CONTRACT NO. 70483

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	(145,146)L	EDGAR	9	1
F.A.P.R.A. REG.	ILLINOIS	PROJECT		

D-95-005-06

04-28-06 Letting, Item 012

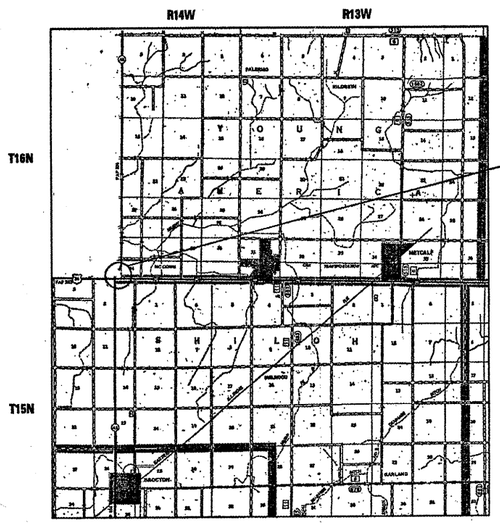
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

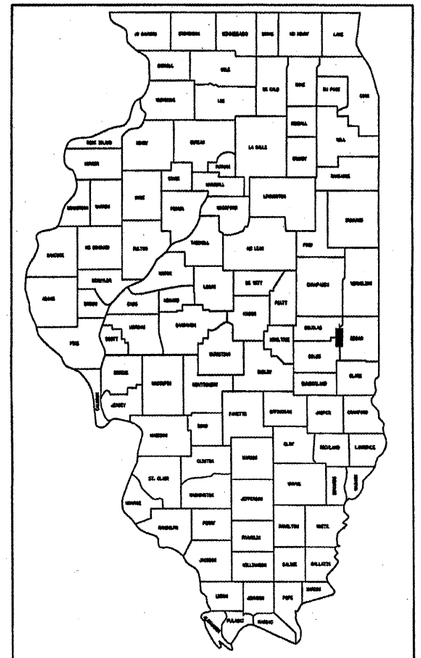
PLANS FOR PROPOSED HIGHWAY IMPROVEMENT

SCALES { LIGHTING PLAN 1"=50'
FLASHER PLAN 1"=20'
PROFILES – N.A.
CROSS SECTIONS – N.A.

F.A.P. ROUTE 323 (US RTE 36)
SECTION (145,146)L
EDGAR COUNTY

C–95–005–06
HIGHWAY LIGHTING IMPROVEMENT





LOCATION OF SECTION INDICATED THUS: – ■ –

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

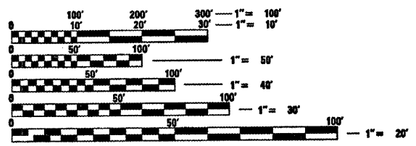
SUBMITTED FEB 10, 20 06
Joseph E. Crone
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
March 24, 20 06
Mike Hine
ENGINEER OF DESIGN AND ENVIRONMENT
March 24, 20 06
Milton R. Sees P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

FOR UNDERGROUND UTILITY LOCATIONS CALL
TOLL FREE J.U.L.I.E. TELEPHONE NO.
1–800–892–0123
YOUNG AMERICA & SHILOH TOWNSHIPS

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

FOR INDEX OF SHEETS, SEE SHEET NO. 2

FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3



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.

DESIGNED BY: JEFF ALLEN (217) 465–4181

CONTRACT NO. 70483

CONTRACT NO. 70483

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	(145,146)L	EDGAR	9	2

LIST OF STANDARDS

STANDARD NO.	DESCRIPTION
000001-04	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
001006	DECIMAL OF AN INCH AND A FOOT
701006-02	OFF-ROAD OPERATIONS, 2L,2W, 4.5M (15') TO PAVEMENT EDGEFOR SPEEDS > 45 MPH
701201-02	LANE CLOSURE, 2L ,2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701301-02	LANE CLOSURE, 2L ,2W, SHORT TIME OPERATIONS
702001-06	TRAFFIC CONTROL DEVICES
805001	ELECTRICAL SERVICE INSTALLATION DETAILS
880001	SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION

GENERAL NOTES

G. N. -100
ENGLISH UNITS OF MEASUREMENT SHALL GOVERN OVER AND SUPERSEDE ANY METRIC UNITS SHOWN IN THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

G. N. -105. 07
EXISTING STATE-OWNED AND MAINTAINED UTILITY LINES ARE SHOWN ON THE PLANS TO INDICATE THEIR PRESENCE AND APPROXIMATE LOCATION. THE CONTRACTOR SHALL NOTIFY THE DISTRICT OPERATIONS ENGINEER TWO WEEKS PRIOR TO COMMENCING ANY EXCAVATION IN THE VICINITY OF THESE LINES. THE STATE WILL THEN LOCATE AND MARK THE HORIZONTAL
LOCATIONS OF THE LINES AND PROVIDE ANY AVAILABLE INFORMATION AS TO THEIR DEPTH. SHOULD ANY OF THE LINES BE DAMAGED BY THE CONTRACTOR'S OPERATION, THE CONTRACTOR SHALL REPAIR THEM TO THE SATISFACTION OF THE ENGINEER AND AT NO COST TO THE STATE.

ALSO THERE MAY BE UTILITIES PRESENT WHICH WERE INSTALLED BY THE STATE BUT ARE MAINTAINED BY OTHERS (CITY, TOWN, ETC.) THE APPROXIMATE LOCATIONS OF THESE LINES ARE ALSO SHOWN ON THE PLANS ALONG WITH THE NAME OF THE MAINTAINING AGENCY. THE CONTRACTOR SHALL COORDINATE THE LOCATING OF THESE LINES WITH THE LOCAL AGENCY PRIOR TO COMMENCING ANY EXCAVATION OR BORING IN THEIR VICINITY. SHOULD THESE LINES BE DAMAGED BY THE CONTRACTOR'S OPERATIONS, THE CONTRACTOR SHALL REPAIR THEM TO THE SATISFACTION OF, AND AT NO COST TO, THE LOCAL AGENCY AND THE STATE.

G. N. -107. 31
UTILITY LINES WERE PLOTTED FROM INFORMATION FURNISHED BY THE VARIOUS UTILITY COMPANIES INVOLVED (QUALITY LEVEL C &/OR QUALITY LEVEL D) AND THE ACCURACY SHOULD BE CONSIDERED APPROXIMATE ONLY.

UTLILITY COMPANIES MAY BE ADJUSTING THEIR FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COOPERATE WITH THESE ORGANIZATIONS WHILE THESE ADJUSTMENTS ARE BEING PERFORMED. J.U.L.I.E. - JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS SYSTEM (800)892-0123.

INDEX OF SHEETS

SHEET NO.	ITEM
1	COVER SHEET
2	INDEX OF SHEETS
2	LIST OF STANDARDS
2	GENERAL NOTES
3	SUMMARY OF QUANTITIES
4	LIGHTING PLAN SHEET
5	FLASHER PLAN SHEET
6	DETAIL FOR CONTROL INSTALLATION SERVICE POLE MOUNTED
7	DETAIL OF LIGHT POLE FOUNDATIONS
8	DETAIL FOR POLE STANDARDS
9	DETAIL FOR NIGHTTIME LIGHTING INSPECTION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT FIVE

REVIEWED BY: D. L. Markwell
DISTRICT ENGINEER OF PROGRAM DEVELOPMENT

DATE: 1/30/06

EXAMINED BY: Jeffrey L. Bird
DISTRICT ENGINEER OF PROJECT IMPLEMENTATION

James W. Corley
DISTRICT ENGINEER OF BUREAU OF OPERATIONS

CONTRACT NO. 70483

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	(145,146)L	EDGAR	9	3

SUMMARY OF QUANTITIES

LOCATION OF WORK: U.S. RTE 36
&
IL. RTE 49
INTERSECTION
EDGAR COUNTY
HIGHWAY LIGHTING
MAINTENANCE FUND
100% STATE

CONSTRUCTION TYPE CODE: Y030-1E

CODE NO	ITEM	UNIT	TOTAL QUANTITY
67100100	MOBILIZATION	L SUM	1.0
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1.0
80500100	SERVICE INSTALLATION TYPE A	EACH	1.0
80802300	WOOD POLE, 40 FT., CLASS 3	EACH	2.0
81020500	CONDUIT PUSHED, 2" DIA., INTERMEDIATE METAL	FOOT	265.0
81500200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	191.0
81600215	UNIT DUCT, 2#8XLP,1#8 XLP GROUND 3/4" POLYETHYLENE	FOOT	468.0
82102250	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	4.0
83002500	LIGHT POLE, ALUMINUM, 40 FT. M.H., 12 FT. DAVIT ARM	EACH	4.0
83600300	LIGHT POLE FOUNDATION, 30" DIAMETER	FOOT	24.0
83800650	BREAKAWAY DEVICE, COUPLING, WITH STAINLESS STEEL SCREEN	EACH	16.0
84200600	REMOVAL OF EXISTING LIGHTING UNIT, NO SALVAGE	EACH	8.0
84200800	POLE FOUNDATION, REMOVED	EACH	7.0
84500110	REMOVAL OF LIGHTING CONTROLLER	EACH	1.0
84500120	REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	1.0
87200400	SPAN WIRE	FOOT	199.0
87200500	TETHER WIRE	FOOT	199.0
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	24.0
87302225	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL, NO. 14 3C	FOOT	258.0
89502400	REMOVE EXISTING FLASHING BEACON INSTALLATION COMPLETE	EACH	1.0
X0323134	REMOVE EXISTING HELIX FOUNDATION	EACH	1.0
X8250207	LIGHTING CONTROLLER PHOTOCELL RELAY, SPECIAL	EACH	1.0
X8801505	SIGNAL HEAD, POLYCARBONATE, LED, 4-FACE, 1-SECTION, SPAN WIRE MOUNTED	EACH	2.0

CONTRACT NO. 70483

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	(145,146)L	EDGAR	9	4

US RTE 36 & IL RTE 49
LIGHTING PLAN SHEET

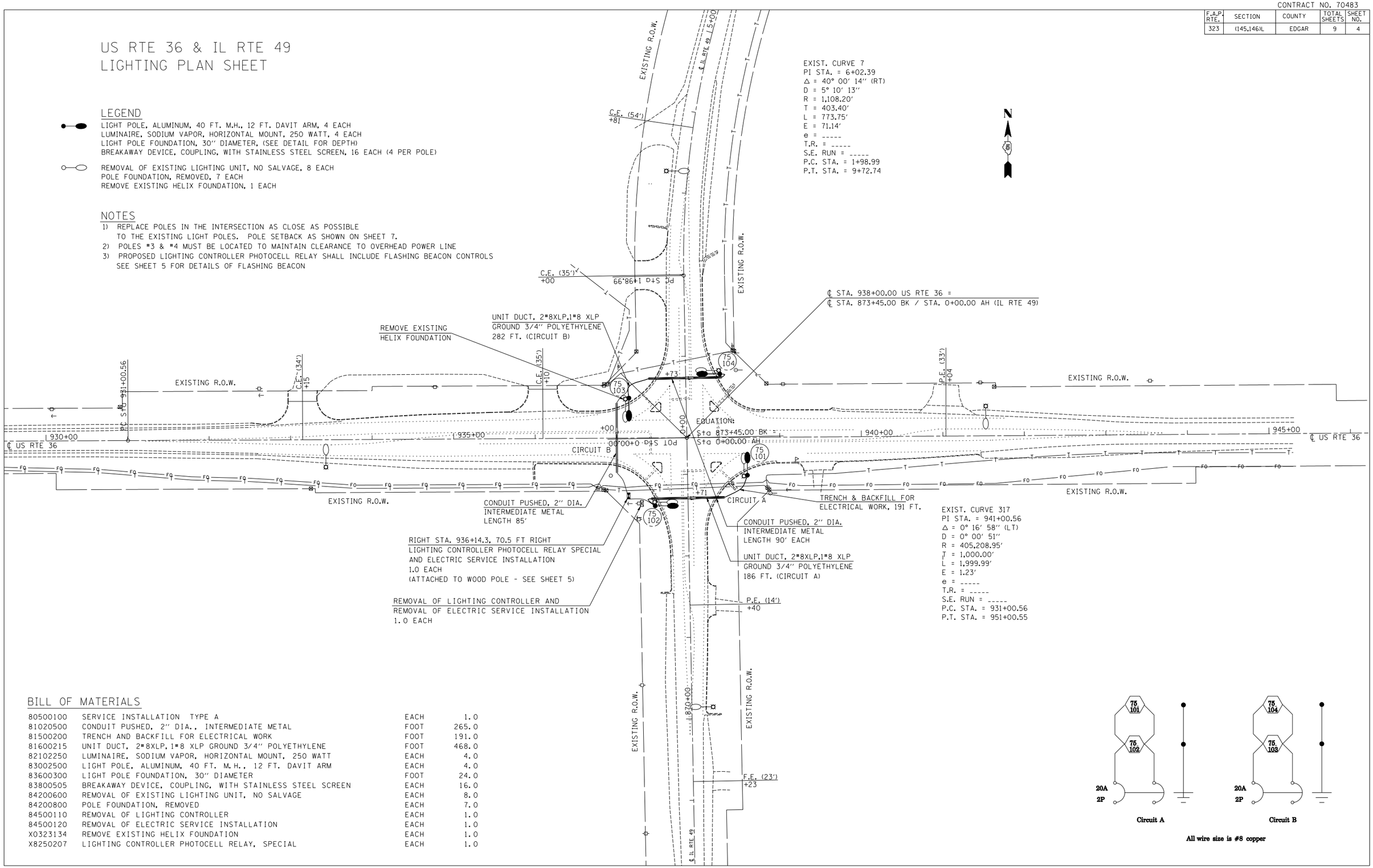
LEGEND

LIGHT POLE, ALUMINUM, 40 FT. M.H., 12 FT. DAVIT ARM, 4 EACH
LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT, 4 EACH
LIGHT POLE FOUNDATION, 30" DIAMETER, (SEE DETAIL FOR DEPTH)
BREAKAWAY DEVICE, COUPLING, WITH STAINLESS STEEL SCREEN, 16 EACH (4 PER POLE)

REMOVAL OF EXISTING LIGHTING UNIT, NO SALVAGE, 8 EACH
POLE FOUNDATION, REMOVED, 7 EACH
REMOVE EXISTING HELIX FOUNDATION, 1 EACH

NOTES

1) REPLACE POLES IN THE INTERSECTION AS CLOSE AS POSSIBLE TO THE EXISTING LIGHT POLES. POLE SETBACK AS SHOWN ON SHEET 7.
2) POLES #3 & #4 MUST BE LOCATED TO MAINTAIN CLEARANCE TO OVERHEAD POWER LINE
3) PROPOSED LIGHTING CONTROLLER PHOTOCELL RELAY SHALL INCLUDE FLASHING BEACON CONTROLS SEE SHEET 5 FOR DETAILS OF FLASHING BEACON



BILL OF MATERIALS

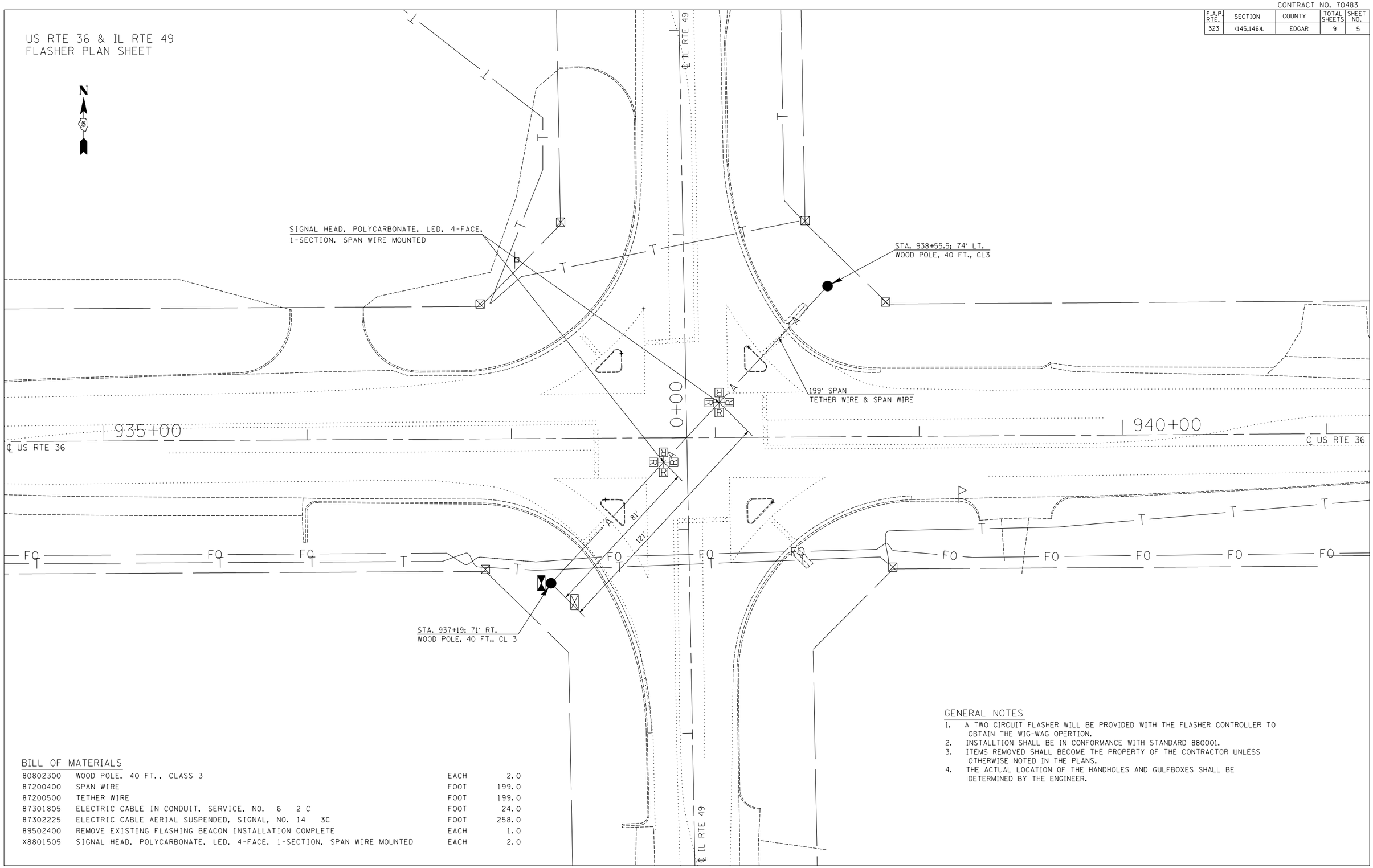
80500100	SERVICE INSTALLATION TYPE A	EACH	1.0
81020500	CONDUIT PUSHED, 2" DIA., INTERMEDIATE METAL	FOOT	265.0
81500200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	191.0
81600215	UNIT DUCT, 2#8XLP, 1#8 XLP GROUND 3/4" POLYETHYLENE	FOOT	468.0
82102250	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	4.0
83002500	LIGHT POLE, ALUMINUM, 40 FT. M.H., 12 FT. DAVIT ARM	EACH	4.0
83600300	LIGHT POLE FOUNDATION, 30" DIAMETER	FOOT	24.0
83800505	BREAKAWAY DEVICE, COUPLING, WITH STAINLESS STEEL SCREEN	EACH	16.0
84200600	REMOVAL OF EXISTING LIGHTING UNIT, NO SALVAGE	EACH	8.0
84200800	POLE FOUNDATION, REMOVED	EACH	7.0
84500110	REMOVAL OF LIGHTING CONTROLLER	EACH	1.0
84500120	REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	1.0
X0323134	REMOVE EXISTING HELIX FOUNDATION	EACH	1.0
X8250207	LIGHTING CONTROLLER PHOTOCELL RELAY, SPECIAL	EACH	1.0

All wire size is #8 copper

CONTRACT NO. 70483

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	(145,146)L	EDGAR	9	5

US RTE 36 & IL RTE 49
FLASHER PLAN SHEET



BILL OF MATERIALS

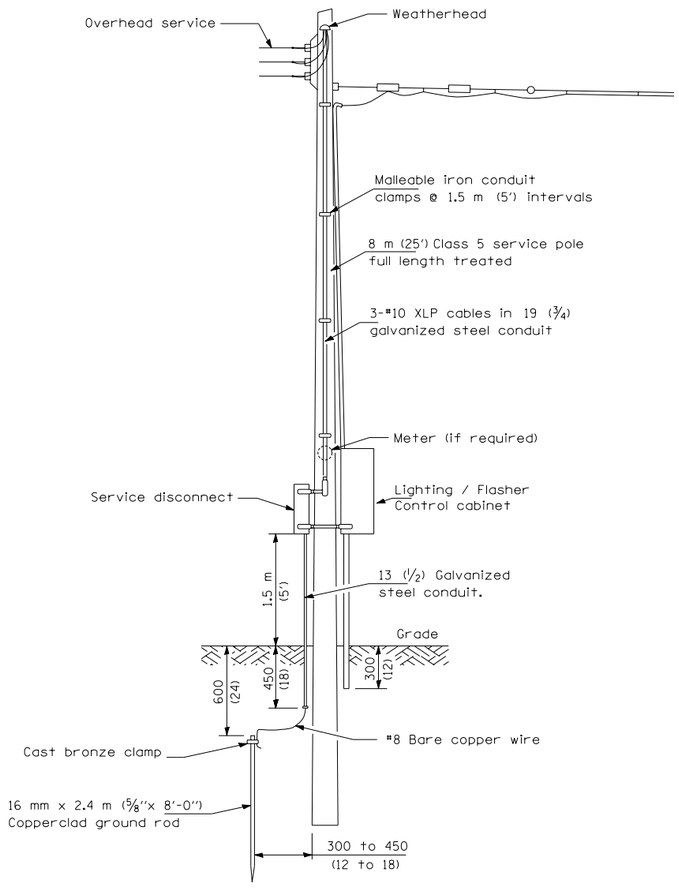
80802300	WOOD POLE, 40 FT., CLASS 3	EACH	2.0
87200400	SPAN WIRE	FOOT	199.0
87200500	TETHER WIRE	FOOT	199.0
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	24.0
87302225	ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL, NO. 14 3C	FOOT	258.0
89502400	REMOVE EXISTING FLASHING BEACON INSTALLATION COMPLETE	EACH	1.0
X8801505	SIGNAL HEAD, POLYCARBONATE, LED, 4-FACE, 1-SECTION, SPAN WIRE MOUNTED	EACH	2.0

GENERAL NOTES

1. A TWO CIRCUIT FLASHER WILL BE PROVIDED WITH THE FLASHER CONTROLLER TO OBTAIN THE WIG-WAG OPERTION.
2. INSTALLTION SHALL BE IN CONFORMANCE WITH STANDARD 880001.
3. ITEMS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE NOTED IN THE PLANS.
4. THE ACTUAL LOCATION OF THE HANDHOLES AND GULFBOXES SHALL BE DETERMINED BY THE ENGINEER.

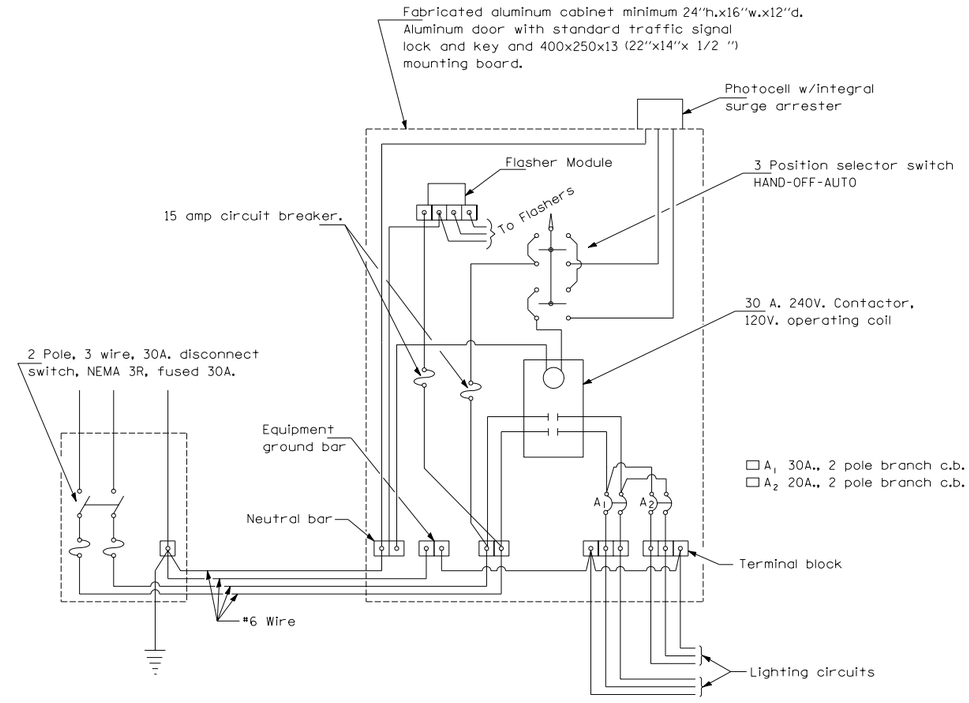
CONTRACT NO. 70483

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	(145,146)L	EDGAR	9	6



SERVICE POLE

NOTE: Flashing Beacon components shall be installed per standard 880001.



DISCONNECT SWITCH

PHOTOCELL RELAY/FLASHER CONTROLLER

GENERAL NOTES

All equipment shall be U.L. Listed.

All dimensions are in millimeters unless otherwise shown.

CONTROL INSTALLATION SERVICE POLE MOUNTED

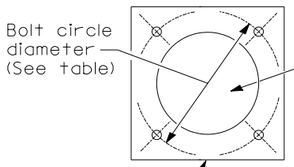
120/240V., 1 PHASE, 3 WIRE SERVICE

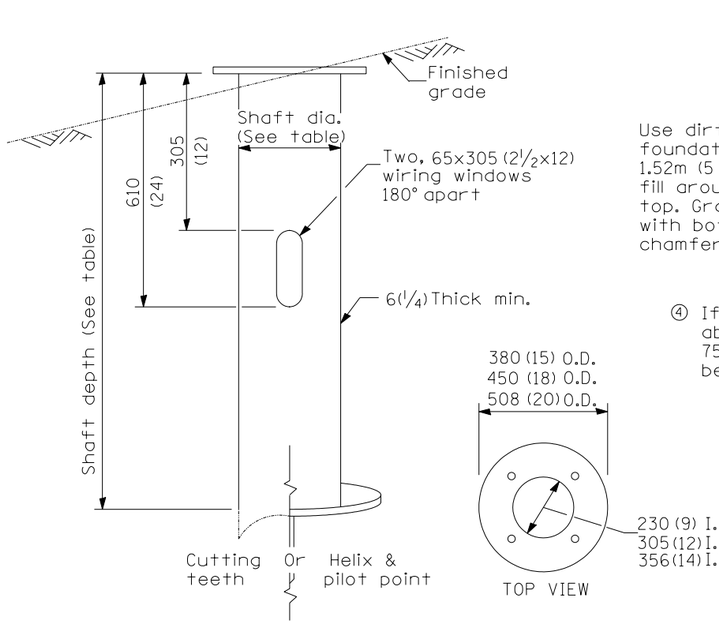
CONTRACT NO. 70483

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	(145,146)L	EDGAR	9	7

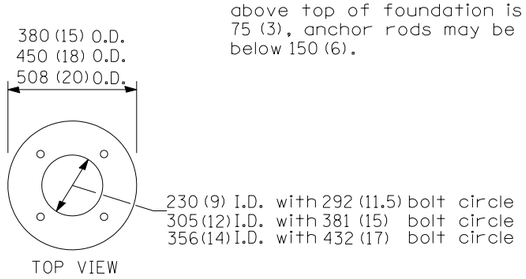
	STEEL FOUNDATION			CONCRETE FOUNDATION		
LIGHT POLE MOUNTING HEIGHT	BOLT CIRCLE DIAMETER	SHAFT DIAMETER	SHAFT DEPTH	TOP PLATE (min)	SHAFT DIAMETER	SHAFT DEPTH	ANCHOR ROD LENGTH ①
≤9.1 m (30′)	292 (11.5)	220 (8⅝)	1.83 m (6′)	300 x 300 x 25 12 x 12 x 1	610 (24)	1.52 m (5′-0″)	1.45 m (4′-9″)
9.4 m - 10.7 m (31′-35′)	292 (11.5)	220 (8⅝)	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 (8⅝)	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 (8⅝)	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 (8⅝)	2.44 m (8′)	375 x 375 x 31 15 x 15 x 1¼	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 (8⅝″ x 8′-0″) for Twin luminaires
③ Bolt circle diam. shall be 430 (17) when a TB3-17 transformer base is used



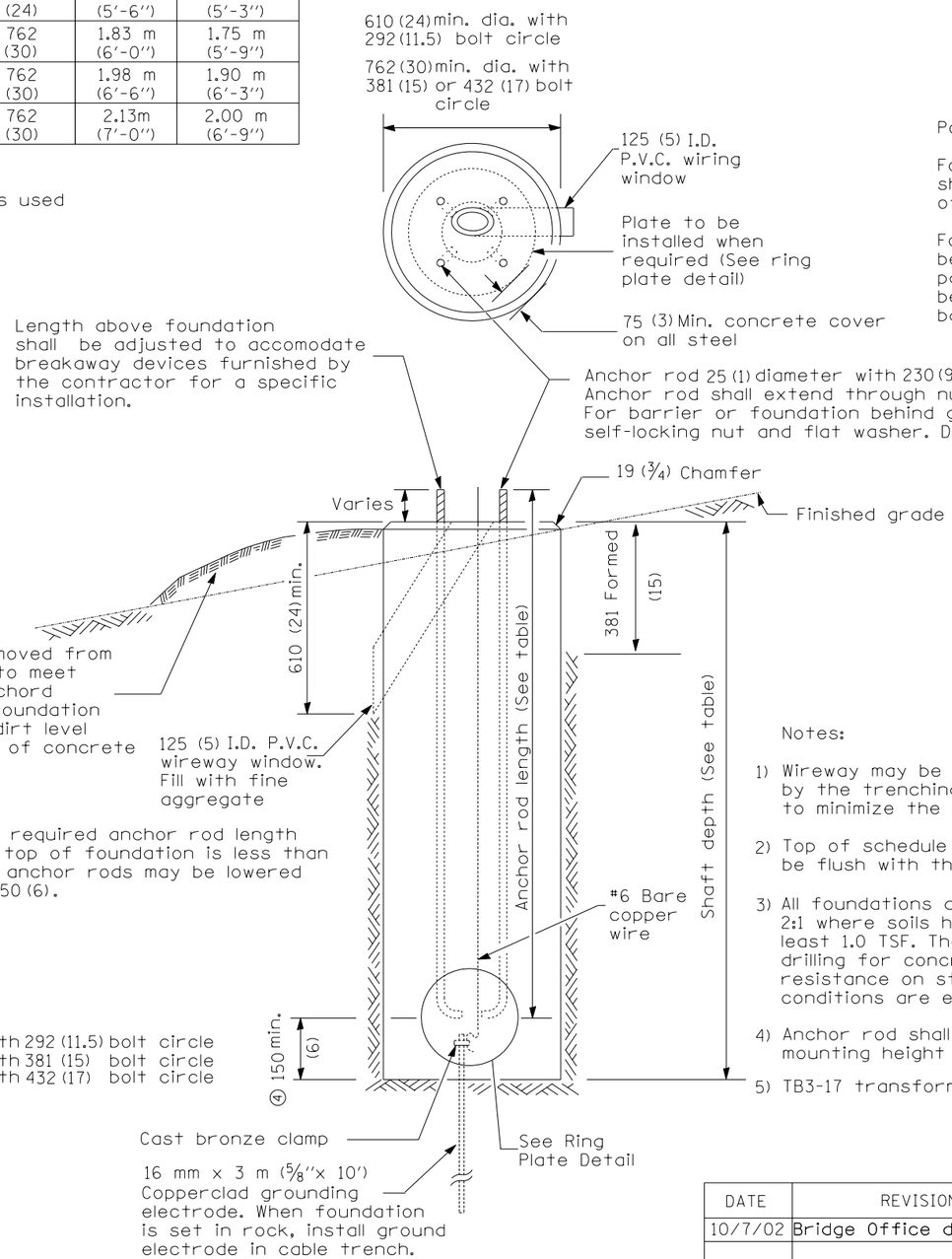


STEEL FOUNDATION

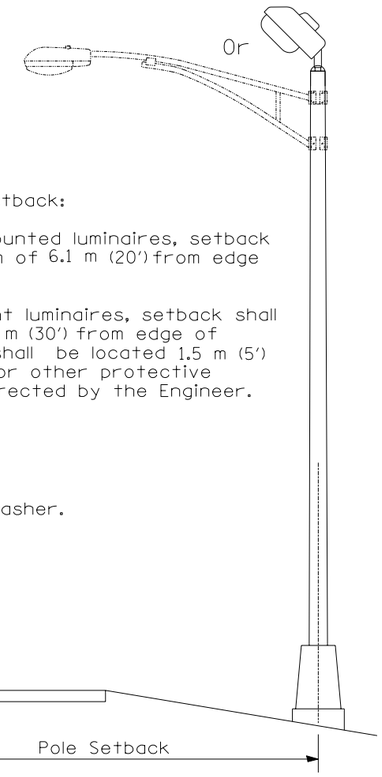


RING PLATE DETAIL

(When rock is encountered and foundation is shallower)



CONCRETE FOUNDATION



Pole Foundation Setback:

For horizontal mounted luminaires, setback shall be a minimum of 6.1 m (20′) from edge of pavement.

For vertical mount luminaires, setback shall be a minimum of 9 m (30′) from edge of pavement. Poles shall be located 1.5 m (5′) behind guardrail or other protective barriers, or as directed by the Engineer.

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 (1¼) 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.

DATE	REVISIONS
10/7/02	Bridge Office depth calc.

LIGHT POLE FOUNDATION

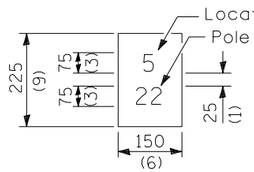
LGT007-836

CONTRACT NO. 70483

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	(145,146)L	EDGAR	9	8

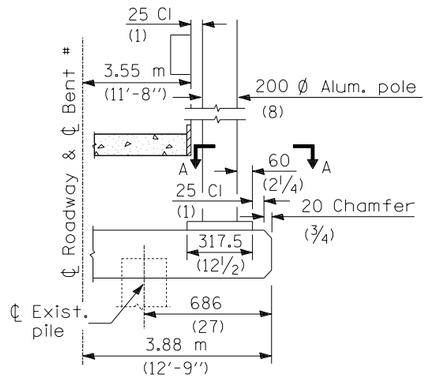
"Install and orient arm bracket over pole tenon and firmly hand tighten the two set screws. Use third hole in arm bracket as a guide to drill a 8.3 (21/64) diameter hole through tenon. Install and tighten self-tapping screw. Tighten set screws an additional (1/4 to 3/8) turn with hex key (not provided). Install locknuts on set screws if threaded projection allows."

Pole shall meet AASHTO Standard Specifications for 128.72 km (80 mph) wind loading and 40.82 kg (90 lb.), .37 m^2 (4.0 sq. ft.) E.P.A. luminaire.



The contractor shall furnish and install a light pole identification of each new light pole, as shown above, incidental to the respective light pole pay item. The numerals shall be 75 (3) series "D", black, screened on silver-white type B pressure sensitive reflective sheeting conforming to the requirements of section T602.01 of the Standard Specifications for Traffic Control Items. The numerals shall conform to the FHWA "Standard Alphabets for Highway Signs".

The light pole identification shall be applied to sign base material as specified in section 1085.05 of the Standard Specifications, approximatey 180 (7) above the adjacent pavement grade visible to approaching traffic in accordance with Highway Standard 2319.



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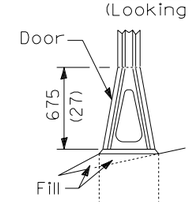
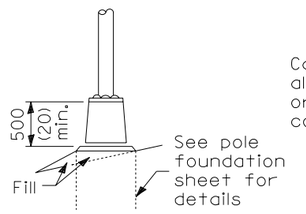
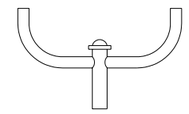


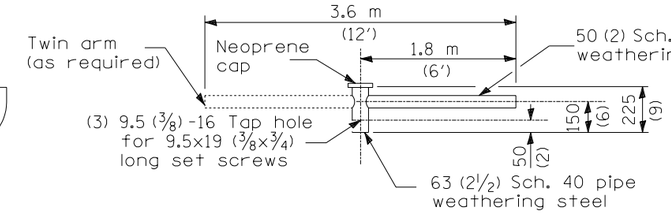
☐ STAINLESS STEEL FLAIR BASE



☐ TRANSFORMER BASE

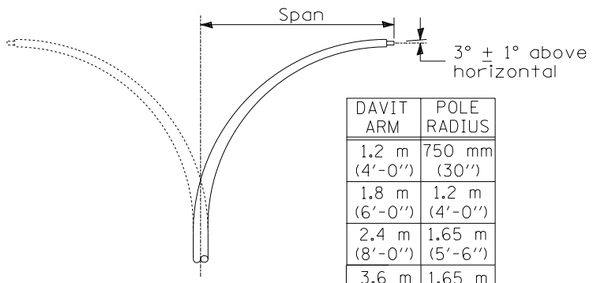


☐ TWIN TENON



☐ TENON MOUNT BRACKET ARM

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

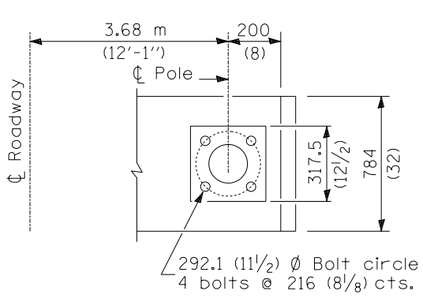


DAVIT ARM	POLE RADIUS
1.2 m (4'-0")	750 mm (30")
1.8 m (6'-0")	1.2 m (4'-0")
2.4 m (8'-0")	1.65 m (5'-6")
3.6 m (12'-0")	1.65 m (5'-6")

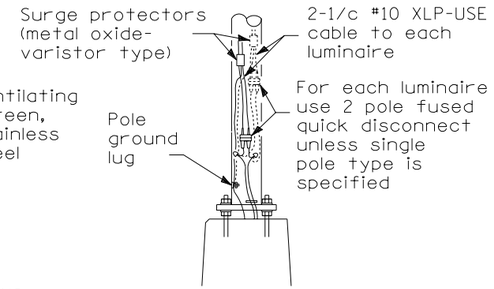
☒ DAVIT ARM

☐ DAVIT ARM-TWIN

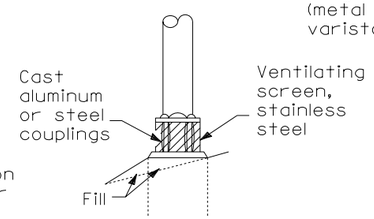
☐ BRIDGE PIER MOUNT



SECTION A-A



☐ ANCHOR

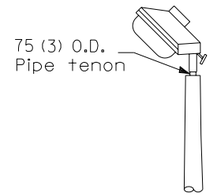


☒ BREAKAWAY COUPLING

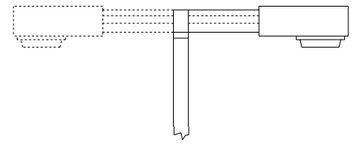
☐ FRANGIBLE

☐ METAL OR ☒ CONCRETE

Details for underground distribution if required

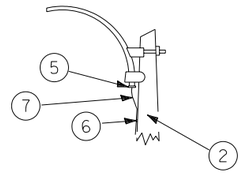


☐ TENON

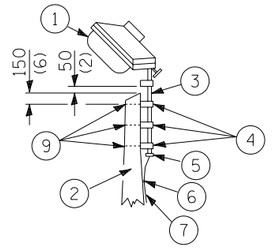


☐ SHORT BRACKET

☐ SHORT BRACKET - TWIN

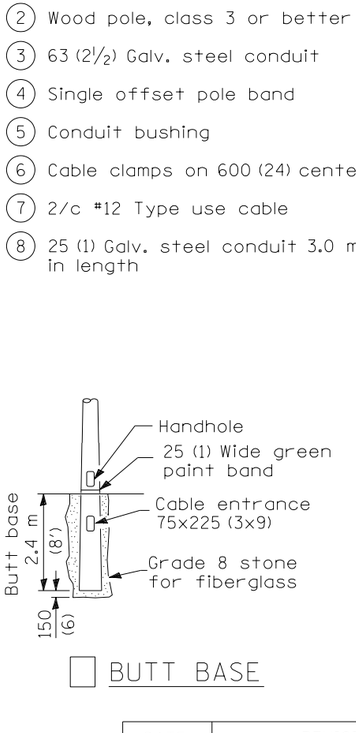


☐ MAST ARM

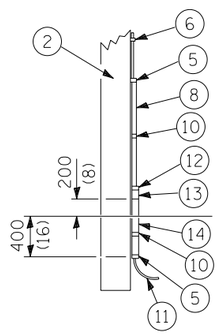


☐ TENON

(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')

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

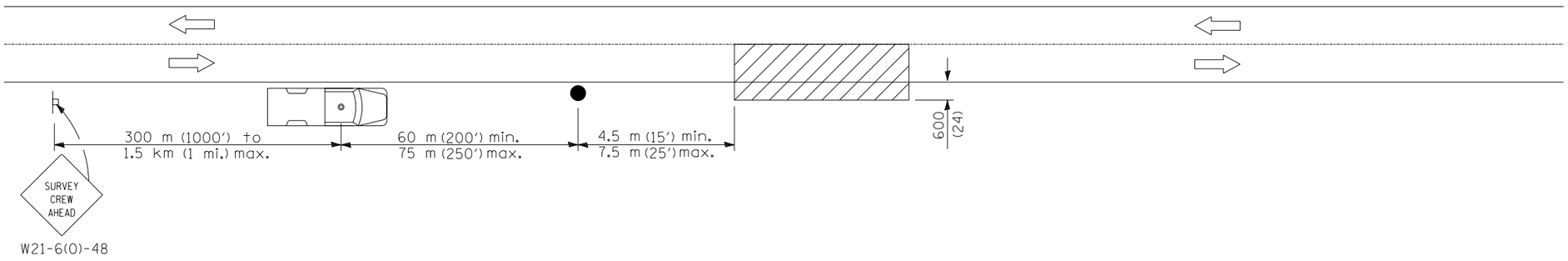
DATE	REVISIONS

POLE STANDARDS

LGT008.M32

CONTRACT NO. 70483

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	(145,146)L	EDGAR	9	9



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

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

DATE	REVISIONS

DETAIL FOR NIGHTTIME LIGHTING INSPECTION

LGT017.M32