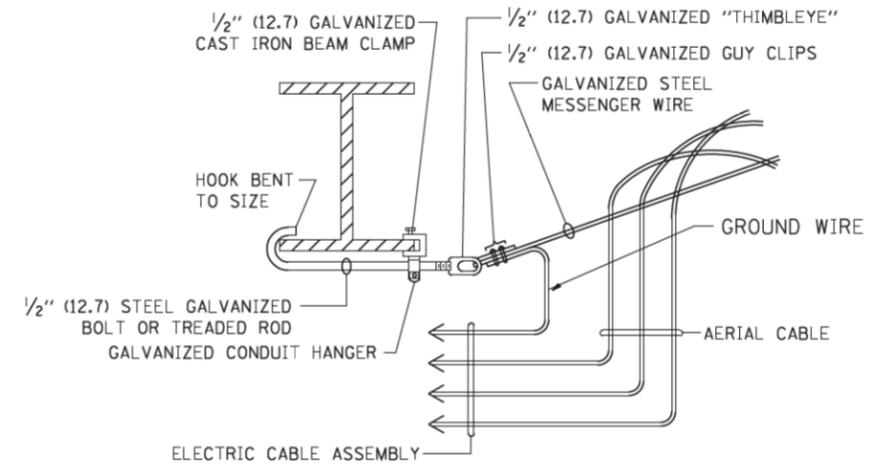
TEMPORARY LIGHT POLE ATTACHMENT DETAIL

NOTES:

1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED



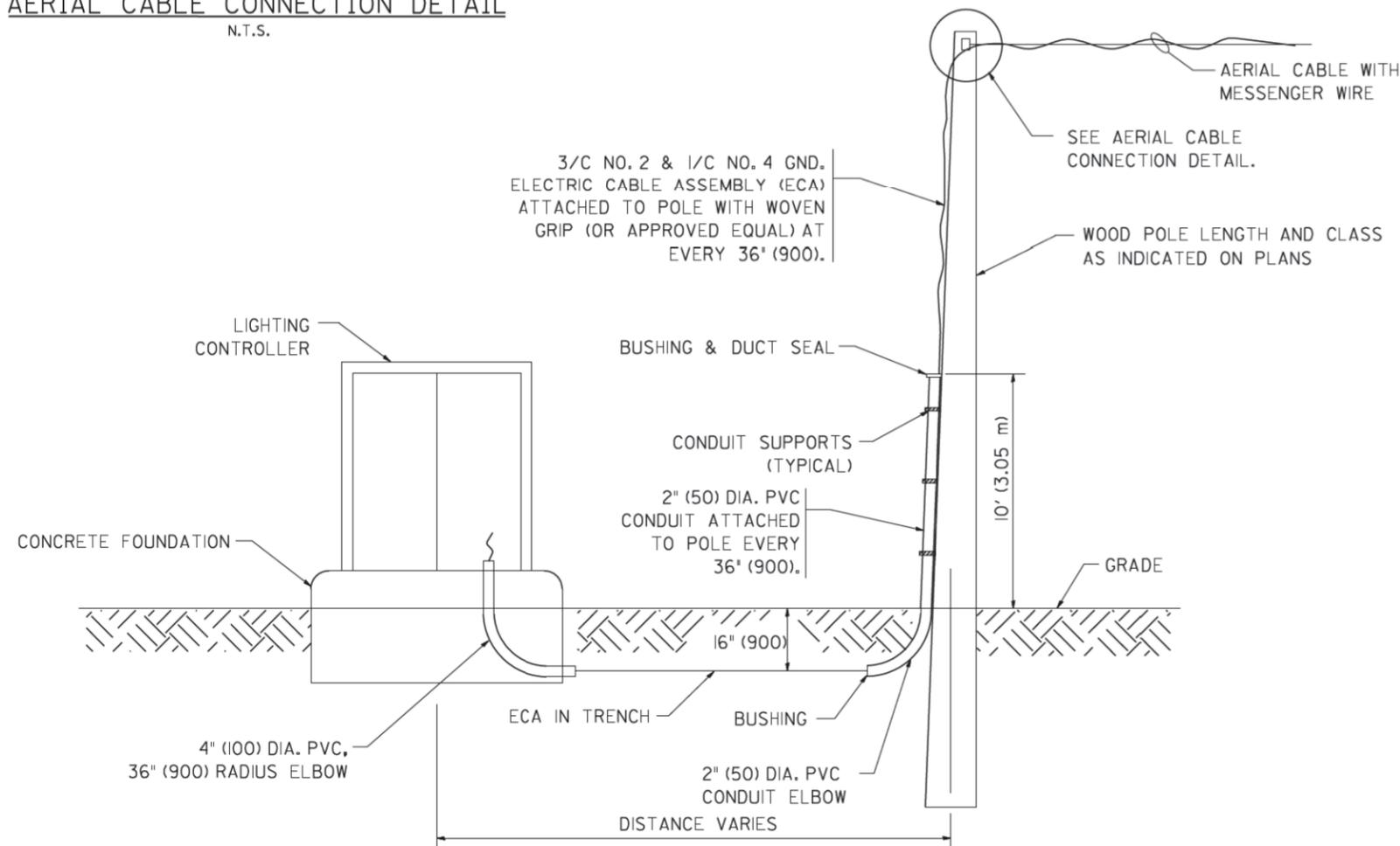
**AERIAL CABLE CONNECTION DETAIL**  
N.T.S.



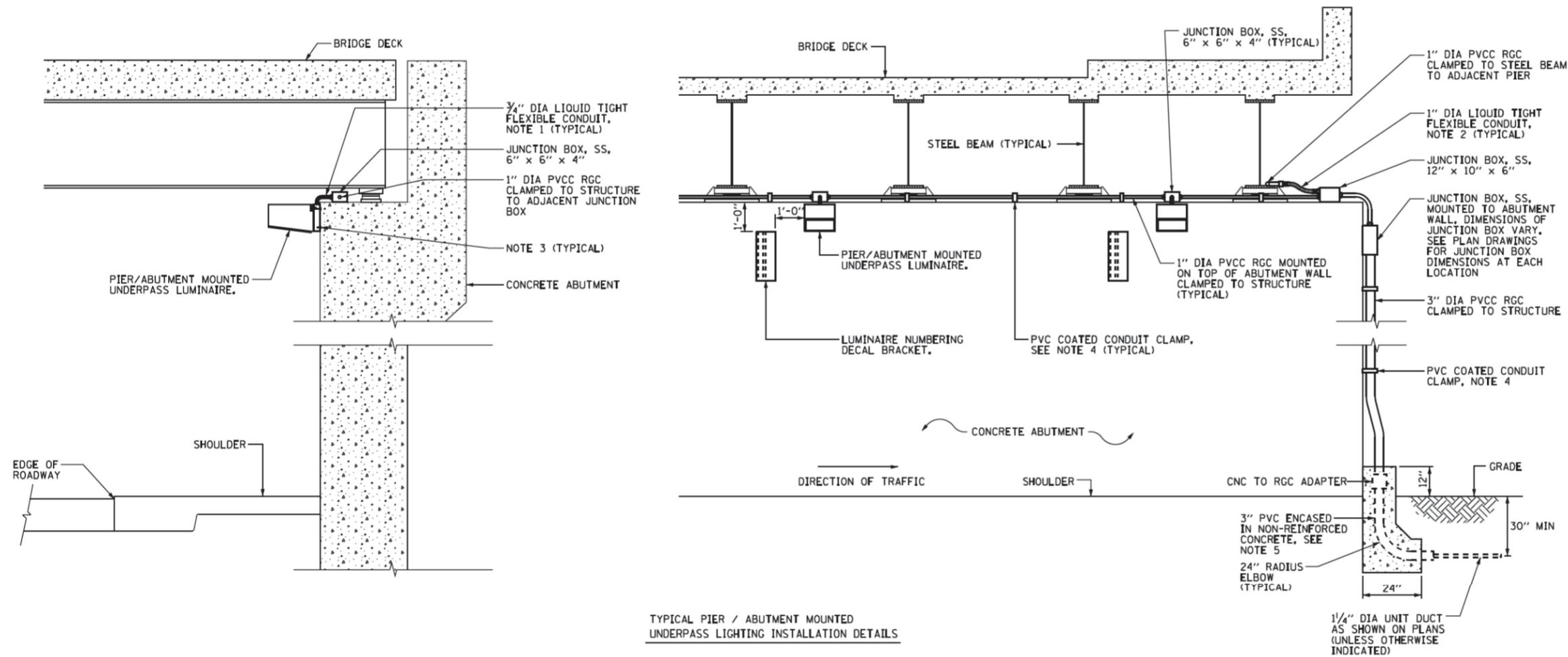
**AERIAL CABLE ATTACHED TO STRUCTURE**  
NOT TO SCALE

**NOTES:**

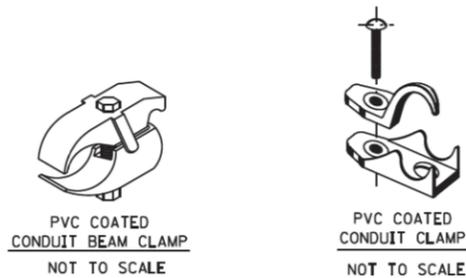
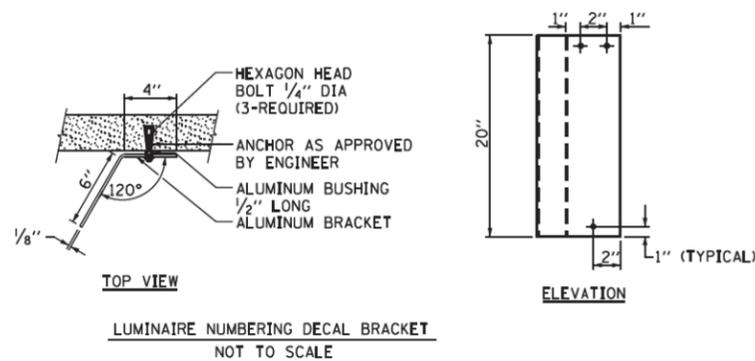
1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.
2. SEE PROPOSED LIGHTING PLAN FOR CONDUIT, CABLE AND ROUTING.
3. THE CONTRACTOR SHALL PROVIDE INTERMEDIATE SUPPORTS TO MAINTAIN MINIMUM CLEARANCES. REFER TO AERIAL AERIAL CABLE ATTACHED TO STRUCTURE DETAIL.
4. COST OF SPLICES AND MOUNTING HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE FOR AERIAL CABLE.



**WOOD POLE TO LIGHTING CONTROLLER WIRING CONNECTION DETAIL**  
N.T.S.

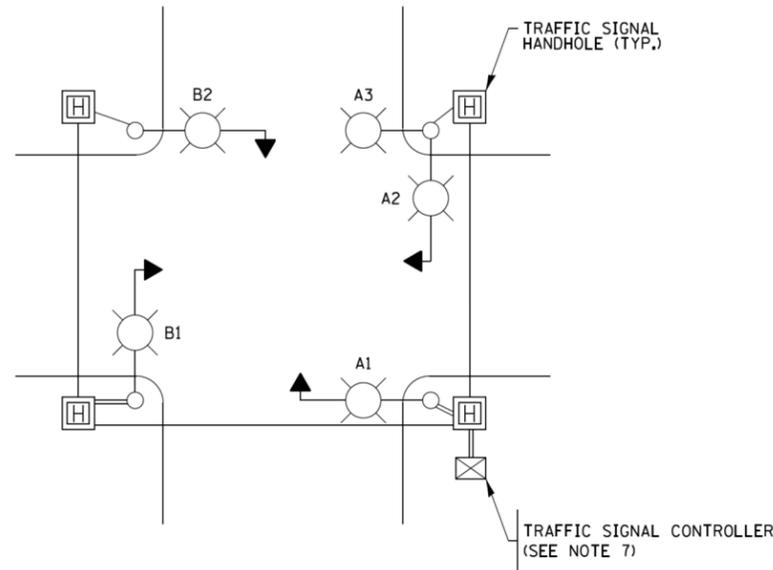


TYPICAL PIER / ABUTMENT MOUNTED UNDERPASS LIGHTING INSTALLATION DETAILS

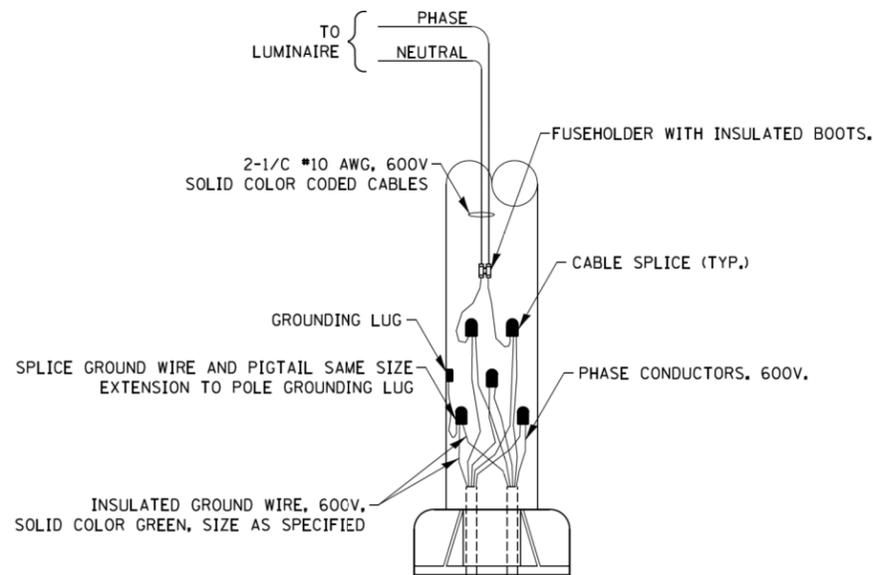
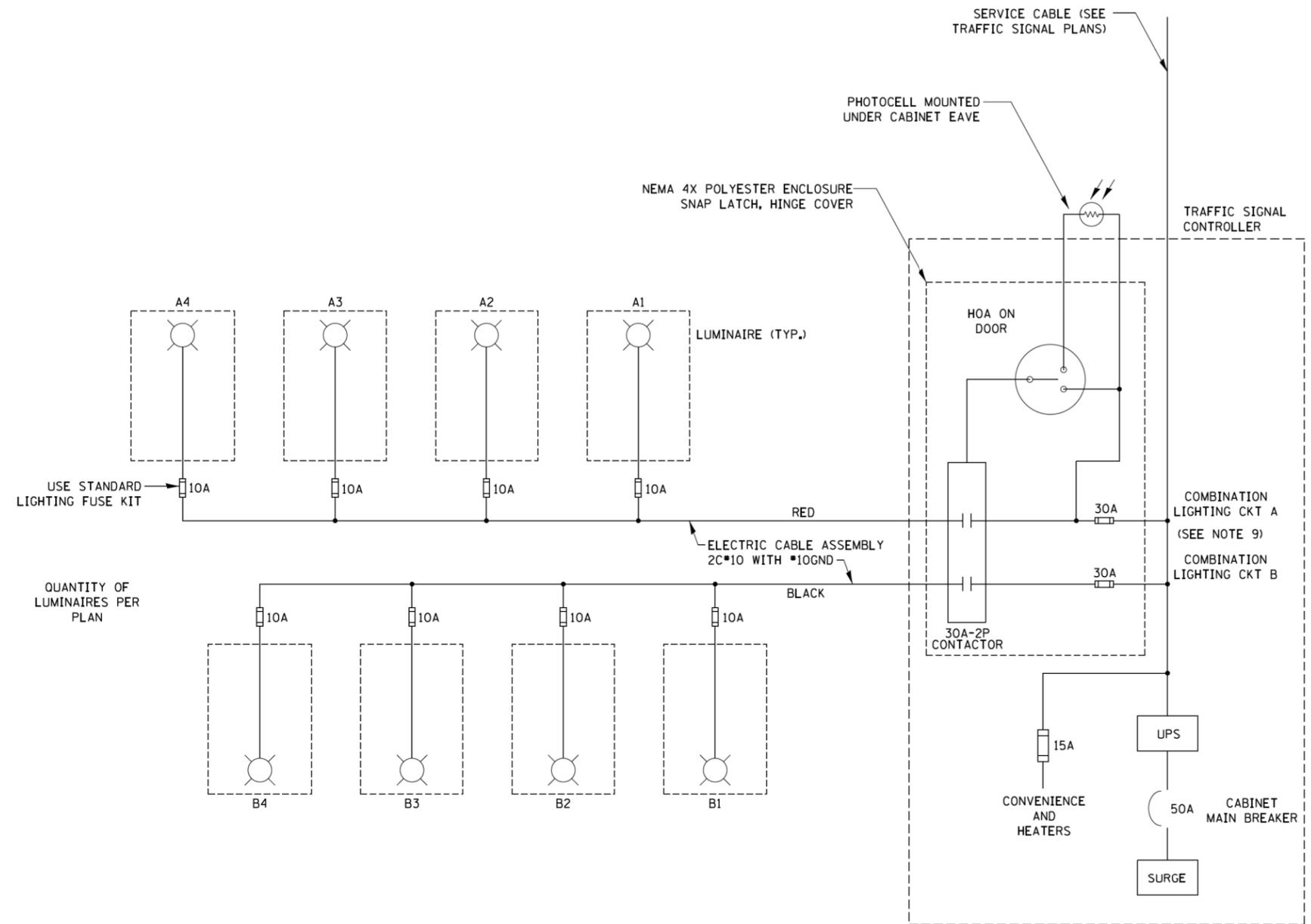


**NOTES:**

- LIQUID TIGHT FLEXIBLE METAL CONDUIT, MAXIMUM LENGTH 6'-0", TYPICAL FOR EACH INSTANCE AS SHOWN, PROVIDE PVC COATED RIGID GALVANIZED STEEL CONDUIT AS REQUIRED NOT TO EXCEED 6'-0" OF FLEXIBLE LIQUID TIGHT METAL CONDUIT. LIQUID TIGHT FLEXIBLE METAL CONDUIT WILL BE INCLUDED IN THE COST OF THE CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED PAY ITEM EXCEPT THAT THE COST OF THE 3/4" DIA. RIGID STEEL CONDUIT AND 3/4" DIA. FLEXIBLE CONDUIT SHALL BE INCLUDED IN THE LUMINAIRE INSTALLATION.
- UNDERPASS LUMINAIRE MOUNTED TO FACE OF PIER OR ABUTMENT WALL, MOUNTING HEIGHT OF 1" BELOW THE TOP OF PIER OR ABUTMENT WALL TYPICAL FOR ALL PIER/ABUTMENT MOUNTED UNDERPASS LUMINAIRES UNLESS OTHERWISE NOTED.
- EXPANSION ANCHOR, POWDER ACTUATED FASTENERS WILL NOT BE ALLOWED. EXPANSION ANCHOR MUST BE SIZED IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS.
- SECURE THE CONDUIT WITH PVC COATED CONDUIT CLAMPS OR CONDUIT BEAM CLAMPS AS SHOWN AT 5'-0" INTERVALS FOR LATERALS AND WITHIN 2'-0" MAXIMUM FROM ANY JUNCTION BOX, FLEXIBLE CONDUIT, OR CHANGE IN DIRECTION. ALL PVC COATED CONDUIT CLAMPS OR BEAM CLAMPS SHALL BE INCLUDED WITH THE COST OF THE "CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED" PAY ITEM.
- THE CONCRETE ENCASED CONDUIT TRANSITION SHALL BE INCLUDED IN THE COST OF THE GALVANIZED RIGID STEEL CONDUIT PAY ITEMS.
- ALL CONDUIT ATTACHED TO STRUCTURE SHALL BE PVC COATED RIGID STEEL CONDUIT (PVCC RGC) TYPICAL.



**TYPICAL LIGHTING CIRCUIT**  
(NOT TO SCALE)



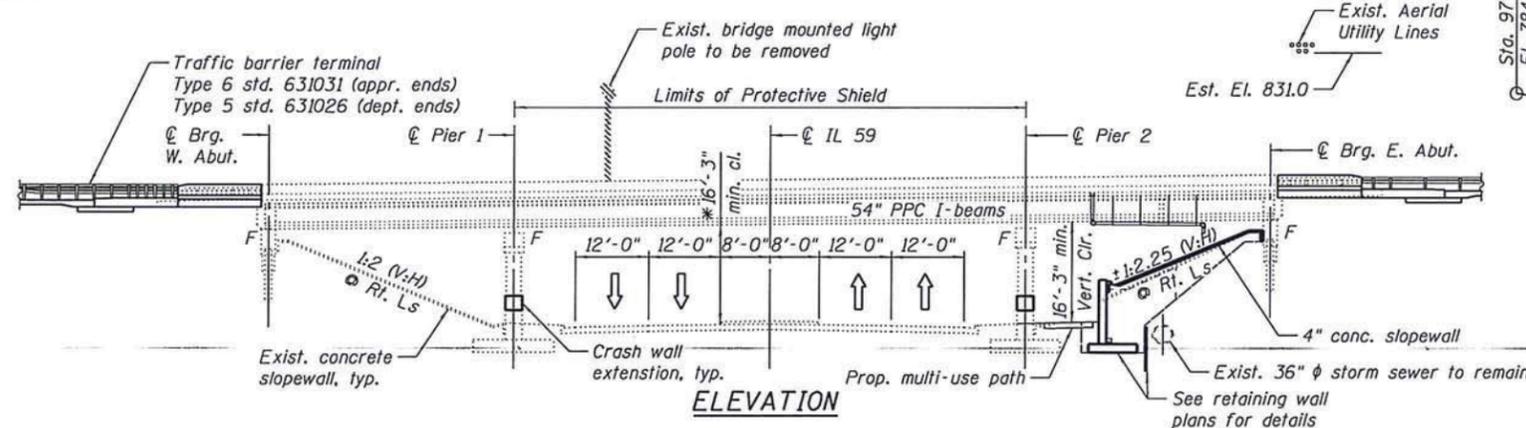
**COMBINATION POLE WIRING DETAIL**  
(NOT TO SCALE)

**NOTES:**

- 4 LUMINAIRES PER CIRCUIT, MAXIMUM.
- MULTI-CONDUCTOR CABLE ASSEMBLY FOR LIGHTING CIRCUITS.
- ROUTE LIGHTING CIRCUITS IN TRAFFIC SIGNAL CONDUIT SYSTEM.
- ALL SPLICES AND CONNECTIONS FOR ROADWAY LIGHTING SHALL BE AT POLE BASE ONLY.
- ALL CONTROLLERS TO HAVE TWO FUSED LIGHTING BRANCH CIRCUITS.
- ALL WIRING SHALL BE NEATLY DRESSED, IDENTIFIED BY TAGS, AND SUPPORTED. (UNDERGROUND SPLICING OF LIGHTING CONDUCTORS IS NOT PERMITTED).
- RECORD DRAWING SHALL INCLUDE:
  - TRAFFIC SIGNAL PLAN SHEET(S)
  - TRAFFIC SIGNAL CABLE PLAN SHEET(S)
  - LIGHTING PLANS
  - THIS DETAIL
- THE H.O.A. SWITCH SHALL BE LABELED AS "LIGHTING CONTROL" WITH THE POSITIONS "AUTO", "OFF" AND "TEST" WITH ENGRAVED NAME PLATES.
- LIGHTING CONNECTED TO UPS BYPASS CIRCUIT

Benchmark: Cut "□" on top of the southwest parapet of the US 20/IL 59 bridge. Elev. 808.39.

Existing Structure: S.N. 016-0254 carrying US 20 over IL 59 was built in 1990 as part of Project No. IX-21(52). The structure is a three-span bridge with an overall bk. to bk. abutment length of ±182'-9" and out to out deck width of 103'-2". The superstructure consists of a 7½" thick reinforced concrete deck supported by 54" deep PPC I-beams. The substructure consists of multi-column piers with crashwall founded on spread footings, and integral abutments founded on 14" φ metal shell piles.



**IL 59 PROFILE GRADE**  
(Offset 8' from C)

**\*US 20 EXISTING PROFILE GRADE**  
(At C US 20)

- SCOPE OF WORK**
1. Remove and replace existing approach slabs and modify abutment for approach slab seat.
  2. Remove existing raised median & portions of deck, and install double-face median parapet and deck closing the open joint along bridge C.
  3. Perform concrete deck repairs (partial depth).
  4. Structural repair of concrete for existing outside parapets.
  5. Scarify deck and provide bridge deck thin polymer overlay.
  6. Structural repair of concrete and epoxy crack injection for piers and diaphragms.
  7. Remove and install existing east slopewall. Coordinate with retaining wall work.
  8. Extend pier crashwalls.
  9. Clean exist. drainage scuppers.
  10. Plug all existing floor drains on the bridge.
  11. Remove exist. bridge mounted light poles and underpass lighting. Install new underpass lighting and conduit. See electrical drawings.

**DESIGN SPECIFICATIONS**  
2002 AASHTO Standard Specifications,  
17th Edition & All Interims

**DESIGN STRESSES**  
FIELD UNITS

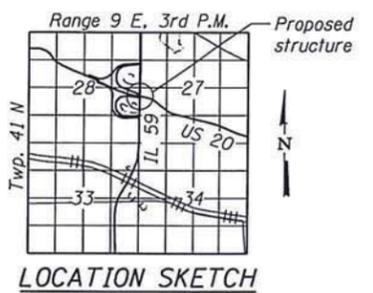
f'c = 3,500 psi (Class S1) (Slopewall, Appr. Slab Footing)  
f'c = 4,000 psi (Class BS) (Approach Slab & Parapet)  
fy = 60,000 psi



SIGNED: *Daniel S. Filice*  
DATE: 8-23-17  
EXPIRES: November 30, 2018

**LEGEND**

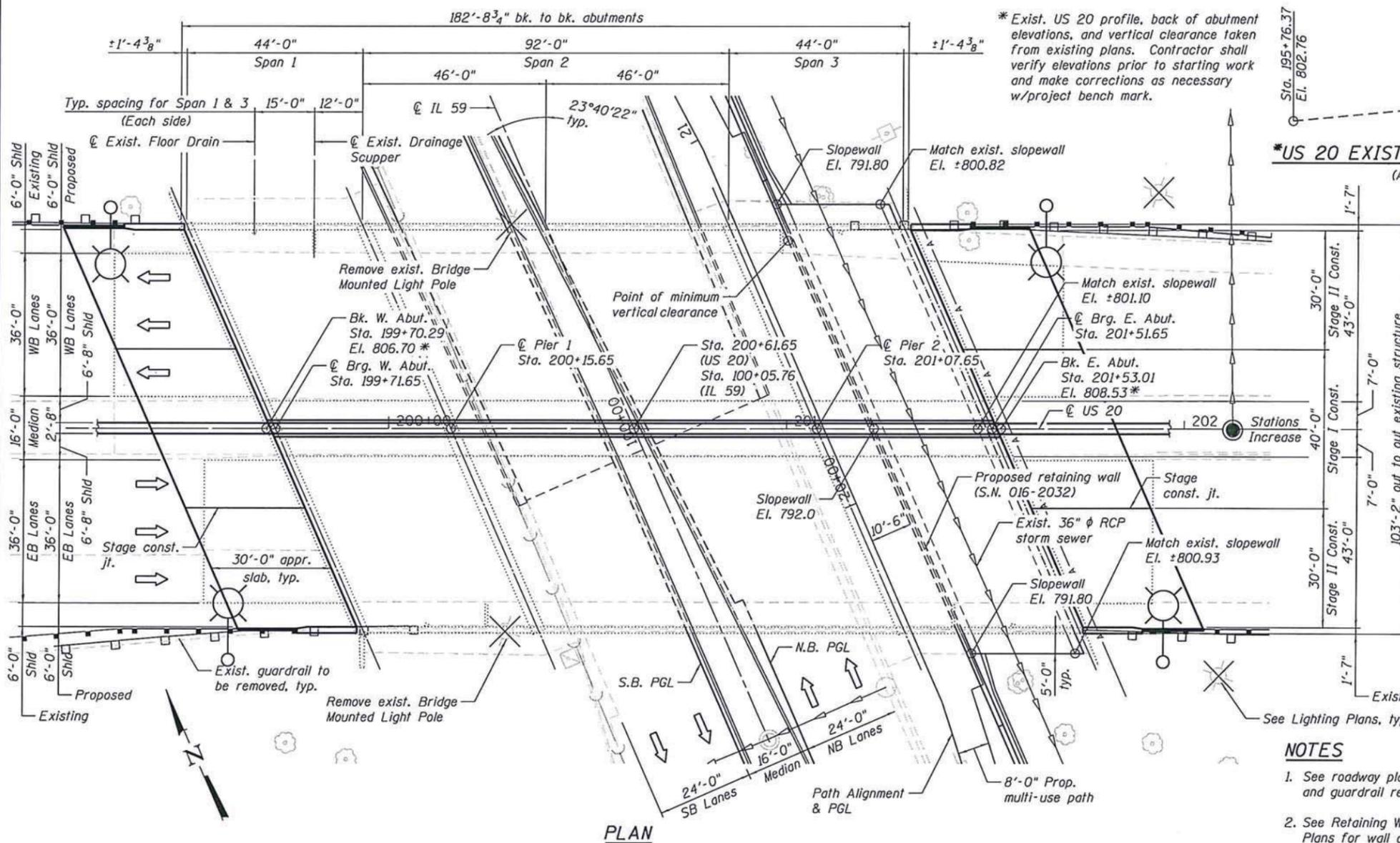
- ✕ Exist. Light Pole Removal
- A — Exist. Aerial Utility Line
- FO — Exist. Underground Fiber Optic Cable
- G — Exist. Underground Gasline
- S — Exist. Storm Sewer
- SS — Exist. Underground Sanitary Sewer
- ← Prop. Underpass Lighting
- Prop. Lighting (Pole Mounted)



**GENERAL PLAN & ELEVATION**  
**U.S. ROUTE 20 OVER IL ROUTE 59**  
**F.A.P. RTE. 345 - SEC. 7K-1(12)**  
**COOK COUNTY**  
**STRUCTURE NO. 016-0254**

**NOTES**

1. See roadway plans for approach slab and guardrail removal details.
2. See Retaining Wall (SN 016-2032) Plans for wall details.



**PLAN**

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
Chicago, Illinois  
312.228.9100  
www.bbainc.com

USER NAME =	DESIGNED - DF	REVISED
PLOT SCALE = N.T.S.	CHECKED - JYL	REVISED
PLOT DATE = 8/21/2017	DRAWN - LAM	REVISED
	CHECKED - DF	REVISED

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

SHEET NO. 1 OF 14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	266
CONTRACT NO. 60V57			ILLINOIS FED. AID PROJECT	

**GENERAL NOTES**

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Areas of proposed repairs are estimated. Actual type, location and dimensions are to be determined by the Engineer during construction.

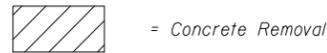
Reinforcement bars designated (E) shall be epoxy coated.

Protective shield shall be installed prior to deck removal.

See MOT plans for additional details & traffic configuration. The Contractor shall note that below deck work may not be able to be performed on a continuous basis, and the work will need to be performed based on the construction staging of IL 59. See MOT plans for additional details. The Contractor shall adjust the bid unit price for items of work as necessary accounting for remobilization efforts.

Existing underpass lighting will be replaced, see Lighting Plans for details. Underpass mounting may consist of surface mounted (to existing pier cap) or pendant mounted (supported from existing deck). Prior to drilling operation for lighting supports, Contractor shall locate existing reinforcement bars, and miss them during drilling operations. Cost included with Structural Repair of Concrete, of the type specified.

**LEGEND**

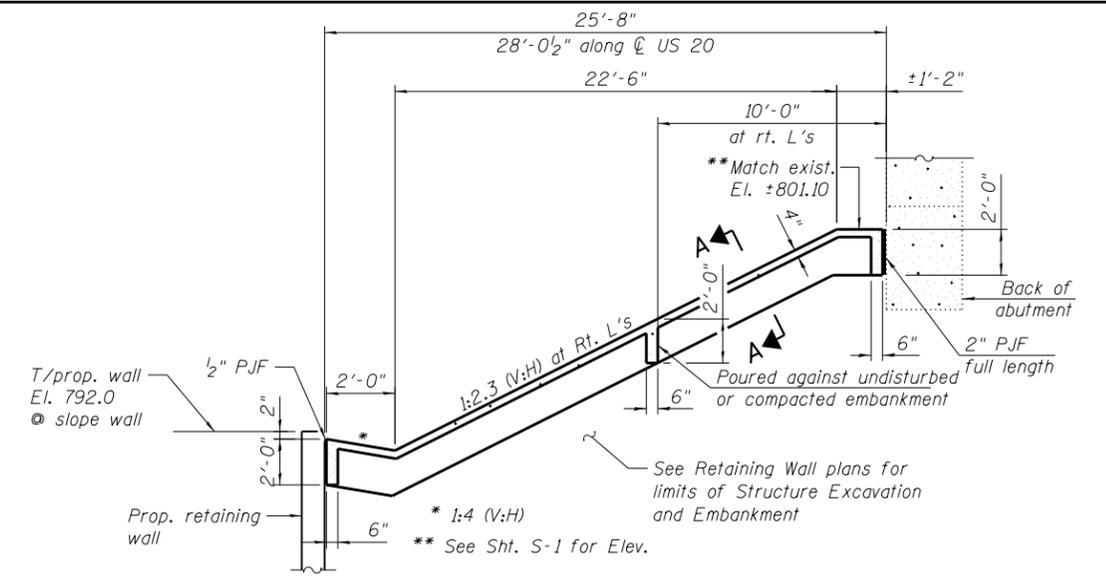


**INDEX OF SHEETS**

- 1 General Plan & Elevation
- 2 General Data & Stage Construction Details
- 3 Top of West Approach Slab Elevations
- 4 Top of East Approach Slab Elevations
- 5 Deck Repair Details
- 6 Superstructure Details
- 7 Drainage Modifications
- 8 Bridge Approach Slab Plan
- 9 Bridge Approach Slab Details
- 10 Pier and Abutment Repair Details
- 11 Abutment Removal Details
- 12 Pier Modification Details
- 13 Bar Splicer Assembly and Mechanical Splicer Details
- 14 Temporary Concrete Barrier for Stage Construction

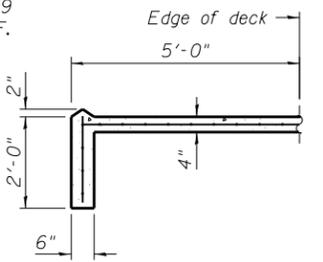
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	60.8	2.7	63.5
Slope Wall Removal	Sq Yd	-	617	617
Protective Shield	Sq Yd	40	-	40
Concrete Structures	Cu Yd	-	117.7	117.7
Concrete Superstructure	Cu Yd	66.6	-	66.6
Concrete Superstructure (Approach Slab)	Cu Yd	335.6	-	335.6
Bridge Deck Grooving	Sq Yd	628	-	628
Protective Coat	Sq Yd	977	-	977
Reinforcement Bars, Epoxy Coated	Pound	78,070	16,170	94,240
Bar Splicers	Each	786	160	946
Slope Wall 4 Inch	Sq Yd	-	385	385
Epoxy Crack Injection	Foot	-	10	10
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	31	1,945	1,976
Deck Slab Repair (Partial)	Sq Yd	11	-	11
Plug Existing Deck Drains	Each	4	-	4
Concrete Bridge Deck Scarification, 3/8"	Sq Yd	1,975	-	1,975
Bridge Deck Thin Polymer Overlay, 3/8"	Sq Yd	1,975	-	1,975
Cleaning Bridge Scuppers and Downspouts	Each	4	-	4
Drainage System	L Sum	1	-	1
Temporary Shoring and Cribbing	Each	32	-	32

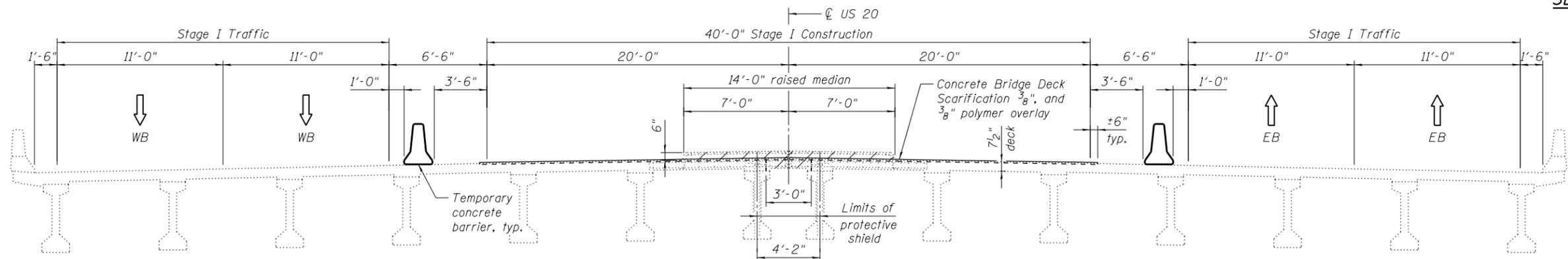


**SECTION THRU CONCRETE SLOPEWALL**

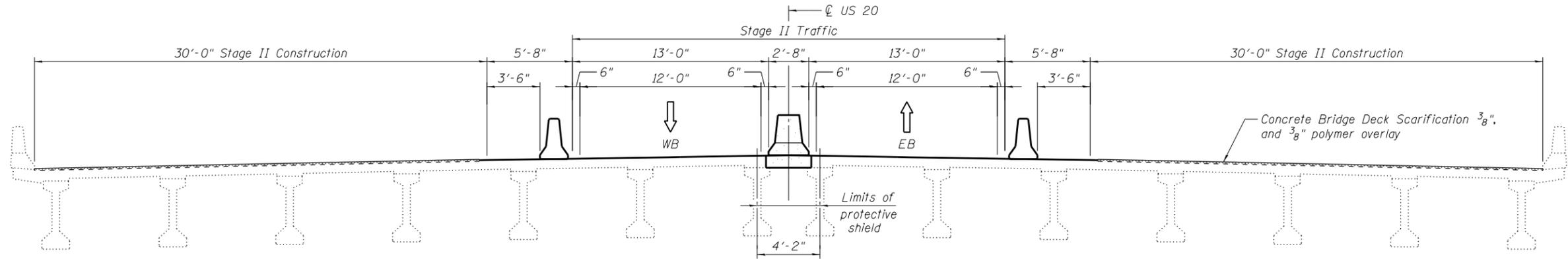
Dimensions are at Rt. L's to CL IL 59 unless noted otherwise. Cost of P.J.F. included in the cost of Slope Wall, 4 inch.



**SECTION A-A**



**STAGE I CROSS SECTION**



**STAGE II CROSS SECTION**

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
Chicago, Illinois  
312.228.0100  
www.bbainc.com

USER NAME =  
PLOT SCALE = N.T.S.  
PLOT DATE = 10/5/2017

DESIGNED - DF  
CHECKED - IYL  
DRAWN - LAM  
CHECKED - DF

REVISED  
REVISED  
REVISED  
REVISED

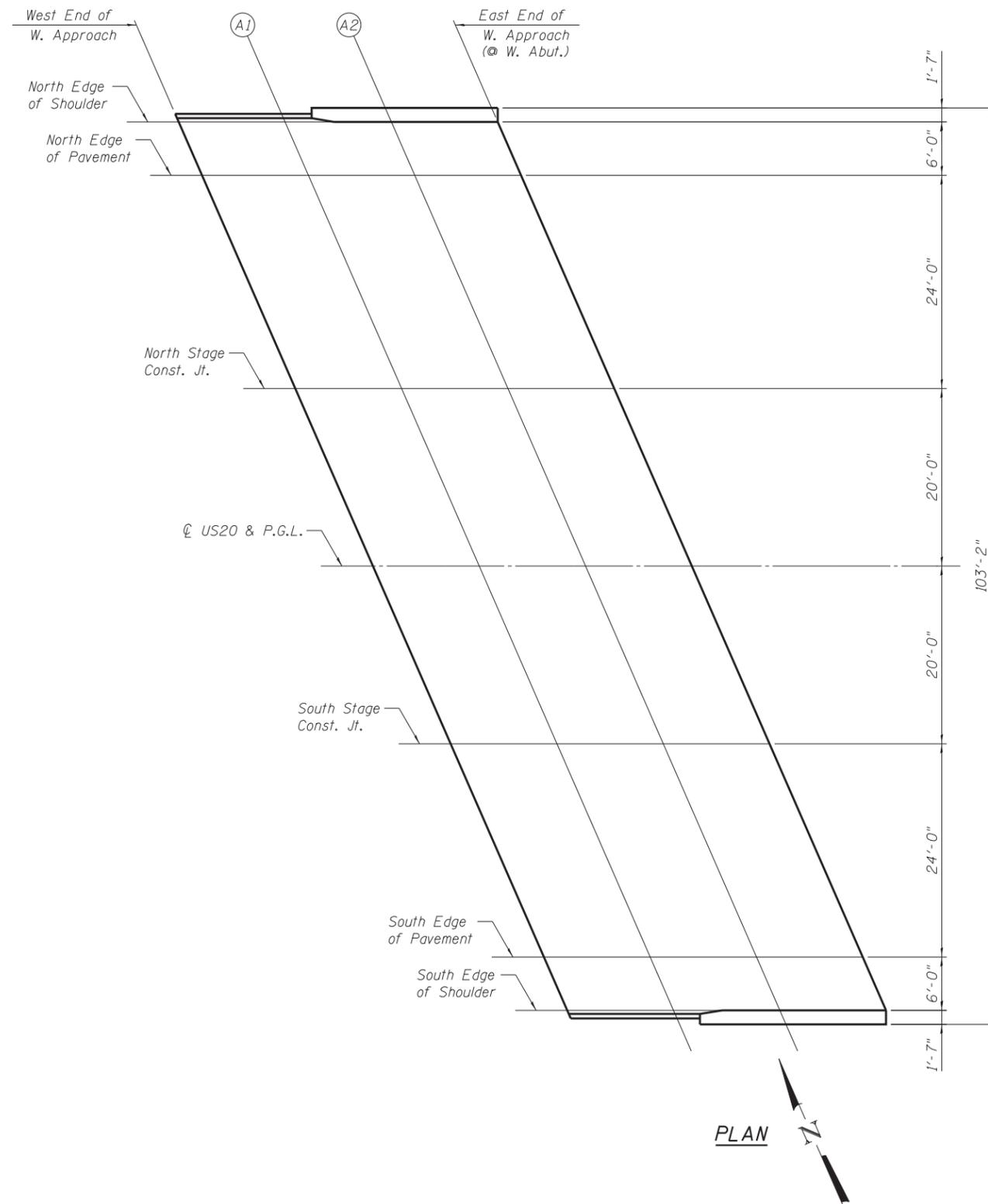
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL DATA & STAGE CONSTRUCTION DETAILS  
STRUCTURE NO. 016-0254

SHEET NO. 2 OF 14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	267
CONTRACT NO. 60V57				

ILLINOIS FED. AID PROJECT



**NORTH EDGE OF SHOULDER**

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr.	199+18.45	-50.00	805.24
A1	199+28.45	-50.00	805.34
A2	199+38.45	-50.00	805.44
E. End of W. Appr.	199+48.45	-50.00	805.54

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr.	199+21.08	-44.00	805.39
A1	199+31.08	-44.00	805.49
A2	199+41.08	-44.00	805.59
E. End of W. Appr.	199+51.08	-44.00	805.69

**NORTH STAGE CONST. JOINT**

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr.	199+31.60	-20.00	806.00
A1	199+41.60	-20.00	806.10
A2	199+51.60	-20.00	806.20
E. End of W. Appr.	199+61.60	-20.00	806.30

**CL US 20 & P.G.L.**

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr.	199+40.37	0.000	806.40
A1	199+50.37	0.000	806.50
A2	199+60.37	0.000	806.60
E. End of W. Appr.	199+70.37	0.000	806.70

**SOUTH STAGE CONST. JOINT**

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr.	199+49.14	20.00	806.18
A1	199+59.14	20.00	806.28
A2	199+69.14	20.00	806.38
E. End of W. Appr.	199+79.14	20.00	806.48

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr.	199+59.66	44.00	805.78
A1	199+69.66	44.00	805.88
A2	199+79.66	44.00	805.98
E. End of W. Appr.	199+89.66	44.00	806.08

**SOUTH EDGE OF SHOULDER**

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr.	199+62.29	50.00	805.68
A1	199+72.29	50.00	805.78
A2	199+82.29	50.00	805.88
E. End of W. Appr.	199+92.29	50.00	805.98

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Chicago, Illinois  
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USER NAME =	DESIGNED - DF	REVISED
	CHECKED - IYL	REVISED
PLOT SCALE = N.T.S.	DRAWN - LAM	REVISED
PLOT DATE = 8/23/2017	CHECKED - DF	REVISED

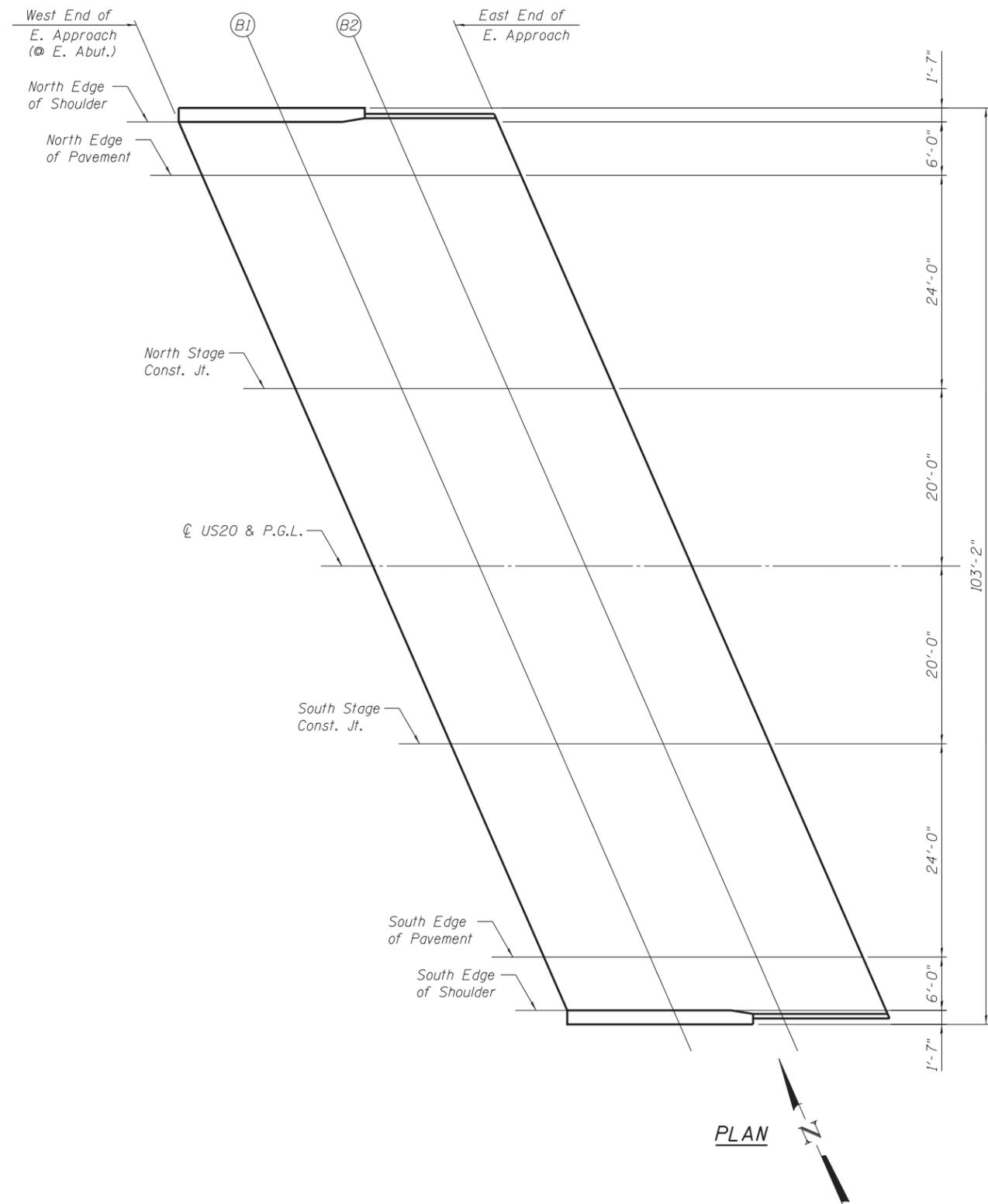
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF WEST APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 016-0254**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	268
CONTRACT NO. 60V57				

SHEET NO. 3 OF 14 SHEETS

ILLINOIS FED. AID PROJECT



**NORTH EDGE OF SHOULDER**

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr.	201+31.00	-50.00	807.37
B1	201+41.00	-50.00	807.47
B2	201+51.00	-50.00	807.57
E. End of E. Appr.	201+61.00	-50.00	807.67

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr.	201+33.63	-44.00	807.52
B1	201+43.63	-44.00	807.62
B2	201+53.63	-44.00	807.72
E. End of E. Appr.	201+63.63	-44.00	807.82

**NORTH STAGE CONST. JOINT**

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr.	201+44.15	-20.00	808.13
B1	201+54.15	-20.00	808.23
B2	201+64.15	-20.00	808.33
E. End of E. Appr.	201+74.15	-20.00	808.43

**US 20 & P.G.L.**

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr.	201+52.92	0.000	808.53
B1	201+62.92	0.000	808.63
B2	201+72.92	0.000	808.73
E. End of E. Appr.	201+82.92	0.000	808.83

**SOUTH STAGE CONST. JOINT**

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr.	201+61.69	20.00	808.30
B1	201+71.69	20.00	808.40
B2	201+81.69	20.00	808.50
E. End of E. Appr.	201+91.69	20.00	808.60

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr.	201+72.21	44.00	807.91
B1	201+82.21	44.00	808.01
B2	201+92.21	44.00	808.11
E. End of E. Appr.	202+02.21	44.00	808.21

**SOUTH EDGE OF SHOULDER**

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr.	201+74.84	50.00	807.81
B1	201+84.84	50.00	807.91
B2	201+94.84	50.00	808.01
E. End of E. Appr.	202+04.84	50.00	808.11

PLAN

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
Chicago, Illinois  
312.228.0100  
www.bbainc.com

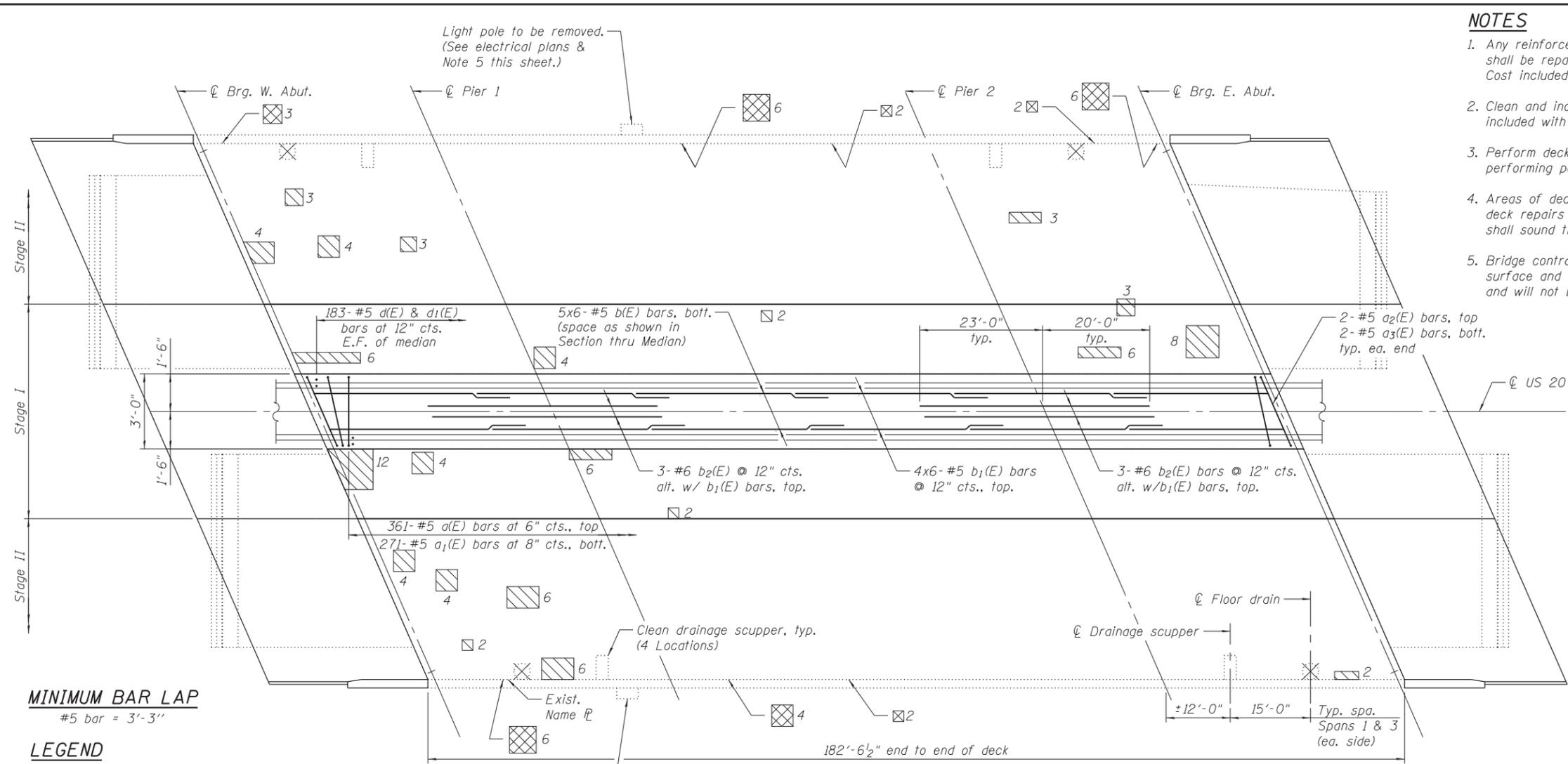
USER NAME =	DESIGNED - DF	REVISED
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TOP OF EAST APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 016-0254

SHEET NO. 4 OF 14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	269
CONTRACT NO. 60V57				
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**MINIMUM BAR LAP**  
#5 bar = 3'-3"

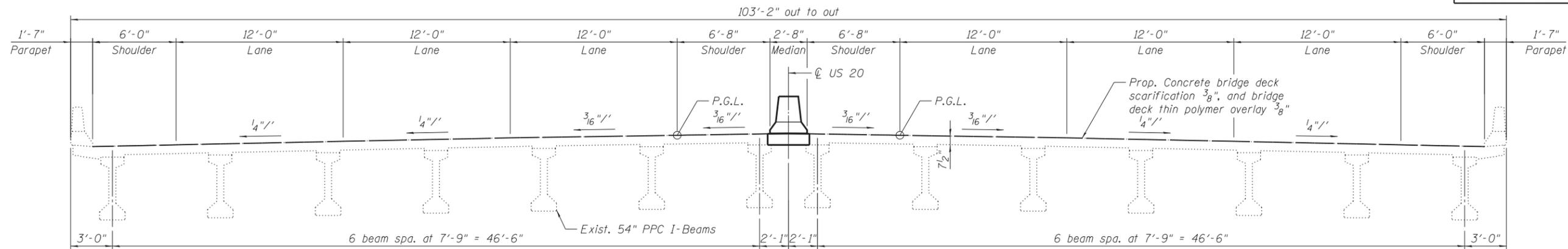
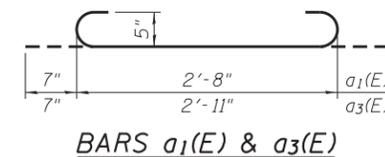
**LEGEND**

- 1 Partial Depth Patching (Quantity shown in Sq. Ft.)
- 1 Structural Repair of Concrete (Depth Equal to or Less Than 5 In.) (Quantity shown in Sq. Ft.)
- Plug exist. floor drain

Light pole to be removed. (See electrical plans & Note 5 this sheet.)

**DECK REPAIR PLAN**

① Bar d1(E) to be furnished by bar splicer supplier. Cost included in the contract unit price for Bar Splicers. See Sheet 13 for bar splicer assembly details.



**CROSS SECTION - FINAL**



**NOTES**

1. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
2. Clean and incorporate existing reinforcement into new construction. Cost included with Concrete Removal.
3. Perform deck scarification after removal of concrete median & prior to performing polymer overlay.
4. Areas of deck repairs are estimated. Actual type, location, and dimensions of deck repairs are to be determined by the Engineer during construction. Engineer shall sound the deck after hydroscarification.
5. Bridge contractor shall remove existing anchor bolts 1/2" below top of concrete surface and fill hole with epoxy grout. Cost included with various items of work and will not be measured for payment.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	361	#5	2'-8"	—
a1(E)	271	#5	3'-10"	—
a2(E)	4	#5	2'-11"	—
a3(E)	4	#5	4'-1"	—
b(E)	30	#5	33'-6"	—
b1(E)	24	#5	33'-6"	—
b2(E)	6	#6	43'-0"	—
d(E)	366	#5	3'-7"	—
d1(E)	366	#5		—
e(E)	42	#4	16'-8"	—
e1(E)	14	#4	15'-11"	—
e2(E)	28	#4	11'-8"	—
e3(E)	2	#8	33'-7"	—
e4(E)	2	#5	33'-7"	—
e5(E)	8	#8	11'-8"	—
e6(E)	8	#5	11'-8"	—
e7(E)	4	#8	38'-1"	—
e8(E)	4	#5	35'-9"	—
e9(E)	2	#8	32'-3"	—
e10(E)	2	#5	32'-3"	—
Item	Unit	Quantity		
Concrete Superstructure	Cu. Yd.	48.7		
Reinforcement Bars, Epoxy Coated	Pound	7,990		
Protective Coat	Sq. Yd.	143		
Concrete Bridge Deck Scarification, 3/8"	Sq. Yd.	1,975		
Bridge Deck Thin Polymer Overlay, 3/8"	Sq. Yd.	1,975		
Deck Slab Repair (Partial)	Sq. Yd.	11		
Structural Repair of Concrete (Depth Equal to or Less than 5")	Sq. Ft.	31		
Concrete Removal	Cu. Yd.	60.8		

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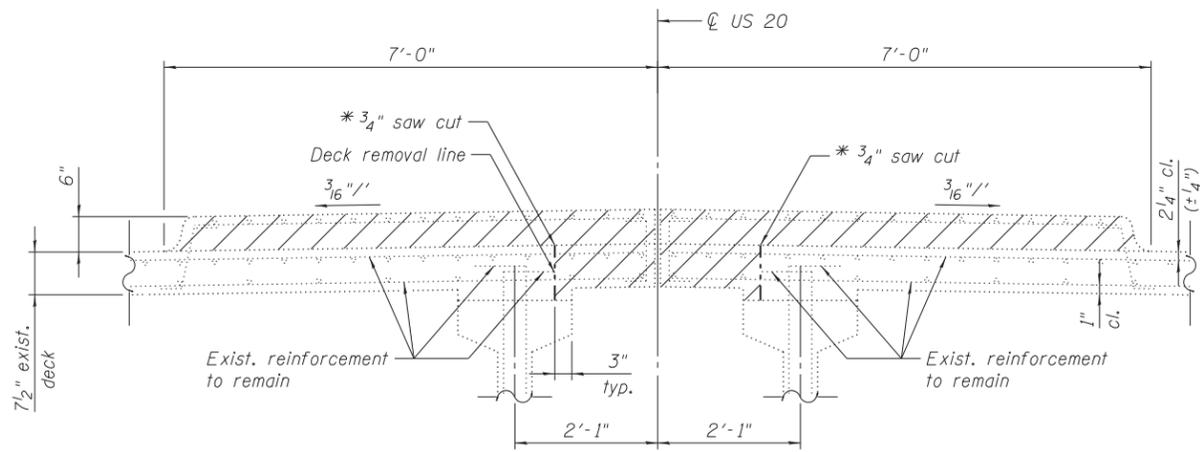
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DECK REPAIR DETAILS  
STRUCTURE NO. 016-0254

SHEET NO. 5 OF 14 SHEETS

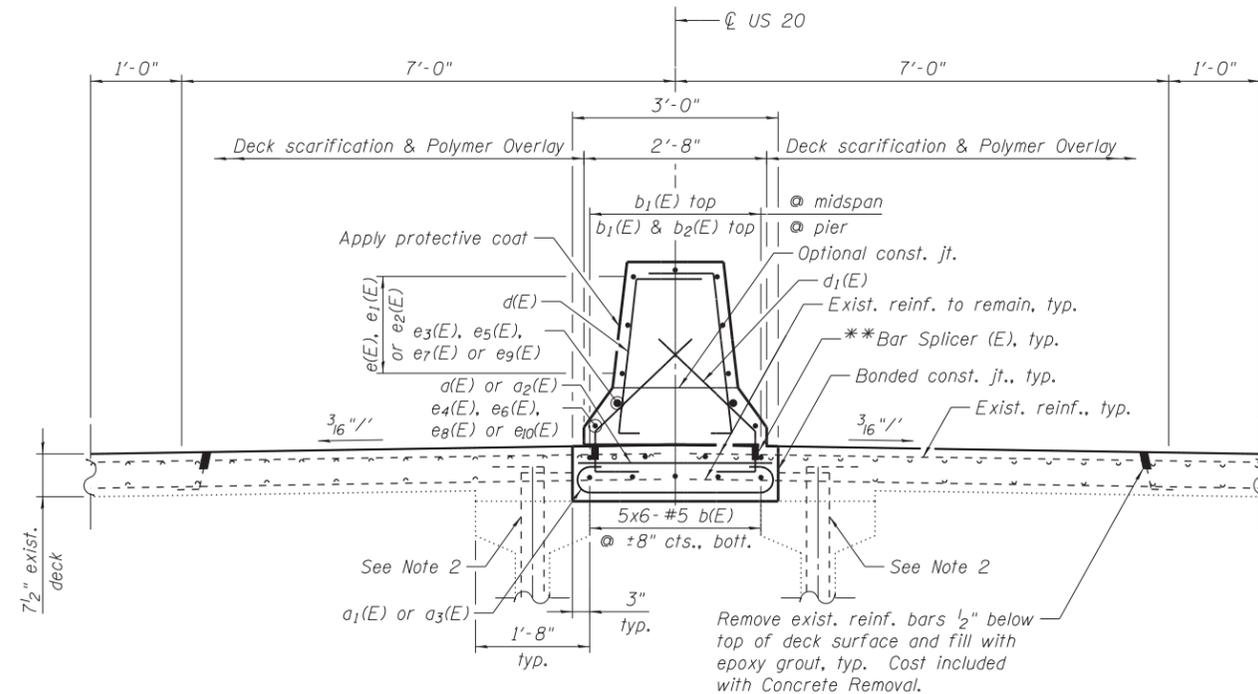
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	270
CONTRACT NO. 60V57				

ILLINOIS FED. AID PROJECT



**SECTION THRU EXISTING  
LONGITUDINAL JOINT & MEDIAN**

\* Saw cut after median removal. Cost included with Concrete Removal. Contractor must exercise extreme care not to damage PPC I-beams during concrete removal. Any damage to PPC I-beams is to be repaired to the satisfaction of the Engineer at the Contractor's expense.



**SECTION THRU MEDIAN**

\*\*Contractor has the option to furnish and install #5 bars in lieu of bar splicer assembly. Reinforcement shall be measured for payment according to Section 508 of the Standard Specifications.

**LEGEND**

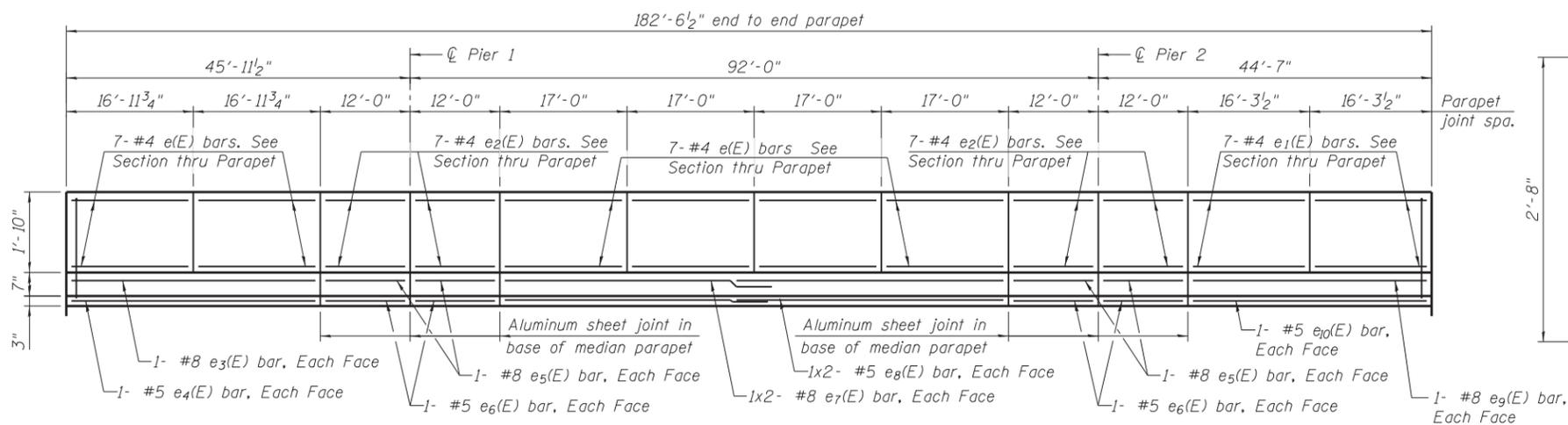
= Concrete Removal

**NOTES**

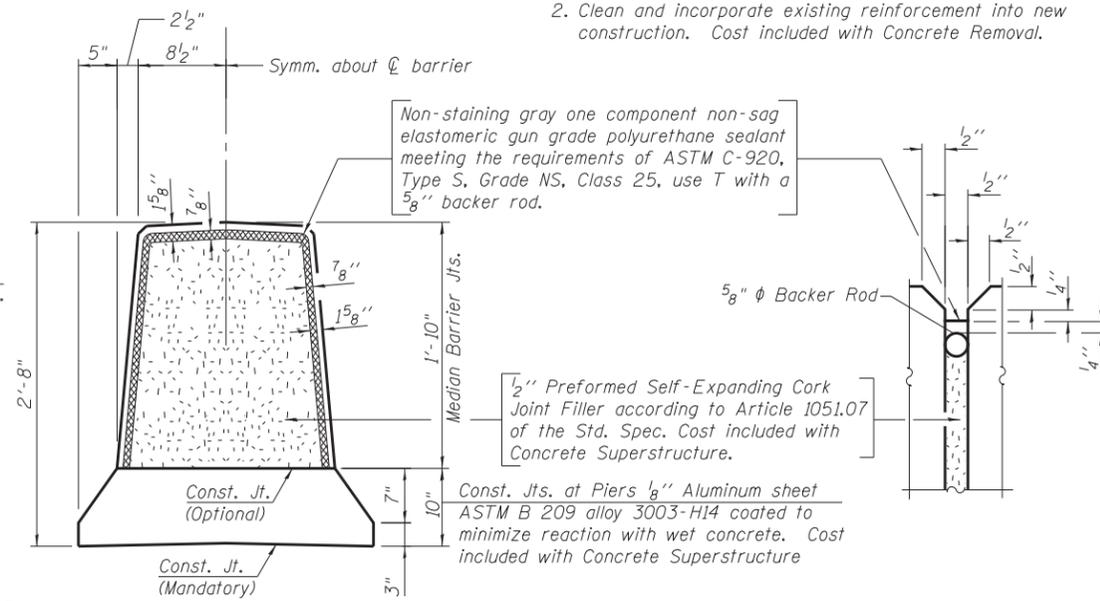
- Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
- Clean and incorporate existing reinforcement into new construction. Cost included with Concrete Removal.

**MINIMUM BAR LAP**

- (Median Barrier)
- #5 bar = 3'-9"
- #8 bar = 8'-5"



**ELEVATION OF MEDIAN BARRIER**  
(Looking North)



**MEDIAN BARRIER JOINT DETAILS**

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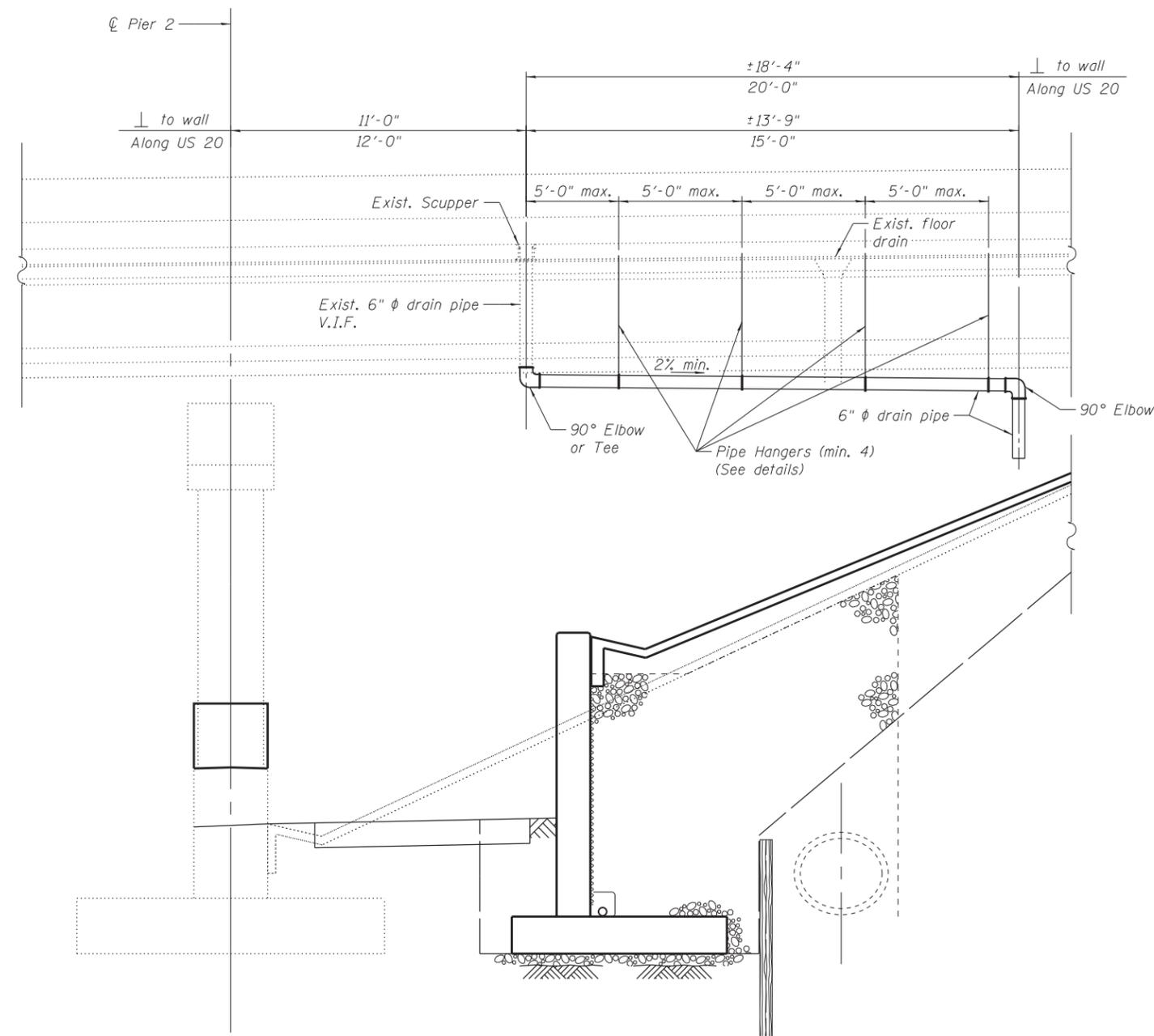
STATE OF ILLINOIS  
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SUPERSTRUCTURE DETAILS  
STRUCTURE NO. 016-0254

SHEET NO. 6 OF 14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	271
CONTRACT NO. 60V57				

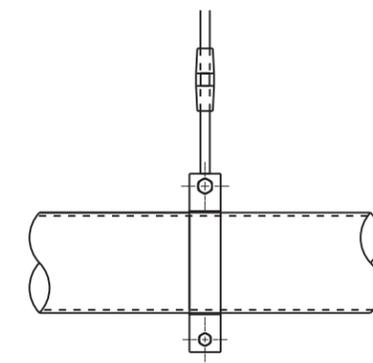
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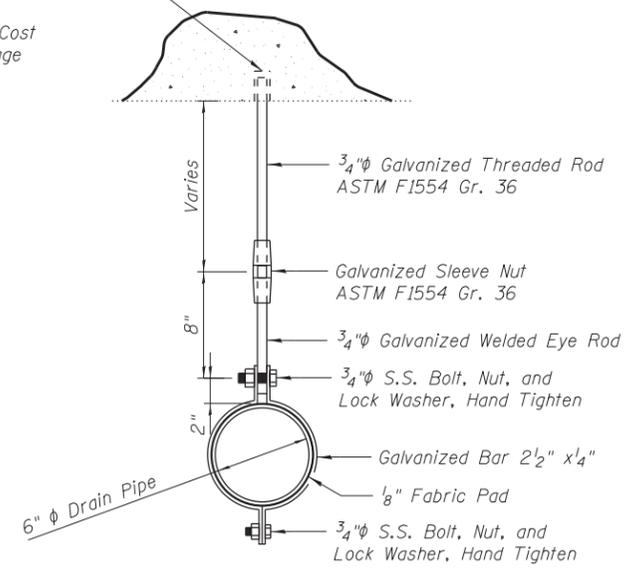
**DRAINAGE SCUPPER SYSTEM TYPICAL ELEVATION**  
(2 Locations)

See sheet 5 for locations and spacing of Drainage Scupper.

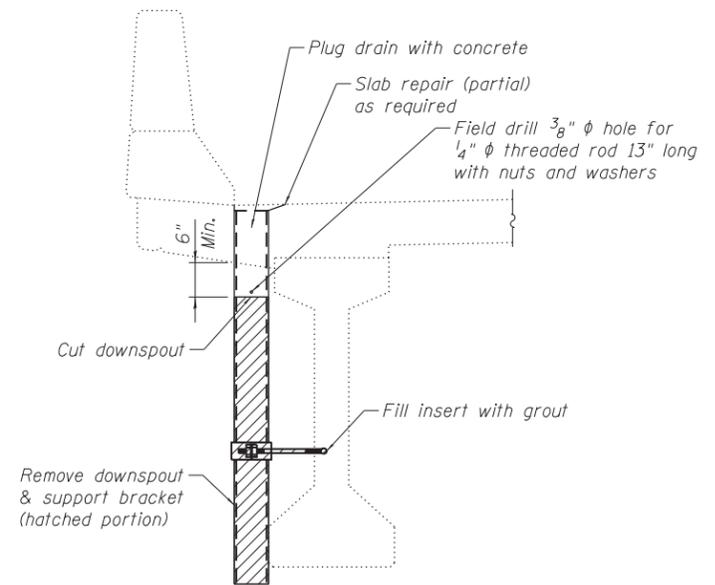
Drill and epoxy grout into existing deck. Contractor shall locate existing reinforcement and miss when performing drilling operation. Cost included in the cost of Drainage System. (Min. 500 lbs. grout capacity per rod).



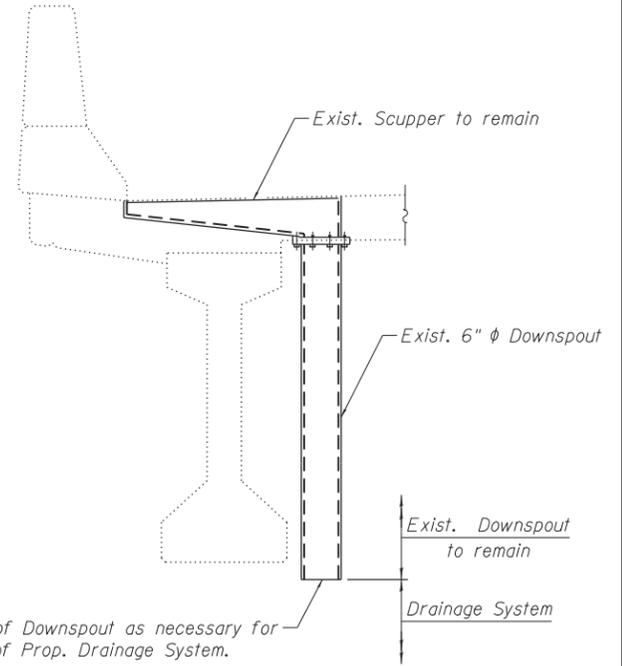
**PIPE HANGER ELEVATION**



**PIPE HANGER SECTION**



**PLUG EXISTING DECK DRAIN  
DETAIL - FLOOR DRAIN**



**EXISTING SCUPPER  
DETAIL**

Modify end of Downspout as necessary for connection of Prop. Drainage System.

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Drainage System	L. Sum	1

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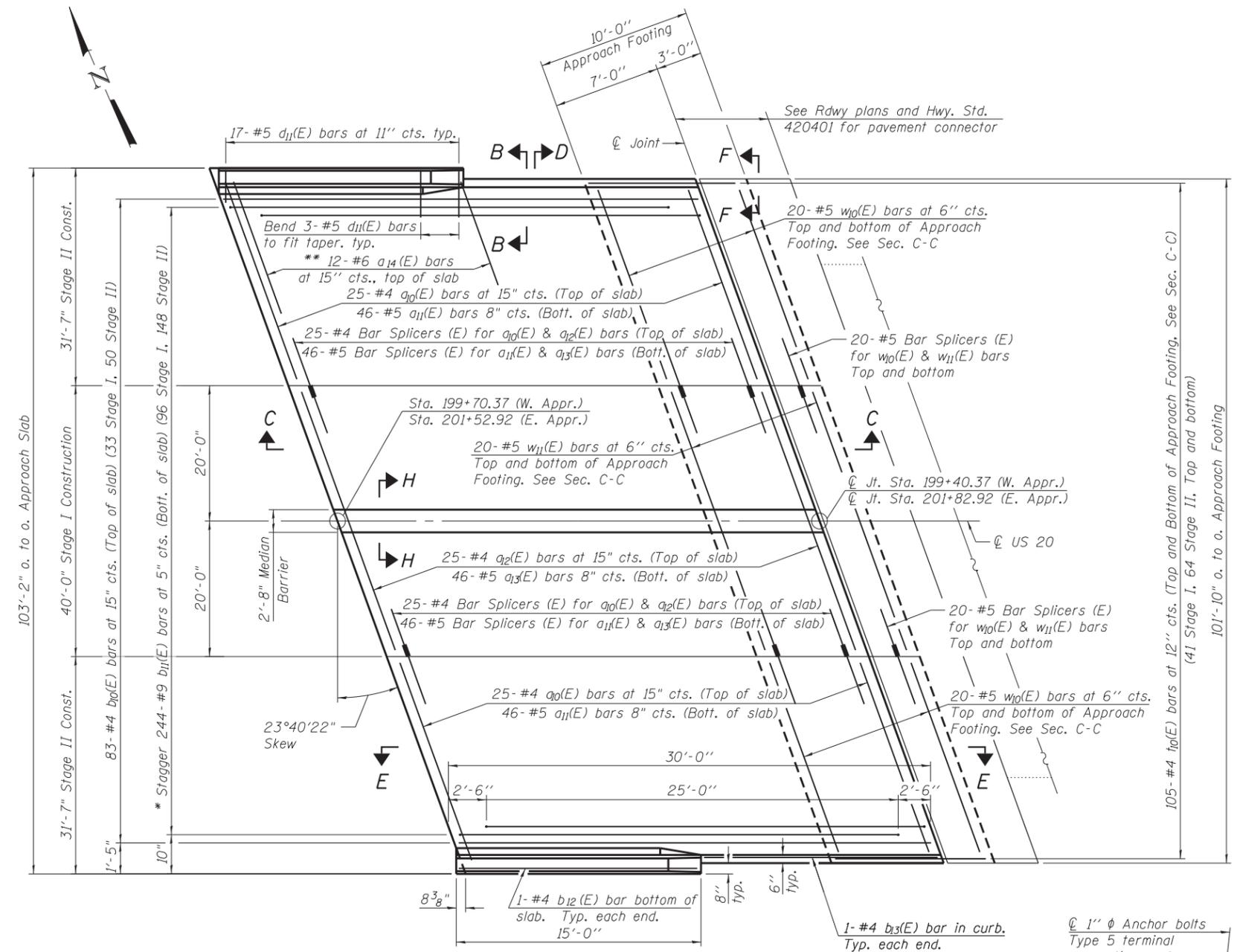
**DRAINAGE MODIFICATIONS  
STRUCTURE NO. 016-0254**

SHEET NO. 7 OF 14 SHEETS

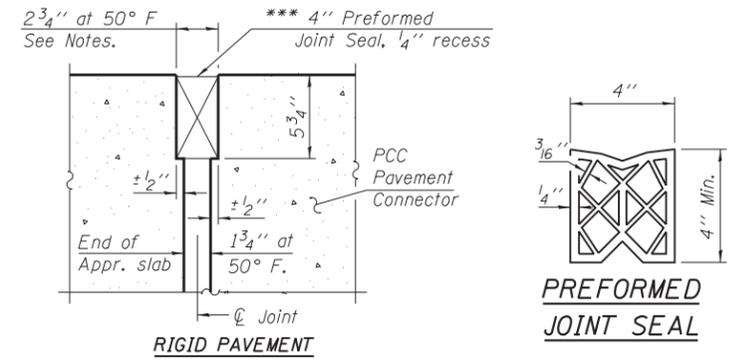
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	272
CONTRACT NO. 60V57				

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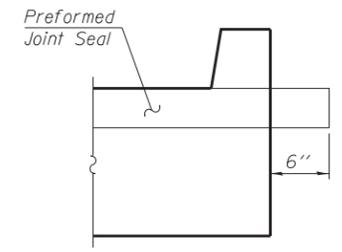
Notes:  
 See sheet 9 for Sections C-C & D-D and View E-E.  
 $a_{10}(E)$  thru  $a_{13}(E)$  bar spacings measured along  $\text{C.L. Rdwy.}$   
 The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be  $1\frac{1}{2}$ " for installation purposes.



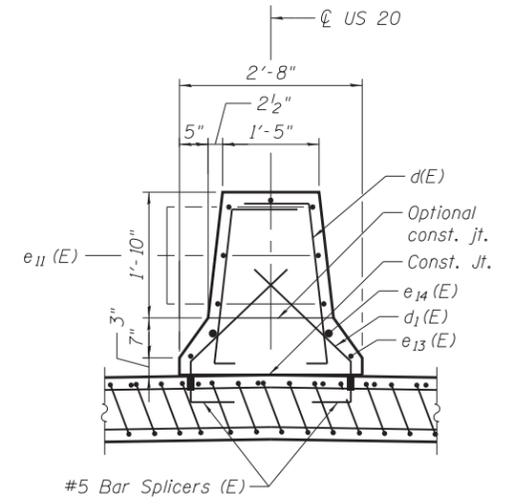
\*\*\* Cost included with Concrete Superstructure.



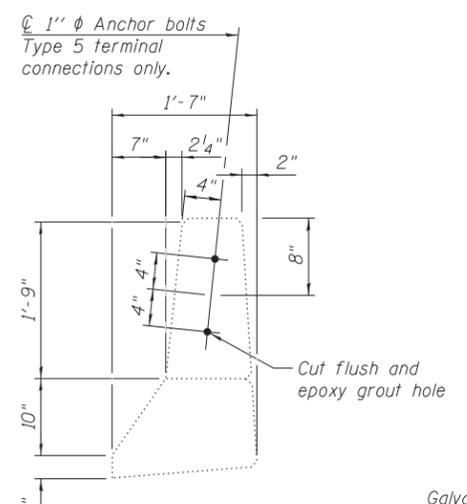
DETAIL A



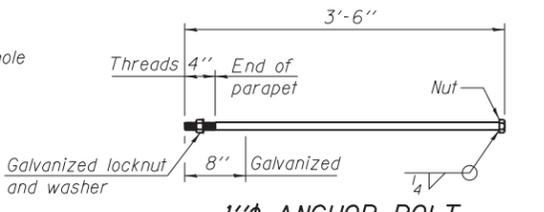
VIEW F-F



SECTION H-H



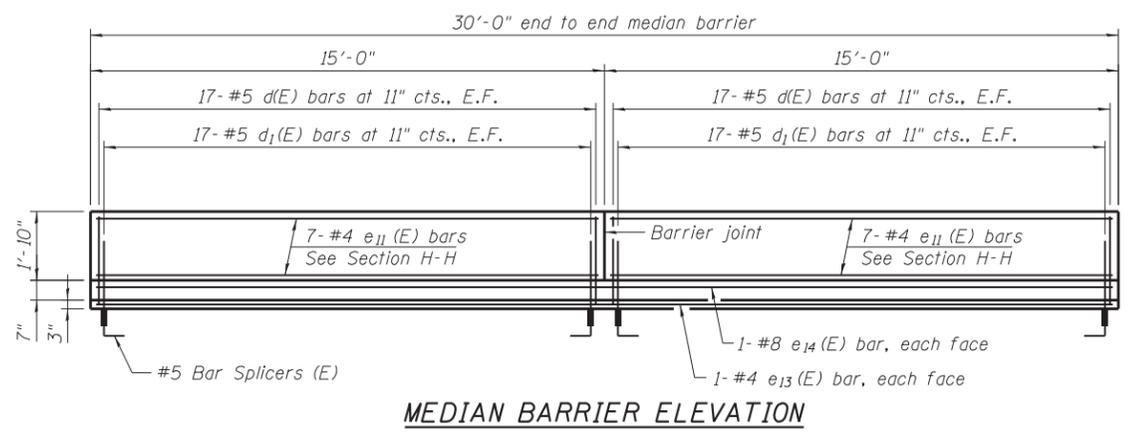
SECTION THRU EXISTING BRIDGE PARAPET (New Jersey Shape Barrier)



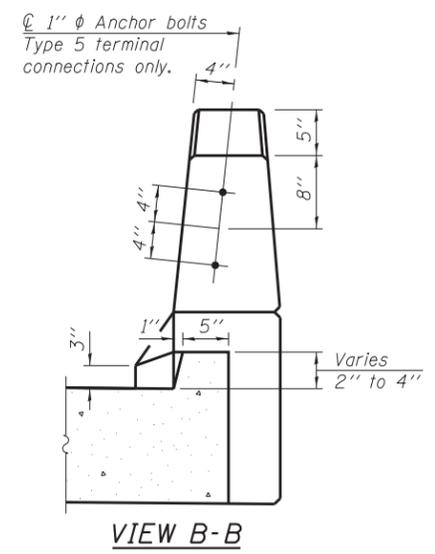
1" ANCHOR BOLT (Cost included with Concrete Superstructure)

\* Tilt #9 b11(E) bars as required to maintain clearance.  
 \*\* Space between  $a_{10}(E)$  bars, typ. each parapet.

PLAN East Approach shown, West Approach opposite hand



MEDIAN BARRIER ELEVATION



VIEW B-B

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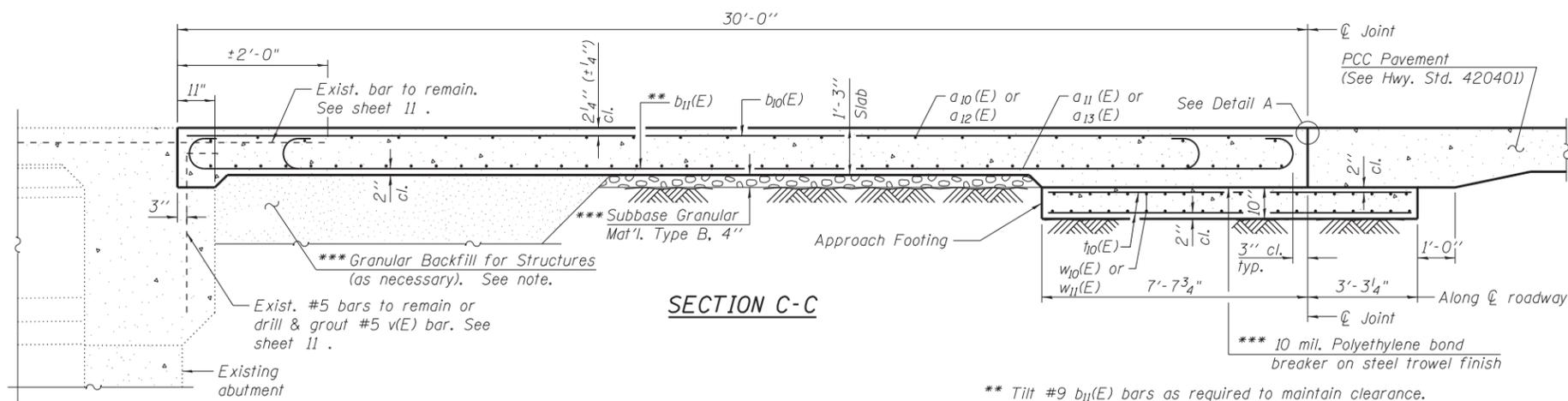
STATE OF ILLINOIS  
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BRIDGE APPROACH SLAB PLAN  
 STRUCTURE NO. 016-0254

SHEET NO. 8 OF 14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	273
CONTRACT NO. 60V57				

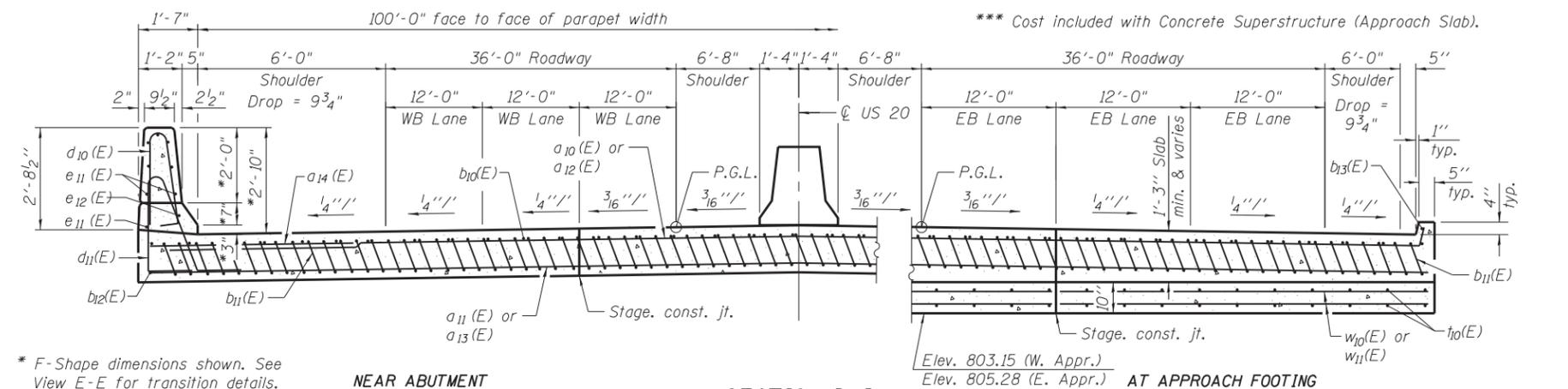
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**SECTION C-C**

**NOTES**

1. See sheet 8 for Detail A and View B-B.
2. Approach Slab shall be paid for as Concrete Superstructure (Approach Slab) and parapet concrete shall be paid for as Concrete Superstructure.
3. Approach footing concrete shall be paid for as Concrete Structures.
4. Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
5. For v(E) bar details, see sheet 11.
6. The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf. The Contractor shall verify that the existing soil bearing capacity is a minimum of 2.0 t.s.f. beneath the approach footing. The contractor shall notify the engineer if bearing capacity is not achieved.
7. For bar splicer details, see sheet 13.
8. Cost of excavation for approach footing included with Concrete Structures.
9. For additional parapet details, see sheet 6.



**SECTION D-D**

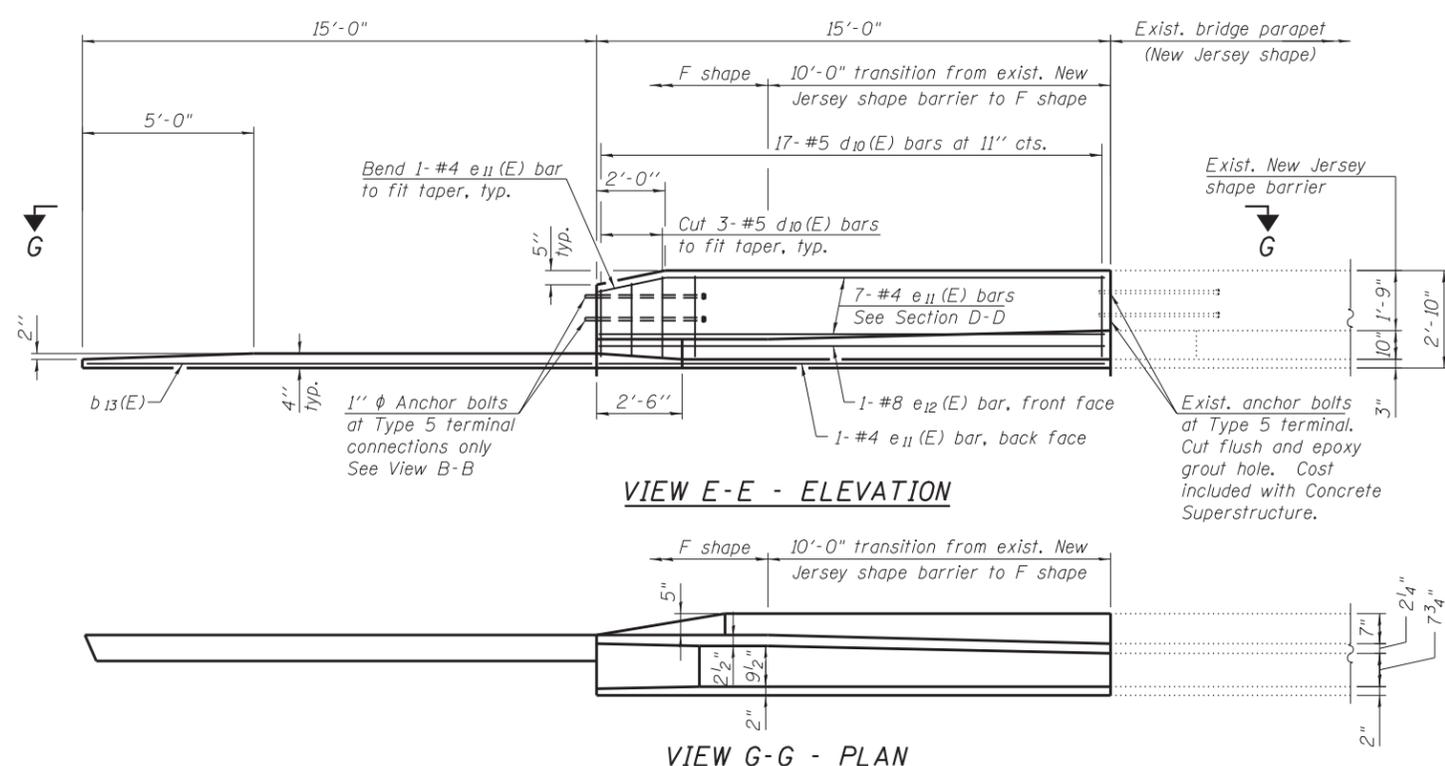
**AT APPROACH FOOTING**



**BAR b11(E)**

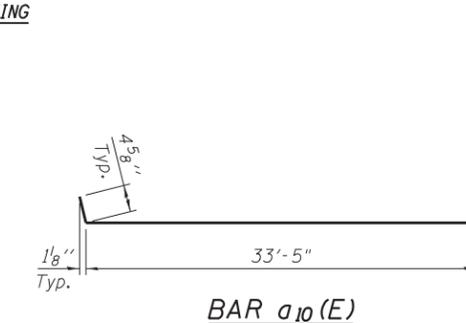
**TWO APPROACHES  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a10(E)	100	#4	33'-6"	—
a11(E)	184	#5	33'-6"	—
a12(E)	50	#4	43'-4"	—
a13(E)	92	#5	43'-4"	—
a14(E)	48	#6	6'-6"	—
b10(E)	166	#4	29'-8"	—
b11(E)	488	#9	29'-9"	—
b12(E)	4	#4	14'-8"	—
b13(E)	4	#4	14'-4"	—
d(E)	136	#5	3'-7"	—
d1(E)	136	#5	5'-7"	—
d10(E)	68	#5	5'-7"	—
d11(E)	68	#5	7'-11"	—
e11(E)	60	#4	14'-8"	—
e12(E)	4	#8	14'-8"	—
e13(E)	4	#4	29'-8"	—
e14(E)	4	#8	29'-8"	—
h10(E)	420	#4	10'-7"	—
w10(E)	160	#5	33'-6"	—
w11(E)	80	#5	43'-4"	—
Bridge Deck Grooving		Sq. Yd.	628	
Protective Coat		Sq. Yd.	834	
Concrete Superstructure (Approach Slab)		Cu. Yd.	335.6	
Concrete Structures		Cu. Yd.	69.6	
Reinforcement Bars, Epoxy Coated		Pound	82,260	
Concrete Superstructure		Cu. Yd.	17.9	

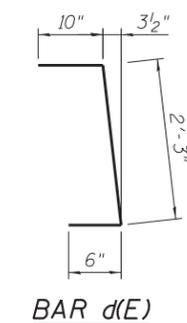


**VIEW E-E - ELEVATION**

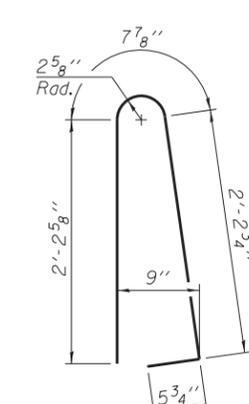
**VIEW G-G - PLAN**



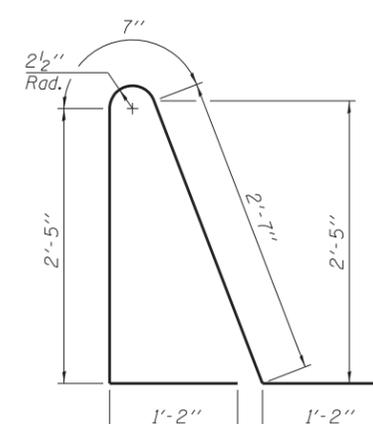
**BAR a10(E)**



**BAR d(E)**



**BAR d10(E)**



**BAR d11(E)**

① Bar d12(E) to be furnished by bar splicer supplier. Cost included in the contract unit price for Bar Splicers. See Sheet 13 for bar splicer assembly details.

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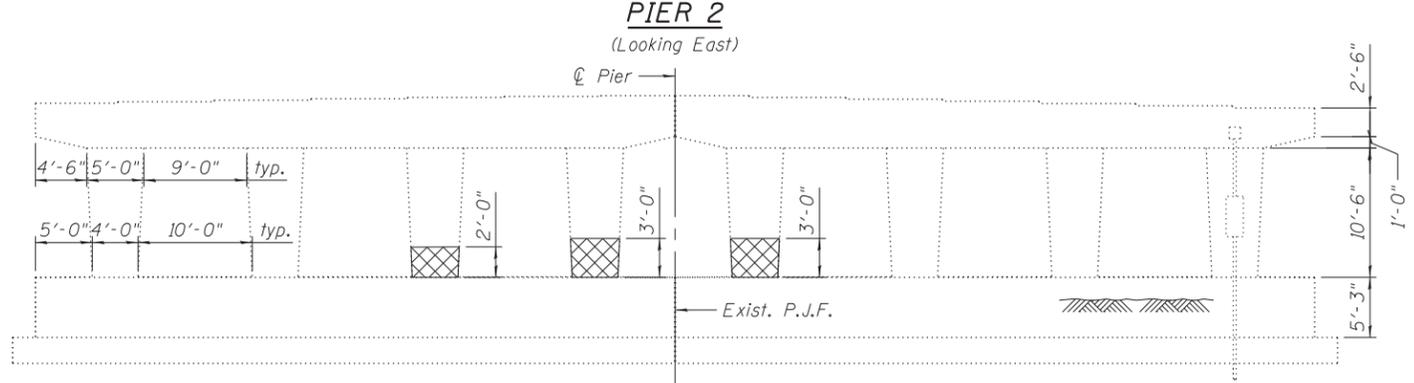
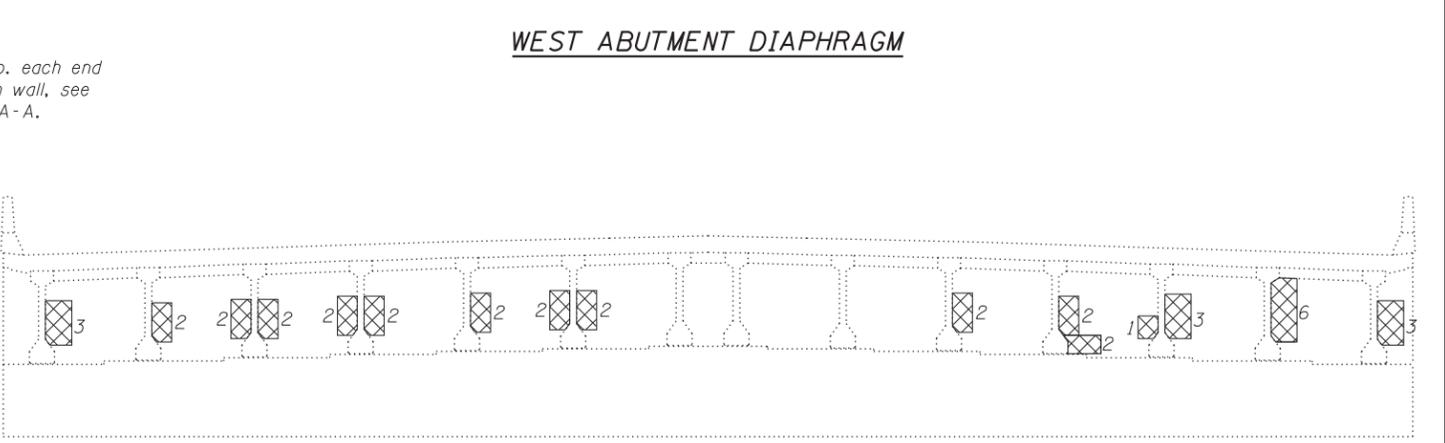
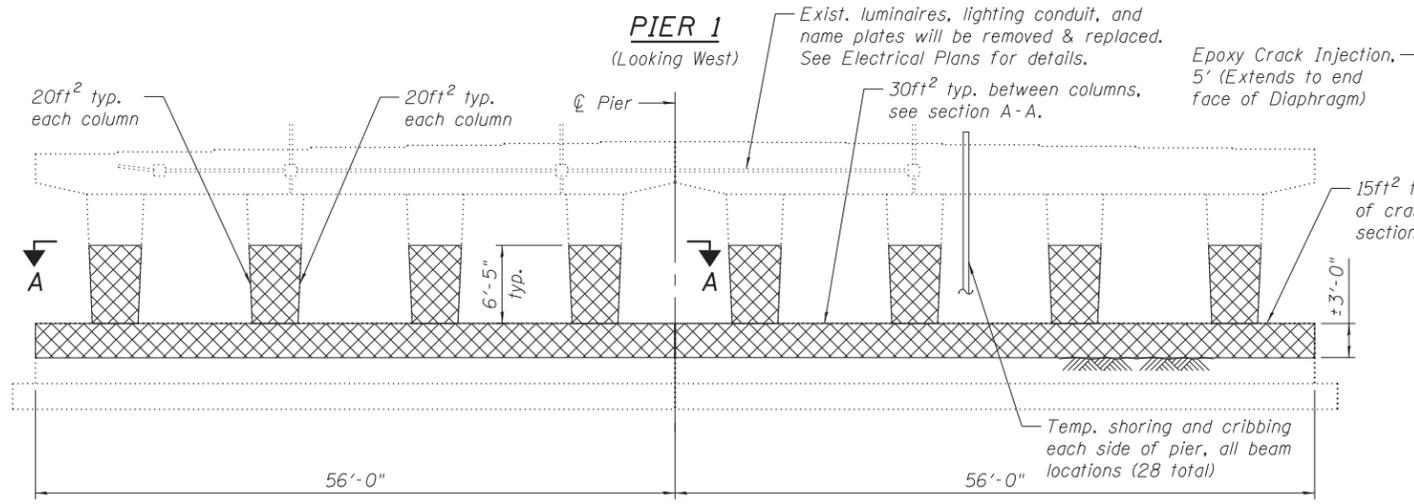
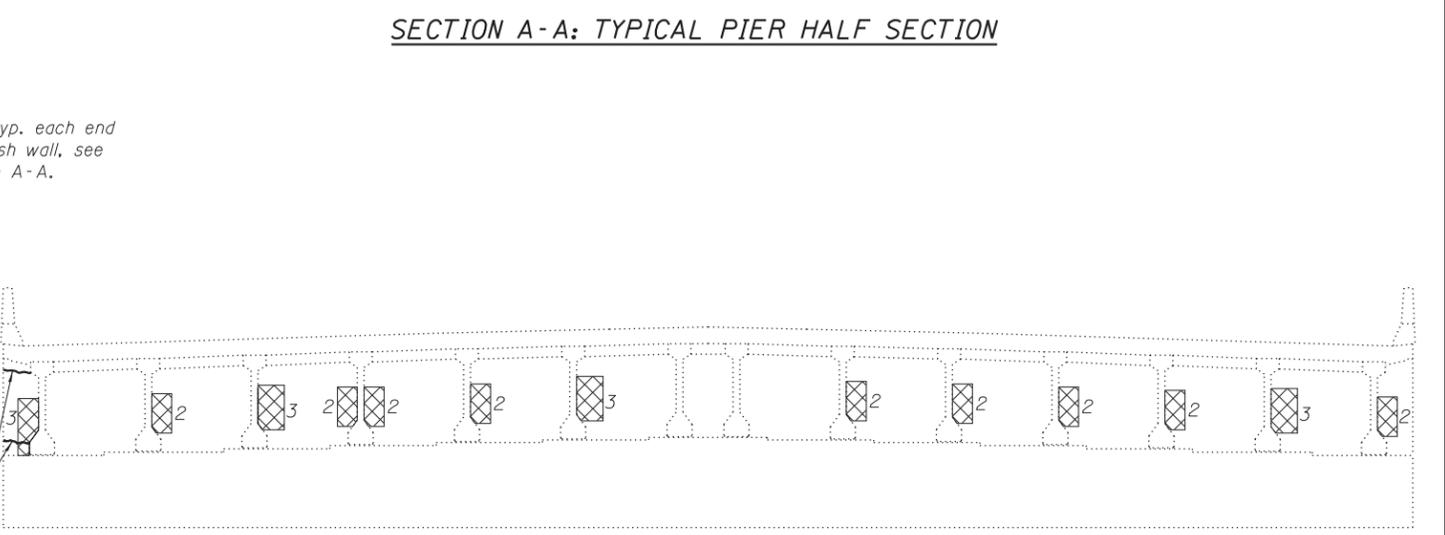
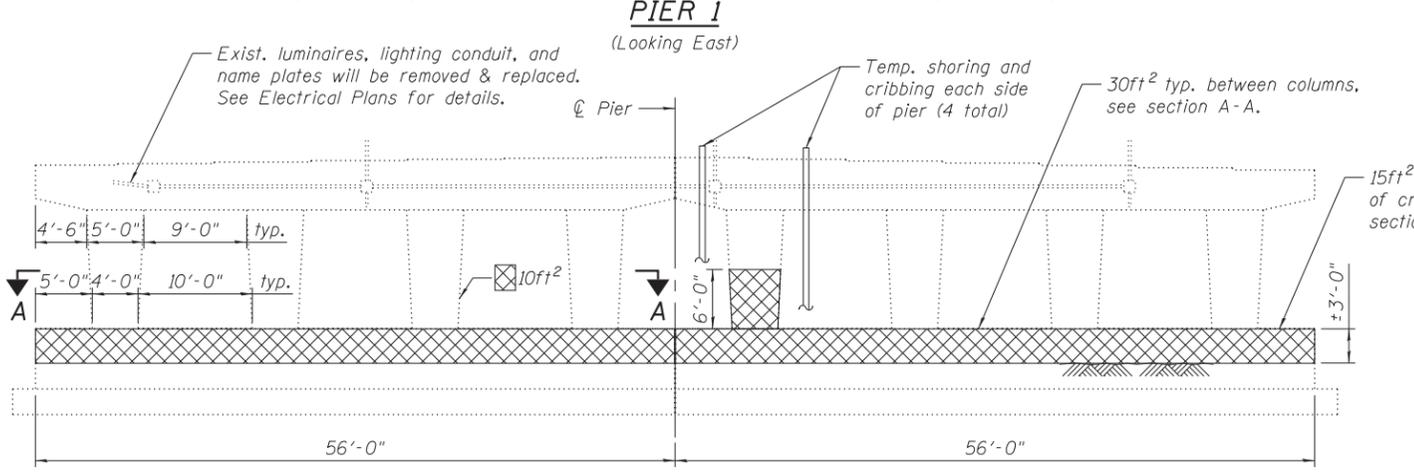
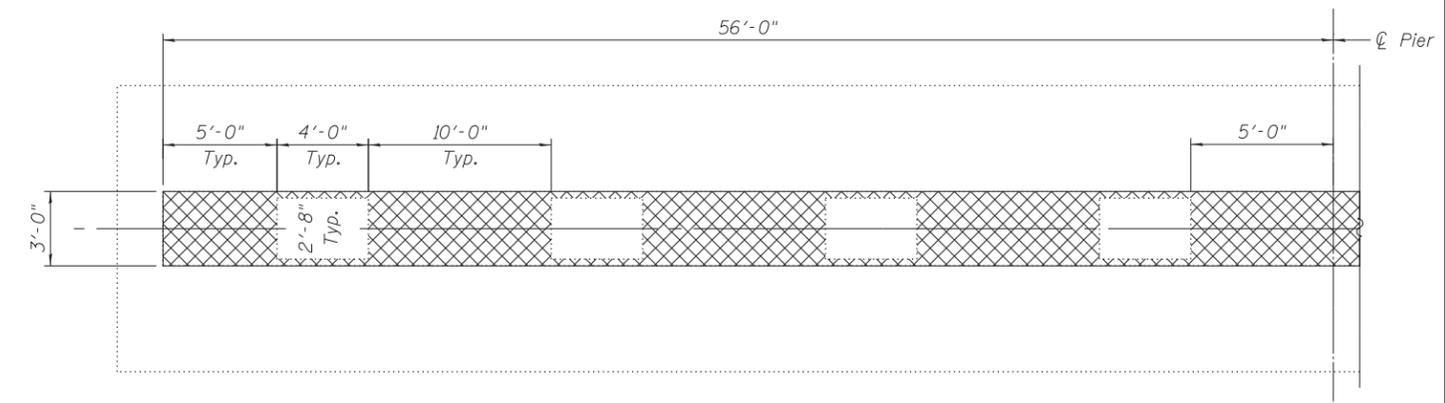
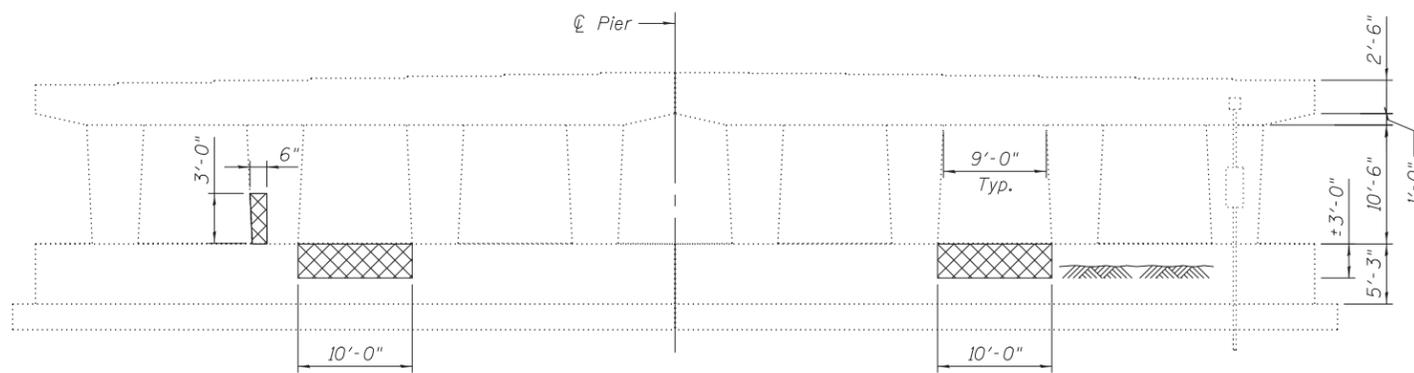
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DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS  
STRUCTURE NO. 016-0254

SHEET NO. 9 OF 14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	274
CONTRACT NO. 60V57				

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\* GIRDER REACTION TABLE

	Pier 1		Pier 2	
	West	East	West	East
R <sub>DL</sub> (k)	43.5	80	80	43.5
R <sub>LL</sub> (k)	71.5		71.5	
Inp (k)	18.8		18.8	
R <sub>Total</sub> (k)	213.8		213.8	

**NOTES**

1. Repair of existing concrete shall include, but shall not be limited to, the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

**LEGEND**

Structural Repair of Concrete (Depth Less than 5") (Est. qty. shown in Sq. Ft.)

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Repair of Concrete, Depth Less than 5"	Sq. Ft.	1,945
Epoxy Crack Injection	L.F.	10
Temporary Shoring and Cribbing	Each	32

\* Service girder reactions provided for information. The Contractor shall design the temporary shoring and cribbing to accommodate the stated beam reactions.

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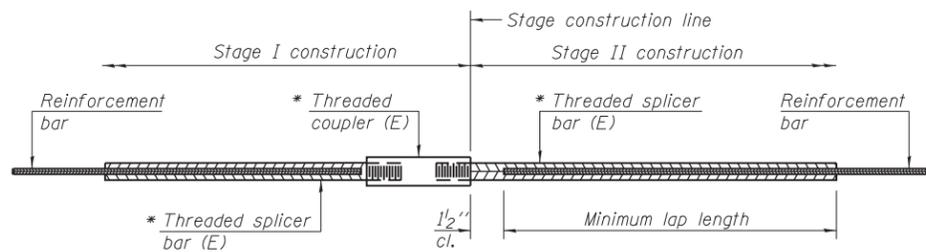
PIER & ABUTMENT REPAIR DETAILS  
STRUCTURE NO. 016-0254

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	275

CONTRACT NO. 60V57





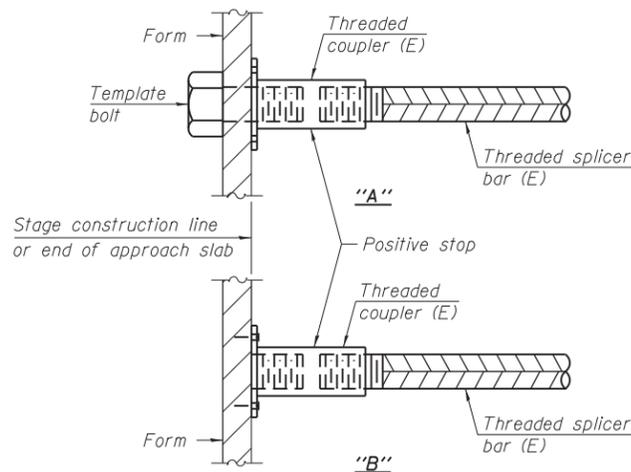


**STANDARD BAR SPLICER ASSEMBLY**

Threaded splicer bar length = min. lap length + 1/2" + thread length

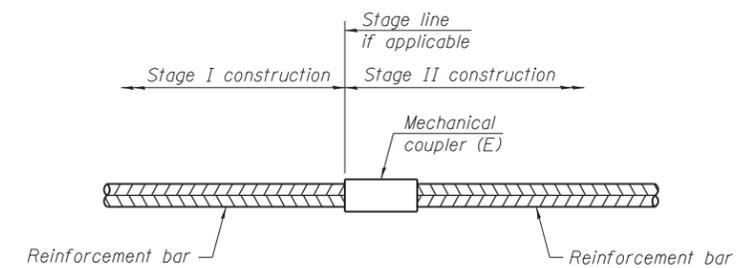
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Appr. Slab Ftg.	5	160	3'-4"
Appr. Slab	4	100	2'-7"
Appr. Slab	5	184	3'-4"



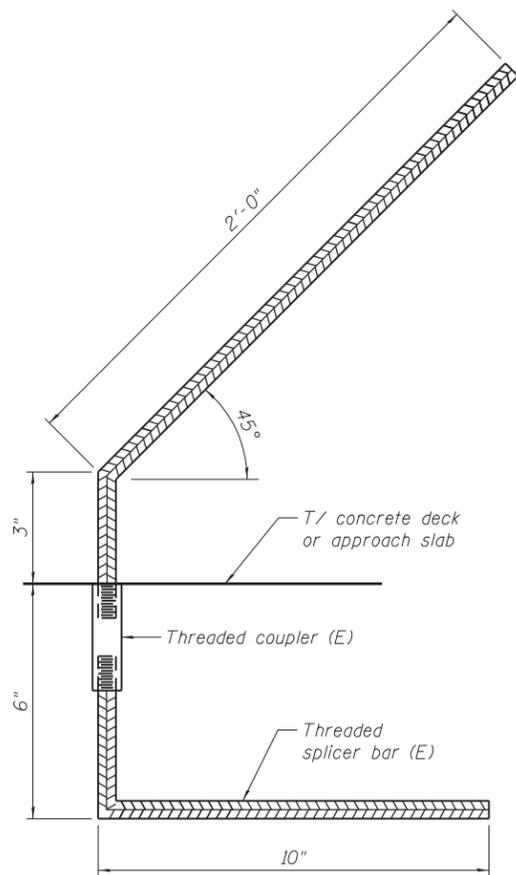
**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.  
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
 (E) : Indicates epoxy coating.



**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



**BAR SPLICER ASSEMBLY FOR #5 d1(E) BAR**

No. required = 502

**NOTES**

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
 All reinforcement shall be lapped and tied to the splicer bars.  
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

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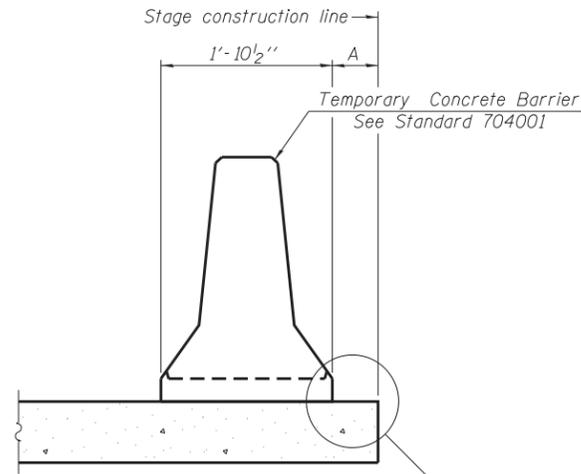
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
 STRUCTURE NO. 016-0254

SHEET NO. 13 OF 14 SHEETS

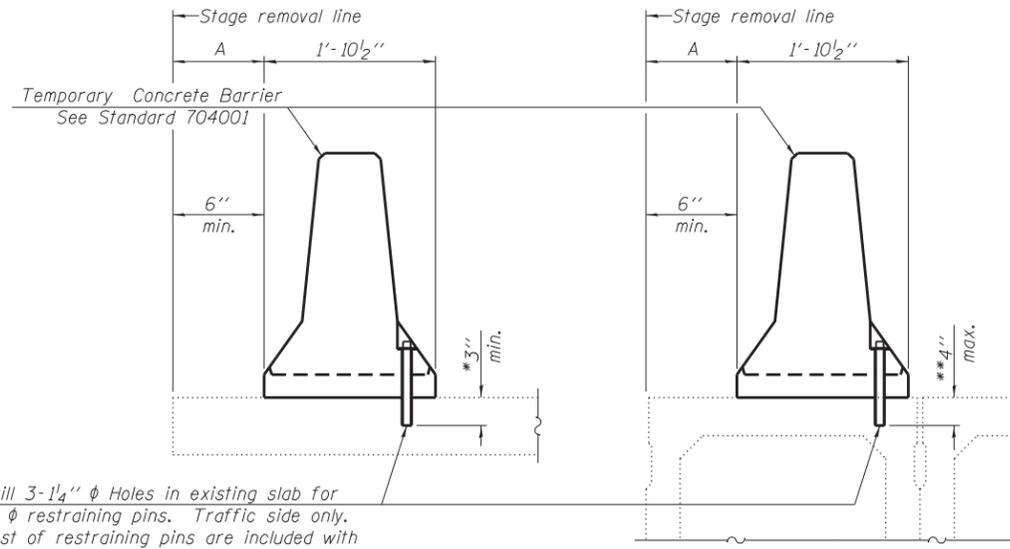
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	278
CONTRACT NO. 60V57				

ILLINOIS FED. AID PROJECT



When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I or Detail II. No restraint is required when "A" is greater than 3'-1".

**NEW SLAB**



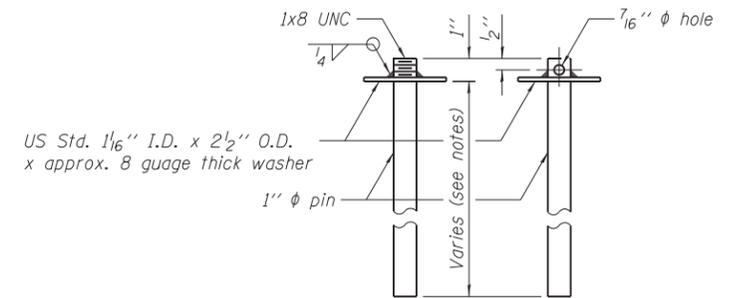
Drill 3-1/4"  $\phi$  Holes in existing slab for 1"  $\phi$  restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

**EXISTING SLAB**

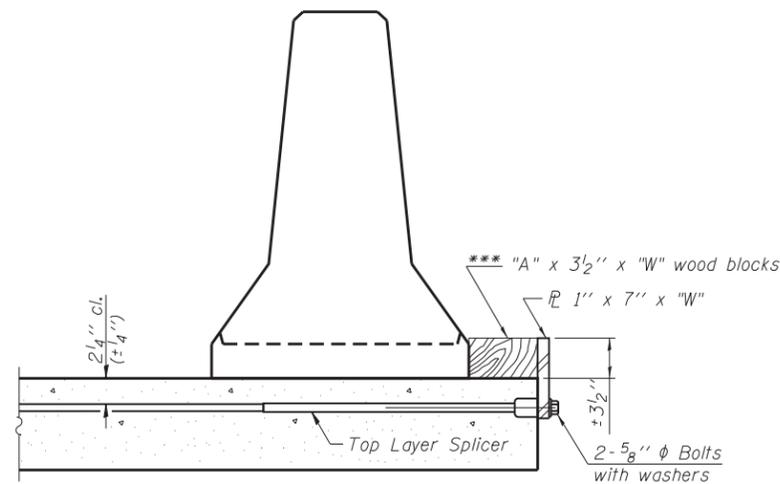
**EXISTING DECK BEAM**

**SECTIONS THRU SLAB OR DECK BEAM**

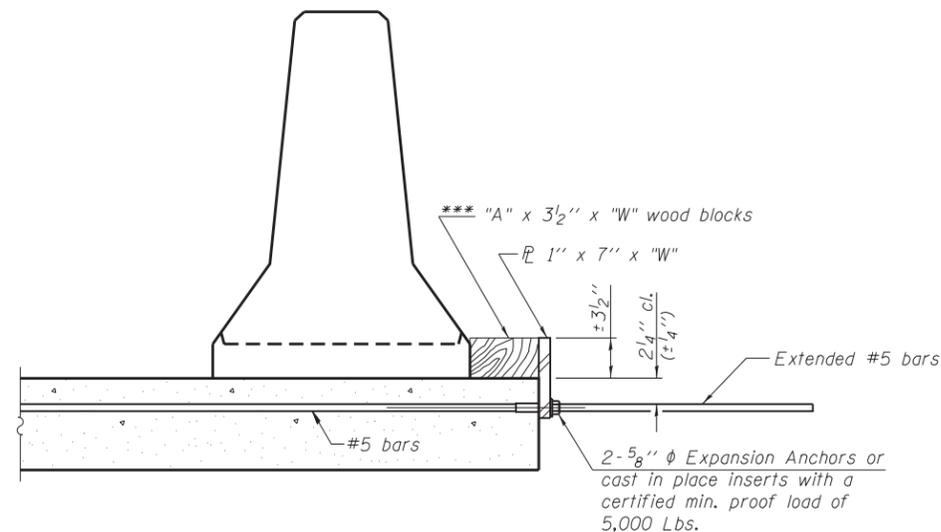
\* Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.  
 \*\* If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



**RESTRAINING PIN**

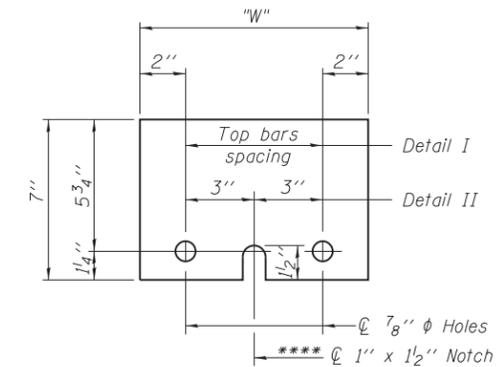


**DETAIL I**



**DETAIL II**

**RETAINER ASSEMBLY**



**STEEL RETAINER 1" x 7" x "W"**

\*\*\*\* Required only with Detail II

**NOTES**

Detail I - With Bar Splicer or Couplers:  
 Connect one (1) 1" x 7" x "W" steel  $\mathcal{R}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\mathcal{C}$  of each barrier panel.  
 Detail II - With Extended Reinforcement Bars:  
 Connect one (1) 1" x 7" x "W" steel  $\mathcal{R}$  to the concrete slab or concrete wearing surface with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\mathcal{C}$  of each barrier panel.  
 Cost of retainer assembly is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

Note:  
 This is not the latest standard. Do not update.

\*\*\* Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

Benchmark: Cut "□" on top of the southwest parapet of the US 20/IL 59 bridge. Elev. 808.39.

Existing Structure: S.N. 016-0254 carrying US 20 over IL 59 was built in 1990 as part of Project No. 1X-21(52). The structure is a three-span bridge with an overall bk. to bk. abutment length of 182'-9" and out to out deck width of 103'-2". The superstructure consists of a 7 1/2" thick reinforced concrete deck supported by 54" deep PPC I-beams. The substructure consists of multi-column piers with crashwall founded on spread footings, and integral abutments founded on 14" φ metal shell piles. The existing slopewall will be removed and replaced to accommodate the proposed retaining wall. No retaining wall currently exists. Traffic will be maintained on IL 59 & US 20 during construction.

**INDEX OF DRAWINGS**

1. General Plan and Elevation
2. General Data, Typical Section & Miscellaneous Details
3. Footing Plan and Elevation I
4. Footing Plan and Elevation II
5. Soil Boring Logs I
6. Soil Boring Logs II

**DESIGN SPECIFICATIONS**

2014 AASHTO LRFD Specifications, 7th Edition with 2015 AASHTO Interim Revisions

**DESIGN STRESSES**

**FIELD UNITS**  
 f'c = 3,500 psi  
 fy = 60,000 psi

**LEGEND**

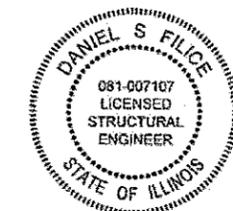
- (E) (C) = Exp. Jt., Const. Jt.
- ⊕ = Soil Boring
- = Prop. Light Pole
- = Prop. Pipe Underdrain
- = Exist. Storm Sewer
- X = Exist. Light Pole Removal

**NOTES**

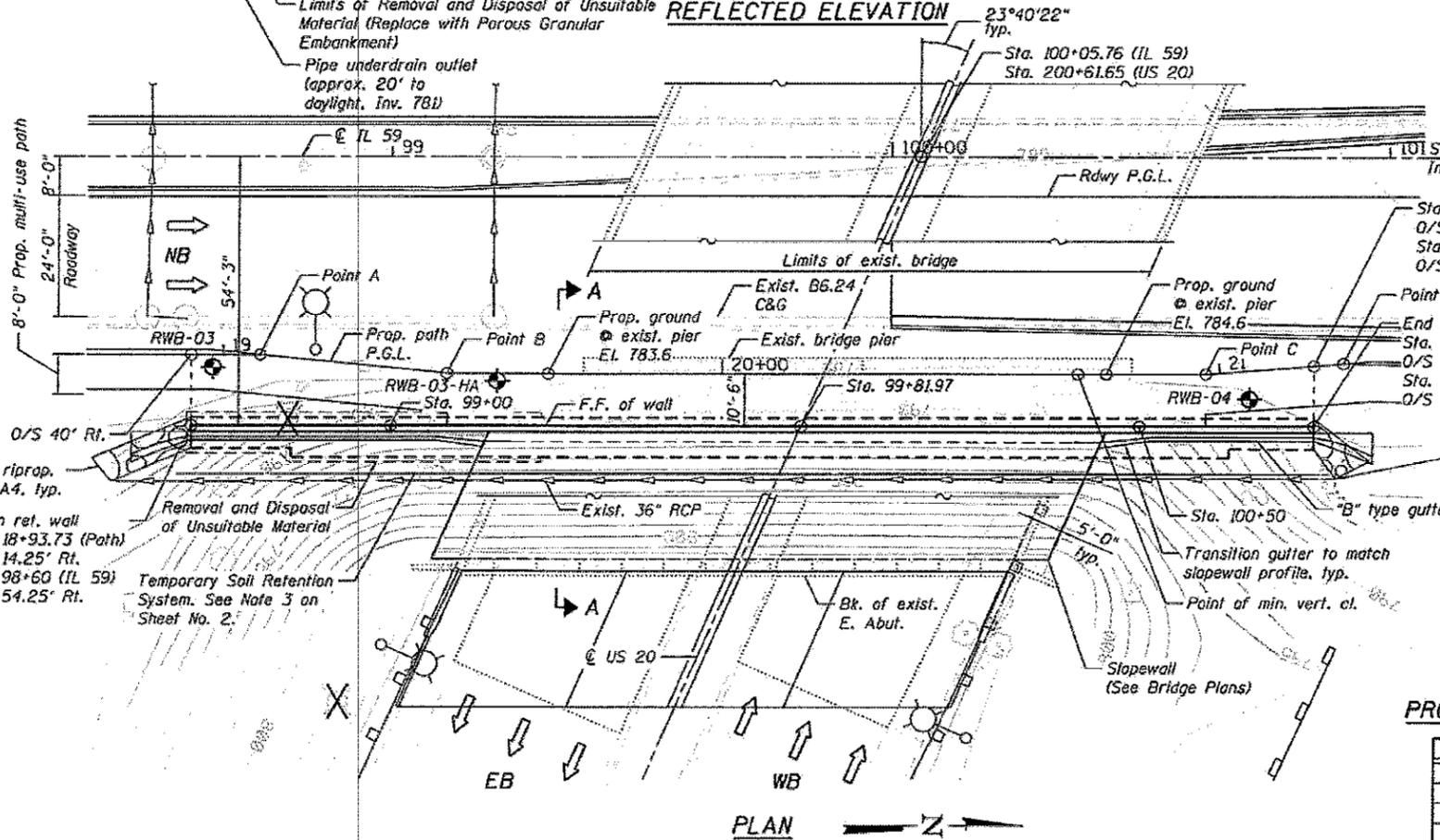
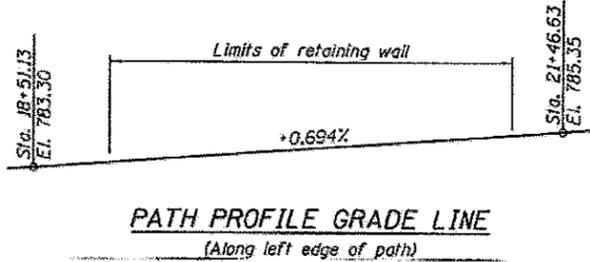
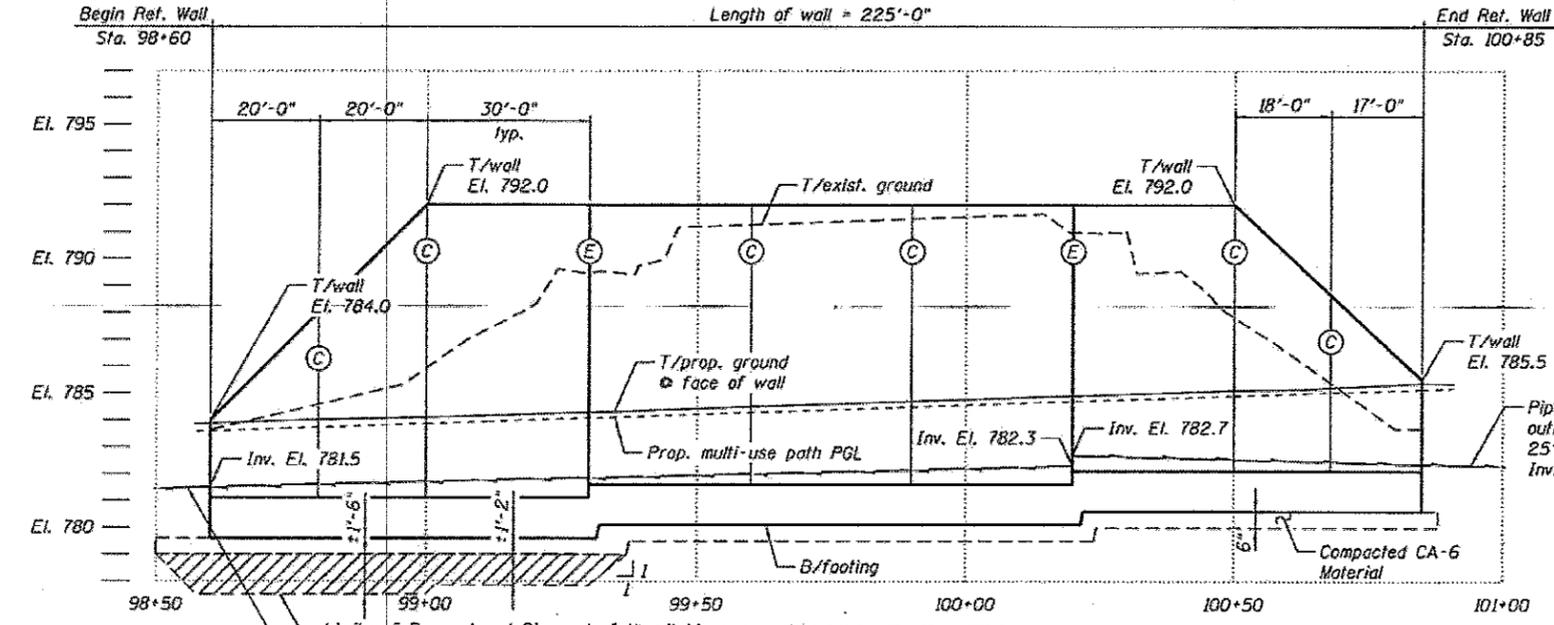
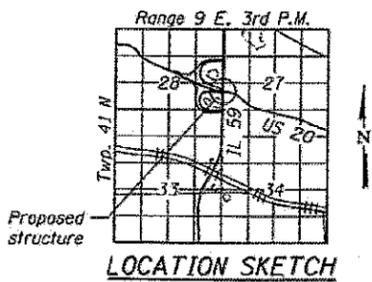
1. See sheet 2 for Section A-A.

**APPROVED**  
 For Structural Adequacy Only

*Signature*  
 Engineer of Bridges & Structures



SIGNED: *D. Filice*  
 DATE: 8-23-17  
 EXPIRES: November 30, 2018  
 SHEET NO.: 281-286



**PROP. PATH P.G.L. REFERENCE POINTS**

Point	Path Sta.	O/S	IL 59 Sta.	O/S
A	19+07.48	0'	98+73.75	40' Rt.
B	19+45.16	0'	99+11.25	43.75' Rt.
C	20+97.21	0'	100+63.29	43.75' Rt.
D	21+24.75	0'	100+90.96	41.6' Rt.

**GENERAL PLAN AND ELEVATION**  
 U.S. ROUTE 20 OVER IL ROUTE 59  
 F.A.P. RTE. 338 & 345 - SEC. 7K-1(12)

COOK COUNTY  
 STA. 98+60 TO 100+85  
 SN 016-Z032

ROWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 Chicago, Illinois  
 312.224.0162  
 www.rowbar.com

USER NAME =  
 PLOT SCALE = N.T.S.  
 PLOT DATE = 8/21/2017

DESIGNED - CA  
 CHECKED - OF  
 DRAWN - LAM  
 CHECKED - CA

REVISED  
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 REVISED  
 REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

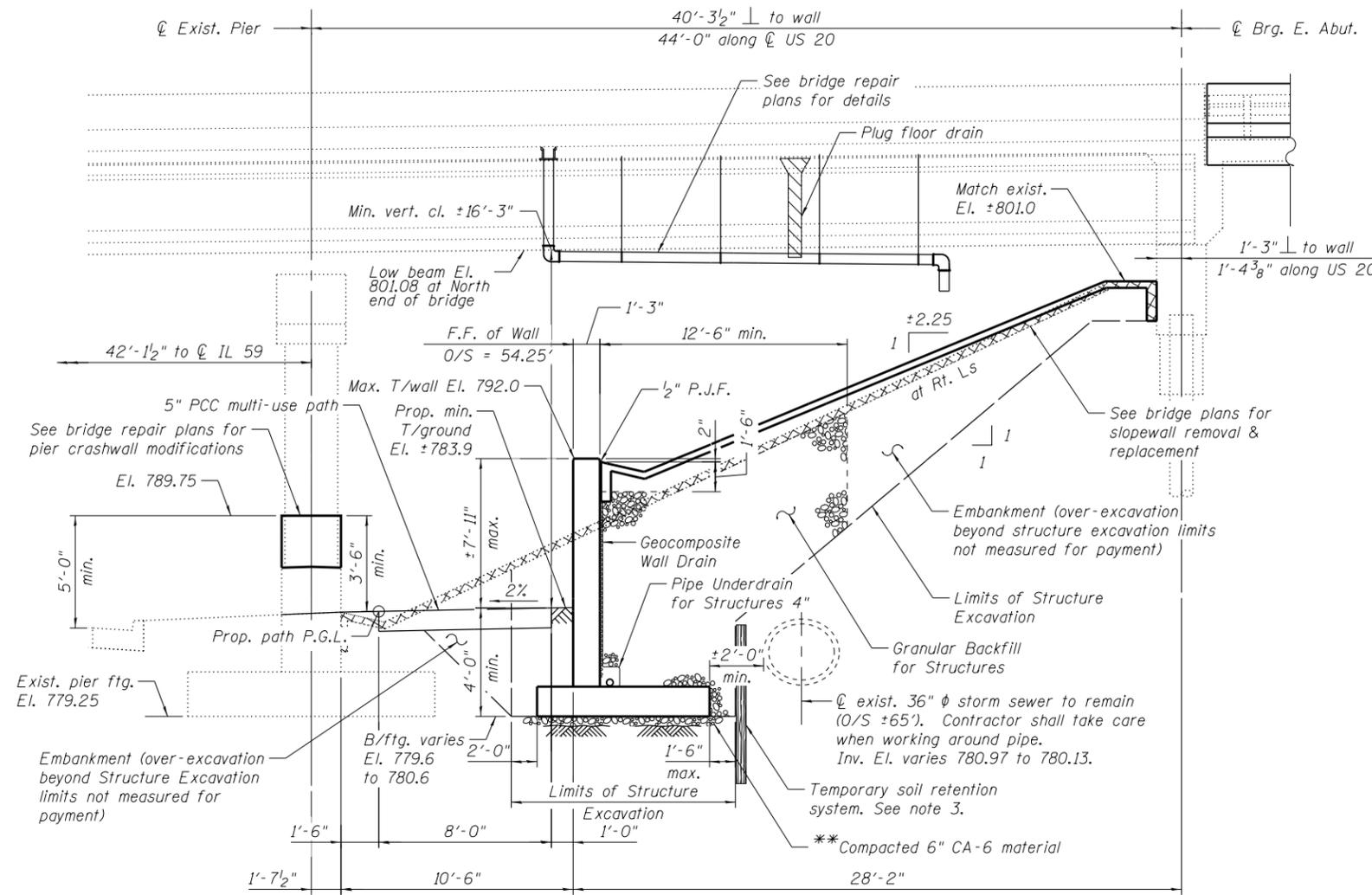
SHEET NO. 1 OF 6 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	280
CONTRACT NO. 60V57			ILLINOIS FED. AID PROJECT	

SN\161195-CADD\CADD Sheets\016Z032-68V57-001-GPE.dgn

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.	50
Porous Granular Embankment	Cu. Yd.	50
Structure Excavation	Cu. Yd.	1,275.2
Concrete Structures (Retaining Wall)	Cu. Yd.	194.6
Protective Coat	Sq. Yd.	170
Reinforcement Bars, Epoxy Coated	Pound	21,980
Geocomposite Wall Drain	Sq. Yd.	170
Pipe Underdrains for Structures, 4"	Foot	270
Granular Backfill for Structures	Cu. Yd.	690
Temporary Soil Retention System	Sq. Ft.	1,275



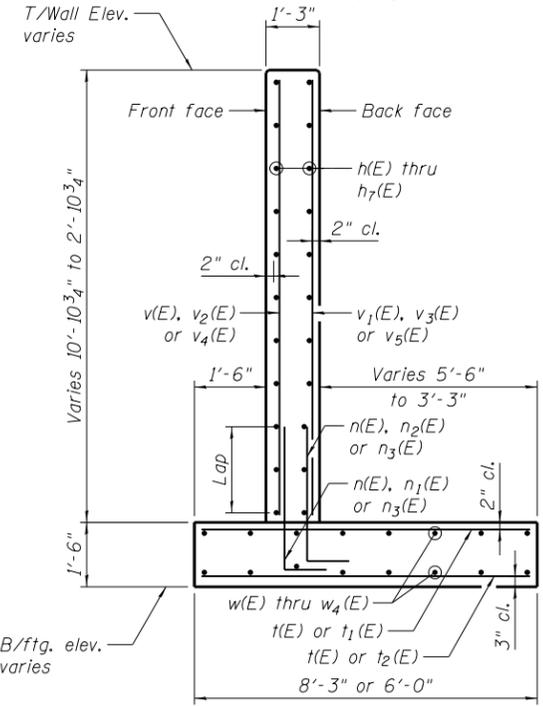
**NOTES**

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
3. Contractor shall provide Temporary Soil Retention System (if needed) to retain embankment and prevent movement of existing storm sewer.
4. The allowable soil bearing capacity required shall be a minimum of 2,400 p.s.f. (The factored bearing resistance required shall be a minimum of 3,000 p.s.f.) Contractor shall verify soil properties and notify the Engineer if bearing values are not encountered at bottom of footing elevations.
5. All exposed concrete edges shall have a 3/4" x 45° chamfer, U.N.O. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground elevation.
6. Horizontal dimensions shown to centerline of Joints.
7. 6" compacted CA-6 material will not be measured for payment, but shall be included in the cost of Structure Excavation.
8. Cost of P.J.F. shall be included in the cost of Concrete Structures (Retaining Wall).

**SECTION A-A**

Showing outline  
(Dimensions at Rt. L to wall U.N.O.)  
(Offset shown from centerline IL 59)

\*\* For areas with Removal of Unsuitable Material, cap Porous Granular Embankment with 6" compacted CA-6 material.



**TYPICAL SECTION**

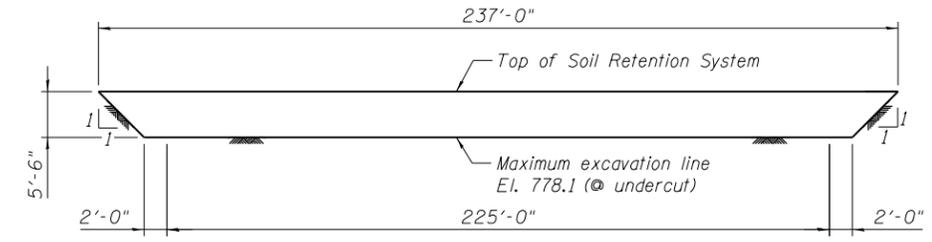
Showing reinforcement

**CONSTRUCTION JOINT**

(Location noted as C.J. on Sheet No. 3 & 4)

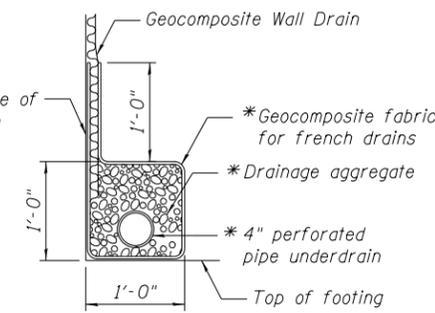
**EXPANSION JOINT**

(Location noted as E.J. on Sheet No. 3 & 4)



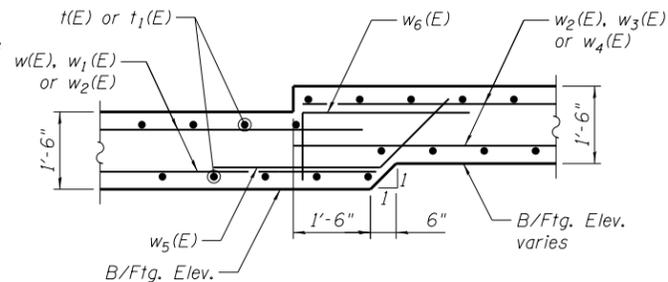
**TEMPORARY SOIL RETENTION SYSTEM**

See Note 3



**PIPE UNDERDRAIN DETAIL**

\*Cost included with Pipe Underdrains for Structures 4"



**FOOTING STEP DETAIL**

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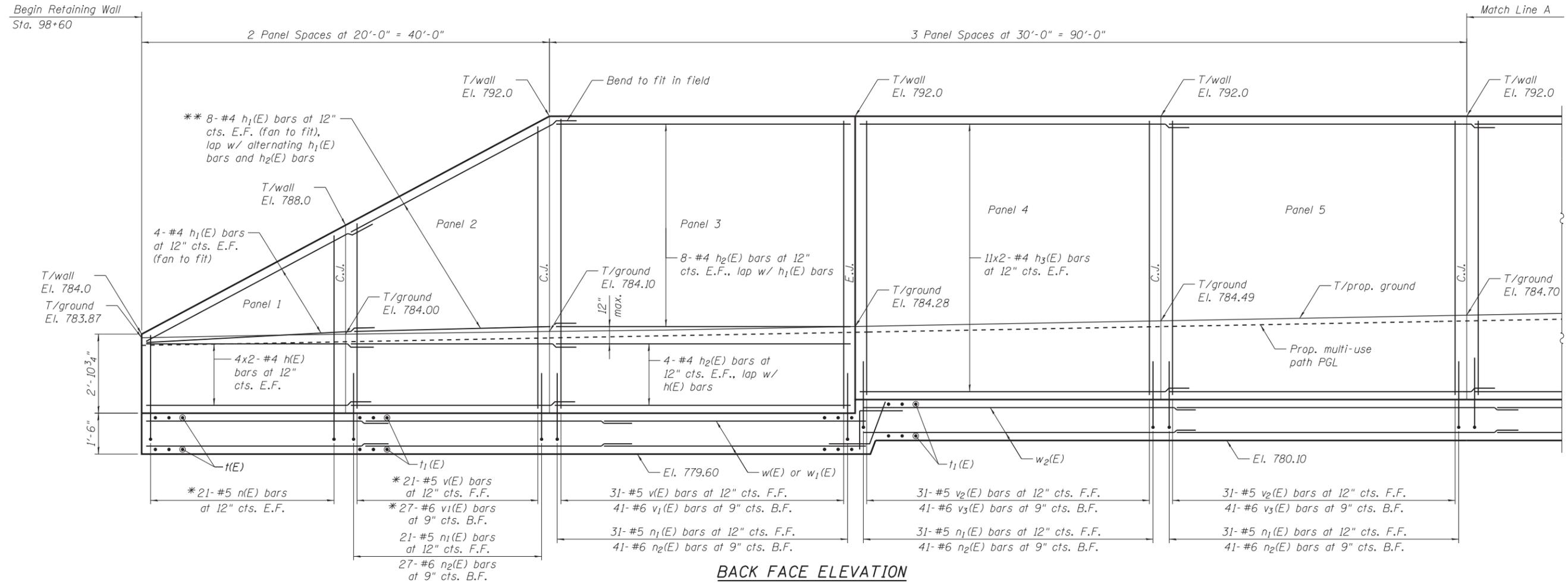
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CHECKED - DF  
DRAWN - LAM  
CHECKED - CA  
PLOT SCALE = N.T.S.  
PLOT DATE = 10/5/2017

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REVISIONS  
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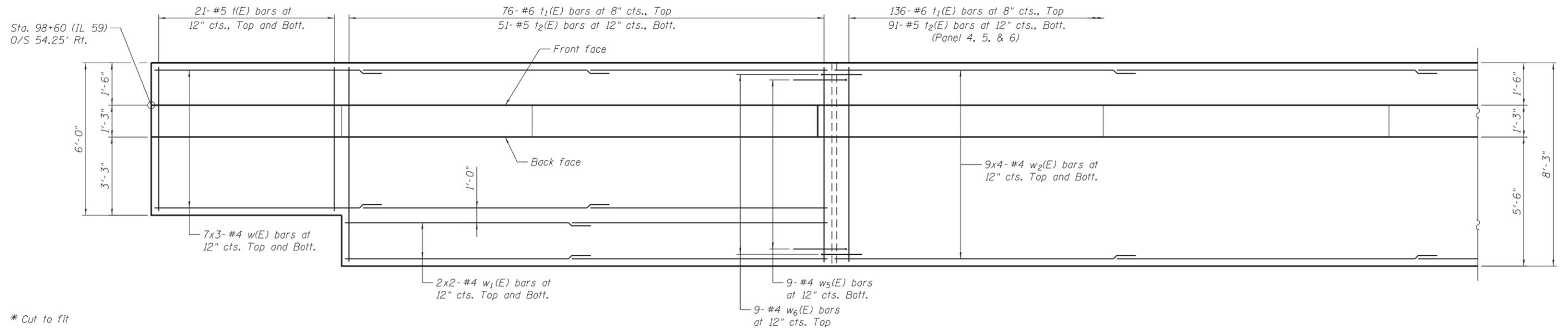
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL DATA, TYPICAL SECTION AND MISCELLANEOUS DETAILS  
STRUCTURE NO. 016-2032

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	281
CONTRACT NO. 60V57				



**BACK FACE ELEVATION**



**FOOTING PLAN**

\* Cut to fit

\*\* Contractor may elect to cut a maximum of 2'-6" from end of every other bar to alleviate congestion at end with spacing less than 12" cts. (maximum 4 bars).

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PLOT SCALE = N.T.S.  
PLOT DATE = 8/23/2017

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CHECKED - DF  
DRAWN - LAM  
CHECKED - CA

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REVISED

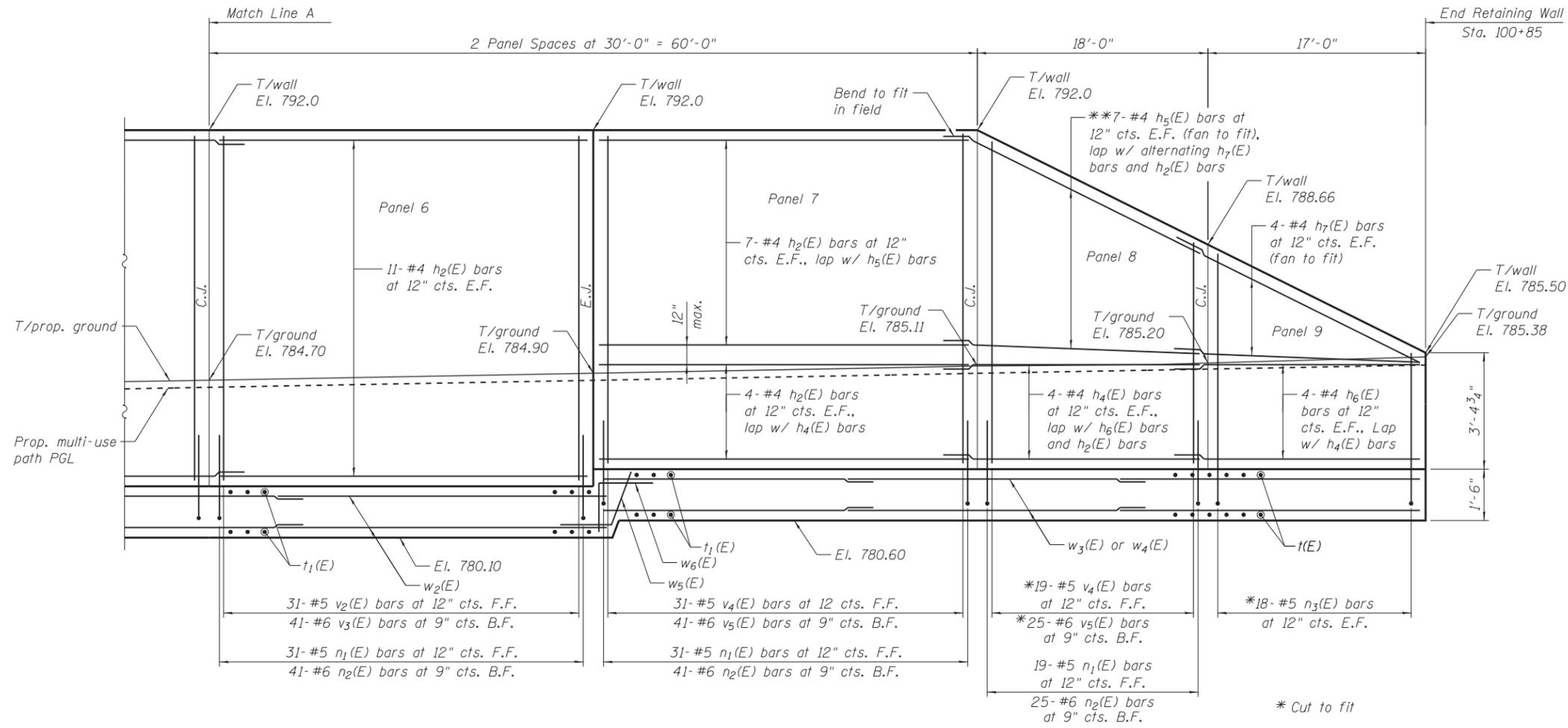
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

FOOTING PLAN AND ELEVATION I  
STRUCTURE NO. 016-2032

SHEET NO. 3 OF 6 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	282
CONTRACT NO. 60V57				

ILLINOIS FED. AID PROJECT



**BACK FACE ELEVATION**

\* Cut to fit

\*\* Contractor may elect to cut a maximum of 2'-6" from end of every other bar to alleviate congestion at end with spacing less than 12" cts. (maximum 4 bars).

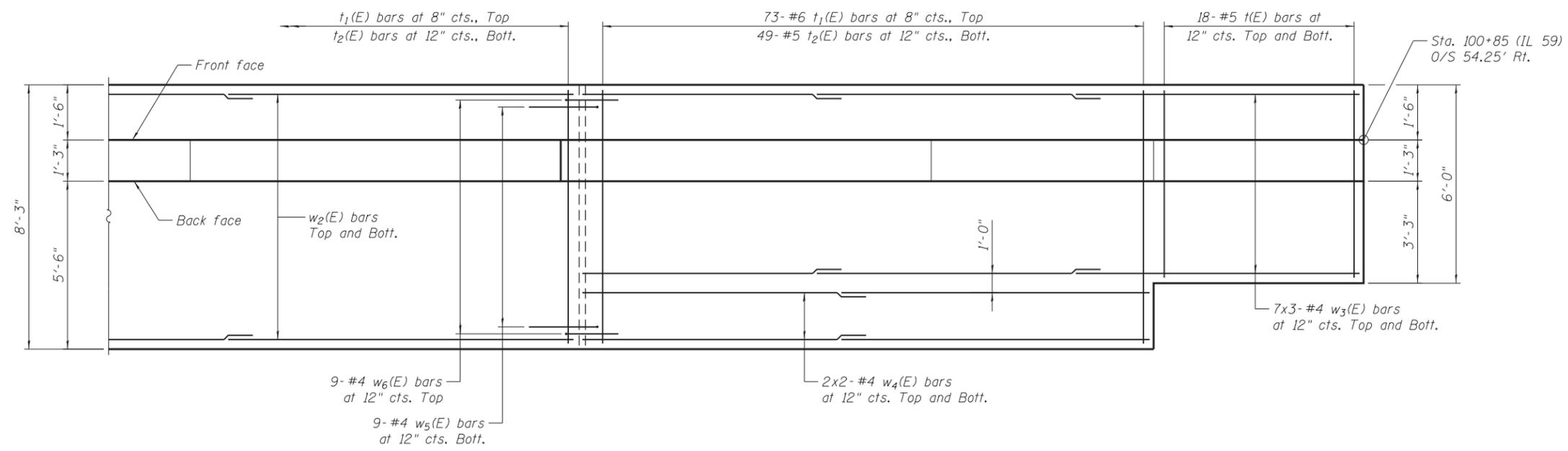
**BAR SCHEDULE**

Bar	No.	Size	Length	Shape
h(E)	16	#4	22'-7"	—
h <sub>1</sub> (E)	24	#4	23'-0"	—
h <sub>2</sub> (E)	68	#4	29'-9"	—
h <sub>3</sub> (E)	44	#4	32'-7"	—
h <sub>4</sub> (E)	8	#4	20'-7"	—
h <sub>5</sub> (E)	14	#4	21'-10"	—
h <sub>6</sub> (E)	8	#4	19'-7"	—
h <sub>7</sub> (E)	8	#4	19'-10"	—
n(E)	42	#5	8'-10"	J
n <sub>1</sub> (E)	195	#5	5'-6"	J
n <sub>2</sub> (E)	257	#6	6'-2"	J
n <sub>3</sub> (E)	36	#5	8'-6"	J
t(E)	78	#5	5'-8"	—
t <sub>1</sub> (E)	285	#6	7'-11"	—
t <sub>2</sub> (E)	191	#5	7'-11"	—
v(E)	52	#5	10'-8"	—
v <sub>1</sub> (E)	68	#6	10'-8"	—
v <sub>2</sub> (E)	93	#5	10'-2"	—
v <sub>3</sub> (E)	123	#6	10'-2"	—
v <sub>4</sub> (E)	50	#5	9'-8"	—
v <sub>5</sub> (E)	66	#6	9'-8"	—
w(E)	42	#4	25'-0"	—
w <sub>1</sub> (E)	8	#4	26'-2"	—
w <sub>2</sub> (E)	72	#4	24'-5"	—
w <sub>3</sub> (E)	42	#4	23'-4"	—
w <sub>4</sub> (E)	8	#4	25'-2"	—
w <sub>5</sub> (E)	18	#4	4'-8"	—
w <sub>6</sub> (E)	18	#4	4'-0"	—

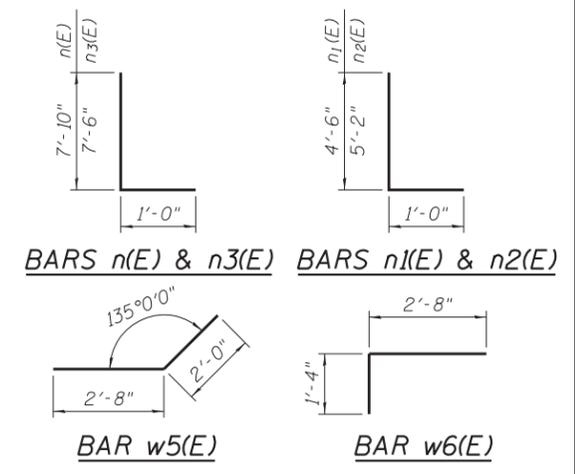
Bars indicated thus 7 x 3-#4 etc. indicates 7 lines of bars with 3 lengths per line.

**MIN. BAR LAP**

- #4 - 2'-7"
- #5 - 3'-2"
- #6 - 3'-10"



**FOOTING PLAN**



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PLOT DATE = 8/23/2017

DESIGNED - CA  
CHECKED - DF  
DRAWN - LAM  
CHECKED - CA

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REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

FOOTING PLAN AND ELEVATION II  
STRUCTURE NO. 016-2032

SHEET NO. 4 OF 6 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	283
CONTRACT NO. 60V57				

ILLINOIS FED. AID PROJECT



wangeng@wangeng.com  
1145 N Main Street  
Lombard, IL 60148  
Telephone: 630 953-9928  
Fax: 630 953-9928

### BORING LOG RWB-03

WEI Job No.: 314-16-01

Client **Bowman, Barrett, and Associates**  
Project **IL Route 59/US Route 20 (FAP 345) Interchange**  
Location **Cook County, IL**

Datum: NAVD 88  
Elevation: 783.83 ft  
North: 1945475.64 ft  
East: 1019646.85 ft  
Station: 098+65.24  
Offset: 42.5 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
783.63	inch thick, black SILTY LOAM --TOPSOIL-- Stiff to very stiff, black and brown SILTY CLAY, trace organic matter --L <sub>1</sub> (%)=52, P <sub>1</sub> (%)=18-- --%Gravel=0.3-- --%Sand=7.9-- --%Silt=60.0-- --%Clay=31.8-- --A-7-6 (33)--	0		1	3 4 6	2.21	30	783.63	--Saturated--	0		11	7 8 9	NP	10
777.3	Brown SANDY LOAM --Moist--	5		2	4 3 3	1.64	23	777.3	Medium dense, gray medium to coarse SAND, little gravel --Saturated--	30		12	11 31 18	NP	10
774.8	Stiff to very stiff, brown and gray SILTY CLAY, trace gravel	10		4	6 3 3	1.23	19	752.1		35		13	11 13 12	NP	21
768.3	Medium dense to dense, brown and gray GRAVELLY SANDY LOAM --Moist--	15		6	3 3 6	1.97	17	744.2	Brown and gray, fine to medium SAND with SILT	40		14	11 12 15	NP	14
		20		8	18 7 8	NR		742.1	Very stiff to hard, gray CLAY LOAM, trace gravel --Moist--	45		15	7 8 13	3.44	13
		25		10	7 9 15	NP	11	733.8		50		16	9 16 20	4.18	15

#### GENERAL NOTES

Begin Drilling **12-22-2014** Complete Drilling **12-22-2014**  
Drilling Contractor **Wang Testing Services** Drill Rig **D-50 ATV**  
Driller **K&K** Logger **A. Happel** Checked by **C. Marin**  
Drilling Method **2.5' interval to 30', 5' interval thereafter; boring backfilled upon completion**

#### WATER LEVEL DATA

While Drilling **23.00 ft**  
At Completion of Drilling **24.00 ft**  
Time After Drilling **NA**  
Depth to Water **NA**  
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



wangeng@wangeng.com  
1145 N Main Street  
Lombard, IL 60148  
Telephone: 630 953-9928  
Fax: 630 953-9928

### BORING LOG RWB-03-HA

WEI Job No.: 314-16-01

Client **Bowman, Barrett, and Associates**  
Project **IL Route 59/US Route 20 (FAP 345) Interchange**  
Location **Cook County, IL**

Datum: NAVD 88  
Elevation: 783.96 ft  
North: 1945531.52 ft  
East: 1019650.20 ft  
Station: 099+21.20  
Offset: 45.2 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
783.73	inch thick, black SILTY LOAM --TOPSOIL-- Stiff to very stiff, brown and gray SILTY CLAY LOAM, trace gravel --FILL--	0		0		2.00	15	783.73		0					
780.9	Soft to stiff, brown and gray SILTY CLAY	1		1		1.50	28	777.5	Brown GRAVELLY SANDY LOAM	3			NP	30	
		5		2		0.25	31	776.5	Stiff to hard, brown and gray SILTY CLAY to SILTY CLAY LOAM, trace gravel --Saturated--	4			4.50	18	
		10		4				774.0	Boring terminated at 10.00 ft	10					

#### GENERAL NOTES

Begin Drilling **01-29-2015** Complete Drilling **01-29-2015**  
Drilling Contractor **Wang Testing Services** Drill Rig **Geoprobe**  
Driller **F&A** Logger **A. Tomaras** Checked by **C. Marin**  
Drilling Method **Continuous Sampling**

#### WATER LEVEL DATA

While Drilling **6.50 ft**  
At Completion of Drilling **2.00 ft**  
Time After Drilling **NA**  
Depth to Water **NA**  
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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SOIL BORING LOGS I  
STRUCTURE NO. 016-2032

SHEET NO. 5 OF 6 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	284
CONTRACT NO. 60V57				

ILLINOIS FED. AID PROJECT



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 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9928

### BORING LOG RWB-04

WEI Job No.: 314-16-01

Client **Bowman, Barrett, and Associates**  
 Project **IL Route 59/US Route 20 (FAP 345) Interchange**  
 Location **Cook County, IL**

Datum: NAVD 88  
 Elevation: 784.28 ft  
 North: 1945682.36 ft  
 East: 1019655.45 ft  
 Station: 100+72.04  
 Offset: 48.7 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
784.03	784.03-inch thick, black SILTY LOAM --TOPSOIL-- Very stiff to hard, brown SILTY CLAY LOAM, trace gravel --FILL--	0		1	7 11 11	3.28 S	17								
		5		2	6 8 12	5.74 B	19	756.3	--trace gravel-- Medium dense to very dense, gray GRAVELLY SAND --Wet--	11		11	18 18 30	NP	8
		10		3	6 9 11	5.33 B	18								
		15		4	2 3 5	2.71 B	15						12 15 13	NP	15
773.8	Medium dense to dense, brown GRAVELLY SANDY LOAM to SANDY GRAVEL --Wet--	20		5	6 8 12	NP	14	747.5	Hard, gray CLAY LOAM to SILTY CLAY LOAM, trace gravel	35					
		25		6	10 10 16	NP	13						8 11 17	4.92 B	16
	--Wet-- --%Gravel=33.0-- --%Sand=37.6-- --%Silt=26.4-- --%Clay=3.0-- --A-2-4 (0)--	30		7	6 18 16	NP	9								
		35		8	8 12 12	NP	8						8 10 24	5.41 B	13
		40		9	14 20 28	NP	8								
761.3	Dense to very dense, gray LOAM --Moist--	45		10	20 30 24	NP	9	734.3		50			6 11 20	4.43 B	16

#### GENERAL NOTES

Begin Drilling **12-22-2014** Complete Drilling **12-23-2014**  
 Drilling Contractor **Wang Testing Services** Drill Rig **D-50 ATV**  
 Driller **K&K** Logger **A. Happel** Checked by **C. Marin**  
 Drilling Method **2.5' interval to 30', 5' interval thereafter; boring backfilled upon completion**

#### WATER LEVEL DATA

While Drilling **10.50 ft**  
 At Completion of Drilling **13.00 ft**  
 Time After Drilling **NA**  
 Depth to Water **NA**  
 The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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 312.238.9100  
 www.bbainc.com

USER NAME -  
 DESIGNED - CA  
 CHECKED - DF  
 PLOT SCALE - N.T.S.  
 DRAWN - LAM  
 PLOT DATE - 8/23/2017  
 CHECKED - CA

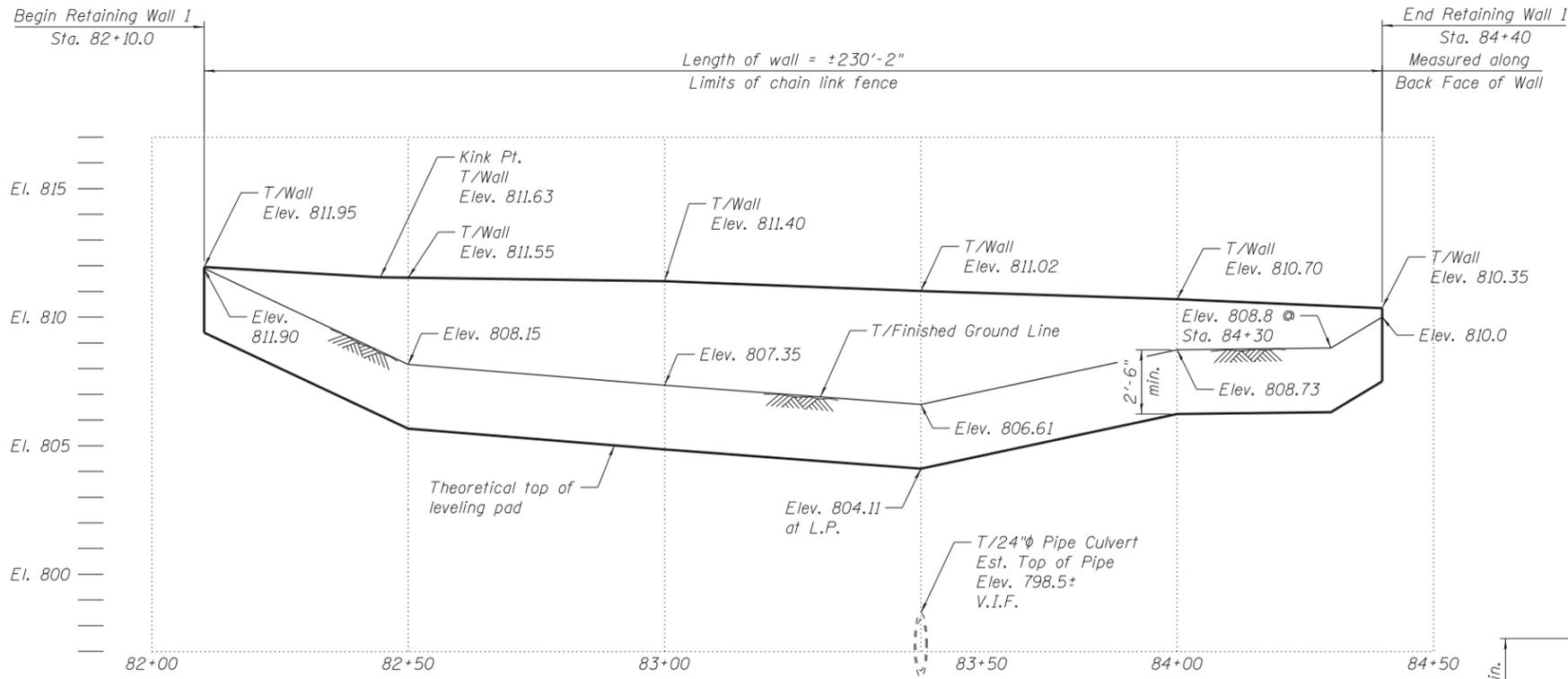
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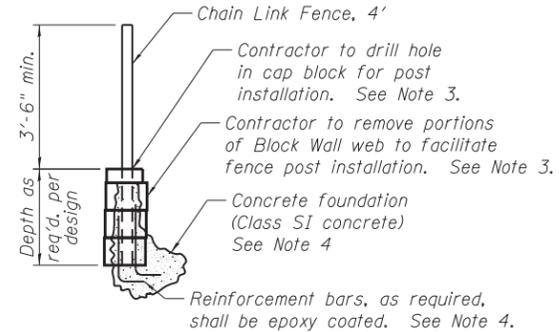
SOIL BORING LOGS II  
 STRUCTURE NO. 016-2032

SHEET NO. 6 OF 6 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	285
CONTRACT NO. 60V57			ILLINOIS FED. AID PROJECT	



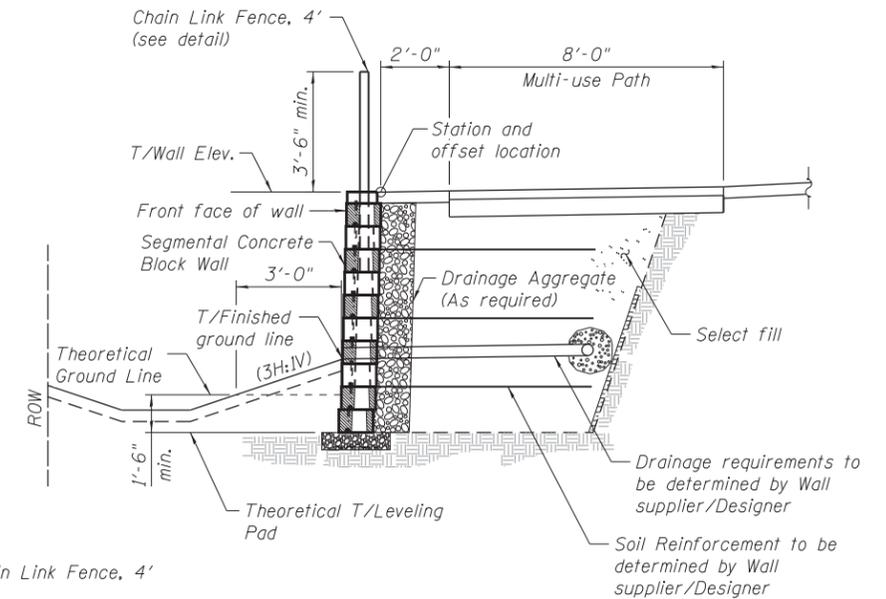
**ELEVATION**



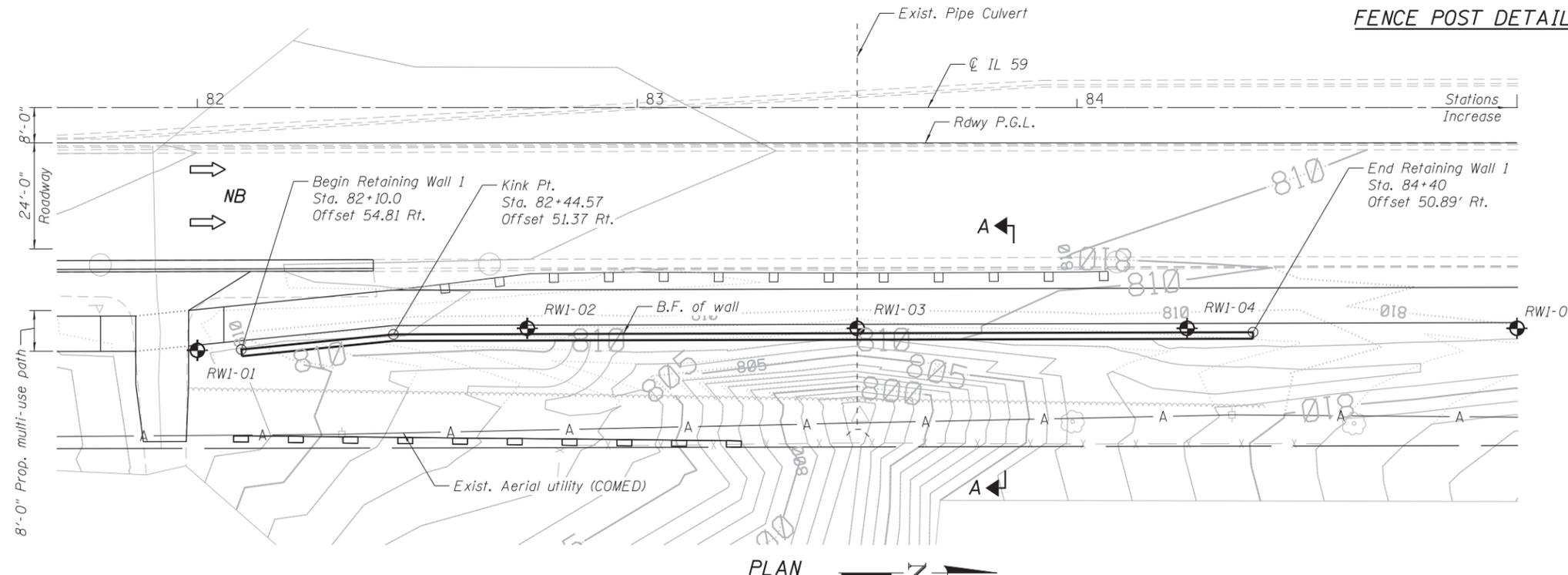
**FENCE POST DETAIL**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Segmental Concrete Block Wall	Sq. ft.	1,266
Chain Link Fence, 4'	Foot	231



**SECTION A-A**



**DESIGN SPECIFICATIONS**

2014 AASHTO LRFD Specifications, 7th Edition with 2015 AASHTO Interims

**PEDESTRIAN LOADING**

75 psf pedestrian live load surcharge (vertical).

Fence design according to Ch. 13.9 of the 2014 AASHTO LRFD Specifications.

**NOTES**

1. A rodent shield and headwall shall be provided for all pipe underdrains outletting to daylight, if pipe underdrain is required per manufacturer requirements. Cost of rodent shield, headwall and pipe underdrain shall be included with Segmental Concrete Block Wall.
2. The allowable bearing resistance required shall be a minimum of 2,500 p.s.f. Contractor shall verify soil properties and notify the Engineer if bearing values are not encountered at bottom of footing elevations.
3. Modifications to the block walls and additional material required for installation of fence post shall be included in the cost of Segmental Concrete Block Wall.
4. Concrete and reinforcement bars for fence post foundation shall be included in the cost of Chain Link Fence, 4'.

**LEGEND**

⊕ = Soil Boring

**SEGMENTAL CONCRETE BLOCK WALL 1**

F.A.P. RTE. 338 - SEC. 7K-1(12)

COOK COUNTY

STA. 82+10 TO 84+40

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PLOT DATE = 8/23/2017

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DRAWN - LAM  
CHECKED - CA

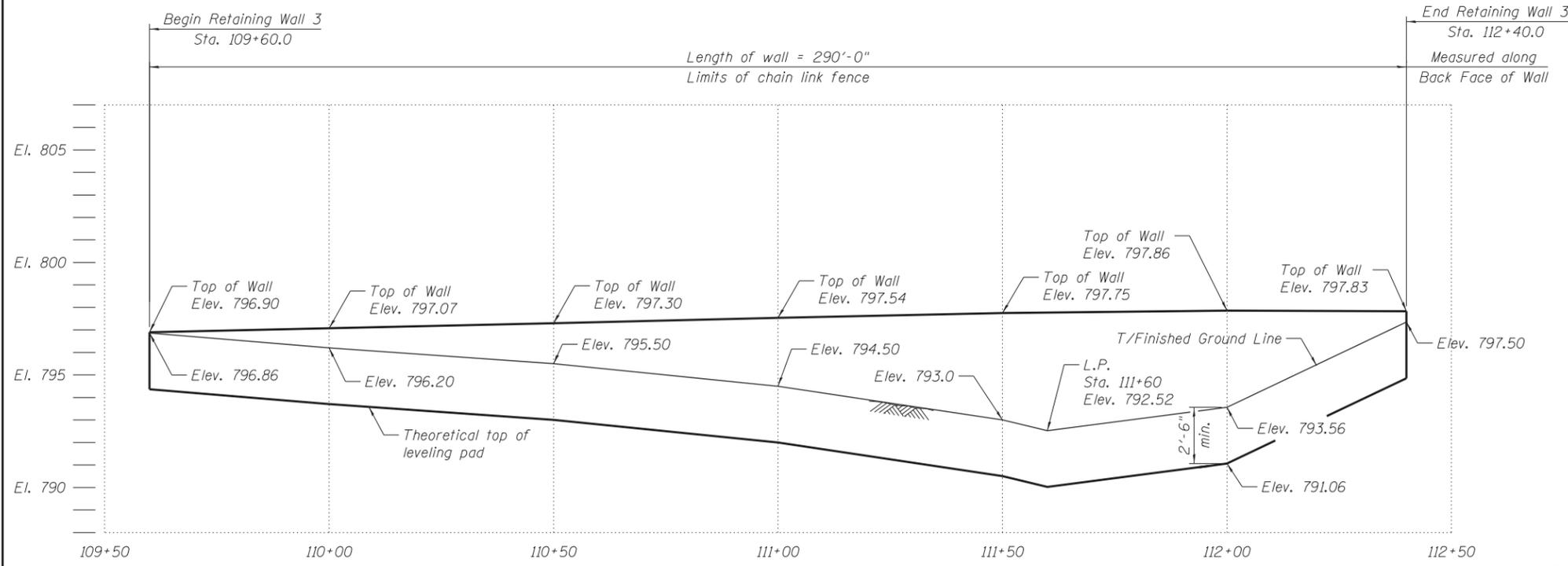
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REVISED

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SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	286
CONTRACT NO. 60V57				

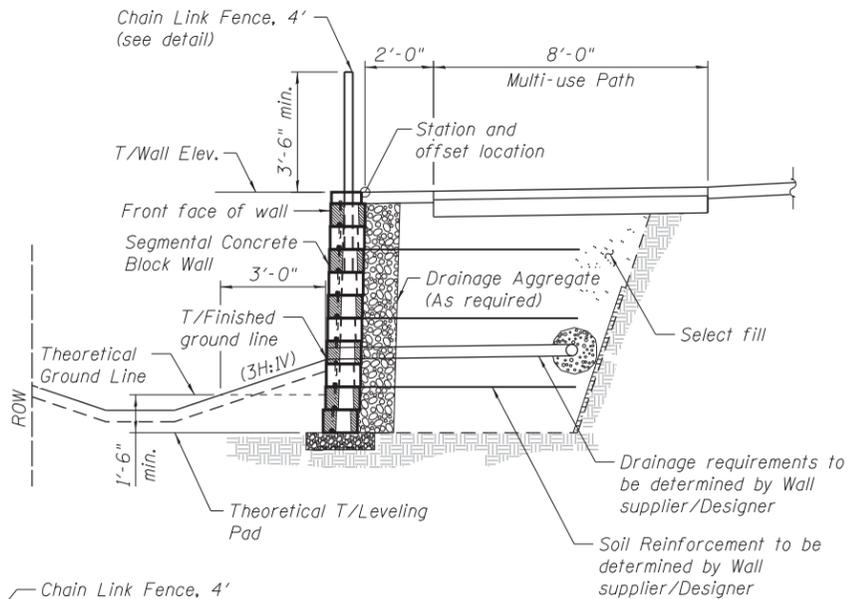
ILLINOIS FED. AID PROJECT



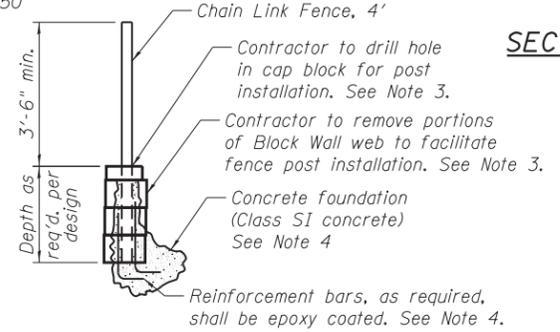
**ELEVATION**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Segmental Concrete Block Wall	Sq. ft.	1,438
Chain Link Fence, 4'	Foot	290



**SECTION A-A**



**FENCE POST DETAIL**

**DESIGN SPECIFICATIONS**

2014 AASHTO LRFD Specifications, 7th Edition with 2015 AASHTO Interims

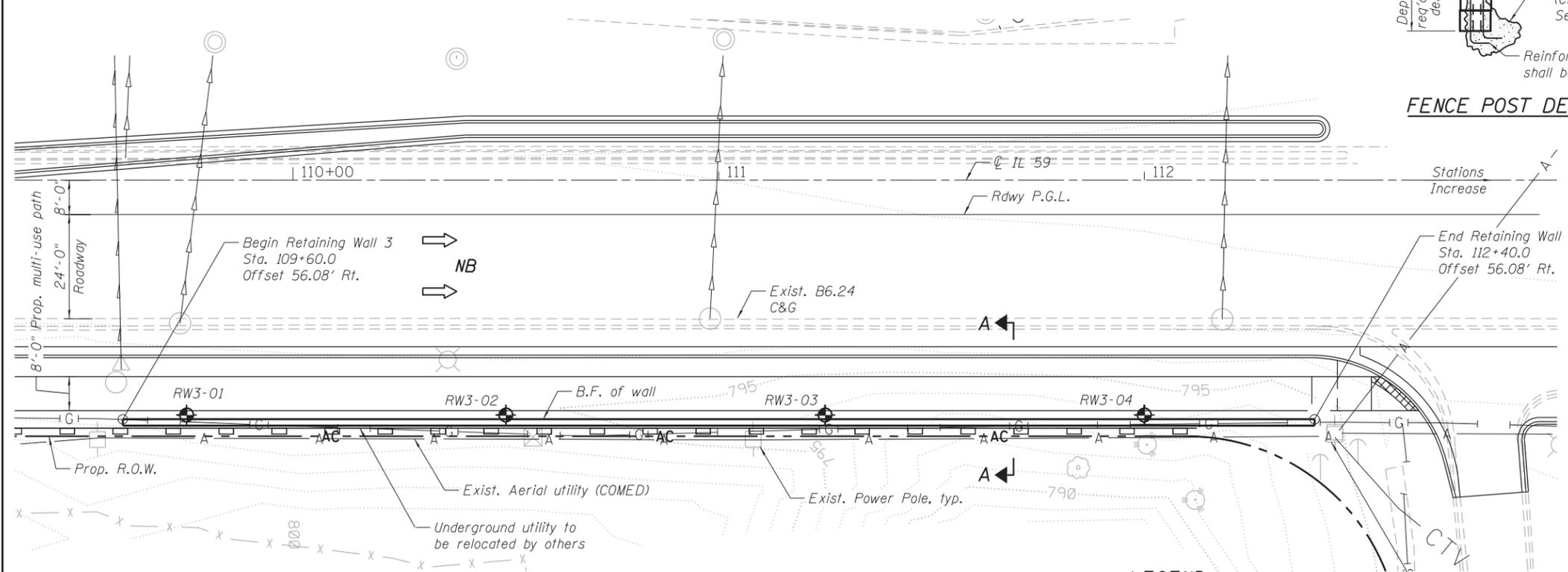
**PEDESTRIAN LOADING**

75 psf pedestrian live load surcharge (vertical).

Fence design according to Ch. 13.9 of the 2014 AASHTO LRFD Specifications.

**NOTES**

1. A rodent shield and headwall shall be provided for all pipe underdrains outleting to daylight, if pipe underdrain is required per manufacturer requirements. Cost of rodent shield, headwall and pipe underdrain shall be included with Segmental Concrete Block Wall.
2. The allowable bearing resistance required shall be a minimum of 2,500 p.s.f. Contractor shall verify soil properties and notify the Engineer if bearing values are not encountered at bottom of footing elevations.
3. Modifications to the block walls and additional material required for installation of fence post shall be included in the cost of Segmental Concrete Block Wall.
4. Concrete and reinforcement bars for fence post foundation shall be included in the cost of Chain Link Fence, 4'.



**PLAN**

**LEGEND**

- ⊙ = Soil Boring
- = Exist. Storm Sewer

Contractor shall be cautious when working around existing power pole and guywires.

**SEGMENTAL CONCRETE BLOCK WALL 3**

**F.A.P. RTE. 338 - SEC. 7K-1(12)**

**COOK COUNTY**

**STA. 109+60 TO 112+40**

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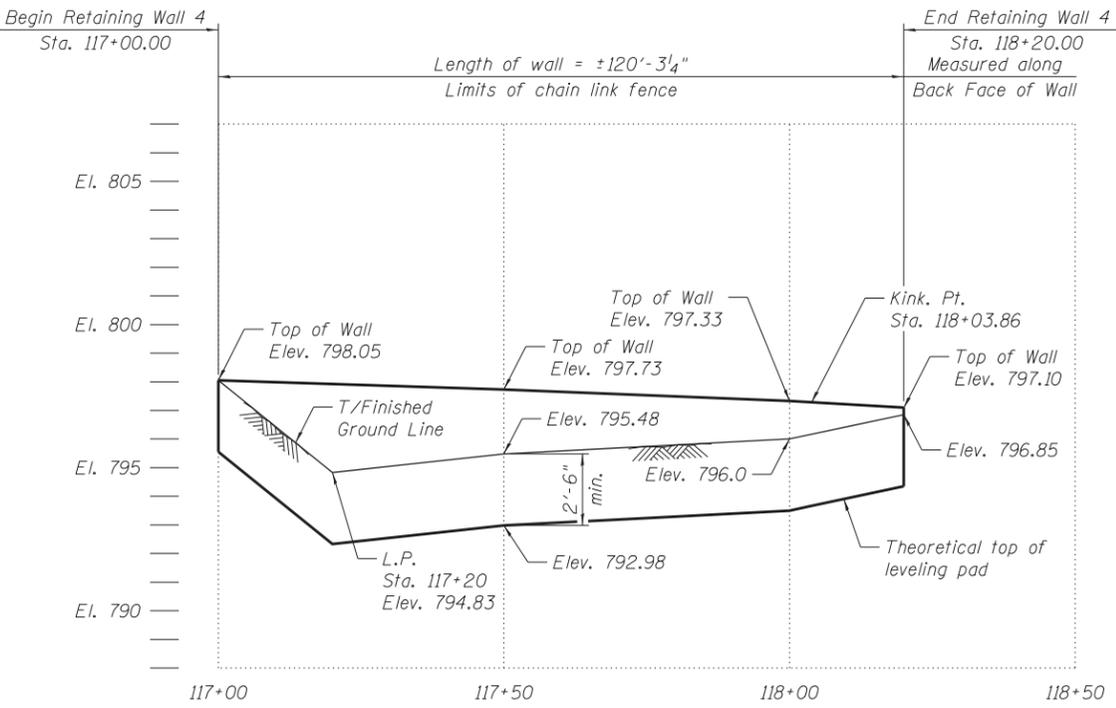
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	CHECKED - DF	REVISED
PLOT SCALE = N.T.S.	DRAWN - LAM	REVISED
PLOT DATE = 8/23/2017	CHECKED - CA	REVISED

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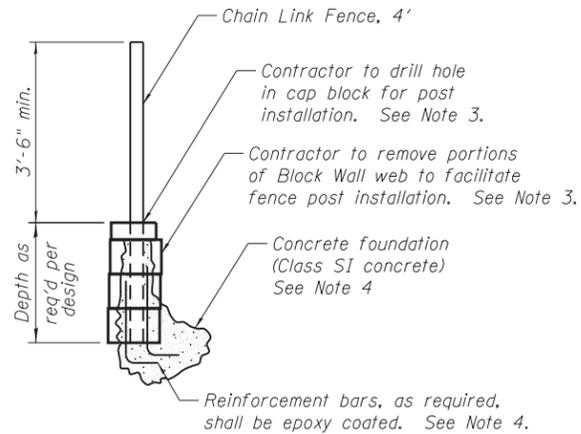
SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	287
CONTRACT NO. 60V57				

ILLINOIS FED. AID PROJECT



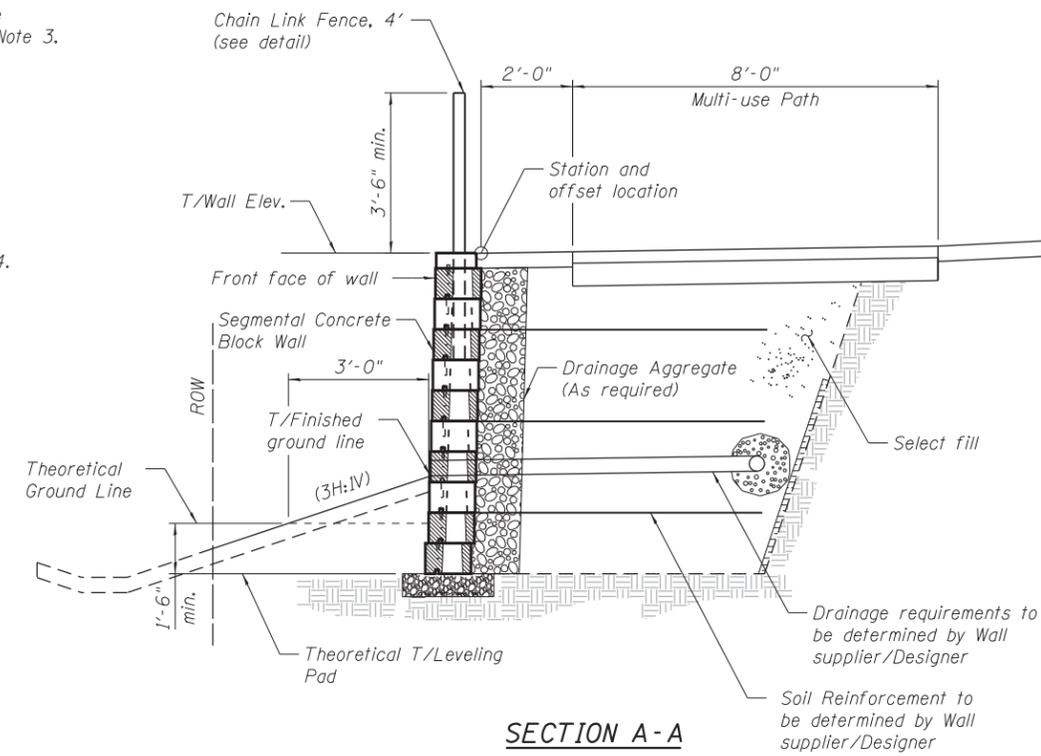
**ELEVATION**



**FENCE POST DETAIL**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Segmental Concrete Block Wall	Sq. ft.	517
Chain Link Fence, 4'	Foot	121



**SECTION A-A**

**DESIGN SPECIFICATIONS**

2014 AASHTO LRFD Specifications, 7th Edition with 2015 AASHTO Interims

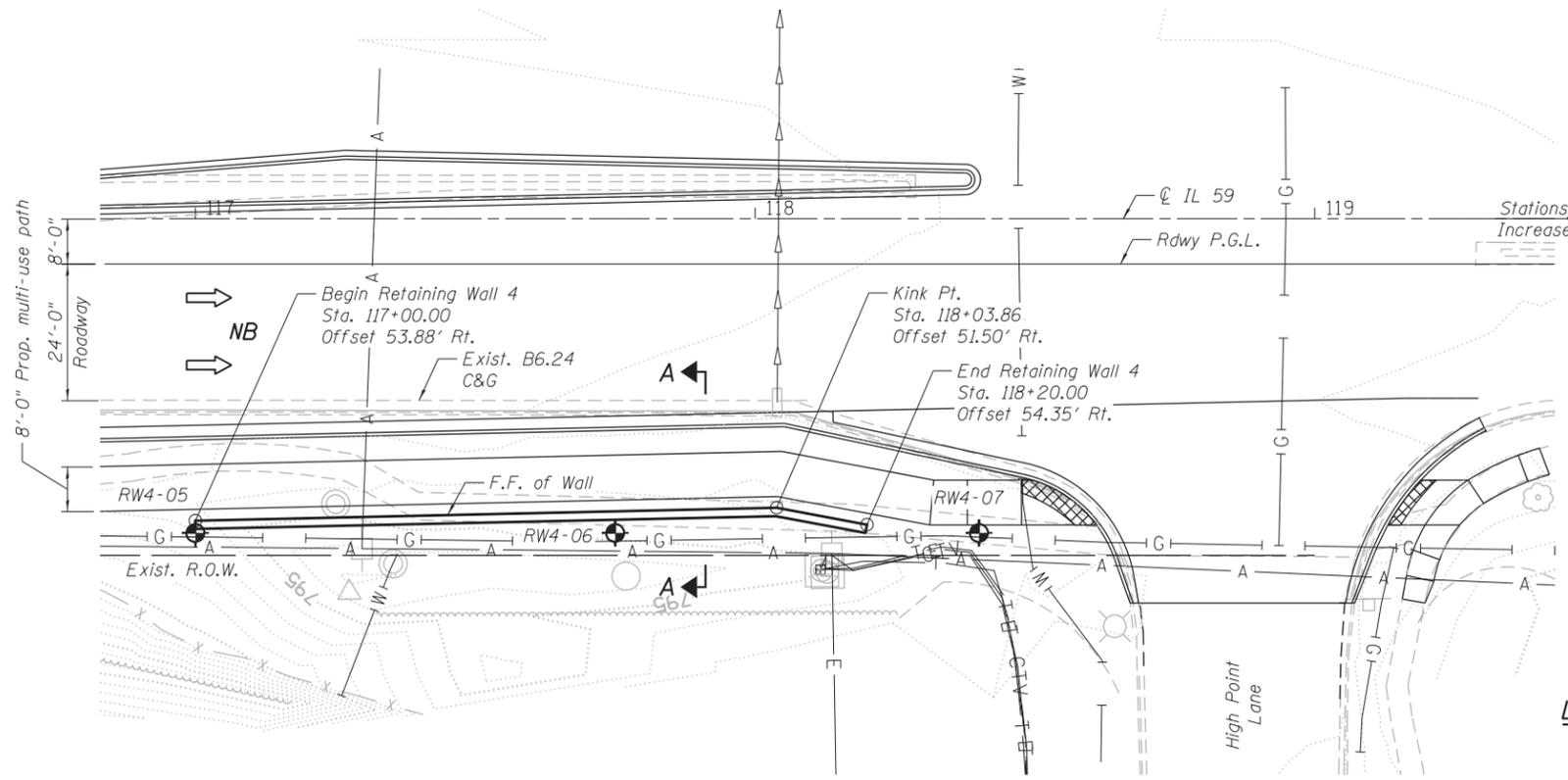
**PEDESTRIAN LOADING**

75 psf pedestrian live load surcharge (vertical).

Fence design according to Ch. 13.9 of the 2014 AASHTO LRFD Specifications.

**NOTES**

1. A rodent shield and headwall shall be provided for all pipe underdrains outletting to daylight, if pipe underdrain is required per manufacturer requirements. Cost of rodent shield, headwall and pipe underdrain shall be included with Segmental Concrete Block Wall.
2. The allowable bearing resistance required shall be a minimum of 2,500 p.s.f. Contractor shall verify soil properties and notify the Engineer if bearing values are not encountered at bottom of footing elevations.
3. Modifications to the block walls and additional material required for installation of fence post shall be included in the cost of Segmental Concrete Block Wall.
4. Concrete and reinforcement bars for fence post foundation shall be included in the cost of Chain Link Fence, 4'.



**PLAN**

**LEGEND**

- ◆ = Soil Boring
- = Exist. Storm Sewer

**SEGMENTAL CONCRETE BLOCK WALL 4**

**F.A.P. RTE. 338 - SEC. 7K-1(12)**

**COOK COUNTY**

**STA. 117+00 to 118+20**

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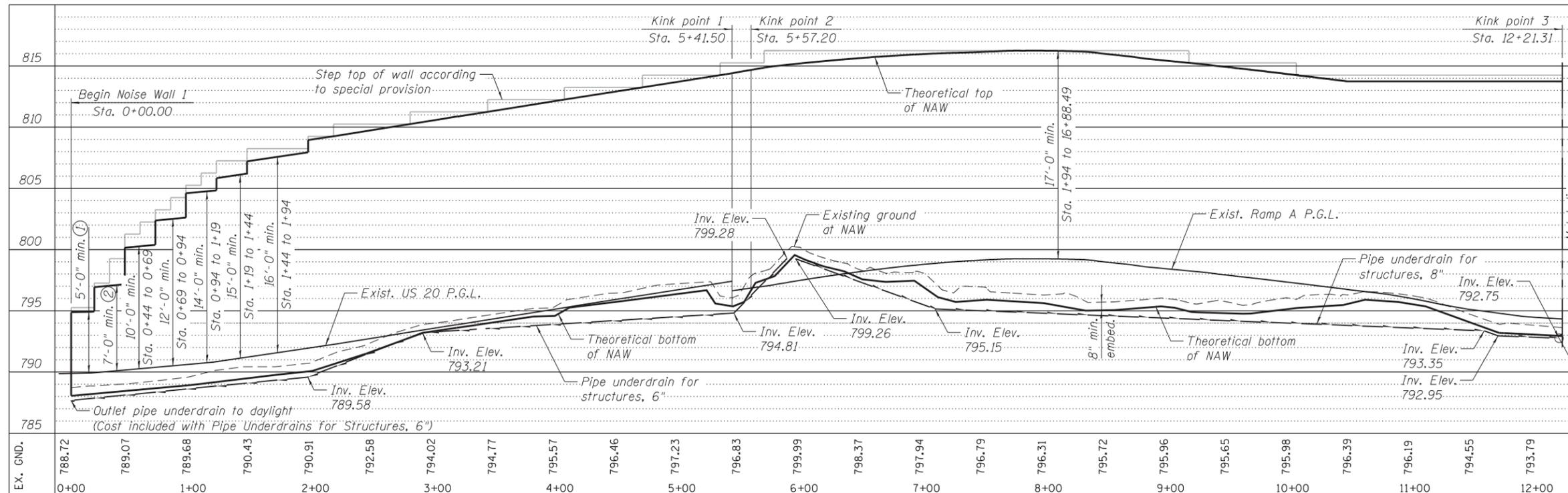
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	288
CONTRACT NO. 60V57				

ILLINOIS FED. AID PROJECT

Note:  
Stations and offsets are measured to centerline of NAW.



**TABLE OF POINT LOCATIONS**

Point	Ramp A Sta.	Ramp A Off.
Kink pt. 1	8+23.17	40.10' Rt.
Kink pt. 2	8+20.05	55.59' Rt.
P.O.T. 1	5+35.62	58.52' Rt.
P.O.T. 2	4+20.26	61.68' Rt.
P.O.T. 3	2+58.85	62.75' Rt.
Kink pt. 3	1+49.19	62.10' Rt.

**LEGEND**

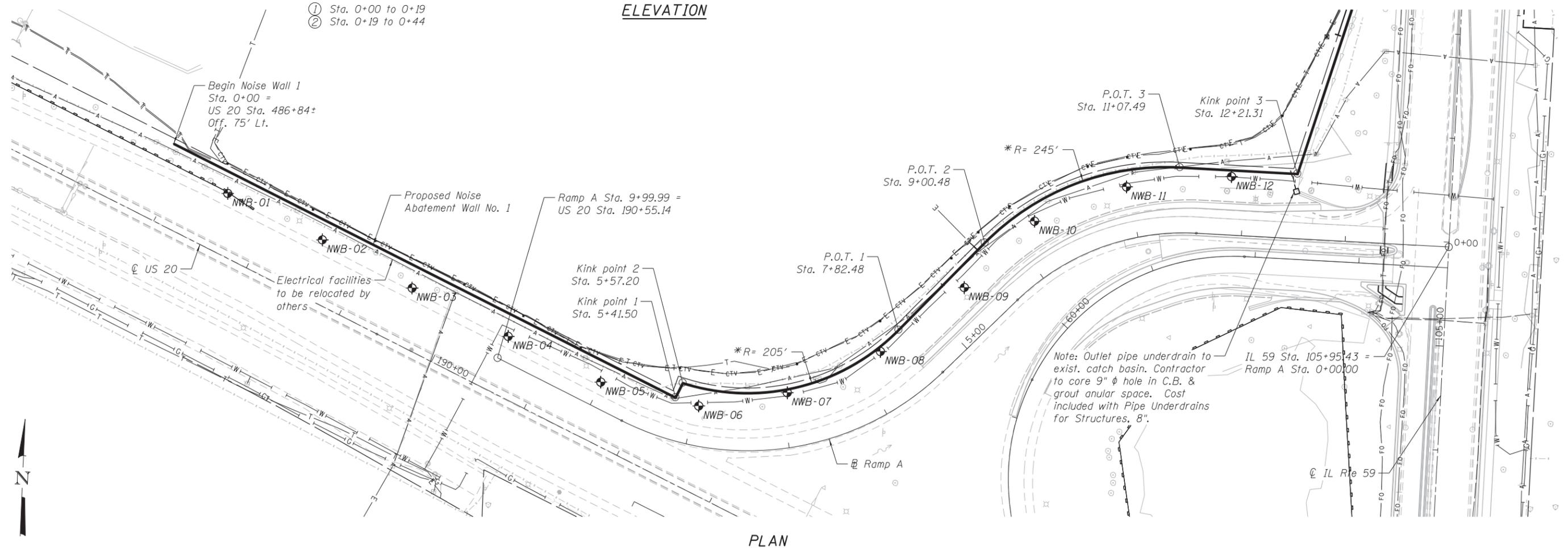
NWB-01 = Soil boring location

Outlet pipe underdrain to exist. catch basin (see note in plan view below)

\* Contractor may choose to construct walls on a chorded alignment, keeping the alignment shown as much as practical.

**ELEVATION**

- ① Sta. 0+00 to 0+19
- ② Sta. 0+19 to 0+44



**PLAN**

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PLOT SCALE = N.T.S.  
PLOT DATE = 8/23/2017

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PLAN & ELEVATION I  
NOISE ABATEMENT WALL

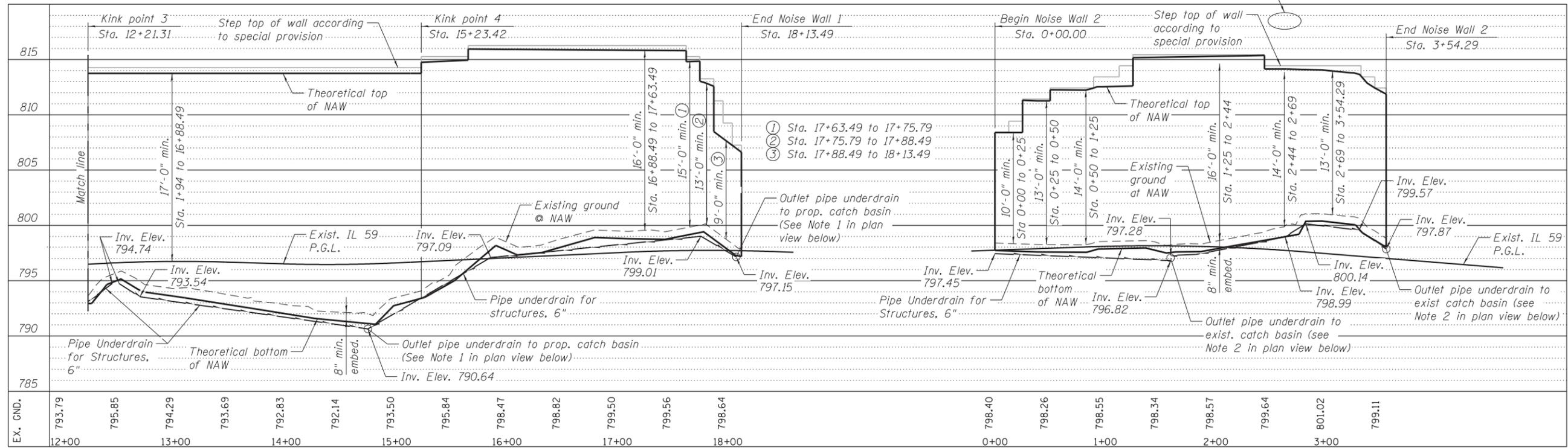
SHEET NO. 1 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	289
CONTRACT NO. 60V57				

ILLINOIS FED. AID PROJECT

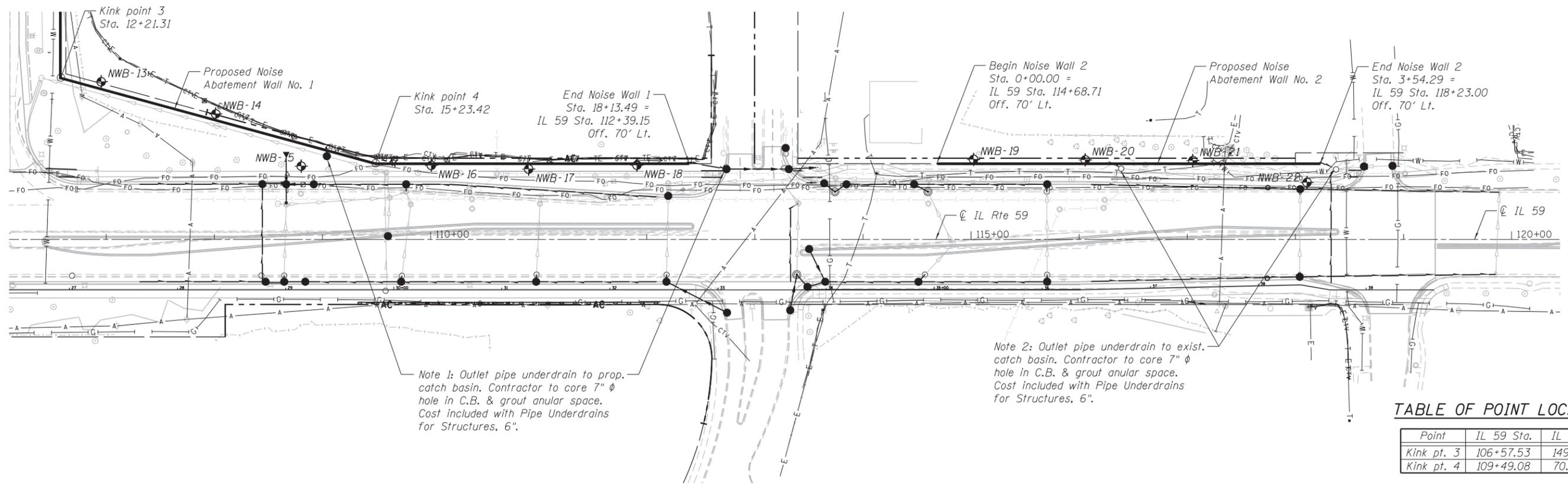
Note:  
Stations and offsets are measured to centerline of NAW.

Overhead electrical and FO lines in this area. Contractor shall make accommodations in the NAW



ELEVATION

ELEVATION



PLAN

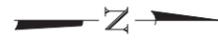


TABLE OF POINT LOCATIONS

Point	IL 59 Sta.	IL 59 Off.
Kink pt. 3	106+57.53	149.19' Lt.
Kink pt. 4	109+49.08	70.00' Lt.

LEGEND

⊙ NWB-01 = Soil boring location

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PLOT SCALE = N.T.S.  
PLOT DATE = 8/23/2017

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STATE OF ILLINOIS  
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PLAN & ELEVATION II  
NOISE ABATEMENT WALL

SHEET NO. 2 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	290

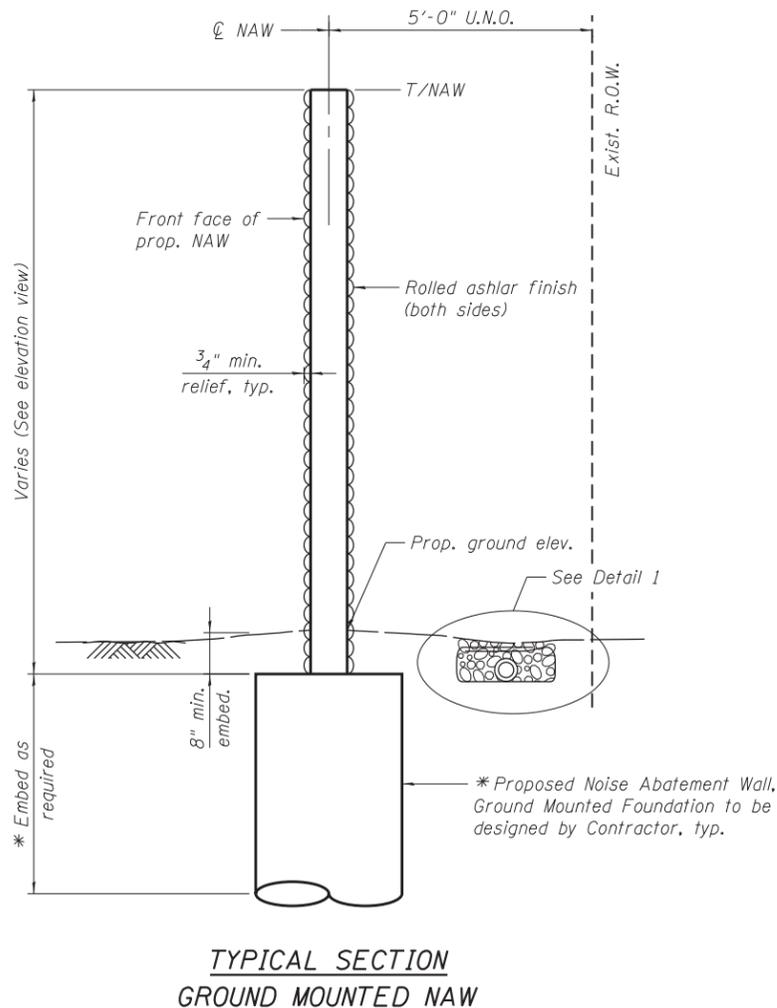
CONTRACT NO. 60V57  
ILLINOIS FED. AID PROJECT

**GENERAL NOTES**

1. Contractor shall follow requirements of Special Provision "Concrete Noise Abatement Walls (Absorptive and Reflective) (Dist. 1)" for material, design, fabrication, construction and erection requirements of the proposed Noise Abatement Wall. In addition, a Geotechnical Report for the Noise Abatement Walls by Wang Engineering, dated March 23, 2015, including recommended design criteria is included in the Special Provisions.
2. The Contractor shall review the maintenance of traffic plans. The Construction of the Noise Abatement Walls may need to be sequenced to match the roadway sequence of construction, and the Contractor may not be able to construct the NAW in one continuous operation. Additional mobilization/demobilization required will not be measured for payment, but shall be included in the cost of Noise Abatement Wall, Ground Mounted.
3. See Utilities and Drainage sheets for information related to removals of existing and proposed facilities.
4. The Contractor shall verify location of all existing utilities and structures and shall take all necessary precautions to perform the work in such a manner as to not damage existing utilities or structures, located near or beneath the noise abatement walls. Any damage to existing utilities or structures shall be repaired at no cost to the Department.
5. The proposed Noise Abatement Wall, Ground Mounted foundations are to be determined by the Contractor, and shall be designed to avoid conflicts with the existing facilities.
6. It is anticipated that temporary casing is required for each drilled shaft foundation due to soil conditions. The temporary casing will not be measured separately for payment, and shall be included in the cost of Noise Abatement Wall, Ground Mounted.
7. Textured finish for the precast panels and staining for the panels and steel posts will not be measured separately for payment, and shall be included in the cost of Noise Abatement Wall, Ground Mounted. The stain color and rolled Ashlar Stone textured finish pattern shall be approved by the Roadside Development Unit prior to ordering materials or beginning fabrication.
8. It shall be the Contractor's responsibility to field verify existing ground elevations at the locations of the proposed ground mounted noise abatement walls and compare to that shown on the plans. Adjustments to NAW heights as required to accommodate actual field conditions shall be made by the Contractor at no additional cost. Cost to comply with this requirement is included in the cost of Noise Abatement Wall, Ground Mounted.

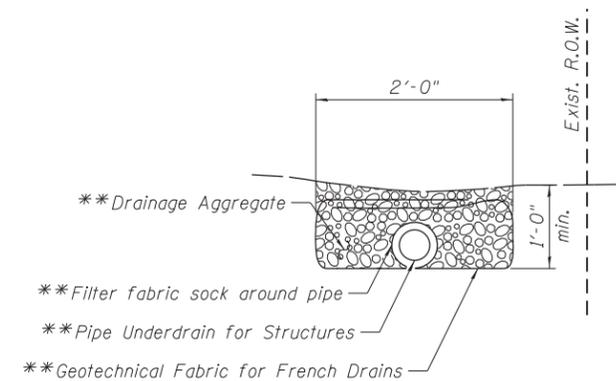
**INDEX OF SHEETS**

- NW-1 Noise Abatement Wall - Plan & Elevation I
- NW-2 Noise Abatement Wall - Plan & Elevation II
- NW-3 Noise Abatement Wall - General Notes & Details
- NW-4 Noise Abatement Wall - Soil Boring Logs I
- NW-5 Noise Abatement Wall - Soil Boring Logs II
- NW-6 Noise Abatement Wall - Soil Boring Logs III
- NW-7 Noise Abatement Wall - Soil Boring Logs IV
- NW-8 Noise Abatement Wall - Soil Boring Logs V
- NW-9 Noise Abatement Wall - Soil Boring Logs VI
- NW-10 Noise Abatement Wall - Soil Boring Logs VII
- NW-11 Noise Abatement Wall - Soil Boring Logs VIII



**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL	WALL NO. 1	WALL NO. 2
Noise Abatement Wall, Ground Mounted	Sq. Ft.	40,665	34,975	5,690
Pipe Underdrain for Structures, 6"	Foot	1,619	1,236	383
Pipe Underdrain for Structures, 8"	Foot	643	643	0



\*\* Cost included with Pipe Underdrains for Structures, 6" or 8"

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PLOT DATE = 8/23/2017	CHECKED - CA	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES & DETAILS  
NOISE ABATEMENT WALL

SHEET NO. 3 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	291
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

**Wang Engineering**  
 wangeng@wangeng.com  
 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG NWB-01**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 789.12 ft  
 North: 1946207.29 ft  
 East: 1018435.73 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)
789.1	Dense, black and brown, medium and coarse SAND, little gravel --FILL--	1	12	13	NP	21							
784.9	Stiff, black SILTY CLAY --BURIED TOPSOIL--	2	2	4	1.48	29							
	Medium stiff to stiff, greenish gray SILTY CLAY to CLAY, trace organic matter	3	2	3	0.98	31							
		4	2	3	1.23	23							
778.9	Brown, fine SAND, little gravel	5	2	2	0.98	27							
778.1	Medium stiff, brown SILTY CLAY LOAM, trace gravel --wet SAND seams--	6	4	9	0.90	18							
773.6	Very stiff, gray SILTY CLAY, trace gravel	7	7	7	2.50	16							
769.1	Boring terminated at 20.00 ft	8	3	6	2.46	14							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-12-2015	Complete Drilling	01-12-2015	While Drilling	12.25 ft		
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 TMR	At Completion of Drilling	13.00 ft		
Driller	R&R	Logger	S. Woods	Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion			Depth to Water	NA	The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual	

**Wang Engineering**  
 wangeng@wangeng.com  
 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG NWB-02**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 790.15 ft  
 North: 1946166.66 ft  
 East: 1018528.61 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)
789.2	2-inch thick, black SILTY LOAM --TOPSOIL--	1	1	0	0.75	17							
	Medium stiff, brown SILTY CLAY, trace gravel --FILL--	2	2	2	1.00	28							
786.1	Stiff, black and brown SILTY CLAY, trace organic matter --BURIED TOPSOIL--	3	2	2	1.72	32							
783.5	Very soft to stiff, greenish gray CLAY to CLAY SILTY, lamiated	4	2	2	0.35	34							
	--possible saturated sand lens--	5	2	1	0.66	27							
		6	2	2	0.16	28							
774.6	Medium Stiff, brown and gray SILTY CLAY LOAM, trace gravel	7	3	4	0.80	15							
770.1	Boring terminated at 20.00 ft	8	3	7	1.56	13							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-12-2015	Complete Drilling	01-12-2015	While Drilling	10.00 ft		
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 TMR	At Completion of Drilling	DRY		
Driller	R&R	Logger	S. Woods	Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion			Depth to Water	NA	The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual	

**Wang Engineering**  
 wangeng@wangeng.com  
 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG NWB-03**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 792.54 ft  
 North: 1946124.08 ft  
 East: 1018617.02 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)
789.5	Stiff, brown CLAY LOAM, trace gravel --Dry--	1	1	0	1.00	14							
787.0	Medium dense, brown, medium and coarse SAND, trace gravel --Moist--	2	2	0	NP	12							
787.0	Medium dense, brown SILTY LOAM --Moist--	3	3	7	NP	23							
784.5	Stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel	4	4	5	1.64	17							
		5	5	5	1.72	14							
		6	6	10	4.18	13							
775.3	Dense, brown SANDY GRAVEL --Dry--	7	5	25	1.23	20							
772.5	Boring terminated at 20.00 ft	8	22	40	NP	3							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-05-2015	Complete Drilling	01-05-2015	While Drilling	DRY		
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV	At Completion of Drilling	DRY		
Driller	K&K	Logger	A. Happel	Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion			Depth to Water	NA	The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual	

BOWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 Chicago, Illinois  
 312.228.0100  
 www.bbainsc.com

USER NAME	DESIGNED	REVIS
PLOT SCALE = N.T.S.	DRAWN	REVIS
PLOT DATE = 8/23/2017	CHECKED	REVIS

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS I  
 NOISE ABATEMENT WALL

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	292
CONTRACT NO. 60V57				

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**BORING LOG NWB-04**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 794.31 ft  
 North: 1946081.59 ft  
 East: 1018711.48 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Cu (tsf)	Moisture Content (%)
794.2	21-inch thick, black CLAY LOAM --TOPSOIL-- Medium stiff to stiff, brown CLAY LOAM, little gravel	1	3	1	0.90	12									
		5	2	4	1.80	9									
787.8	Medium dense to very dense, brown and gray SANDY GRAVEL	3	3	3	NP	5									
		4	4	4	NP	6									
		5	5	5	NP	4									
		6	6	6	NP	4									
		7	7	7	NP	5									
		8	8	8	NP	7									
774.3	Boring terminated at 20.00 ft	20			5/2										

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-05-2015	Complete Drilling	01-05-2015	While Drilling	∇	DRY	
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV	At Completion of Drilling	∇	DRY	
Driller	K&K	Logger	A. Happel	Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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**BORING LOG NWB-05**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 795.74 ft  
 North: 1946041.52 ft  
 East: 1018802.43 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Cu (tsf)	Moisture Content (%)
794.7	11-inch thick, black SILTY LOAM --TOPSOIL-- Stiff to very stiff, brown CLAY LOAM, trace gravel	1	12	1	2.50	9									
791.7	Medium dense to dense, brown GRAVELLY SAND	2	7	2	NP	7									
		3	14	3	NP	5									
		4	16	4	NP	5									
		5	13	5	NP	4									
		6	22	6	NP	3									
		7	30	7	NP	4									
		8	18	8	NP	5									
775.7	Boring terminated at 20.00 ft	20			18										

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-05-2015	Complete Drilling	01-05-2015	While Drilling	∇	DRY	
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV	At Completion of Drilling	∇	DRY	
Driller	K&K	Logger	A. Happel	Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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**BORING LOG NWB-06**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 796.62 ft  
 North: 1946022.66 ft  
 East: 1018897.65 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Cu (tsf)	Moisture Content (%)
794.2	21-inch thick, black SILTY LOAM --TOPSOIL-- Stiff to hard, brown SILTY CLAY to SILTY CLAY LOAM, trace gravel	1	6	1	1.23	23									
		2	4	2	4.51	13									
		3	6	3	1.50	19									
788.6	Medium dense to dense, brown GRAVELLY SAND	4	6	4	NP	6									
		5	11	5	NP	5									
		6	9	6	NP	5									
		7	10	7	NP	4									
		8	9	8	NP	4									
778.6	Boring terminated at 20.00 ft	20			10										

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-05-2015	Complete Drilling	01-05-2015	While Drilling	∇	DRY	
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV	At Completion of Drilling	∇	DRY	
Driller	K&K	Logger	A. Happel	Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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 312.228.0100  
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USER NAME -	DESIGNED -	REVISOR
PLOT SCALE - N.T.S.	DRAWN - LAM	REVISOR
PLOT DATE - 8/23/2017	CHECKED - CA	REVISOR

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS II  
 NOISE ABATEMENT WALL

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	293
CONTRACT NO. 60V57				

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**BORING LOG NWB-07**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 796.42 ft  
 North: 1946039.01 ft  
 East: 1018982.28 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)
798.3	3-4 inch thick, black SILTY LOAM --TOPSOIL-- Very stiff, brown and gray SILTY CLAY LOAM, trace gravel	1	5	1	5	3.44	17								
795.4	--FILL-- Loose, brown SILTY LOAM, trace to little gravel	2	4	2	4	NP	12								
791.4	--Moist-- Medium dense, brown, fine and medium SAND, trace gravel	3	5	3	5	NP	24								
		4	25	4	10	NP									
		5	5	5	7	NP	5								
		6	5	6	8	NP	4								
		7	5	7	6	NP	4								
		8	5	8	5	NP	5								
777.9	Medium dense, gray SILTY LOAM	9	5	9	NP	21									
		10	10	10	NP	20									
773.4	Boring terminated at 25.00 ft	25													

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-02-2015	Complete Drilling	01-02-2015	While Drilling	∇	23.00 ft	
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV	At Completion of Drilling	∇	DRY	
Driller	K&K	Logger	A. Happel	Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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**BORING LOG NWB-08**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 796.95 ft  
 North: 1946082.51 ft  
 East: 1019070.21 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)
796.2	2-inch thick, black SILTY LOAM --TOPSOIL-- Medium stiff to stiff, black and brown CALY to SILTY CLAY	1	4	1	4	0.82	20								
		2	4	2	4	1.89	24								
791.4	Very stiff to hard, brown and gray SILTY CLAY, trace gravel	3	4	3	4	2.87	26								
		4	5	4	5	4.51	17								
786.4	Loose, brown SILTY LOAM, little gravel	5	5	5	4	NP	22								
783.9	Very stiff, brown SILTY CLAY LOAM, trace gravel	6	4	6	7	3.20	23								
		7	5	7	5	NA	18								
778.9	Very loose, brown, fine and medium SAND, little gravel	8	2	8	1	NP	18								
775.9	Medium dense to dense, brown GRAVELLY SAND	9	8	9	12	NP	12								
		10	10	10	15	NP	8								
771.9	Boring terminated at 25.00 ft	25													

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-02-2015	Complete Drilling	01-02-2015	While Drilling	∇	25.00 ft	
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV	At Completion of Drilling	∇	DRY	
Driller	K&K	Logger	A. Happel	Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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**BORING LOG NWB-09**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 795.55 ft  
 North: 1946147.33 ft  
 East: 1019148.33 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)
795.3	3-inch thick, black SILTY LOAM --TOPSOIL-- Stiff to very stiff, brown and gray SILTY CLAY LOAM, trace gravel	1	5	1	5	3.50	20								
		2	4	2	4	1.48	21								
790.1	Medium stiff to stiff, brown and gray CLAY to SILTY CLAY	3	50/3"	3	1.50	P	25								
	--Trace roots--	4	4	4	3	0.90	28								
		5	5	5	7	2.79	25								
		6	5	6	6	1.80	25								
	--Moist--	7	5	7	12	6.07	17								
780.1	Very stiff to hard, brown SILTY CLAY, trace gravel	8	8	8	19	2.62	18								
775.6	Boring terminated at 20.00 ft	20													

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-02-2015	Complete Drilling	01-02-2015	While Drilling	∇	DRY	
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV	At Completion of Drilling	∇	DRY	
Driller	K&K	Logger	A. Happel	Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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USER NAME -	DESIGNED -	REVISOR
PLOT SCALE - N.T.S.	DRAWN - LAM	REVISOR
PLOT DATE - 8/23/2017	CHECKED - CA	REVISOR

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS III  
 NOISE ABATEMENT WALL

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	294
CONTRACT NO. 60V57				

SHEET NO. 6 OF 11 SHEETS

ILLINOIS FED. AID PROJECT





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**BORING LOG NWB-16**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 797.64 ft  
 North: 1946612.33 ft  
 East: 1019549.04 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)
799.2	2-inch thick, black SILTY LOAM --TOPSOIL--												
	Stiff, brown and gray SILTY CLAY, trace gravel		1	6 22 21	1.64	10							
	--FILL--												
	Brown GRAVELLY SAND												
	--FILL--												
	Hard, brown and gray SILTY CLAY LOAM, trace gravel		2	7 4 10	4.51	18							
	--Dry--												
			3	8 12 17	4.00	17							
789.6	Medium dense, brown SANDY LOAM, trace gravel		4	10 10 11	NP	9							
	--Dry--												
787.1	Medium dense to dense, brown LOAM to CLAY LOAM, trace to some gravel		5	7 25 21	2.25	9							
	--Moist--												
			6	12 11 12	2.00	10							
	--Gravelly--												
			7	6 10 15	0.90	8							
			8	11 21 22	NP	7							
777.6	Boring terminated at 20.00 ft												

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	12-29-2014	Complete Drilling	12-29-2014	While Drilling	∇	DRY	
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV	At Completion of Drilling	∇	DRY	
Driller	K&K	Logger	A. Happel	Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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**BORING LOG NWB-17**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 799.12 ft  
 North: 1946702.27 ft  
 East: 1019553.55 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)
799.2	2-inch thick, black SILTY LOAM --TOPSOIL--												
	Stiff to very stiff, brown CLAY to SILTY CLAY		1	4 4 4	2.00	20							
			2	10 10 10	1.15	31							
			3	4 4 4	1.64	27							
			4	6 4 5	1.50	28							
779.1	Medium dense to dense, brown LOAM, little gravel		5	10 11 11	2.00	12							
	--Moist--												
			6	13 17 15	NP	8							
			7	6 8 11	NR								
			8	18 18 18	2.00	11							
779.1	Boring terminated at 20.00 ft												

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	12-29-2014	Complete Drilling	12-29-2014	While Drilling	∇	DRY	
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV	At Completion of Drilling	∇	DRY	
Driller	K&K	Logger	A. Happel	Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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**BORING LOG NWB-18**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 799.80 ft  
 North: 1946802.48 ft  
 East: 1019551.08 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Cu (tsf)	Moisture Content (%)
799.8	2-inch thick, black SILTY CLAY LOAM --TOPSOIL--												
	Medium stiff to very stiff, brown and gray CLAY to SILTY CLAY		1	4 4 4	2.21	27							
			2	4 4 4	1.15	24							
			3	4 4 4	1.31	27							
			4	4 4 4	0.98	28							
	--trace organics--		5	4 4 4	0.57	27							
	--trace organics--		6	4 4 4	0.90	26							
			7	5 5 5	1.15	25							
			8	4 4 4	1.15	26							
779.8	Boring terminated at 20.00 ft												

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	12-26-2014	Complete Drilling	12-26-2014	While Drilling	∇	DRY	
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV	At Completion of Drilling	∇	DRY	
Driller	K&F	Logger	F. Bozga	Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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USER NAME -	DESIGNED -	REVISOR
PLOT SCALE - N.T.S.	CHECKED -	REVISION
PLOT DATE - 8/23/2017	DRAWN - LAM	REVISION
	CHECKED - CA	REVISION

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS VI  
 NOISE ABATEMENT WALL

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	297
CONTRACT NO. 60V57				

SHEET NO. 9 OF 11 SHEETS

ILLINOIS FED. AID PROJECT

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**BORING LOG NWB-19**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 798.45 ft  
 North: 1947113.95 ft  
 East: 1019549.41 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Cu (tsf)	Moisture Content (%)
798.45	298-14-inch thick, black SILTY CLAY LOAM --TOPSOIL--	0	1	13 11 7	NP	11							
795.5	Medium dense, brown GRAVELLY SAND	1											
	Medium stiff to very stiff, brown and gray SILTY CLAY	5	2	2 2 2	1.64 B	26							
		10	3	2 3 5	1.80 B	27							
	--trace plant material--	10	4	3 4 6	2.46 B	26							
		15	5	3 3 4	1.15 B	26							
		15	6	2 2 3	0.74 B	25							
783.0	Medium dense, gray SANDY LOAM --Moist--	15	7	3 5 7	NP	17							
778.5	Boring terminated at 20.00 ft	20	8	4 5 8	NP	18							

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	12-26-2014	Complete Drilling	12-26-2014
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV
Driller	K&F	Logger	F. Bozga
Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion	Depth to Water	NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

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**BORING LOG NWB-20**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 799.43 ft  
 North: 1947217.25 ft  
 East: 1019551.02 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Cu (tsf)	Moisture Content (%)
799.43	299-14-inch thick, black SILTY CLAY LOAM --TOPSOIL--	0	1	4 4 4	2.38 B	25							
	Stiff to very stiff, brown CLAY to SILTY CLAY	5	2	1 2 3	2.13 B	24							
		10	3	3 3 4	1.56 B	26							
	--trace plant material--	10	4	2 2 4	1.23 B	31							
788.9	Medium dense to dense, brown, coarse SAND to SANDY LOAM, trace gravel --Dry--	10	5	11 17 18	NP	9							
		15	6	6 13 17	NP	7							
782.3	Medium dense, gray SILTY LOAM --Moist--	15	7	13 14 11	NP	10							
	--sand lenses--	20	8	7 11 12	NP	16							
779.4	Boring terminated at 20.00 ft	20											

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	12-26-2014	Complete Drilling	12-26-2014
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV
Driller	K&F	Logger	F. Bozga
Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion	Depth to Water	NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

**Wang Engineering**  
 wangeng@wangeng.com  
 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG NWB-21**  
 WEI Job No.: 314-16-01

Datum: NAVD 88  
 Elevation: 800.25 ft  
 North: 1947316.71 ft  
 East: 1019552.81 ft  
 Station:  
 Offset:

Client: **Bowman, Barrett, and Associates, Inc.**  
 Project: **IL Rte 59/US Rte 20 (FAP 345 & 338) Interchange**  
 Location: **Cook County, IL**

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Cu (tsf)	Moisture Content (%)
800.25	800-23-inch thick, black SILTY LOAM --TOPSOIL--	0	1	10 13 12	1.31 B	13							
	Stiff, gray and brown SILTY CLAY LOAM, trace gravel	5	2	8 10 9	NP	15							
796.5	Medium dense, brown SANDY LOAM --Dry--	5											
794.2	Medium dense, brown SILTY LOAM --Moist--	10	3	6 11 10	NP	20							
791.2	Very stiff to hard, brown and gray SILTY CLAY, trace gravel	10	4	6 9 9	2.50 P	20							
		15	5	7 10 13	5.08 B	14							
786.0	Brown SANDY LOAM, trace gravel	15	6	7 15 18	2.21 B	11							
784	Very stiff, gray SILTY LOAM to SILTY CLAY LOAM --Dry--	15	7	7 10 11	2.46 B	11							
782.2	Very stiff, gray CLAY	20	8	4 7 12	3.61 B	21							
780.2	Boring terminated at 20.00 ft	20											

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	12-23-2014	Complete Drilling	12-23-2014
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV
Driller	K&K	Logger	A. Happel
Checked by	CLM (-lab, Sta)	Time After Drilling	NA
Drilling Method	2.25" IDA HSA; boring backfilled upon completion	Depth to Water	NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

BOWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 Chicago, Illinois  
 312.228.0100  
 www.bbbsinc.com

USER NAME -  
 PLOT SCALE - N.T.S.  
 PLOT DATE - 8/23/2017

DESIGNED - -  
 CHECKED - -  
 DRAWN - LAM  
 CHECKED - CA

REVISED  
 REVISED  
 REVISED  
 REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS VII  
 NOISE ABATEMENT WALL  
 SHEET NO. 10 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	298
CONTRACT NO. 60V57				
ILLINOIS FED. AID PROJECT				

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Cu (tsf)	Moisture Content (%)
797.44	4-inch thick, black SILTY LOAM --TOPSOIL--	0											
	Stiff to very stiff, brown CLAY LOAM, little gravel	1	1	7 6 4	2.50	9							
		2	2	2 2 2	1.50	15							
792.2	Medium dense, brown, fine to medium SAND, trace gravel --Dry--	3	3	4 3 8	NP	8							
789.7	Medium dense, gray SILTY LOAM --Wet--	4	4	11 6 10	NP	17							
787.2	Very stiff, gray SILTY CLAY LOAM, trace gravel	5	5	4 4 14	2.21	12							
785.5	Gray, fine SAND, trace gravel --Dry--	6	6	10 8 12	NP	16							
784.7	Medium dense, gray SILTY LOAM, trace gravel --Moist--	7	7	8 7 10	1.23	21							
781.5	Stiff, gray SILTY CLAY, trace gravel	8	8	20 40 403	NP	7							
779.7	Very dense, brown SANDY GRAVEL	9	9										
777.7	Boring terminated at 20.00 ft	20											

GENERAL NOTES	WATER LEVEL DATA	
Begin Drilling: 12-23-2014	While Drilling: <input checked="" type="checkbox"/> DRY	
Complete Drilling: 12-23-2014	At Completion of Drilling: <input checked="" type="checkbox"/> DRY	
Drilling Contractor: Wang Testing Services	Drill Rig: D-50 ATV	
Driller: K&K	Time After Drilling: NA	
Logger: A. Happel	Depth to Water: <input checked="" type="checkbox"/> NA	
Checked by: CLM (-lab, Sta)	The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	
Drilling Method: 2.25" IDA HSA; boring backfilled upon completion		

**INDEX OF SHEETS**

- 1 General Plan & Elevation
- 2 Downstream End Section Details
- 3 Upstream End Section Details
- 4 Boring Logs I
- 5 Boring Logs II

**PRECAST CULVERTS**

Design Fill Height is > 2 Ft. < 8 Ft.  
ASTM C1577

**DESIGN STRESSES**

**PRECAST UNITS**

f'c = 5,000 psi  
fy = 60,000 psi (Reinforcement)  
fy = 65,000 psi (Welded with Fabric)

**FIELD UNITS**

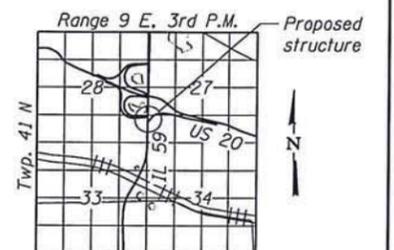
f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)

**DESIGN SPECIFICATIONS**

2014 AASHTO LRFD Bridge Design Specifications



SIGNED: *Daniel S. Filice*  
DATE: 8-23-17  
EXPIRES: November 30, 2018  
SHEET NO.: 301-305

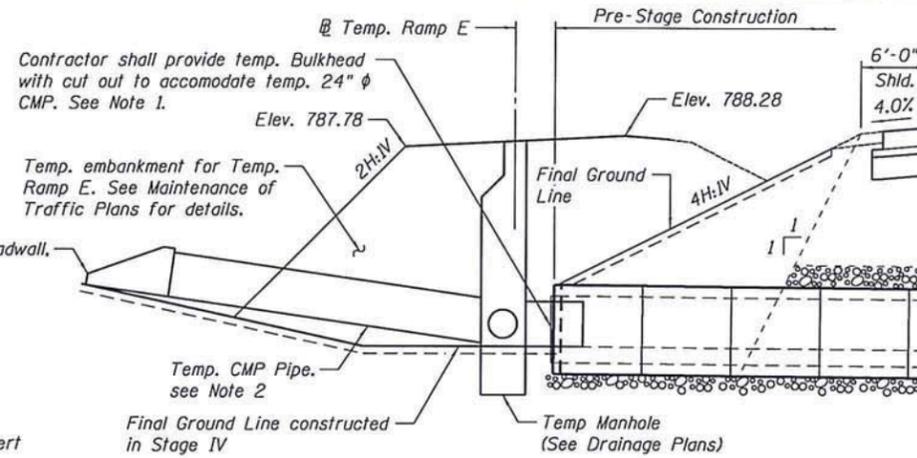


**LOCATION SKETCH**

**GENERAL PLAN & ELEVATION**  
**RAMP E CULVERT**  
**F.A.P. RTE. 345 - SEC. 7K-1(12)**  
**COOK COUNTY**  
**STATION 305+18.00**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	7K-1(12)	COOK	384	300
CONTRACT NO. 60V57			ILLINOIS FED. AID PROJECT	

**TEMP. RAMP E PARTIAL SECTION**  
(Looking Upstation)



Contractor shall provide temp. Bulkhead with cut out to accommodate temp. 24" φ CMP. See Note 1.

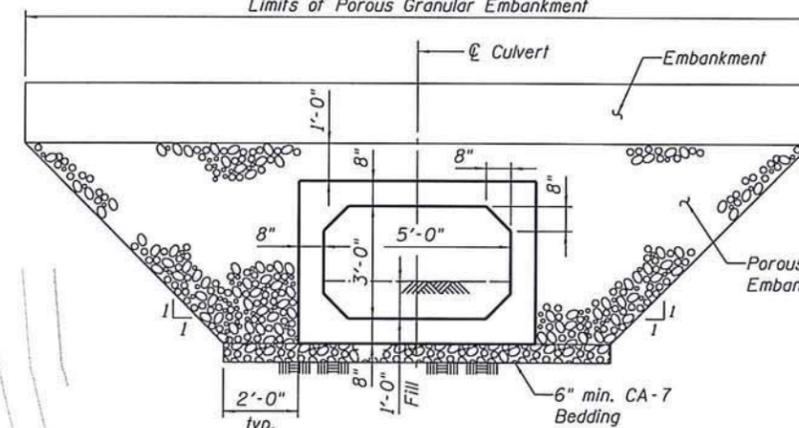
Temp. embankment for Temp. Ramp E. See Maintenance of Traffic Plans for details.

Temporary Headwall, see Note 2.

Temp. CMP Pipe, see Note 2

Final Ground Line constructed in Stage IV

Temp Manhole (See Drainage Plans)



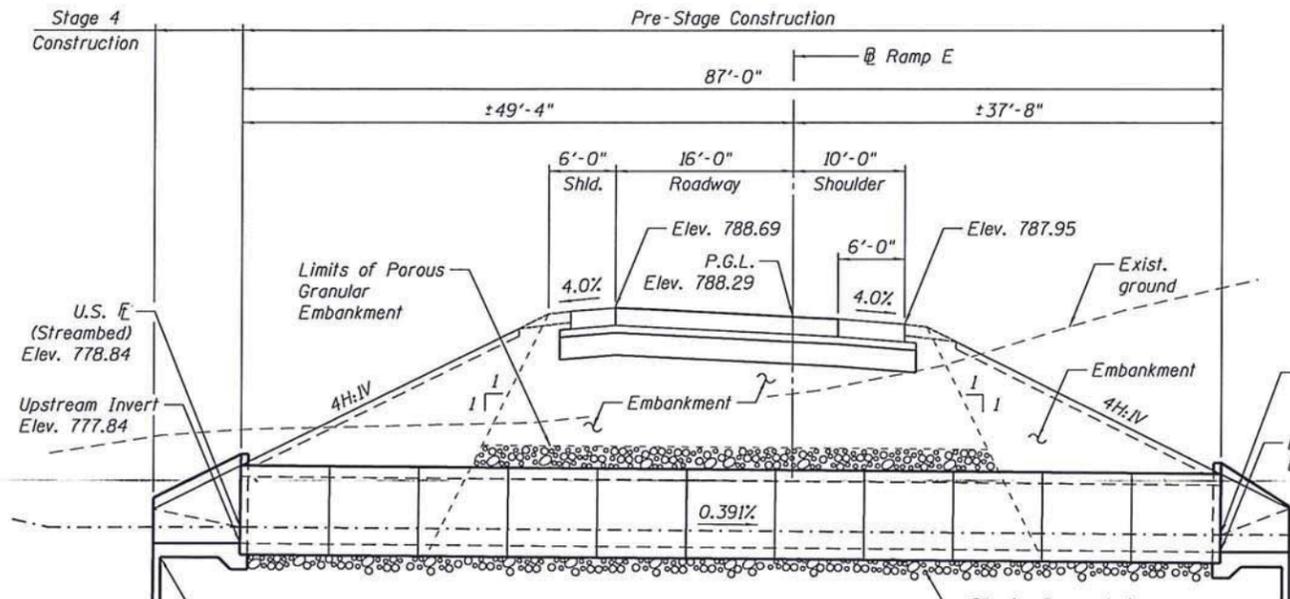
**SECTION THRU PRECAST BARREL**

**NOTES**

1. Contractor shall submit Bulkhead Details to the Engineer for review. Bulkhead Material may be Wood, Concrete or Steel and shall be capable of resisting Earth Pressure and all other Applicable Forces. Cost for this work, including Submittal Documents, shall be included in the Cost of Precast Concrete Box Culvert, 5'x3'.
2. See Drainage and Maintenance of Traffic Plans for additional details and sequence of work.
3. Cost of CA-7 Bedding included on the cost of Precast Concrete Box Culverts, 5'x3'.
4. Reinforcement Bars Designated (E) shall be epoxy coated.

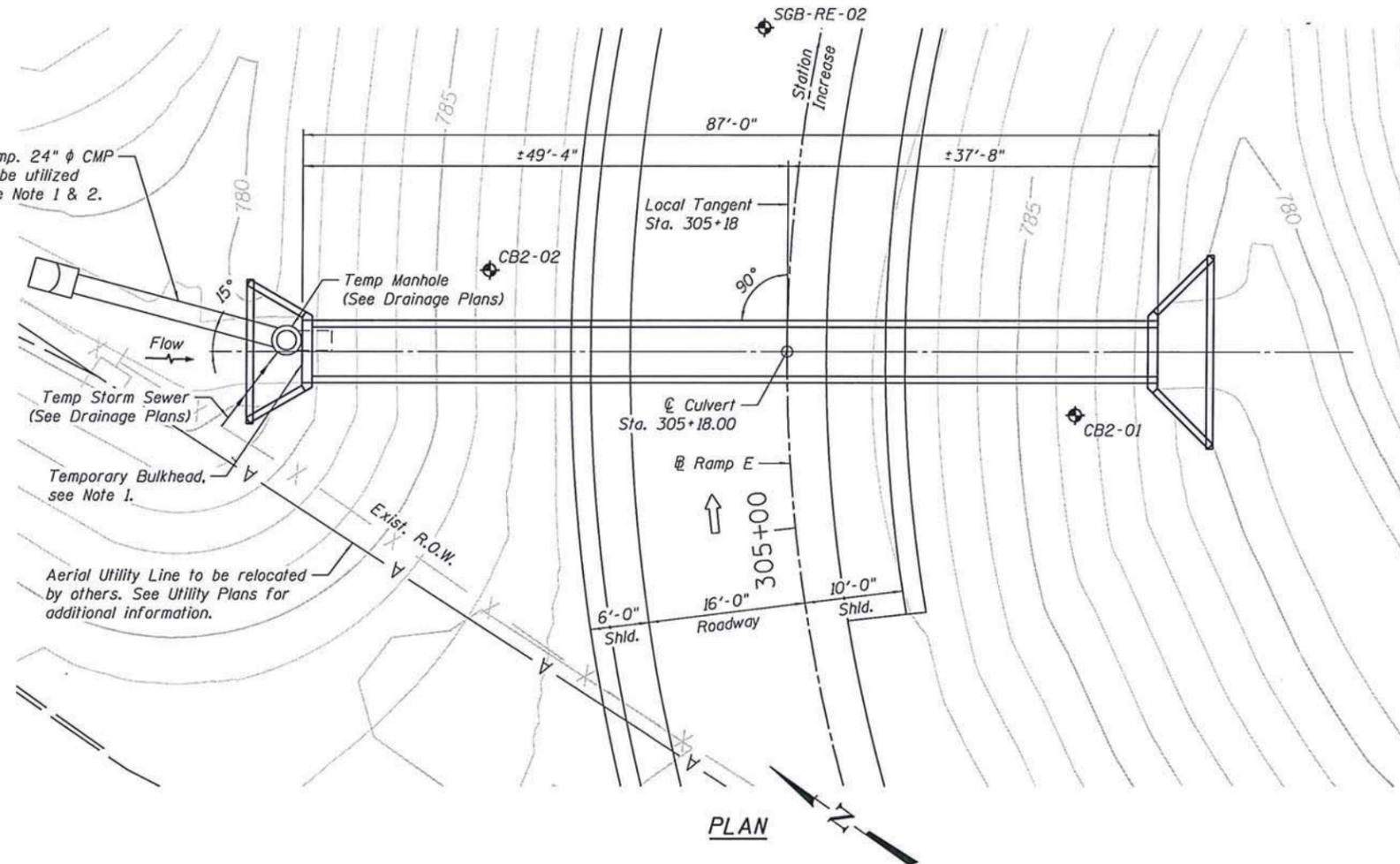
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	128.5
Structure Excavation	Cu. Yd.	382
Concrete Structures	Cu. Yd.	9.3
Reinforcement Bars, Epoxy Coated	Pound	800
Precast Concrete Box Culverts, 5'x3'	Foot	87



**LONGITUDINAL SECTION**  
(Looking Upstation)

Construct this Headwall in Stage 4 after removal of Temp. Ramp & Temp Drainage Structures. See Temp. Ramp E. Partial Section this sheet and Maintenance of Traffic Drawings for additional details.



**PLAN**

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
Chicago, Illinois  
312.228.0100  
www.bbandinc.com

USER NAME =	DESIGNED - CA	REVISED
PLDT SCALE = N.T.S.	CHECKED - DF	REVISED
PLDT DATE = 8/21/2017	DRAWN - MTR	REVISED
	CHECKED - CA	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 5 SHEETS