

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2) L-1	MADISON	31	1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAI ROUTE 270
SECTION 60-(1,2) L-1

MADISON COUNTY
HIGHWAY LIGHTING REHABILITATION
C-98-065-07

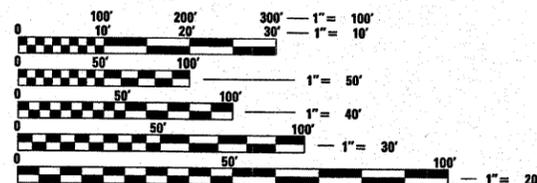
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- 21 LUMINAIRE PERFORMANCE TABLES
- 22-27 POLE FOUNDATION REPAIR PLANS-RIVER BRIDGE (SN# 060-0035)
- 28-31 POLE FOUNDATION REPAIR PLANS-CANAL BRIDGE (SN# 060-0036 EB; 060-0037 WB)

STANDARD

- 701101-01
- 701106-01
- 701401-04
- 701411-04
- 701901
- 720001

MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____
AS BUILT CHANGES WERE MADE
ON THE FOLLOWING SHEETS

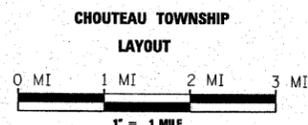
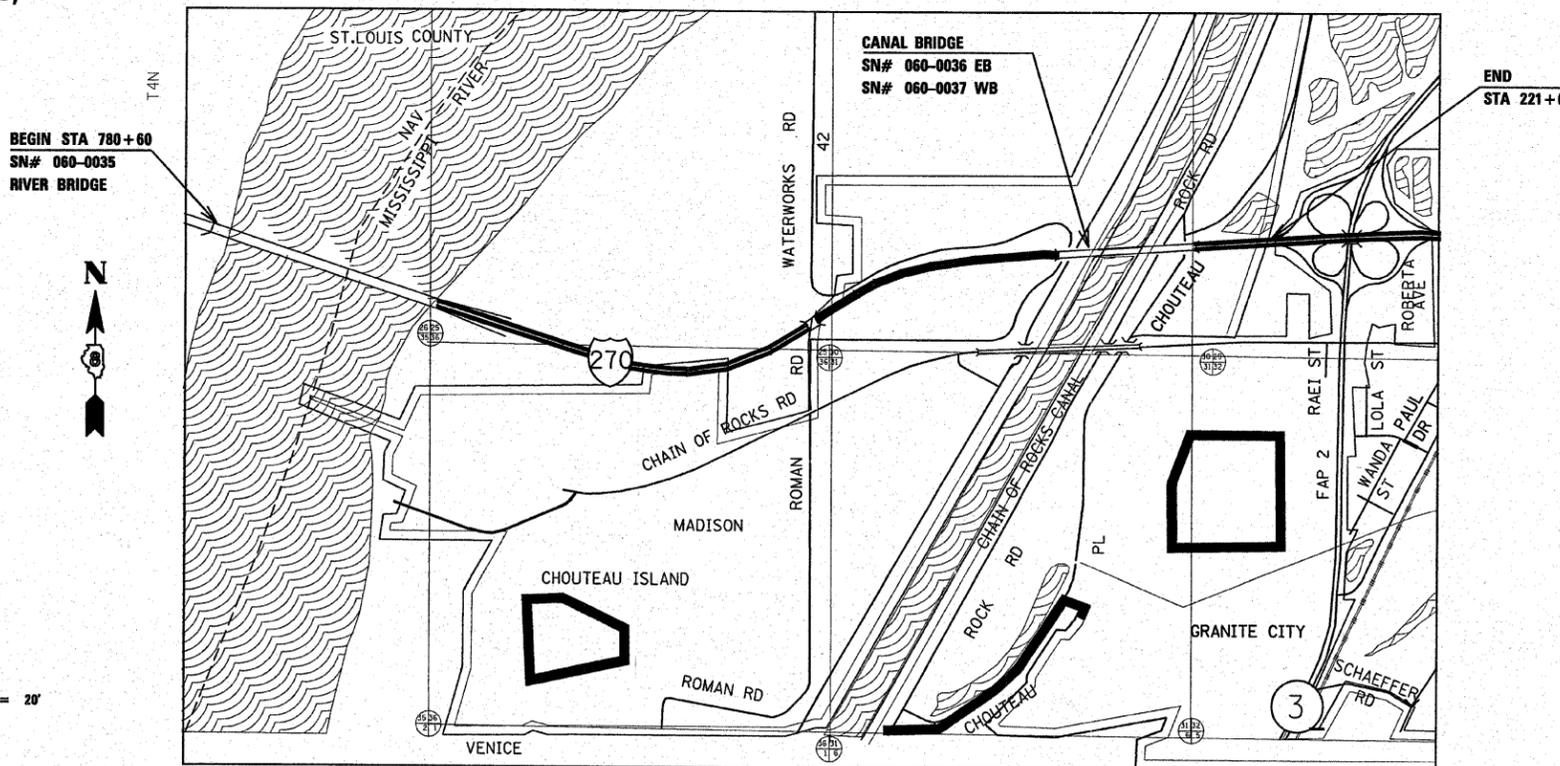


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

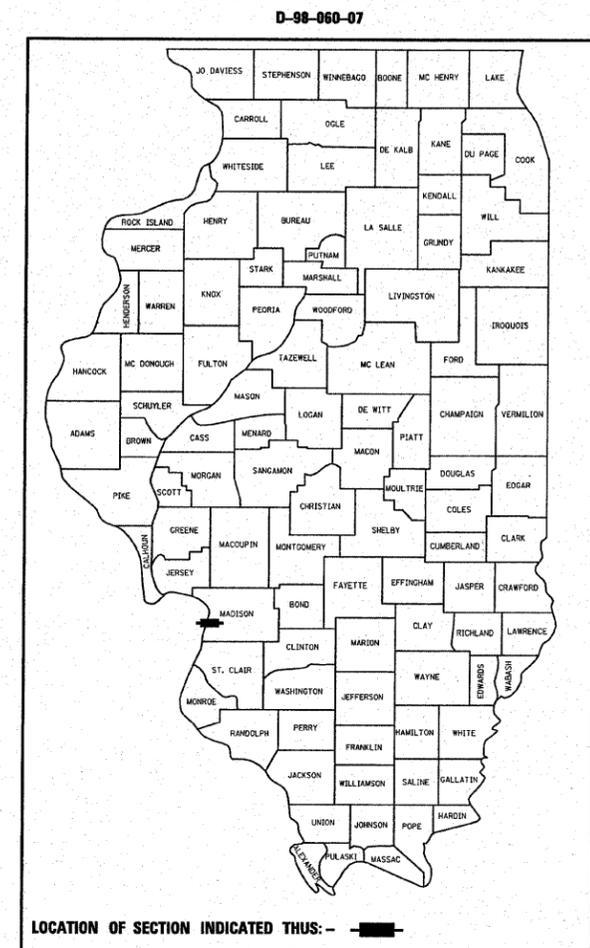
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

CONTRACT NO. 76A88

PROJECT ENGINEER: PATTI LEBEAU (618) 346-3179
SQUAD LEADER: BHARAT PATEL (618) 346-3190



GROSS LENGTH 15,450.84 FT
NET LENGTH 15450.84 FT



TRAFFIC DATA:
2007 ADT = 54,700 (ACTUAL)
2008 ADT = 55,200 (ESTIMATED)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED December 14, 2007
Mary Jamie
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER

February 1, 2008
Eric E. Harn
ENGINEER OF DESIGN AND ENVIRONMENT

February 1, 2008
Christine M. Reed
DIRECTOR, DIVISION OF HIGHWAYS

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OF THE STATE OF ILLINOIS**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2) L-1	MADISON	31	3
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

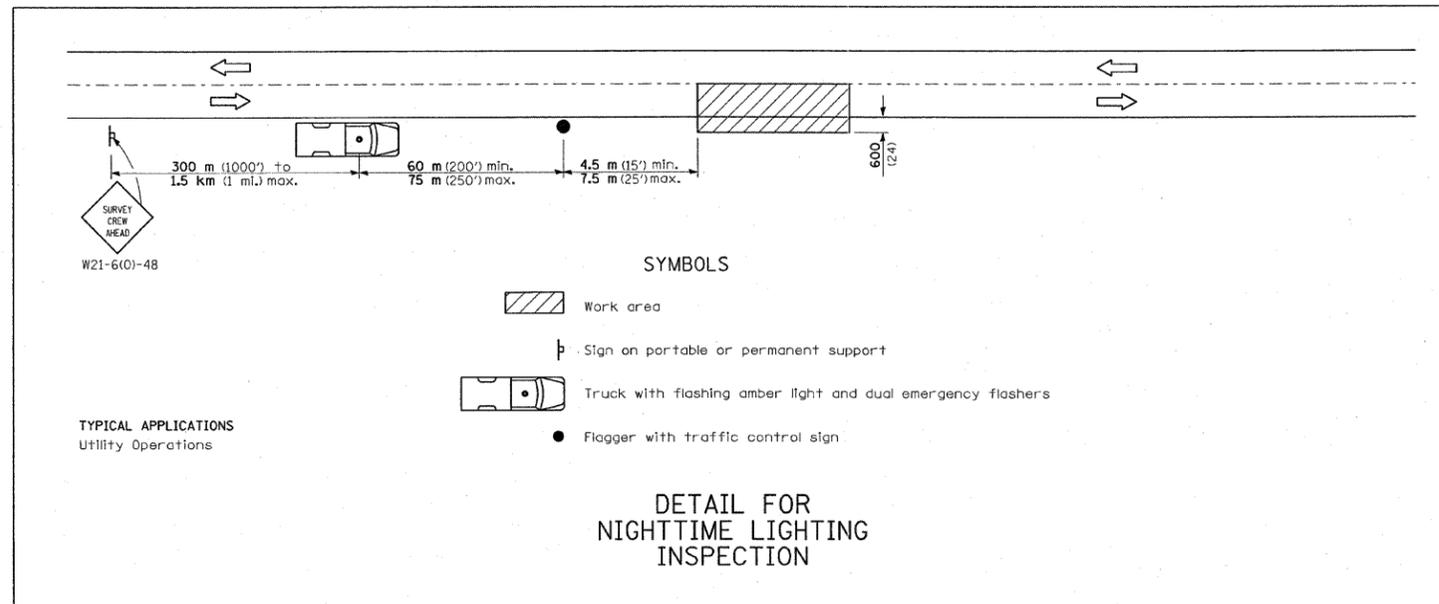
SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE Y030-1E	
CODE NO	ITEM	UNIT		* 100% STATE	** 50% ILLINOIS 50% MISSOURI
81100580	CONDUIT ATTACHED TO STRUCTURE. 1" DIA., ALUMINUM	FOOT	8124		8124
X0325923	CONDUIT, FLEXIBLE NON-METALLIC, WEATHERPROOF, 1" DIAMETER	FOOT	500	270	230
X0325924	CLEAN, RELAMP AND MAINTENANCE OF EXISTING LUMINAIRE	EACH	7	7	
82103840	LUMINAIRE, SODIUM VAPOR, MULTI-MOUNT, 150 WATT	EACH	60	14	46
25000200	SEEDING, CLASS 2	ACRE	0.3	0.3	
25100105	MULCH, METHOD 1	ACRE	0.3	0.3	
50102400	CONCRETE REMOVAL	CU YD	9.8	2.7	7.1
50300255	CONCRETE SUPERSTRUCTURE	CU YD	9.8	2.7	7.1
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	615	519	96
52100520	ANCHOR BOLTS, 1"	EACH	64	8	56
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	10	6	4
67100100	MOBILIZATION	L SUM	1	0.6	0.4
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	2	1	1
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1	0.6	0.4
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	56	34	22
80300100	LOCATING UNDERGROUND CABLE	FOOT	22810	22810	
80400100	ELECTRIC SERVICE INSTALLATION	EACH	2	1	1
81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	70	70	
81000800	CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	110	50	60
81100590	CONDUIT ATTACHED TO STRUCTURE, 2" DIA., ALUMINUM	FOOT	2970	500	2470
81100600	CONDUIT ATTACHED TO STRUCTURE, 2" DIA., GALVANIZED STEEL	FOOT	60	50	10
81100800	CONDUIT ATTACHED TO STRUCTURE, 3" DIA., GALVANIZED STEEL	FOOT	20	20	
81300320	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 8" X 8" X 6"	EACH	49	3	46
81300420	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 10" X 8" X 6"	EACH	3	2	1
81300550	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" X 12" X 6"	EACH	2	1	1
81300720	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 16" X 12" X 8"	EACH	6	6	
81300830	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 18" X 18" X 8"	EACH	1	1	
81306400	RELOCATE EXISTING JUNCTION BOX	EACH	14	14	

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE Y030-1E	
CODE NO	ITEM	UNIT		* 100% STATE	** 50% ILLINOIS 50% MISSOURI
81306500	REMOVE EXISTING JUNCTION BOX	EACH	8	6	2
81603035	UNIT DUCT, 600V, 2-1C NO. 6, 1/C NO. 6 GROUND, (XLP-TYPE USE), 1" DIA. POLYETHYLENE	FOOT	15826	15826	
81702130	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 6	FOOT	18981	13923	5058
81702415	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/C NO. 6	FOOT	14981	3888	11093
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	15146	15146	
82102150	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 150 WATT	EACH	10	10	
82103900	LUMINAIRE, SODIUM VAPOR, MULTI-MOUNT, 250 WATT	EACH	50	50	
82500525	LIGHTING CONTROLLER TYPE CB-RCS 60AMP - 480VOLT (DUAL)	EACH	1	1	
82500540	LIGHTING CONTROLLER TYPE CB-RCS 100AMP - 480VOLT	EACH	1		1
82700100	TRANSFORMER, GENERAL PURPOSE	EACH	6	6	
83060800	LIGHT POLE, GALVANIZED STEEL, 30 FT. M.H., TENON MOUNT	EACH	60	14	46
83060830	LIGHT POLE, GALVANIZED STEEL, 45 FT. M.H., TENON MOUNT	EACH	50	50	
83800650	BREAKAWAY DEVICE, COUPLING, WITH STAINLESS STEEL SCREEN	EACH	4	4	
84200500	REMOVAL OF EXISTING LIGHTING UNIT, SALVAGE	EACH	102	63	39
84301000	REMOVAL OF NAVIGATION OBSTRUCTION WARNING LIGHTING SYSTEM	EACH	1		1
84500110	REMOVAL OF LIGHTING CONTROLLER	EACH	2	1	1
84500120	REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	2	1	1
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	5210	5210	
X8430100	REMOVE EXISTING CONDUIT ATTACHED TO STRUCTURE	FOOT	640	560	80

* CANAL BRIDGE (STRUCTURE *060-0036, EB; 060-0037, WB; AND APPROACHES
 ** RIVER BRIDGE (STRUCTURE *060-0035)

PLOT DATE = 12/14/2007
 FILE NAME = C:\p060007\electrical\p060007.dgn
 PLOT SCALE = 43.5593 / IN.
 REFERENCE = *REF*

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2)L-1	MADISON	31	4
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____		ILLINOIS	FED. AID PROJECT	



SYMBOLS

- Work area
- Sign on portable or permanent support
- Truck with flashing amber light and dual emergency flashers
- Flagger with traffic control sign

TYPICAL APPLICATIONS
Utility Operations

DETAIL FOR NIGHTTIME LIGHTING INSPECTION

LEGEND

- EXISTING GUARD RAIL
- EXISTING UNDERGROUND CABLE
- EXISTING CABLE IN CONDUIT
- EXISTING ELECTRICAL SERVICE INSTALLATION TO BE REMOVED
- EXISTING LIGHTING CONTROLLER TO BE REMOVED
- EXISTING HANDHOLE, PORTLAND CEMENT CONCRETE
- EXISTING JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE
- EXISTING LIGHT POLE, 45 FT. M.H. 6 FT. DAVIT ARM WITH 250 WATT H.P.S. LUMINAIRE AND DETECTION OR CCTV CAMERA TO REMAIN
- PROPOSED ELECTRICAL CABLE IN CONDUIT, 600V (XLP-TYPE USE) 2-1/C NO.6 AND 1/C NO.6 GROUND
- PROPOSED CONDUIT ATTACHED TO STRUCTURE, 1" DIA. ALUMINUM
- PROPOSED CONDUIT ATTACHED TO STRUCTURE, 2" DIA. ALUMINUM
- PROPOSED UNIT DUCT, 600V, 2-1/C NO.6, 1/C NO.6 GROUND, (XLP-TYPE USE), 1" DIA. POLYETHYLENE
- PROPOSED ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 6-1/C NO.6 AND 1/C NO.6 GROUND
- PROPOSED ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 4-1/C NO.6 AND 1/C NO.6 GROUND
- PROPOSED JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE (SEE DETAILS FOR SIZE)
- PROPOSED ELECTRIC SERVICE INSTALLATION, 240/480V, 1 PHASE
- PROPOSED LIGHTING CONTROLLER, 100 AMP, 240/480V, 1 PHASE
- LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 150 WATT, MOUNTED ON EXISTING 4 FT. ARM ATTACHED TO BRIDGE TRUSS
- LIGHT POLE, PAINTED GALVANIZED STEEL, 30 FT. M.H., TENON TOP WITH LUMINAIRE, SODIUM VAPOR, MULTI-MOUNT, 150 WATT AND 11-1/8" BOLT CIRCLE
- LIGHT POLE, PAINTED GALVANIZED STEEL, 30 FT. M.H., TENON TOP WITH LUMINAIRE, SODIUM VAPOR, MULTI-MOUNT, 150 WATT AND 13" BOLT CIRCLE
- LIGHT POLE, PAINTED GALVANIZED STEEL, 45 FT. M.H., TENON TOP WITH LUMINAIRE, SODIUM VAPOR, MULTI-MOUNT, 250 WATT AND 15" BOLT CIRCLE

EASTBOUND WORK SCHEDULE

Sunday				Monday				Tuesday				Wednesday				Thursday				Friday				Saturday																	
WORK ALLOWED	NO WORK ALLOWED																																								
12A	4A	8A	12P	4P	8P	12A	4A	8A	12P	4P	8P	12A	4A	8A	12P	4P	8P	12A	4A	8A	12P	4P	8P	12A	4A	8A	12P	4P	8P	12A	4A	8A	12P	4P	8P	12A	4A	8A	12P	4P	8P

WESTBOUND WORK SCHEDULE

Sunday				Monday				Tuesday				Wednesday				Thursday				Friday				Saturday											
WORK ALLOWED	NO WORK ALLOWED																																		
12A	6A	12P	6P	12A	6A	12P	6P																												

A working day shall be defined as the time periods shown in the above charts marked as "work allowed".
If the Contractor works in both directions within the same timeframe, only one working day will be charged.

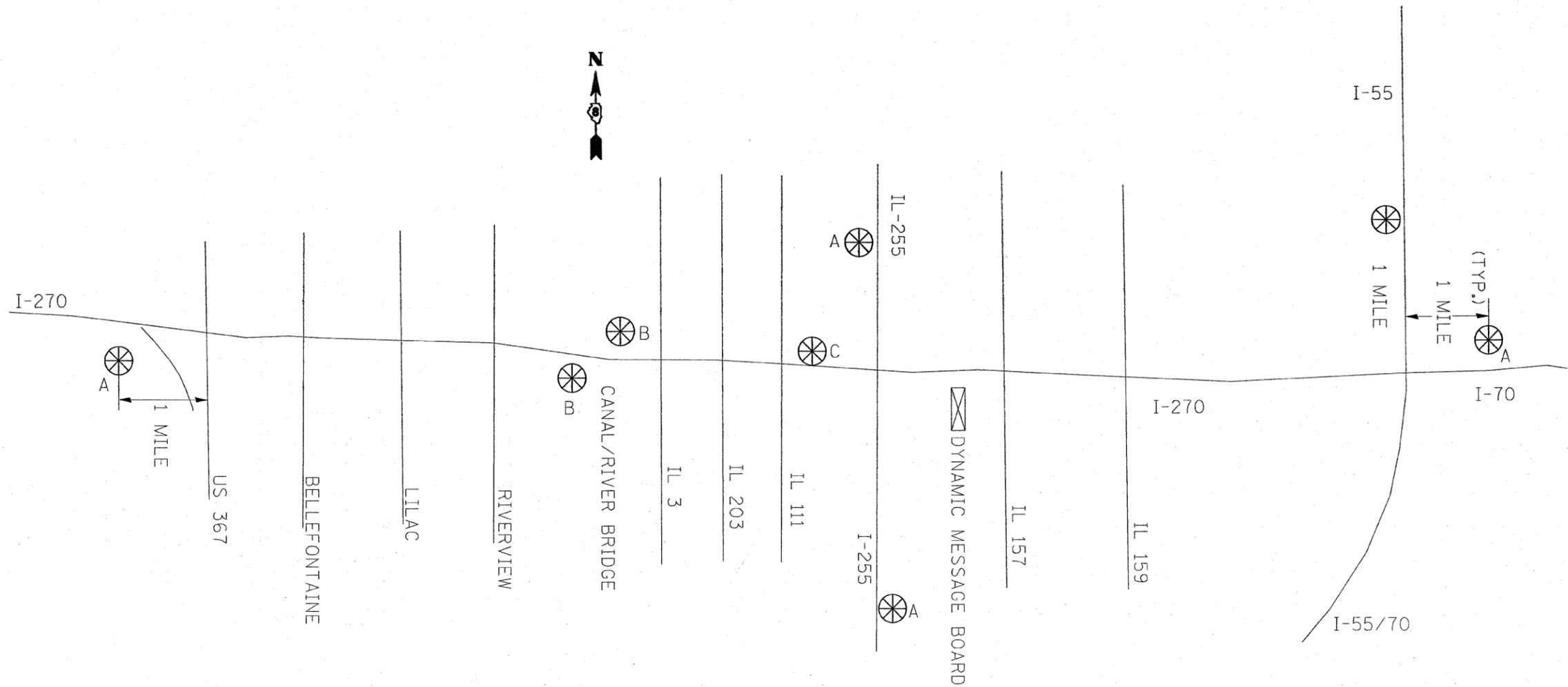
WORK SCHEDULE

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
LEGEND AND NIGHTTIME LIGHTING INSPECTION DETAIL
FAI ROUTE 270
SECTION 60-(1,2)L-1
MADISON COUNTY
SCALE: VERT. HORIZ.
DATE _____ DRAWN BY _____ CHECKED BY _____

PLOT DATE = 1/16/2008
FILE NAME = c:\p\proj\60-1,2L-1\electrical\tsph065807.dgn
SCALE = 3/32" = 1' / IN.
REFERENCE = SHEET 4



A 1st PANEL
 I-270
 CONST
 AT _____

2nd PANEL
 "DATES"

B
 RIGHT/LEFT
 LANE
 CLOSED

~~WHILE
 CONCRETE
 HARDENS~~

C
 RIGHT/LEFT
 LANE
 CLOSED
 AHEAD

EXPECT
 LONG
 DELAYS

3rd PANEL
 EXPECT
 LONG
 DELAYS

NOTE: THIS SCREEN IS
 PROJECT SPECIFIC
 AS DIRECTED BY THE RE.

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PLOT DATE = 12/7/2007	DATE -	REVISED -	REVISED -

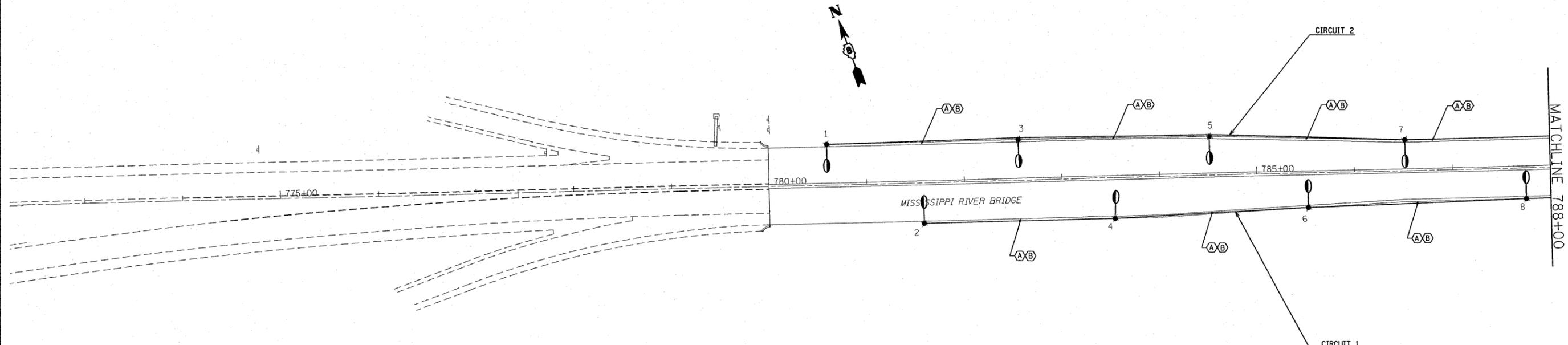
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

VARIABLE MESSAGE BOARDS DISPLAY

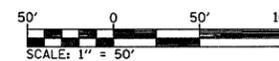
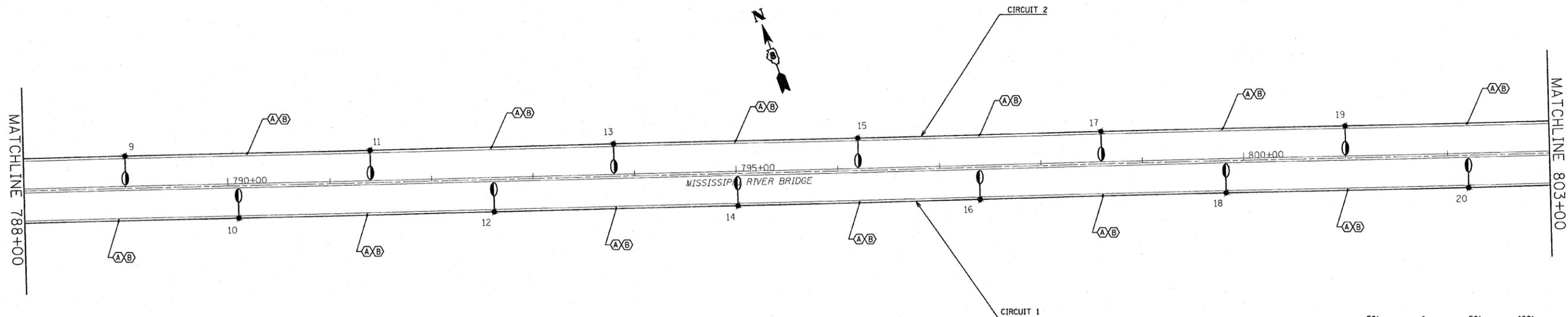
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F.A.I RTE. 270	SECTION 60-11.21.L-1	COUNTY MADISON	TOTAL SHEETS 31	SHEET NO. 5
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT			CONTRACT NO. 76A88	

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2)L-1	MADISON	31	6
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



POLE NO.	STATION	POLE NO.	STATION
1	780+60	2	781+58
3	782+56	4	583+54
5	784+52	6	785+52
7	786+52	8	787+75
9	789+00	10	790+21
11	791+40	12	792+61
13	793+80	14	795+01
15	796+20	16	797+39
17	798+60	18	799+82
19	801+00	20	802+20



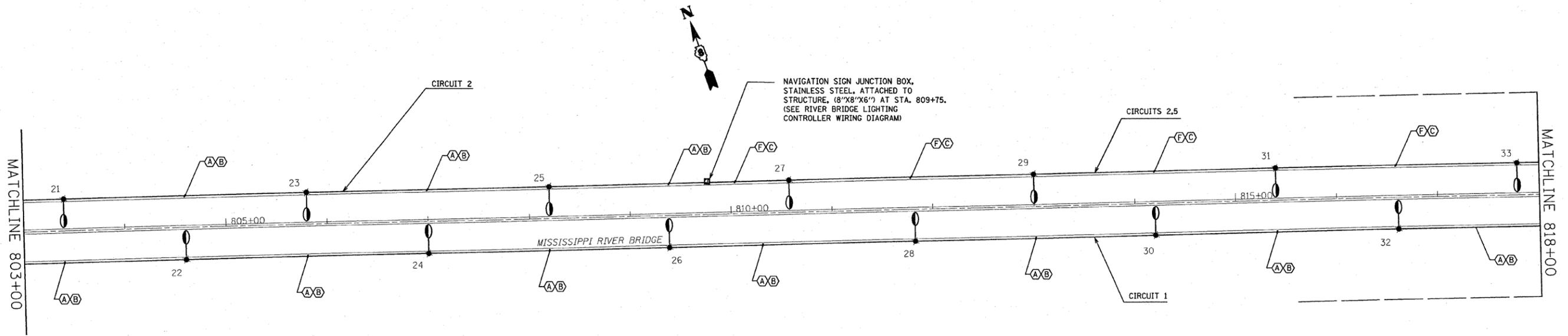
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 HIGHWAY LIGHTING PLAN
 FAI ROUTE 270
 SECTION 60-(1,2)L-1
 MADISON COUNTY

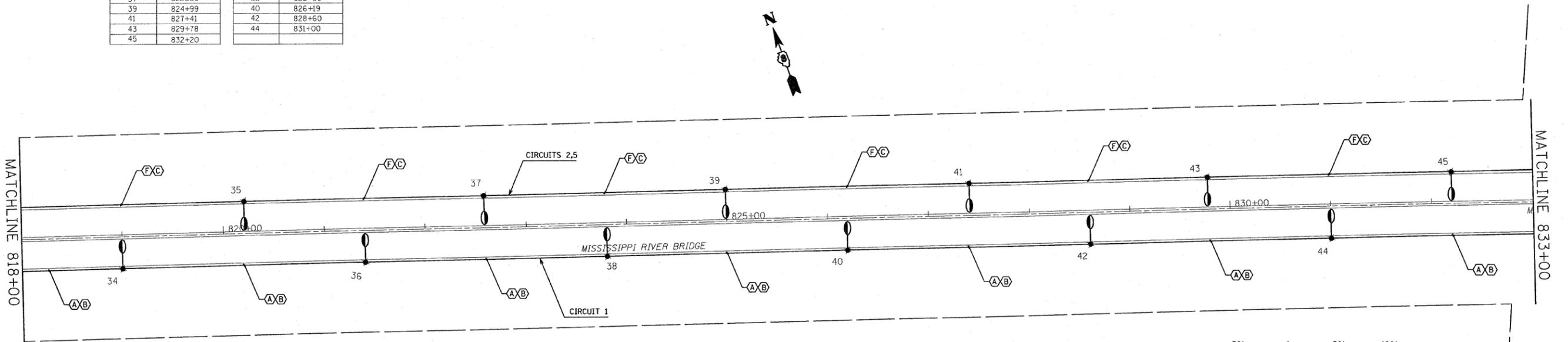
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 DATE
 DRAWN BY
 CHECKED BY

PLOT DATE = 04/27/88
 FILE NAME = 07112L-1
 PLOT SCALE = 1/8" = 100'
 REFERENCE = 07112L-1

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2)L-1	MADISON	31	7
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



POLE NO.	STATION	POLE NO.	STATION
21	803+40	22	804+60
23	805+80	24	807+00
25	808+20	26	809+38
27	810+58	28	811+82
29	813+00	30	814+20
31	815+40	32	816+61
33	817+79	34	819+00
35	820+35	36	821+36
37	822059	38	823+80
39	824+99	40	826+19
41	827+41	42	828+60
43	829+78	44	831+00
45	832+20		



REVISIONS	
NAME	DATE

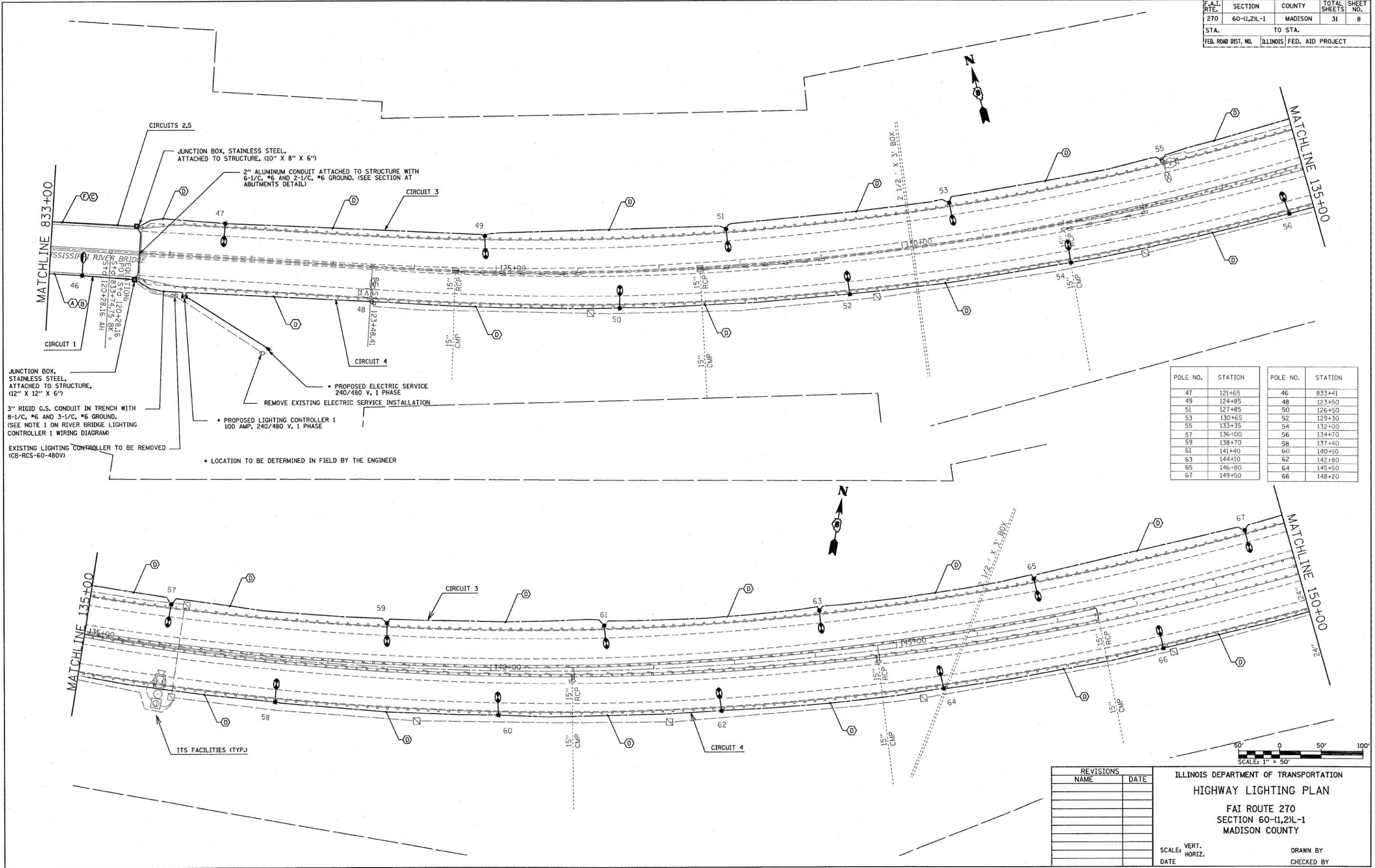
ILLINOIS DEPARTMENT OF TRANSPORTATION
HIGHWAY LIGHTING PLAN
 FAI ROUTE 270
 SECTION 60-(1,2)L-1
 MADISON COUNTY

SCALE: VERT.
 HORIZ.
 DATE

DRAWN BY
 CHECKED BY

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 PLOT SCALE = #SCALE#
 REFERENCE = #REF#

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2)L-1	MADISON	31	8
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, (12" X 12" X 6")

3" RIGID G.S. CONDUIT IN TRENCH WITH 8-1/C, #6 AND 3-1/C, #6 GROUND. (SEE NOTE 1 ON RIVER BRIDGE LIGHTING CONTROLLER 1 WIRING DIAGRAM)

EXISTING LIGHTING CONTROLLER TO BE REMOVED (CB-RCS-60-480V)

CIRCUITS 2,5

JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, (10" X 8" X 6")

2" ALUMINUM CONDUIT ATTACHED TO STRUCTURE WITH 6-1/C, #6 AND 2-1/C, #6 GROUND. (SEE SECTION AT ABUTMENTS DETAIL)

PROPOSED ELECTRIC SERVICE 240/480 V, 1 PHASE

REMOVE EXISTING ELECTRIC SERVICE INSTALLATION

PROPOSED LIGHTING CONTROLLER 1 100 AMP, 240/480 V, 1 PHASE

LOCATION TO BE DETERMINED IN FIELD BY THE ENGINEER

POLE NO.	STATION	POLE NO.	STATION
47	121+65	46	833+41
49	124+85	48	123+50
51	127+85	50	126+50
53	130+65	52	129+30
55	133+35	54	132+00
57	136+00	56	134+70
59	138+70	58	137+40
61	141+40	60	140+10
63	144+10	62	142+80
65	146+80	64	145+50
67	149+50	66	148+20

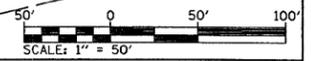
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REVISIONS	
NAME	DATE

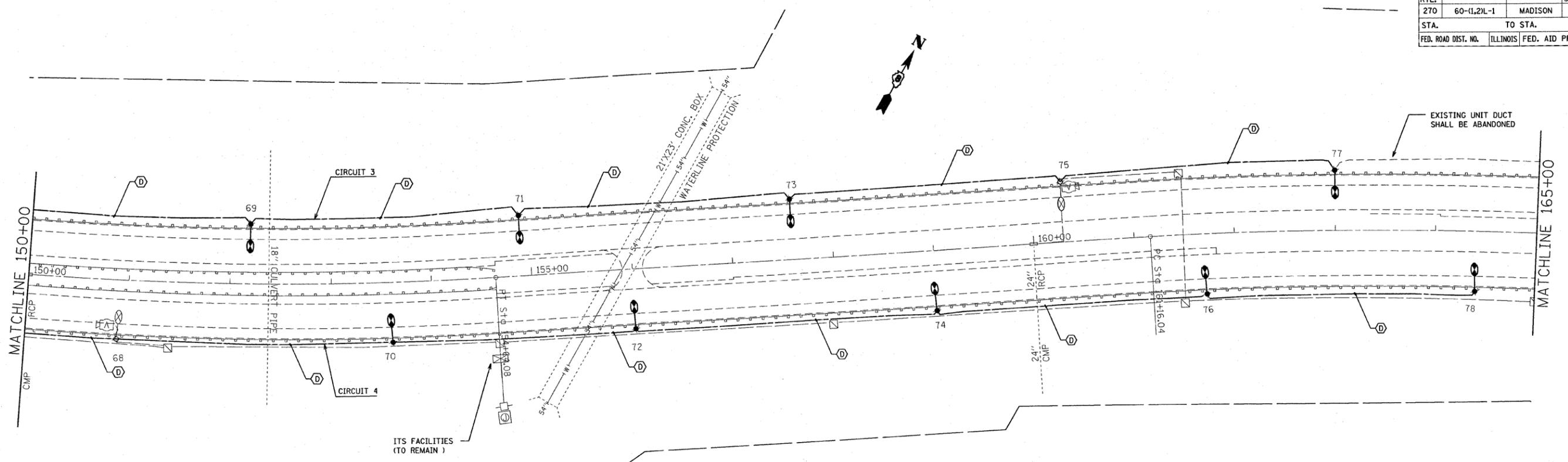
ILLINOIS DEPARTMENT OF TRANSPORTATION
 HIGHWAY LIGHTING PLAN
 FAI ROUTE 270
 SECTION 60-(1,2)L-1
 MADISON COUNTY

SCALE: VERT. _____
 HORIZ. _____

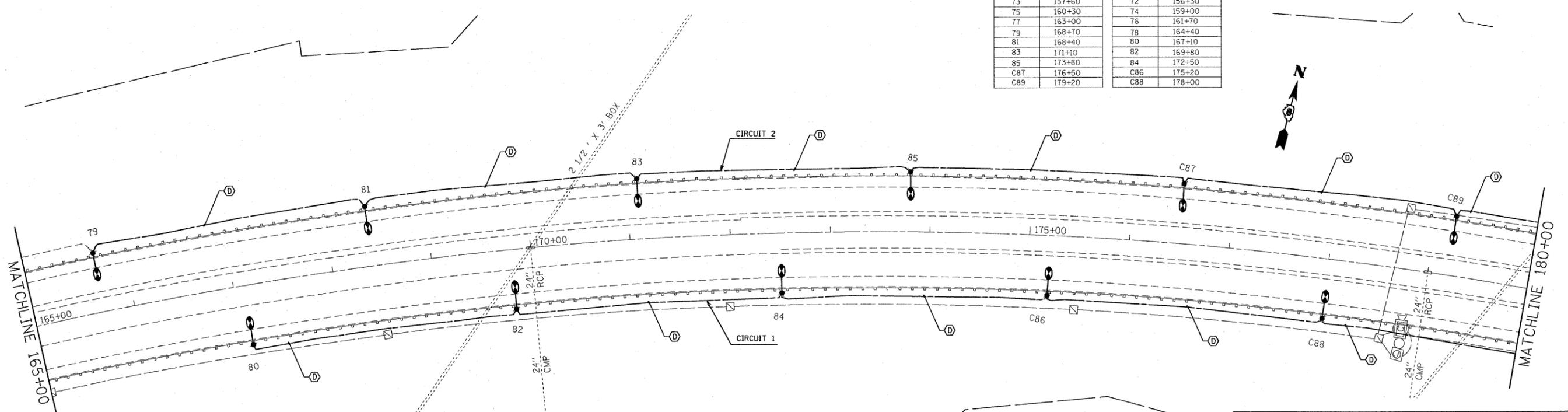
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 CHECKED BY _____



F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2)L-1	MADISON	31	9
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



POLE NO.	STATION	POLE NO.	STATION
69	152.20	68	150+90
71	154+90	70	153+60
73	157+60	72	156+30
75	160+30	74	159+00
77	163+00	76	161+70
79	168+70	78	164+40
81	168+40	80	167+10
83	171+10	82	169+80
85	173+80	84	172+50
C87	176+50	C86	175+20
C89	179+20	C88	178+00



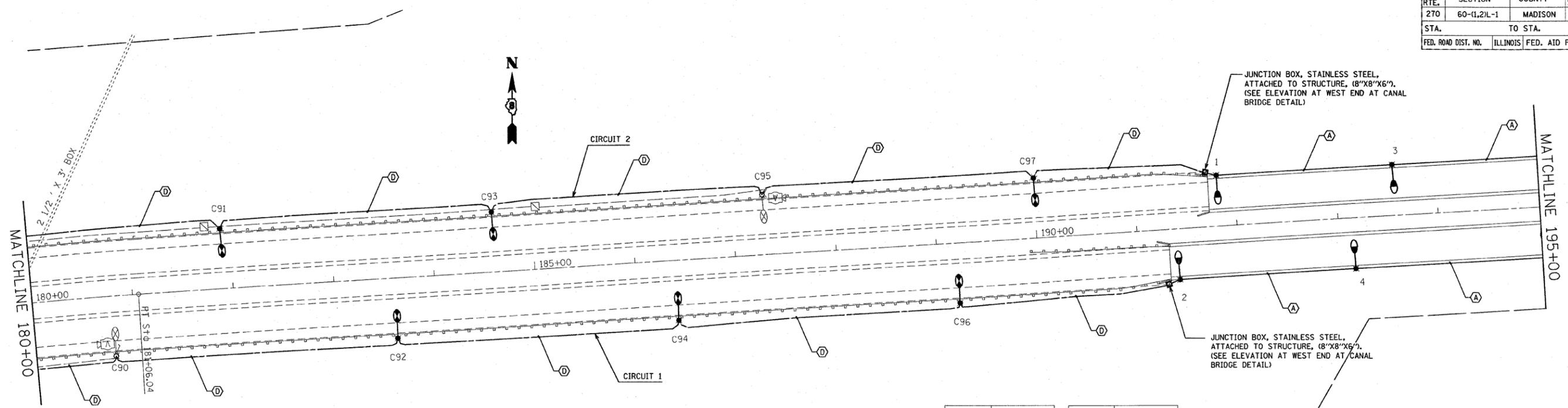
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 * SCALE *
 * REF *



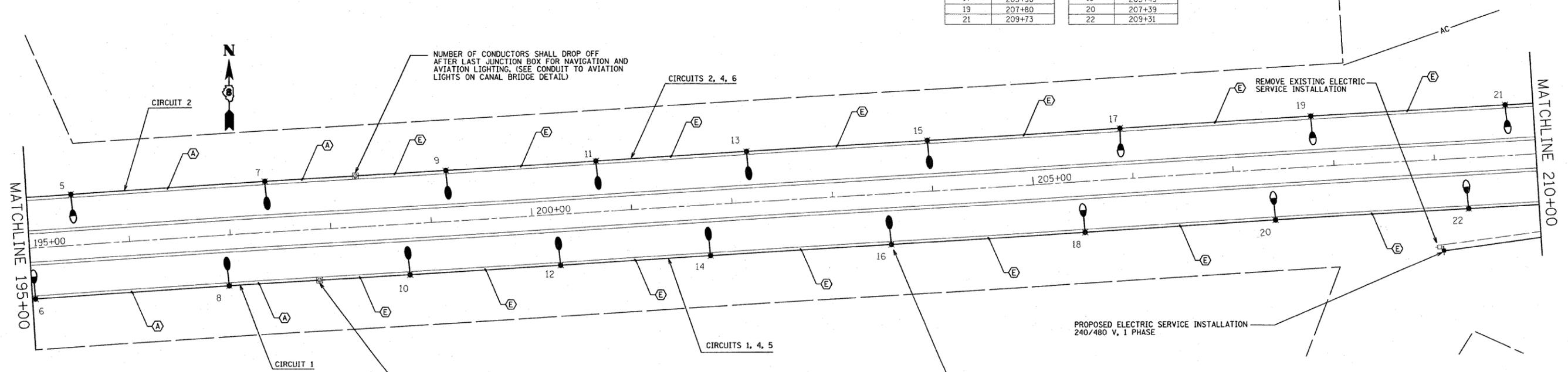
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 HIGHWAY LIGHTING PLAN
 FAI ROUTE 270
 SECTION 60-(1,2)L-1
 MADISON COUNTY
 SCALE: VERT. _____
 HORIZ. _____
 DATE _____
 DRAWN BY _____
 CHECKED BY _____

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2)L-1	MADISON	31	10
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



POLE NO.	STATION	POLE NO.	STATION
C91	181+90	C90	180+80
C93	184+60	C92	183+60
C95	187+30	C94	186+40
C97	190+00	C96	189+20
1	191+32	2	191+40
3	193+57	4	193+15
5	195+45	6	195+03
7	197+37.5	8	196+95.06
9	199+17.5	10	198+75.6
11	200+67.5	12	200+25.6
13	202+17.5	14	201+75.6
15	203+97.5	16	203+55.6
17	205+90	18	205+49
19	207+80	20	207+39
21	209+73	22	209+31



NUMBER OF CONDUCTORS SHALL DROP OFF AFTER LAST JUNCTION BOX FOR NAVIGATION AND AVIATION LIGHTING. (SEE CONDUIT TO AVIATION LIGHTS ON CANAL BRIDGE DETAIL)

NUMBER OF CONDUCTORS SHALL DROP OFF AFTER LAST JUNCTION BOX FOR NAVIGATION AND AVIATION LIGHTING. (SEE CONDUIT TO AVIATION LIGHTS ON CANAL BRIDGE DETAIL)

SEE TRUSS MOUNTED ROADWAY LIGHT ON CANAL BRIDGE DETAIL

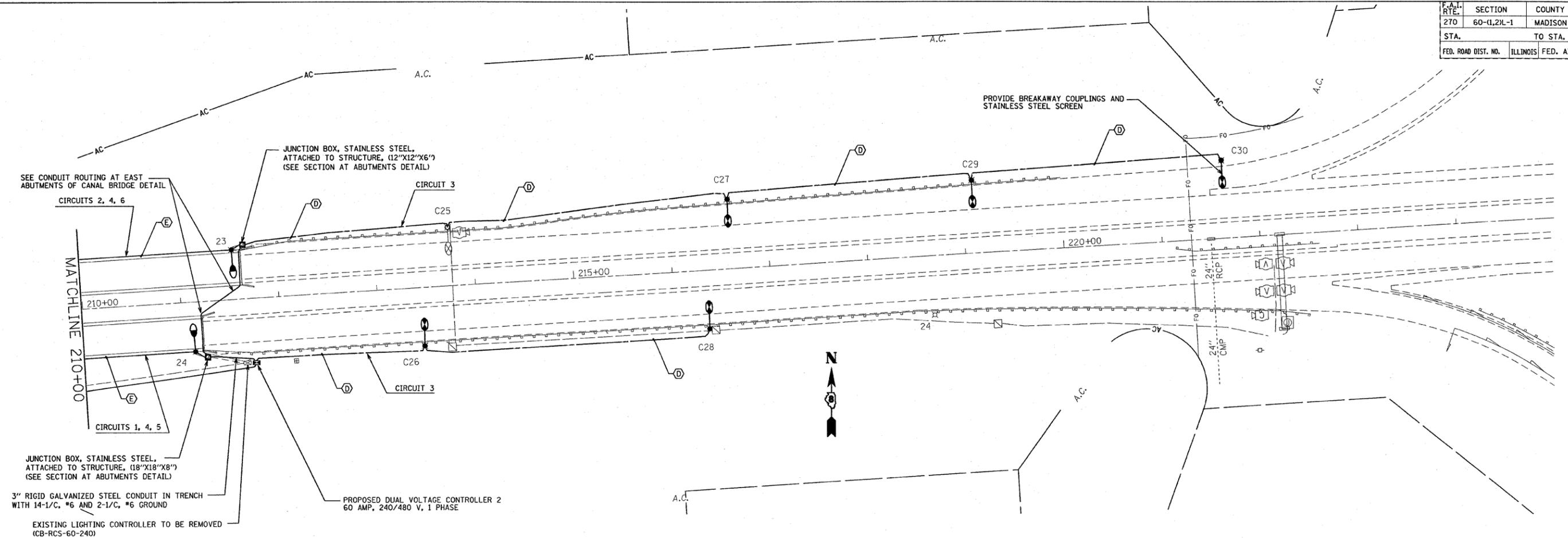


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
HIGHWAY LIGHTING PLAN
 FAI ROUTE 270
 SECTION 60-(1,2)L-1
 MADISON COUNTY
 SCALE: VERT. DATE
 HORIZ. DATE
 DRAWN BY
 CHECKED BY

PLOT DATE = 04/28/08
 FILE NAME = 061101L-1
 PLOT SCALE = 1"=50'
 REFERENCE = 06/08/08

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2)L-1	MADISON	31	11
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, (12"X12"X6") (SEE SECTION AT ABUTMENTS DETAIL)

SEE CONDUIT ROUTING AT EAST ABUTMENTS OF CANAL BRIDGE DETAIL

JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, (18"X18"X8") (SEE SECTION AT ABUTMENTS DETAIL)

3" RIGID GALVANIZED STEEL CONDUIT IN TRENCH WITH 14-1/C, #6 AND 2-1/C, #6 GROUND

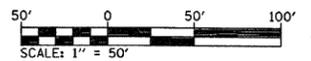
EXISTING LIGHTING CONTROLLER TO BE REMOVED (CB-RCS-60-240)

PROPOSED DUAL VOLTAGE CONTROLLER 2 60 AMP, 240/480 V, 1 PHASE

PROVIDE BREAKAWAY COUPLINGS AND STAINLESS STEEL SCREEN



POLE NO.	STATION	POLE NO.	STATION
23	211+54	24	210+12
C25	213+75	C26	213+45
C27	216+60	C28	216+35
C29	219+10		
C30	221+65		



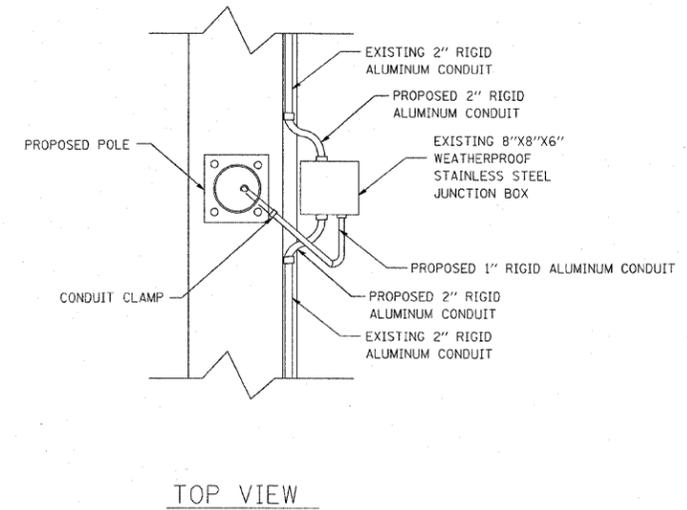
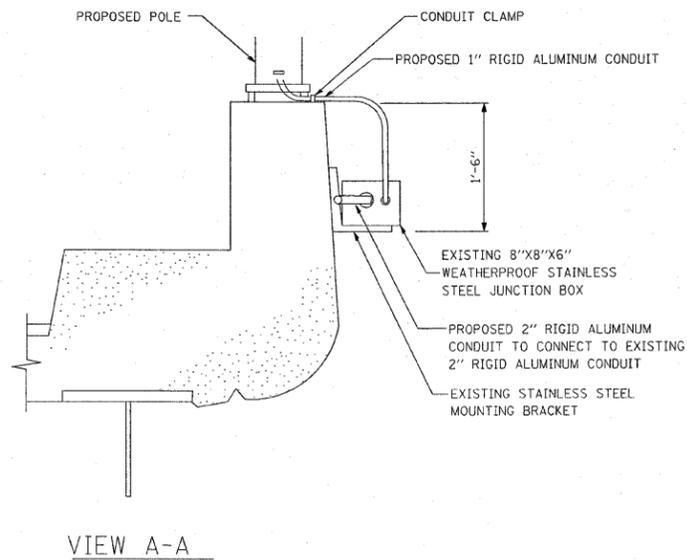
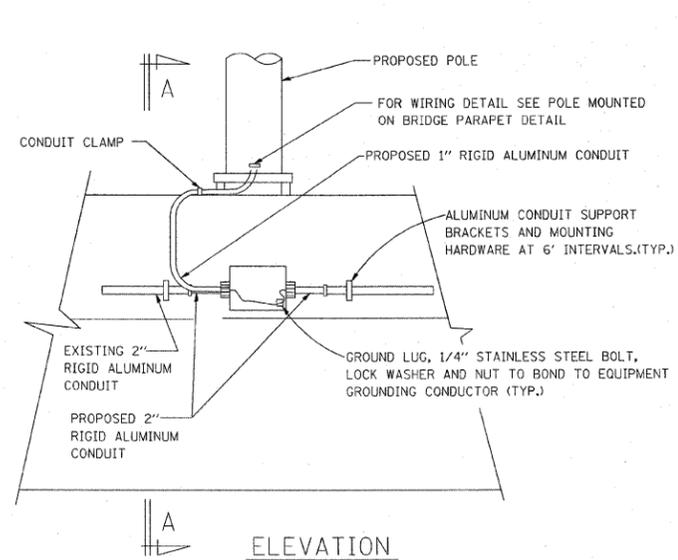
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
HIGHWAY LIGHTING PLAN
 FAI ROUTE 270
 SECTION 60-(1,2)L-1
 MADISON COUNTY

SCALE: VERT. HORIZ.
 DATE: DRAWN BY: CHECKED BY:

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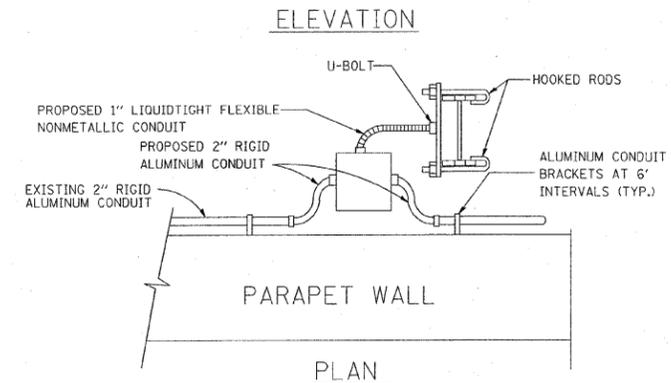
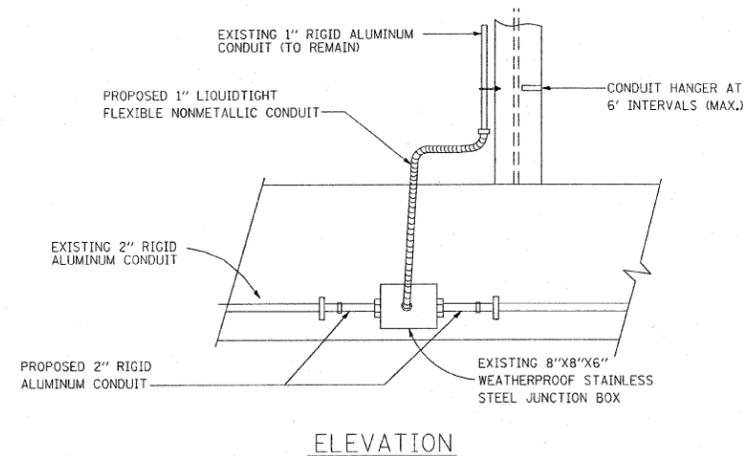
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2) L-1	MADISON	31	12
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



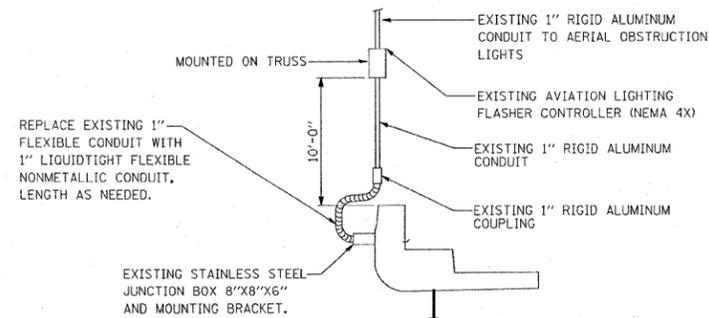
PARAPET WALL MOUNTED CONDUIT DETAILS

NOTES:

1. REMOVE FLEXIBLE CONDUITS AT JUNCTION BOXES.
2. REMOVE STAINLESS STEEL JUNCTION BOXES FOR CONCRETE REPAIRS AT LIGHT POLE FOUNDATIONS.
3. REINSTALL STAINLESS STEEL JUNCTION BOXES AFTER CONCRETE REPAIRS ARE COMPLETE.
4. REUSE THE EXISTING 2" RIGID ALUMINUM CONDUIT ATTACHED TO THE PARAPET WALL.
5. REPLACE FLEXIBLE CONDUITS WITH 2" RIGID ALUMINUM CONDUIT (AS NOTED ABOVE) USING SHORT RADIUS 90'S.
6. REPLACE 1" FLEXIBLE CONDUIT TO LIGHT POLE WITH 1" RIGID ALUMINUM CONDUIT UNDER POLE LEVELING PLATE AND TURNED UP TO POLE HANDHOLE.
7. WHERE NOTES INDICATES 2" RIGID ALUMINUM CONDUIT, 1" RIGID ALUMINUM CONDUIT IS USED IN CERTAIN LOCATIONS. (SEE PLANS).
8. PARAPET WALL MOUNTED CONDUIT DETAILS ARE TYPICAL FOR PROPOSED INSTALLATION ON THE RIVER BRIDGE EXCEPT ALL CONDUITS AND JUNCTION BOXES ARE PROPOSED
9. DETAILS FOR NAVIGATION LIGHTS ON THE CANAL BRIDGE ARE SIMILAR TO THE TRUSS MOUNTED ROADWAY LIGHT DETAILS EXCEPT THE FLEXIBLE CONDUIT FEEDS DOWN TO THE NAVIGATION LIGHTS.



TRUSS MOUNTED ROADWAY LIGHT DETAILS ON CANAL BRIDGE



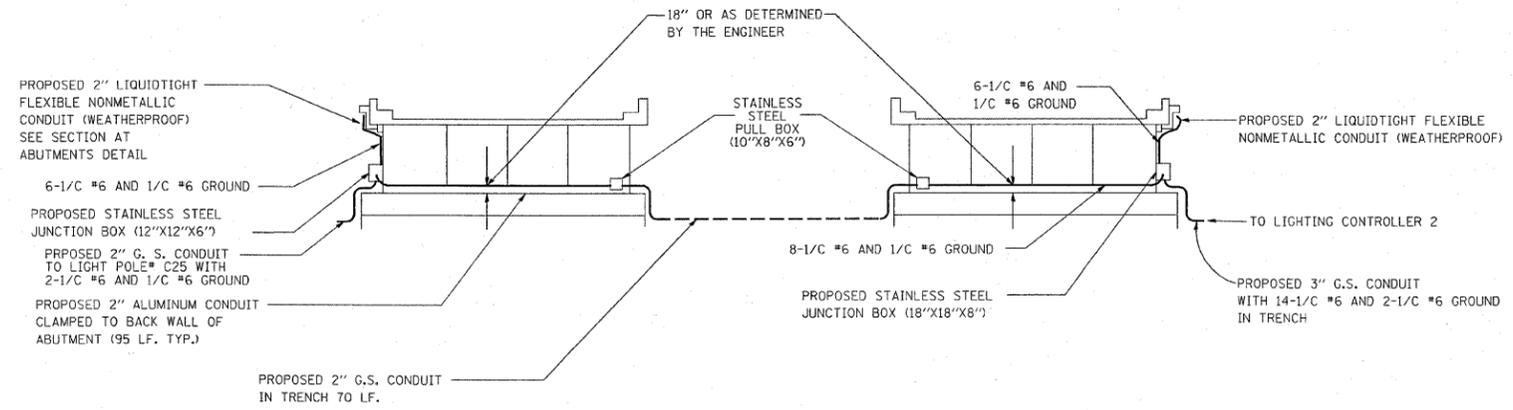
CONDUIT TO AVIATION LIGHTS ON CANAL BRIDGE

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CONDUITS AT LIGHT POLE DETAILS
CANAL BRIDGE
 FAI ROUTE 270
 SECTION 60-(1,2)L-1
 MADISON COUNTY

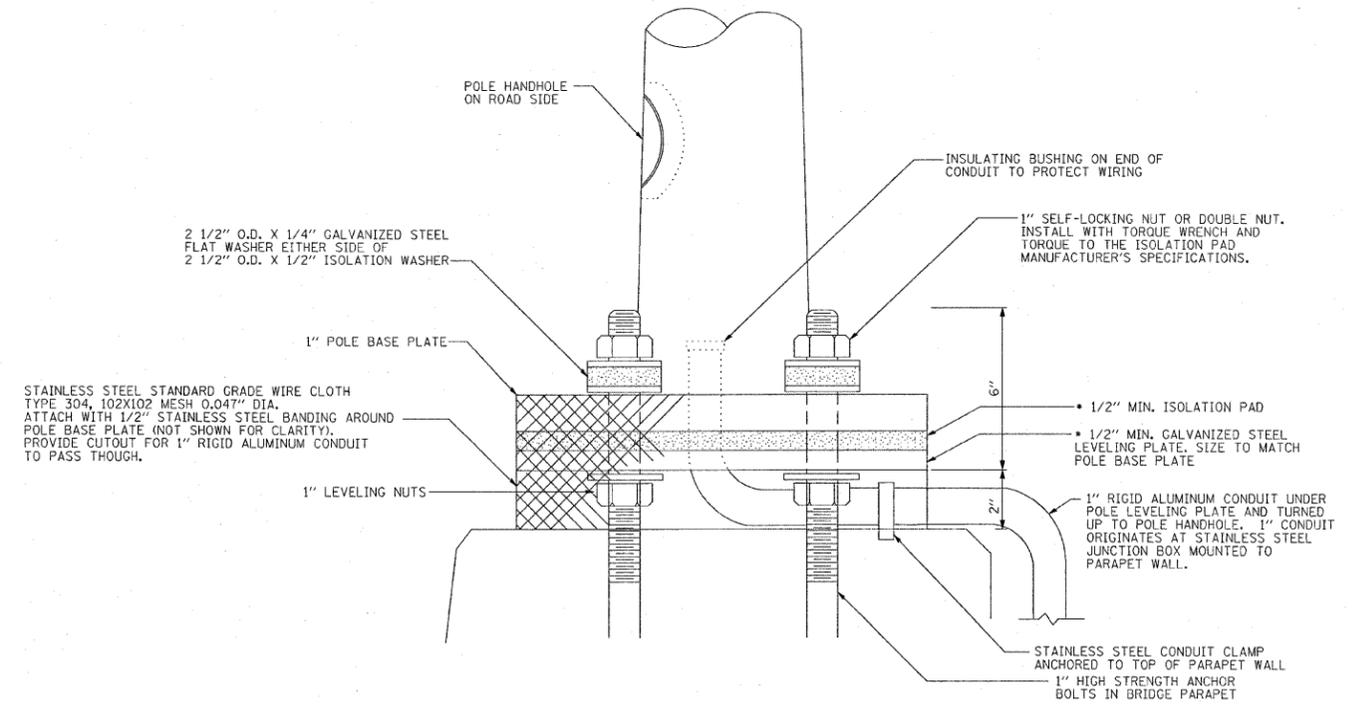
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 DATE: DRAWN BY: CHECKED BY:

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2) L-1	MADISON	31	13
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



NOTES:
 1. CONTRACTOR SHALL REMOVE EXISTING CONDUITS ATTACHED UNDER THE BRIDGE AND IN THE TRENCH BETWEEN ABUTMENT.

CONDUIT ROUTING AT EAST ABUTMENTS OF CANAL BRIDGE DETAIL
 (NOT TO SCALE)



NOTES:
 1. POLES SHALL BE INSTALLED AT EXISTING LOCATIONS. CONTRACTOR SHALL VERIFY BOLT CIRCLE AT EACH FOUNDATION.
 2. THICKNESS OF ISOLATION PAD AND WASHERS SHALL BE ACCORDING TO ISOLATION PAD MANUFACTURER'S RECOMMENDATIONS BASED UPON POLE HEIGHT, WIEGHT, AND LOADING.
 3. ALL HARDWARE SHALL BE GALVANIZED OR STAINLESS STEEL, UNLESS NOTED OTHERWISE.
 • ISOLATION PAD AND LEVELING PLATE ARE TO MATCH THE FOOTPRINT OF THE POLE BASE PLATE

POLE MOUNTED ON BRIDGE PARAPET DETAIL

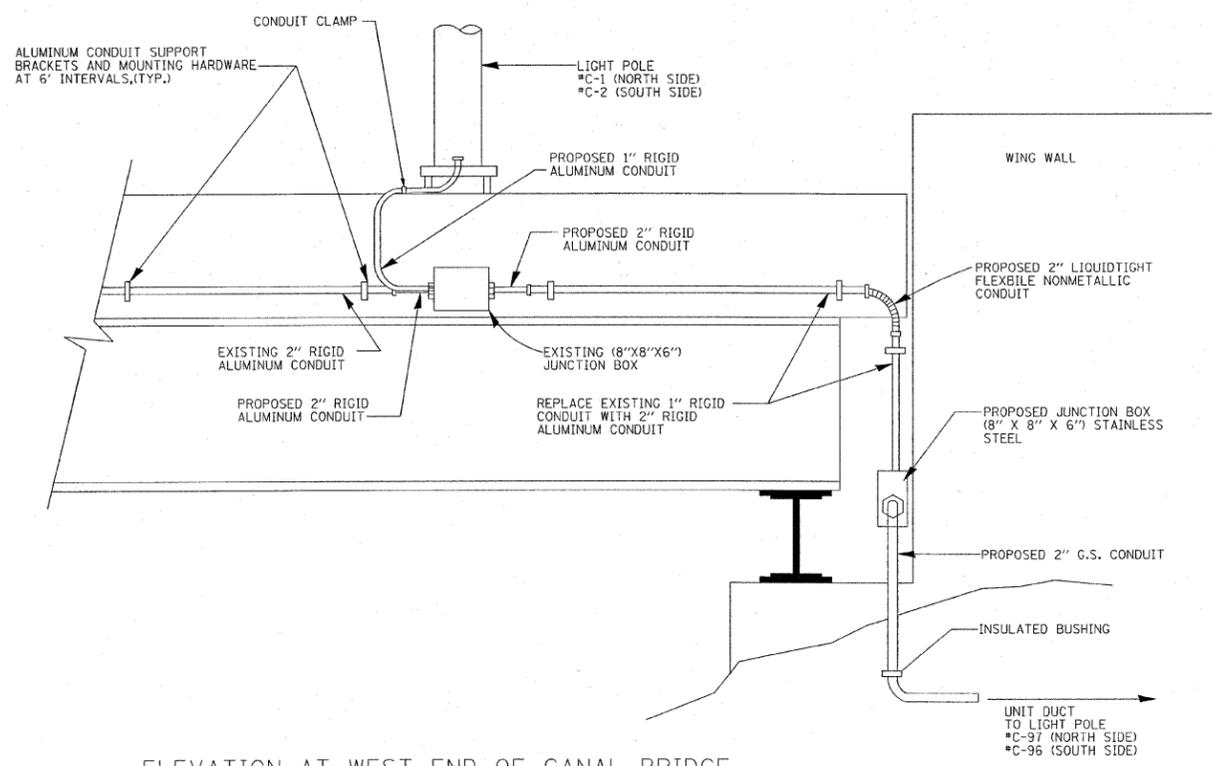
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REVISIONS	
NAME	DATE

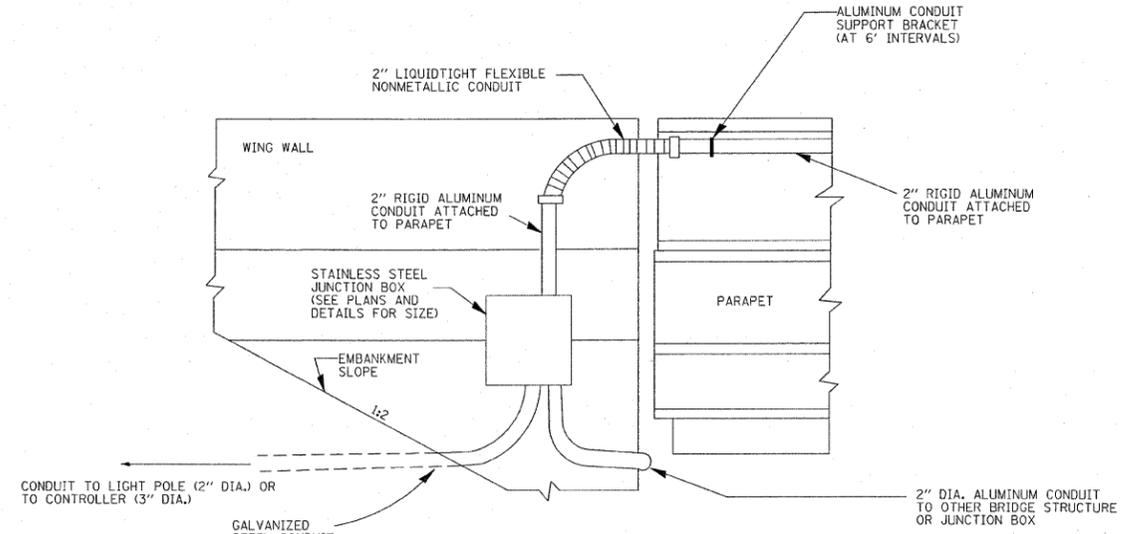
ILLINOIS DEPARTMENT OF TRANSPORTATION
POLE ON BRIDGE MOUNTING AND CONDUIT DETAILS
 FAI ROUTE 270
 SECTION 60-(1,2)L-1
 MADISON COUNTY

SCALE: VERT. DATE
 HORIZ. DRAWN BY
 CHECKED BY

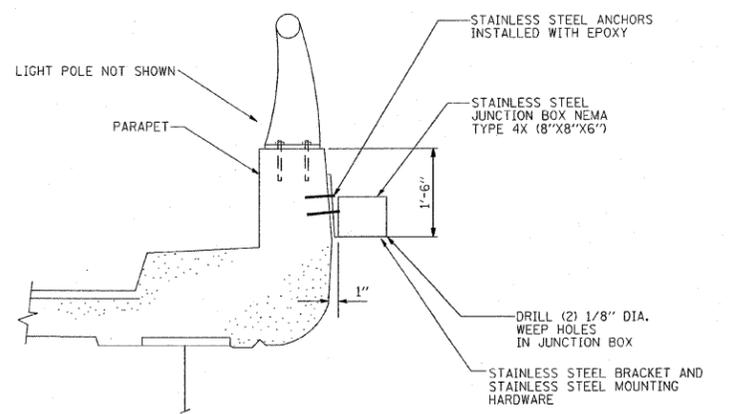
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



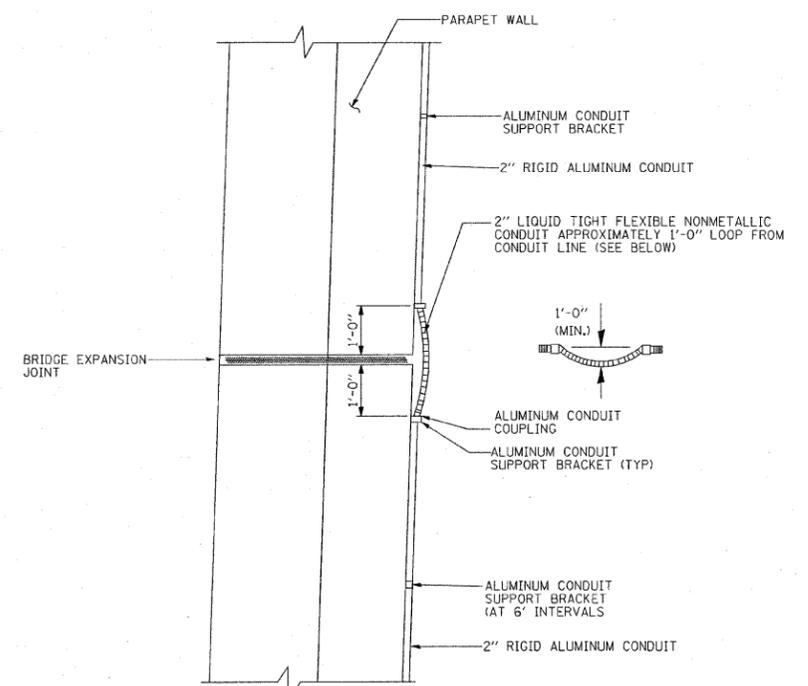
ELEVATION AT WEST END OF CANAL BRIDGE



SECTION AT ABUTMENTS (TYPICAL)



SECTION THRU PARAPET WALL AT POLE FOUNDATION (TYPICAL)



CONDUIT EXPANSION JOINT DETAILS (TYPICAL)

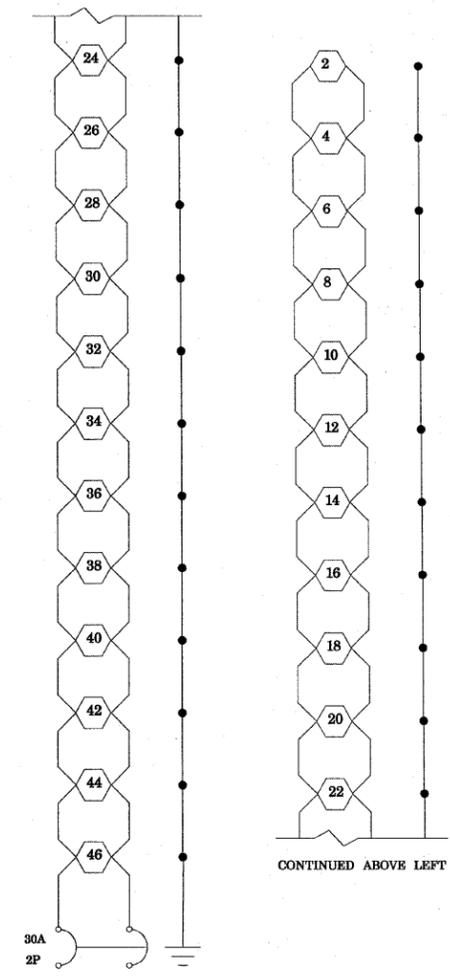
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SCALE = FILEL
USER NAME = USERV

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CONDUIT ON BRIDGES DETAILS
FAI ROUTE 270
SECTION 60-(1,2)L-1
MADISON COUNTY
SCALE: VERT. DATE
 HORIZ. DATE
DRAWN BY
CHECKED BY

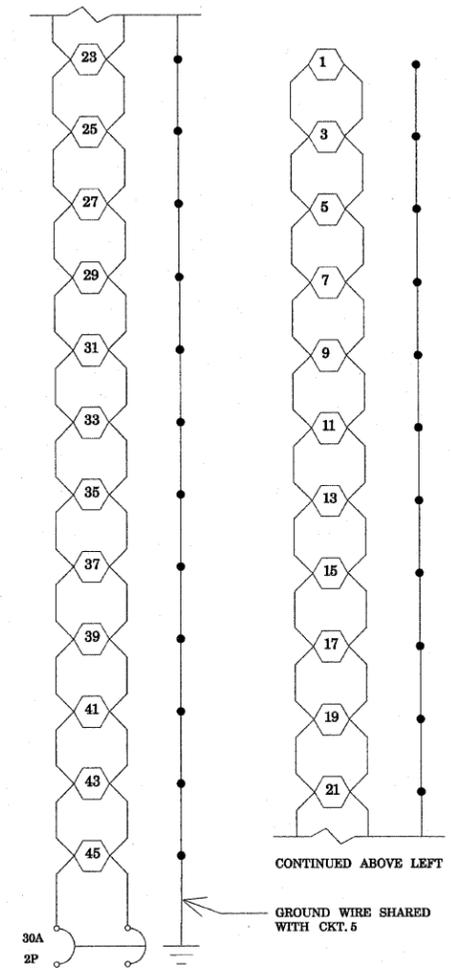
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2) L-1	MADISON	31	15
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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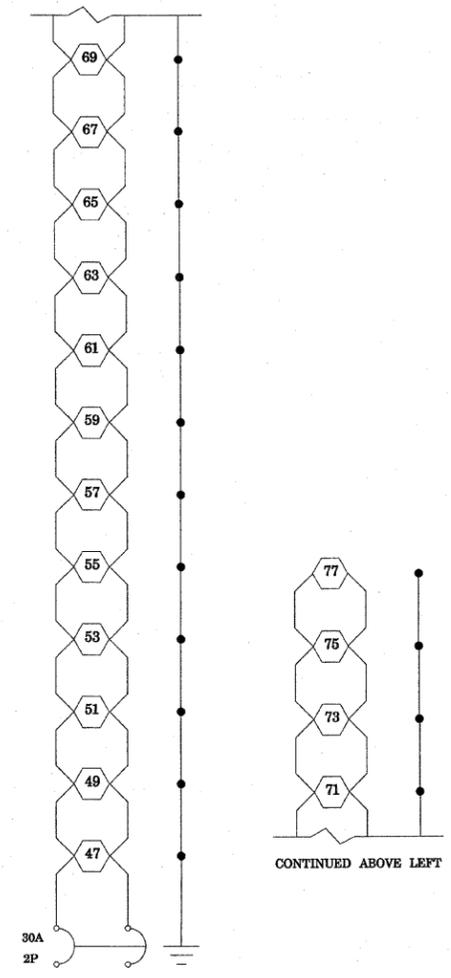
CONTROLLER 1 CKT 1

CONTINUED BELOW RIGHT



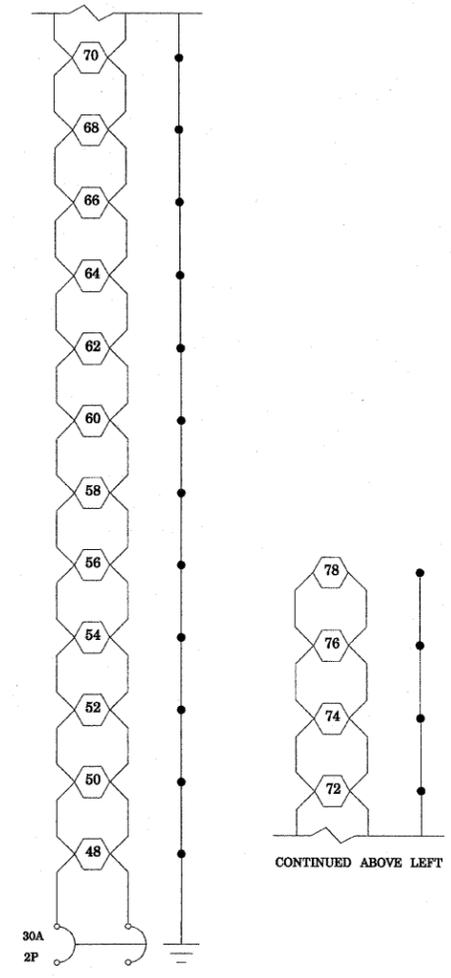
CONTROLLER 1 CKT 2

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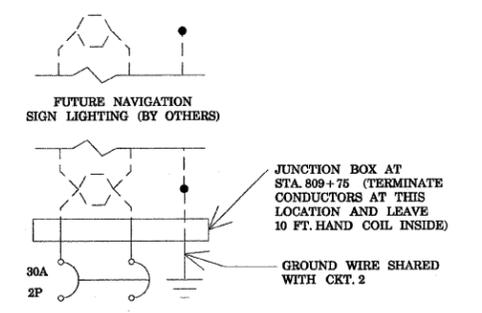


CONTROLLER 1 CKT 3

CONTINUED BELOW RIGHT



CONTROLLER 1 CKT 4



CONTROLLER 1 CKT 5

CONTROLLER 1 AT RIVER BRIDGE WIRING DIAGRAM

NOTES:

- THE THREE GROUND WIRES FROM THE CONTROLLER TO THE RIVER BRIDGE SHALL BE INSTALLED AND CONNECTED AS FOLLOWS:
 ONE FOR THE SOUTH SIDE OF THE RIVER BRIDGE,
 ONE FOR THE NORTH SIDE OF THE RIVER BRIDGE,
 AND ONE FOR THE GROUND MOUNTED POLES ON THE NORTH SIDE OF I-270.

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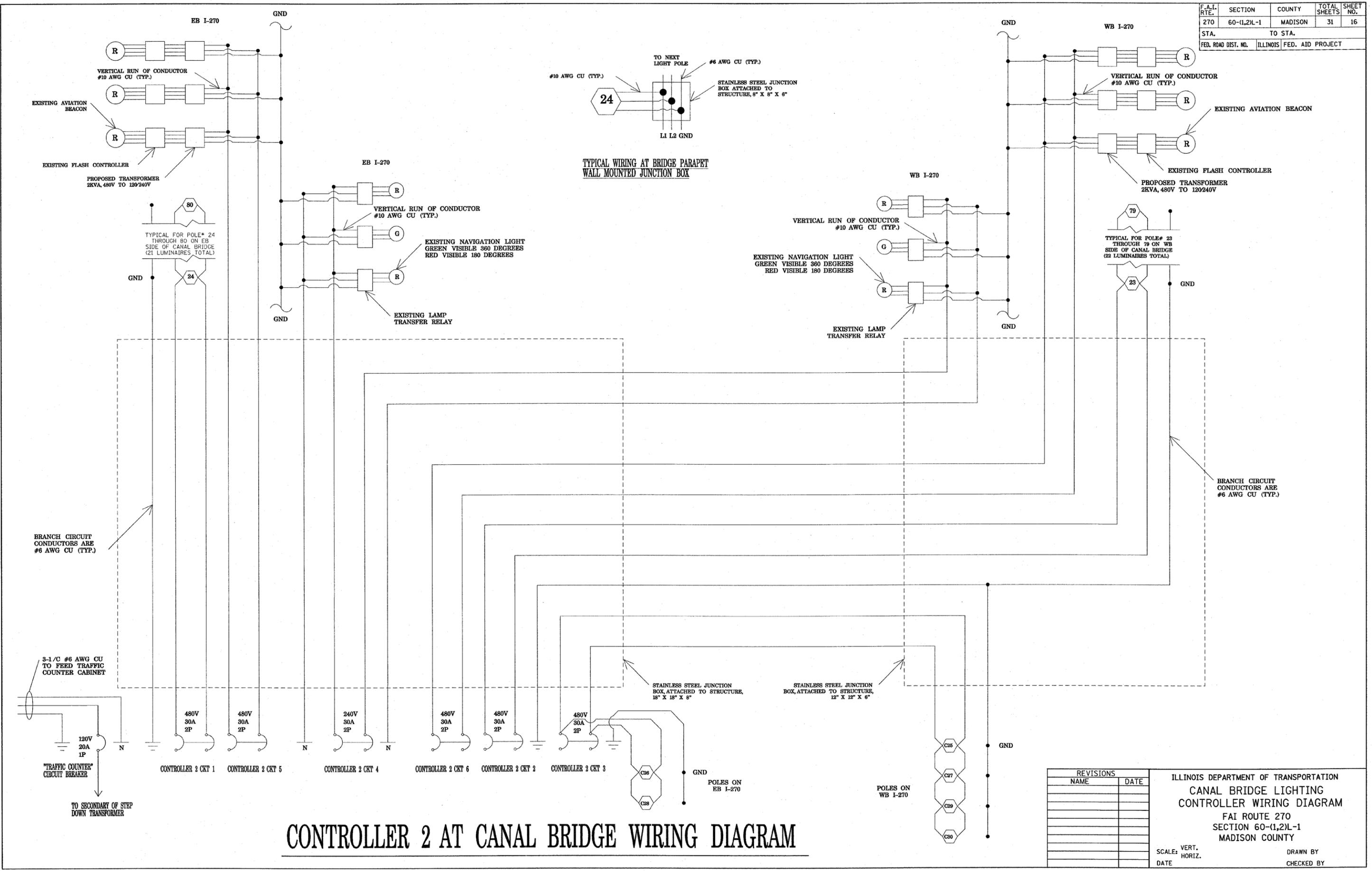
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 RIVER BRIDGE LIGHTING
 CONTROLLER WIRING DIAGRAM
 FAI ROUTE 270
 SECTION 60-(1,2)L-1
 MADISON COUNTY

SCALE: VERT. _____
 HORIZ. _____
 DATE _____

DRAWN BY _____
 CHECKED BY _____

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2)L-1	MADISON	31	16
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TYPICAL WIRING AT BRIDGE PARAPET WALL MOUNTED JUNCTION BOX

CONTROLLER 2 AT CANAL BRIDGE WIRING DIAGRAM

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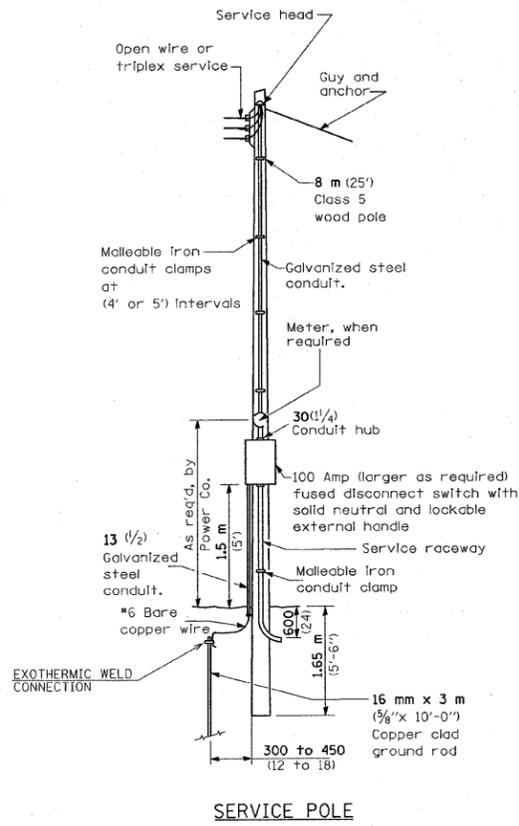
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 CANAL BRIDGE LIGHTING
 CONTROLLER WIRING DIAGRAM
 FAI ROUTE 270
 SECTION 60-(1,2)L-1
 MADISON COUNTY

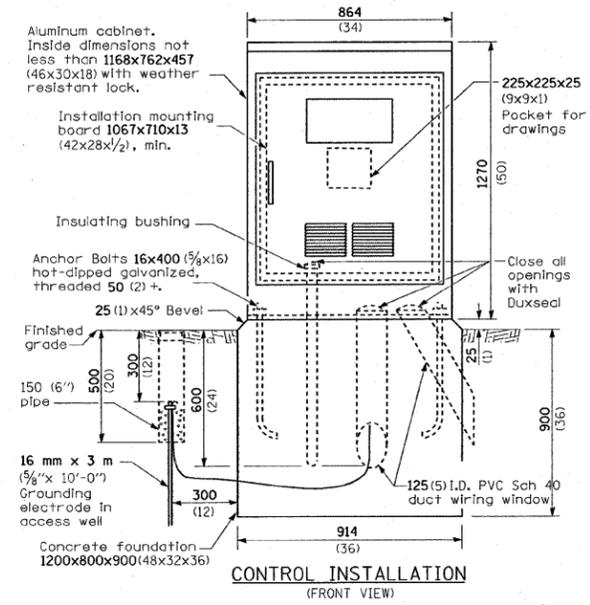
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 DATE _____

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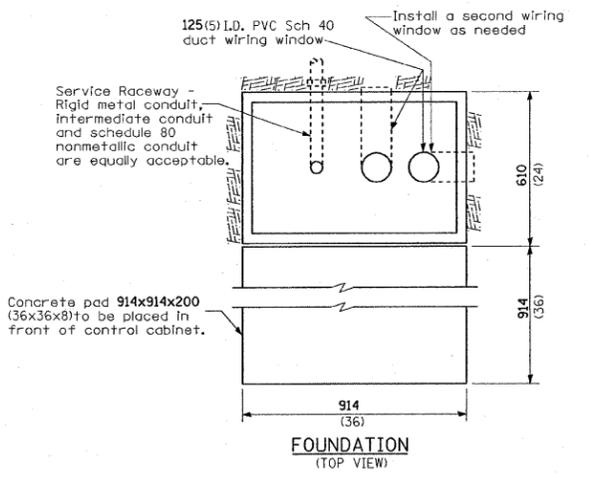
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2)L-1	MADISON	31	17
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



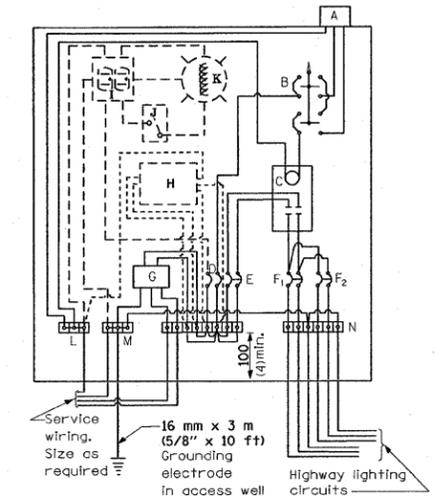
SERVICE POLE



CONTROL INSTALLATION (FRONT VIEW)



FOUNDATION (TOP VIEW)



CONTROL SCHEMATIC (RIVER BRIDGE, CONTROLLER 1)

MATERIALS

- A Photocell w/ Integral surge arrester (remove mount in urban areas)
 - B 3 position selector switch HAND-OFF-AUTO
 - C 100 amp electrically held contactor, 120V operating coil
 - D 15 amp, 1 pole, circuit breaker
 - E 100 amp, 2 pole, main circuit breaker
 - F 30 amp, 2 pole, branch circuit breaker (typ). 2 spare c.b. required but not shown
 - G Surge arrester
 - H Transformer (see notes), 1 KVA, 240/480V primary, 120/240V sec, single phase
 - I GFCI duplex receptacle
 - J Single pole, single throw switch
 - K Shielded security fixture with 100W lamp
 - L Neutral bar
 - M Equipment ground bar
 - N Terminal block (typ)
- (* = Size larger as needed)

GENERAL NOTES

This drawing depicts the basic configuration of the lighting controller. Branch circuit breakers shall be provided and oriented as required by the plan sheets and details.

Locate service pole and control installation adjacent to R.O.W. line with a minimum distance of 9 m (30') from the edge of pavement. Locate in close proximity to the utility transformer so the service drop does not exceed 46 m (150ft) and the total distance of overhead and underground cable (utility transformer to lighting controller) does not exceed 76 m (250ft). Exact location shall be established by the Engineer.

Wiring shall be panel board fashion. All bends shall be right angles. All runs shall vertical or parallel to panel board. Wires shall be grouped or laced.

All control installation components shall be U.L. listed.

Add receptacle, light, and switch in control cabinet.

For 480 V service, a step down transformer (dashed lines) is required.

Raceways shall terminate 75 (3) above top of concrete foundation.

Label equipment ground buss and neutral buss.

RIVER BRIDGE CONTROLLER 1 NOTES:

1. THE CONTACTOR IN CONTROLLER 1 SHALL BE RATED 150 AMP.

- 240 V. SERVICE
- 480 V. SERVICE

All dimensions are in millimeters (Inches) unless otherwise shown.

REVISIONS	
NAME	DATE
Corrected	1/19/06

ILLINOIS DEPARTMENT OF TRANSPORTATION

**CONTROL INSTALLATION
BASE MOUNTED CABINET**

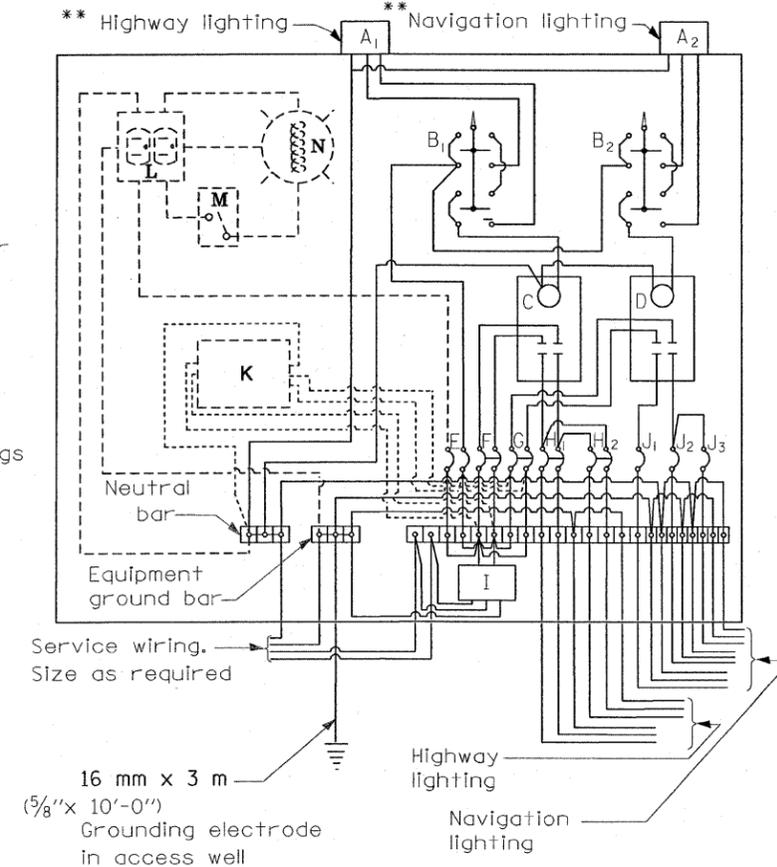
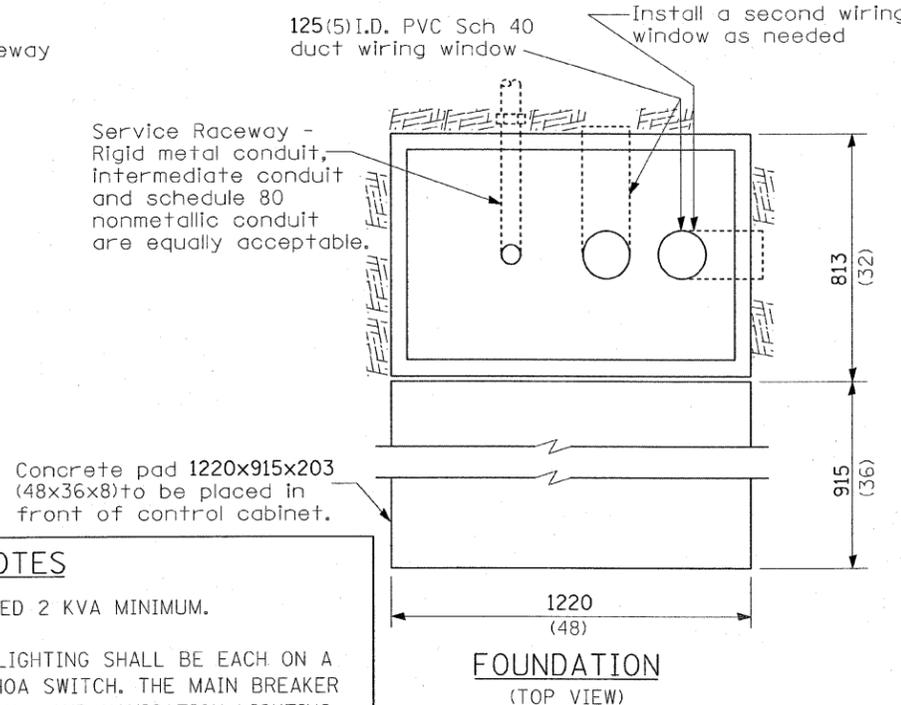
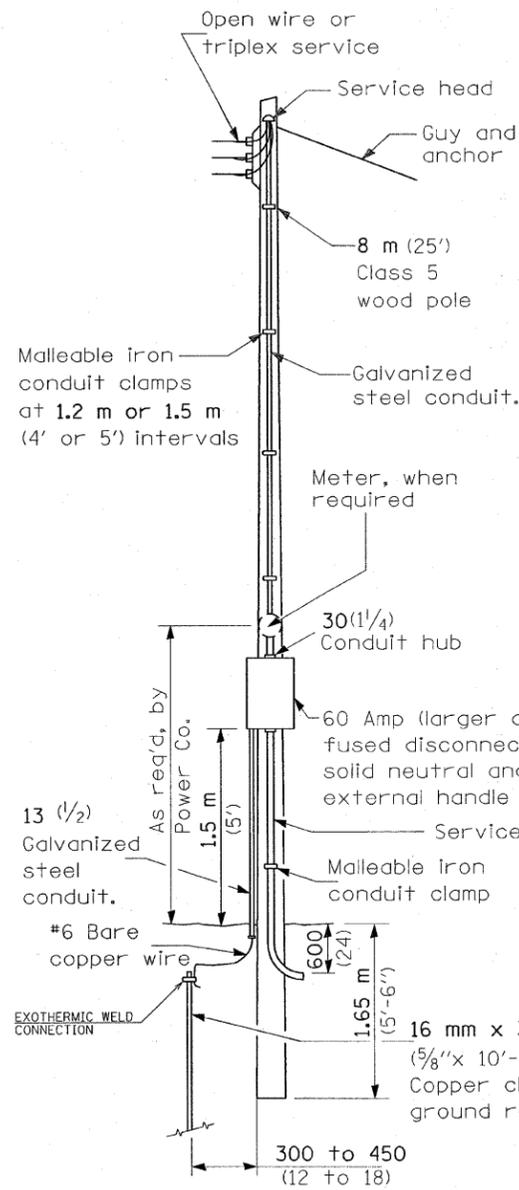
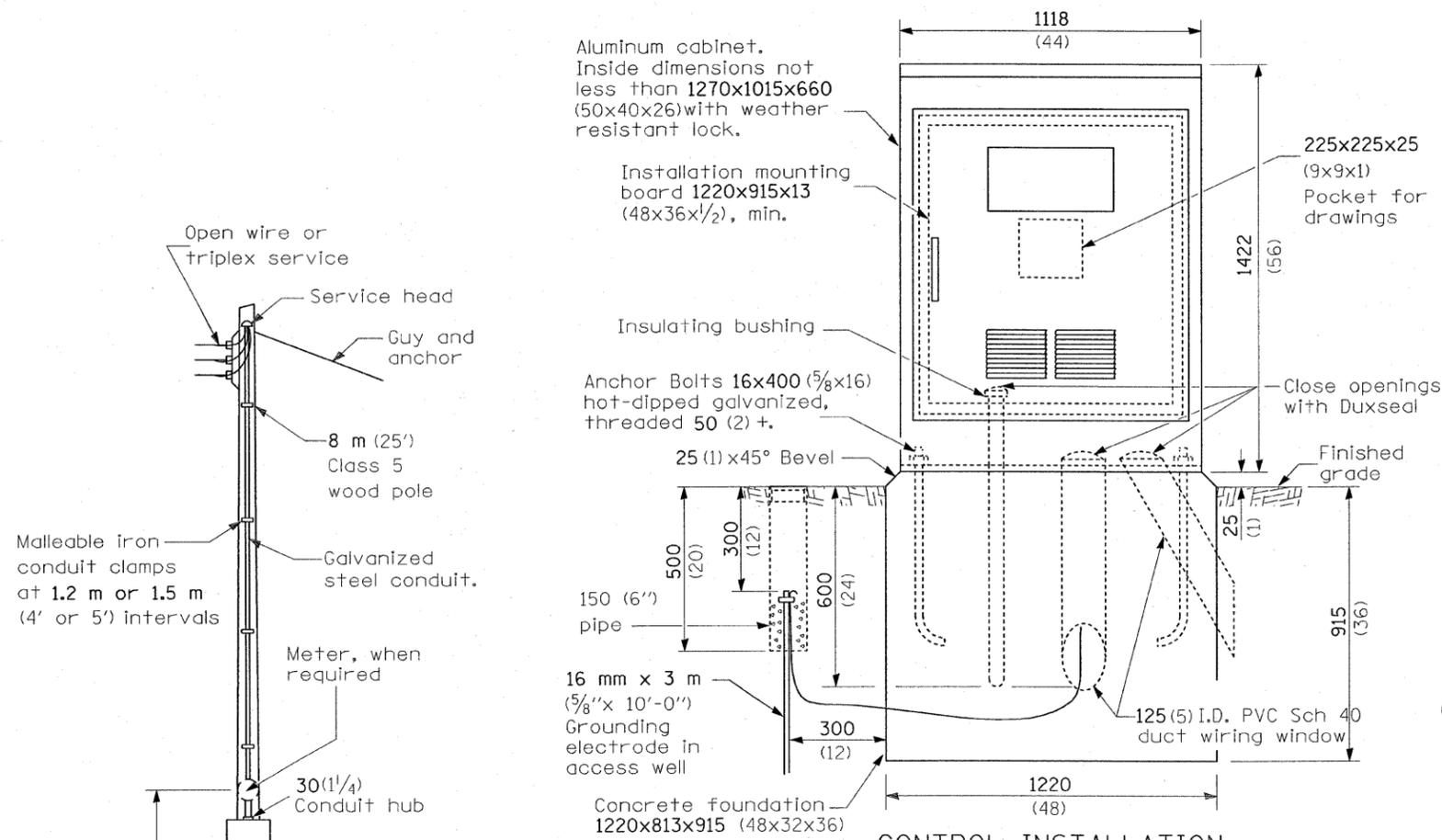
FAI ROUTE 270
SECTION 60-(1,2)L-1
MADISON COUNTY

SCALE: VERT. DRAWN BY
 HORIZ. CHECKED BY

DATE

PLOT DATE = #DATE#
FILE NAME = #FILE#
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2)L-1	MADISON	31	18
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



- A₁ Photocell (remote mount)
 - A₂ In urban areas
 - B₁ 3 position selector switch
 - B₂ 3 position selector switch
 - C, D 60 amp* & 30 amp* electrically held contactors
 - E 15 amp, 1 pole, circuit breaker
 - F 60 amp*, 2 pole, main circuit breaker
 - G 30 amp*, 2 pole, main circuit breaker
 - H 30 amp*, 2 pole, branch circuit breaker
 - I Surge arrester
 - J 20 amp*, single pole circuit breaker
 - K Transformer (see notes), 1 KVA*, 240/480V primary, 120/240V sec, single phase
 - L GFCI duplex receptacle
 - M Single pole, single throw switch
 - N Shielded security fixture with 100W lamp
- (* = Size larger as needed)

GENERAL NOTES

This drawing depicts the basic configuration of the lighting controller. Branch circuit breakers shall be provided and oriented as required by the plan sheets and details.

Wiring shall be panel board fashion. All bends shall be right angles. All runs shall vertical or parallel to panel board. Wires shall be grouped or laced.

All control installation components shall be U.L. listed.

Label equipment ground and neutral.

Locate service pole and control installation adjacent to R.O.W. line with a minimum distance of 9 m (30') from the edge of pavement. Exact location shall be established by the Engineer.

The underground service entrance wiring shall not exceed 46 m (150'). Total aerial and underground service between the control installation and primary transformer shall not exceed 76 m (250').

Raceways shall terminate 75 (3) above top of concrete foundation.

For 480 V service, a step down transformer (dashed lines) is required.

Add receptacle, light, and switch in control cabinet.

Two (2) spare branch breakers are required but are not shown.

All dimensions are in millimeters (inches) unless otherwise shown.

CANAL BRIDGE CONTROLLER 2 NOTES

1. THE STEP DOWN TRANSFORMER SHALL BE SIZED 2 KVA MINIMUM.
2. THE ROADWAY, AVIATION, AND NAVIGATION LIGHTING SHALL BE EACH ON A SEPERATE MAIN BREAKER, CONTACTOR AND HOA SWITCH. THE MAIN BREAKER AND CONTACTOR FOR THE ROADWAY, AVIATION, AND NAVIGATION LIGHTING SHALL BE RATED EACH AT 60 AMP., 60 AMP., AND 30 AMP. RESPECTIVELY.

- 240 V. SERVICE
- 480 V. SERVICE

REVISIONS	
NAME	DATE
Corrected	1/18/06

ILLINOIS DEPARTMENT OF TRANSPORTATION

CONTROL INSTALLATION

DUAL VOLTAGE CIRCUITS

FAI ROUTE 270

SECTION 60-(1,2)L-1

MADISON COUNTY

SCALE: VERT. DATE

HORIZ. DATE

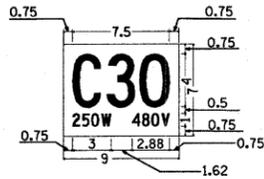
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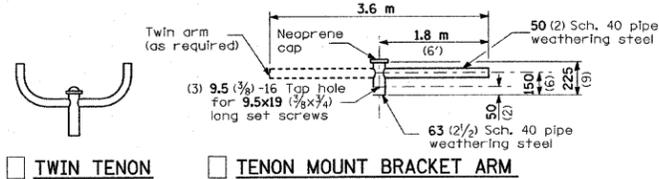
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2)L-1	MADISON	31	19
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

No border, Black on White;
[C30] C 52 spacing; [250W] C; [480V] C.



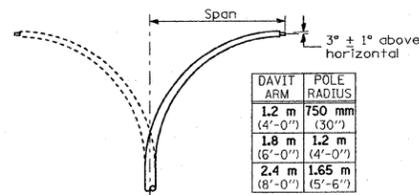
The contractor shall furnish and install a light pole identification of each new light pole, as shown above, and conforming to the requirements of Section 830 and Article 1069.06 of the Standard Specifications.

The light pole identification panel shall be mounted, approximately 7 FT. above the adjacent pavement grade visible to approaching traffic.

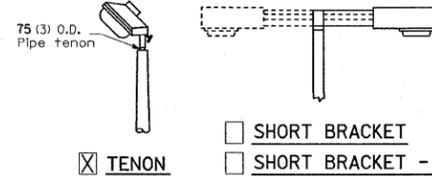
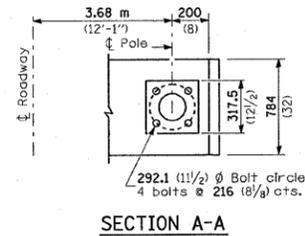
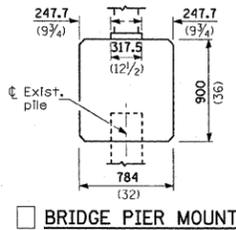
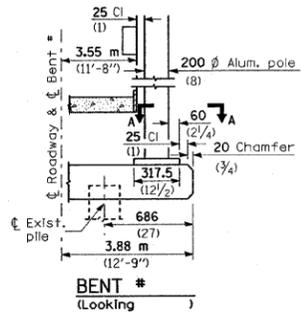


TWIN TENON TENON MOUNT BRACKET ARM

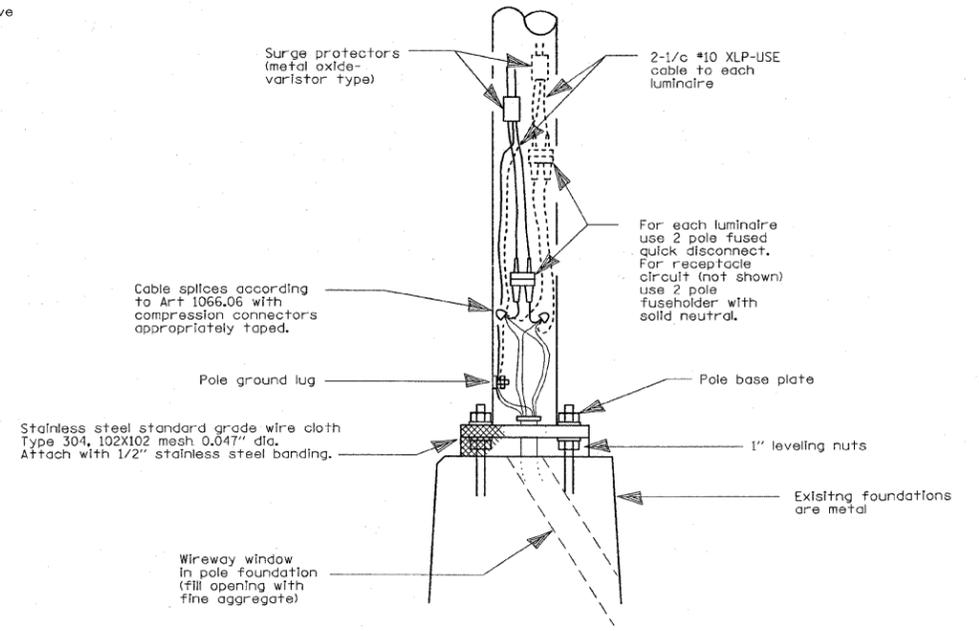
NOTE: Single or twin arm assembly shall be tilted 3° above horizontal.



DAVITT ARM (and or)
 DAVITT ARM-TWIN

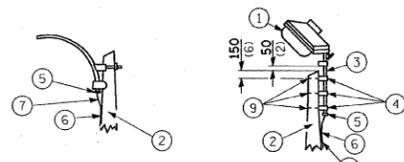


TENON SHORT BRACKET
 SHORT BRACKET - TWIN



POLE BASE WIRING DETAIL

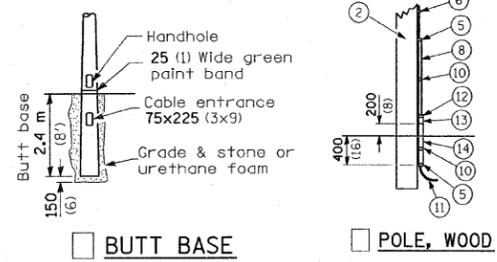
NOT TO SCALE



MAST ARM

TENON

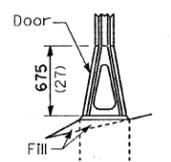
- 1 Luminaire
- 2 Wood pole, class 3 or better
- 3 63 (2 1/2) Galv. steel conduit
- 4 Single offset pole band
- 5 Conduit bushing
- 6 Cable clamps on 600 (24) centers
- 7 2/c #12 Type use cable
- 8 25 (1) Galv. steel conduit 3.0 m (10') in length
- 9 16 (5/8) ø hot dipped galvanized bolt with flat washer & locknut (3 req'd)
- 10 Conduit clamps on 900 (36) centers
- 11 Unit duct
- 12 Threaded reducer
- 13 "C" Condulet, threaded
- 14 40 (1 1/2) Galv. steel conduit for 1 unit duct or 75 (3) galv. steel conduit for 2 or 3 unit ducts.



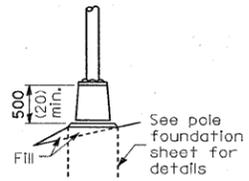
BUTT BASE

POLE, WOOD

POLE LENGTH	DEPTH IN GROUND
19.8 m (65')	3.6 m (12')
18.0 m (60')	3.0 m (10')
16.8 m (55')	2.7 m (9')
16.0 m (50')	2.4 m (8')
13.7 m (45')	2.1 m (7')
12.0 m (40')	2.0 m (6.5')
10.7 m (35')	1.8 m (6')
9.0 m (30')	1.7 m (5.5')

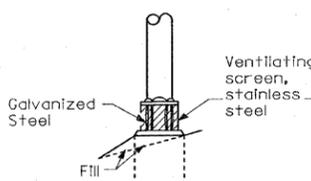


STAINLESS STEEL FLAIR BASE

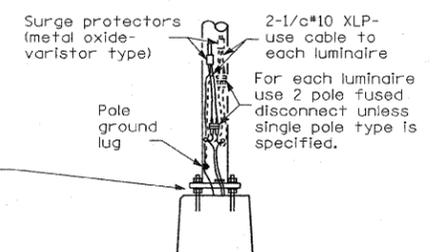


TRANSFORMER BASE

FRANGIBLE



BREAKAWAY COUPLING (One Pole Only)



ANCHOR

METAL OR CONCRETE

Details for underground distribution if required

All dimensions are in millimeters (inches) unless otherwise shown.

REVISIONS	
NAME	DATE

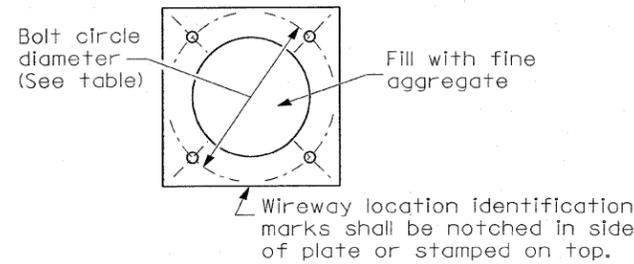
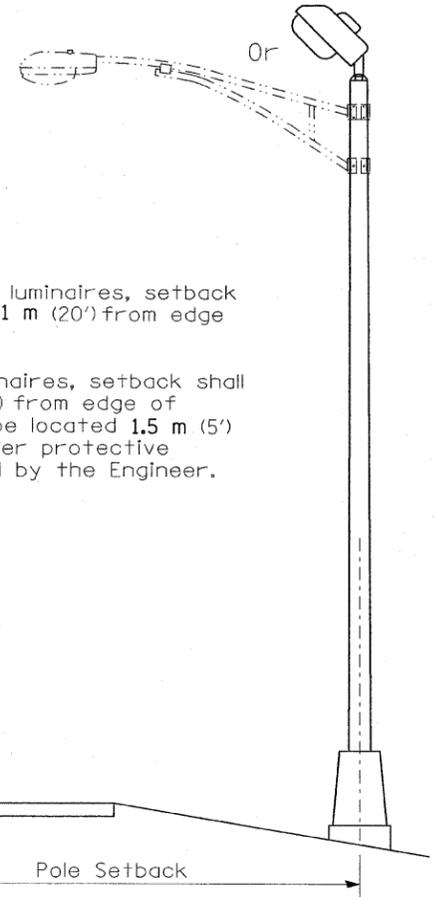
ILLINOIS DEPARTMENT OF TRANSPORTATION
POLE STANDARDS
FAI ROUTE 270
SECTION 60-(1,2)L-1
MADISON COUNTY
SCALE: VERT. HORIZ. DATE
DRAWN BY CHECKED BY

PLOT DATE = 08/15/00
DATE = 08/15/00
PLOT SCALE = 0.5000
REFERENCE = 08/15/00

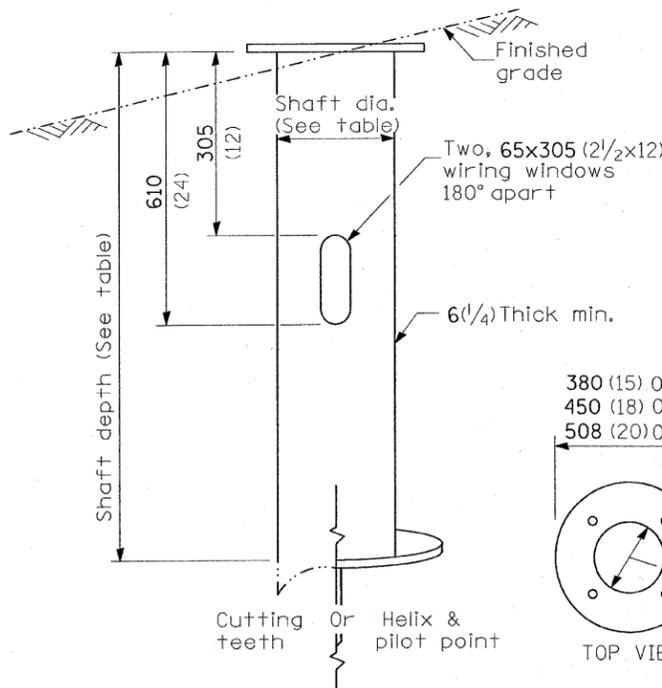
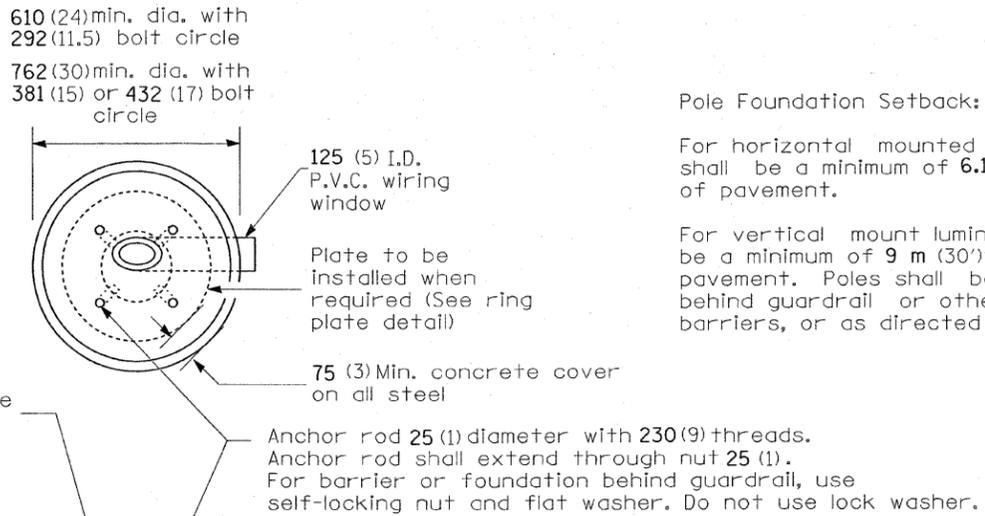
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60-(1,2)L-1	MADISON	31	20
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

LIGHT POLE MOUNTING HEIGHT	BOLT CIRCLE DIAMETER	STEEL FOUNDATION			CONCRETE FOUNDATION		
		SHAFT DIAMETER	SHAFT DEPTH	TOP PLATE (min)	SHAFT DIAMETER	SHAFT DEPTH	ANCHOR ROD LENGTH ①
<9.1 m (30')	292 (11.5)	220 (8 5/8)	1.83 m (6')	300 x 300 x 25 12 x 12 x 1	610 (24)	1.52 m (5'-0")	1.45 m (4'-9")
9.4 m - 10.7 m (31'-35')	292 (11.5)	220 (8 5/8)	1.83 m (6')	300 x 300 x 25 12 x 12 x 1	610 (24)	1.67 m (5'-6")	1.60 m (5'-3")
10.9 m - 12.2 m (36'-40')	381 (15) ③	220 (8 5/8)	1.83 m (6') ②	375 x 375 x 31 15 x 15 x 1 1/4	762 (30)	1.83 m (6'-0")	1.75 m (5'-9")
12.5 m - 13.7 m (41'-45')	381 (15) ③	220 (8 5/8)	1.83 m (6') ②	375 x 375 x 31 15 x 15 x 1 1/4	762 (30)	1.98 m (6'-6")	1.90 m (6'-3")
14.0 m - 15.2 m (46'-50')	381 (15) ③	220 (8 5/8)	2.44 m (8')	375 x 375 x 31 15 x 15 x 1 1/4	762 (30)	2.13m (7'-0")	2.00 m (6'-9")

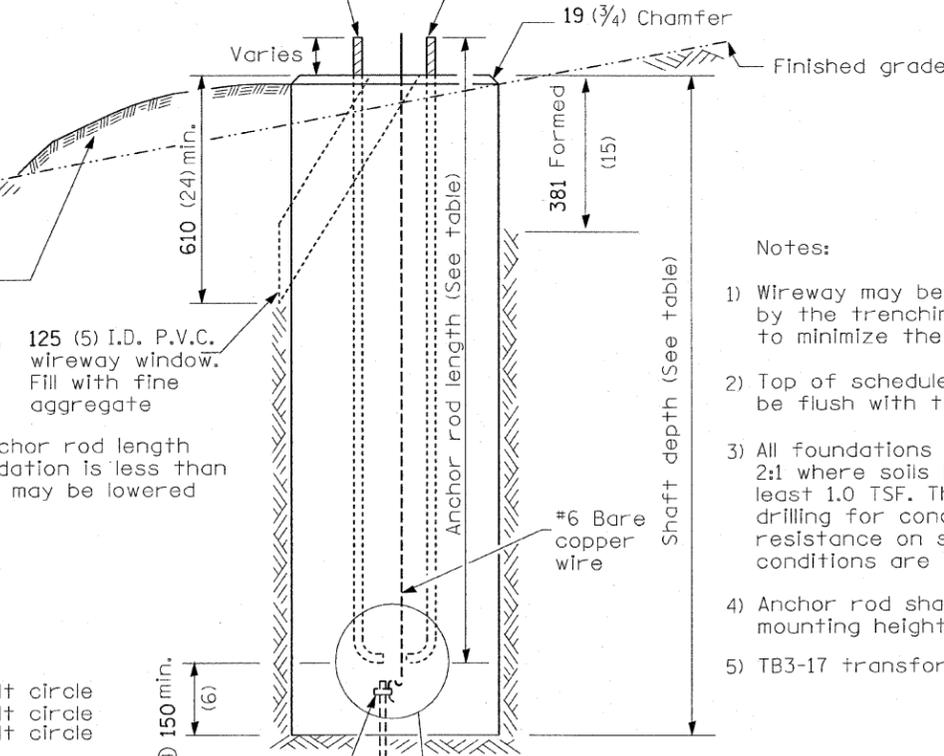
- ① Length does not include 100(4)hook
- ② 220 mm x 2.44 m (8 5/8" x 8'-0") for Twin luminaires
- ③ Bolt circle diam. shall be 430 (17) when a TB3-17 transformer base is used



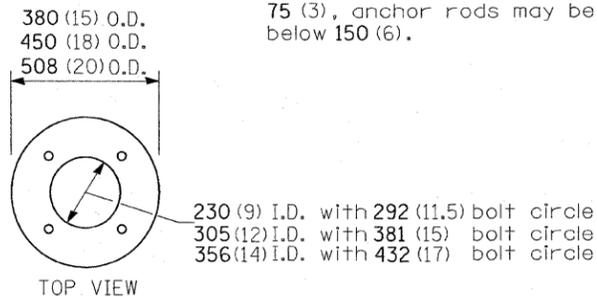
Length above foundation shall be adjusted to accommodate breakaway devices furnished by the contractor for a specific installation.



Use dirt removed from foundation to meet 1.52m (5 ft.) chord fill around foundation top. Grade dirt level with bottom of concrete chamfer.



- ④ If the required anchor rod length above top of foundation is less than 75 (3), anchor rods may be lowered below 150 (6).



RING PLATE DETAIL
(When rock is encountered and foundation is shallower)

Cast bronze clamp

16 mm x 3 m (5/8" x 10')

Copperclad grounding electrode. When foundation is set in rock, install ground electrode in cable trench.

CONCRETE FOUNDATION

Notes:

- 1) Wireway may be on front, back or side of foundation as required by the trenching. Place door of transformer base on wireway side to minimize the number of unit duct bends.
- 2) Top of schedule 40 125 (5) I.D. PVC wiring window, shall be flush with the top of foundation for drainage.
- 3) All foundations are designed to be located on slopes not exceeding 2:1 where soils have an unconfined compressive strength of at least 1.0 TSF. The contractor shall verify the soil strength during drilling for concrete foundations or by monitoring installation resistance on steel foundations and notify the engineer if other conditions are encountered.
- 4) Anchor rod shall be increased to 31 (1 1/4) diameter for 15.24 (50') mounting height or above.
- 5) TB3-17 transformer base is not to be used on metal foundation

All dimensions are in millimeters (inches) unless otherwise shown.

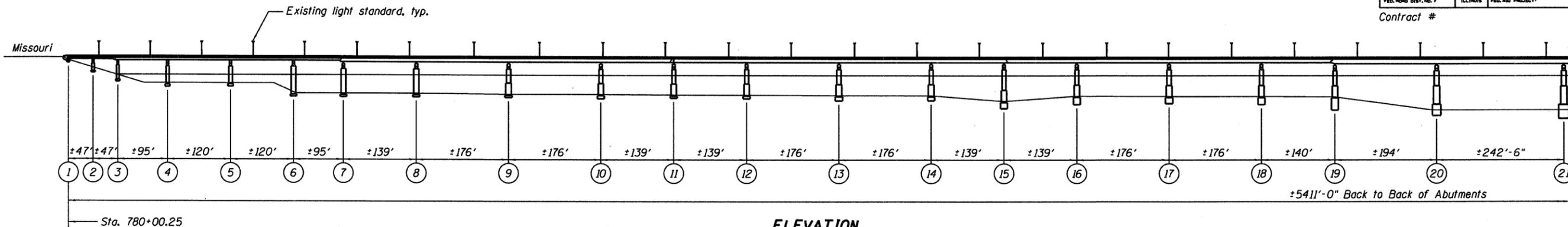
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
Bridge Office depth calc.	10/7/02	LIGHT POLE FOUNDATION
		FAI ROUTE 270
		SECTION 60-(1,2)L-1
		MADISON COUNTY
		SCALE: VERT. HORIZ. DATE
		DRAWN BY CHECKED BY

PLOT DATE = #DATE#
PLOT SCALE = #SCALE#
REFERENCE = #REF#

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1 6 SHEETS
F.A.I. 270	60B-1-3	MADISON	31	22	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

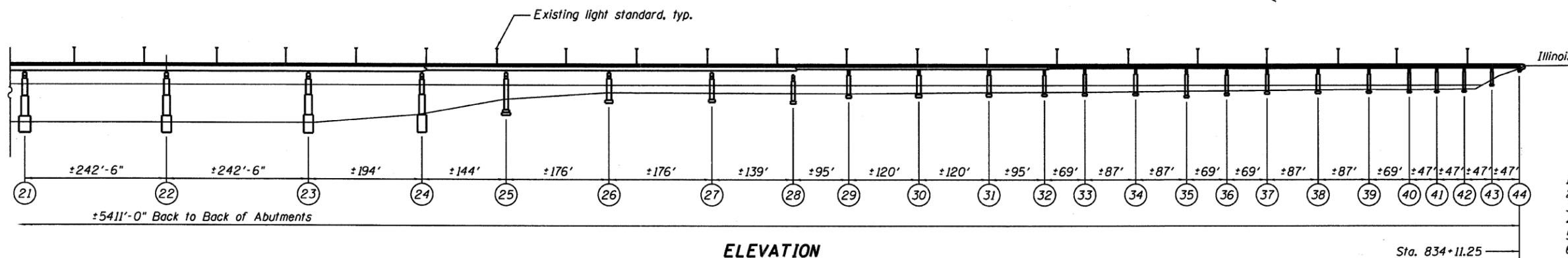
Contract #



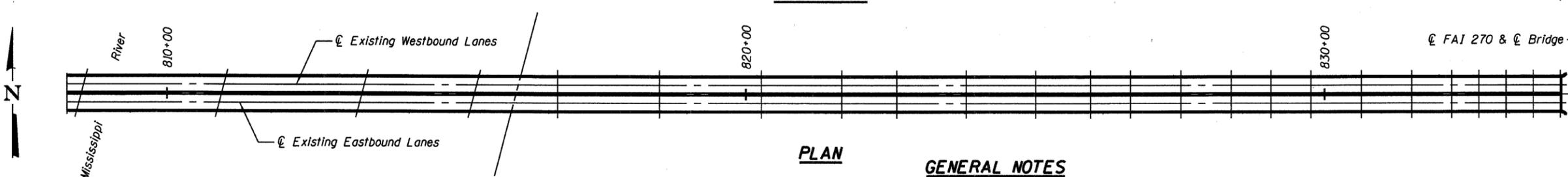
ELEVATION



PLAN



ELEVATION



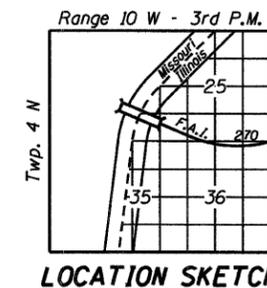
PLAN

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions
Reinforcement bars designated (E) shall be epoxy coated.
Plan dimensions and details are subject to routine 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 based upon the unit price bid for the work.
All structural work shall be coordinated with the work shown in the electrical plans.
Bridge lighting shall remain operational during construction.
Replacement of anchors at existing railing post shall be included with CONCRETE SUPERSTRUCTURE.
Furnish and install coupling nuts and bolt extensions, together with cutting and rethreading of existing anchor bolts, shall be included with CONCRETE SUPERSTRUCTURE.
Epoxy grouting for reinforcement bars shall be included with REINFORCEMENT BARS, EPOXY COATED.

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 Light Standard Support Locations - 1
- 3 Light Standard Support Locations - 2
- 4 Light Standard Support Locations - 3
- 5 Light Standard Support Details - 1
- 6 Light Standard Support Details - 2



Proposed Improvements:
Existing light standard concrete supports are to be repaired at each location. All structural work shall be coordinated with the work in the electrical plans.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	7.1
Concrete Superstructure	Cu. Yd.	7.1
Reinforcement Bars, Epoxy Coated	Pound	519
Anchor Bolt 1" ϕ	Each	56



DESIGNED	MEL
CHECKED	DWP
DRAWN	PRC
CHECKED	MEL

EXAMINED	200
PASSED	ENGINEER OF BRIDGE DESIGN
	ENGINEER OF BRIDGES AND STRUCTURES



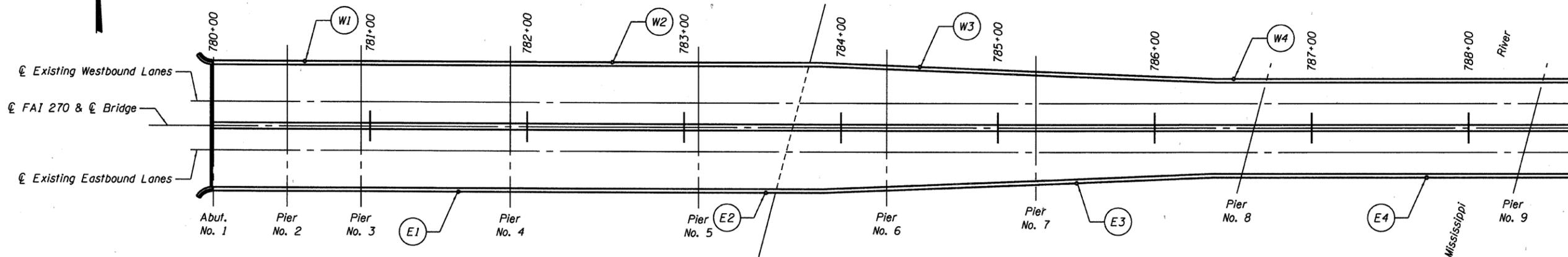
DAVID W. PETERMEIER
EDWARDSVILLE, ILLINOIS
ILLINOIS LICENSED STRUCTURAL
ENGINEER NO. 081-005642
EXPIRES NOV. 30, 2008

GENERAL PLAN AND ELEVATION
I-270 OVER MISSISSIPPI RIVER
AT CHAIN OF ROCKS
F.A.I. ROUTE 270 - SECTION 60B-1-3
MADISON COUNTY
STATION 780+00.25
STRUCTURE NO. 060-0035

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

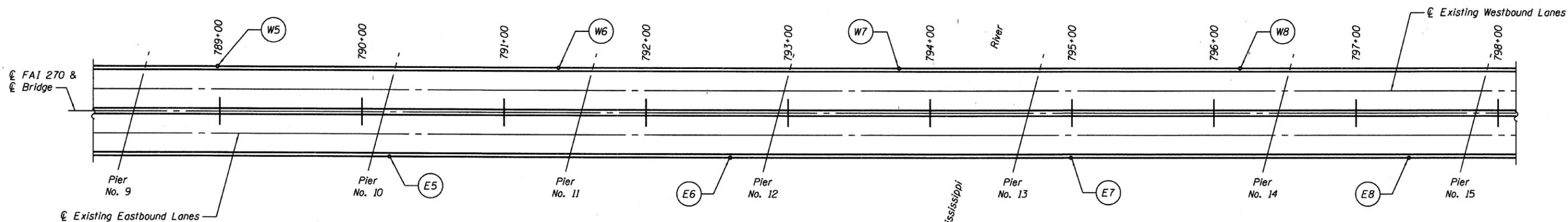
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F.A.I. 270	60B-1-3	MADISON	31	23	6 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #



PARTIAL PLAN - ABUTMENT NO. 1 TO PIER NO. 9

Light Standard Support Modification
Item No. For description of modification see Table "A".



PARTIAL PLAN - PIER NO. 9 TO PIER NO. 15

Light Standard Support Modification
Item No. For description of modification see Table "A".

Note:
For details associated with work to be done,
see Sheet 5 of 6 and Sheet 6 of 6.

TABLE "A"

ITEM	ROADWAY	PARAPET	STATION	MODIFICATION DESCRIPTION
W1	W.B.	North	780+60	Type A Conc. Removal and Replacement at Light Std.
W2	W.B.	North	782+56	Type A Conc. Removal and Replacement at Light Std.
W3	W.B.	North	784+52	Type A Conc. Removal and Replacement at Light Std.
W4	W.B.	North	786+52	Type B Conc. Removal and Replacement at Light Std.
W5	W.B.	North	789+00	Type A Conc. Removal and Replacement at Light Std.
W6	W.B.	North	791+40	Type A Conc. Removal and Replacement at Light Std.
W7	W.B.	North	793+80	Type A Conc. Removal and Replacement at Light Std.
W8	W.B.	North	796+20	Type A Conc. Removal and Replacement at Light Std.
E1	E.B.	South	781+58	Type B Conc. Removal and Replacement at Light Std.
E2	E.B.	South	783+54	Type A Conc. Removal and Replacement at Light Std.
E3	E.B.	South	785+52	Type A Conc. Removal and Replacement at Light Std.
E4	E.B.	South	787+75	Type A Conc. Removal and Replacement at Light Std.
E5	E.B.	South	790+21	Type B Conc. Removal and Replacement at Light Std.
E6	E.B.	South	792+61	Type B Conc. Removal and Replacement at Light Std.
E7	E.B.	South	795+01	Type A Conc. Removal and Replacement at Light Std.
E8	E.B.	South	797+39	Type C Conc. Removal and Replacement at Light Std.

DESIGNED	MEL
CHECKED	DWP
DRAWN	PRC
CHECKED	MEL

EXAMINED	200
PASSED	ENGINEER OF BRIDGE DESIGN
	ENGINEER OF BRIDGES AND STRUCTURES

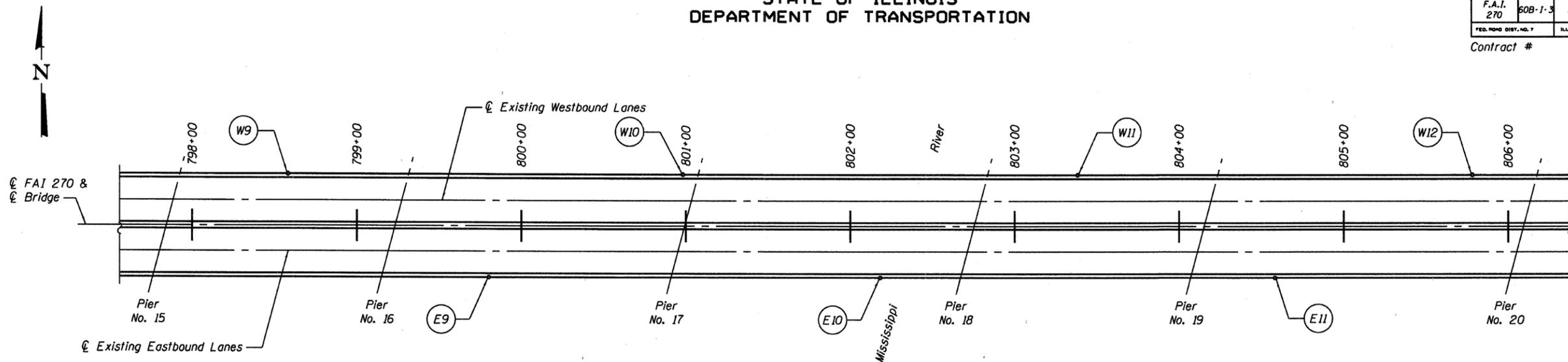


**LIGHT STANDARD
SUPPORT LOCATIONS - 1
I-270 OVER MISSISSIPPI RIVER
AT CHAIN OF ROCKS
F.A.I. ROUTE 270 - SECTION 60B-1-3
MADISON COUNTY
STATION 780+00.25
STRUCTURE NO. 060-0035**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

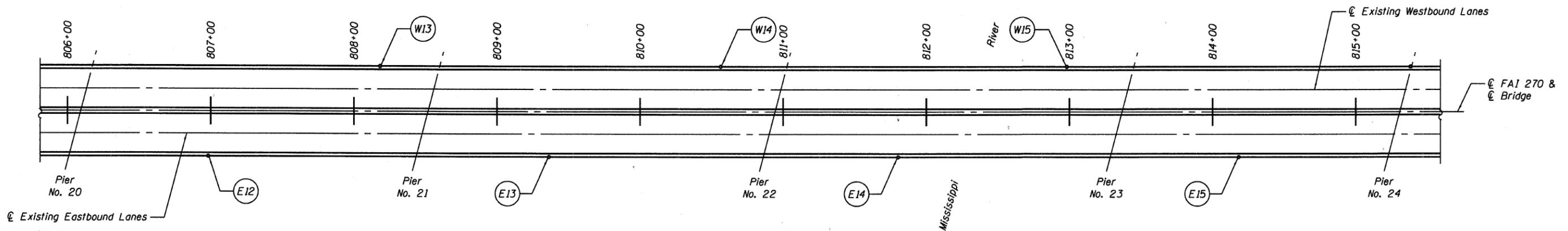
ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO. 3 6 SHEETS
F.A.I. 270	60B-1-3	MADISON	31	24	
FED. ROAD DIST. NO. 7	ILL. PROJ.	FED. AID PROJECT			

Contract #



PARTIAL PLAN - PIER NO. 15 TO PIER NO. 20

Item No.  Light Standard Support Modification
For description of modification see Table "A".



PARTIAL PLAN - PIER NO. 20 TO PIER NO. 24

Item No.  Light Standard Support Modification
For description of modification see Table "A".

Note:
For details associated with work to be done,
see Sheet 5 of 6 and Sheet 6 of 6.

TABLE "A"

ITEM	ROADWAY	PARAPET	STATION	MODIFICATION DESCRIPTION
W9	W.B.	North	798+60	Type A Conc. Removal and Replacement at Light Std.
W10	W.B.	North	801+00	Type A Conc. Removal and Replacement at Light Std.
W11	W.B.	North	803+40	Type A Conc. Removal and Replacement at Light Std.
W12	W.B.	North	805+80	Type A Conc. Removal and Replacement at Light Std.
W13	W.B.	North	808+20	Type A Conc. Removal and Replacement at Light Std.
W14	W.B.	North	810+58	Type A Conc. Removal and Replacement at Light Std.
W15	W.B.	North	813+00	Type A Conc. Removal and Replacement at Light Std.
E9	E.B.	South	799+82	Type A Conc. Removal and Replacement at Light Std.
E10	E.B.	South	802+20	Type C Conc. Removal and Replacement at Light Std.
E11	E.B.	South	804+60	Type A Conc. Removal and Replacement at Light Std.
E12	E.B.	South	807+00	Type C Conc. Removal and Replacement at Light Std.
E13	E.B.	South	809+38	Type A Conc. Removal and Replacement at Light Std.
E14	E.B.	South	811+82	Type C Conc. Removal and Replacement at Light Std.
E15	E.B.	South	814+20	Type A Conc. Removal and Replacement at Light Std.

DESIGNED	MEL
CHECKED	DWP
DRAWN	PRC
CHECKED	MEL

200
EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

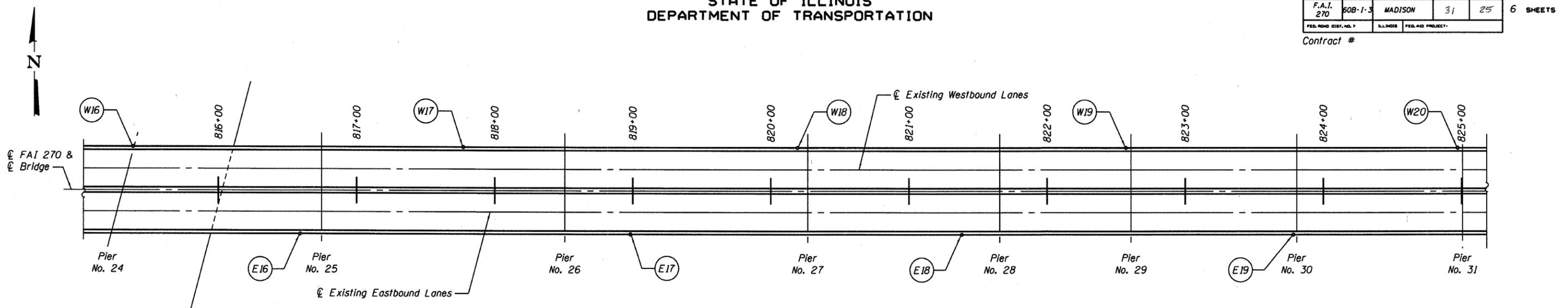


**LIGHT STANDARD
SUPPORT LOCATIONS - 2
1-270 OVER MISSISSIPPI RIVER
AT CHAIN OF ROCKS
F.A.I. ROUTE 270 - SECTION 60B-1-3
MADISON COUNTY
STATION 780+00.25
STRUCTURE NO. 060-0035**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

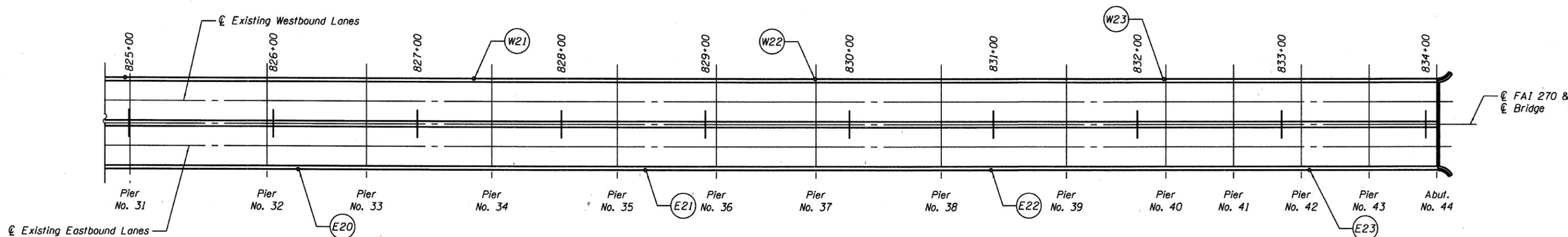
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F.A.I. 270	60B-1-3	MADISON	31	25	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #



PARTIAL PLAN - PIER NO. 24 TO PIER NO. 31

Light Standard Support Modification
Item No. _____ For description of modification see Table "A".



PARTIAL PLAN - PIER NO. 31 TO ABUTMENT NO. 44

Light Standard Support Modification
Item No. _____ For description of modification see Table "A".

Note:
For details associated with work to be done,
see Sheet 5 of 6 and Sheet 6 of 6.

TABLE "A"

ITEM	ROADWAY	PARAPET	STATION	MODIFICATION DESCRIPTION
W16	W.B.	North	815+40	Type C Conc. Removal and Replacement at Light Std.
W17	W.B.	North	817+79	Type A Conc. Removal and Replacement at Light Std.
W18	W.B.	North	820+21	Type A Conc. Removal and Replacement at Light Std.
W19	W.B.	North	822+59	Type A Conc. Removal and Replacement at Light Std.
W20	W.B.	North	824+99	Type A Conc. Removal and Replacement at Light Std.
W21	W.B.	North	827+41	Type A Conc. Removal and Replacement at Light Std.
W22	W.B.	North	829+78	Type B Conc. Removal and Replacement at Light Std.
W23	W.B.	North	832+20	Type A Conc. Removal and Replacement at Light Std.
E16	E.B.	South	816+61	Type A Conc. Removal and Replacement at Light Std.
E17	E.B.	South	819+00	Type C Conc. Removal and Replacement at Light Std.
E18	E.B.	South	821+40	Type C Conc. Removal and Replacement at Light Std.
E19	E.B.	South	823+80	Type A Conc. Removal and Replacement at Light Std.
E20	E.B.	South	826+19	Type C Conc. Removal and Replacement at Light Std.
E21	E.B.	South	828+60	Type A Conc. Removal and Replacement at Light Std.
E22	E.B.	South	831+00	Type B Conc. Removal and Replacement at Light Std.
E23	E.B.	South	833+41	Type A Conc. Removal and Replacement at Light Std.

DESIGNED	MEL
CHECKED	DWP
DRAWN	PRC
CHECKED	MEL

EXAMINED	200
PASSED	ENGINEER OF BRIDGE DESIGN
	ENGINEER OF BRIDGES AND STRUCTURES



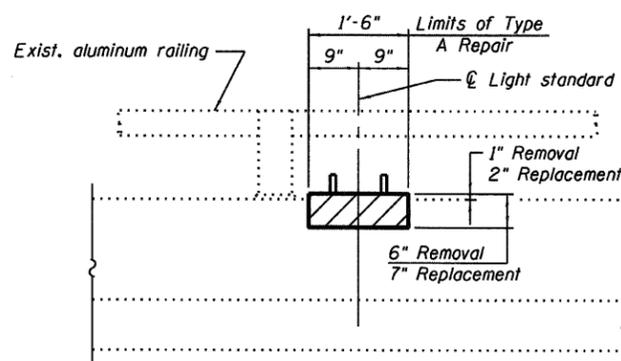
**LIGHT STANDARD
SUPPORT LOCATIONS - 3
1-270 OVER MISSISSIPPI RIVER
AT CHAIN OF ROCKS
F.A.I. ROUTE 270 - SECTION 60B-1-3
MADISON COUNTY
STATION 780+00.25
STRUCTURE NO. 060-0035**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

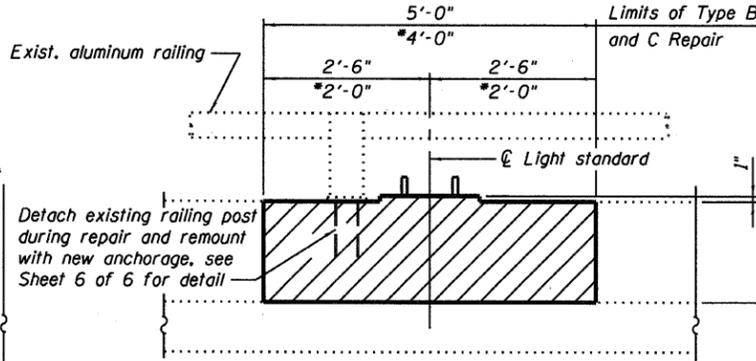
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F.A.I. 270	60B-1-3	MADISON	31	26
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 5
6 SHEETS

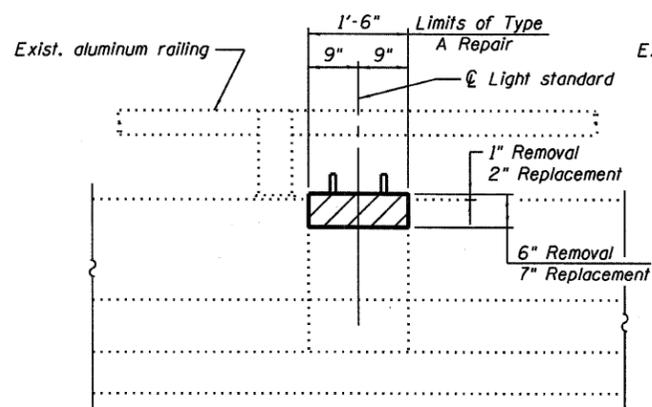
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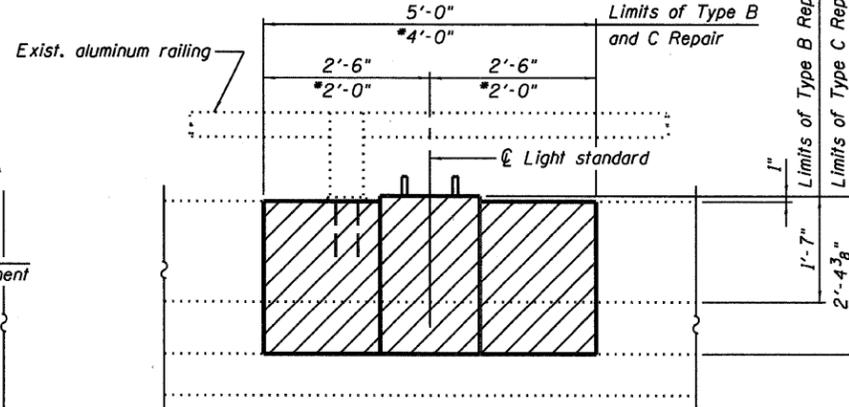
INSIDE FACE OF PARAPET



INSIDE FACE OF PARAPET



OUTSIDE FACE OF PARAPET



OUTSIDE FACE OF PARAPET

TYPE A CONCRETE REMOVAL AND REPLACEMENT AT LIGHT STANDARD

TYPE B OR C CONCRETE REMOVAL AND REPLACEMENT AT LIGHT STANDARD

* Westbound Structure, Light Standard No. 4 (Sta. 786+52):
Dimension revised defining limits of Type B Repair to avoid conflict with junction box.

Notes:

For proposed light standard mounting details, see Sheet 6 of 6.

Cutting and rethreading of existing anchor bolts shall be included with CONCRETE SUPERSTRUCTURE.

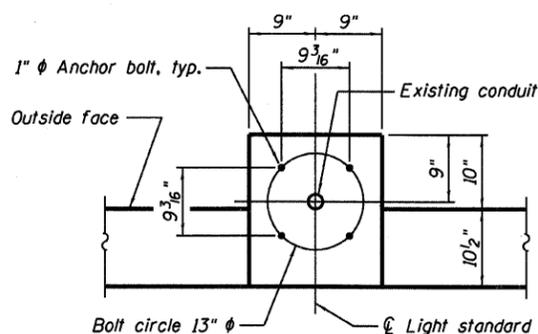
For anchor bolt AB-1 and AB-2 details, see Sheet 6 of 6.

Deteriorated conduit shall be called to the attention of the Engineer. Deteriorated conduit shall be repaired/replaced by the Contractor on a force account basis, Standard Specification 109.04(b).

Conduit damaged as a result of construction operations shall be repaired or replaced, at the Contractor's expense, to the satisfaction of the Engineer.

Epoxy grouting for reinforcement bars shall be included with REINFORCEMENT BARS, EPOXY COATED.

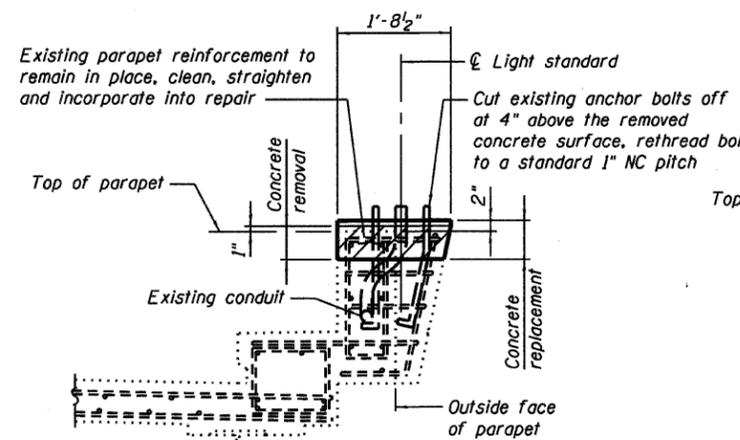
See Section 584 of the Standard Specifications for Epoxy Grouting of Anchor Rods and Bars.



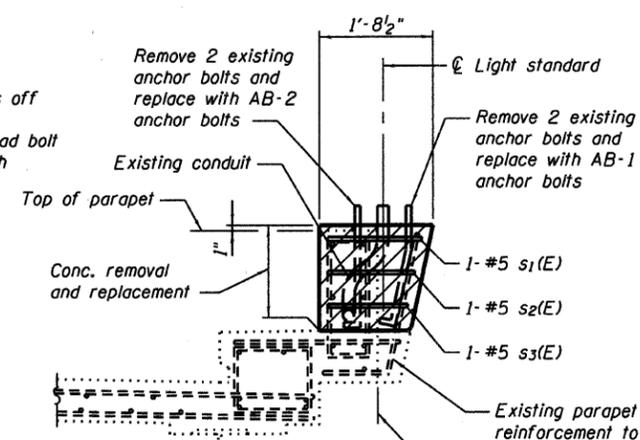
ANCHOR BOLT LAYOUT
Top of parapet view

DESIGNED	MEL
CHECKED	DWP
DRAWN	PRC
CHECKED	MEL

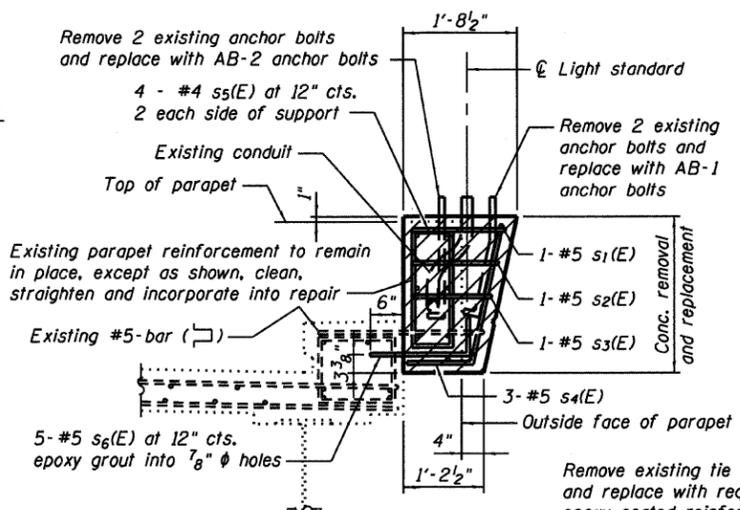
EXAMINED	200
PASSED	ENGINEER OF BRIDGE DESIGN
	ENGINEER OF BRIDGES AND STRUCTURES



SECTION SHOWING TYPE A REMOVAL AND REPLACEMENT



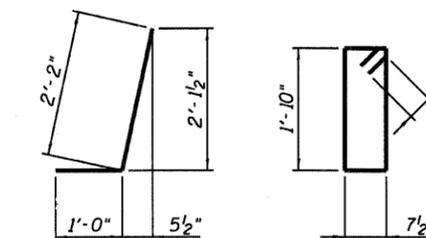
SECTION SHOWING TYPE B REMOVAL AND REPLACEMENT



SECTION SHOWING TYPE C REMOVAL AND REPLACEMENT

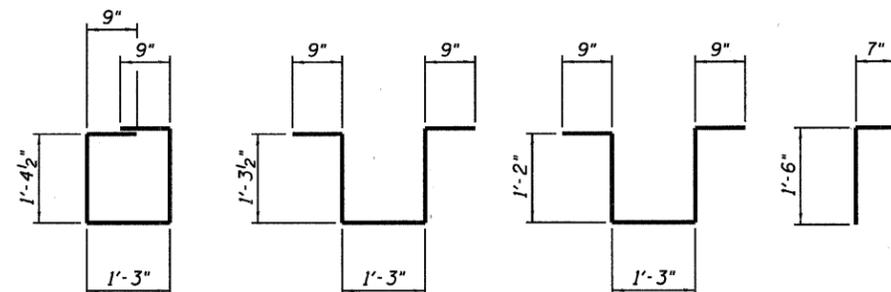
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s1(E)	14	#5	5'-6"	□
s2(E)	14	#5	5'-4"	┌
s3(E)	14	#5	5'-1"	┌
s4(E)	24	#5	3'-2"	J
s5(E)	32	#4	5'-8"	□
s6(E)	40	#5	5'-6"	┌
Reinforcement Bars, Epoxy Coated			Pound	519
Concrete Superstructure			Cu. Yds.	7.1
Concrete Removal			Cu. Yds.	7.1



BAR s4(E)

BAR s5(E)



BAR s1(E)

BAR s2(E)

BAR s3(E)

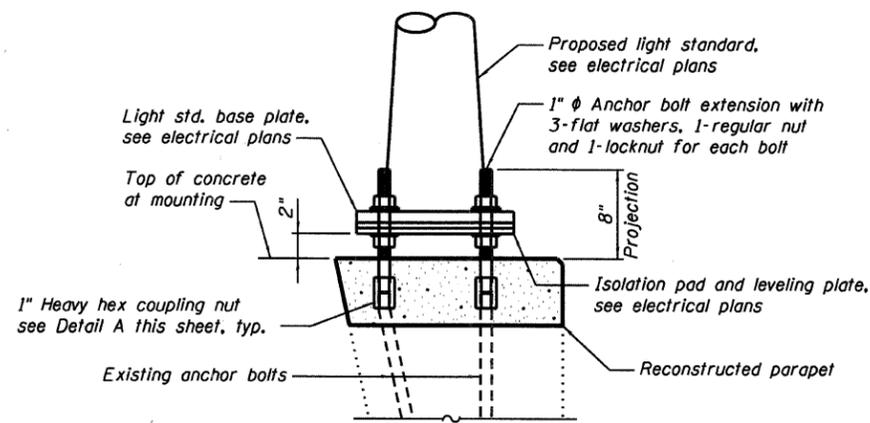
BAR s6(E)

LIGHT STANDARD SUPPORT DETAILS - 1
I-270 OVER MISSISSIPPI RIVER
AT CHAIN OF ROCKS
F.A.I. ROUTE 270 - SECTION 60B-1-3
MADISON COUNTY
STATION 780+00.25
STRUCTURE NO. 060-0035

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

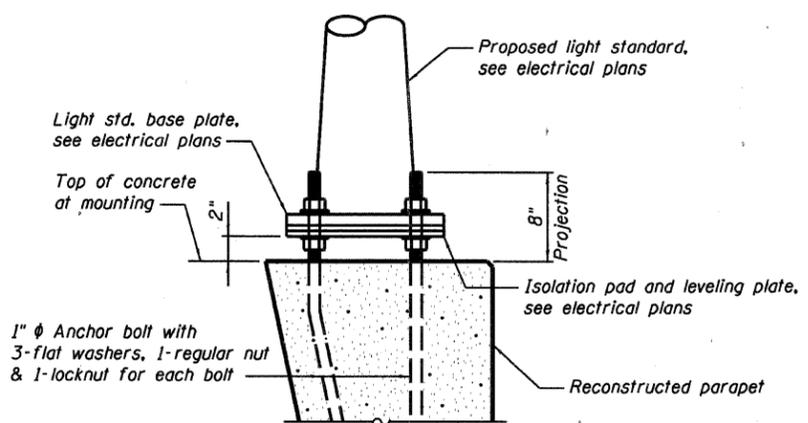
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6
F.A.I. 270	60B-1-3	MADISON	31	27	6 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #

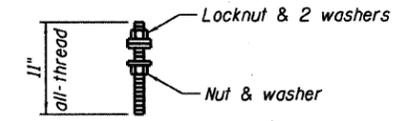


**PROPOSED LIGHT STANDARD MOUNTING
FOR TYPE A REPAIR**

Furnish and install coupling nuts and bolt extensions, together with cutting and rethreading of existing anchor bolts, shall be included with CONCRETE SUPERSTRUCTURE.

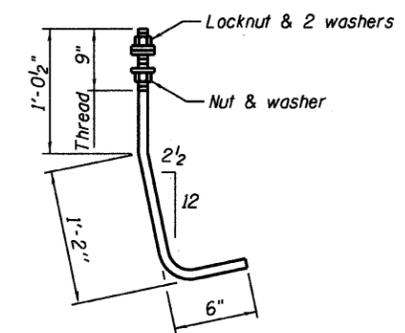


**PROPOSED LIGHT STANDARD MOUNTING
FOR TYPE B AND C REPAIR**



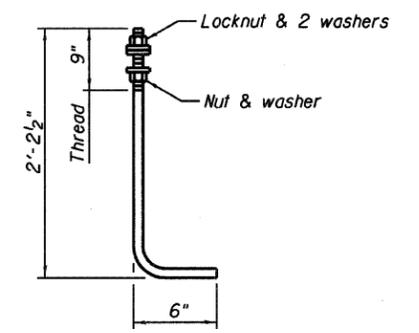
ANCHOR BOLT EXTENSION

1" ϕ Anchor bolt extension, ASTM F 1554 Grade 105, hot dip galvanized with the threads chased after galvanizing, standard 1" NC pitch, 128 required



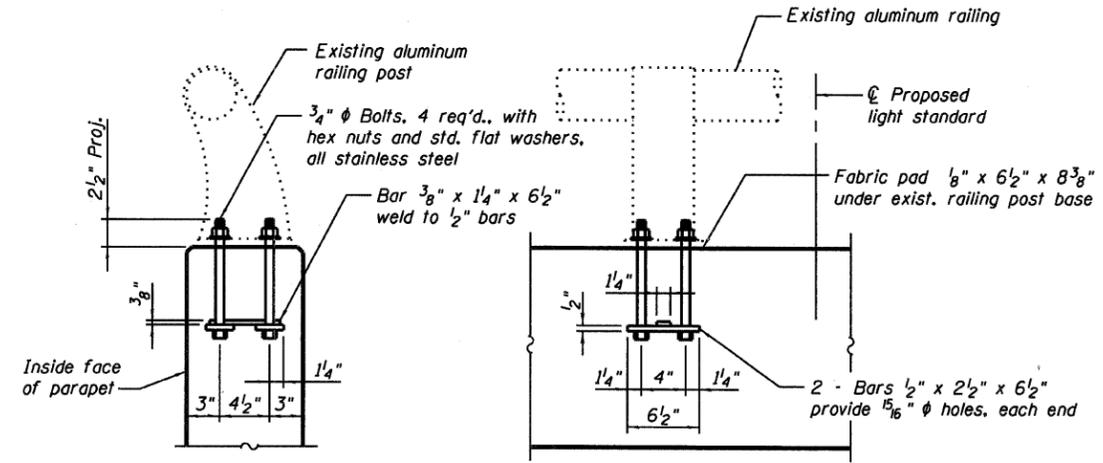
ANCHOR BOLT AB-1

1" ϕ ASTM F 1554 Grade 105
28 Required



ANCHOR BOLT AB-2

1" ϕ ASTM F 1554 Grade 105
28 Required

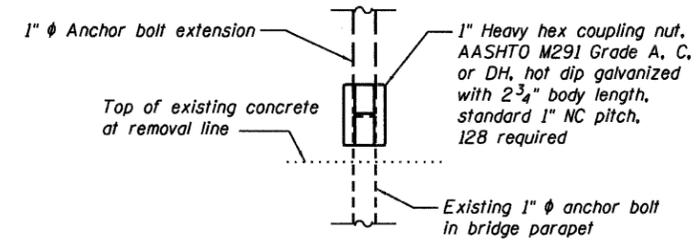


SECTION

ELEVATION

**ALUMINUM RAILING POST REPAIR
AT TYPE B AND C CONCRETE REPAIRS**

Use existing railing post base as template to locate new anchorage.
Replacement of anchors at existing railing post shall be included with CONCRETE SUPERSTRUCTURE.
New anchorage required at 14 locations, 1 per location, total of 14 required.



DETAIL A

BILL OF MATERIAL

Anchor Bolt 1" ϕ	Each	56
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DESIGNED	MEL
CHECKED	DWP
DRAWN	PRC
CHECKED	MEL

200	EXAMINED
ENGINEER OF BRIDGE DESIGN	PASSED
ENGINEER OF BRIDGES AND STRUCTURES	

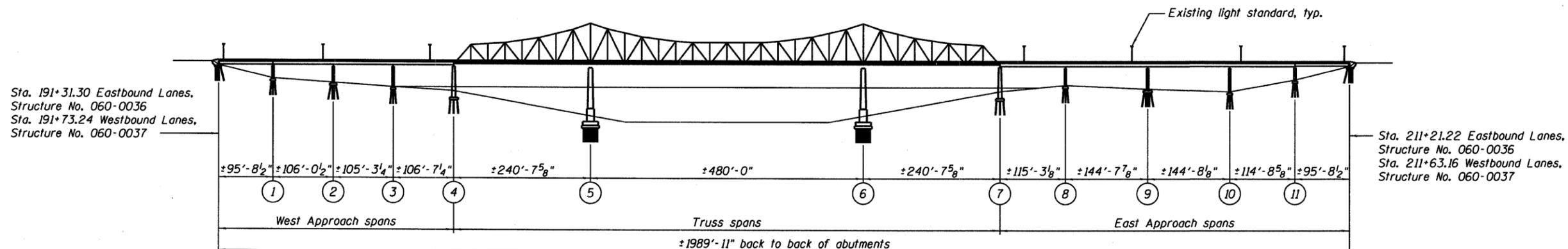


**LIGHT STANDARD
SUPPORT DETAILS - 2
I-270 OVER MISSISSIPPI RIVER
AT CHAIN OF ROCKS
F.A.I. ROUTE 270 - SECTION 60B-1-3
MADISON COUNTY
STATION 780+00.25
STRUCTURE NO. 060-0035**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
F.A.I. 270	60 IB-1-3	MADISON	31 28	4 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

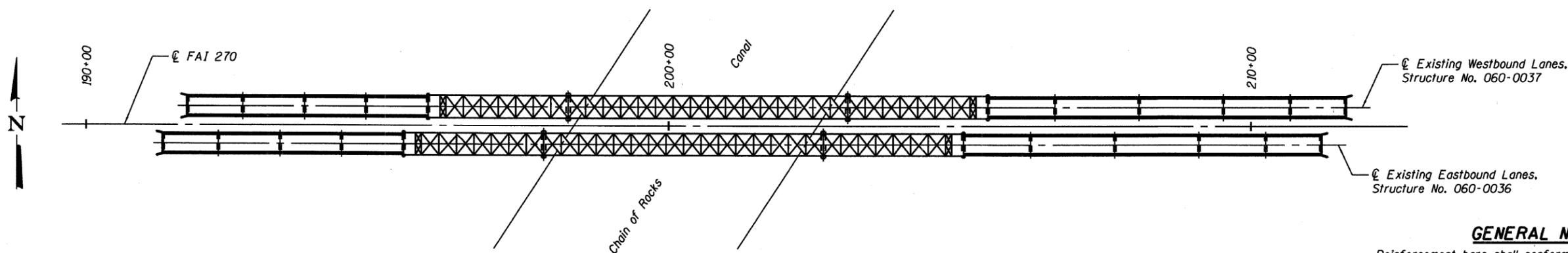
Contract #



ELEVATION

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 Light Standard Support Locations
- 3 Light Standard Support Details - 1
- 4 Light Standard Support Details - 2



PLAN

Proposed Improvements: Existing light standard concrete supports are to be repaired at each location. All structural work shall be coordinated with the work in the electrical plans.

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions

Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details are subject to routine 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 based upon the unit price bid for the work.

All structural work shall be coordinated with the work shown in the electrical plans.

Bridge lighting shall remain operational during construction.

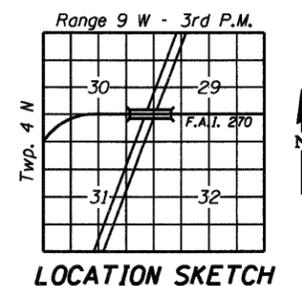
Replacement of anchors at existing railing post shall be included with CONCRETE SUPERSTRUCTURE.

Furnish and install coupling nuts and bolt extensions, together with cutting and rethreading of existing anchor bolts, shall be included with CONCRETE SUPERSTRUCTURE.

Epoxy grouting for reinforcement bars shall be included with REINFORCEMENT BARS, EPOXY COATED.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	2.7
Concrete Superstructure	Cu. Yd.	2.7
Reinforcement Bars, Epoxy Coated	Pound	96
Anchor Bolt 1" ϕ	Each	8



David W. Petermeier
DAVID W. PETERMEIER
EDWARDSVILLE, ILLINOIS
ILLINOIS LICENSED STRUCTURAL
ENGINEER NO. 081-005642
EXPIRES NOV. 30, 2008

DESIGNED	MEL
CHECKED	DWP
DRAWN	PRC
CHECKED	MEL

200
EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

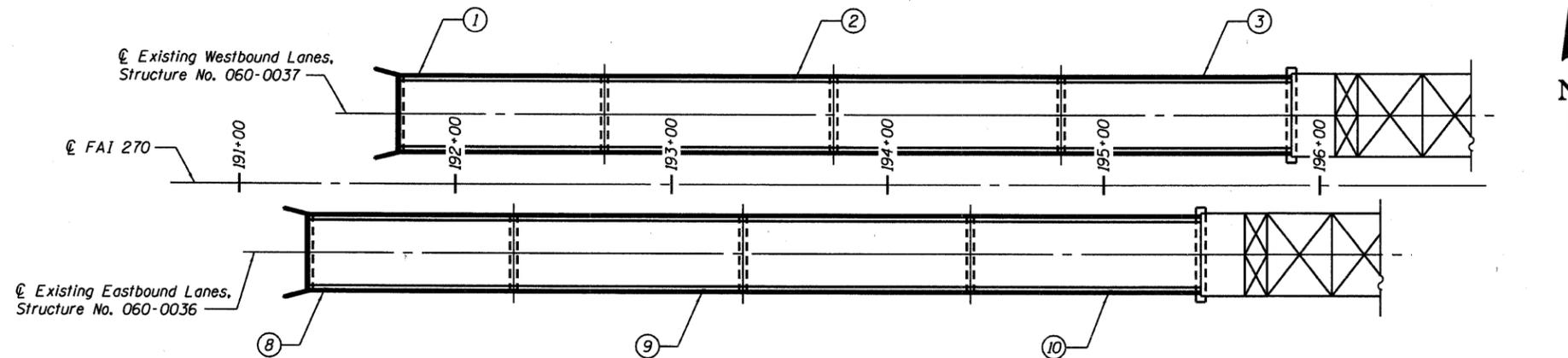


GENERAL PLAN AND ELEVATION
I-270 EBL AND WBL OVER THE
CHAIN OF ROCKS CANAL
F.A.I. ROUTE 270 - SECTION 60-IB-1-3
MADISON COUNTY
STATION 200+46.53
STRUCTURE NO. 060-0036 AND 060-0037

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

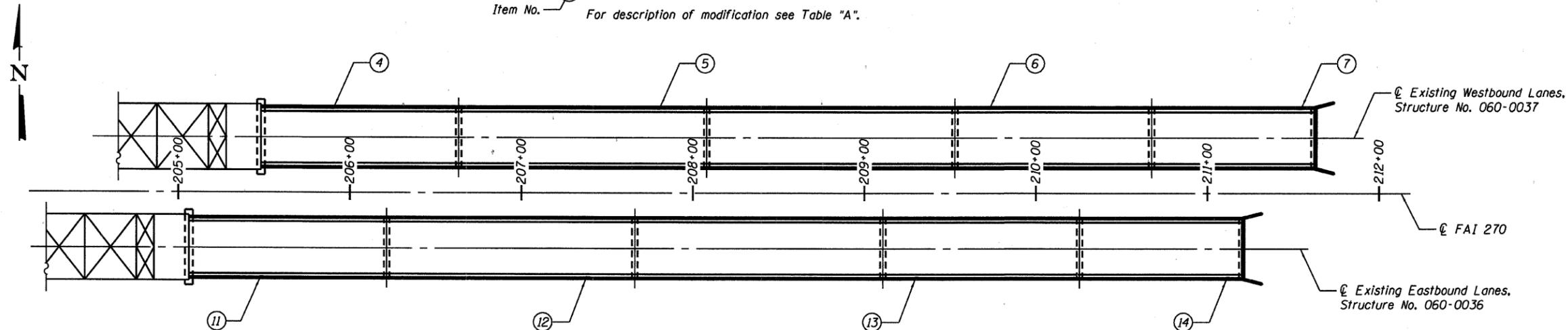
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 2 4 SHEETS
F.A.I. 270	60 1B-1-3	MADISON	31	29	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #



PARTIAL PLAN - WEST APPROACH

Item No. Light Standard Support Modification
For description of modification see Table "A".



PARTIAL PLAN - EAST APPROACH

Item No. Light Standard Support Modification
For description of modification see Table "A".

Note:
For details associated with work to be done,
see Sheet 3 of 4.

TABLE "A"

ITEM	ROADWAY	PARAPET	STATION	MODIFICATION DESCRIPTION
1	W.B.	North	191+82	Type B Conc. Removal and Replacement at Light Std.
2	W.B.	North	193+57	Type A Conc. Removal and Replacement at Light Std.
3	W.B.	North	195+45	Type A Conc. Removal and Replacement at Light Std.
4	W.B.	North	205+90	Type A Conc. Removal and Replacement at Light Std.
5	W.B.	North	207+80	Type B Conc. Removal and Replacement at Light Std.
6	W.B.	North	209+72.5	Type C Conc. Removal and Replacement at Light Std.
7	W.B.	North	211+54	Type B Conc. Removal and Replacement at Light Std.
8	E.B.	South	191+40	Type A Conc. Removal and Replacement at Light Std.
9	E.B.	South	193+15	Type A Conc. Removal and Replacement at Light Std.
10	E.B.	South	195+03	Type B Conc. Removal and Replacement at Light Std.
11	E.B.	South	205+48.5	Type A Conc. Removal and Replacement at Light Std.
12	E.B.	South	207+38.5	Type A Conc. Removal and Replacement at Light Std.
13	E.B.	South	209+30.5	Type C Conc. Removal and Replacement at Light Std.
14	E.B.	South	211+12	Type A Conc. Removal and Replacement at Light Std.

DESIGNED	MEL
CHECKED	DWP
DRAWN	PRC
CHECKED	MEL

200
EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

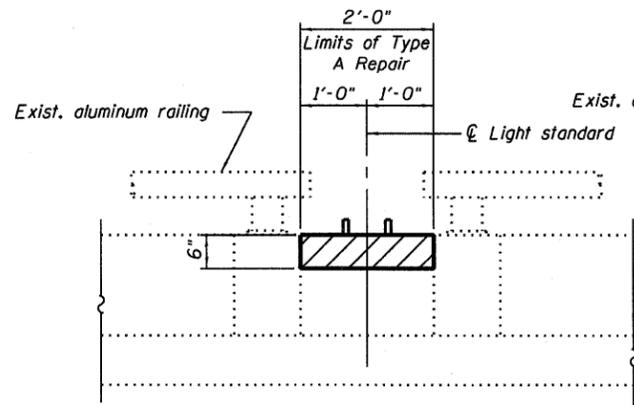


**LIGHT STANDARD
SUPPORT LOCATIONS
I-270 EBL AND WBL OVER THE
CHAIN OF ROCKS CANAL
F.A.I. ROUTE 270 - SECTION 60-1B-1-3
MADISON COUNTY
STATION 200+46.53
STRUCTURE NO. 060-0036 AND 060-0037**

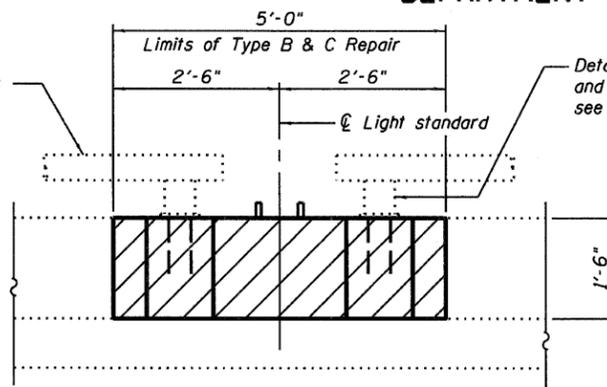
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3
F.A.I. 270	60	MADISON	31	30	4 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

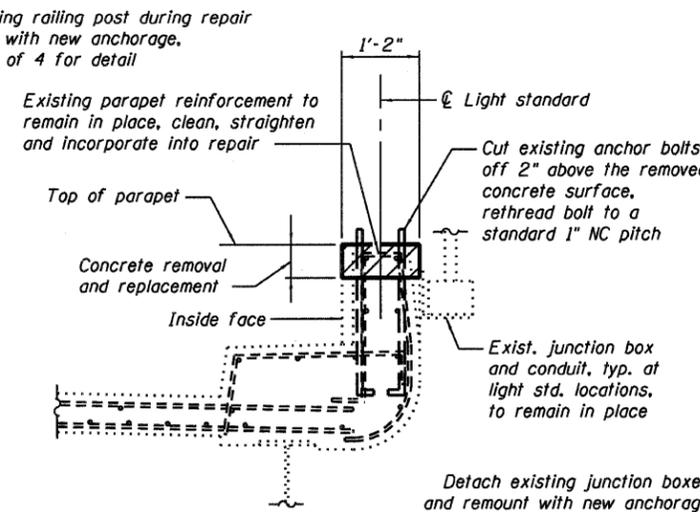
Contract #



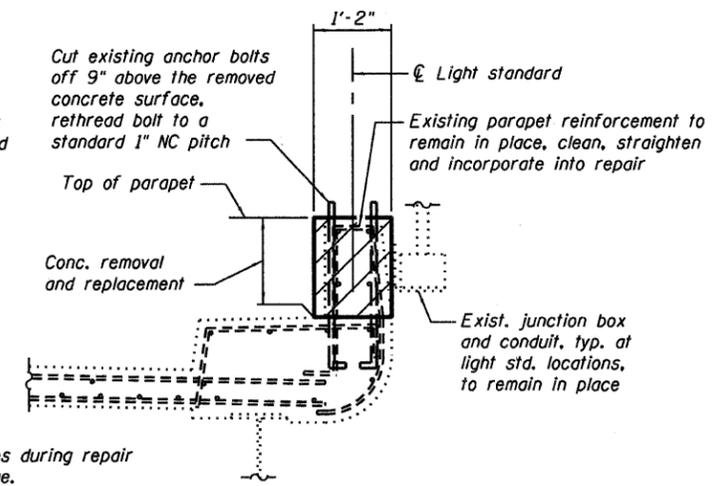
INSIDE FACE OF PARAPET



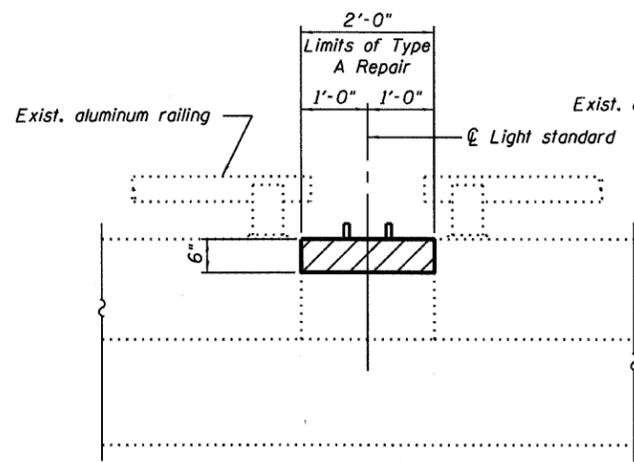
INSIDE FACE OF PARAPET



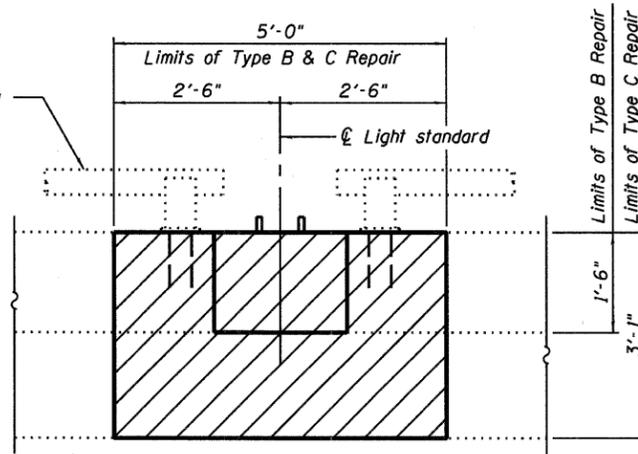
**SECTION SHOWING TYPE A
REMOVAL AND REPLACEMENT**



**SECTION SHOWING TYPE B
REMOVAL AND REPLACEMENT**



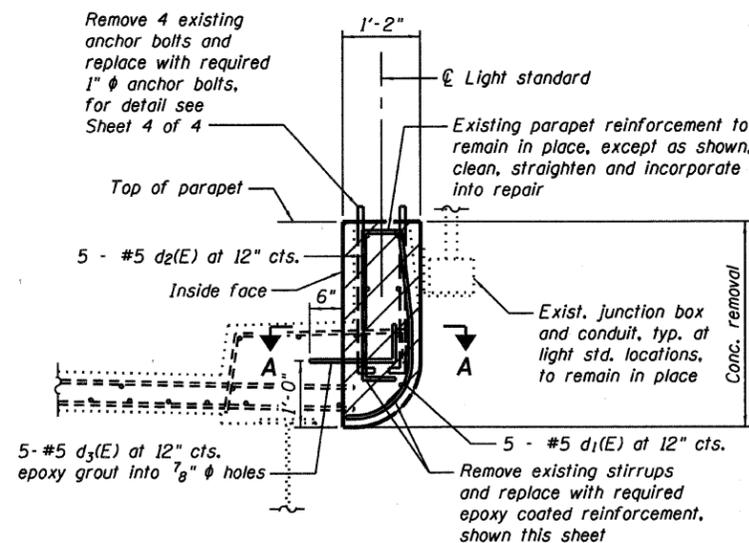
OUTSIDE FACE OF PARAPET



OUTSIDE FACE OF PARAPET

**TYPE A CONCRETE REMOVAL
AND REPLACEMENT AT LIGHT STANDARD**

**TYPE B OR C CONCRETE REMOVAL
AND REPLACEMENT AT LIGHT STANDARD**

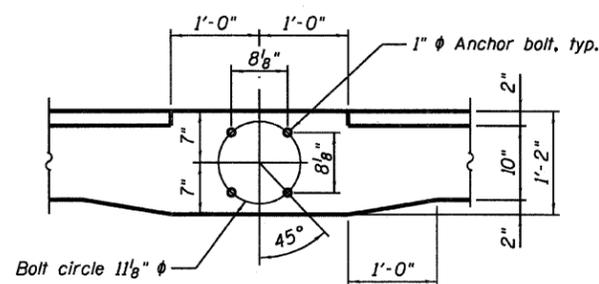


**SECTION SHOWING TYPE C
REMOVAL AND REPLACEMENT**

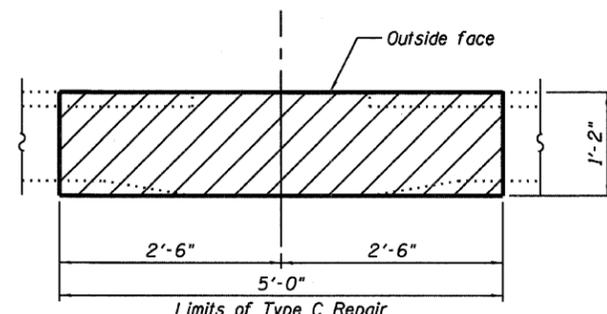
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d1(E)	10	#5	3'-8"	U
d2(E)	10	#5	3'-5"	U
d3(E)	10	#5	2'-1"	U
Reinforcement Bars, Epoxy Coated			Pound	96
Concrete Superstructure			Cu. Yds.	2.7
Concrete Removal			Cu. Yds.	2.7

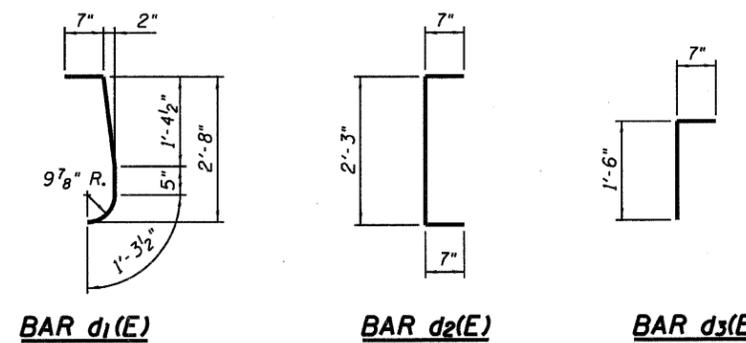
Notes:
For proposed light standard mounting details, see Sheet 4 of 4.
Cutting and rethreading of existing anchor bolts shall be included with CONCRETE SUPERSTRUCTURE.
Deteriorated conduits and junction boxes shall be called to the attention of the Engineer. Deteriorated conduit shall be repaired/replaced by the Contractor on a force account basis, Standard Specification 109.04(b).
Conduit and junction boxes damaged as a result of construction operations shall be repaired or replaced, at the Contractor's expense, to the satisfaction of the Engineer.
Epoxy grouting for reinforcement bars shall be included with REINFORCEMENT BARS, EPOXY COATED. See Section 584 of the Standard Specifications for Epoxy Grouting of Anchor Rods and Bars.



ANCHOR BOLT LAYOUT
Top of parapet view



SECTION A-A



BAR d1(E) BAR d2(E) BAR d3(E)

DESIGNED	MEL	200
CHECKED	DWP	EXAMINED
DRAWN	PRC	PASSED
CHECKED	MEL	ENGINEER OF BRIDGES AND STRUCTURES



**LIGHT STANDARD
SUPPORT DETAILS - 1**
**I-270 EBL AND WBL OVER THE
CHAIN OF ROCKS CANAL**
F.A.I. ROUTE 270 - SECTION 60-1B-1-3
MADISON COUNTY
STATION 200+46.53
STRUCTURE NO. 060-0036 AND 060-0037

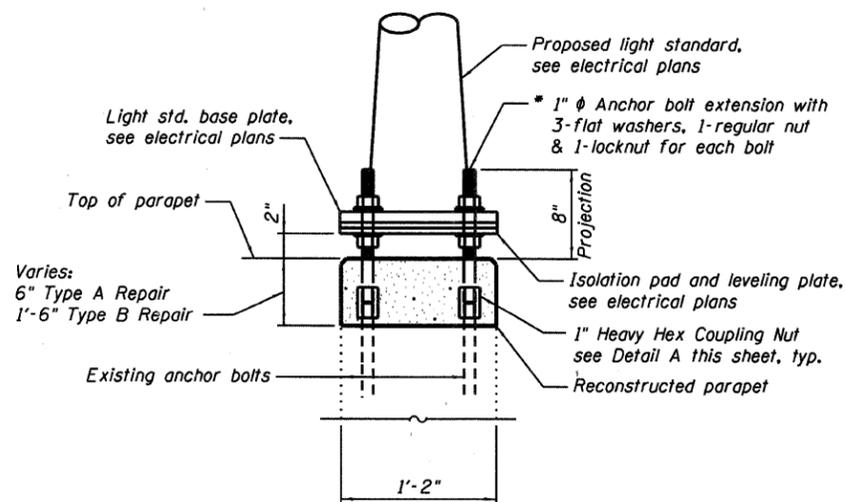
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.I. 270	60-1B-1-3	MADISON	31	31
FED. AID DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 4
4 SHEETS

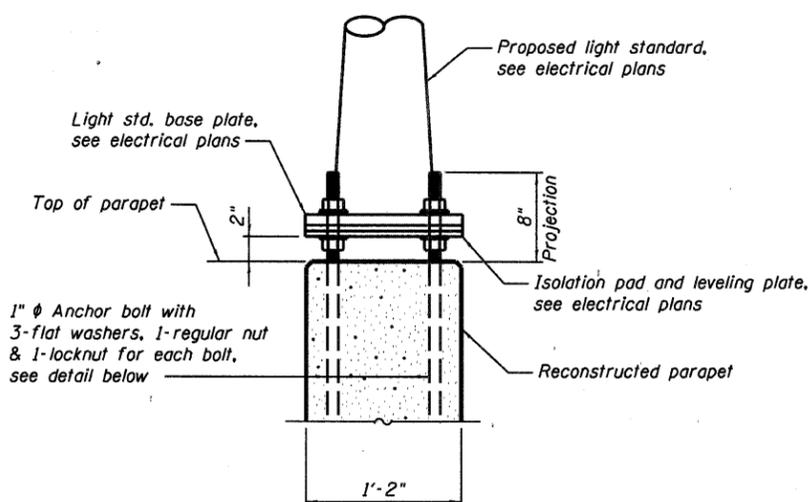
Contract #

Furnish and install coupling nuts and bolt extensions, together with cutting and rethreading of existing anchor bolts, shall be included with CONCRETE SUPERSTRUCTURE.

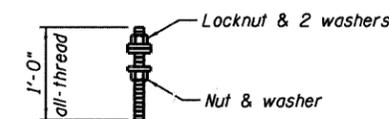


**PROPOSED LIGHT STANDARD MOUNTING
FOR TYPE A AND B REPAIR**

* Anchor bolt extension ABE-1, Type A Repair
Anchor bolt extension ABE-2, Type B Repair

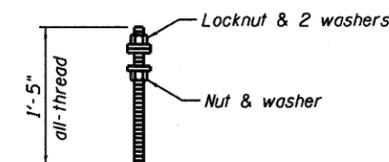


**PROPOSED LIGHT STANDARD MOUNTING
FOR TYPE C REPAIR**



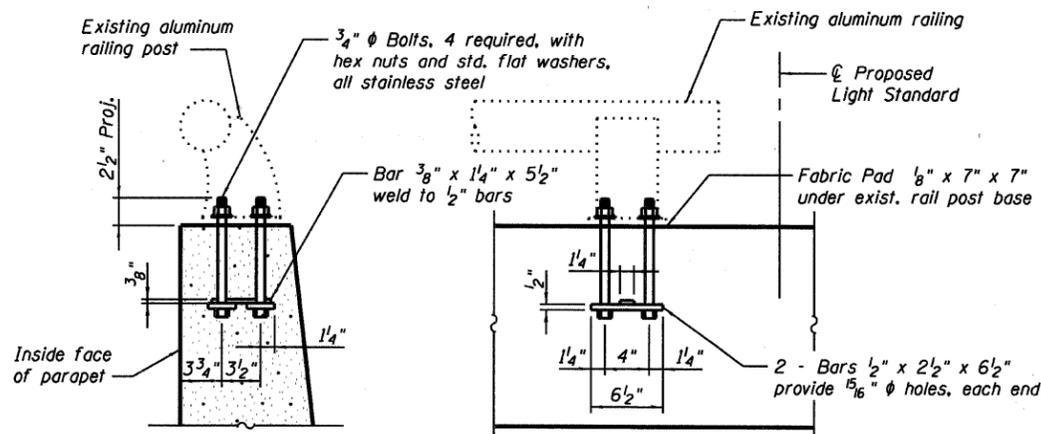
ANCHOR BOLT EXTENSION ABE-1

1" ϕ Anchor bolt extension, ASTM F 1554 Grade 105, hot dip galvanized with the threads chased after galvanizing, standard 1" NC pitch, 32 required



ANCHOR BOLT EXTENSION ABE-2

1" ϕ Anchor bolt extension, ASTM F 1554 Grade 105, hot dip galvanized with the threads chased after galvanizing, standard 1" NC pitch, 16 required

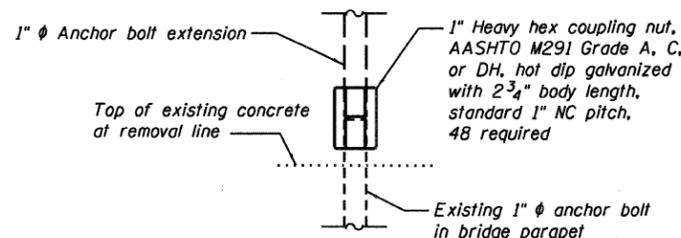


SECTION

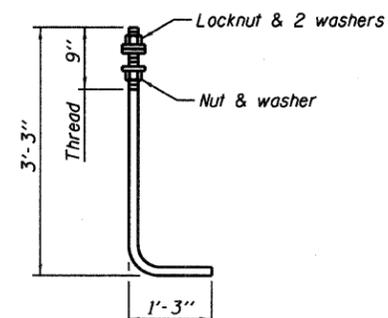
ELEVATION

**ALUMINUM RAILING POST REPAIR
AT TYPE B AND C CONCRETE REPAIRS**

Use existing railing post base as template to locate new anchorage.
Replacement of anchors at existing railing post shall be included with CONCRETE SUPERSTRUCTURE.
New anchorage required at 6 locations, 2 per location, total of 12 required.



DETAIL A



ANCHOR BOLT

1" ϕ ASTM F 1554 Grade 105

BILL OF MATERIAL

Anchor Bolt 1" ϕ	Each	8
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**LIGHT STANDARD
SUPPORT DETAILS - 2
1-270 EBL AND WBL OVER THE
CHAIN OF ROCKS CANAL**

F.A.I. ROUTE 270 - SECTION 60-1B-1-3
MADISON COUNTY
STATION 200+46.53
STRUCTURE NO. 060-0036 AND 060-0037

DESIGNED	MEL
CHECKED	DWP
DRAWN	PRC
CHECKED	MEL

EXAMINED	200
PASSED	ENGINEER OF BRIDGE DESIGN
	ENGINEER OF BRIDGES AND STRUCTURES

