

# STATE OF ILLINOIS COUNTY OF LAKE PLANS FOR PROPOSED IMPROVEMENT OLD McHENRY ROAD FROM ILLINOIS ROUTE 53 TO CUBA ROAD SECTION 11-00083-09-RS

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

### DOT HIGHWAY STANDARDS IN CONTRACT DOCUMENT

DOT HIGHWAY STANDARDS  
 000001-06, 001001-02, 001006, 280001-07, 542301-03, 542401-02,  
 602001-02, 602011-02, 602301-04, 602401-03, 602406-07, 602601-04,  
 602701-02, 604001-04, 604036-03, 604091-03, 606001-06, 701001-02,  
 701006-05, 701301-04, 701311-03, 701501-06, 701801-05, 701901-04,  
 805001-01, 814001-03, 814006-02, 862001-01, 877011-07, 880006-01,  
 886001-01

DOT DISTRICT ONE STANDARD DETAILS  
 B007, B008, B012, B022, B037, B051, BE210, BE220, BE230, BE235,  
 BE702, TC21, TS02, TS05

LAKE COUNTY DIVISION OF TRANSPORTATION STANDARD DETAILS  
 LC0020, LC2000, LC2050, LC2051, LC4100, LC4101, LC4120, LC4121,  
 LC4201, LC4202, LC4204, LC4821, LC5401, LC5402, LC6000, LC6003,  
 LC6020, LC7000, LC7004, LC7200, LC7201, LC7202, LC7800, LC7802,  
 LC8600, LC8900, LC8902

### SPECIAL SYMBOLS

-  TRENCH BACKFILL - CUBIC YARDS
-  AGGREGATE BASE COURSE - TONS, THICKNESS INDICATED
-  PAVEMENT REPLACEMENT - SQUARE YARDS

**DESIGN DESIGNATION:**  
 OLD McHENRY ROAD 10,000 (2040) MINOR ARTERIAL 0.38 (FD-20)

### FLEXIBLE PAVEMENT DESIGN:

DATE = 02/05/2015  
 PROJECT = OLD McHENRY ROAD  
 YEAR OF ADT = 2009  
 ADT = 8,938  
 ANNUAL GROWTH PERCENTAGE (NON-COMPOUNDED) = 0.37%  
 GROWTH = 3% PER YEAR \* DESIGN PERIOD \* ADT = 300  
 SPECIAL ADJUSTMENTS FOR KNOWN DEVELOPMENT, ETC. = 0  
 DESIGN PERIOD IN YEARS = 20  
 CONSTRUCTION YEAR = 2019  
 STRUCTURAL DESIGN TRAFFIC (SDT) = 9,527  
 PC = 97.8% = 9,318  
 SU = 1.7% = 162  
 MU = 0.5% = 48  
 LOAD LIMIT (73,280 STANDARD) OR 80,000 = 73,280  
 CLASS ROAD (1,2,3,4) = 2  
 SUBGRADE SUPPORT RATING = POOR  
 FLEXIBLE TRAFFIC FACTOR (FF) = 0.3787  
 SELECTED DESIGN AC TYPE = AC-20  
 DESIGN AC MIXTURE TEMPERATURE (DEGREES F) = 76  
 DESIGN HOT-MIX ASPHALT CONCRETE MODULES = 650  
 DESIGN AC MICROSTRAIN = 190  
 PAVEMENT THICKNESS REQUIRED (INCHES) = 6.5  
 SUBGRADE = 12

### HOT-MIX ASPHALT MIXTURE REQUIREMENTS

MIXTURE TYPE	AC TYPE	AIR VOIDS
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	PG 64-28	4% = 50 GYRATION
HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	PG 64-28	4% = 50 GYRATION
LEVELING BINDER (MACHINE METHOD), N50	PG 64-28	4% = 50 GYRATION

THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LBS/SQ YD/IN.

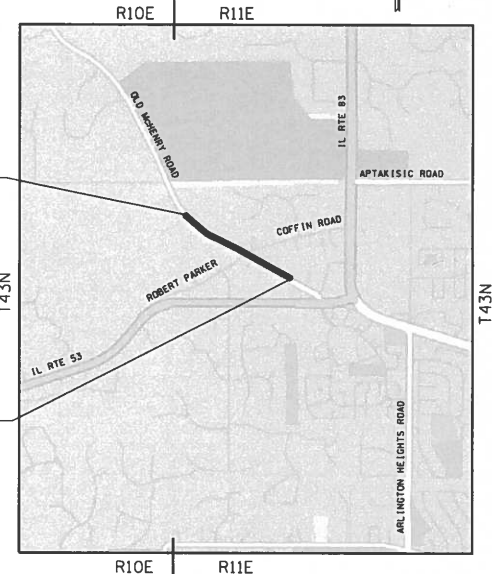
WHEN RAP EXCEEDS 20%, THE NEW ASPHALT BINDER IN THE MIX SHALL BE PG 58-22.

FOR UNDERGROUND UTILITY  
LOCATIONS, CALL

**J. U. L. I. E.**

TOLL FREE  
800-892-0123

### PROJECT LOCATION



IMPROVEMENT ENDS  
OLD McHENRY ROAD  
STATION 45+00.75

IMPROVEMENT BEGINS  
OLD McHENRY ROAD  
STATION 8+78.28

ROAD	STATION	STATION	LENGTH (FT.)	LENGTH (MI.)
OLD McHENRY ROAD	10+24.45	35+78.54	2,554.09	0.48
NET LENGTH OF IMPROVEMENT			2,554.09	0.48



**BUILDING LAKE COUNTY'S  
EFFECTIVE TRANSPORTATION  
SYSTEM TODAY**

APPROVED  
DEPARTMENT OF TRANSPORTATION

DATE 20

Regional Engineer

County Engineer  
On behalf of IDOT pursuant to Agreement  
of Understanding dated January 18, 2013

Plans Prepared By:  **LakeCounty**  
Division of Transportation

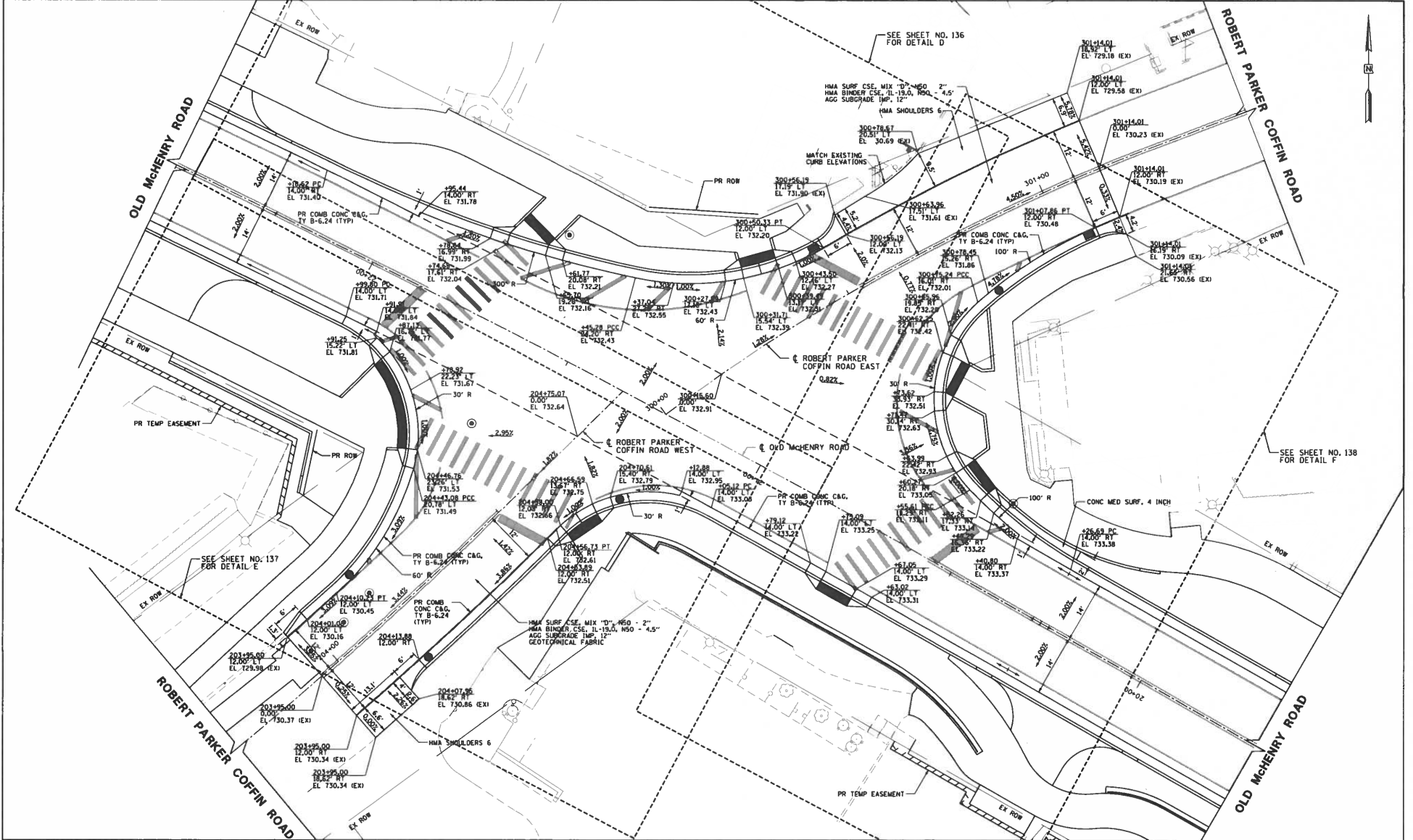
Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Illinois License No: \_\_\_\_\_  
 Expiration Date: \_\_\_\_\_  
 Field: \_\_\_\_\_  
 Approved By: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 County Engineer

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR

FILE NAME: COVER SHEET

**OLD McHENRY ROAD**  
COVER SHEET

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
CH32	083	11-00083-09-RS	1	323



REVISIONS / REMARKS		DATE	BY	SURVEYOR
NO.	DESCRIPTION			



VILLAGE OF LONG GROVE  
LAKE COUNTY, ILLINOIS



**ROBERT PARKER COFFIN ROAD  
INTERSECTION PAVING PLAN**

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
CH32	083	11-00083-09-RS	135	323

FILE NAME: 11-083 IPP SHT 03 RPC DETAILS

SEE SHEET NO. 147  
MATCH LINE STA. 14+50

SEE ABOVE RIGHT  
MATCH LINE STA. 19+00

ARCHER ROAD  
MATCH LINE STA. 100+80  
SEE SHEET NO. 152

SEE SHEET NO. 153  
MATCH LINE STA. 204+00

SEE SHEET NO. 149  
MATCH LINE STA. 23+00

MATCH LINE STA. 19+00  
SEE BOTTOM LEFT

**LEGEND**

**LANDSCAPING**

- SEEDING, CLASS 2A (SALT TOLERANT ROADSIDE MIXTURE) TOPSOIL FURNISH AND PLACE, 4" NITROGEN AND POTASSIUM FERTILIZER NUTRIENT EROSION CONTROL BLANKET OR EROSION CONTROL BLANKET, SPECIAL
- SODDING, SALT TOLERANT TOPSOIL FURNISH AND PLACE, 4" NITROGEN AND POTASSIUM FERTILIZER NUTRIENT SUPPLEMENTAL WATERING
- MULCH PLACEMENT 3" TOPSOIL FURNISH AND PLACE, 12" WEED CONTROL, PRE-EMERGENT GRANULAR HERBICIDE
- PROPOSED CANOPY TREE
  - BC - BALD CYPRESS
  - GB - GINKGO BALBOA
  - KC - KENTUCKY COFFEE TREE
  - NM - NORWAY MAPLE
  - RO - RED OAK

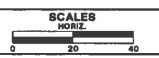
**PAVEMENT MARKING MATERIAL**

- GROOVED THERMOPLASTIC PAVEMENT MARKING
- PAINT PAVEMENT MARKING
- THERMOPLASTIC PAVEMENT MARKING

**PAVEMENT MARKING TYPE**

- A - 4" YELLOW LINE
- B - 4" YELLOW LINE (2 @ 11" C-C)
- C - 5" WHITE LINE
- D - 12" YELLOW LINE (45° DIAGONAL)
- E - 12" WHITE LINE
- F - 12" WHITE LINE (45° DIAGONAL)
- G - 12" WHITE LINE (8" WIDE @ 3' C-C)
- H - 24" WHITE LINE

REVISIONS / REMARKS		NO.	DATE	BY	SURVEYOR	JRC/KWM
	DESCRIPTION	/	/	/	DISCIPLE/ALISON	TRANSY/STENS
		/	/	/	PLOTTED BY:	J.V. 2018-08-19



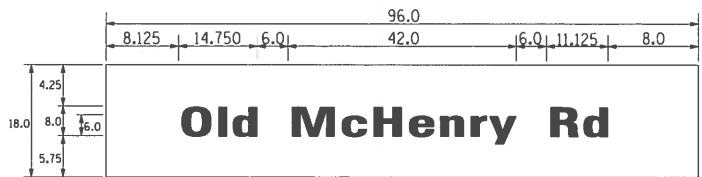
WILLIAMS OFF LINDSEY GORDOVE  
LAKE COUNTY, ILLINOIS

LakeCounty  
Division of Transportation

OLD MCHENRY ROAD  
PVMT MARKING & LS PLAN STA. 14+50 TO STA. 23+00

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
CH32	083	11-00083-09-RS	148	323

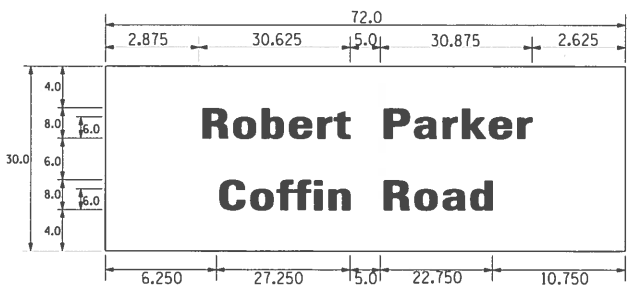
PANEL DESIGN TYPE 1



18.0 SO. FT. EACH  
 2 REQUIRED  
 SINGLE SIDED REQUIRED  
 X DOUBLE SIDED REQUIRED  
 DESIGN SERIES HWY GOTHIC FONT-SERIES "D"

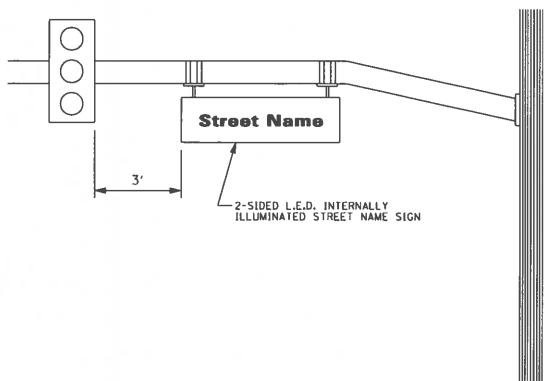
ALL DIMENSIONS SHOWN IN INCHES

PANEL DESIGN TYPE 2



15.0 SO. FT. EACH  
 2 REQUIRED  
 SINGLE SIDED REQUIRED  
 X DOUBLE SIDED REQUIRED  
 DESIGN SERIES HWY GOTHIC FONT-SERIES "D"

ALL DIMENSIONS SHOWN IN INCHES



NOTE: L.E.D. ILLUMINATED STREET NAME SIGNS AVAILABLE ONLY IN 2 FOOT INCREMENTS

NOT DRAWN TO SCALE

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR

DISOR/ALIAISON: / /  
 PLOTTED BY: J.V 2016-08-19



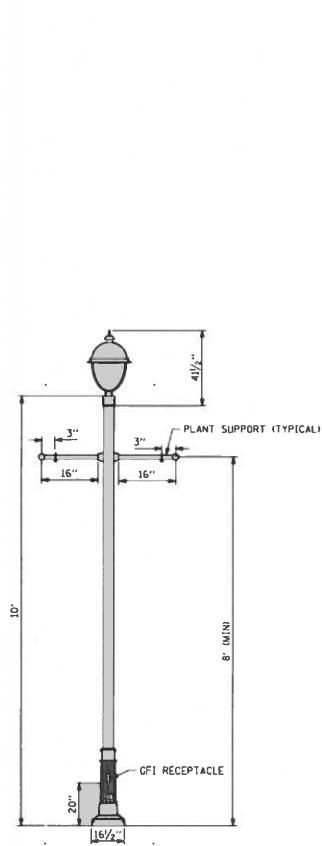
VILLAGE OF LONG GROVE  
 LAKE COUNTY, ILLINOIS



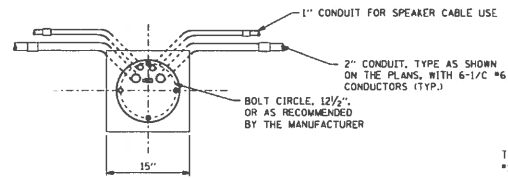
TRAFFIC SIGNAL STREET NAME SIGNS  
 OLD McHENRY RD AT ROBERT PARKER COFFIN RD

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
CH32	083	11-00083-09-RS	156	323

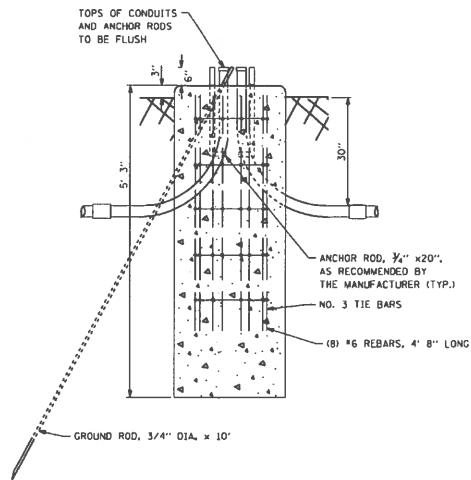
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PEDESTRIAN LIGHT POLE DETAIL

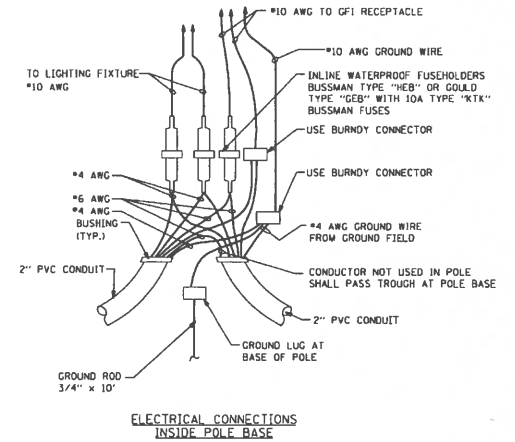


TOP VIEW



ELEVATION VIEW

PEDESTRIAN LIGHT POLE FOUNDATION DETAIL



ELECTRICAL CONNECTIONS  
INSIDE POLE BASE

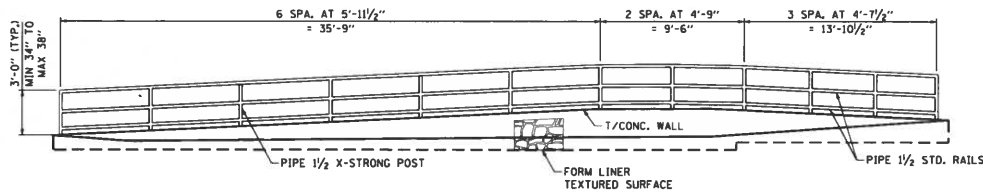
REVISIONS / REMARKS					
NO.	DESCRIPTION	DATE	BY	SURVEYOR	JRC/KWM
1		1/1		DESIGN/LIAISON:	TRANS SYSTEMS
		1/1		PLOTTED BY:	J.V. 2016-08-19

VILLAGE OF LONG GROVE  
LAKE COUNTY, ILLINOIS

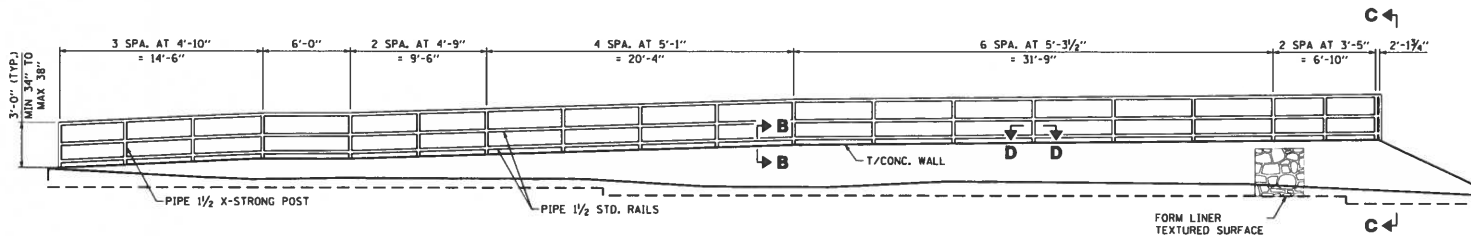


OLD McHENRY ROAD  
LIGHTING PLAN DETAILS

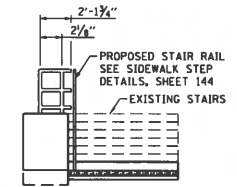
ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
CH32	083	11-00083-09-RS	164	323



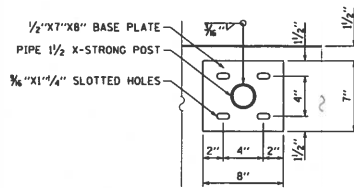
**WALL 1 - HANDRAIL ELEVATION**  
(LOOKING WEST)



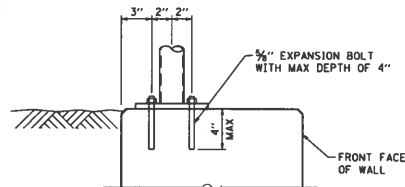
**WALL 2 - HANDRAIL ELEVATION**  
(LOOKING WEST)



**SECTION C-C**  
(LOOKING SOUTH)



**SECTION D-D**



**SECTION B-B**

**NOTES:**

1. PIPE HANDRAILS SHALL BE CONSTRUCTED ACCORDING TO ARTICLE 509.05(g) OF THE STANDARD SPECIFICATIONS.
2. ALL CONNECTIONS TO BE WELDED AND GROUND SMOOTH.
3. THE RAILS, POSTS, BASE PLATES, NUTS AND WASHERS OF THE PIPE HANDRAIL ASSEMBLY SHALL BE POWDER COATED BLACK ACCORDING TO ARTICLE 506 OF THE STANDARD SPECIFICATIONS.
4. CONTRACTOR TO DRILL AND SET 3/8" DIA. EXPANSION BOLT WITH MAX HOLE DEPTH OF 4"

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR
/	/	/	/	/
DRAWN/PLANNED:			/	
PLOTTED BY:			J.V. 2016-08-19	



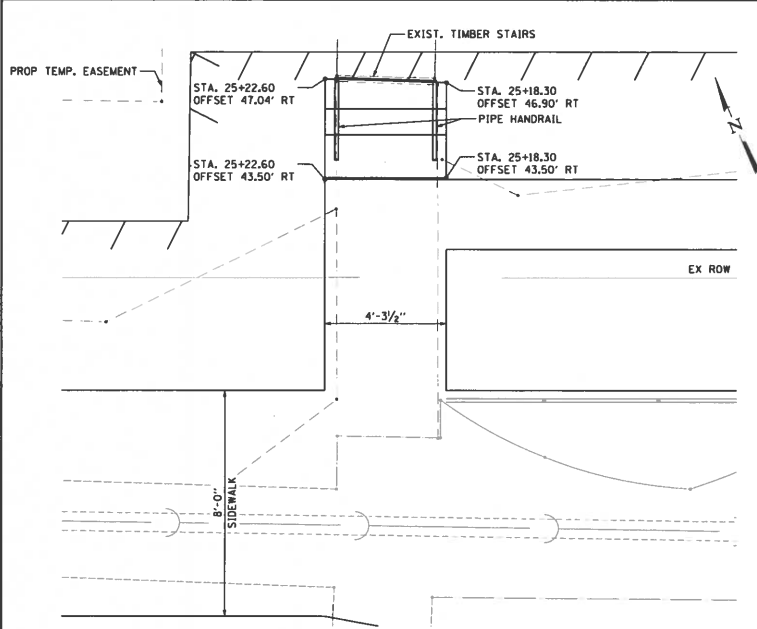
VILLAGE OF LONG GROVE  
LAKE COUNTY, ILLINOIS



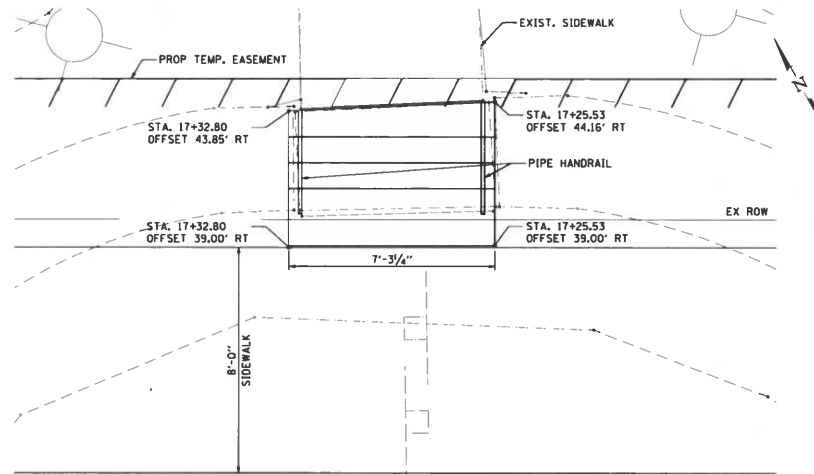
OLD McHENRY ROAD  
RETAINING WALL HANDRAIL DETAILS

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
CH32	083	11-00083-09-RS	166	323

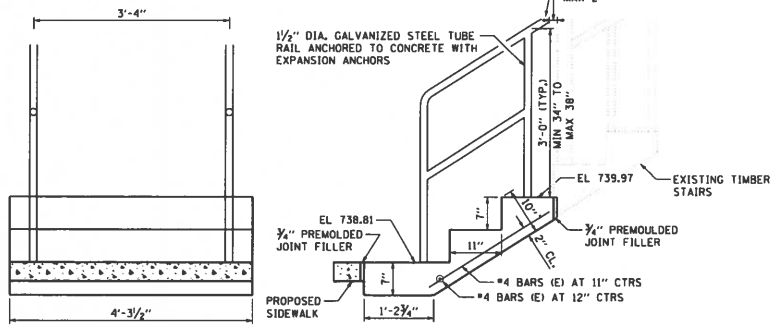
FILE NAME: 11-083-SHT 02 RETAINING WALL HANDRAILS



**PLAN - CONCRETE STAIRCASE 1**



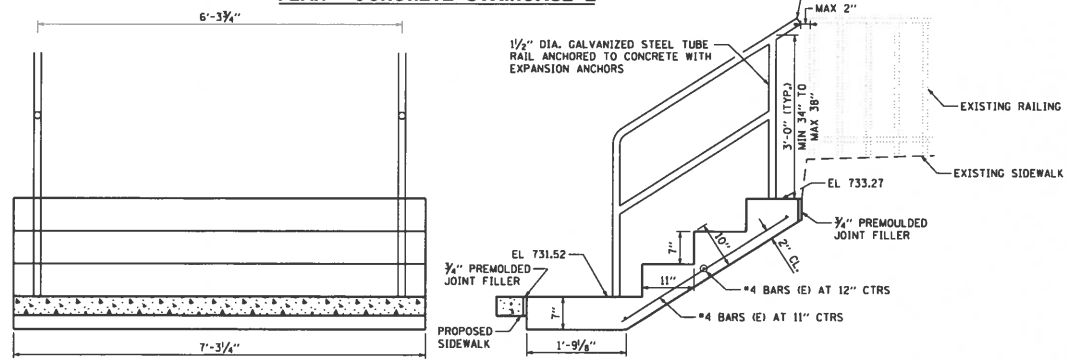
**PLAN - CONCRETE STAIRCASE 2**



**FRONT VIEW**

**SIDE VIEW**

**CONCRETE STAIRCASE 1**



**FRONT VIEW**

**SIDE VIEW**

**CONCRETE STAIRCASE 2**

**TOTAL BILL OF MATERIAL**

PAY ITEM #	ITEM	UNIT	TOTAL
50300225	CONCRETE STRUCTURES	CU YD	1.2
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	50
50901760	PIPE HANDRAIL	FOOT	14.0

**NOTES:**

- SEE SHEET NO. 166 FOR PIPE HANDRAIL CONNECTION DETAILS.
- COST OF PREMOULDED JOINT FILLER TO BE INCLUDED WITH COST OF CONCRETE STRUCTURES

NO.	REVISIONS / REMARKS	DATE	BY	SURVEYOR



VILLAGE OF LONG GROVE  
LAKE COUNTY, ILLINOIS



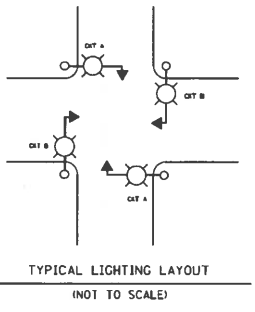
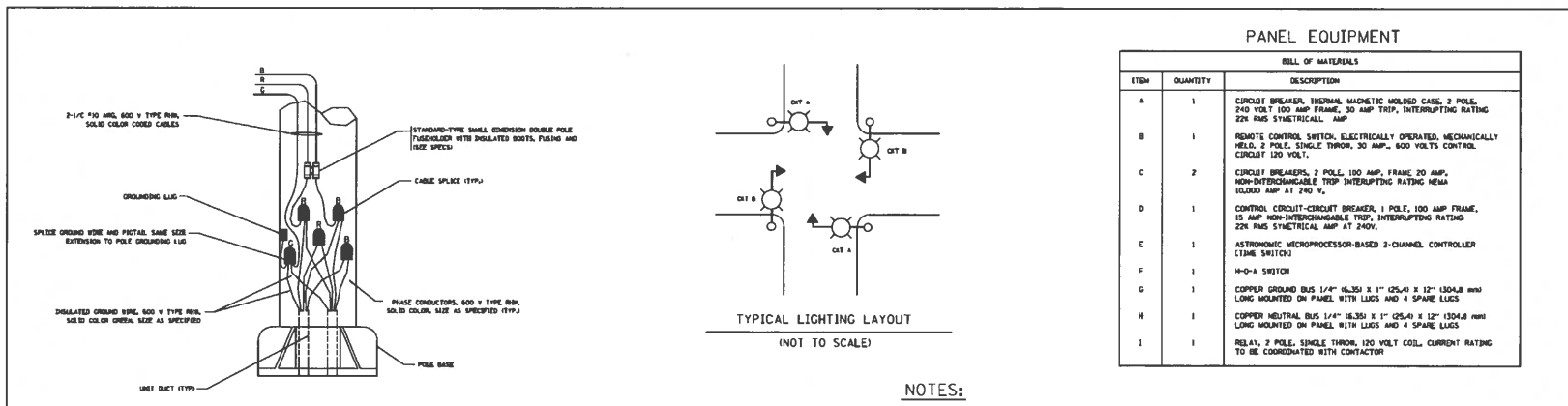
OLD McHENRY ROAD  
CONCRETE STAIRCASE DETAILS

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
CH32	083	11-00083-09-RS	168	323

FILE NAME: 11-083-SHT 04 STAIRS CPE







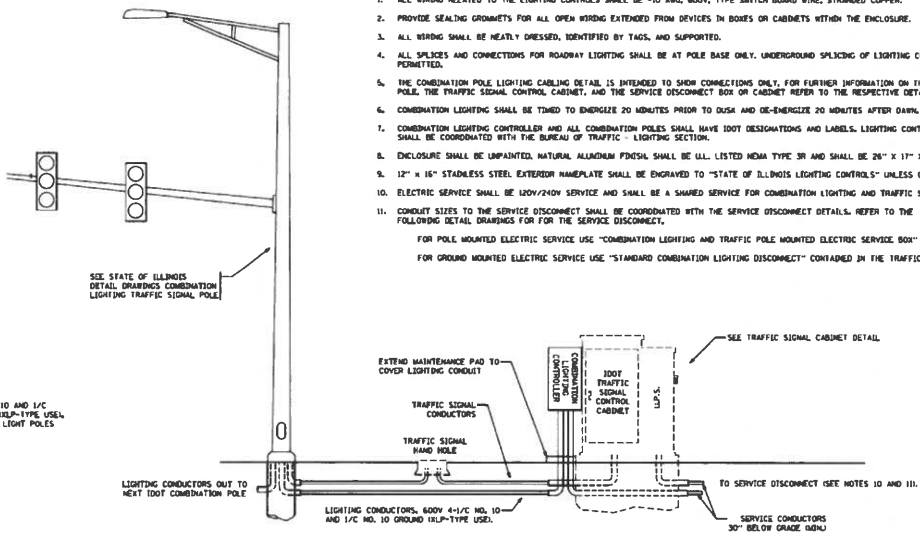
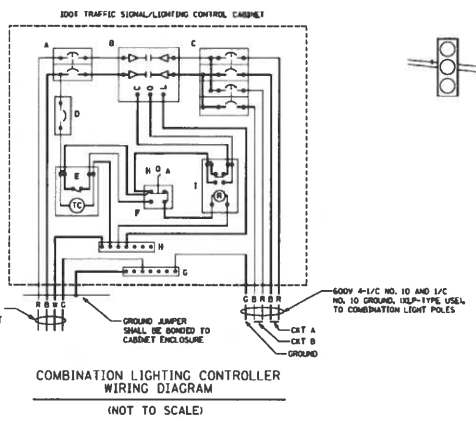
**PANEL EQUIPMENT**

BILL OF MATERIALS		
ITEM	QUANTITY	DESCRIPTION
A	1	CIRCUIT BREAKER, THERMAL MAGNETIC MOLDED CASE, 2 POLE, 240 VOLT, 100 AMP FRAME, 30 AMP TRIP, INTERRUPTING RATING 225 BUS SYMMETRICAL, AMP
B	1	REMOTE CONTROL SWITCH, ELECTRICALLY OPERATED, MECHANICALLY HELD, 2 POLE, SINGLE THROW, 30 AMP, 600 VOLTS CONTROL CIRCUIT 120 VOLTS
C	2	CIRCUIT BREAKERS, 2 POLE, 100 AMP FRAME, 20 AMP, NON-INTERCHANGEABLE TRIP, INTERRUPTING RATING 100000 AMP AT 240 V.
D	1	CONTROL CIRCUIT-CIRCUIT BREAKER, 1 POLE, 100 AMP FRAME, 15 AMP NON-INTERCHANGEABLE TRIP, INTERRUPTING RATING 225 BUS SYMMETRICAL AMP AT 240V.
E	1	ASTRONOMIC MICROPROCESSOR-BASED 2-CHANNEL CONTROLLER (TIME SWITCH)
F	1	M-O-A SWITCH
G	1	COPPER GROUND BUS 1/4\"/>
H	1	COPPER NEUTRAL BUS 1/4\"/>
I	1	RELAY, 2 POLE, SINGLE THROW, 120 VOLT COIL, CURRENT RATING TO BE COORDINATED WITH CONTACTOR

**NOTES:**

- ALL WIRING RELATED TO THE LIGHTING CONTROLS SHALL BE #10 AWG, 600V, TYPE SWITCH BOARD WIRE, STRANDED COPPER.
- PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE ENCLOSURE.
- ALL WIRING SHALL BE NEATLY DRESSED, IDENTIFIED BY TAGS, AND SUPPORTED.
- ALL SPLICES AND CONNECTIONS FOR ROADWAY LIGHTING SHALL BE AT POLE BASE ONLY. UNDERGROUND SPLICING OF LIGHTING CONDUCTORS IS NOT PERMITTED.
- THE COMBINATION POLE LIGHTING CABLING DETAIL IS INTENDED TO SHOW CONNECTIONS ONLY. FOR FURTHER INFORMATION ON THE COMBINATION LIGHT POLE, THE TRAFFIC SIGNAL CONTROL CABINET, AND THE SERVICE DISCONNECT BOX OR CABINET REFER TO THE RESPECTIVE DETAIL DRAWINGS.
- COMBINATION LIGHTING SHALL BE TIMED TO ENERGIZE 20 MINUTES PRIOR TO DUSK AND DE-ENERGIZE 20 MINUTES AFTER DAWN.
- COMBINATION LIGHTING CONTROLLER AND ALL COMBINATION POLES SHALL HAVE IDOT DESIGNATIONS AND LABELS. LIGHTING CONTROLLER DESIGNATIONS SHALL BE COORDINATED WITH THE BUREAU OF TRAFFIC - LIGHTING SECTION.
- ENCLOSURE SHALL BE UNPAINTED, NATURAL ALUMINUM FINISH SHALL BE ULL LISTED NEMA TYPE 3R AND SHALL BE 24" X 17" X 13"
- 12" X 16" STAINLESS STEEL EXTERIOR NAMEPLATE SHALL BE ENGRAVED TO "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED.
- ELECTRIC SERVICE SHALL BE 120V/240V SERVICE AND SHALL BE A SHARED SERVICE FOR COMBINATION LIGHTING AND TRAFFIC SIGNALS.
- CONDUIT SIZES TO THE SERVICE DISCONNECT SHALL BE COORDINATED WITH THE SERVICE DISCONNECT DETAILS. REFER TO THE FOLLOWING DETAIL DRAWINGS FOR THE SERVICE DISCONNECT.
  - FOR POLE MOUNTED ELECTRIC SERVICE USE "COMBINATION LIGHTING AND TRAFFIC POLE MOUNTED ELECTRIC SERVICE BOX" (BE-230).
  - FOR GROUND MOUNTED ELECTRIC SERVICE USE "STANDARD COMBINATION LIGHTING DISCONNECT" CONTAINED IN THE TRAFFIC SIGNAL DETAILS.

COMBINATION POLE WIRING DETAIL  
(NOT TO SCALE)



COMBINATION POLE LIGHTING CABLING - TYPICAL  
(NOT TO SCALE)

FILE NAME =	USER NAME =	DESIGNED -	MP	REVISED -	MAP	9/20/11
		DRAWN -	MP	REVISED -	MAP	10/25/12
		CHECKED -		REVISED -		
		DATE -	8/24/11	REVISED -		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

COMBINATION LIGHTING CONTROLLER  
SCALE: NTS SHEET NO. 1 OF 1 SHEETS STA. TO STA.

P.A. #	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	BE-235			
CONTRACT NO.		ILLINOIS REB. 49 PROJECT		

NO.	REVISIONS / REMARKS	DATE	BY	SURVEYOR
1	DISCOVERY/ISSUE:			
2	PLOTTED BY:	J.V		2016-08-19

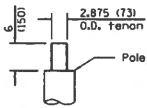


VILLAGE OF LONG GROVE  
LAKE COUNTY, ILLINOIS



OLD McHENRY ROAD  
IDOT DISTRICT ONE STANDARDS

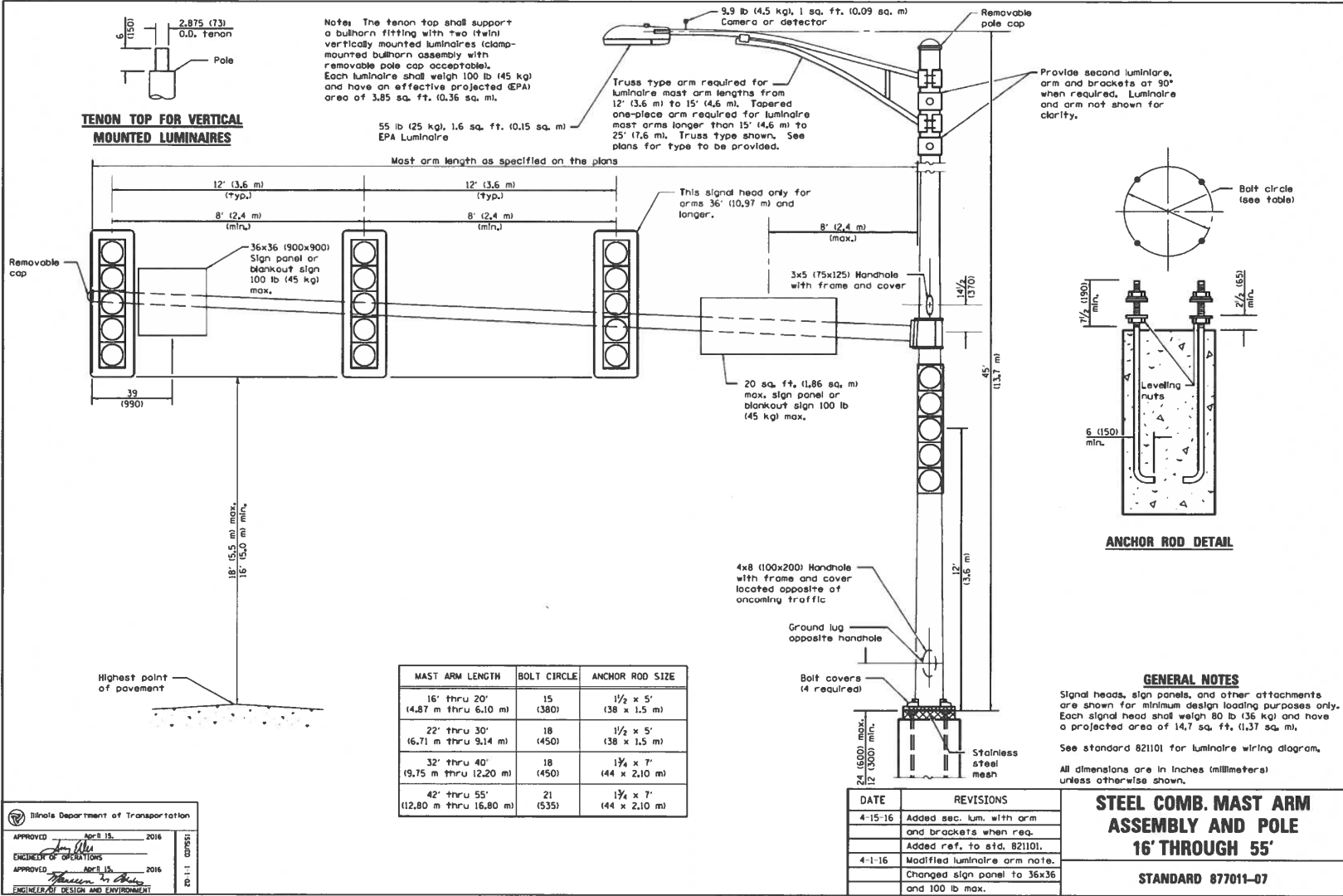
ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
CH32	083	11-00083-09-RS	199	323



**TENON TOP FOR VERTICAL MOUNTED LUMINAIRES**

Notes: The tenon top shall support a bullhorn fitting with two (2) vertically mounted luminaires (clamp-mounted bullhorn assembly with removable pole cap acceptable). Each luminaire shall weigh 100 lb (45 kg) and have an effective projected (EPA) area of 3.85 sq. ft. (0.36 sq. m).

55 lb (25 kg), 1.6 sq. ft. (0.15 sq. m) EPA Luminaire



Illinois Department of Transportation

APPROVED: *[Signature]* APR 15, 2016

ENGINEER OF OPERATIONS

APPROVED: *[Signature]* APR 15, 2016

ENGINEER/ASST DESIGN AND ENVIRONMENT

20-1-1 (05/94)

MAST ARM LENGTH	BOLT CIRCLE	ANCHOR ROD SIZE
16' thru 20' (4.87 m thru 6.10 m)	15 (380)	1/2 x 5' (38 x 1.5 m)
22' thru 30' (6.71 m thru 9.14 m)	18 (450)	1/2 x 5' (38 x 1.5 m)
32' thru 40' (9.75 m thru 12.20 m)	18 (450)	3/4 x 7' (44 x 2.10 m)
42' thru 55' (12.80 m thru 16.80 m)	21 (535)	1 1/4 x 7' (44 x 2.10 m)

DATE	REVISIONS
4-15-16	Added sec. lum. with arm and brackets when req.
	Added ref. to std. 821101.
4-1-16	Modified luminaire arm note.
	Changed sign panel to 36x36 and 100 lb max.

**STEEL COMB. MAST ARM ASSEMBLY AND POLE 16' THROUGH 55'**

**STANDARD 877011-07**

**GENERAL NOTES**

Signal heads, sign panels, and other attachments are shown for minimum design loading purposes only. Each signal head shall weigh 80 lb (36 kg) and have a projected area of 14.7 sq. ft. (1.37 sq. m).

See standard 821101 for luminaire wiring diagram.

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

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR



VILLAGE OF LONG GROVE  
LAKE COUNTY, ILLINOIS



OLD McHENRY ROAD  
IDOT HIGHWAY STANDARDS

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
CH32	083	11-00083-09-RS	252	323