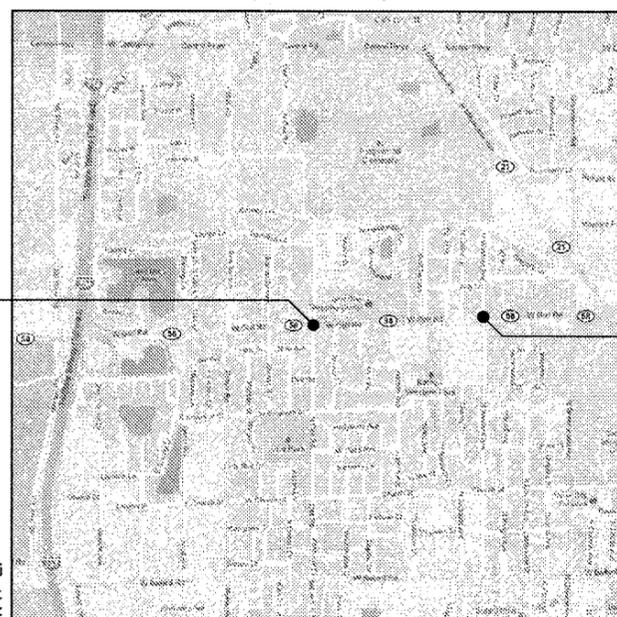


06-15-12 LETTING ITEM 200

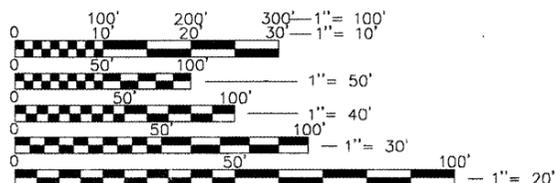
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**PLANS FOR PROPOSED**  
**FEDERAL AID HIGHWAY**

**DISTRICT 1**  
**HIGHWAY SAFETY IMPROVEMENT PROJECT (HSIP)**  
**TRAFFIC SIGNAL MODERNIZATION**  
**F.A.P. 339 - ILL ROUTE 58 (GOLF ROAD)**  
**AT DEE ROAD AND WESTERN AVENUE**  
**PROJECT: HSIP-0005(877)**  
**SECTION: 2011-211-TS**  
**COOK COUNTY**  
**JOB NO.: C-91-129-12**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	2011-211-TS	COOK	26	1
ILLINOIS FED. AID PROJECT			CONTRACT # 60R51	
<b>D-91-129-12</b>				



PROJECT IS LOCATED IN THE VILLAGE OF NILES AND MAINE TOWNSHIP.



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.



NOTE: THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOBSITE SAFETY.

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.

**CONTRACT NO. 60R51**



SIGNED: Kevin L. Belgrave  
 Kevin L. Belgrave  
 DATE: 2/1/2012

EXPIRES: 11/30/2013

**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: Feb 3 2012  
Devin M. O'Keefe  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 11 2012  
John D. Baranzelli, P.E.  
 acting ENGINEER OF DESIGN AND ENVIRONMENT

May 11 2012  
William R. Frey  
 acting DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

**INDEX OF SHEETS**

1. TITLE SHEET
2. INDEX OF SHEETS, GENERAL NOTES, AND STATE STANDARDS
- 3.-4. SUMMARY OF QUANTITIES
- 5.-10. DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS
11. TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT - ILL ROUTE 58 (GOLF ROAD) AT DEE ROAD
12. TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION DIAGRAM, AND TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE - ILL ROUTE 58 (GOLF ROAD) AT DEE
13. TRAFFIC SIGNAL MODERNIZATION PLAN - ILL ROUTE 58 (GOLF ROAD) AT DEE ROAD
14. SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM, AND EMERGENCY VEHICLE PREEMPTION SEQUENCE - ILL ROUTE 58 (GOLF ROAD) AT DEE
15. TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT - ILL ROUTE 58 (GOLF ROAD) AT WESTERN AVENUE
16. TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION DIAGRAM, AND TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE - ILL ROUTE 58 (GOLF ROAD) AT
17. TRAFFIC SIGNAL MODERNIZATION PLAN - ILL ROUTE 58 (GOLF ROAD) AT WESTERN
18. SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM, AND EMERGENCY VEHICLE PREEMPTION SEQUENCE - ILL ROUTE 58 (GOLF ROAD) AT
19. TEMPORARY INTERCONNECT PLAN AND TEMPORARY INTERCONNECT SCHEMATIC - ILL ROUTE 58 (GOLF ROAD) FROM POTTER ROAD TO GREENWOOD AVENUE
20. INTERCONNECT PLAN - ILL ROUTE 58 (GOLF ROAD) FROM POTTER ROAD TO GREENWOOD AVENUE - IDOT SYSTEM 11
21. INTERCONNECT SCHEMATIC - IDOT SYSTEM 11 & 12
22. DISTRICT ONE STANDARD MAST ARM MOUNTED STREET NAME SIGNS
- 23.-25. DISTRICT ONE STANDARD DETAILS (TC-10, TC-14, & TC-22)
26. DISTRICT ONE TYPICAL PAVEMENT MARKINGS

**GENERAL NOTES**

THE ILLINOIS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", JANUARY 1, 2012; MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION; PROJECT SPECIFICATIONS; ALL APPLICABLE REQUIREMENTS OF THE DUPAGE COUNTY DIVISION OF TRANSPORTATION; THE VILLAGE OF GLEN ELLYN; THE CITY OF WHEATON; THE VILLAGE OF CAROL STREAM; THE VILLAGE OF GLENDALE HEIGHTS; THE VILLAGE OF BLOOMINGDALE; ALL APPLICABLE REQUIREMENTS OF THE ORDINANCES OF AUTHORITIES HAVING JURISDICTION; AND ALL ADDENDA THERETO SHALL GOVERN THIS WORK.

THE STANDARD SPECIFICATIONS, PROJECT SPECIFICATIONS, CONSTRUCTION PLANS, AND SUBSEQUENT DETAILS ARE ALL TO BE CONSIDERED AS PART OF THE CONTRACT. INCIDENTAL ITEMS OR ACCESSORIES NECESSARY TO COMPLETE THIS WORK MAY NOT BE SPECIFICALLY NOTED BUT ARE TO BE CONSIDERED A PART OF THE CONTRACT.

WHENEVER, DURING CONSTRUCTION OPERATIONS, ANY LOOSE MATERIAL IS DEPOSITED IN THE FLOW LINE OF GUTTERS, DRAINAGE STRUCTURES, DITCHES, ETC. SUCH THAT THE NATURAL FLOW LINE OF WATER IS OBSTRUCTED, THE LOOSE MATERIAL WILL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES AND FLOW LINES SHALL BE FREE FROM DIRT AND DEBRIS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. THE CONTRACTOR'S FAILURE TO PROVIDE THE ABOVE WILL PRECLUDE ANY POSSIBLE ADDED COMPENSATION REQUESTED DUE TO DELAYS OF UNSTABLE MATERIALS CREATED AS A RESULT THEREOF.

THE CONTRACTOR SHALL SOLELY BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ADEQUATE SIGNS, TRAFFIC CONTROL DEVICES, AND WARNING DEVICES TO INFORM AND PROTECT THE PUBLIC DURING ALL PHASES OF CONSTRUCTION.

THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL AREAS AFFECTED BY EQUIPMENT OR LABORERS TO EXISTING CONDITIONS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR PROTECTING ALL NEW WORK UNTIL COMPLETION OF THIS CONTRACT.

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 CONTRACTOR. THE ENGINEER AND OWNER ASSUME NO RESPONSIBILITY WHATSOEVER IN RESPECT TO THE SUFFICIENCY OR THE 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. THE CONTRACTOR SHALL ALSO CONTACT J.U.L.I.E. TO OBTAIN LOCATES OF THE RESPECTIVE UTILITY COMPANIES UNDERGROUND FACILITIES.

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

**RESTORATION OF WORK AREA:** RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM 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 IN ACCORDANCE TO STANDARD SPECIFICATIONS ARTICLE 252 WHICH SHALL INCLUDE THE REQUIRED WATERING PER ARTICLE 252.08. ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS ARTICLE 250 AND 251, RESPECTIVELY.

THE GENERAL CONTRACTOR IS REQUIRED TO HIRE AN ENVIRONMENTAL FIRM WITH AT LEAST FIVE (5) DOCUMENTED LEAKING UNDERGROUND STORAGE TANK CLEANUPS OR THAT IS PRE-QUALIFIED IN HAZARDOUS WASTE BY THE DEPARTMENT TO REMEDIATE THE SOIL CONTAMINATION AND MONITOR FOR WORKER PROTECTION.

**IDOT STANDARDS**

- 000001-04 STANDARD SYMBOLS, ABBREVIATIONS, & PATTERNS
- 1006 DECIMAL OF AN INCH OF A FOOT
- 442101-07 CLASS B PATCHES
- 424001-06 PERPENDICULAR CURB RAMPS FOR SIDEWALK
- 424006 DIAGONAL CURB RAMPS FOR SIDEWALK
- 424011 CORNER PARALLEL CURB RAMPS FOR SIDEWALK
- 424021 DEPRESSED CORNER FOR SIDEWALKS
- 606306-03 CORRUGATED PC CONCRETE MEDIANS
- 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 OPERATIONS 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
- 701301-04 LANE CLOSURE 2L, 2W, SHORT TIME OPERATIONS
- 701501-06 URBAN LANE CLOSURE 2L, 2W UNDIVIDED
- 701808-03 URBAN LANE CLOSURE MULTILANE 2W WITH MOUNTABLE MEDIAN
- 701701-03 URBAN LANE CLOSURE MULTILANE INTERSECTION
- 701801-05 LANE CLOSURE MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE
- 701901-02 TRAFFIC CONTROL DEVICES
- 720001-01 SIGN PANEL MOUNTING DETAIL
- 720006-03 SIGN PANEL ERECTION DETAIL
- 780001-03 TYPICAL PAVEMENT MARKINGS
- 814001-02 HANDHOLE
- 814008-02 DOUBLE HANDHOLES
- 857001-01 STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
- 862001-01 UNINTERRUPTIBLE POWER SUPPLY (UPS)
- 873001-02 TRAFFIC SIGNAL GROUNDING & BONDING
- 877001-05 STEEL MAST ARM ASSEMBLY AND POLE, 16' THROUGH 55'
- 878001-09 CONCRETE FOUNDATION DETAILS
- 880001-01 SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
- 880008-01 TRAFFIC SIGNAL MOUNTING DETAILS
- 886001-01 DETECTOR LOOP INSTALLATIONS

FILE NAME = 4085.879-TR1.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - JRD	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INDEX OF SHEETS, GENERAL NOTES, &amp; IDOT STANDARDS - ILL RTE 58 (GOLF RD) F.A.P. 339 AT DEE RD &amp; WESTERN AVE</b>	F.A.P. RTE. 339	SECTION 2011-211-TS	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 2	CONTRACT # 60R51	
PLOT SCALE = 1" = .0833'	CHECKED - KLB	REVISED -	SCALE N.A.			SHEET NO. OF SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT				
PLOT DATE = 2/1/2012	DATE - 2/1/2012	REVISED -	GHA #4085.879									

SUMMARY OF QUANTITIES		URBAN LOCATION OF WORK		ILL ROUTE 58 (GOLF ROAD) AT DEE ROAD		ILL ROUTE 58 (GOLF ROAD) AT WESTERN AVENUE		INTERCONNECT - ILL ROUTE 58 (GOLF ROAD) FROM POTTER ROAD TO GREENWOOD AVENUE	
CODE NO.	ITEM	TYPE		TRAFFIC SIGNALS		TRAFFIC SIGNALS		INTERCONNECT	
		UNIT	TOTAL	90% FEDERAL 5% STATE 2.5% VILLAGE 2.5% TOWNSHIP	100% VILLAGE OF NILES	90% FEDERAL 5% STATE 5% VILLAGE	100% VILLAGE OF NILES	100% STATE	100% VILLAGE OF NILES
20200100	EARTH EXCAVATION	CU YD	45	15		30			
31101200	SUBBASE GRANULAR MATERIAL, TYPE B 4"	SQ YD	128	40		88			
** 42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	2,890	1,310		1,580			
** 42400800	DETECTABLE WARNINGS	SQ FT	204	96		108			
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	341	178		163			
44000600	SIDEWALK REMOVAL	SQ FT	1,760	965		795			
44003100	MEDIAN REMOVAL	SQ FT	115			115			
** 44200966	CLASS B PATCHES, TYPE I, 10 INCH	SQ YD	8			8			
** 60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	178	178					
** 60607400	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-9.24	FOOT	158			158			
60624600	CORRUGATED MEDIAN	SQ FT	47			47			
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5.00	2.00		2.00		1.00	
67100100	MOBILIZATION	L SUM	1.00	0.40		0.40		0.20	
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1.00	0.40		0.40		0.20	
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L SUM	1.00	0.40		0.40		0.20	
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1.00	0.40		0.40		0.20	
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1.00	0.40		0.40		0.20	
** 72000100	SIGN PANEL - TYPE 1	SQ FT	28.50	12.00		16.50			
** 72000200	SIGN PANEL - TYPE 2	SQ FT	50.00	25.00		25.00			
** 78008200	POLYUREA PAVEMENT MARKING TYPE I- LETTERS AND SYMBOLS	SQ FT	145.60	72.80		72.80			
** 78008230	POLYUREA PAVEMENT MARKING TYPE I- LINE 6"	FOOT	65			65			
** 78008250	POLYUREA PAVEMENT MARKING TYPE I- LINE 12"	FOOT	978	450		528			
** 78008270	POLYUREA PAVEMENT MARKING TYPE I- LINE 24"	FOOT	231	114		117			
78300100	PAVEMENT MARKING REMOVAL	SQ FT	360	130		230			
80500020	SERVICE INSTALLATION - POLE MOUNTED	EACH	2	1		1			
81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	914	526		388			
81028210	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.	FOOT	68	22		46			
81028220	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	112	47		65			
81028240	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	771	368		403			
81400100	HANDHOLE	EACH	5	2		3			
81400200	HEAVY-DUTY HANDHOLE	EACH	5	3		2			
81400300	DOUBLE HANDHOLE	EACH	4	2		2			
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	3					3	
86400100	TRANSCIVER - FIBER OPTIC	EACH	2	1		1			
87100020	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	FOOT	5,903					5,903	
87300925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	5,903					5,903	
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	2,212	1,049		1,163			
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	2,896	1,387		1,509			
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	3,462	1,634		1,828			

\*\* 66900200 NON-SPECIAL WASTE DISPOSAL  
 \*\* 66900450 SPECIAL WASTE PLANS AND REPORTS  
 \*\* 66900530 SOIL DISPOSAL ANALYSIS

CU YD 26 10.4 15.6  
 L SUM 1 0.5 0.5  
 EACH 5 2 3

\* 100% VILLAGE OF NILES  
 \*\* SPECIALTY ITEMS

Rev.

FILE NAME = 4085.879-TR1.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - JRD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES - ILL ROUTE 58 (GOLF ROAD) F.A.P. 339 AT DEE ROAD & WESTERN AVENUE (1 OF 2)	F.A.P. RTE. 339	SECTION 2011-211-TS	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 3	
PLOT SCALE = 1" = .0833'	PLOT DATE = 2/1/2012	DRAWN - ZCW	REVISED -			SCALE N.A.	SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT # 60R51		
		CHECKED - KLB	REVISED -			ILLINOIS FED. AID PROJECT					

CHA #4085.879

SUMMARY OF QUANTITIES		URBAN		ILL ROUTE 58 (GOLF ROAD) AT DEE ROAD		ILL ROUTE 58 (GOLF ROAD) AT WESTERN AVENUE		INTERCONNECT - ILL ROUTE 58 (GOLF ROAD) FROM POTTER ROAD TO GREENWOOD AVENUE	
		TYPE		TRAFFIC SIGNALS		TRAFFIC SIGNALS		INTERCONNECT	
CODE NO.	ITEM	UNIT	TOTAL	90% FEDERAL 5% STATE 2.5% VILLAGE 2.5% TOWNSHIP	0021 100% VILLAGE OF NILES	90% FEDERAL 5% STATE 5% VILLAGE	0021 100% VILLAGE OF NILES	0021 100% STATE	0021 100% VILLAGE OF NILES
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1,824	1,105		719			
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	3,612	1,527		2,085			
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	165	133		32			
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1 C	FOOT	1,029	527		502			
87502480	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	3	1		2			
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4	2		2			
87700210	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	1			1			
87700220	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	2	1		1			
87700230	STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	4	2		2			
87700240	STEEL MAST ARM ASSEMBLY AND POLE, 40 FT.	EACH	1	1					
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	28	12		16			
87800150	CONCRETE FOUNDATION, TYPE C	FOOT	8	4		4			
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	90	46		44			
87900200	DRILL EXISTING HANDHOLE	EACH	2	2					
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	16	8		8			
88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3	1		2			
88030100	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	5	3		2			
88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	5	3		2			
88102717	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	14	6		8			
88102747	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	1	1					
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	21	11		10			
88500100	INDUCTIVE LOOP DETECTOR	EACH	16	8		8			
88600100	DETECTOR LOOP, TYPE I	FOOT	1,484	758		726			
88800100	PEDESTRIAN PUSH-BUTTON	EACH	16	8		8			
89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	2	1		1			
89500120	REMOVE EXISTING SERVICE INSTALLATION	EACH	2	1		1			
* 89501400	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT	EACH	4		2		2		
* 89501410	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT	EACH	2		1		1		
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	9,920					9,920	
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	2	1		1			
89502380	REMOVE EXISTING HANDHOLE	EACH	13	5		8			
89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	18	9		9			
X0324599	ROD AND CLEAN EXISTING CONDUIT	FOOT	4,960					4,960	
X8570226	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	2	1		1			
X8620200	UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	2	1		1			
* X8730250	ELECTRIC CABLE IN CONDUIT NO. 20 3C, TWISTED, SHIELDED	FOOT	567		284		283		
XX000406	BRICK PAVER REMOVAL AND REPLACEMENT	SQ FT	50	50					
Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	104	52		52			
Z0033044	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 1	EACH	2					2	
Z0073510	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	2	1		1			

\* 100% OF THE COST SHALL BE PAID BY THE VILLAGE OF NILES  
 \*\* SPECIALTY ITEM

FILE NAME = 4085.879-TR1.dwg

USER NAME = ZACH WALLSTEN  
 DESIGNED - JRD  
 DRAWN - ZCW  
 PLOT SCALE = 1" = .0833'  
 CHECKED - KLB  
 PLOT DATE = 2/1/2012  
 REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES - ILL ROUTE 58 (GOLF ROAD)  
 F.A.P. 339 AT DEE ROAD & WESTERN AVENUE (2 OF 2)

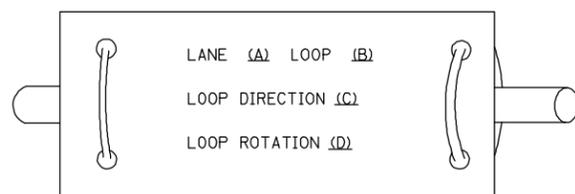
F.A.P. RTE. 339	SECTION 2011-211-TS	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 4
SCALE N.A.			SHEET NO. OF SHEETS	STA. TO STA.
GHA #4085.879				
ILLINOIS FED. AID PROJECT				

CONTRACT # 60R51

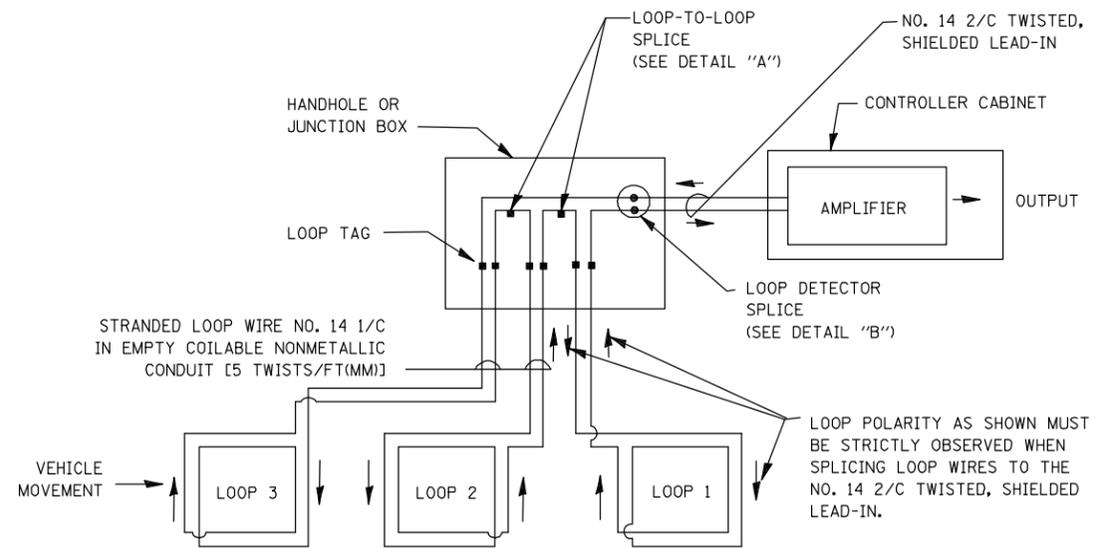
**LOOP DETECTOR NOTES**

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**

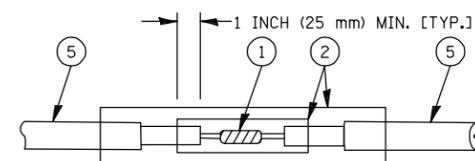


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

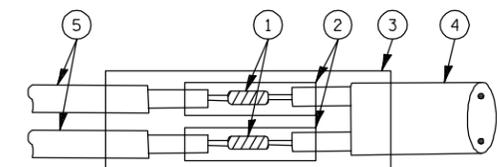


**DETECTOR LOOP WIRING SCHEMATIC**

- 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.

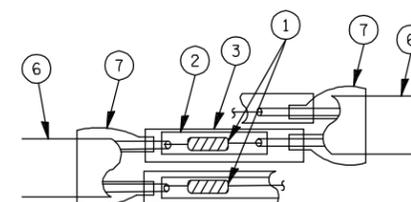


DETAIL "A"  
LOOP-TO-LOOP SPLICE

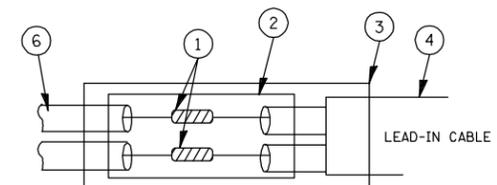


DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

**TYPE I LOOP**



DETAIL "A"  
LOOP-TO-LOOP SPLICE



**PREFORMED LOOP**

DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

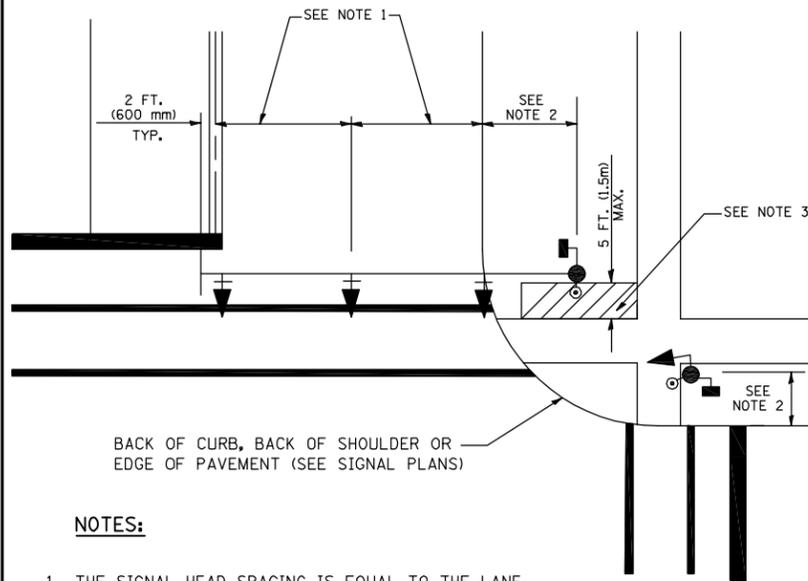
**LOOP DETECTOR SPLICE**

- 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 PREFORMED LOOP
- 7 XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS. TYCO CBR-2 OR APPROVED EQUAL

FILE NAME = 4085.879-TR1.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - DAD	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>	FAP. RTE. 339	SECTION 2011-211-TS	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 5	GHA #4085.879
PLOT SCALE = 1" = .0833'	CHECKED - DAD	REVISD -	SCALE NONE			SHEET NO. 1 OF 6 SHEETS	STA. TO STA.	<b>TS-05</b>		CONTRACT # 60R51	ILLINOIS FED. AID PROJECT
PLOT DATE = 2/1/2012	DATE - 10-28-09	REVISD -									

**TRAFFIC SIGNAL MAST ARM AND SIGNAL POST**

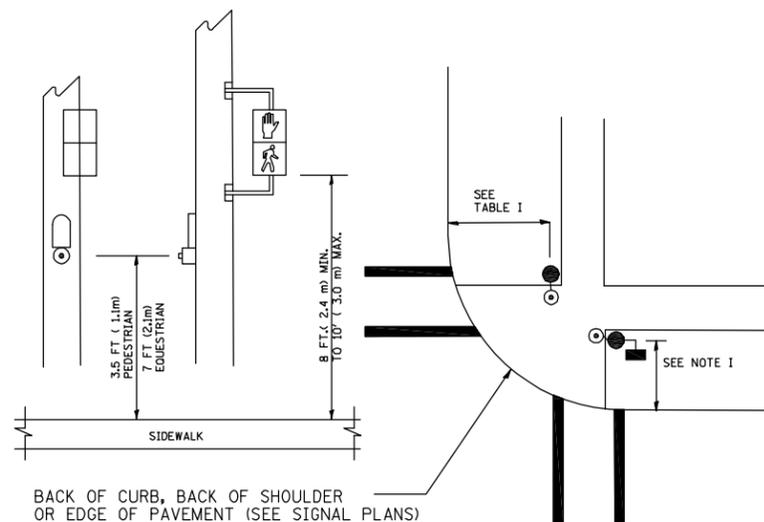
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



**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."

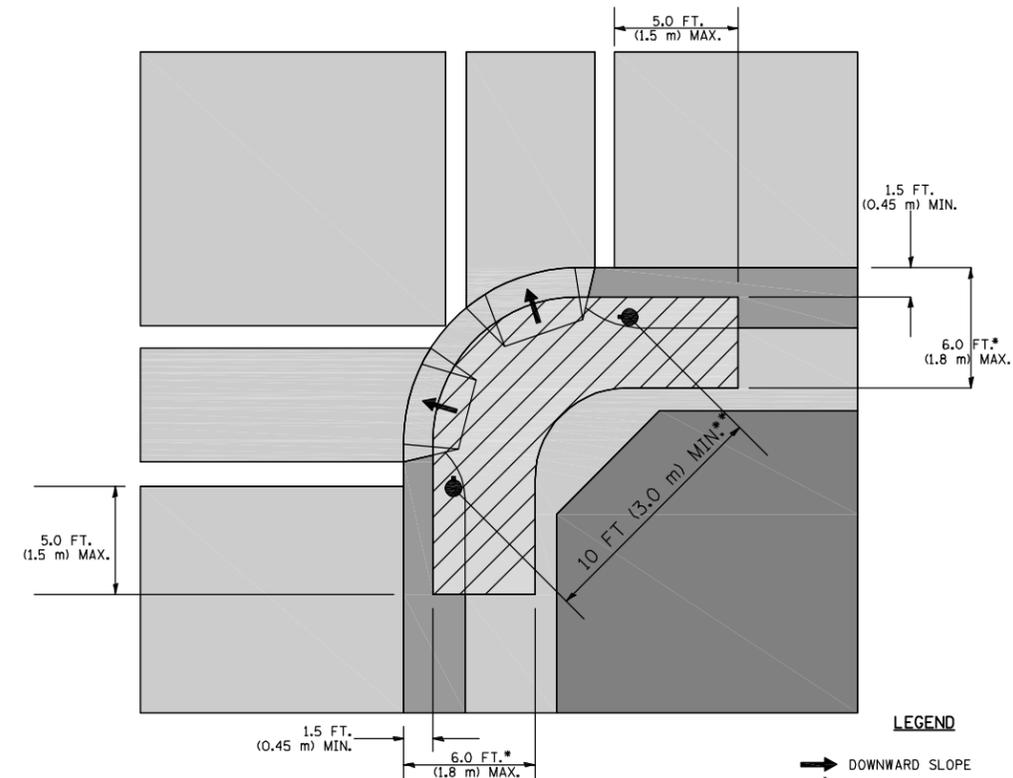
**PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST**



**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.

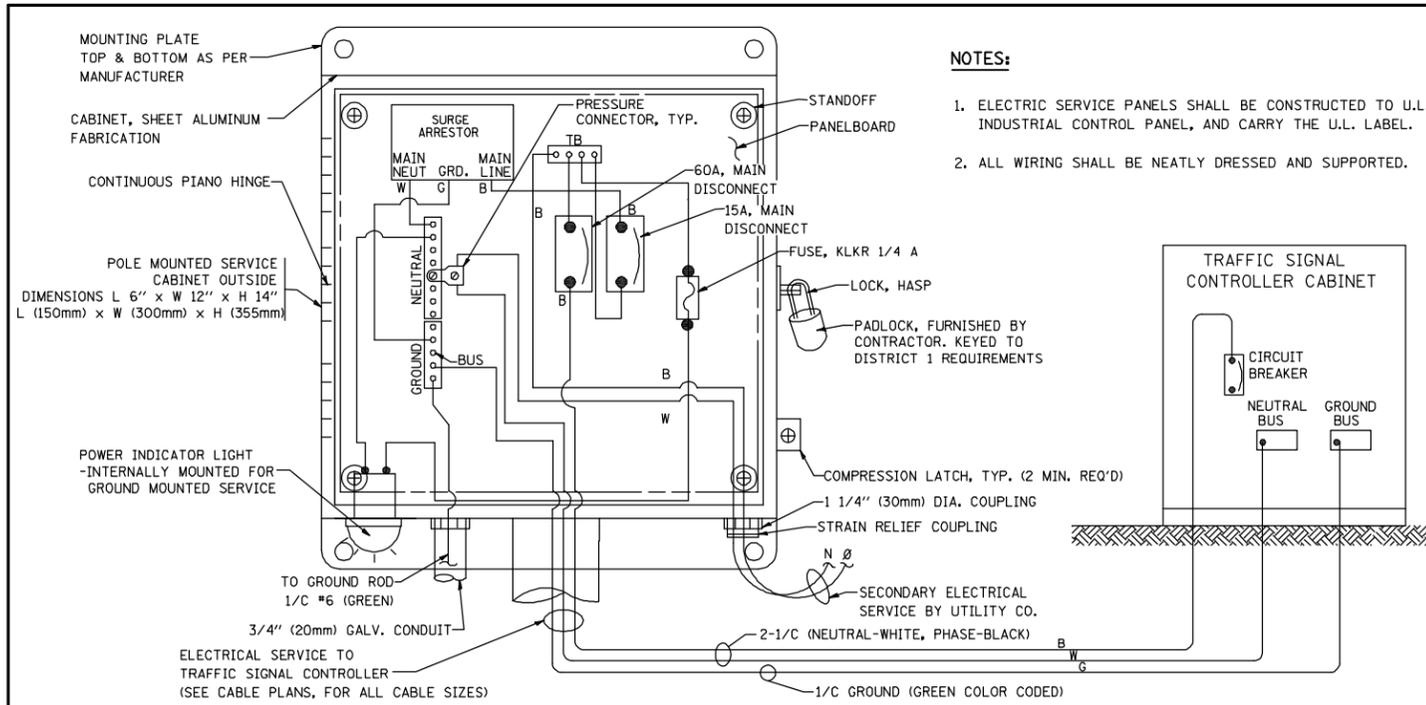
THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

**TRAFFIC SIGNAL EQUIPMENT OFFSET**

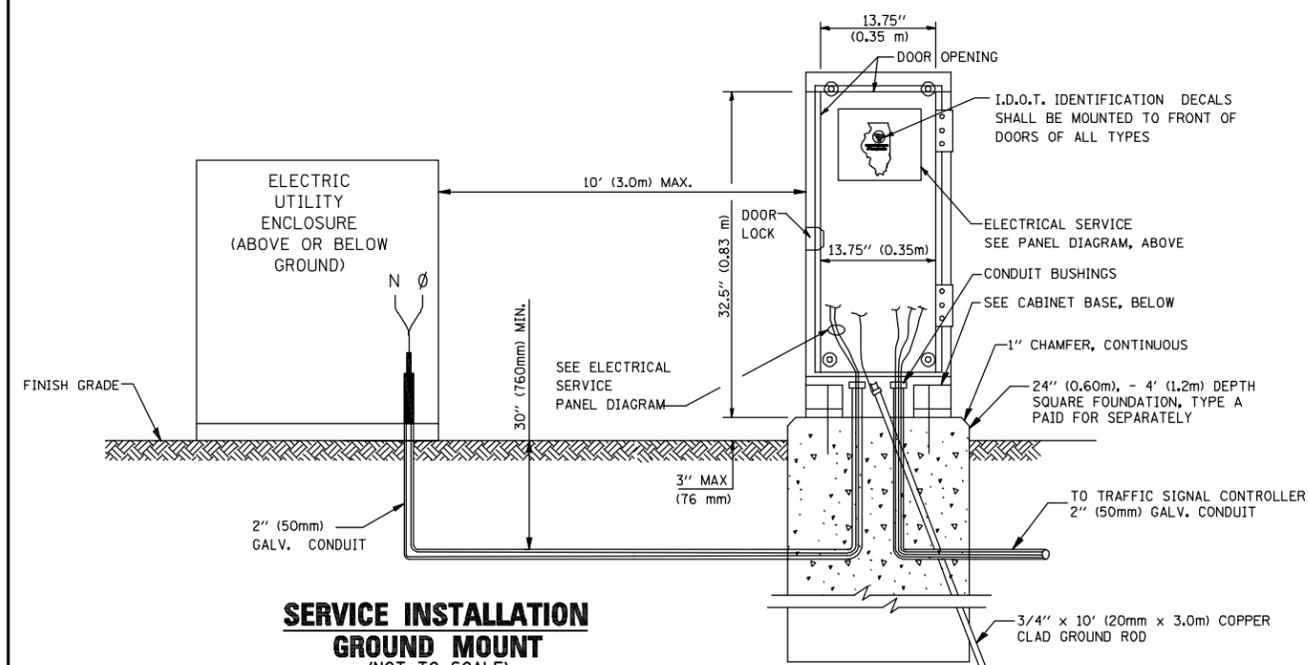
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 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.

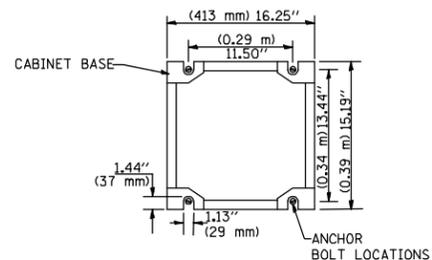


**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)  
SERVICE INSTALLATION POLE MOUNT (SHOWN)  
(NOT TO SCALE)**



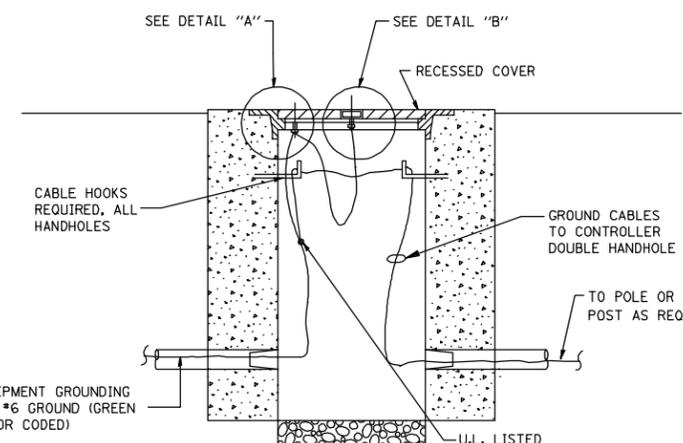
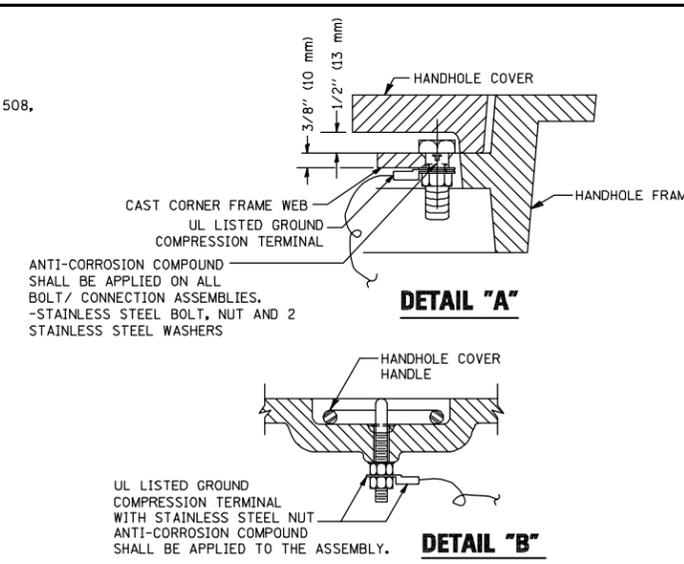
**SERVICE INSTALLATION  
GROUND MOUNT  
(NOT TO SCALE)**

**CABINET - BASE BOLT PATTERN  
(NOT TO SCALE)**

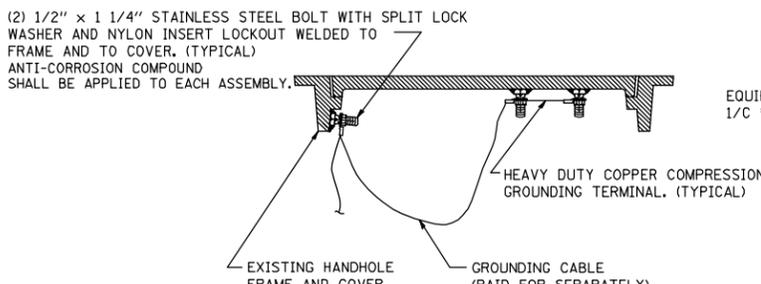


**NOTES:**

1. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
2. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.



**HANDHOLE COVER & FRAME - GROUNDING DETAIL  
(NOT TO SCALE)**

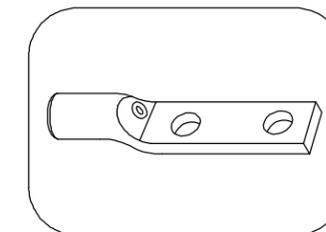


**EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL  
(NOT TO SCALE)**

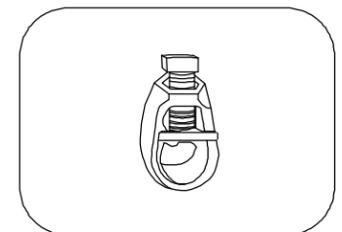
**NOTES:**

**GROUNDING SYSTEM**

1. 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.
2. 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.
3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



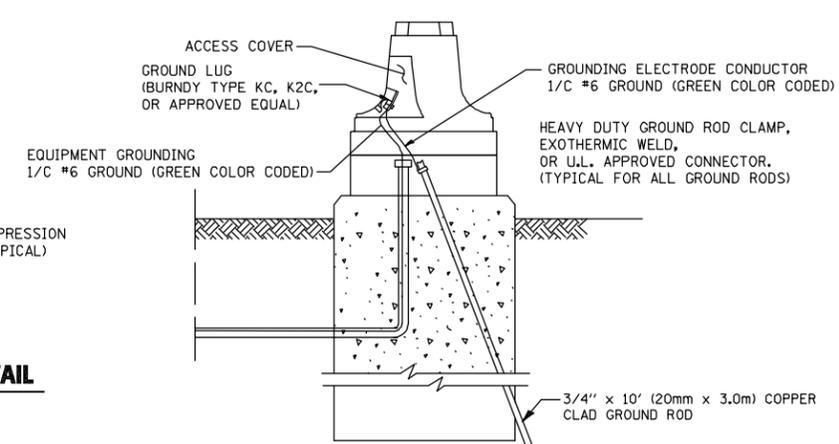
HEAVY-DUTY COMPRESSION TERMINAL (BURNDY TYPE YGHA OR APPROVED EQUAL)



3/4" (20mm) HEAVY-DUTY GROUND ROD CLAMP (BURNDY TYPE GRC OR APPROVED EQUAL)

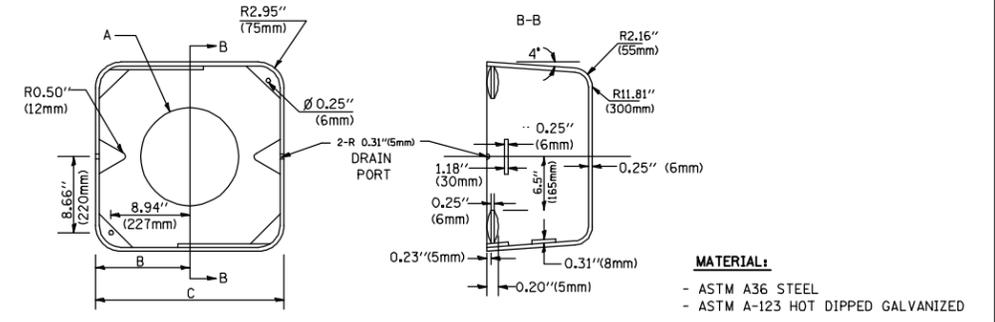
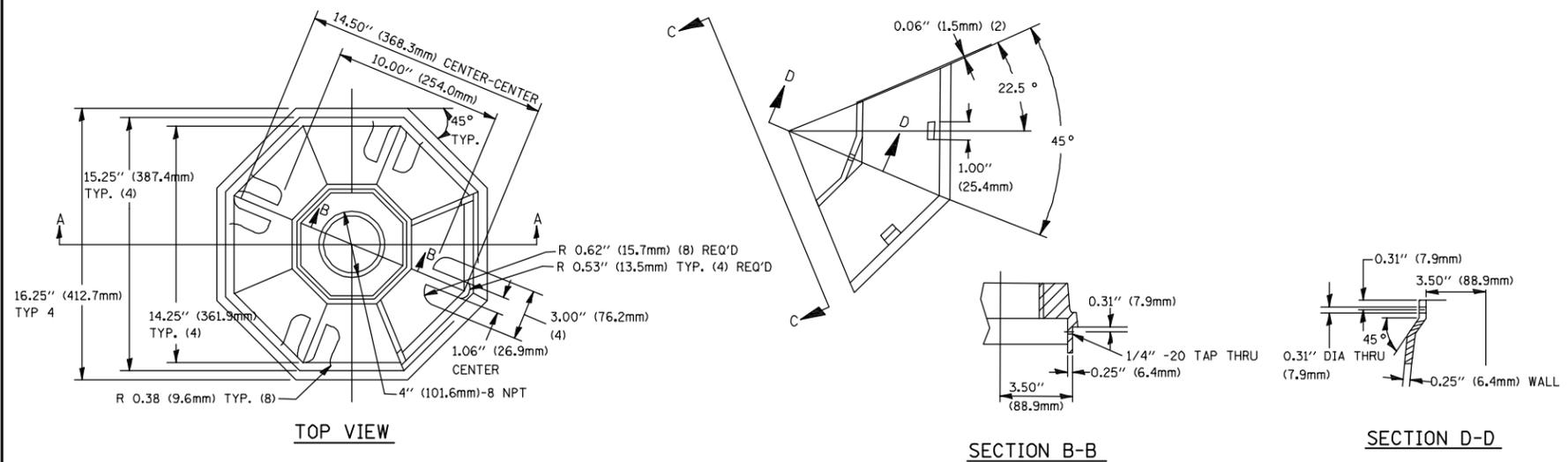
**NOTES:**

- 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.



**MAST ARM POLE / POST-GROUNDING DETAIL  
(NOT TO SCALE)**

FILE NAME = 4085.879-TR1.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - DAD	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>	FAP. RTE. 339	SECTION 2011-211-TS	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 7		
PLOT SCALE = 1" = .0833'	DRAWN - BCK	CHECKED - DAD	REVISED -			<b>TS-05</b>		CONTRACT # 60R51		ILLINOIS FED. AID PROJECT		
PLOT DATE = 2/1/2012	DATE - 10-28-09	REVISED -	REVISED -			SCALE NONE	SHEET NO. 3 OF 6 SHEETS	STA. TO STA.				
GHA #4085.879												

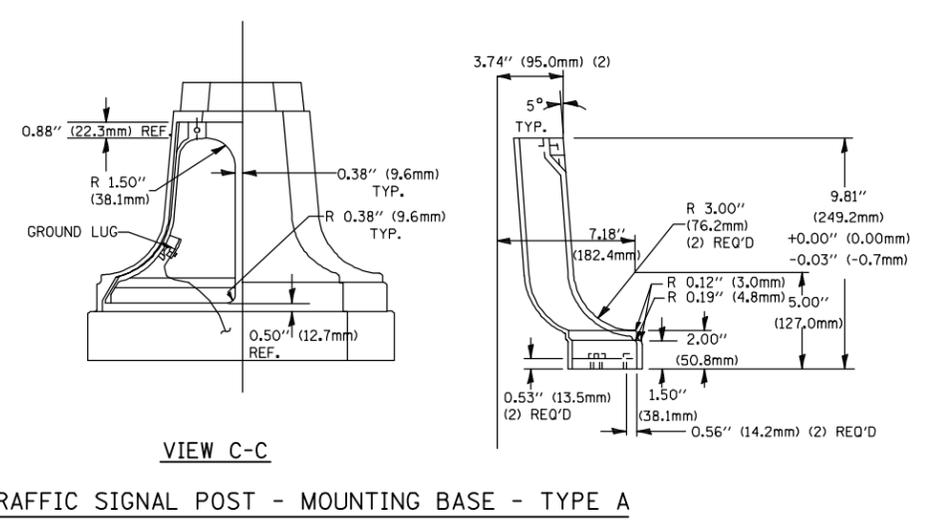
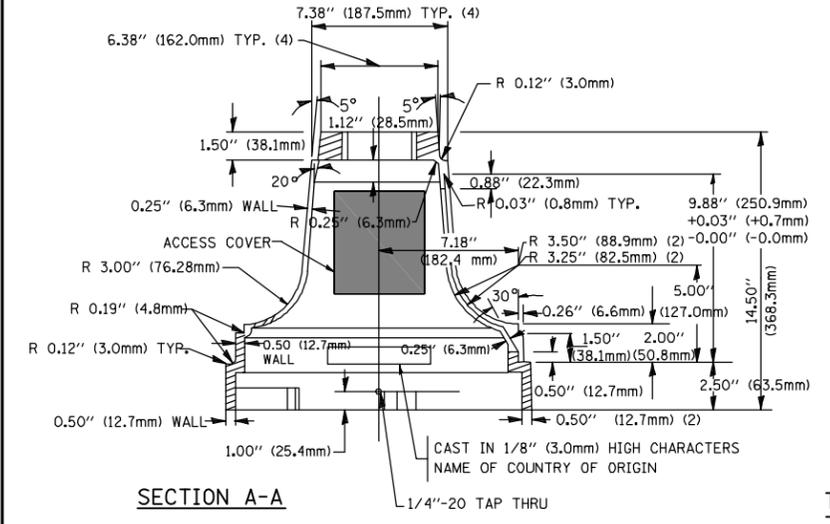


A	B	C	HEIGHT	WEIGHT
VARIABLES	9.5\" (241mm)	19\" (483mm)	7\" (178mm) - 12\" (300mm)	53 lbs (24kg)
VARIABLES	10.75\" (273mm)	21.5\" (546mm)	7\" (178mm) - 12\" (300mm)	68 lbs (31 kg)
VARIABLES	13.0\" (330mm)	26\" (660mm)	7\" (178mm) - 12\" (300mm)	81 lbs (37 kg)
VARIABLES	18.5\" (470mm)	37\" (940mm)	7\"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

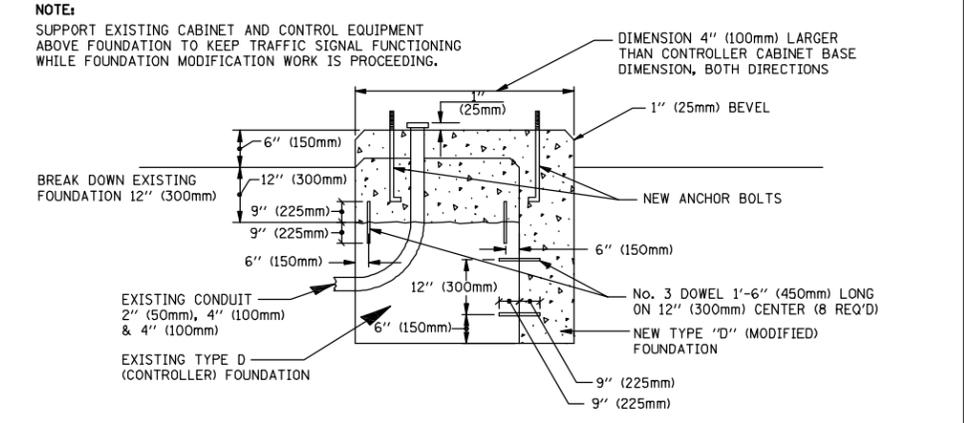
**SHROUD**

**NOTES:**

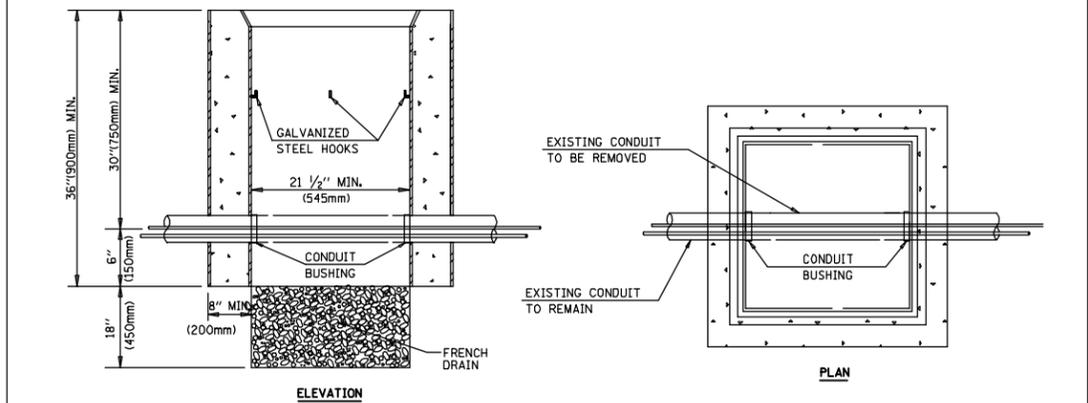
- DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
- THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
- THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.



**TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A**



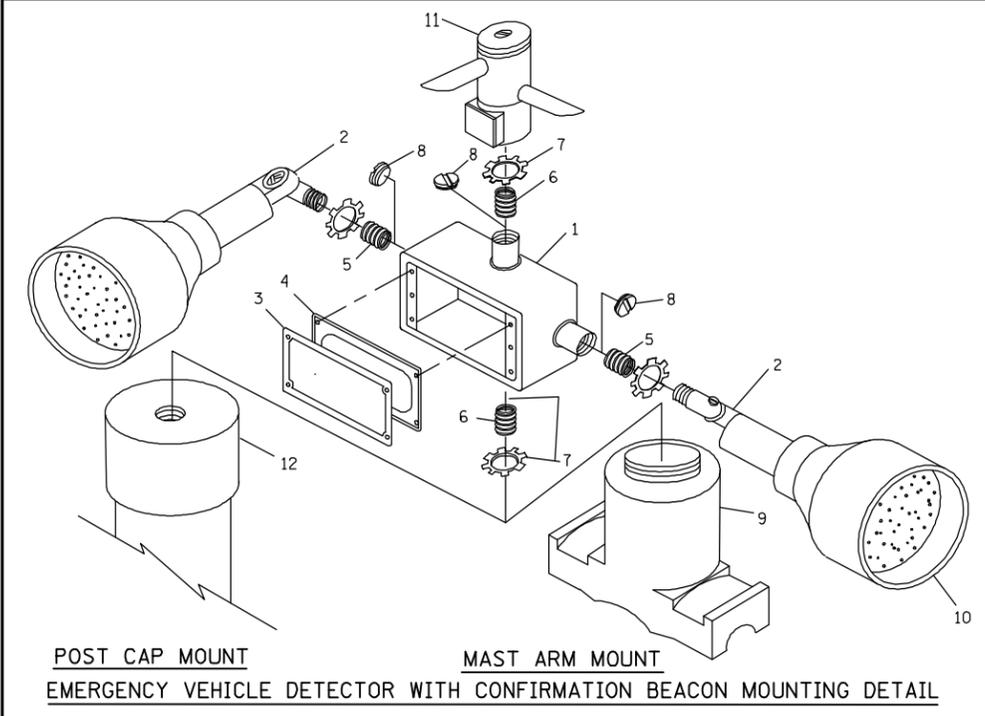
**MODIFY EXISTING TYPE "D" FOUNDATION**



**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.

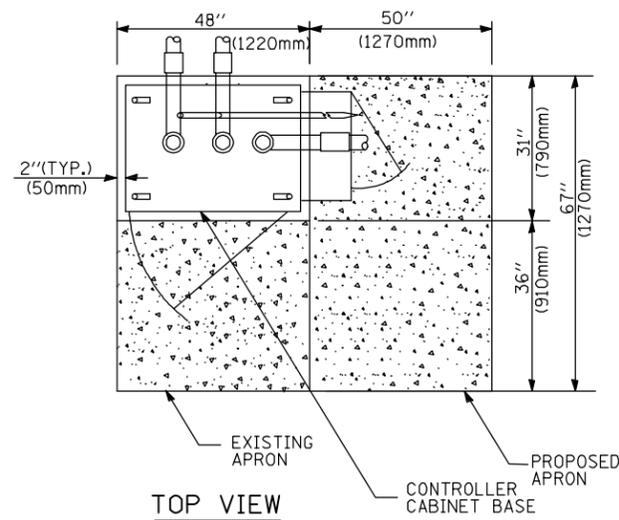
**HANDHOLE TO INTERCEPT EXISTING CONDUIT**



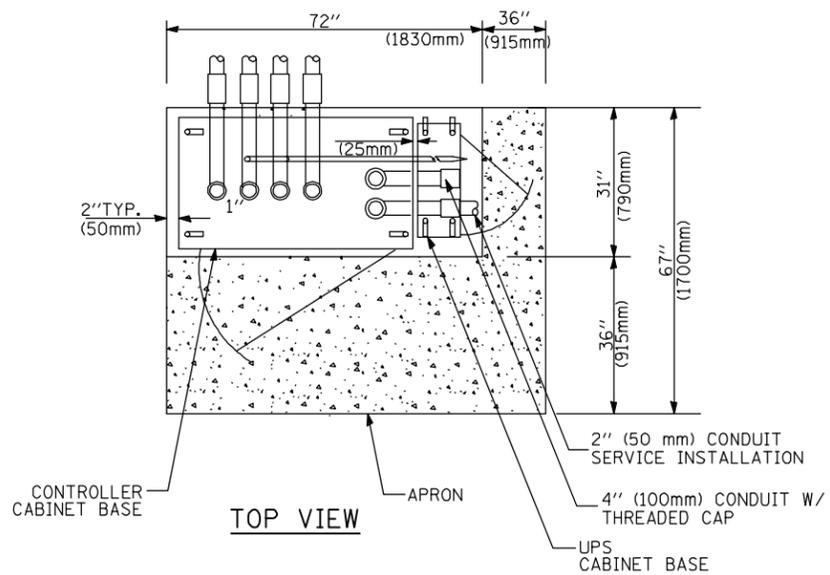
ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\" (19 mm) CLOSE NIPPLE
7	3/4\" (19 mm) LOCKNUT
8	3/4\" (19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR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

**NOTES:**

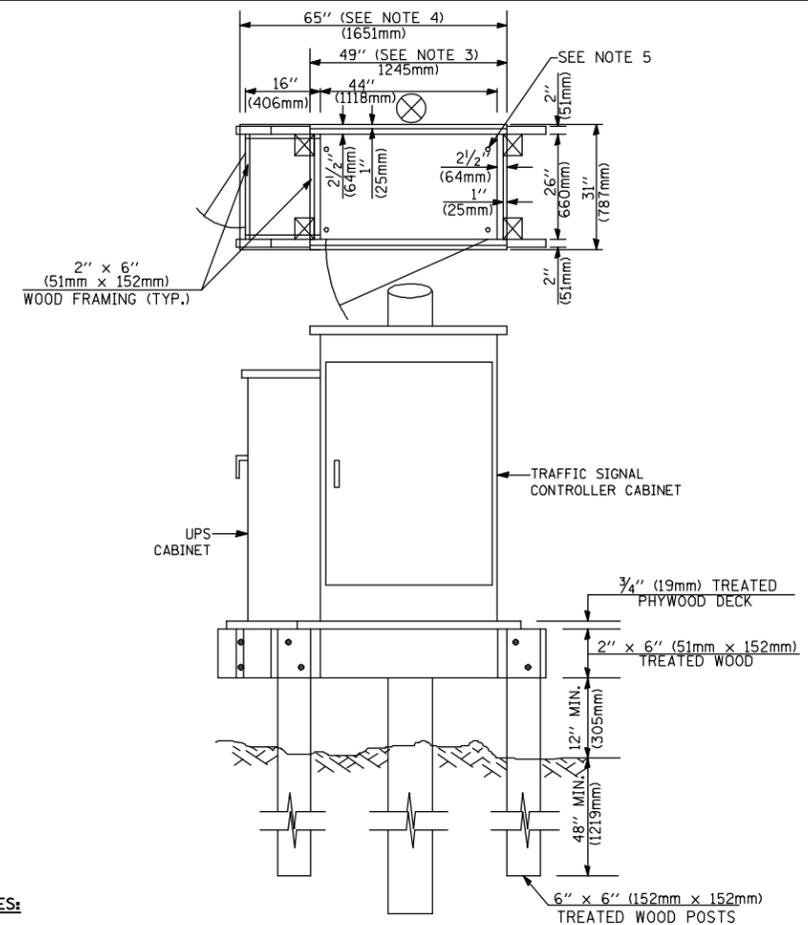
- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
- ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT  
ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT  
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
- WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE 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.



TOP VIEW



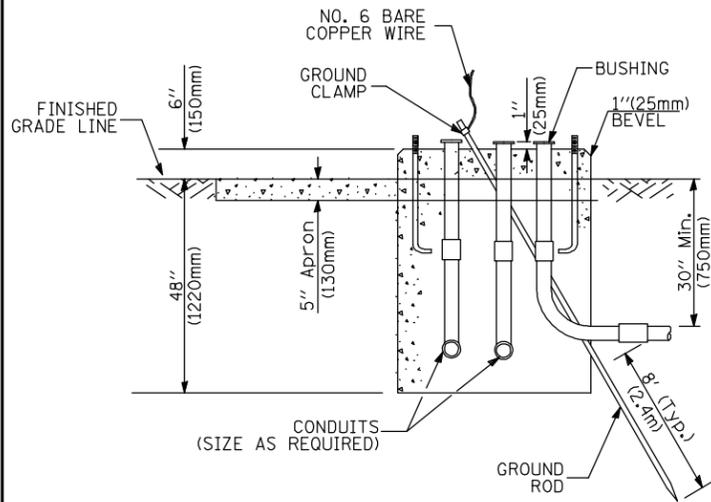
TOP VIEW



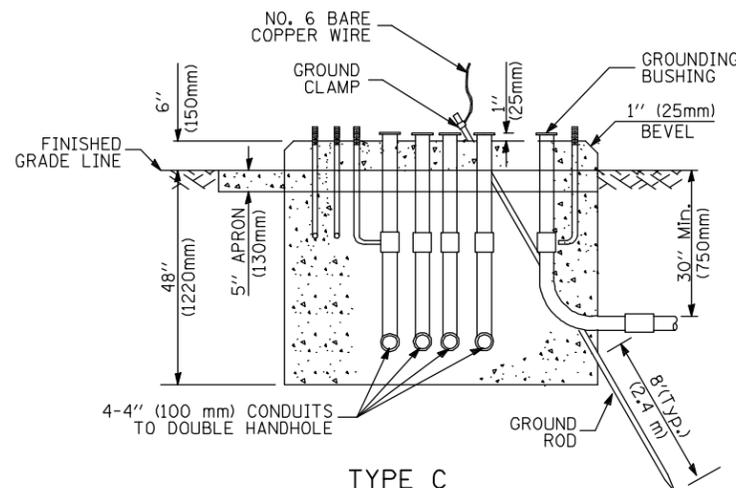
NOTES:

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.

TEMPORARY SIGNAL CONTROLLER WOOD SUPPORT PLATFORM



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	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)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 56' (16.8 m) and less than 65' (19.8 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	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 ( $Q_u$ ) > 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

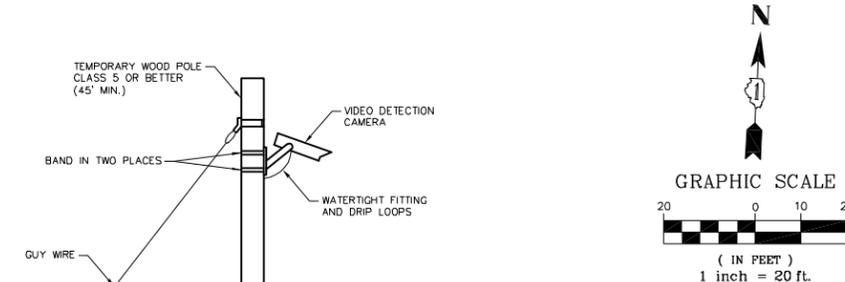
ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED				
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE							
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE							
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							
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				STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED							
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM				ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED							
SIGNAL POST				REMOVE ITEM				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				SIGNAL POST AND FOUNDATION TO BE REMOVED							
GUY WIRE				ABANDON ITEM				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				<b>RAILROAD SYMBOLS</b>							
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID					<b>EXISTING</b>	<b>PROPOSED</b>					
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															

GHA #4085.879

ILLINOIS FED. AID PROJECT

**NOTES FOR TEMPORARY TRAFFIC SIGNALS:**

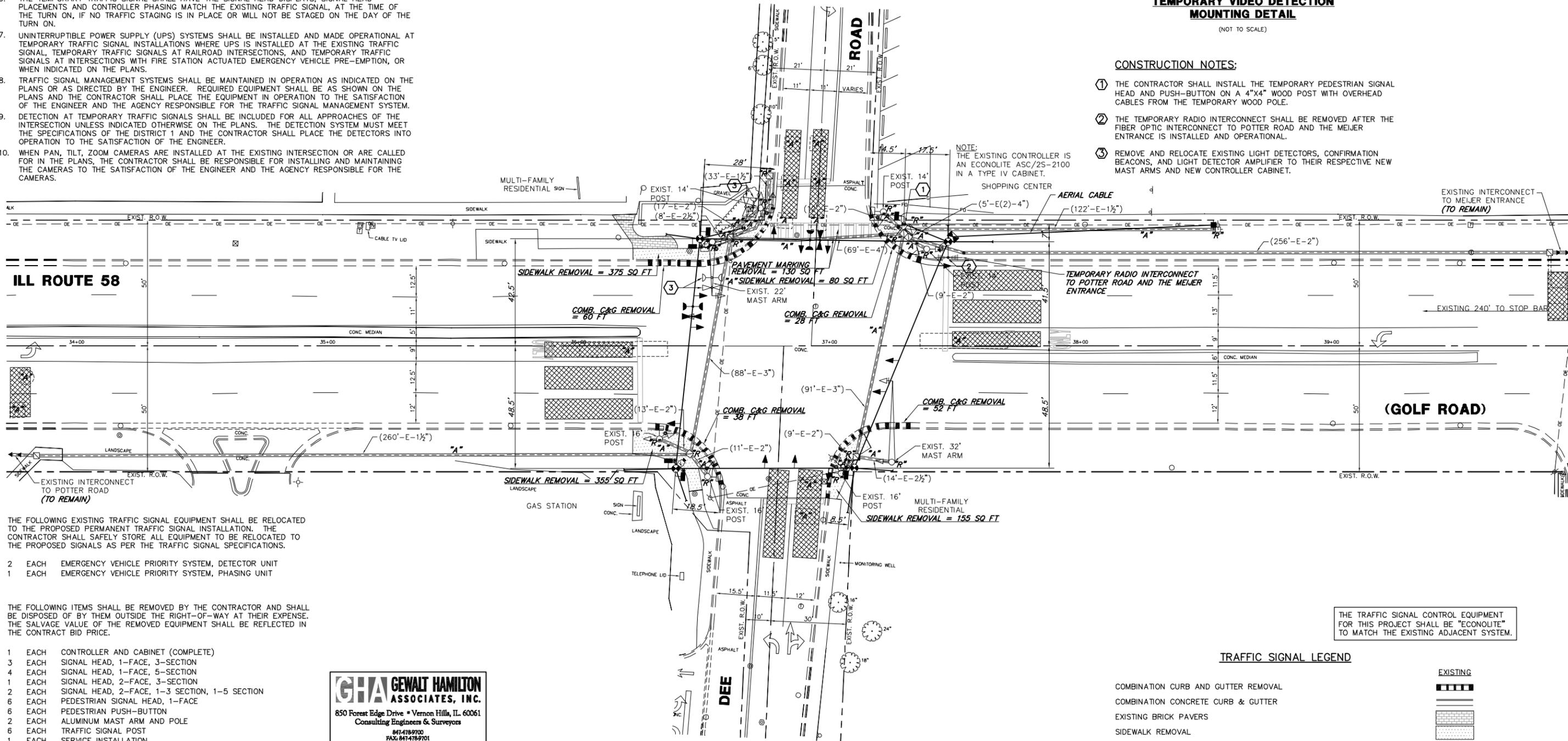
- ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
- ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
- ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE LED AND 12" (300mm) DIAMETER. HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. PEDESTRIAN SIGNALS SHALL INCLUDE SOLID INTERNATIONAL SYMBOLS. PEDESTRIAN SIGNALS WITH COUNTDOWN TIMERS SHALL BE USED WHEN THE EXISTING INSTALLATION UTILIZES COUNTDOWN TYPE OR AS DIRECTED BY THE ENGINEER. COUNTDOWN TYPE PEDESTRIAN SIGNALS ARE NOT TO BE INSTALLED AT A RAILROAD INTERSECTION. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
- ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
- ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROLLER EQUIPMENT.
- THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON, IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.
- UNINTERRUPTIBLE POWER SUPPLY (UPS) SYSTEMS SHALL BE INSTALLED AND MADE OPERATIONAL AT TEMPORARY TRAFFIC SIGNAL INSTALLATIONS WHERE UPS IS INSTALLED AT THE EXISTING TRAFFIC SIGNAL, TEMPORARY TRAFFIC SIGNALS AT RAILROAD INTERSECTIONS, AND TEMPORARY TRAFFIC SIGNALS AT INTERSECTIONS WITH FIRE STATION ACTUATED EMERGENCY VEHICLE PRE-EMPTION, OR WHEN INDICATED ON THE PLANS.
- TRAFFIC SIGNAL MANAGEMENT SYSTEMS SHALL BE MAINTAINED IN OPERATION AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. REQUIRED EQUIPMENT SHALL BE AS SHOWN ON THE PLANS AND THE CONTRACTOR SHALL PLACE THE EQUIPMENT IN OPERATION TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE TRAFFIC SIGNAL MANAGEMENT SYSTEM.
- DETECTION AT TEMPORARY TRAFFIC SIGNALS SHALL BE INCLUDED FOR ALL APPROACHES OF THE INTERSECTION UNLESS INDICATED OTHERWISE ON THE PLANS. THE DETECTION SYSTEM MUST MEET THE SPECIFICATIONS OF THE DISTRICT 1 AND THE CONTRACTOR SHALL PLACE THE DETECTORS INTO OPERATION TO THE SATISFACTION OF THE ENGINEER.
- WHEN PAN, TILT, ZOOM CAMERAS ARE INSTALLED AT THE EXISTING INTERSECTION OR ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THE CAMERAS TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE CAMERAS.



**TEMPORARY VIDEO DETECTION MOUNTING DETAIL**  
(NOT TO SCALE)

**CONSTRUCTION NOTES:**

- THE CONTRACTOR SHALL INSTALL THE TEMPORARY PEDESTRIAN SIGNAL HEAD AND PUSH-BUTTON ON A 4"x4" WOOD POST WITH OVERHEAD CABLES FROM THE TEMPORARY WOOD POLE.
- THE TEMPORARY RADIO INTERCONNECT SHALL BE REMOVED AFTER THE FIBER OPTIC INTERCONNECT TO POTTER ROAD AND THE MEIJER ENTRANCE IS INSTALLED AND OPERATIONAL.
- REMOVE AND RELOCATE EXISTING LIGHT DETECTORS, CONFIRMATION BEACONS, AND LIGHT DETECTOR AMPLIFIER TO THEIR RESPECTIVE NEW MAST ARMS AND NEW CONTROLLER CABINET.



THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE RELOCATED TO THE PROPOSED PERMANENT TRAFFIC SIGNAL INSTALLATION. THE CONTRACTOR SHALL SAFELY STORE ALL EQUIPMENT TO BE RELOCATED TO THE PROPOSED SIGNALS AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

- 2 EACH EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT
- 1 EACH EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT

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)
- 3 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 4 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 3-SECTION
- 2 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION
- 6 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE
- 6 EACH PEDESTRIAN PUSH-BUTTON
- 2 EACH ALUMINUM MAST ARM AND POLE
- 6 EACH TRAFFIC SIGNAL POST
- 1 EACH SERVICE INSTALLATION

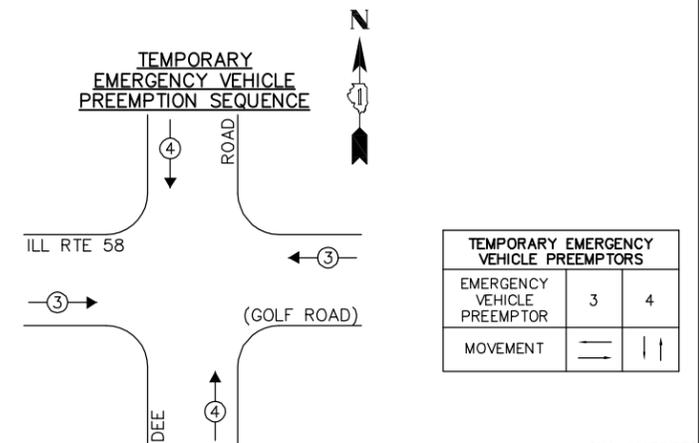
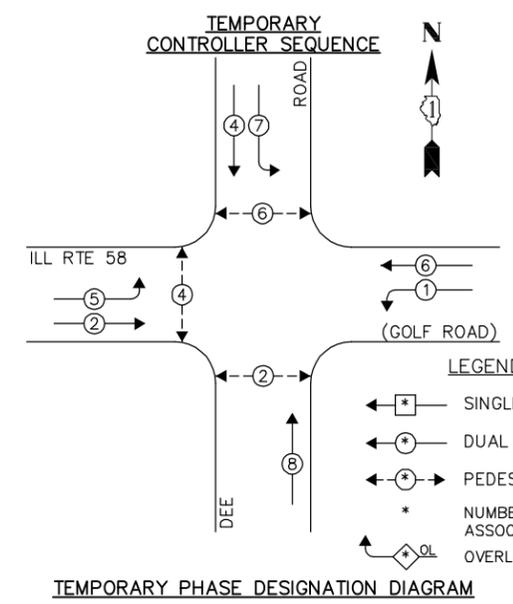
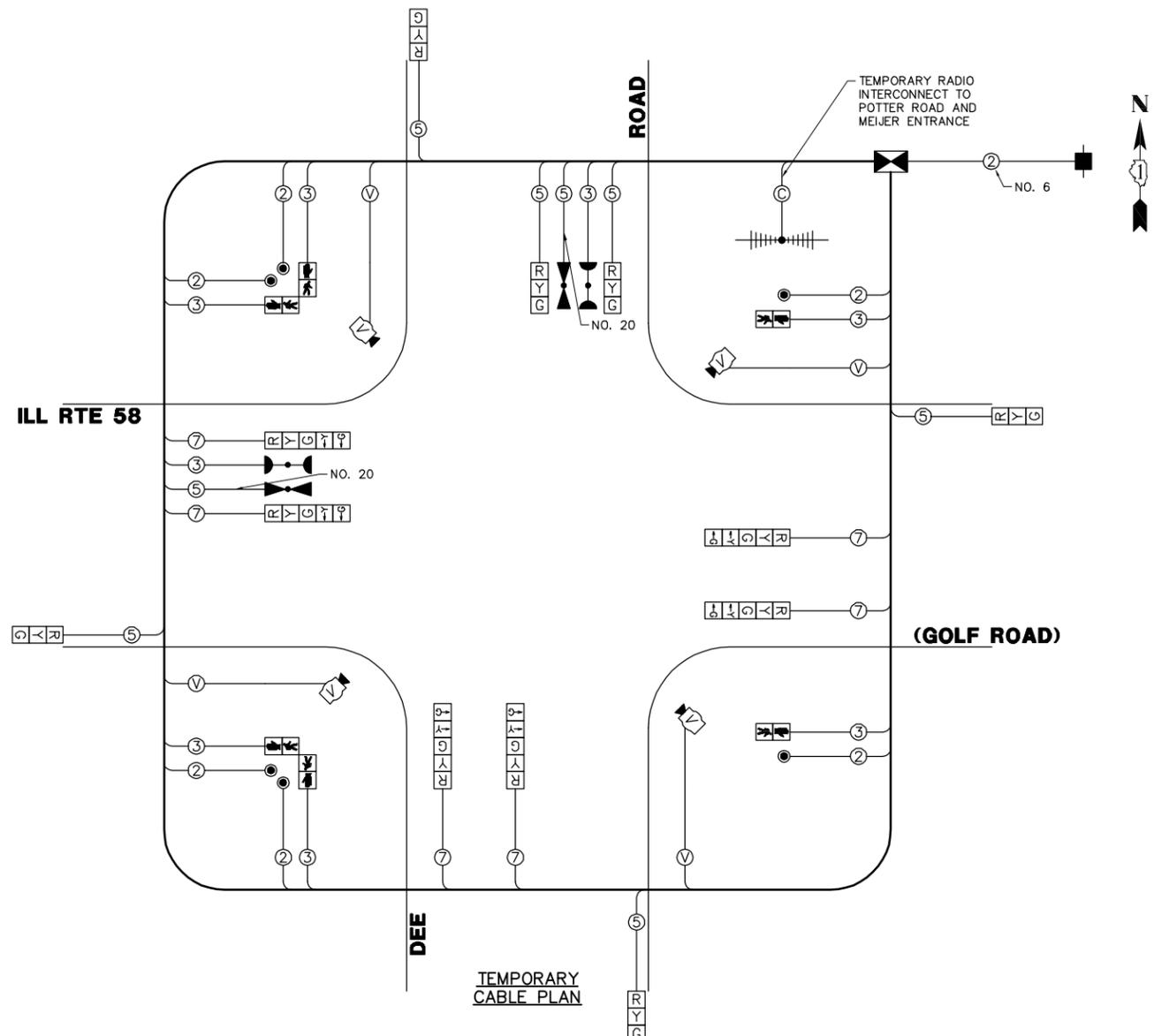
**GHA GEWALT HAMILTON ASSOCIATES, INC.**  
850 Forest Edge Drive • Vernon Hills, IL 60061  
Consulting Engineers & Surveyors  
847-478-9700  
FAX: 847-478-9701

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

**TRAFFIC SIGNAL LEGEND**

- EXISTING COMBINATION CURB AND GUTTER REMOVAL
- COMBINATION CONCRETE CURB & GUTTER
- EXISTING BRICK PAVERS
- SIDEWALK REMOVAL

FILE NAME = 4085.879 - TR1.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - JRD	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TEMPORARY TRAFFIC SIGNAL INSTALLATION &amp; REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT ILL ROUTE 58 (GOLF ROAD) AT DEE ROAD</b>	F.A.P. RTE. 339	SECTION 2011-211-TS	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 11	CONTRACT # 60R51	
PLOT SCALE = 1" = .0833'	CHECKED - KLB	REVISD -	SCALE 1"=20'			SHEET NO. OF SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT				
PLOT DATE = 2/1/2012	DATE - 2/1/2012	REVISD -	GHA #4085.879									



I.D.O.T.  
TRAFFIC SIGNAL INSTALLATION  
ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	L.E.D.		
SIGNAL (RED)	12	135	17	0.50	102.0
SIGNAL (YELLOW)	12	135	25	0.25	75.0
SIGNAL (GREEN)	12	135	15	0.25	45.0
ARROW	12	135	12	0.10	14.4
PED. SIGNAL	6	90	25	1.00	150.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	-	-	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	-	-	25	1.00	-
ILLUMINATED SIGN	-	-	25	0.05	-
TOTAL =					636.4

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847-478-9100 FAX: 847-478-9701

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

ENERGY COSTS - BILLED TO: ILL DEPT. OF TRANSPORTATION  
(ADDRESS) 201 W. CENTER COURT  
(ADDRESS) SCHAUMBURG IL 60196-1096  
ENERGY SUPPLY - CONTACT: CINDY ANTHONY  
PHONE: (847) 816-5322  
COMPANY: COM-ED

FILE NAME = 4085.879-TR1.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - JRD	REVISED -
		DRAWN - ZCW	REVISED -
		CHECKED - KLB	REVISED -
		DATE - 2/1/2012	REVISED -

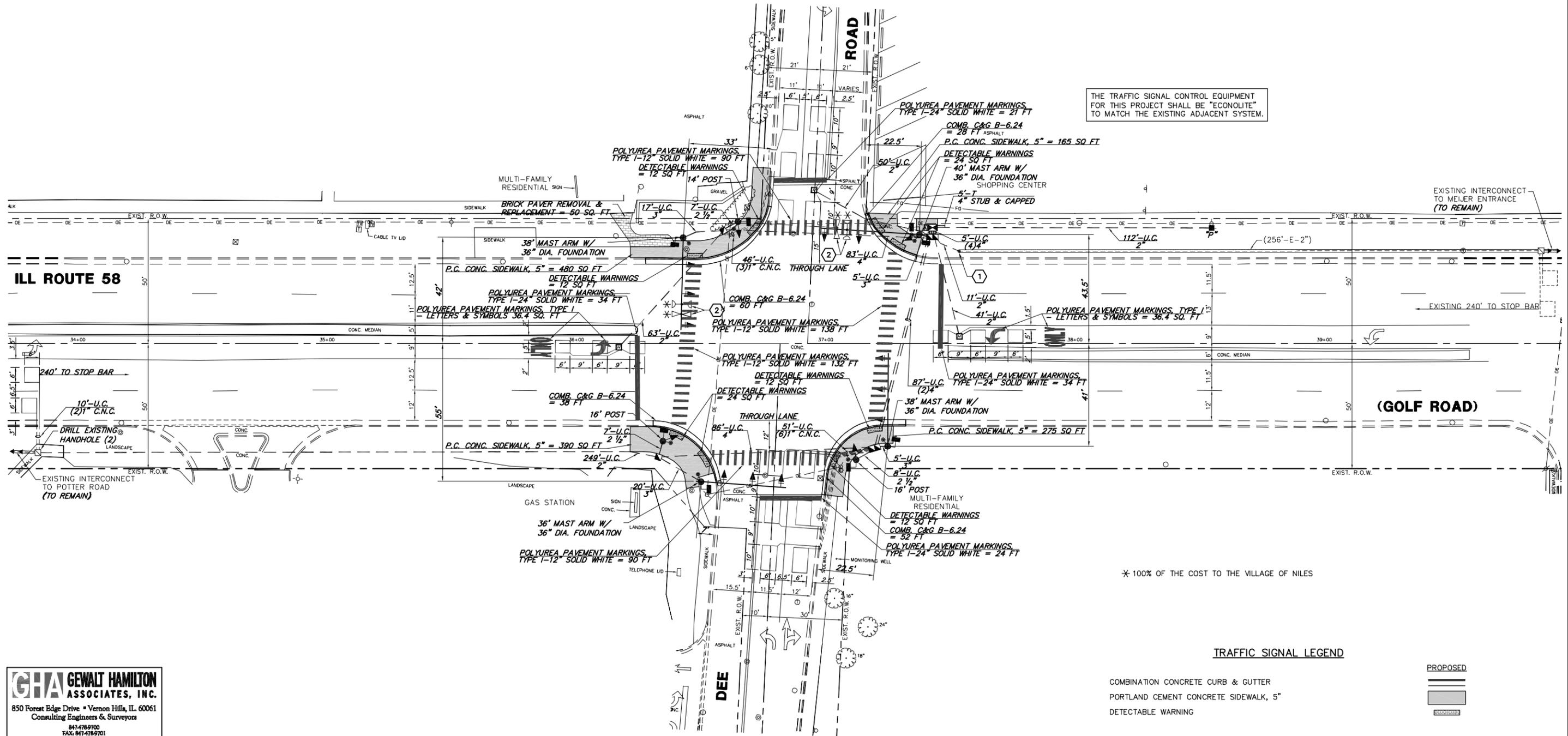
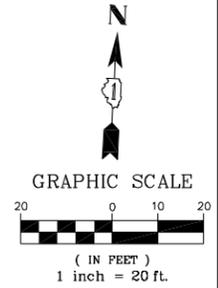
**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION DIAGRAM, & TEMPORARY VEHICLE PREEMPTION SEQUENCE ILL ROUTE 58 (GOLF ROAD) AT DEE ROAD**

FAP. RTE. 339	SECTION 2011-211-TS	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 12
CONTRACT # 60R51			GHA #4085.879	
ILLINOIS FED. AID PROJECT				

**CONSTRUCTION NOTES:**

- ① THE CONTRACTOR SHALL LOCATE AND INTERCEPT THE COUPLING OF THE EXISTING 2" CONDUIT AND SPLICE A NEW 2" GALVANIZED STEEL CONDUIT TO RE-ESTABLISH THE FIBER OPTIC INTERCONNECT. THIS WORK SHALL BE INCLUDED IN THE COST OF THE CONDUIT.
- ② THE CONTRACTOR SHALL REINSTALL THE EXISTING LIGHT DETECTORS, CONFIRMATION BEACONS, AND LIGHT DETECTOR AMPLIFIER TO THEIR RESPECTIVE NEW MAST ARMS AND NEW CONTROLLER CABINET.



\* 100% OF THE COST TO THE VILLAGE OF NILES

**TRAFFIC SIGNAL LEGEND**

- COMBINATION CONCRETE CURB & GUTTER
- PORTLAND CEMENT CONCRETE SIDEWALK, 5"
- DETECTABLE WARNING



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 847-478-9700  
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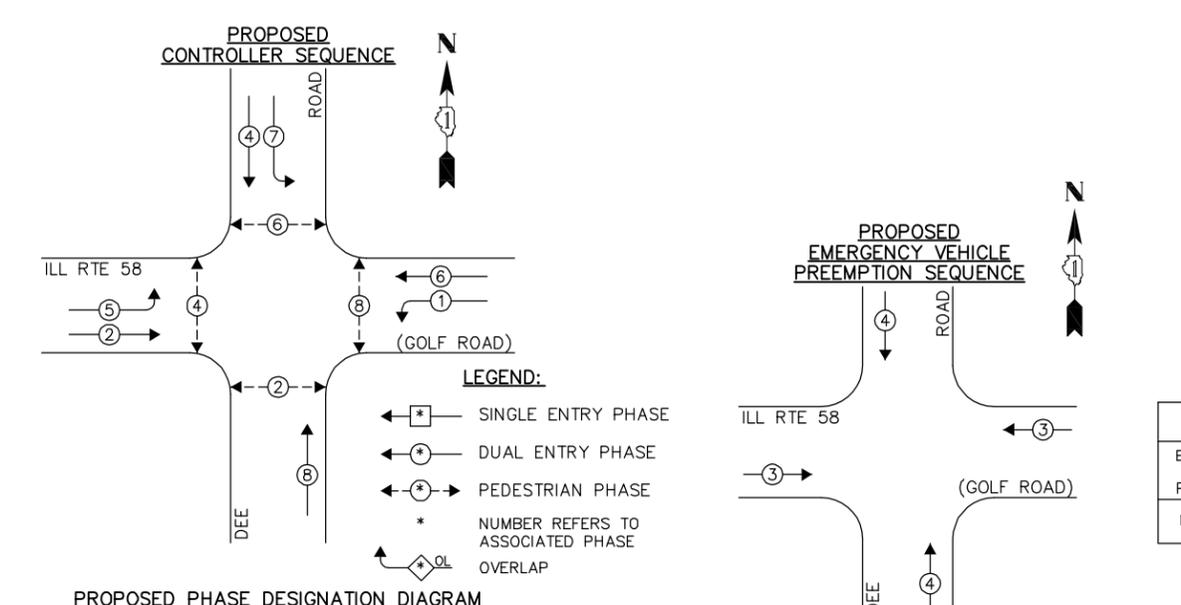
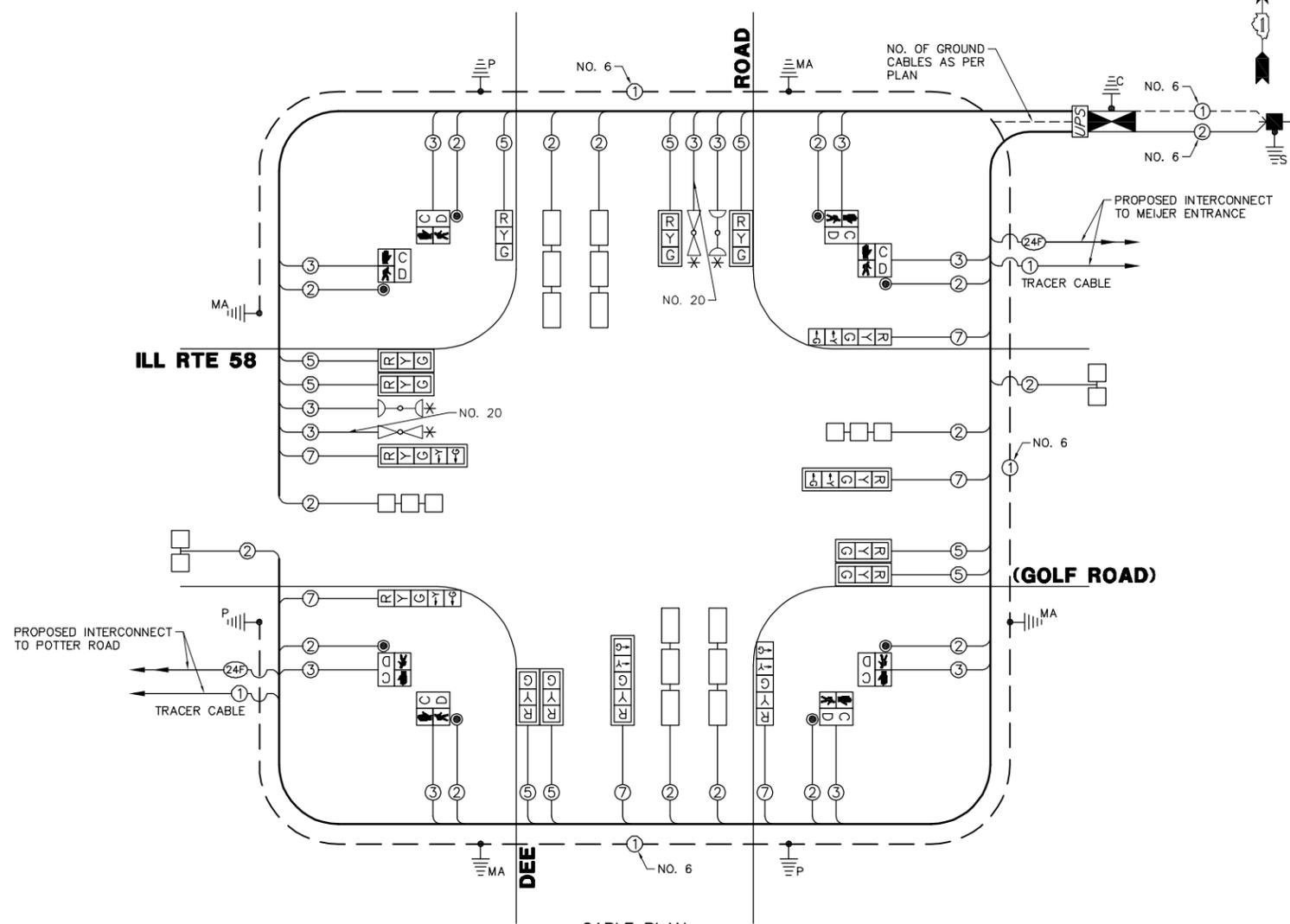
FILE NAME = 4085.879 - TR1.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - JRD	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC SIGNAL MODERNIZATION PLAN ILL ROUTE 58 (GOLF ROAD) AT DEE ROAD</b>	SCALE: 1"=20'	SHEET NO. OF SHEETS	STA. TO STA.	F.A.P. RTE. 339	SECTION 2011-211-TS	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 13		
PLOT SCALE = 1" = .0833'		DRAWN - ZCW	REVISED -			CONTRACT # 60R51		ILINOIS FED. AID PROJECT							
PLOT DATE = 2/1/2012		CHECKED - KLB	REVISED -												

GHA #4085.879

**SCHEDULE OF QUANTITIES**  
ILL ROUTE 58 (GOLF ROAD) AT DEE ROAD

QUANT.	UNIT	DESCRIPTION
15	CU YD	EARTH EXCAVATION
40	SQ YD	SUBBASE GRANULAR MATERIAL, TYPE B 4"
1,310	SQ FT	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH
96	SQ FT	DETECTABLE WARNINGS
178	FOOT	COMBINATION CURB AND GUTTER REMOVAL
965	SQ FT	SIDEWALK REMOVAL
178	FOOT	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24
2.00	CAL MO	ENGINEER'S FIELD OFFICE, TYPE A
0.40	L SUM	MOBLIZATION
0.40	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501
0.40	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606
0.40	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701
0.40	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801
12.00	SQ FT	SIGN PANEL - TYPE 1
25.00	SQ FT	SIGN PANEL - TYPE 2
72.80	SQ FT	POLYUREA PAVEMENT MARKING TYPE I - LETTERS AND SYMBOLS
450	FOOT	POLYUREA PAVEMENT MARKING TYPE I - LINE 12"
114	FOOT	POLYUREA PAVEMENT MARKING TYPE I - LINE 24"
130	SQ FT	PAVEMENT MARKING REMOVAL
1	EACH	SERVICE INSTALLATION - POLE MOUNTED
526	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
22	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.
47	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.
368	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.
2	EACH	HANDHOLE
3	EACH	HEAVY-DUTY HANDHOLE
2	EACH	DOUBLE HANDHOLE
1	EACH	TRANSCEIVER - FIBER OPTIC
1,049	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
1,387	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
1,634	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
1,105	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
1,527	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR
133	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C
527	FOOT	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1 C
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.
2	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 40 FT.
12	FOOT	CONCRETE FOUNDATION, TYPE A
4	FOOT	CONCRETE FOUNDATION, TYPE C
46	FOOT	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER
2	EACH	DRILL EXISTING HANDHOLE
8	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
1	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
3	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
6	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
1	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
11	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
8	EACH	INDUCTIVE LOOP DETECTOR
758	FOOT	DETECTOR LOOP, TYPE I
8	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	TEMPORARY TRAFFIC SIGNAL INSTALLATION
1	EACH	REMOVE EXISTING SERVICE INSTALLATION
*2	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT
*1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
5	EACH	REMOVE EXISTING HANDHOLE
9	EACH	REMOVE EXISTING CONCRETE FOUNDATION
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTABLE POWER SUPPLY, SPECIAL
*284	FOOT	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED
50	SQ FT	BRICK PAVER REMOVAL AND REPLACEMENT
52	SQ FT	TEMPORARY INFORMATION SIGNING
1	EACH	TEMPORARY TRAFFIC SIGNAL TIMING

\* 100% OF THE COST TO THE VILLAGE OF NILES



I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	INCAND.	L.E.D.	% OPERATION	
SIGNAL (RED)	15	135	17	0.50	127.5
SIGNAL (YELLOW)	15	135	25	0.25	93.75
SIGNAL (GREEN)	15	135	15	0.25	56.25
ARROW	12	135	12	0.10	14.4
PED. SIGNAL	8	90	25	1.00	200.0
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 =					616.9

**GHA GEWALT HAMILTON ASSOCIATES, INC.**  
850 Forest Edge Drive • Vernon Hills, IL 60061  
Consulting Engineers & Surveyors  
847-478-9100 FAX: 847-478-9701

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

ENERGY COSTS - BILLED TO: ILL DEPT. OF TRANSPORTATION  
(ADDRESS) 201 W. CENTER COURT  
(ADDRESS) SCHAUMBURG IL 60196-1096  
ENERGY SUPPLY - CONTACT: CINDY ANTHONY  
PHONE: (847) 816-5322  
COMPANY: COM-ED

FILE NAME = 4085.879-TR1.dwg

USER NAME = ZACH WALLSTEN  
DESIGNED - JRD  
DRAWN - ZCW  
CHECKED - KLB  
PLOT SCALE = 1" = .0833'  
DATE = 2/1/2012

REVISD -  
REVISD -  
REVISD -  
REVISD -

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

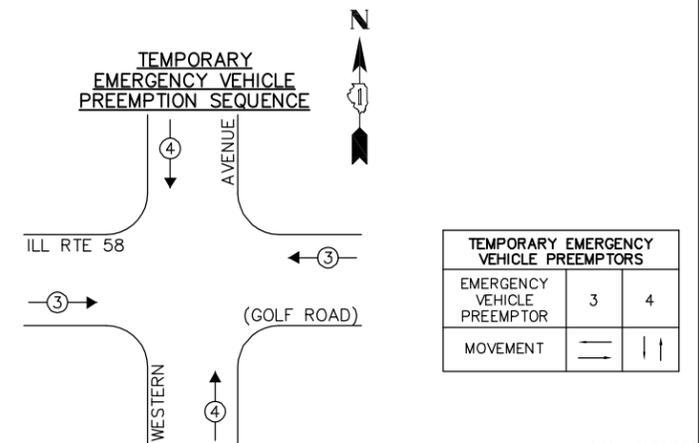
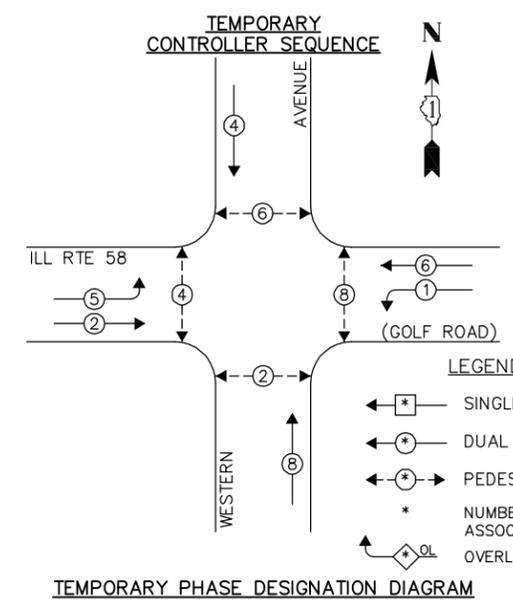
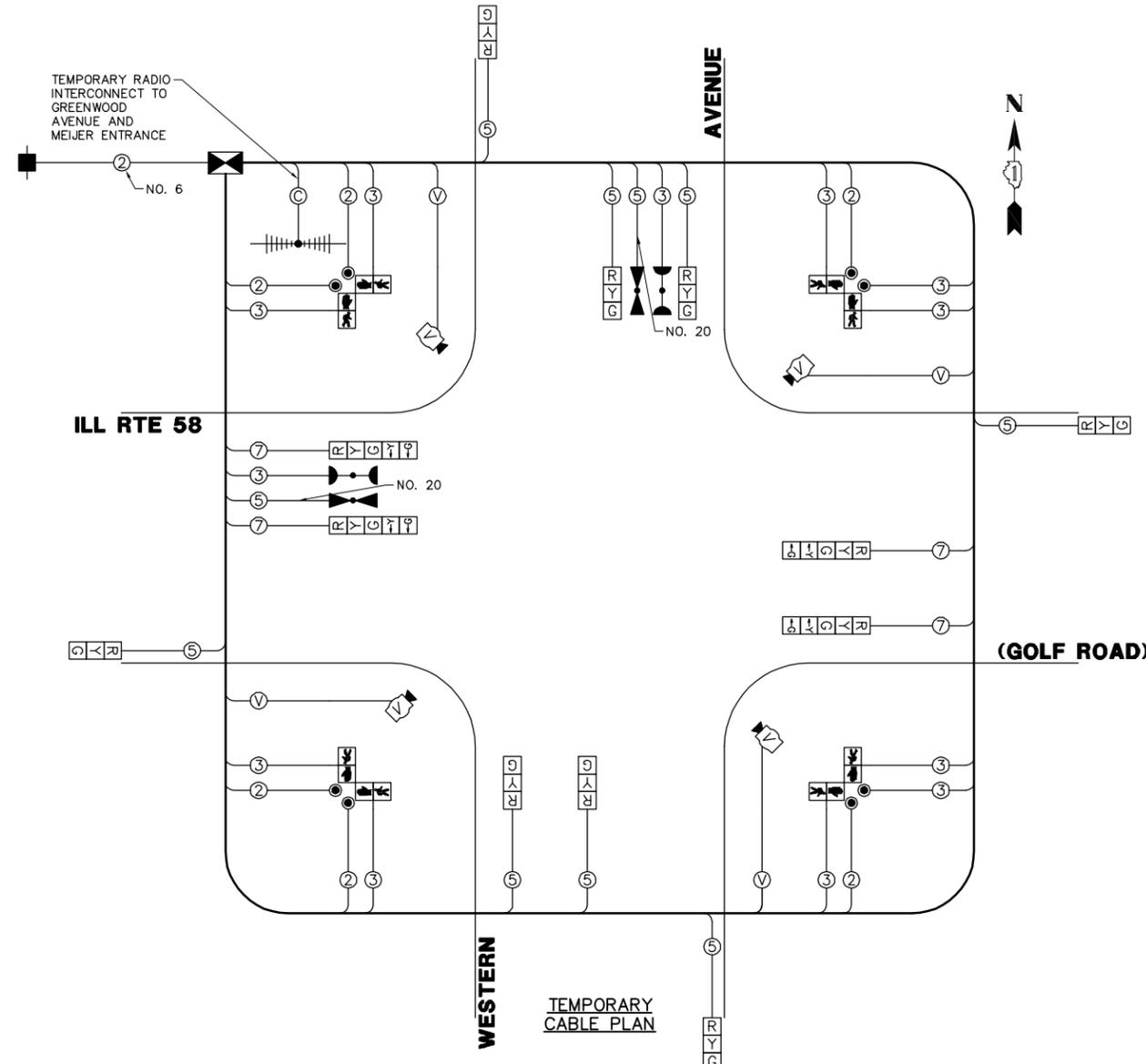
**SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM, & EMERGENCY VEHICLE PREEMPTION SEQUENCE**  
**ILL ROUTE 58 (GOLF ROAD) AT DEE ROAD**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	2011-211-TS	COOK	26	14
CONTRACT #:			60R51	

GHA #4085.879

ILLINOIS FED. AID PROJECT





I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		% OPERATION	
SIGNAL (RED)	12	135	17	0.50	102.0
SIGNAL (YELLOW)	12	135	25	0.25	75.0
SIGNAL (GREEN)	12	135	15	0.25	45.0
ARROW	8	135	12	0.10	9.6
PED. SIGNAL	8	90	25	1.00	200.0
CONTROLLER	1	-	100	1.00	100.0
LUMINAIRE	-	-	250	0.50	-
L.E.D. ST. NAME SIGN	-	-	64	0.50	-
VIDEO SYSTEM	1	-	150	1.00	150.0
BATTERY BACKUP	-	-	25	1.00	-
ILLUMINATED SIGN	-	-	25	0.05	-
TOTAL =					681.6

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 847-478-9100 FAX: 847-478-9701

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

ENERGY COSTS - BILLED TO: ILL DEPT. OF TRANSPORTATION  
 (ADDRESS) 201 W. CENTER COURT  
 (ADDRESS) SCHAUMBURG IL 60196-1096  
 ENERGY SUPPLY - CONTACT: CINDY ANTHONY  
 PHONE: (847) 816-5322  
 COMPANY: COM-ED

FILE NAME = 4085.879-TR1.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - JRD	REVISED -
		DRAWN - ZCW	REVISED -
		CHECKED - KLB	REVISED -
		DATE - 2/1/2012	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

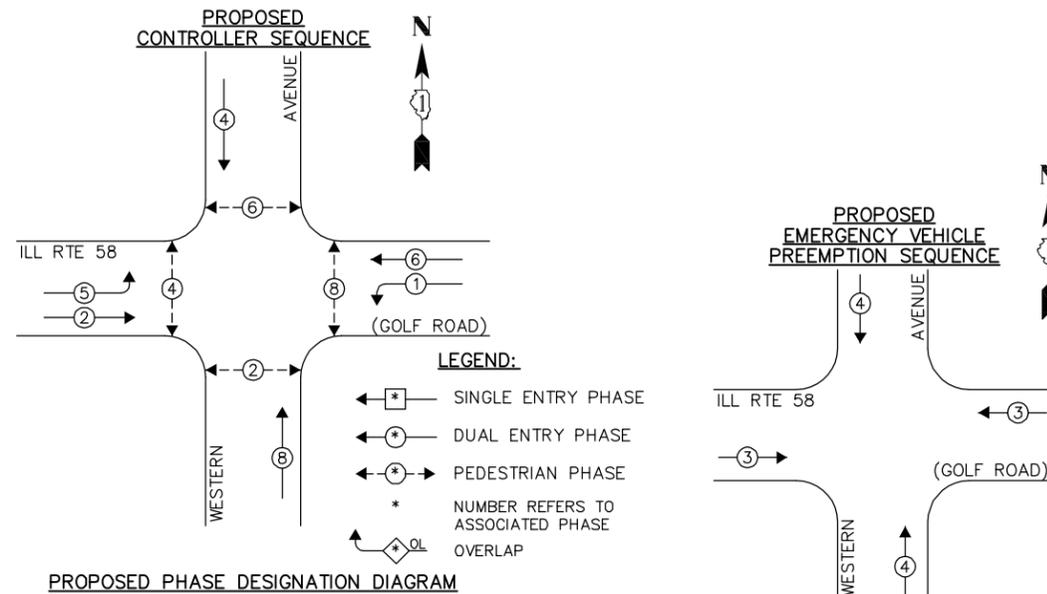
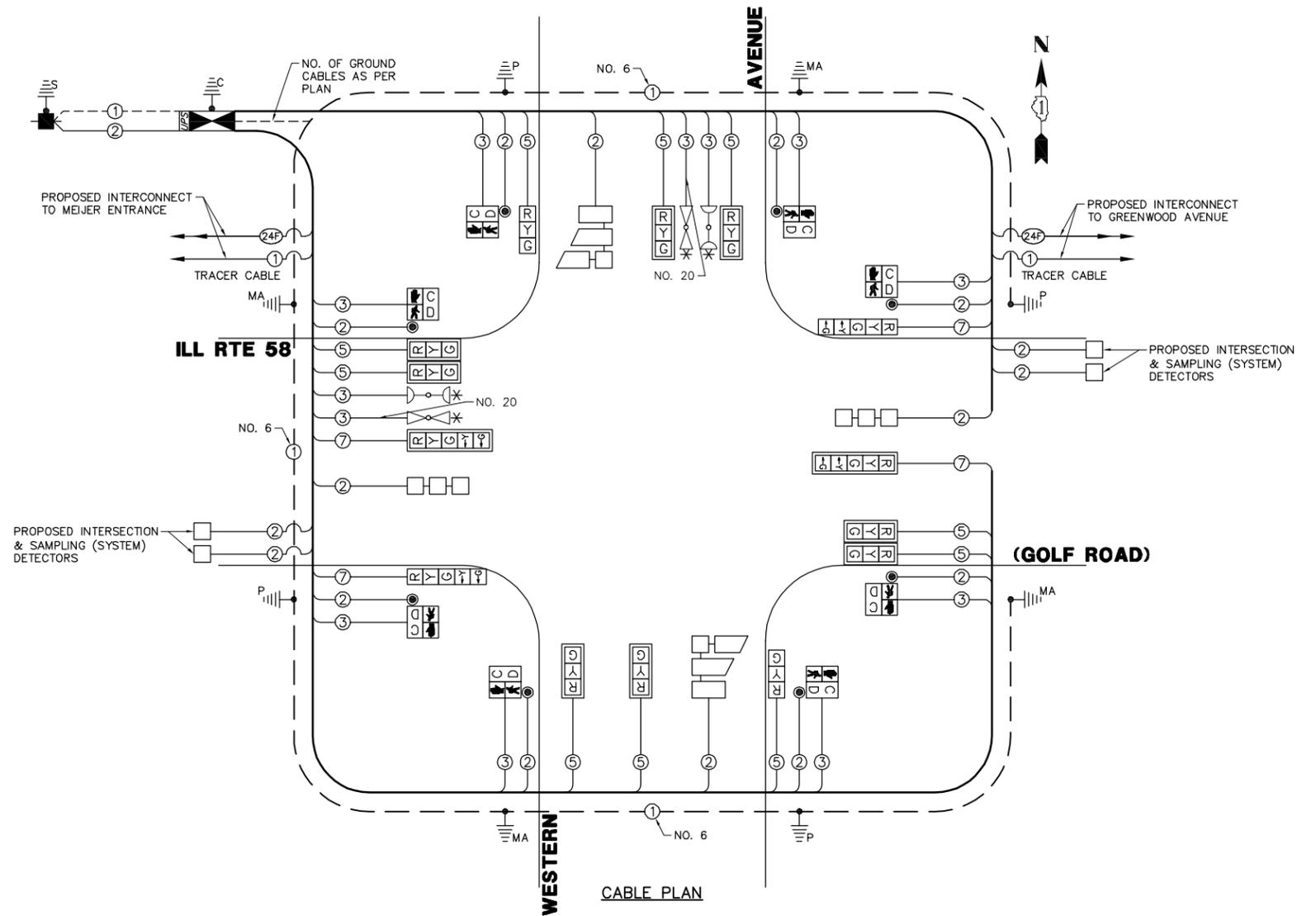
**TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION  
DIAGRAM, & TEMPORARY VEHICLE PREEMPTION SEQUENCE  
ILL ROUTE 58 (GOLF ROAD) AT WESTERN AVENUE**

FAP. RTE. 339	SECTION 2011-211-TS	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 16
CONTRACT # 60R51			GHA #4085.879	
ILLINOIS FED. AID PROJECT				



**SCHEDULE OF QUANTITIES**  
ILL ROUTE 58 (GOLF ROAD) AT WESTERN AVENUE

QUANT.	UNIT	DESCRIPTION
30	CU YD	EARTH EXCAVATION
88	SQ YD	SUBBASE GRANULAR MATERIAL, TYPE B 4"
1,580	SQ FT	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH
108	SQ FT	DETECTABLE WARNINGS
163	FOOT	COMBINATION CURB AND GUTTER REMOVAL
795	SQ FT	SIDEWALK REMOVAL
115	SQ FT	MEDIAN REMOVAL
8	SQ YD	CLASS B PATCHES, TYPE I, 10 INCH
158	FOOT	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-9.24
47	SQ FT	CORRUGATED MEDIAN
2.00	CAL MO	ENGINEER'S FIELD OFFICE, TYPE A
0.40	L SUM	MOBILIZATION
0.40	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501
0.40	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606
0.40	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701
0.40	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801
16.50	SQ FT	SIGN PANEL - TYPE 1
25.00	SQ FT	SIGN PANEL - TYPE 2
72.80	SQ FT	POLYUREA PAVEMENT MARKING TYPE I- LETTERS AND SYMBOLS
65	FOOT	POLYUREA PAVEMENT MARKING TYPE I- LINE 6"
528	FOOT	POLYUREA PAVEMENT MARKING TYPE I- LINE 12"
117	FOOT	POLYUREA PAVEMENT MARKING TYPE I- LINE 24"
230	SQ FT	PAVEMENT MARKING REMOVAL
1	EACH	SERVICE INSTALLATION- POLE MOUNTED
388	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.
46	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.
65	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.
403	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.
3	EACH	HANDHOLE
2	EACH	HEAVY-DUTY HANDHOLE
2	EACH	DOUBLE HANDHOLE
1	EACH	TRANSCEIVER - FIBER OPTIC
1,163	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
1,509	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
1,828	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
719	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
2,085	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR
32	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C
502	FOOT	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1 C
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.
2	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.
16	FOOT	CONCRETE FOUNDATION, TYPE A
4	FOOT	CONCRETE FOUNDATION, TYPE C
44	FOOT	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER
8	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED
8	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
10	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
8	EACH	INDUCTIVE LOOP DETECTOR
726	FOOT	DETECTOR LOOP, TYPE I
8	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	TEMPORARY TRAFFIC SIGNAL INSTALLATION
1	EACH	REMOVE EXISTING SERVICE INSTALLATION
* 2	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT
* 1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
8	EACH	REMOVE EXISTING HANDHOLE
9	EACH	REMOVE EXISTING CONCRETE FOUNDATION
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL
1	EACH	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL
* 283	FOOT	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED
52	SQ FT	TEMPORARY INFORMATION SIGNING
1	EACH	TEMPORARY TRAFFIC SIGNAL TIMING
* 100%		OF THE COST TO THE VILLAGE OF NILES



I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		% OPERATION	
SIGNAL (RED)	14	135	17	0.50	119.0
SIGNAL (YELLOW)	14	135	25	0.25	87.5
SIGNAL (GREEN)	14	135	15	0.25	52.5
ARROW	8	135	12	0.10	9.6
PED. SIGNAL	8	90	25	1.00	200.0
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 =					593.6

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ENERGY COSTS - BILLED TO: ILL DEPT. OF TRANSPORTATION  
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PHONE: (847) 816-5322  
COMPANY: COM-ED

FILE NAME = 4085.879-TR1.dwg

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PLOT SCALE = 1" = .0833'  
PLOT DATE = 2/1/2012

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DATE - 2/1/2012

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

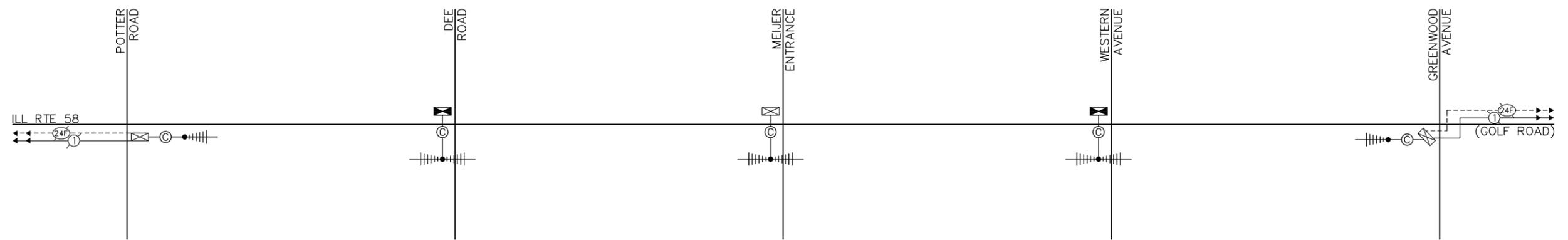
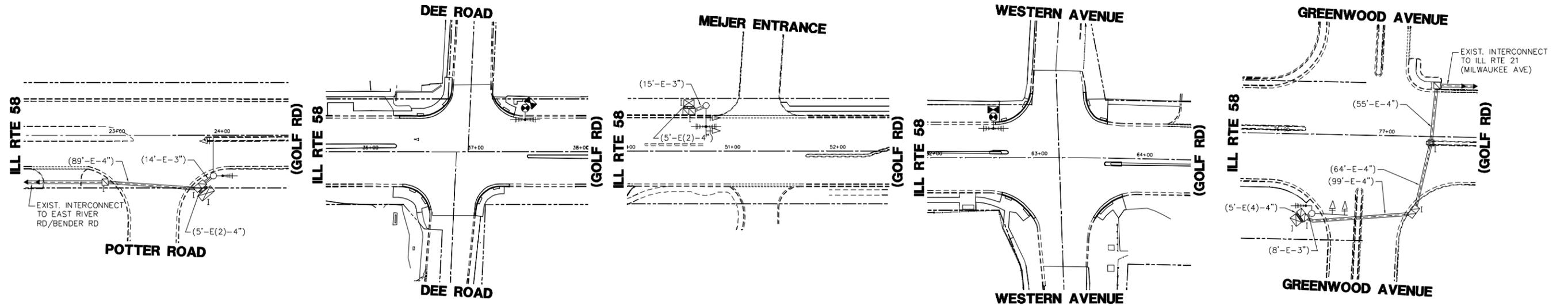
**SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION  
DIAGRAM, & EMERGENCY VEHICLE PREEMPTION SEQUENCE  
ILL ROUTE 58 (GOLF ROAD) AT WESTERN AVENUE**

SCALE: N.A. SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	2011-211-TS	COOK	26	18
CONTRACT #:			60R51	

PROPOSED EMERGENCY VEHICLE PREEMPTORS	
EMERGENCY VEHICLE PREEMPTOR	3 4
MOVEMENT	← →

GHA #4085.879



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FILE NAME = 4085.879-TR1.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - JRD	REVISED -
	PLOT SCALE = 1" = .0833'	DRAWN - ZCW	REVISED -
	PLOT DATE = 2/1/2012	CHECKED - KLB	REVISED -
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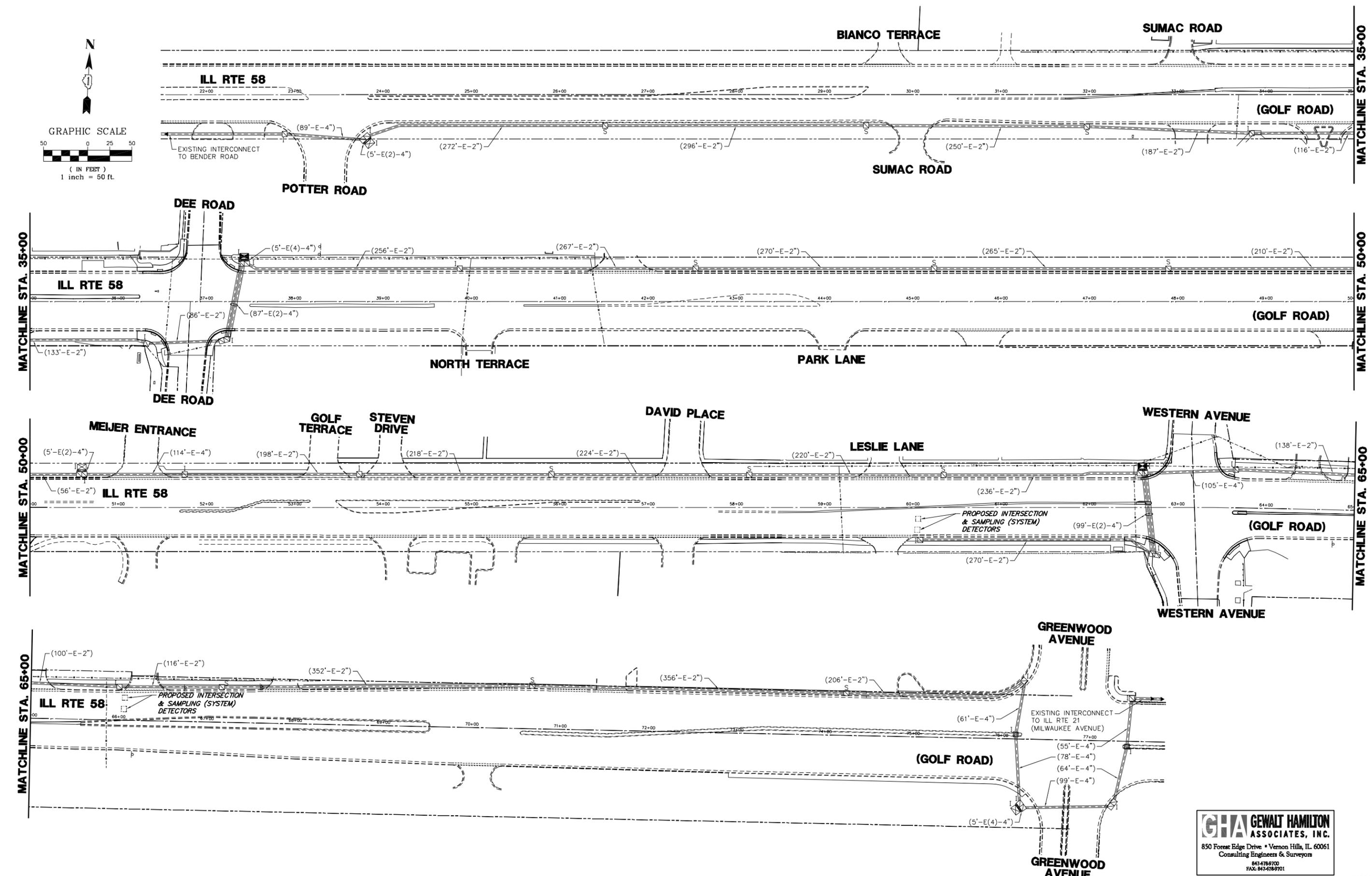
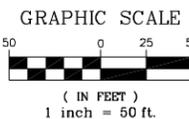
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TEMPORARY INTERCONNECT PLAN & SCHEMATIC -  
 ILL RTE 58 FROM POTTER RD AND GREENWOOD AVE**

SCALE: N.A.    SHEET NO.    OF    SHEETS    STA.    TO STA.

FAP. RTE. 339	SECTION 2011-211-TS	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 19
CONTRACT #:			60R51	
ILLINOIS FED. AID PROJECT				

GHA #4085.879



**GHA** GEWALT HAMILTON ASSOCIATES, INC.  
 850 Forest Edge Drive • Vernon Hills, IL 60061  
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 847-478-9100  
 FAX: 847-478-9701

FILE NAME = 4085.879 - TR1.dwg

USER NAME = ZACH WALLSTEN  
 PLOT SCALE = 1" = .0833'  
 PLOT DATE = 2/1/2012

DESIGNED - JRD  
 DRAWN - ZCW  
 CHECKED - KLB  
 DATE - 2/1/2012

REVISED -  
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 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**INTERCONNECT PLAN - ILL RTE 58 (GOLF RD) FROM  
 POTTER RD TO GREENWOOD AVE - IDOT SYSTEM 11**

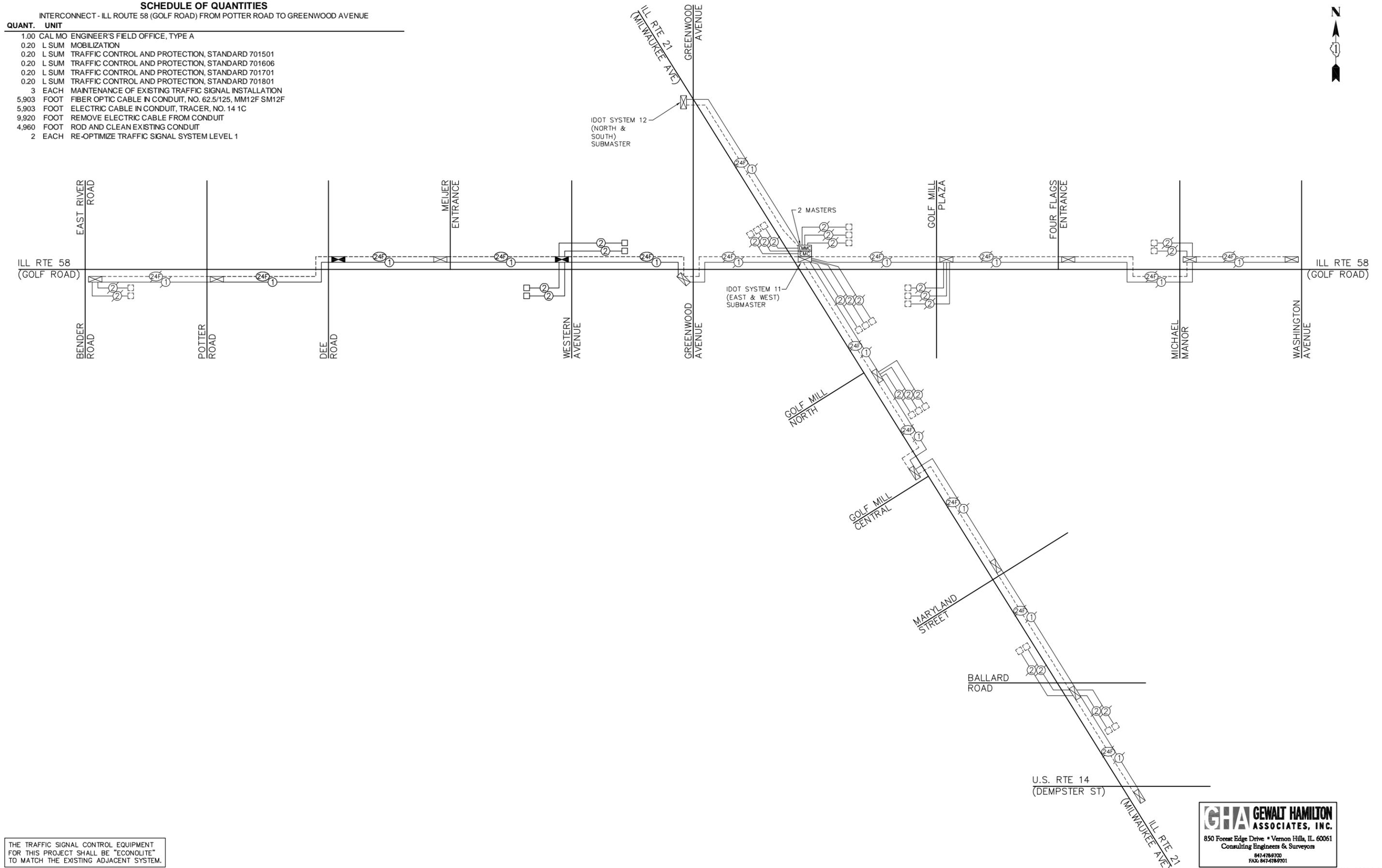
SCALE: 1"=50' SHEET NO. OF SHEETS STA. TO STA.

FAP. RTE. 339	SECTION 2011-211-TS	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 20
CONTRACT # 60R51			GHA #4085.879	
ILLINOIS FED. AID PROJECT				

**SCHEDULE OF QUANTITIES**

INTERCONNECT - ILL ROUTE 58 (GOLF ROAD) FROM POTTER ROAD TO GREENWOOD AVENUE

QUANT.	UNIT	DESCRIPTION
1.00	CAL MO	ENGINEER'S FIELD OFFICE, TYPE A
0.20	L SUM	MOBILIZATION
0.20	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501
0.20	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606
0.20	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701
0.20	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801
3	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
5,903	FOOT	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F
5,903	FOOT	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C
9,920	FOOT	REMOVE ELECTRIC CABLE FROM CONDUIT
4,960	FOOT	ROD AND CLEAN EXISTING CONDUIT
2	EACH	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 1



THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

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 850 Forest Edge Drive • Vernon Hills, IL 60061  
 Consulting Engineers & Surveyors  
 847-478-9100  
 FAX: 847-478-9701

GHA #4085.879

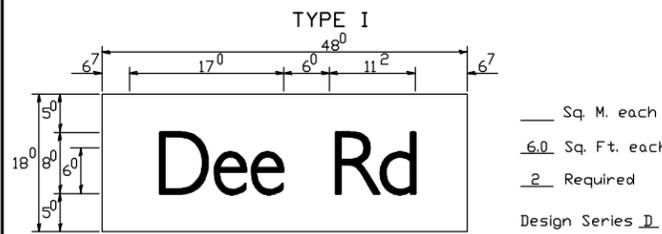
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	PLOT SCALE = 1" = .0833'	DRAWN - ZCW	REVISED -
	PLOT DATE = 2/1/2012	CHECKED - KLB	REVISED -
		DATE - 2/1/2012	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

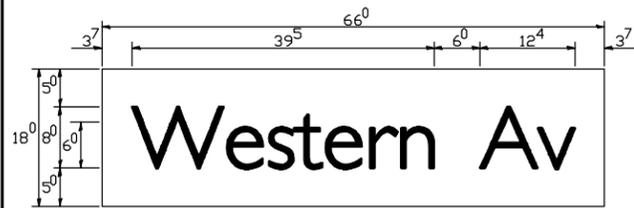
**INTERCONNECT SCHEMATIC - DOT SYSTEM 11 & 12**

SCALE: N.A.    SHEET NO.    OF    SHEETS    STA.    TO STA.

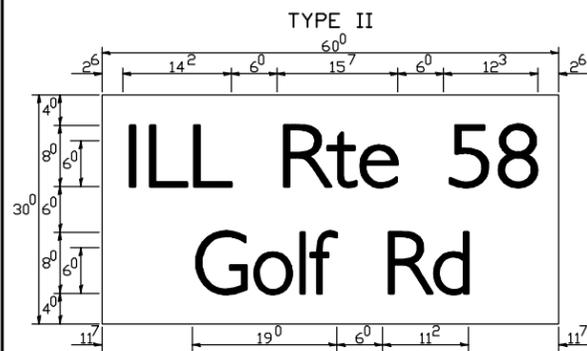
FAP. RTE. 339	SECTION 2011-211-TS	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 21
CONTRACT #			60R51	
ILLINOIS FED. AID PROJECT				



— Sq. M. each  
 6.0 Sq. Ft. each  
 2 Required  
 Design Series D

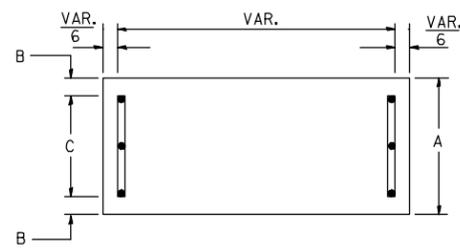


— Sq. M. each  
 8.25 Sq. Ft. each  
 2 Required  
 Design Series D

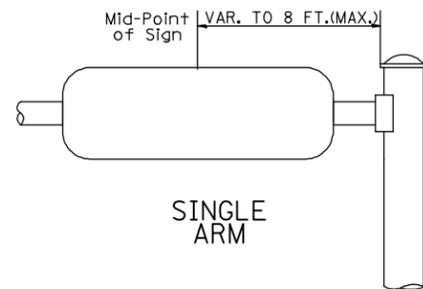


— Sq. M. each  
 12.5 Sq. Ft. each  
 4 Required  
 Design Series D

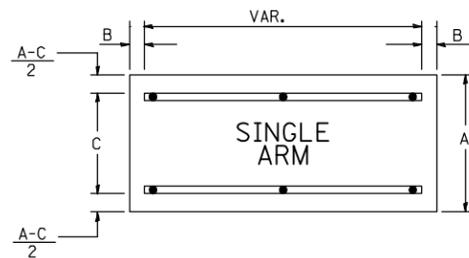
**SUPPORTING CHANNELS**



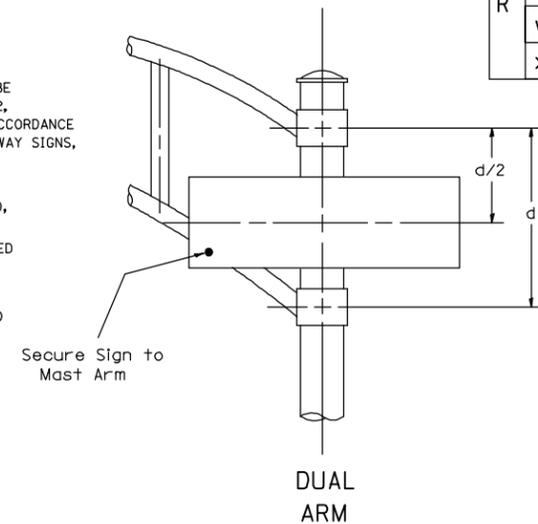
A	B	C
18"	2"	14"



**SUPPORTING CHANNELS**



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



**DUAL ARM**

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

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

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

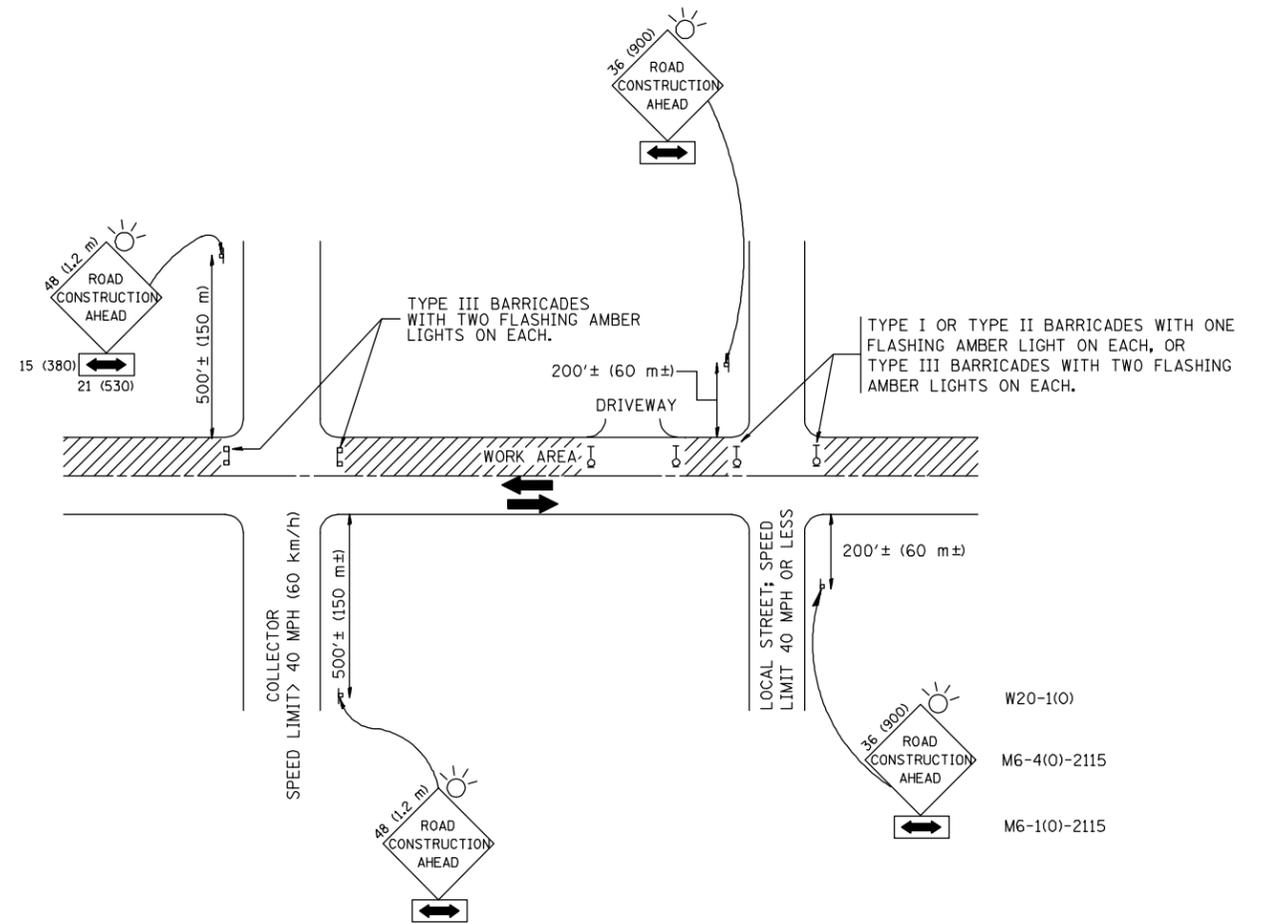
SERIES	SECOND LETTER															
	a c d e		b h i k l		f w		j		s t		v y		x		z	
	g o q	m n p r u														
ad h g i j	1 <sup>6</sup>	1 <sup>7</sup>	2 <sup>2</sup>	2 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>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

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

SERIES	SECOND NUMBER																			
	0		1		2		3		4		5		6		7		8		9	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
0 9	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>
1	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>0</sup>	2 <sup>1</sup>
2 3 4	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>
5	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>
6	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>4</sup>	1 <sup>5</sup>
7	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	0 <sup>5</sup>	0 <sup>6</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>1</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>
8	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>5</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>4</sup>	1 <sup>5</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>6</sup>	1 <sup>7</sup>	1 <sup>4</sup>	1 <sup>5</sup>

NUMBER	6 INCH SERIES		8 INCH SERIES	
	C	D	C	D
1	1 <sup>2</sup>	1 <sup>4</sup>	1 <sup>5</sup>	2 <sup>0</sup>
2	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
3	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
4	3 <sup>5</sup>	4 <sup>3</sup>	4 <sup>7</sup>	5 <sup>7</sup>
5	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
6	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
7	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
8	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
9	3 <sup>2</sup>	4 <sup>0</sup>	4 <sup>3</sup>	5 <sup>3</sup>
0	3 <sup>4</sup>	4 <sup>2</sup>	4 <sup>5</sup>	5 <sup>5</sup>

NOTE: SIGN DIMENSIONS



**NOTES:**

**A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS**

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

**B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:**

- USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.
- C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
  - D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

GHA #4085.879

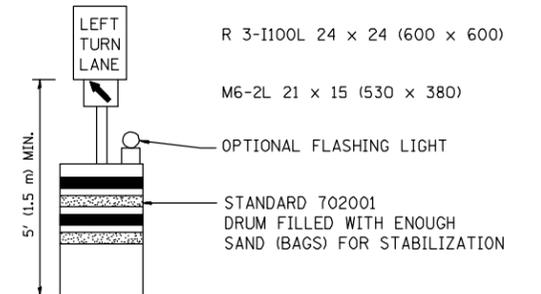
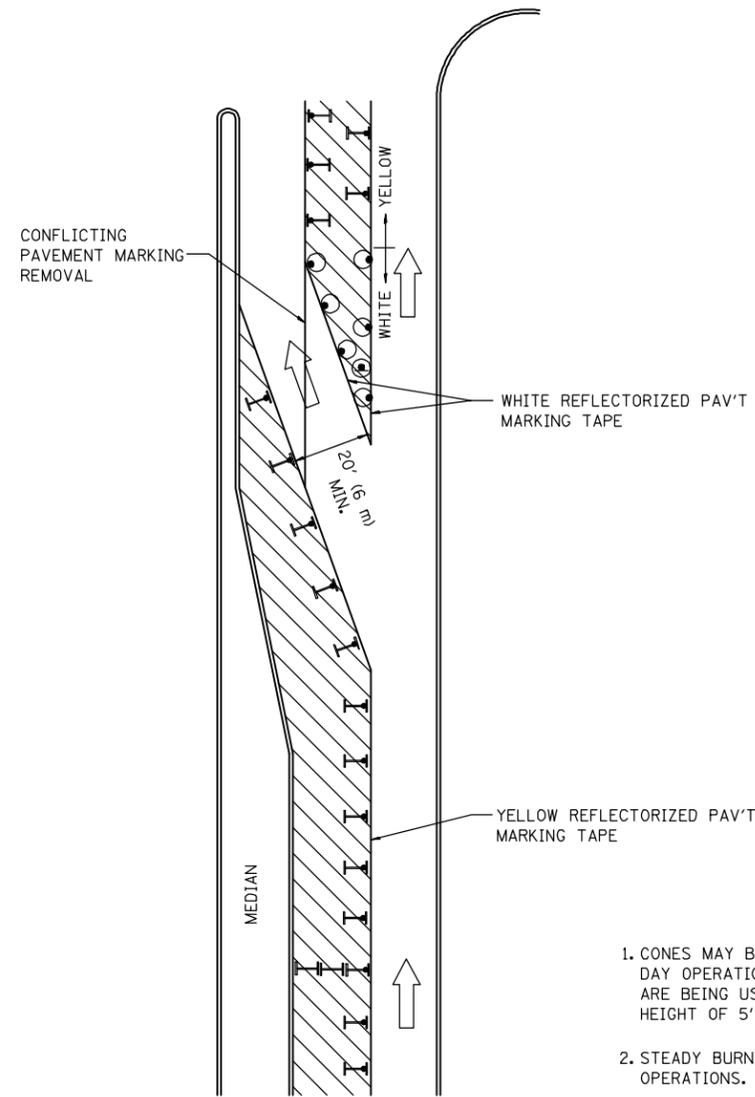
FILE NAME = 4085.879-TR1.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - LHA	REVISED - J. OBERLE 10-18-95
		DRAWN -	REVISED - A. HOUSEH 03-06-96
	PLOT SCALE = 1" = .0833'	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 2/1/2012	DATE - 06-89	REVISED - T. RAMMACH 01-06-00

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION FOR  
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

FAP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	2011-211-TS	COOK	26	23
<b>TC-10</b>			CONTRACT #: 60R51	
FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT				



**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.

**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

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

FILE NAME = 4085.879-TR1.dwg	USER NAME = ZACH WALLSTEN	REVISED - T. RAMMACHER 09-08-94	REVISED - R. BORO 09-14-09
		REVISED - A. HOUSEH 11-07-95	REVISED -
	PLOT SCALE = 1" = .0833'	REVISED - A. HOUSEH 10-12-96	REVISED -
	PLOT DATE = 2/1/2012	REVISED - T. RAMMACHER 01-06-00	REVISED -

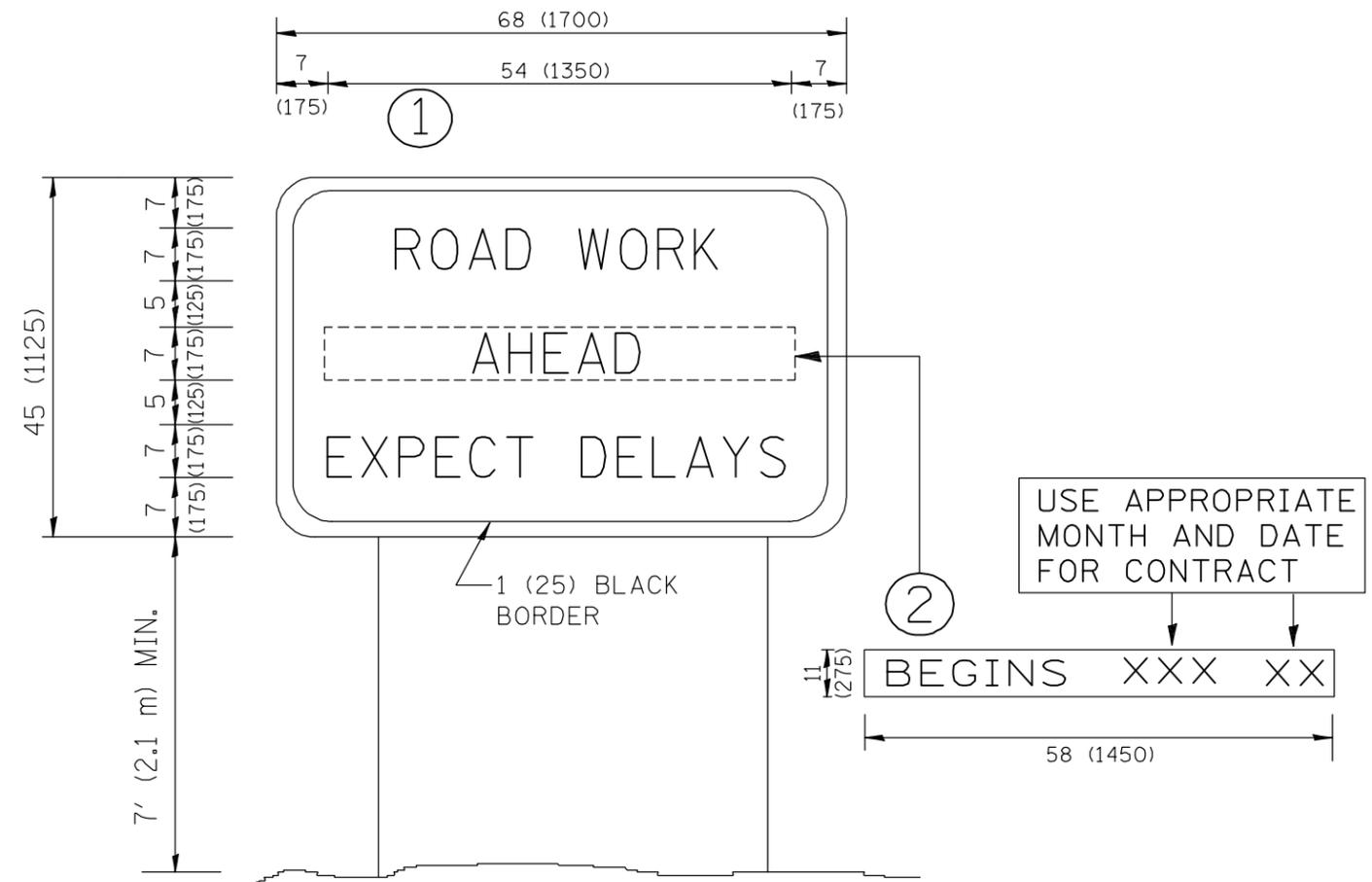
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

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

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

FAP. RTE. 339	SECTION 2011-211-TS	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 24
TC-14			CONTRACT # 60R51	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

GHA #4085.879



**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.

FILE NAME = 4085.879-TR1.dwg	USER NAME = ZACH WALLSTEN	DESIGNED -	REVISED - R. MIRS 09-15-97
		DRAWN -	REVISED - R. MIRS 12-11-97
	PLOT SCALE = 1" = .0833'	CHECKED -	REVISED - T. RAMMACHER 02-02-99
	PLOT DATE = 2/1/2012	DATE -	REVISED - C. JUCIUS 03-31-07

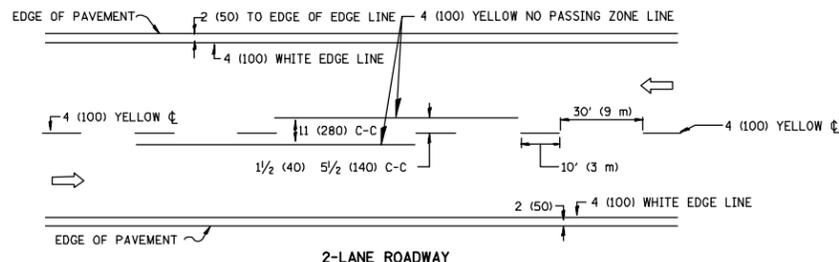
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**ARTERIAL ROAD  
INFORMATION SIGN**

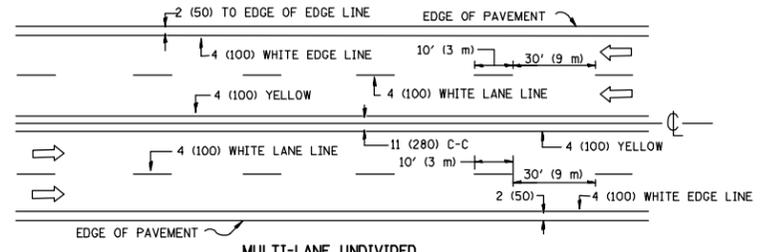
SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

FAP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
339	2011-211-TS	COOK	26	25
TC-22			CONTRACT #: 60R51	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

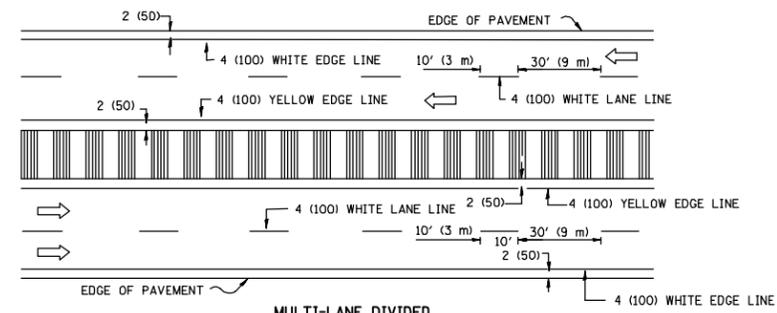
GHA #4085.879



2-LANE ROADWAY



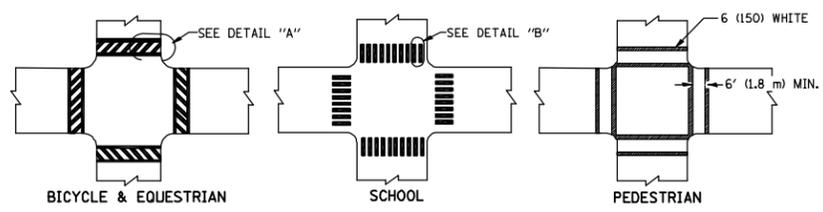
MULTI-LANE UNDIVIDED



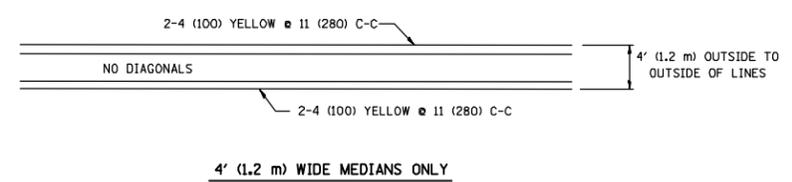
MULTI-LANE DIVIDED WITH MOUNTABLE MEDIAN

NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

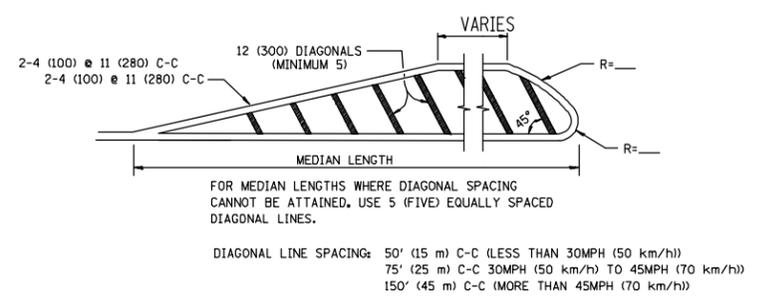
TYPICAL LANE AND EDGE LINE MARKING



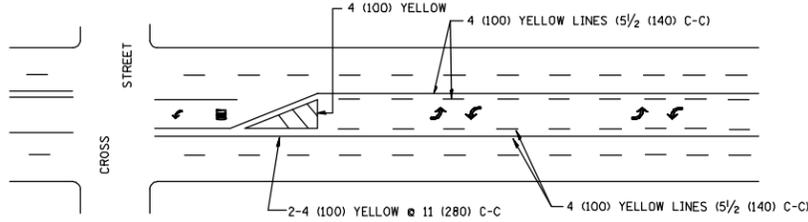
TYPICAL CROSSWALK MARKING



4' (1.2 m) WIDE MEDIANS ONLY



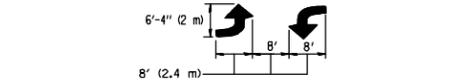
MEDIANS OVER 4' (1.2 m) WIDE



A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.

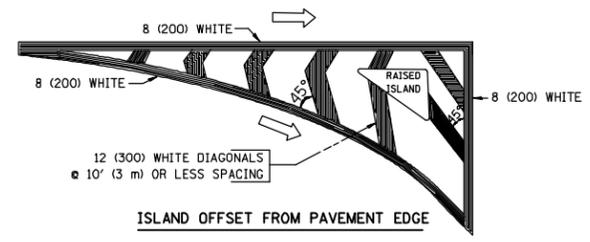
MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

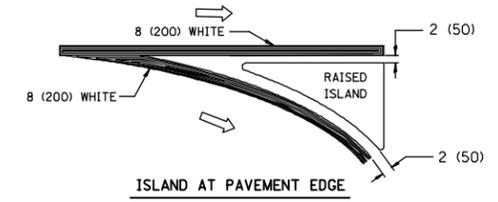


TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION	4 (100)	SOLID	YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE
NO PASSING ZONE LINES: FOR BOTH DIRECTIONS	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" 15' (4.5 m) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m <sup>2</sup> ) EACH "X"=54.0 SQ. FT. (5.0 m <sup>2</sup> )
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

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

TYPICAL PAVEMENT MARKINGS

FILE NAME = 4085.879-TR1.dwg	USER NAME = ZACH WALLSTEN	DESIGNED - EVERS	REVISED - T. RAMMACH 10-27-94
		DRAWN -	REVISED - C. JUCIUS 09-09-09
	PLOT SCALE = 1" = .0833'	CHECKED -	REVISED -
	PLOT DATE = 2/1/2012	DATE - 03-19-90	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE		FAP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TYPICAL PAVEMENT MARKINGS		339	2011-211-TS	COOK	26	26
SCALE: NONE		SHEET NO. 1 OF 1 SHEETS		CONTRACT #:		60R51
STA. TO STA.		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

GHA #4085.879