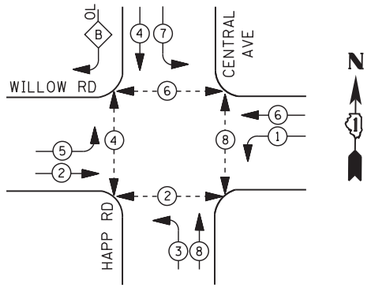
CIVIL ENGINEERING CONSULTANTS
RWA
Regina Webster & Associates, Inc.
8619 W. Bryn Mawr Ave., Suite 602
Chicago, IL 60631-3551
773-283-2600 Fax: 773-283-2602
www.RWAengineers.com

SCHEDULE OF QUANTITIES

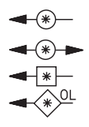
QUANTITY	UNIT	ITEM
1	EACH	SERVICE INSTALLATION - POLE MOUNTED
824	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
92	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.
45	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.
595	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.
4	EACH	HANDHOLE
4	EACH	HEAVY-DUTY HANDHOLE
2	EACH	DOUBLE HANDHOLE
1	EACH	TRANSCEIVER - FIBER OPTIC
1621	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
2320	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
2022	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
2157	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
2508	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR
102	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C
861	FOOT	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C
12	FOOT	CONCRETE FOUNDATION, TYPE A
4	FOOT	CONCRETE FOUNDATION, TYPE C
14	FOOT	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER
39	FOOT	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER
7	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
5	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 5 SECTION, BRACKET MOUNTED
1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
6	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
12	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
10	EACH	INDUCTIVE LOOP DETECTOR
1074	FOOT	PREFORMED DETECTOR LOOP
* 3	EACH	LIGHT DETECTOR
* 1	EACH	LIGHT DETECTOR AMPLIFIER
8	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	TEMPORARY TRAFFIC SIGNAL INSTALLATION
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
14	EACH	REMOVE EXISTING HANDHOLE
9	EACH	REMOVE EXISTING CONCRETE FOUNDATION
* 613	FOOT	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO 20 3/C
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
1	EACH	TEMPORARY TRAFFIC SIGNAL TIMING
1	EACH	TRAFFIC SIGNAL POST, ALUMINUM 10 FT. (SPECIAL)
2	EACH	TRAFFIC SIGNAL POST, ALUMINUM 16 FT. (SPECIAL)
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE 36 FT. (SPECIAL)
3	EACH	STEEL MAST ARM ASSEMBLY AND POLE 42 FT. (SPECIAL)
* 4	EACH	ILLUMINATED STREET NAME SIGN

* 100% VILLAGE OF NORTHFIELD COST

CONTROLLER SEQUENCE



LEGEND



RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER		PERMISSIVE PHASE		PROTECTED PHASE
B	=	4	+	5

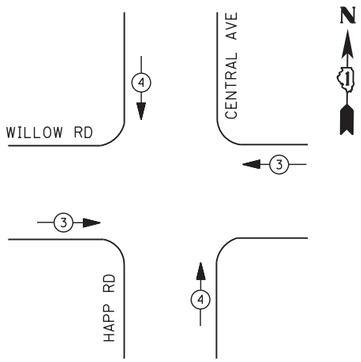
PHASE DESIGNATION DIAGRAM

I. D. O. T.
TRAFFIC SIGNAL INSTALLATION
ELECTRICAL SERVICE REQUIREMENTS

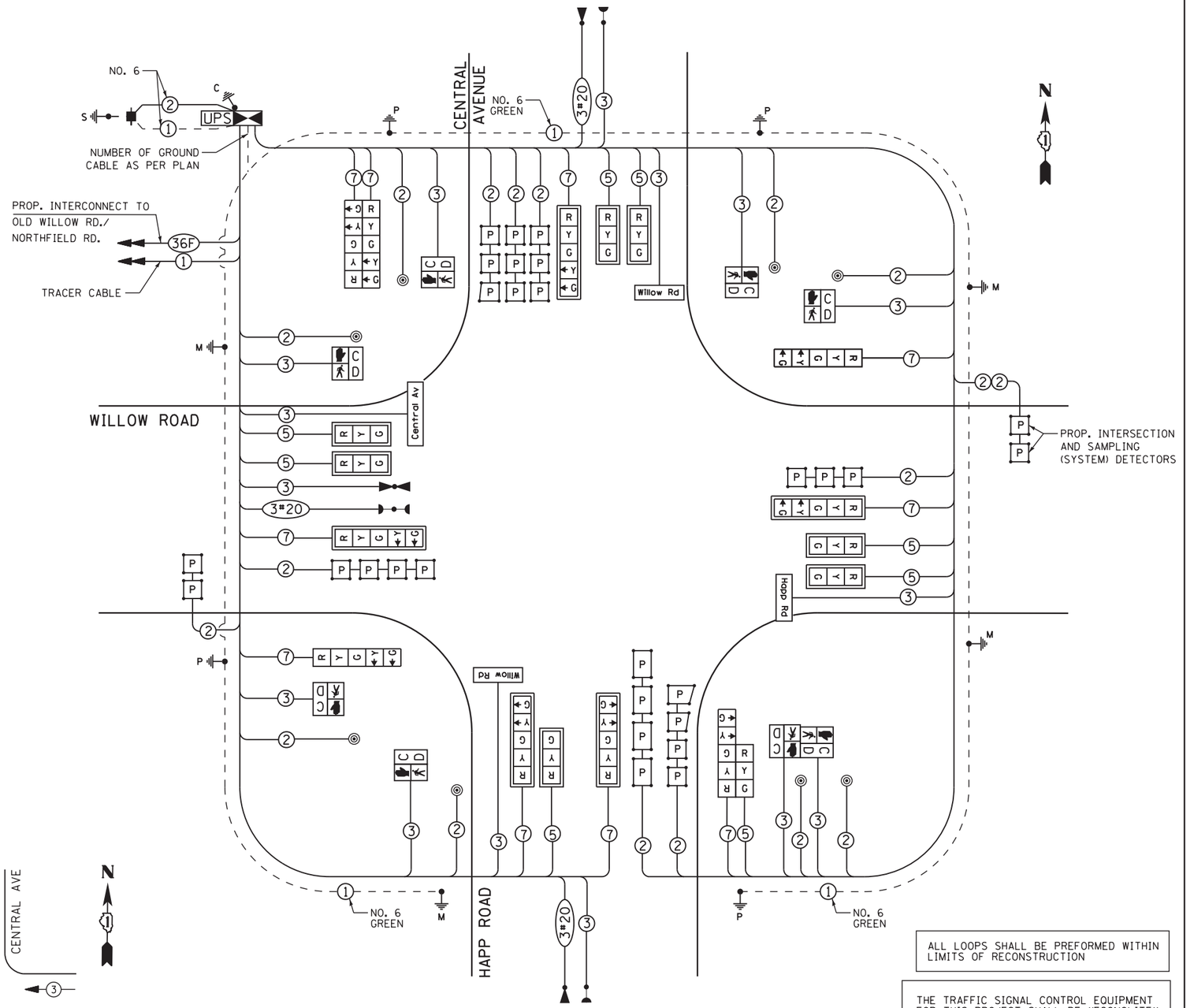
TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	18	135	17	0.50	153
(YELLOW)	18	135	25	0.25	113
(GREEN)	18	135	15	0.25	68
ARROW	20	135	12	0.10	24
PED. SIGNAL	8	90	25	1.00	200
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	4	--	90	0.50	180
VIDEO SYSTEM		150	-	1.00	--
				TOTAL =	837

ENERGY COSTS- BILLED TO: IDOT - DISTRICT 1
201 W. CENTER CT.
SCHAUMBURG, IL 60196

ENERGY SUPPLY - CONTACT COMED
PHONE 630-723-2128



EMERGENCY VEHICLE PREEMPTION SEQUENCE



CABLE PLAN

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET.

ALL LOOPS SHALL BE PREFORMED WITHIN LIMITS OF RECONSTRUCTION

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

TS-53

FILE NAME =	USER NAME = $USER$	DESIGNED - KMM	REVISED -
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	PLOT SCALE = $SCALE$	CHECKED - JDH	REVISED -
	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CABLE PLAN, SCHEDULE OF QUANTITIES, PHASE DESIGNATION DIAGRAM & EVP SEQUENCE
WILLOW ROAD AT CENTRAL AVENUE/HAPP ROAD

SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	401
		CONTRACT NO. 60T35		
		ILLINOIS FED. AID PROJECT		

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GENERAL NOTES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION. THIS SHALL INCLUDE LOCATING THE MAST ARM FOUNDATIONS AND VERIFYING THE MAST ARM LENGTHS.

2. THE EXACT LOCATION OF ALL UTILITES SHALL BE FIELD VERIFIED BY THE CONTRACTOR BEFORE ORDERING ANY MATERIALS AND STARTING ANY WORK. FOR LOCATIONS OF UTILITIES, LOCALLY OWNED EQUIPMENT, LEASED ENFORCEMENT CAMERA SYSTEM FACILITIES AND IDOT UNDERGROUND FACILITIES, CONTACT THE LOCAL COUNTIES, MUNICIPALITIES AND IDOT FOR LOCATES. THE CONTRACTOR SHALL CALL "JULIE" AT (800) 892-0123 OR 811, IN THE CITY OF CHICAGO CONTACT DIGGER AT (312) 744-7000 FOR FIELD LOCATIONS OF BURIED UTILITIES (48 HOURS NOTIFICATION REQUIRED).

3. THE CONTRACTOR SHALL CHECK THE PROPOSED TRAFFIC SIGNAL EQUIPMENT LOCATIONS FOR OVERHEAD UTILITY CONFLICTS. THE CONTRACTOR SHALL COORDINATE ANY CONFLICTS WITH THE UTILITY COMPANIES AND THE RESIDENT ENGINEER BEFORE ORDERING MATERIALS.

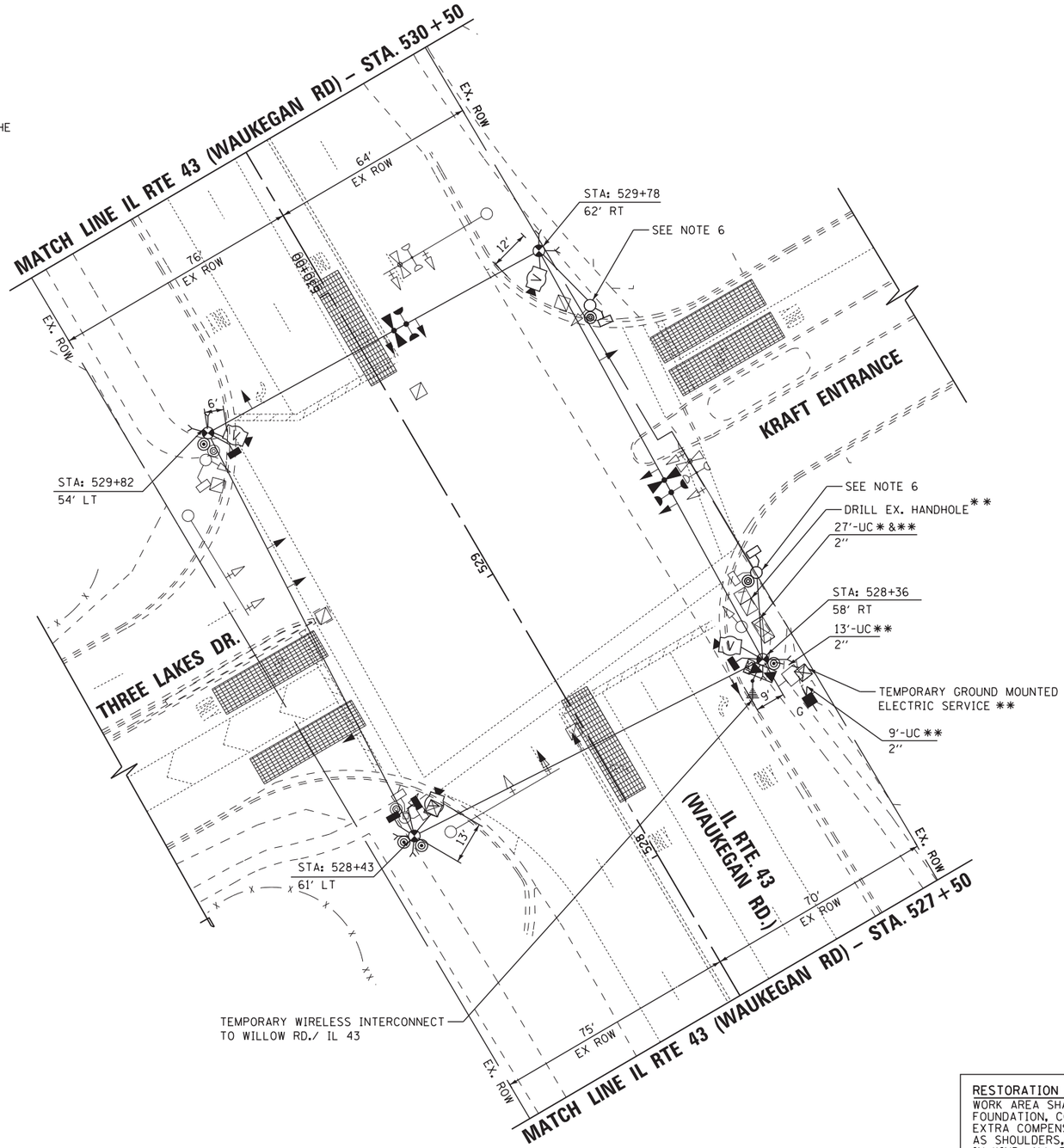
4. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, LOCAL GOVERNMENT AGENCIES AND IDOT.

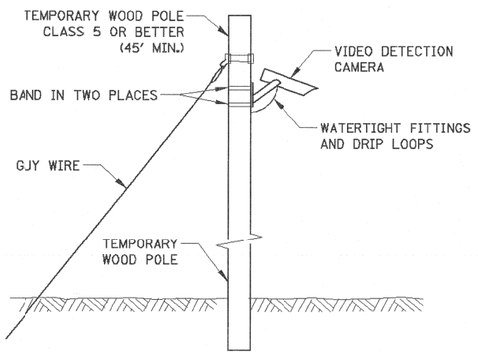
5. ALL EXISTING SIGNAL HEADS SHALL BE BAGGED & DISCONNECTED DURING TEMPORARY TRAFFIC SIGNAL OPERATIONS. EXCEPT FOR THE PEDESTRIAN SIGNAL HEADS AND PUSHBUTTONS FOR THE KRAFT ENTRANCE CROSSWALK. THIS WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR TEMPORARY TRAFFIC SIGNAL INSTALLATION.

6. TEMPORARY AERIAL CABLES SHALL BE PROVIDED BETWEEN THE WOOD POLE AND EXISTING SIGNAL POST AS SHOWN TO ACTIVATE THE EXISTING PEDESTRIAN HEADS AND PUSHBUTTONS FOR THE KRAFT ENTRANCE CROSSWALK.

* NOTE: CONTRACTOR SHALL PULL THE EXISTING FIBER OPTIC CABLE FROM THE EXISTING CONTROLLER TO THE DOUBLE HANDHOLE AND REINSTALL TO THE TEMPORARY CONTROLLER IN ORDER TO MAINTAIN INTERCONNECT TO IL 43/FOUNDERS TO THE NORTH. THE COST OF THE 2" CONDUIT AND TEMPORARY INTERCONNECT SHALL BE INCLUDED IN THE COST FOR TEMPORARY TRAFFIC SIGNAL INSTALLATION. THE FIBER OPTIC CABLE SHALL BE INSTALLED TO THE EXISTING CONTROLLER AS THE TEMPORARY TRAFFIC SIGNAL IS BEING REMOVED.

** THE COST OF THE 2" CONDUIT AND TEMPORARY GROUND MOUNTED ELECTRIC SERVICE AND DRILL EXISTING HANDHOLE SHALL BE INCLUDED IN THE COST FOR THE TEMPORARY TRAFFIC SIGNAL INSTALLATION.





TEMPORARY VIDEO DETECTION MOUNTING DETAIL
(NOT TO SCALE)

N

20 0 20 40
SCALE: 1" = 20'-0"

THE CONTRACTOR SHALL INSTALL A WOOD SUPPORT PLATFORM AS SHOWN ON THE DISTRICT 1 SIGNAL DETAIL SHEETS FOR BOTH THE CONTROLLER CABINET AND UPS.

THE TEMPORARY TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC SIGNAL INSTALLATION
MAINTENANCE OF TRAFFIC STAGE 1
ILLINOIS ROUTE 43 (WAUKEGAN ROAD) AT THREE LAKES DRIVE

SCALE: 1"=20' | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	402
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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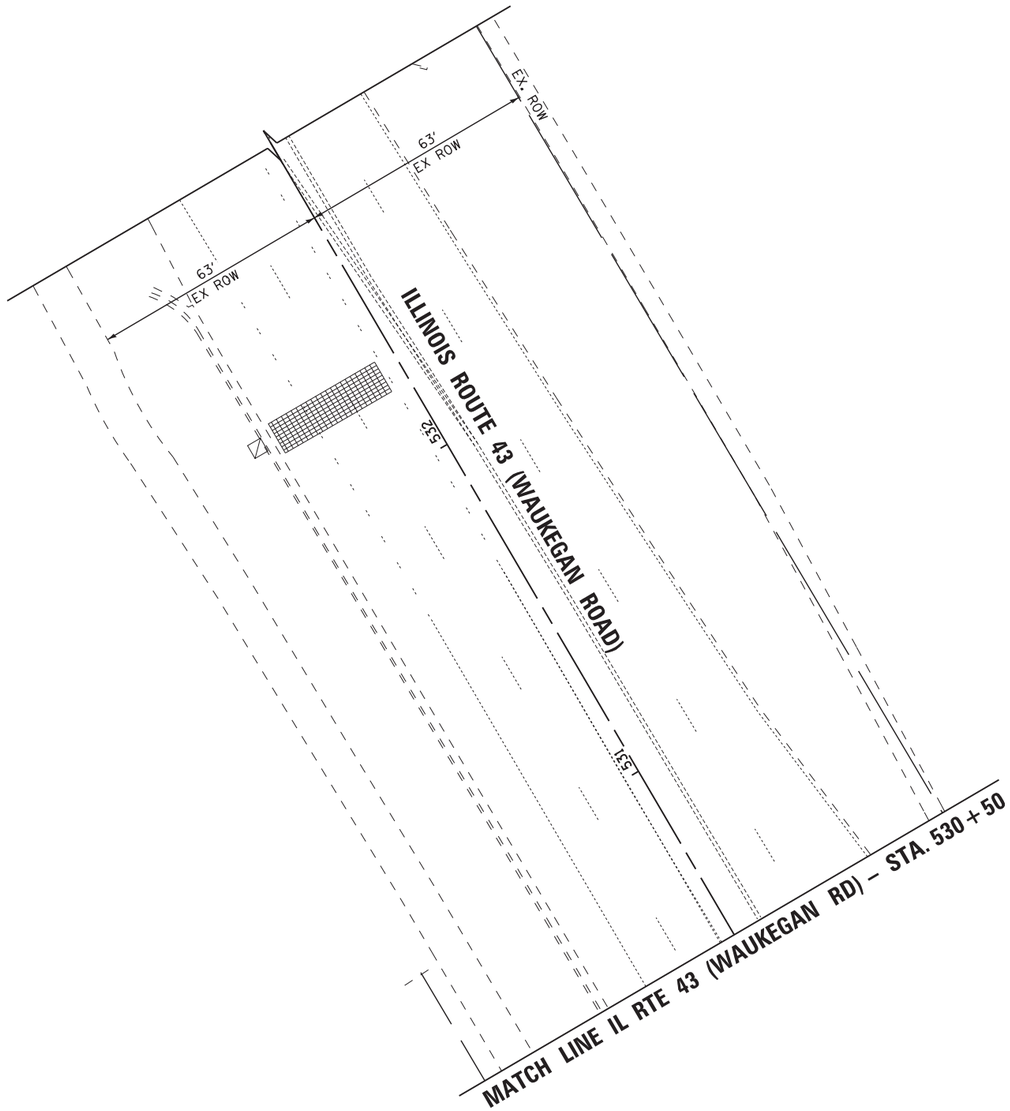

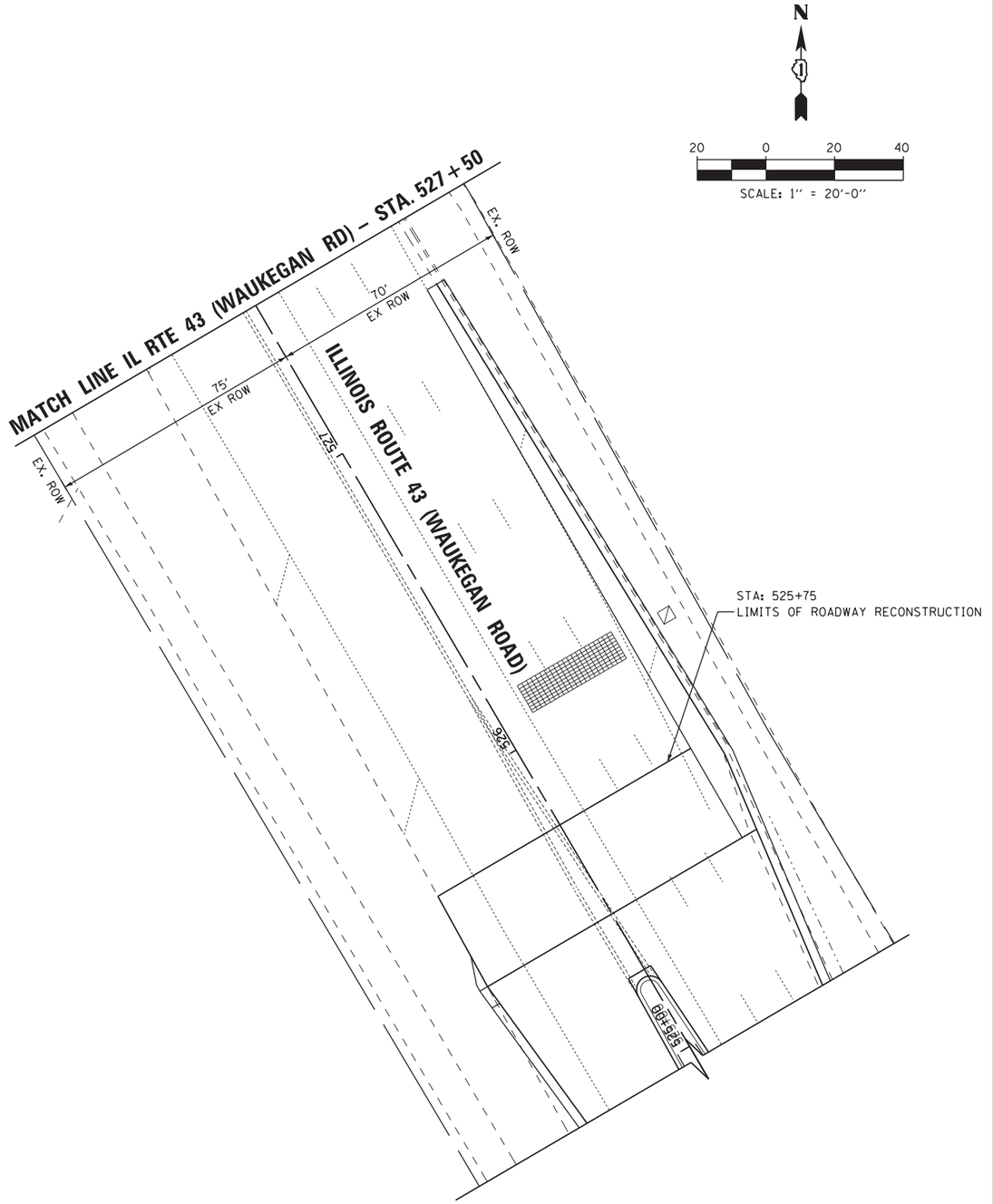

TS–55

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	D160T35rwa43tempTL-2.dgn	DRAWN - CDC	REVISED -		SCALE: 1''=20' SHEET NO. 2 OF 2 SHEETS STA. TO STA.
	PLOT SCALE = $SCALE$	CHECKED - JDH	REVISED -		
	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	403
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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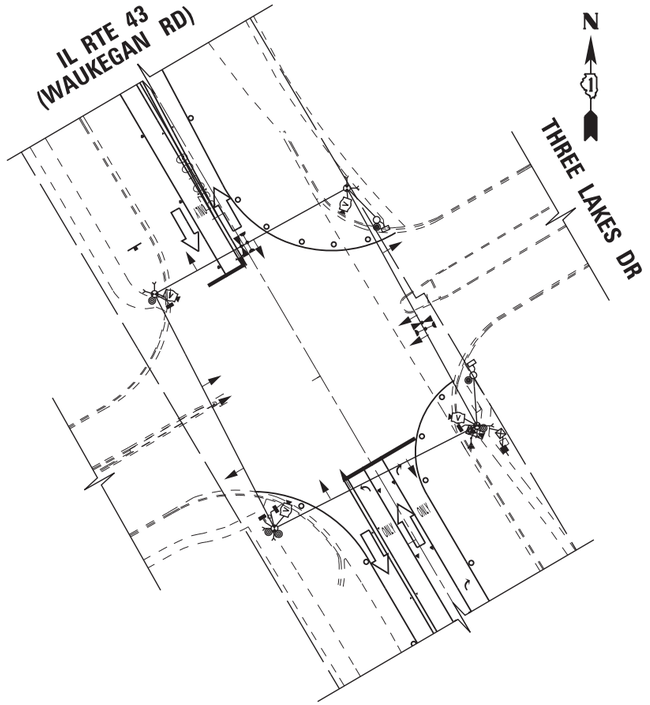
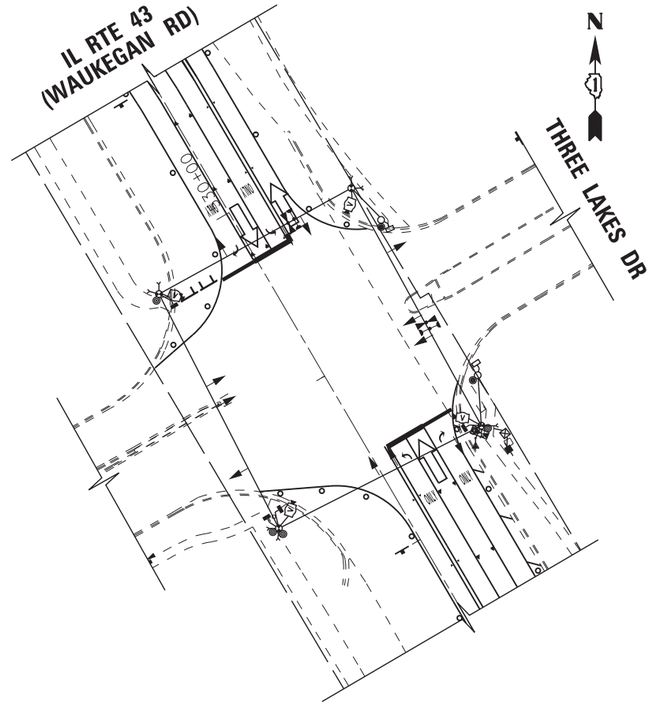
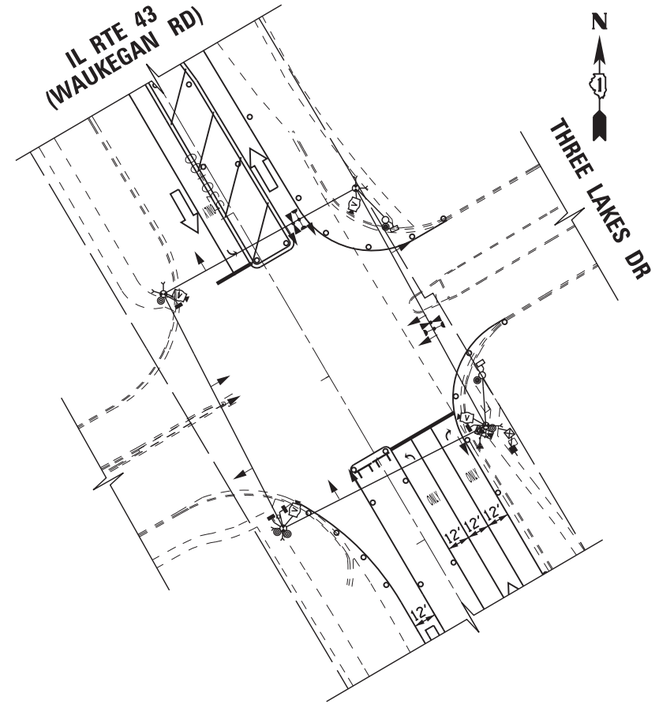


TEMPORARY TRAFFIC SIGNAL STAGE 1



TEMPORARY TRAFFIC SIGNAL STAGE 2



TEMPORARY TRAFFIC SIGNAL STAGE 3

FILE NAME = N:\Projects3\12027\DesignCAD\Sheet Files\	USER NAME = $USER$	DESIGNED - KMM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY TRAFFIC SIGNAL INSTALLATION M.O.T. STAGING PLAN ILLINOIS ROUTE 43 (WAUKEGAN ROAD) AT THREE LAKES DRIVE
	D160T35rwaMOT43TL-1.dgn	DRAWN - CDC	REVISED -		SCALE: 1"=40' | SHEET NO. 1 OF X SHEETS | STA. TO STA.
	PLOT SCALE = $SCALE$	CHECKED - JDH	REVISED -		
	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	404
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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NOTES FOR TEMPORARY TRAFFIC SIGNALS

1) ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2) ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3) ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE LED AND 12" (300mm) DIAMETER. HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. PEDESTRIAN SIGNALS SHALL INCLUDE SOLID INTERNATIONAL SYMBOLS. PEDESTRIAN SIGNALS WITH COUNTDOWN TIMERS SHALL BE USED WHEN THE EXISTING INSTALLATION UTILIZES COUNTDOWN TYPE OR AS DIRECTED BY THE ENGINEER. COUNTDOWN TYPE PEDESTRIAN SIGNALS ARE NOT TO BE INSTALLED AT RAILROAD INTERSECTIONS. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4) ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES . RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5) ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.
6) THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON, IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.
7) UNINTERRUPTIBLE POWER SUPPLY (UPS) SYSTEM SHALL BE INSTALLED AND MADE OPERATIONAL AT TEMPORARY TRAFFIC SIGNAL INSTALLATIONS WHERE UPS IS INSTALLED AT THE EXISTING TRAFFIC SIGNAL, TEMPORARY TRAFFIC SIGNALS AT RAILROAD INETERSECTIONS, AND TEMPORARY TRAFFIC SIGNALS AT INTERSECTIONS WITH FIRE STATION ACTUATED EMERGENCY VEHICLE PRE-EMPTION, OR WHEN INDICATED ON THE PLANS.
8) TRAFFIC SIGNAL MANAGEMENT SYSTEMS SHALL BE MAINTAINED IN OPERATION AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. REQUIRED EQUIPMENT SHALL BE AS SHOWN ON THE PLANS AND THE CONTRACTOR SHALL PLACE THE EQUIPMENT IN OPERATION TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE TRAFFIC SIGNAL MANAGEMENT SYSTEM.
9) DETECTION AT TEMPORARY TRAFFIC SIGNALS SHALL BE INCLUDED FOR ALL APPROACHES OF THE INTERSECTION UNLESS INDICATED OTHERWISE ON THE PLANS. THE DETECTION SYSTEM MUST MEET THE SPECIFICATIONS OF DISTRICT 1 AND THE CONTRACTOR SHALL PLACE THE DETECTORS INTO OPERATION TO THE SATISFACTION OF THE ENGINEER.
10) WHEN PAN, TILT, ZOOM CAMERAS ARE INSTALLED AT THE EXISTING INTERSECTION OR ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THE CAMERAS TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE CAMERAS.

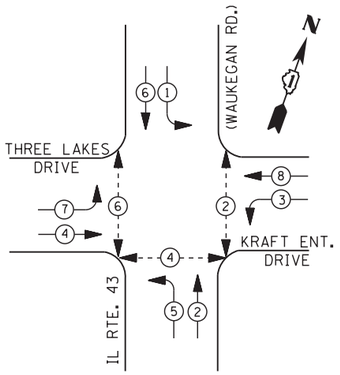
I. D. O. T.
TRAFFIC SIGNAL INSTALLATION
ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	16	135	12	0.10	19
PED. SIGNAL	6	90	25	1.00	150
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		252	90	1.00	--
VIDEO SYSTEM	1	150	-	1.00	150
FLASHER LED					
				TOTAL =	641

ENERGY COSTS- BILLED TO: IDOT - DISTRICT 1
201 W. CENTER CT.
SCHAUMBURG, IL 60196

ENERGY SUPPLY - CONTACT COMED
PHONE 630-723-2128

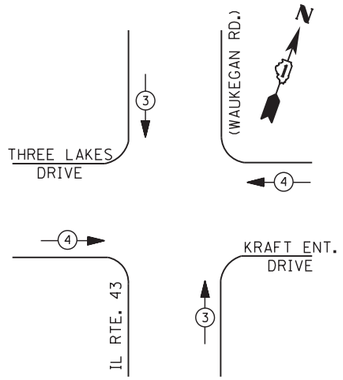
TEMPORARY CONTROLLER SEQUENCE



LEGEND

- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- SINGLE ENTRY PHASE
- OL OVERLAP
- * NUMBER REFERS TO ASSOCIATED PHASE

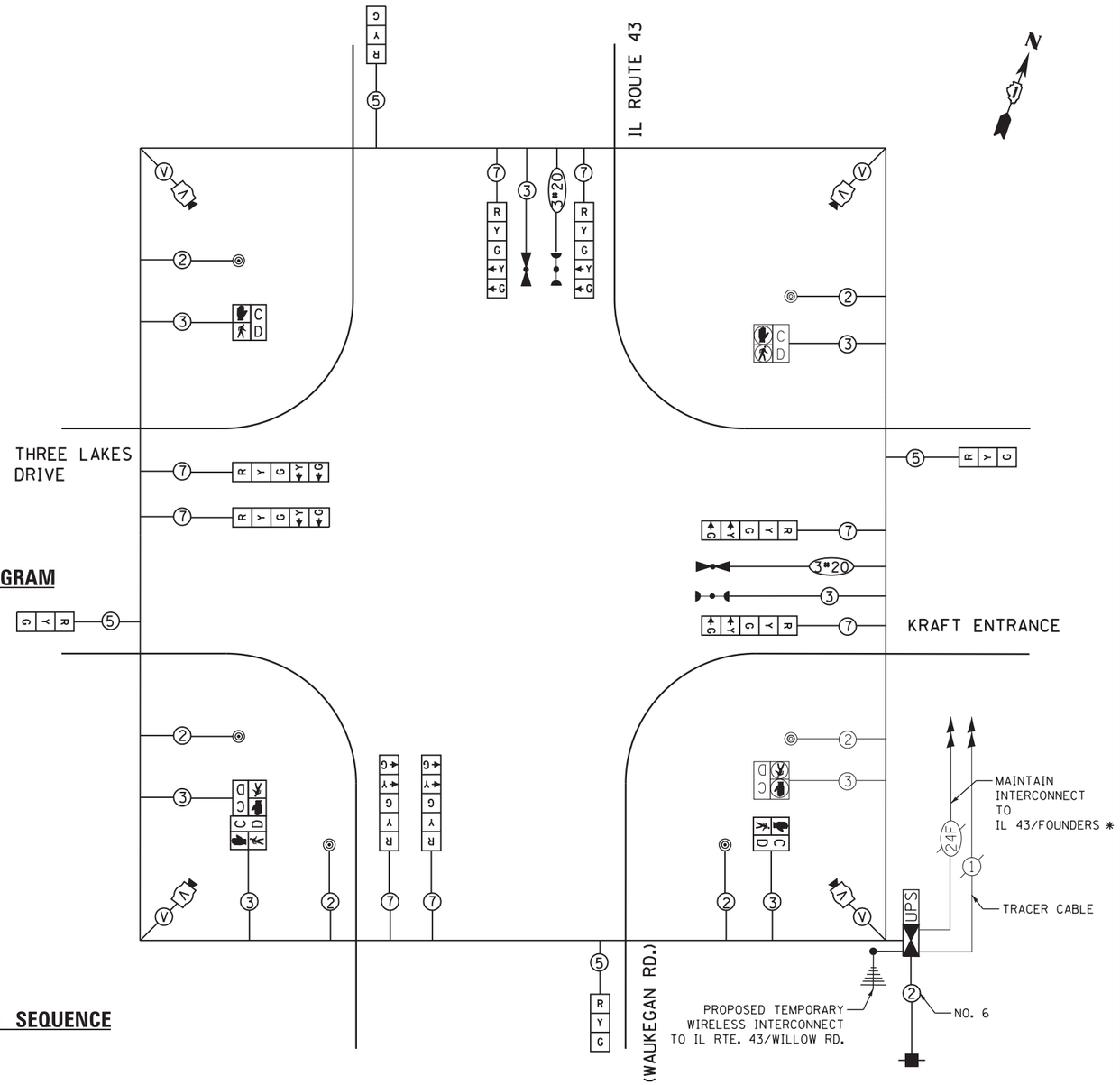
TEMPORARY PHASE DESIGNATION DIAGRAM



TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	↓ ↑	← →

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.



TEMPORARY CABLE PLAN

* NOTE: CONTRACTOR SHALL PULL THE EXISTING FIBER OPTIC CABLE FROM THE EXISTING CONTROLLER TO THE DOUBLE HANDHOLE AND REINSTALL TO THE TEMPORARY CONTROLLER IN ORDER TO MAINTAIN INTERCONNECT TO IL 43/FOUNDERS TO THE NORTH. THE COST OF THE 2" CONDUIT AND TEMPORARY INTERCONNECT SHALL BE INCLUDED IN THE COST FOR TEMPORARY TRAFFIC SIGNAL INSTALLATION. THE FIBER OPTIC CABLE SHALL BE INSTALLED TO THE EXISTING CONTROLLER AS THE TEMPORARY TRAFFIC SIGNAL IS BEING REMOVED.

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
1	EACH	TEMPORARY TRAFFIC SIGNAL INSTALLATION
1	EACH	TEMPORARY TRAFFIC SIGNAL TIMING

THE TEMPORARY TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TS-57

FILE NAME = N:\Projects3\12027\DesignCAD\Sheet Files\D160T35rwa43tempcabTL.dgn	USER NAME = $USER$	DESIGNED - KMM	REVISED -
		DRAWN - CDC	REVISED -
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	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION DIAGRAM & TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE
ILLINOIS ROUTE 43 (WAUKEGAN ROAD) AT THREE LAKES DRIVE
SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	405
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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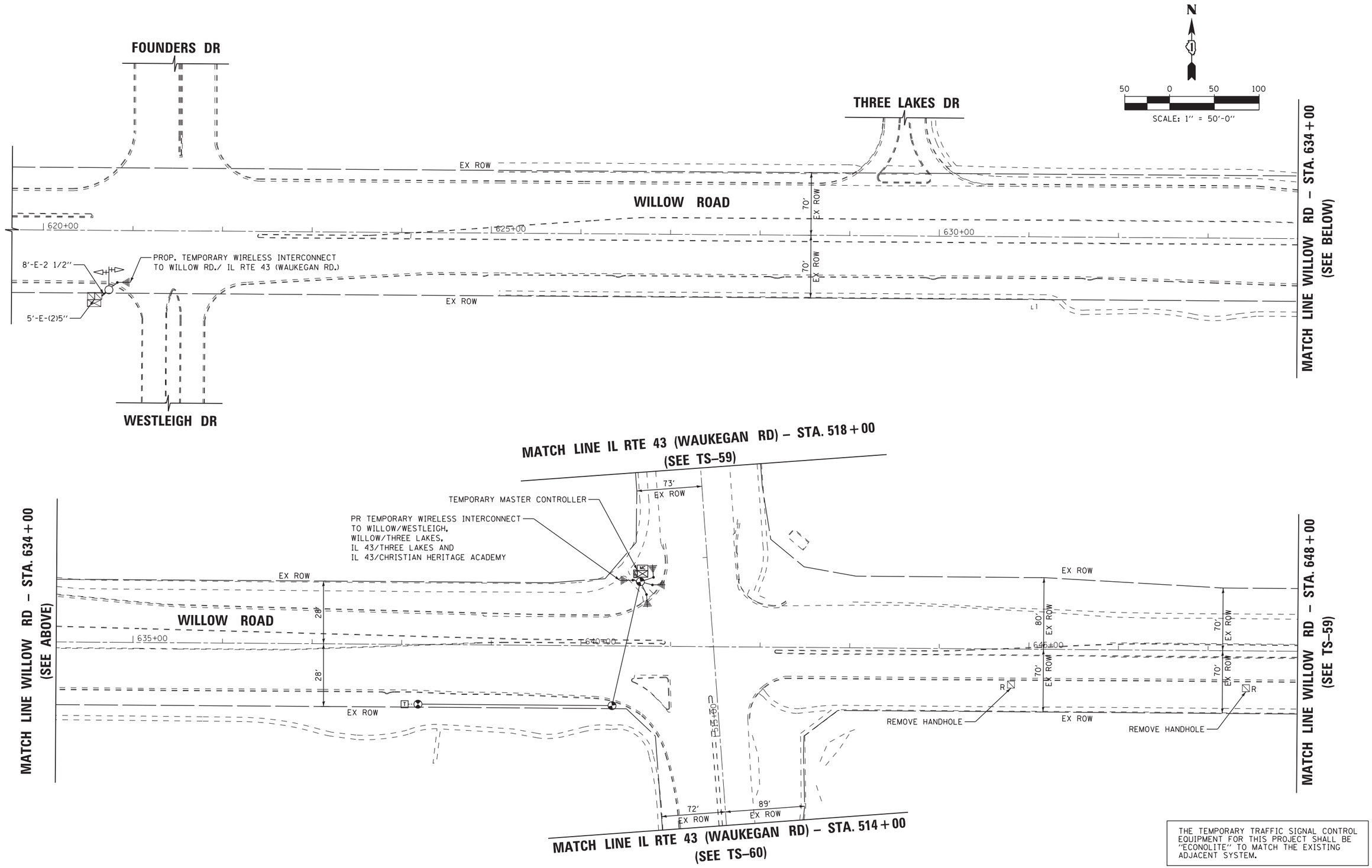

THE TEMPORARY TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

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	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY WIRELESS INTERCONNECT PLAN
WILLOW ROAD (WESTLEIGH DRIVE TO THREE LAKES DRIVE)

SCALE: 1"=50' | SHEET NO. 1 OF 3 SHEETS | STA. 619+70 TO STA. 648+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BR)	COOK	919	406
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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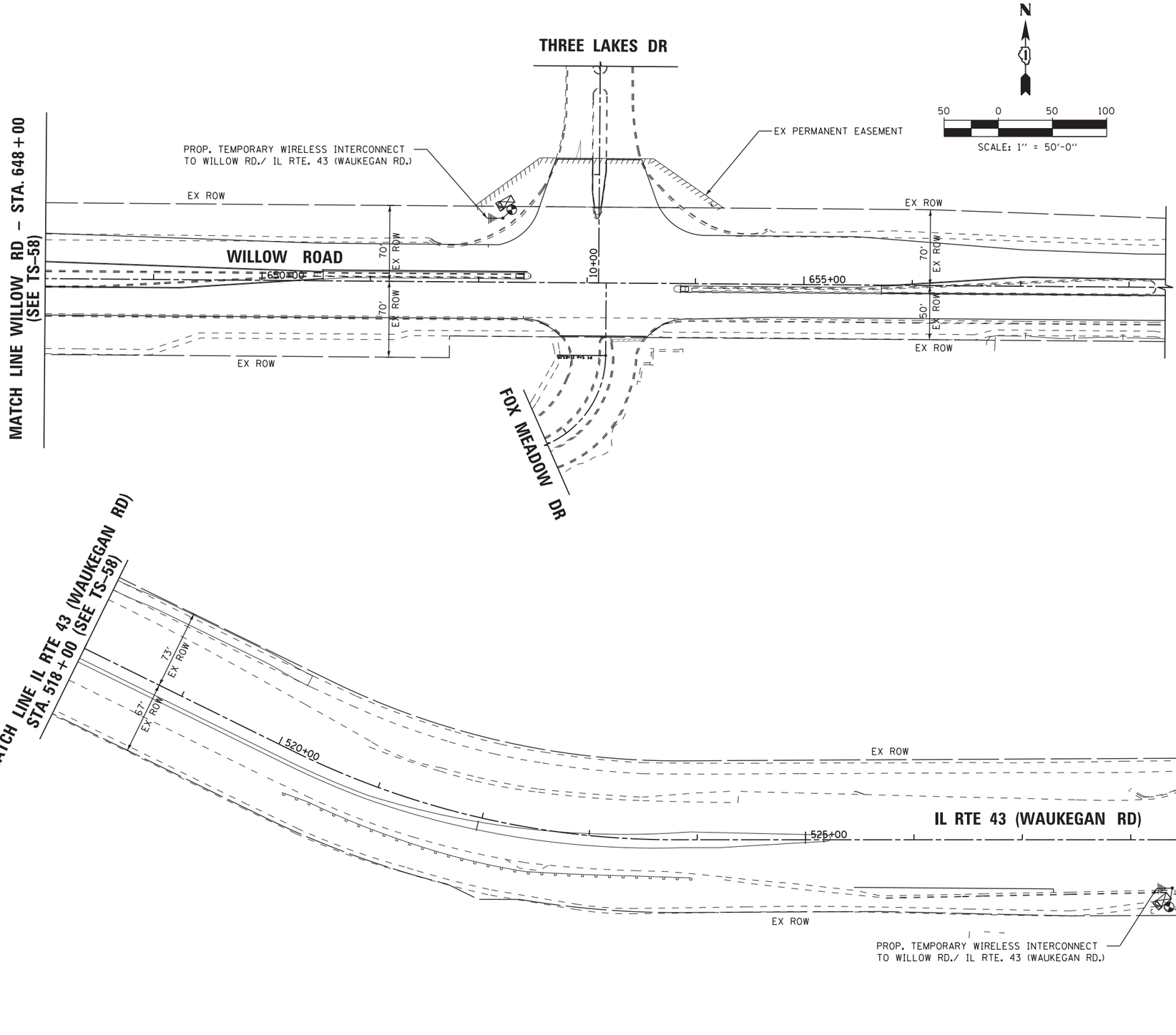

THE TEMPORARY TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE ''ECONOLITE'' TO MATCH THE EXISTING ADJACENT SYSTEM.

TS-59

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	PLOT SCALE = $SCALE$	CHECKED - JDH	REVISED -
	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY WIRELESS INTERCONNECT PLAN
WILLOW RD (WESTLEIGH DR TO THREE LAKES DR) & IL 43 (WAUKEGAN RD)
(CHRISTIAN HERITAGE ACADEMY TO THREE LAKES DR)

SCALE: 1''=50' | SHEET NO. 2 OF 3 SHEETS | STA. 648+00 TO STA. 658+30
IL 43 STA. 518+00 TO STA. 532+30

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	407
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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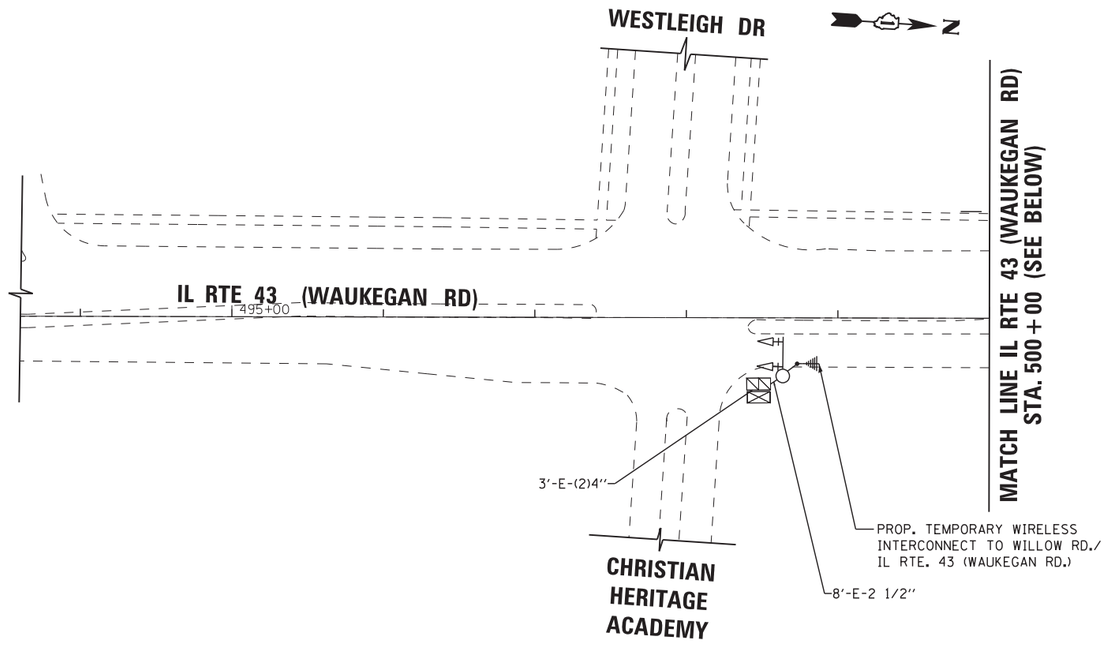

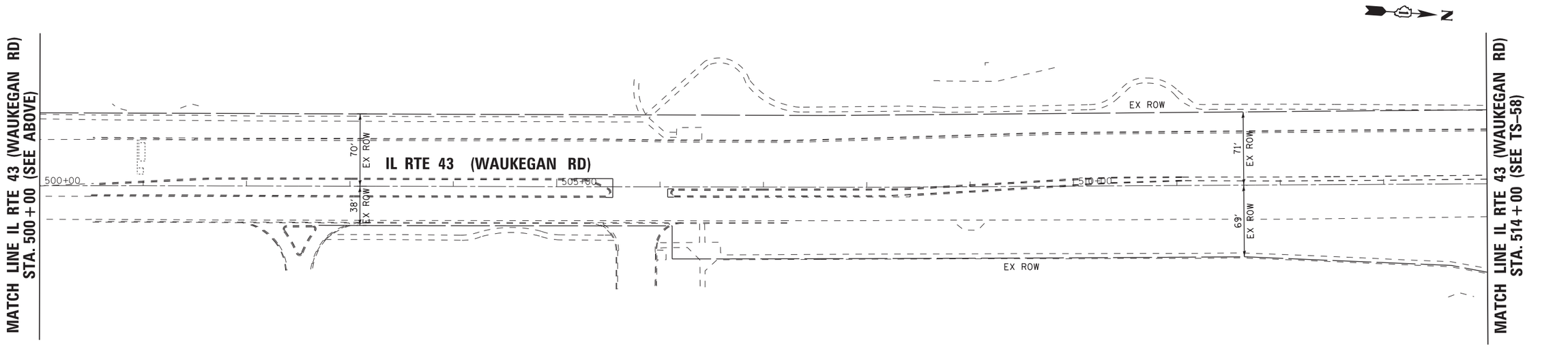

THE TEMPORARY TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TS-60

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	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY WIRELESS INTERCONNECT PLAN
IL RTE 43 (WAUKEGAN RD)
(CHRISTIAN HERITAGE ACADEMY TO THREE LAKES DR)

SCALE: 1"=50' | SHEET NO. 3 OF 3 SHEETS | STA. 493+60 TO STA. 514+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BR	COOK	919	408
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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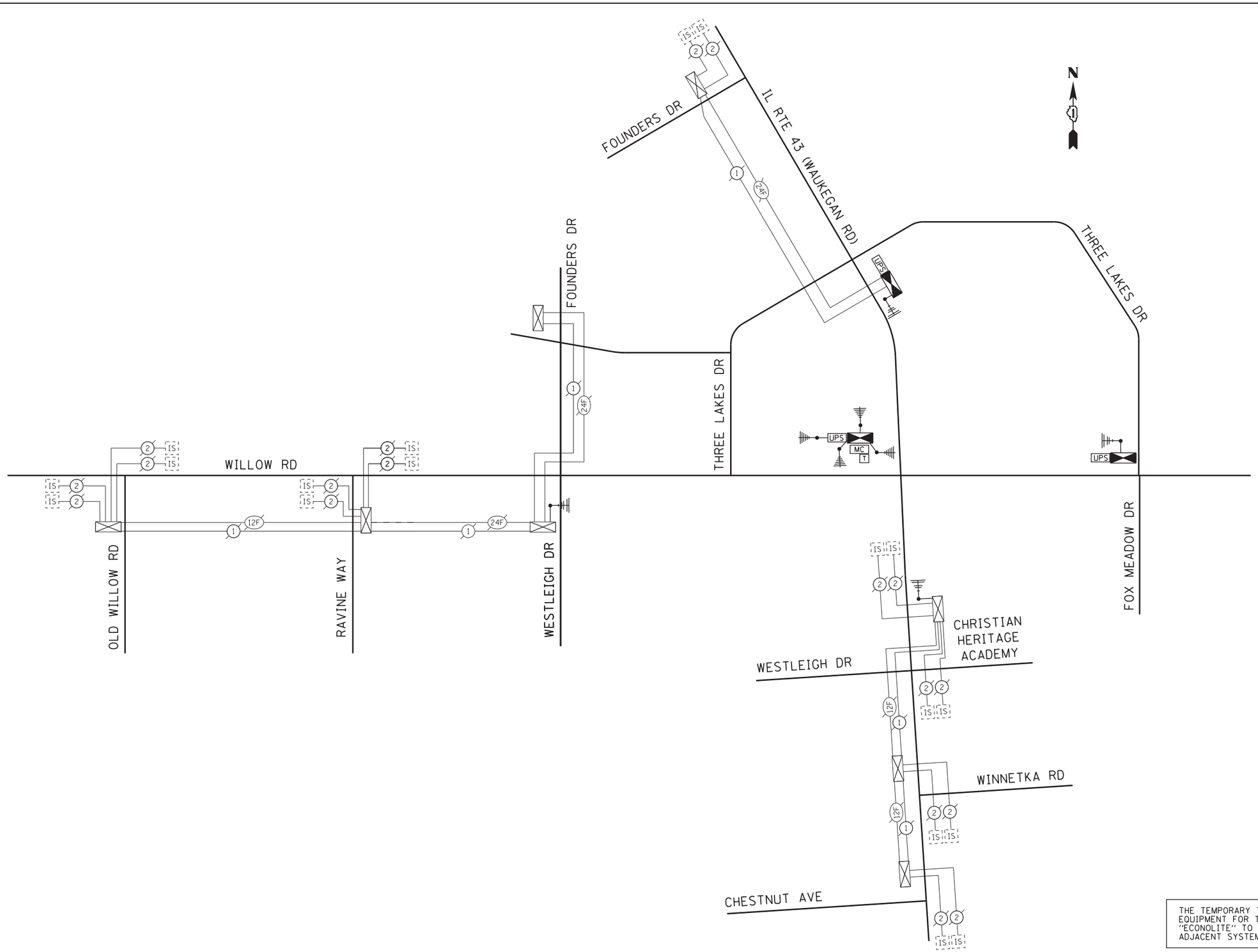

THE TEMPORARY TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TS-61

FILE NAME = N:\Projects3\12027\DesignCAD\Sheet Files\D160T35rwaWLtempINTschem-1.dgn	USER NAME = $USER$	DESIGNED - KMM	REVISED -
		DRAWN - CDC	REVISED -
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	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY INTERCONNECT SCHEMATIC
WILLOW RD (OLD WILLOW RD TO THREE LAKES DR/FOX MEADOW DR)

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	409
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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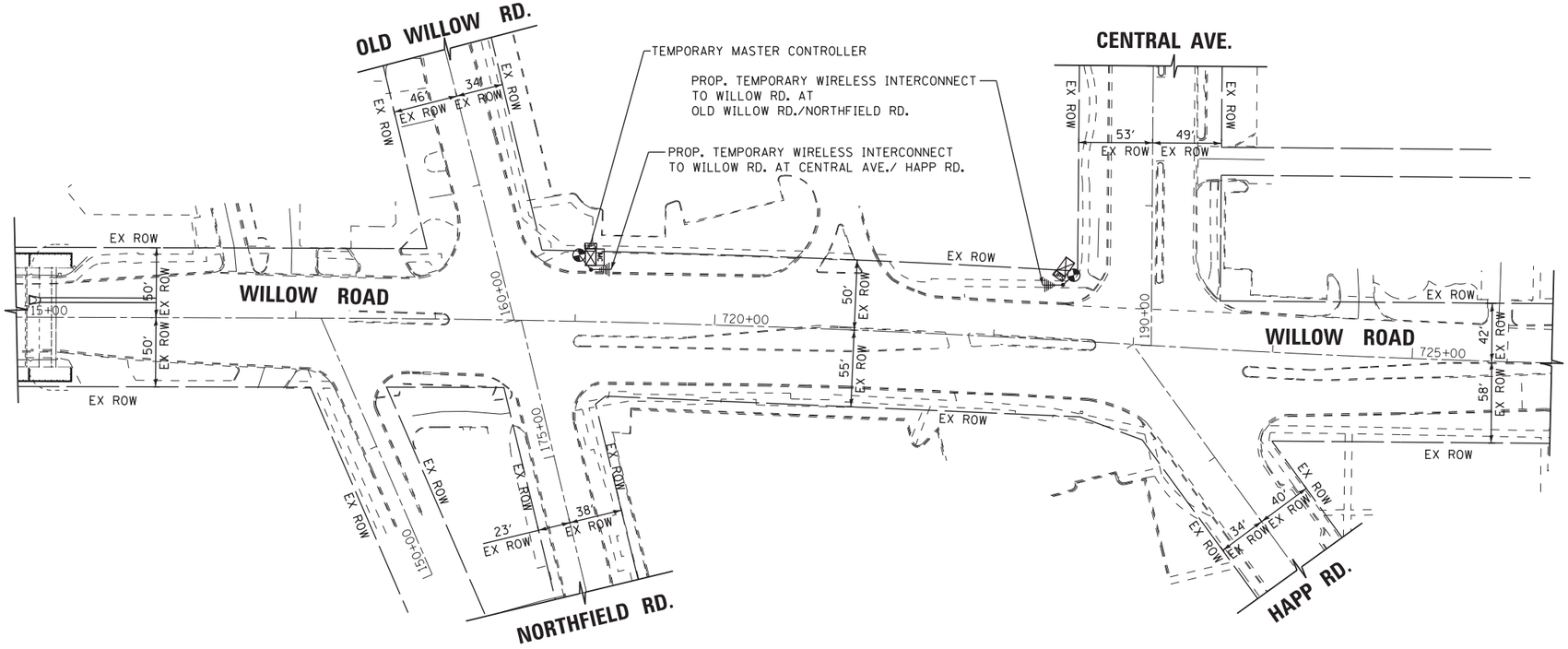

N

50 0 50 100

SCALE: 1'' = 50'-0''

THE TEMPORARY TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TS-62

FILE NAME =	USER NAME = $USER$	DESIGNED - KMM	REVISED -
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	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY WIRELESS INTERCONNECT PLAN
WILLOW ROAD (OLD WILLOW RD./NORTHFIELD RD. TO CENTRAL AVE./HAPP RD.)

SCALE: 1''=50' | SHEET NO. 1 OF 1 SHEETS | STA. 715+00 TO STA. 726+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	410
		CONTRACT NO. 60T35		
	ILLINOIS	FED. AID PROJECT		

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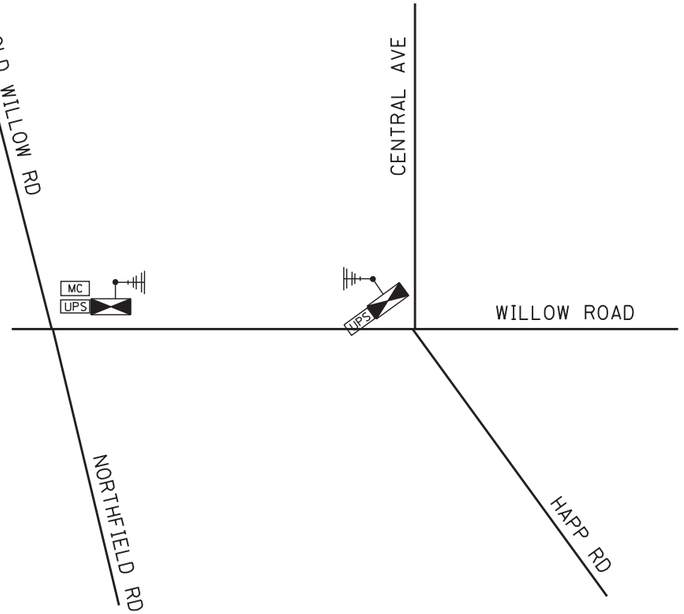

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TS-63

FILE NAME = N:\Projects3\12027\DesignCAD\Sheet Files\D160T35rwaWLtempINTschem-2.dgn	USER NAME = $USER$	DESIGNED - KMM	REVISED -
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	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY INTERCONNECT SCHEMATIC
WILLOW RD (OLD WILLOW RD /NORTHFIELD RD TO CENTRAL AVE /HAPP RD)

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	411
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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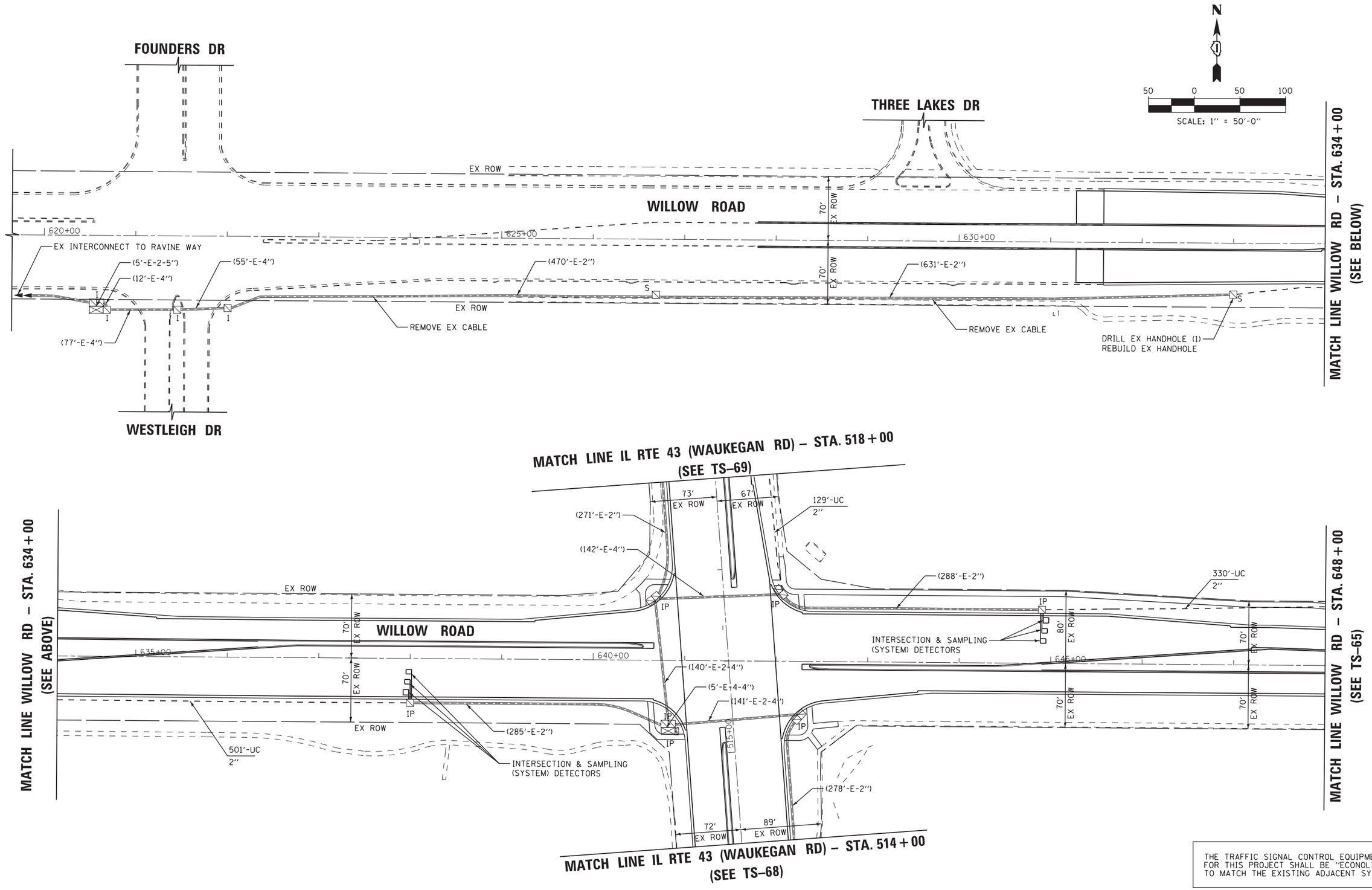

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TS-64

FILE NAME = N:\Projects3\12027\DesignCAD\Sheet Files\D160T35rwaWLint-1.dgn	USER NAME = $USER$	DESIGNED - KMM	REVISED -
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	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN
WILLOW ROAD (WESTLEIGH DRIVE TO CENTRAL AVENUE/HAPP ROAD)

SCALE: 1"=50' | SHEET NO. 1 OF 6 SHEETS | STA. 619+70 TO STA. 648+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BR	COOK	919	412
		CONTRACT NO. 60T35		
		ILLINOIS	FED. AID PROJECT	

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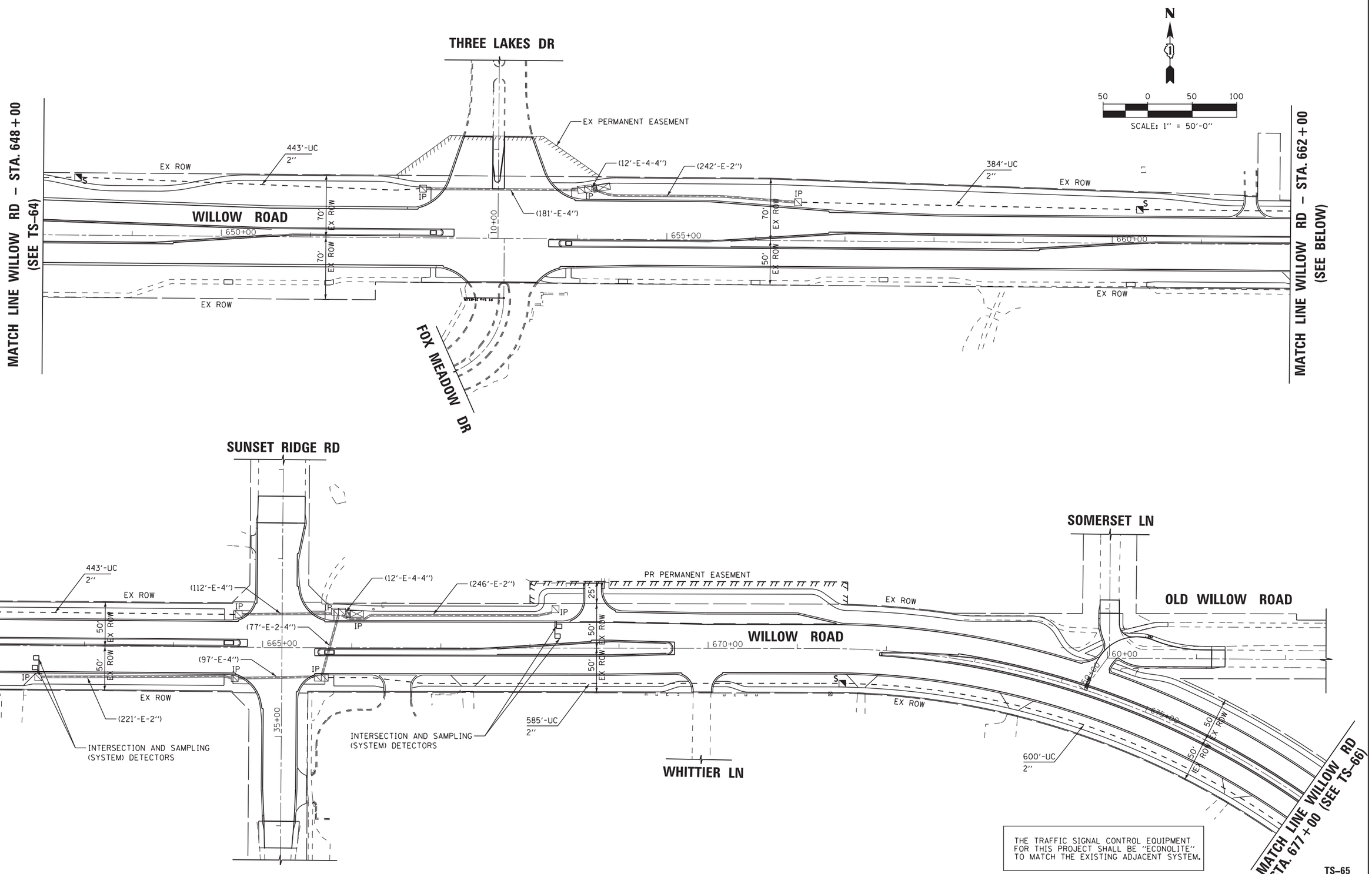

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TS-65

FILE NAME = N:\Projects3\12027\DesignCAD\Sheet Files\	USER NAME = $USER$	DESIGNED - KMM	REVISED -
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	PLOT SCALE = $SCALE$	CHECKED - JDH	REVISED -
	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN
WILLOW ROAD (WESTLEIGH DRIVE TO CENTRAL AVENUE /HAPP ROAD)

SCALE: 1"=50' | SHEET NO. 2 OF 6 SHEETS | STA. 648+00 TO STA. 677+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	413
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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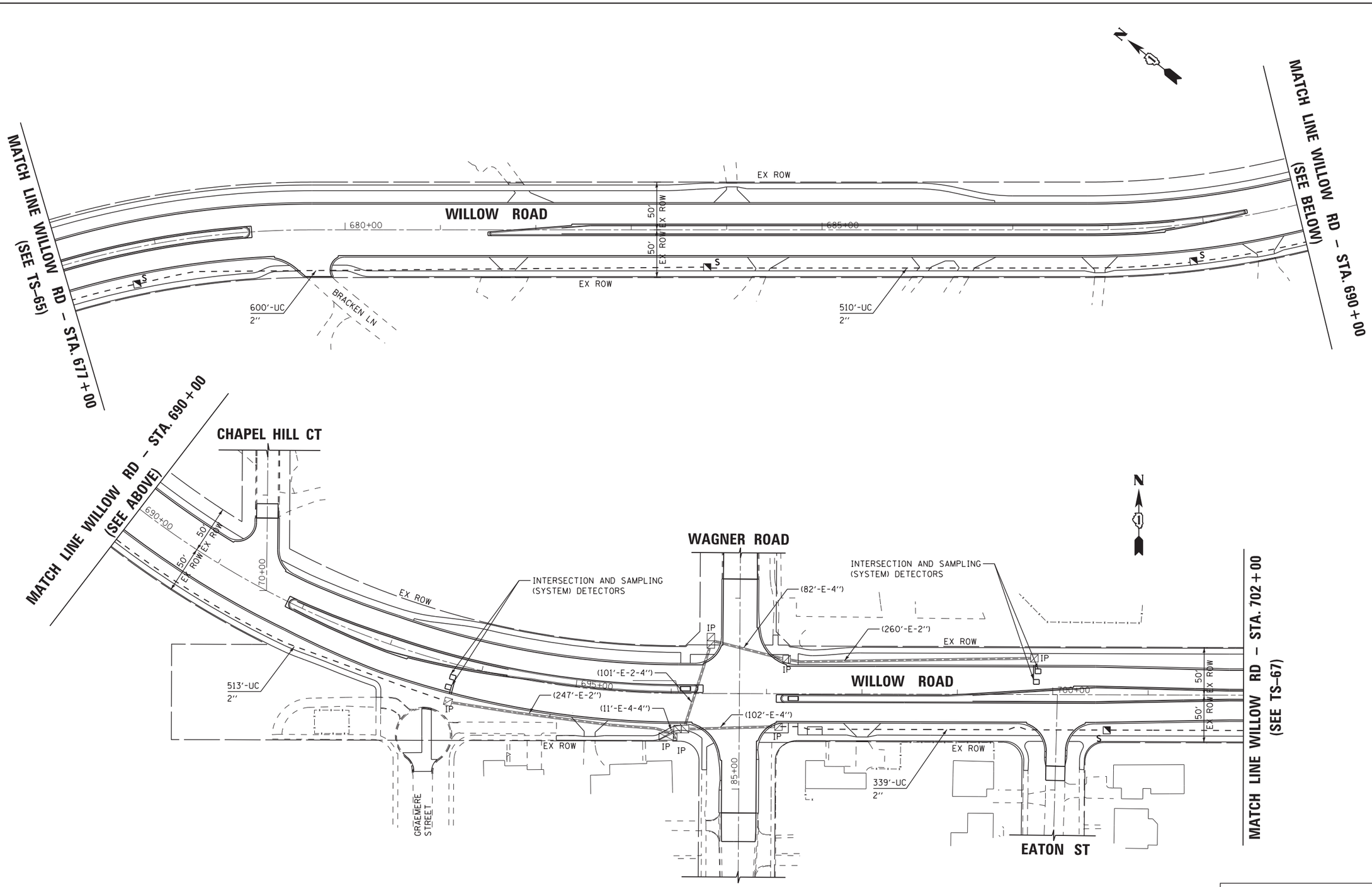

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TS–66

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	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN
WILLOW ROAD (WESTLEIGH DRIVE TO CENTRAL AVENUE /HAPP ROAD)

SCALE: 1"=50' | SHEET NO. 3 OF 6 SHEETS | STA. 677+00 TO STA. 702+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BR)	COOK	919	414
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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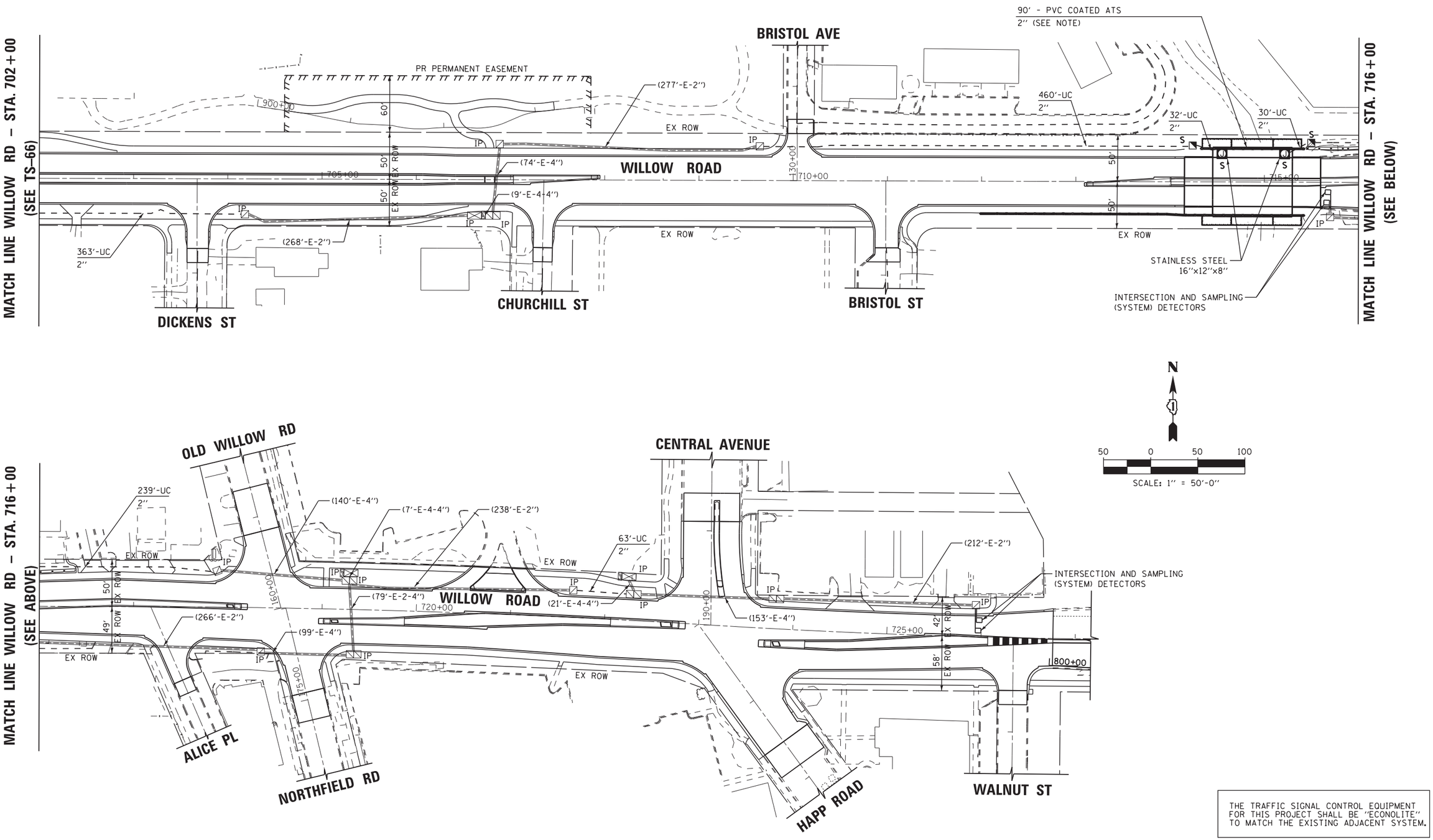
NOTE: ACCOMMODATE FOR BRIDGE EXPANSION JOINTS IN ACCORDANCE WITH SECTION 811.03(C) OF THE STANDARD SPECIFICATIONS (2 EACH)



THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TS–67

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	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN
WILLOW ROAD (WESTLEIGH DRIVE TO CENTRAL AVENUE /HAPP ROAD)

SCALE: 1"=50' | SHEET NO. 4 OF 6 SHEETS | STA. 702+00 TO STA. 727+20

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	415
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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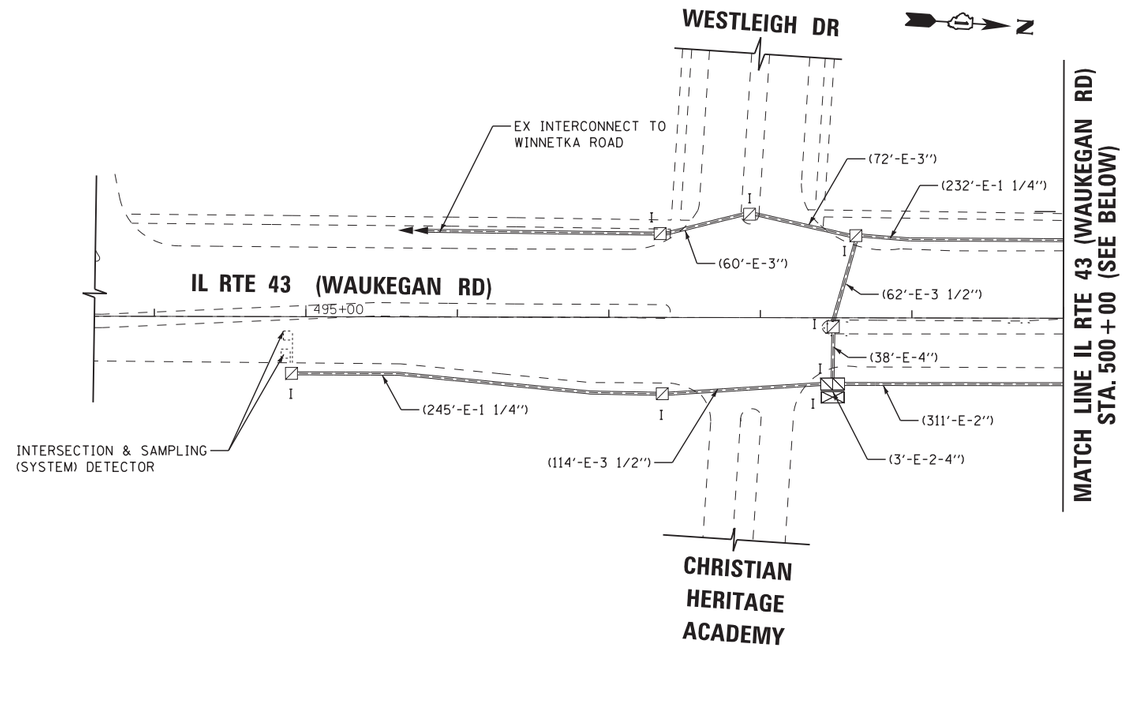

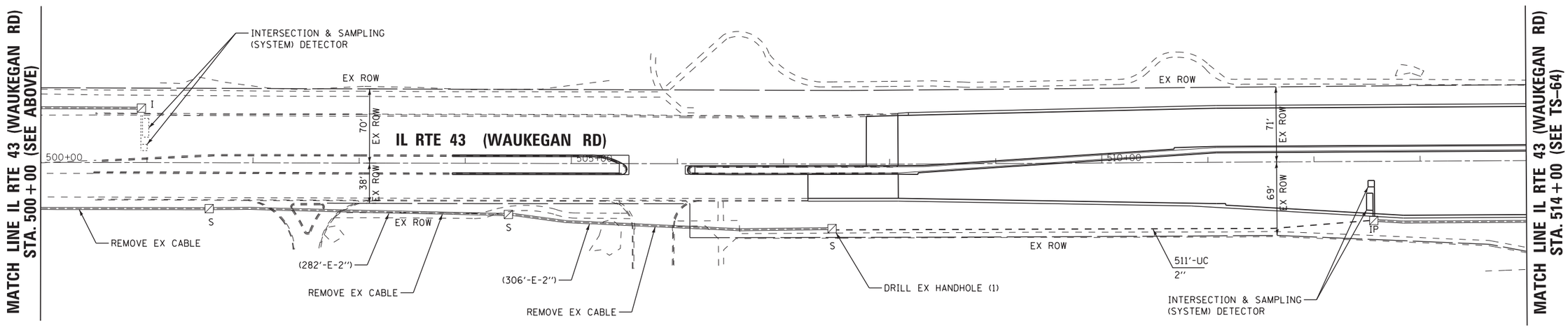

50 0 50 100
SCALE: 1" = 50'-0"

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TS-68

FILE NAME = N:\Projects3\12027\DesignCAD\Sheet Files\D160T35rwaWLint-5.dgn	USER NAME = $USER$	DESIGNED - KMM	REVISED -
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	PLOT SCALE = $SCALE$	CHECKED - JDH	REVISED -
	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN WILLOW ROAD
IL RTE 43 (WAUKEGAN RD)
(CHRISTIAN HERITAGE ACADEMY TO THREE LAKES DR)

SCALE: 1"=50' | SHEET NO. 5 OF 6 SHEETS | STA. 493+60 TO STA. 514+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BR	COOK	919	416
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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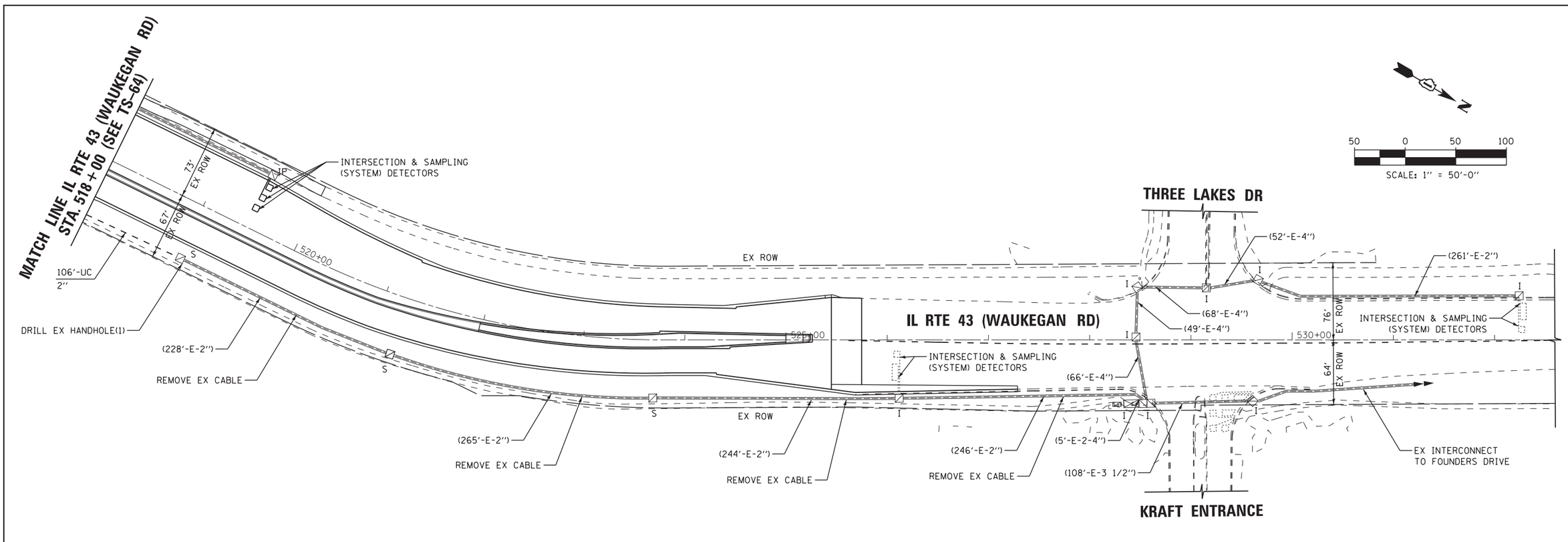

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TS–69

FILE NAME = N:\Projects3\12027\DesignCAD\Sheet Files\D160T35rwaWLint-6.dgn	USER NAME = $USER$	DESIGNED - KMM	REVISED -
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	PLOT SCALE = $SCALE$	CHECKED - JDH	REVISED -
	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN WILLOW ROAD
IL RTE 43 (WAUKEGAN RD)
(CHRISTIAN HERITAGE ACADEMY TO THREE LAKES DRIVE)

SCALE: 1"=50' | SHEET NO. 6 OF 6 SHEETS | STA. 518+00 TO STA. 532+60

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	417
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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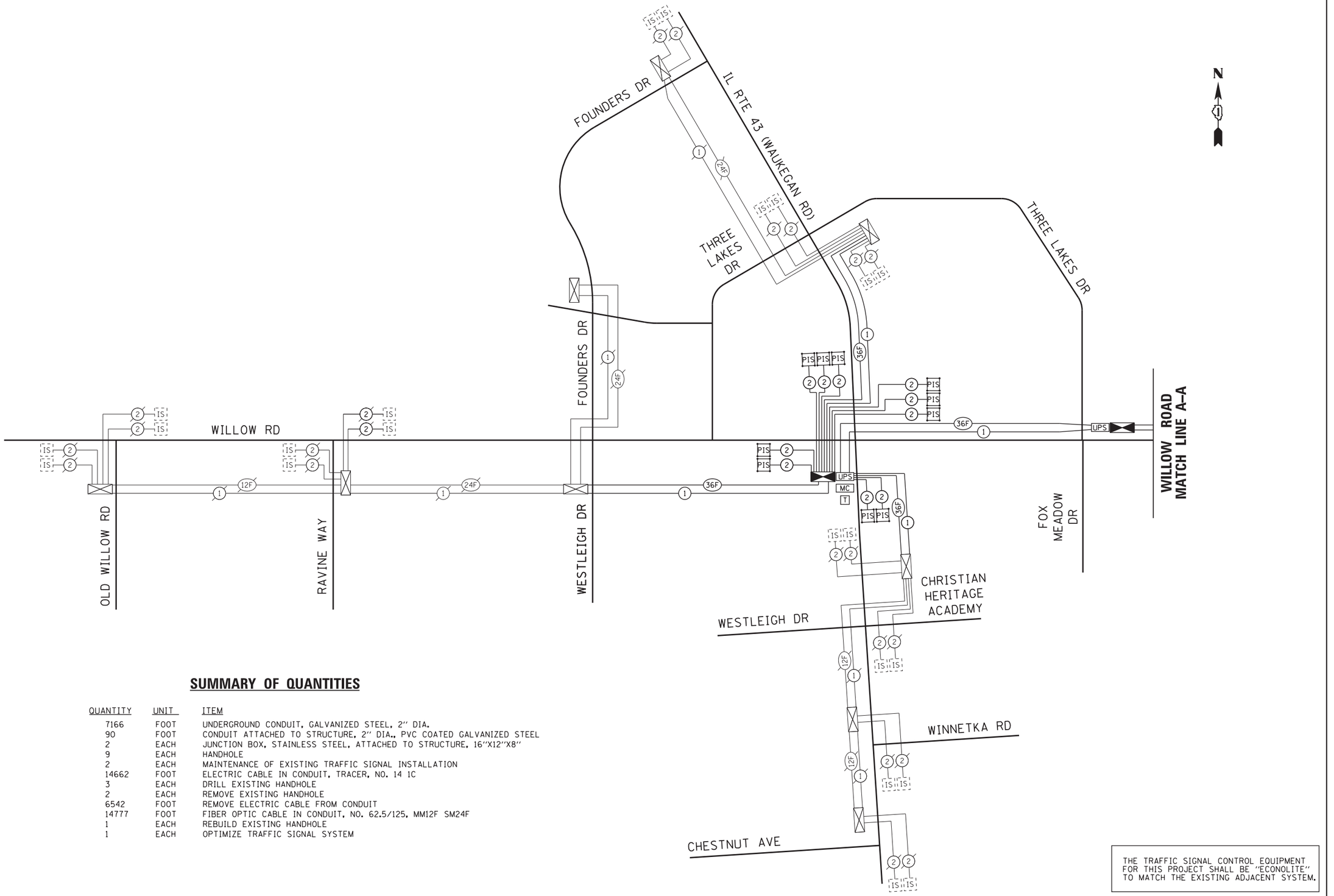

SUMMARY OF QUANTITIES

QUANTITY	UNIT	ITEM
7166	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
90	FOOT	CONDUIT ATTACHED TO STRUCTURE, 2" DIA., PVC COATED GALVANIZED STEEL
2	EACH	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 16"X12"X8"
9	EACH	HANDHOLE
2	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
14662	FOOT	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C
3	EACH	DRILL EXISTING HANDHOLE
2	EACH	REMOVE EXISTING HANDHOLE
6542	FOOT	REMOVE ELECTRIC CABLE FROM CONDUIT
14777	FOOT	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM24F
1	EACH	REBUILD EXISTING HANDHOLE
1	EACH	OPTIMIZE TRAFFIC SIGNAL SYSTEM

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TS–70

FILE NAME = N:\Projects3\12027\DesignCAD\Sheet Files\D160T35rwaWLintSCHEM-1.dgn	USER NAME = $USER$	DESIGNED - KMM	REVISED -
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	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED INTERCONNECT SCHEMATIC
WILLOW RD (OLD WILLOW RD TO CENTRAL AVE /HAPP RD)
IL RTE 43 (WAUKEGAN RD) (CHESTNUT AVE TO FOUNDERS DR)

SCALE: NONE | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	418
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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Regina Webster & Associates, Inc.
8619 W. Bryn Mawr Ave., Suite 602
Chicago, IL 60631-3551
773-283-2600 Fax: 773-283-2602
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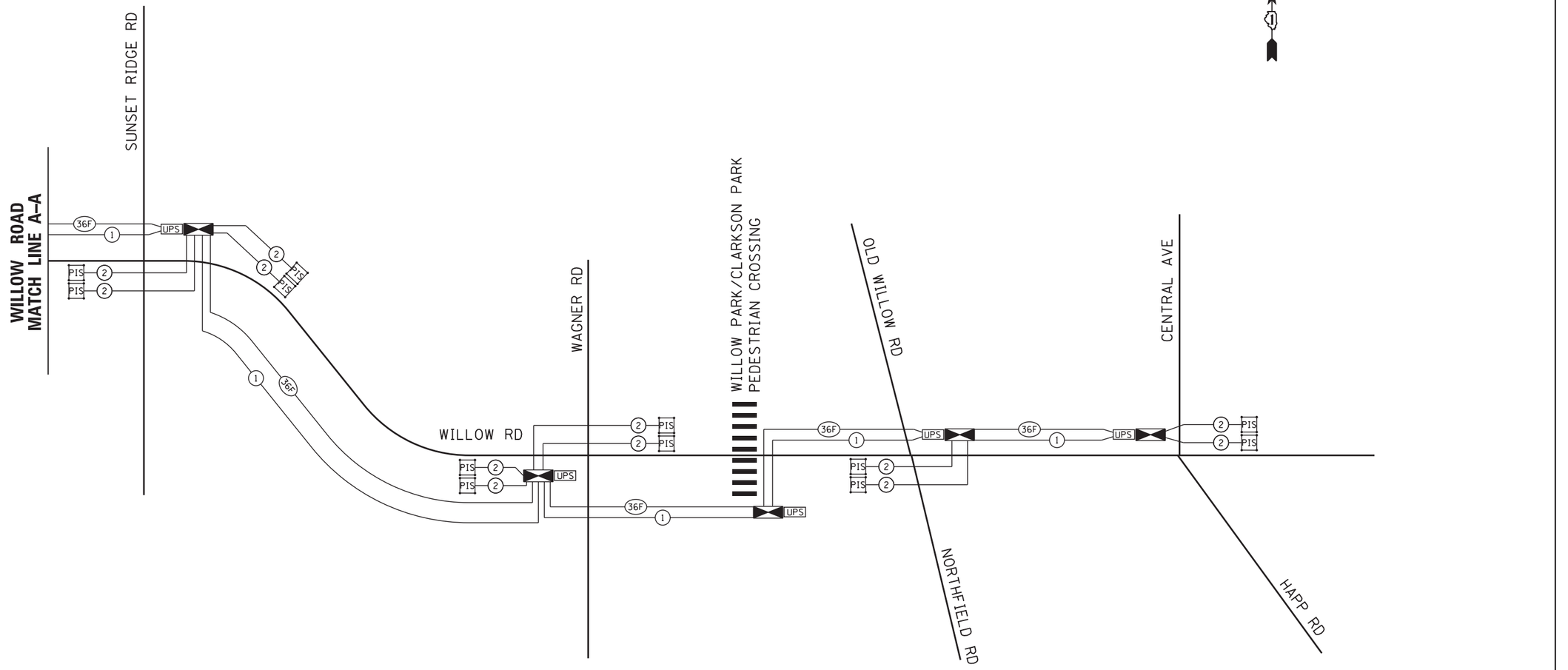

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TS-71

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		DRAWN - CDC	REVISED -
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	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED INTERCONNECT SCHEMATIC
WILLOW RD (OLD WILLOW RD TO CENTRAL AVE /HAPP RD)
IL RTE 43 (WAUKEGAN RD) (CHESTNUT AVE TO FOUNDERS DR)

SCALE: NONE | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	419
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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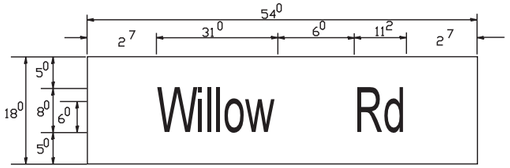
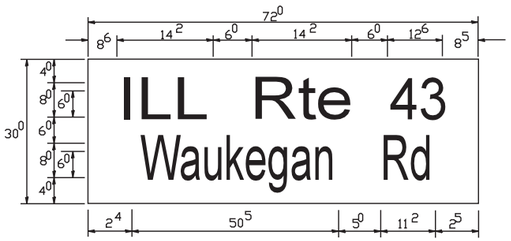
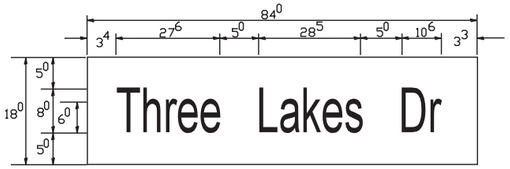
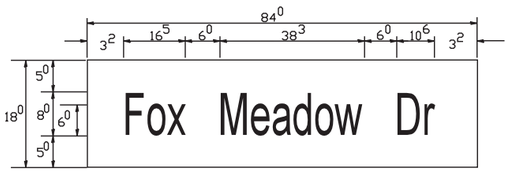
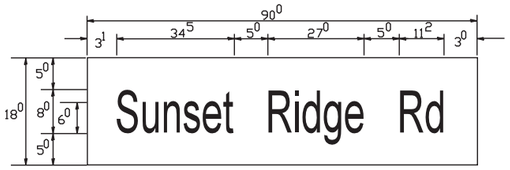
PANEL SIGN DESIGN TYPE 1 OR TYPE 2







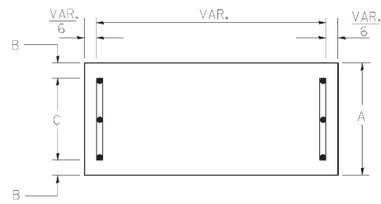




NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS

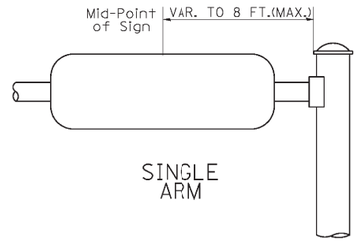
SUPPORTING CHANNELS

Sq. M. each
6.75 Sq. Ft. each
12 Required
Design Series D



A	B	C
18″	2″	14″

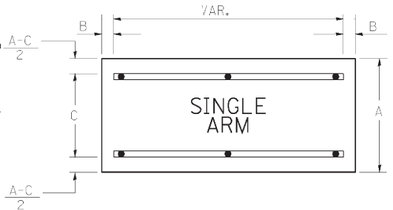
Sq. M. each
15 Sq. Ft. each
2 Required
Design Series D



Sq. M. each
10.5 Sq. Ft. each
1 Required
Design Series D

SUPPORTING CHANNELS

Sq. M. each
10.5 Sq. Ft. each
1 Required
Design Series D



A	B	C
18″	2″	12″
30″	2″	22″

GENERAL NOTES

1. 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.
2. ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
3. THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 8′-0″.
4. ALL BORDERS SHALL BE ¾″ WIDE AND CORNER RADIUS SHALL BE 2-1/4 ″.
5. SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:

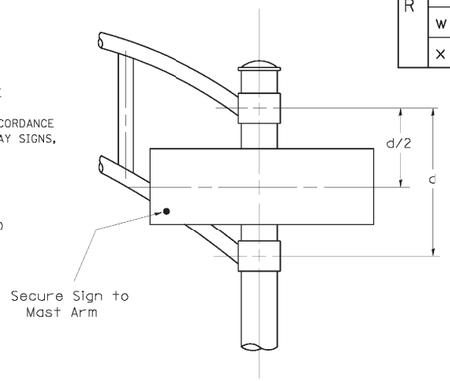
* J.O. HEREERT CO.
MIDLOTHIAN, VA.

* WESTERN REMAC INC.
WOODRIDGE, IL.

PARTS LISTING:

SIGN CHANNEL	PART #HPNO53 (MED. CHANNEL)
SIGN SCREWS	¼″ x 14 x 1″ H.W.H. #3 SELF TAPPING WITH NEOPRENE WASHER
BRACKETS	PART #HPNO34 (UNIVERSAL) CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

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



SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM shall be used. See Note #5.

Upper Case To Lower Case
Spacing Chart 8-6 Inch Series "C & D"

FIRST LETTER \ SECOND LETTER	a c d e g o q		b h i k l m n p r u		f w		j		s t		v y		x		z	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
A W X	1^{2}	1^{4}	1^{4}	1^{5}	1^{2}	1^{4}	0^{6}	1^{0}	1^{1}	1^{4}	0^{6}	1^{0}	1^{1}	1^{2}	1^{2}	1^{4}
B	1^{4}	1^{5}	2^{0}	2^{1}	1^{4}	1^{5}	1^{1}	1^{2}	1^{4}	1^{5}	1^{2}	1^{4}	1^{2}	1^{4}	1^{6}	1^{7}
C E G	1^{4}	1^{5}	2^{0}	2^{1}	1^{2}	1^{4}	0^{6}	1^{0}	1^{2}	1^{4}	1^{2}	1^{4}	1^{4}	1^{5}	1^{4}	1^{5}
D O Q R	1^{4}	1^{5}	2^{0}	2^{1}	1^{4}	1^{5}	0^{6}	1^{0}	1^{2}	1^{4}	1^{2}	1^{4}	1^{4}	1^{5}	1^{4}	1^{5}
F	0^{5}	0^{6}	1^{4}	1^{5}	0^{6}	1^{0}	0^{5}	0^{6}	0^{6}	1^{0}	0^{6}	1^{0}	0^{5}	1^{0}	1^{1}	1^{2}
H I M N	2^{0}	2^{1}	2^{2}	2^{4}	2^{0}	2^{1}	1^{4}	1^{5}	1^{6}	1^{7}	1^{6}	1^{7}	2^{0}	2^{1}	2^{0}	2^{1}
J U	2^{0}	2^{1}	2^{0}	2^{1}	1^{6}	1^{7}	1^{4}	1^{5}	1^{6}	1^{7}	1^{6}	1^{7}	1^{6}	1^{7}	2^{0}	2^{1}
K L	1^{1}	1^{2}	1^{6}	1^{7}	1^{1}	1^{2}	0^{5}	0^{6}	1^{1}	1^{2}	1^{1}	1^{2}	1^{1}	1^{2}	1^{2}	1^{4}
P	1^{2}	1^{4}	1^{4}	1^{5}	1^{2}	1^{4}	0^{5}	0^{6}	1^{1}	1^{2}	1^{1}	1^{2}	1^{2}	1^{4}	1^{2}	1^{4}
S	1^{2}	1^{4}	1^{6}	1^{7}	1^{2}	1^{4}	0^{6}	1^{0}	1^{2}	1^{4}	1^{2}	1^{4}	1^{2}	1^{4}	1^{2}	1^{4}
T	1^{1}	1^{2}	1^{6}	1^{7}	0^{6}	1^{0}	0^{6}	1^{0}	1^{1}	1^{2}	1^{1}	1^{2}	1^{1}	1^{2}	1^{2}	1^{4}
V	0^{6}	1^{0}	1^{4}	1^{5}	1^{1}	1^{2}	0^{6}	1^{0}	1^{2}	1^{4}	1^{2}	1^{4}	1^{2}	1^{4}	1^{2}	1^{4}
Y	0^{5}	0^{6}	1^{4}	1^{5}	0^{6}	1^{0}	0^{5}	0^{6}	0^{5}	0^{7}	0^{5}	0^{6}	0^{5}	1^{0}	1^{1}	1^{2}
Z	1^{6}	1^{7}	2^{2}	2^{4}	1^{6}	1^{7}	1^{2}	1^{4}	1^{6}	1^{7}	1^{6}	1^{7}	1^{6}	1^{7}	2^{0}	2^{1}

Lower Case To Lower Case
Spacing Chart 6 Inch Series "C & D"

FIRST LETTER \ SECOND LETTER	a c d e g o q		b h i k l m n p r u		f w		j		s t		v y		x		z	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
a d h g i j l m n q u	1^{6}	1^{7}	2^{2}	2^{4}	1^{6}	1^{7}	1^{2}	1^{4}	1^{4}	1^{5}	1^{4}	1^{5}	1^{6}	1^{7}	1^{6}	1^{7}
b f k o p s	1^{2}	1^{4}	1^{6}	1^{7}	1^{1}	1^{2}	0^{5}	0^{6}	1^{1}	1^{2}	1^{1}	1^{2}	1^{2}	1^{4}	1^{2}	1^{4}
c e	1^{2}	1^{4}	1^{6}	1^{7}	1^{2}	1^{4}	0^{6}	1^{0}	1^{2}	1^{4}	1^{2}	1^{4}	1^{2}	1^{4}	1^{2}	1^{4}
r	0^{6}	1^{0}	1^{2}	1^{4}	0^{6}	1^{0}	0^{3}	0^{3}	0^{5}	0^{6}	0^{5}	0^{6}	0^{5}	1^{0}	0^{6}	1^{0}
t z	1^{2}	1^{4}	1^{6}	1^{7}	1^{2}	1^{4}	0^{6}	1^{0}	1^{1}	1^{2}	1^{1}	1^{2}	1^{2}	1^{4}	1^{2}	1^{4}
v y	1^{1}	1^{2}	1^{4}	1^{5}	1^{1}	1^{2}	0^{5}	0^{6}	0^{6}	1^{0}	0^{6}	1^{0}	1^{1}	1^{2}	1^{1}	1^{2}
w	1^{1}	1^{2}	1^{4}	1^{5}	1^{1}	1^{2}	0^{5}	0^{6}	1^{1}	1^{2}	1^{1}	1^{2}	1^{1}	1^{2}	1^{2}	1^{4}
x	1^{2}	1^{4}	1^{6}	1^{7}	1^{1}	1^{2}	0^{5}	0^{6}	1^{1}	1^{2}	1^{1}	1^{2}	1^{1}	1^{2}	1^{2}	1^{4}

Number To Number
Spacing Chart 8 Inch Series "C & D"

FIRST NUMBER \ SECOND NUMBER	0		1		2		3		4		5		6		7		8		9	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
0 9	1^{6}	1^{7}	1^{6}	1^{7}	1^{4}	1^{5}	1^{2}	1^{4}	1^{4}	1^{5}	1^{4}	1^{5}	1^{6}	1^{7}	1^{2}	1^{4}	1^{6}	1^{7}	1^{6}	1^{7}
1	2^{0}	2^{1}	2^{0}	2^{1}	2^{0}	2^{1}	1^{6}	1^{7}	1^{4}	1^{5}	2^{0}	2^{1}	2^{0}	2^{1}	1^{4}	1^{5}	2^{0}	2^{1}	2^{0}	2^{1}
2 3 4	1^{4}	1^{5}	1^{4}	1^{5}	1^{4}	1^{5}	1^{2}	1^{4}	1^{2}	1^{4}	1^{4}	1^{5}	1^{4}	1^{5}	1^{1}	1^{2}	1^{6}	1^{7}	1^{4}	1^{5}
5	1^{4}	1^{5}	1^{4}	1^{5}	1^{4}	1^{5}	1^{1}	1^{2}	1^{1}	1^{2}	1^{4}	1^{5}	1^{4}	1^{5}	1^{1}	1^{2}	1^{4}	1^{5}	1^{4}	1^{5}
6	1^{6}	1^{7}	1^{4}	1^{5}	1^{4}	1^{5}	1^{2}	1^{5}	1^{2}	1^{4}	1^{4}	1^{5}	1^{4}	1^{5}	1^{1}	1^{2}	1^{4}	1^{5}	1^{4}	1^{5}
7	1^{2}	1^{4}	1^{2}	1^{4}	1^{4}	1^{5}	1^{2}	1^{5}	0^{5}	0^{6}	1^{2}	1^{4}	1^{4}	1^{5}	1^{1}	1^{2}	1^{4}	1^{5}	1^{2}	1^{4}
8	1^{6}	1^{7}	1^{6}	1^{7}	1^{4}	1^{5}	1^{2}	1^{5}	1^{2}	1^{4}	1^{4}	1^{5}	1^{6}	1^{7}	1^{2}	1^{4}	1^{6}	1^{7}	1^{4}	1^{5}

EXAMPLE, $2^{\textcircled{3}}$ DENOTES $\frac{3''}{8}$

UPPER AND LOWER CASE LETTER WIDTHS

LETTERS	6 INCH UPPER CASE LETTERS SERIES C	6 INCH UPPER CASE LETTERS SERIES D	8 INCH UPPER CASE LETTERS SERIES C	8 INCH UPPER CASE LETTERS SERIES D	LETTERS	6 INCH LOWER CASE LETTERS SERIES C	6 INCH LOWER CASE LETTERS SERIES D
A	3^{6}	5^{0}	5^{0}	6^{5}	a	3^{5}	4^{2}
B	3^{2}	4^{0}	4^{3}	5^{3}	b	3^{5}	4^{2}
C	3^{2}	4^{0}	4^{3}	5^{3}	c	3^{5}	4^{1}
D	3^{2}	4^{0}	4^{3}	5^{3}	d	3^{5}	4^{2}
E	3^{0}	3^{5}	4^{0}	4^{7}	e	3^{5}	4^{2}
F	3^{0}	3^{5}	4^{0}	4^{7}	f	2^{3}	2^{6}
G	3^{2}	4^{0}	4^{3}	5^{3}	g	3^{5}	4^{2}
H	3^{2}	4^{0}	4^{3}	5^{3}	h	3^{5}	4^{2}
I	0^{7}	0^{7}	1^{1}	1^{2}	i	1^{1}	1^{1}
J	3^{0}	3^{6}	4^{0}	5^{0}	j	2^{0}	2^{2}
K	3^{2}	4^{1}	4^{3}	5^{4}	k	3^{5}	4^{2}
L	3^{0}	3^{5}	4^{0}	4^{7}	l	1^{1}	1^{1}
M	3^{7}	4^{5}	5^{1}	6^{1}	m	6^{0}	7^{0}
N	3^{2}	4^{0}	4^{3}	5^{3}	n	3^{5}	4^{2}
O	3^{4}	4^{2}	4^{5}	5^{5}	o	3^{6}	4^{3}
P	3^{2}	4^{0}	4^{3}	5^{3}	p	3^{5}	4^{2}
Q	3^{4}	4^{2}	4^{5}	5^{5}	q	3^{5}	4^{2}
R	3^{2}	4^{0}	4^{3}	5^{3}	r	2^{6}	3^{2}
S	3^{2}	4^{0}	4^{3}	5^{3}	s	3^{6}	4^{2}
T	3^{0}	3^{5}	4^{0}	4^{7}	t	2^{7}	3^{2}
U	3^{2}	4^{0}	4^{3}	5^{3}	u	3^{5}	4^{2}
V	3^{5}	4^{4}	4^{7}	6^{0}	v	4^{2}	4^{7}
W	4^{4}	5^{2}	6^{0}	7^{0}	w	5^{5}	6^{4}
X	3^{4}	4^{0}	4^{5}	5^{3}	x	4^{4}	5^{1}
Y	3^{6}	5^{0}	5^{0}	6^{6}	y	4^{6}	5^{3}
Z	3^{2}	4^{0}	4^{3}	5^{3}	z	3^{6}	4^{3}

NUMBER	6 INCH SERIES C	6 INCH SERIES D	8 INCH SERIES C	8 INCH SERIES D
1	1^{2}	1^{4}	1^{5}	2^{0}
2	3^{2}	4^{0}	4^{3}	5^{3}
3	3^{2}	4^{0}	4^{3}	5^{3}
4	3^{5}	4^{3}	4^{7}	5^{7}
5	3^{2}	4^{0}	4^{3}	5^{3}
6	3^{2}	4^{0}	4^{3}	5^{3}
7	3^{2}	4^{0}	4^{3}	5^{3}
8	3^{2}	4^{0}	4^{3}	5^{3}
9	3^{2}	4^{0}	4^{3}	5^{3}
0	3^{4}	4^{2}	4^{5}	5^{5}

TS–72

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	PLOT DATE = 10/30/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAST ARM MOUNTED STREET NAME SIGNS

SCALE: N.T.S. | SHEET NO. 28 OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BIR	COOK	919	420
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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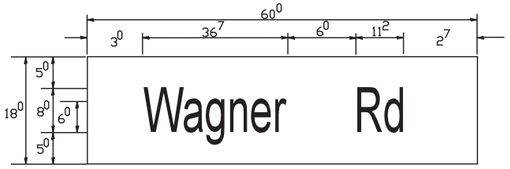
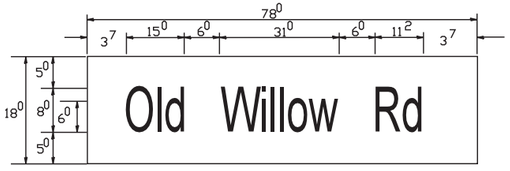
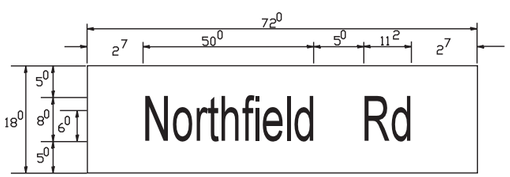
PANEL SIGN DESIGN TYPE 1 OR TYPE 2



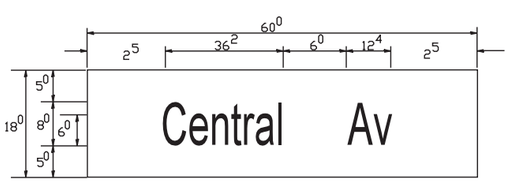
___ Sq. M. each
7.5 Sq. Ft. each
2 Required
Design Series D



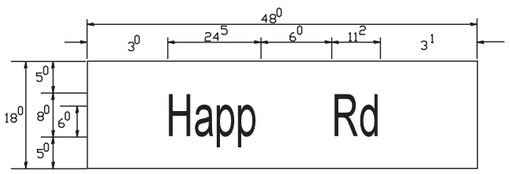
___ Sq. M. each
9.75 Sq. Ft. each
1 Required
Design Series D



___ Sq. M. each
9 Sq. Ft. each
1 Required
Design Series D



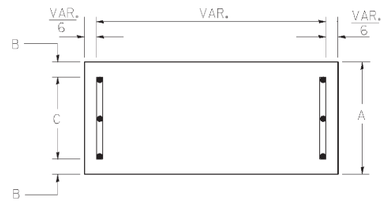
___ Sq. M. each
7.5 Sq. Ft. each
1 Required
Design Series D



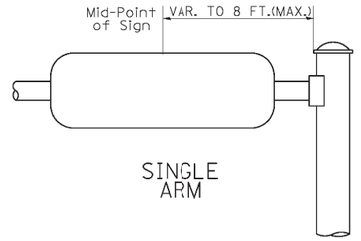
___ Sq. M. each
6 Sq. Ft. each
1 Required
Design Series D

NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS

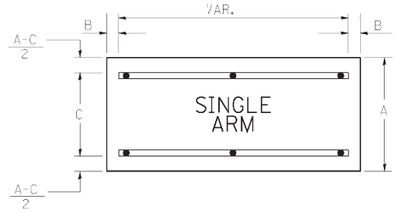
SUPPORTING CHANNELS



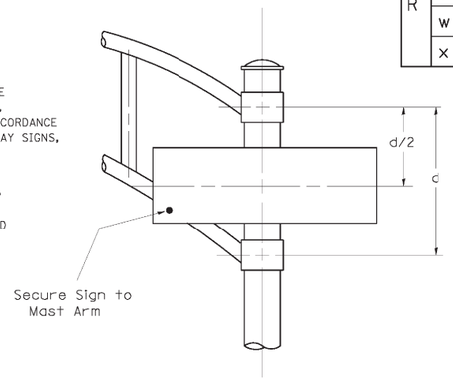
A	B	C
18″	2″	14″



SUPPORTING CHANNELS



A	B	C
18″	2″	12″
30″	2″	22″



SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM shall be used. See Note #5.

GENERAL NOTES

1. 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.
2. ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
3. THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 8′-0″.
4. ALL BORDERS SHALL BE ¾″ WIDE AND CORNER RADIUS SHALL BE 2-1/4 ″.
5. SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:

* J.O. HEREERT CO. MIDLOTHIAN, VA.
* WESTERN REMAC INC. WOODRIDGE, IL.

PARTS LISTING:

SIGN CHANNEL — PART #HPN053 (MED. CHANNEL)
SIGN SCREWS — ¼″ x 14 x 1″ H.W.H. #3 SELF TAPPING WITH NEOPRENE WASHER
BRACKETS — PART #HPN034 (UNIVERSAL) CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

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

Upper Case To Lower Case
Spacing Chart 8-6 Inch Series "C & D"

FIRST LETTER \ SECOND LETTER	a c d e g o q		b h i k l m n p r u		f w		j		s t		v y		x		z	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
A W X	1^2	1^4	1^4	1^5	1^2	1^4	0^6	1^0	1^1	1^4	0^6	1^0	1^1	1^2	1^2	1^4
B	1^4	1^5	2^0	2^1	1^4	1^5	1^1	1^2	1^4	1^5	1^2	1^4	1^2	1^4	1^6	1^7
C E G	1^4	1^5	2^0	2^1	1^2	1^4	0^6	1^0	1^2	1^4	1^2	1^4	1^4	1^5	1^4	1^5
D O Q R	1^4	1^5	2^0	2^1	1^4	1^5	0^6	1^0	1^2	1^4	1^2	1^4	1^4	1^5	1^4	1^5
F	0^5	0^6	1^4	1^5	0^6	1^0	0^5	0^6	0^6	1^0	0^6	1^0	0^5	1^0	1^1	1^2
H I M N	2^0	2^1	2^2	2^4	2^0	2^1	1^4	1^5	1^6	1^7	1^6	1^7	2^0	2^1	2^0	2^1
J U	2^0	2^1	2^0	2^1	1^6	1^7	1^4	1^5	1^6	1^7	1^6	1^7	1^6	1^7	2^0	2^1
K L	1^1	1^2	1^6	1^7	1^1	1^2	0^5	0^6	1^1	1^2	1^1	1^2	1^1	1^2	1^2	1^4
P	1^2	1^4	1^4	1^5	1^2	1^4	0^5	0^6	1^1	1^2	1^1	1^2	1^2	1^4	1^2	1^4
S	1^2	1^4	1^6	1^7	1^2	1^4	0^6	1^0	1^2	1^4	1^2	1^4	1^2	1^4	1^2	1^4
T	1^1	1^2	1^6	1^7	0^6	1^0	0^6	1^0	1^1	1^2	1^1	1^2	1^1	1^2	1^2	1^4
V	0^6	1^0	1^4	1^5	1^1	1^2	0^6	1^0	1^2	1^4	1^2	1^4	1^2	1^4	1^2	1^4
Y	0^5	0^6	1^4	1^5	0^6	1^0	0^5	0^6	0^5	0^7	0^5	0^6	0^5	1^0	1^1	1^2
Z	1^6	1^7	2^2	2^4	1^6	1^7	1^2	1^4	1^6	1^7	1^6	1^7	1^6	1^7	2^0	2^1

Lower Case To Lower Case
Spacing Chart 6 Inch Series "C & D"

FIRST LETTER \ SECOND LETTER	a c d e g o q		b h i k l m n p r u		f w		j		s t		v y		x		z	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
a d h g i j l m n q u	1^6	1^7	2^2	2^4	1^6	1^7	1^2	1^4	1^4	1^5	1^4	1^5	1^6	1^7	1^6	1^7
b f k o p s	1^2	1^4	1^6	1^7	1^1	1^2	0^5	0^6	1^1	1^2	1^1	1^2	1^2	1^4	1^2	1^4
c e	1^2	1^4	1^6	1^7	1^2	1^4	0^6	1^0	1^2	1^4	1^2	1^4	1^2	1^4	1^2	1^4
r	0^6	1^0	1^2	1^4	0^6	1^0	0^3	0^3	0^5	0^6	0^5	0^6	0^5	1^0	0^6	1^0
t z	1^2	1^4	1^6	1^7	1^2	1^4	0^6	1^0	1^1	1^2	1^1	1^2	1^2	1^4	1^2	1^4
v y	1^1	1^2	1^4	1^5	1^1	1^2	0^5	0^6	0^6	1^0	0^6	1^0	1^1	1^2	1^1	1^2
w	1^1	1^2	1^4	1^5	1^1	1^2	0^5	0^6	1^1	1^2	1^1	1^2	1^1	1^2	1^2	1^4
x	1^2	1^4	1^6	1^7	1^1	1^2	0^5	0^6	1^1	1^2	1^1	1^2	1^1	1^2	1^2	1^4

Number To Number
Spacing Chart 8 Inch Series "C & D"

FIRST NUMBER \ SECOND NUMBER	0		1		2		3		4		5		6		7		8		9	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
0 9	1^6	1^7	1^6	1^7	1^4	1^5	1^2	1^4	1^4	1^5	1^4	1^5	1^6	1^7	1^2	1^4	1^6	1^7	1^6	1^7
1	2^0	2^1	2^0	2^1	2^0	2^1	1^6	1^7	1^4	1^5	2^0	2^1	2^0	2^1	1^4	1^5	2^0	2^1	2^0	2^1
2 3 4	1^4	1^5	1^4	1^5	1^4	1^5	1^2	1^4	1^2	1^4	1^4	1^5	1^4	1^5	1^1	1^2	1^6	1^7	1^4	1^5
5	1^4	1^5	1^4	1^5	1^4	1^5	1^1	1^2	1^1	1^2	1^4	1^5	1^4	1^5	1^1	1^2	1^4	1^5	1^4	1^5
6	1^6	1^7	1^4	1^5	1^4	1^5	1^2	1^5	1^2	1^4	1^4	1^5	1^4	1^5	1^1	1^2	1^4	1^5	1^4	1^5
7	1^2	1^4	1^2	1^4	1^4	1^5	1^2	1^5	0^5	0^6	1^2	1^4	1^4	1^5	1^1	1^2	1^4	1^5	1^2	1^4
8	1^6	1^7	1^6	1^7	1^4	1^5	1^2	1^5	1^2	1^4	1^4	1^5	1^6	1^7	1^2	1^4	1^6	1^7	1^4	1^5

EXAMPLE, $2\overset{3}{\frown}$ DENOTES $\frac{3}{8}$″

UPPER AND LOWER CASE LETTER WIDTHS

LETTERS	6 INCH UPPER CASE LETTERS SERIES C	6 INCH UPPER CASE LETTERS SERIES D	8 INCH UPPER CASE LETTERS SERIES C	8 INCH UPPER CASE LETTERS SERIES D	LETTERS	6 INCH LOWER CASE LETTERS SERIES C	6 INCH LOWER CASE LETTERS SERIES D
A	3^6	5^0	5^0	6^5	a	3^5	4^2
B	3^2	4^0	4^3	5^3	b	3^5	4^2
C	3^2	4^0	4^3	5^3	c	3^5	4^1
D	3^2	4^0	4^3	5^3	d	3^5	4^2
E	3^0	3^5	4^0	4^7	e	3^5	4^2
F	3^0	3^5	4^0	4^7	f	2^3	2^6
G	3^2	4^0	4^3	5^3	g	3^5	4^2
H	3^2	4^0	4^3	5^3	h	3^5	4^2
I	0^7	0^7	1^1	1^2	i	1^1	1^1
J	3^0	3^6	4^0	5^0	j	2^0	2^2
K	3^2	4^1	4^3	5^4	k	3^5	4^2
L	3^0	3^5	4^0	4^7	l	1^1	1^1
M	3^7	4^5	5^1	6^1	m	6^0	7^0
N	3^2	4^0	4^3	5^3	n	3^5	4^2
O	3^4	4^2	4^5	5^5	o	3^6	4^3
P	3^2	4^0	4^3	5^3	p	3^5	4^2
Q	3^4	4^2	4^5	5^5	q	3^5	4^2
R	3^2	4^0	4^3	5^3	r	2^6	3^2
S	3^2	4^0	4^3	5^3	s	3^6	4^2
T	3^0	3^5	4^0	4^7	t	2^7	3^2
U	3^2	4^0	4^3	5^3	u	3^5	4^2
V	3^5	4^4	4^7	6^0	v	4^2	4^7
W	4^4	5^2	6^0	7^0	w	5^5	6^4
X	3^4	4^0	4^5	5^3	x	4^4	5^1
Y	3^6	5^0	5^0	6^6	y	4^6	5^3
Z	3^2	4^0	4^3	5^3	z	3^6	4^3

NUMBER	6 INCH SERIES C	6 INCH SERIES D	8 INCH SERIES C	8 INCH SERIES D
1	1^2	1^4	1^5	2^0
2	3^2	4^0	4^3	5^3
3	3^2	4^0	4^3	5^3
4	3^5	4^3	4^7	5^7
5	3^2	4^0	4^3	5^3
6	3^2	4^0	4^3	5^3
7	3^2	4^0	4^3	5^3
8	3^2	4^0	4^3	5^3
9	3^2	4^0	4^3	5^3
0	3^4	4^2	4^5	5^5

TS-73

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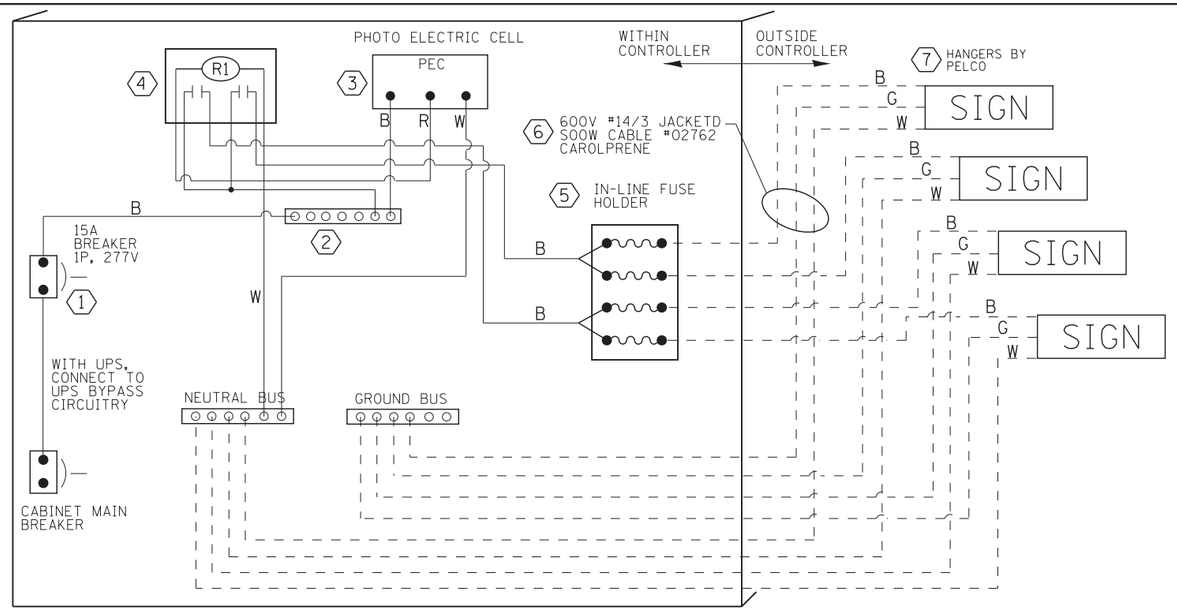
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAST ARM MOUNTED STREET NAME SIGNS

SCALE: N.T.S. | SHEET NO. 28 OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920, .01, 1518, 2022 & 1922, 4BR	COOK	919	421
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

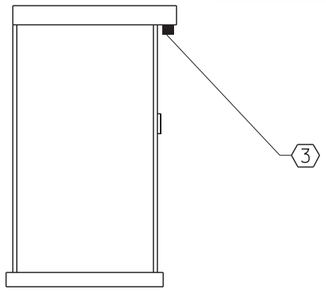
CIVIL ENGINEERING CONSULTANTS
RWA
Regina Webster & Associates, Inc.
8619 W. Bryn Mawr Ave., Suite 602
Chicago, IL 60631-3551
773-283-2600 Fax: 773-283-2602
www.RWAengineers.com



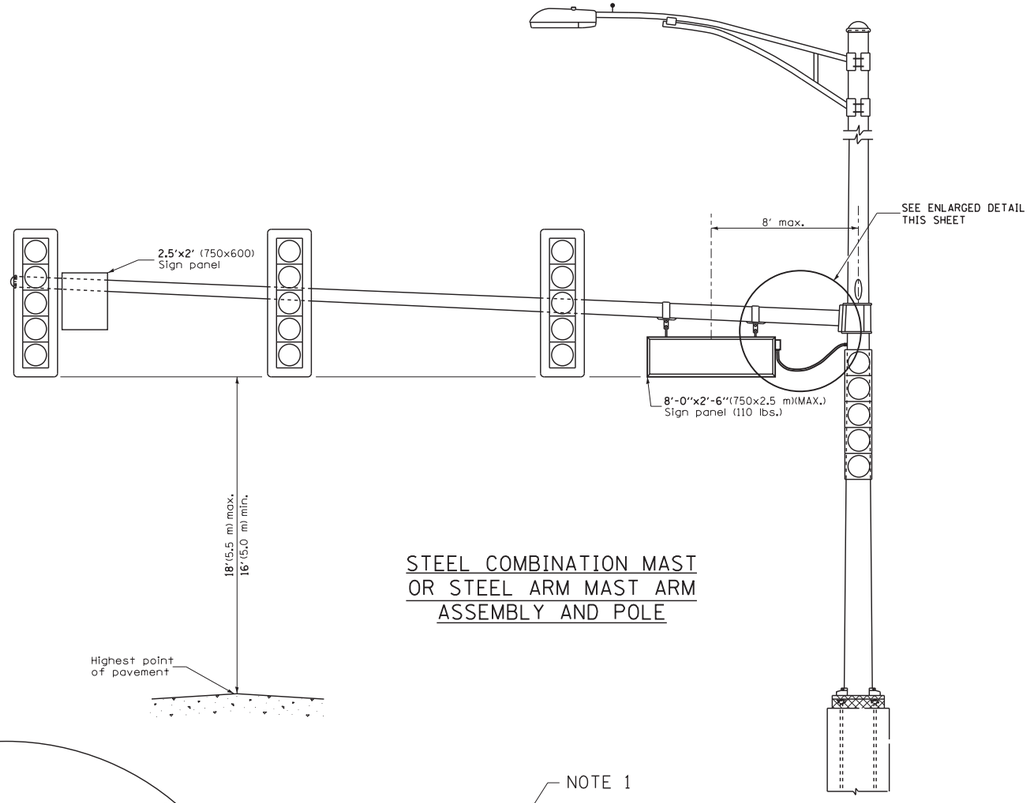
LED SIGN WIRING DETAIL

DESCRIPTION	MANUFACTURER	MODEL	NOTES
1 CIRCUIT BREAKER		15 AMPERE	Molded case, Thermal Mag. min. R.I. of 14K R.M.S. symmetrical ampere at 277V.
2 TERMINAL BLOCK	MARATHON	1502 DJSV	
3 PHOTO ELECTRIC CONTROL	FISHER PIERCE	B124-1.5-07762	
4 CONTROL RELAY	SQUARE D	8501X020V02	BOLT ON W/SCREW TERMINAL
5 INLINE FUSE HOLDER WITH 5 AMP FUSE	BUSSMAN	S-8000 BK/S-8-3-4-R	
6 ELECTRIC CABLE, NO. 14, 3/C, TYPE SOOW (BLACK, WHITE, GREEN)	CAROLPRENE/SOOW	02762	
7 SIGN MOUNTING HARDWARE	PELCO	SE-5015	S.S. HARDWARE

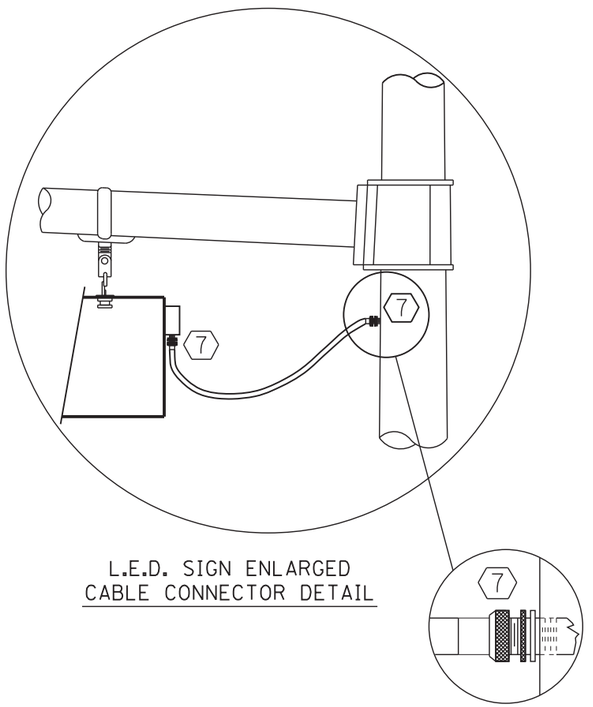
BILL OF MATERIALS



CONTROLLER CABINET
SIDE VIEW



STEEL COMBINATION MAST OR STEEL ARM MAST ARM ASSEMBLY AND POLE



L.E.D. SIGN ENLARGED CABLE CONNECTOR DETAIL

L.E.D. SIGN ENLARGED CABLE CONNECTOR DETAIL

LED ILLUMINATED SIGN PANEL

8'0 x 2'6" (750 mm x 2.5 mm)(MAX)
C or D FONT

NOTES:

1. SIGNS SHALL BE DUAL SIDED. FRONT AND BACK OF SIGN WILL BE THE SAME.
2. SIGNS SHALL NOT BE ENERGIZED WHEN TRAFFIC SIGNALS ARE POWERED BY THE UPS. THE SIGNS SHALL BE CONNECTED TO THE UPS BYPASS CIRCUITRY.
3. ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED:
   R = RED BL = BLUE W = WHITE
   B = BLACK Y = YELLOW G = GREEN
4. ALL 120 VOLT SYSTEM AND ALL CONTROL WIRING SHALL BE #12AWG STRANDED UNLESS OTHERWISE INDICATED.
5. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
6. ALL STREET NAME SIGNS WILL BE ILLUMINATED EXCEPT THE SIGNS AT THE WILLOW ROAD AT IL RTE 43 INTERSECTION.

TS-74

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	PLOT DATE = 10/30/2012	CHECKED - JDH	REVISED -					CONTRACT NO. 60T35		
		DATE - 10/31/2012	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT		

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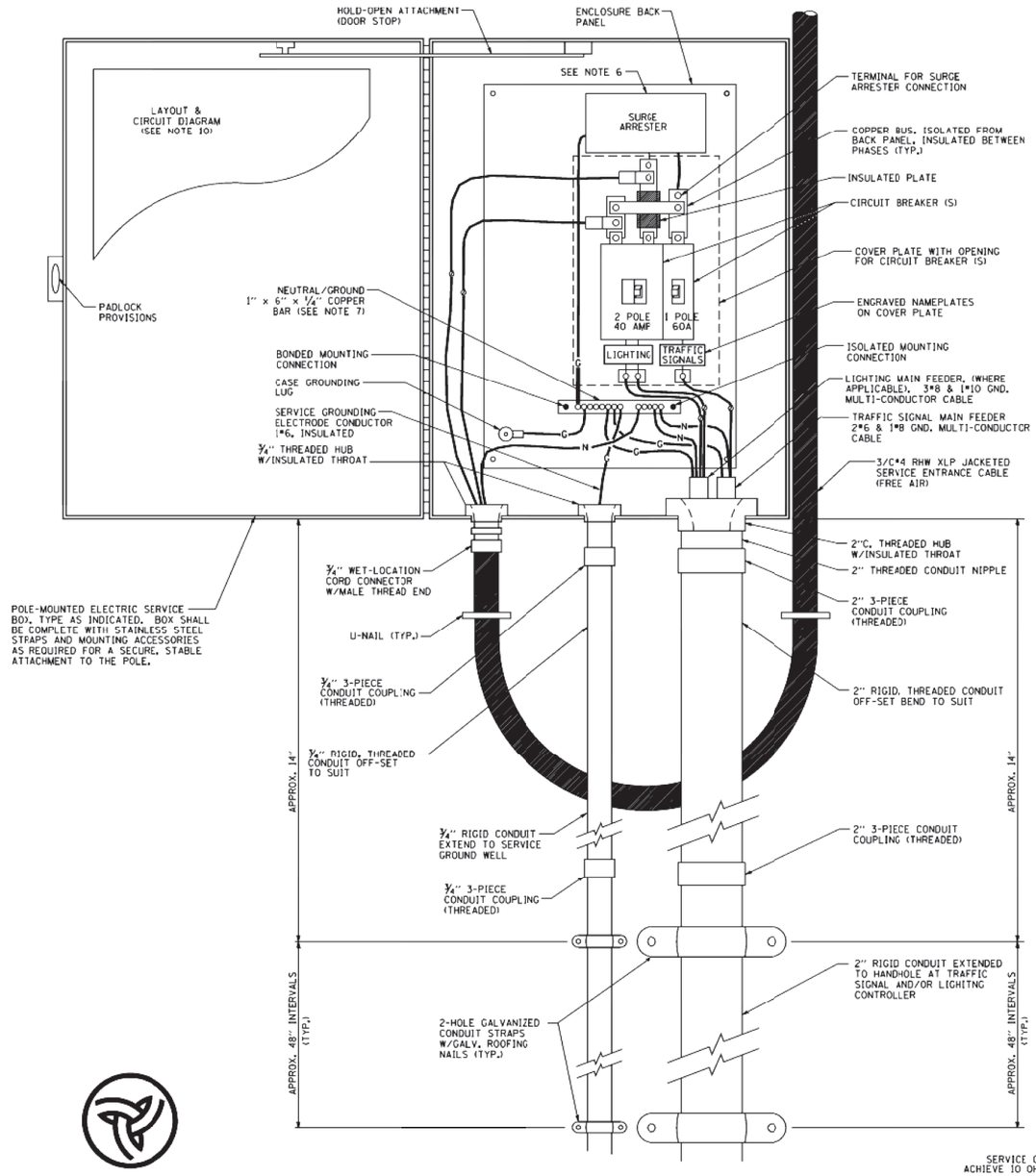
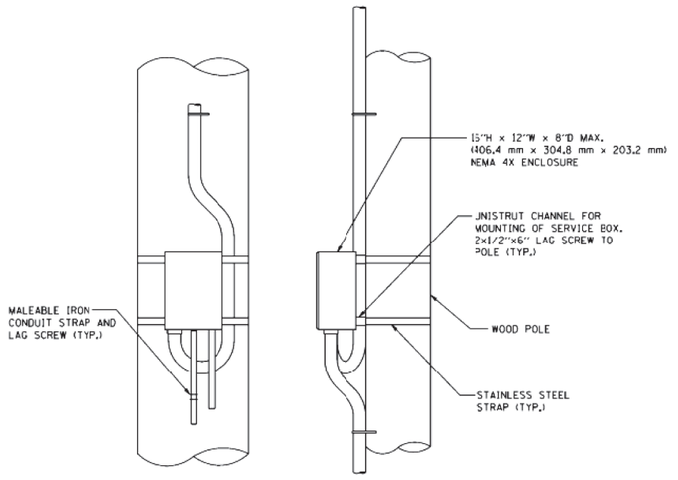
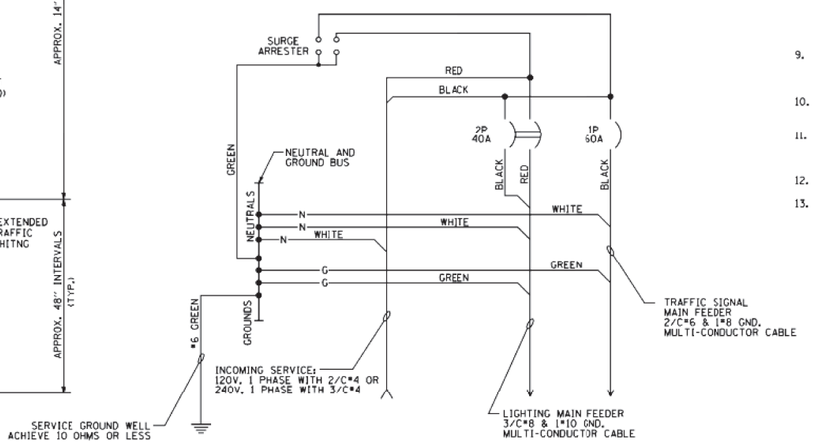


POLE-MOUNTED ELECTRIC SERVICE ENTRANCE
GENERAL LAYOUT DIAGRAM



DISCONNECT MOUNTING DETAIL
N.T.S.



SCHEMATIC DIAGRAM

NOTES:

1. ELECTRIC SERVICE SHALL BE OF THE VOLTAGE INDICATED OR DESIGNATED BY THE ENGINEER, AND SERVICE DROP CABLE SHALL BE COMPATIBLE WITH THE SERVICE ACCORDINGLY. SOME INSTALLATIONS MAY CALL FOR SERVICE ENTRANCE EQUIPMENT SUITABLE FOR 3-WIRE SERVICE EVEN THOUGH INITIALLY WIRED FOR 2-WIRE SERVICE.
2. THE POLE-MOUNTED ELECTRIC SERVICE BOX DETAIL DEPICTS THE BASIC CONSTRUCTION OF THE EQUIPMENT. SLIGHT MODIFICATIONS APPLY FOR DIFFERING SERVICES AND APPLICATIONS AS FOLLOWS:
   - TYPE A — FULLY EQUIPPED FOR 240/120V. 3W SERVICE, COMPLETE WITH LIGHTING MAIN BREAKER
   - TYPE A1 — FULLY EQUIPPED FOR 240/120V. 3W SERVICE, BLANK COVER IN LIEU OF LIGHTING MAIN BREAKER
   - TYPE B — EQUIPPED FOR 120V. SERVICE, COMPLETE WITH IP, 60A. TRAFFIC SIGNALS MAIN BREAKER
   - TYPE B1 — EQUIPPED FOR 120V. SERVICE, COMPLETE WITH IP, 40A. TRAFFIC SURVEILLANCE MAIN BREAKER
3. THE ELECTRIC SERVICE EQUIPMENT ASSEMBLY SHALL BE UL LISTED AS SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT.
4. THE ELECTRIC SERVICE EQUIPMENT ENCLOSURE SHALL BE NEMA 4X STAINLESS STEEL, NOMINALLY 12"W X 16"H X 8"D, WITH A PIANO-HINGED DOOR, STEEL BACK PANEL, FAST-ACTING STAINLESS STEEL ENCLOSURE CLAMPS, PADLOCK PROVISIONS AND DOOR STOP, HOFFMAN CATALOG NO. A-16H120BSSSLP/A-16 P12/A-DSTOPK/C-PMK12, OR APPROVED EQUAL.
5. CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC BOLT-ON TYPE WITH A MINIMUM INTERRUPTING CAPACITY OF 25,000 SYMMETRICAL AMPERES AT 240 VOLTS. THEY SHALL BE LOCKABLE IN THE "OFF" POSITION FOR COMPLIANCE WITH OSHA LOCK-OUT/ TAG OUT REQUIREMENTS. HANDLES SHALL BE TRIP FREE.
6. THE SURGE PROTECTOR SHALL BE SUITABLE FOR 240/120 VOLT SINGLE PHASE 60HZ AC ELECTRICAL SERVICE, WITH A SURGE ENERGY CAPABILITY OF 2160 JOULES OR BETTER AT 8/20 MICRO-SECONDS, RATED -40 TO 60 DEGREES C., WITH LED OPERATING INDICATORS, AND SHALL BE UL LISTED PER UL 1449, CUTLER-HAMMER CMOV230L065XST OR APPROVED EQUAL.
7. BUS BARS, CONNECTORS, AND LUGS SHALL BE COPPER, INSULATED AND ISOLATED, AND CONFIGURED TO PREVENT SHORTED CONDITIONS FROM TIGHTENING TERMINATIONS, ETC. THE OVERALL BUS SECTION SHALL BE CONFIGURED BEHIND AN INSULATING BARRIER SHIELD WHICH IS REMOVABLE FOR ACCESS TO CONNECTIONS, OR THE ASSEMBLY SHALL BE A MANUFACTURED SPECIALTY PANELBOARD, CUTLER-HAMMER PRL2A OR APPROVED EQUAL.
8. THE COMBINATION GROUND AND NEUTRAL BAR SHALL BE CONFIGURED WITH SEPARATE GROUND AND NEUTRAL SECTIONS AND SPARE TERMINALS AS INDICATED. THE HEADS OF GROUND SCREWS SHALL BE PAINTED GREEN. THE HEADS OF NEUTRAL SCREWS SHALL BE PAINTED WHITE. THE SERVICE NEUTRAL AND SERVICE GROUNDING ELECTRODE CONDUCTOR SHALL BE TERMINATED ADJACENT TO EACH OTHER AT THE DIVIDE BETWEEN THE SECTIONS AND WIRING SHALL BE TERMINATED ONLY UPON THE APPROPRIATE SECTION.
9. THE WIRING TERMINALS, INCLUDING THE GROUND/NEUTRAL BAR SHALL BE ARRANGED TO PROVIDE ADEQUATE ROOM FOR PERFORMING FIELD TERMINATIONS.
10. A PLASTIC LAMINATED LAYOUT AND CIRCUIT DIAGRAM SHALL BE MECHANICALLY SECURED TO THE INTERIOR SIDE OF THE ENCLOSURE DOOR.
11. A 2-COLOR ENGRAVED PLASTIC NAMEPLATE, ATTACHED WITH SCREWS, AND ENGRAVED AS INDICATED, SHALL BE PROVIDED FOR EACH MAIN BREAKER.
12. LUGS AND CONNECTORS SHALL BE RATED FOR 75° C CONDUCTOR.
13. THE EXACT MOUNTING HEIGHT OF THE BOX SHALL BE FIELD DETERMINED TO AVOID OBSTRUCTIONS AND PUBLIC ACCESS. TYPICAL HEIGHT SHALL BE APPROXIMATELY 10 FEET ABOVE GRADE.

6" DECAL ON FRONT COVER

TS-75

FILE NAME = N:\Projects3\12027\DesignCAD\Sheet Files\D160T35rwalightdetail.dgn	USER NAME = $USER$	DESIGNED - KMM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	COMBINATION LIGHTING AND TRAFFIC POLE MOUNTED ELECTRIC SERVICE BOX DETAIL	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = $SCALE$	DRAWN - CDC	REVISED -			305	(1920, .01, 1518, 2022 & 1922, 4BIR)	COOK	919	423
	PLOT DATE = 10/30/2012	CHECKED - JDH	REVISED -				BE-230	CONTRACT NO. 60T35		
		DATE - 10/31/2012	REVISED -		SCALE: SHEET NO. 3 OF 3 SHEETS STA. TO STA.		ILLINOIS	FED. AID PROJECT		

SCHEDULE OF QUANTITIES

ITEMS	UNIT	QUANTITY
ELECTRIC SERVICE INSTALLATION	EACH	1
ELECTRIC UTILITY SERVICE CONNECTION	L SUM	1
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	1576
CONDUIT EMBEDDED IN STRUCTURE, 2" DIA., PVC	FOOT	240
HANDHOLE	EACH	4
UNIT DUCT, 600V, 2-1C NO.2, 2-1C NO.6, 1C NO.8 GROUND, (XLP-TYPE USE), 1 1/2" DIA. POLYETHYLENE	FOOT	2811
UNIT DUCT, 600V, 3-1C NO.8, 1C NO.10 GROUND, (XLP-TYPE USE), 1" DIA. POLYETHYLENE	FOOT	1300
UNIT DUCT, 600V, 3-1C NO.4, 1C NO.6 GROUND, (XLP-TYPE USE), 1 1/4" DIA. POLYETHYLENE	FOOT	3217
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 6	FOOT	315
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 4	FOOT	946
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE-USE) 3-1/C NO.2	FOOT	50
AERIAL CABLE, 3-1/C NO. 4 WITH MESSENGER WIRE	FOOT	738
AERIAL CABLE, 3-1/C NO. 6 WITH MESSENGER WIRE	FOOT	1335
LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	14
LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 310 WATT	EACH	7
LIGHTING CONTROLLER, BASE MOUNTED, 240V, 100AMP	EACH	1
LIGHT POLE, ALUMINUM, 47.5 FT. M.H., 15 FT. MAST ARM	EACH	7
LIGHT POLE, WOOD, 40 FOOT, CLASS 4, WITH 15FT MAST ARM	EACH	3
LIGHT POLE FOUNDATION, 24" DIAMETER	FOOT	300
BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE	EACH	7
REMOVAL OF TEMPORARY LIGHTING UNIT	EACH	3
REMOVAL OF LIGHTING UNIT, NO SALVAGE	EACH	10
REMOVAL OF POLE FOUNDATION	EACH	12
RELOCATE EXISTING LIGHTING UNIT	EACH	3
REMOVAL OF LIGHTING CONTROLLER FOUNDATION	EACH	1
DRILL EXISTING HANDHOLE	EACH	3
REMOVE TEMPORARY WOOD POLE	EACH	9
LUMINAIRE SAFETY CABLE ASSEMBLY	EACH	11
TEMPORARY WOOD POLE, 60 FT., CLASS 4	EACH	2
TEMPORARY WOOD POLE, 40 FT., CLASS 4	EACH	7
TEMPORARY LUMINAIRE, HIGH PRESSURE SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	11
COMBINATION POLE LIGHTING CONTROLLER	EACH	4
LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET	FOOT	60
REMOVE EXISTING LIGHTING CONTROLLER AND SALVAGE	EACH	1
REMOVE AND RELOCATE EXISTING LIGHTING CONTROLLER	EACH	1
MAINTENANCE OF LIGHTING SYSTEM	CAL MO	12
ELECTRIC SERVICE DISCONNECT, LIGHTING AND TRAFFIC SIGNAL	EACH	3
DECORATIVE LIGHT POLE, 30FT. M.H., 8FT. MAST ARM (SPECIAL)	EACH	21
DECORATIVE LIGHT POLE, 18FT. MH (SPECIAL)	EACH	9
DECORATIVE LUMINAIRE, METAL HALIDE, HORIZONTAL MOUNT, 250WATT (SPECIAL)	EACH	21
DECORATIVE LUMINAIRE, METAL HALIDE, 100WATT (SPECIAL)	EACH	9

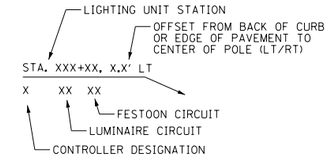
GENERAL NOTES

1. ROADWAY LIGHTING REQUIREMENTS FOR THIS PROJECT SHALL COMPLY WITH ALL IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), IDOT AND RECURRING SPECIAL PROVISIONS, CONTRACT SPECIAL PROVISIONS, AND THE AMERICAN NATIONAL STANDARD PRACTICE FOR ROADWAY LIGHTING AND THE ANSI/IES RP-8.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MARK THE PROPOSED LOCATIONS OF ALL LIGHT POLES AND THE LIGHTING CONTROLLER FOR EXAMINATION AND CONFIRMATION WITH THE ENGINEER. THE EXACT LOCATIONS OF ALL ITEMS SHALL BE CONFIRMED WITH THE ENGINEER PRIOR TO STARTING WORK.
3. TO MAINTAIN THE STRUCTURAL INTEGRITY OF ALUMINUM POLES WITH MAST ARMS, THEY SHALL NOT BE ERECTED AND LEFT TO STAND WITHOUT LUMINAIRES. NOTE THAT THE CONTRACTOR SHALL NOT BE PAID FOR POLES UNTIL LUMINAIRES ARE INSTALLED. NO POLES SHALL BE ERECTED UNTIL THE RESPECTIVE FOUNDATIONS HAVE CURED, AS APPROVED BY THE ENGINEER.
4. A GROUND ROD SHALL BE PROVIDED FOR EACH CONCRETE FOUNDATION. GROUNDING CONNECTIONS MADE TO THE FOUNDATION SHALL BE EXOTHERMICALLY WELDED, AS SPECIFIED IN THE PLAN DETAILS. EQUIPMENT GROUND CONDUCTORS SHALL BE SPLICED AND BONDED AT EACH LIGHT POLE OR OTHER PIECE OF EQUIPMENT.
5. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS FOR THE ELECTRICAL SERVICE FOR THE PROPOSED ROADWAY LIGHTING. IT IS THE CONTRACTOR'S RESPONSIBILITY FOR TIMELY NOTIFICATION AND COORDINATION WITH THE ELECTRIC UTILITY COMPANY.
6. THE LIGHTING CONTROLLER SHALL BE CONSTRUCTED TO UL STANDARD 508.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ESTABLISHMENT OF FINISHED GRADE. THE ENGINEER MAY ASSIST THE CONTRACTOR, AS APPLICABLE, BUT THE RESPONSIBILITY FOR COORDINATING THE FINISHED GRADE ELEVATION WITH THE TOP OF THE FOUNDATIONS HEIGHTS AND THE LIKE SHALL REMAIN WITH THE CONTRACTOR.
8. UNLESS OTHERWISE NOTED, ALL CIRCUIT CONNECTIONS TO PROPOSED LIGHTING CONTROLLER SHALL BE 2-1/C (BLACK, RED AND 2-1/C (BLUE, WHITE) CONDUCTORS, AND 1C NO. 8 (GREEN) CONDUCTOR THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE REQUIREMENTS FOR WIRE MARKERS AND SHALL TAG ALL WIRE MARKERS AND SHALL TAG ALL WIRE ACCORDINGLY.
9. THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE REQUIREMENT FOR BURIED WARNING TAPE, SPECIFIED AS PART OF "UNDERGROUND RACEWAYS". THE INSTALLATION OF THE TAPE SHALL BE INSPECTED AND APPROVED BY THE RESIDENT ENGINEER PRIOR TO BACKFILLING OR DURING PLOWING OPERATIONS, AS APPLICABLE.
10. THE POLE SETBACK FOR THE PROPOSED LIGHTING UNITS SHALL BE 3 FEET MIN. FROM BACK-OF-CURB TO THE CENTER OF POLE, UNLESS OTHERWISE INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
11. A QUANTITY FOR OFFSET LIGHT POLE FOUNDATIONS HAS BEEN PROVIDED FOR LOCATIONS WHERE UTILITY OR SEWER CONFLICTS MAY PROHIBIT THE USE OF A STANDARD LIGHT POLE FOUNDATION. THE ACTUAL NEED FOR THE OFFSET FOUNDATION WILL BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION BY THE ENGINEER. IF OFFSET FOUNDATIONS ARE NOT REQUIRED THEN THE QUANTITY SHALL BE DEDUCTED AND NO ADDITIONAL COMPENSATION WILL BE DUE TO THE CONTRACTOR.
12. ALL DECORATIVE LIGHTING ELEMENTS TO BE PAINTED VERDE GREEN.

LEGEND

- PR LIGHT POLE, 30 FT MOUNTING HEIGHT, 8 FT MAST ARM, 250W MH LUMINAIRE, STERNBERG LIGHTING, GLENVIEW SERIES, VINTAGE LIGHTING FIXTURE
- PR LIGHT POLE, 18 FT MOUNTING HEIGHT, 100W MH LUMINAIRE, STERNBERG LIGHTING, PEDESTRIAN FIXTURE
- PR LUMINAIRE, 250W HPS, 40 FT MOUNTING HEIGHT, CONNECTED TO COMBINATION TRAFFIC SIGNAL AND LIGHTING POLE WITH 12 FT MAST ARM
- PR LIGHTING UNIT: 47.5' M.H. ALUMINUM POLE, 15 FT. MAST ARM, 310 WATT HIGH PRESSURE SODIUM LUMINAIRE
- CLC — PR COMBINATION LIGHTING CONTROLLER
- PR ELECTRIC SERVICE BOX
- H — PR LIGHTING HANDHOLE
- TRAFFIC SIGNAL CONTROLLER
- PR SERVICE INSTALLATION, VOLTAGE AS INDICATED ON PLANS
- PR UNIT DUCT WITH CABLE (TYPE AND SIZE AS INDICATED ON THE PLANS)
- E — EXISTING LIGHTING UNIT: 47.5' M.H. ALUMINUM POLE WITH BREAKWAY, 15 FT. MAST ARM, 310 WATT HIGH PRESSURE SODIUM LUMINAIRE
- E — E — EXISTING MEDIAN MOUNTED LIGHTING UNITS
- E — EXISTING DECORATIVE STREET LIGHT TO REMAIN, 18 FT MOUNTING HEIGHT, 175W MH LUMINAIRE
- R — EXISTING LIGHTING UNIT TO BE REMOVED
- RR — EXISTING LIGHTING UNIT TO BE RELOCATED
- REL — RELOCATED LIGHT LOCATION
- CE — EXISTING COMED LIGHTING UNIT TO BE REMOVED BY OTHERS
- T — TEMPORARY LUMINAIRE, 250W, HPS, M-C-111 ATTACHED TO TEMP TRAFFIC SIGNAL POLE, 15' M.A., 40' MOUNTING HEIGHT
- TEMPORARY TRAFFIC SIGNAL POLE
- T — TEMPORARY LIGHTING UNIT, WOOD POLE, 40 FOOT, CLASS 4 WITH 15 FOOT MAST ARM
- TEMPORARY WOOD POLE, CLASS 4
- AC — AERIAL CABLE 3-1/C NO. 6, UNLESS OTHERWISE NOTED

CIRCUIT DESIGNATION SCHEME



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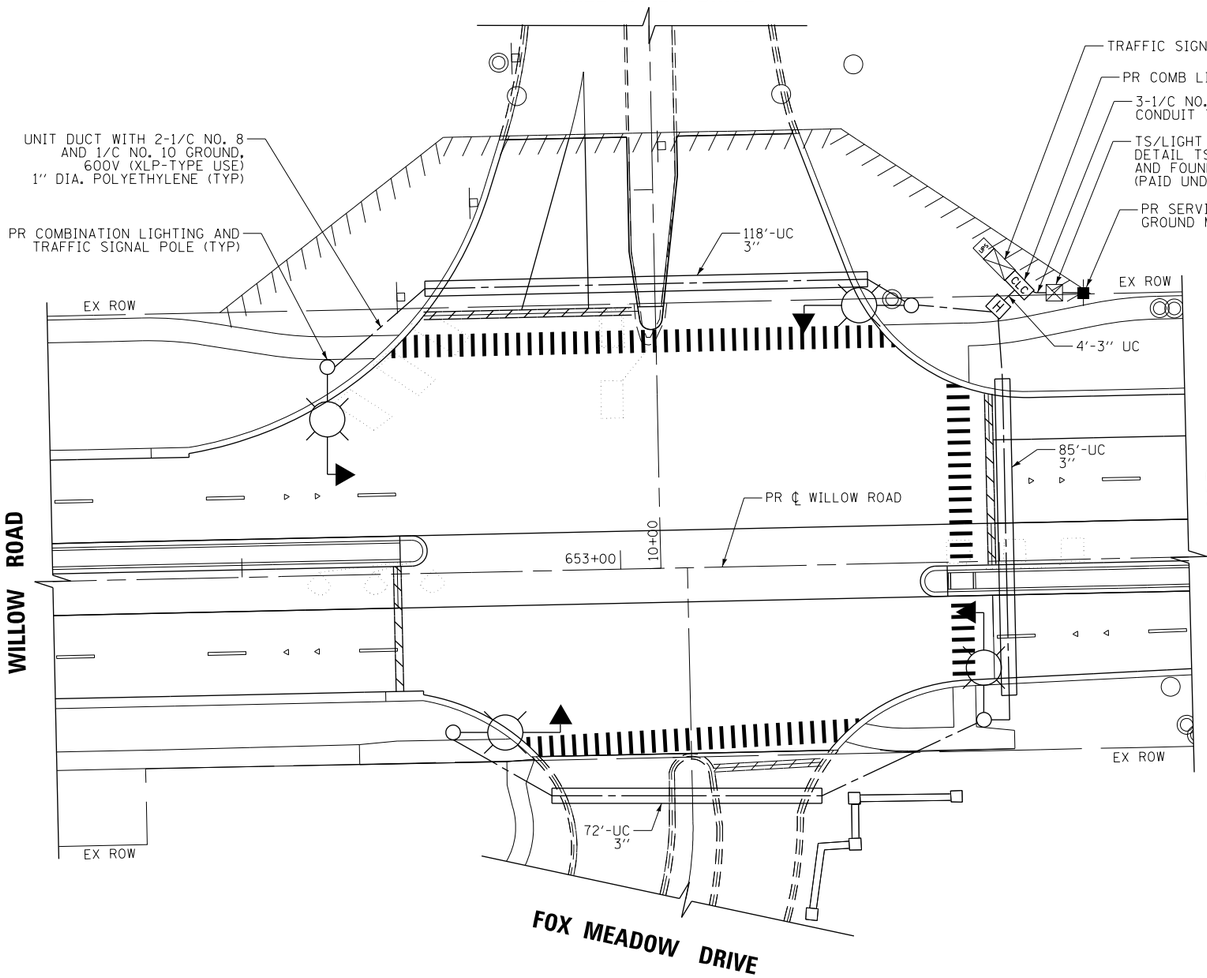
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

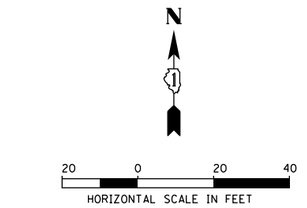
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING GENERAL NOTES, LEGEND AND SCHEDULE OF QUANTITIES

SCALE: NONE | SHEET NO. 424 OF 919 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	424
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



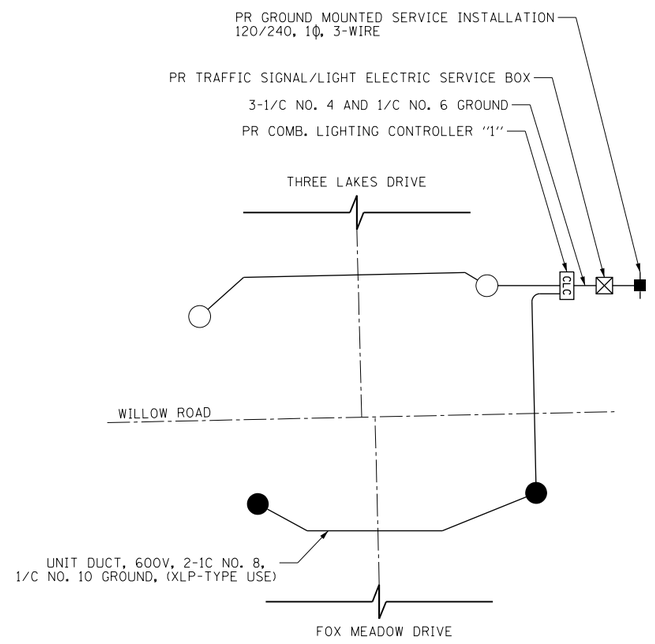


NOTES:

1. SEE SHEET NO. 424 FOR LEGEND AND GENERAL NOTES.
2. SEE SHEET NO. 435 FOR COMBINATION LIGHTING CONTROLLER DIAGRAM.
3. SEE TRAFFIC SIGNAL PLANS FOR COMBINATION POLE AND MAST ARM DETAILS.

LEGEND

- LUMINAIRE, HPS, HORIZ. MOUNT, 250W, 240V, ON RED WIRE
- LUMINAIRE, HPS, HORIZ. MOUNT, 250W, 240V, ON BLACK WIRE



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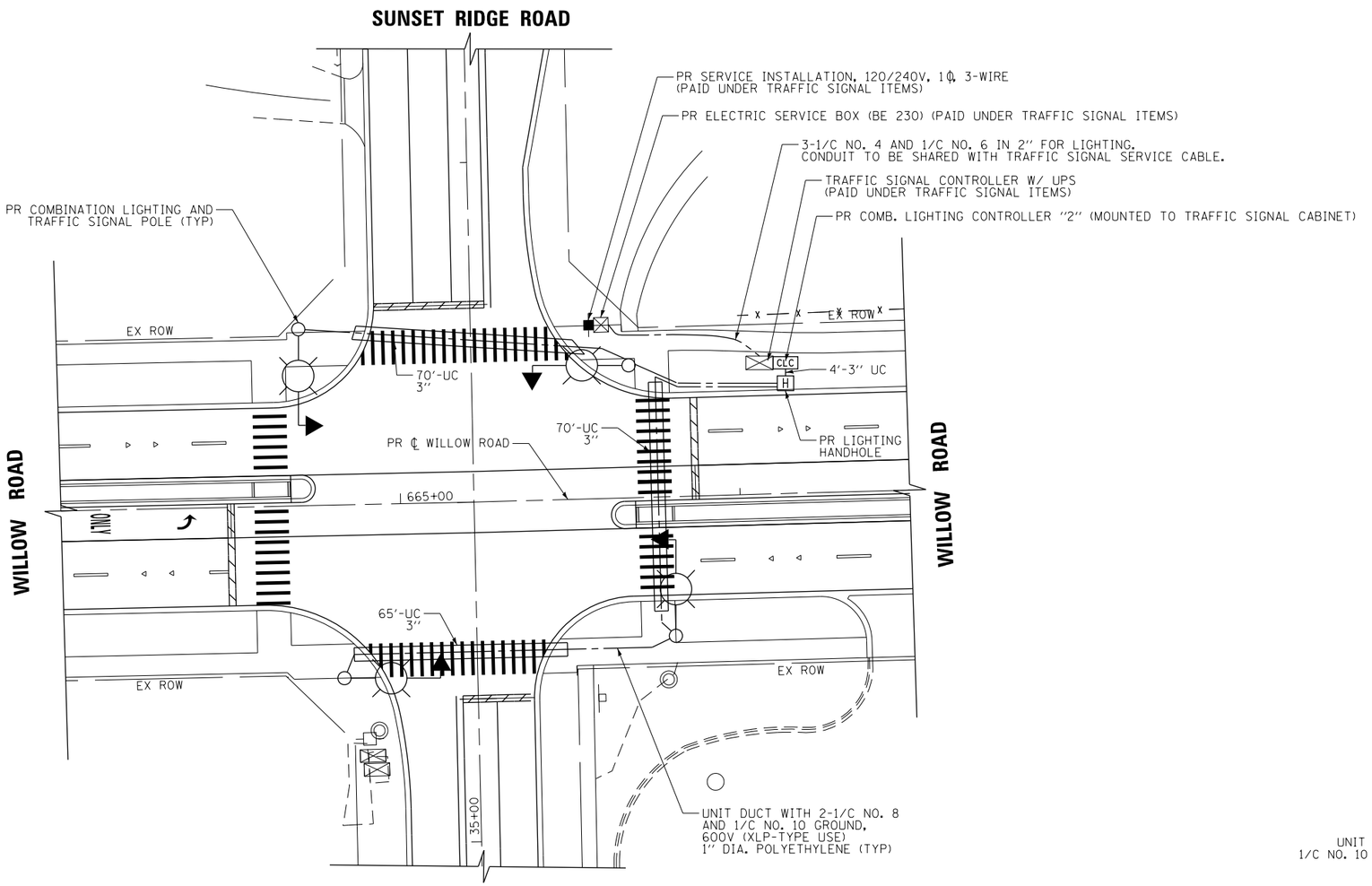
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

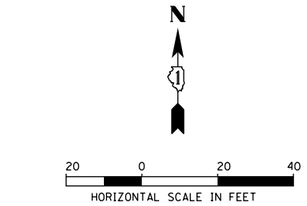
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING PLAN
WILLOW ROAD AT THREE LAKES DRIVE /FOX MEADOW DRIVE

SCALE: 1" = 40' | SHEET NO. 425 OF 919 SHEETS

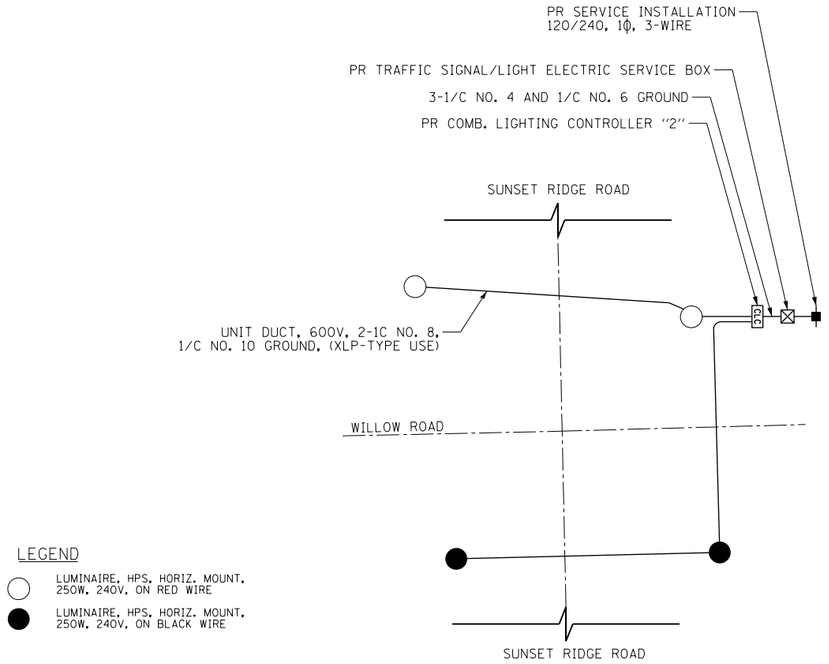
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	425
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		





NOTES:

1. SEE SHEET NO. 424 FOR LEGEND AND GENERAL NOTES.
2. SEE SHEET NO. 435 FOR COMBINATION LIGHTING CONTROLLER DIAGRAM.
3. SEE TRAFFIC SIGNAL PLANS FOR COMBINATION POLE AND MAST ARM DETAILS.



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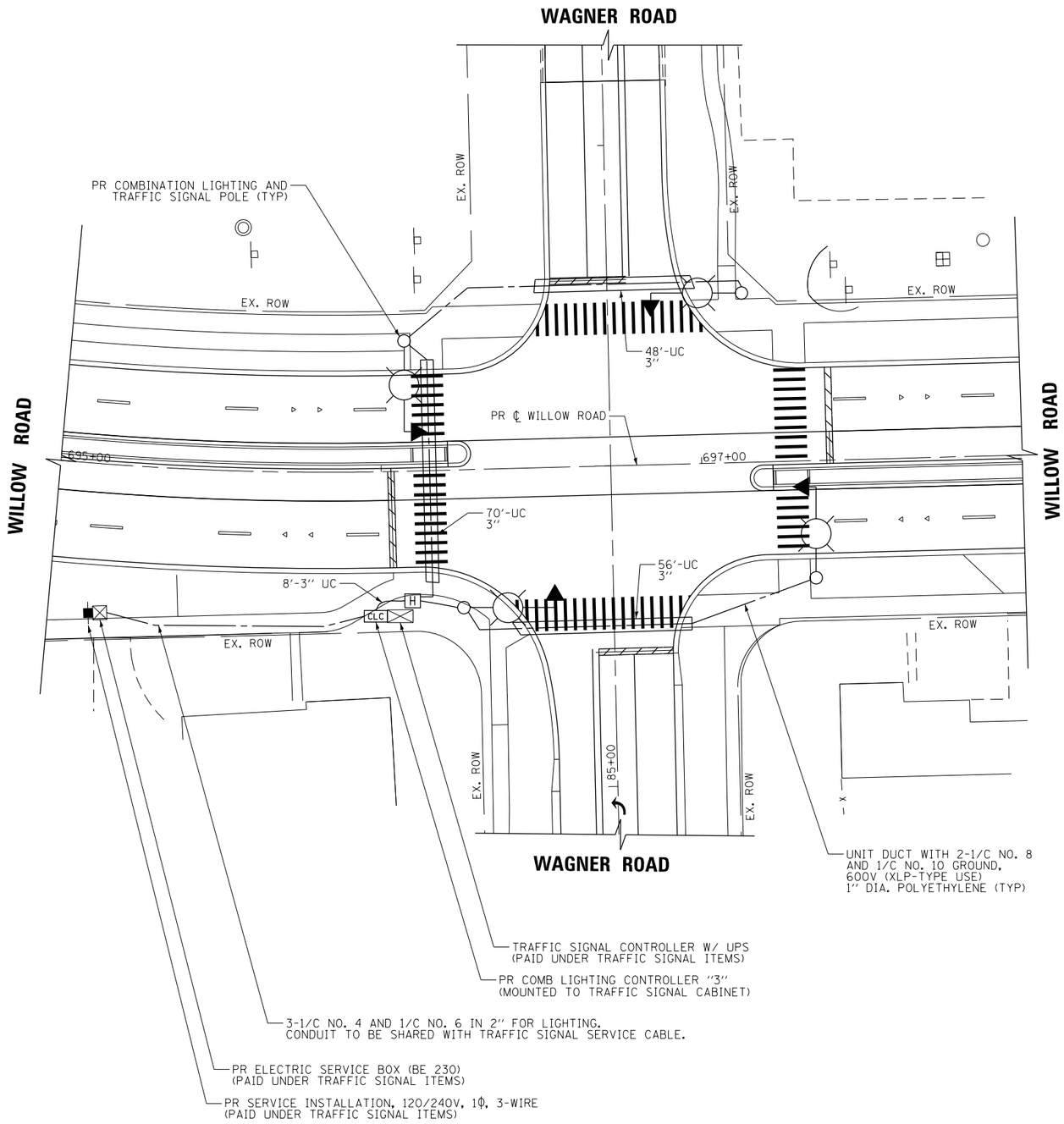
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

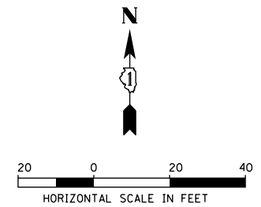
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING PLAN
WILLOW ROAD AND SUNSET RIDGE ROAD

SCALE: 1" = 40' | SHEET NO. 426 OF 919 SHEETS

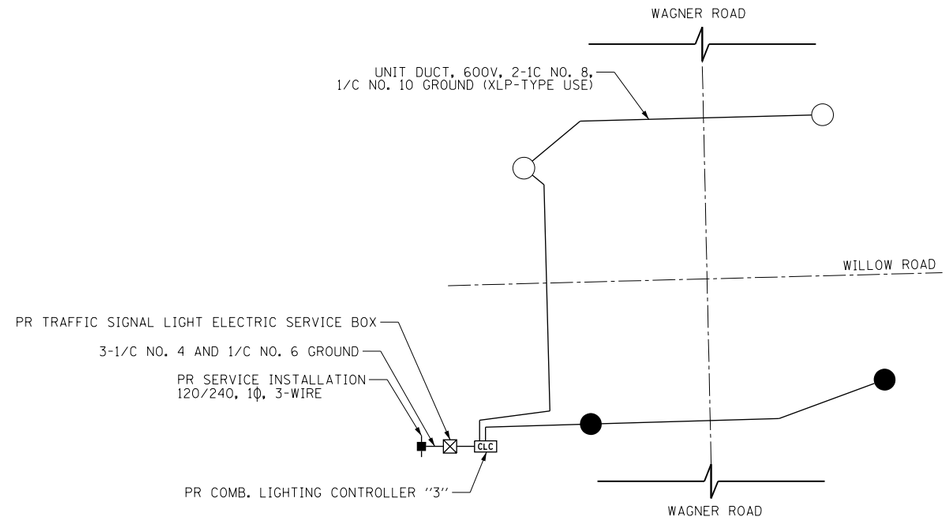
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	426
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		





NOTES:

1. SEE SHEET NO. 424 FOR LEGEND AND GENERAL NOTES.
2. SEE SHEET NO. 435 FOR COMBINATION LIGHTING CONTROLLER DIAGRAM.
3. SEE TRAFFIC SIGNAL PLANS FOR COMBINATION POLE AND MAST ARM DETAILS.



LEGEND

- LUMINAIRE, METAL HALIDE, HORIZ. MOUNT, 250W, 240V, ON RED WIRE
- LUMINAIRE, METAL HALIDE, HORIZ. MOUNT, 250W, 240V, ON BLACK WIRE

WIRING DIAGRAM

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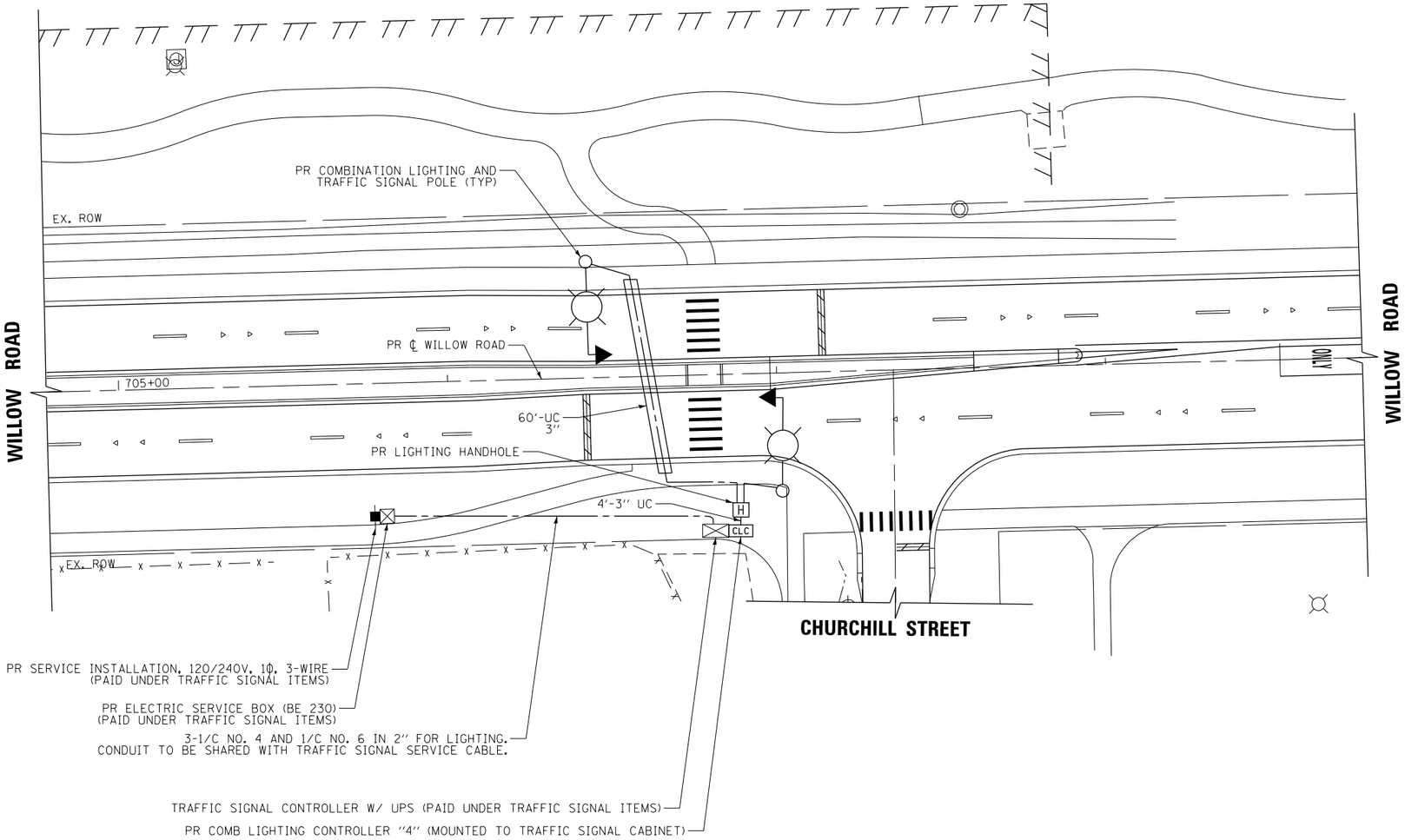
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

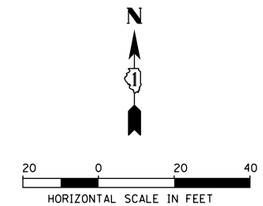
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING PLAN
WILLOW ROAD AND WAGNER ROAD

SCALE: 1" = 40' | SHEET NO. 427 OF 919 SHEETS

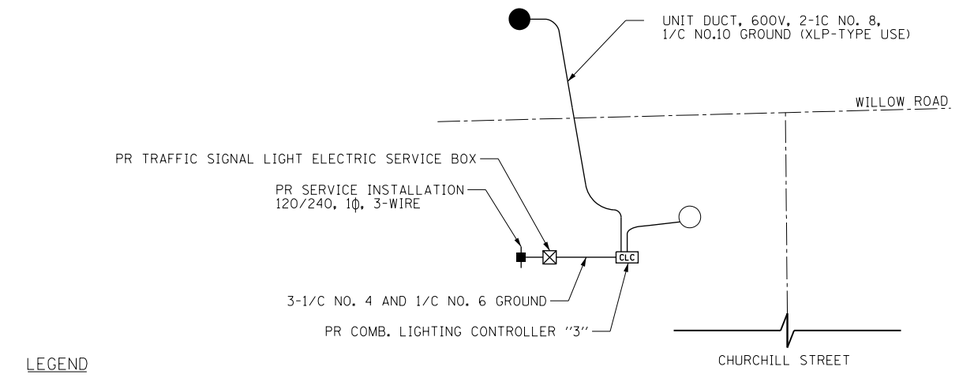
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	427
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		





NOTES:

1. SEE SHEET NO. 424 FOR LEGEND AND GENERAL NOTES.
2. SEE SHEET NO. 435 FOR COMBINATION LIGHTING CONTROLLER DIAGRAM.
3. SEE TRAFFIC SIGNAL PLANS FOR COMBINATION POLE AND MAST ARM DETAILS.



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	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING PLAN
WILLOW ROAD AND PEDESTRIAN ONLY SIGNAL

SCALE: | SHEET NO. 428 OF 919 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	428
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

TEMPORARY LIGHTING NOTES

1. SEE SHEET NO. 424 FOR LEGEND AND SPECIAL NOTES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL ROADWAY LIGHTING WITHIN THE PROJECT LIMITS FOR THE DURATION OF THE PROJECT. ANY DAMAGE INCURRED DURING CONSTRUCTION SHALL BE PROMPTLY REPAIRED SO SERVICE IS NOT DISRUPTED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXISTING CONDITIONS.
3. THE COST TO PROVIDE TEMPORARY CONNECTIONS TO EXISTING CONTROLLERS AND TEMPORARY LIGHTING UNITS SHALL BE INCLUDED IN THE BID UNIT PRICE FOR AERIAL CABLE.
4. THE LOCATION OF TEMPORARY WOOD POLES SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
5. TEMPORARY LIGHTING UNITS SHALL BE OPERATIONAL BEFORE EXISTING POLES ARE REMOVED.
6. TEMPORARY LIGHTING SHALL NOT BE REMOVED UNTIL THE PERMANENT LIGHTING IS INSTALLED AND OPERATIONAL.
7. FOR TEMPORARY LIGHT POLE AND INSTALLATION OF AERIAL CABLE DETAILS SEE SHEET NO. 435 AND 436 .
8. EX LIGHTING CONTROLLER TO BE USED FOR TEMPORARY LIGHTING USE EXISTING SERVICE CONNECTIONS, LIGHTING CONTROLLER "C" TO BE REMOVED ONCE PROPOSED CONTROLLER IS INSTALLED AND OPERATIONAL.

TEMPORARY LIGHTING STAGING NOTES

STAGE I

INSTALL TEMPORARY LIGHTING ALONG WILLOW ROAD. PROVIDE SUPPLEMENTAL TEMPORARY LIGHTING MAST ARM AND LUMINAIRE ON TEMPORARY TRAFFIC SIGNAL WOOD POLES. REMOVE EXISTING LIGHTING UNITS ALONG WILLOW ROAD.

STAGE II

MAINTAIN TEMPORARY LIGHTING UNITS WHERE INDICATED ON PLANS, AND SUPPLEMENTAL TEMPORARY LIGHTING ON TRAFFIC SIGNAL WOOD POLES.

STAGE III

INSTALL PERMANENT LIGHTING SYSTEM AND ENERGIZE. REMOVE TEMPORARY LIGHTING UNITS AND AERIAL CABLE.

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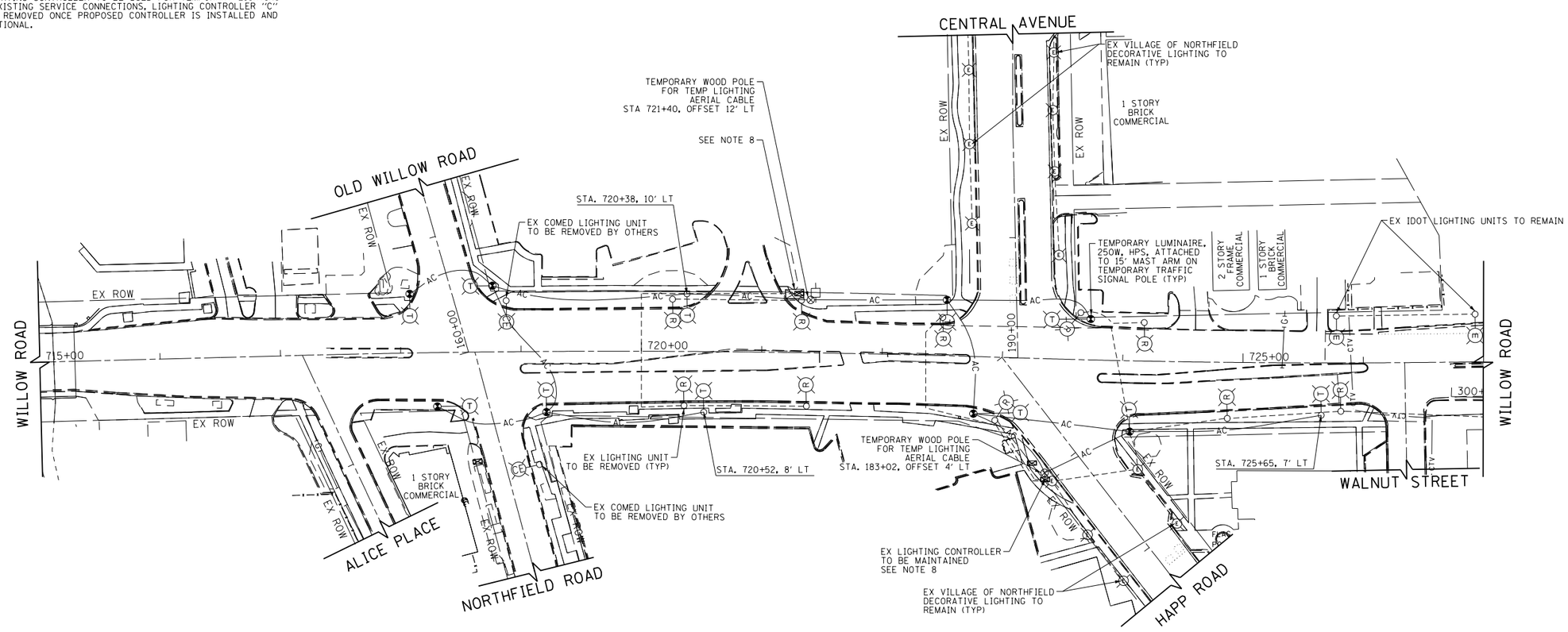
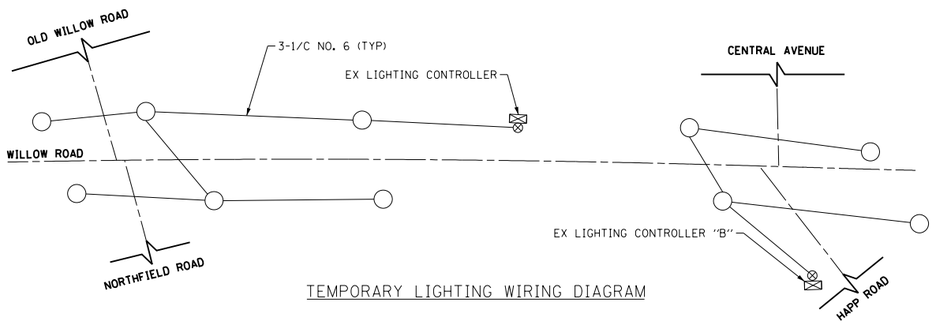
SCALE IN FEET





TEMPORARY LIGHTING WIRING DIAGRAM

WIRING DIAGRAM LEGEND

- TEMPORARY LUMINAIRE, 250W, HPS
- AERIAL CABLE 3-1/C NO.6
- EX LIGHTING CONTROLLER
- TEMPORARY WOOD POLE, CLASS 4, 40'

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	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY LIGHTING AND REMOVAL PLAN
WILLOW ROAD (DOWNTOWN)

SCALE: 1" = 50' | SHEET NO. 429 OF 919 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	429
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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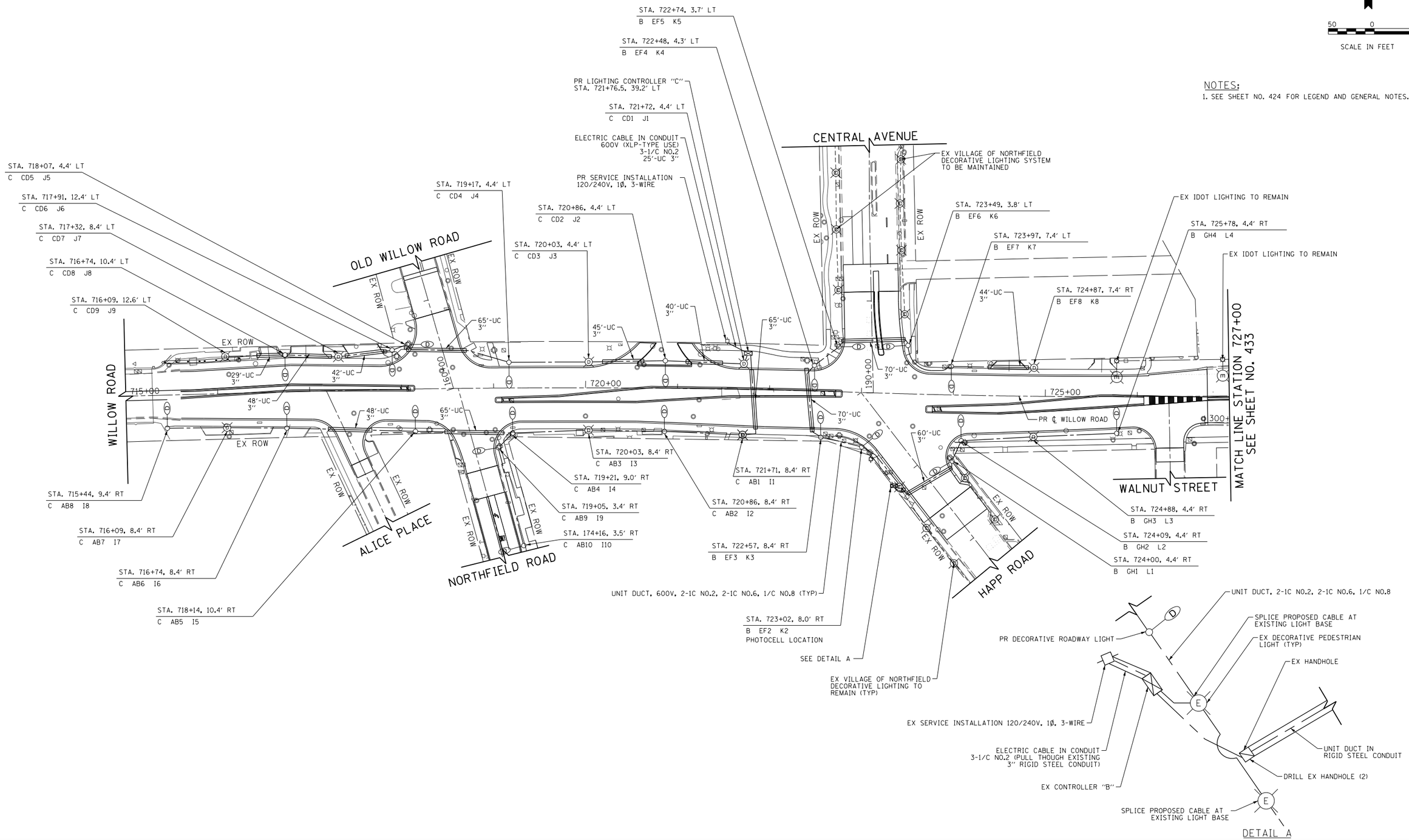
SCALE IN FEET

NOTES:

1. SEE SHEET NO. 424 FOR LEGEND AND GENERAL NOTES.



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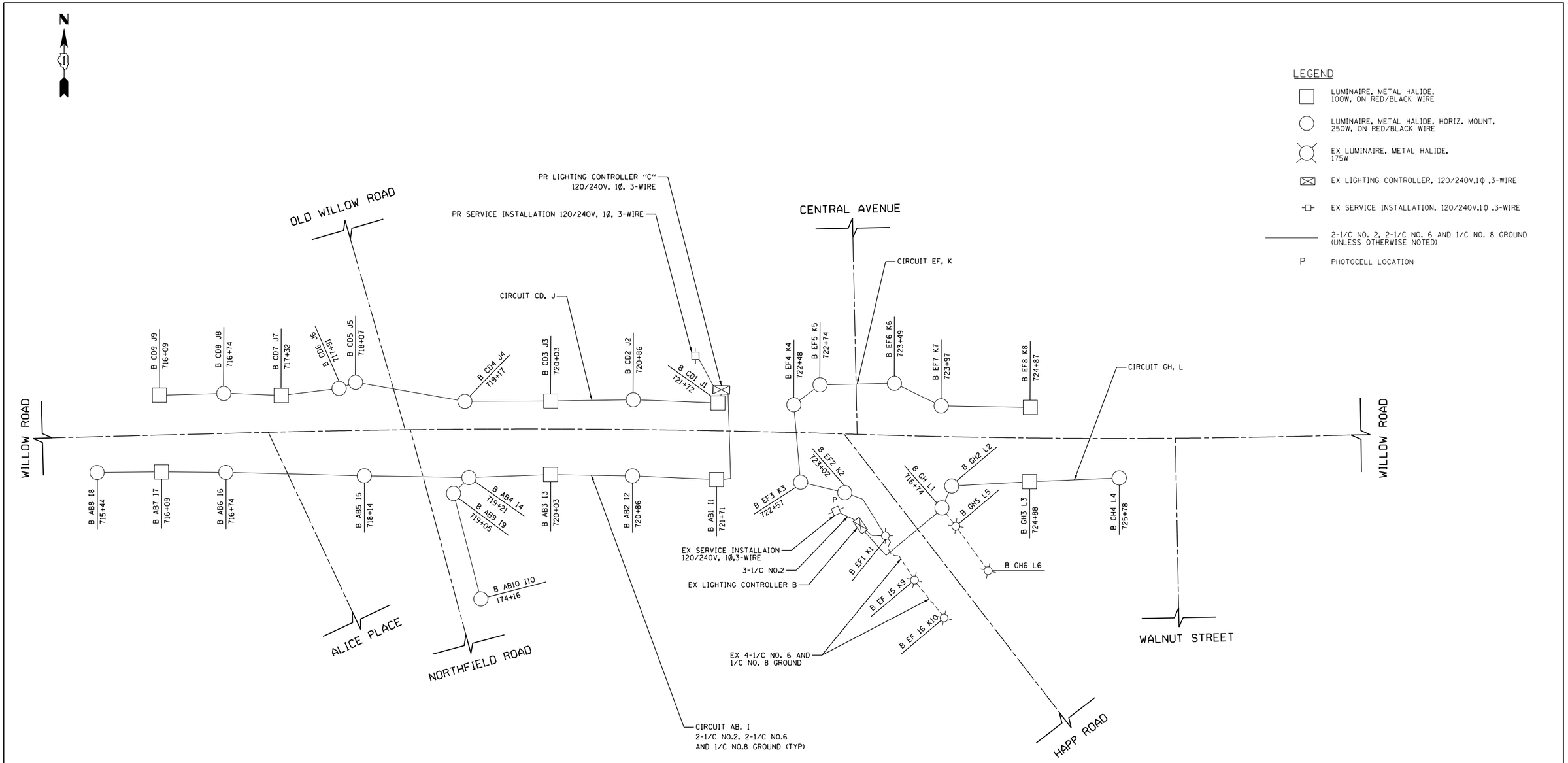
	PLOT SCALE = 100.000 ' / in.	CHECKED - SRF	REVISED -
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING PLAN
WILLOW ROAD (DOWNTOWN)

SCALE: 1" = 50' | SHEET NO. 430 OF 919 SHEETS | STA. 715+00 TO STA. 727+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	430
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



LOAD TABULATION					
CONTROLLER C					
LIGHTING UNIT			FESTOON OULET		
CIRCUIT	AMPS	WATTS	CIRCUIT	AMPS	WATTS
AB	9.43	2050	I	24.00	2000
CD	7.59	1650	J	21.60	1800
TOTAL	17.02	3700	TOTAL	45.60	3800

LOAD TABULATION					
CONTROLLER B					
LIGHTING UNIT			FESTOON OULET		
CIRCUIT	AMPS	WATTS	CIRCUIT	AMPS	WATTS
EF	8.74	1900	K	24.0	2000
GH	4.83	1050	L	14.4	1200
TOTAL	13.57	2950	TOTAL	38.4	3200

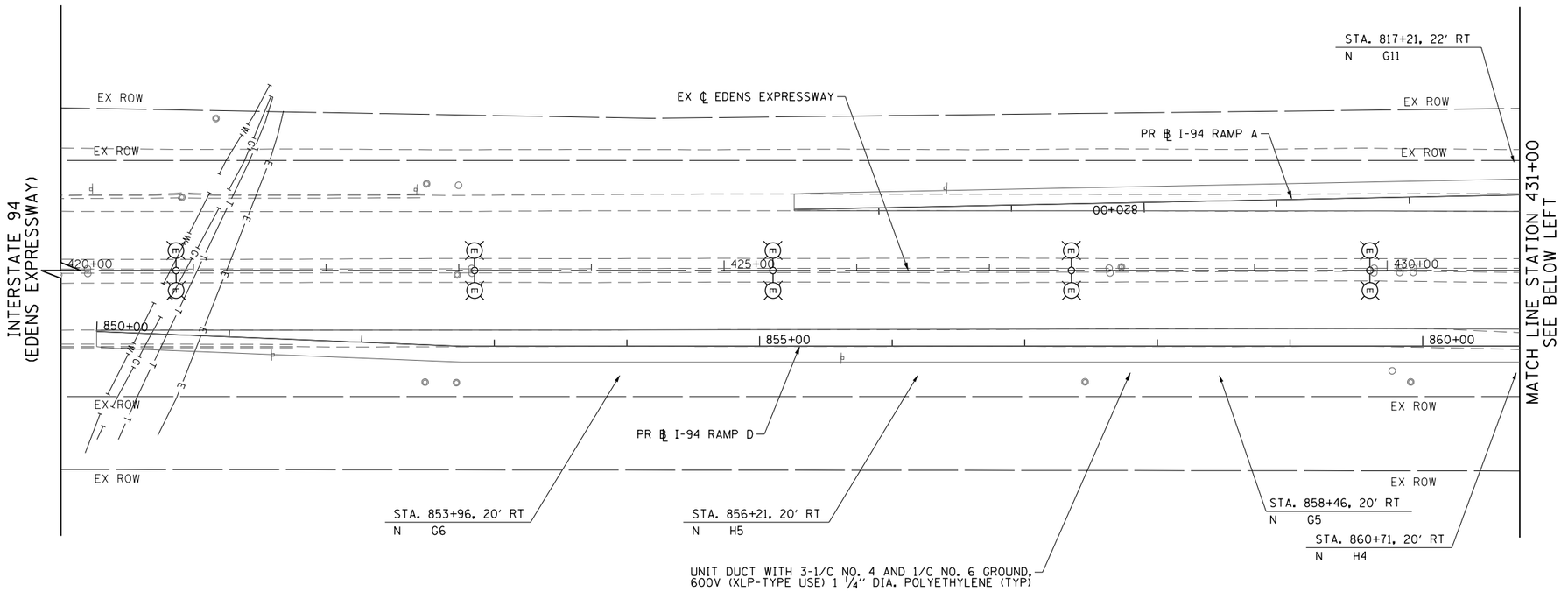
FILE NAME = G:\CHI1\0158\Road\Road-CD\Lighting\D1607	USER NAME = BAWtort	DESIGNED - SRF	REVISED -
35-SHT-LIGHT-08.dgn		DRAWN - AJP	REVISED -
	PLOT SCALE = 100.000 ' / in.	CHECKED - SRF	REVISED -
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WIRING DIAGRAM
WILLOW ROAD (DOWNTOWN)

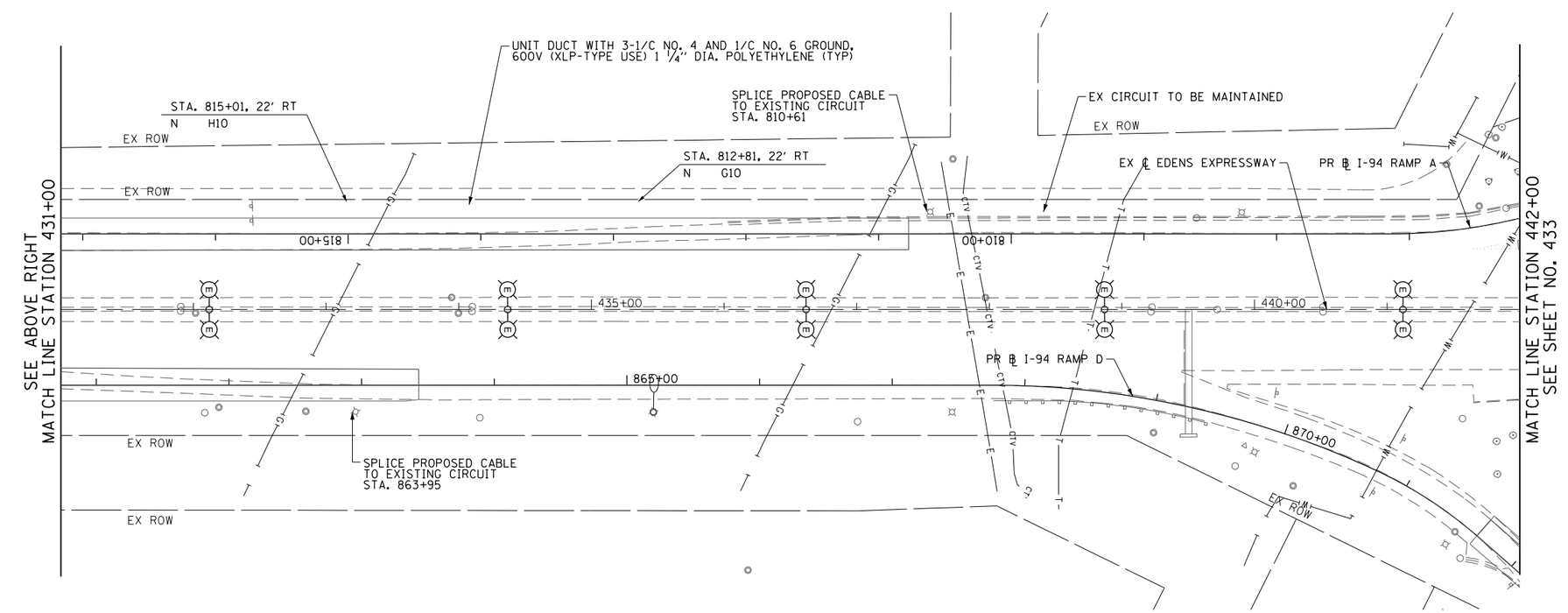
SCALE: NONE | SHEET NO. 431 OF 919 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.48)R	COOK	919	431
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



NOTES:

1. SEE SHEET NO. 424 FOR LEGEND AND GENERAL NOTES.
2. THE COST TO SPLICE PROPOSED CABLE TO EXISTING CIRCUITS AT POLE HANDHOLE SHALL BE INCLUDED IN THE COST FOR UNIT DUCT.



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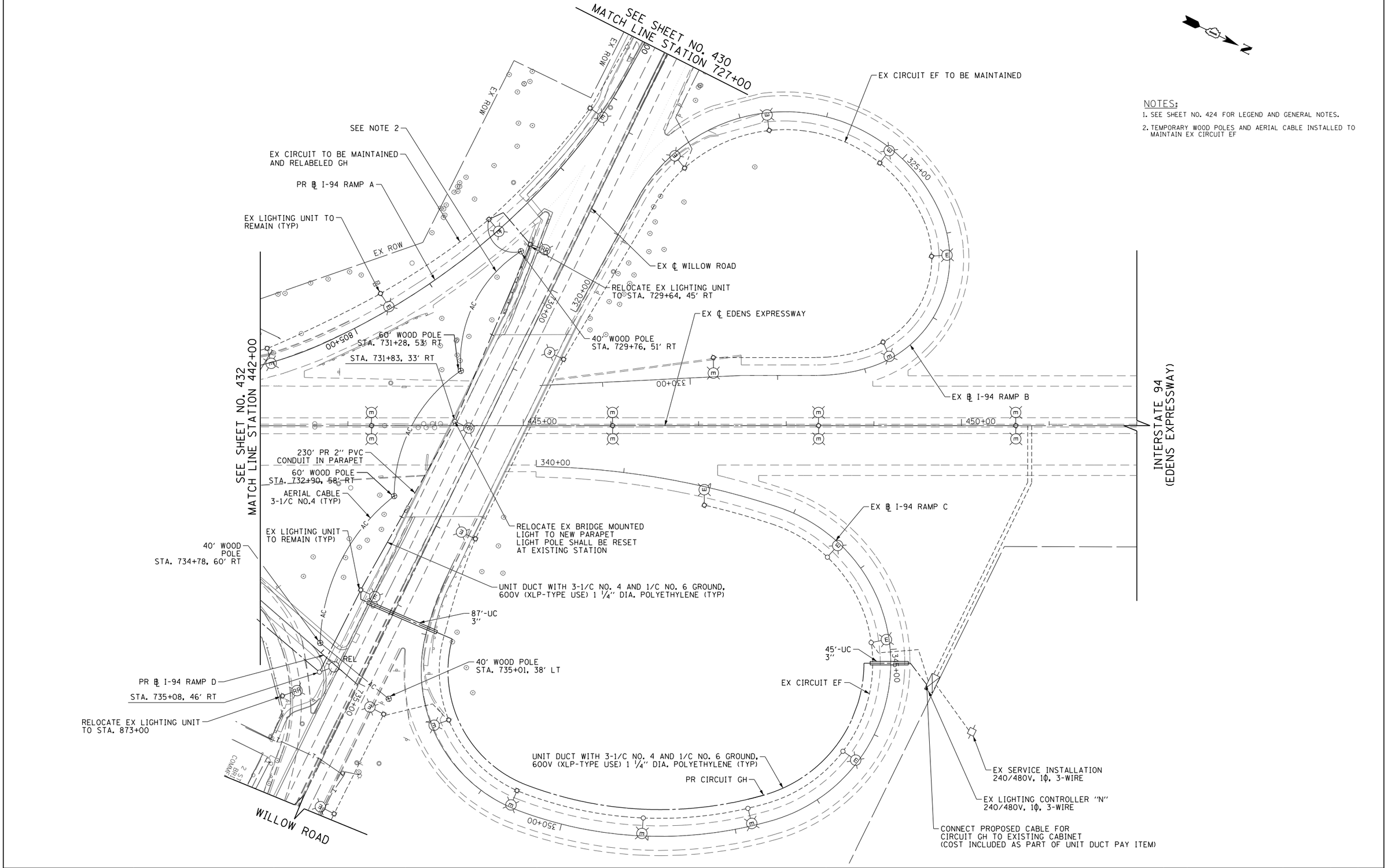
		DRAWN - AJP	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED - SRF	REVISED -
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING PLAN
INTERSTATE 94

SCALE: 1" = 50' | SHEET NO. 432 OF 919 SHEETS | STA. 420+00 TO STA. 442+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	432
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



NOTES:

1. SEE SHEET NO. 424 FOR LEGEND AND GENERAL NOTES.
2. TEMPORARY WOOD POLES AND AERIAL CABLE INSTALLED TO MAINTAIN EX CIRCUIT EF

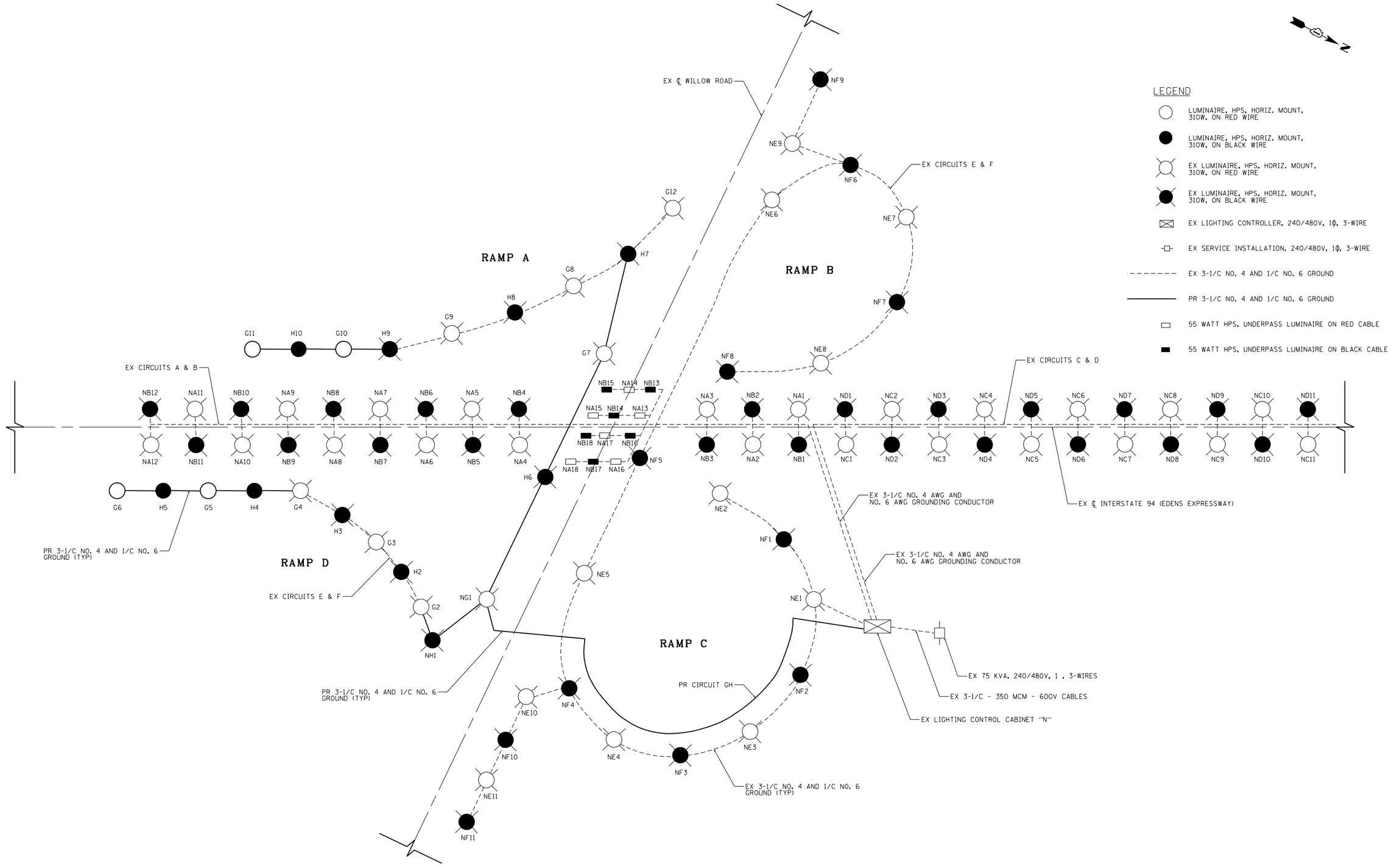
FILE NAME = G:\CH11\0158\Road\Road-CD\Lighting\D1607	USER NAME = BAWstort	DESIGNED - SRF	REVISED -
	35-SHT-LIGHT-10.dgn	DRAWN - AJP	REVISED -
	PLOT SCALE = 100.00 ' / in.	CHECKED - SRF	REVISED -
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING PLAN
INTERSTATE 94

SCALE: 1" = 50' | SHEET NO. 433 OF 919 SHEETS | STA. 442+00 TO STA. 452+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	433
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



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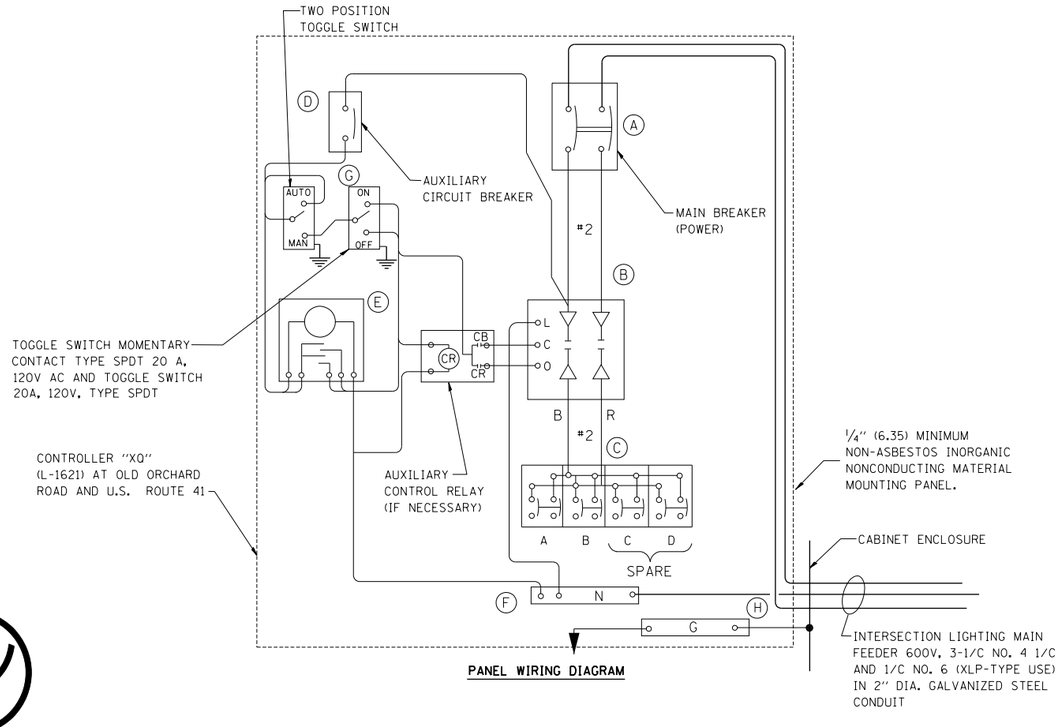
		DRAWN - AJP	REVISED -
	PLOT SCALE = 200.000 ' / in.	CHECKED - SRF	REVISED -
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WIRING DIAGRAM
INTERSTATE 94 (EDENS EXPRESSWAY)

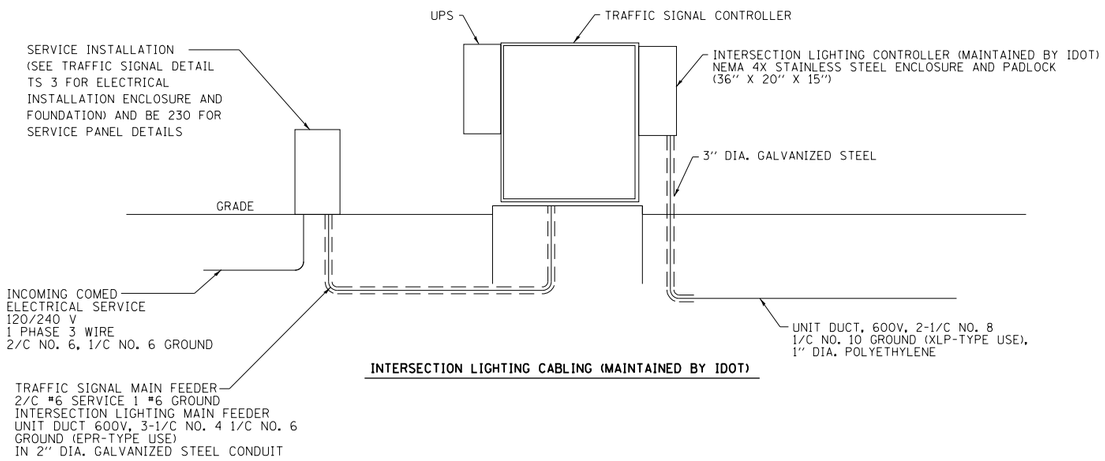
SCALE: NONE | SHEET NO. 434 OF 919 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	434
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



PANEL WIRING DIAGRAM

6" DECAL ON FRONT COVER



INTERSECTION LIGHTING CABLING (MAINTAINED BY IDOT)

COMBINATION POLE LIGHTING CONTROLLER

PANEL EQUIPMENT

BILL OF MATERIAL

ITEM	QUANTITY	DESCRIPTION
A	1	MAIN CIRCUIT BREAKER, 2 POLE, 600 VOLT 40 AMP. FRAME, 100 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-22000 AMP. AT 240V.
B	1	REMOTE CONTROL SWITCH, ELECTRICALLY OPERATED, MECHANICALLY HELD, 2 POLE, SINGLE THROW, 40 AMP., 600 VOLTS CONTROL CIRCUIT 120V.
C	4	CIRCUIT BREAKERS, 1 POLE, 100AMP. FRAME , 20 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-10,000 AMP. AT 240V.
D	1	CONTROL CIRCUIT-CIRCUIT BREAKER, 1 POLE, 240V., 100 AMP. FRAME, 15 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-10,000 AMP. AT 120 V.
E	1	ASTRONOMIC MICROPROCESSOR-BASED 2-CHANNEL CONTROLLER [TIME SWITCH].
F	1	COPPER NEUTRAL BUS 1/4" (6.35) X 1" (25.4) X 12" (304.8 mm) LONG MOUNTED ON PANEL WITH LUGS AND 4 SPARE LUGS
G	1	TOGGLE SWITCHES MOUNTED IN 4" (101.6) X 4" (101.6 mm) BOX.
H	1	COPPER GROUND BUS 1/4" (6.35) X 1" (25.4) X 12" (304.8 mm) LONG MOUNTED ON PANEL WITH LUGS AND SPARE LUGS

NOTES:

1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. DOOR SHALL BE CONSTRUCTED FROM SAME TYPE OF MATERIAL AND THICKNESS AS CABINET.
3. DOOR HINGE SHALL BE A HEAVY GAUGE CONTINUOUS HINGE WITH A 1/4 " (6.35 mm) DIA. STAINLESS STEEL HINGE PIN.
4. ALL EXTERNAL HARDWARE SHALL BE STAINLESS STEEL.
5. CONTROL WIRING TO BE #12 AWG, 600V, TYPE "SIS" GRAY SWITCH BOARD WIRE, STRANDED COPPER.
6. CABINETS SHALL BE PRIMED AND PAINTED AS SPECIFIED.
7. THE HEADS OF CONNECTORS SCREWS SHALL BE PAINTED WHITE FOR NEUTRAL BAR CONNECTION AND GREEN FOR GROUND BAR CONNECTORS.
8. ALL WIRING SHALL BE COLOR CODED AS INDICATED.
   R = RED BL = BLUE W = WHITE
   B = BLACK Y = YELLOW G = GREEN
9. PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE CONTROL CABINET.
10. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
11. THE CONTROLLER SHALL BE CONSTRUCTED TO U.L. STD. 508 AND BEAR THE U.L. LABEL "ENCLOSED INDUSTRIAL CONTROL PANEL".
12. 12" (304.8) X 16" (406.4 mm) STAINLESS STEEL EXTERIOR NAMEPLATE SHALL BE ENGRAVED TO "STATE OF ILLINOIS TRAFFIC SIGNAL CONTROLS" UNLESS OTHERWISE SPECIFIED.

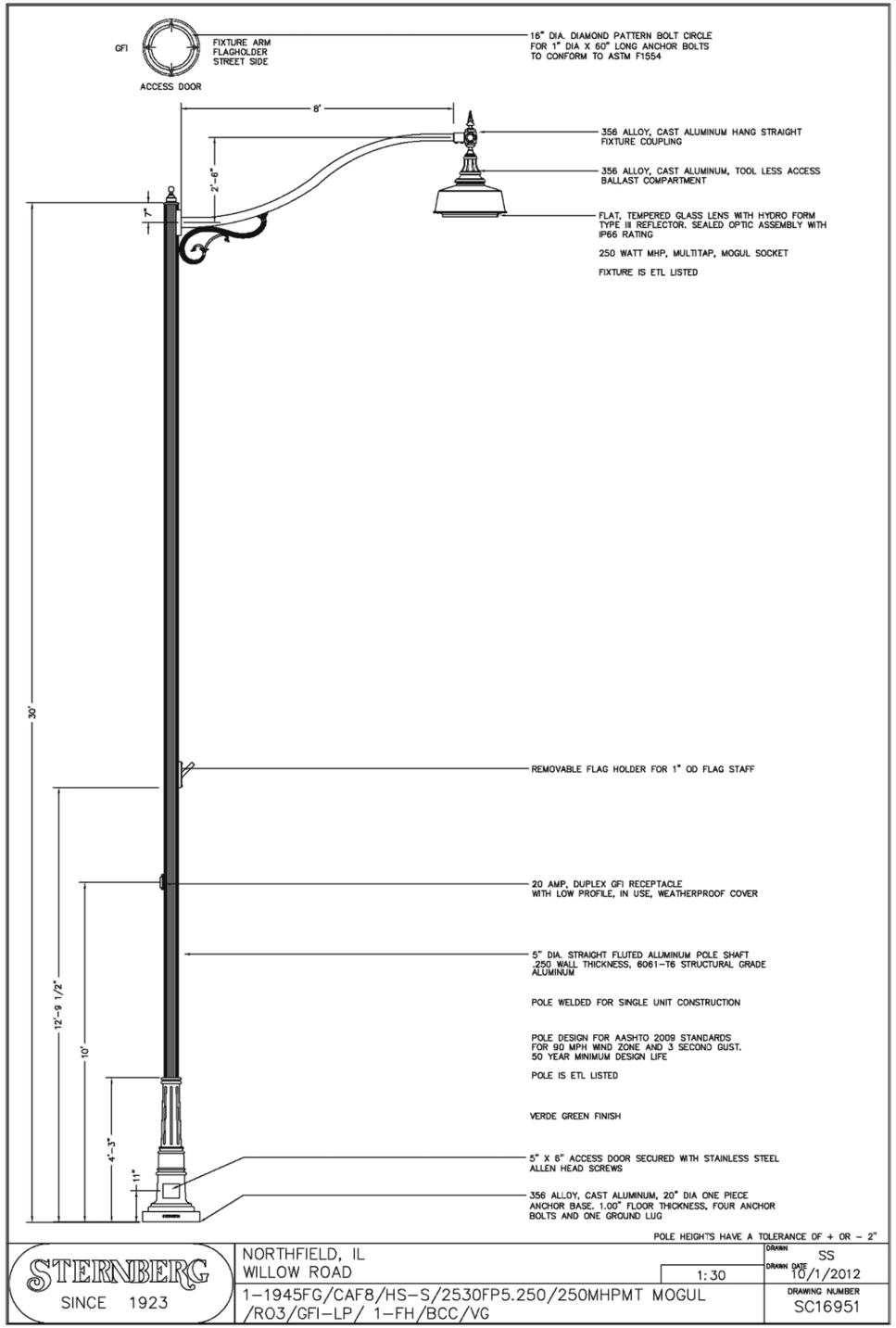
FILE NAME = G:\CH11\0158\Road\Road-CD\Lighting\D160135-SHT-LIGHT-12.dgn	USER NAME = BAWistort	DESIGNED - SRF	REVISED -
		DRAWN - AJP	REVISED -
	PLOT SCALE = 100.000 ' / in.	CHECKED - SRF	REVISED -
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING DETAILS
COMBINATION LIGHTING CONTROLLER DIAGRAM

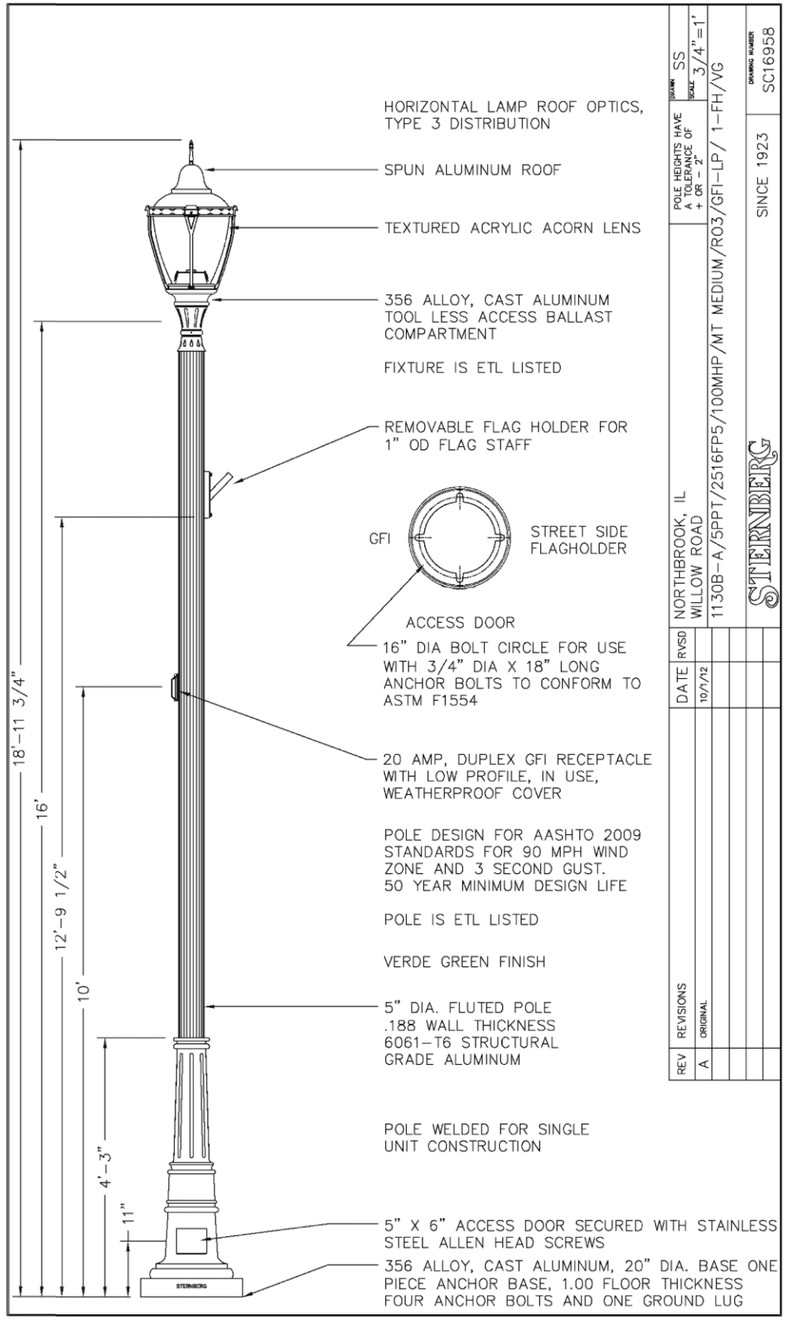
SCALE: NONE | SHEET NO. 435 OF 919 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	435
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



STERNBERG SINCE 1923	NORTHFIELD, IL WILLOW ROAD	1:30	DRAWN SS DRAWN DATE 10/1/2012
	1-1945FG/CAF8/HS-S/2530FP5.250/250MHPMT MOGUL /RO3/GFI-LP/ 1-FH/BCC/VG		DRAWING NUMBER SC16951

DECORATIVE ROADWAY LIGHTPOLE AND LUMINAIRE



DRAWN SS
SCALE 3/4"=1'
POLE HEIGHTS HAVE A TOLERANCE OF + OR - 2"
NORTHBROOK, IL
WILLOW ROAD
11308-A/5PPT/2516FP5/100MHP/MT MEDIUM/RO3/GFI-LP/ 1-FH/VG
STERNBERG SINCE 1923
DRAWING NUMBER SC16958

REV	REVISIONS	DATE	RVSD
A	ORIGINAL	10/1/12	

DECORATIVE PEDESTRIAN LIGHTPOLE AND LUMINAIRE

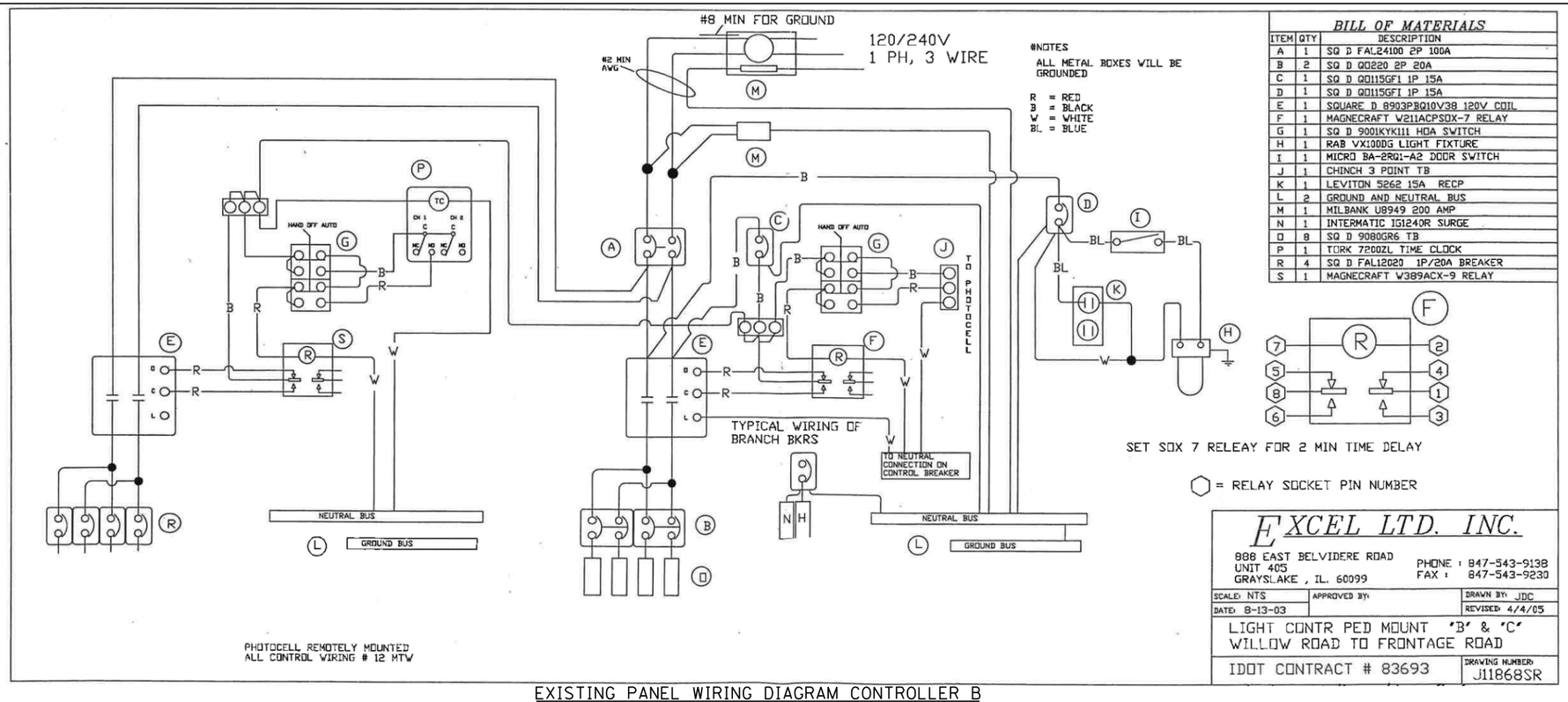
FILE NAME = G:\CHI1\0158\Road\Road-CD\Lighting\D1607	USER NAME = BAWitort	DESIGNED - SRF	REVISED -
35-SHT-LIGHT-13.dgn		DRAWN - AJP	REVISED -
	PLOT SCALE = 100.000 ' / in.	CHECKED - SRF	REVISED -
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING DETAILS
DECORATIVE LIGHT POLE AND LIGHTING DETAILS (DOWNTOWN)

SCALE: NONE | SHEET NO. 436 OF 919 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	436
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



BILL OF MATERIALS		
ITEM	QTY	DESCRIPTION
A	1	SQ D FAL24100 2P 100A
B	2	SQ D QO220 2P 20A
C	1	SQ D QO115GFI 1P 15A
D	1	SQ D QO115GFI 1P 15A
E	1	SQUARE D 8903PBQ10V38 120V COIL
F	1	MAGNECRAFT W211ACPSOX-7 RELAY
G	1	SQ D 9001KYK111 HOA SWITCH
H	1	RAB VX100DG LIGHT FIXTURE
I	1	MICRO BA-2RQ1-A2 DOOR SWITCH
J	1	CHINCH 3 POINT TB
K	1	LEVITON 5262 15A RECP
L	2	GROUND AND NEUTRAL BUS
M	1	MILBANK U8949 200 AMP
N	1	INTERMATIC IG1240R SURGE
O	8	SQ D 9080GR6 TB
P	1	TORK 7200ZL TIME CLOCK
R	4	SQ D FAL12020 1P/20A BREAKER
S	1	MAGNECRAFT W389ACX-9 RELAY

EXCEL LTD. INC.
888 EAST BELVIDERE ROAD
UNIT 405
GRAYSLAKE , IL. 60099
PHONE : 847-543-9138
FAX : 847-543-9230

SCALE: NTS	APPROVED BY:	DRAWN BY: JDC
DATE: 8-13-03		REVISED: 4/4/05

LIGHT CONTR PED MOUNT 'B' & 'C'
WILLOW ROAD TO FRONTAGE ROAD

IDOT CONTRACT # 83693 — DRAWING NUMBER: J11868SR

EXISTING PANEL WIRING DIAGRAM CONTROLLER B

NOTE:

WIRING DIAGRAMS FOR CONTROLLER ''B'' ARE INCLUDED FOR REFERENCE ONLY.

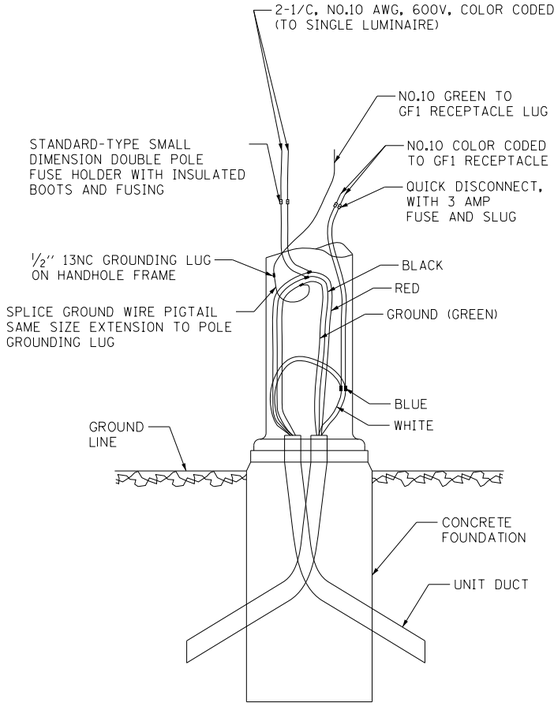
FILE NAME = G:\CHI1\0158\Road\Road-CD\Lighting\D1601135-SHT-LIGHT-14.dgn	USER NAME = BAWistort	DESIGNED - SRF	REVISED -
		DRAWN - AJP	REVISED -
	PLOT SCALE = 100.000 ' / in.	CHECKED - SRF	REVISED -
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING DETAILS
LIGHTING CONTROLLER MODIFICATION (DOWNTOWN)

SCALE: NONE | SHEET NO. 437 OF 919 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	437
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



POLE BASE WIRING DETAIL
FOR DOWNTOWN LIGHTING

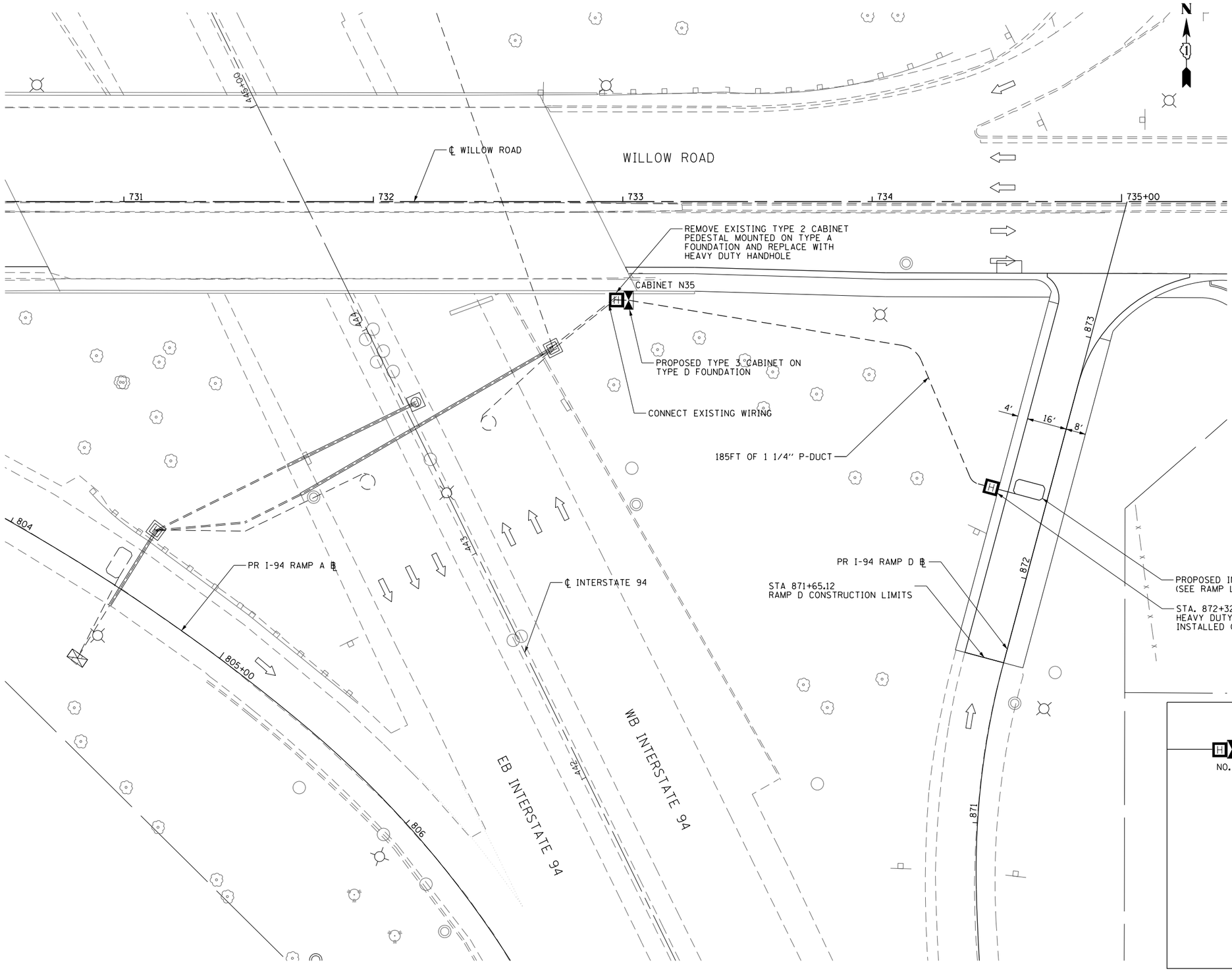
FILE NAME =	USER NAME = BAWstort	DESIGNED - SRF	REVISED -
G:\CH11\0158\Road\Road-CD\Lighting\D160T35-SHT-LIGHT-15.dgn		DRAWN - AJP	REVISED -
	PLOT SCALE = 100.000 ' / in.	CHECKED - SRF	REVISED -
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING DETAILS

SCALE: NONE | SHEET NO. 438 OF 919 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	438
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



LEGEND

- DIRECTION OF TRAFFIC
- EXISTING JUNCTION BOX
- EXISTING HEAVY DUTY HANDHOLE
- PROPOSED HEAVY DUTY HANDHOLE (SPECIAL)
- EXISTING CABINET
- PROPOSED CABINET
- EXISTING STORM SEWER CATCH BASIN
- EXISTING STORM SEWER MANHOLE
- EXISTING LIGHT POLE
- EXISTING CIRCLE INDUCTION LOOP
- EXISTING PREFORMED DETECTOR LOOP
- PROPOSED INDUCTION LOOP
- EXISTING POLYETHELENE DUCT
- PROPOSED POLYETHELENE DUCT
- EXISTING CONDUIT

NOTES

1. INDUCTION LOOP IN RAMP D WILL BE REMOVED AND REPLACED DUE TO RAMP CONSTRUCTION. CABINET N35 AND FOUNDATION TO BE REMOVED AND REPLACED. EXISTING P-DUCT AND WIRING FROM LOOP TO CABINET SHALL BE ABANDONED.

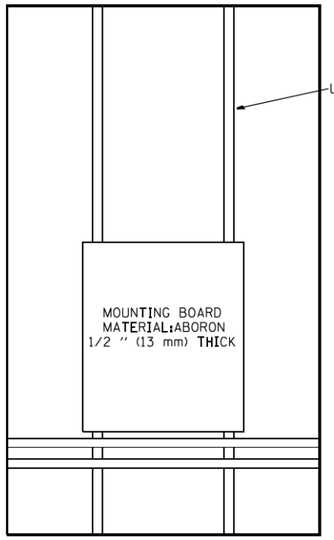
FILE NAME = G:\CH11\0158\Road\Sheets\D160T35-SHT-LOOP-01.dgn	USER NAME = BAWstort	DESIGNED - JLV	REVISED -
		DRAWN - MNB	REVISED -
	PLOT SCALE = 40.0000 ' / in.	CHECKED - RCB	REVISED -
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

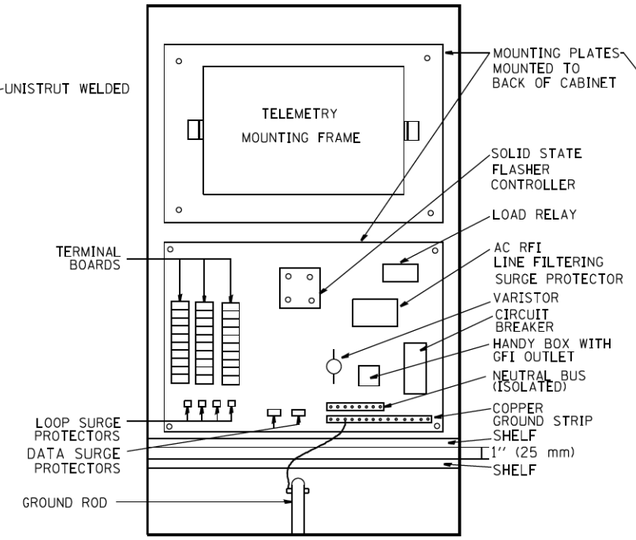
INTERSTATE 94 RAMP D DETECTOR LOOP INSTALLATION

SCALE: 1" = 20' | SHEET NO. 439 OF 919 SHEETS

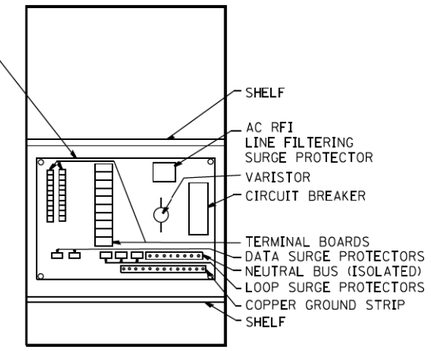
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	439
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



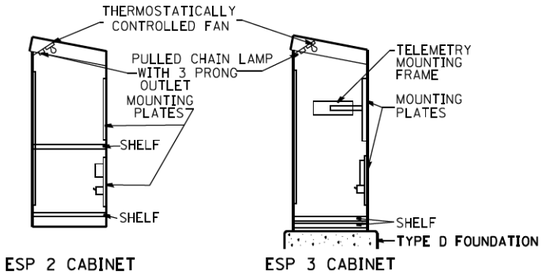
SIDE VIEW ESP 3 & 4 CABINET



ESP 3 CABINET



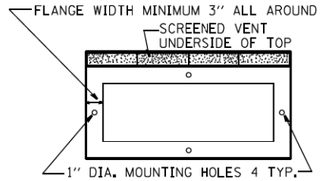
ESP 2 CABINET



ESP 2 CABINET ESP 3 CABINET

PROFILE VIEWS

NOTE: MOUNTING PLATES TO BE MOUNTED TO BACK PANEL OF CABINET



BOTTOM VIEW
MOUNTING PATTERN

TYPICAL CABINET INTERIORS

STANDARD TRAFFIC SYSTEMS CENTER CABINETS

MINIMUM DIMENSIONS INSIDE

TYPE	HEIGHT (IN-mm)	WIDTH (IN-mm)	DEPTH (IN-mm)	THICKNESS (IN-mm)	MATERIAL
ESP1	22.5" (571.5 mm)	14.25" (361.95mm)	9.75" (247.65mm)	3/16 " (4.76mm)	FABRICATED ALUMINUM
ESP2	36" (914.4mm)	20" (508.0mm)	15" (381.0mm)	73/16" (4.76mm)	FABRICATED ALUMINUM
ESP3	49.5" (1.26 m)	30" (762.0mm)	17" (431.8mm)	3/16 " (4.76mm)	FABRICATED ALUMINUM
ESP4	55" (1.4 m)	44" (1.12 m)	26" (660.4mm)	3/16" (4.76mm)	FABRICATED ALUMINUM

NOTES:

1. CABINETS, CABINET POSTS AND CABINET PEDESTALS SHALL BE PRIMED AND PAINTED IN ACCORDANCE WITH SECTION T637 OF THE "STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS". THE FINAL COAT SHALL BE (X) IN COLOR. THE INTERIOR SHALL BE PAINTED WHITE. SIGNAL POSTS AND HEADS TO BE FEDERAL YELLOW 89-19(MAUTZ).
2. CABINETS SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE PORTIONS OF SECTION T400 OF THE "STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS".
3. ALL CABINETS WHICH ARE SERVICED BY 117 VOLTS A.C. POWER SHALL BE EQUIPPED WITH A 10 AMP CIRCUIT BREAKER, A.C. R.F.I. LINE FILTERING SURGE PROTECTOR, VARISTOR, DATA SURGE AND LOOP SURGE PROTECTORS AS INCIDENTAL TO THE COST OF THE CABINET. CMS CABINETS TYPE IV SHALL HAVE A 60 AMP. CIRCUIT BREAKER MINIMUM.
4. ESP 2/3/4 CABINETS SHALL BE FITTED WITH A THERMOSTATICALLY CONTROLLED FAN. IT SHALL BE MOUNTED AT THE TOP OF THE CABINET. THE FAN SHALL BE CAPABLE OF OPERATING AT 130 CPM AT 160' (48.8 m) OF STATIC WATER PRESSURE. A PORCLAIN BASED PULL CHAIN FIXTURE WITH 3 PRONG OUTLET SHALL ALSO BE PROVIDED.
5. RAMP METERING ESP 3 TYPE CABINETS SHALL ALSO BE EQUIPPED WITH A LOAD RELAY AND 2 CIRCUIT FLASHER. LAMPS, FAN, LOAD RELAY, AND 2 CIRCUIT FLASHER SHALL BE INCIDENTAL TO THE COST OF THE CABINET
6. INCIDENTAL TO THE COST OF EACH CABINET THE CONTRACTOR SHALL CONSTRUCT A 5 INCH (130mm) PCC SIDEWALK OF A RECTANGULAR AREA 3 FEET (915 mm) BY 4 FEET (1.25 m) IMMEDIATELY ADJACENT TO THE CABINET FOUNDATION ON THE SAME SIDE OF THE FOUNDATION AS THE CABINET DOOR TO PROVIDE FOOTING DURING INSTALLATION AND MAINTENANCE.
7. ANCHOR BOLTS FOR PEDESTAL AND BASE MOUNTED CABINETS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CABINET.
8. ALL CABINETS SHALL HAVE TERMINAL BLOCKS AND SHELVES AS SHOWN. THESE ITEMS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CABINET.
9. THE CABINET DOOR SHALL BE HINGED ON THE RIGHT SIDE WHEN FACING THE CABINET. THE DOOR SHALL BE FURNISHED WITH A GASKET THAT SHALL FORM A WEATHER TIGHT SEAL BETWEEN THE CABINET AND DOOR. THE HINGES SHALL BE CONTINUOUS AND BOLTED TO THE CABINET AND DOOR UTILIZING 1/4-20 STAINLESS STEEL CARRIAGE BOLTS AND NY-LOCK NUTS. THE HINGES WILL BE MADE OF STAINLESS STEEL WITH A 0.25 INCH (6.35 mm) DIAMETER STAINLESS STEEL HINGE PIN. THE HINGE PIN SHALL BE CAPPED TOP AND BOTTOM BY WELD TO RENDER IT TAMPER PROOF.
10. THE LATCHING MECHANISM SHALL BE A 3 POINT DRAW ROLLER TYPE. THE CENTER CATCH AND PUSHRODS SHALL BE EITHER CADMIUM OR ZINC PLATED, TYPE II CLASS I. PUSHRODS WILL BE TURNED EDGEWISE AT THE OUTWARD SUPPORTS AND SHALL BE 0.25 INCH (6.35 mm) BY 0.75 INCH (19.05 mm), MINIMUM. ROLLERS SHALL HAVE A MINIMUM DIAMETER OF 0.875 INCH (22.22 mm) AND WILL BE MADE OF NYLON. THE CENTER CATCH SHALL BE FABRICATED FROM 0.14 INCH (3.55 mm) STEEL. MIMIMUM. WHEN THE DOOR IS CLOSED AND LATCHED, IT WILL BE LOCKED. THE LATCHING HANDLE SHALL HAVE A PROVISION FOR PADLOCKING IN THE CLOSED POSITION. AN OPERATING HANDLE SHALL BE FURNISHED WITH EACH LOCK. THE HANDLE WILL BE STAINLESS STEEL WITH A 0.75 INCH (19.05 mm) DIAMETER SHANK.
11. THE ENCLOSURE SHALL BE EQUIPPED WITH TWO ADJUSTABLE "C" MOUNTING CHANNELS WELDED ON BOTH SIDE WALLS AND BACK WALL OF THE ENCLOSURE, ALLOWING VERSATILE POSITIONING OF SHELVES OR PANELS. MOUNTING CHANNELS SHALL BE FACTORY PAINTED SAME COLOR AS INTERIOR OF CABINET.
12. CABINET DOOR SHALL NOT HAVE COMPARTMENT DOORS OR LOUVERS.
13. ALL FIELD CABINETS SHALL BE FITTED WITH BRASS LOCKS.
14. ESP TYPE 2 & 3 CABINETS FITTED WITH TWO SHELVES AS SHOWN.
15. POST TOP MOUNTED CABINETS, SHALL HAVE A 0.25 INCH (6.3 mm) BOTTOM OF CABINET WELDED.
16. THE CONTROL CABINET SHALL BE SET PLUMB ON THE FOUNDATION AND FASTENED TO THE ANCHOR BOLTS WITH NUTS AND WASHERS. FLAT WASHERS SHALL BE INSTALLED BELOW AND ABOVE THE BASE PLATE OF THE CONTROL CABINET. LOCKWASHERS SHALL BE INSTALLED ON TOP OF THE TOP FLAT WASHER.

(X)

EDENS	WALNUT •
KENNEDY	BLUE STREAK ••
EISENHOWER	CARIBBEAN BLUE •
I-290/IL53/I-355	POST OFFICE BLUE ••
RYAN	YELLOW STONE II ••
I-55	MEDIUM BRONZE •
I-57	RED BARON ••
CAL-KING	BLUE STREAK ••
LAKE SHORE DR.	GREEN •
I-80	STATUARY BRONZE ••

ALL RAMP METERING CABINETS LIME GREEN •••. ALL POSTS, T.S. HEADS AND SERVICES WILL BE PAINTED FEDERAL YELLOW.

• MORTON POWDER PAINT COLOR OR EQUIVALENT.
•• O'BRIEN POWDER PAINT COLOR OR EQUIVALENT.
••• BENJAMIN MOORE ENAMEL COLOR OR EQUIVALENT.

NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR CONFORMING TO COLOR REQUIREMENTS

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	PLOT DATE = 7/6/2012	DATE - 06/21/94	REVISED - 03/99

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
TRAFFIC SYSTEMS CENTER

CABINET DETAIL SHEET

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TRAFFIC SYSTEMS CENTER (TY-1TSC-400#4)

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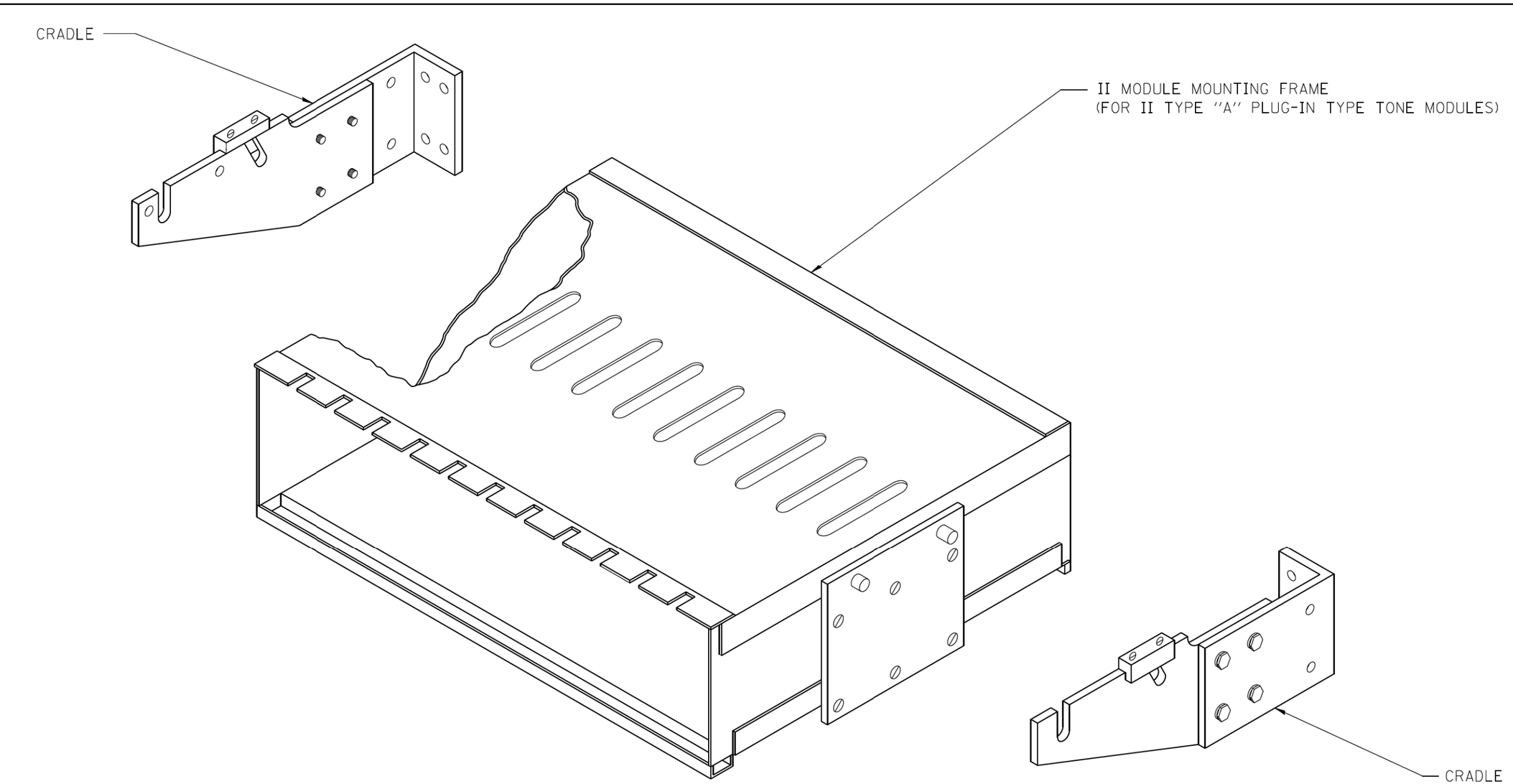
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETECTOR LOOP DETAILS

SCALE: N.T.S | SHEET NO. 440 OF 919 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.48)R	COOK	919	440
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



NOTE:

TYPE "A" TONE MODULES ARE PLUG
IN UNIT MEASURING 5-7/32" (132.55 mm) X 1.5" (38.1 mm) X 13-3/4" (349.25 mm)

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	PLOT DATE = 7/6/2012	DATE - 06/21/94	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
TRAFFIC SYSTEMS CENTER

FIELD MOUNTING FRAME WITH CRADLE ASSEMBLY

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TRAFFIC SYSTEMS CENTER (TY-1TSC-400#6)

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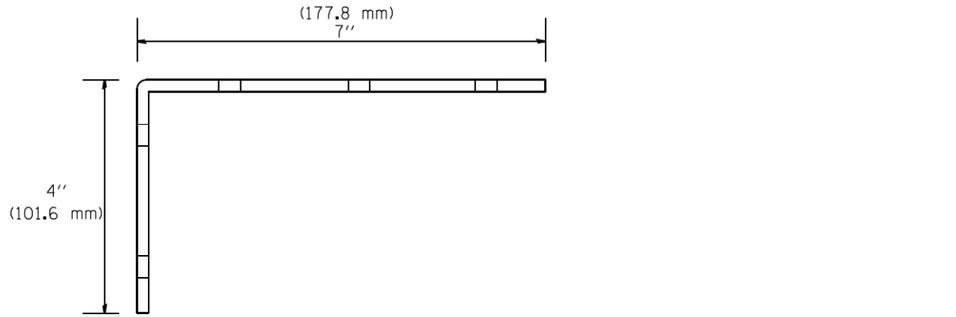
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

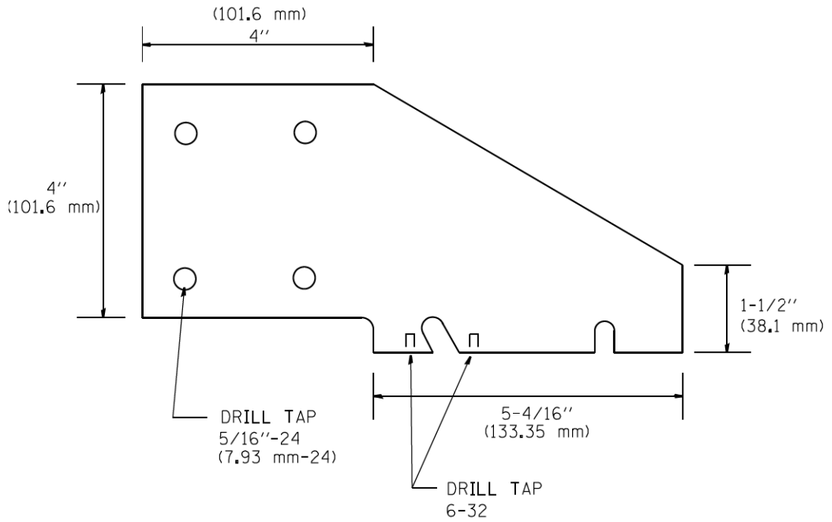
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

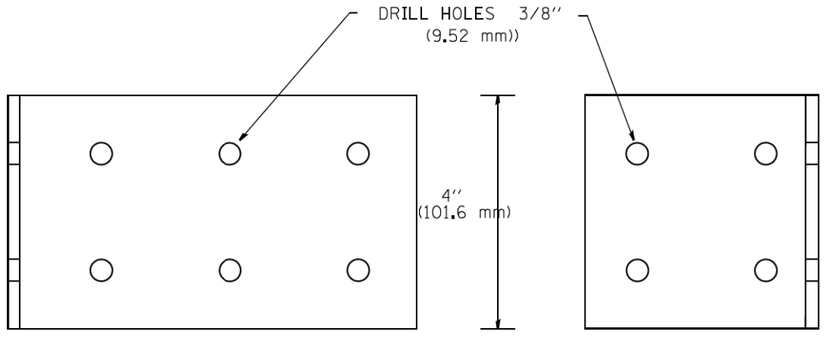
DETECTOR LOOP DETAILS

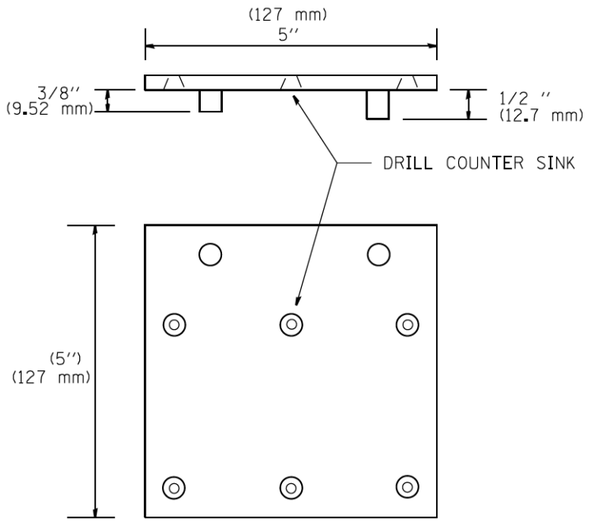
SCALE: N.T.S | SHEET NO. 441 OF 919 SHEETS

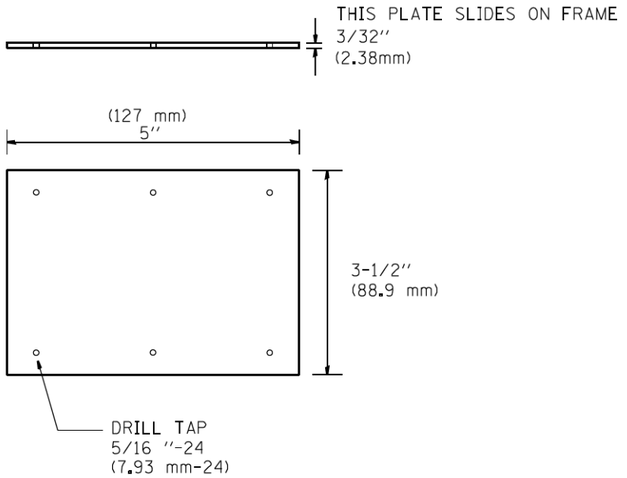
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	441
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

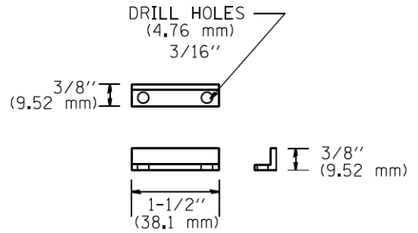












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	PLOT DATE = 7/6/2012	DATE - 06/21/94	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
TRAFFIC SYSTEMS CENTER

FIELD CRADLE ASSEMBLY

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TRAFFIC SYSTEMS CENTER (TY-1TSC-400#7)

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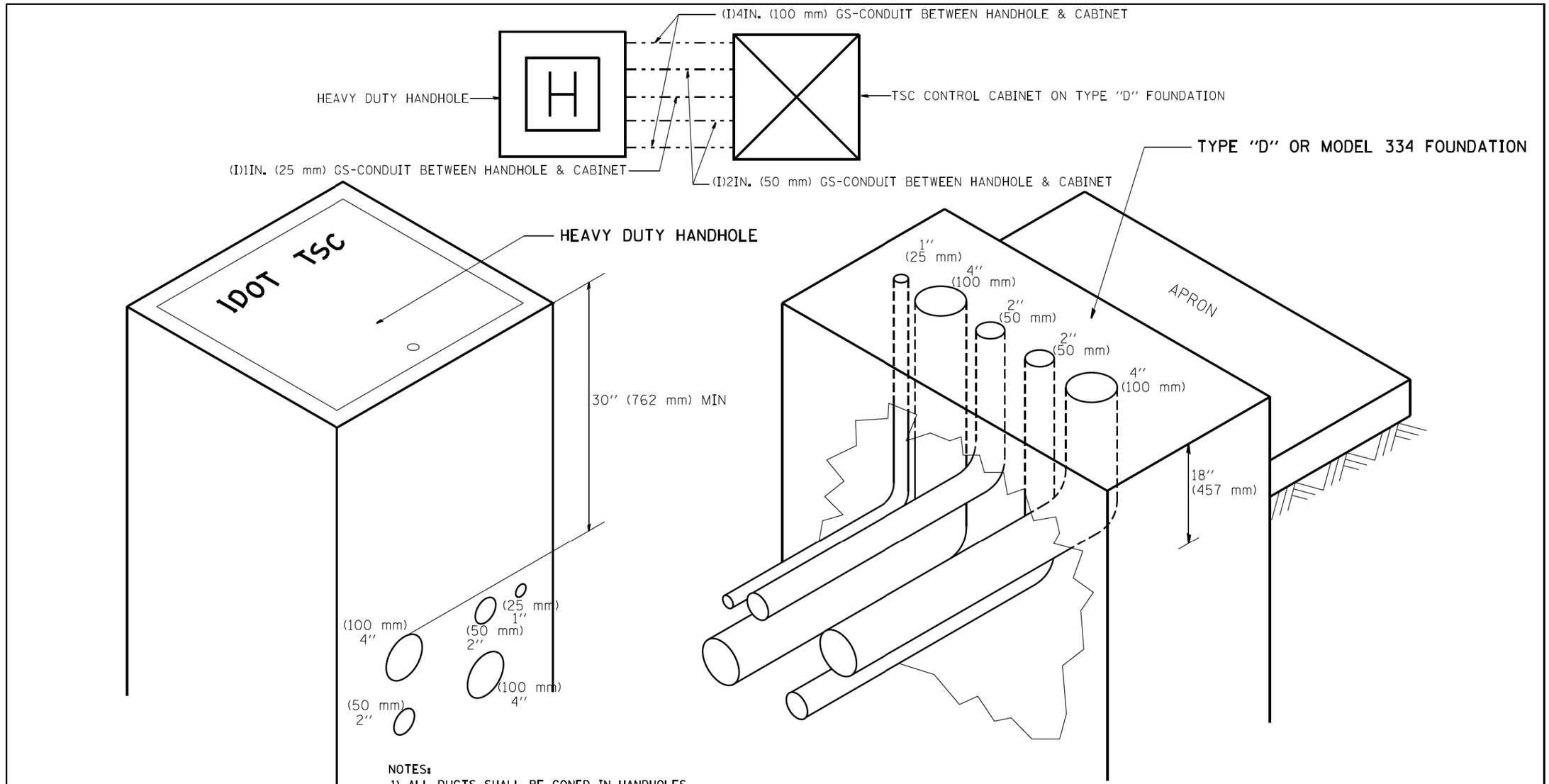
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETECTOR LOOP DETAILS

SCALE: N.T.S | SHEET NO. 442 OF 919 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	442
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



NOTES:

1) ALL DUCTS SHALL BE CONED IN HANDHOLES.
2) ALL DUCTS SHALL BE GS-CONDUIT & GS 90 DEG. ELBOWS USED WHERE NEEDED.
3) ALL DUCTS ENTER HANDHOLE AT MINIMUM DEPTH OF 30 INCH (762 mm)
4) ALL HANDHOLE COVERS SHALL READ "IDOT TSC".
5) ALL CABINET HANDHOLES SHALL BE HEAVY DUTY.
6) DUCTS SHALL BE CENTERED IN CABINET FOUNDATION/HANDHOLE AS SHOWN.
7) CONDUITS SHALL BE SPACED 305 mm (1 FOOT) CENTER TO CENTER IN HEAVY DUTY HANDHOLE.
8) INSTALL 3/4" X 10' (20 mm X 3 m) COPPER CLAD STEEL GROUND ROD IN HDHH PROVIDED AS CABINET PAD. EXOTHERMIC WELD CONNECTION FROM GROUND ROD TO #6 GROUND WIRE INSULATED (GREEN).
9) BOND ALL GSC CONDUITS IN CABINET FOUNDATION.
10) INSTALL #6 GROUND WIRE IN 1IN. (25 mm) GSC FROM HANDHOLE TO CABINET.
11) TYPE "D" FOUNDATION SHALL BE 18" FROM TOP OF FOUNDATION TO FINISHED GRADE.

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	PLOT DATE = 7/6/2012	DATE - 06/05/95	REVISED - 07/2010

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
TRAFFIC SYSTEMS CENTER

CABINET - HANDHOLE CONDUIT DETAIL

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TRAFFIC SYSTEMS CENTER (TY-1TSC-400#11)

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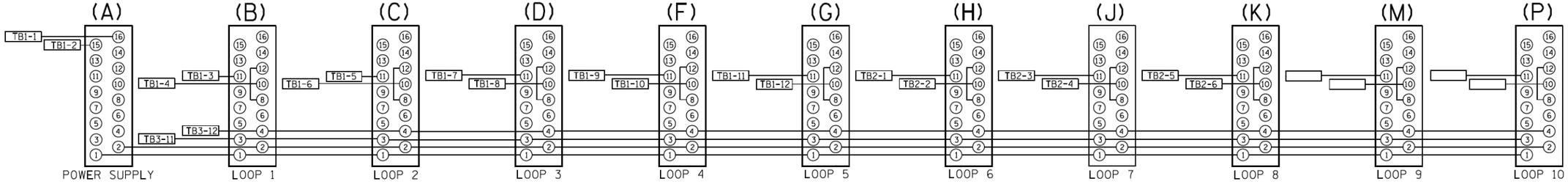
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

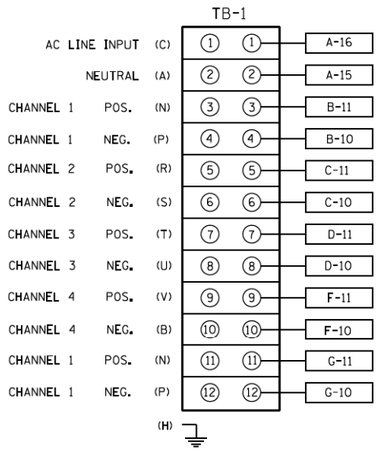
DETECTOR LOOP DETAILS

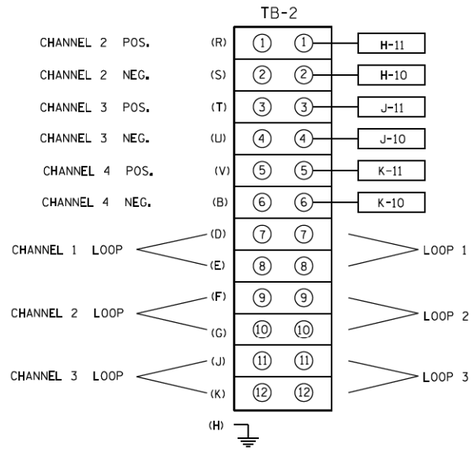
SCALE: N.T.S | SHEET NO. 443 OF 919 SHEETS

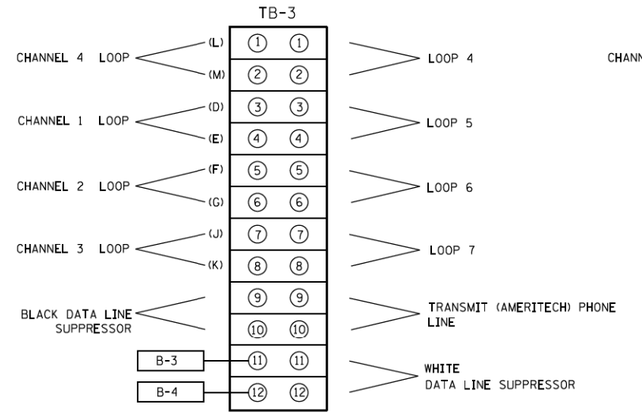
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	443
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

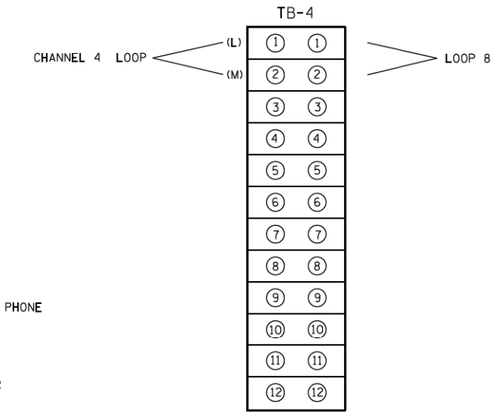
BACK VIEW OF TONE RACK

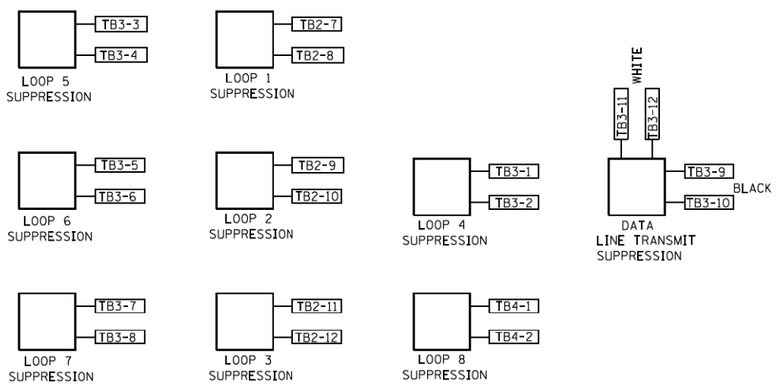


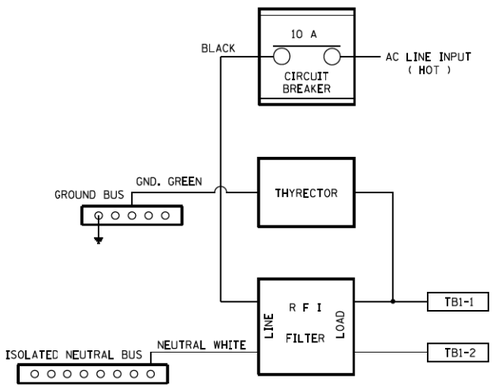












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	PLOT SCALE = 100.0000 ' / in.	DRAWN - G.M.	REVISED - 05-99		SCALE: NONE SHEET NO. OF SHEETS STA. TO STA.		
	PLOT DATE = 7/6/2012	CHECKED - RJL	REVISED -				CONTRACT NO.
		DATE - 10-17-95	REVISED -			FED. ROAD DIST. NO.	ILLINOIS / FED. AID PROJECT

TSCTYP.dgn 7/6/2012 9:00:16 AM User=mezag

TRAFFIC SYSTEMS CENTER (TY-1TSC-400#13)

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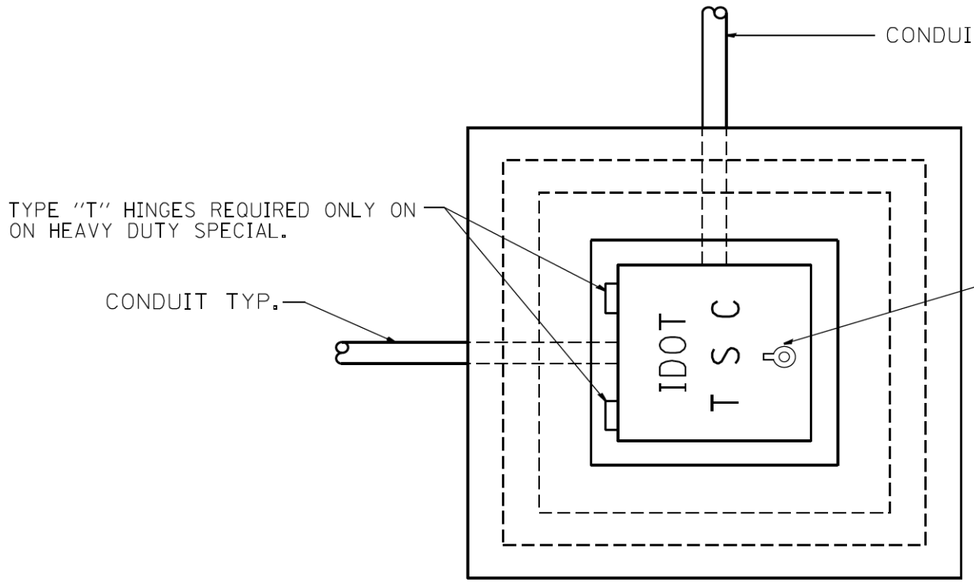
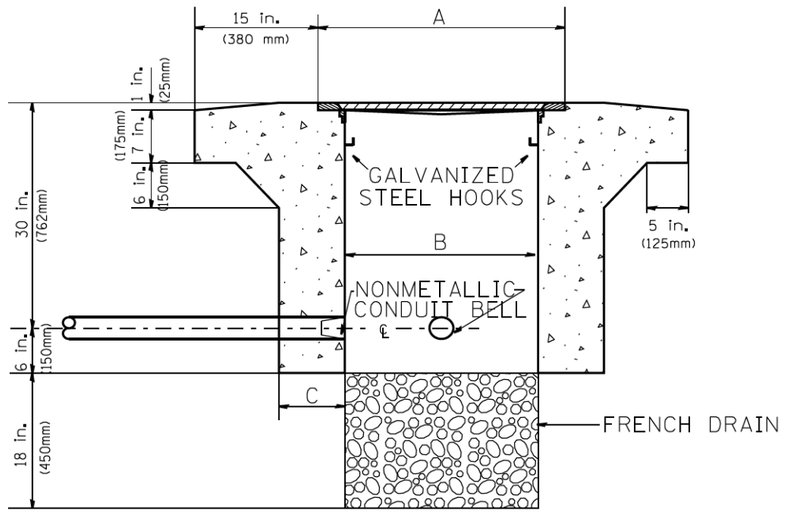
	PLOT SCALE = 40.0000 ' / in.	DRAWN - MNB	REVISED -		SCALE: N.T.S SHEET NO. 444 OF 919 SHEETS	305	(1920.01,1518,2022&1922.4B)R / COOK / 919 / 444
	PLOT DATE = 11/1/2012	CHECKED - RCB	REVISED -				CONTRACT NO. 60T35
		DATE - 10/31/2012	REVISED -			FED. ROAD DIST. NO. 1	ILLINOIS / FED. AID PROJECT



PLAN



ELEVATION

HEAVY DUTY HANDHOLE MINIMUM DIMENSIONS (UNHINGED)

A	28" (711 mm)
B	22" (559 mm)
C	8" (200 mm)

(FRAME AND COVER 260 LBS. (118 Kg.) MIN.)

HEAVY DUTY HANDHOLE SPECIAL MINIMUM DIMENSIONS

A	31.5" (800 mm)
B	30.0" (762 mm)
C	10.0" (250 mm)

(FRAME AND COVER 405 LBS. (184 Kg. (405))

PC CONCRETE - HEAVY DUTY HAND HOLE

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
TRAFFIC SYSTEMS CENTER

PC CONCRETE - HEAVY DUTY HAND HOLE
SCALE: NONE | SHEET NO. OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TRAFFIC SYSTEMS CENTER (TY-1TSC-400#15)

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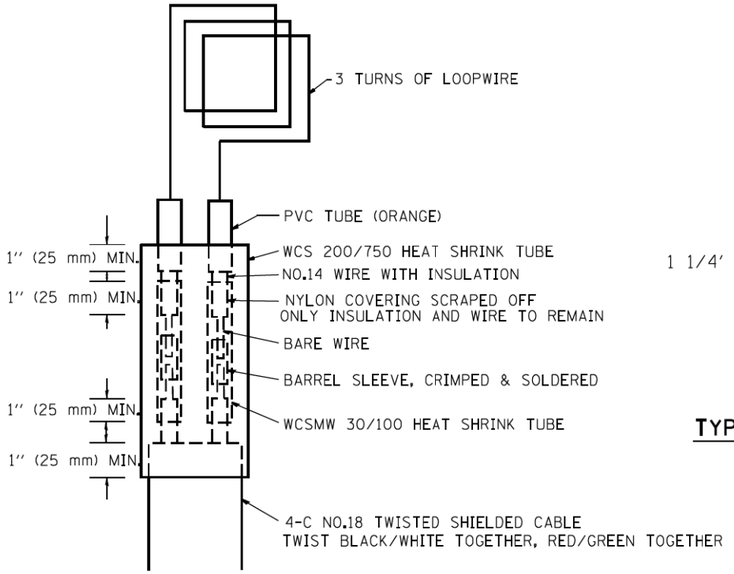
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

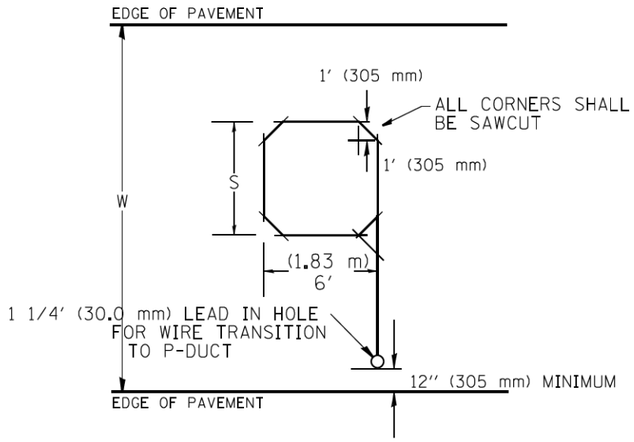
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETECTOR LOOP DETAILS
SCALE: N.T.S | SHEET NO. 445 OF 919 SHEETS

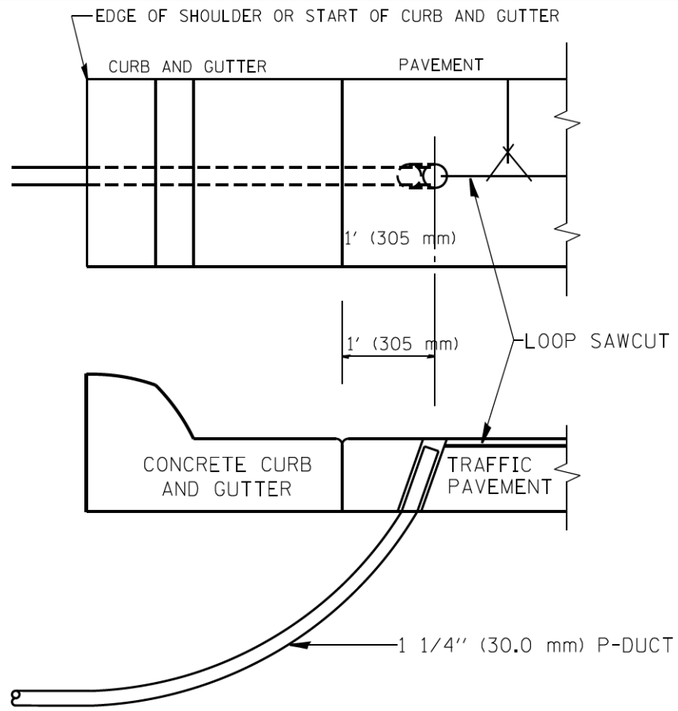
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.48)R	COOK	919	445
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



LOOP SPLICING REQUIREMENTS



TYPICAL "S" FT. BY 6' (1.83 m) INDUCTION LOOP SAWCUT LAYOUT FOR RAMPS



CURB AND GUTTER LOOP LEAD-IN TRANSITION DETAIL

TABLE 1	
WIDTH (W)	WIDTH (S)
12' (3.7 m)	8' (2.5 m)
13' (4.0 m)	9' (2.8 m)
14' (4.3 m)	10' (3.1 m)
15' (4.6 m)	11' (3.4 m)
16' (4.9 m)	12' (3.7 m)
17' (5.2 m)	13. (4.0 m)
18' (5.5 m)	14' (4.3 m)
19' (5.8 m)	15' (4.6 m)
20' (6.1 m)	18' (4.9 m)
21' (6.4 m)	17' (5.2 m)
22' (6.7 m)	18' (5.5 m)
23' (7.0 m)	19' (5.8 m)
24' (7.3 m)	20' (6.1 m)
25' (7.6 m)	21' (6.4 m)

NOTES

1. EACH LOOP SHALL BE SPLICED TO A 4-C NO.18 TWISTED SHIELDED LEAD IN WHEN 150' (45 m) OR MORE FROM CABINET.
2. LOOPS SHALL BE SPLICED IN HANDHOLES ONLY, OTHERWISE WRITTEN PERMISSION SHALL BE OBTAINED FROM TSC ENGINEER.
3. LOOPS SHALL NOT BE SPLICED IN SERIES.
4. EACH LOOP LEAD IN SHALL BE IDENTIFIED AND PERMANENTLY COLOR CODED IN THE COREHOLE, HANDHOLE & CABINETS THRU WHICH THEY ENTER OR PASS AND TAGGED WITH THE CORRECT NOMENCLATURES.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
TRAFFIC SYSTEMS CENTER

RECTANGULAR INDUCTION LOOP TYPICAL

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TRAFFIC SYSTEMS CENTER (TY-1TSC-418#3)

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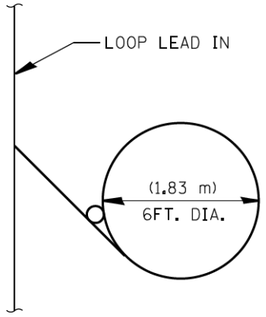
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

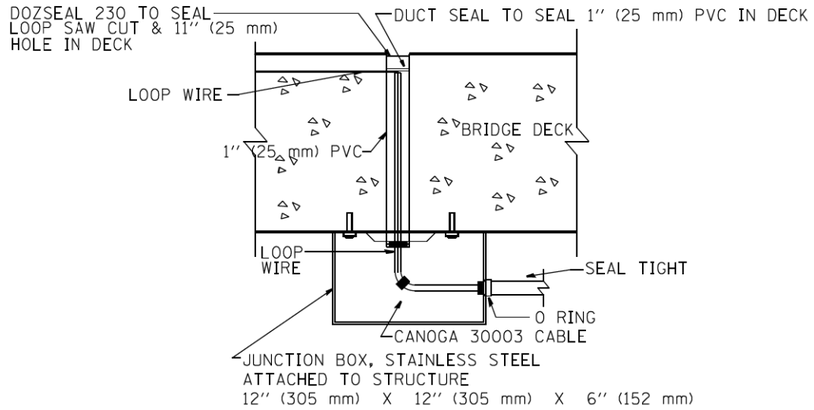
DETECTOR LOOP DETAILS

SCALE: N.T.S | SHEET NO. 446 OF 919 SHEETS

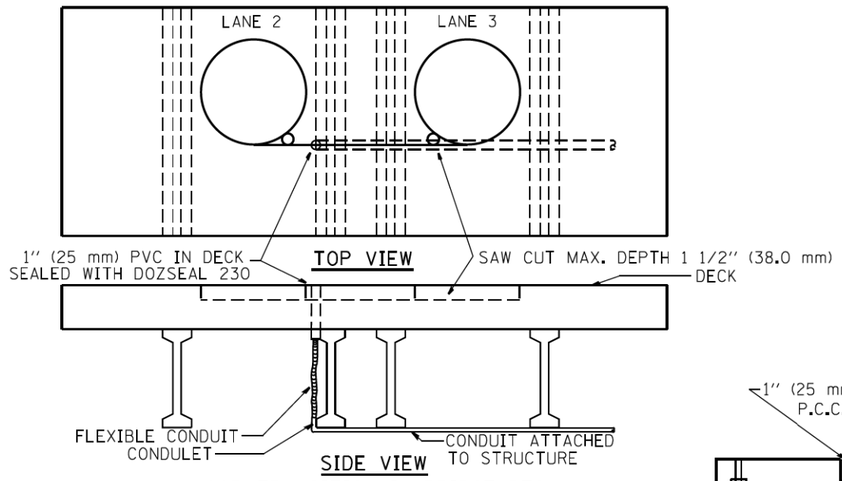
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	446
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



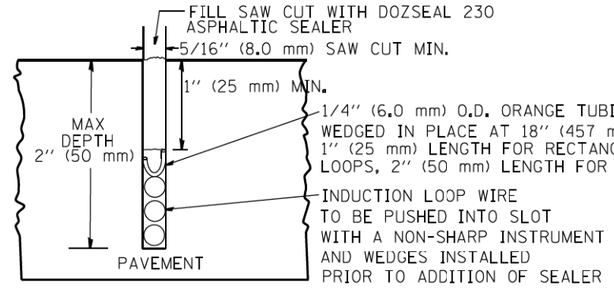
TYPICAL LOOP SAWCUT LAYOUT



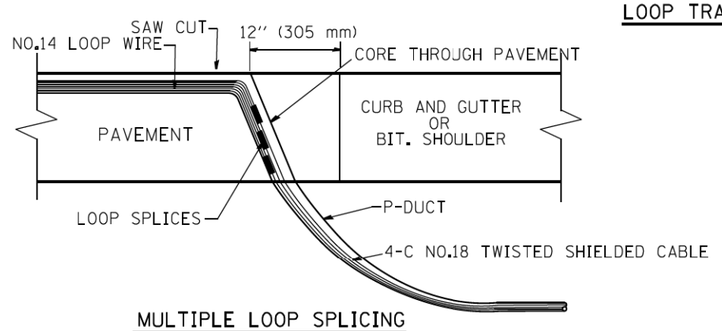
LOOP JUNCTION BOX UNDER BRIDGE DECK



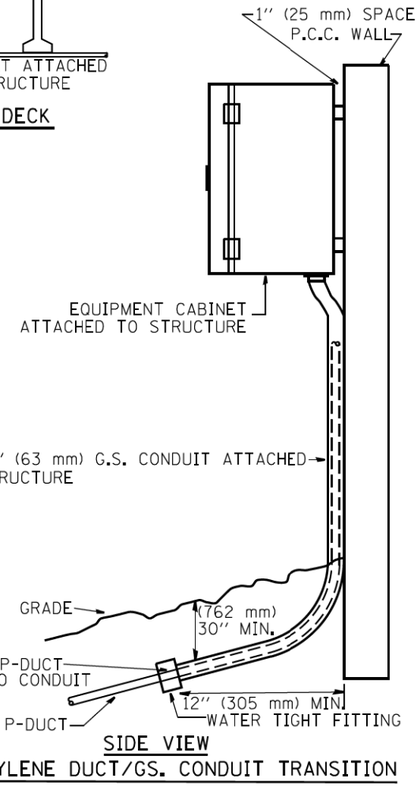
LOOP TRANSITION IN BRIDGE DECK



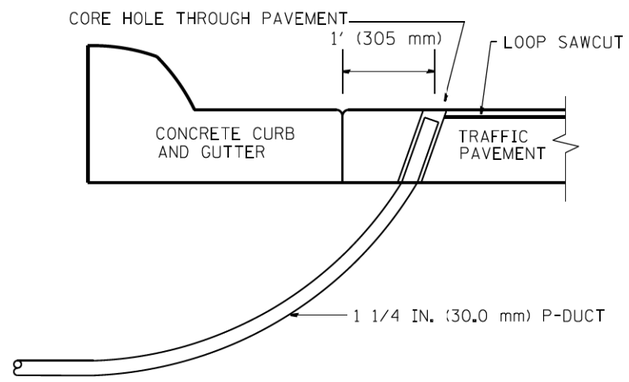
LOOP CROSS SECTION IN PAVEMENT



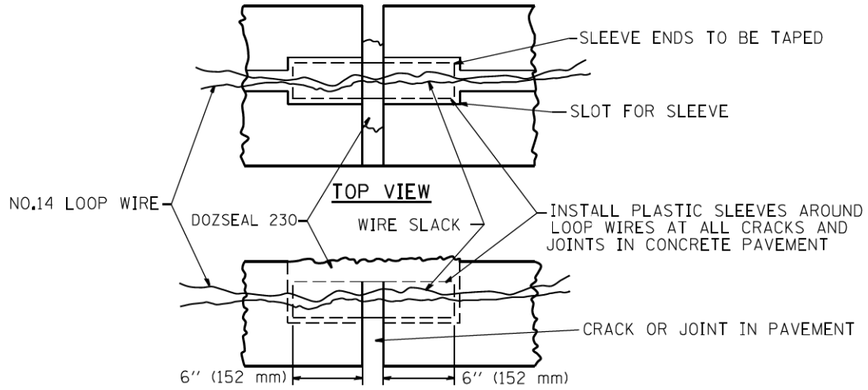
MULTIPLE LOOP SPLICING



POLYETHYLENE DUCT/GS. CONDUIT TRANSITION



SIDE SECTION LOOP LEAD-IN
TRANSITION DETAIL



SIDE SECTION
PAVEMENT CRACK TRANSVERSE SLEEVE

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	PLOT DATE = 5/17/2012	DATE - 06/22/94	REVISED - 10/96

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
TRAFFIC SYSTEMS CENTER

LOOP, CONDUIT & DUCT INSTALLATION DETAILS

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			CONTRACT NO.	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TRAFFIC SYSTEMS CENTER (TY-1TSC-418#4)

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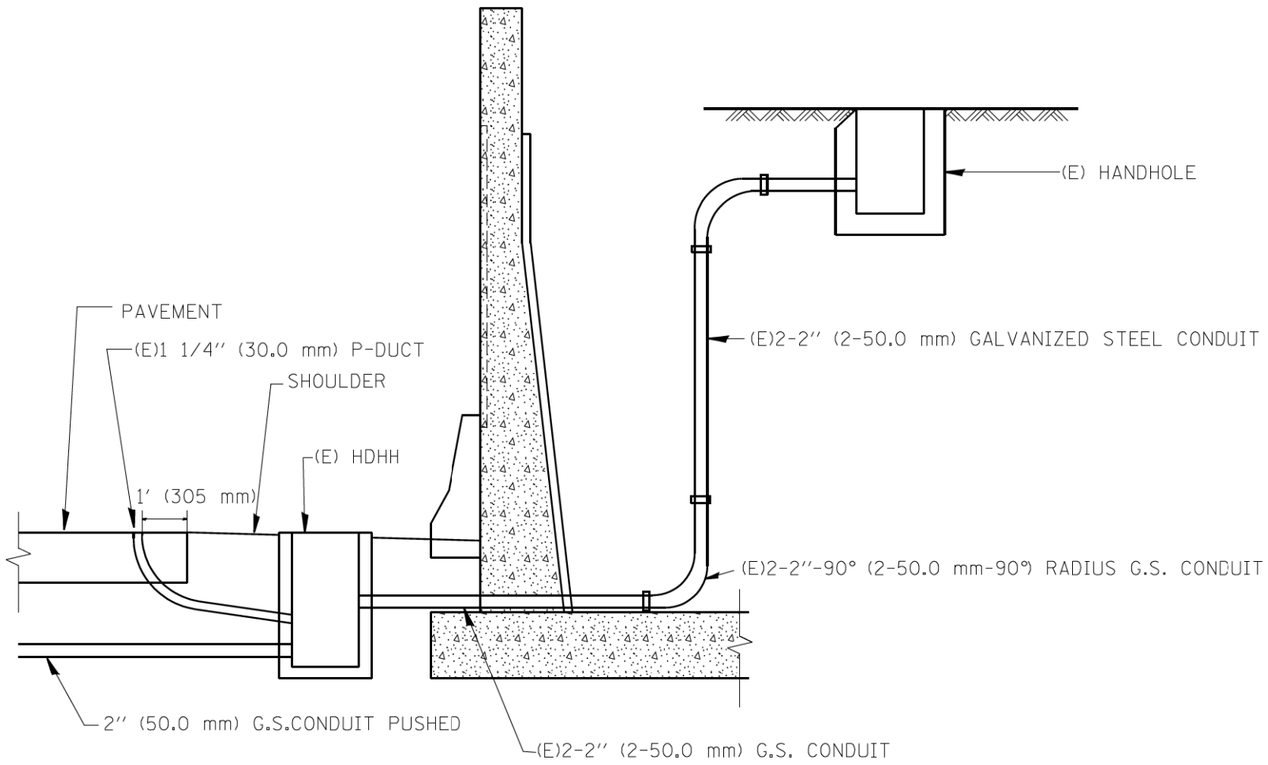
	PLOT SCALE = 40.0000 ' / in.	CHECKED - RCB	REVISED -
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETECTOR LOOP DETAILS

SCALE: N.T.S | SHEET NO. 447 OF 919 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	447
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



SHOULDER LOOP LEAD-IN
TRANSITION DETAIL

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		DRAWN - G.M.	REVISED - 11/95							
	PLOT SCALE = 100.0000 ' / IN.	CHECKED - R.L.	REVISED - 05/96					CONTRACT NO.		
	PLOT DATE = 10/1/2010	DATE - 6-22-94	REVISED - 10/96		SCALE: NONE SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TRAFFIC SYSTEMS CENTER (TY-1TSC-418#5)

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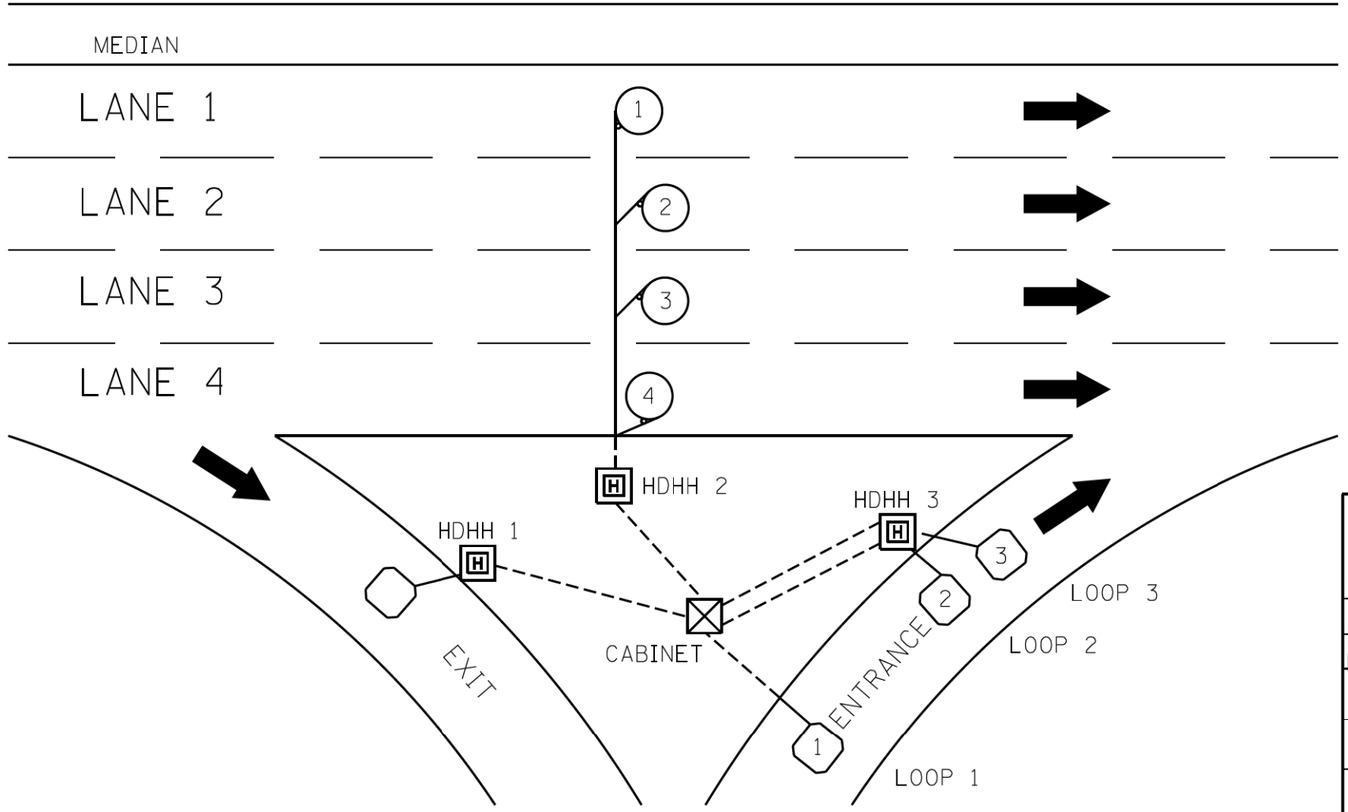
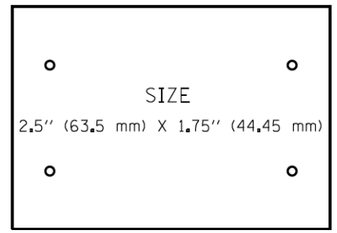
	PLOT SCALE = 40.0000 ' / in.	DRAWN - MNB	REVISED -			305	(1920.01,1518,2022&1922.4B)R	COOK	919	448
	PLOT DATE = 11/1/2012	CHECKED - RCB	REVISED -					CONTRACT NO. 60T35		
		DATE - 10/31/2012	REVISED -		SCALE: N.T.S SHEET NO. 448 OF 919 SHEETS	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		





SUGGESTED TAG
PANDUIT
#MP25OW175-C
OR EQUIVALENT

LOOP ANALYZER

LOCATION_____ DATE_____

LOOP LOCATION LANE DIRECTION	LOOP WIRE MARKED AND CODED	LOOP SIZE	FREQ. INDUCTANCE	INSULATION	LOOP RESISTANCE

HDHH 1 EXAMPLE

IB-EB EXIT
CCW IN/
TO CABINET #____

HDHH 2 EXAMPLE

IB (OB) LANE #__
CCW /OUT
TO CABINET #____

HDHH 3 EXAMPLE

IB-EB ENT.
LOOP #2
CW IN/

NOTE:
EACH LOOP WIRE SHALL BE TAGGED AS "IN" OR "OUT" AND "CW" OR "CCW". SHIELDED CABLE WILL BE TAGGED IN EACH HANDHOLE AND CABINET TO MATCH THE CABLE LOG.

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	PLOT DATE = 5/17/2012	DATE - 6-27-94	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
TRAFFIC SYSTEMS CENTER

LOOP STATUS REPORT

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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TRAFFIC SYSTEMS CENTER (TY-1TSC-418#7)

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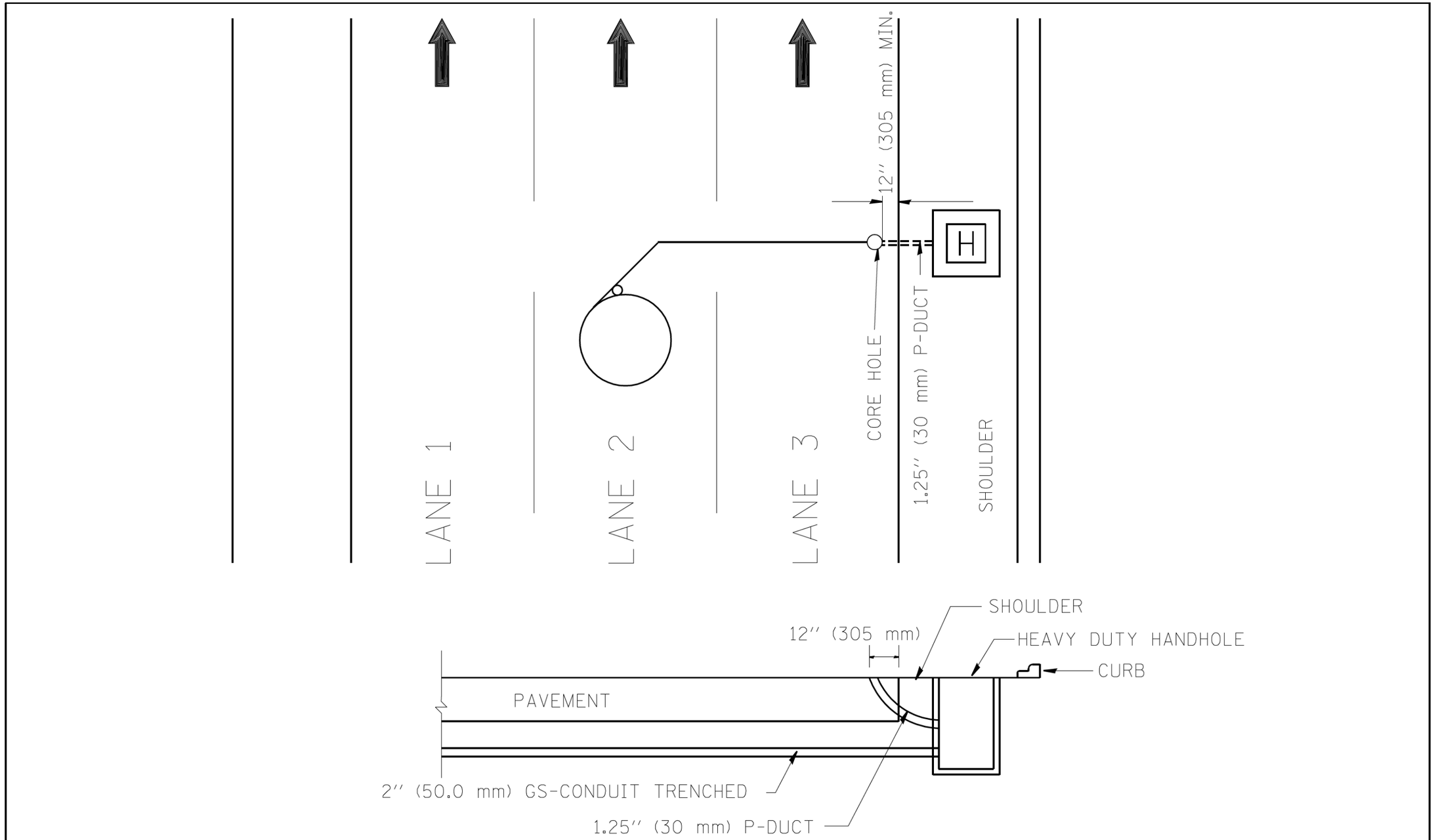
	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETECTOR LOOP DETAILS

SCALE: N.T.S | SHEET NO. 449 OF 919 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	449
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



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	PLOT DATE = 5/24/2011	DATE - 11/7/95	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
TRAFFIC SYSTEMS CENTER

DIVE HOLE DUCT SYSTEM

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TRAFFIC SYSTEMS CENTER (TY-1TSC-418#8)

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	PLOT DATE = 11/1/2012	DATE - 10/31/2012	REVISED -

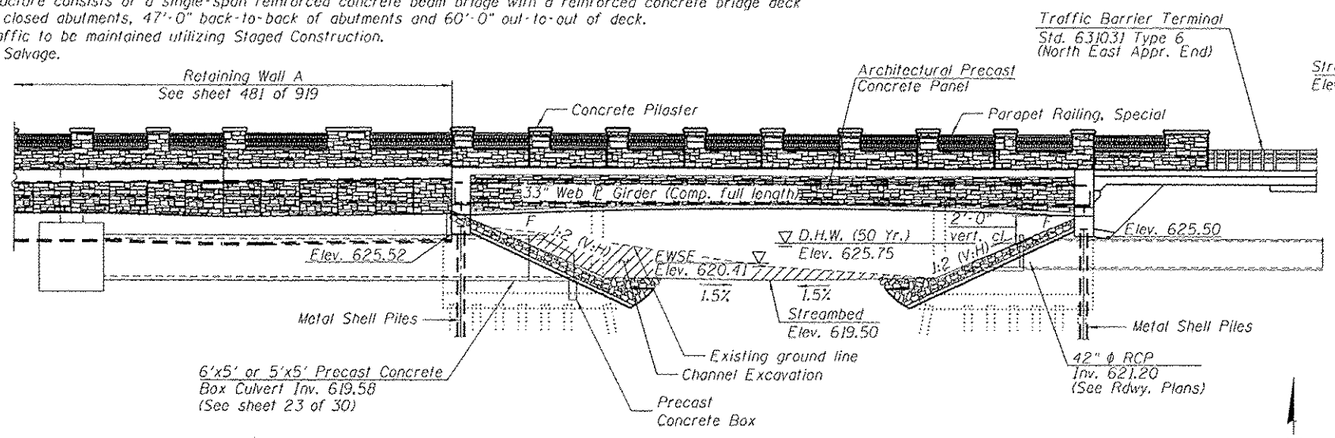
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

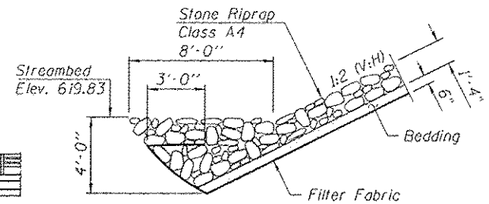
DETECTOR LOOP DETAILS

SCALE: N.T.S | SHEET NO. 450 OF 919 SHEETS

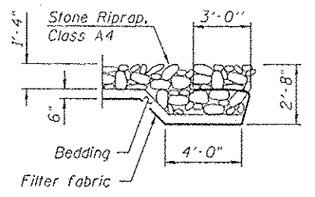
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	(1920.01,1518,2022&1922.4B)R	COOK	919	450
		CONTRACT NO. 60T35		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

Bench Mark: Square cut on SE corner of handrail at NE corner of bridge over Middle Fork of the North Branch of the Chicago River At Willow Road. Elev. 633.16
Existing Structure: S.N. 016-0535, built in 1941 as S.A. Route 110, Section 110-1922.4-MFT. The existing structure consists of a single-span reinforced concrete beam bridge with a reinforced concrete bridge deck on closed abutments, 47'-0" back-to-back of abutments and 60'-0" out-to-out of deck.
Traffic to be maintained utilizing Staged Construction.
No Salvage.

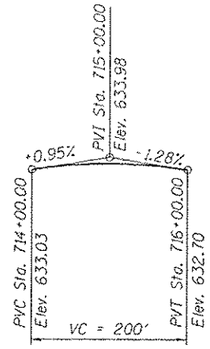




SECTION A-A



SECTION B-B



PROFILE GRADE
(Along RT & LT PGL)

WATERWAY INFORMATION

Drainage Area = 24.1 sq. mi. Low Grade Elev. 630.44 at Sta. 707+00 (Exist.) Low Grade Elev. 629.25 at Sta. 709+50 (Prop.)

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater Elev. Exist.	Headwater Elev. Prop.
	10	430	120	202	624.18	0.04	0.00	624.22	623.90
Design	50	814	186	300	625.75	0.08	0.00	625.83	625.61
Base	100	943	210	330	626.23	0.10	0.00	626.33	626.12
Max. Calc.	500	1388	258	387	627.34	0.18	0.02	627.52	627.36

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevations (ft.)	W. Abut.	E. Abut.
0100	625.52	625.50
0500	625.52	625.50

STATION 714+87.44
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RT. 0305
SEC. (1920.01,1518, 2022&1922.4B)R
LOADING HL-93
STR. NO. 016-2844

NAME PLATE

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

DESIGN STRESSES

FIELD UNITS

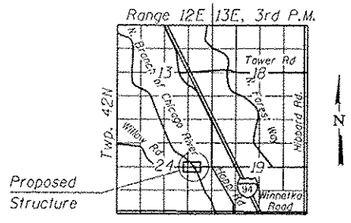
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

PRECAST UNITS

f'c = 4,500 psi (Precast Panel)
f'c = 5,000 psi (Precast Culvert)
fy = 65,000 psi (Welded Wire Fabric, Precast Culvert)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.058g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.102g
Soil Site Class = C

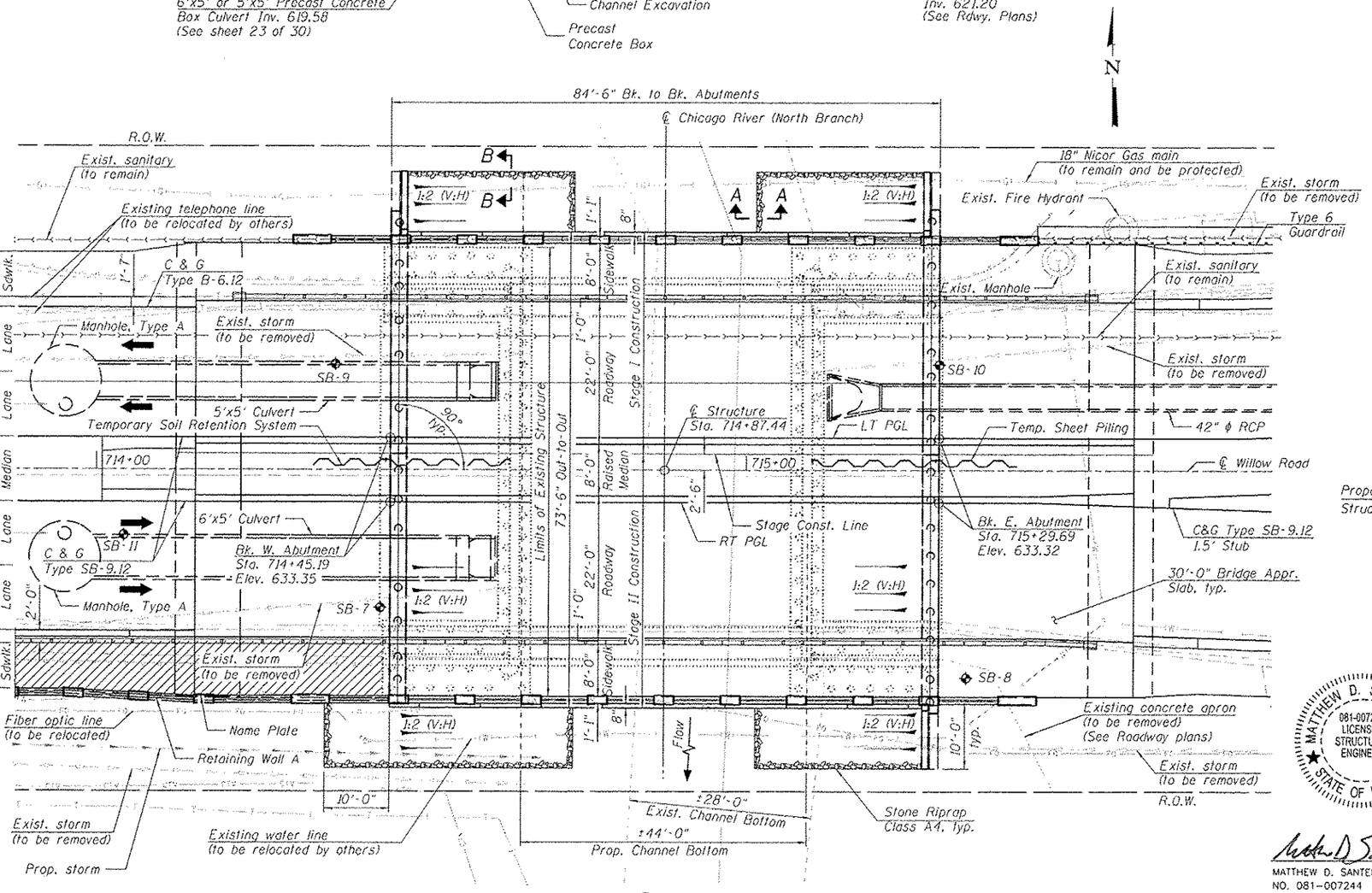


LOCATION SKETCH

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

MATTHEW D. SANTEFORD 081-007244 LICENSED STRUCTURAL ENGINEER STATE OF ILLINOIS

12/3/2012
MATTHEW D. SANTEFORD, P.E., S.E.
NO. 081-007244
EXP. DATE 11/30/2012



PLAN

GENERAL PLAN AND ELEVATION
WILLOW ROAD OVER
MIDDLE FORK OF NORTH BRANCH OF THE CHICAGO RIVER
F.A.P. RTE. 0305
SEC. (1920.01,1518,2022&1922.4B)R
COOK COUNTY
STATION 714+87.44
STRUCTURE NO. 016-2844

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TranSystems

USER NAME = jmilchak	DESIGNED - JRM	REVISED -
	CHECKED - MDS	REVISED -
PLOT SCALE = 20.0 ' / in.	DRAWN - DMG	REVISED -
PLOT DATE = 12/3/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	451
		CONTRACT NO. 60T35		
		ILLINOIS FED. AID PROJECT		

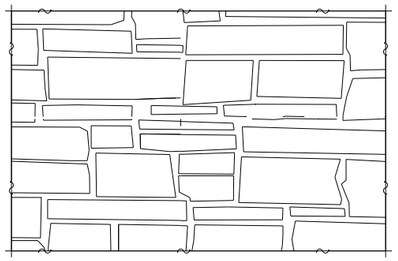
GENERAL NOTES

1. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $^{7}/_{8}$ in. ϕ, holes $^{15}/_{16}$ in. ϕ, unless otherwise noted.
2. Calculated weight of Structural Steel = 128,610 pounds (AASHTO M 270 Grade 50)
   Calculated weight of Structural Steel = 38,910 pounds (AASHTO M 270 Grade 36)
3. No field welding is permitted except as specified in the contract documents.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If addtional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.
6. The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception of masked off connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all steel surfaces shall be Gray, Munsell No. 5B 7/1.
7. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
8. The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
9. Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.
10. The Contractor is advised that the existing structure is in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the structure when developing construction procedures for removal and replacement of the structure.

TOTAL BILL OF MATERIAL

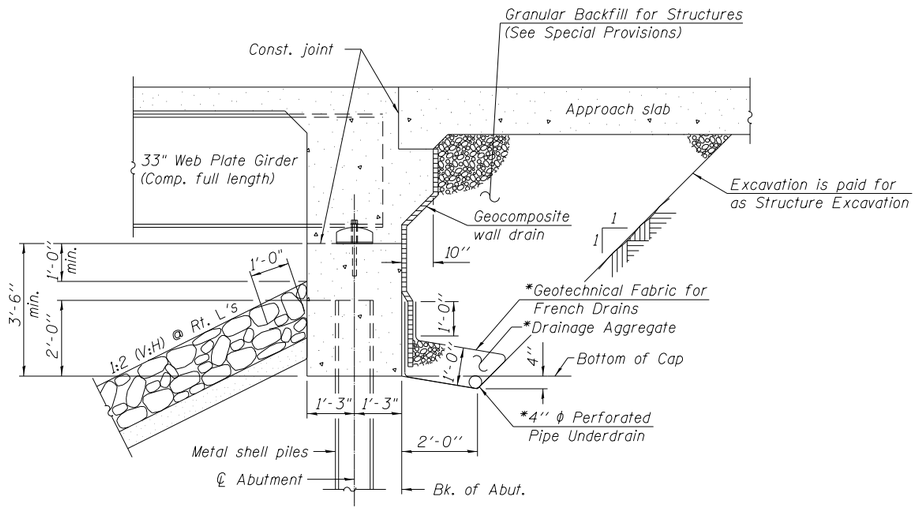
Item	Unit	Super	Sub	Total
Stone Riprap, Class A4	Sq. Yd.		577	577
Filter Fabric	Sq. Yd.		746	746
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		435	435
Concrete Structures	Cu. Yd.		102.5	102.5
Concrete Superstructure	Cu. Yd.	506.0		506.0
Bridge Deck Grooving	Sq. Yd.	707		707
Form Liner Textured Surface	Sq. Ft.	1645		1645
Protective Coat	Sq. Yd.	1293		1293
Furnishing and Erecting Structural Steel	L Sum	1		1
Stud Shear Connectors	Each	4191		4191
Reinforcement Bars, Epoxy Coated	Pound	108,530	17,980	126,510
Bar Splicers	Each	581	112	693
Furnishing Metal Shell Piles 14" x 0.312"	Foot		1740	1740
Driving Piles	Foot		1740	1740
Test Pile Metal Shells	Each		2	2
Pile Shoes	Each		30	30
Name Plates	Each	1		1
Anchor Bolts, 1"	Each		44	44
Box Culvert End Sections, Culvert No. 1	Each		1	1
Box Culvert End Sections, Culvert No. 2	Each		1	1
Precast Concrete Box Culverts 5'x5'	Foot		56	56
Precast Concrete Box Culverts 6'x5'	Foot		56	56
Geocomposite Wall Drain	Sq. Yd.		140	140
Parapet Railing, Special	Foot	168		168
Granular Backfill for Structures	Cu. Yd.		187	187
Staining Concrete Structures	Sq. Yd.		183	183
Architectural Precast Concrete Panel	Each	20		20
Steel Railing (Special)	Foot	272		272
Temporary Sheet Piling	Sq. Ft.		560	560
Pipe Underdrains for Structures 4"	Foot		184	184
Temporary Soil Retention System	Sq. Ft.		256	256

INDEX OF SHEETS



FORM LINER TEXTURED SURFACE

Note:
Form Liner Textured Surface shall meet the requirements of Custom Rock Pattern #12010 Minnehaha Blend or approved equal (See Special Provision).



*Included in the cost of Pipe Underdrains for Structures.

SECTION THRU INTEGRAL ABUTMENT

Notes:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

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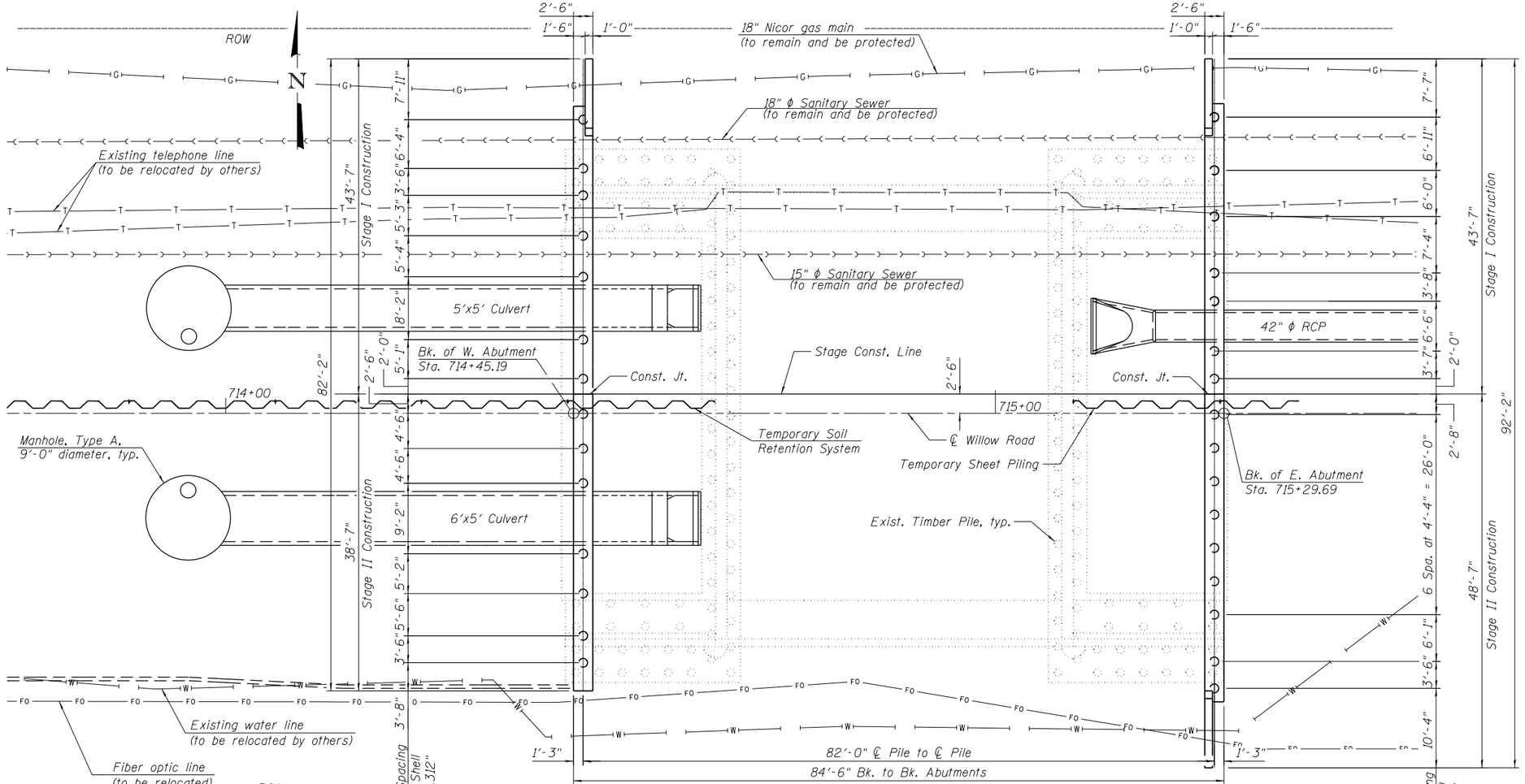
PLOT SCALE = 2.0000 '/ in.	DRAWN - DMG	REVISED -
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

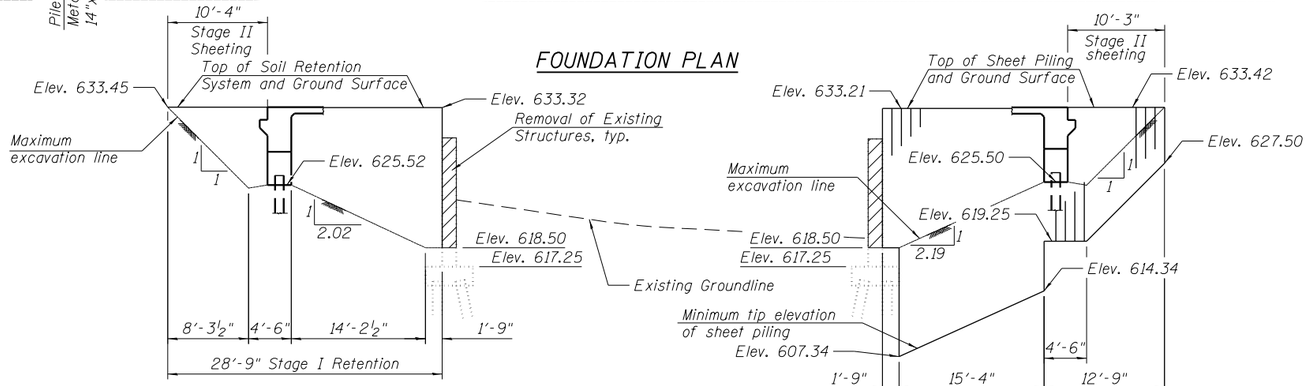
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 016-2844
SHEET NO. 2 OF 30 SHEETS

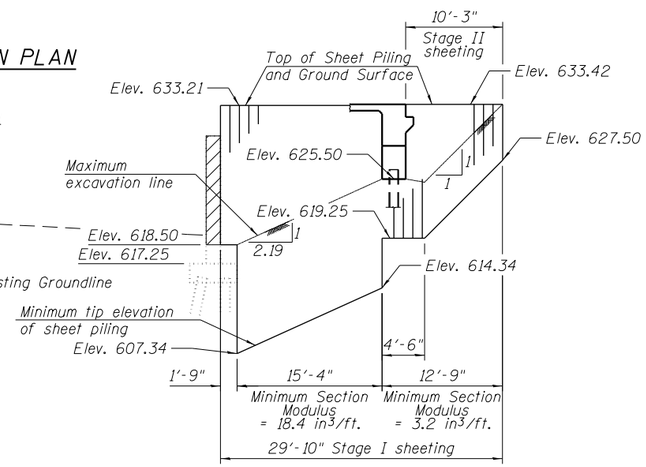
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	452
		CONTRACT NO. 60T35		
	ILLINOIS	FED. AID PROJECT		



FOUNDATION PLAN



TEMPORARY SOIL RETENTION SYSTEM
(at West Abutment)



TEMPORARY SHEET PILING
(at East Abutment)

BILL OF MATERIAL

Item	Unit	Quantity
Temporary Sheet Piling	Sq. Ft.	560
Temporary Soil Retention System	Sq. Ft.	256

Notes:

The reinforced concrete box culverts and pipes must be installed and backfilled before driving the adjacent piles.

Removal of existing structures shall be in accordance with Section 501 of the Standard Specifications. This item shall include complete removal of the concrete bridge rails, concrete deck and superstructure. This item also includes partial removal of the abutment wall and wingwall down to a minimum of 1'-0" below proposed finished grade and partial removal of the wingwall footing below the proposed abutments. Do not disturb or remove existing timber piles.

The proposed abutment metal shell piles are to be driven within the limits of the existing wingwall footing and timber piles. The wingwall footing adjacent to the proposed piles must be removed prior to driving piles. The metal shell piles shall be offset ±6" along the length of the abutment to miss the existing timber piles. All piles must meet the driving tolerances of Section 512.12 except for the allowed offset.

If the Contractor chooses to alter the temporary cantilevered sheet pilling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

At the West Abutment, a cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.

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PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOUNDATION PLAN
STRUCTURE NO. 016-2844
SHEET NO. 3 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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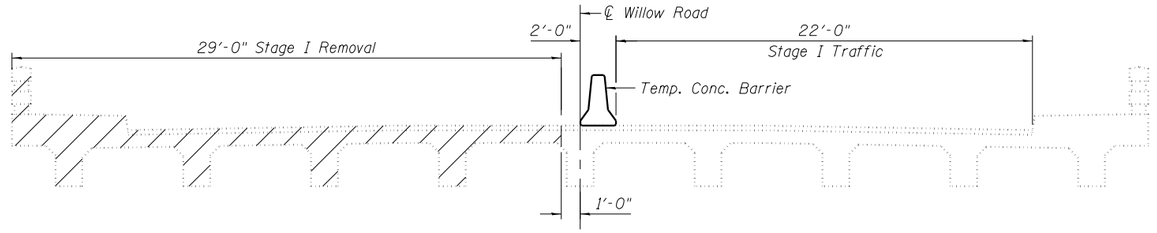
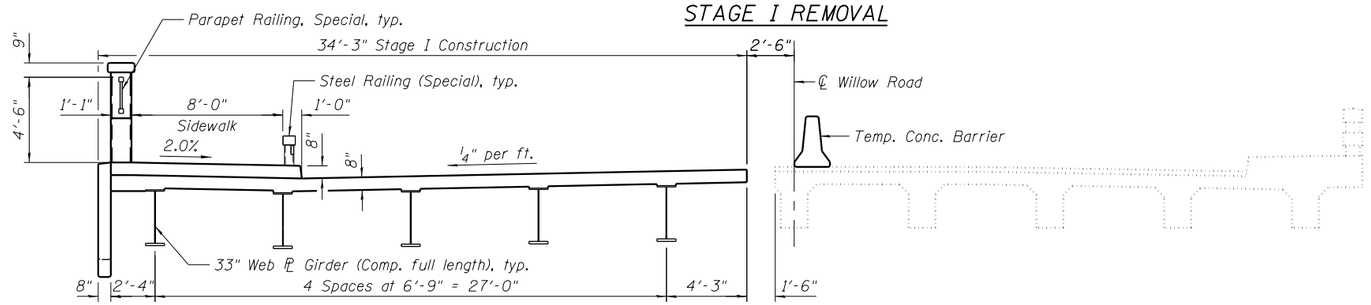
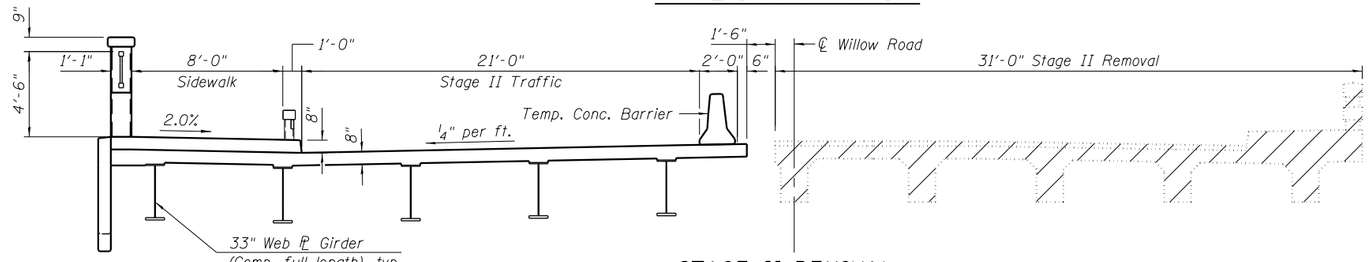
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			



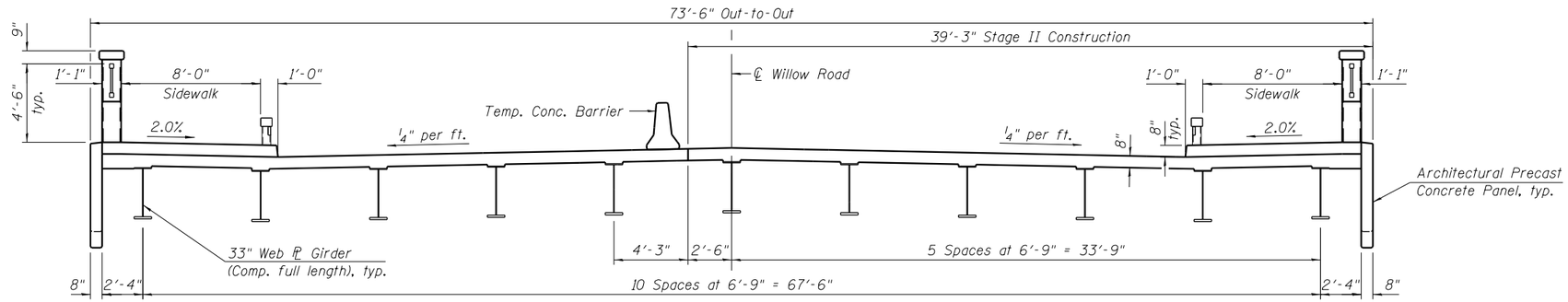
STAGE I REMOVAL



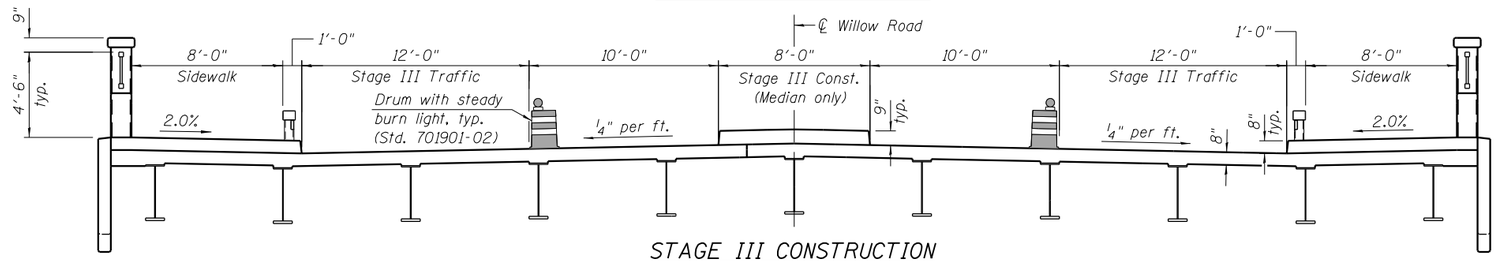
STAGE I CONSTRUCTION



STAGE II REMOVAL



STAGE II CONSTRUCTION



STAGE III CONSTRUCTION

Notes:

All staging cross sections are looking East.
Hatched area indicates Removal of Existing Structures.
For quantity of Temporary Concrete Barrier, see roadway plans.

NOTES FOR CONSTRUCTION:

If the Contractor's construction procedures involve placement of cranes or other heavy equipment on the existing deck, a detailed procedure shall be submitted to the Engineer for approval. The submittal shall include calculations and sketches sealed by an Illinois Licensed Structural Engineer. The calculations shall verify that the heavy equipment and procedure used will not overstress the remaining half of the existing structure.

The Contractor is advised that the existing concrete deck is in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the deck when developing construction procedures for removal and replacement of the superstructure.

BILL OF MATERIAL

Item	Unit	Total
Removal of Existing Structures	Each	1

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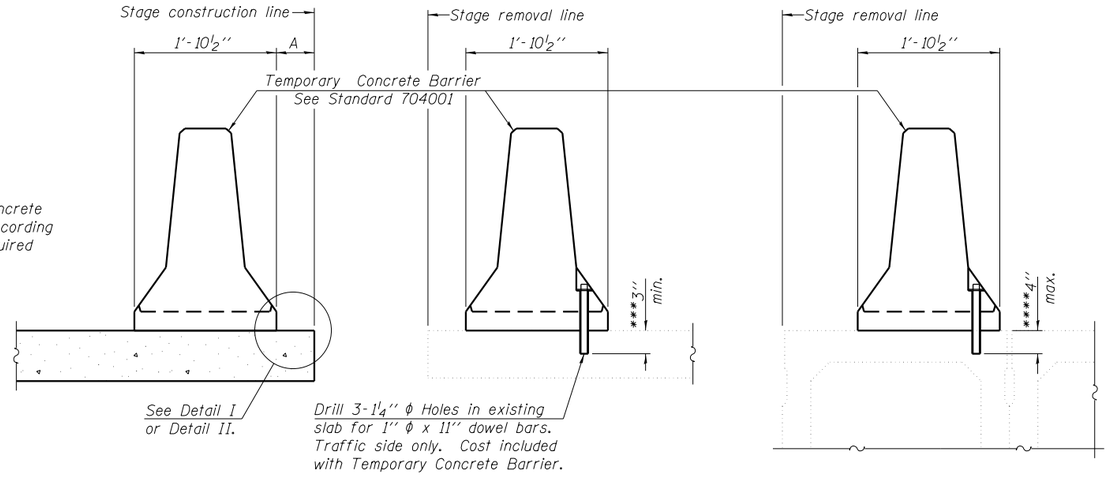
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 016-2844
SHEET NO. 4 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	454
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NEW SLAB | EXISTING SLAB | EXISTING DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1'' x 7' 'x ''W'' steel ℙ to the top layer of couplers with 2-$\frac{5}{8}$'' ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1'' x 7'' x ''W'' steel ℙ to the concrete slab or concrete wearing surface with 2-$\frac{5}{8}$'' ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

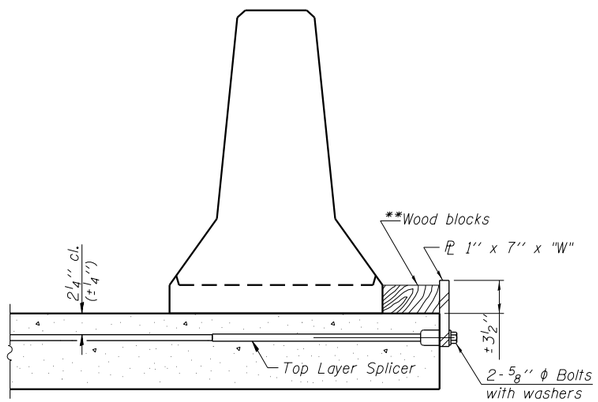
Cost of anchorage is included with Temporary Concrete Barrier.

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.

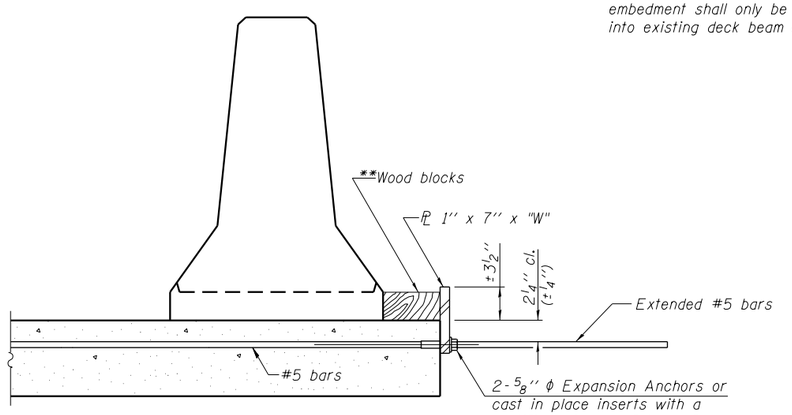
SECTIONS THRU SLAB OR DECK BEAM

*** 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.



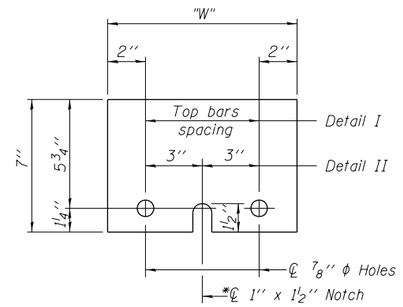
DETAIL I



DETAIL II

** 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.

"W" = Top bars spacing + 4''



STEEL RETAINER ℙ 1'' x 7'' x ''W''

* Required only with Detail II

R-27

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PLOT DATE = 12/5/2012	CHECKED - DL	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 016-2844
SHEET NO. 5 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	455
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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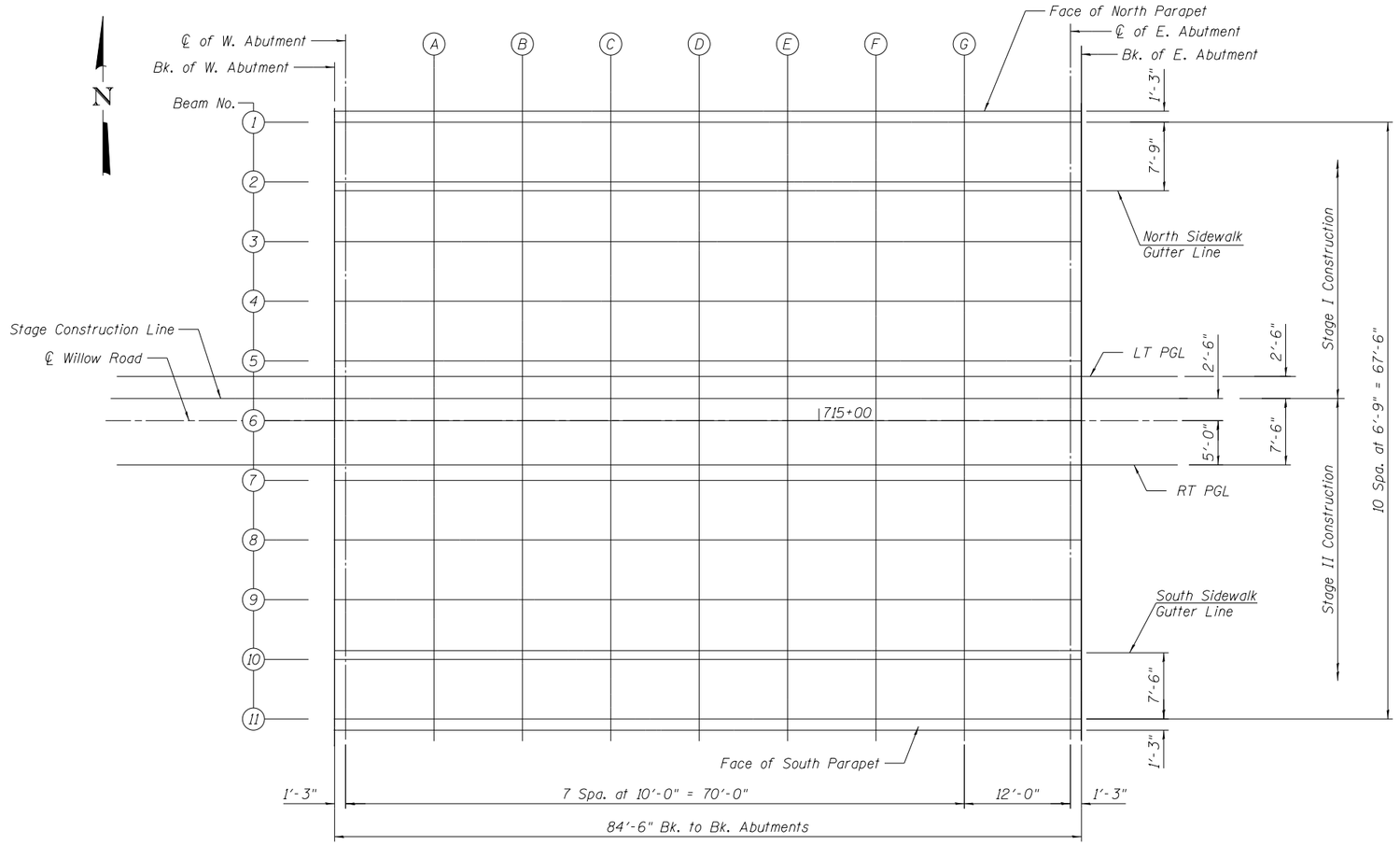
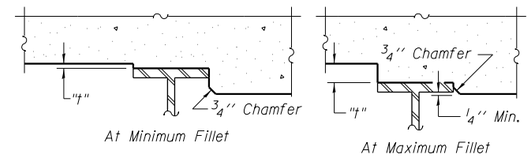
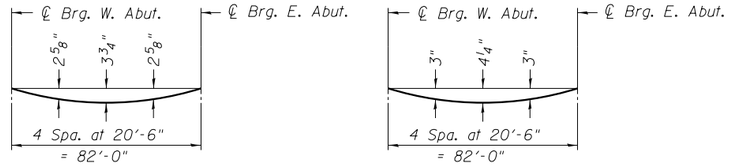


DECK PLAN



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



INTERIOR BEAM

EXTERIOR BEAM

DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflection as shown below and on sheets 7 and 8 of 30.
Offsets are measured perpendicular from the centerline of Willow Road.

FACE OF NORTH PARAPET

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	-35.00	633.09	633.09
℄ Brg. W. Abut.	714+46.44	-35.00	633.09	633.09
A	714+56.44	-35.00	633.13	633.26
B	714+66.44	-35.00	633.16	633.40
C	714+76.44	-35.00	633.17	633.49
D	714+86.44	-35.00	633.17	633.52
E	714+96.44	-35.00	633.17	633.50
F	715+06.44	-35.00	633.15	633.41
G	715+16.44	-35.00	633.12	633.28
℄ Brg. E. Abut.	715+28.44	-35.00	633.07	633.07
Bk. E. Abut.	715+29.69	-35.00	633.06	633.06

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	-33.75	633.07	633.07
℄ Brg. W. Abut.	714+46.44	-33.75	633.07	633.07
A	714+56.44	-33.75	633.11	633.24
B	714+66.44	-33.75	633.14	633.38
C	714+76.44	-33.75	633.15	633.46
D	714+86.44	-33.75	633.15	633.49
E	714+96.44	-33.75	633.15	633.47
F	715+06.44	-33.75	633.13	633.39
G	715+16.44	-33.75	633.10	633.25
℄ Brg. E. Abut.	715+28.44	-33.75	633.05	633.05
Bk. E. Abut.	715+29.69	-33.75	633.04	633.04

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	-27.00	632.93	632.93
℄ Brg. W. Abut.	714+46.44	-27.00	632.93	632.93
A	714+56.44	-27.00	632.97	633.11
B	714+66.44	-27.00	633.00	633.25
C	714+76.44	-27.00	633.01	633.33
D	714+86.44	-27.00	633.01	633.36
E	714+96.44	-27.00	633.01	633.34
F	715+06.44	-27.00	632.99	633.26
G	715+16.44	-27.00	632.96	633.12
℄ Brg. E. Abut.	715+28.44	-27.00	632.91	632.91
Bk. E. Abut.	715+29.69	-27.00	632.90	632.90

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PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 016-2844
SHEET NO. 6 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	456
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

NORTH SIDEWALK GUTTER LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	-26.00	632.91	632.91
℄ Brg. W. Abut.	714+46.44	-26.00	632.91	632.91
A	714+56.44	-26.00	632.95	633.08
B	714+66.44	-26.00	632.98	633.22
C	714+76.44	-26.00	632.99	633.31
D	714+86.44	-26.00	632.99	633.34
E	714+96.44	-26.00	632.99	633.32
F	715+06.44	-26.00	632.97	633.23
G	715+16.44	-26.00	632.94	633.10
℄ Brg. E. Abut.	715+28.44	-26.00	632.89	632.89
Bk. E. Abut.	715+29.69	-26.00	632.88	632.88

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	-20.25	633.03	633.03
℄ Brg. W. Abut.	714+46.44	-20.25	633.03	633.03
A	714+56.44	-20.25	633.07	633.19
B	714+66.44	-20.25	633.10	633.31
C	714+76.44	-20.25	633.11	633.39
D	714+86.44	-20.25	633.11	633.42
E	714+96.44	-20.25	633.11	633.40
F	715+06.44	-20.25	633.09	633.32
G	715+16.44	-20.25	633.06	633.20
℄ Brg. E. Abut.	715+28.44	-20.25	633.01	633.01
Bk. E. Abut.	715+29.69	-20.25	633.00	633.00

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	-13.50	633.17	633.17
℄ Brg. W. Abut.	714+46.44	-13.50	633.17	633.17
A	714+56.44	-13.50	633.21	633.33
B	714+66.44	-13.50	633.24	633.45
C	714+76.44	-13.50	633.25	633.53
D	714+86.44	-13.50	633.25	633.56
E	714+96.44	-13.50	633.25	633.54
F	715+06.44	-13.50	633.23	633.46
G	715+16.44	-13.50	633.20	633.34
℄ Brg. E. Abut.	715+28.44	-13.50	633.15	633.15
Bk. E. Abut.	715+29.69	-13.50	633.14	633.14

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	-6.75	633.31	633.31
℄ Brg. W. Abut.	714+46.44	-6.75	633.31	633.31
A	714+56.44	-6.75	633.35	633.47
B	714+66.44	-6.75	633.38	633.60
C	714+76.44	-6.75	633.39	633.67
D	714+86.44	-6.75	633.39	633.70
E	714+96.44	-6.75	633.39	633.68
F	715+06.44	-6.75	633.37	633.60
G	715+16.44	-6.75	633.34	633.48
℄ Brg. E. Abut.	715+28.44	-6.75	633.29	633.29
Bk. E. Abut.	715+29.69	-6.75	633.28	633.28

LEFT PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	-5.00	633.35	633.35
℄ Brg. W. Abut.	714+46.44	-5.00	633.35	633.35
A	714+56.44	-5.00	633.39	633.51
B	714+66.44	-5.00	633.42	633.63
C	714+76.44	-5.00	633.43	633.71
D	714+86.44	-5.00	633.43	633.74
E	714+96.44	-5.00	633.43	633.72
F	715+06.44	-5.00	633.41	633.64
G	715+16.44	-5.00	633.38	633.52
℄ Brg. E. Abut.	715+28.44	-5.00	633.33	633.33
Bk. E. Abut.	715+29.69	-5.00	633.32	633.32

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	-2.50	633.40	633.40
℄ Brg. W. Abut.	714+46.44	-2.50	633.40	633.40
A	714+56.44	-2.50	633.44	633.56
B	714+66.44	-2.50	633.47	633.68
C	714+76.44	-2.50	633.48	633.76
D	714+86.44	-2.50	633.48	633.79
E	714+96.44	-2.50	633.48	633.77
F	715+06.44	-2.50	633.46	633.69
G	715+16.44	-2.50	633.43	633.57
℄ Brg. E. Abut.	715+28.44	-2.50	633.38	633.38
Bk. E. Abut.	715+29.69	-2.50	633.37	633.37

BEAM 6 AND ℄ WILLOW ROAD

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	0.00	633.45	633.45
℄ Brg. W. Abut.	714+46.44	0.00	633.45	633.45
A	714+56.44	0.00	633.49	633.61
B	714+66.44	0.00	633.52	633.74
C	714+76.44	0.00	633.53	633.81
D	714+86.44	0.00	633.53	633.84
E	714+96.44	0.00	633.53	633.82
F	715+06.44	0.00	633.51	633.74
G	715+16.44	0.00	633.48	633.62
℄ Brg. E. Abut.	715+28.44	0.00	633.43	633.43
Bk. E. Abut.	715+29.69	0.00	633.42	633.42

RIGHT PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	5.00	633.35	633.35
℄ Brg. W. Abut.	714+46.44	5.00	633.35	633.35
A	714+56.44	5.00	633.39	633.51
B	714+66.44	5.00	633.42	633.63
C	714+76.44	5.00	633.43	633.71
D	714+86.44	5.00	633.43	633.74
E	714+96.44	5.00	633.43	633.72
F	715+06.44	5.00	633.41	633.64
G	715+16.44	5.00	633.38	633.52
℄ Brg. E. Abut.	715+28.44	5.00	633.33	633.33
Bk. E. Abut.	715+29.69	5.00	633.32	633.32

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	6.75	633.31	633.31
℄ Brg. W. Abut.	714+46.44	6.75	633.31	633.31
A	714+56.44	6.75	633.35	633.47
B	714+66.44	6.75	633.38	633.60
C	714+76.44	6.75	633.39	633.67
D	714+86.44	6.75	633.39	633.70
E	714+96.44	6.75	633.39	633.68
F	715+06.44	6.75	633.37	633.60
G	715+16.44	6.75	633.34	633.48
℄ Brg. E. Abut.	715+28.44	6.75	633.29	633.29
Bk. E. Abut.	715+29.69	6.75	633.28	633.28

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TranSystems

USER NAME = jrmickow	DESIGNED - JRM	REVISED -
	CHECKED - MDS	REVISED -
PLOT SCALE = 16:0.0000 '' / in.	DRAWN - JRM	REVISED -
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 016-2844
SHEET NO. 7 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	457
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

BEAM 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	13.50	633.17	633.17
℄ Brg. W. Abut.	714+46.44	13.50	633.17	633.17
A	714+56.44	13.50	633.21	633.33
B	714+66.44	13.50	633.24	633.45
C	714+76.44	13.50	633.25	633.53
D	714+86.44	13.50	633.25	633.56
E	714+96.44	13.50	633.25	633.54
F	715+06.44	13.50	633.23	633.46
G	715+16.44	13.50	633.20	633.34
℄ Brg. E. Abut.	715+28.44	13.50	633.15	633.15
Bk. E. Abut.	715+29.69	13.50	633.14	633.14

BEAM 9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	20.25	633.03	633.03
℄ Brg. W. Abut.	714+46.44	20.25	633.03	633.03
A	714+56.44	20.25	633.07	633.19
B	714+66.44	20.25	633.10	633.31
C	714+76.44	20.25	633.11	633.39
D	714+86.44	20.25	633.11	633.42
E	714+96.44	20.25	633.11	633.40
F	715+06.44	20.25	633.09	633.32
G	715+16.44	20.25	633.06	633.20
℄ Brg. E. Abut.	715+28.44	20.25	633.01	633.01
Bk. E. Abut.	715+29.69	20.25	633.00	633.00

SOUTH SIDEWALK GUTTER LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	26.00	632.91	632.91
℄ Brg. W. Abut.	714+46.44	26.00	632.91	632.91
A	714+56.44	26.00	632.95	633.08
B	714+66.44	26.00	632.98	633.22
C	714+76.44	26.00	632.99	633.31
D	714+86.44	26.00	632.99	633.34
E	714+96.44	26.00	632.99	633.32
F	715+06.44	26.00	632.97	633.23
G	715+16.44	26.00	632.94	633.10
℄ Brg. E. Abut.	715+28.44	26.00	632.89	632.89
Bk. E. Abut.	715+29.69	26.00	632.88	632.88

BEAM 10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	27.00	632.93	632.93
℄ Brg. W. Abut.	714+46.44	27.00	632.93	632.93
A	714+56.44	27.00	632.97	633.11
B	714+66.44	27.00	633.00	633.25
C	714+76.44	27.00	633.01	633.33
D	714+86.44	27.00	633.01	633.36
E	714+96.44	27.00	633.01	633.34
F	715+06.44	27.00	632.99	633.26
G	715+16.44	27.00	632.96	633.12
℄ Brg. E. Abut.	715+28.44	27.00	632.91	632.91
Bk. E. Abut.	715+29.69	27.00	632.90	632.90

BEAM 11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	33.75	633.07	633.07
℄ Brg. W. Abut.	714+46.44	33.75	633.07	633.07
A	714+56.44	33.75	633.11	633.24
B	714+66.44	33.75	633.14	633.38
C	714+76.44	33.75	633.15	633.46
D	714+86.44	33.75	633.15	633.49
E	714+96.44	33.75	633.15	633.47
F	715+06.44	33.75	633.13	633.39
G	715+16.44	33.75	633.10	633.25
℄ Brg. E. Abut.	715+28.44	33.75	633.05	633.05
Bk. E. Abut.	715+29.69	33.75	633.04	633.04

FACE OF SOUTH PARAPET

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	714+45.19	35.00	633.09	633.09
℄ Brg. W. Abut.	714+46.44	35.00	633.09	633.09
A	714+56.44	35.00	633.13	633.26
B	714+66.44	35.00	633.16	633.40
C	714+76.44	35.00	633.17	633.49
D	714+86.44	35.00	633.17	633.52
E	714+96.44	35.00	633.17	633.50
F	715+06.44	35.00	633.15	633.41
G	715+16.44	35.00	633.12	633.28
℄ Brg. E. Abut.	715+28.44	35.00	633.07	633.07
Bk. E. Abut.	715+29.69	35.00	633.06	633.06

WEST APPROACH FACE OF NORTH PARAPET

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	714+15.19	-35.00	632.91
A	714+25.19	-35.00	632.98
B	714+35.19	-35.00	633.05
E. End West Appr. Slab	714+45.19	-35.00	633.10

WEST APPROACH FACE OF NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	714+15.19	-26.00	632.72
A	714+25.19	-26.00	632.79
B	714+35.19	-26.00	632.86
E. End West Appr. Slab	714+45.19	-26.00	632.91

WEST APPROACH LEFT PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	714+15.19	-5.00	633.16
A	714+25.19	-5.00	633.23
B	714+35.19	-5.00	633.30
E. End West Appr. Slab	714+45.19	-5.00	633.35

WEST APPROACH STAGE CONSTRUCTION LINE

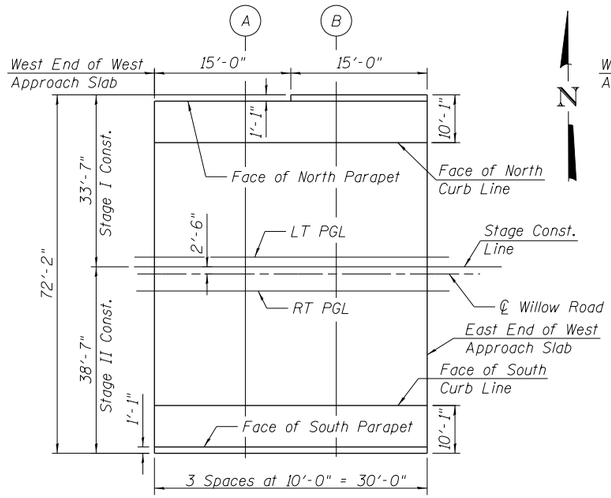
Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	714+15.19	-2.50	633.21
A	714+25.19	-2.50	633.28
B	714+35.19	-2.50	633.35
E. End West Appr. Slab	714+45.19	-2.50	633.40

WEST APPROACH CENTERLINE WILLOW ROAD

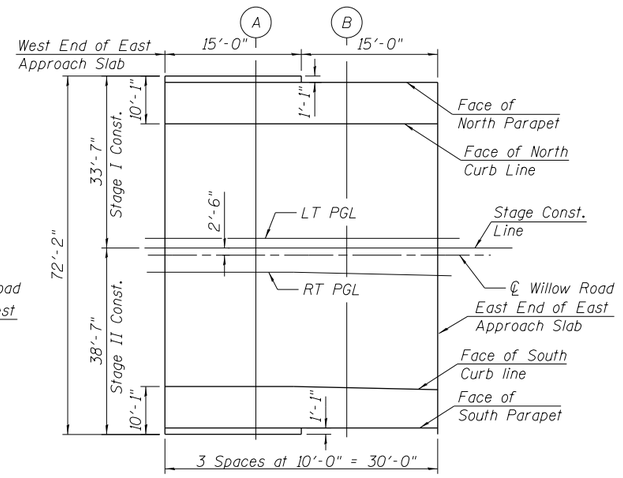
Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	714+15.19	0.00	633.26
A	714+25.19	0.00	633.33
B	714+35.19	0.00	633.40
E. End West Appr. Slab	714+45.19	0.00	633.45

WEST APPROACH RIGHT PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	714+15.19	5.00	633.16
A	714+25.19	5.00	633.23
B	714+35.19	5.00	633.30
E. End West Appr. Slab	714+45.19	5.00	633.35



PLAN - WEST APPROACH



PLAN - EAST APPROACH

WEST APPROACH FACE OF SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	714+15.19	26.00	632.72
A	714+25.19	26.00	632.79
B	714+35.19	26.00	632.86
E. End West Appr. Slab	714+45.19	26.00	632.91

WEST APPROACH FACE OF SOUTH PARAPET

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	714+15.19	35.00	632.91
A	714+25.19	35.00	632.98
B	714+35.19	35.00	633.05
E. End West Appr. Slab	714+45.19	35.00	633.10

EAST APPROACH FACE OF NORTH PARAPET

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	715+29.69	-35.00	633.07
A	715+39.69	-35.00	633.02
B	715+49.69	-35.00	632.95
E. End East Appr. Slab	715+59.69	-35.00	632.88

EAST APPROACH FACE OF NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	715+29.69	-26.00	632.88
A	715+39.69	-26.00	632.83
B	715+49.69	-26.00	632.76
E. End East Appr. Slab	715+59.69	-26.00	632.69

EAST APPROACH LEFT PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	715+29.69	-5.00	633.32
A	715+39.69	-5.00	633.27
B	715+49.69	-5.00	633.20
E. End East Appr. Slab	715+59.69	-5.00	633.13

EAST APPROACH STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	715+29.69	-2.50	633.37
A	715+39.69	-2.50	633.32
B	715+49.69	-2.50	633.25
E. End East Appr. Slab	715+59.69	-2.50	633.18

EAST APPROACH CENTERLINE WILLOW ROAD

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	715+29.69	0.00	633.42
A	715+39.69	0.00	633.37
B	715+49.69	0.00	633.30
E. End East Appr. Slab	715+59.69	0.00	633.23

EAST APPROACH RIGHT PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	715+29.69	5.00	633.32
A	715+39.69	5.00	633.27
B	715+49.69	5.16	633.20
E. End East Appr. Slab	715+59.69	5.49	633.13

EAST APPROACH FACE OF SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	715+29.69	26.00	632.88
A	715+39.69	26.00	632.83
B	715+49.69	26.16	632.76
E. End East Appr. Slab	715+59.69	26.49	632.69

EAST APPROACH FACE OF SOUTH PARAPET

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	715+29.69	35.00	633.06
A	715+39.69	35.00	633.01
B	715+49.69	35.00	632.94
E. End East Appr. Slab	715+59.69	35.00	632.86

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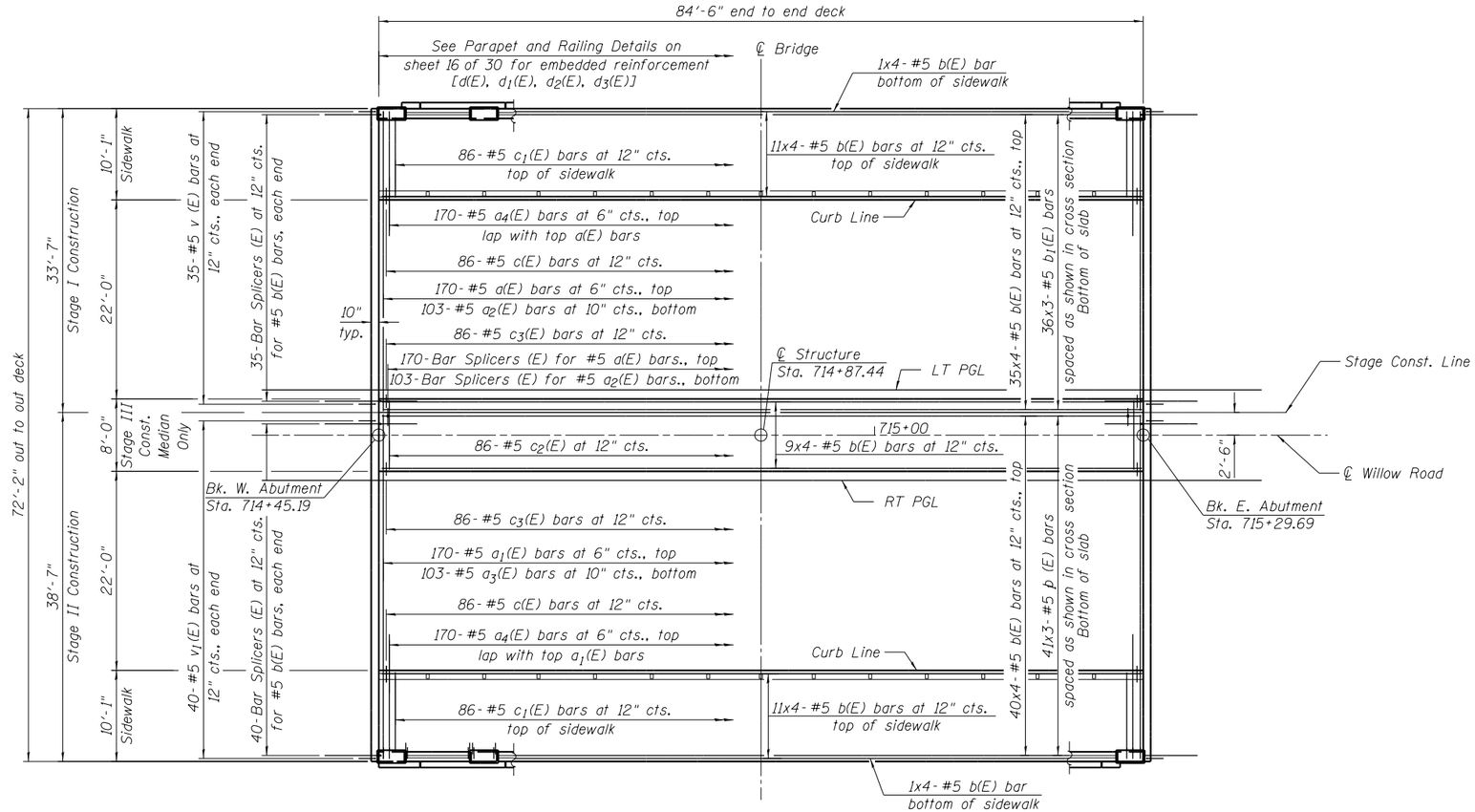
TranSystems

USER NAME = jrmickow	DESIGNED - JRM	REVISED -
	CHECKED - MDS	REVISED -
PLOT SCALE = 0.2.0000 '' / in.	DRAWN - DMG	REVISED -
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

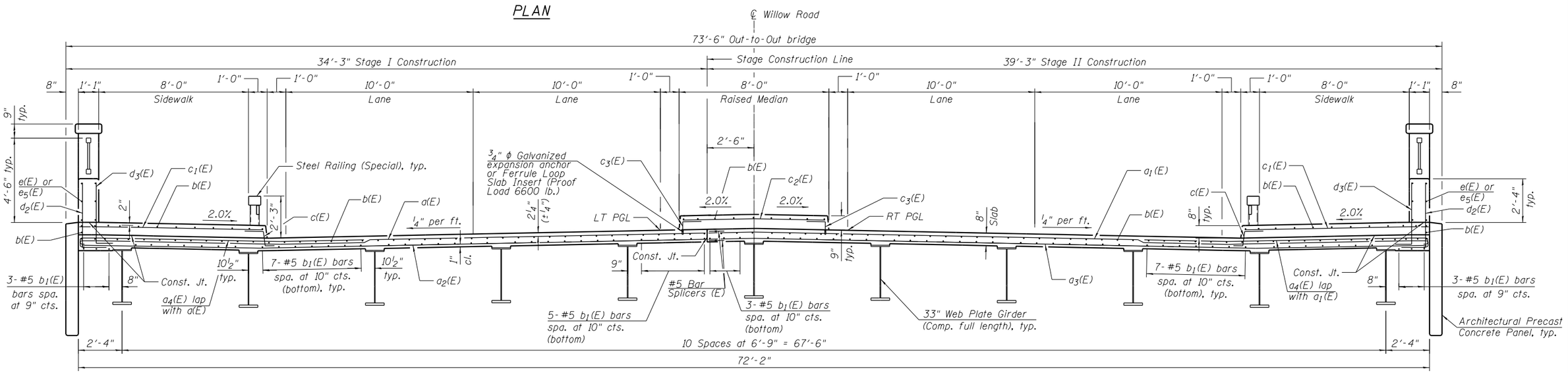
TOP OF APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-2844
SHEET NO. 9 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	459
		CONTRACT NO. 60T35		
	ILLINOIS	FED. AID PROJECT		



Note:
The cost of expansion anchors/inserts is included in the cost of Reinforcement Bars, Epoxy Coated.
See Sheet 11 of 30 for superstructure details and Bill of Material.
Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

PLAN



CROSS SECTION

(Looking East)

Tran Systems	USER NAME = jrmickow	DESIGNED - JRM	REVISED -
		CHECKED - MDS	REVISED -
	PLOT SCALE = 16.0 '/ / in.	DRAWN - DMG	REVISED -
	PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN AND CROSS SECTION
STRUCTURE NO. 016-2844
SHEET NO. 10 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	460
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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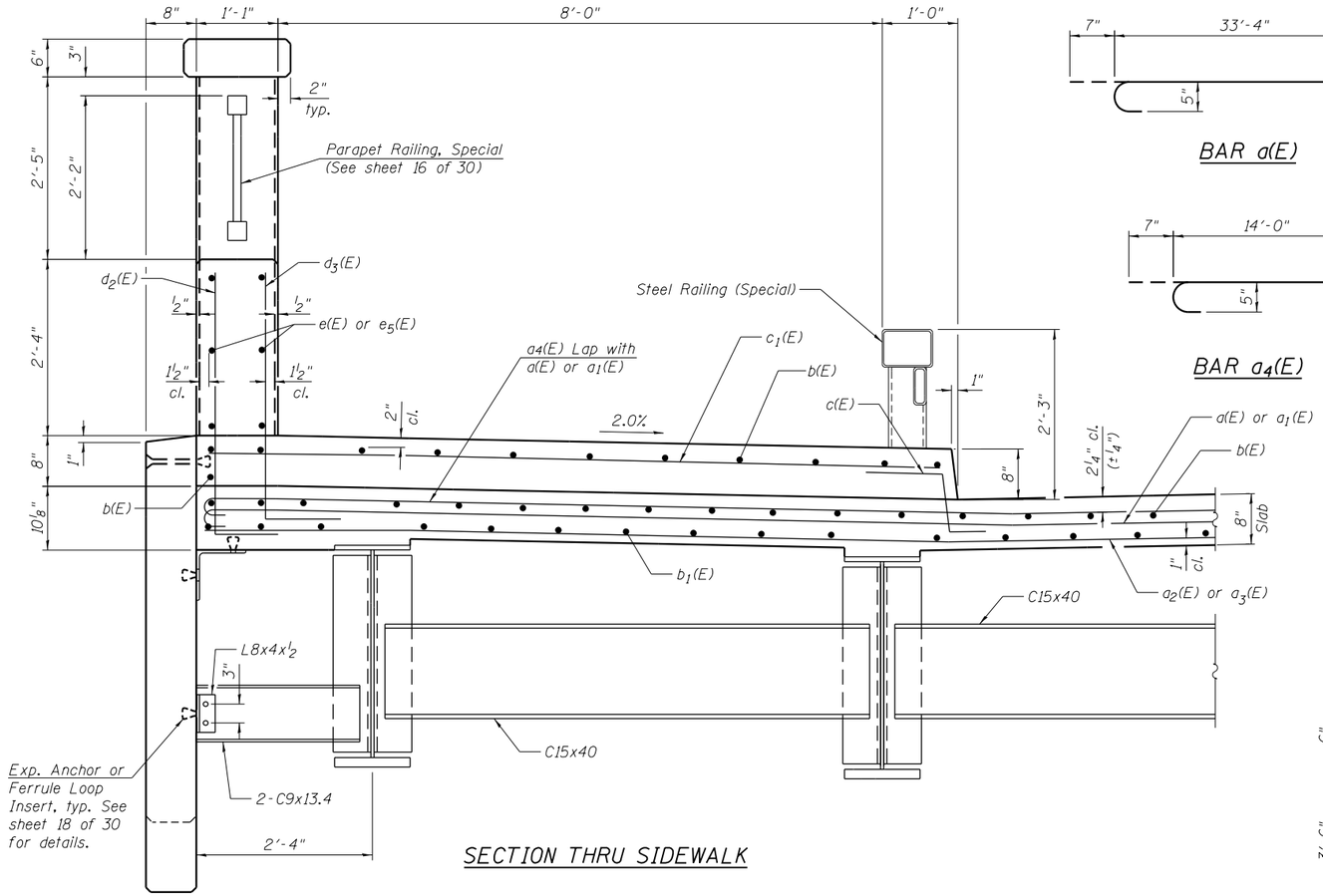
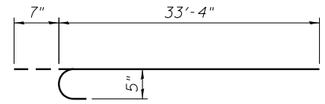
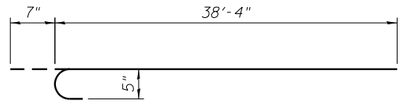


SECTION THRU SIDEWALK



BAR a(E)



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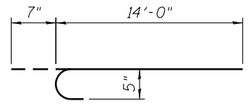

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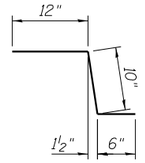

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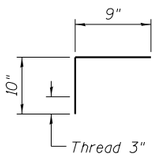

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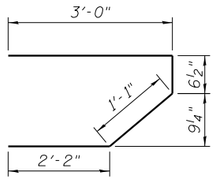

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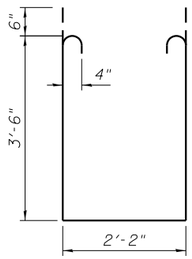

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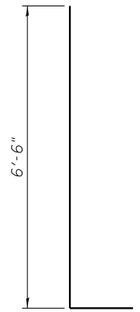

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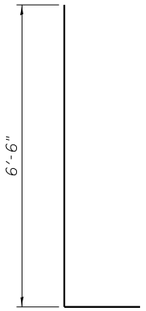

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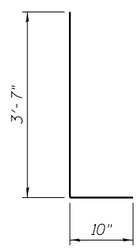

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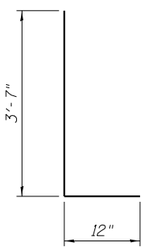
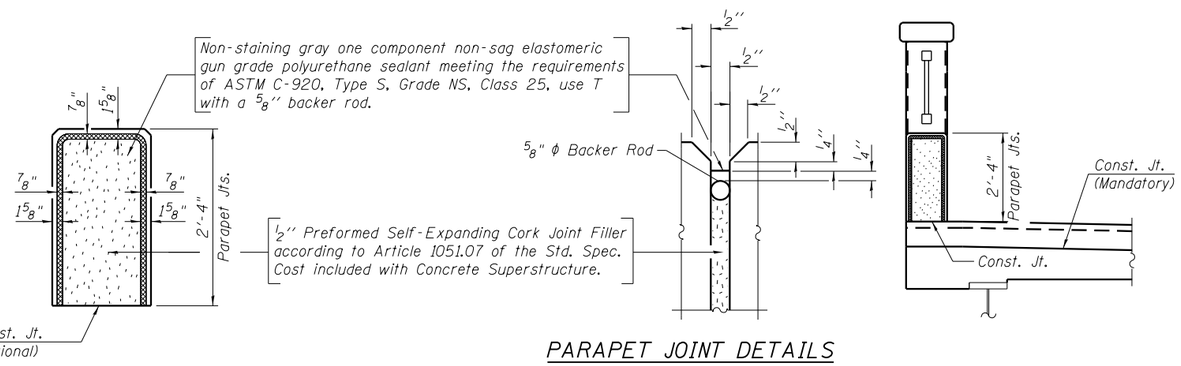


BAR d3(E)

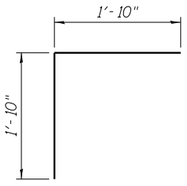
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	170	#5	33'-11"	
a1(E)	170	#5	38'-11"	
a2(E)	103	#5	33'-4"	
a3(E)	103	#5	38'-4"	
a4(E)	340	#5	14'-7"	
b(E)	432	#5	23'-6"	
b1(E)	231	#5	30'-3"	
c(E)	172	#5	2'-4"	
c1(E)	172	#5	9'-9"	
c2(E)	86	#5	7'-7"	
c3(E)	172	#5	1'-7"	
d(E)	72	#5	7'-4"	
d1(E)	72	#6	7'-6"	
d2(E)	128	#5	4'-5"	
d3(E)	128	#6	4'-7"	
e(E)	84	#5	9'-11"	
e1(E)	72	#5	7'-7"	
e5(E)	12	#5	12'-9"	
m(E)	10	#6	33'-3"	
m1(E)	10	#6	38'-3"	
m2(E)	32	#6	10'-7"	
m3(E)	16	#6	6'-5"	
m4(E)	4	#6	2'-0"	
m5(E)	8	#6	7'-6"	
m6(E)	4	#6	7'-8"	
m7(E)	4	#6	9'-5"	
m8(E)	2	#6	3'-11"	
s(E)	154	#5	6'-10"	
s1(E)	136	#4	10'-2"	
v1(E)	150	#5	3'-8"	

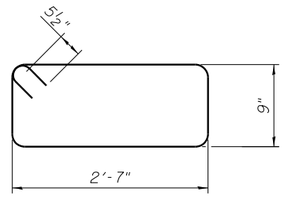
Concrete Superstructure	Cu. Yd.	294.0
Bridge Deck Grooving	Sq. Yd.	413
Form Liner Textured Surface	Sq. Ft.	1130
Protective Coat	Sq. Yd.	770
Reinforcement Bars, Epoxy Coated	Pound	55,780
Parapet Railing, Special	Foot	118



PARAPET JOINT DETAILS



BAR v1(E)



BAR e1(E)

MINIMUM BAR LAP

#5 bar = 3'-3"

Note:
For parapet joint locations, see sheet 16 of 30.

12/5/2012 5:46:12 PM - G:\CHI\0168\Bridge\CADD\Sheets\0162844-D160T35-II-SUPDET1.dgn

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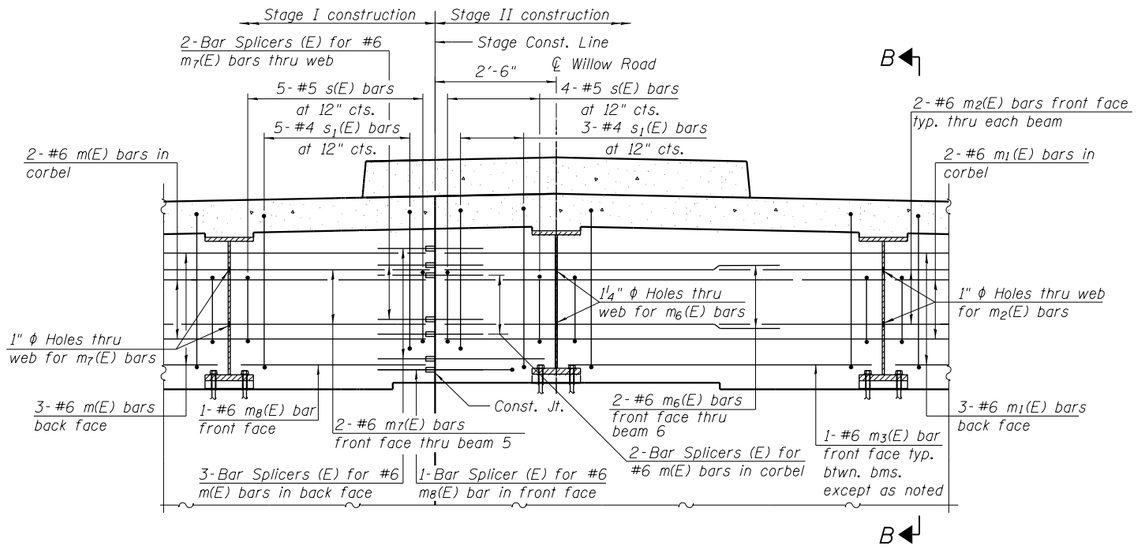
USER NAME = jrmickow	DESIGNED - JRM	REVISED -
	CHECKED - MDS	REVISED -
PLOT SCALE = 2.0 ' / in.	DRAWN - DMG	REVISED -
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

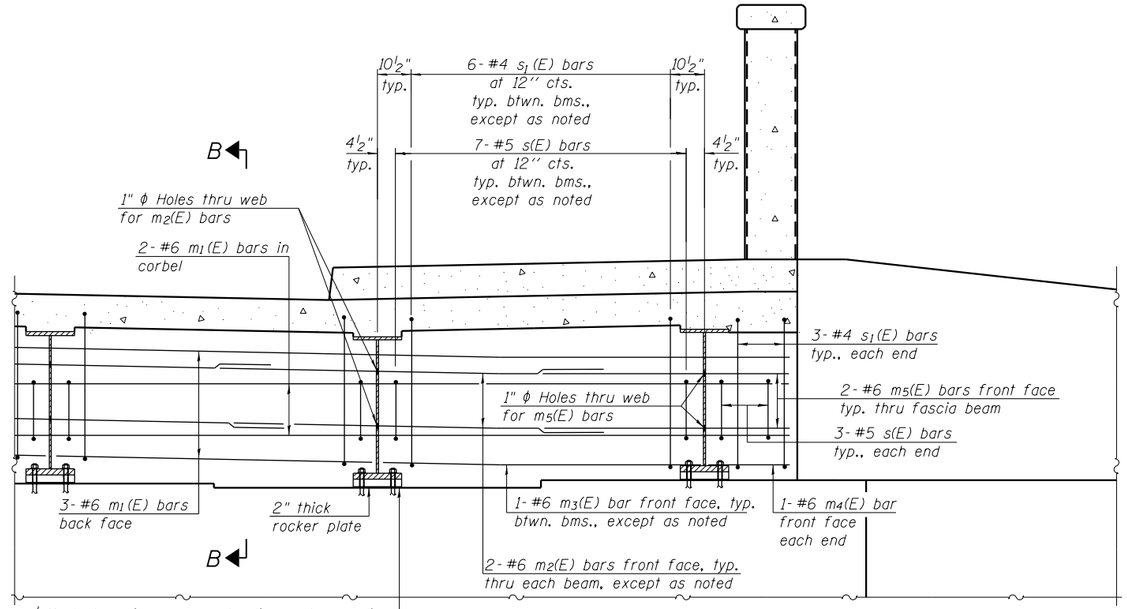
SUPERSTRUCTURE DETAILS
STRUCTURE NO. 016-2844
SHEET NO. 11 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	461
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			



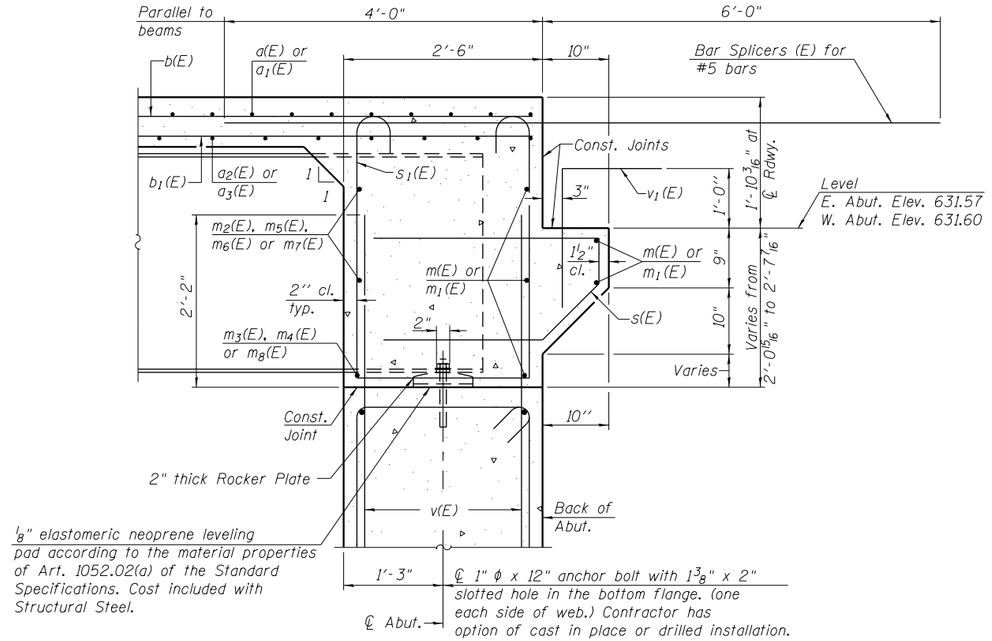
DIAPHRAGM ELEVATION AT STAGE CONSTRUCTION LINE

(Looking at front face of East Abutment, West Abutment opposite hand)



DIAPHRAGM ELEVATION AT EAST ABUTMENT

(Looking at front face of East Abutment, West Abutment opposite hand)



SECTION B-B

(At East Abutment, West Abutment Similar)

MIN. BAR LAP

#5 bar = 3'-3"
#6 bar = 3'-10"

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet 11 of 30.

Concrete in diaphragm is included with Concrete Superstructure on sheet 11 of 30.

For details of bars s(E), s_1(E) & v_1(E) see sheet 11 of 30.

The s(E) & s_1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

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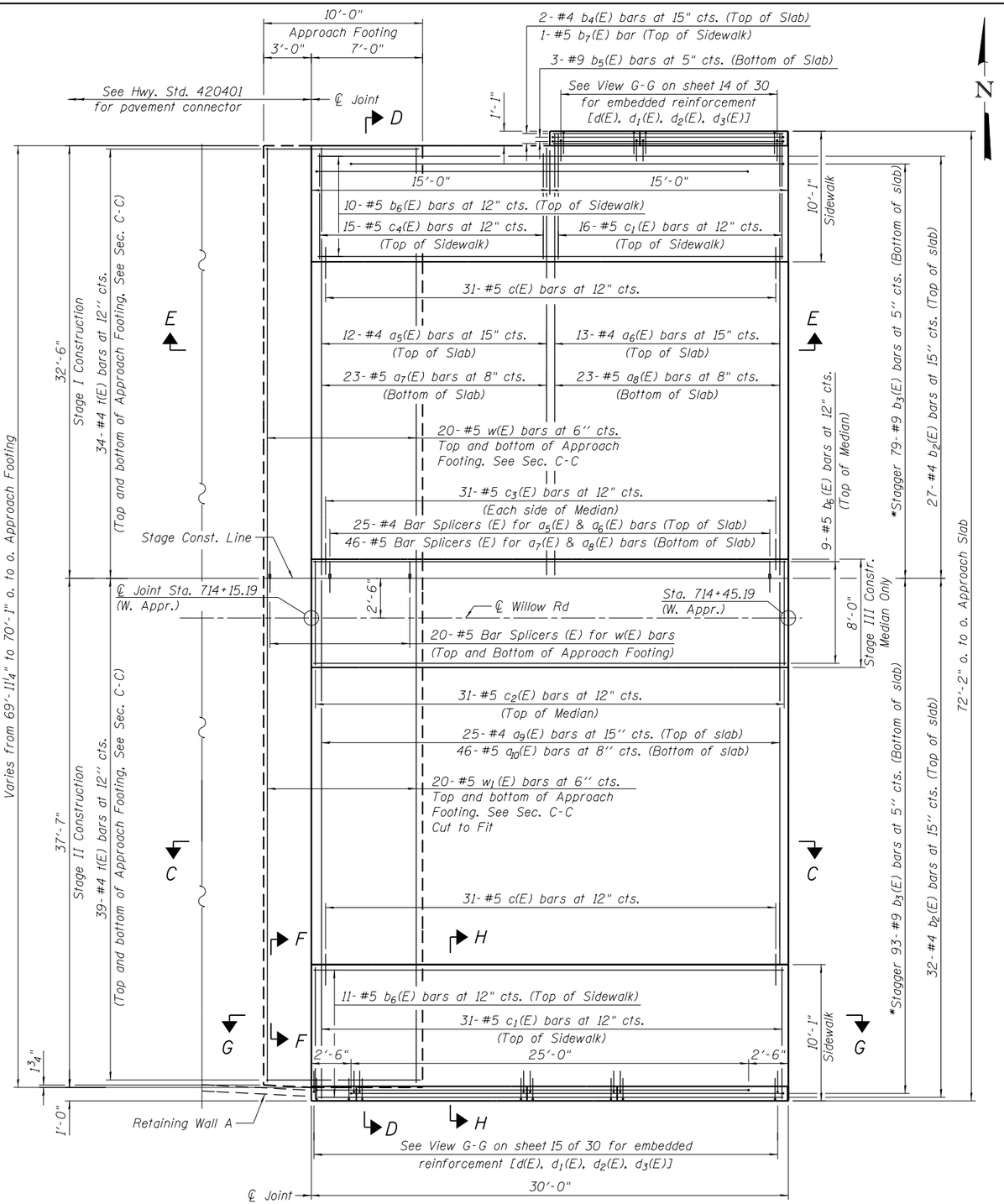
USER NAME = jrmickow	DESIGNED - JRM	REVISED -
	CHECKED - MDS	REVISED -
PLOT SCALE = 2.0 '/ in.	DRAWN - DMG	REVISED -
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

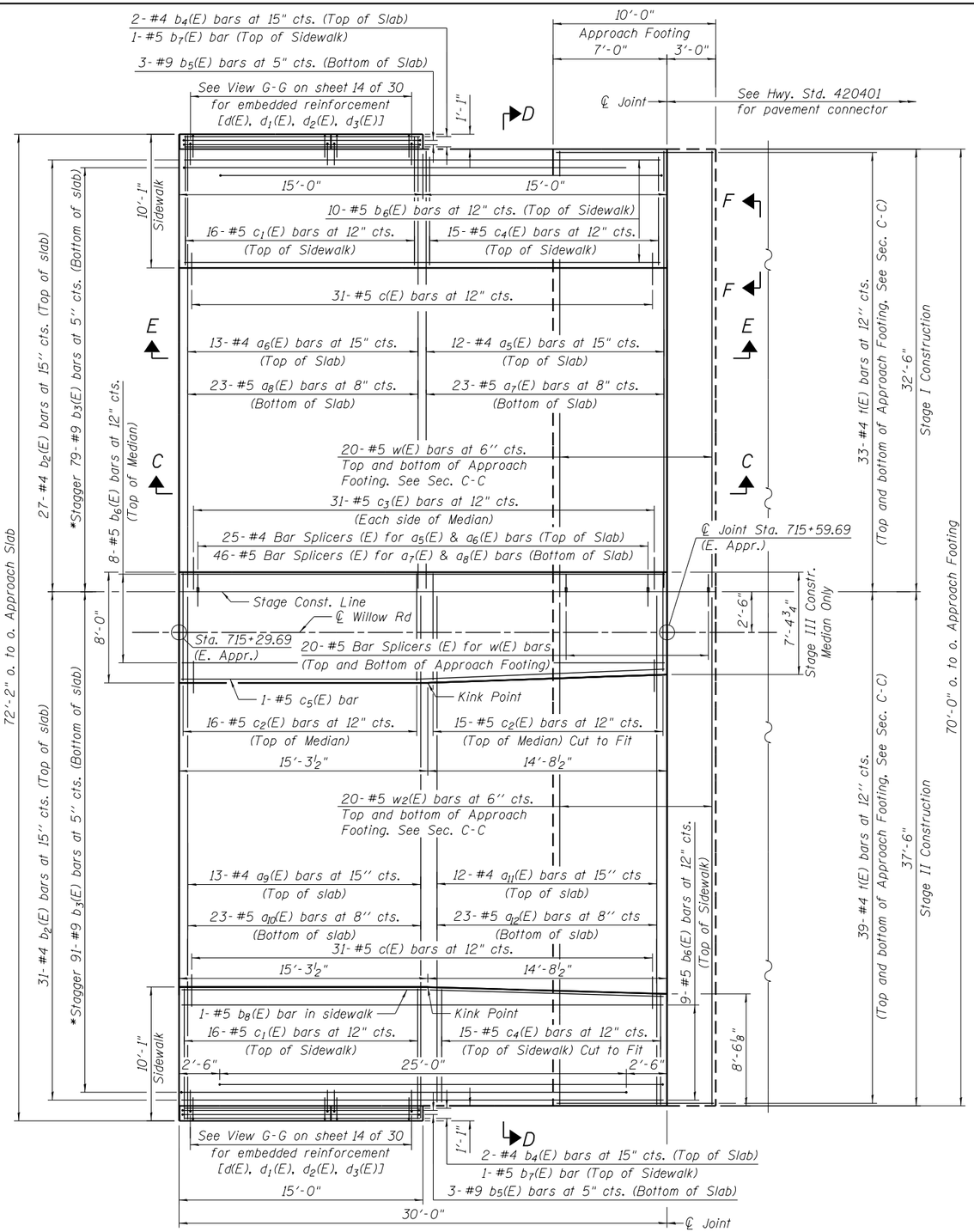
INTEGRAL ABUTMENT DIAPHRAGM DETAILS
STRUCTURE NO. 016-2844
SHEET NO. 12 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	462
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			



WEST APPROACH PLAN

*Tilt #9 b_3(E) & b_5(E) bars as required to maintain clearance.



EAST APPROACH PLAN

*Tilt #9 b_3(E) & b_5(E) bars as required to maintain clearance.

Notes:
See sheet 14 of 30 for Sections C-C & D-D and Views E-E & F-F.
See sheet 15 of 30 for Section H-H and View G-G.

USER NAME = jrmickow	DESIGNED - JRM	REVISED -	
	CHECKED - MDS	REVISED -	
PLOT SCALE = 8ø '1' / in.	DRAWN - DMG	REVISED -	
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -	

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 016-2844
SHEET NO. 13 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	463
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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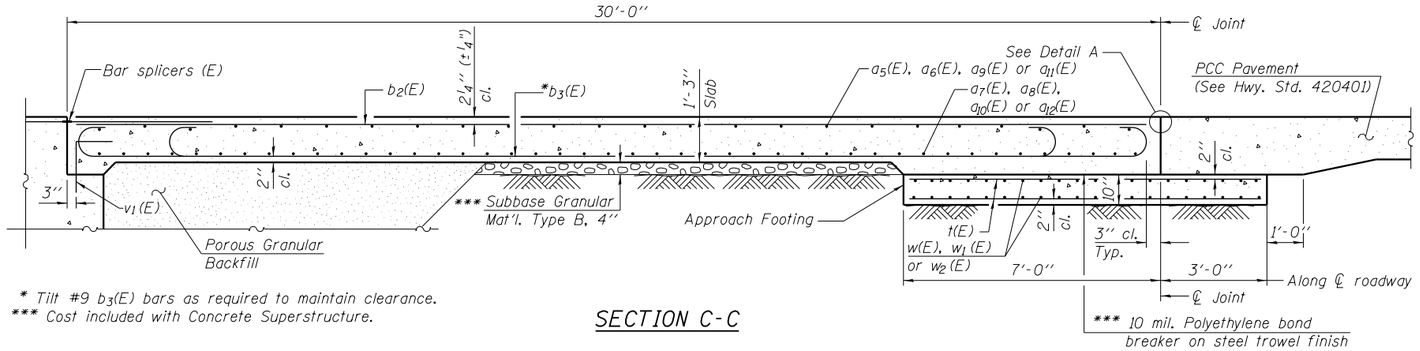
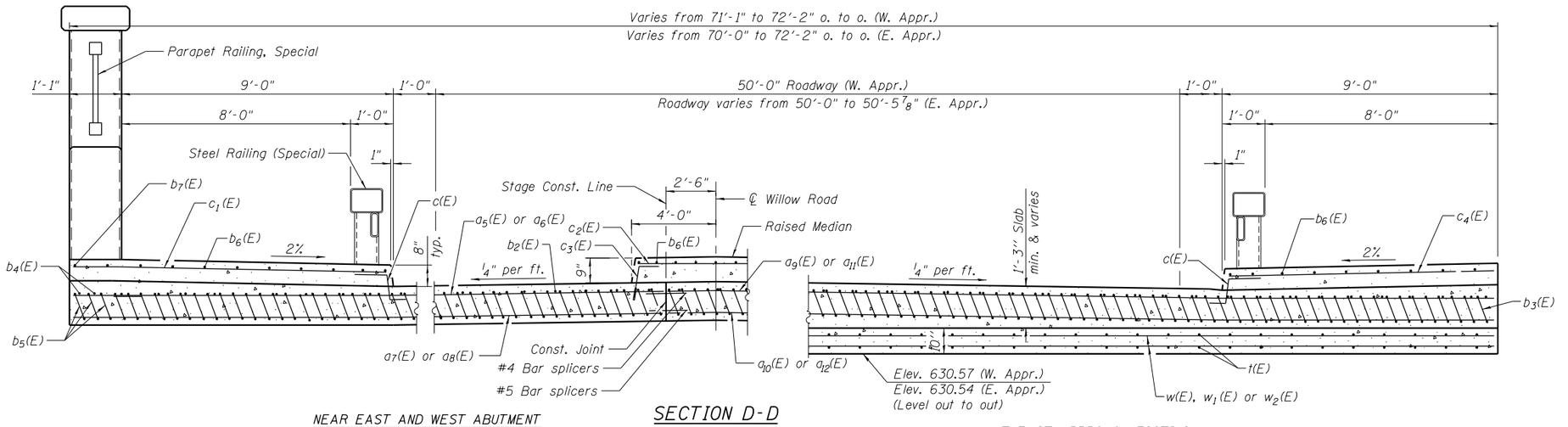


* Tilt #9 $b_3(E)$ bars as required to maintain clearance.
*** Cost included with Concrete Superstructure.

SECTION C-C

Notes:
Approach slab and sidewalk concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For $v_1(E)$ bar details, see sheet 11 of 30.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 25 of 30.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Backfill and drainage treatment details, see sheet 2 of 30.
For Parapet Railing, Special, see sheet 16 of 30.
For approach slab details at the Southwest corner see sheet 15 of 30.

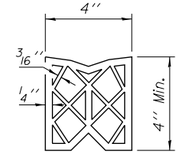


NEAR EAST AND WEST ABUTMENT

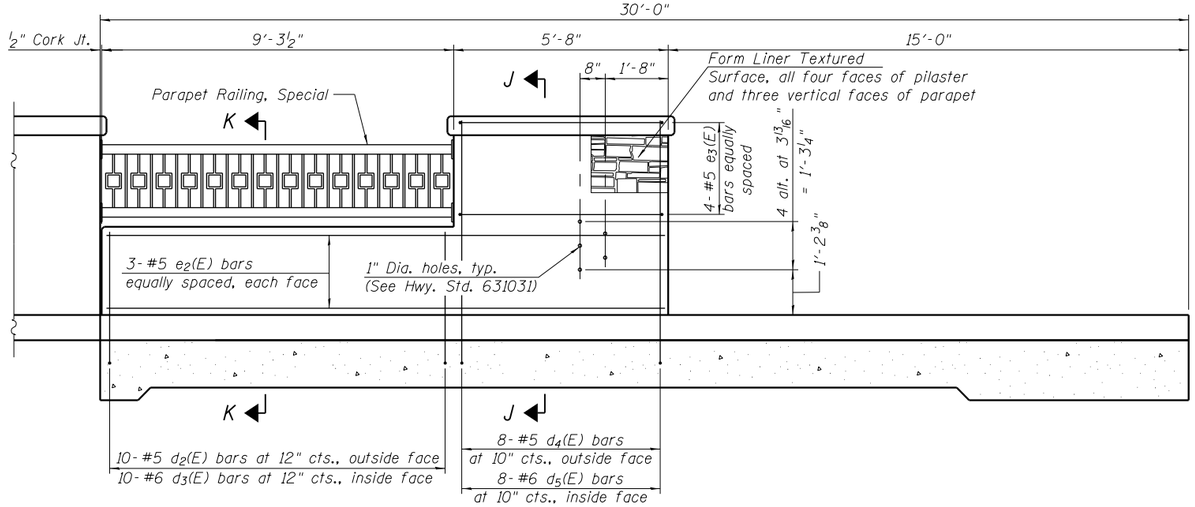
SECTION D-D

(See Plan for dimensions not shown)

AT EAST APPROACH FOOTING

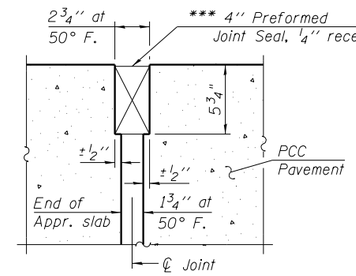


PREFORMED JOINT SEAL



VIEW E-E

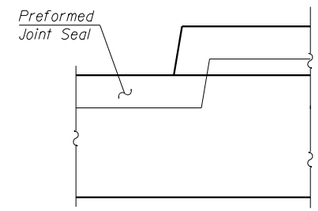
(Northeast approach slab parapet shown.
Northwest and Southeast approach slab parapet opposite hand)
(Type 6 guardrail connection at Northeast parapet only)



RIGID PAVEMENT

DETAIL A

*** Cost included with Concrete Superstructure.



VIEW F-F

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.

Notes:
See sheet 15 of 30 for Sections J-J & K-K.

USER NAME = jrmickow	DESIGNED - JRM	REVISED -	
	CHECKED - MDS	REVISED -	
PLOT SCALE = 8.0 '' / in.	DRAWN - DMG	REVISED -	
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -	

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 016-2844
SHEET NO. 14 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	464
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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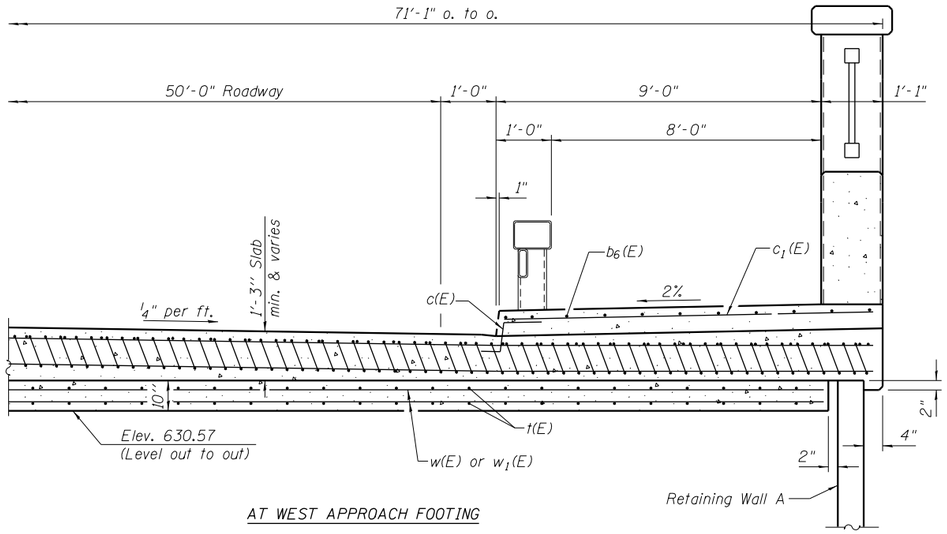
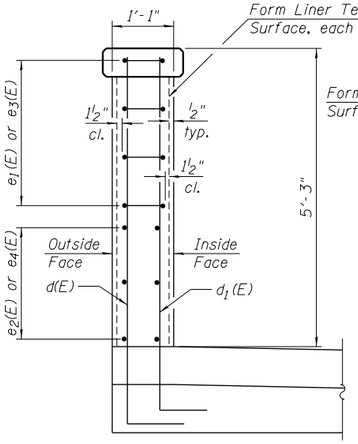
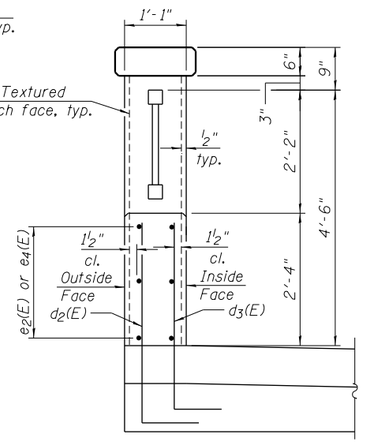


AT WEST APPROACH FOOTING

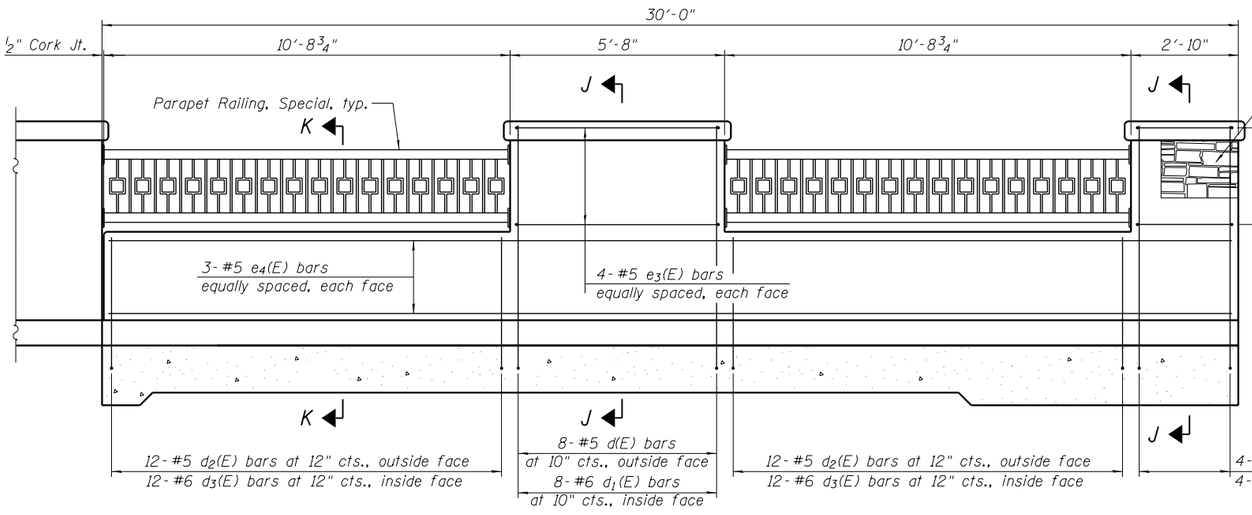
SECTION H-H



SECTION J-J

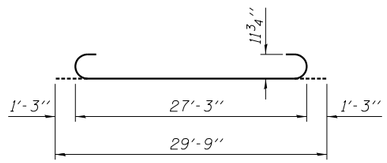


SECTION K-K

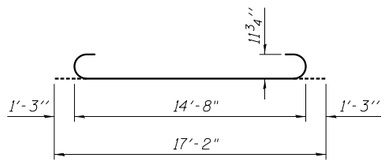


VIEW G-G

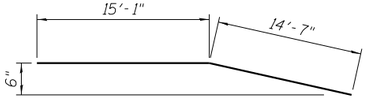
Notes:
All steel railing elements shall be galvanized according to the special provision Parapet Railing, Special and Article 1006.34 of the Standard Specifications.
The color of the final finish for the steel railing shall be verde green.



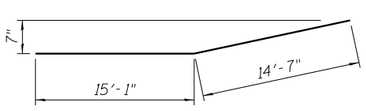
BAR $b_3(E)$



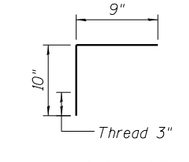
BAR $b_5(E)$



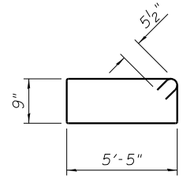
BAR $b_8(E)$



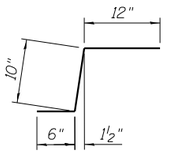
BAR $c_5(E)$



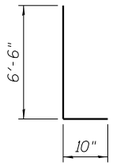
BAR $e_1(E)$



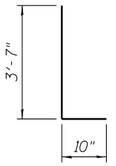
BAR $e_3(E)$



BAR c(E)

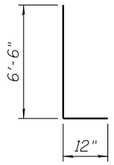


BAR d(E)

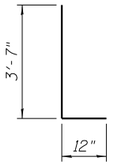


BAR $d_2(E)$

BAR $c_3(E)$



BAR $d_1(E)$



BAR $d_3(E)$

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_5(E)$	24	#4	32'-2"	
$a_6(E)$	26	#4	33'-3"	
$a_7(E)$	46	#5	32'-2"	
$a_8(E)$	46	#5	33'-3"	
$a_9(E)$	38	#4	38'-3"	
$a_{10}(E)$	69	#5	38'-3"	
$a_{11}(E)$	12	#4	37'-2	
$a_{12}(E)$	23	#5	37'-2	
$b_2(E)$	117	#4	29'-8"	
$b_3(E)$	342	#9	29'-9"	
$b_4(E)$	6	#4	14'-8"	
$b_5(E)$	9	#9	17'-2	
$b_6(E)$	57	#5	29'-8	
$b_7(E)$	3	#5	14'-8	
$b_8(E)$	1	#5	29'-8	
c(E)	124	#5	2'-4"	
$c_1(E)$	79	#5	9'-9"	
$c_2(E)$	62	#5	7'-8"	
$c_3(E)$	124	#5	1'-7"	
$c_4(E)$	45	#5	8'-8"	
$c_5(E)$	1	#5	29'-8"	
d(E)	36	#5	7'-4"	
$d_1(E)$	36	#6	7'-6"	
$d_2(E)$	54	#5	4'-5"	
$d_3(E)$	54	#6	4'-7"	
$e_1(E)$	4	#5	7'-7"	
$e_2(E)$	18	#5	14'-8"	
$e_3(E)$	16	#5	13'-3"	
$e_4(E)$	6	#5	29'-8"	
t(E)	290	#4	9'-8"	
w(E)	80	#5	32'-2"	
$w_1(E)$	40	#5	37'-3"	
$w_2(E)$	40	#5	37'-2"	
Concrete Structures		Cu. Yd.	43.2	
Concrete Superstructure		Cu. Yd.	212.0	
Bridge Deck Grooving		Sq. Yd.	294	
Form Liner Textured Surface		Sq. Ft.	515	
Protective Coat		Sq. Yd.	523	
Reinforcement Bars, Epoxy Coated		Pound	60,420	
Parapet Railing, Special		Foot	50	

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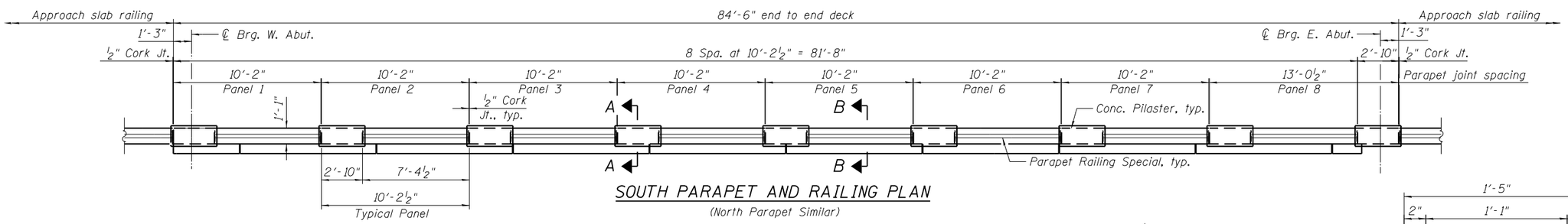
Tran Systems

USER NAME = jrmickow	DESIGNED - JRM	REVISED -
	CHECKED - MDS	REVISED -
PLOT SCALE = 8.0 '' / in.	DRAWN - JDG	REVISED -
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

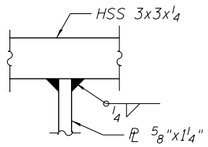
BRIDGE APPROACH SLAB DETAILS – SOUTHWEST CORNER
STRUCTURE NO. 016-2844
SHEET NO. 15 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	465
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			



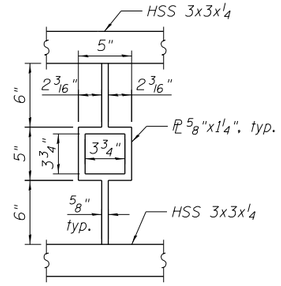
SOUTH PARAPET AND RAILING PLAN

(North Parapet Similar)



DETAIL A

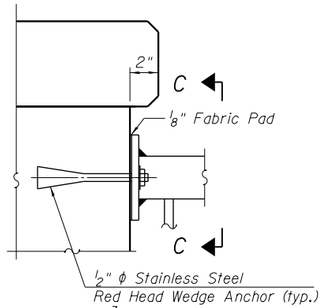
(Same weld detail for top and bottom rails)



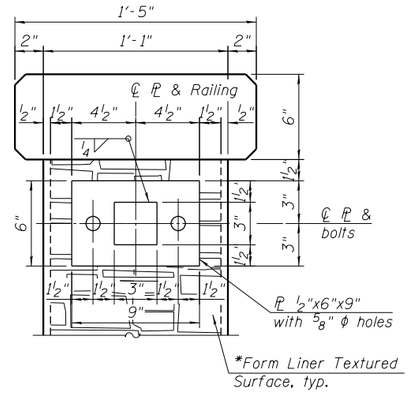
DETAIL C

Note:

The steel spindle shall be consist of continuous solid steel. The steel spindle shall not be constructed using built up welded steel plates.

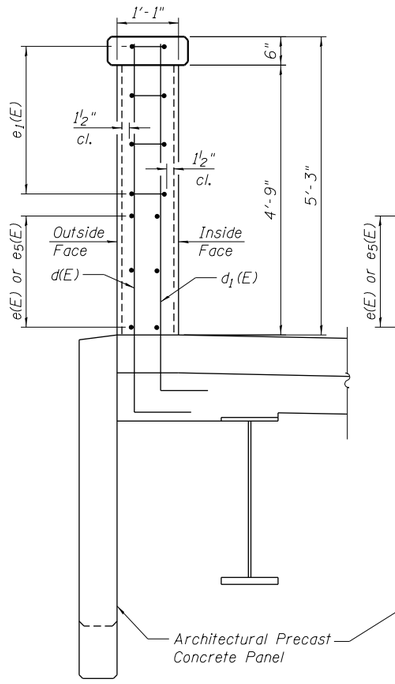


DETAIL B

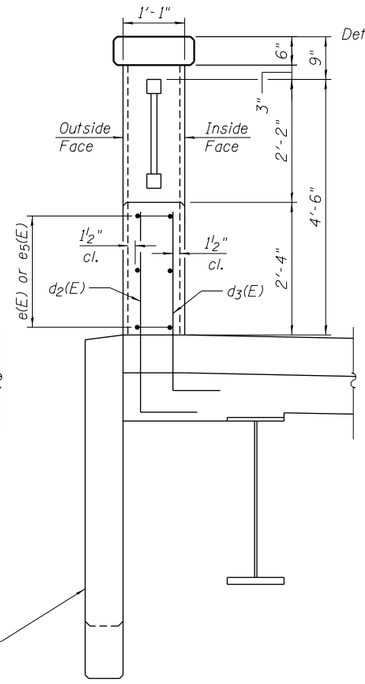


SECTION C-C

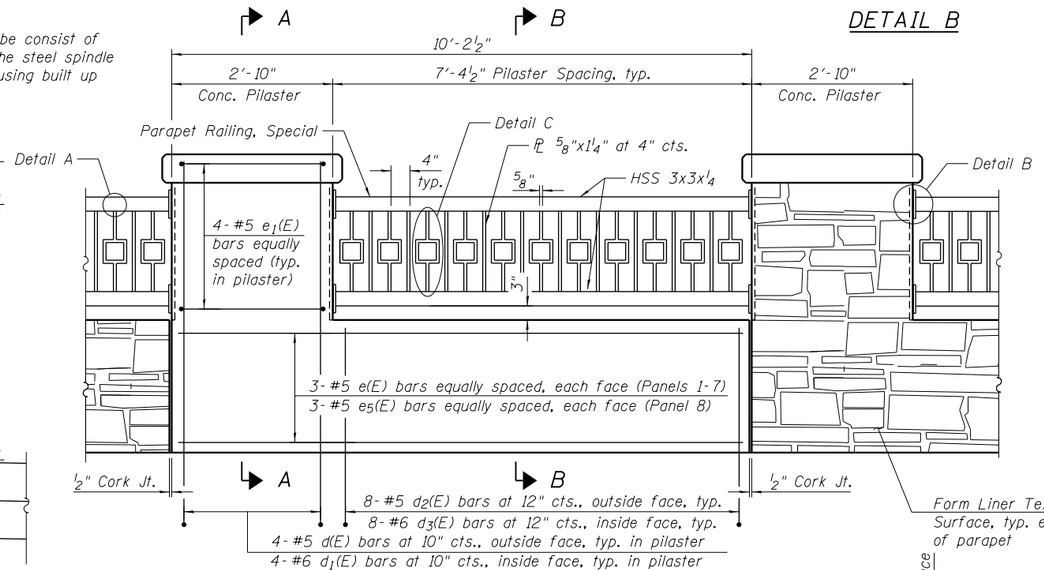
*Form Liner Textured Surface is omitted in base plate connection area of concrete pilaster.



SECTION A-A

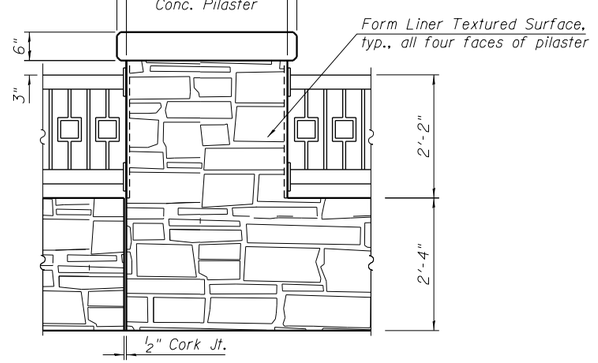


SECTION B-B



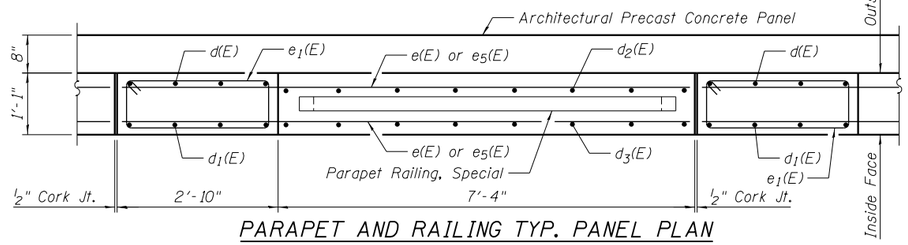
PARAPET AND RAILING TYP. PANEL ELEVATION

(Inside Face)



PILASTER ELEVATION

(Outside Face)



PARAPET AND RAILING TYP. PANEL PLAN

Notes:

All steel railing elements shall be galvanized according to the special provision Parapet Railing, Special and Article 1006.34 of the Standard Specifications.

The color of the final finish for the Parapet Railing, Special shall be Verde Green (See Special Provisions).

See sheet 11 of 30 for Bill of Material and reinforcement bending diagrams.

Form liner textures or patterns of any shape and length shall be inset into the face of the parapet up to ½" deep and 1" wide.

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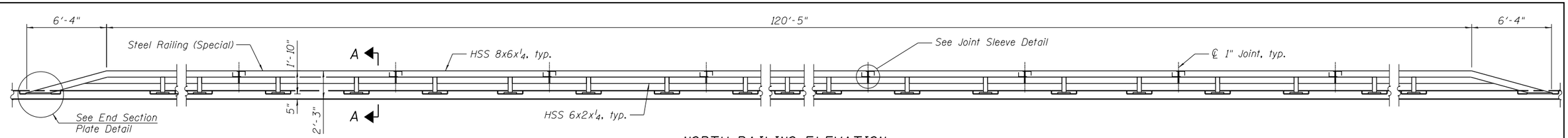
TranSystems

USER NAME = jrmickox	DESIGNED - JRM	REVISED -
	CHECKED - MDS	REVISED -
PLOT SCALE = 8ø '1' / in.	DRAWN - DMG	REVISED -
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

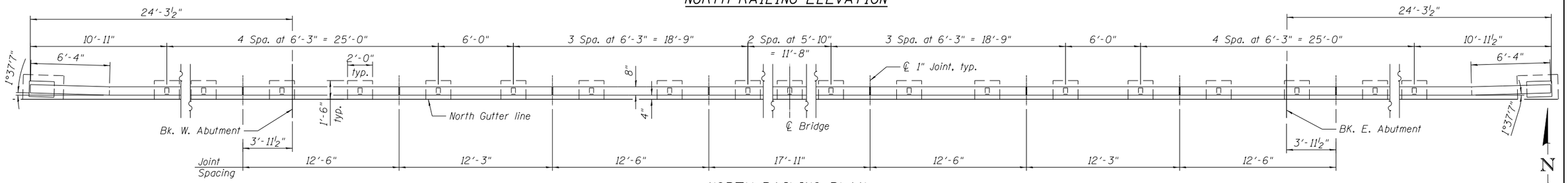
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE BRIDGE RAILING
STRUCTURE NO. 016-2844
SHEET NO. 16 OF 30 SHEETS

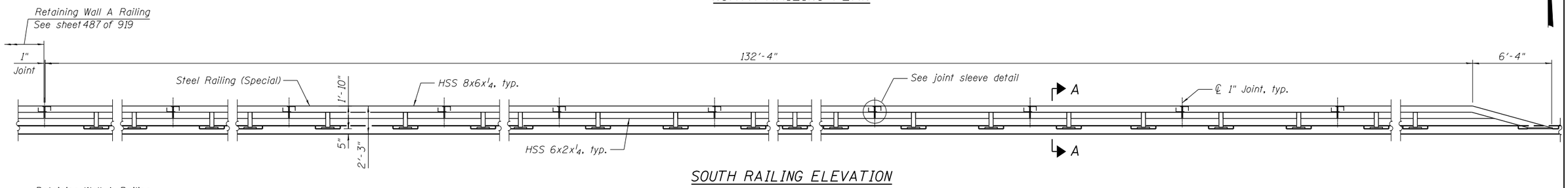
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	466
		CONTRACT NO. 60T35		
	ILLINOIS	FED. AID PROJECT		



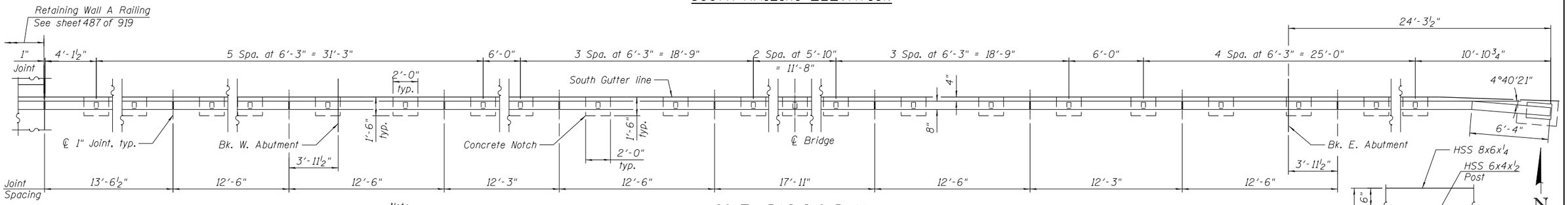
NORTH RAILING ELEVATION



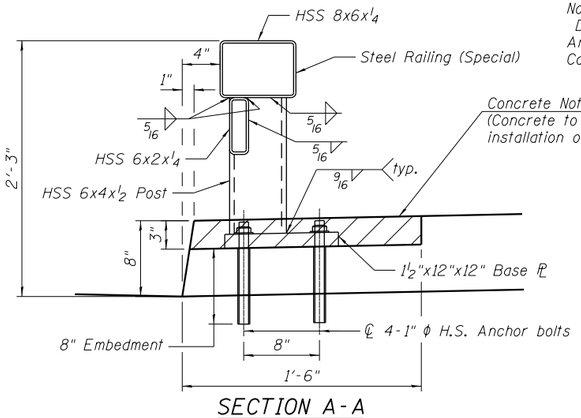
NORTH RAILING PLAN



SOUTH RAILING ELEVATION

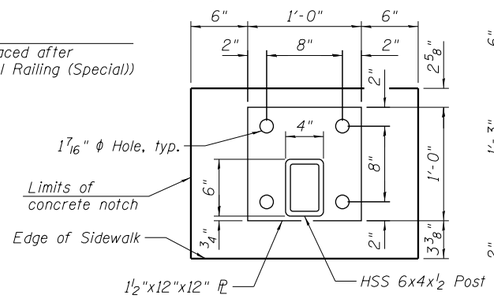


SOUTH RAILING PLAN



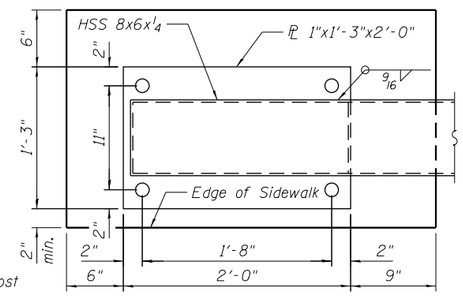
SECTION A-A

Note:
Drill and set anchor bolts according to Article 509.06 of the Standard Specifications. Cost included in Steel Railing (Special).



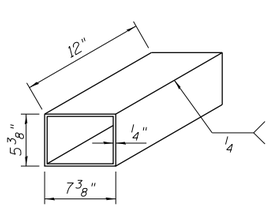
BASE PLATE DETAIL

(40 Required)



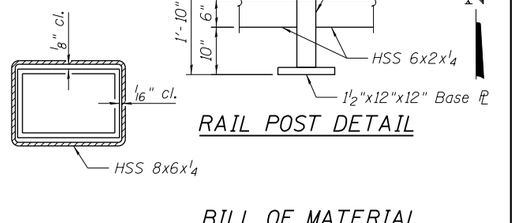
END SECTION PLATE DETAIL

(3 Required)



JOINT SLEEVE DETAIL

(Center joint sleeve at the ℄ of 1" joint)



RAIL POST DETAIL

BILL OF MATERIAL

Item	Unit	Total
Steel Railing (Special)	Foot	272

Notes:
All steel railing elements shall be galvanized according to the special provision Steel Railing (Special) and Article 1006.34 of the Standard Specifications.
The color of the final finish for the Steel Railing (Special) shall be Verde Green (See Special Provisions).

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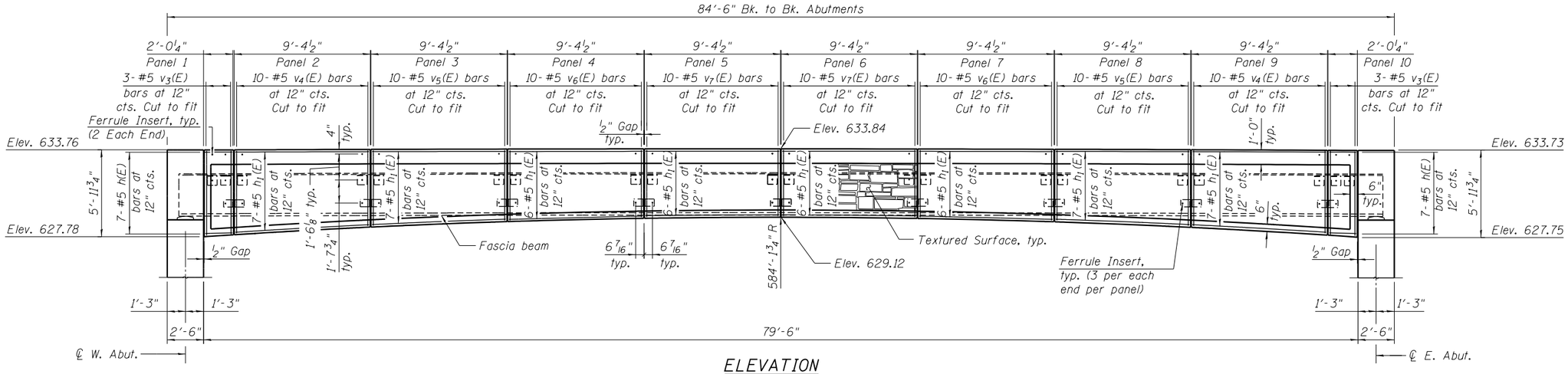
TranSystems

USER NAME = jrmickow	DESIGNED - JRM	REVISED -
	CHECKED - MDS	REVISED -
PLOT SCALE = 8.0 '' / in.	DRAWN - MEP	REVISED -
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

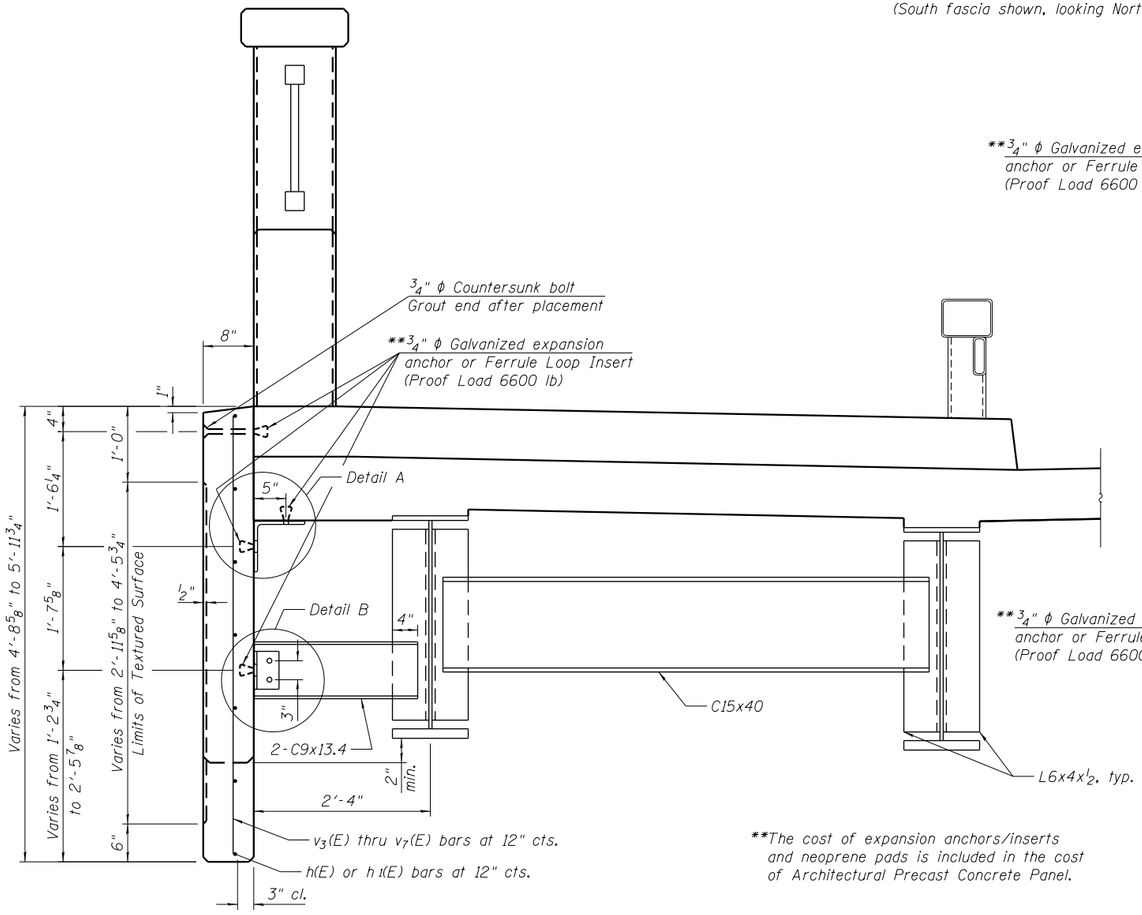
STEEL BRIDGE RAILING
STRUCTURE NO. 016-2844
SHEET NO. 17 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.48)R	COOK	919	467
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			



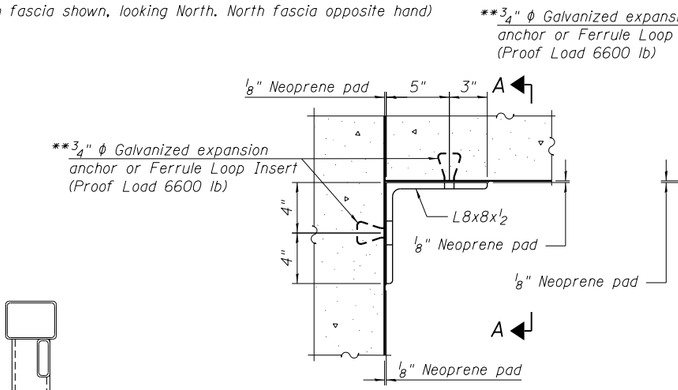
ELEVATION

(South fascia shown, looking North. North fascia opposite hand)

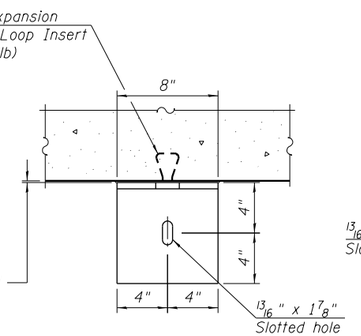


TYPICAL SECTION

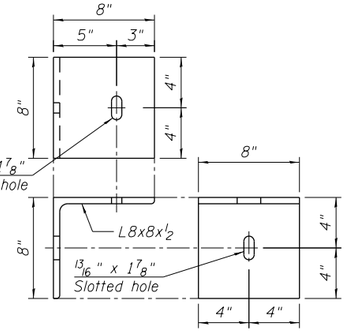
**The cost of expansion anchors/inserts and neoprene pads is included in the cost of Architectural Precast Concrete Panel.



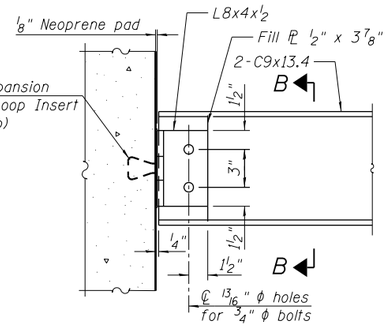
DETAIL A



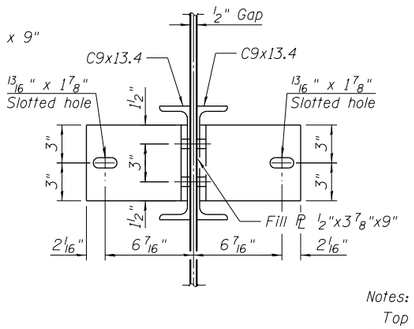
SECTION A-A



DETAIL OF UPPER ANGLE



DETAIL B



SECTION B-B

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#5	1'-8"	——
h1(E)	104	#5	9'-1"	——
v3(E)	12	#5	5'-8"	——
v4(E)	40	#5	5'-6"	——
v5(E)	40	#5	5'-0"	——
v6(E)	40	#5	4'-8"	——
v7(E)	40	#5	4'-5"	——
* Reinforcement Bars, Epoxy Coated		Pound	1,930	
Architectural Precast Concrete Panel		Each	20	

Notes:

Top of panel is parallel to profile grade line. See sheet 1 of 30 .

* Cost of Reinforcement Bars, Epoxy Coated is included with Architectural Precast Concrete Panel.

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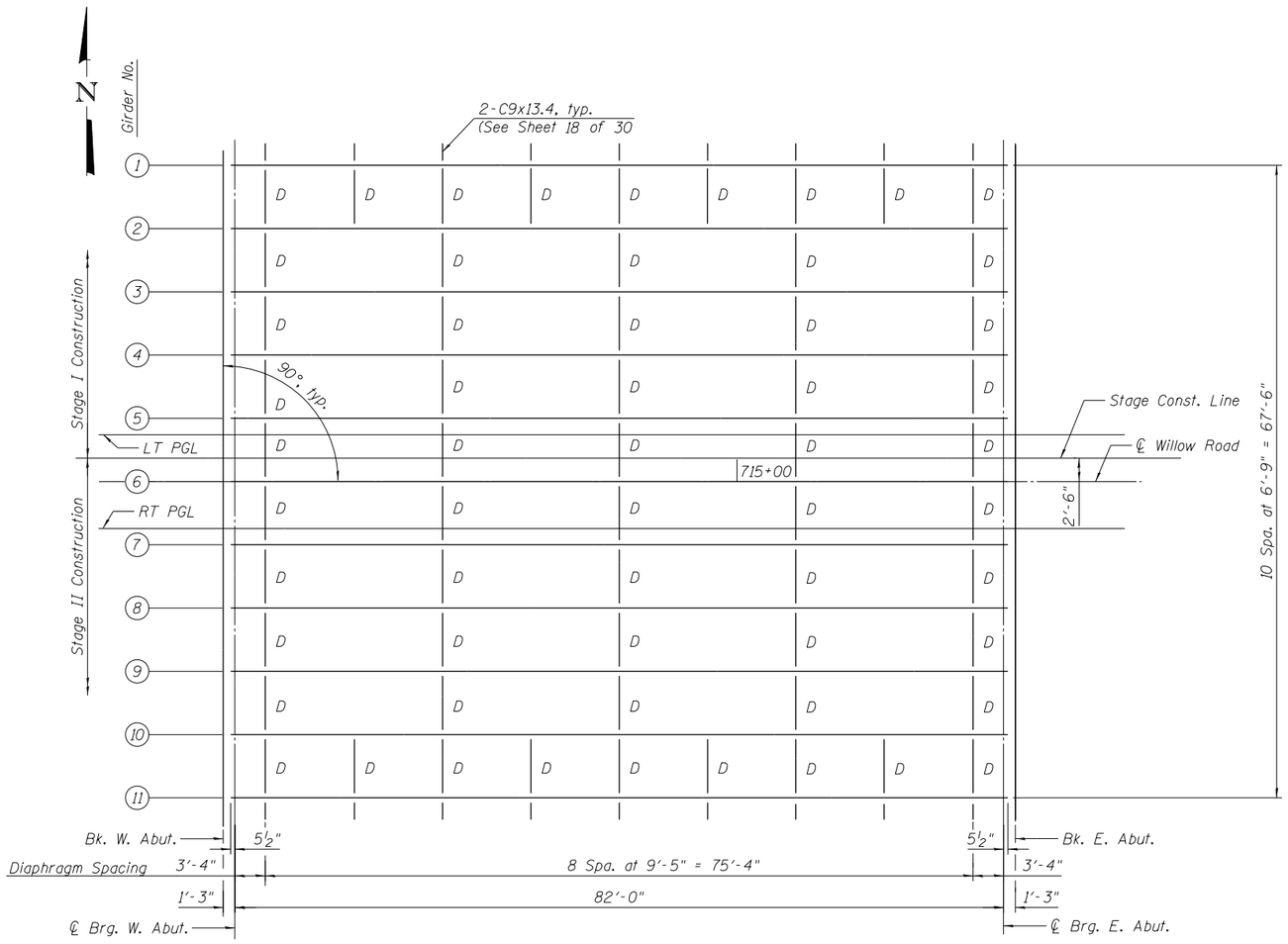
TranSystems

USER NAME = jrmickow	DESIGNED - JRM	REVISED -
	CHECKED - MDS	REVISED -
PLOT SCALE = 8.0 '' / in.	DRAWN - DMG	REVISED -
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

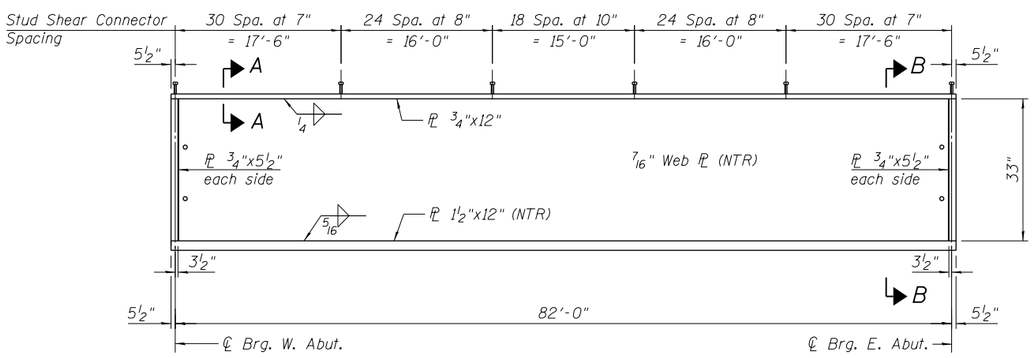
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARCHITECTURAL PRECAST CONCRETE PANEL
STRUCTURE NO. 016-2844
SHEET NO. 18 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	468
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			



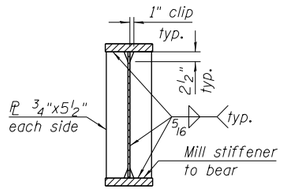
FRAMING PLAN



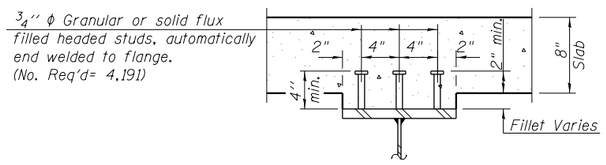
GIRDER ELEVATION

INTERIOR GIRDER MOMENT TABLE		0.5 Span
I_s	(in^4)	8,626
$I_c(n)$	(in^4)	25,551
$I_c(3n)$	(in^4)	18,312
S_s	(in^3)	609
$S_c(n)$	(in^3)	849
$S_c(3n)$	(in^3)	784
DC1	(k/')	0.89
M_{DC1}	('k)	745
DC2	(k/')	0.47
M_{DC2}	('k)	398
DW	(k/')	0.20
M_{DW}	('k)	168
M_{L+IM}	('k)	1232
M_u (Strength I)	('k)	3837
$\phi_f M_n$	('k)	4018
f_s DC1	(ksi)	14.7
f_s DC2	(ksi)	6.1
f_s DW	(ksi)	2.6
f_s (L+IM)	(ksi)	17.4
f_s (Service II)	(ksi)	46.0
$0.95R_hF_{yf}$	(ksi)	47.5
f_s (Total)(Strength I)	(ksi)	-
$\phi_f F_n$	(ksi)	-
V_f	(k)	48.5

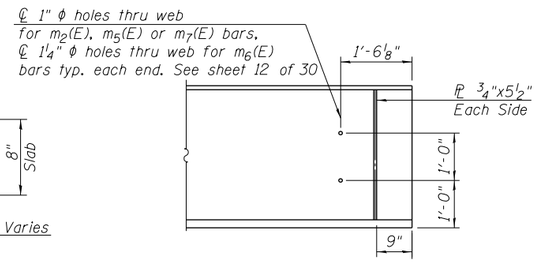
INTERIOR GIRDER REACTION TABLE		Abut.
R_{DC1}	(k)	37.1
R_{DC2}	(k)	19.4
R_{DW}	(k)	8.2
R_{L+IM}	(k)	80.6
R_{Total}	(k)	145.3



SECTION B-B



SECTION A-A



END OF BEAM ELEVATION

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads ($in.^4$ and $in.^3$).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
$M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
$M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
$M_{L+IM} / S_c(n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

$0.95R_hF_{yf}$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_s(L+IM)$

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

V_f: Maximum factored shear range in span computed according to Article 6.10.10.

Notes:
Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
All plates of girder shall be AASHTO M 270, Grade 50.
All diaphragms, angles and connecting plates, may be AASHTO M270, Grade 36.

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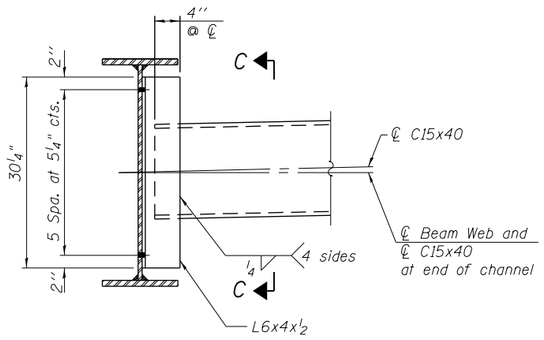
TranSystems

USER NAME = jrmickow	DESIGNED - JRM	REVISED -
	CHECKED - DL	REVISED -
PLOT SCALE = 16.0 '' / in.	DRAWN - DMG	REVISED -
PLOT DATE = 12/5/2012	CHECKED - DL	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

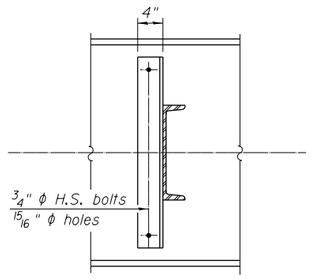
FRAMING PLAN
STRUCTURE NO. 016-2844
SHEET NO. 19 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	469
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

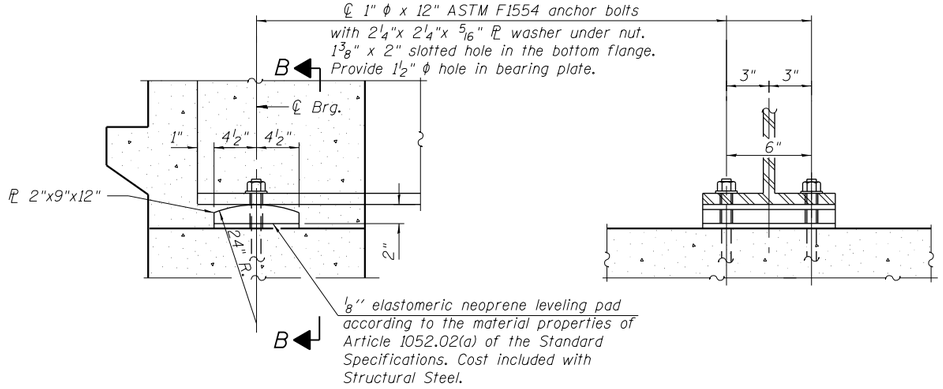


INTERIOR DIAPHRAGM

Two hardened washers required for each set of oversized holes.



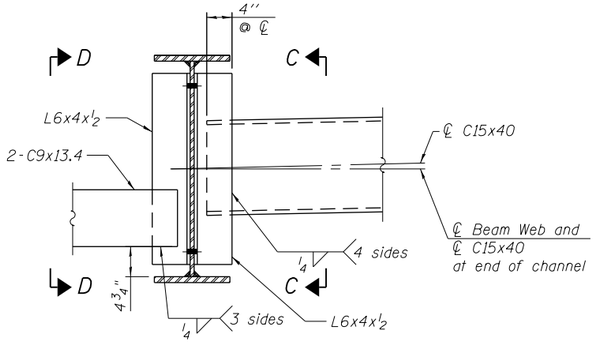
SECTION C-C



ELEVATION AT ABUTMENT

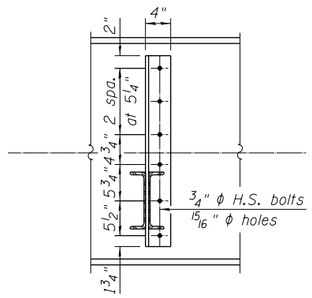
SECTION B-B

FIXED BEARING



EXTERIOR DIAPHRAGM

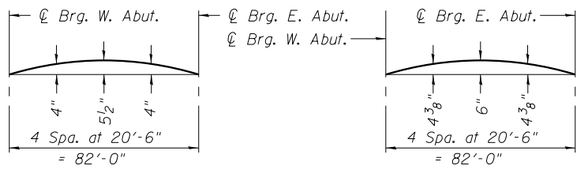
Two hardened washers required for each set of oversized holes.



SECTION D-D

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	44



INTERIOR BEAM

EXTERIOR BEAM

CAMBER DIAGRAM

(Includes all non-composite dead load, superimposed dead load and vertical profile adjustment.)

TOP OF WEB ELEVATIONS

Beam	W. Abut.	E. Abut.
1	632.26	632.24
2	632.08	632.06
3	632.22	632.20
4	632.36	632.34
5	632.50	632.48
6	632.64	632.62
7	632.50	632.48
8	632.36	632.34
9	632.22	632.20
10	632.08	632.06
11	632.26	632.24

"For fabrication only"

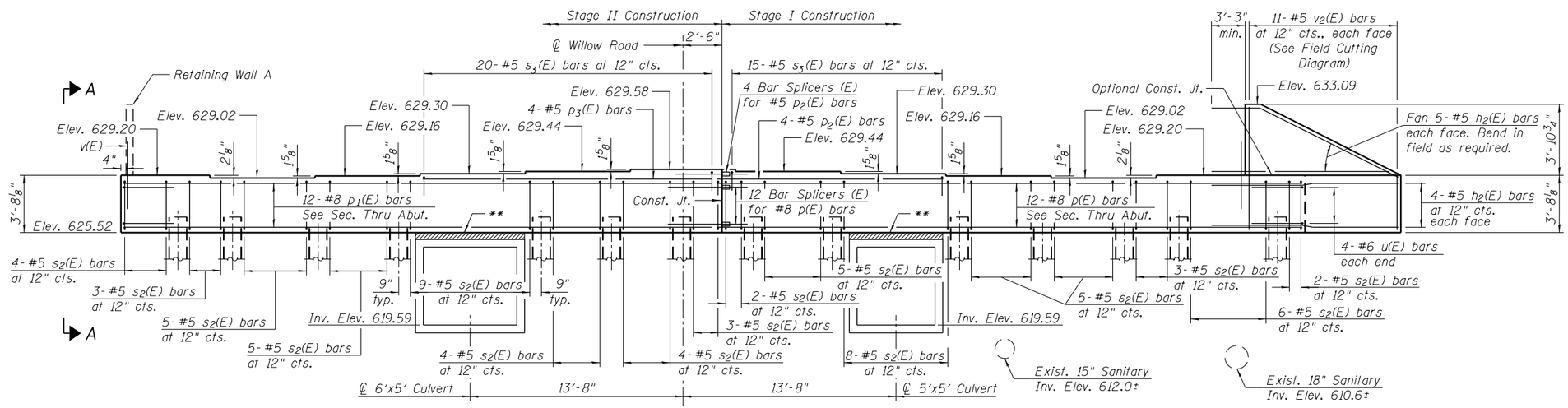
Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

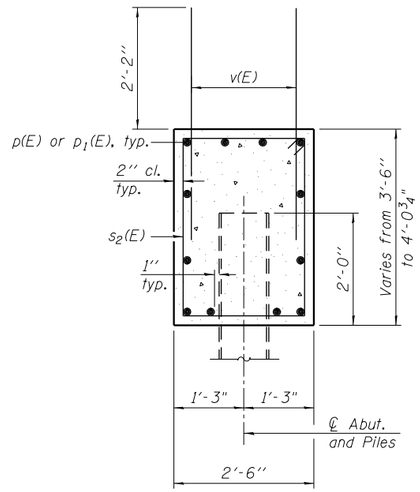
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

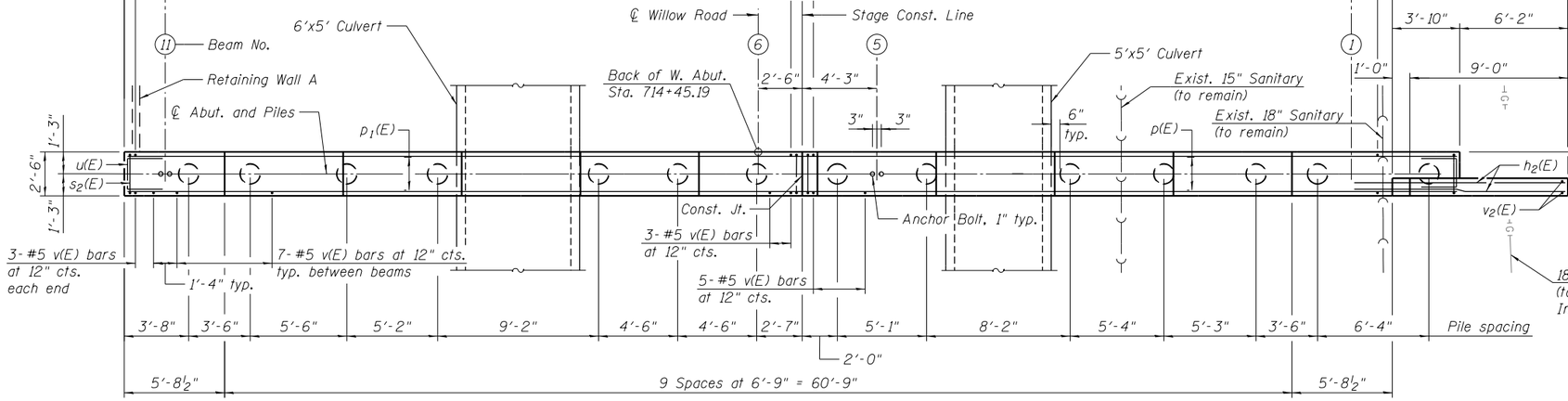


ELEVATION
(Looking West)

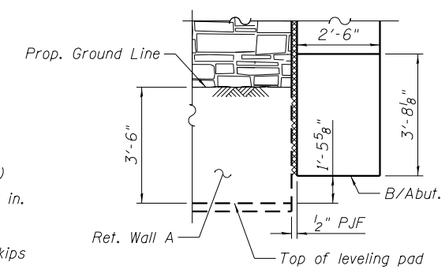
** Styrofoam filler, Cost included with Concrete Structures



SEC. THRU ABUT.



PLAN

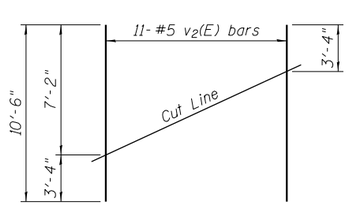


SECTION A-A

PILE DATA

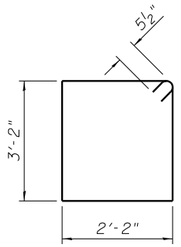
(See 3rd note on Sheet 3 of 30)

Type: Metal Shell-14 in. dia. x 0.312 in. walls with Pile Shoes
Nominal Required Bearing: 516 kips
Factored Resistance Available: 284 kips
Est. Length: 63'
No. Production Piles: 13
No. Test Piles: 1

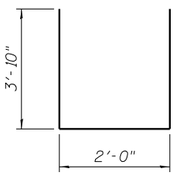


FIELD CUTTING DIAGRAM

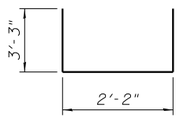
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)



BAR u(E)

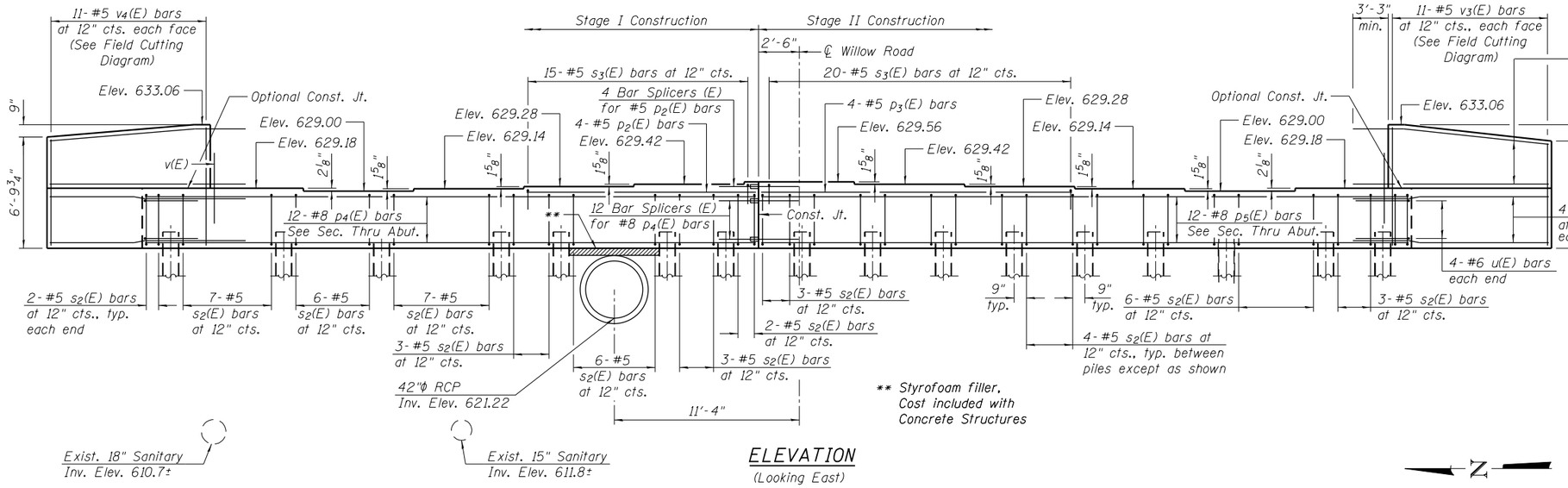


BAR s3(E)

BILL OF MATERIAL

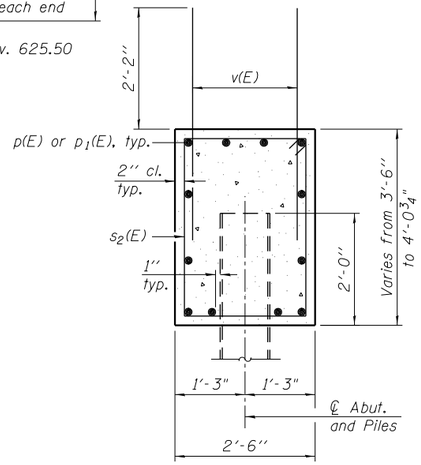
Bar	No.	Size	Length	Shape
$h_2(E)$	18	#5	14'-2"	——
p(E)	12	#8	37'-1"	——
$p_1(E)$	12	#8	38'-3"	——
$p_2(E)$	4	#5	14'-0"	——
$p_3(E)$	4	#5	19'-0"	——
$s_2(E)$	73	#5	11'-7"	□
$s_3(E)$	35	#5	8'-8"	⊔
v(E)	152	#5	4'-4"	——
$v_2(E)$	11	#5	10'-6"	——
u(E)	8	#6	9'-8"	⊔
Structure Excavation		Cu. Yd.	165	
Concrete Structures		Cu. Yd.	28.2	
Reinforcement Bars, Epoxy Coated		Pound	4940	
Furnishing Metal Shell Piles 14" x 0.312"		Foot	819	
Driving Piles		Foot	819	
Test Pile Metal Shells		Each	1	
Pile Shoes		Each	14	

Notes:
Pour steps monolithically with cap.
For details of Bar Splicers, see sheet 25 of 30 .
For details of piles, see sheet 24 of 30 .



ELEVATION

(Looking East)



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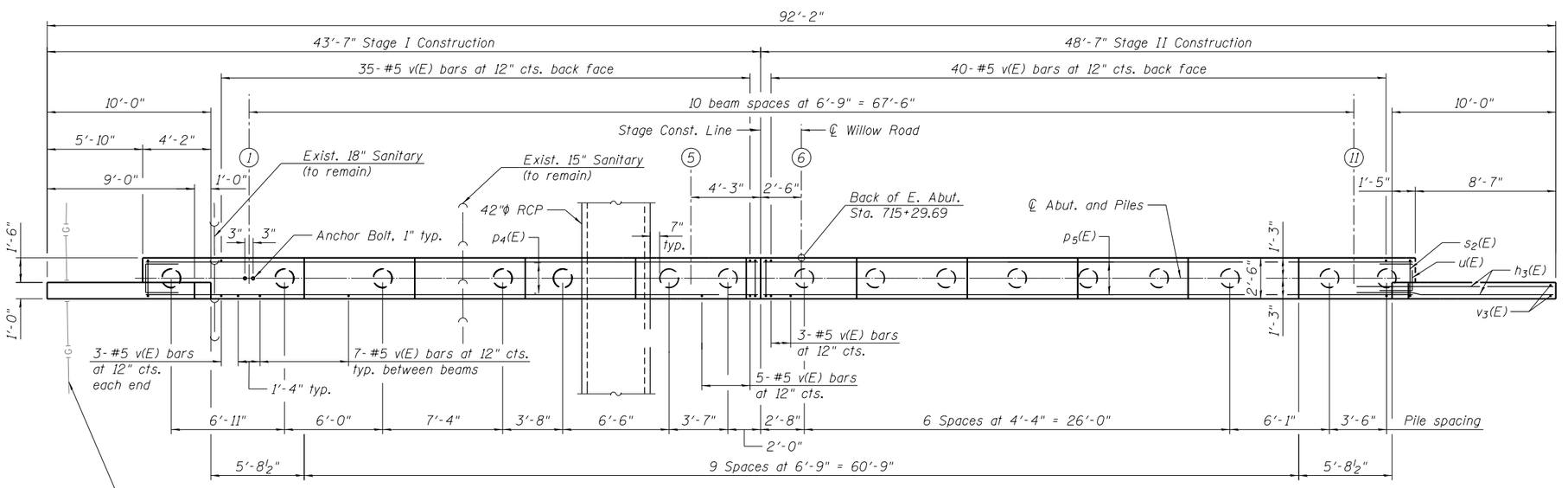


PLAN

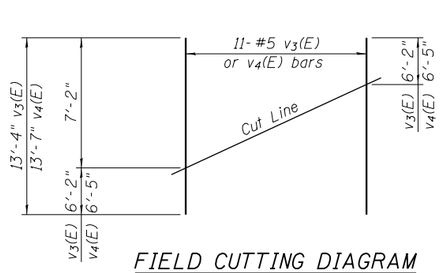
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_3(E)$	32	#5	13'-1"	——
$p_2(E)$	4	#5	14'-0"	——
$p_3(E)$	4	#5	19'-0"	——
$p_4(E)$	12	#8	37'-5"	——
$p_5(E)$	12	#8	39'-8"	——
$s_2(E)$	74	#5	11'-7"	□
$s_3(E)$	35	#5	8'-8"	□
$v(E)$	152	#5	4'-4"	——
$v_3(E)$	11	#5	13'-4"	——
$v_4(E)$	11	#5	13'-7"	——
$u(E)$	8	#6	9'-8"	□
Structure Excavation		Cu. Yd.		270
Concrete Structures		Cu. Yd.		32.1
Reinforcement Bars, Epoxy Coated		Pound		5,370
Furnishing Metal Shell Piles 14" x 0.312"		Foot		915
Driving Piles		Foot		915
Test Pile Metal Shells		Each		1
Pile Shoes		Each		16

PILE DATA

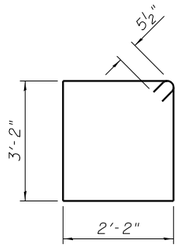
(See 3rd note on Sheet 3 of 30)

Type: Metal Shell-14 in. dia. x 0.312 in. walls with Pile Shoes
Nominal Required Bearing: 516 kips
Factored Resistance Available: 284 kips
Est. Length: 61'
No. Production Piles: 15
No. Test Piles: 1

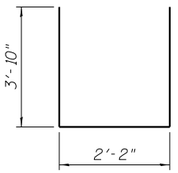


FIELD CUTTING DIAGRAM

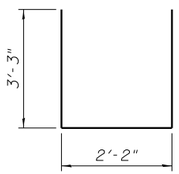
Order $v_2(E)$ full length. Cut as shown and use remainder of bars in opposite face.



BAR $s_2(E)$



BAR $u(E)$



BAR $s_3(E)$

Notes:
Pour steps monolithically with cap.
For details of Bar Splicers, see sheet 25 of 30 .
For details of piles, see sheet 24 of 30 .

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT
STRUCTURE NO. 016-2844
SHEET NO. 22 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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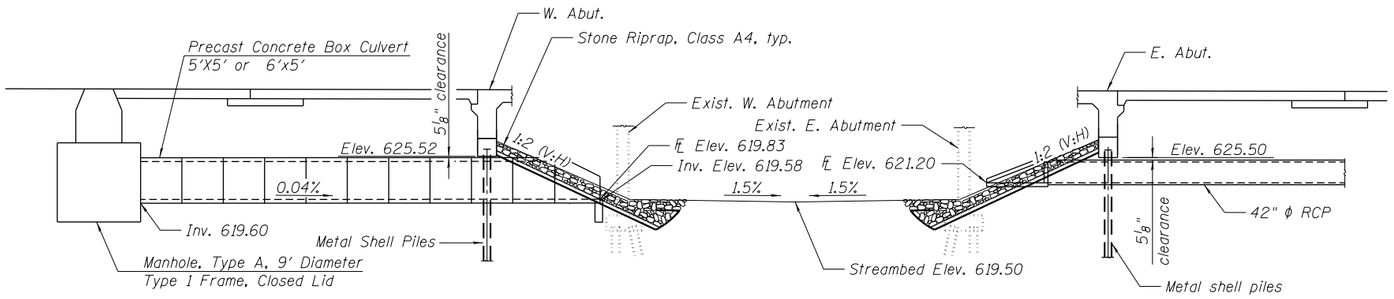
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			



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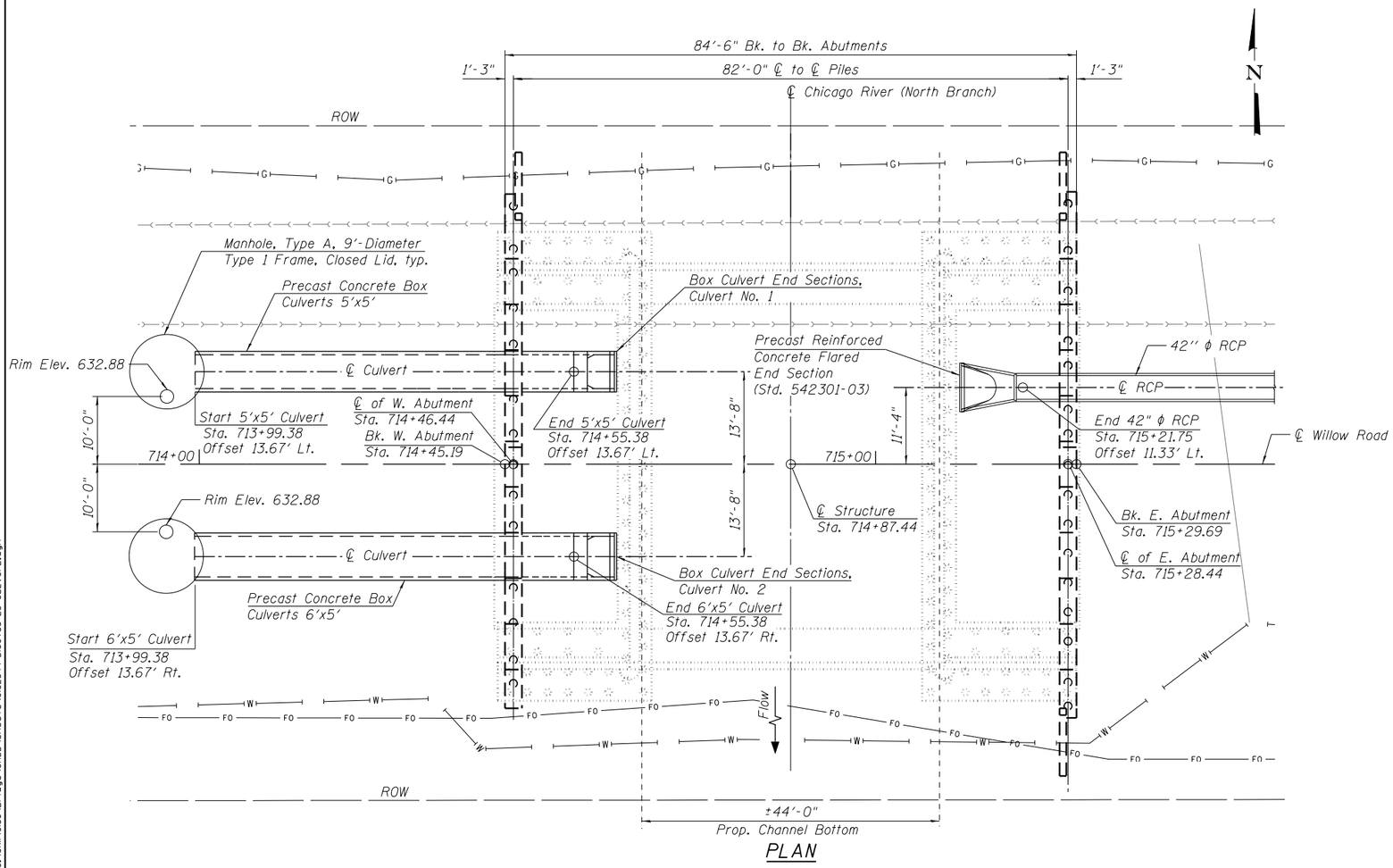
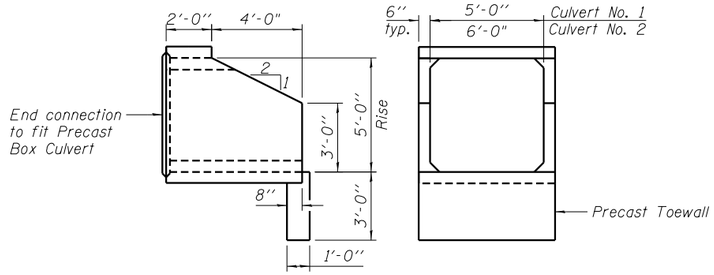
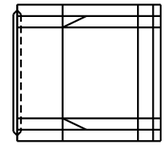


PLAN



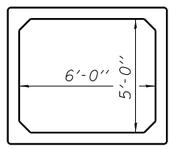
SIDE VIEW

END VIEW

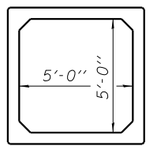


PLAN

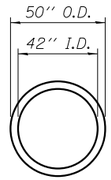
BOX CULVERT END SECTIONS, CULVERT NO. 1 AND NO. 2



CROSS SECTION
(6'X5' Precast Box Culvert)



CROSS SECTION
(5'X5' Precast Box Culvert)



CROSS SECTION
(42" Dia. Precast Reinforced Pipe)
(See Roadway Plans)

BILL OF MATERIAL

Item	Unit	Total
Box Culvert End Sections, Culvert No. 1	Each	1
Box Culvert End Sections, Culvert No. 2	Each	1
Precast Concrete Box Culverts 5'x5'	Foot	56
Precast Concrete Box Culverts 6'x5'	Foot	56

Notes:
Precast Concrete Box Culverts shall be designed per AASHTO LRFD utilizing ASTM C 1577. The fill height is 7'-5"±. A design submittal including plan details and calculations is required for review and acceptance by the Engineer.
Precast Concrete Box Culvert sections shall conform to the requirements of Article 540.06 of the Standard Specifications.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT PLAN AND ELEVATION
STRUCTURE NO. 016-2844
SHEET NO. 23 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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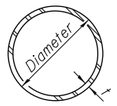
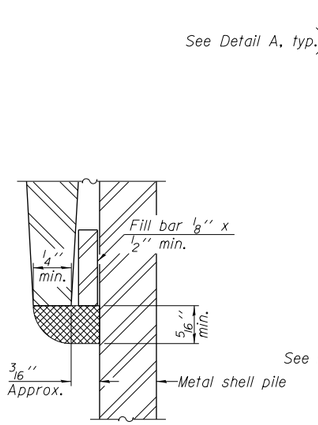
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

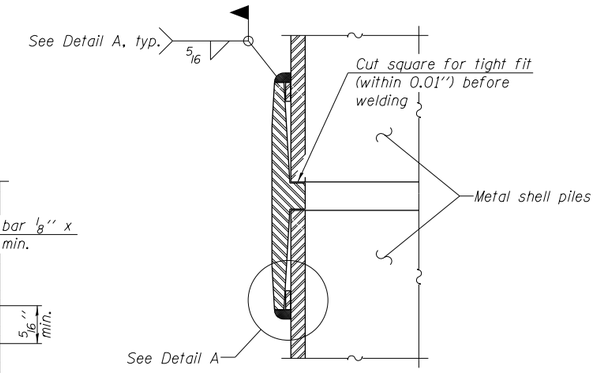


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume ($yd.^3$ /ft.)
PP12	0.179″	22.60	0.0274
PP12	0.250″	31.37	0.0267
PP14	0.250″	36.71	0.0368
PP14	0.312″	45.61	0.0361

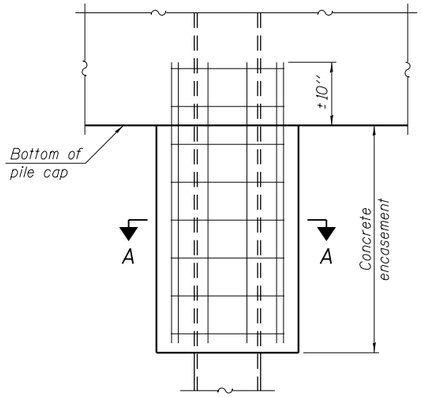


DETAIL A

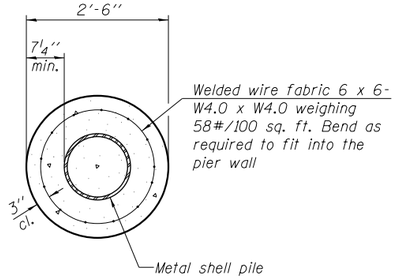


Notes:
The 1/8″ x 1/2″ min. fill bar may be constructed of 2 bars with a 1/8″ max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



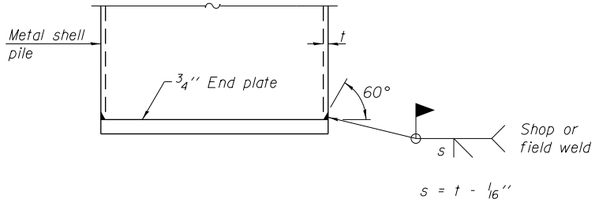
ELEVATION



SECTION A-A

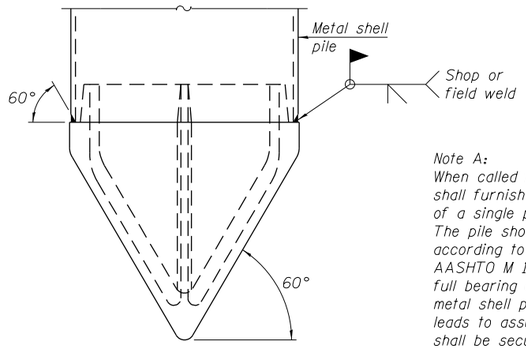
Note:
Forms for encasement may be omitted when soil conditions permit.

CONCRETE ENCASEMENT AT PIERS



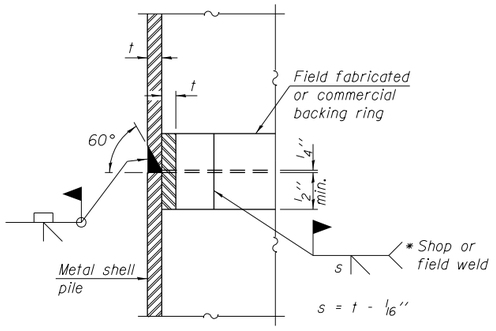
$s = t - 1/16''$

END PLATE ATTACHMENT



Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

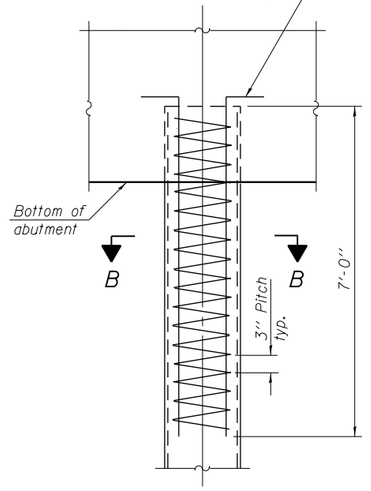
METAL SHELL PILE SHOE ATTACHMENT
(See Note A)



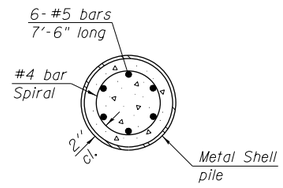
$s = t - 1/16''$

COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

Note:
The metal shell piles shall be according to ASTM A 252 Grade 3.

F-MS 1-27-12

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PLOT DATE = 12/5/2012	CHECKED - DL	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

METAL SHELL PILE DETAILS
STRUCTURE NO. 016-2844
SHEET NO. 24 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	474
		CONTRACT NO. 60T35		
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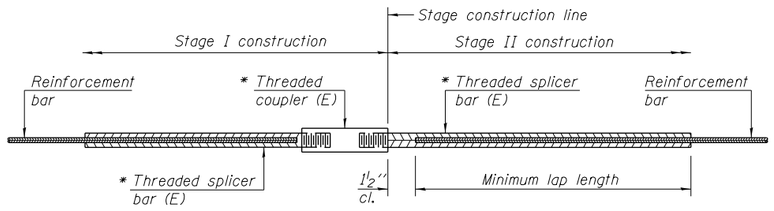


STANDARD BAR SPLICER ASSEMBLY

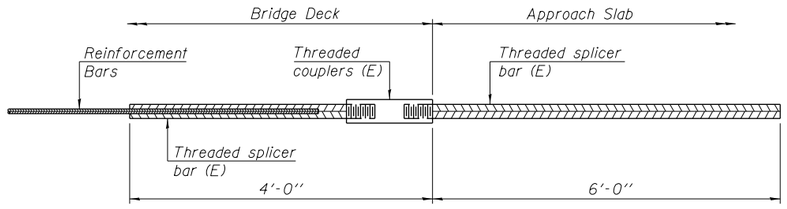
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Class C
Table 6: Epoxy bar, Top bar lap, Class C

Threaded splicer bar length = min. lap length + 1½" + thread length

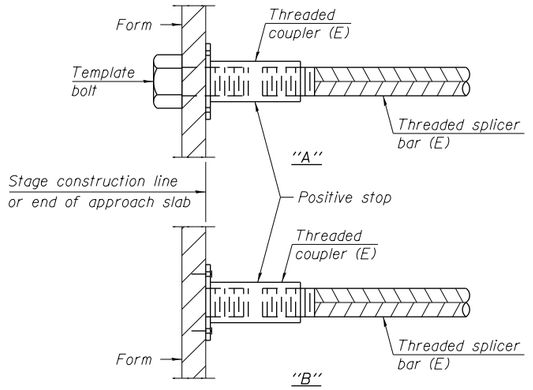
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck	#5	273	Table 5
Diaphragms (at abutments)	#6	14	Table 5
Approach slabs	#4	50	Table 5
Approach slabs	#5	172	Table 5
Abutments	#5	8	Table 5
Abutments	#8	24	Table 5



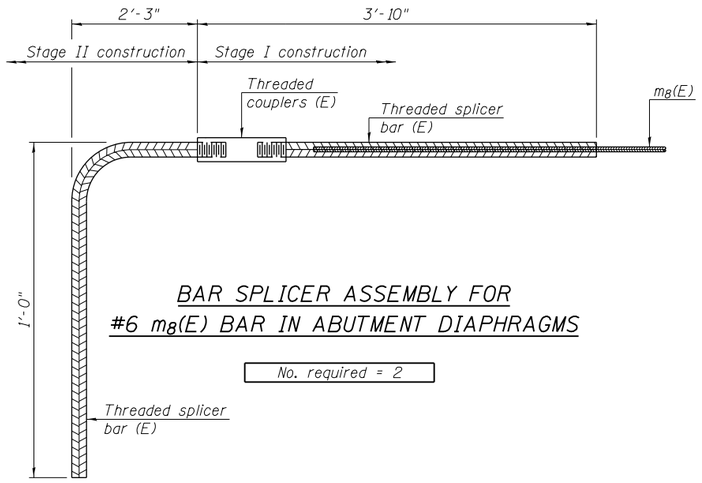
BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 150



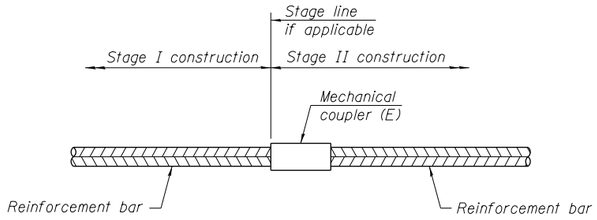
INSTALLATION AND SETTING METHODS

"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.



BAR SPLICER ASSEMBLY FOR #6 mβ(E) BAR IN ABUTMENT DIAPHRAGMS

No. required = 2



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

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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PLOT SCALE = 2±0.0000 '±' / in.	DRAWN - DMG	REVISED -
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-0535
SHEET NO. 25 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	475
		CONTRACT NO. 60T35		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

Date 4/9/12

ROUTE FAP 305 **DESCRIPTION** FAP Route 305 (Willow Road) **LOGGED BY** SC

SECTION (1920,.01,1518,2022&1922,4B)R **LOCATION** FAP 305

COUNTY Cook **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** Automatic

STRUCT. NO. 016-2844
Station 714+86.89

BORING NO. SB-07
Station 714+43.69
Offset 21.33ft RT
Ground Surface Elev. 632.89 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
632.47			
5" ASPHALT			
631.81			
8" CONCRETE			
	8		
Medium Dense			
Gray, Dry	6		8.7
Aggregate Base	8		
629.89			
PID Reading = 0 ppm			
	4		
Stiff			
Brown, Moist	4	1.8	17.0
CLAY (fill)	4	P	
-5			
PID Reading = 0 ppm			
627.39			
	4		
Loose			
Brown, Moist	3		9.5
Fine SAND	2		
PID Reading = 0 ppm			
624.89			
	2		
Stiff			
Brown to Black, Moist	3	1.5	25.3
CLAY	4	P	
-10			
PID Reading = 0 ppm			
622.39			
	4		
Loose			
Brown, Very Moist	3		19.5
SAND	1		
PID Reading = 0 ppm			
619.89			
	3		
Very Stiff			
Brown to Gray, Moist	3	2.4	18.8
CLAY	4	S	
-15			
PID Reading = 0 ppm 617.89			
Hard			
Gray, Moist	6		
CLAY	11	5.7	13.9
PID Reading = 0 ppm	14	S	
	7		
	15	4.5	14.2
-20	14	P	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
612.39			
Medium Dense			
Gray, Very moist	8		
SILT LOAM	10	2.0	13.7
PID Reading = 0 ppm	12	P	
609.89			
Stiff			
Gray, Moist	4		
CLAY	5	1.5	14.2
PID Reading = 0 ppm	9	B	
-25			
607.39			
Very Stiff,			
Gray, Moist	5		
CLAY	7	2.0	12.3
PID Reading = 0 ppm	8	S	
	6		
	8	2.4	12.1
-30	11	S	
	6		
	8	3.3	14.2
-35	7	P	
594.89			
Stiff			
Gray, Moist	5		
CLAY	6	1.8	18.0
-40	7	P	

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

BBS, from 137 (Rev. 8-99)

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SOIL BORING LOG

Date 4/9/12

ROUTE FAP 305 **DESCRIPTION** FAP Route 305 (Willow Road) **LOGGED BY** SC

SECTION (1920,.01,1518,2022&1922,4B)R **LOCATION** FAP 305

COUNTY Cook **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** Automatic

STRUCT. NO. 016-2844
Station 714+86.89

BORING NO. SB-07
Station 714+43.69
Offset 21.33ft RT
Ground Surface Elev. 632.89 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
PID Reading = 0 ppm			
590.89			
Very stiff			
Gray, Moist			
CLAY	5		
PID Reading = 0 ppm	9	2.5	15.6
-45	10	P	
	8		
	9	3.7	15.9
-50	14	S	
580.89			
Soft			
Gray, Very Moist			
CLAY	4		
PID Reading = 0 ppm	6	0.5	21.3
578.39	5	P	
-55			
Very Stiff,	4	2.5	21.3
Gray, Moist	6	P	
CLAY	5		
PID Reading = 0 ppm			
575.89			
Hard			
Gray, Moist			
CLAY	6		
PID Reading = 0ppm	9	4.3	15.7
-60	13	B	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
570.89			
Very Stiff			
Gray, Moist			
CLAY	5		
PID Reading = 0 ppm	8	3.8	17.3
-65	11	P	
	11		
	12	3.1	15.5
-70	13	B	
560.89			
Hard			
Gray, Moist			
CLAY	11		
PID Reading = 0 ppm	15	4.5	10.9
557.89 -75	18	P	
End of Boring			
-80			

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

BBS, from 137 (Rev. 8-99)

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TranSystems

USER NAME = jrmickox	DESIGNED - JRM	REVISED -
	CHECKED - MDS	REVISED -
PLOT SCALE = 20.0000 '/ in.	DRAWN - DMG	REVISED -
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 016-2844
SHEET NO. 26 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	476
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

Date 4/9/12

ROUTE FAP 305 **DESCRIPTION** FAP Route 305 (Willow Road) **LOGGED BY** SC

SECTION (1920,.01,1518,2022&1922,4B)R **LOCATION** FAP 305

COUNTY Cook **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** Automatic

STRUCT. NO. 016-2844
Station 714+86.89

BORING NO. SB-08
Station 715+33.94
Offset 32.09ft RT
Ground Surface Elev. 632.37 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 11' ft
Upon Completion ft
After 5 **Hrs.** 12' ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Very Stiff Dark Brown to Brown, Moist CLAY (fill)
	4			
	4	3.0	14.1	PID Reading = 0 ppm
	4	P		
629.37				
				Stiff Brown, Moist CLAY (fill)
	4			
	3	1.8	16.6	
-5	4	P		
626.87				
				Medium Stiff Brown, Moist CLAY (fill)
	4			
	3	0.8	17.7	
	5	P		PID Reading = 0 ppm
624.37				
				Stiff Brown, Moist CLAY (fill)
	4			
	3	1.8	27.2	
-10	4	P		Organic Content = 4.7%
	3			
620.37				
	5		11.0	Loose Black, Wet Fine SAND
	4			
618.87				
	3			Gasoline odor PID Reading : 391 ppm
	4	1.5	15.6	Stiff
-15	4	P		Brown to Gray, Moist CLAY
616.87				
	5			PID Reading =0 ppm
	4	2.0	16.0	Very Stiff Gray, Moist CLAY
	7	P		
613.87				PID Reading = 0 ppm
	5			
	6	1.9	15.8	
-20	8	B		
611.87				Stiff Gray, Moist CLAY
	4			
	5	2.4	15.6	PID Reading = 103 ppm *(continued)*
	7	B		
				Very Stiff Gray, Moist CLAY
	3			
	4	2.5	16.7	PID Reading = 31 ppm to 20 ppm
-25	6	B		
606.87				
				Stiff, Gray, Moist CLAY
	4			
	5	1.4	17.4	
	6	B		PID Reading = 0 ppm
604.37				
				Very Stiff Gray, Moist Clay
	4			
	5	2.0	16.2	
-30	6	P		PID Reading = 0 ppm
	4			
	5	2.0	17.9	
-35	7	P		
	5			
	7	2.5	16.2	
-40	8	P		

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

BBS, from 137 (Rev. 8-99)

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SOIL BORING LOG

Date 4/9/12

ROUTE FAP 305 **DESCRIPTION** FAP Route 305 (Willow Road) **LOGGED BY** SC

SECTION (1920,.01,1518,2022&1922,4B)R **LOCATION** FAP 305

COUNTY Cook **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** Automatic

STRUCT. NO. 016-2844
Station 714+86.89

BORING NO. SB-08
Station 715+33.94
Offset 32.09ft RT
Ground Surface Elev. 632.37 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 11' ft
Upon Completion ft
After 5 **Hrs.** 12' ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Very Stiff Gray, Moist Clay
				PID Reading = 0 ppm *(continued)*
	5			
	6	3.0	13.4	
-45	10	B		
585.37				
				Hard Gray, Moist CLAY
	10			
	22	4.5	16.6	PID Reading = 0 ppm
-50	18	P		
	26			
	23	4.5	13.5	
-55	13	P		
575.37				
				Very Stiff Gray, Moist CLAY
	10			
	11	3.0	16.0	PID Reading = 0 ppm
-60	13	B		
570.37				
				Stiff Gray, Moist Clay
	8			
	9	1.8	21.9	PID Reading = 0 ppm
-65	10	P		
565.37				
				Very Stiff Gray, Moist CLAY
	13			
	19	3.5	11.2	PID Reading = 0 ppm
-70	20	B		
560.37				
				Hard Gray, Moist CLAY
	15			
	25	4.5	14.3	PID Reading = 0 ppm
557.37 -75	27	P		
				End of Boring
-80				

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

BBS, from 137 (Rev. 8-99)

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SOIL BORING LOG

Date 4/11/12

ROUTE FAP 305 **DESCRIPTION** FAP Route 305 (Willow Road) **LOGGED BY** SC

SECTION (1920,.01,1518,2022&1922,4B)R **LOCATION** FAP 305

COUNTY Cook **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** Automatic

STRUCT. NO. 016-2844
Station 714+86.69

BORING NO. SB-09
Station 714+36.69
Offset 16.34ft LT
Ground Surface Elev. 632.98 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter 26' ft
Upon Completion ____ ft
After 1.5 **Hrs.** None ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
5" ASPHALT 632.56 / 11" CONCRETE 631.65			
	7		
Hard Brown, Moist CLAY (fill)	7	4.5	13.2
	6	P	
629.98 PID Reading = 0 ppm			
Very Stiff Brown, Moist CLAY (fill)	4		
	3	2.8	17.1
PID Reading = 0 ppm -5	5	P	
627.48 Medium Soft Brown to Gray, Moist CLAY (fill)	3		
	2	0.8	23.8
PID Reading = 0 ppm	3	P	
624.98 Organic Content = 2.5%			
Stiff Brown, Moist CLAY (fill) with sand	3		
	4	1.5	20.9
-10	5	P	
622.48 PID Reading = 0 ppm			
Sand mixed with crushed concrete	10		
PID Reading = 0 ppm	12		20.2
	36		
619.98 Soft Brown to Black, Moist CLAY trace to little organics	3		
	3	0.5	27.3
-15	5	P	
PID Reading = 0 ppm 617.48			
Organic Content = 3.3%	3		
Hard Gray, Moist CLAY	5	5.2	14.7
	7	B	
614.98 PID Reading = 0 ppm			
		1.7	19.4
-20		B	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff Gray, Moist CLAY			
PID Reading = 0 ppm *(continued)*		1.9	15.7
		B	
	5		
-25	6	1.5	17.3
	9	B	
607.48 Very Stiff Gray, Moist CLAY	5		
	9	3.0	15.0
PID Reading = 0 ppm	10	P	
604.98 Stiff Gray, Moist CLAY	5		
	5	1.4	16.8
PID Reading = 0 ppm -30	7	B	
	4		
-35	5	1.0	21.2
	4	P	
594.48	5		
	6		19.9
-40	8		

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

BBS, from 137 (Rev. 8-99)

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SOIL BORING LOG

Date 4/11/12

ROUTE FAP 305 **DESCRIPTION** FAP Route 305 (Willow Road) **LOGGED BY** SC

SECTION (1920,.01,1518,2022&1922,4B)R **LOCATION** FAP 305

COUNTY Cook **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** Automatic

STRUCT. NO. 016-2844
Station 714+86.69

BORING NO. SB-09
Station 714+36.69
Offset 16.34ft LT
Ground Surface Elev. 632.98 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter 26' ft
Upon Completion ____ ft
After 1.5 **Hrs.** None ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium Dense Gray, Wet SAND			
PID Reading = 0 ppm *(continued)*			
	3		
-45	6		14.5
	8		
584.48 Stiff Gray, Moist CLAY	9		
	10	1.3	16.5
-50	13	B	
PID Reading = 0 ppm			
580.98 Very Stiff Gray, Moist CLAY			
PID Reading = 0 ppm	5		
	6	2.5	16.5
-55	9	P	
575.98 Medium Stiff Gray, Moist CLAY			
PID Reading = 0 ppm	4		
	4	0.8	22.0
-60	5	B	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
570.98 Very Stiff Gray, Moist CLAY			
PID Reading = 0 ppm	10		
	7	2.3	20.9
-65	10	P	
	9		
	10	2.9	16.5
-70	12	B	
	10		
	18	3.5	11.7
557.98 -75	25	P	
End of Boring			
-80			

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

BBS, from 137 (Rev. 8-99)

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SOIL BORING LOG

Date 4/10/12

ROUTE FAP 305 **DESCRIPTION** FAP Route 305 (Willow Road) **LOGGED BY** SC

SECTION (1920,.01,1518,2022&1922,4B)R **LOCATION** FAP 305

COUNTY Cook **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** Automatic

STRUCT. NO. 016-2844
Station 714+86.89

BORING NO. SB-10
Station 715+29.69
Offset 16.34ft LT
Ground Surface Elev. 632.81 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After ____ **Hrs.** ____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
632.39				5" ASPHALT
631.73				8" CONCRETE
	5			Hard Brown, Moist CLAY (fill)
	7 8	4.5 P	16.9	
	5			PID Reading = 0 ppm
	6 7	4.0 P	20.0	
-5				
627.31				Stiff Brown, Moist CLAY (fill)
	3			
	3 4	1.3 P	19.8	
				PID Reading = 0 ppm
	3			
	3 4	1.8 P	11.1	
-10				
	3			
	4 4	1.8 P	21.4	
619.81				Stiff Brown to Gray CLAY with fine sand
	3			
	4 5	1.8 P	13.8	
-15				
617.31				PID Reading = 0 ppm
	5			Very Stiff Gray, Moist CLAY
	7 9	3.9 B	14.6	
				Shelby tubes (18'-20' and 21'-23') Could not recover any material after two trials from 18' to 20' depth
-20				
				Very Stiff Gray, Moist CLAY
		2.2 B	16.8	
609.81				Shelby tubes (18'-20' and 21'-23') Could not recover any material after two trials from 18' to 20' depth *(continued)*
	3			Stiff Gray, Moist CLAY
	4 6	1.4 B	16.9	
-25				
	4			PID Reading = 0 ppm
	6 8	1.6 B	15.1	
604.81				Very Stiff Gray, Moist CLAY
	4			
	5 8	3.3 S	15.2	
-30				PID Reading = 0 ppm
	4			
	5 8	2.3 P	18.7	
-35				
	6			
	7 9	2.5 P	18.1	
-40				

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

BBS, from 137 (Rev. 8-99)

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SOIL BORING LOG

Date 4/10/12

ROUTE FAP 305 **DESCRIPTION** FAP Route 305 (Willow Road) **LOGGED BY** SC

SECTION (1920,.01,1518,2022&1922,4B)R **LOCATION** FAP 305

COUNTY Cook **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** Automatic

STRUCT. NO. 016-2844
Station 714+86.89

BORING NO. SB-10
Station 715+29.69
Offset 16.34ft LT
Ground Surface Elev. 632.81 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After ____ **Hrs.** ____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
590.81				Stiff Gray, Moist CLAY
	10			PID Reading = 0 ppm
	13 19	1.4 B	16.3	
-45				
585.81				Very Stiff Gray, Moist CLAY
	9			
	12 15	2.8 P	15.5	
-50				PID Reading = 0 ppm
	9			
	9 11	3.0 P	17.3	
-55				
	9			
	11 13	3.8 B	17.1	
-60				
				Very Stiff Gray, Moist CLAY
	7			
	10	2.0 P	13.9	
-65				
565.81				Hard Gray, Moist CLAY
	10			PID Reading = 0 ppm
	13 19	4.7 B	15.8	
-70				
	10			
	17 23	4.5 P	14.4	
557.81				End of Boring
-75				
-80				

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

BBS, from 137 (Rev. 8-99)

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SOIL BORING LOG

Date 4/11/12

ROUTE FAP 305 **DESCRIPTION** FAP Route 305 (Willow Road) **LOGGED BY** SC

SECTION (1920,.01,1518,2022&1922,4B)R **LOCATION** FAP 305

COUNTY Cook **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** Automatic

STRUCT. NO. 016-2844
Station 714+86.89

BORING NO. SB-11
Station 714+04.19
Offset 10.14ft RT
Ground Surface Elev. 632.95 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After ____ **Hrs.** ____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
632.53				5" ASPHALT
				12" CONCRETE
631.53	9			
	6	4.5	13.6	Hard Brown, Moist CLAY (fill)
	8	P		
				PID Reading = 0 ppm
	5			
	6	4.5	15.0	
-5	6	P		
627.45				
	3			Soft, Brown to Gray, Moist CLAY trace organics
	2	0.5	18.5	
	3	P		
624.95				PID Reading = 0 ppm
	5			Organic Content = 2.0%
	2	0.5	17.5	Soft, Black, Moist CLAY (possible buried topsoil)
-10	3	P		
622.45				PID Reading = 0 ppm
	3			Organic Content = 4.1%
	3	3.0	19.5	Very Stiff Greenish Gray, Moist CLAY
	3	P		
619.95				PID Reading = 0 ppm
	2			Very Stiff Brown, Moist CLAY
	3	2.3	20.0	
617.95 -15	6	P		
				PID Reading = 0 ppm
	7			Hard Gray, Moist CLAY
	13	10.1	12.8	
	18	B		Shelby tubes (18'-20')
614.95				PID Reading = 0 ppm
				Very Stiff Gray, Moist CLAY
		3.0	14.3	
-20		P		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				PID Reading = 0 ppm
611.95				
		1.3	14.7	Stiff, Gray, Moist CLAY
		B		
609.95				Shelby Tube (21'-23')
				PID Reading = 0 ppm
	3			Very Stiff
	5	2.0	18.0	Gray, Moist CLAY
-25	6	P		
				PID Reading = 0 ppm
	3			
	4	2.0	19.2	
	6	P		
	3			
	4	2.0	17.4	
602.95 -30	7	P		
				End of Boring
-35				
-40				

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

BBS, from 137 (Rev. 8-99)

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12/5/2012

TranSystems

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	CHECKED - MDS	REVISED -
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PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

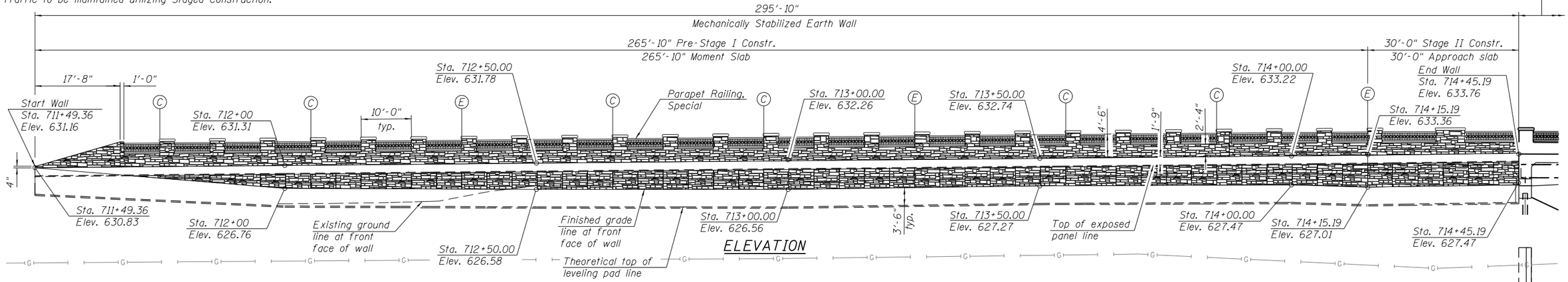
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

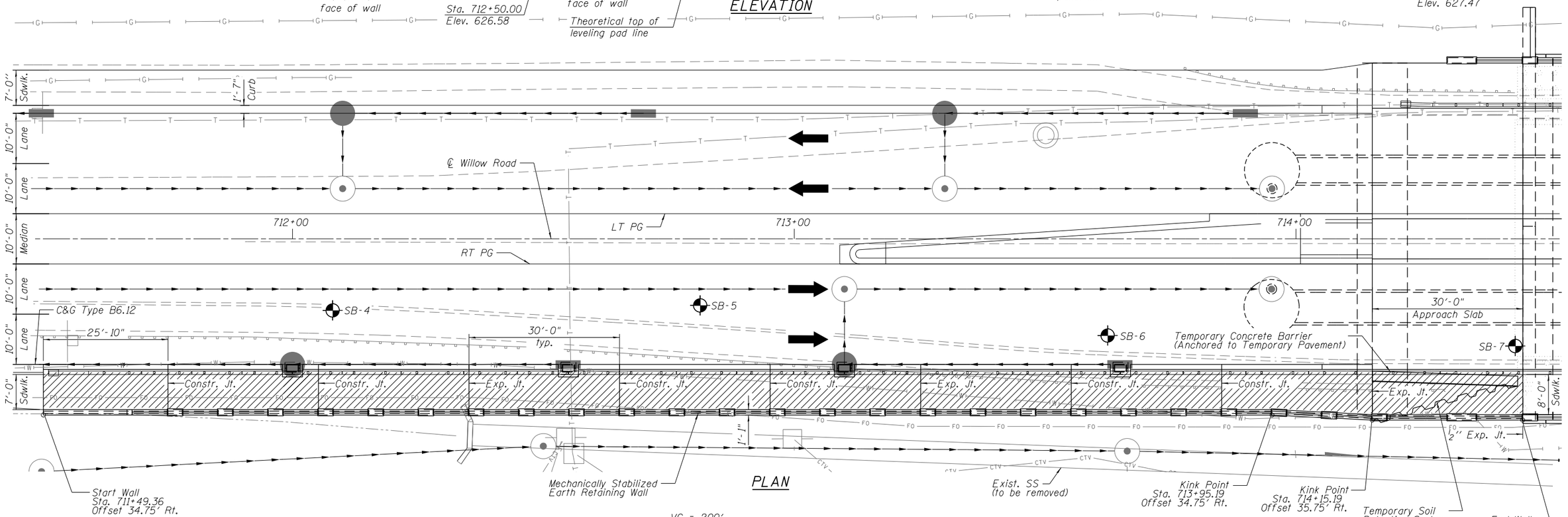
BORING LOGS
STRUCTURE NO. 016-2844
SHEET NO. 30 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	480
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

Bench Mark: Square cut on SE corner of handrail at NE corner of bridge over Middle Fork of the North Branch of the Chicago River At Willow Road. Elev. 633.16
Existing Structure: None
Traffic to be maintained utilizing Staged Construction.

SN 016-2844





DESIGN SPECIFICATIONS

AASHTO Standard Specifications for Highway Bridges, 2002.

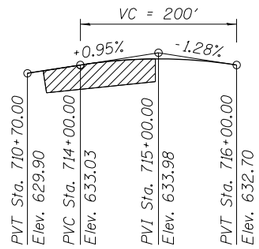
Note:
Station and offsets are measured from the proposed centerline of Willow Road to the front face of the Mechanically Stabilized Earth Retaining Wall precast panel. Elevations are measured from the top of moment slab at the inside face of the barrier.

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
PRECAST UNITS
f'c = 4,500 psi (precast panels)

SEISMIC DATA

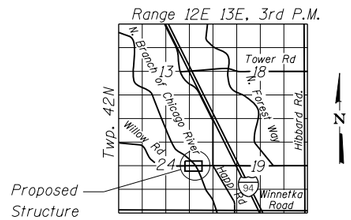
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.058g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.102g
Soil Site Class = C



PROFILE GRADE
(Along RT & LT PG)

MATTHEW D. SANTEFORD
081-007244
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS

MATTHEW D. SANTEFORD, P.E., S.E.
NO. 081-007244
EXP. DATE 11/30/2012



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
RETAINING WALL A
F.A.P. RTE. 0305
SEC. (1920,.01,1518,2022&1922.4B)R
COOK COUNTY
STA 711+49.36 TO 714+45.19

USER NAME = jrmickow	DESIGNED - WJC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - MDS	REVISED -	
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PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -	

SHEET NO. 1 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	481
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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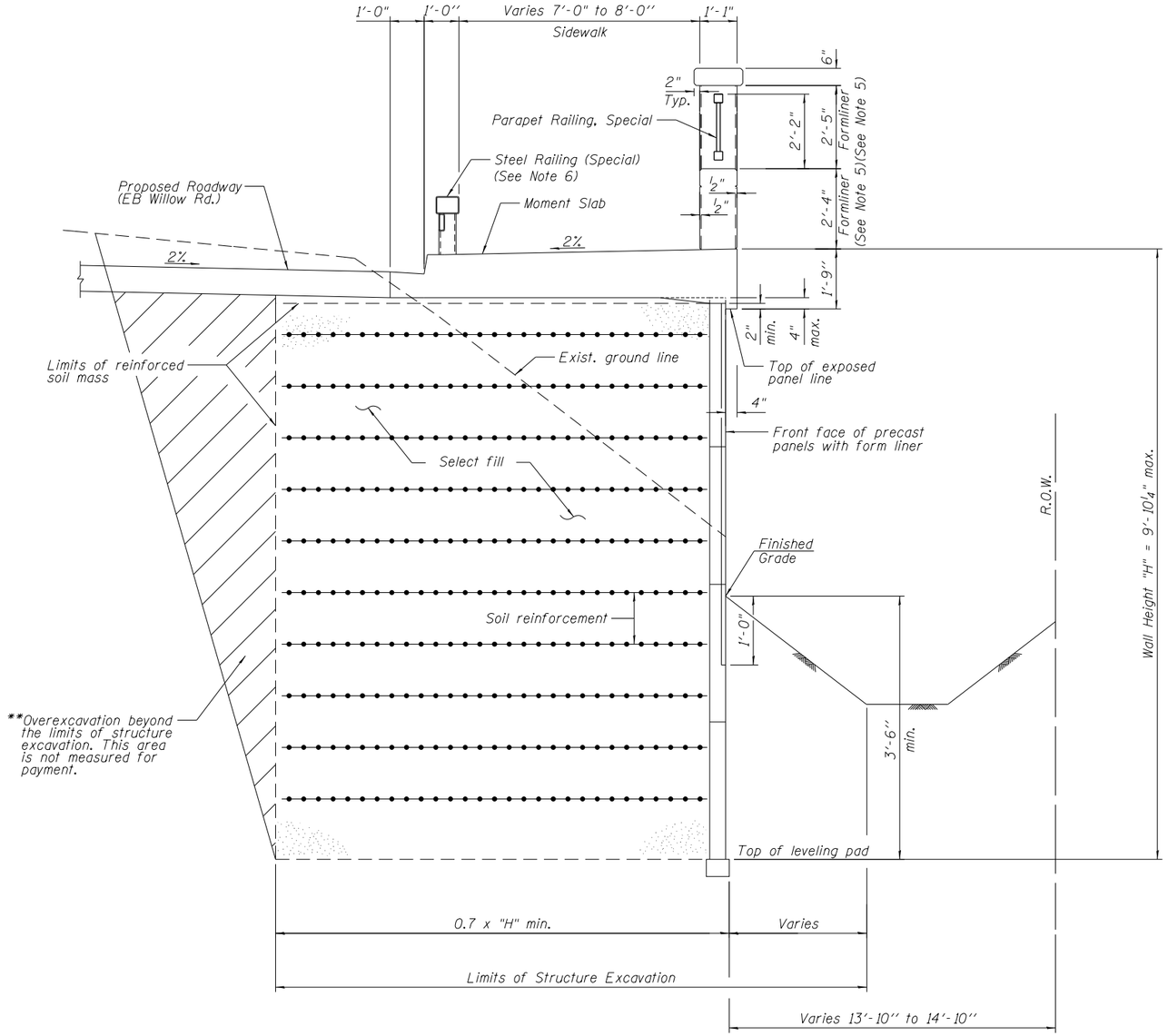
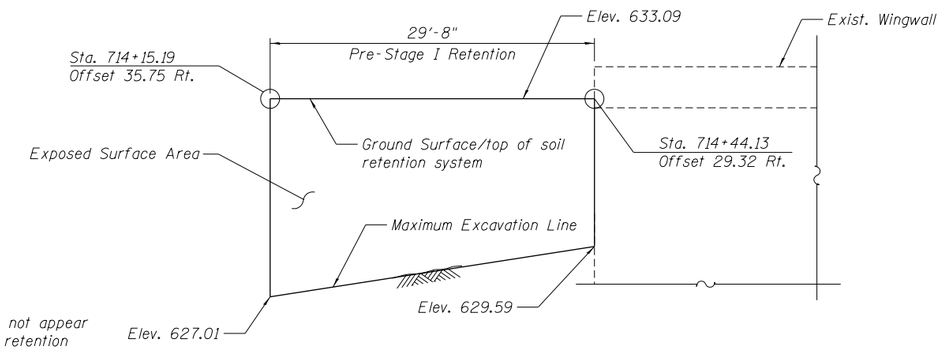


TYPICAL SECTION THROUGH MSE WALL

**Backfill overexcavation with same material as used for select fill.

Note:
A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.



TEMPORARY SOIL RETENTION SYSTEM

(Looking North)

GENERAL 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 work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
3. All construction joints shall be bonded.
4. Minimum bar laps shall be:

Bar	Min. Lap
#5	3'-3"
#6	3'-10"

5. Formliner textures or patterns of any shape and length shall be inset into the face of the barrier up to 1/2" deep and 1" wide.
6. Steel Railing (Special) shall meet the FHWA requirements for the Washington, DC Historic Bridge Rail Retrofit (Curb Mount) barrier.

TOTAL BILL OF MATERIAL

Item	Unit	Total
Structure Excavation	Cu. Yd.	459
Concrete Superstructure	Cu. Yd.	190.6
Form Liner Textured Surface	Sq. Ft.	3,028
Protective Coat	Sq. Yd.	430
Reinforcement Bars, Epoxy Coated	Pound	23,990
Parapet Railing, Special	Foot	180
Staining Concrete Structures	Sq. Yd.	153
Steel Railing, (Special)	Foot	265
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	2,036
Temporary Soil Retention System	Sq. Ft.	146

INDEX OF SHEETS

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12/5/2012

TranSystems

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PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
RETAINING WALL A

SHEET NO. 2 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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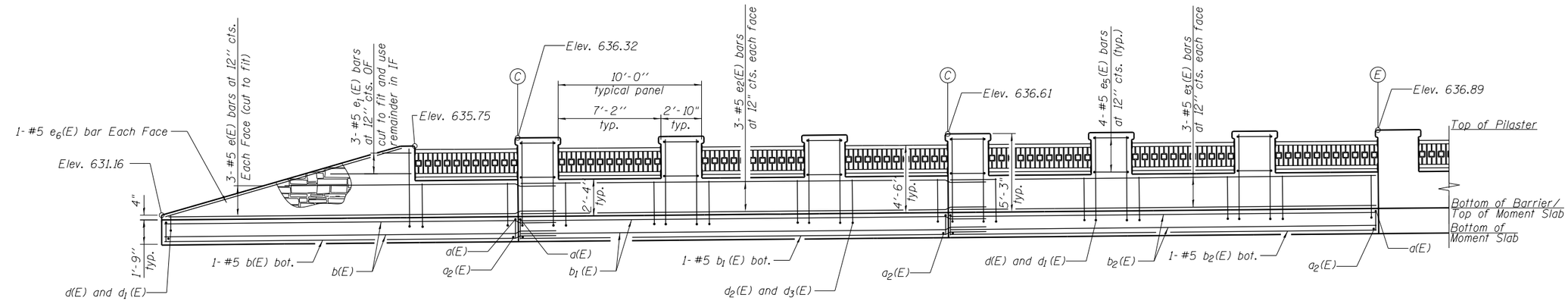
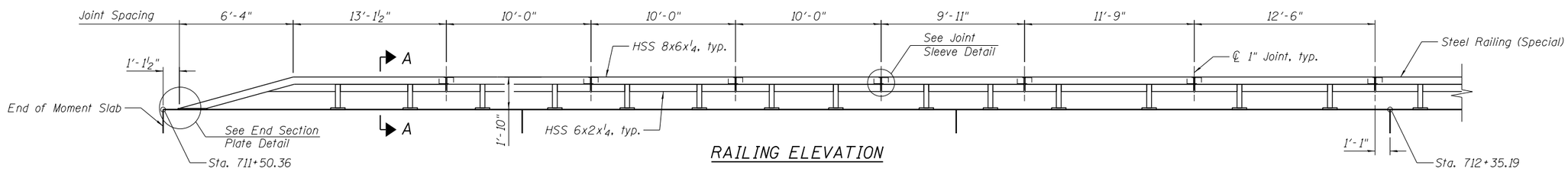
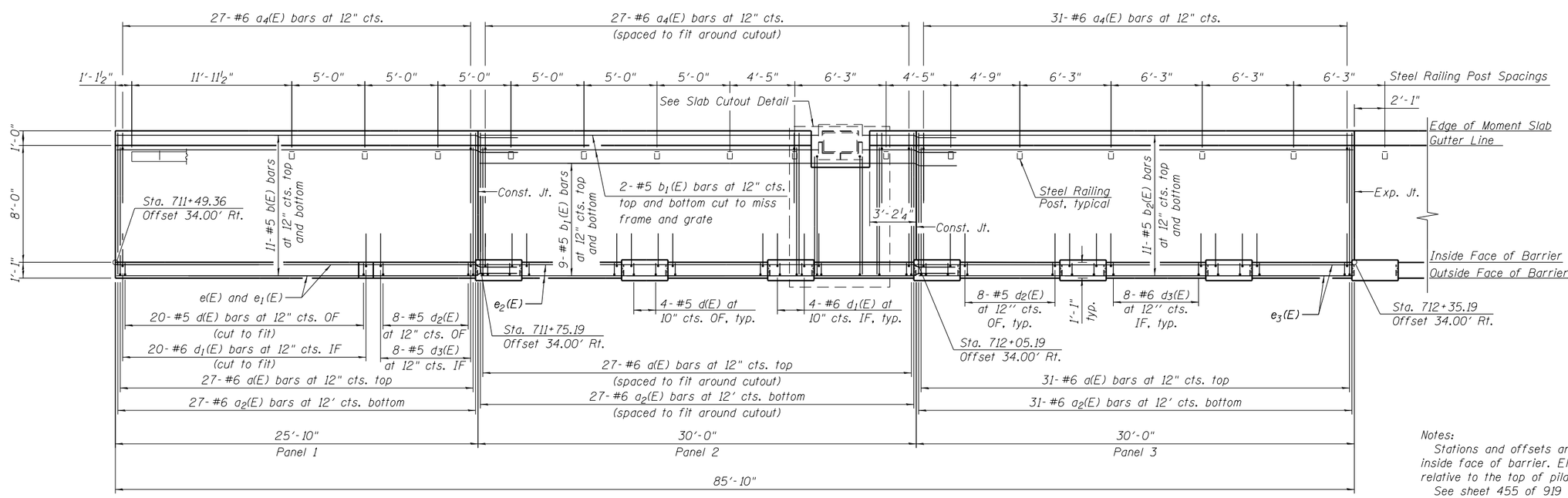
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			



PARAPET ELEVATION



RAILING ELEVATION



PLAN

Notes:
Stations and offsets are relative to inside face of barrier. Elevations are relative to the top of pilaster.
See sheet 455 of 919 for Section A-A, Base ℄ Detail, End Section ℄ Detail, Joint Sleeve Detail, and Slab Cutout Detail.

TranSystems	USER NAME = jrmickow	DESIGNED - WJC	REVISED -
		CHECKED - MDS	REVISED -
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	PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MOMENT SLAB PLAN AND ELEVATION
RETAINING WALL A
SHEET NO. 3 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	483
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

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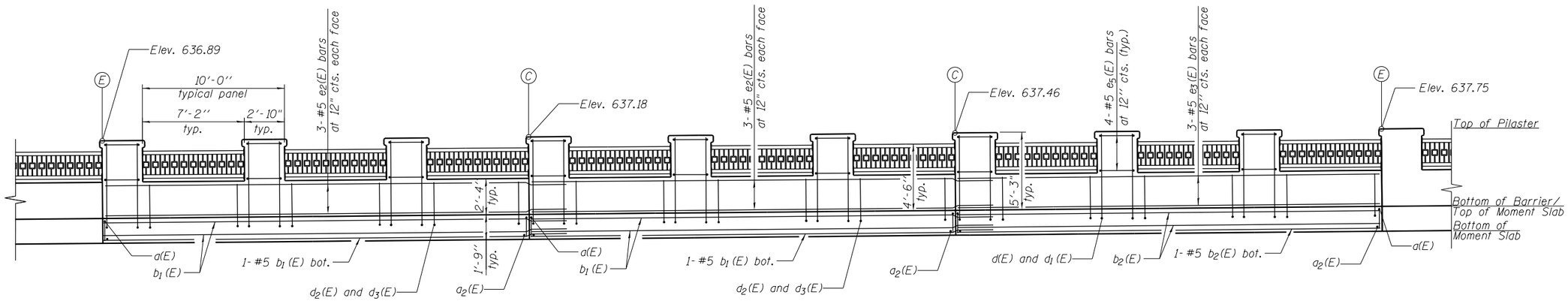
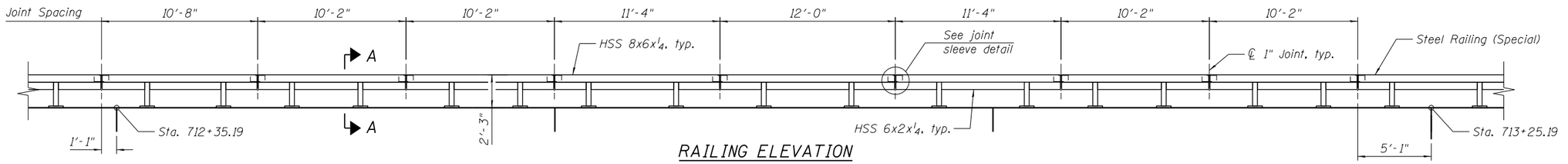
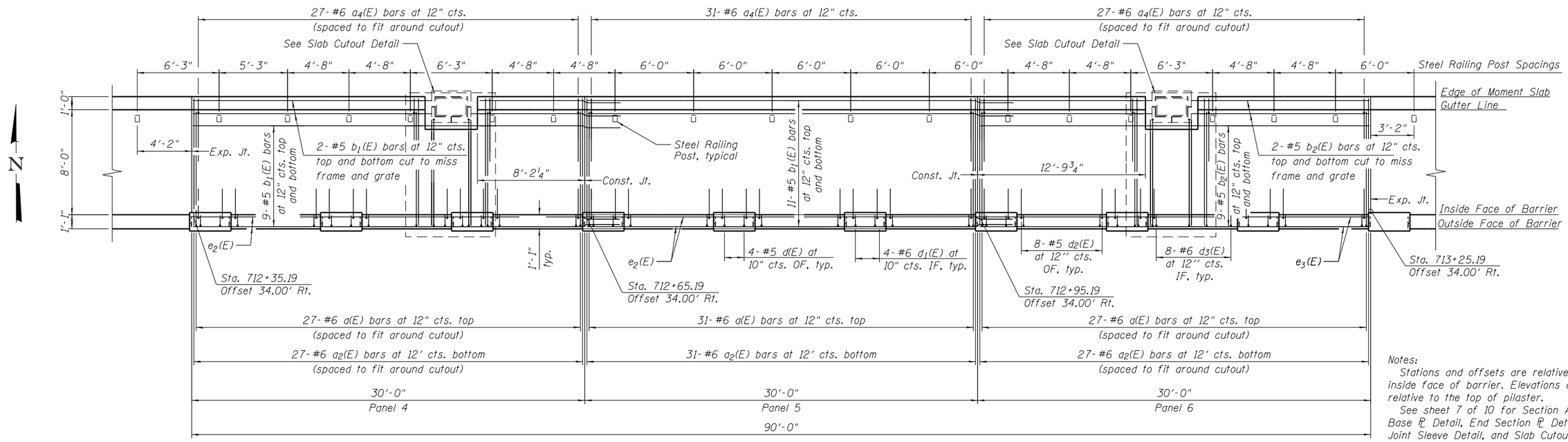


PARAPET ELEVATION



RAILING ELEVATION



PLAN

Notes:
Stations and offsets are relative to inside face of barrier. Elevations are relative to the top of pilaster.
See sheet 7 of 10 for Section A-A, Base ℄ Detail, End Section ℄ Detail, Joint Sleeve Detail, and Slab Cutout Detail.

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TranSystems

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PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MOMENT SLAB PLAN AND ELEVATION
RETAINING WALL A
SHEET NO. 4 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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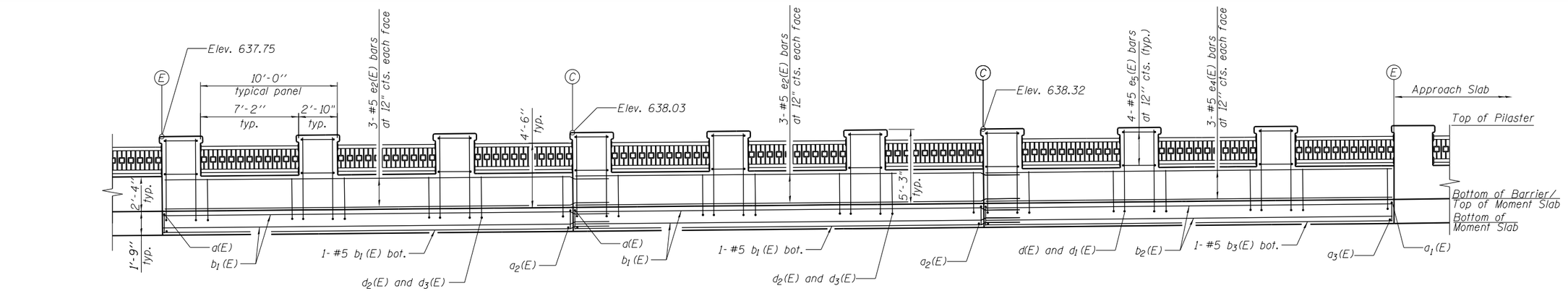
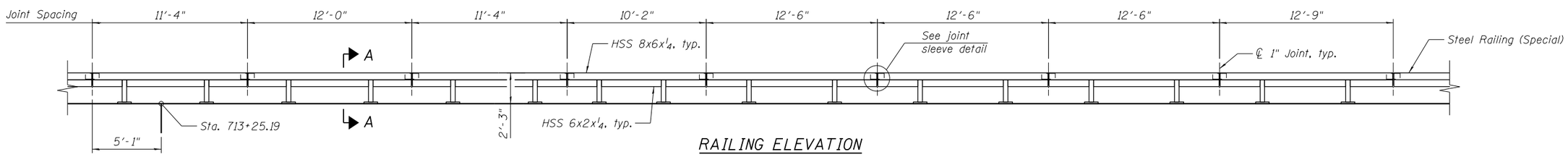
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			



PARAPET ELEVATION



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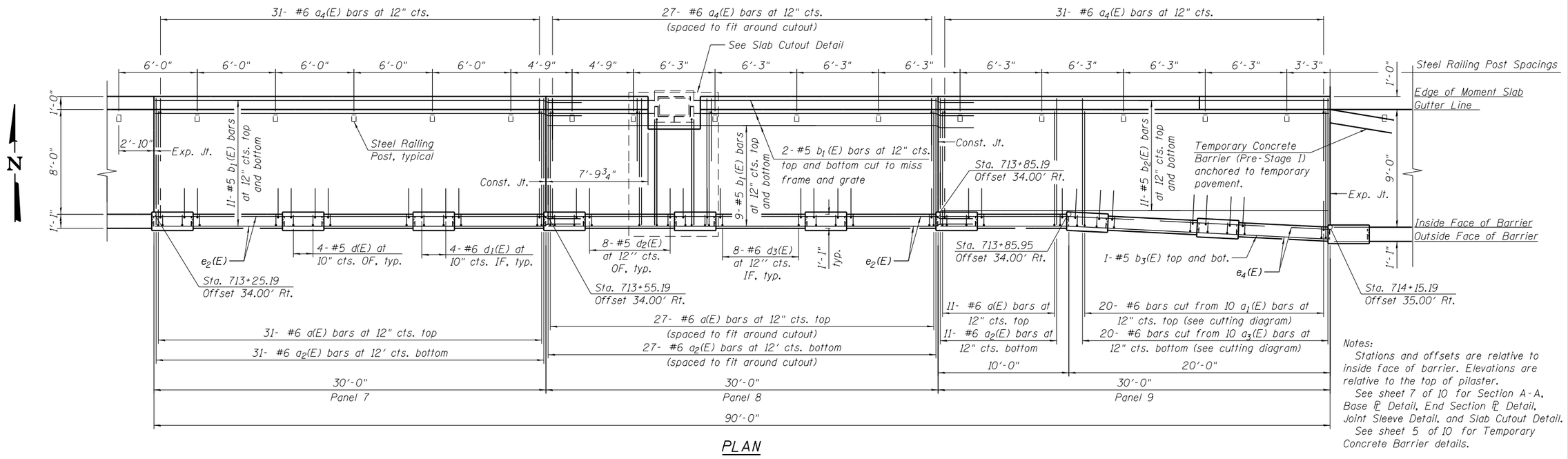

PLAN

Notes:
Stations and offsets are relative to inside face of barrier. Elevations are relative to the top of pilaster.
See sheet 7 of 10 for Section A-A, Base ℄ Detail, End Section ℄ Detail, Joint Sleeve Detail, and Slab Cutout Detail.
See sheet 5 of 10 for Temporary Concrete Barrier details.

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TranSystems

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MOMENT SLAB PLAN AND ELEVATION
RETAINING WALL A
SHEET NO. 5 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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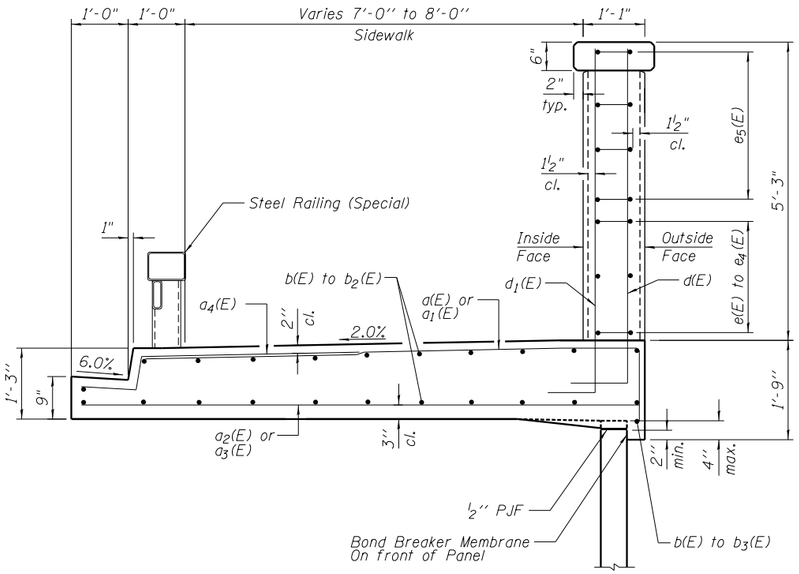
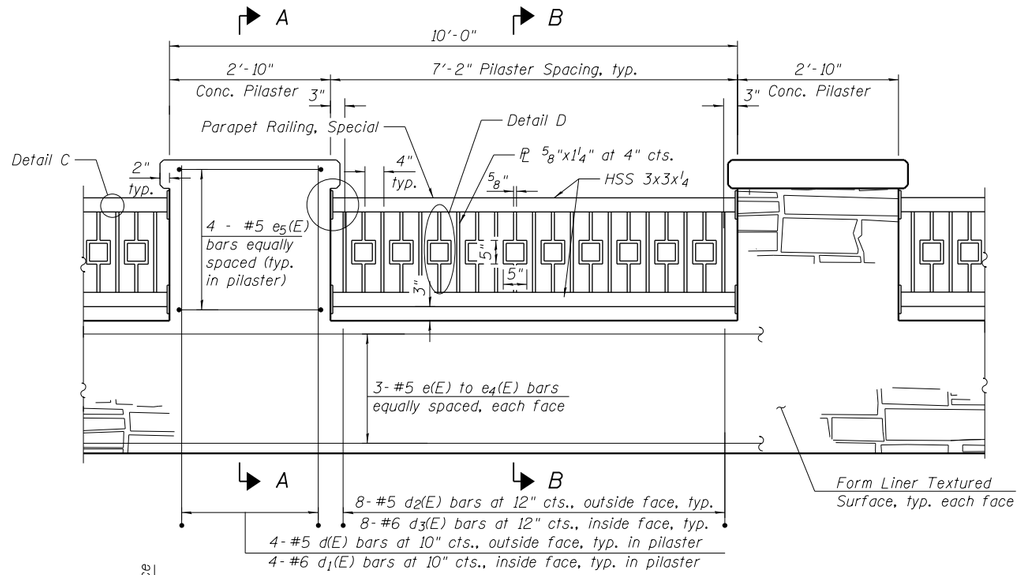
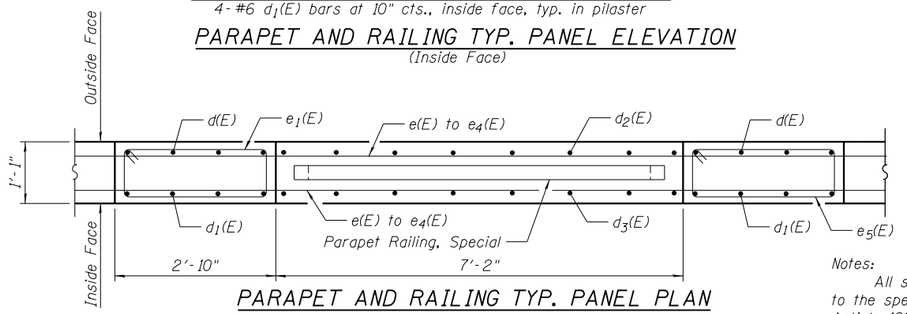
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			



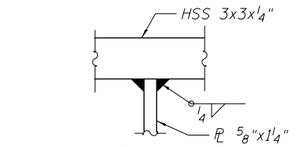
SECTION A-A



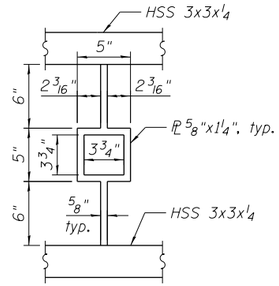
PARAPET AND RAILING TYP. PANEL ELEVATION
(Inside Face)



PARAPET AND RAILING TYP. PANEL PLAN



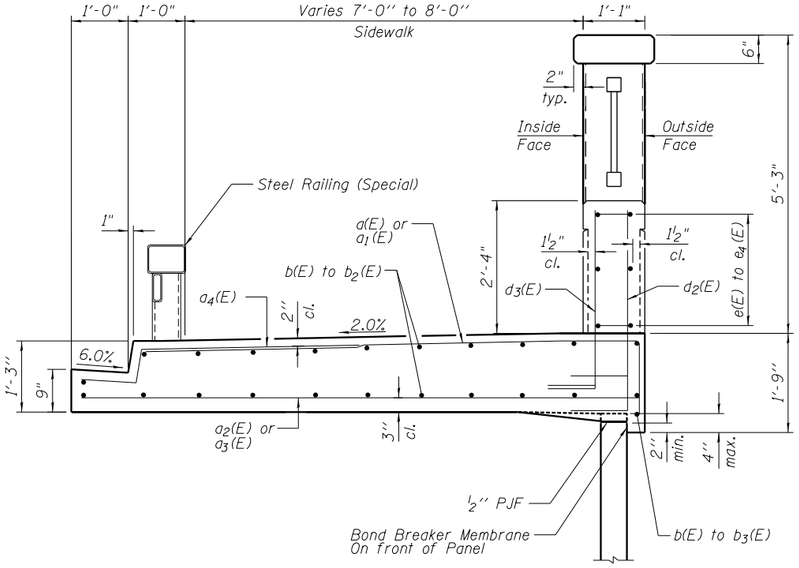
DETAIL C
(Same weld detail for top and bottom rails)



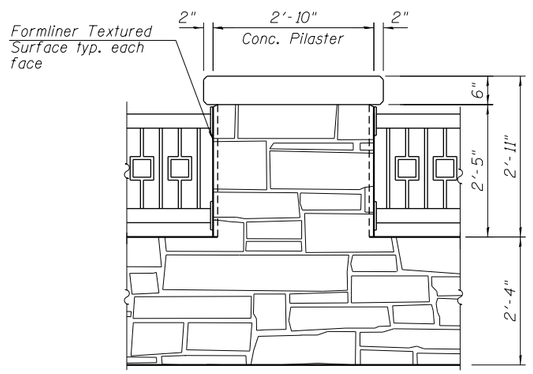
DETAIL D

Note:
The steel spindle shall be consist of continuous solid steel. The steel spindle shall not be constructed using built up welded steel plates.

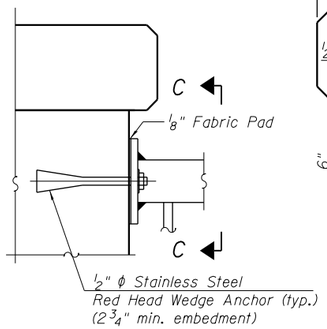
Notes:
All steel railing elements shall be galvanized according to the special provision Parapet Railing, Special and Article 1006.34 of the Standard Specifications.
The color of the final finish for the steel railing shall be verde green.
See Sheet 8 of 10 for Bill of Material.



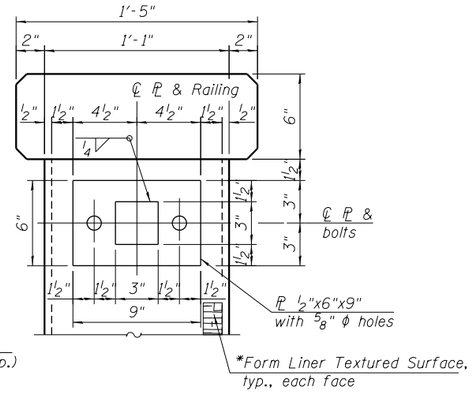
SECTION B-B



PILASTER ELEVATION
(Front Face)



DETAIL B



SECTION C-C

*Form Liner Textured Surface is omitted in base plate connection area of concrete pilaster.

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TranSystems

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS
RETAINING WALL A
SHEET NO. 6 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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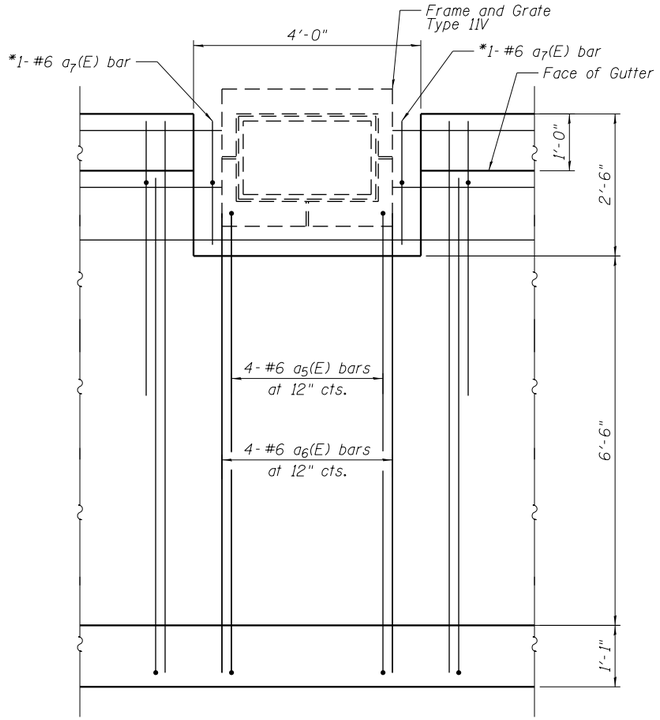
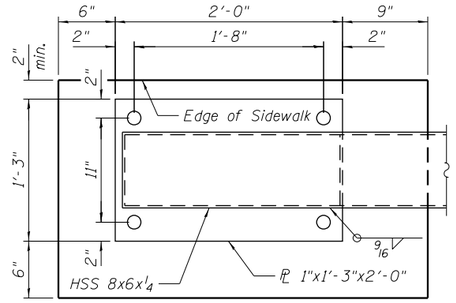
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

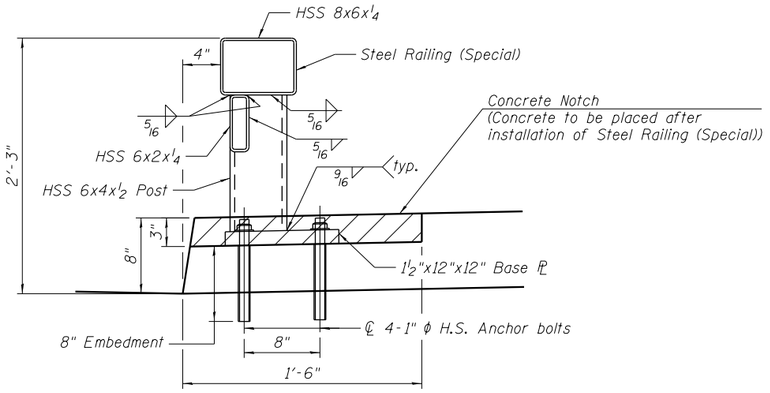


SLAB CUTOUT DETAIL

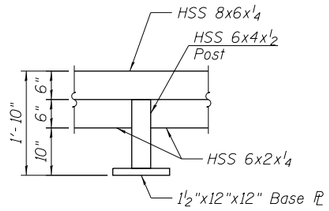
* Note:
Concrete around frame and grate, frame and grate, and a7(E) bars shall be constructed in Stage II Construction.



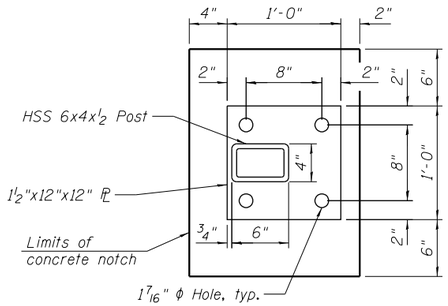
END SECTION PLATE DETAIL
(1 Required)



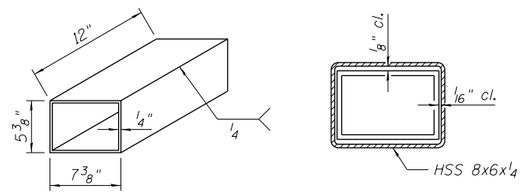
SECTION A-A



RAIL POST DETAIL



BASE PLATE DETAIL



JOINT SLEEVE DETAIL

BILL OF MATERIAL

Item	Unit	Total
Steel Railing (Special)	Foot	265

Notes:
All steel railing elements shall be galvanized according to the special provision Steel Railing (Special) and Article 1006.34 of the Standard Specifications.
The color of the final finish for the steel railing shall be verde green.
Drill and set anchor bolts according to Article 509.06 of the Standard Specifications.

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TranSystems

USER NAME = jrmickow	DESIGNED - JRM	REVISED -
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PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS
RETAINING WALL A
SHEET NO. 7 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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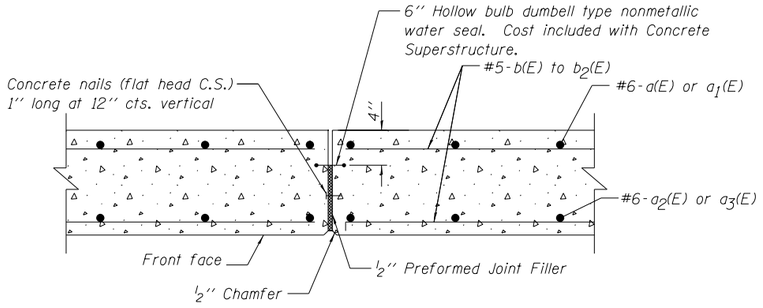
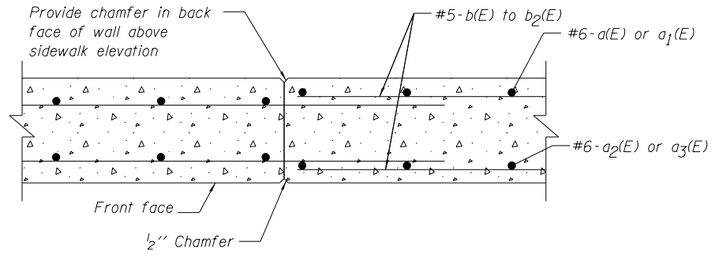
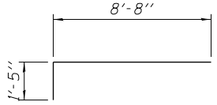
		CONTRACT NO. 60T35		
	ILLINOIS	FED. AID PROJECT		



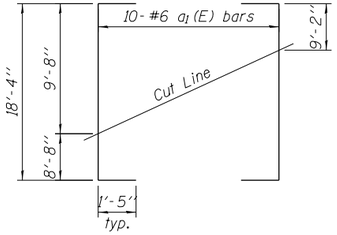
MOMENT SLAB EXPANSION JOINT DETAIL



MOMENT SLAB AND PARAPET CONSTRUCTION JOINT DETAIL

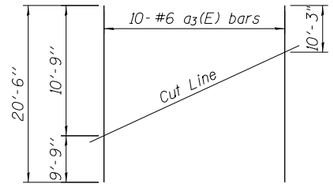


BAR a(E)



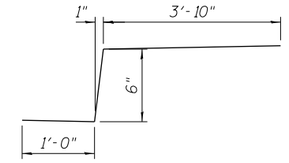
FIELD CUTTING DIAGRAM

Order a_1(E) full length.

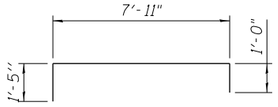


FIELD CUTTING DIAGRAM

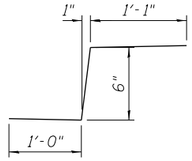
Order a_3(E) full length.



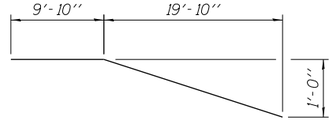
BAR a_4(E)



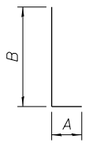
BAR a_5(E)



BAR a_7(E)

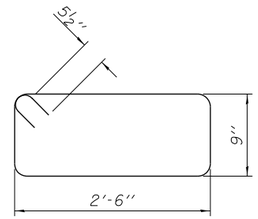


BAR b_3(E) and e_4(E)



BARS d(E) THRU d_3(E)

Bar	A	B
d(E)	10"	5'-5"
d_1(E)	1'-0"	5'-5"
d_2(E)	10"	3'-3"
d_3(E)	1'-0"	3'-3"



BAR e_5(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	239	#6	10'-1"	⌐
a_1(E)	10	#6	21'-2"	⌐
a_2(E)	239	#6	9'-9"	——
a_3(E)	10	#6	20'-6"	——
a_4(E)	259	#6	5'-4"	⌐¬
a_5(E)	16	#6	10'-4"	⌐¬
a_6(E)	16	#6	7'-9"	——
a_7(E)	8	#6	2'-7	⌐¬
b(E)	23	#5	29'-1"	——
b_1(E)	115	#5	33'-3"	——
b_2(E)	68	#5	29'-8"	——
b_3(E)	3	#5	29'-8"	——
d(E)	116	#5	7'-0"	L
d_1(E)	116	#6	7'-2"	L
d_2(E)	200	#5	4'-1"	L
d_3(E)	200	#6	4'-3"	L
e(E)	6	#5	29'-1"	——
e_1(E)	3	#5	9'-0"	——
e_2(E)	30	#5	33'-3"	——
e_3(E)	12	#5	29'-8"	——
e_4(E)	6	#5	29'-8"	——
e_5(E)	96	#5	7'-5	□
e_6(E)	2	#5	18'-10"	——
Reinforcement Bars, Epoxy Coated			Pound	23,990
Concrete Superstructure			Cu. Yds.	190.6
Parapet Railing, Special			Foot	180

Bars indicated thus 1 x 15-#5 etc. indicates 1 line of bars with 15 lengths per line.

5:46:42 PM - G:\CHI\058\Bridge\CADD\Sheets\WALLA-D60735-08-WDET3.dgn
12/5/2012

TranSystems

USER NAME = jrmickow	DESIGNED - WJC	REVISED -	
	CHECKED - MDS	REVISED -	
PLOT SCALE = 8.0 '/ in.	DRAWN - WJC	REVISED -	
PLOT DATE = 12/5/2012	CHECKED - MDS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS
RETAINING WALL A
SHEET NO. 8 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	488
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

INTERRA
Engineering • Inspection • Testing
600 Territorial Drive, Suite G
Bolingbrook, IL 60440
Ph: 630-754-8700
www.interra.co

SOIL BORING LOG

Date 4/12/12

ROUTE FAP 305 DESCRIPTION FAP Route 305 (Willow Road) LOGGED BY SC

SECTION (1920,.01,1518,2022&1922,4B)R LOCATION FAP 305

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. _____
Station _____

BORING NO. SB-04
Station 712+08.00
Offset 14.25ft RT
Ground Surface Elev. 631.52 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After ____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
631.10 5" ASPHALT / 630.44 8" CONCRETE			
Hard Brown, Moist CLAY (fill)	7		
	9	4.5	14.3
	9	P	
PID Reading = 0 ppm			
	6		
	8	4.5	14.0
-5	9	P	
626.02			
Stiff, Brown, Moist CLAY (fill)	3		
	4	1.5	17.4
PID Reading = 0 ppm	7	P	
623.52			
Very Stiff, Brown, Moist CLAY	4		
	5	2.0	25.3
PID Reading = 0 ppm -10	6	P	
621.02			
Hard Gray, Moist CLAY	5		
	9	4.5	15.7
PID Reading = 0 ppm	10	P	
	5		
	9	4.9	12.2
-15	12	B	
	5		
	9	6.8	12.7
	16	B	
	10		
	12	7.9	13.9
-20	19	B	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Hard Gray, Moist CLAY	9		
	12	4.0	15.7
PID Reading = 0 ppm *(continued)*	16	P	
608.52			
Very Stiff Gray, Moist CLAY	7		
	10	3.5	13.8
PID Reading = 0 ppm -25	12	P	
	10		
	12	2.5	13.9
	15	P	
603.52			
Dense Gray, Moist SILT	12		
	18		20.6
PID Reading = 0 ppm 601.52 -30	19		
End of Boring			

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

BBS, from 137 (Rev. 8-99)

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Bolingbrook, IL 60440
Ph: 630-754-8700
www.interra.co

SOIL BORING LOG

Date 4/12/12

ROUTE FAP 305 DESCRIPTION FAP Route 305 (Willow Road) LOGGED BY SC

SECTION (1920,.01,1518,2022&1922,4B)R LOCATION FAP 305

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. _____
Station _____

BORING NO. SB-05
Station 712+81.23
Offset 13.25ft RT
Ground Surface Elev. 631.89 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After ____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
631.47 5" ASPHALT / 630.72 9" CONCRETE			
Hard Brown, Moist CLAY (fill)	4		
	6	4.5	14.4
PID Reading = 0 ppm	8	P	
	4		
	5	4.5	15.0
-5	7	P	
626.39			
Very Stiff, Brown to black, Moist CLAY (fill)	3		
	4	3.3	18.8
PID Reading = 0 ppm	3	P	
623.89			
Very Stiff, Black, Moist CLAY (Possible buried topsoil)	3		
	5	2.0	18.3
PID Reading = 0 ppm -10	5	P	
Organic Content = 2.6% 621.39			
Very Soft Gray, Moist CLAY	3		
	2	0.3	19.8
PID Reading = 0 ppm	3	P	
618.89			
Very Stiff Gray, Moist CLAY		2.4	16.7
		B	
Shelby tube (13'-15') -15			
PID Reading = 0 ppm 616.39			
Hard Gray, Moist CLAY	5		
	8	8.3	14.5
PID Reading = 0 ppm	9	S	
	6		
	8	5.8	15.0
-20	9	B	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
611.39			
Very Stiff, Gray, Moist CLAY	3		
	5	2.8	17.7
PID Reading = 0 ppm	6	P	
	4		
	5	2.5	18.2
-25	7	P	
606.39			
Hard Gray, Moist CLAY	6		
	10	4.5	11.9
PID Reading = 0 ppm	12	P	
603.89			
Very Stiff, Gray, Moist CLAY	4		
	5	2.5	16.9
PID Reading = 0 ppm 601.89 -30	6	P	
End of Boring			

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

BBS, from 137 (Rev. 8-99)

INTERRA Engineering • Inspection • Testing
600 Territorial Drive, Suite G
Bolingbrook, IL 60440
Ph: 630-754-8700
www.interra.co

SOIL BORING LOG

Date 4/12/12

ROUTE FAP 305 **DESCRIPTION** FAP Route 305 (Willow Road) **LOGGED BY** SC

SECTION (1920,.01,1518,2022&1922,4B)R **LOCATION** FAP 305

COUNTY Cook **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** Automatic

STRUCT. NO. _____
Station _____

BORING NO. SB-06
Station 713+62.46
Offset 19.25ft RT
Ground Surface Elev. 632.36 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter None ft
Upon Completion None ft
After _____ **Hrs.** _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
5" ASPHALT 631.94 / 10 " CONCRETE 631.11			
Very Stiff Brown, Moist CLAY (fill)	3		
	4 5	2.5 P	17.4
PID Reading = 0 ppm 629.36			
Hard Brown, Moist CLAY (fill)	3		
	4 4	4.5 P	17.2
-5 PID Reading = 0 ppm 626.86			
Very Stiff Brown, Moist CLAY (fill)	3		
	4 4	3.5 P	17.4
PID Reading = 0 ppm 624.36			
Stiff Brown to Gray, Moist CLAY	2		
	2 3	1.5 P	18.7
-10 PID Reading = 0 ppm			
	3		
	3 4	1.5 P	21.1
619.36			
Very Stif Brown to Gray, Moist CLAY	2		
	3 4	2.1 S	21.9
-15 PID Reading = 0 ppm 616.86			
Hard Gray, Moist CLAY	4		
	10 12	8.0 S	15.4
PID Reading = 0 ppm			
	8		
	11 12	7.7 S	13.8
-20			
Hard Gray, Moist CLAY	6		
	10 15	4.5 P	15.1
PID Reading = 0 ppm *(continued)*			
609.36			
Very Stiff Gray, Moist CLAY	5		
	6 7	3.5 P	15.7
-25 PID Reading = 0 ppm			
	3		
	4 5	2.0 P	16.1
604.36			
Stiff Gray, Moist CLAY	4		
	5 6	1.8 P	18.0
PID Reading = 0 ppm 602.36 -30			
End of Boring			
-35			
-40			

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

BBS, from 137 (Rev. 8-99)

12/5/2012 5:46:48 PM - G:\CHI\0058\Bridge\CADD\Sheets\WALLA-D60735-10-BL007.dgn

Existing Structure: SN 016-0536, built in 1949. The existing structure consists of a four span continuous steel rolled beam bridge with a reinforced concrete deck. The substructure consists of stub abutments supported by piles and three multi-column piers on spread footings. The span lengths are 51'-0", 63'-10½", 63'-10½" and 51'-0" and the out to out width is 80'-5". The bridge was widened to the North in 1991. Deck was scarified and latex concrete overlay was placed in 2010. Steel beams were painted in 2012.

Salvage: Name plate to be removed, cleaned, stored, and reinstalled.

Traffic to be maintained utilizing Stage Construction.

SCOPE OF WORK

1. Remove, Replace and widen South sidewalk.
2. Remove and replace South Bridge parapet.
3. Remove and replace existing bridge fence railing on both sides.
4. Straighten North fascia beam.
5. Repair concrete spall on South fascia of deck near Pier 2.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	68.3		68.3
Bridge Rail Removal	Foot	464		464
Protective Shield	Sq. Yd.	85		85
Concrete Superstructure	Cu. Yd.	80.5		80.5
Protective Coat	Sq. Yd.	316		316
Reinforcement Bars, Epoxy Coated	Pound	11600		11600
Bridge Fence Railing	Foot	464		464
Preformed Joint Strip Seal	Foot	20		20
Beam Straightening	L. Sum	1		1
Structural Steel Repair	Pound	296		296
Bridge Deck Scarification 2 1/4"	Sq. Yd.	67		67
Structural Repair of Concrete (Depth Equal to or less than 5 inches)	Sq. Ft.	7		7

INDEX OF SHEETS

LOADING HS20-44

DESIGN SPECIFICATIONS

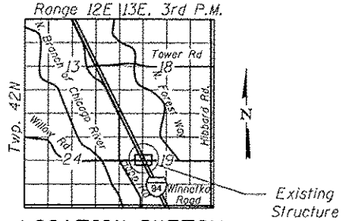
2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

DESIGN STRESSES

Proposed:
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (M270 Grade 36)

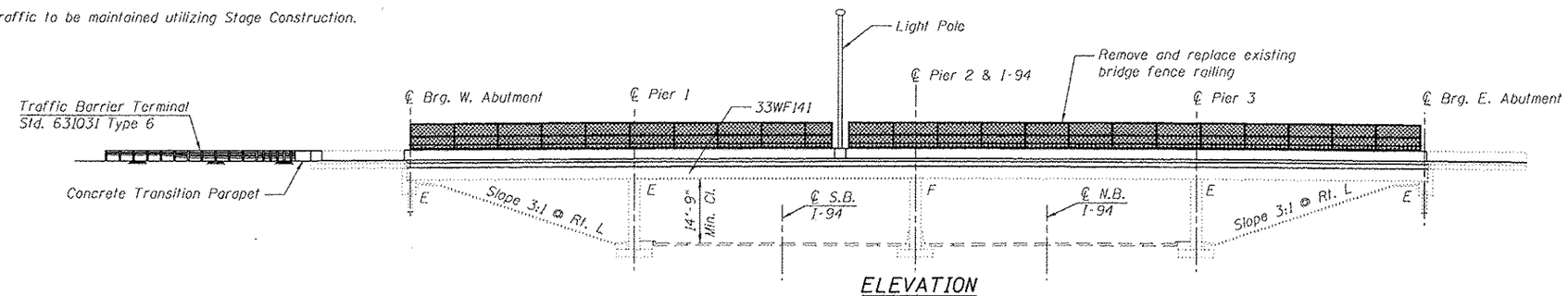
Original Construction (1949):
fc = 1,200 psi (Concrete)
fy = 20,000 psi (Reinforcement)
fs = 18,000 psi (Structural Steel)

North Widening (1991):
f'c = 3,500 psi (Concrete)
fy = 60,000 psi (Reinforcement)
fs = 20,000 psi (Structural Steel)

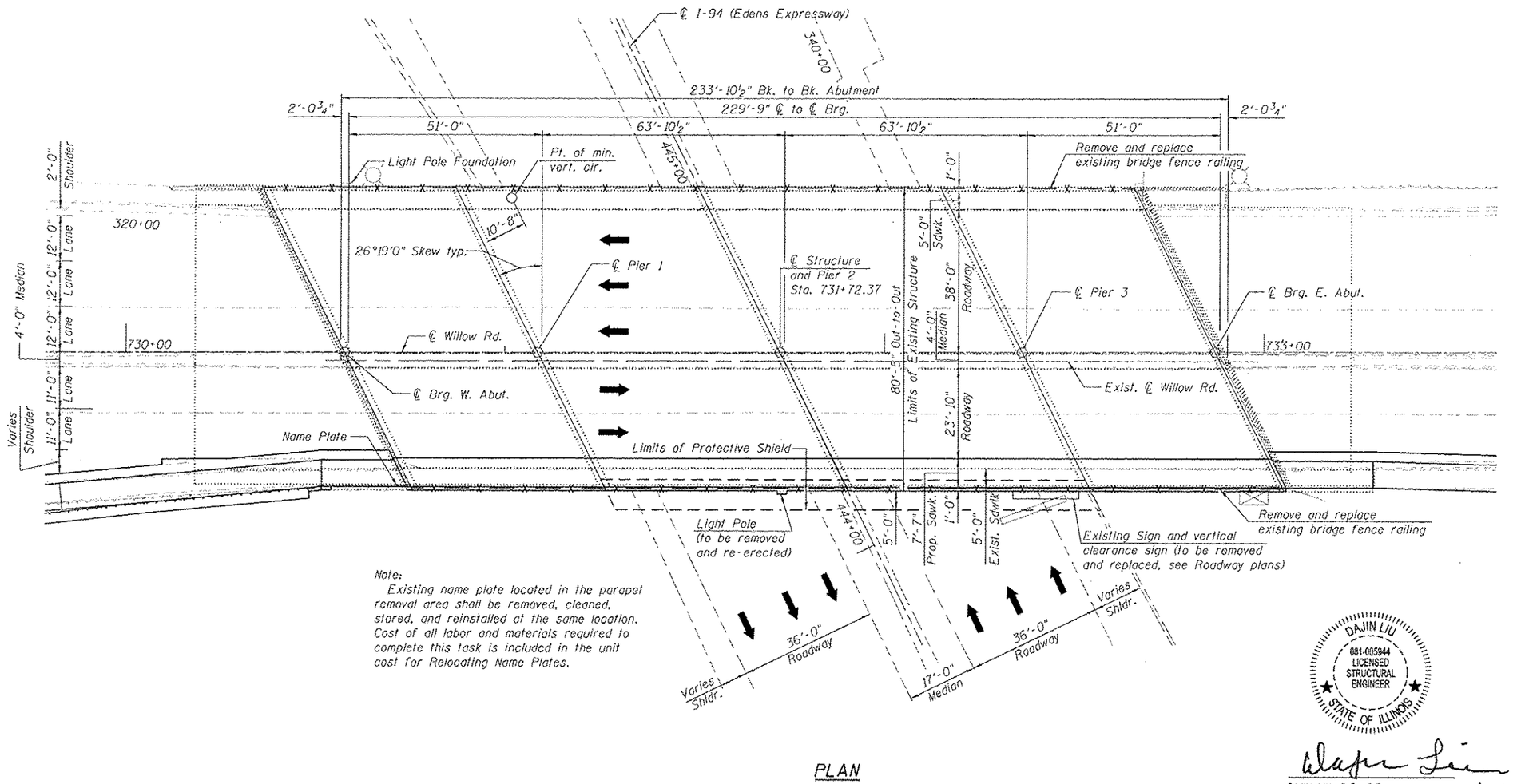


LOCATION SKETCH

ELEVATION



PLAN



Note:
Existing name plate located in the parapet removal area shall be removed, cleaned, stored, and reinstalled at the same location. Cost of all labor and materials required to complete this task is included in the unit cost for Relocating Name Plates.

DAJIN LIU
081-005944
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS

DAJIN LIU, P.E., S.E.
NO. 081-005944
EXP. DATE 11/30/2014
12/3/12

GENERAL PLAN
WILLOW ROAD OVER
EDENS EXPRESSWAY (I-94)
F.A.P. RTE. 0305
SEC. (1920.01,1518,2022&1922.4B)R
COOK COUNTY
STATION 731+72.37
STRUCTURE NO. 016-0536

TranSystems

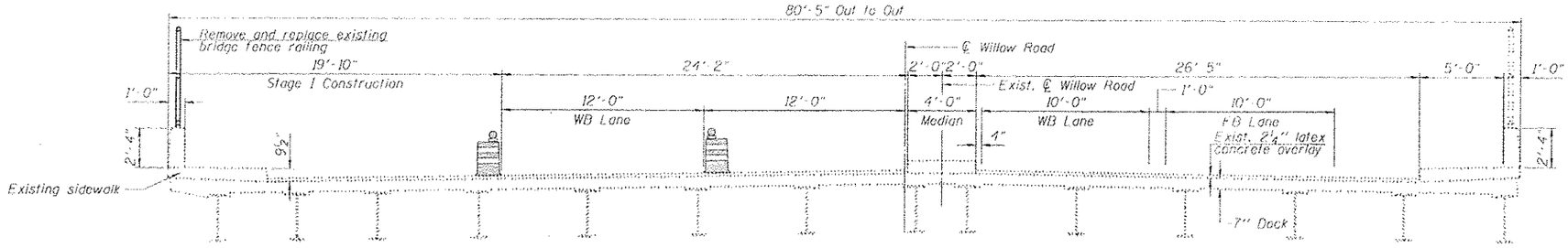
USER NAME = kahastings	DESIGNED - JST	REVISED -
	CHECKED - JRM	REVISED -
PLOT SCALE = 32.0 '/ in.	DRAWN - DMG	REVISED -
PLOT DATE = 12/3/2012	CHECKED - DL/KAH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 11 SHEETS

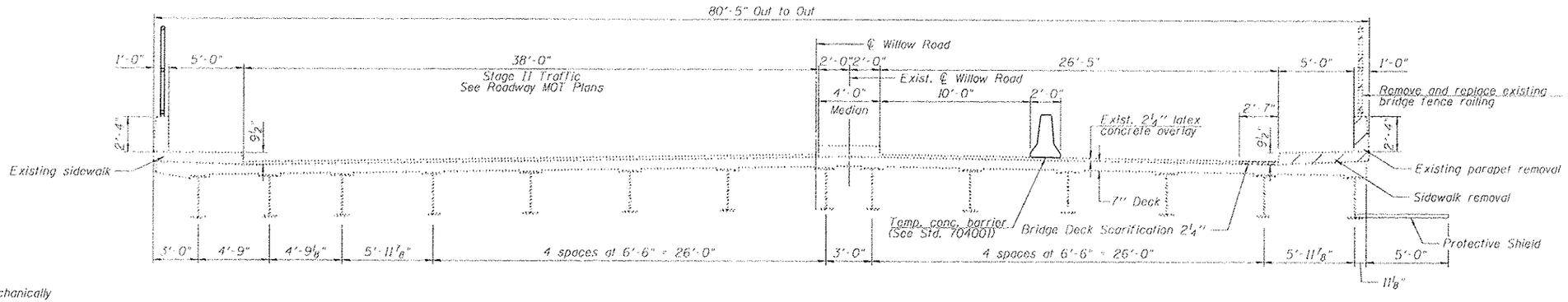
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	491
		CONTRACT NO. 60T35		
		ILLINOIS FED. AID PROJECT		

12/3/2012 4:15 PM - G:\CH\DOS\Bridge\CADD\Sheets\0160536-D60T35-01-GPE.dgn



STAGE I REMOVAL AND CONSTRUCTION

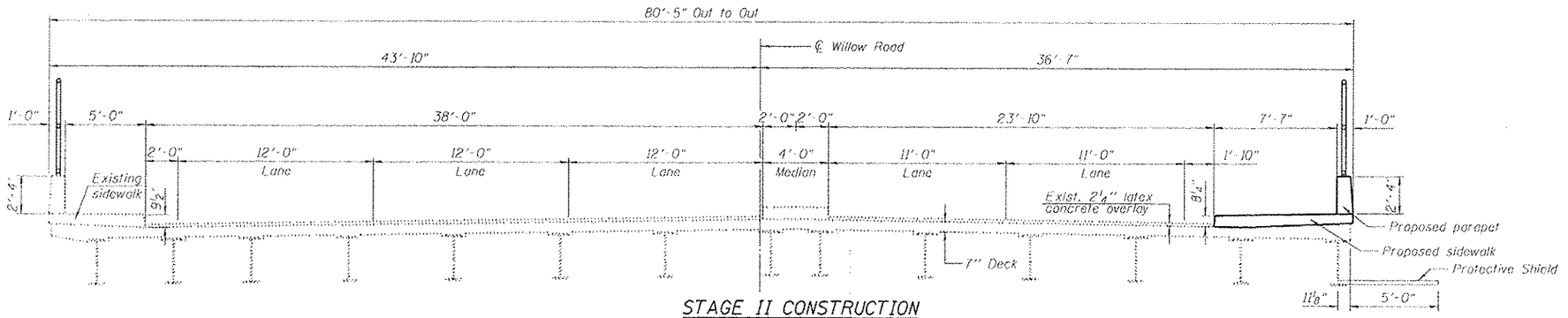
(Lane closure required for erection of north bridge fence railing. Cost included with Traffic Control and Protection. (Special).)



STAGE II REMOVAL

GENERAL NOTES

1. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts ⅞ in. ϕ, holes ¹⁵⁄₁₆ in. ϕ, unless otherwise noted.
2. All structural steel shall be AASHTO M 270 Grade 36.
3. No field welding is permitted except as specified in the contract documents.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. Plan dimensions and details relative to existing structure 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.
6. Existing structural steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures." Cost included with Beam Straightening.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
8. The location of the existing electrical conduit as shown on the plans is based off of existing plans. It shall be the Contractor's responsibility to ascertain the location with the utility company and by field inspection. It is the Contractor's responsibility to repair any utility damaged during the course of the construction at no additional cost.
9. Protective Coat shall be applied to the top and inside vertical faces of sidewalks and parapets.



STAGE II CONSTRUCTION

(Showing final lane configurations)
(See Stage II Removal for Stage II Traffic)
(Lane closure required for erection of north bridge fence railing)

LEGEND

Concrete Removal

BILL OF MATERIAL

Item	Unit	Total
Protective Shield	Sq. Yd.	85
Bridge Rail Removal	Foot	464

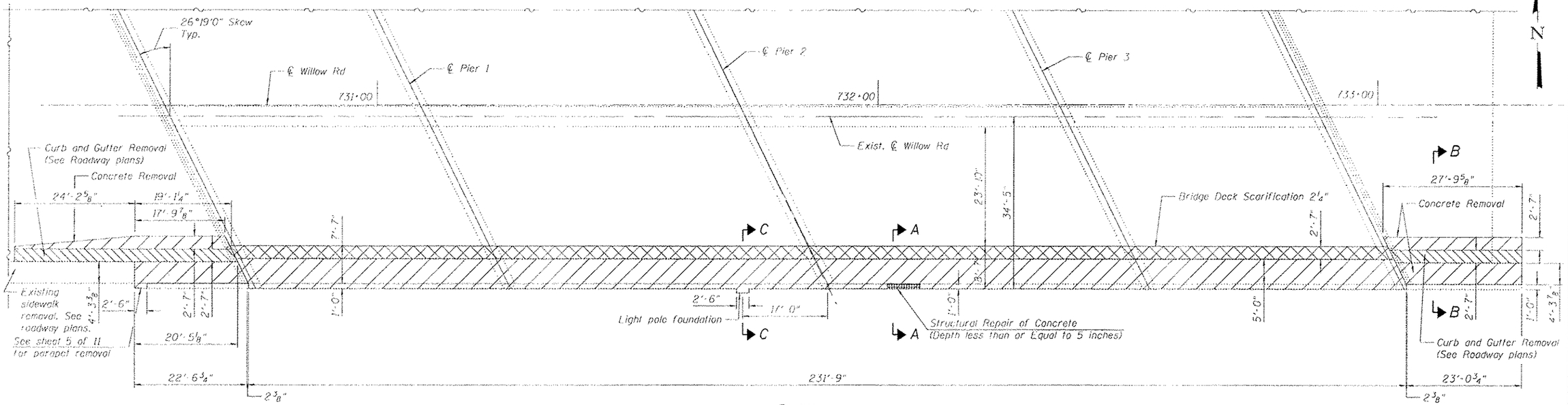
5/16/55 PM - G:\Civil\10585\Bridges\C4D\Sheets\10585516_P16T35_02-ST.dgn
12/5/2012

TranSystems	USER NAME = jreickow	DESIGNED JST	REVISED -
		CHECKED JRM	REVISED -
	PLOT SCALE = 8.0 '/ in.	DRAWN DMG	REVISED -
	PLOT DATE = 12/5/2012	CHECKED DL/KAH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

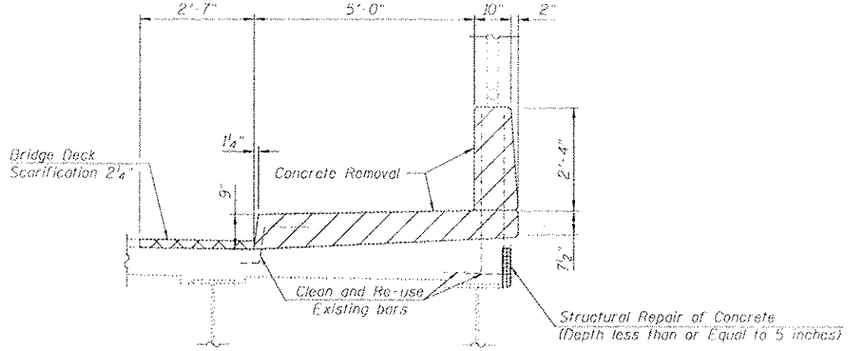
SHEET NO. 2 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.48)BR	COOK	919	492
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

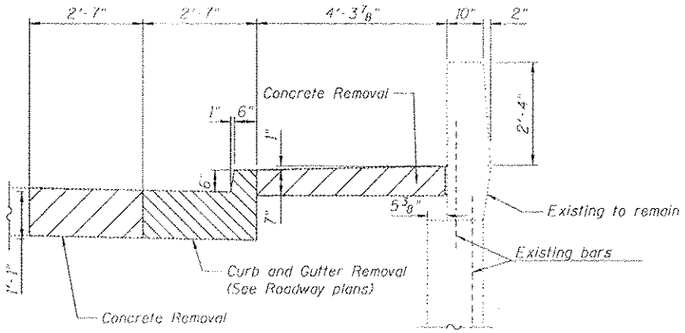


PLAN

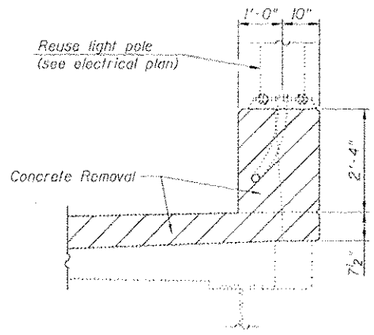
(For expansion joint removal, see sheet 7 of 11)



SECTION A-A



SECTION B-B



SECTION C-C

LEGEND

- Bridge Deck Scarification 2 1/4"
- Concrete Removal
- Curb and Gutter Removal
- Structural Repair of Concrete

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	66.1
Bridge Deck Scarification 2 1/4"	Sq. Yd.	67
Structural Repair of Concrete (Depth less than or Equal to 5 inches)	Sq. Ft.	7

Note:
For curb and gutter removal, see rdwy. plans.
For expansion joint removal, see sheet 7 of 11.

5:46:56 PM - C:\ACHA\058\dgn\dgn\C4ADDSheets\06D536-060735-03-DRE.dgn
12/5/2012

Tran Systems

USER NAME = jmickow	DESIGNED - JST	REVISED -	
	CHECKED - JRM	REVISED -	
PLOT SCALE = 200 '/ in.	DRAWN - DMG	REVISED -	
PLOT DATE = 12/5/2012	CHECKED - DL/KAH	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REMOVAL PLAN
STRUCTURE NO. 016-0536
SHEET NO. 3 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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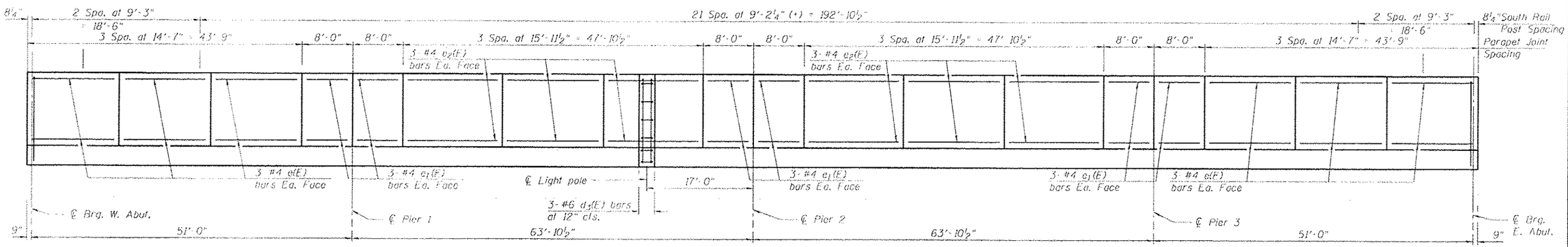
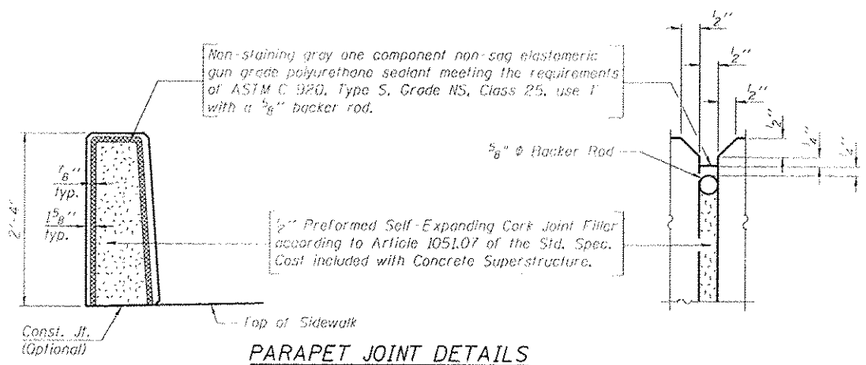
		CONTRACT NO. 60735		
		ILLINOIS FED. AID PROJECT		

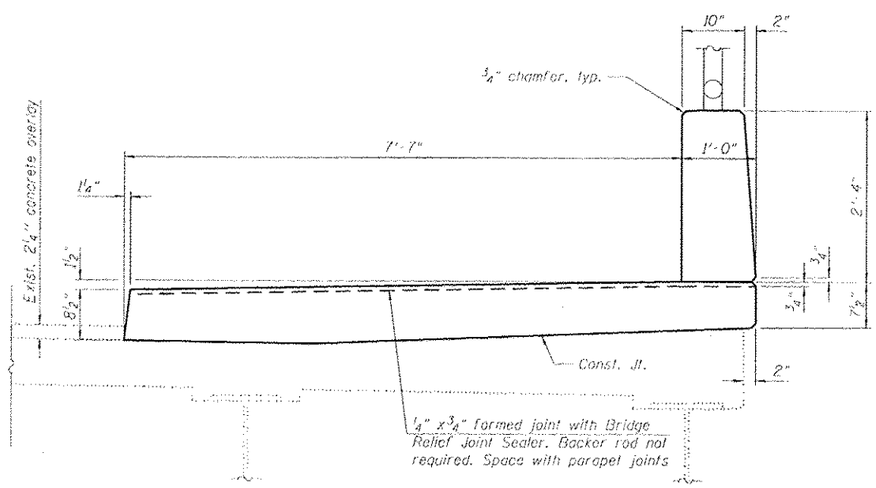


PARAPET ELEVATION

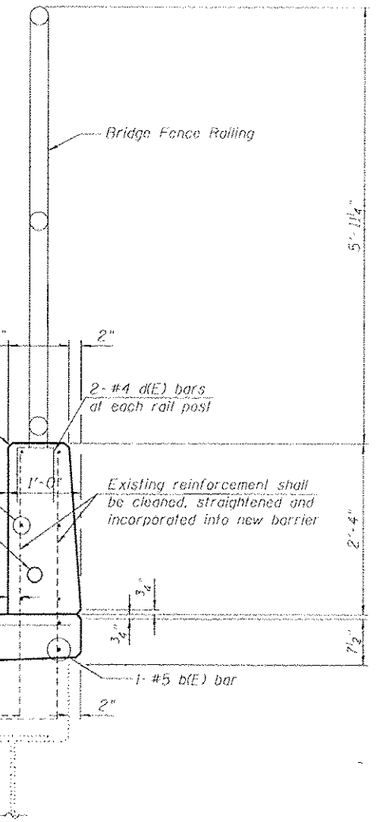
(Looking North)



PARAPET JOINT DETAILS



SECTION THRU BRIDGE SIDEWALK



SECTION THRU BRIDGE SIDEWALK

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2/5/2013

TranSystems	USER NAME = kbarstings	DESIGNED - JST	REVISED -
		CHECKED - JRM	REVISED -
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	PLOT DATE = 12/5/2012	CHECKED - DL/KAH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIDEWALK AND PARAPET DETAILS
STRUCTURE NO. 016-0536
SHEET NO. 4 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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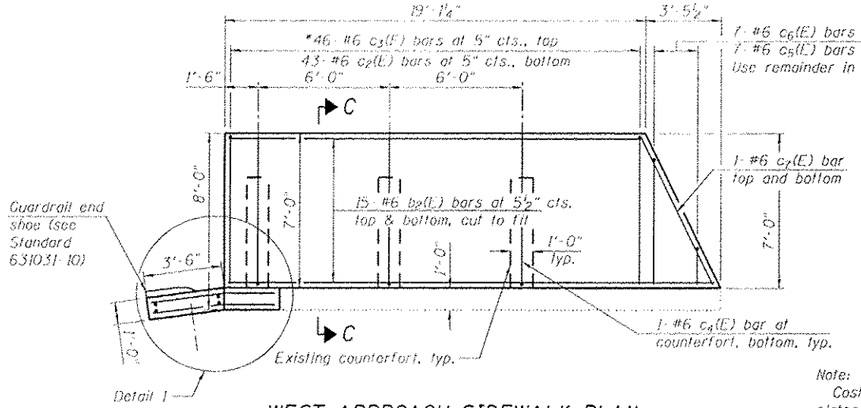
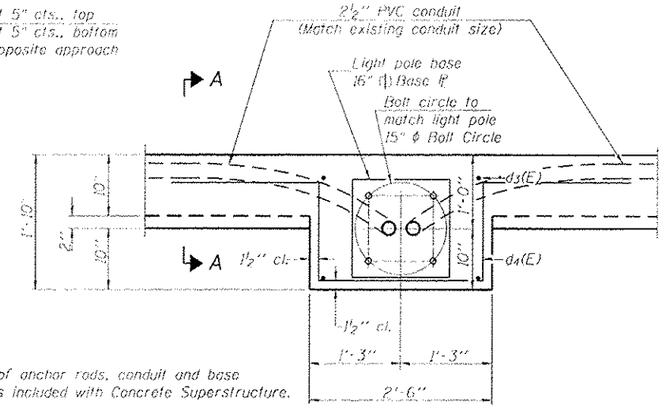
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			



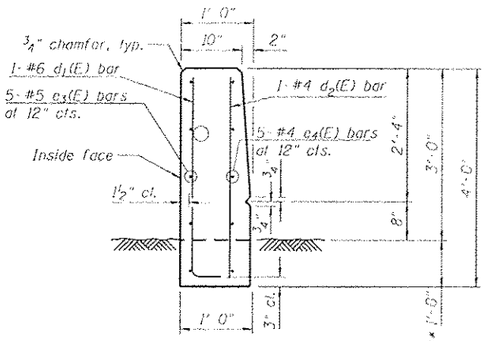
WEST APPROACH SIDEWALK PLAN

*Till #6 c (E) bars as required to maintain clearance.

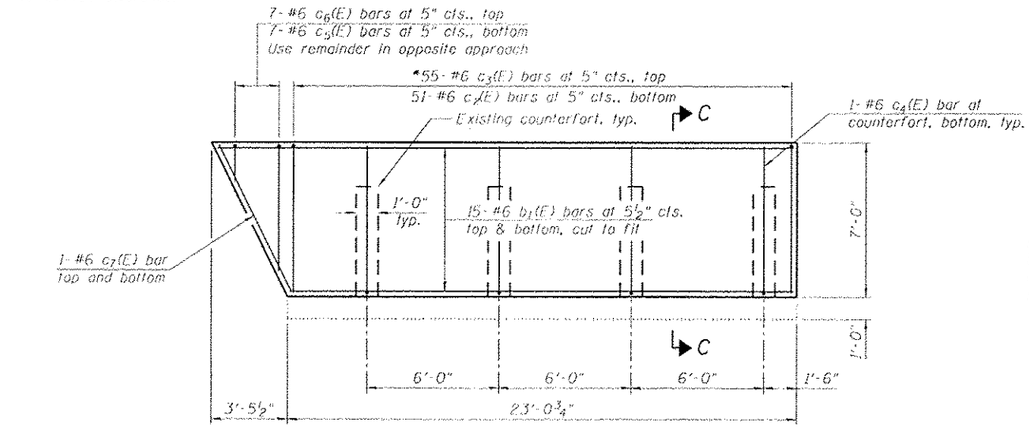


Note:
Cost of anchor rods, conduit and base plates is included with Concrete Superstructure.

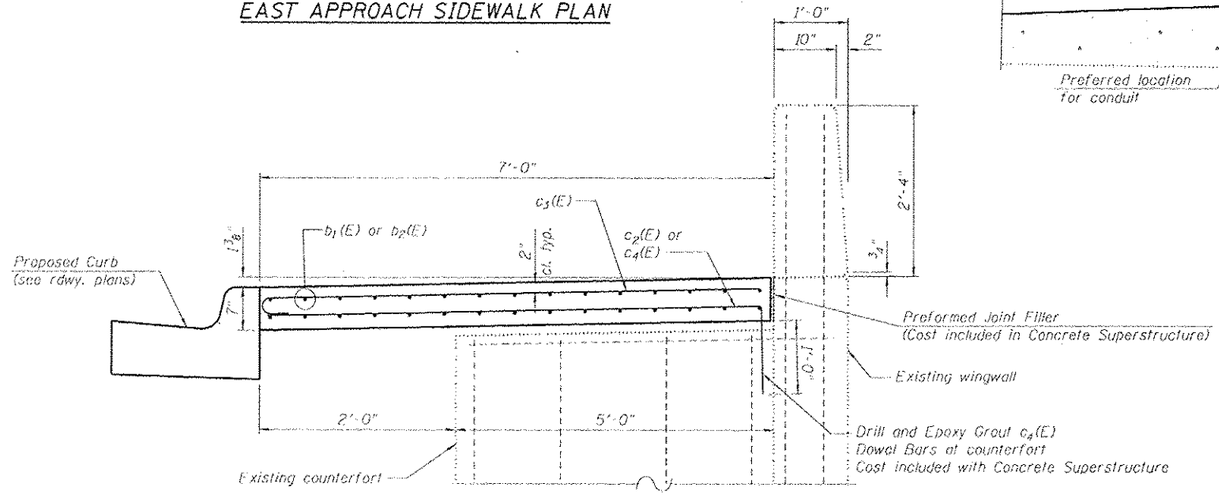
DETAIL 2



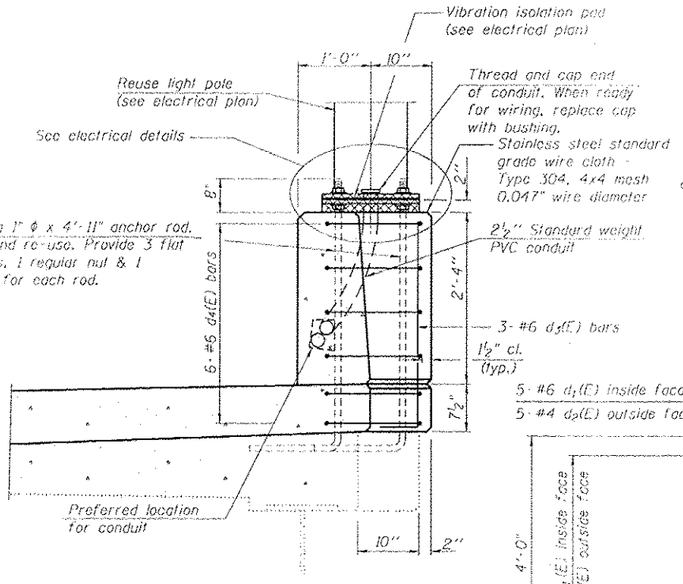
SECTION B-B



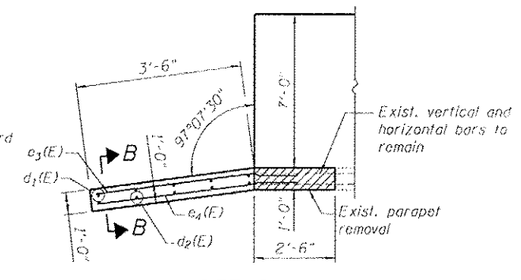
EAST APPROACH SIDEWALK PLAN



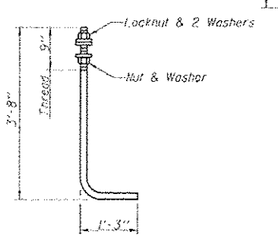
SECTION C-C



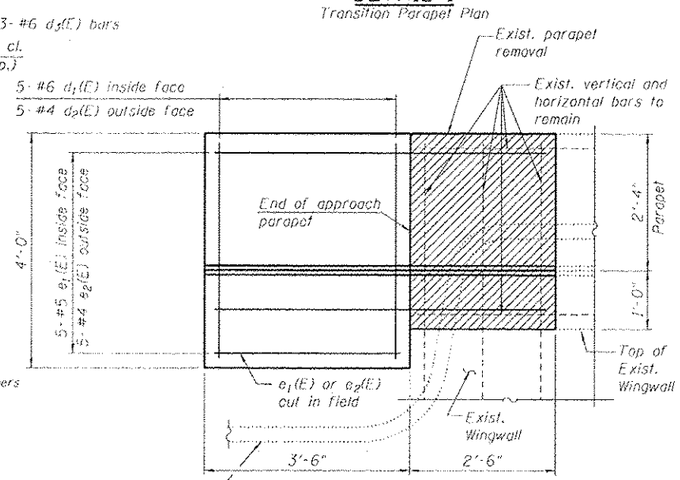
SECTION A-A



DETAIL 1
Transition Parapet Plan



ANCHOR ROD
Diameter as specified for light poles.
(ASTM F 1554 Grade 105)



TRANSITION PARAPET ELEVATION

(See IDOT Standard 631031 for Traffic Barrier Terminal, Type 6 connection details)

Notes:
Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

USER NAME = kabastings	DESIGNED - JST	REVISED -	
	CHECKED - JRM	REVISED -	
PLOT SCALE = 200.0 '/ in.	DRAWN - DMG	REVISED -	
PLOT DATE = 12/5/2012	CHECKED - MSL/DL/KAH	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REINFORCEMENT DETAILS 1
STRUCTURE NO. 016-0536
SHEET NO. 5 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.48)R	COOK	919	495
		CONTRACT NO. 60735		
		ILLINOIS FED. AID PROJECT		

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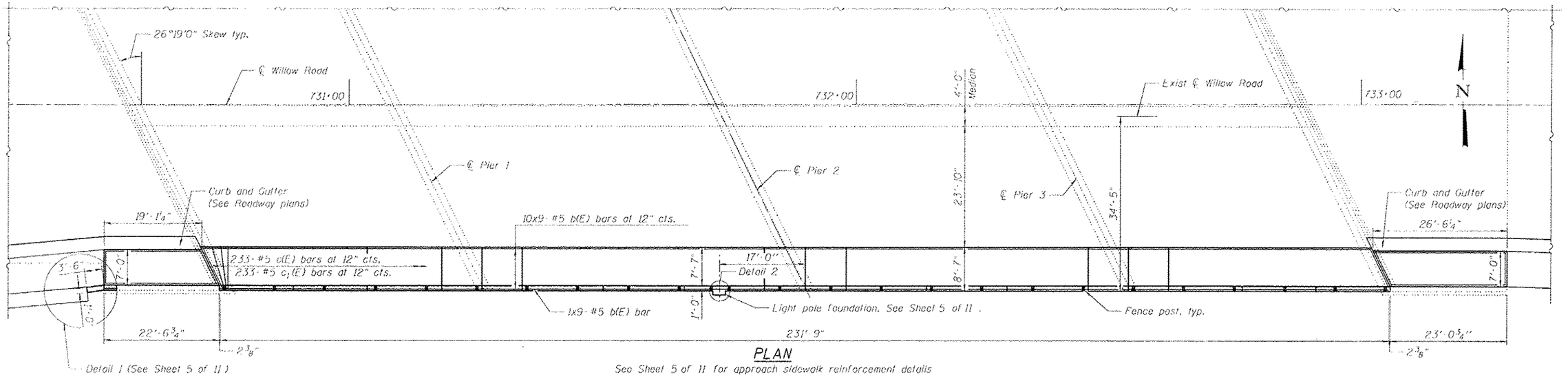


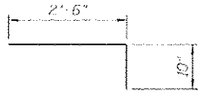
PLAN

See Sheet 5 of 11 for approach sidewalk reinforcement details

BILL OF MATERIAL

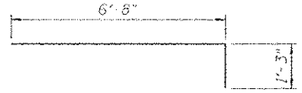
Bar	No.	Size	Length	Shape
b(E)	99	#5	28'-8"	
b_1(E)	30	#6	26'-2"	
b_2(E)	30	#6	22'-2"	
c(E)	233	#5	3'-4"	
c_1(E)	233	#5	8'-2"	
c_2(E)	94	#6	6'-8"	
c_3(E)	101	#6	7'-4"	
c_4(E)	7	#6	1'-11"	
c_5(E)	7	#6	7'-3"	
c_6(E)	7	#6	8'-7"	
c_7(E)	4	#6	8'-1"	
d(E)	52	#4	2'-0½"	
d_1(E)	5	#6	4'-3"	
d_2(E)	5	#4	3'-1"	
d_3(E)	3	#6	4'-6"	
d_4(E)	6	#6	8'-11"	
e(E)	36	#4	14'-3"	
e_1(E)	36	#4	1'-8"	
e_2(E)	36	#4	15'-8"	
e_3(E)	5	#5	5'-9"	
e_4(E)	5	#4	5'-9"	
Reinforcement Bars, Epoxy Coated			Pound	11,460
Concrete Superstructure			Cu. Yd.	80.5

Bars indicated thus 1 x 15-#5 etc. indicates 1 line of bars with 15 lengths per line.

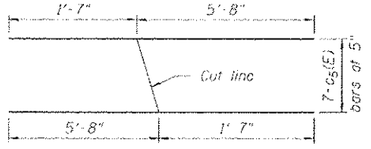


BAR c(E)

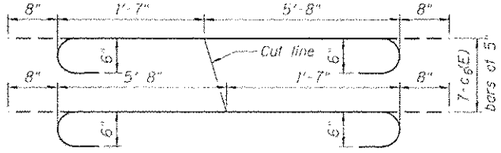
BAR c_3(E)



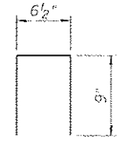
BAR c_4(E)



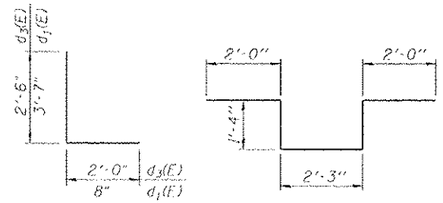
CUT DIAGRAM BAR c_5(E)



CUT DIAGRAM BAR c_6(E)

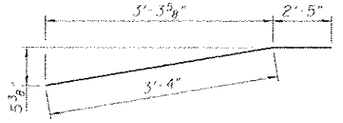


BAR d(E)



BAR d_1(E) or d_3(E)

BAR d_4(E)



BAR e_3(E) or e_4(E)

MINIMUM BAR LAP

#4 bar = 2'-1"
#5 bar = 3'-3"
#6 bar = 3'-10"

Notes:
Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

TranSystems	USER NAME = kshastings	DESIGNED - JST	REVISED -
		CHECKED - JRM	REVISED -
	PLOT SCALE = 2000 '/ 1 in.	DRAWN - DMG	REVISED -
	PLOT DATE = 12/5/2012	CHECKED - DL/KAH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REINFORCEMENT DETAILS II
STRUCTURE NO. 016-0536
SHEET NO. 6 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518.2022&1922.48)R	COOK	919	496
		CONTRACT NO. 60T35		
		ILLINOIS FED. AID PROJECT		

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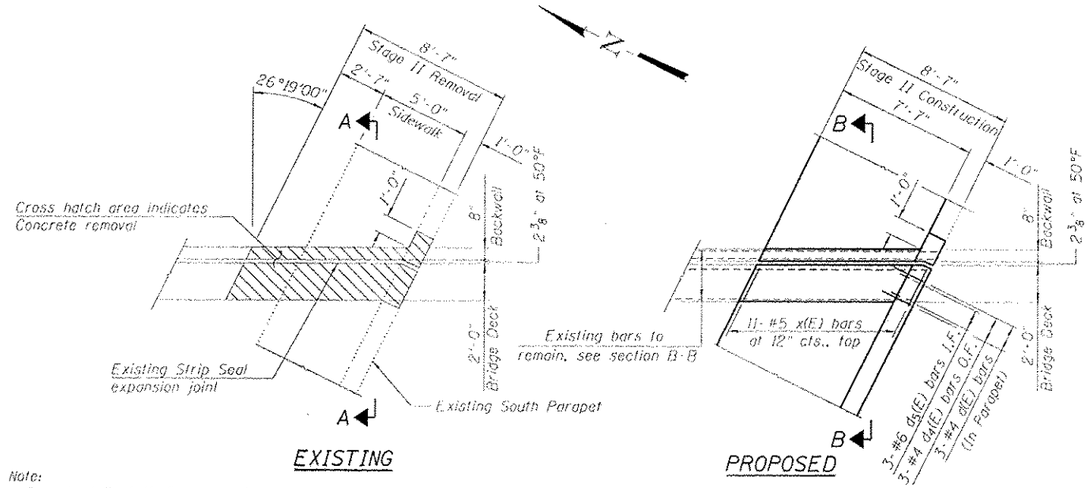
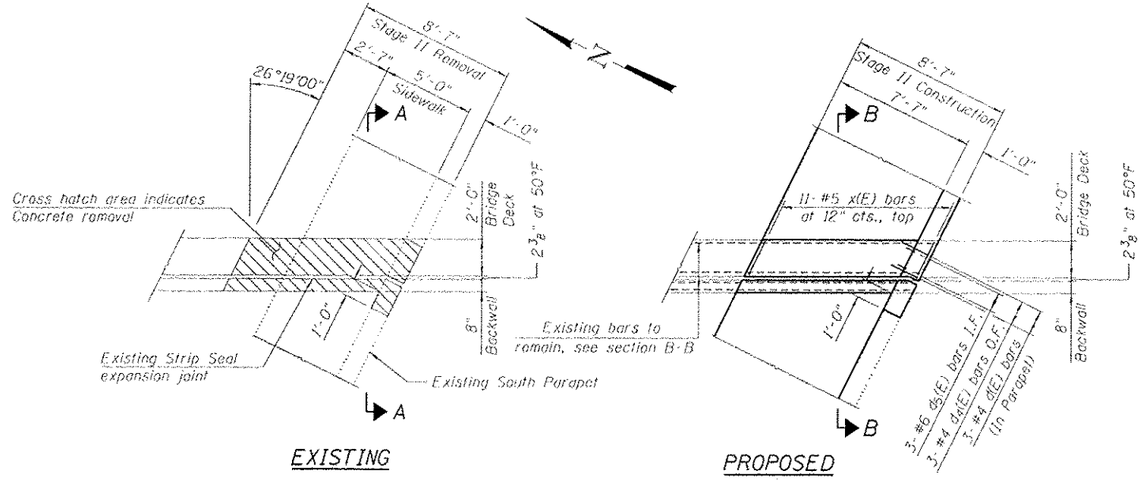


Note:
See sheet 3 of 11 for concrete removal limits of sidewalk.

PARTIAL PLAN AT EAST ABUTMENT



PARTIAL PLAN AT WEST ABUTMENT

LEGEND

Concrete Removal

Notes:
Existing reinforcement bars extending into the concrete removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

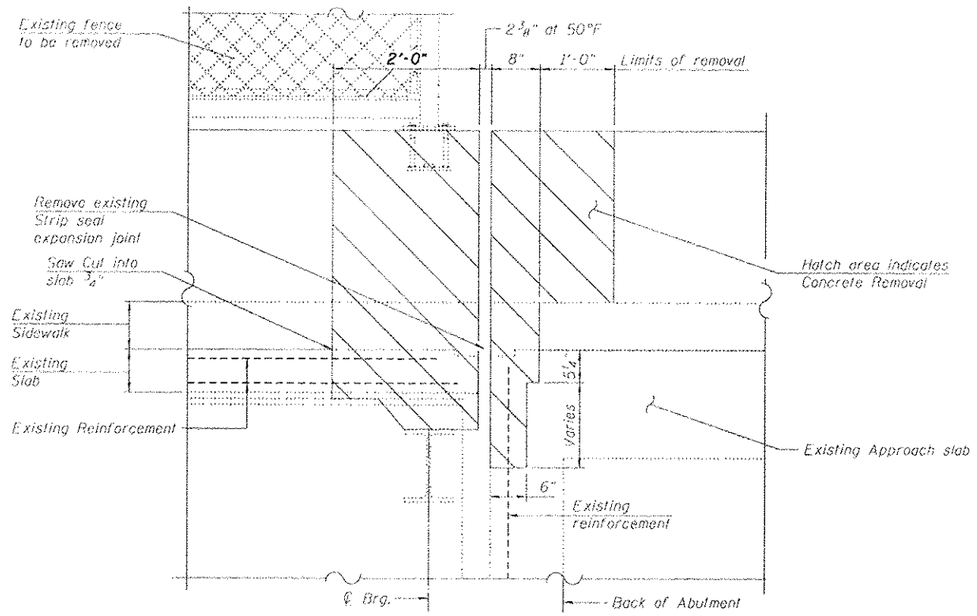
Existing reinforcement bars in the concrete removal area parallel to the expansion joints shall remain.

Removal and disposal of the existing expansion joints will not be paid for separately, but shall be included with the cost of Concrete Removal.

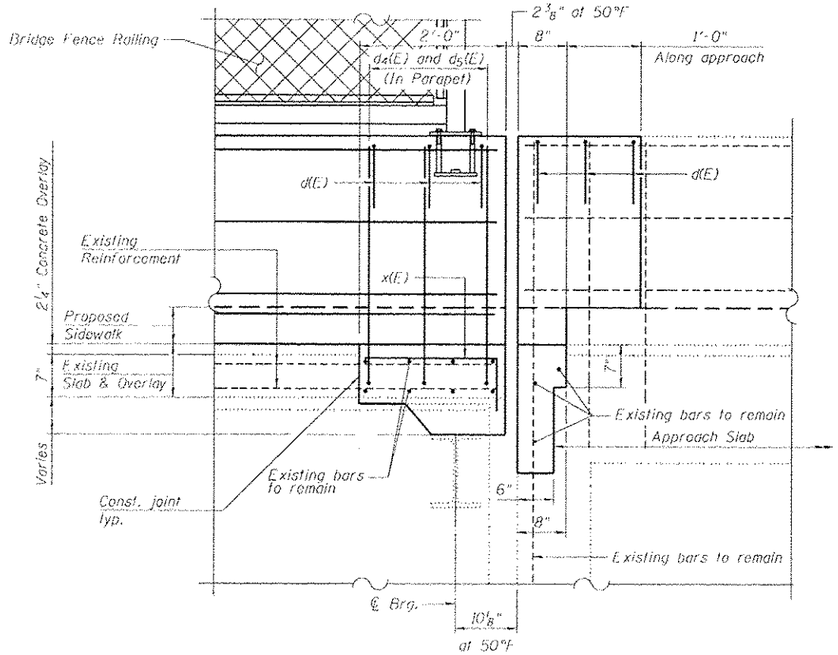
Contractor may remove and reinstall the existing diaphragm members as necessary to complete the required concrete removal and reconstruction. Cost included with Concrete Removal.

I.F. denotes inside face. O.F. denotes outside face.

Work this sheet with sheet 8 of 11.



SECTION A-A
(South Parapet Shown)



SECTION B-B
(South Parapet Shown)

USER NAME = jmacken	DESIGNED - JRM	REVISED -	
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PLOT DATE = 12/5/2012	DRAWN - DMG	REVISED -	
	CHECKED - DL/KAH	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT DETAILS
STRUCTURE NO. 016-0536
SHEET NO. 7 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4B)R	COOK	919	497
		CONTRACT NO. 60T35		
		ILLINOIS FED. AID PROJECT		

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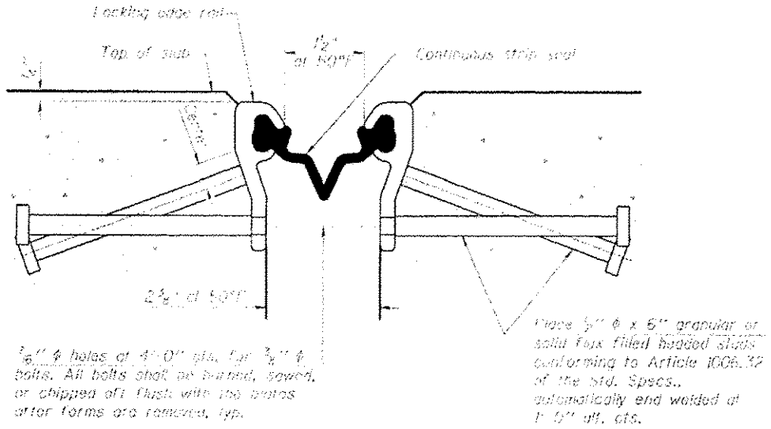
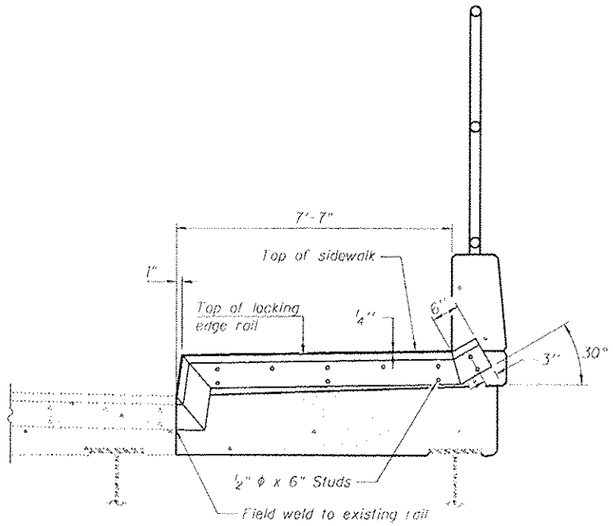


SECTION THRU RAIL JOINT

* Omit weld at seal opening.



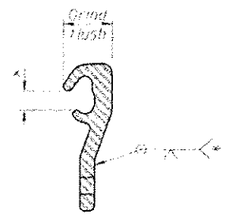
TYPICAL END TREATMENT AT SIDEWALK

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$d_4(E)$	6	#4	4'-4"	⌐
$d_5(E)$	6	#6	4'-4"	⌐
$x(E)$	22	#5	2'-9"	⌐
$d(E)$	12	#4	2'-0½"	⊓
Concrete Removal			Cu. Yd.	2.2
Concrete Superstructure			Cu. Yd.	2.2
Reinforcement Bars, Epoxy Coated			Pound	140
* Preformed Joint Strip Seal			Foot	20

* 1. Existing strip seal could be re-used if strip seal is in good condition. Otherwise, new strip seal shall be spliced with existing strip seal in compliance with manufacturer's recommendation.
2. Removal of existing preformed strip seal cost included with Preformed Joint Strip Seal.
3. Sidewalk removal is included in the Concrete Removal quantity on Sheet 3.
4. Sidewalk replacement is included in the Concrete Superstructure quantity on Sheet 6.
5. New rails shall match existing rail type.

LOCKING EDGE RAIL



LOCKING EDGE RAIL SPLICE

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

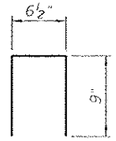
The weight and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

The inside of the Locking Edge Rail groove shall be free of weld residue.

Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

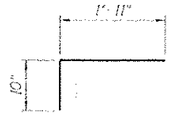
The manufacturer's recommended installation methods shall be followed.

LOCKING EDGE RAILS



BAR d(E)

BARS $d_4(E)$ AND $d_5(E)$



BAR x(E)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

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TranSystems

USER NAME = hdastings	DESIGNED - JRM	REVISED -
PLOT SCALE = 8.0 ' / in.	CHECKED - MDS	REVISED -
PLOT DATE = 12/5/2012	DRAWN - DMG	REVISED -
	CHECKED - DL/KAH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT DETAILS
STRUCTURE NO. 016-0536
SHEET NO. 8 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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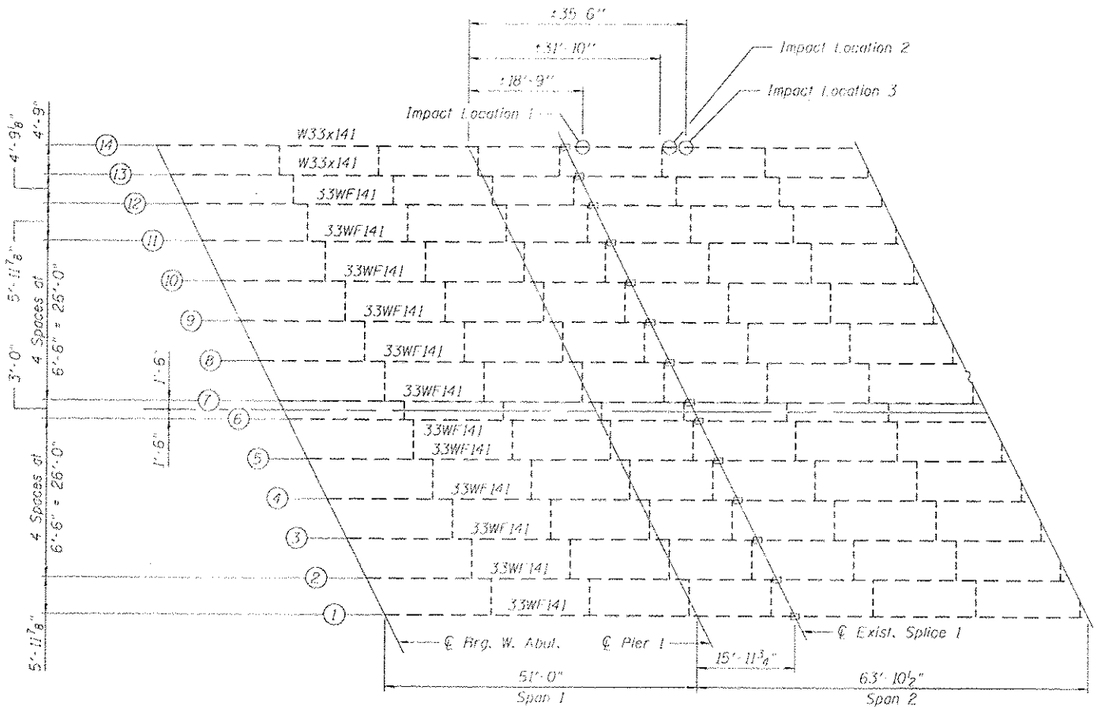
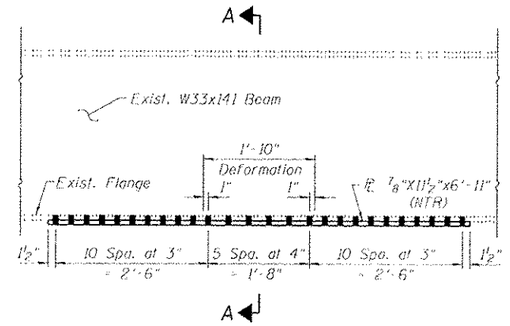
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			



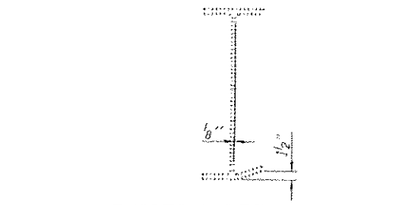
PARTIAL FRAMING PLAN

* Cost of field drilling holes and installation of cover plates at Impact Location 3 is included with Structural Steel Repair



COVER PLATE DETAIL - IMPACT LOCATION 3

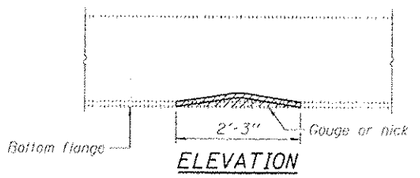
(Install cover plate after Beam Straightening has been completed)



EXISTING DEFORMATION TO BE STRAIGHTENED

(Looking West)

(Approximate max. deflections)



ELEVATION

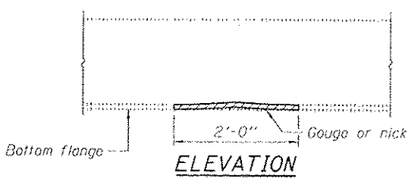
PLAN

IMPACT LOCATION 1

EXISTING DEFORMATION TO BE STRAIGHTENED

(Looking West)

(Approximate max. deflections)



ELEVATION

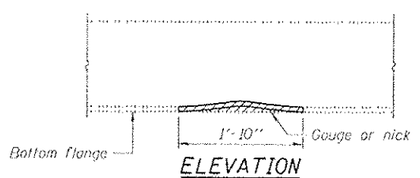
PLAN

IMPACT LOCATION 2

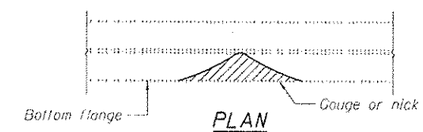
EXISTING DEFORMATION TO BE STRAIGHTENED

(Looking West)

(Approximate max. deflections)

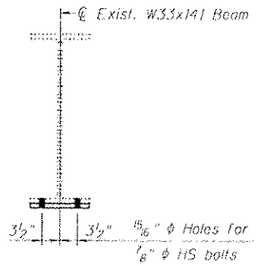


ELEVATION



PLAN

IMPACT LOCATION 3



SECTION A-A

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	296

Note:

The contractor shall provide maintenance of traffic for beam straightening. The maintenance of traffic plan shall be submitted to the Engineer for approval. Cost included with Traffic Control and Protection (Expressways).

12/5/2012 9:47:12 AM - G:\NDM\Projects\Bridges\CADD\Structure\060536-D60T35-d3-STRAM.dgn

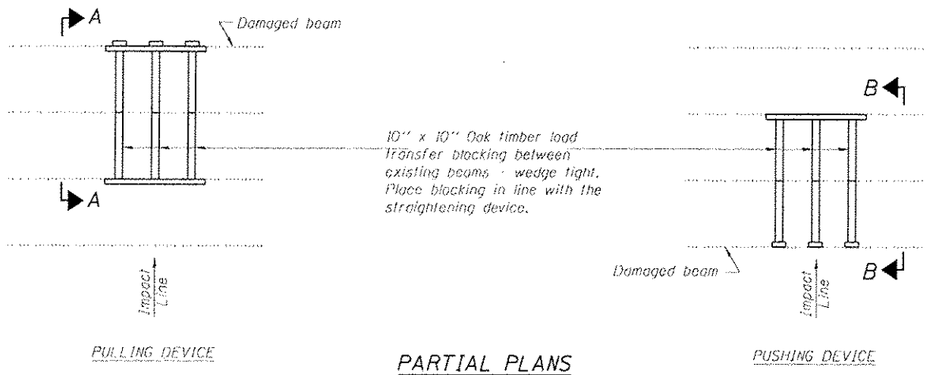
TranSystems

USER NAME = kahastings	DESIGNED - SCJ	REVISED -	
	CHECKED - JRM	REVISED -	
PLOT SCALE = 2400 '/ in.	DRAWN - DMG	REVISED -	
PLOT DATE = 12/5/2012	CHECKED - MDS/DL/KAH	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

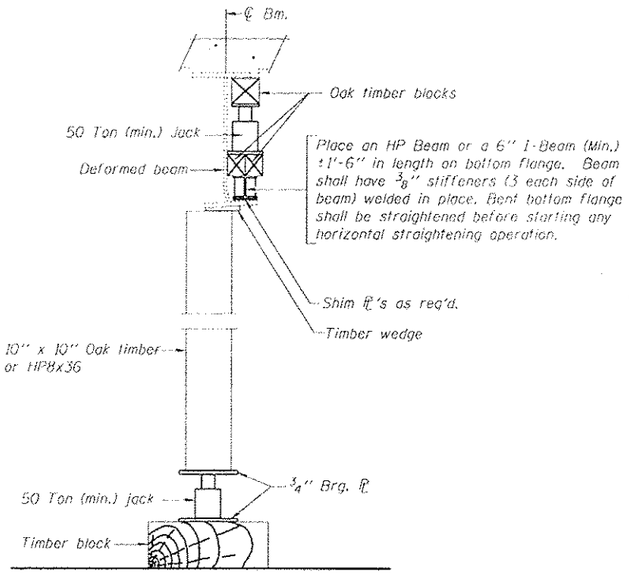
STEEL BEAM REPAIR DETAILS
STRUCTURE NO. 016-0536
SHEET NO. 9 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4BJR)	COOK	919	499
		CONTRACT NO. 60T35		
		ILLINOIS FED. AID PROJECT		



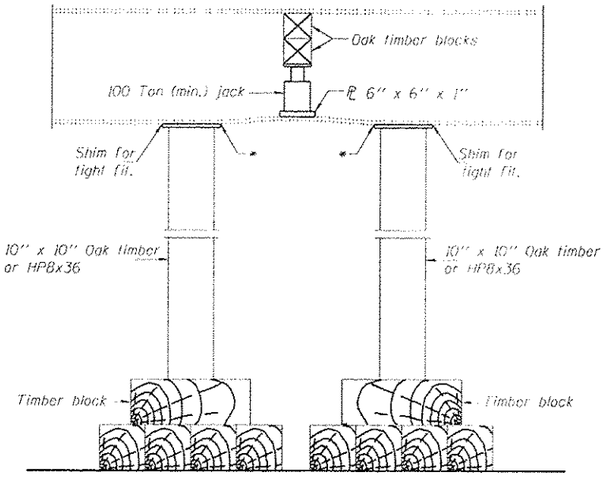
PARTIAL PLANS
SUGGESTED BEAM STRAIGHTENING METHODS

Straightening force shall be maintained on all load transfer blocking during beam straightening.



SUGGESTED VERTICAL STRAIGHTENING DETAIL

(To correct flange rotation.)

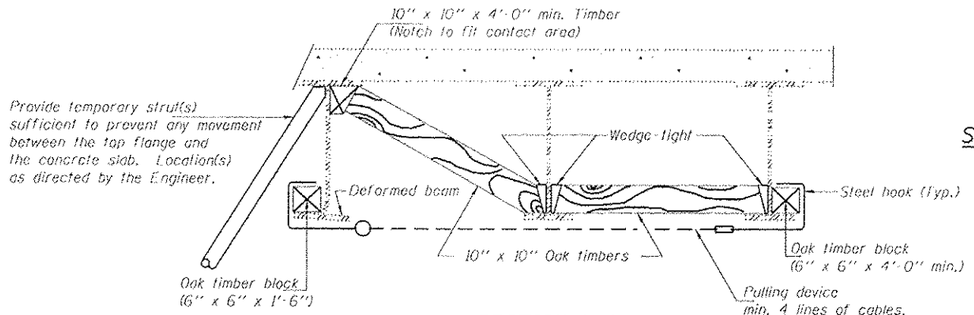


SUGGESTED VERTICAL STRAIGHTENING DETAIL

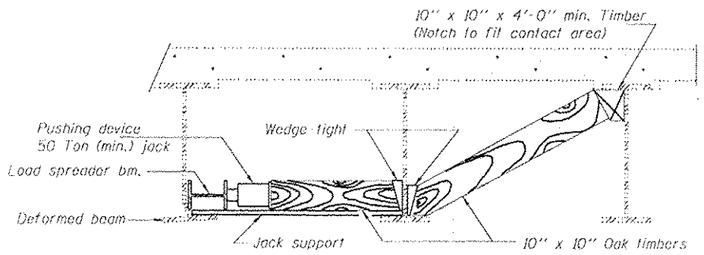
(To correct localized vertical flange deformations.)

* *Edge of plate shall line up with edge of deformation.*

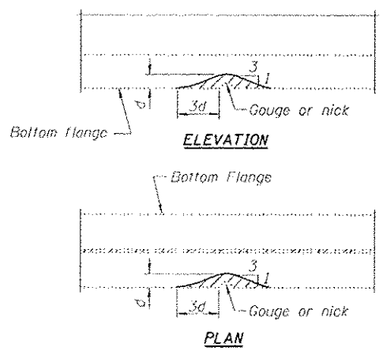
Note:
Braces and jack assembly shall be placed on same side of web.
Bent bottom flange shall be straightened before starting any horizontal straightening operations.



SECTION A-A



SECTION B-B



GRINDING DETAIL

Grind existing nicks, gouges and shallow cracks in the damaged beams as detailed. Ground surfaces shall be inspected for cracks using magnetic particle testing prior to initiating any beam straightening operations. Any cracks that cannot be removed by grinding approximately 1/4" deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. Ground surfaces shall be spot cleaned and painted with an aluminum epoxy mastic primer followed by a finish coat to match the color of the existing beam. Cost of grinding, testing and spot painting included with Beam Straightening.

BILL OF MATERIAL

Item	Unit	Total
Beam Straightening	L. Sum	1

REP-1 1-14-2005

USER NAME = jmiskow	DESIGNED - JRM	REVISED -	
	CHECKED - MDS	REVISED -	
PLOT SCALE = 24.0 '/ in.	DRAWN - JRM	REVISED -	
PLOT DATE = 12/5/2012	CHECKED - DL/KAH	REVISED -	

TranSystems

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL BEAM REPAIR DETAILS
STRUCTURE NO. 016-0536
SHEET NO. 10 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0305	(1920.01,1518,2022&1922.4)BR	COOK	919	500
		CONTRACT NO. 60T35		
	ILLINOIS FED. AID PROJECT			

12/5/2012 5:47:03 PM - G:\CH\NOS\53-1\ope\CADD\Sheets\060536-060135-01-SBEAM2.dgn