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 20. DISTRICT ONE MAST ARM MOUNTED STREET NAME SIGNS
 21. DISTRICT ONE DETAILS

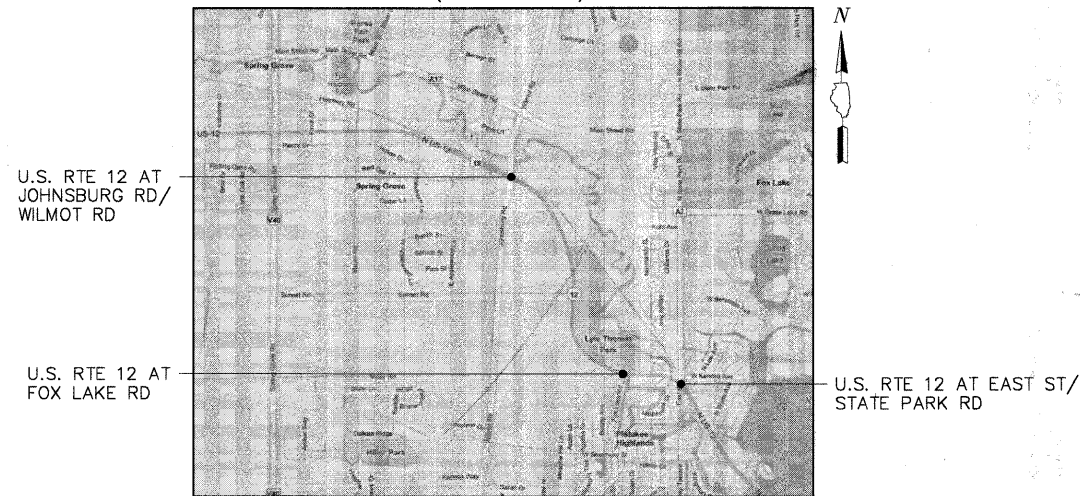
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

DISTRICT 1
HIGHWAY SAFETY IMPROVEMENT PROJECT
TRAFFIC SIGNAL MODERNIZATION
F.A.P. 334/U.S. RTE 12 FROM WILMOT/JOHNSBURG ROAD
TO STATE PARK ROAD/EAST STREET
VILLAGES OF FOX LAKE & SPRING GROVE, ILLINOIS
LAKE AND McHENRY COUNTIES
SECTION: 2009-128-TS
JOB NO. C-91-283-10
PROJECT: ACHSIP-0334(019)



LOCATION MAP
(NOT TO SCALE)



CONTRACT NO. 60J88

JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS

Call 48 hours before you dig
(Excluding Sat., Sun., & Holidays)

1-800-892-0123

EXISTING UTILITIES: WHEN THE PLANS OR SPECIAL PROVISIONS INCLUDE INFORMATION PERTAINING TO THE LOCATION OF UNDERGROUND UTILITY FACILITIES, SUCH INFORMATION REPRESENTS ONLY THE OPINION OF THE ENGINEER AS TO THE LOCATION OF SUCH UTILITIES AND IS ONLY INCLUDED FOR THE CONVENIENCE OF THE BIDDER. THE ENGINEER AND OWNER ASSUME NO RESPONSIBILITY WHATSOEVER IN RESPECT TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS RELATIVE TO THE LOCATION OF UNDERGROUND UTILITY FACILITIES OR THE MANNER IN WHICH THEY ARE TO BE REMOVED OR ADJUSTED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES. HE SHALL ALSO OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES, DETAILED INFORMATION RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULES OF THE UTILITY COMPANIES FOR REMOVING OR ADJUSTING THEM.

CONTRACTOR IS RESPONSIBLE FOR CONTACTING J.U.L.I.E. AT 1-800-892-0123 AND MUST ACQUIRE A DIG NUMBER A MINIMUM OF 72 HOURS PRIOR TO ANY WORK BEING DONE.

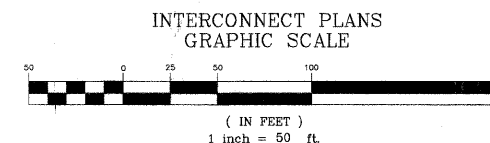
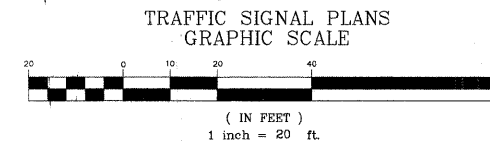
IDOT STANDARDS:

- 000001-05 STANDARD SYMBOLS, ABBREVIATIONS, & PATTERNS
- 001006 DECIMAL OF AN INCH OF A FOOT
- 701001-02 OFF-ROAD OPERATIONS 2L, 2W, >15' AWAY
- 701006-03 OFF-ROAD OPERATIONS 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
- 701011-02 OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
- 701301-03 LANE CLOSURE 2L, 2W, SHORT TIME OPERATIONS
- 701606-06 URBAN LANE CLOSURE MULTILANE 2W WITH MOUNTABLE MEDIAN
- 701701-06 URBAN LANE CLOSURE MULTILANE INTERSECTION
- 701901-01 TRAFFIC CONTROL DEVICES
- 720001-01 SIGN PANEL MOUNTING DETAIL
- 720006-02 SIGN PANEL ERECTION DETAIL
- 780001-02 TYPICAL PAVEMENT MARKINGS
- 814001-02 HANDHOLE
- 857001-01 STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
- 857006-01 SUPERVISED RAILROAD INTERCONNECT CIRCUIT
- 862001-01 UNINTERRUPTIBLE POWER SUPPLY (UPS)
- 873001-02 TRAFFIC SIGNAL GROUNDING
- 877001-04 STEEL MAST ARM ASSEMBLY AND POLE, 16' THROUGH 55'
- 878001-08 CONCRETE FOUNDATION DETAILS
- 880001-01 SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
- 880006-01 TRAFFIC SIGNAL MOUNTING DETAILS
- 886001-01 DETECTOR LOOP INSTALLATIONS

CON'T.

701501 - 05
877011 - 04

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 BELOW SCALES MAY BE USED.



SIGNED: [Signature]
DANIEL P. BRINKMAN
DATE: 1-27-10

GHA GEWALT HAMILTON ASSOCIATES, INC.
850 Forest Edge Drive • Vernon Hills, IL 60061
Consulting Engineers & Surveyors
847-478-9700
FAX: 847-478-9701

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED: Jan 29 2010 20 10
Diane M. O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 19 2010
Scott E. Stett DE
ASST. ENGINEER OF DESIGN AND ENVIRONMENT

March 19 2010
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

GHA #4085.859

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

FILE NAME = 4085.859-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TITLE SHEET	FAP RTE. 334	SECTION 2009-128-TS	COUNTY LAKE/McHENRY	TOTAL SHEETS 21	SHEET NO. 1
PLOT SCALE = 1" = .0833'				SCALE: N.A.		SHEET NO. OF SHEETS		STA. TO STA.		CONTRACT #: 60J88
PLOT DATE = 1/27/10						ILLINOIS FED. AID PROJECT				

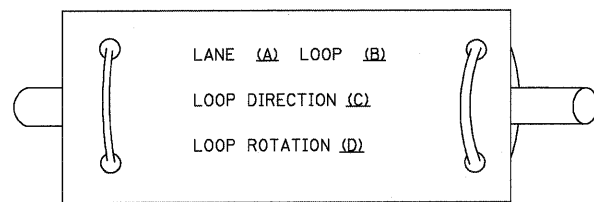
SUMMARY OF QUANTITIES					FUNDING BREAKDOWNS	90% FEDERAL 6% STATE 2 1/2% McHENRY COUNTY 2 1/2% BURTON TOWNSHIP	90% FEDERAL 6 2/3% STATE 3 1/3% McHENRY TOWNSHIP	90% FEDERAL 6 2/3% STATE 3 1/3% LAKE COUNTY
					LOCATION OF WORK	U.S. RTE 12 AT WILMOT ROAD/JOHNSBURG ROAD	U.S. RTE 12 AT FOX LAKE ROAD	U.S. RTE 12 AT STATE PARK ROAD/EAST STREET
						TRAFFIC SIGNALS	TRAFFIC SIGNALS	TRAFFIC SIGNALS
NO.	CODE NO.	ITEM	UNIT	URBAN TOTAL	Y031-1F	Y031-1F	Y031-1F	
1.	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4	1	1	2	
2.	67100100	MOBILIZATION	L SUM	1	0.33	0.33	0.34	
3.	70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L SUM	1	0.33	0.33	0.34	
4.	70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	0.33	0.33	0.34	
* 5.	72000100	SIGN PANEL - TYPE 1	SQ FT	29.50			29.50	
* 6.	72000200	SIGN PANEL - TYPE 2	SQ FT	27.50			27.50	
7.	81000800	CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	45			45	
8.	81018700	CONDUIT PUSHED, 3" DIA., GALVANIZED STEEL	FOOT	36			36	
9.	81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	45			45	
10.	85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	3	1	1	1	
11.	85700200	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1		1		
12.	86000100	MASTER CONTROLLER	EACH	1			1	
13.	86400100	TRANSCEIVER - FIBER OPTIC	EACH	2		1	1	
14.	87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C	FOOT	600			600	
15.	87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C	FOOT	1,955	511		1,444	
16.	87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 7C	FOOT	457			457	
17.	87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 PAIR	FOOT	1,032		1,032		
18.	87502520	TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT.	EACH	2			2	
19.	87700220	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	1			1	
20.	87700230	STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	1			1	
21.	87703000	STEEL MAST ARM ASSEMBLY AND POLE 55 FT. COMBINATION	EACH	1			1	
22.	87800100	CONCRETE FOUNDATION, TYPE A	FOOT	8			8	
23.	87800415	CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER	FOOT	37			37	
24.	87900200	DRILL EXISTING HANDHOLE	EACH	3			3	
25.	88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	15	5	3	7	
26.	88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	7	4	3		
27.	88030080	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST-ARM MOUNTED	EACH	2	1		1	
28.	88030100	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2		1	1	
29.	88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	5	2	1	2	
30.	88030210	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1		1		
31.	88030230	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-4 SECTION, BRACKET MOUNTED	EACH	2	1		1	
32.	88030240	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	5	2		3	
33.	88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM	EACH	22	8	4	10	
34.	88500100	INDUCTIVE LOOP DETECTOR	EACH	25	10	6	9	
35.	88600600	DETECTOR LOOP REPLACEMENT	FOOT	134		134		
36.	89100400	ILLUMINATED SIGN, LED	EACH	8	4		4	
37.	89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	2,304	261	1,032	1,011	
38.	89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	3	1	1	1	
39.	89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	2			2	
40.	X0322258	TEMPORARY INFORMATION SIGNING	SQ FT	154.20	51.40	51.40	51.40	
41.	X0326866	RAILROAD FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1	1			
42.	X0325836	RAILROAD FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	1			1	
43.	X8140074	GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	7			7	
44.	X8620020	UNINTERRUPTIBLE POWER SUPPLY	EACH	3	1	1	1	
45.	X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 8 1C	FOOT	687	85	18	584	
46.	X0326865	POST MOUNTED FLASHING BEACON INSTALLATION	EACH	1			1	
47.								
48.	Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	0.50		0.50	
49.	X0326956	RADIO ACTIVATED SOLAR ADVANCE FLASHING BEACON SYSTEM (COMPLETE)	EACH	1			1	
70102620 TRAFFIC CONTROL AND PROTECTION, STANDARD 701501 L SUM					1	0.33	0.33	0.34

* Specialty Items

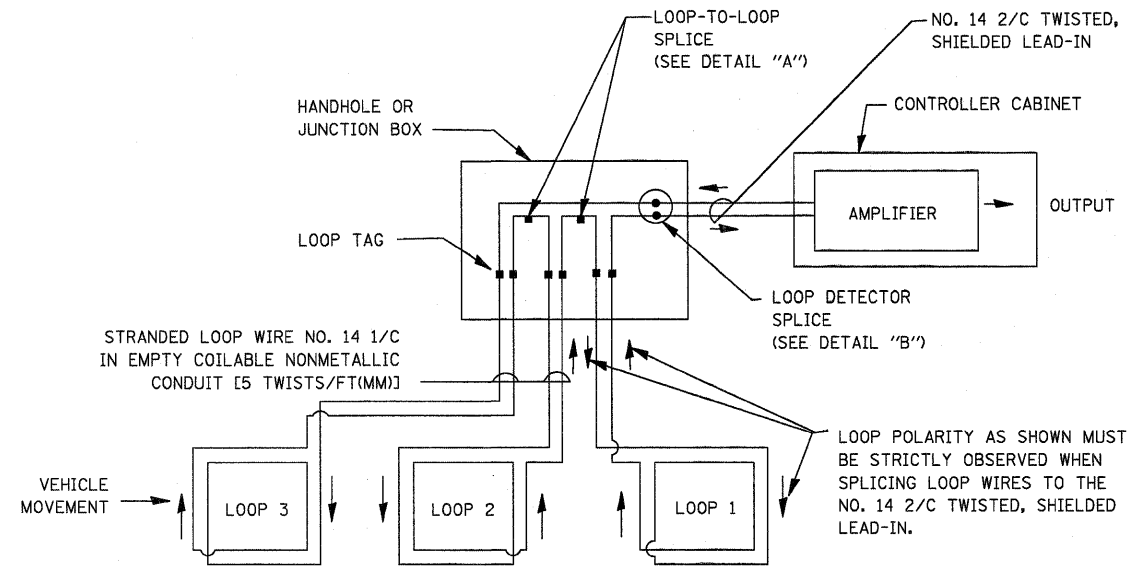
LOOP DETECTOR NOTES

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

LOOP LEAD-IN CABLE TAG

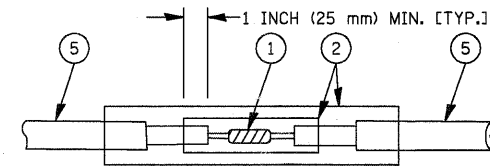


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

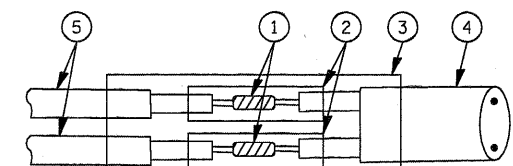


DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.

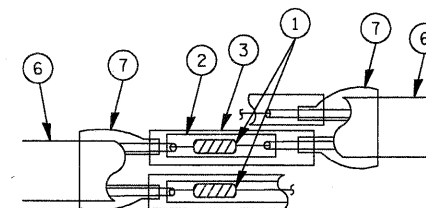


**DETAIL "A"
LOOP-TO-LOOP SPLICE**

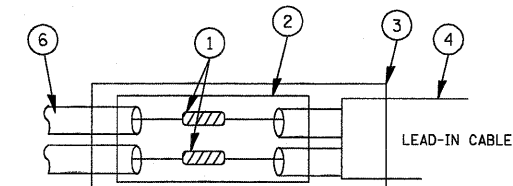


**DETAIL "B"
LOOP-TO-CONTROLLER SPLICE**

TYPE I LOOP



**DETAIL "A"
LOOP-TO-LOOP SPLICE**



**DETAIL "B"
LOOP-TO-CONTROLLER SPLICE**

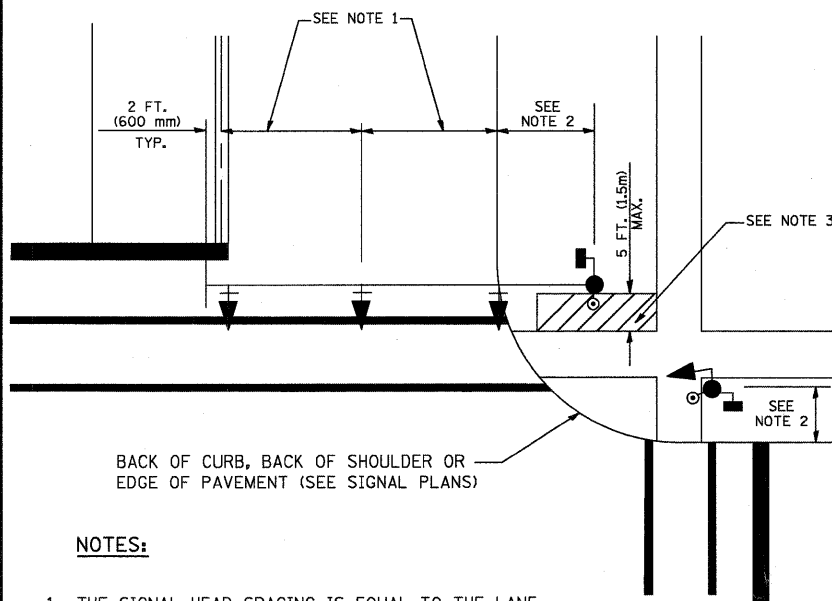
LOOP DETECTOR SPLICE

- 1 WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- 2 WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- 3 WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- 4 NO. 14 2/C TWISTED, SHIELDED CABLE.
- 5 LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- 6 PRE-FORMED LOOP
- 7 XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS. TYCO CBR-2 OR APPROVED EQUAL

FILE NAME = 4085.859-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS			F.A.P. RTE 334	SECTION 2009-128-TS	COUNTY LAKE/McHENRY	TOTAL SHEETS 21	SHEET NO. 3
	PLOT SCALE = 1" = .0833'	DRAWN - ZCW	REVISED -		SCALE N.A.	SHEET NO. 1 OF 6 SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT				
	PLOT DATE = 1/27/10	CHECKED - DPB	REVISED -		CONTRACT # 60JBB							
		DATE - 1/27/10	REVISED -		GHA #4085.859							

TRAFFIC SIGNAL MAST ARM AND SIGNAL POST

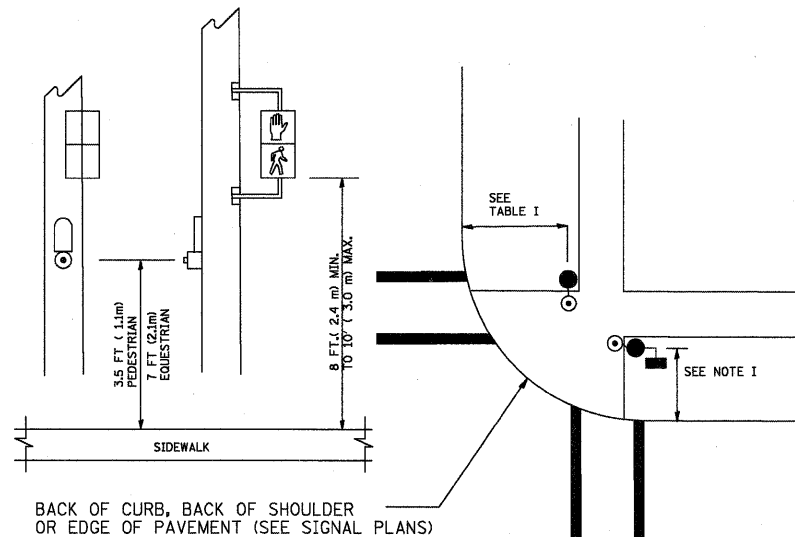
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



NOTES:

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

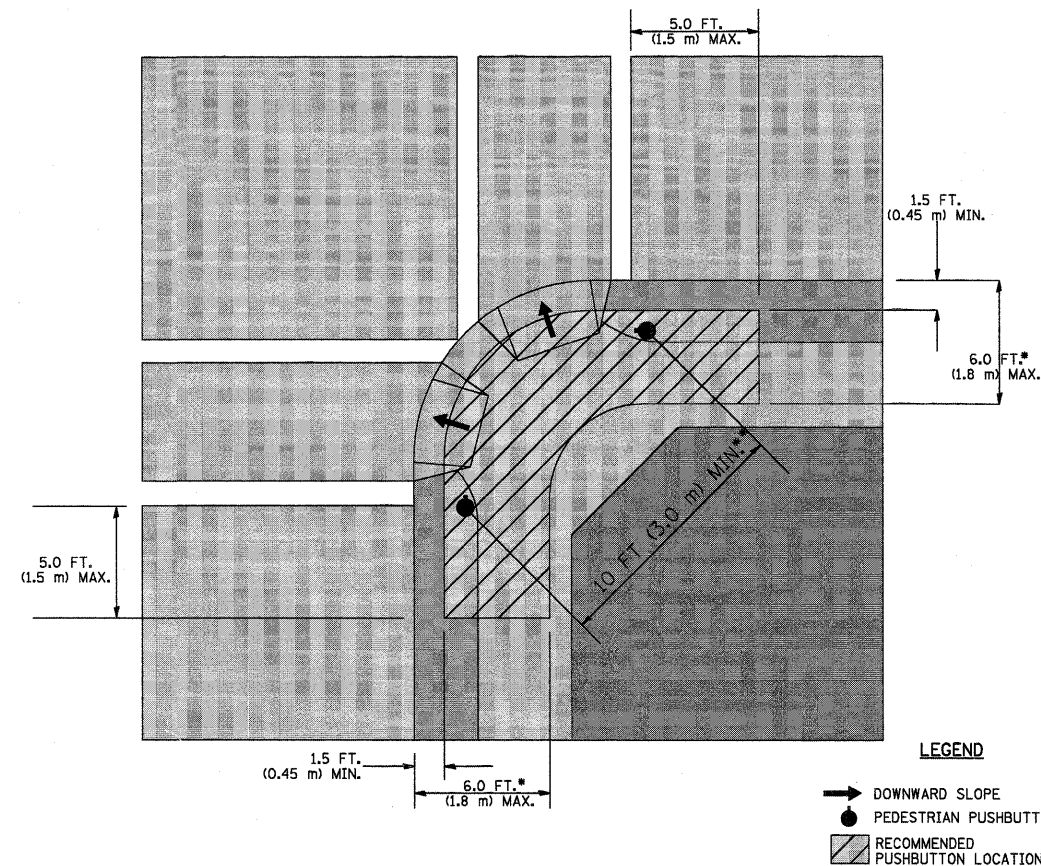
PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST



NOTES:

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

RECOMMENDED PUSHBUTTON LOCATIONS



LEGEND

- DOWNWARD SLOPE
- PEDESTRIAN PUSHBUTTON
- ▨ RECOMMENDED PUSHBUTTON LOCATIONS

- WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT (1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

NOTES:

PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.

THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.

THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.

THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.

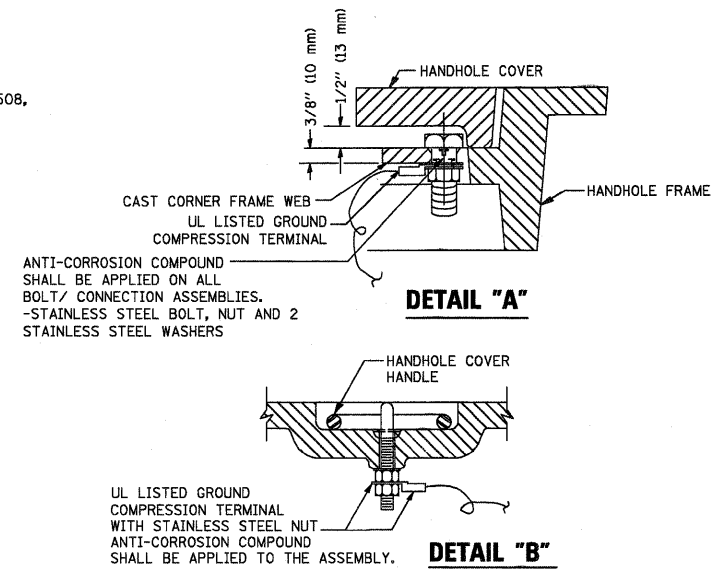
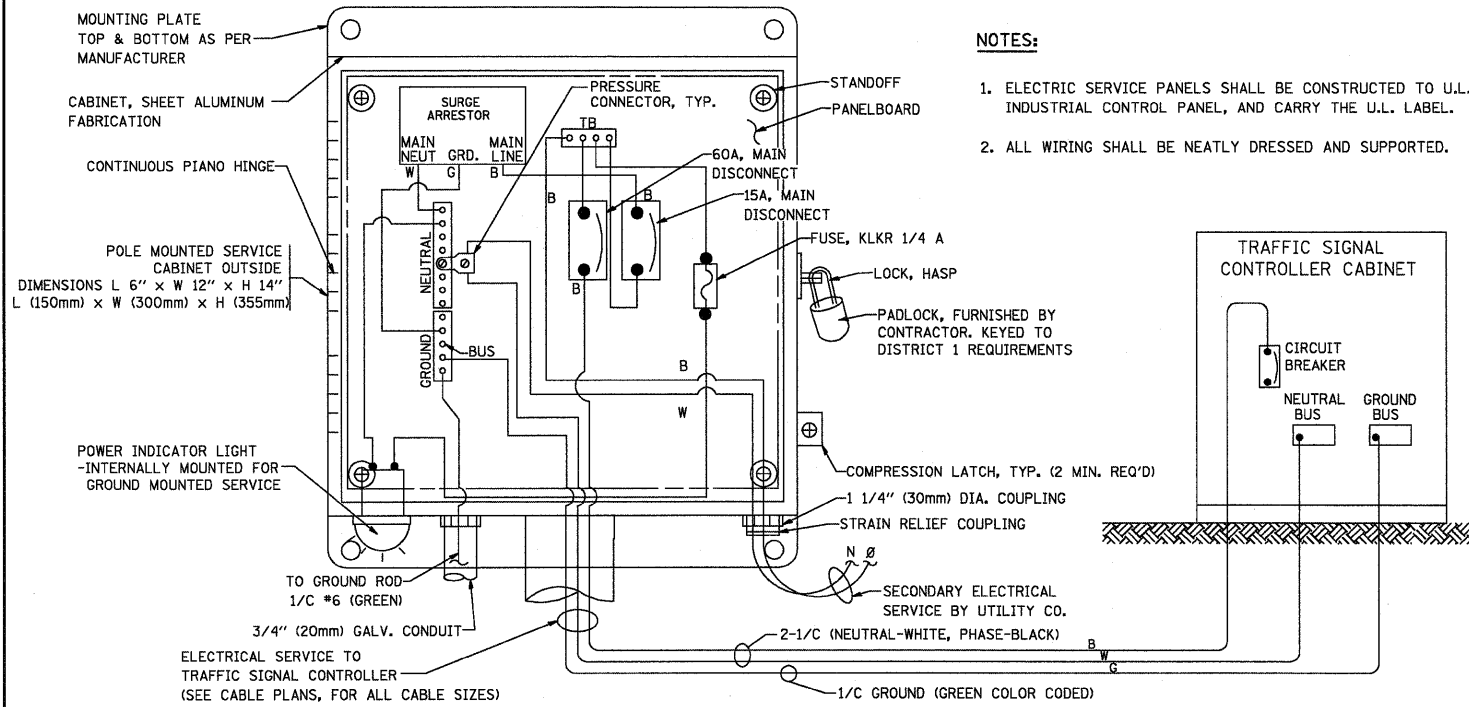
THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

TRAFFIC SIGNAL EQUIPMENT OFFSET

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

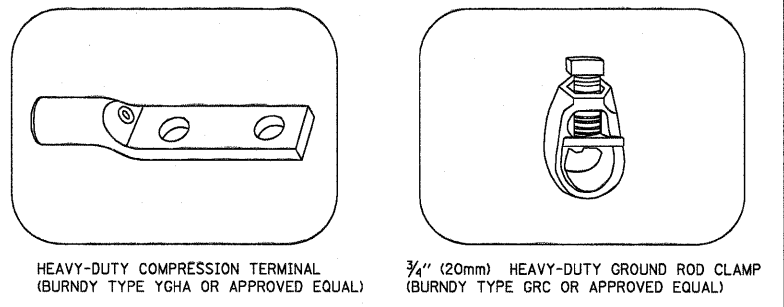
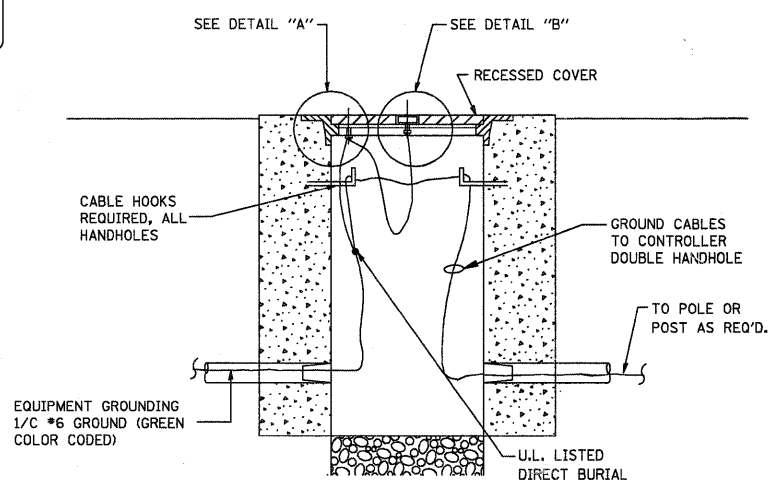
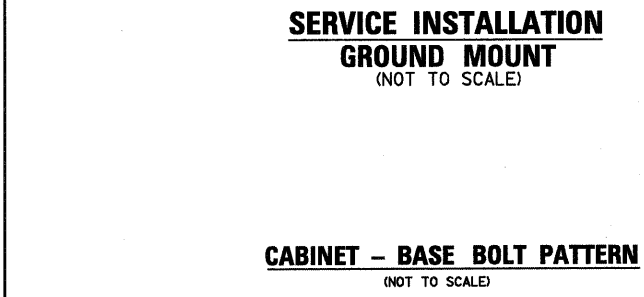
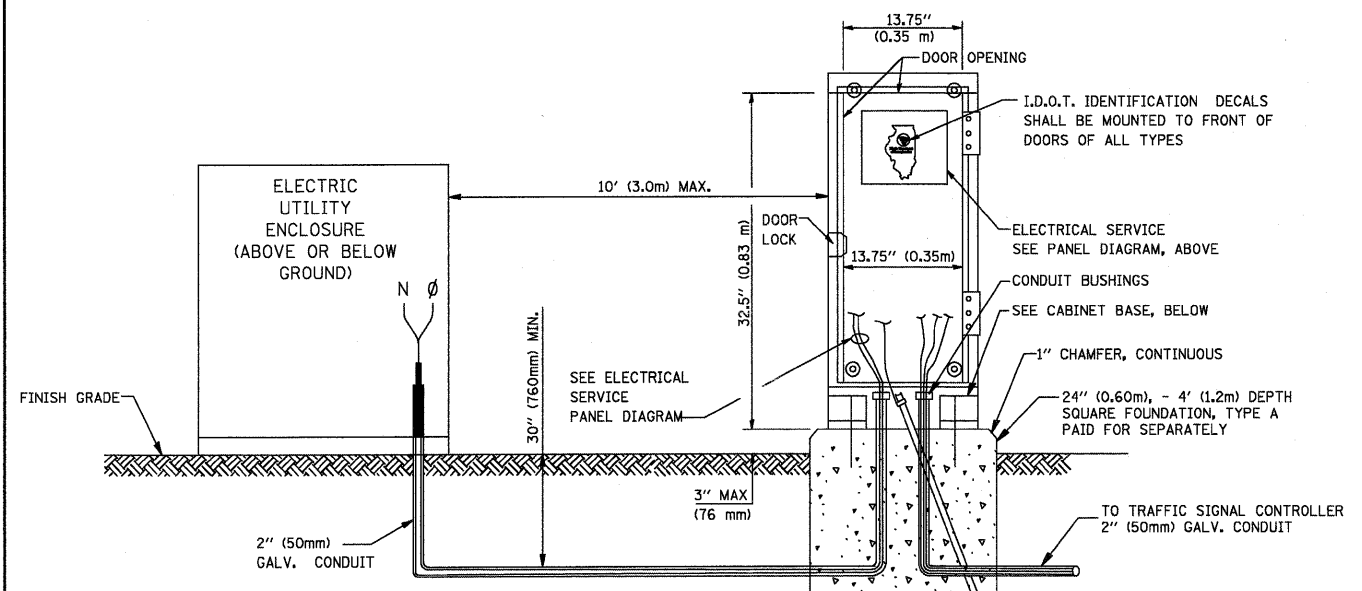
NOTES:

1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.

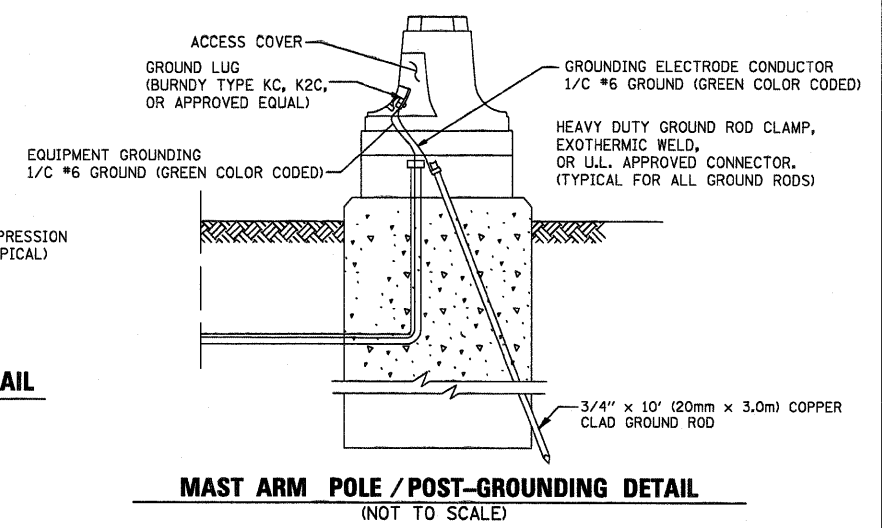
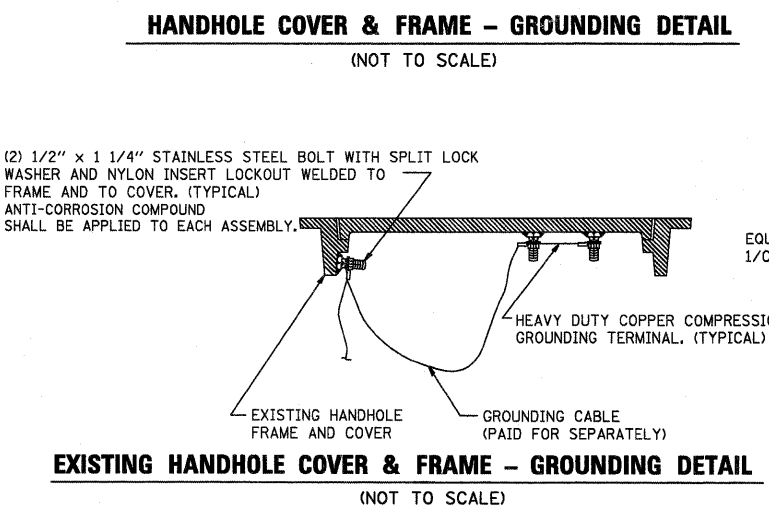


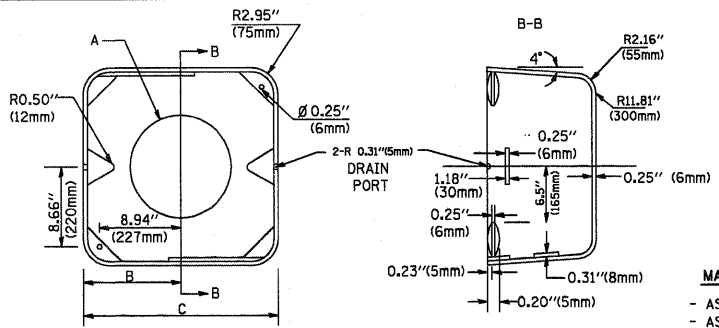
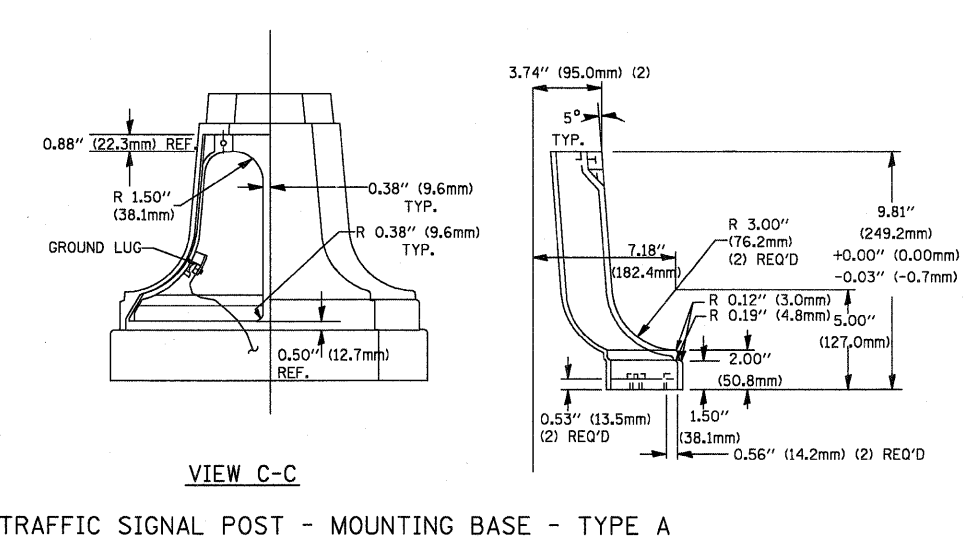
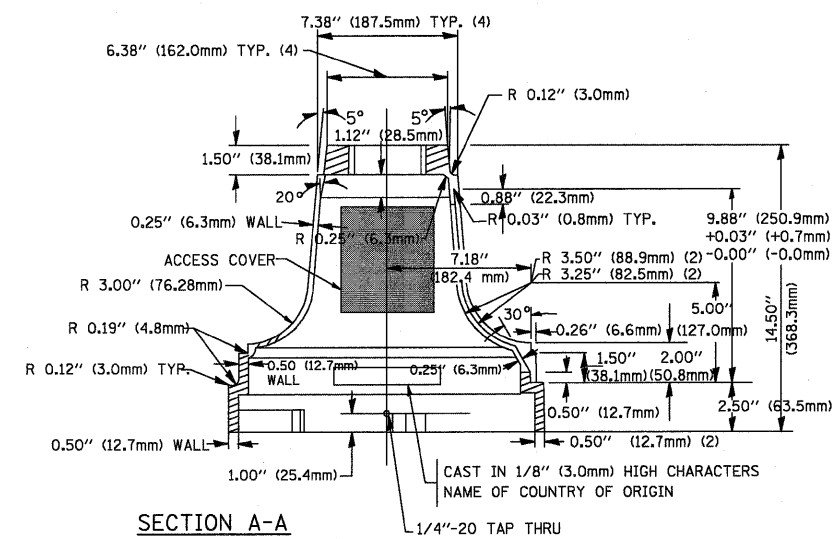
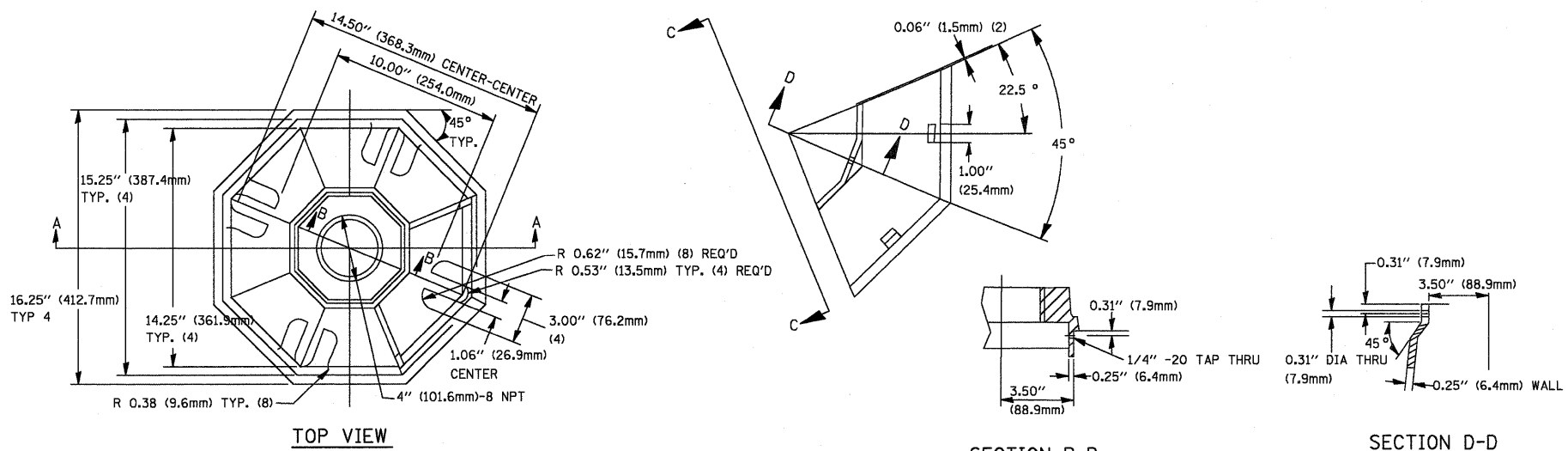
- NOTES:**
- GROUNDING SYSTEM**
- THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
 - THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
 - ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
 - THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.

ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)
SERVICE INSTALLATION POLE MOUNT (SHOWN)
 (NOT TO SCALE)



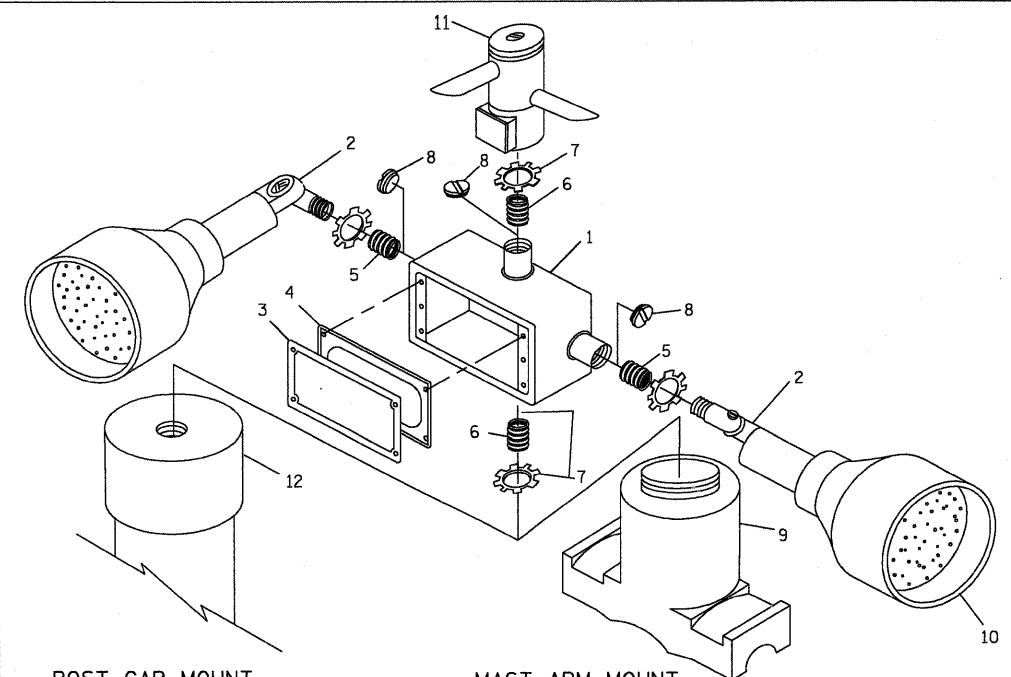
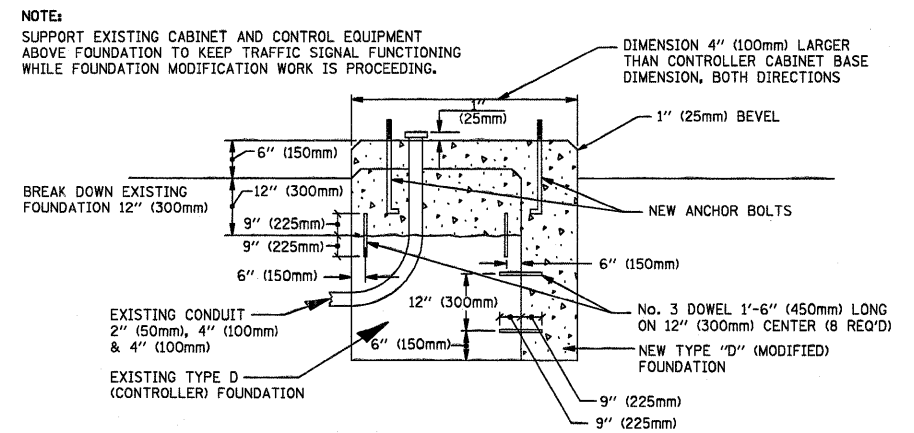
- NOTES:**
- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
 - GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES. 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES. 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.





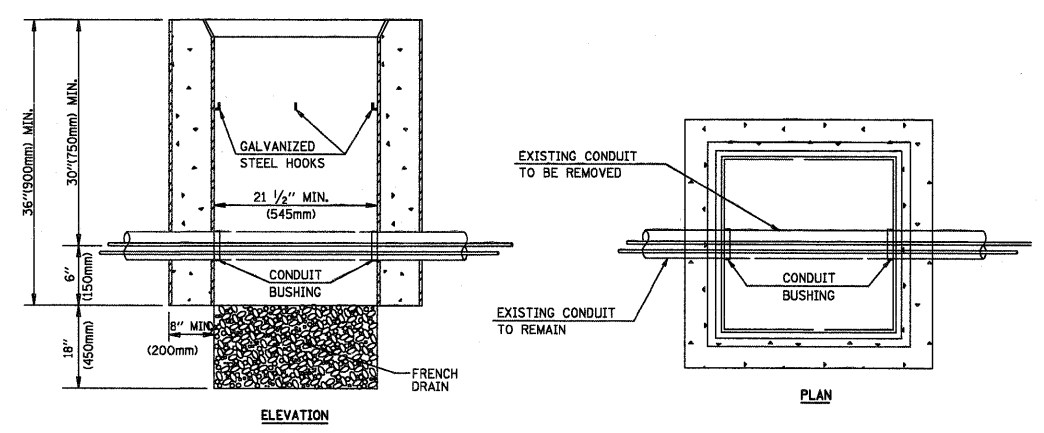
A	B	C	HEIGHT	WEIGHT
VARIABLES	9.5\"(241mm)	19\"(483mm)	7\"(178mm) - 12\"(300mm)	53 lbs (24kg)
VARIABLES	10.75\"(273mm)	21.5\"(546mm)	7\"(178mm) - 12\"(300mm)	68 lbs (31 kg)
VARIABLES	13.0\"(330mm)	26\"(660mm)	7\"(178mm) - 12\"(300mm)	81 lbs (37 kg)
VARIABLES	18.5\"(470mm)	37\"(940mm)	7\"(178mm) - 12\"(300mm)	126 lbs (57 kg)

- NOTES:**
- DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
 - THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
 - THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

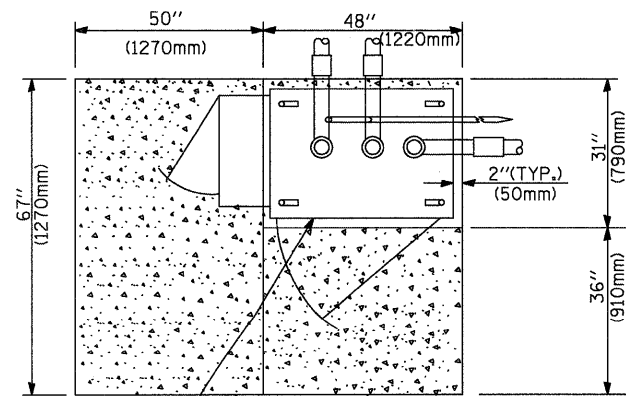


ITEM NO.	IDENTIFICATION
1	OUTLET BOX - GALV. 21 CU. IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\"(19 mm) CLOSE NIPPLE
7	3/4\"(19 mm) LOCKNUT
8	3/4\"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

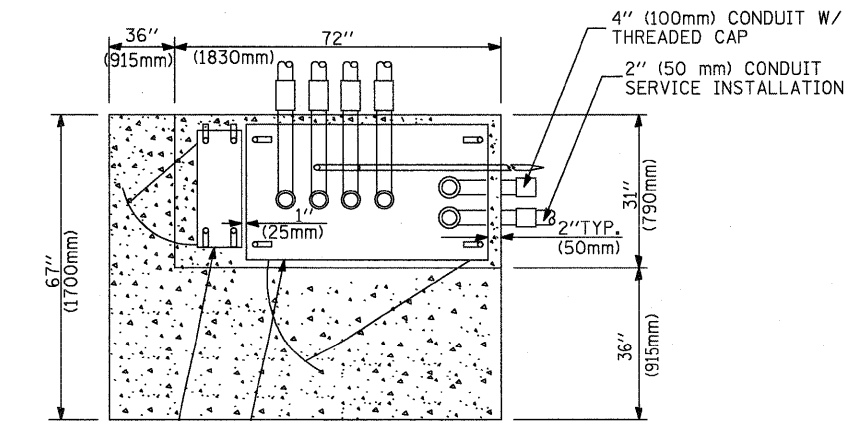
- NOTES:**
- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
 - ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
 - WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4\"(19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



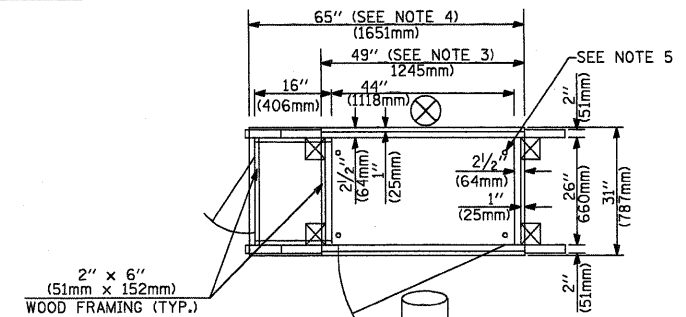
- NOTES:**
- HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
 - REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCIDENTAL TO THE HANDHOLE.



TOP VIEW



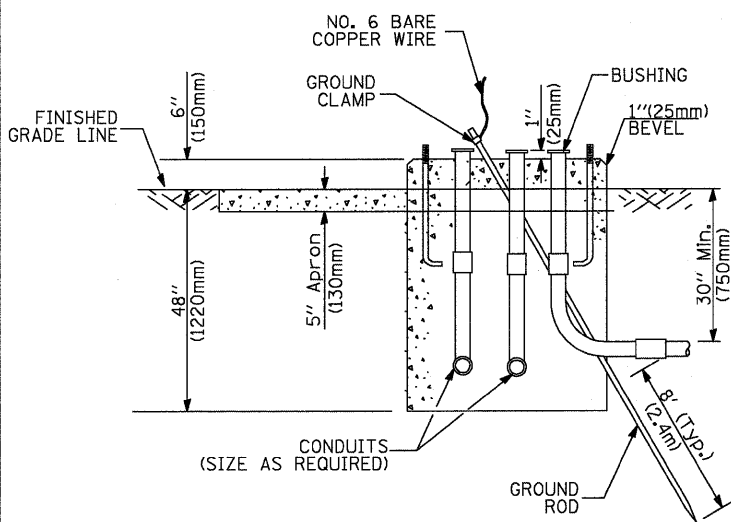
TOP VIEW



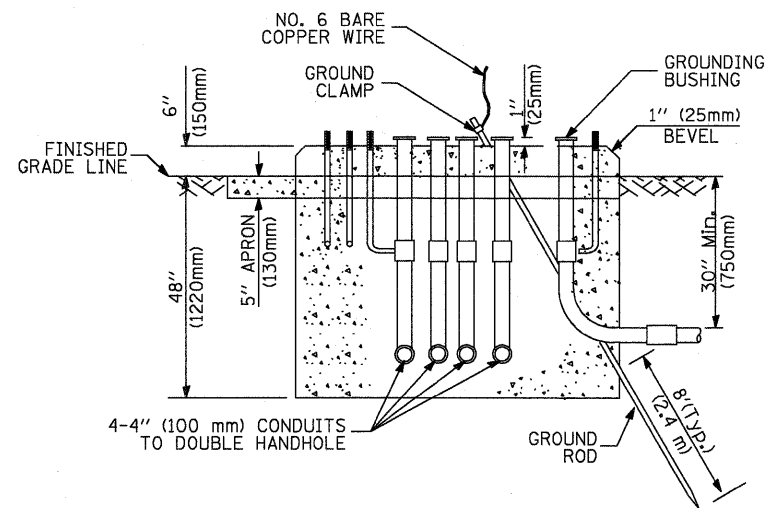
TEMPORARY SIGNAL CONTROLLER WOOD SUPPORT PLATFORM

NOTES:

1. BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
2. BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
3. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
4. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
5. DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
6. FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.



TYPE D FOR GROUND MOUNTED CONTROLLER CABINET AND UPS BATTERY CABINET



TYPE C FOR GROUND MOUNTED CONTROLLER CABINET AND UPS BATTERY CABINET

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

CABLE SLACK

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

VERTICAL CABLE LENGTH

FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE	4'-0" (1.2m)

DEPTH OF FOUNDATION

Mast Arm Length	① Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

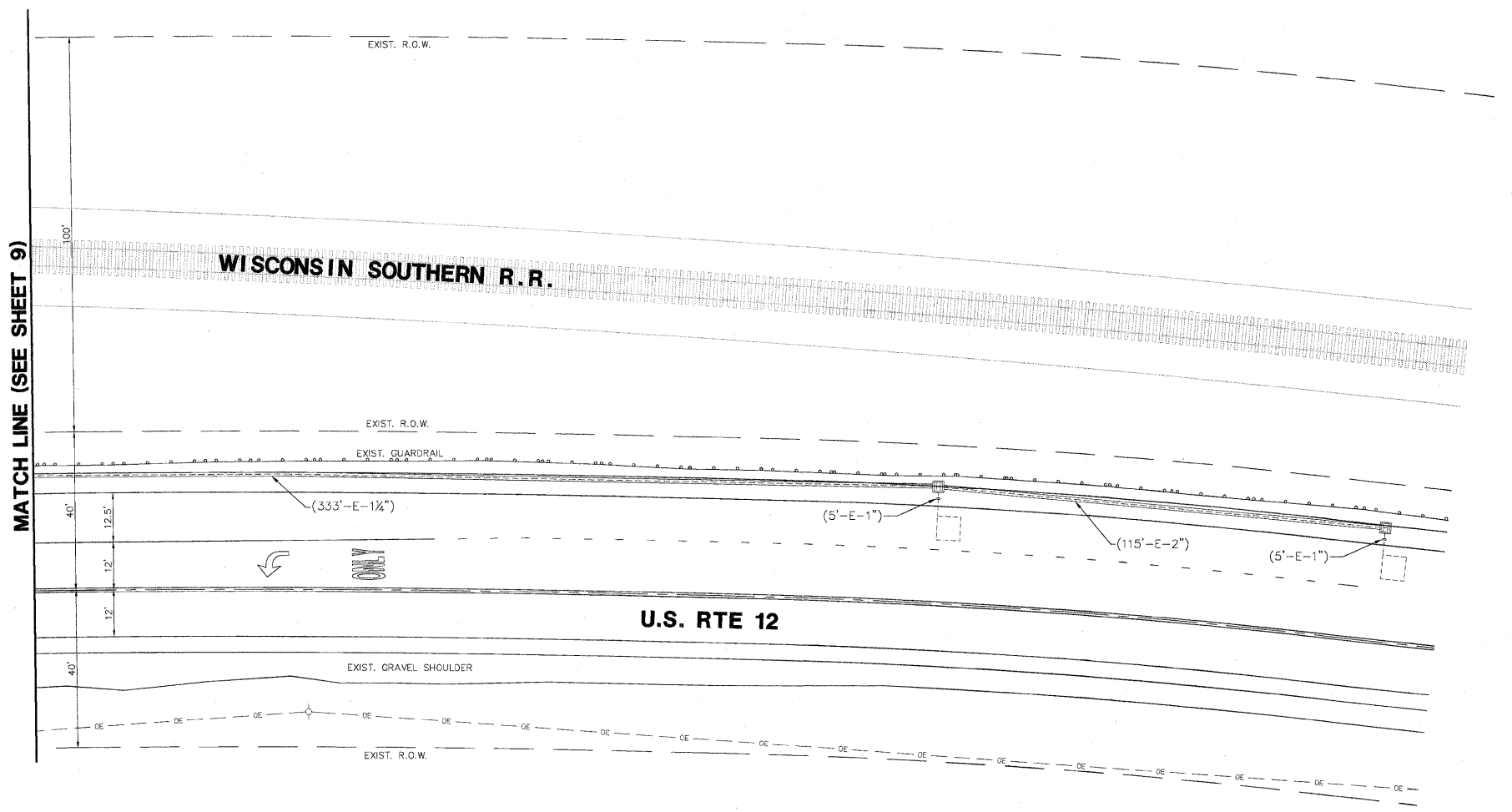
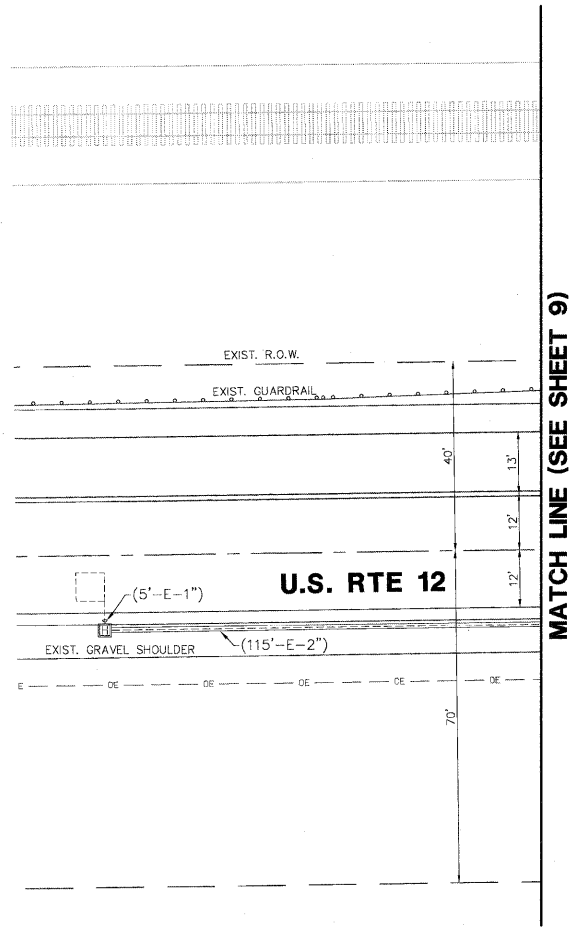
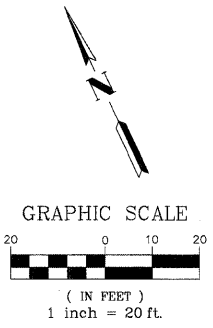
NOTES:

1. These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (Qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & Structures should be contacted for a revised design if other conditions are encountered.
2. Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
4. For mast arm assemblies with dual arms refer to state standard 878001.

DEPTH OF MAST ARM FOUNDATIONS, TYPE E

TRAFFIC SIGNAL LEGEND

ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE			
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE			
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA			
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED			
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F			
UNINTERRUPTIBLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F			
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				GALVANIZED STEEL CONDUIT IN TRENCH (T) OR PUSHED (P)				FIBER OPTIC CABLE NO. 62.5/125, MM12F 24F			
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				FIBER OPTIC CABLE NO. 62.5/125, (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS)			
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE			
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM		S	S	STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM		I	IP	ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED			
SIGNAL POST				REMOVE ITEM	R			STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED			
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM	RL			SIGNAL POST AND FOUNDATION TO BE REMOVED			
GUY WIRE				ABANDON ITEM	A			INTERSECTION & SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				EXISTING INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				EXISTING PREFORMED INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL				PREFORMED SAMPLING (SYSTEM) DETECTOR			
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED				RAILROAD SYMBOLS			
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID				EXISTING		PROPOSED	
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER				RAILROAD CONTROL CABINET			
ILLUMINATED SIGN "NO LEFT TURN"				RADIO INTERCONNECT				RAILROAD CANTILEVER MAST ARM			
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO REPEATER				FLASHING SIGNAL			
DETECTOR LOOP, TYPE I				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED				CROSSING GATE			
PREFORMED DETECTOR LOOP				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)				CROSSBUCK			
MICROWAVE VEHICLE SENSOR											
VIDEO DETECTION CAMERA											
VIDEO DETECTION ZONE											
PAN, TILT, ZOOM CAMERA											
WIRELESS DETECTOR SENSOR											
WIRELESS ACCESS POINT											



Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "NTCIP" COMPLIANT.

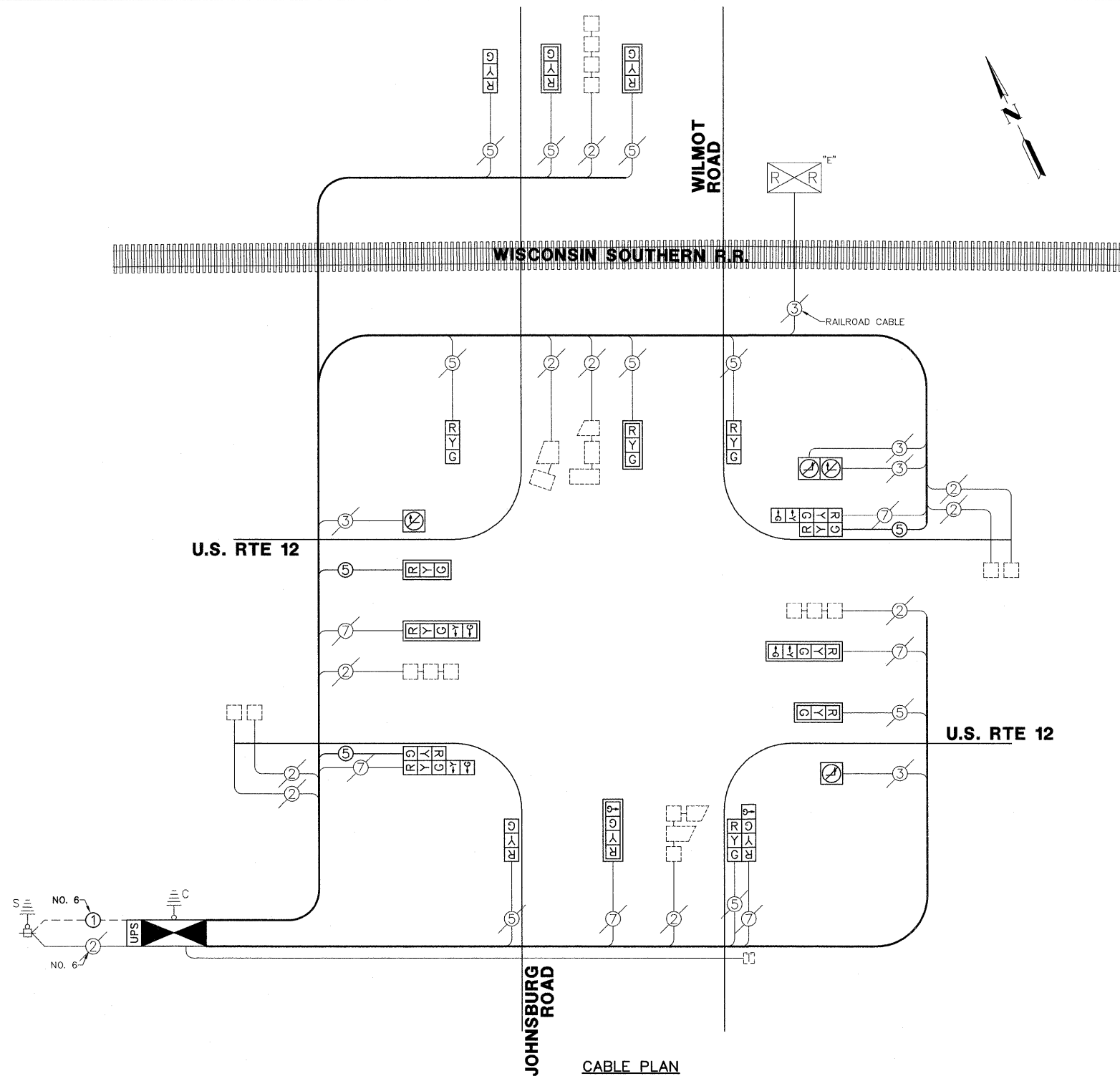
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	PLOT SCALE = 1" = .0633'	CHECKED - DPB	REVISED -		SCALE 1"=20'	SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT # 60J88 ILLINOIS FED. AID PROJECT			
PLOT DATE = 1/27/10	DATE - 1/27/10	REVISED -	REVISED -								

GHA #4085.859

SCHEDULE OF QUANTITIES

U.S. RTE 12 AT WILMOT ROAD/JOHNSBURG ROAD

NO.	QUANT.	UNIT
1.	1	CAL MO ENGINEER'S FIELD OFFICE, TYPE A
2.	1	EACH MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
3.	511	FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C
4.	5	EACH SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED
5.	4	EACH SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
6.	1	EACH SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST ARM MOUNTED
7.	2	EACH SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED
8.	1	EACH SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-4 SECTION, BRACKET MOUNTED
9.	2	EACH SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
10.	8	EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
11.	10	EACH INDUCTIVE LOOP DETECTOR
12.	4	EACH ILLUMINATED SIGN, LED
13.	261	FOOT REMOVE ELECTRIC CABLE FROM CONDUIT
14.	1	EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
15.	51.40	SQ FT TEMPORARY INFORMATION SIGNING
16.	1	EACH RAILROAD FULL-ACTUATED CONTROLLER AND TYPE IV CABINET
17.	1	EACH UNINTERRUPTIBLE POWER SUPPLY
18.	85	FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
19.	0.50	L SUM RAILROAD PROTECTIVE LIABILITY INSURANCE



I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE		% OPERATION	
SIGNAL (RED)	18	135	17	0.50	153.0
SIGNAL (YELLOW)	18	135	25	0.25	112.5
SIGNAL (GREEN)	18	135	15	0.25	67.5
ARROW	10	135	12	0.10	12.0
PED. SIGNAL	-	90	25	L00	-
CONTROLLER	1	-	100	L00	100.0
LUMINAIRE	-	-	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	-	-	150	L00	-
BATTERY BACKUP	1	-	25	L00	25.0
ILLUMINATED SIGN	4	-	25	0.05	5.0
TOTAL =					475.0

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "NTCIP" COMPLIANT.

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

ENERGY COSTS - BILLED TO: IDOT - DISTRICT 1
(ADDRESS) 201 W. CENTER COURT
(ADDRESS) SCHAUMBURG, IL 60196-1096
ENERGY SUPPLY - CONTACT: KIMBERLY KANGAS
PHONE: (847) 816-5497
COMPANY: COM ED - LIBERTYVILLE

FILE NAME = 4085.859-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		CABLE PLAN AND SCHEDULE OF QUANTITIES U.S. ROUTE 12 AT WILMOT ROAD/JOHNSBURG ROAD			FAP RTE 334	SECTION 2009-128-TS	COUNTY McHENRY	TOTAL SHEETS 21	SHEET NO. 11
PLOT SCALE = 1" = .0833'	DATE = 1/27/10	DRAWN - ZCW	REVISED -						SCALE N.A.	SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT # 60J88	

GHA #4085.859

SEQUENCE OF OPERATION

MOVEMENT															FLASH		
PHASE	1+5				1+6		2+5		2+6		4+8						
INTERVAL	1	2	3	4	5	6	7	8	9	10A	10B	11	12A	12B	12C	12D	
CHANGE TO		1+6	2+5	2+6	2+6	2+6	2+6	2+6	4+8				1+5	1+6	2+5	2+6	
U.S. RTE 12 END MAST ARM AND FAR LEFT SIGNALS	E/B	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R
U.S. RTE 12 FAR RIGHT MAST ARM AND NEAR RIGHT SIGNALS	E/B	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R
U.S. RTE 12 END MAST ARM AND FAR LEFT SIGNALS	WB	R	R	R	R	G	G	R	R	G	Y	R	R	R	R	R	R
U.S. RTE 12 FAR RIGHT MAST ARM AND NEAR RIGHT SIGNALS	WB	R	R	R	R	G	G	R	R	G	Y	R	R	R	R	R	R
JOHNSBURG RD ALL SIGNALS	N/B	R	R	R	R	R	R	R	R	R	R	G	G	G	Y	R	R
WLMOT RD (NORTH OF TRACKS) ALL SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R
WLMOT RD (SOUTH OF TRACKS) END MAST ARM AND FAR LEFT SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	G	G	G	Y	R	R
WLMOT RD (SOUTH OF TRACKS) FAR RIGHT SIGNAL	S/B	R	R	R	R	R	R	R	R	R	R	G	G	G	Y	R	R

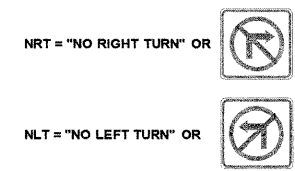
PHASES 2 + 6 SHALL BE PLACED ON RECALL.

RAILROAD PREEMPTION SEQUENCE OF OPERATION

	PREEMPTOR NUMBER 2											CLEAR TO NORMAL SEQUENCE							
CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER	1	5	7	9	11	1A	1B	1C	1D	1E	1F		1G	1H	1J				
RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5			
CHANGE TO RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	2	1C	2	1E	2	1G	2	1J	2	3	4	5							
U.S. RTE 12 END MAST ARM AND FAR LEFT SIGNALS	E/B	R	R	R	Y	R	Y	R	R	R	R	R	R	R	R	R	G	△	
U.S. RTE 12 FAR RIGHT MAST ARM AND NEAR RIGHT SIGNALS	E/B	R	R	R	Y	R	Y	R	R	R	R	R	R	R	R	R	R	G	△
U.S. RTE 12 END MAST ARM AND FAR LEFT SIGNALS	WB	R	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	R	G	△
U.S. RTE 12 FAR RIGHT MAST ARM AND NEAR RIGHT SIGNALS	WB	R	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	R	G	△
JOHNSBURG RD ALL SIGNALS	N/B	R	R	R	R	R	R	R	Y	R	R	R	R	R	R	R	R	R	△
WLMOT RD (NORTH OF TRACKS) ALL SIGNALS	S/B	R	R	R	R	R	R	R	Y	R	R	R	R	R	R	R	R	R	△
WLMOT RD (SOUTH OF TRACKS) END MAST ARM AND FAR LEFT SIGNALS	S/B	R	R	R	R	R	R	R	G	G	G	G	G	G	G	G	Y	R	△
WLMOT RD (SOUTH OF TRACKS) FAR RIGHT SIGNAL	S/B	R	R	R	R	R	R	R	G	G	G	G	G	G	G	G	Y	R	△
INTERNALLY ILLUMINATED NRT SIGNS		NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	△
INTERNALLY ILLUMINATED NLT SIGNS		NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	△

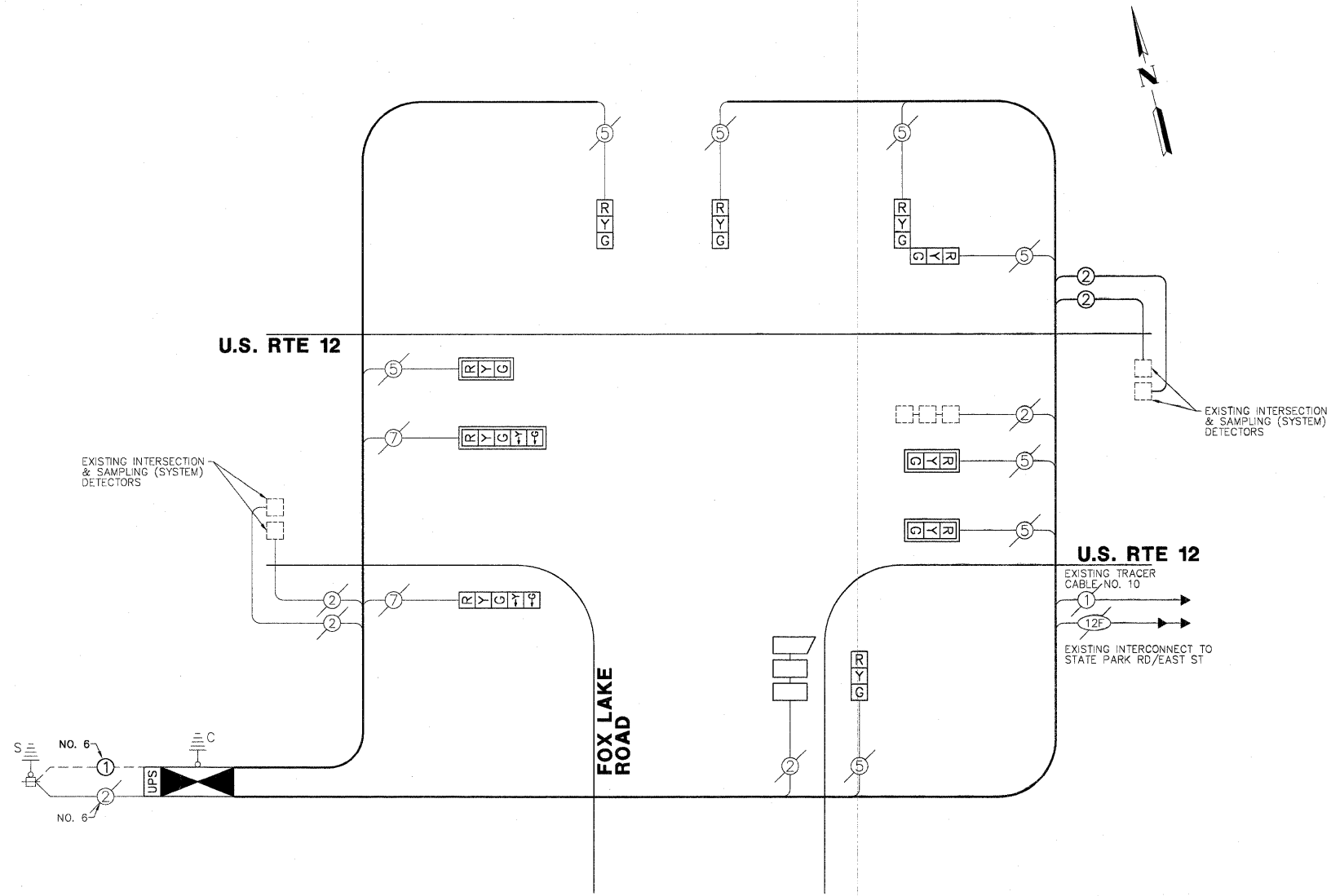
△ RAILROAD PREEMPTION SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY AN EMERGENCY VEHICLE INTERVAL (IF APPLICABLE) AFTER RAILROAD PREEMPTION INTERVAL 5 IS TERMINATED.

HOLD

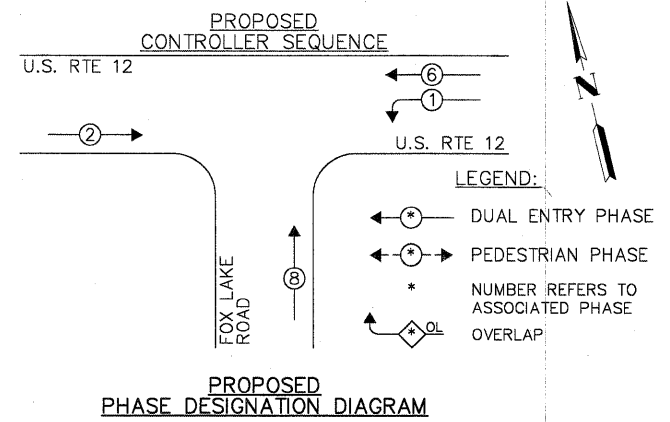


SCHEDULE OF QUANTITIES
U.S. RTE 12 AT FOX LAKE ROAD

NO.	QUANT.	UNIT	DESCRIPTION
1.	1	CAL MO	ENGINEER'S FIELD OFFICE, TYPE A
2.	1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
3.	1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET
4.	1	EACH	TRANSCIVER - FIBER OPTIC
5.	1,032	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 PAIR
6.	3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED
7.	3	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
8.	1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
9.	1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED
10.	1	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED
11.	4	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
12.	6	EACH	INDUCTIVE LOOP DETECTOR
13.	134	FOOT	DETECTOR LOOP REPLACEMENT
14.	1,032	FOOT	REMOVE ELECTRIC CABLE FROM CONDUIT
15.	1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
16.	51.40	SQ FT	TEMPORARY INFORMATION SIGNING
17.	1	EACH	UNINTERRUPTIBLE POWER SUPPLY
18.	18	FOOT	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C



CABLE PLAN



PROPOSED PHASE DESIGNATION DIAGRAM

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "NTCIP" COMPLIANT.

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE	INCAND.	L.E.D.	% OPERATION
SIGNAL (RED)	10	135	17	0.50	85.0
SIGNAL (YELLOW)	10	135	25	0.25	62.5
SIGNAL (GREEN)	10	135	15	0.25	37.5
ARROW	4	135	12	0.10	4.8
PED. SIGNAL	-	90	25	1.00	-
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	-	-	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	-	-	150	1.00	-
BATTERY BACKUP	1	-	25	1.00	25.0
ILLUMINATED SIGN	-	-	25	0.05	-
TOTAL =					314.8

ENERGY COSTS - BILLED TO: IDOT - DISTRICT 1
(ADDRESS) 201 W. CENTER COURT
(ADDRESS) SCHAUMBURG, IL 60196-1096
ENERGY SUPPLY - CONTACT: KIMBERLY KANGAS
PHONE: (847) 816-5497
COMPANY: COM ED - LIBERTYVILLE

CONSTRUCTION NOTES:

- 1 INSTALL UNINTERRUPTIBLE POWER SUPPLY UNIT.
- 2 INSTALL NEW GROUND CABLE FROM NEW CONTROLLER CABINET TO EXISTING SERVICE INSTALLATION.
- 3 REMOVE EXISTING SIGNAL HEAD, REPLACE WITH NEW SIGNAL HEAD, LED AND BACKPLATE (IF REQUIRED). REUSE EXISTING CABLES.
- 4 REMOVE AND REPLACE EXISTING CONTROLLER AND CABINET. REUSE EXISTING TYPE "D" FOUNDATION. INSTALL NEW CONTROLLER AND TYPE V CABINET, MASTER CONTROLLER, FIBER OPTIC TRANSCEIVER, AND INDUCTIVE LOOP DETECTORS.
- 5 REMOVE EXISTING MAST ARM ASSEMBLY AND TYPE E FOUNDATION AFTER THE PROPOSED MAST ARMS ARE INSTALLED, OPERATING AND APPROVED BY THE IDOT AREA TRAFFIC SIGNAL ENGINEER.
- 6 REMOVE EXISTING NORTHBOUND 3-SECTION SIGNAL HEAD AFTER THE PROPOSED NORTHBOUND MAST ARM IS INSTALLED, OPERATING AND APPROVED BY THE IDOT AREA TRAFFIC SIGNAL ENGINEER.
- 7 THE CONTRACTOR SHALL REMOVE THE EXISTING INCANDESCENT YELLOW FLASHING BEACON LOCATED ON AN EXISTING POST APPROXIMATELY 850 FEET FROM THE EASTBOUND STOP BAR AND REPLACE IT WITH A 12 INCH L.E.D. SINGLE SECTION YELLOW FLASHING BEACON UNIT ON THE EXISTING POST. SEE THE INTERCONNECT PLAN (SHEET 18) FOR LOCATION OF THE EXISTING FLASHING BEACON.
- 8 ALL THE EXISTING ELECTRIC CABLES TO ANY EXISTING SIGNAL HEAD THAT WILL NOT BE REPLACED OR ARE EXISTING MAST ARMS THAT WILL BE REMOVED SHALL BE PULLED FROM THE EXISTING CONDUIT ALL THE WAY TO THE CONTROLLER CABINET.



R8-8
(24" x 30")
(2 REQUIRED)

NOTE:
THE EXISTING CONTROLLER IS AN ECONOLITE ASC/2S-2100 AND THE MASTER CONTROLLER IS AN ECONOLITE ASC/2M-1000 IN A TYPE IV CABINET.

IMPORTANT NOTE:

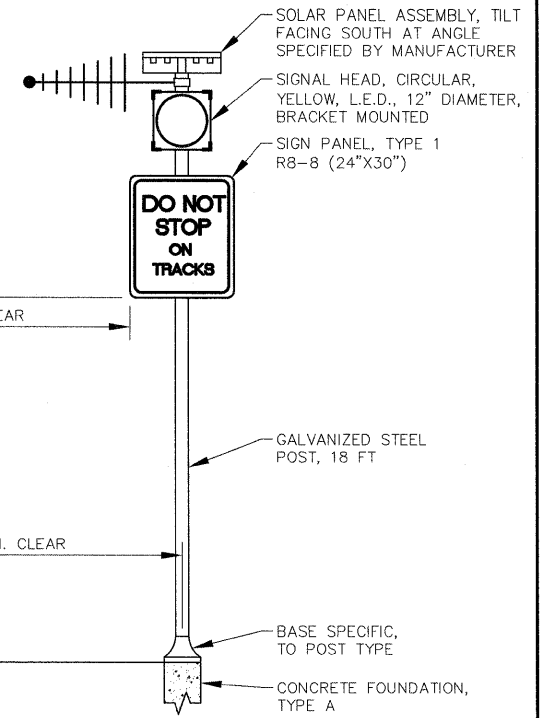
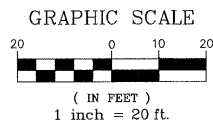
ALL EXCAVATED SOIL FROM THE INSTALLATION OF ALL FOUNDATIONS SHALL REMAIN ON SITE AND BE USED AS FILL MATERIAL FOR THE REMOVAL OF THE EXISTING FOUNDATIONS.

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "NTCIP" COMPLIANT.

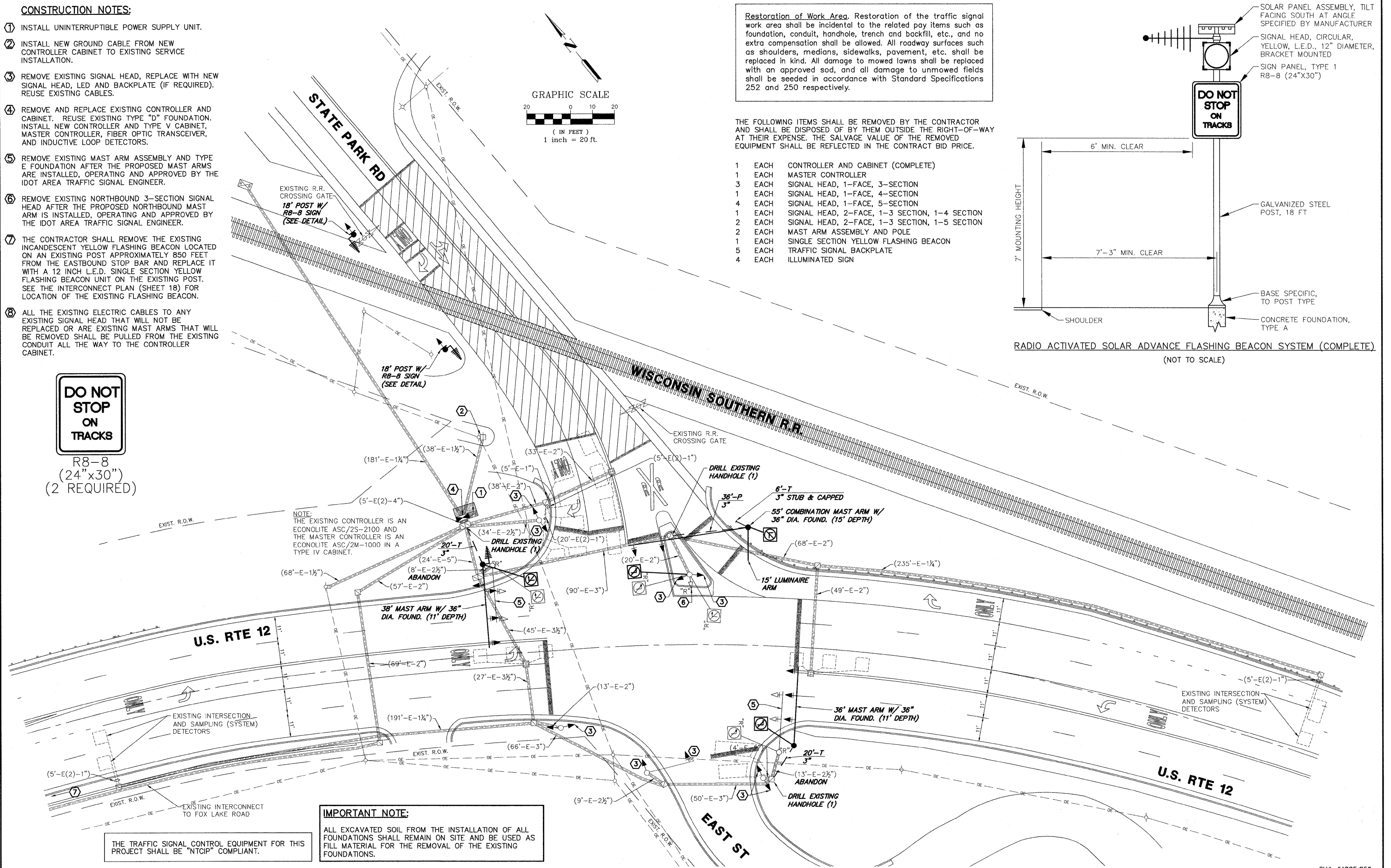
Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 1 EACH MASTER CONTROLLER
- 3 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 1 EACH SIGNAL HEAD, 1-FACE, 4-SECTION
- 4 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-4 SECTION
- 2 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION
- 2 EACH MAST ARM ASSEMBLY AND POLE
- 1 EACH SINGLE SECTION YELLOW FLASHING BEACON
- 5 EACH TRAFFIC SIGNAL BACKPLATE
- 4 EACH ILLUMINATED SIGN



RADIO ACTIVATED SOLAR ADVANCE FLASHING BEACON SYSTEM (COMPLETE)
(NOT TO SCALE)



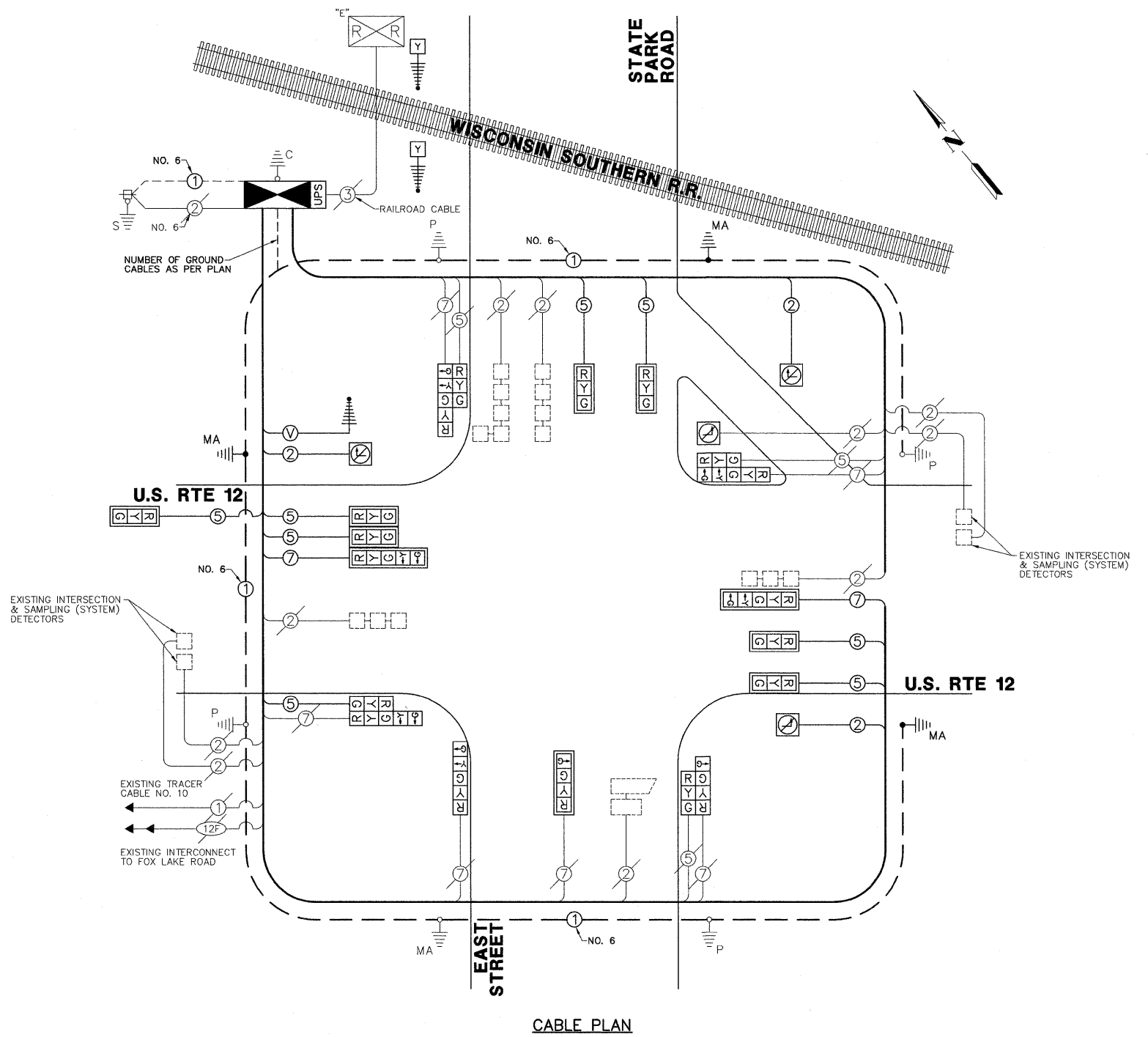
FILE NAME = 4085.859-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC SIGNAL MODERNIZATION PLAN U.S. ROUTE 12 AT STATE PARK ROAD/EAST STREET			F.A.P. RTE 334	SECTION 2009-128-TS	COUNTY LAKE/McHENRY	TOTAL SHEETS 21	SHEET NO. 15
	PLOT SCALE = 1" = .0833'	DRAWN - ZCW	REVISED -		SCALE 1"=20'	SHEET NO.	OF SHEETS	STA.	TO STA.	CONTRACT # 60J88	ILLINOIS FED. AID PROJECT	
	PLOT DATE = 1/27/10	CHECKED - DPB	REVISED -									
		DATE - 1/27/10	REVISED -									

GHA #4085.859

SCHEDULE OF QUANTITIES

U.S. RTE 12 AT STATE PARK ROAD/EAST STREET

NO.	QUANT.	UNIT	DESCRIPTION
1.	2	CAL MO	ENGINEER'S FIELD OFFICE, TYPE A
2.	29.50	SQ FT	SIGN PANEL - TYPE 1
3.	27.50	SQ FT	SIGN PANEL - TYPE 2
4.	45	FOOT	CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL
5.	36	FOOT	CONDUIT PUSHED, 3" DIA., GALVANIZED STEEL
6.	45	FOOT	TRENCH AND BACKFILL FOR ELECTRICAL WORK
7.	1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
8.	1	EACH	MASTER CONTROLLER
9.	1	EACH	TRANSCEIVER - FIBER OPTIC
10.	600	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C
11.	1,444	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C
12.	457	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 7C
13.	2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT
14.	1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT
15.	1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 38 FT
16.	1	EACH	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 55 FT
17.	8	FOOT	CONCRETE FOUNDATION, TYPE A
18.	37	FOOT	CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER
19.	3	EACH	DRILL EXISTING HANDHOLE
20.	7	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED
21.	1	EACH	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST ARM MOUNTED
22.	1	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
23.	2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED
24.	1	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-4 SECTION, BRACKET MOUNTED
25.	3	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
26.	10	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM
27.	9	EACH	INDUCTIVE LOOP DETECTOR
28.	4	EACH	ILLUMINATED SIGN, LED
29.	1,011	FOOT	REMOVE ELECTRIC CABLE FROM CONDUIT
30.	1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
31.	2	EACH	REMOVE EXISTING CONCRETE FOUNDATION
32.	51.40	SQ FT	TEMPORARY INFORMATION SIGNING
33.	1	EACH	RAILROAD FULL-ACTUATED CONTROLLER AND TYPE V CABINET
34.	1	EACH	RADIO ACTIVATED SOLAR ADVANCE FLASHING BEACON SYSTEM (COMPLETE)
35.	7	EACH	GROUNDING EXISTING HANDHOLE FRAME AND COVER
36.	1	EACH	UNINTERRUPTIBLE POWER SUPPLY
37.	584	FOOT	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
38.	1	EACH	POST MOUNTED FLASHING BEACON INSTALLATION
39.	0.50	L SUM	RAILROAD PROTECTIVE LIABILITY INSURANCE



CABLE PLAN

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS				TOTAL WATTAGE
TYPE	NO LAMPS	WATTAGE INCAND. L.E.D.	% OPERATION	
SIGNAL (RED)	19	135 17	0.50	161.5
SIGNAL (YELLOW)	19	135 25	0.25	118.75
SIGNAL (GREEN)	19	135 15	0.25	71.25
ARROW	14	135 12	0.10	16.8
PED. SIGNAL	-	90 25	1.00	-
CONTROLLER	1	- 100	1.00	100.0
LUMINAIRE	-	250 -	0.50	-
L.E.D. ST. NAME SIGN	-	64 -	0.50	-
VIDEO SYSTEM	-	150 -	1.00	-
BATTERY BACKUP	1	25 -	1.00	25.0
ILLUMINATED SIGN	4	25 -	0.05	5.0
TOTAL =				498.3

ENERGY COSTS - BILLED TO: IDOT - DISTRICT 1
(ADDRESS) 201 W. CENTER COURT
(ADDRESS) SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT: KIMBERLY KANGAS
PHONE: (847) 816-5497
COMPANY: COM ED - LIBERTYVILLE

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "NTCIP" COMPLIANT.

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded in accordance with Standard Specifications 252 and 250 respectively.

FILE NAME = 4085.859-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CABLE PLAN AND SCHEDULE OF QUANTITIES U.S. ROUTE 12 AT STATE PARK ROAD/EAST STREET	F.A.P. RTE. 334	SECTION 2009-128-TS	COUNTY LAKE/McHENRY	TOTAL SHEETS 21	SHEET NO. 16
PLOT SCALE = 1" = .0833'	PLOT DATE = 1/27/10	DRAWN - ZCW	REVISED -			SCALE N.A.	SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT #: 60J88	
		CHECKED - DPB	REVISED -			ILLINOIS FED. AID PROJECT				
		DATE - 1/27/10	REVISED -			GHA #4085.859				

SEQUENCE OF OPERATION

MOVEMENT	SEQUENCE OF OPERATION												FLASH			
	1	2	3	4	5	6	7	8	9	10A	10B	11		12A	12B	
PHASE	1+5				1+6		2+5		2+6		4+8					
INTERVAL	1	2	3	4	5	6	7	8	9	10A	10B	11	12A	12B		
CHANGE TO		1+6	2+5	2+6	2+6	2+6				4+8			1+5	1+6	2+5	2+6
U.S. RTE 12 NEAR LEFT, NEAR RIGHT, FAR RIGHT, AND FAR MIDDLE MAST ARM SIGNALS	E/B	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R
U.S. RTE 12 FAR LEFT AND END MAST ARM SIGNALS	E/B	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R
U.S. RTE 12 NEAR RIGHT, FAR RIGHT, AND FAR MIDDLE MAST ARM SIGNALS	W/B	R	R	R	R	G	G	R	R	G	Y	R	R	R	R	R
U.S. RTE 12 FAR LEFT AND END MAST ARM SIGNALS	W/B	R	R	R	R	G	G	R	R	G	Y	R	R	R	R	R
EAST STREET ALL SIGNALS	N/B	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R
STATE PARK ROAD NEAR RIGHT AND FAR RIGHT SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R
STATE PARK ROAD FAR LEFT AND END MAST ARM SIGNALS	S/B	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R
STATE PARK ROAD FLASHING BEACONS	S/B	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL

PHASES 2+6 SHALL BE PLACED ON RECALL.

FL = FLASHING YELLOW

DK = DARK

RAILROAD PREEMPTION SEQUENCE OF OPERATION

CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER	PREEMPTOR NUMBER 2											CLEAR TO NORMAL SEQUENCE			
	1	5	7	9	11	2	3	4	5	6	7				
RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1A	1B	1C	1D	1E	1F	1G	1H	1J	2	3	4	5	6	7
CHANGE TO RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	2	1C	2	1E	2	1G	2	1J	2	3	4	5	6	7	8
U.S. RTE 12 NEAR LEFT, NEAR RIGHT, FAR RIGHT, AND FAR MIDDLE MAST ARM SIGNALS	E/B	R	R	R	Y	R	Y	R	R	R	R	R	R	G	△
U.S. RTE 12 FAR LEFT AND END MAST ARM SIGNALS	E/B	R	R	R	Y	R	Y	R	R	R	R	R	R	G	△
U.S. RTE 12 NEAR RIGHT, FAR RIGHT, AND FAR MIDDLE MAST ARM SIGNALS	W/B	R	Y	R	R	R	Y	R	R	R	R	R	R	G	△
U.S. RTE 12 FAR LEFT AND END MAST ARM SIGNALS	W/B	R	Y	R	R	R	Y	R	R	R	R	R	R	G	△
EAST STREET ALL SIGNALS	N/B	R	R	R	R	R	R	Y	R	R	R	R	R	R	△
STATE PARK ROAD NEAR RIGHT AND FAR RIGHT SIGNALS	S/B	R	R	R	R	R	R	G	G	G	Y	R	R	R	△
STATE PARK ROAD FAR LEFT AND END MAST ARM SIGNALS	S/B	R	R	R	R	R	R	G	G	G	Y	R	R	R	△
STATE PARK ROAD FLASHING BEACONS	S/B	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	△
U.S. RTE 12 INTERNALLY ILLUMINATED NRT SIGNS	W/B	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	△
U.S. RTE 12 INTERNALLY ILLUMINATED NLT SIGNS	E/B	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	△

△ RAILROAD PREEMPTION SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY AN EMERGENCY VEHICLE INTERVAL (IF APPLICABLE) AFTER RAILROAD PREEMPTION INTERVAL 5 IS TERMINATED.

NRT = "NO RIGHT TURN" OR

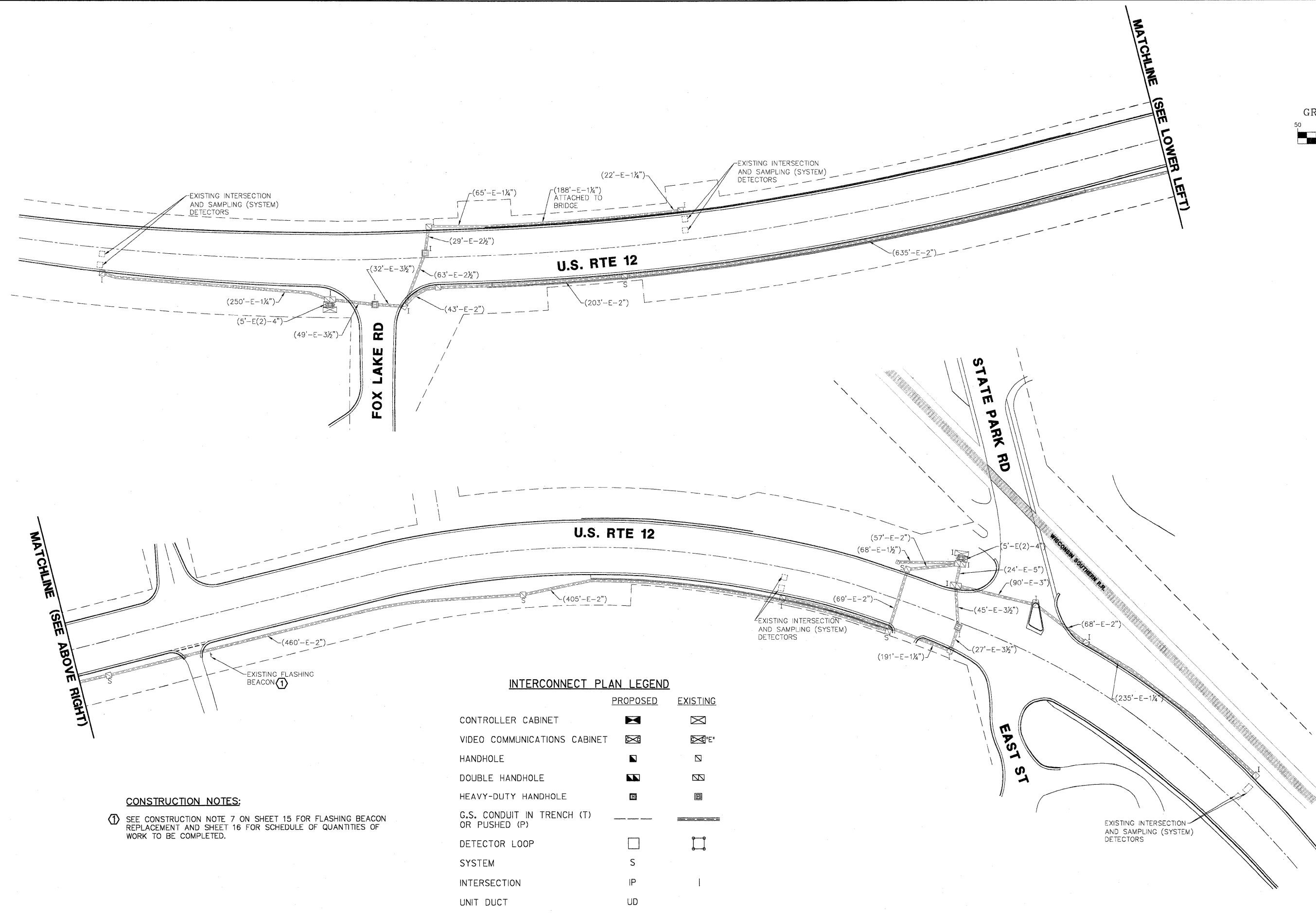
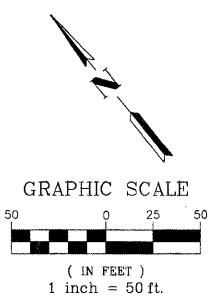


NLT = "NO LEFT TURN" OR



FL = FLASHING YELLOW

DK = DARK



CONSTRUCTION NOTES:
 ① SEE CONSTRUCTION NOTE 7 ON SHEET 15 FOR FLASHING BEACON REPLACEMENT AND SHEET 16 FOR SCHEDULE OF QUANTITIES OF WORK TO BE COMPLETED.

INTERCONNECT PLAN LEGEND

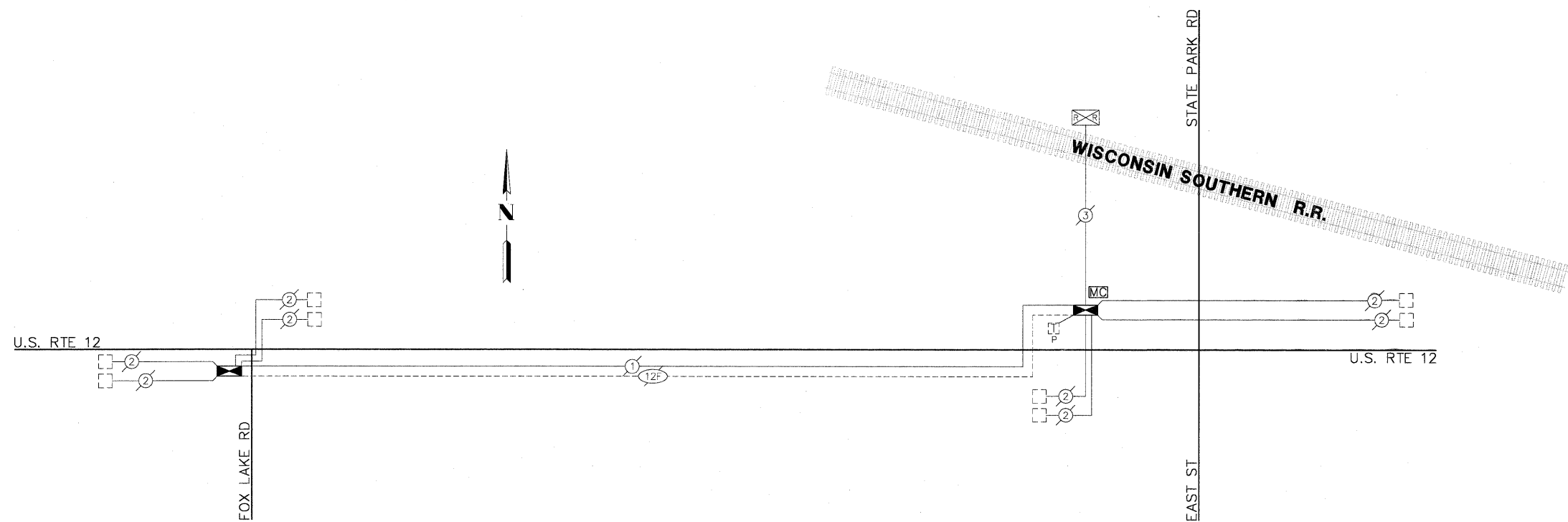
	PROPOSED	EXISTING
CONTROLLER CABINET	☒	☒
VIDEO COMMUNICATIONS CABINET	☒	☒E'
HANDHOLE	◼	◼
DOUBLE HANDHOLE	◼	◼
HEAVY-DUTY HANDHOLE	◼	◼
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	---	---
DETECTOR LOOP	□	□
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	

FILE NAME = 4085.859-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INTERCONNECT PLAN - U.S. RTE 12 BETWEEN FOX LAKE RD AND STATE PARK RD/EAST ST	FAP RTE 334	SECTION 2009-128-TS	COUNTY LAKE/McHENRY	TOTAL SHEETS 21	SHEET NO. 18
PLOT SCALE = 1" = .0833'	DRAWN - ZCW	REVISED -	SCALE N.A.			SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT # 60J88	ILLINOIS FED. AID PROJECT	
PLOT DATE = 1/27/10	CHECKED - DPB	REVISED -								
	DATE - 1/27/10	REVISED -								

GHA #4085.859

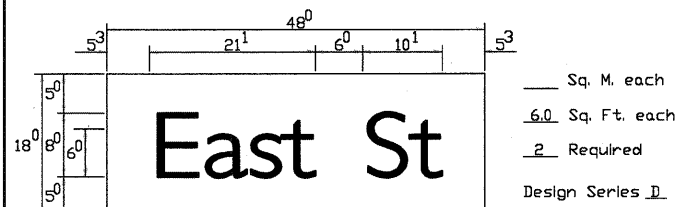
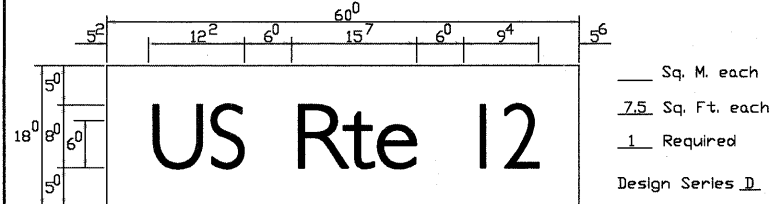
INTERCONNECT SCHEMATIC LEGEND

EXISTING INTERSECTION CONTROLLER		EXISTING FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	
PROPOSED INTERSECTION CONTROLLER		PROPOSED FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	
EXISTING MASTER CONTROLLER		EXISTING INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE	
PROPOSED MASTER CONTROLLER		PROPOSED FIBER OPTIC CABLE IN CONDUIT, 62.5/125 12F FIBER OPTIC CABLE	
MASTER MASTER CONTROLLER		EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	
EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS		PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	
PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		EXISTING LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED	
EXISTING INTERSECTION LOOP DETECTORS		PROPOSED LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED	
PROPOSED SAMPLING (SYSTEM) DETECTORS		EXISTING ELECTRIC CABLE, 1/C (AS SPECIFIED)	
EXISTING SAMPLING (SYSTEM) DETECTORS		PROPOSED ELECTRIC CABLE, 1/C (AS SPECIFIED)	
PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS		EXISTING INTERCONNECT CABLE - NO. 62.5/125, 36F FIBER OPTIC CABLE	
EXISTING SAMPLING (SYSTEM) DETECTORS		PROPOSED FIBER OPTIC CABLE IN CONDUIT - 24 SINGLEMODE	
EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		EXISTING TELEPHONE CONNECTION	
PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		PROPOSED TELEPHONE CONNECTION	
EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS		EXISTING ISDN TELEPHONE CONNECTION	
PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS		PROPOSED ISDN TELEPHONE CONNECTION	

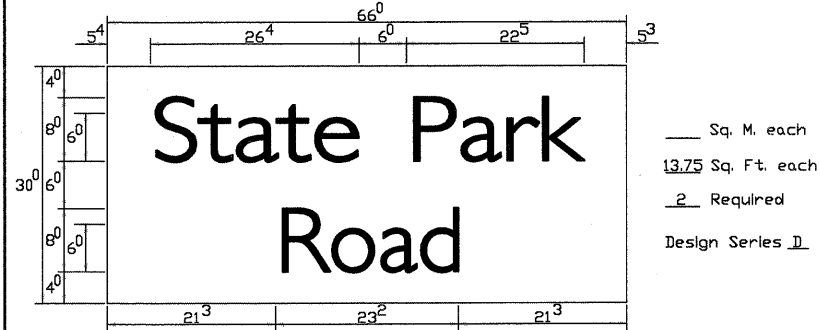


GHA #4085.859

PANEL DESIGN TYPE 1



PANEL DESIGN TYPE 2



GENERAL NOTES

- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 877001, 877002, 877006, 877011 AND 877012, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 8'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
- ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
- THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 8'-0".
- ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
- SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:

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

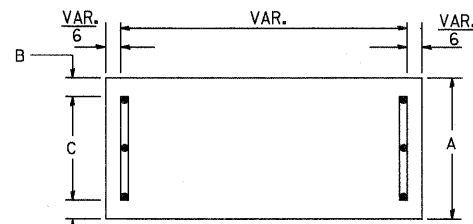
* WESTERN REMAC INC.
WOODRIDGE, IL.

PARTS LISTING:

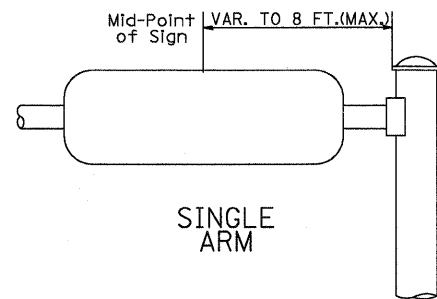
- SIGN CHANNEL PART #HPN053 (MED. CHANNEL)
- SIGN SCREWS 1/4" x 14 x 1" H.W.H. #3
- BRACKETS SELF TAPPING WITH NEOPRENE WASHER
- PART #HPN034 (UNIVERSAL)
- CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

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

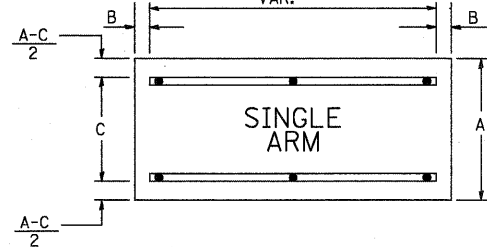
SUPPORTING CHANNELS



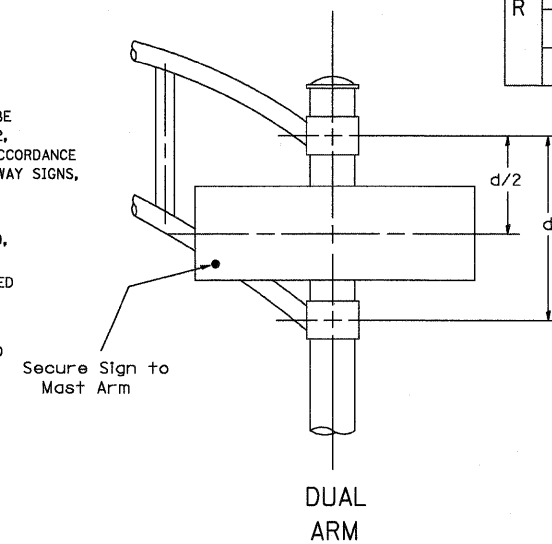
A	B	C
18"	2"	14"



SUPPORTING CHANNELS



A	B	C
18"	2"	12"
30"	2"	22"



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

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

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

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

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

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

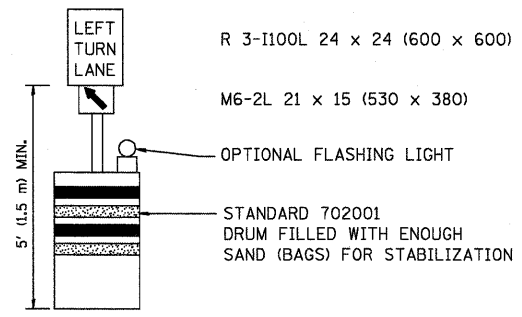
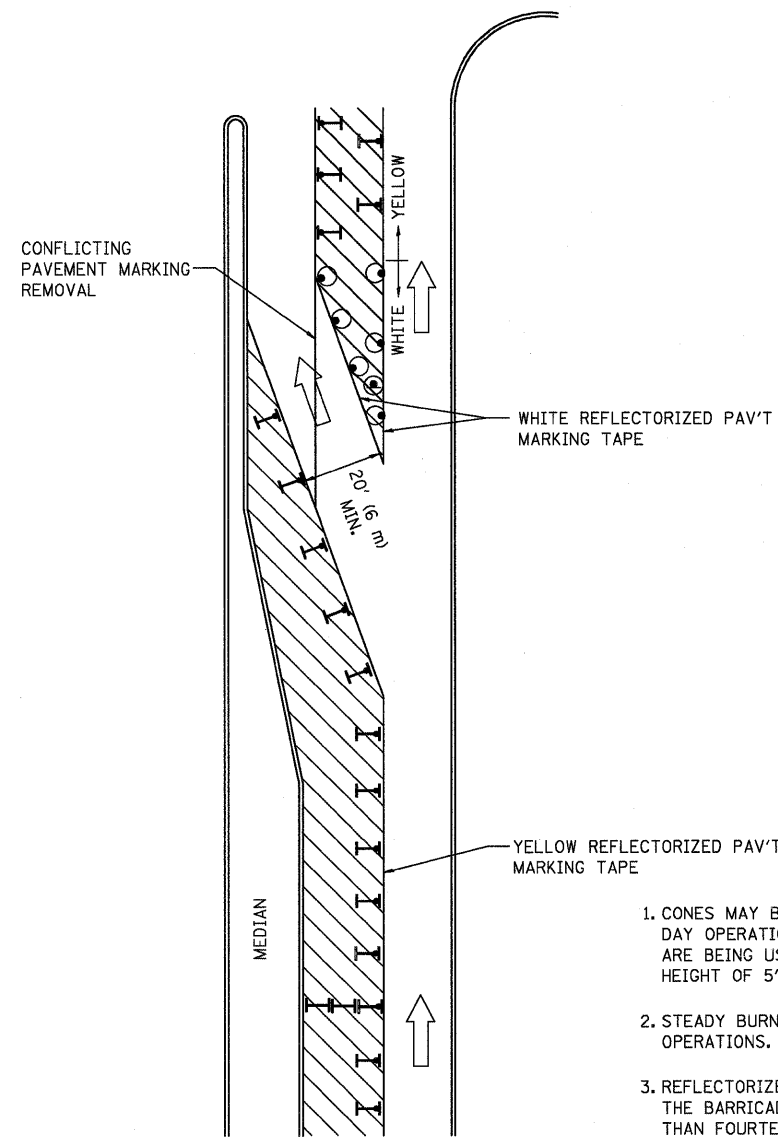
SERIES	SECOND NUMBER																			
	0		1		2		3		4		5		6		7		8		9	
0 9	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ⁶	1 ⁷
1	2 ⁰	2 ¹	2 ⁰	2 ¹	2 ⁰	2 ¹	1 ⁶	1 ⁷	1 ⁴	1 ⁵	2 ⁰	2 ¹	2 ⁰	2 ¹	1 ⁴	1 ⁵	2 ⁰	2 ¹	2 ⁰	2 ¹
2 3 4	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ⁴	1 ⁵
5	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ¹	1 ²	1 ¹	1 ²	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁴	1 ⁵	1 ⁴	1 ⁵
6	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ²	1 ⁵	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁴	1 ⁵	1 ⁴	1 ⁵
7	1 ²	1 ⁴	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ²	1 ⁵	0 ⁵	0 ⁶	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ¹	1 ²	1 ⁴	1 ⁵	1 ²	1 ⁴
8	1 ⁶	1 ⁷	1 ⁶	1 ⁷	1 ⁴	1 ⁵	1 ²	1 ⁵	1 ²	1 ⁴	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ²	1 ⁴	1 ⁶	1 ⁷	1 ⁴	1 ⁵

EXAMPLE, 2³ DENOTES 3"

UPPER AND LOWER CASE
LETTER WIDTHS

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

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



GENERAL NOTES

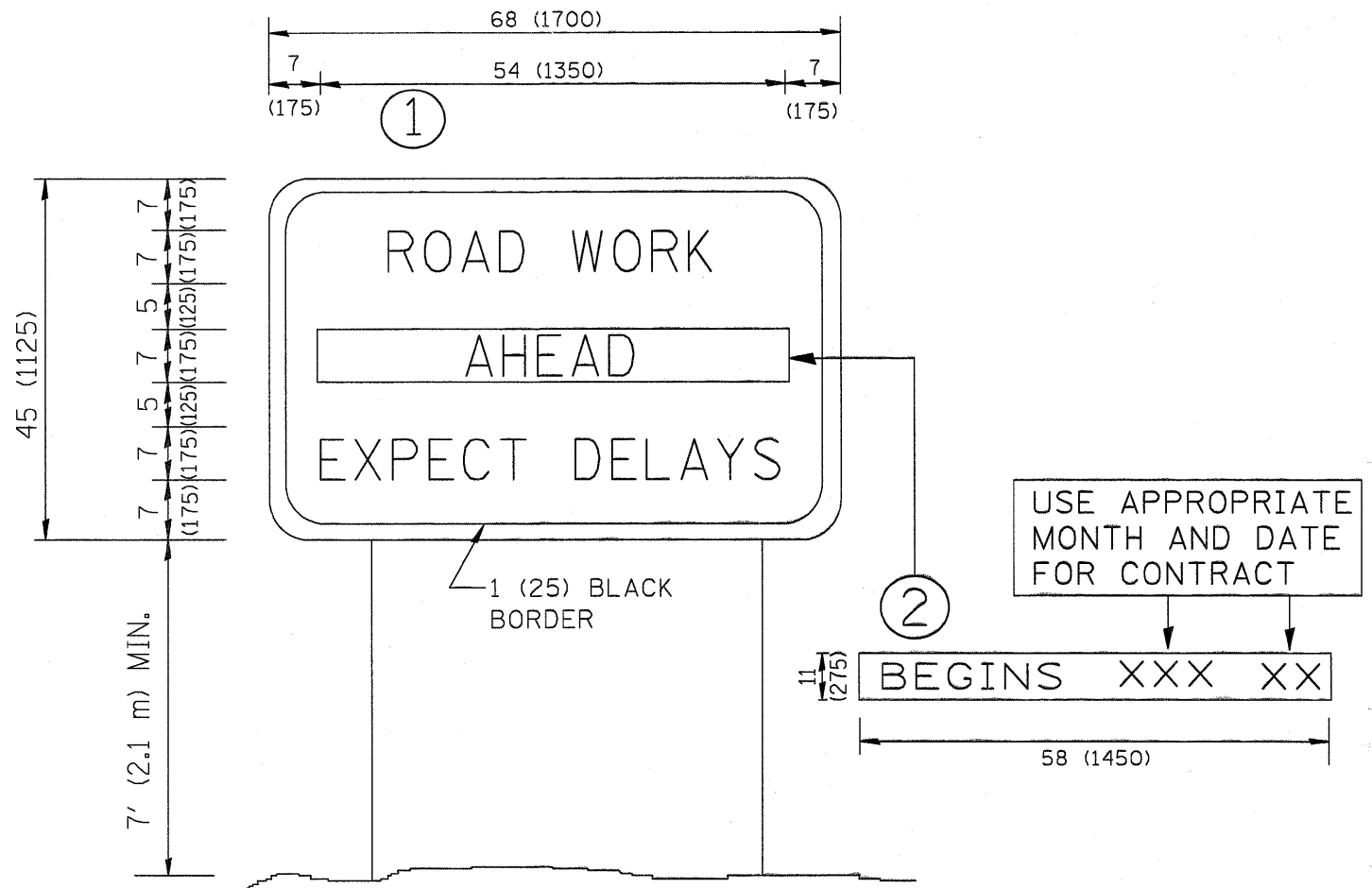
1. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT. WHEN CONES ARE BEING USED, THE "LEFT TURN LANE" SIGN MAY BE SKID MOUNTED AT A MINIMUM HEIGHT OF 5' (1.5 m).
2. STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
3. REFLECTORIZED TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH TURN BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.
4. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
5. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
6. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
7. FORM BT 725 IS REQUIRED.
8. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

LEGEND

- WORK AREA
- LANE OPEN TO TRAFFIC
- TYPE I OR II BARRICADE WITH STEADY BURN LIGHT
- DRUM WITH STEADY BURN LIGHT
- DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL
- TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

**TRAFFIC CONTROL AND PROTECTION AT TURN BAYS
(TO REMAIN OPEN TO TRAFFIC)
(TC-14)**



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

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

**ARTERIAL ROAD INFORMATIONAL SIGN
(TC-22)**

FILE NAME = 4085.859-TR1.dwg	USER NAME = GHA	DESIGNED - JRD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT 1 DETAILS			F.A.P. R.T.E. 334	SECTION 2009-128-TS	COUNTY LAKE/McHENRY	TOTAL SHEETS 21	SHEET NO. 21
		DRAWN - ZCW	REVISED -		SCALE N.A.	SHEET NO.	OF SHEETS	STA.	TO STA.	CONTRACT # 60J88		
		CHECKED - DPB	REVISED -		GHA #4085.859							
		DATE - 1/27/10	REVISED -		ILLINOIS FED. AID PROJECT							