

INDEX OF SHEETS

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△ 46-52A	LIGHTING DETAILS
53	TRAFFIC CONTROL FOR FREEWAY SHOULDER CLOSURES PARTIAL RAMP CLOSURES

STATE STANDARDS

STD. NO.	DESCRIPTION
630001-07	STEEL PLATE BEAM GUARDRAIL
631011-04	TRAFFIC BARRIER TERMINAL TYPE 2
642001	SHOULDER RUMBLE STRIPS
701101-01	OFF-RD OPERATIONS, MULTILANE, LESS THAN 15' (4.5 M) TO 24" (600 MM) FROM PAVEMENT EDGE
701400-02	APPROACH TO LANE CLOSURE, FREEWAY/ EXPRESSWAY
701406-04	LANE CLOSURE, FREEWAY/ EXPRESSWAY, DAY OPERATIONS ONLY
701901	TRAFFIC CONTROL DEVICES

GENERAL NOTES

1. BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT 800-892-0123 OR "CUAN" (CHICAGO UTILITY ALERT NETWORK), 312-744-7000 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS FACILITIES. (48 HOUR NOTIFICATION IS REQUIRED).
2. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES.
3. THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
4. THE CONTRACTOR SHALL CALL STATE ELECTRICAL CONTRACTOR AT (773) 287-7600 TO LOCATE STATE OWNED FACILITIES.
5. THE CONTRACTOR SHALL WORK IN THE DIRECTION OF TRAFFIC.
6. THE CONTRACTOR WILL NOT BE ALLOWED TO STORE MATERIALS OVERNIGHT IN THE MEDIAN
7. FINAL LOCATIONS OF THE HIGH TENSION CABLE MEDIAN BARRIER TERMINAL SHALL BE DETERMINED BY THE ENGINEER.



GRAEF, ANHALT, SCHLOEMER & ASSOCIATES, INC.
CHICAGO, ILLINOIS

Rev. 2-14-08

FILE NAME =	USER NAME = _USER_	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, STATE STANDARDS, AND GENERAL NOTES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN - EAD	REVISED -			332	2007-044 I	WILL & COOK	53	2	
	PLOT SCALE = 10,000' / IN.	CHECKED - PJ	REVISED -			SCALE: N.T.S. SHEET NO. 2 OF 53 SHEETS STA. TO STA.					
	PLOT DATE = 1/4/2008	DATE - 12/10/2007	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT CONTRACT NO. 60D34					

SUMMARY OF QUANTITIES

PAY ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	URBAN		90% FED. / 10% STATE		
				ROADWAY SFTY-2A WILL CO	ROADWAY SFTY-2A COOK CO	MEDIAN BARRIER SFTY-4A WILL CO	MEDIAN BARRIER SFTY-4A COOK CO	LIGHTING Y030-1E WILL CO
NP 25000750	MOWING	ACRE	14			7	7	
63000000	STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	38	38				
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	3	2	1			
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	16	12	4			
63200310	GUARDRAIL REMOVAL	FOOT	875	663	212			
64200105	SHOULDER RUMBLE STRIP	FOOT	45,100	45,100				
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	1	1	1	1	2
67100100	MOBILIZATION	L SUM	1	0.1	0.1	0.2	0.2	0.4
80400100	ELECTRIC SERVICE INSTALLATION	EACH	5					5
80400200	ELECTRICAL UTILITY SERVICE INSTALLATION	L SUM	1					1
81000800	CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	1,320					1,320
81018700	CONDUIT PUSHED, 3" DIA., GALVANIZED STEEL	FOOT	490					490
X8160395	UNIT DUCT, WITH 3-1/2" NO. 2 1/2" NO. 4 GROUND, 600V (EPR-TYPE RHW), 1 1/2" DIA., POLYETHYLENE AND	FOOT	42,849					42,849
81701385	ELECTRIC CABLE IN CONDUIT, 600V, (EPR-TYPE USE) 3-1/2" 350 MCM	FOOT	525					525
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	43,339					43,339
82102310	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 310 WATT	EACH	162					162
82102400	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	27					27
X8250080	LIGHTING CONTROLLER, RADIO CONTROL, DUPLEX CONSOLE TYPE	EACH	5					5
83050810	LIGHT POLE, ALUMINUM, 47.5 FT. ^{M.H.} 15 FT. MAST ARM	EACH	189					189
83600400	POLE FOUNDATION, METAL	EACH	189					189
83800205	BREAKAWAY DEVICE, TRANSFORMER BASE, 15" ^{INCH} BOLT CIRCLE	EACH	189					189
84500110	REMOVAL OF LIGHTING CONTROLLER	EACH	5					5
84500120	REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	5					5
84500130	REMOVAL OF LIGHTING CONTROLLER FOUNDATION	EACH	5					5
X0322256	TEMPORARY INFORMATION SIGNING	SQ FT	159	26	27	27	26	53
X0323574	MAINTENANCE OF LIGHTING SYSTEM	CAL MO	6					6
X0325606	HIGH TENSION CABLE MEDIAN BARRIER DEMONSTRATION	EACH	1			0.5	0.5	
X0325589	HIGH TENSION CABLE MEDIAN BARRIER	FOOT	58,650			30,375	28,275	
X0325590	HIGH TENSION CABLE MEDIAN BARRIER TERMINAL	EACH	40			16	24	
X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1			0.5	0.5	
X8170100	ELECTRIC CABLE IN CONDUIT, REMOVE ALL CONDUCTORS	FOOT	1,020					1,020
XX006937	GROUND ROD, 5/8" X 10 FT. DIA.	EACH	15					15
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	0.1	0.1	0.2	0.2	0.4

NP = Non-participating

* SPECIALTY ITEMS

Rev. 2-14-08



GRAEF, ANHALT, SCHLOEMER & ASSOCIATES, INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631
(312) 399-0112

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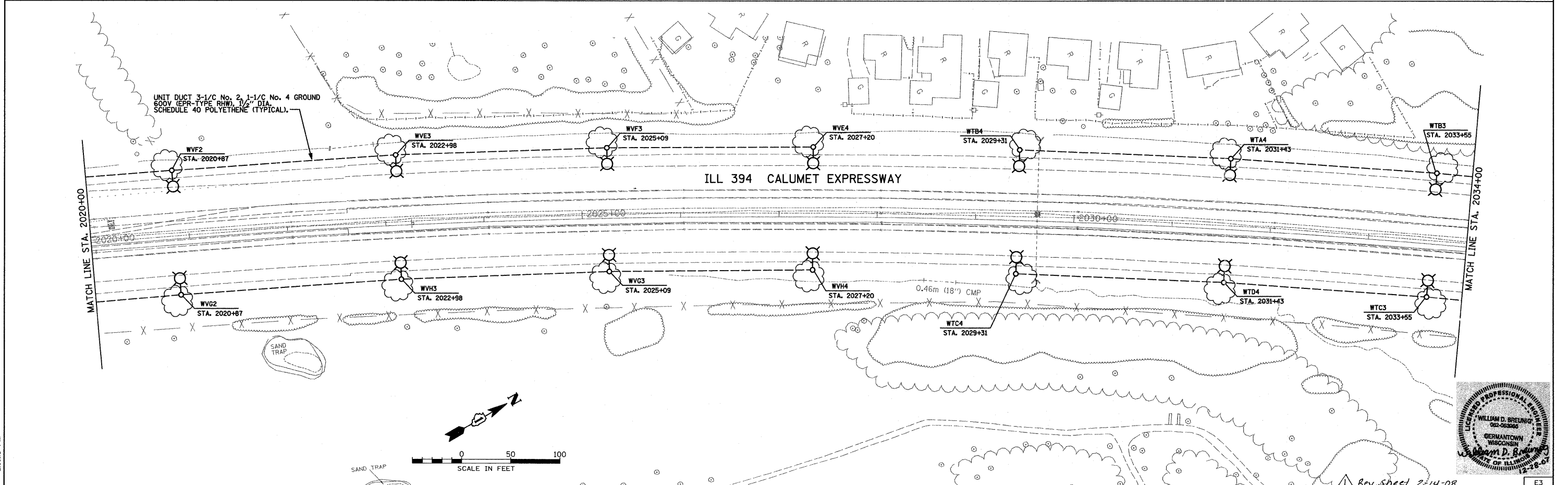
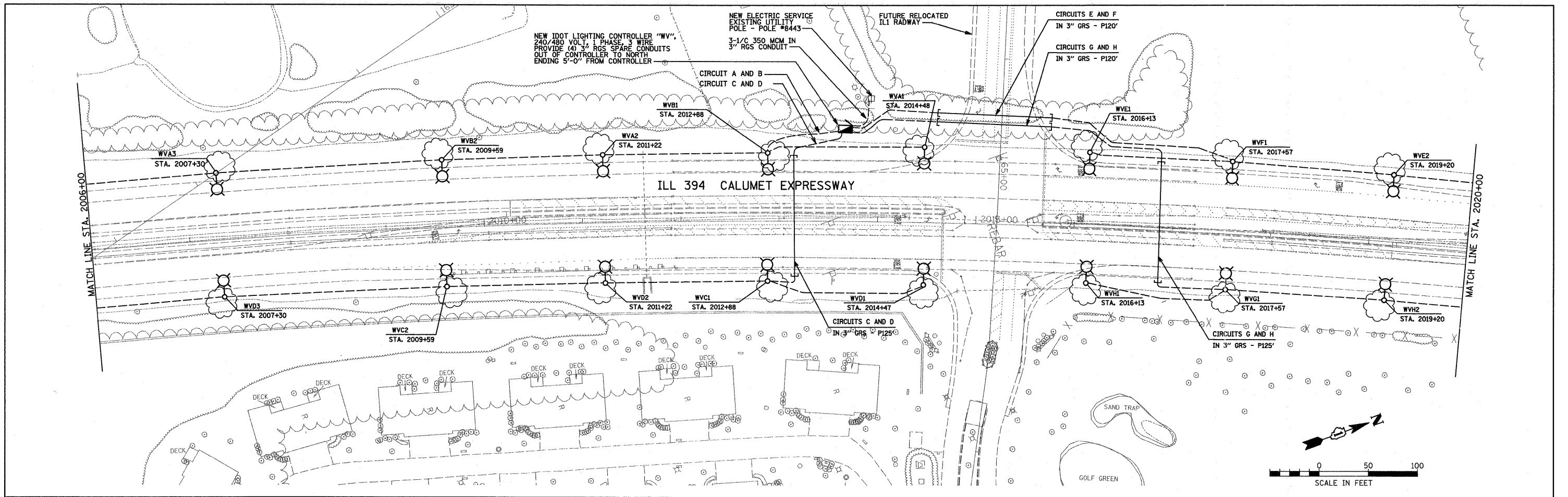
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: N.T.S. SHEET NO. 3 OF 28 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-044 I	WILL & COOK	53	3
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60D34	

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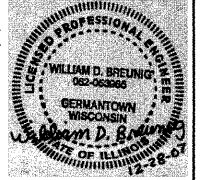
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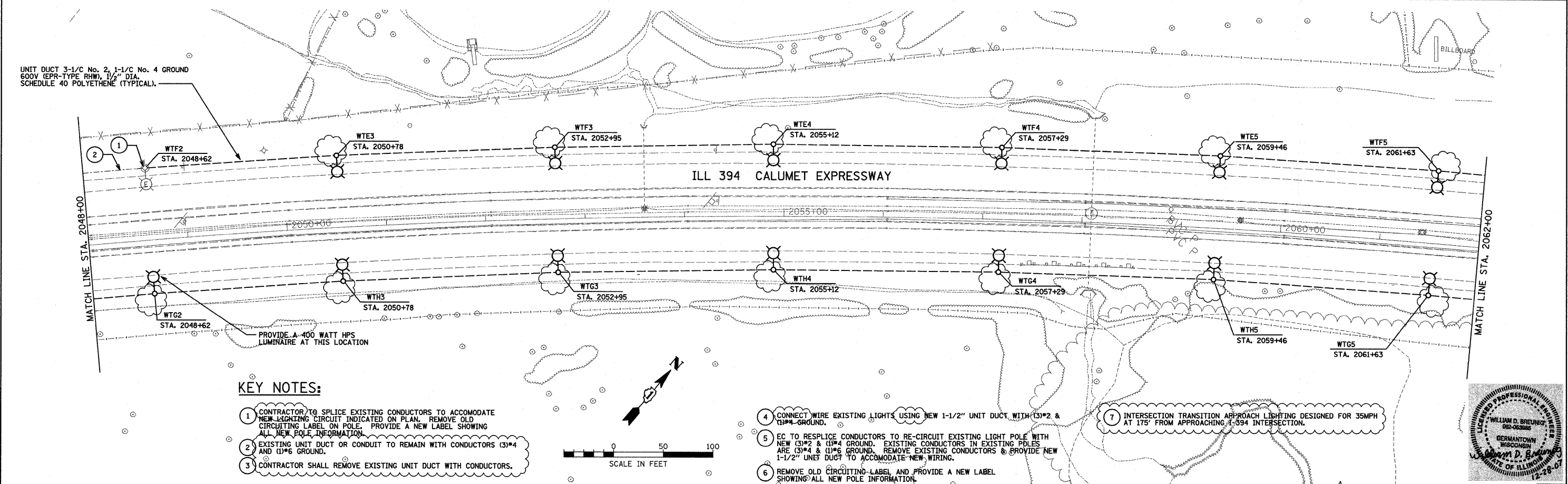
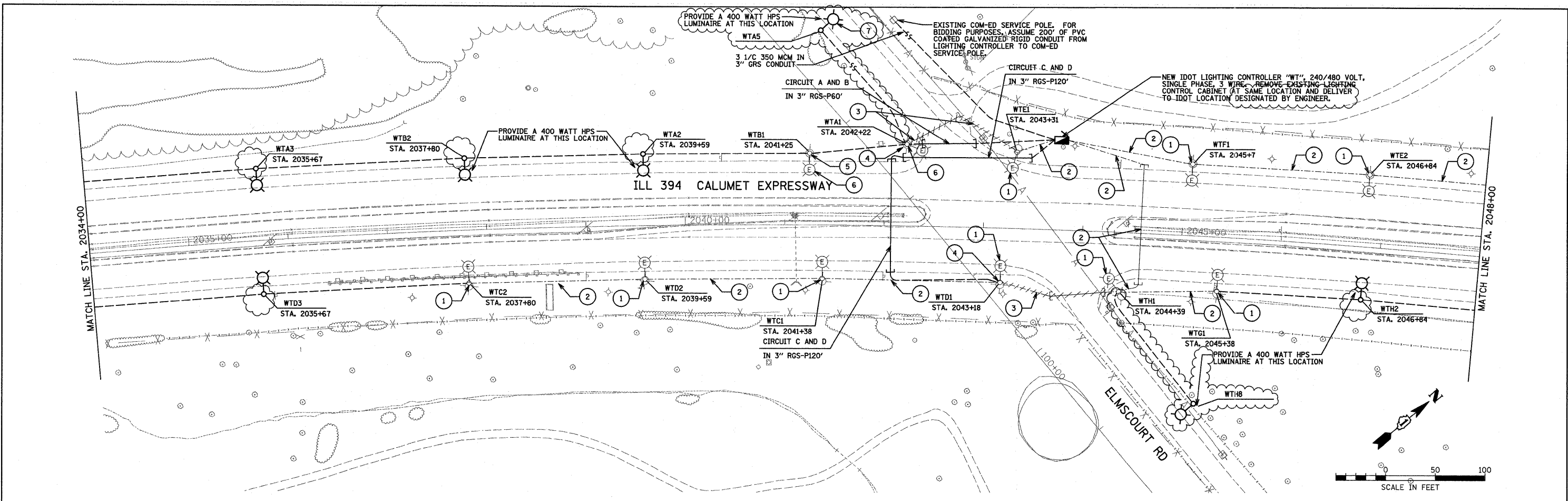
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ILL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD
LIGHTING PLAN

F.A.P. RTE. 332	SECTION 2007-044 I	COUNTY WILL & COOK	TOTAL SHEETS 53	SHEET NO. 33
SCALE: 1" = 50'		SHEET NO. 33 OF 53 SHEETS		STA. 2006+00 TO STA. 2034+00
FED. ROAD DIST. NO.		[ILLINOIS] FED. AID PROJECT		



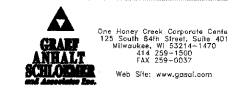
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KEY NOTES:

- 1 CONTRACTOR TO SPLICE EXISTING CONDUCTORS TO ACCOMMODATE NEW LIGHTING CIRCUIT INDICATED ON PLAN. REMOVE OLD CIRCUITING LABEL ON POLE. PROVIDE A NEW LABEL SHOWING ALL NEW POLE INFORMATION.
- 2 EXISTING UNIT DUCT OR CONDUIT TO REMAIN WITH CONDUCTORS (3)*4 AND (1)*6 GROUND.
- 3 CONTRACTOR SHALL REMOVE EXISTING UNIT DUCT WITH CONDUCTORS.
- 4 CONNECT WIRE EXISTING LIGHTS USING NEW 1-1/2" UNIT DUCT WITH (3)*2 & (1)*4 GROUND.
- 5 EC TO RESPlice CONDUCTORS TO RE-CIRCUIT EXISTING LIGHT POLE WITH NEW (3)*2 & (1)*4 GROUND. EXISTING CONDUCTORS IN EXISTING POLES ARE (3)*4 & (1)*6 GROUND. REMOVE EXISTING CONDUCTORS & PROVIDE NEW 1-1/2" UNIT DUCT TO ACCOMMODATE NEW WIRING.
- 6 REMOVE OLD CIRCUITING LABEL AND PROVIDE A NEW LABEL SHOWING ALL NEW POLE INFORMATION.
- 7 INTERSECTION TRANSITION APPROACH LIGHTING DESIGNED FOR 35MPH AT 175' FROM APPROACHING I-394 INTERSECTION.

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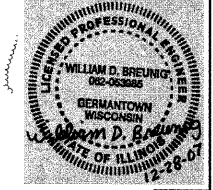
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD
LIGHTING PLAN**

SCALE: 1" = 50' SHEET NO. 34 OF 53 SHEETS STA. 2034+00 TO STA. 2062+00

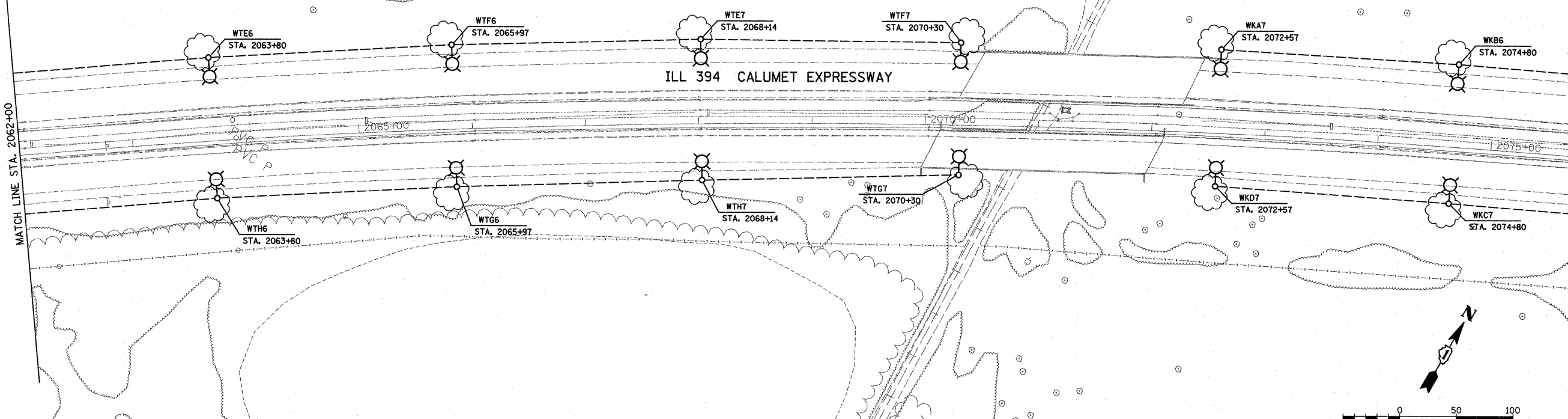
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FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60D34	



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MATCH LINE STA. 2062+00

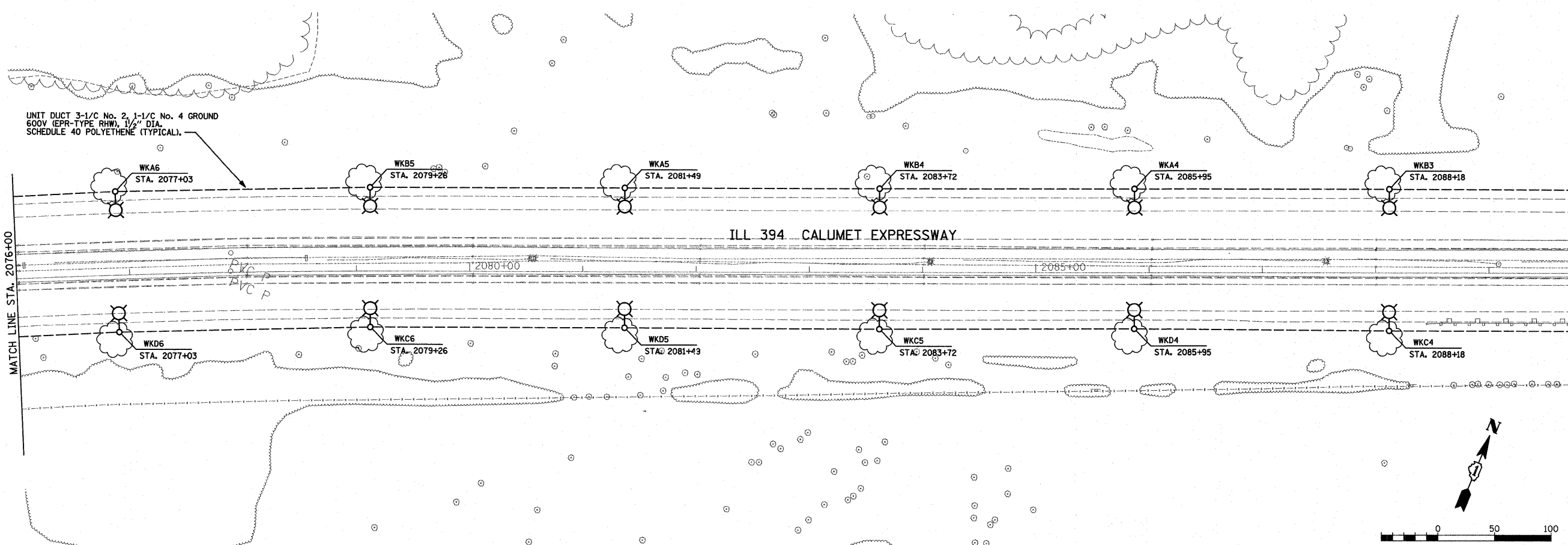
MATCH LINE STA. 2076+00



UNIT DUCT 3-1/C No. 2, 1-1/C No. 4 GROUND 600V (EPR-TYPE RHW), 1/2" DIA. SCHEDULE 40 POLYETHENE (TYPICAL).

MATCH LINE STA. 2076+00

MATCH LINE STA. 2090+00



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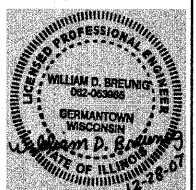


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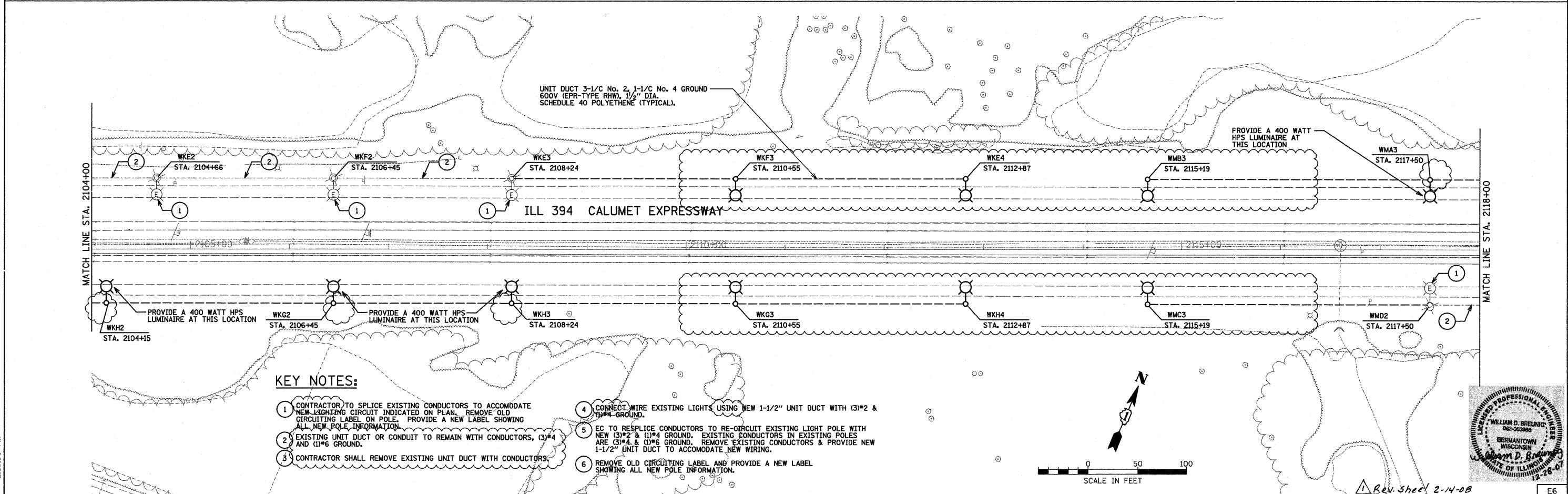
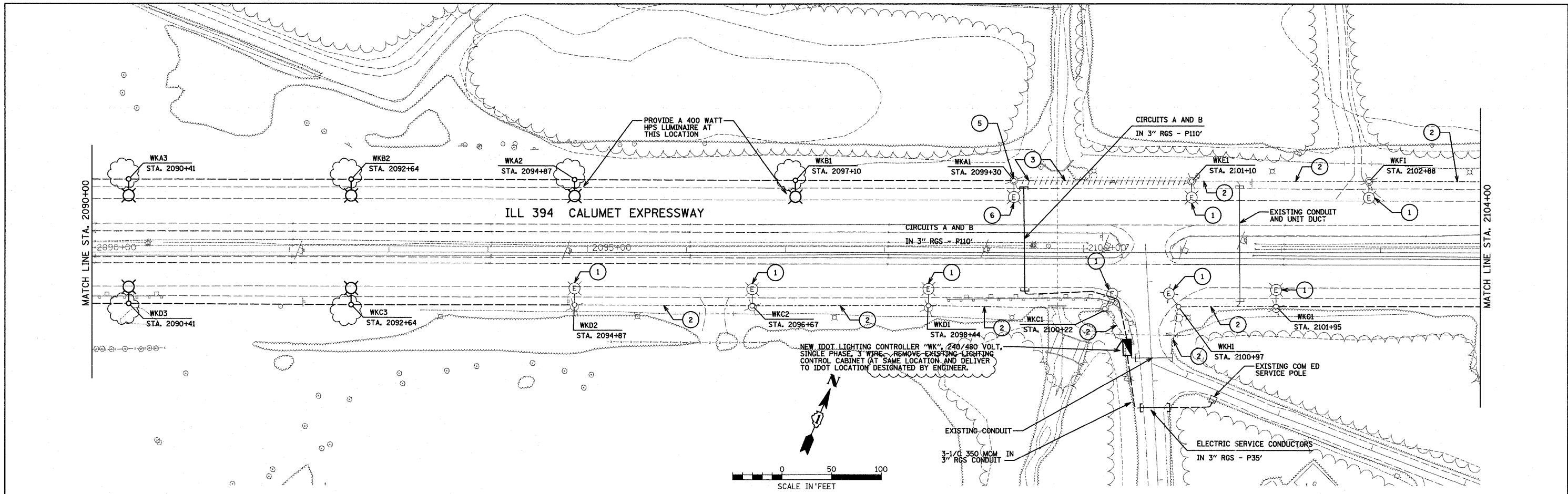
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD
LIGHTING PLAN**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-044 I	WILL & COOK	53	35
SCALE: 1" = 50'		SHEET NO. 35 OF 53 SHEETS		STA. 2062+00 TO STA. 2090+00
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		CONTRACT NO. 60D34



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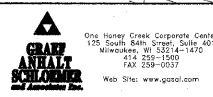
KEY NOTES:

- 1 CONTRACTOR TO SPLICE EXISTING CONDUCTORS TO ACCOMMODATE NEW LIGHTING CIRCUIT INDICATED ON PLAN. REMOVE OLD CIRCUITING LABEL ON POLE. PROVIDE A NEW LABEL SHOWING ALL NEW POLE INFORMATION.
- 2 EXISTING UNIT DUCT OR CONDUIT TO REMAIN WITH CONDUCTORS, (3)*4 AND (1)*6 GROUND.
- 3 CONTRACTOR SHALL REMOVE EXISTING UNIT DUCT WITH CONDUCTORS.
- 4 CONNECT WIRE EXISTING LIGHTS USING NEW 1-1/2" UNIT DUCT WITH (3)*2 & (1)*4 GROUND.
- 5 EC TO RESPLICE CONDUCTORS TO RE-CIRCUIT EXISTING LIGHT POLE WITH NEW (3)*2 & (1)*4 GROUND. EXISTING CONDUCTORS IN EXISTING POLES ARE (3)*4 & (1)*6 GROUND. REMOVE EXISTING CONDUCTORS & PROVIDE NEW 1-1/2" UNIT DUCT TO ACCOMMODATE NEW WIRING.
- 6 REMOVE OLD CIRCUITING LABEL AND PROVIDE A NEW LABEL SHOWING ALL NEW POLE INFORMATION.



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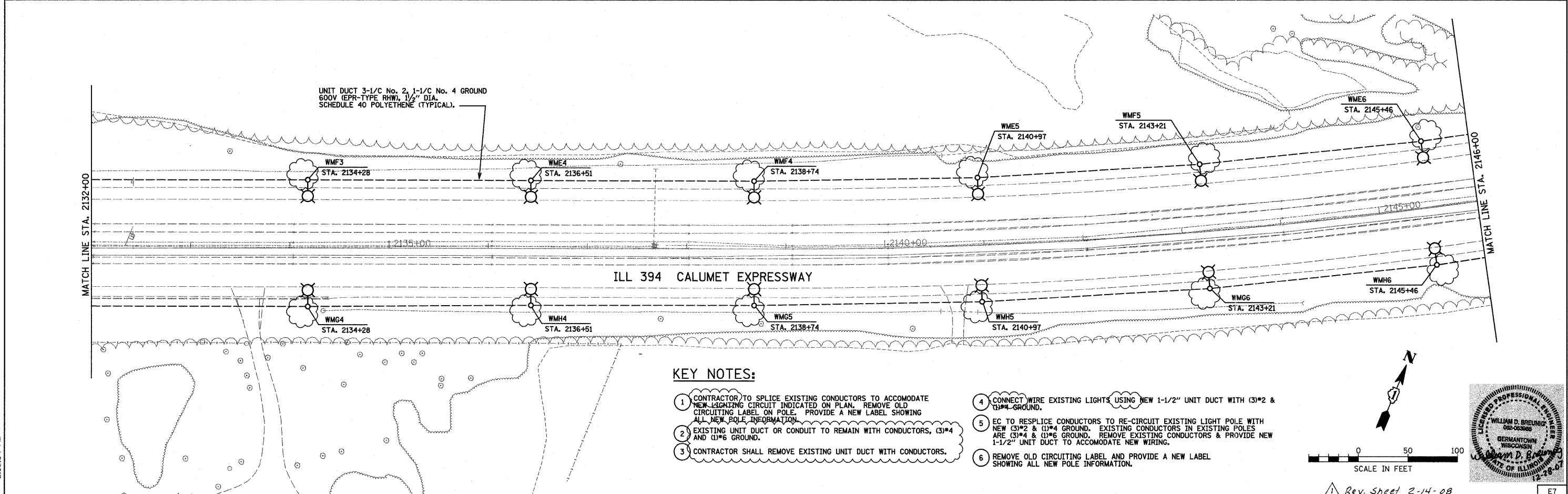
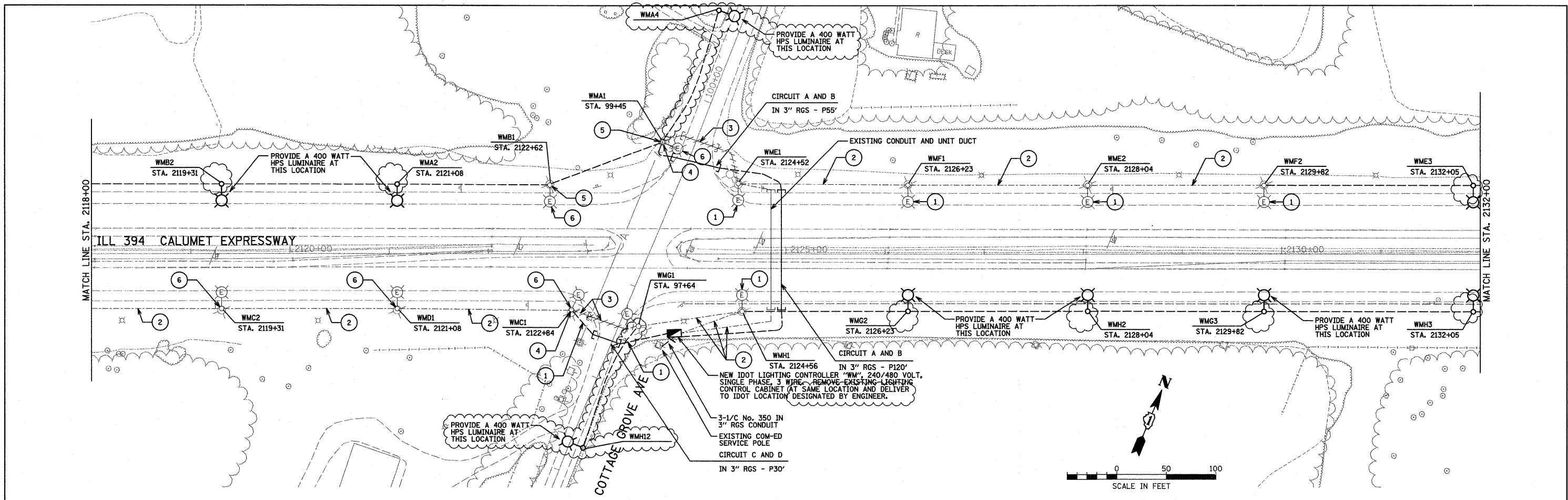


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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

ILL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD		F.A.P. RTE. 332	SECTION 2007-044 I	COUNTY WILL & COOK	TOTAL SHEETS 53	SHEET NO. 36
SCALE: 1" = 50'	SHEET NO. 36 OF 53 SHEETS	STA. 2090+00 TO STA. 2118+00		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 60D34

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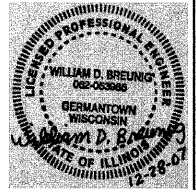
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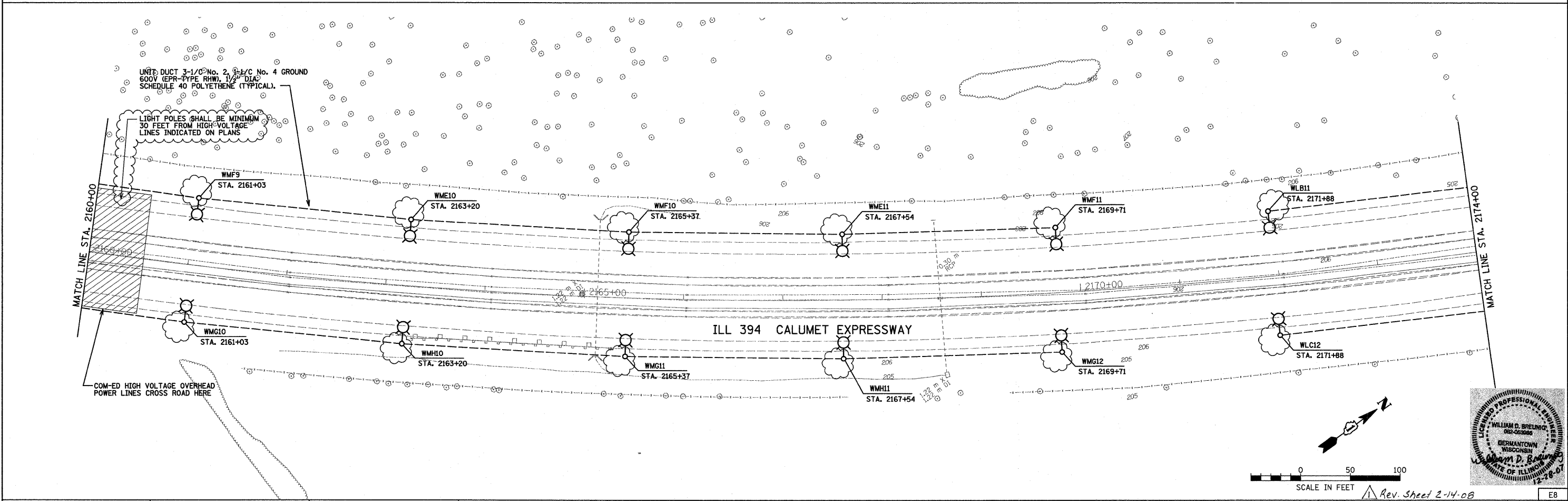
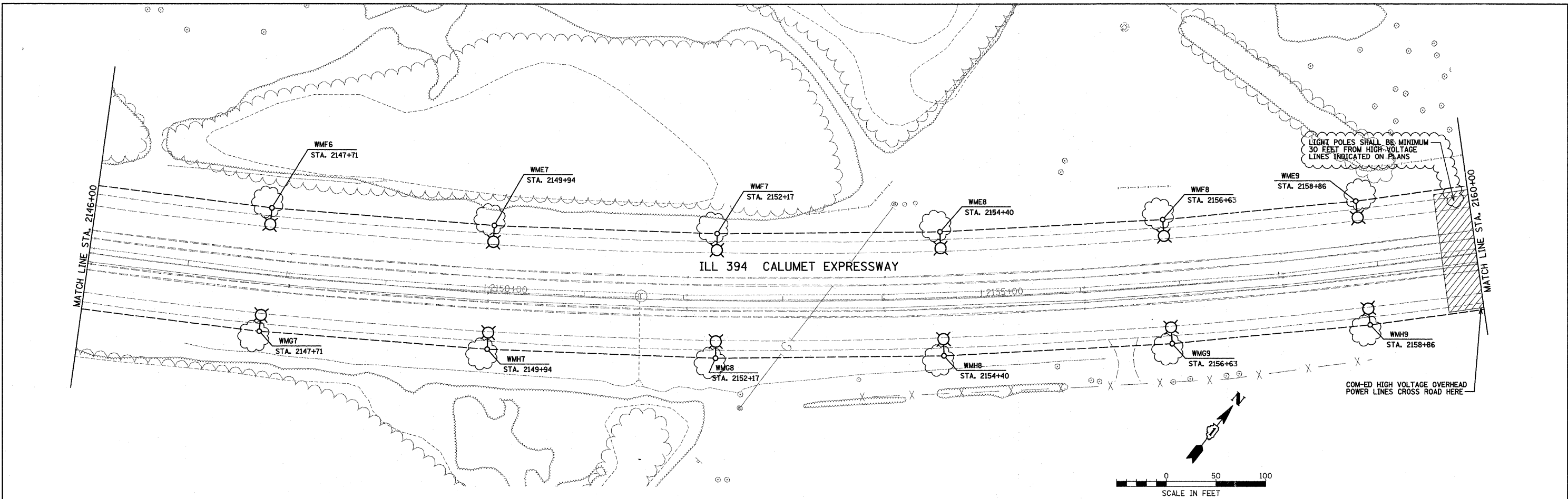
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**IL 394 SAFETY IMPROVEMENTS -- GOODNOW ROAD TO BURVILLE ROAD
 LIGHTING PLAN**

SCALE: 1" = 50' SHEET NO. 37 OF 53 SHEETS STA. 2118+00 TO STA. 2146+00

F.A.P. RTE. 332	SECTION 2007-044 I	COUNTY WILL & COOK	TOTAL SHEETS 53	SHEET NO. 37
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT			CONTRACT NO. 60D34	





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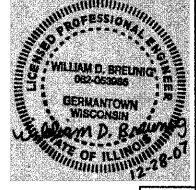
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

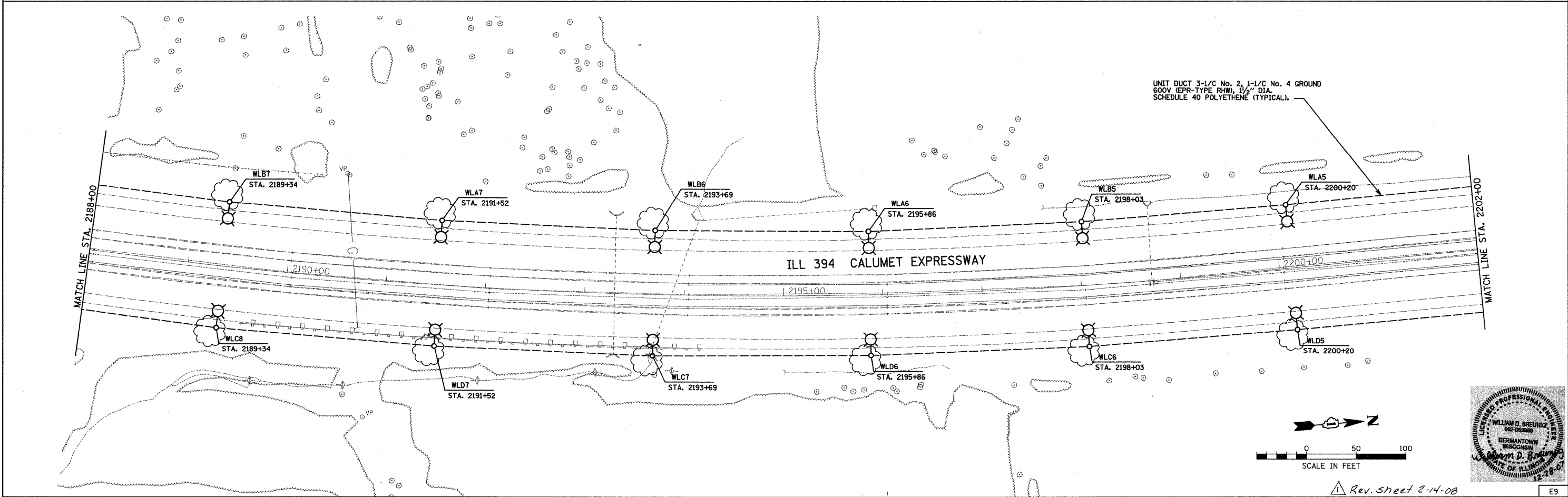
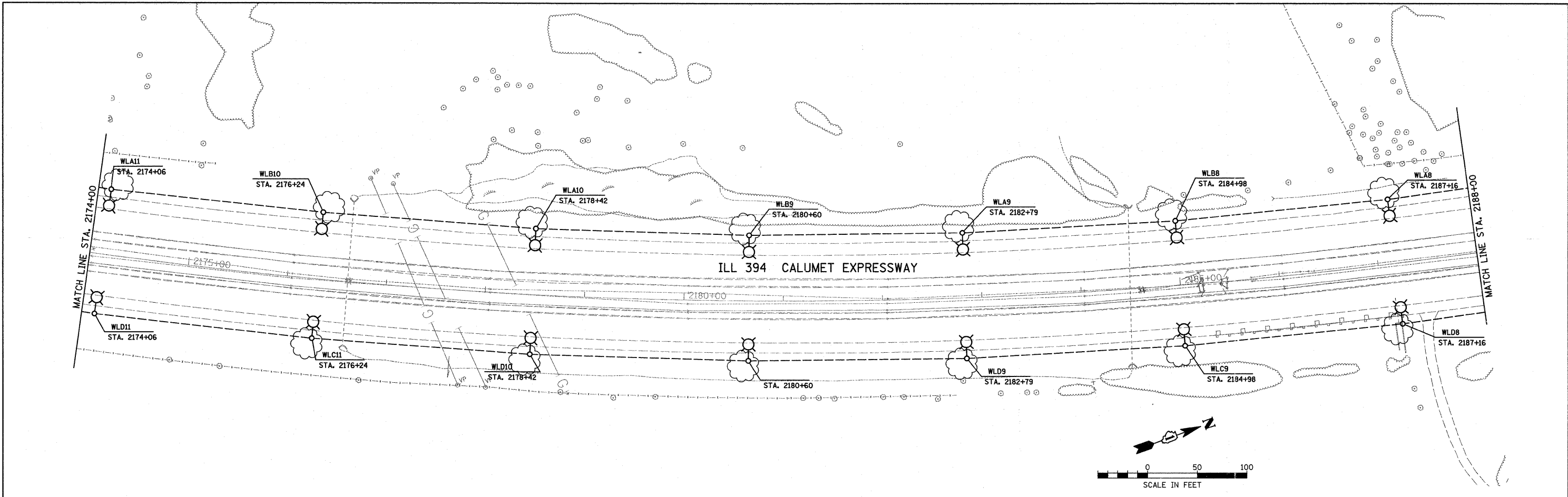
IL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD
LIGHTING PLAN

SCALE: 1" = 50' SHEET NO. 38 OF 53 SHEETS STA. 2146+00 TO STA. 2174+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-04 I	WILL & COOK	53	38
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT			CONTRACT NO. 60D34	



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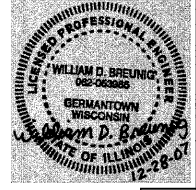


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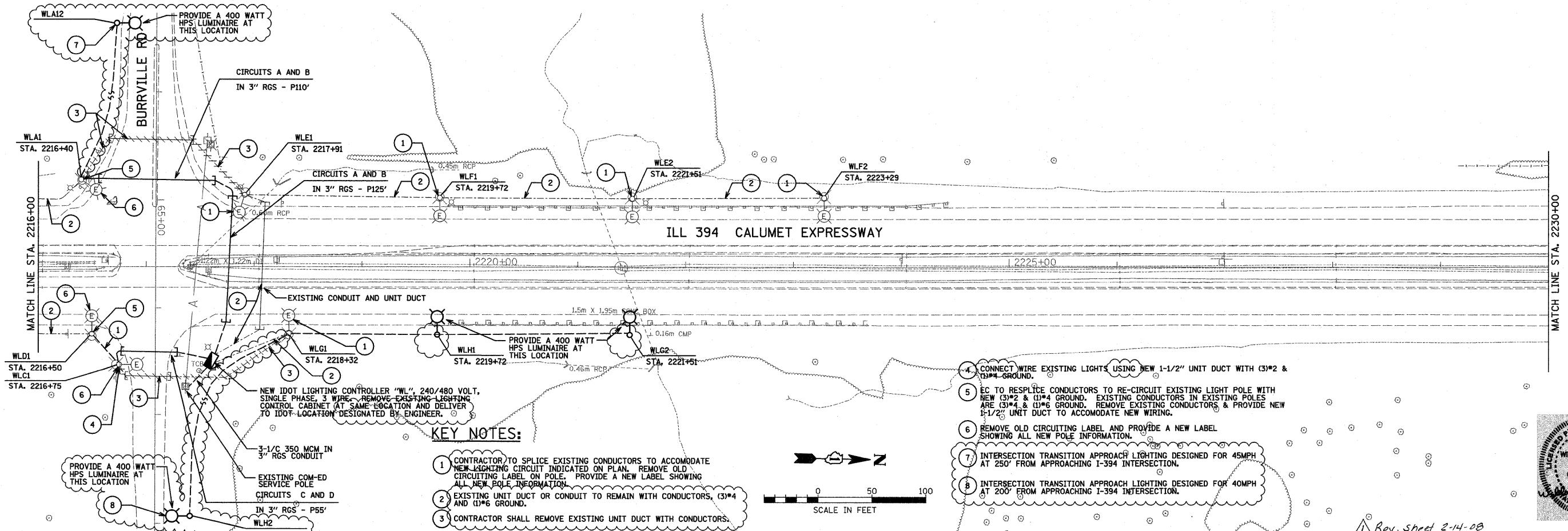
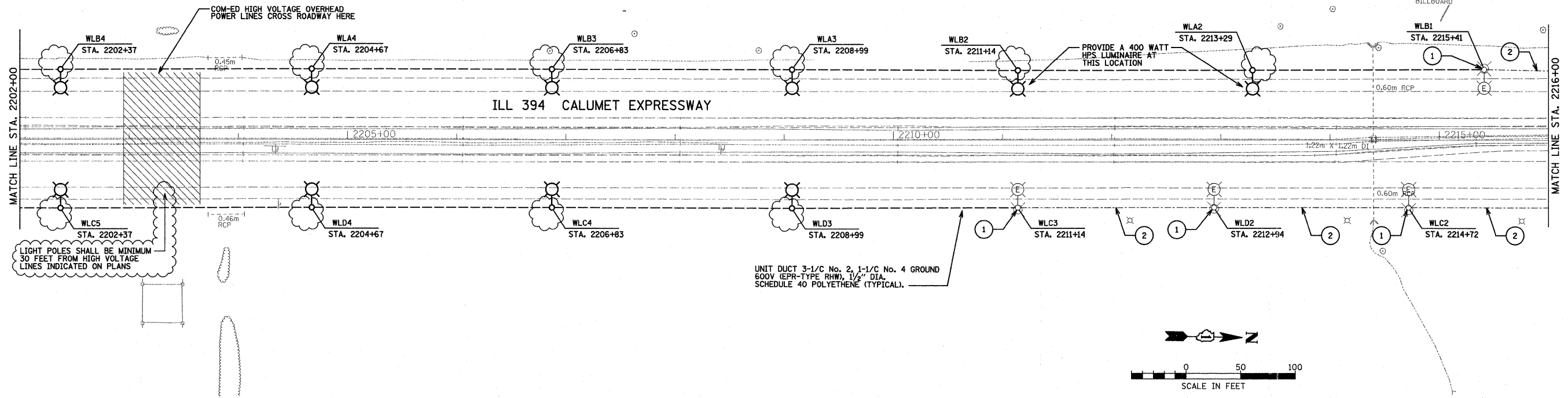
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD
LIGHTING PLAN

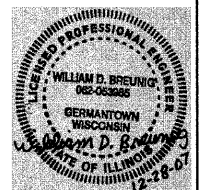
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SCALE: 1" = 50'		SHEET NO. 39 OF 53 SHEETS		STA. 2174+00 TO STA. 2202+00
FED. ROAD DIST. NO. [ILLINOIS]		FED. AID PROJECT		



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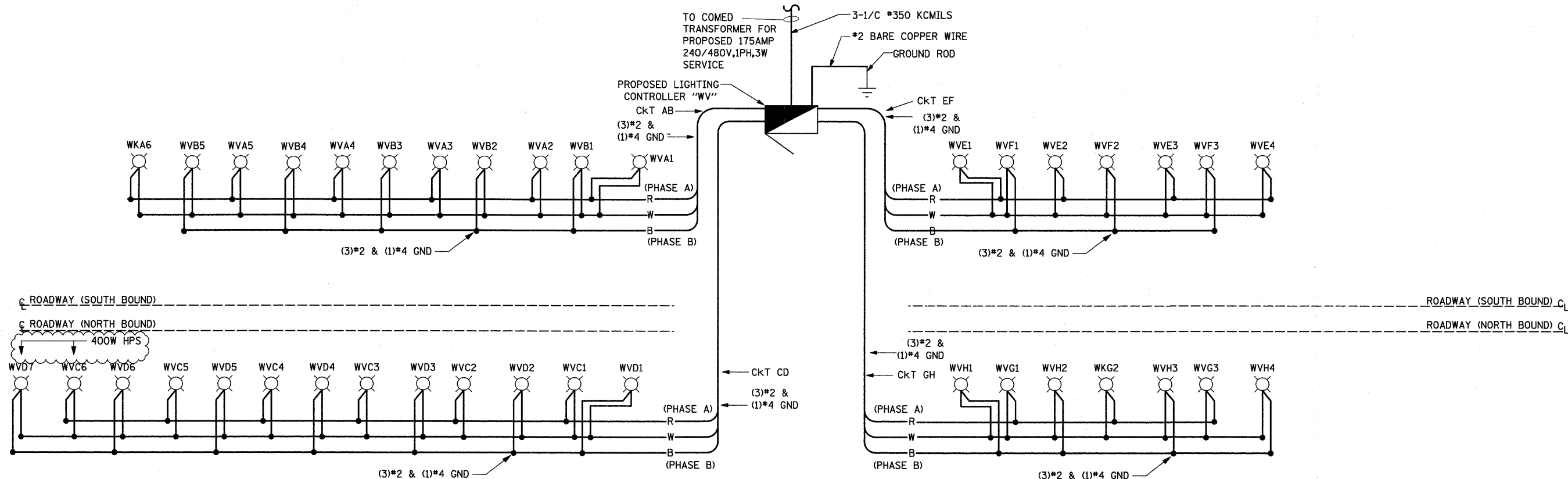
- KEY NOTES:**
- CONTRACTOR TO SPlice EXISTING CONDUCTORS TO ACCOMMODATE NEW LIGHTING CIRCUIT INDICATED ON PLAN. REMOVE OLD CIRCUITING LABEL ON POLE. PROVIDE A NEW LABEL SHOWING ALL NEW POLE INFORMATION.
 - EXISTING UNIT DUCT OR CONDUIT TO REMAIN WITH CONDUCTORS, (3)*4 AND (1)*6 GROUND.
 - CONTRACTOR SHALL REMOVE EXISTING UNIT DUCT WITH CONDUCTORS.
 - CONNECT WIRE EXISTING LIGHTS USING NEW 1-1/2" UNIT DUCT WITH (3)*2 & (1)*4 GROUND.
 - EC TO RESPLICE CONDUCTORS TO RE-CIRCUIT EXISTING LIGHT POLE WITH NEW (3)*2 & (1)*4 GROUND. EXISTING CONDUCTORS IN EXISTING POLES ARE (3)*4 & (1)*6 GROUND. REMOVE EXISTING CONDUCTORS & PROVIDE NEW 1-1/2" UNIT DUCT TO ACCOMMODATE NEW WIRING.
 - REMOVE OLD CIRCUITING LABEL AND PROVIDE A NEW LABEL SHOWING ALL NEW POLE INFORMATION.
 - INTERSECTION TRANSITION APPROACH LIGHTING DESIGNED FOR 45MPH AT 250' FROM APPROACHING I-394 INTERSECTION.
 - INTERSECTION TRANSITION APPROACH LIGHTING DESIGNED FOR 40MPH AT 200' FROM APPROACHING I-394 INTERSECTION.



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	PLOT DATE = 2/8/2008	DATE - 12-31-07	REVISED -								



LOAD TABULATION FOR LIGHTING CONTROLLER "WV" @ RELOCATED IL 1 NEW SERVICE

CIRCUIT	DESCRIPTION	PHASE A (RED) AMPS	PHASE B (BLACK) AMPS	BREAKER SIZE AMPS
A	(6) NEW FIXT @ 1.53A	9.18 (11.64)		70A, 1 POLE
B	(5) NEW FIXT @ 1.53A		7.65 (9.70)	70A, 1 POLE
C	(6) NEW FIXT @ 1.53A	9.18 (11.64)		70A, 1 POLE
D	(7) NEW FIXT @ 1.53A		10.71 (13.58)	70A, 1 POLE
E	(4) NEW FIXT @ 1.53A	6.12 (7.76)		70A, 1 POLE
F	(3) NEW FIXT @ 1.53A		4.59 (5.82)	70A, 1 POLE
G	(3) NEW FIXT @ 1.53A	4.59 (5.82)		70A, 1 POLE
H	(4) NEW FIXT @ 1.53A		10.71 (13.58)	70A, 1 POLE
TOTAL CONNECTED LOAD @ 240V, 1 PH.		29.07A (36.86A)	33.66A (42.68A)	
TOTAL CONNECTED LOAD @ 240V, 1 PH.		7.0KVA (8.8KVA)	8.4KVA (10.7KVA)	
TOTAL CONNECTED LOAD @ 480V, 1 PH.		32.08A (40.63A)		

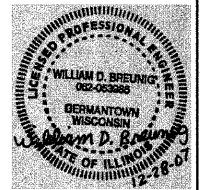
NOTE: AMPERAGE IN PARENTHESIS REPRESENT FUTURE LUMINARIES WITH A 400W HPS LAMPS.

LEGEND

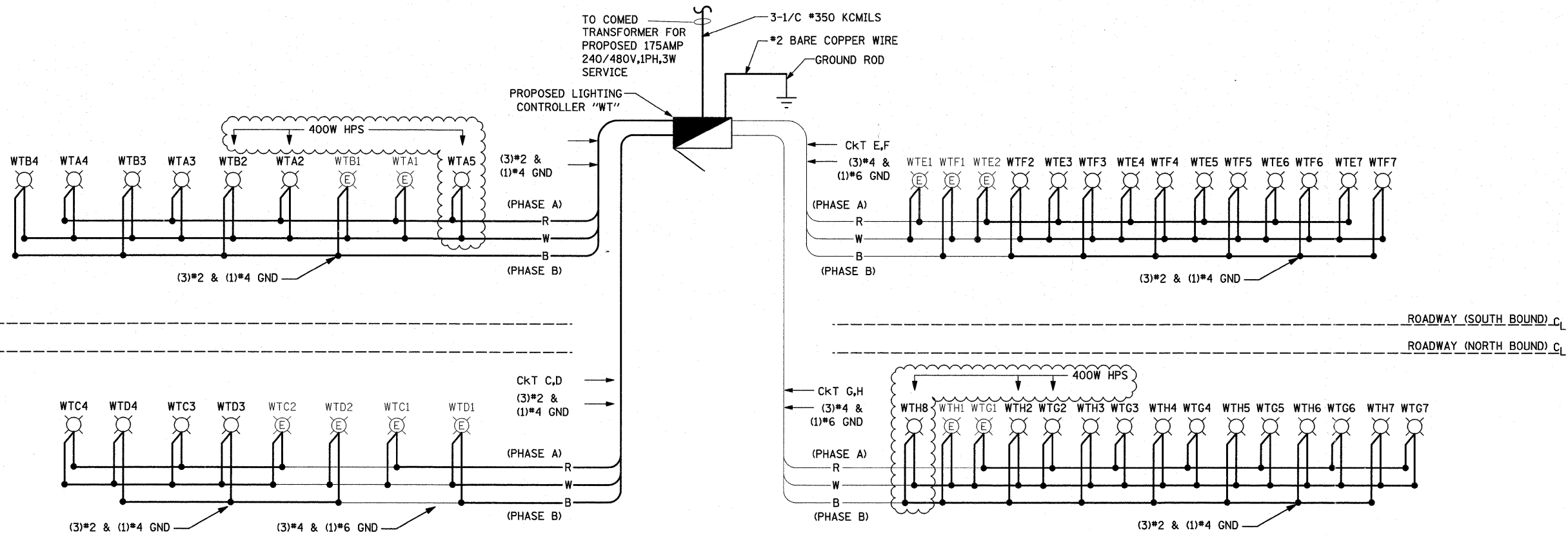
- PROPOSED 310W HPS LUMINAIRE, UNLESS OTHERWISE INDICATED
- EXISTING 400W HPS LUMINAIRE
- PROPOSED LIGHTING CONTROLLER, SINGLE TYPE
- B BLACK PHASE CONDUCTOR
- W WHITE NEUTRAL CONDUCTOR
- R RED PHASE CONDUCTOR
- G GREEN GROUND CONDUCTOR

NOTE:

1. SEE TRAFFIC PLANS FOR STATIONS.



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ROADWAY (SOUTH BOUND)
ROADWAY (NORTH BOUND)

ROADWAY (SOUTH BOUND)
ROADWAY (NORTH BOUND)

LOAD TABULATION FOR LIGHTING CONTROLLER "WT" ELMSCOURT ROAD

CIRCUIT	DESCRIPTION	PHASE A (RED) AMPS	PHASE B (BLACK) AMPS	BREAKER SIZE AMPS
A	(3) FIXT @ 1.94A, (2) NEW FIXT @ 1.53A	8.88 (9.70)		70A, 1 POLE
B	(2) FIXT @ 1.94A, (2) NEW FIXT @ 1.53A		6.94 (7.76)	70A, 1 POLE
C	(2) EX FIXT @ 1.94A, (2) NEW FIXT @ 1.53A	6.94 (7.76)		70A, 1 POLE
D	(2) EX FIXT @ 1.94A, (2) NEW FIXT @ 1.53A		6.94 (7.76)	70A, 1 POLE
E	(2) EX FIXT @ 1.94A, (5) NEW FIXT @ 1.53A	11.53 (13.58)		70A, 1 POLE
F	(2) EX FIXT @ 1.94A, (5) NEW FIXT @ 1.53A		11.53 (13.58)	70A, 1 POLE
G	(2) FIXT @ 1.94A, (5) NEW FIXT @ 1.53A	11.53 (13.58)		70A, 1 POLE
H	(3) FIXT @ 1.94A, (5) NEW FIXT @ 1.53A		11.53 (15.52)	70A, 1 POLE

TOTAL CONNECTED LOAD @ 240V, 1 PH.	38.88A (46.56A)	36.94A (46.56A)
TOTAL CONNECTED LOAD @ 240V, 1 PH.	9.3KVA (11.2KVA)	8.9KVA (11.2KVA)
TOTAL CONNECTED LOAD @ 480V, 1 PH.	38A (46.67A)	

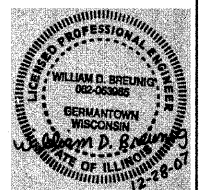
NOTE: AMPERAGE IN PARENTHESIS REPRESENT FUTURE LUMINARIES WITH A 400W HPS LAMPS.

LEGEND

- PROPOSED 310W HPS LUMINAIRE, UNLESS OTHERWISE INDICATED
- EXISTING 400W HPS LUMINAIRE
- PROPOSED LIGHTING CONTROLLER, SINGLE TYPE
- B** BLACK PHASE CONDUCTOR
- W** WHITE NEUTRAL CONDUCTOR
- R** RED PHASE CONDUCTOR
- G** GREEN GROUND CONDUCTOR

NOTE:

1. SEE TRAFFIC PLANS FOR STATIONS.



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PLLOT DATE = 2/8/2008		

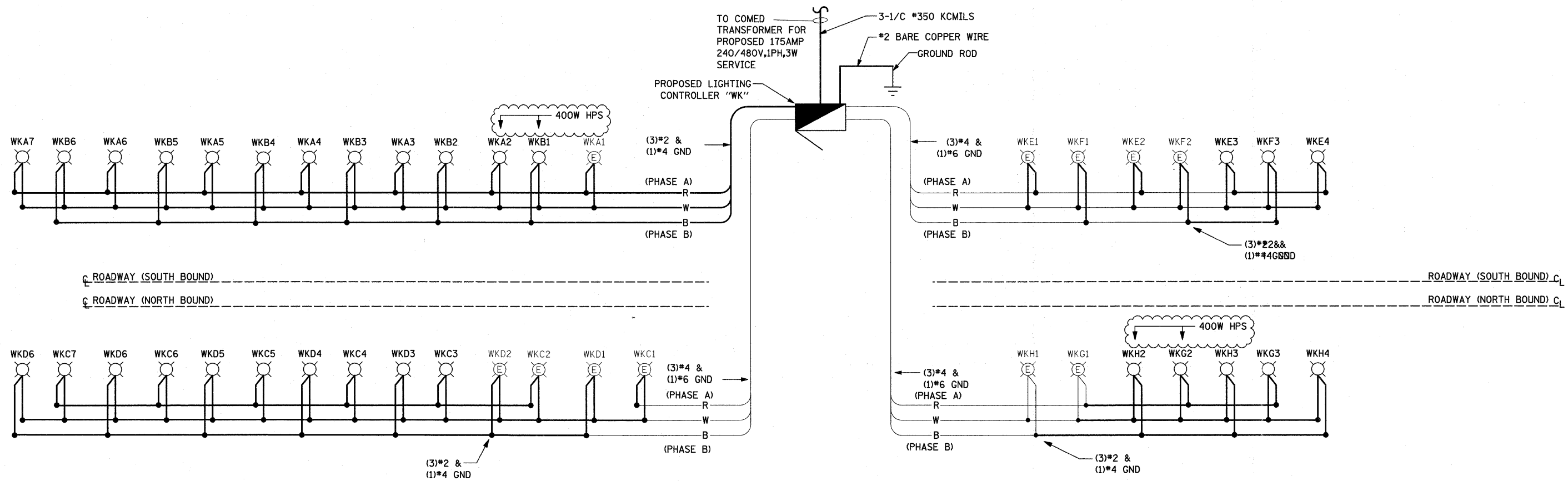
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

IL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD		F.A.P. RTE. 332	SECTION 2007-044 I	COUNTY WILL & COOK	TOTAL SHEETS 53	SHEET NO. 42
LIGHTING CONTROLLER AT ELMSCOURT ROAD - ONE-LINE DIAGRAM		SCALE: 1" = 50'		SHEET NO. 42 OF 53 SHEETS	STA. TO STA.	
		FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

Rev. Sheet 2-14-08

E12

CONTRACT NO. 60D34



LOAD TABULATION FOR LIGHTING CONTROLLER "WK" BEMES ROAD

CIRCUIT	DESCRIPTION	PHASE A (RED) AMPS	PHASE B (BLACK) AMPS	BREAKER SIZE AMPS
A	(2) FIXT @ 1.94A, (5) NEW FIXT @ 1.53A	11.53 (13.58)		70A, 1 POLE
B	(1) EX FIXT @ 1.94A, (6) NEW FIXT @ 1.53A		9.59 (9.18)	70A, 1 POLE
C	(2) EX FIXT @ 1.94A, (5) NEW FIXT @ 1.53A	11.53 (13.58)		70A, 1 POLE
D	(2) EX FIXT @ 1.94A, (5) NEW FIXT @ 1.53A		11.53 (13.58)	70A, 1 POLE
E	(3) EX FIXT @ 1.94A, (1) NEW FIXT @ 1.53A	7.35 (7.76)		70A, 1 POLE
F	(2) EX FIXT @ 1.94A, (1) NEW FIXT @ 1.53A		5.41 (5.82)	70A, 1 POLE
G	(2) FIXT @ 1.94A, (1) NEW FIXT @ 1.53A	5.41 (7.76)		70A, 1 POLE
H	(3) FIXT @ 1.94A, (1) NEW FIXT @ 1.53A		7.35 (7.76)	70A, 1 POLE
TOTAL CONNECTED LOAD @ 240V, 1 PH.		35.82A (42.68A)	33.88A (36.34A)	
TOTAL CONNECTED LOAD @ 240V, 1 PH.		8.6KVA (10.2KVA)	8.13KVA (8.7KVA)	
TOTAL CONNECTED LOAD @ 480V, 1 PH.		34.9A (39.38A)		

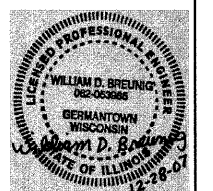
NOTE: AMPERAGE IN PARENTHESIS REPRESENT FUTURE LUMINARIES WITH A 400W HPS LAMPS.

LEGEND

- PROPOSED 310W HPS LUMINAIRE, UNLESS OTHERWISE INDICATED
- EXISTING 400W HPS LUMINAIRE
- PROPOSED LIGHTING CONTROLLER, SINGLE TYPE
- B BLACK PHASE CONDUCTOR
- W WHITE NEUTRAL CONDUCTOR
- R RED PHASE CONDUCTOR
- G GREEN GROUND CONDUCTOR

NOTE:

1. SEE TRAFFIC PLANS FOR STATIONS.



Rev. Sheet 2-14-08

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD
LIGHTING CONTROLLER AT BEMES ROAD - ONE-LINE DIAGRAM**

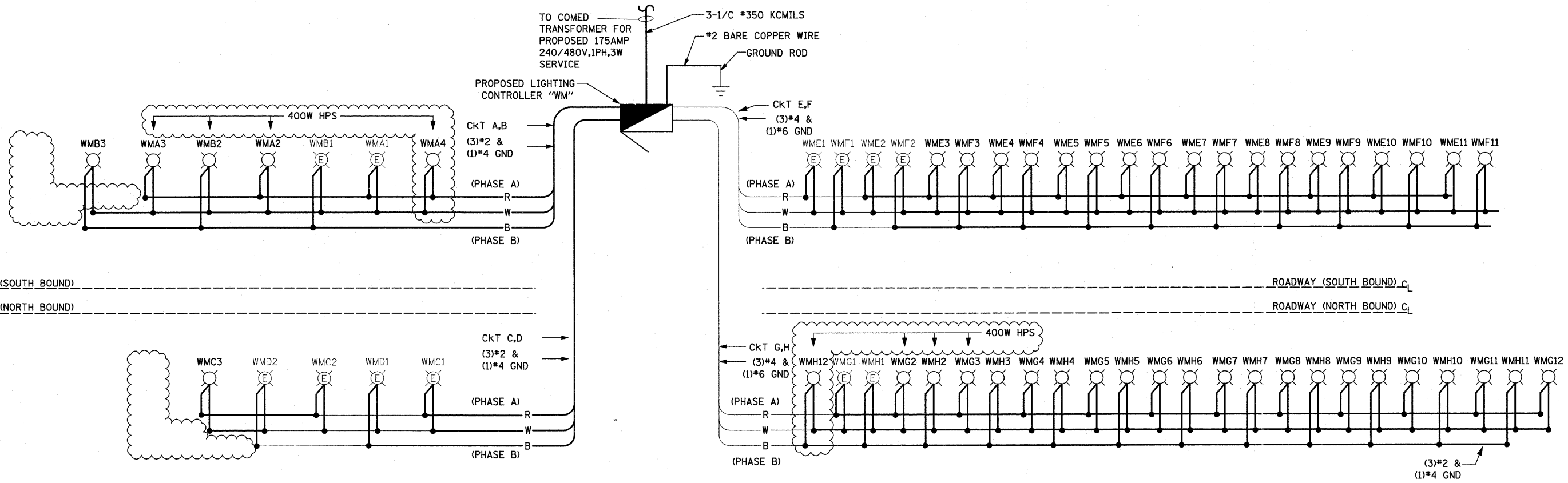
SCALE: 1" = 50' SHEET NO. 43 OF 53 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-044 I	WILL & COOK	53	43
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60D34	

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	DATE - 12-31-07	REVISED -



ROADWAY (SOUTH BOUND)
ROADWAY (NORTH BOUND)

ROADWAY (SOUTH BOUND)
ROADWAY (NORTH BOUND)

LOAD TABULATION FOR LIGHTING CONTROLLER "WM" COTTAGE GROVE AVENUE

CIRCUIT	DESCRIPTION	PHASE A (RED) AMPS	PHASE B (BLACK) AMPS	BREAKER SIZE AMPS
A	(4) FIXT @ 1.94A	7.76 (7.76)		70A, 1 POLE
B	(2) FIXT @ 1.94A, (1) NEW FIXT @ 1.53A		5.41 (5.82)	70A, 1 POLE
C	(2) EX FIXT @ 1.94A, (1) NEW FIXT @ 1.53A	5.41 (5.82)		70A, 1 POLE
D	(2) EX FIXT @ 1.94A		3.88 (3.88)	70A, 1 POLE
E	(2) EX FIXT @ 1.94A, (9) NEW FIXT @ 1.53A	16.83 (21.34)		70A, 1 POLE
F	(2) EX FIXT @ 1.94A, (9) NEW FIXT @ 1.53A		16.83 (21.34)	70A, 1 POLE
G	(3) FIXT @ 1.94A, (9) NEW FIXT @ 1.53A	19.59 (23.28)		70A, 1 POLE
H	(3) FIXT @ 1.94A, (9) NEW FIXT @ 1.53A		17.65 (23.28)	70A, 1 POLE
TOTAL CONNECTED LOAD @ 240V, 1 PH.		49.59A (58.20A)	43.7A (54.32A)	
TOTAL CONNECTED LOAD @ 240V, 1 PH.		11.9KVA (14KVA)	10.5KVA (13KVA)	
TOTAL CONNECTED LOAD @ 480V, 1 PH.		46.67A (56.25A)		

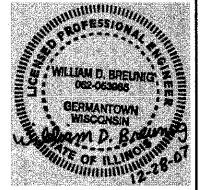
NOTE: AMPERAGE IN PARENTHESIS REPRESENT FUTURE LUMINARIES WITH A HPS 400W LAMPS.

LEGEND

- PROPOSED 310W HPS LUMINAIRE, UNLESS OTHERWISE INDICATED
- EXISTING 400W HPS LUMINAIRE
- PROPOSED LIGHTING CONTROLLER, SINGLE TYPE
- B BLACK PHASE CONDUCTOR
- W WHITE NEUTRAL CONDUCTOR
- R RED PHASE CONDUCTOR
- G GREEN GROUND CONDUCTOR

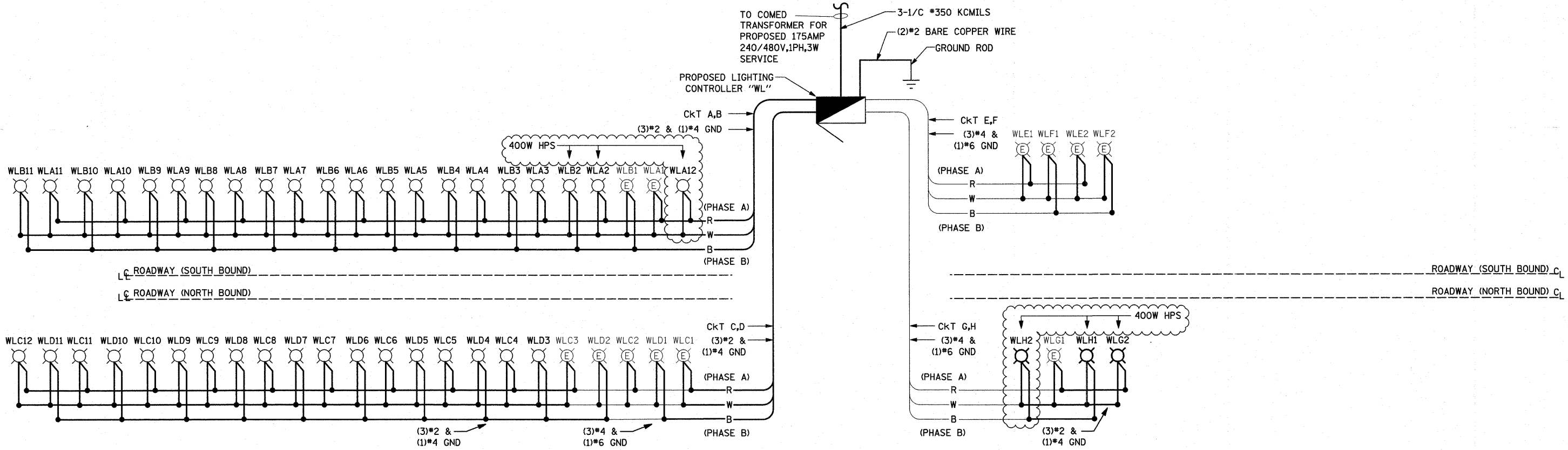
NOTE:

1. SEE TRAFFIC PLANS FOR STATIONS.



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Rev. Sheet 2-14-08



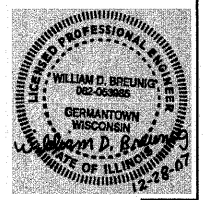
LOAD TABULATION FOR LIGHTING CONTROLLER "WL" BURNSVILLE

CIRCUIT	DESCRIPTION	PHASE A (RED) AMPS	PHASE B (BLACK) AMPS	BREAKER SIZE AMPS
A	(3) FIXT @ 1.94A, (9) NEW FIXT @ 1.53A	19.59 (23.28)		70A, 1 POLE
B	(2) FIXT @ 1.94A, (9) NEW FIXT @ 1.53A		17.65 (21.34)	70A, 1 POLE
C	(3) EX FIXT @ 1.94A, (9) NEW FIXT @ 1.53A	19.59 (23.28)		70A, 1 POLE
D	(2) EX FIXT @ 1.94A, (9) NEW FIXT @ 1.53A		17.65 (21.34)	70A, 1 POLE
E	(2) EX FIXT @ 1.94A	3.88 (3.88)		70A, 1 POLE
F	(2) EX FIXT @ 1.94A		3.88 (3.88)	70A, 1 POLE
G	(2) FIXT @ 1.94A	3.88 (3.88)		70A, 1 POLE
H	(2) NEW FIXT @ 1.94A		3.88 (3.88)	70A, 1 POLE
TOTAL CONNECTED LOAD @ 240V, 1 PH.		46.94A (54.32A)	43.06A (50.44A)	
TOTAL CONNECTED LOAD @ 240V, 1 PH.		11.3KVA (13.0KVA)	10.3KVA (12.1KVA)	
TOTAL CONNECTED LOAD @ 480V, 1 PH.		45.00A (52.29A)		

NOTE: AMPERAGE IN PARENTHESIS REPRESENT FUTURE LUMINARIES WITH A 400W HPS LAMPS.

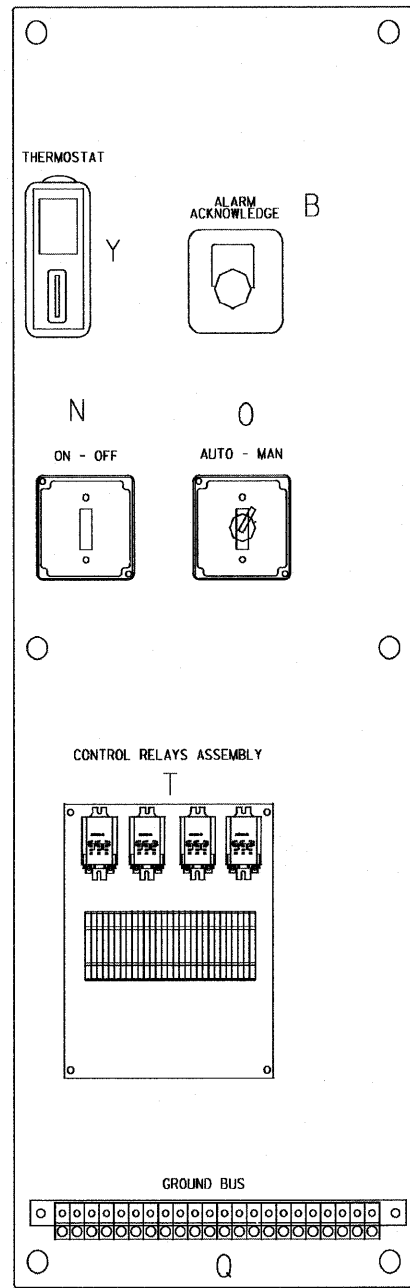
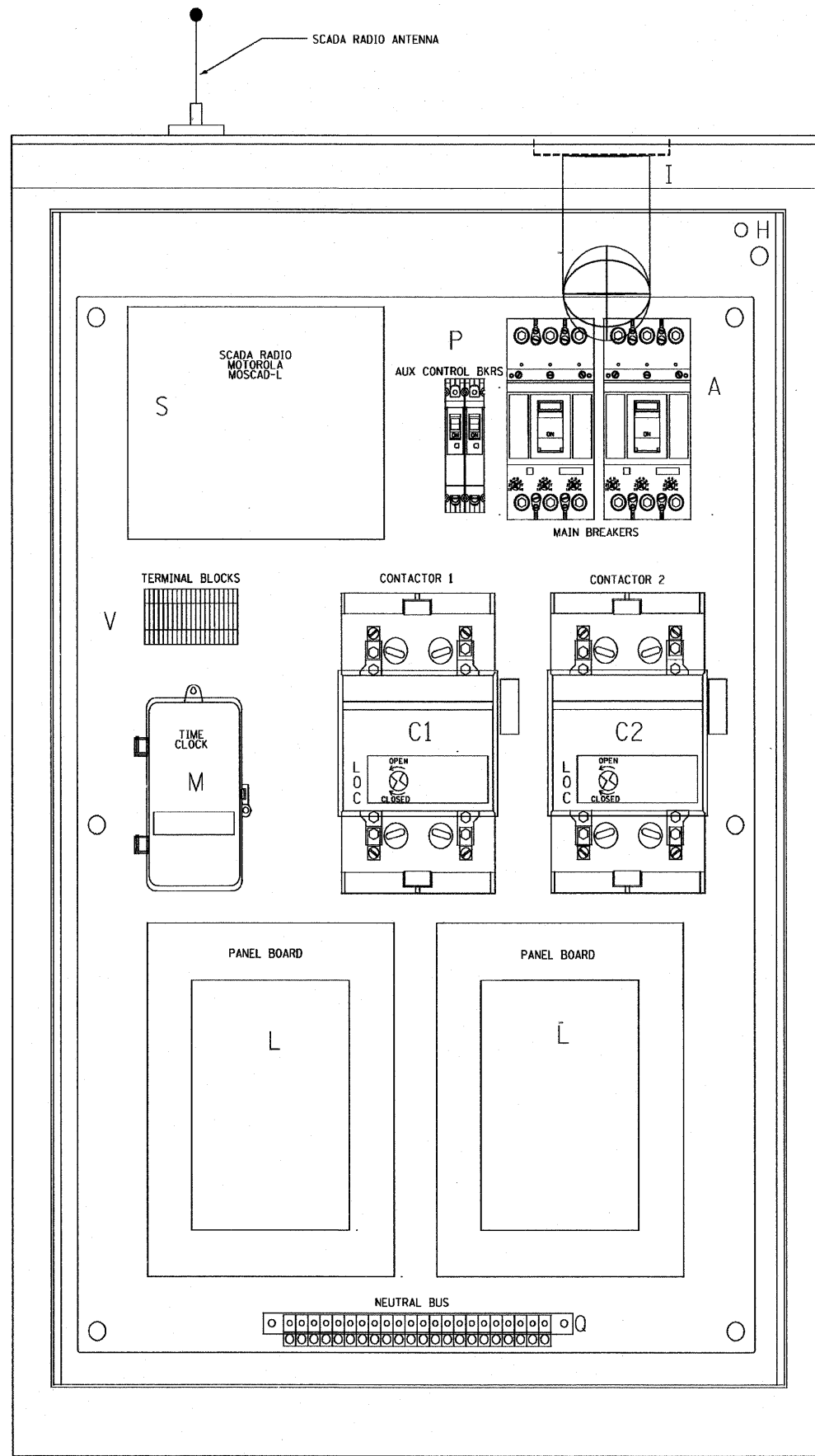
- LEGEND**
- PROPOSED 310W HPS LUMINAIRE, UNLESS OTHERWISE INDICATED
 - EXISTING 400W HPS LUMINAIRE
 - PROPOSED LIGHTING CONTROLLER, SINGLE TYPE
 - B** BLACK PHASE CONDUCTOR
 - W** WHITE NEUTRAL CONDUCTOR
 - R** RED PHASE CONDUCTOR
 - G** GREEN GROUND CONDUCTOR

NOTE:
1. SEE TRAFFIC PLANS FOR STATIONS.

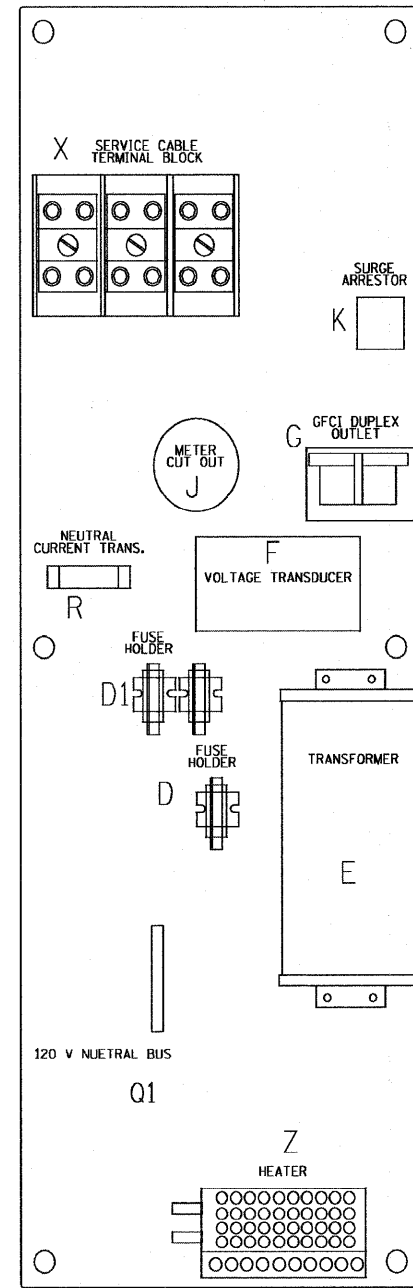


Rev. Sheet 2-14-08

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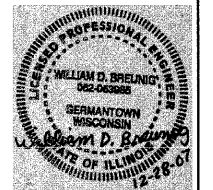
LEFT SIDE PANEL



RIGHT SIDE PANEL

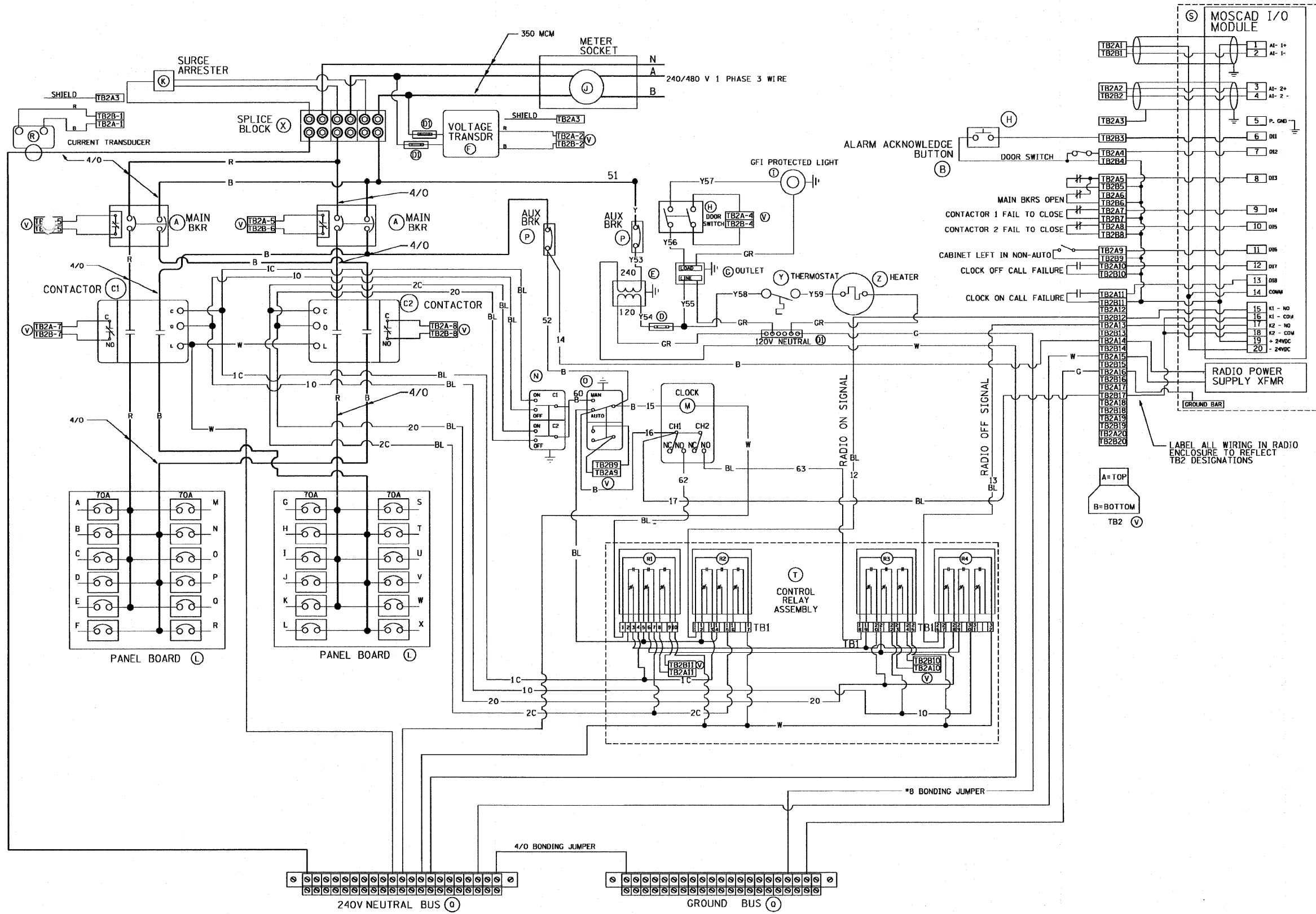
BILL OF MATERIALS		
ITEM	QTY	DESCRIPTION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 175 AMP WITH AUX CONTACT
B	1	ACKNOWLEDGE SWITCH, PUSH BUTTON WITH YELLOW INSERT
C1, C2*	2	CONTACTOR 2 POLE 200 AMP 240V COIL WITH AUX CONTACTS
D	1	FINGERSAFE FUSE HOLDER WITH KTK-15 FUSE
D1	2	FINGERSAFE FUSE HOLDER WITH KTK-1/2 FUSE
E	1	2.0 KVA 277V-240/120 TRANSFORMER
F	1	VOLTAGE TRANSDUCER WITH COVERED TERMINALS
G	1	15 AMP GFCI DUPLEX OUTLET W/COVER
H	2	DOOR SWITCH
I	1	LIGHT FIXTURE
J	1	METER FITTING 1 PHASE 3 WIRE 200 AMP
K	1	SURGE ARRESTOR
L	2	PANEL BOARD 480/240V 1 PHASE, 250 AMP COPPER BUS
M	1	2 CHANNEL DIGITAL TIME CLOCK
N	1	MOMENTARY SWITCH ON - OFF
O	1	SQUARE D, 900KS11BH13, 2 POSITION SWITCH IN 900IKY1 ENCLOSURE OR APPROVED EQUAL
P	2	BREAKER 1P 15A
Q	2	COPPER GROUND AND NEUTRAL BUS 1 x 16 x 1/4
Q1	1	COPPER NEUTRAL BUS WITH 1 #6 AND 8 #12 CONDUCTOR POINTS
R	1	CURRENT TRANSDUCER
S	1	MOTOROLA MOSCAD-L RADIO, 240 V
T*	1	CONTROL RELAY ASSEMBLY 240V COILS WITH 4 3 PDT 25A RELAYS (W389ACX-15) (R1, R2, R3, R4) . QTY 32 TERMINAL BLOCKS
V	20	TERMINAL BLOCKS
X*	1	620 AMP SLPICE BLOCK
Y	1	40-80 DEG THERMOSTAT
Z	1	375 WATT HEATER

* TERMINALS SHALL BE COVERED WITH CLEAR PLEXIGLASS SHEET



Rev. Sheet 2-14-08

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BILL OF MATERIALS		
ITEM #	QTY	DESCRIPTION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 175 AMP WITH AUX CONTACT
B	1	ACKNOWLEDGE SWITCH, PUSH BUTTON WITH YELLOW INSERT
C1, C2	2	CONTACTOR 2 POLE 200 AMP 240V COIL WITH AUX CONTACTS
D	1	FINGERSAFE FUSE HOLDER WITH KTK-10 FUSE
DI	2	FINGERSAFE FUSE HOLDER WITH KTK-1/2 FUSE
E	1	2.0 KVA 277V-240/120 TRANSFORMER
F	1	VOLTAGE TRANSDUCER
G	1	15 AMP GFCI DUPLEX OUTLET W/COVER
H	2	DOOR SWITCH A-20G0-B7-K
I	1	LIGHT FIXTURE
J	1	METER FITTING 1 PHASE 3 WIRE 200 AMP
K	1	SURGE ARRESTER
L	2	PANEL BOARD 480/240V 1 PHASE, 250 AMP COPPER BUS
M	1	2 CHANNEL DIGITAL TIME CLOCK
N	1	MOMENTARY SWITCH ON - OFF
O	1	SQUARE D, 900KSI1B13, 2 POSITION SWITCH IN 900KY1 ENCLOSURE
P	2	BREAKER 1P 15A
Q	2	COPPER GROUND AND NEUTRAL BUS 1 x 16 x 1/4
OI	1	COPPER NEUTRAL BUS WITH 1 I/O AND #6 CONDUCTOR POINTS
R	1	CURRENT TRANSDUCER
S	1	MOTOROLA MOSCAD-L RADIO, 240 V
T	1	CONTROL RELAY ASSEMBLY 240V COILS WITH 4 3 PDT 25A RELAYS (W389ACK-15) (R1, R2, R3, R4) . QTY 32 TERMINAL BLOCKS
V	20	TERMINAL BLOCKS
X	1	620 AMP SPLICE BLOCK
Y	1	40-80 DEG THERMOSTAT
Z	1	375 WATT HEATER

LABEL ALL WIRING IN RADIO ENCLOSURE TO REFLECT TB2 DESIGNATIONS

A=TOP
B=BOTTOM
TB2



Rev. Sheet 2-14-08

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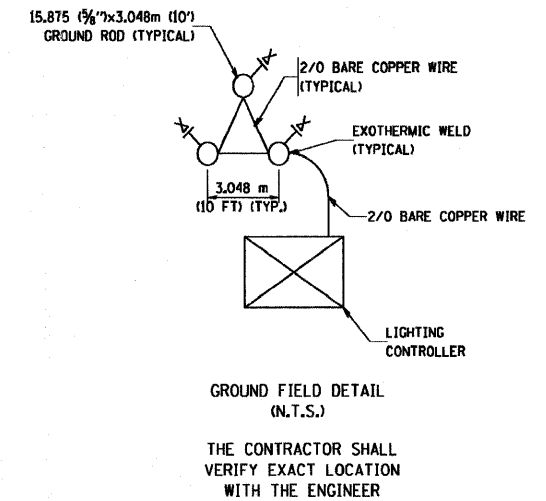
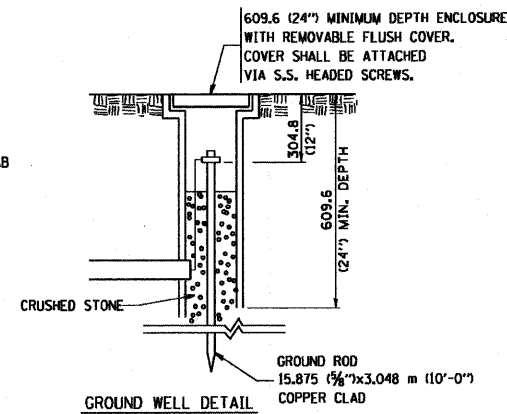
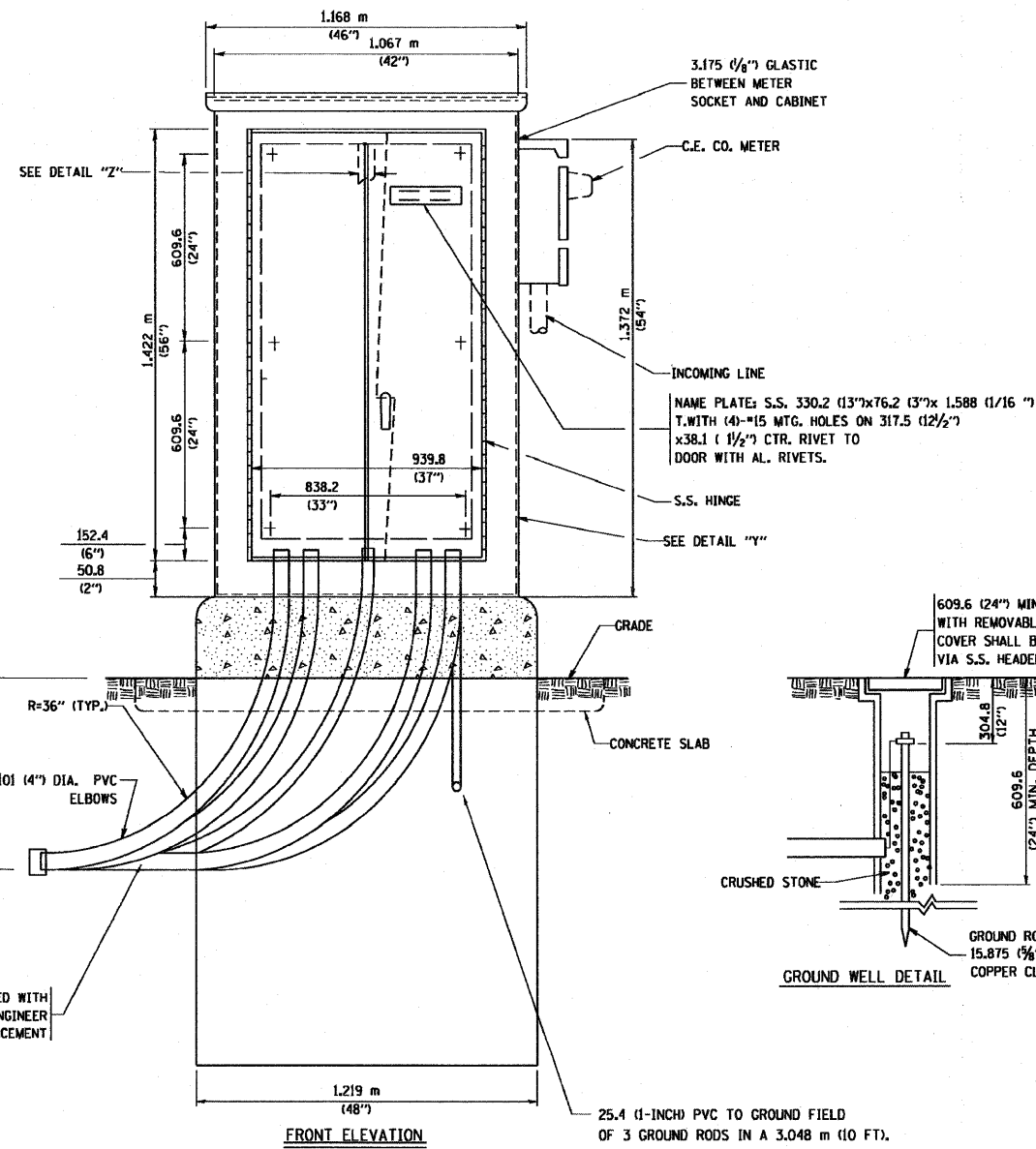
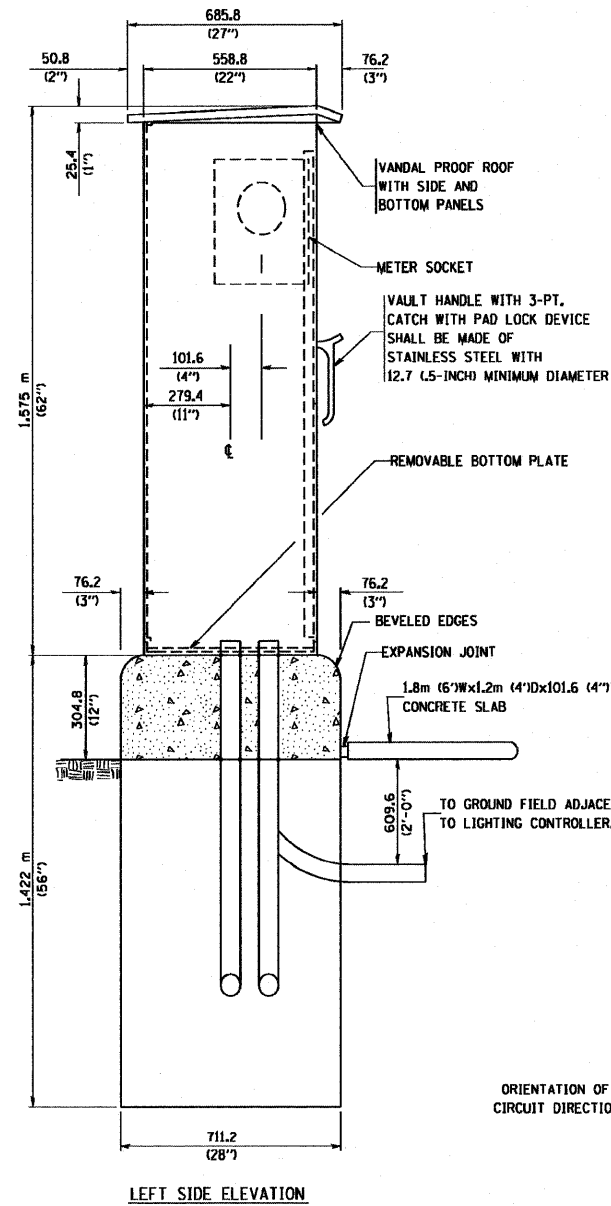
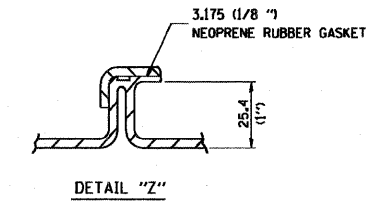
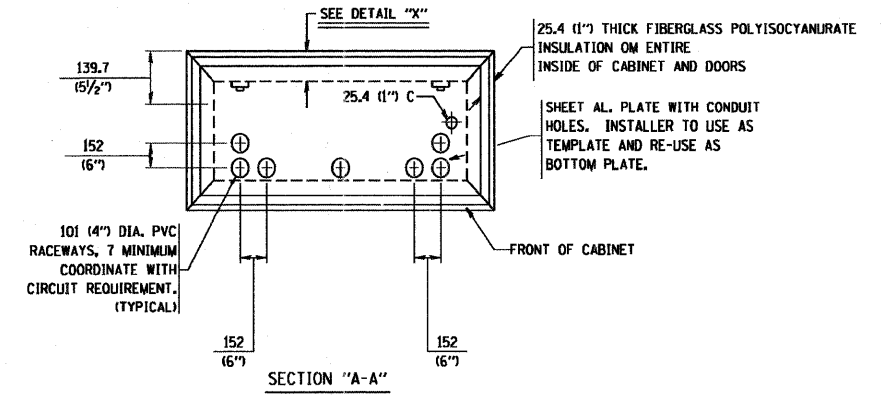
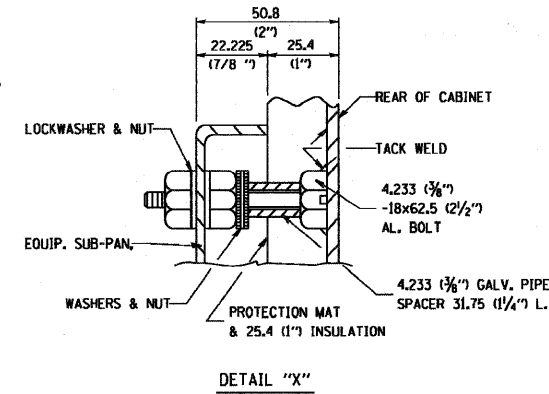
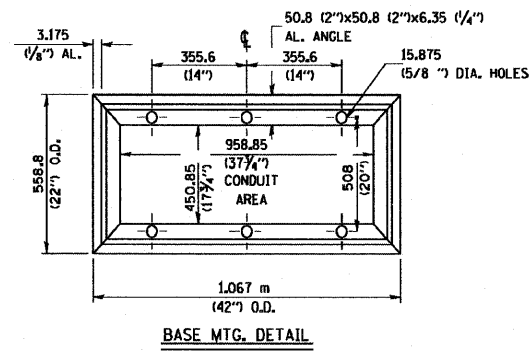
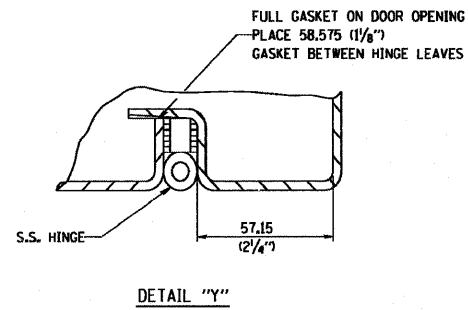
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD
LIGHTING DETAILS - IDOT BE-205**

SCALE: 1" = 50' SHEET NO. 47 OF 53 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-044 I	WILL & COOK	53	47
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 60D34	



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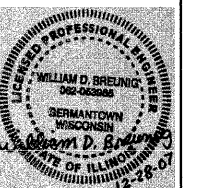
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	DATE - 12-31-07	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD
LIGHTING DETAILS - IDOT BE-205

SCALE: 1" = 50' SHEET NO. 48 OF 53 SHEETS STA. TO STA.

F.A.P. RTE. 332	SECTION 2007-044 I	COUNTY WILL & COOK	TOTAL SHEETS 53	SHEET NO. 48
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT			CONTRACT NO. 60D34	

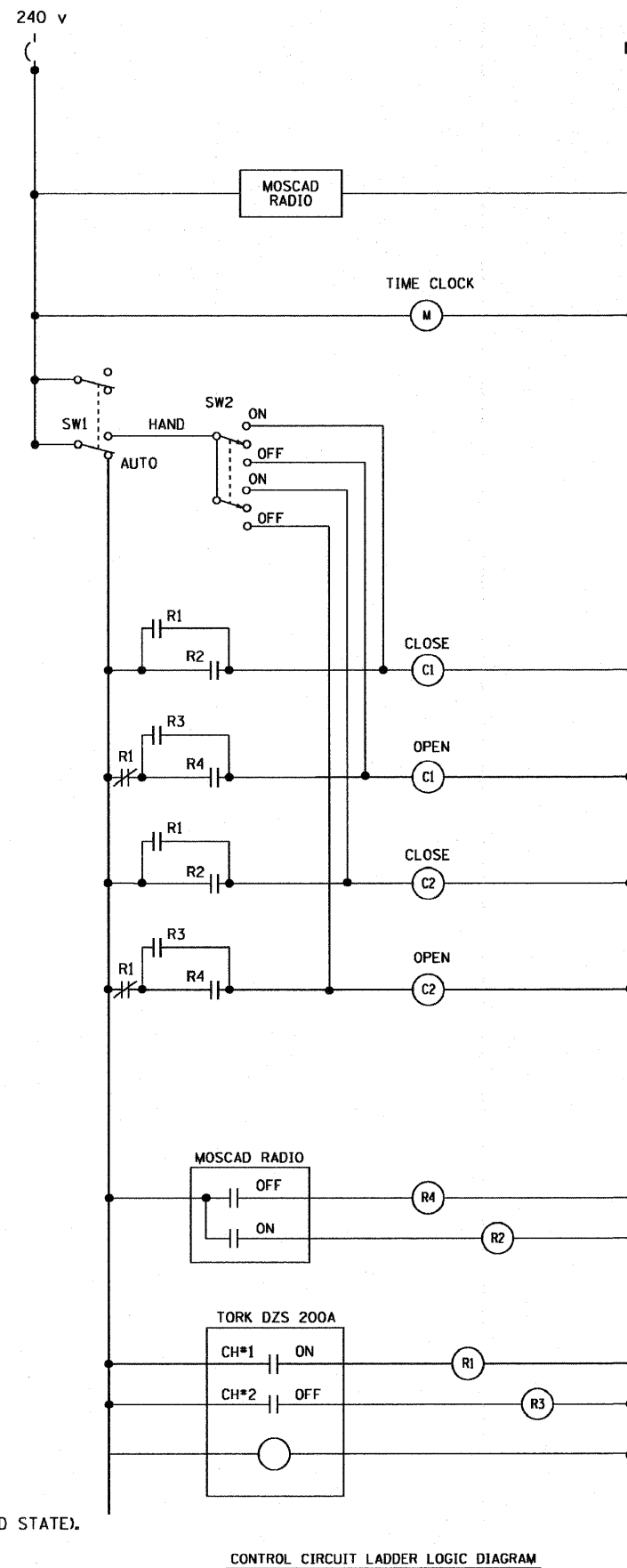


Rev. Sheet 2-14-08

NOTES

- CABINET SHALL BE FABRICATED FROM 3.175 (0.125-INCH) SHEET ALUMINUM # 3003H14, FORMED AND ARC WELDED.
- ALL SCREWS AND HARDWARE SHALL BE PLATED, GALVANIZED, OR MADE OF BRASS, ALUMINUM OR STAINLESS STEEL, UNLESS OTHERWISE NOTED.
- NAME PLATE SHALL HAVE ENGRAVED 19.05 (0.75-INCH) HIGH LETTERS FILLED IN BLACK: "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED.
- ONE INCH THICK POLYISOCYANURATE INSULATION SHALL BE INSTALL AND PERMANENTLY CEMENTED ON ALL SIDES OF THE CABINET AND DOORS.
- CABINET SHALL BE PRIMED AND PAINTED AS SPECIFIED.
- ELECTRIC UTILITY METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET AS SHOWN ON THE PANEL LAYOUT DIAGRAM.
- THE COMPLETED CONTROLLER SHALL BE U.L. LISTED AS AN INDUSTRIAL CONTROL PANEL UNDER UL508.
- METAL MOUNTING PANEL SHALL BE FABRICATED FROM THE SAME MATERIAL AS THE CABINET AND SHALL BE FLANGED BACK 0.75-INCHES I.D. ON 4 SIDES.
- CIRCUIT BREAKERS AND CONTACTORS AND OTHER COMPONENTS SHALL BE MOUNTED ON 3.175 (0.125-INCH) THICK GLASTIC INSULATION BACK PANEL.
- ALL DEVICES SHALL BE FRONT REMOVABLE.
- TIME CLOCK CHANNEL 1 N.O. CONTACT IS CLOSED NIGHT AND OPEN DAY (LIGHTS ON).
- SET LATITUDE TO 42 DEGREES, SET CH.1 TO 25 MINUTES AFTER ASTRONOMICAL SUNSET, 40 MINUTES BEFORE ASTRONOMICAL SUNRISE. SET CH.2 TO 60 MINUTES AFTER ASTRONOMICAL SUNSET (WITH A SIGNAL LENGTH OF 1 SECOND), +20 MINUTES AFTER ASTRONOMICAL SUNRISE (WITH A SIGNAL LENGTH OF 7 SECONDS).
- BUS BAR SHALL HAVE 22 LUG TERMINALS SIZED TO ACCOMMODATE REQUIRED WIRE SIZES. 240V NEUTRAL BUS SHALL BE PAINTED WHITE, GROUND BUS SHALL BE PAINTED GREEN, AND THE 120V NEUTRAL BUS SHALL BE PAINTED GREY.
- ALL LUGS SHALL BE OF COPPER SCREWS AND CONNECTORS, SPRING HELD.
- ALL WIRING TERMINATIONS SHALL BE RATED NOT LESS THAN 75 DEGREE CENTIGRADE
- ALL CONTROL WIRING SHALL BE 600V #12 TYPE MTW.
- ALL POWER WIRING SHALL BE 600V TYPE RHH/RHW.
- ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED:

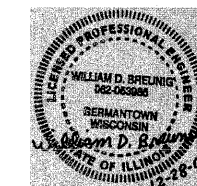
R - RED	Y - YELLOW
B - BLACK	W - WHITE
BL- BLUE	G - GREEN
	C - GREY
- MOSCAD I/O WIRING SHALL BE:
 - DIGITAL INPUT (DI) WIRING SHALL BE #16 MTW PURPLE
 - ANALOG INPUT (AI) WIRING SHALL BE #18, 2/C SHIELDED.
 - AI AND DI WIRING MAY BE BUNDLED TOGETHER, BUT SHALL NOT BE BUNDLED WITH OTHER WIRING.
- ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE INDICATED.
- SCHEMATIC SHOWN WITH BREAKER OPEN, CONTACTOR OPEN, CABINET DOOR CLOSED, CLOCK NOT ACTIVE (DE-ENERGIZED STATE).
- A LAMINATED COPY OF THE CIRCUIT SCHEMATIC AND SCADA I/O DIAGRAM (NO SMALLER THAN 11"x17" EACH) SHALL BE ATTACHED TO THE INSIDE OF THE CONTROLLER WITH STAINLESS STEEL SCREWS.



CONTROL CIRCUIT LADDER LOGIC DIAGRAM

MOSCAD I/O ASSIGNMENTS		
TERM	MOSCAD DESTINATION	DESCRIPTION OF INPUT
1	Analog Input 1 (+)	CABINET NEUTRAL CURRENT
2	Analog Input 1 (-)	CABINET NEUTRAL CURRENT
3	Analog Input 2 (+)	CABINET SERVICE VOLTAGE
4	Analog Input 2 (-)	CABINET SERVICE VOLTAGE
5	P. Ground	GROUND
6	Digital Input 1	ALARM KNOWLEDGE
7	Digital Input 2	DOOR OPEN
8	Digital Input 3	MAINS) BREAKER OPEN
9	Digital Input 4	CONTACTOR 1 OPEN
10	Digital Input 5	CONTACTOR 2 OPEN
11	Digital Input 6	CABINET IN NON-AUTO
12	Digital Input 7	BACK-UP CLOCK OFF CALL
13	Digital Input 8	BACK-UP CLOCK ON CALL
14	DI Common	COMMON
15	K1 NO	LIGHTS ON CALL
16	K1 C	K1 COMMON
17	K2 NO	LIGHTS OFF CALL
18	K2 C	K2 COMMON
19	24 V+	24+VDC
20	24 V-	24-VDC

All analog inputs will be 4-20 mA only. Digital output relays will be Electrically energized and momentarily held
Mixed I/O module model number V436



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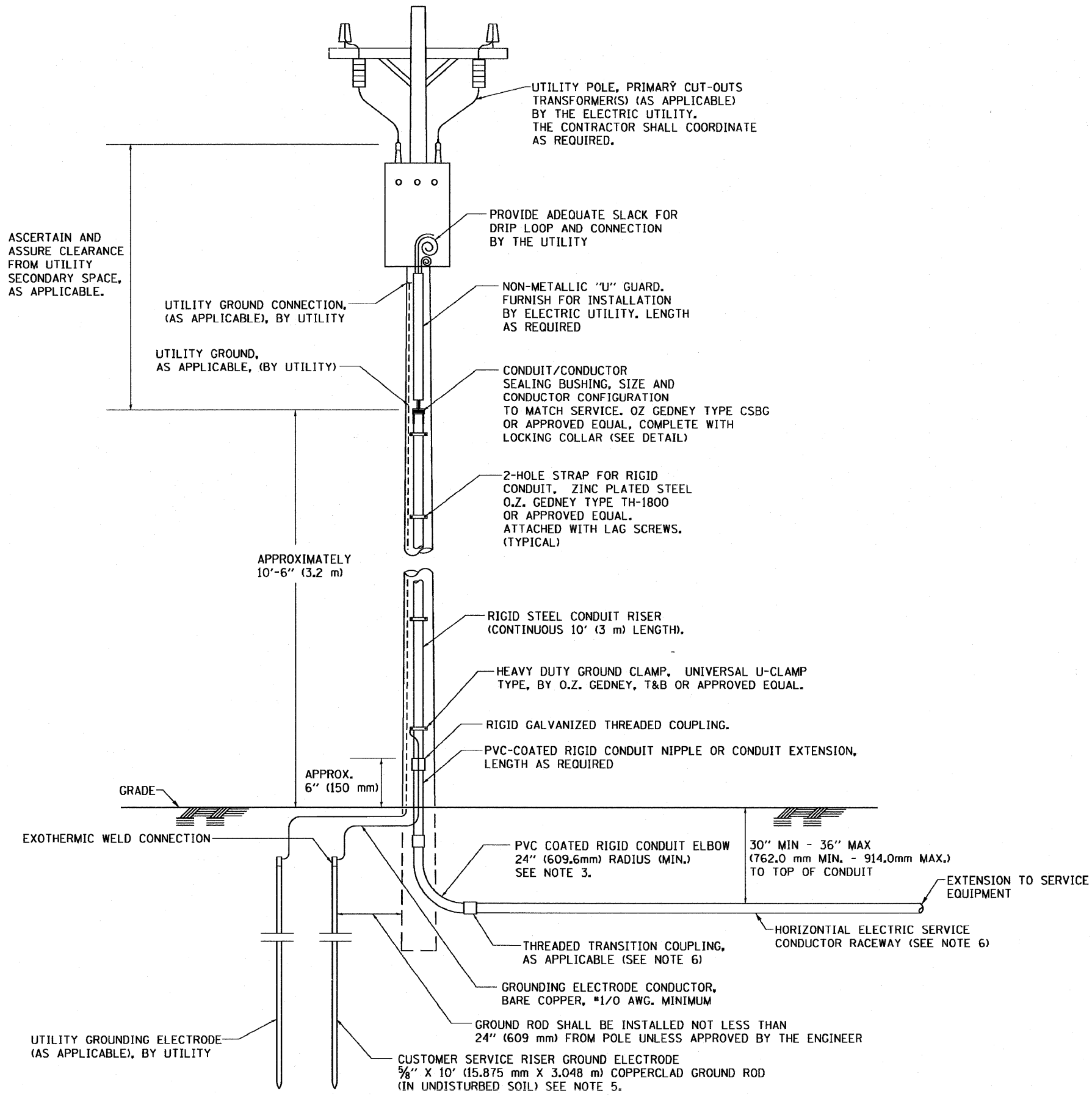
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD
LIGHTING DETAILS - IDOT BE-205

F.A.P. RTE. 332	SECTION 2007-044 I	COUNTY WILL & COOK	TOTAL SHEETS 53	SHEET NO. 49
SCALE: 1" = 50'		SHEET NO. 49 OF 53 SHEETS		STA. TO STA.
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		CONTRACT NO. 60D34



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PLOT DATE = 2/8/2008	CHECKED - BDB	REVISED -
	DATE - 12-31-07	REVISED -

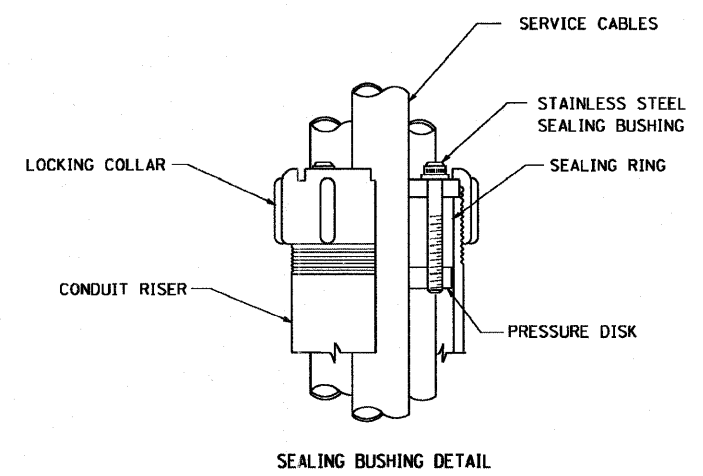


APPLICATION

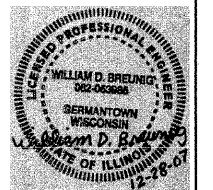
THIS DETAIL APPLIES FOR LOW VOLTAGE ELECTRIC SERVICE (660 V OR LESS) FROM AN OVERHEAD UTILITY SUPPLY TO SEPERATLY-MOUNTED SERVICE EQUIPMENT.

NOTES

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



SEALING BUSHING DETAIL



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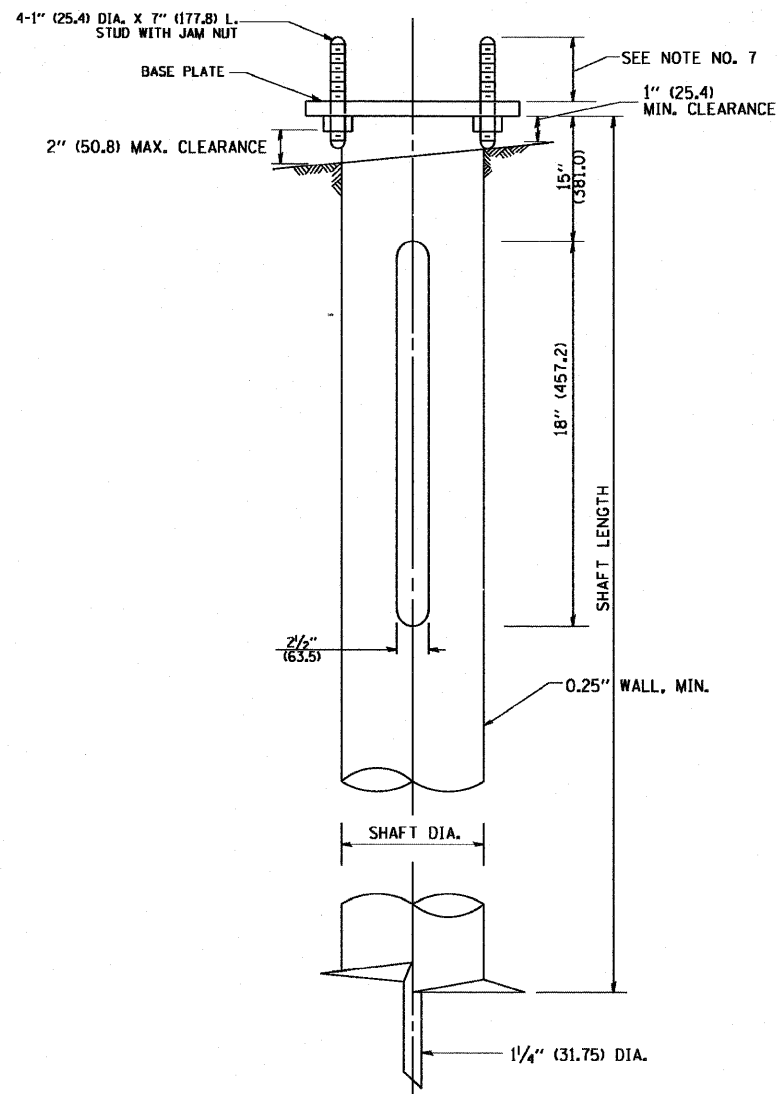
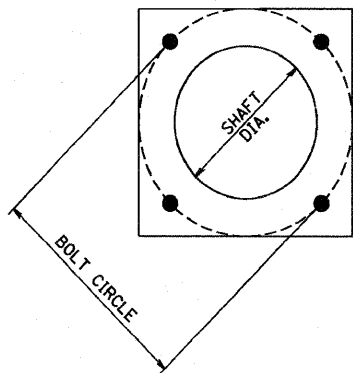
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD
LIGHTING DETAILS - IDOT BE-220**

SCALE: 1" = 50' SHEET NO. 50 OF 53 SHEETS STA. TO STA.

F.A.P. RTE. 332	SECTION 2007-044 I	COUNTY WILL & COOK	TOTAL SHEETS 53	SHEET NO. 50
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60D34	



NOTES:

1. ALL DIMENSION IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. ALL MATERIAL SHALL BE GALVANIZED ACCORDING TO AASHTO M111, UNLESS OTHERWISE SPECIFIED.
3. ALL WELDS SHALL BE CONTINUOUS AND NOT LESS THAN 1/4" (6.35 mm) FILLET WELDS. THE WELDED FOUNDATION SHALL BE CAPABLE OF WITHSTANDING 10,000 FT/LBS (13558.18 n.m) OF INSTALLATION TORQUE APPLIED ABOUT THE AXIS OF THE FOUNDATION.
4. THE HELIX FOUNDATION SHAFT SHALL BE INSTALLED VERTICAL AND THE BASE PLATE SHALL BE IN LEVEL. THE BREAKAWAY COUPLINGS AND HARDWARE SHALL NOT BE USED TO ALIGN THE POLE INSTALLATION.
5. THE CABLE TRENCH SHALL BE BACKFILLED AND FIRMLY COMPACTED BEFORE THE INSTALLATION OF THE LIGHT POLE.
6. THE CONTRACTOR SHALL COORDINATE EXTENSION OF ANCHOR BOLTS ABOVE TOP OF THE BASE PLATE WITH THE BREAKAWAY DEVICE MANUFACTURER'S REQUIREMENTS.
7. ANY VOIDS WITHIN THE METAL FOUNDATION SHALL BE FILLED WITH FINE AGGREGATE.
8. METAL FOUNDATIONS SHALL BE INSTALLED IN UNDISTURBED SOIL. PREDRILLING A PILOT HOLE AND/OR BACKFILLING AROUND THE FOUNDATION IS NOT ALLOWED.
9. THE METAL FOUNDATION SHALL NOT BE INSTALLED TO A TORQUE WHICH EXCEEDS THE MANUFACTURER'S MAXIMUM TORQUE RATING NOR SHALL IT BE INSTALLED TO AN INSTALLATION TORQUE VALUE OF LESS THAN 3,500 FT LB (4,750 KNM). METAL FOUNDATIONS THAT ARE NOT INSTALLED TO FULL INSTALLATION DEPTH OR DO NOT ACHIEVE THE MINIMUM INSTALLATION TORQUE SHALL BE REMOVED AND REPLACED WITH A CONCRETE FOUNDATION AT NO ADDITIONAL COST.
10. THE BASEPLATE SHALL BE PERPENDICULAR TO THE SHAFT AXIS ($\pm 1^\circ$) AND THE HOLE CENTERLINE SHALL BE CONCENTRIC (± 0.188) TO THE SHAFT AXIS.
11. THE PILOT POINT AND SHAFT AXIS SHALL BE CONCENTRIC (± 0.125) AND IN LINE ($\pm 2^\circ$).
12. THE BASEPLATE SHALL BE STAMPED WITH THE MANUFACTURERS NAME AND DATE OF MANUFACTURE.

HELIX FOUNDATION SIZE

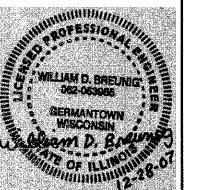
POLE MOUNTING HEIGHT	BOLT CIRCLE	SHAFT DIAMETER	SHAFT LENGTH	BASEPLATE
30 FT.	11 1/2"	8 5/8"	6 FT.	12"x12"x1"
31 FT.-35 FT.	11 1/2"	8 5/8"	6 FT.	12"x12"x1"
36 FT.-40 FT.	15"	8 5/8"	6 FT.	15"x15"x1 1/4"
41 FT.-45 FT.	15"	8 5/8"	6 FT.	15"x15"x1 1/4"
46 FT.-50 FT.	15"	10"	8 FT.	15"x15"x1 1/4"

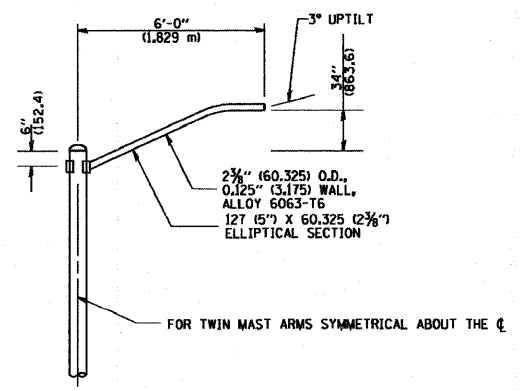
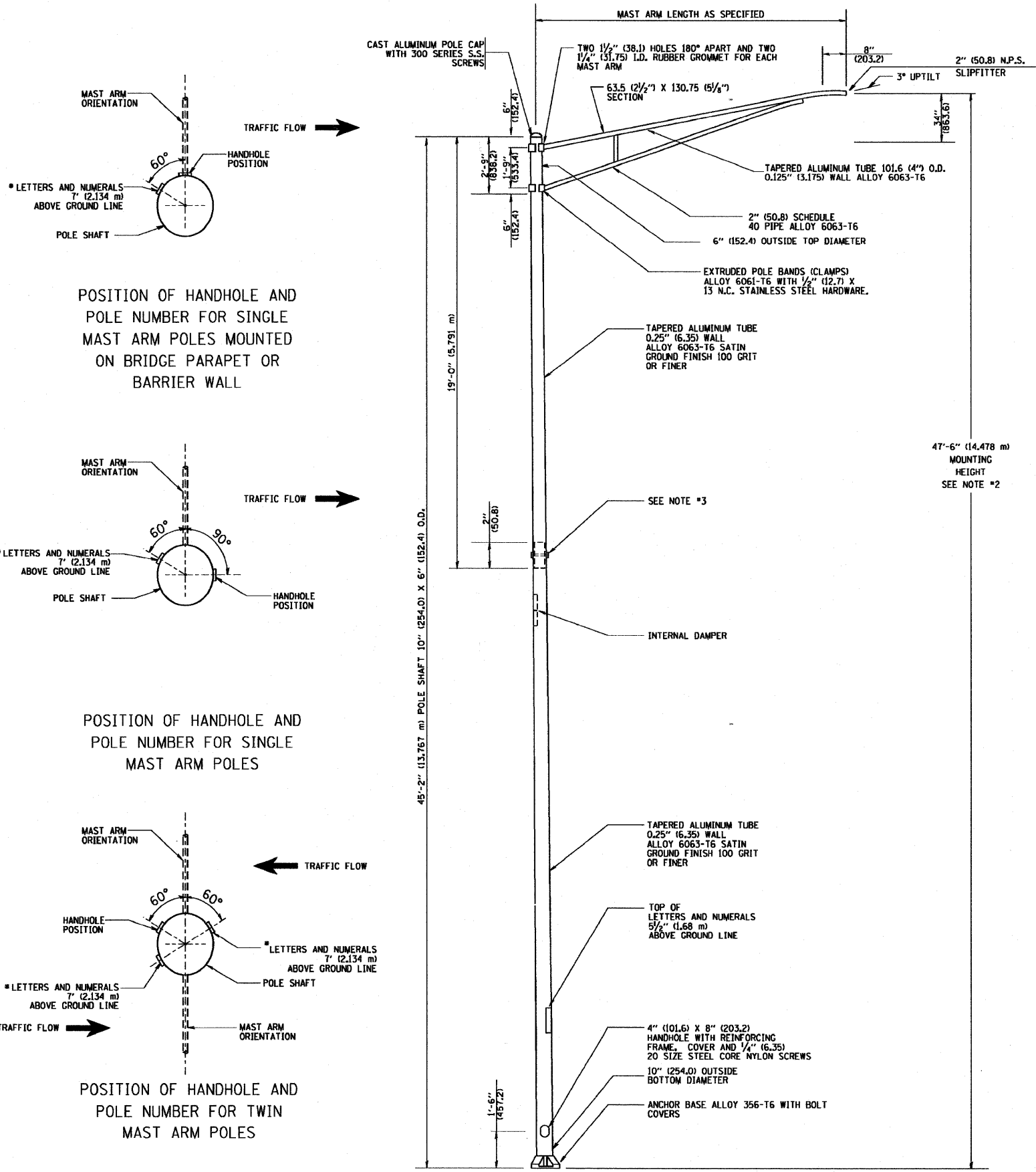
METAL HELIX FOUNDATION MATERIALS

ITEM	MATERIAL REQUIREMENT
BASEPLATE	AASHTO M 270M, GRADE 36 (M270M, GRADE 250)
SHAFT	ASTM A 252, GRADE 2 (PHOSPHOROUS 0.04% MAXIMUM, SULFUR 0.05% MAXIMUM)
HELIX SCREW	AASHTO M 183 (ASTM A 635)
PILOT POINT	AASHTO M 270 (ASTM A 575)
ANCHOR RODS/STUDS	AASHTO M 314 (ASTM F 1554)
HEXAGON NUTS	AASHTO M 291M (ASTM A 563) GRADE DH, OR AASHTO M 292 (ASTM A 194) GRADE 2H
WASHERS	AASHTO M 293 (ASTM F 436)

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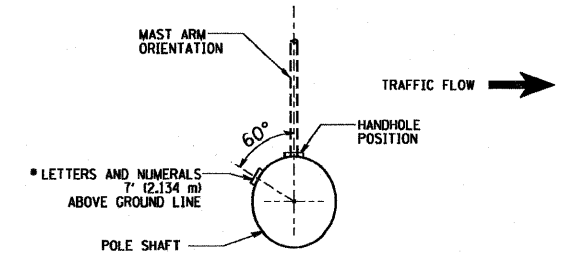
Rev. Sheet 2-14-08



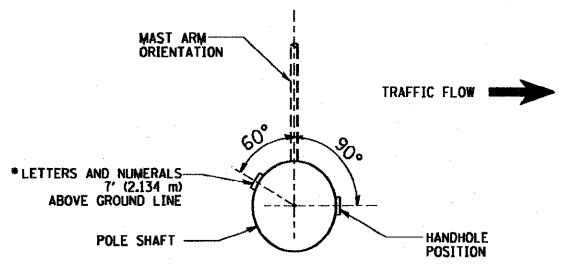


6' (1.8 m) SINGLE MEMBER MAST ARM
(N.T.S.)

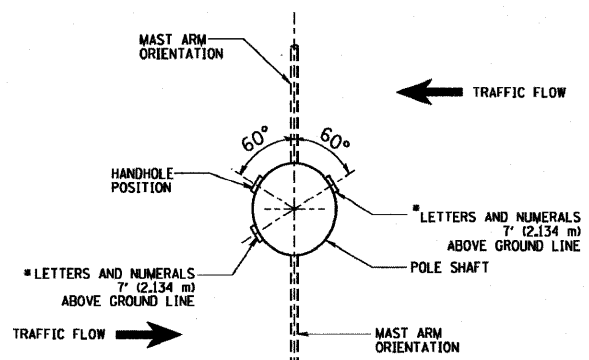
- NOTES:
1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
 2. MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
 3. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE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



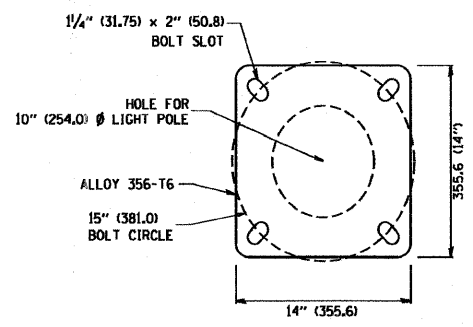
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES MOUNTED ON BRIDGE PARAPET OR BARRIER WALL



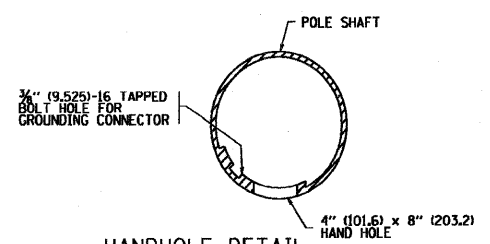
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



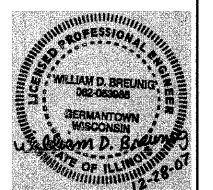
POSITION OF HANDHOLE AND POLE NUMBER FOR TWIN MAST ARM POLES



LIGHT POLE BASE PLATE DETAIL
15 INCH (381.0) BOLT CIRCLE



HANDHOLE DETAIL
(N.T.S.)



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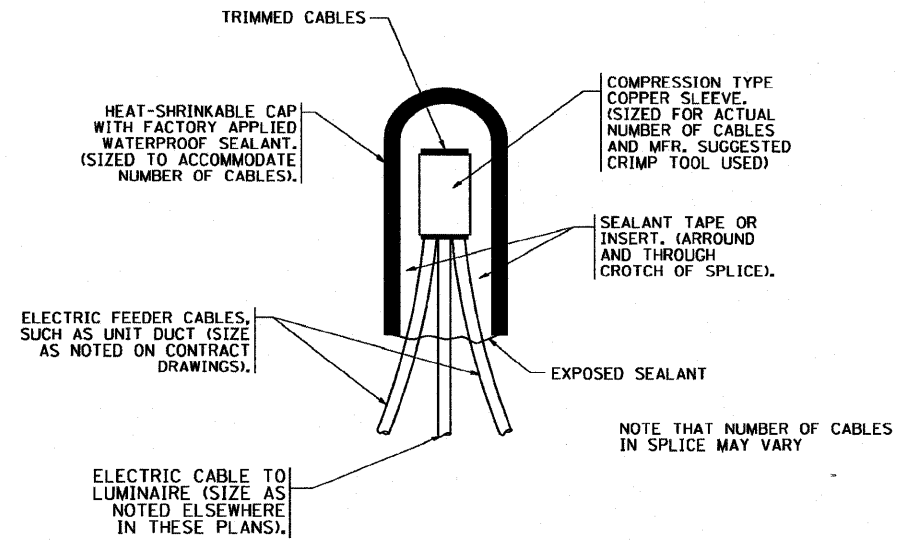
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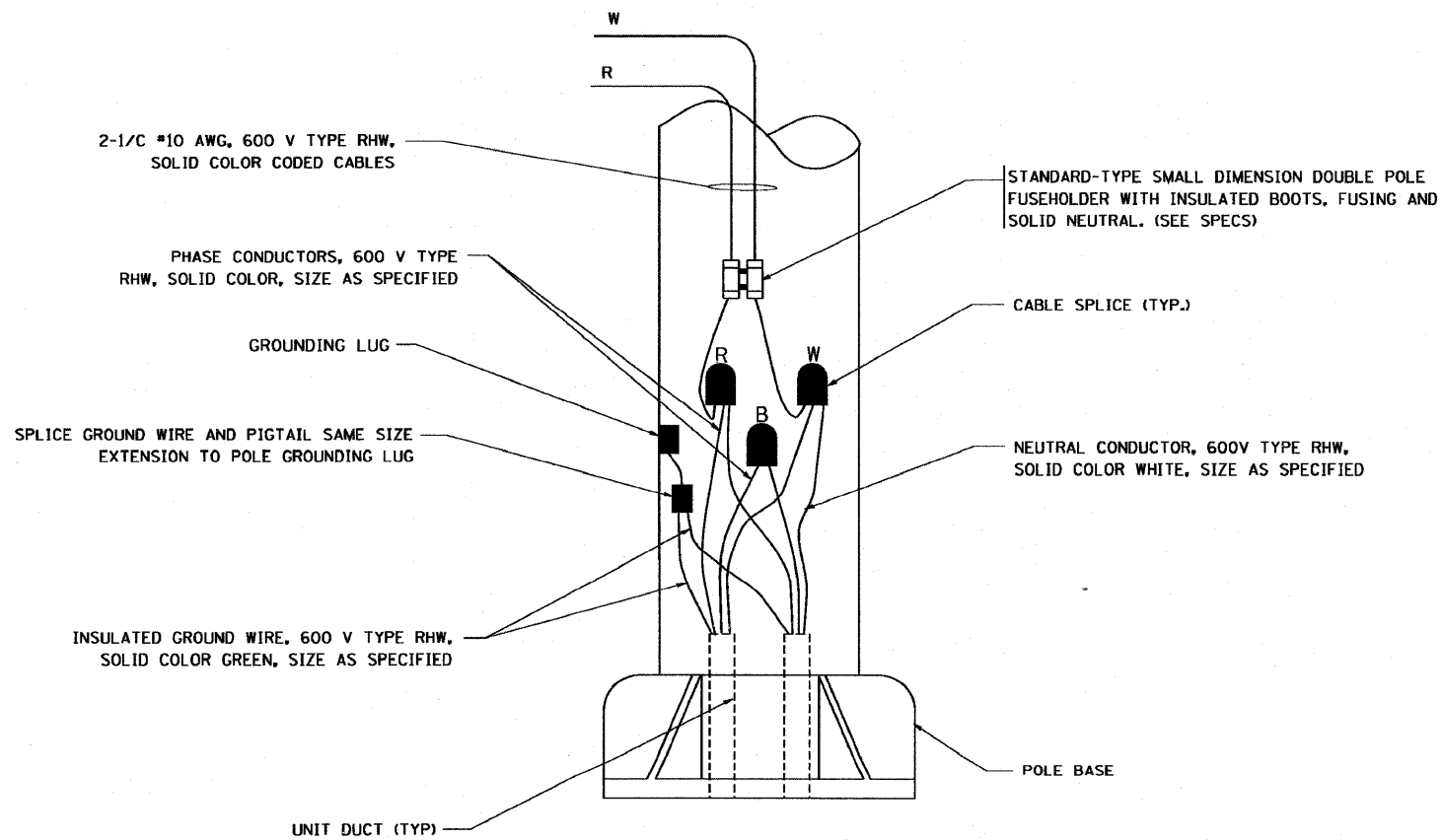
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD		F.A.P. RTE. 332	SECTION 2007-044 I	COUNTY WILL & COOK	TOTAL SHEETS 53	SHEET NO. 52
SCALE: 1" = 50'		SHEET NO. 52 OF 53 SHEETS		STA. TO STA.	FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT	
						E22
						CONTRACT NO. 60D34



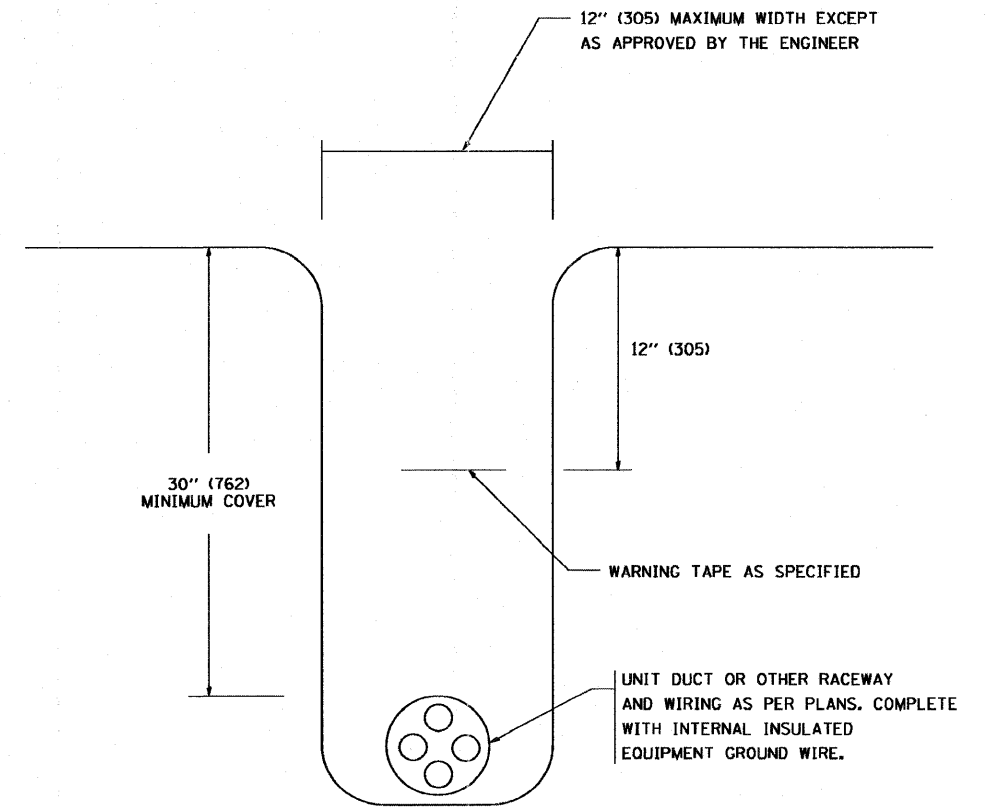
TYPICAL SPLICE DETAIL

N.T.S.



POLE WIRING DETAIL

N.T.S.



TYPICAL WIRING IN TRENCH DETAIL

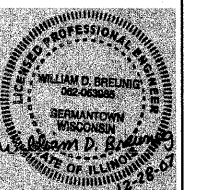
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD
LIGHTING DETAILS - IDOT BE-702

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2007-044 I	WILL & COOK	53	52A
CONTRACT NO. 60D34				

Added Sheet 2-14-08



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