

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00257-00-TL	KANE	39	1

CONTRACT NO. 63105

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# PROPOSED PLANS FOR TRAFFIC SIGNAL INTERCONNECT

CONGESTION MITIGATION AIR QUALITY  
ROUTE: GALENA BOULEVARD  
FROM ORCHARD ROAD TO LOCUST STREET  
SECTION 05-00257-00-TL  
PROJECT NO. CMM-8003(926)  
KANE COUNTY  
JOB NO.: C-91-143-08

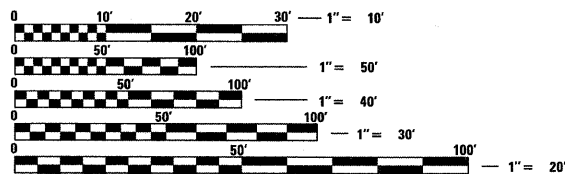


THIS IMPROVEMENT IS LOCATED  
IN THE CITY OF AURORA

HIGHWAY STANDARDS

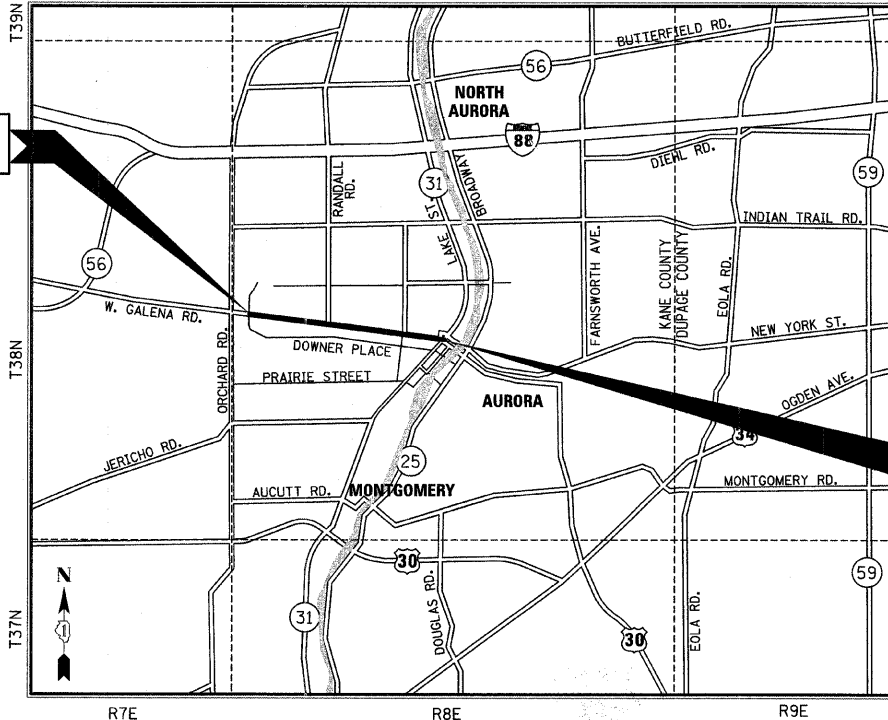
- 424001-05 CURB RAMPS FOR SIDEWALKS
- 701601-06 URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
- 701606-06 URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
- 701701-06 URBAN LANE CLOSURE, MULTILANE INTERSECTION
- 701801-04 LANE CLOSURE, MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE
- 701901-01 TRAFFIC CONTROL DEVICES
- 720016-02 MAST ARM MOUNTED STREET NAME SIGNS
- 814001-02 HANDHOLES
- 857001-01 STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
- 862001-01 UNINTERRUPTIBLE POWER SUPPLY (UPS)
- 873001-02 TRAFFIC SIGNAL GROUNDING & BONDING
- 877001-04 STEEL MAST ARM ASSEMBLY AND POLE 16' THROUGH 55'
- 878001-07 CONCRETE FOUNDATION DETAILS
- 880006-01 TRAFFIC SIGNAL MOUNTING DETAILS
- 886001-01 DETECTOR LOOP INSTALLATIONS
- 000001-05 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

J.U.L.I.E.  
JOINT UTILITY LOCATING INFORMATION FOR EXCAVATION  
1-800-892-0123 (CALL 48 HOURS IN ADVANCE)



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD  
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT  
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS  
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

BEGIN PROJECT  
(CONSTITUTION DRIVE)



END PROJECT  
(LOCUST STREET)

LOCATION MAP  
SCALE : N.T.S

EXISTING ADT (2006) = 12,800 - 14,900  
POSTED SPEED = 30 M.P.H.  
PROJECT GROSS LENGTH = 13,450 FEET = 2.55 MILES  
PROJECT NET LENGTH = 13,450 FEET = 2.55 MILES



Anthony P. Simmons 4/15/2009  
ANTHONY P. SIMMONS, P.E.  
NO. 062-058414  
EXPIRES: 11/30/09  
SEC GROUP, INC.

AGENCY RESPONSIBLE FOR LETTING

APPROVED APRIL 15 2009  
*E.J. Della*  
CITY OF AURORA, CITY TRAFFIC ENGINEER

PASSED APRIL 16 2009  
*C. J. O'Keefe*  
DISTRICT 1 ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID  
BASED ON LIMITED  
REVIEW APRIL 16, 2009  
*Diana M. O'Keefe*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION 1 ENGINEER

Illinois Professional Design Firm # 184-000108  
**SEC Group, Inc.**  
Engineering  
Surveying  
Planning  
Landscape Architecture  
McHenry • Yorkville • New Lenox • Chicago  
www.secgroupinc.com

**SUMMARY OF QUANTITIES**

CODE NUMBER	PAY ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	CONSTITUTION DRIVE	WAL-MART ENTRANCE	REIMERS DRIVE	EDGELAWN DRIVE	RANDALL ROAD	COMMONWEALTH DRIVE	ELMWOOD DRIVE	LANCASTER AVENUE	HIGHLAND AVENUE	VIEW STREET	LOCUST STREET	INTERCONNECT
42400300	PORTLAND CEMENT CONCRETE SIDEWALK 6 INCH	SQ FT	117	117											
42400800	DETECTABLE WARNINGS	SQ FT	16	16											
44000600	SIDEWALK REMOVAL	SQ FT	93	93											
67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	3												
67100100	MOBILIZATION	L SUM	1												
70101800	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1												
72000100	SIGN PANEL - TYPE 1	SQ FT	28.5										28.5		
78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	374	223			151								
81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	2834												2834
81000700	CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	58										58		
81001000	CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL	FOOT	65										65		
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	1582												1582
81018900	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	156										156		
81400100	HANDHOLE	EACH	10												10
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	2965				8						123		2834
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	11	1	1	1	1	1	1	1	1	1	1	1	
86400100	TRANSCIEVER - FIBER OPTIC	EACH	11												11
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	6338.5	905.5	359	673	549	336	455	474.5	461	1019	544.5	562	
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	9667	947.5	380	701	577	413	697.5	1058.5	1030	1643.5	1145	1074	
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1589.5										1589.5		
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	850.5										850.5		
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	5371.5	766.5			1520	767		786		719.5		812.5	
87502480	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	1										1		
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	3										3		
87700150	STEEL MAST ARM ASSEMBLY AND POLE, 22 FT.	EACH	2										2		
87700170	STEEL MAST ARM ASSEMBLY AND POLE, 26 FT.	EACH	1										1		
87700190	STEEL MAST ARM ASSEMBLY AND POLE, 30 FT.	EACH	1										1		
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	16										16		
87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	43.5										43.5		
87900200	DRILL EXISTING HANDHOLE	EACH	30										20		10
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	5										5		
88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	3										3		
88030210	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1										1		
88030240	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	3										3		
88102717	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	46	4	2	4	4	2	6	4	6	8		8	
88102747	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	10	1	1			1		2	1		4		
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	8										8		
88500100	INDUCTIVE LOOP DETECTOR	EACH	14	2			4	2		2		2		2	
88600100	DETECTOR LOOP, TYPE I	FOOT	138				138								
88800100	PEDESTRIAN PUSH-BUTTON	EACH	45	5	3	4	4	3	4	4	4	6	4	4	
89502205	MODIFY EXISTING CONTROLLER (SPECIAL)	EACH	11												11
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	24296.5	1088	846	1048	988	792	1394.5	2176	2040	3231	1583.5	1559	7550.5
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	11	1	1	1	1	1	1	1	1	1	1	1	

PLAN  
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 BY \_\_\_\_\_  
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 ALIGNMENT CHECKED \_\_\_\_\_  
 FILE NAME \_\_\_\_\_  
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PROFILE  
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 BY \_\_\_\_\_  
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 PLOTTED \_\_\_\_\_  
 GRADES CHECKED \_\_\_\_\_  
 STRUCTURE NOTATIONS CHKD \_\_\_\_\_  
 NO. \_\_\_\_\_

**SUMMARY OF QUANTITIES**

CODE NUMBER	PAY ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	CONSTITUTION DRIVE	WAL-MART ENTRANCE	REIMERS DRIVE	EDGELAWN DRIVE	RANDALL ROAD	COMMONWEALTH DRIVE	ELMWOOD DRIVE	LANCASTER AVENUE	HIGHLAND AVENUE	VIEW STREET	LOCUST STREET	INTERCONNECT
89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	8										8		
X0322925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	15305												15305
X0324007	OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	1												1
X0324232	PAINT NEW MAST ARM POLE, UNDER 40 FEET	EACH	4										4		
X8510300	PAINT TRAFFIC SIGNAL POST	EACH	4										4		
X8620020	UNINTERRUPTABLE POWER SUPPLY	EACH	11	1	1	1	1	1	1	1	1	1	1	1	
X8710020	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	FOOT	15305												15305
X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	3198.5	506.5	419.5	455	338.5	269.5	293.5	309.5	247.5		359		
X8950115	RELOCATE LIGHT DETECTOR	EACH	2										2		
XX006923	GROUND EXISTING HANDHOLE FRAME AND COVER	EACH	60	10	8	7	6	4	6	6	6		7		
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1												1
XX007987	SIGNAL HEAD, LED, 3-SECTION, BRACKET MOUNTED, RETROFIT	EACH	42	3	6	1	6	3	7	5	7	4			
XX007988	SIGNAL HEAD, LED, 3-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	15	3	2	2		1	2	1	2	2			
XX007989	SIGNAL HEAD, LED, 5-SECTION, BRACKET MOUNTED, RETROFIT	EACH	27	5	4	1	4	5	1	3	1	3			
XX007990	SIGNAL HEAD, LED, 5-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	24	5	4	2	3	2	1	3	1	3			
XX007991	CENTRALIZED TRANSPORTATION MANAGEMENT SYSTEM	L SUM	1												1
XX007992	TERMINAL SERVER	EACH	1												1
XX007992	ETHERNET SWITCH	EACH	1												1
XX007993	CENTRALIZED SYSTEM FIELD INTEGRATION / SETUP	L SUM	1												1
XX007994	FIBER OPTIC SPLICE	EACH	1												1
Δ Z0076600	TRAINEES	HOUR	500												

Δ Y080

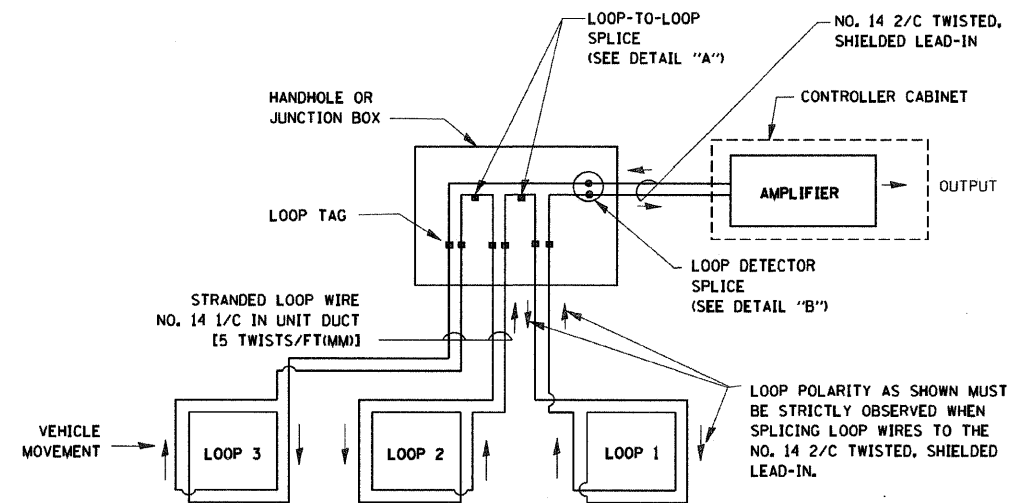
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REVISIONS	PLANNED
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ALIGNED	ALIGNED
CHECKED	CHECKED
FILE NAME	FILE NAME

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
STA. _____ TO STA. _____				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

**LOOP DETECTOR NOTES**

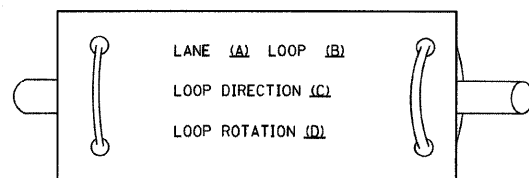
- EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
- THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED 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.
- 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.
- ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
- 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.
- 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.
- 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.



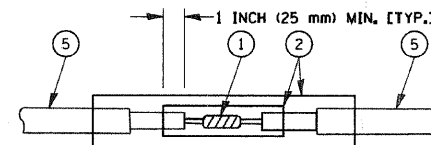
**DETECTOR LOOP WIRING SCHEMATIC**

- 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.

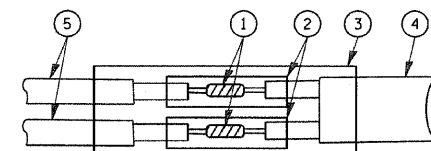
**LOOP LEAD-IN CABLE TAG**



- 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.



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



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

**LOOP DETECTOR SPLICE**

- WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- NO. 14 2/C TWISTED, SHIELDED CABLE.
- LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

REVISIONS	
NAME	DATE
CADD	5/30/00
ADD NOTE NO. 8	11/12/01
BUREAU OF TRAFFIC	1-01-02

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL  
DESIGN DETAILS**

SCALE: NONE  
DATE: 2/15/2006

DRAWN BY: RWP  
DESIGNED BY: DAD  
CHECKED BY: DAZ  
SHEET 1 OF 4

TS05  
REVISION DATE: 01/01/02

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signal\870590.01 euro galena blvd traffic	DRAWN =	CHECKED = APS	REVISED =
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE  
STANDARD TRAFFIC SIGNALS  
DESIGN DETAILS

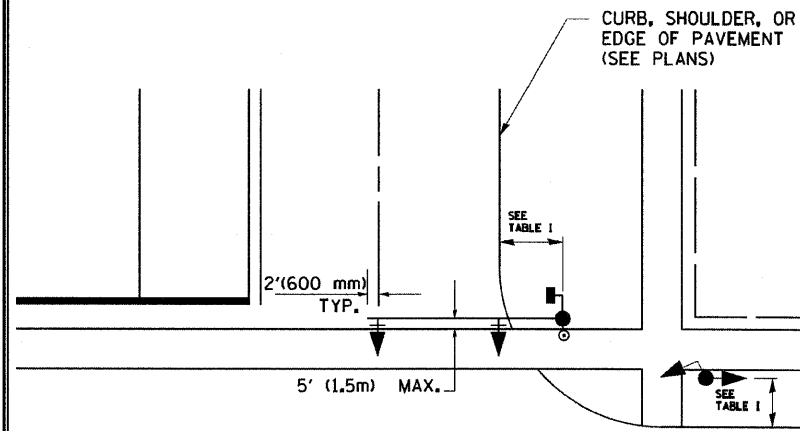
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00257-00-TL	KANE	39	4
CONTRACT NO. 63105			ILLINOIS FED. AID PROJECT	

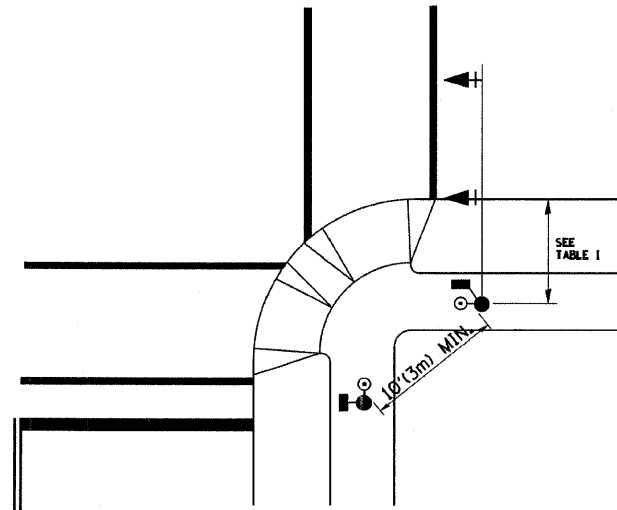
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

**TRAFFIC SIGNAL MAST ARM AND POST**

MAST ARM MOUNTED SIGNAL IN PROPOSED & FUTURE SIDEWALK AREA, INTERSECTION SHOWN WITH PEDESTRIAN SIGNAL AND PUSHBUTTON DETECTOR



**PEDESTRIAN SIGNAL PUSHBUTTON**



RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

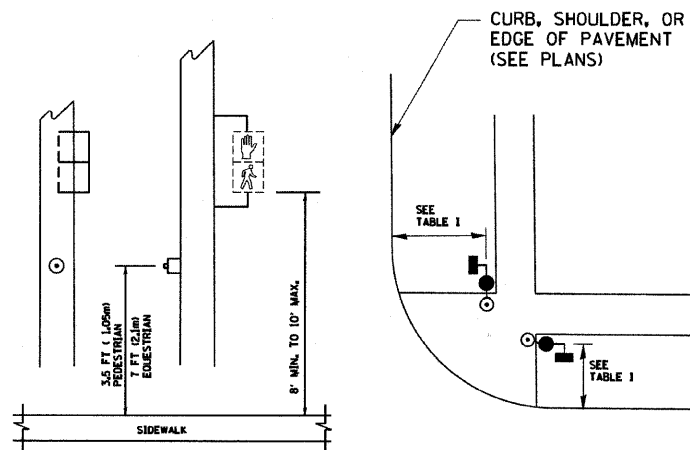
**NOTES:**

- AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS WITH PEDESTRIAN ACTUATION, EACH PUSHBUTTON SHALL ACTIVATE BOTH THE WALK INTERVAL AND THE ACCESSIBLE PEDESTRIAN SIGNALS.  
 AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS, PUSHBUTTONS SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSHBUTTON. PUSHBUTTONS AND TACTILE ARROWS SHOULD HAVE HIGH VISUAL CONTRAST (SEE THE DEPARTMENT OF JUSTICE'S AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN, 1991). TACTILE ARROWS SHOULD POINT IN THE SAME DIRECTION AS THE ASSOCIATED CROSSWALK. AT CORNERS OF SIGNALIZED LOCATIONS WITH ACCESSIBLE PEDESTRIAN SIGNALS WHERE PEDESTRIAN PUSHBUTTONS ARE PROVIDED, THE PUSHBUTTONS SHOULD BE SEPARATED BY THE DISTANCE OF AT LEAST 10 FT (3m). THIS ENABLES PEDESTRIANS WHO HAVE VISUAL DISABILITIES TO DISTINGUISH AND LOCATE THE APPROPRIATE PUSHBUTTON.  
 PUSHBUTTONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHOULD BE LOCATED AS FOLLOWS:  
 A: ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS AN ALL WEATHER SURFACE, WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.  
 B: WITHIN 5 FT (1.5m) OF THE CROSSWALK EXTENDED.  
 C: WITHIN 10 FT (3m) OF THE EDGE OF CURB, SHOULDER, OR PAVEMENT.  
 D: PARALLEL TO THE CROSSWALK TO BE USED (SEE MUTCD FIGURE 4E-2).  
 E: NORMAL PEDESTRIAN PUSHBUTTON MOUNTING HEIGHT SHOULD BE 3.5 FT (1.05m) ABOVE ADJACENT SIDEWALK.
- PEDESTRIAN SIGNAL FACES SHALL BE MOUNTED WITH THE BOTTOM OF THE HOUSING NOT LESS THAN 8 FT (2.4m) NOR MORE THAN 10 FT (3.0m) ABOVE THE SIDEWALK LEVEL AND SO THERE IS A PEDESTRIAN INDICATION IN THE LINE OF PEDESTRIANS' VISION WHICH PERTAINS TO THE CROSSWALK BEING USED.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, NOT MOUNTED OVER A ROADWAY, SHALL BE AT LEAST 10 FT (3.0m) BUT NOT MORE THAN 15 FT (4.5m) ABOVE THE SIDEWALK OR, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALKS EXIST.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, MOUNTED OVER A ROADWAY, SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001 AND 877006. (16 FT (5m) MIN., 18 FT (5.5m) MAX., FROM HIGHEST POINT OF PAVEMENT)

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**PEDESTRIAN SIGNAL POST**

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION



**TABLE I**

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MIN. DIST. FROM BACK OF CURB)	SHOULDER/NON-CURBED AREA (MIN. DIST. FROM EDGE OF PAVEMENT)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)
PEDESTRIAN PUSHBUTTON	SEE NOTE 1	SEE NOTE 1

DATE	
BY	
REVISIONS	
NOTED	
GRADES CHECKED	
STRUCTURE	
NOTATING OFFICER	
PROFILE	
NOTE BOOK	
NO.	

REVISIONS	
NAME	DATE
BUREAU OF TRAFFIC	1/01/02

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DISTRICT 1**  
**STANDARD TRAFFIC SIGNAL**  
**DESIGN DETAILS**

SCALE: NONE  
 DATE: 1/17/2007  
 DRAWN BY: RWP  
 DESIGNED BY: DAD  
 CHECKED BY: DAZ  
 SHEET 2 OF 4

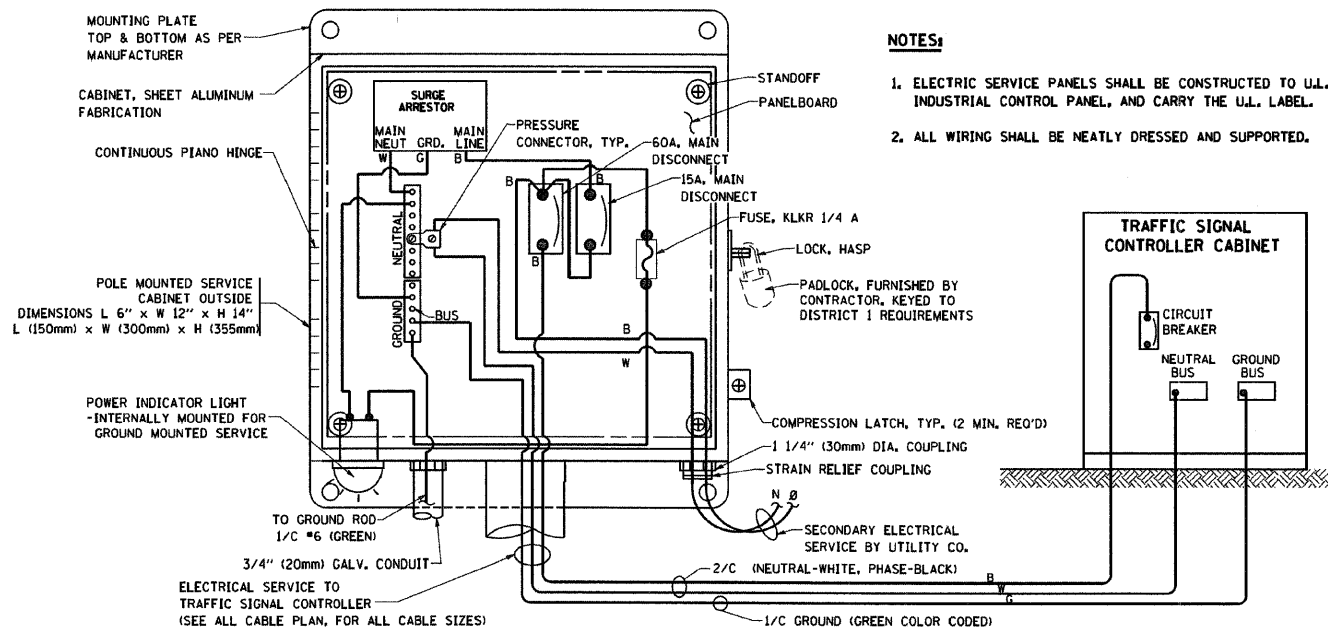
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		CHECKED APS	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

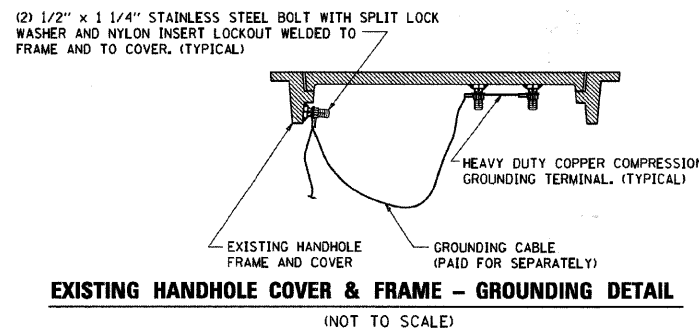
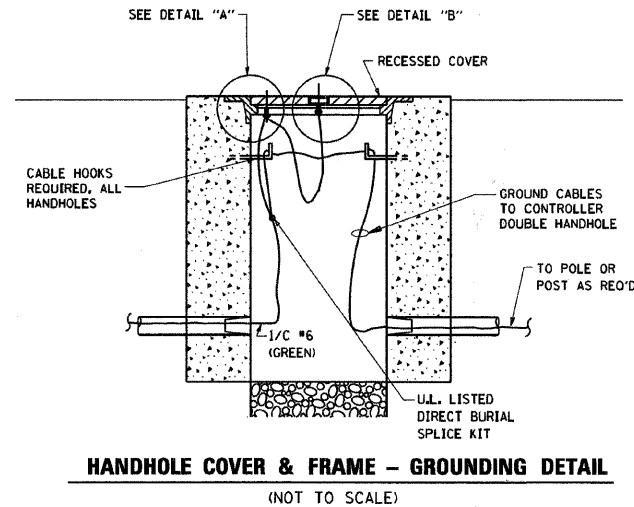
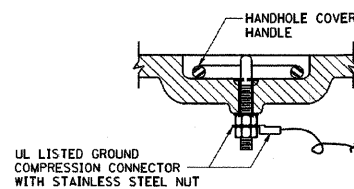
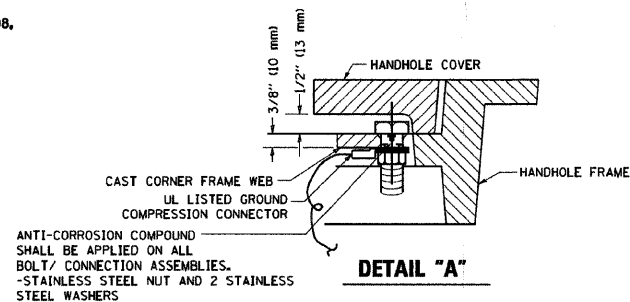
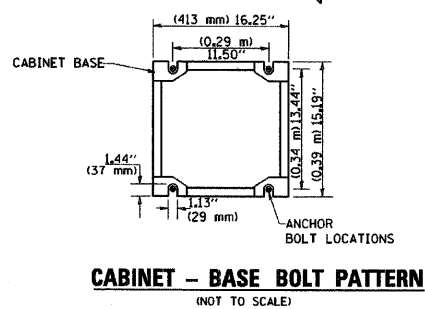
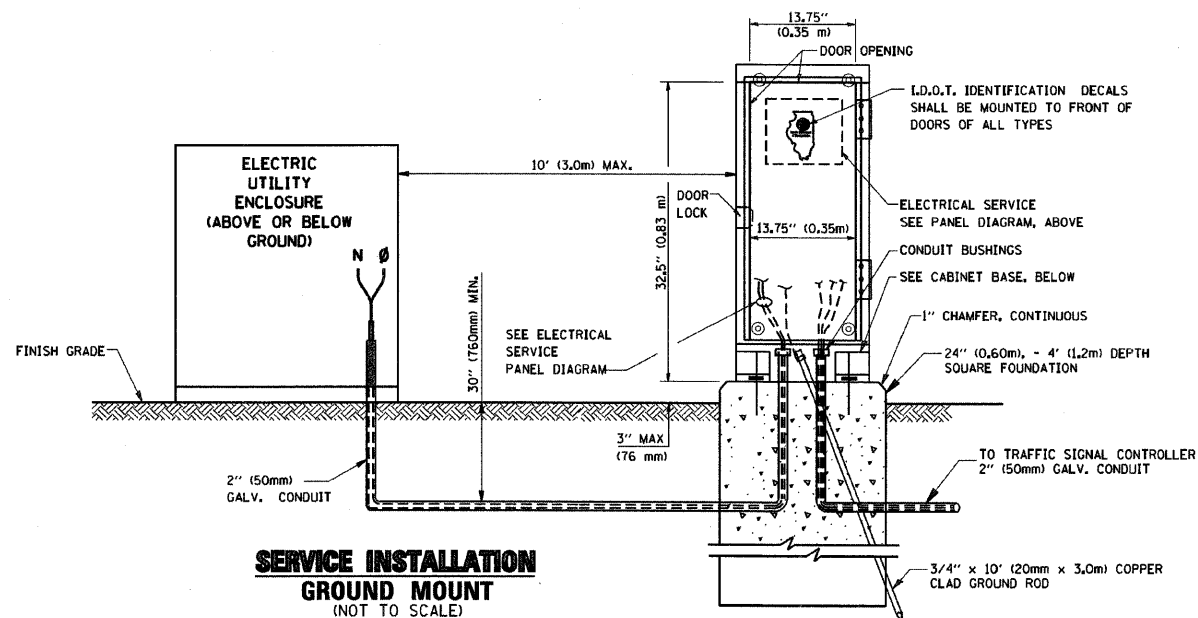
<b>DISTRICT ONE</b>			
<b>STANDARD TRAFFIC SIGNALS</b>			
<b>DESIGN DETAILS</b>			
SCALE:	SHEET NO.	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00257-00-TL	KANE	39	5
CONTRACT NO.			63105	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

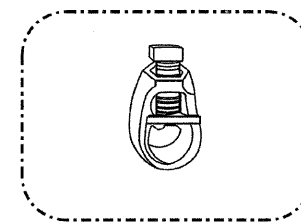
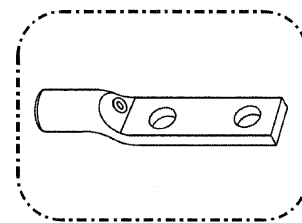


**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
 (NOT TO SCALE)



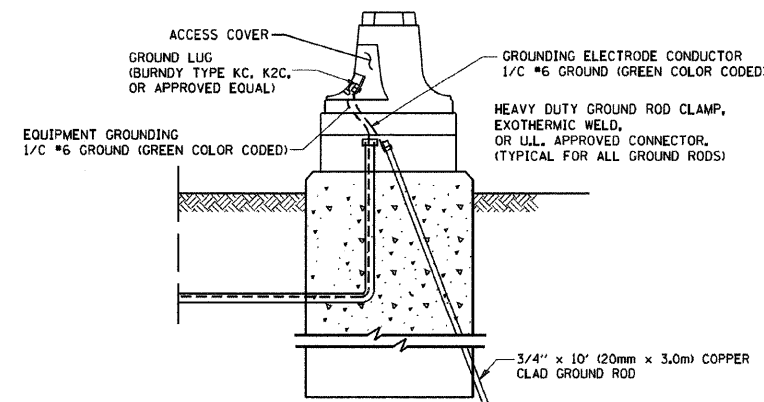
**GROUNDING SYSTEM**

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



**NOTES:**

- ALL CLAMPS SHALL BE BRONZE OR COPPER, U.L. 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.



REVISIONS		
NAME	DATE	
CADD	5/30/00	
CADD	3/15/01	
BUREAU OF TRAFFIC	1/01/02	

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DISTRICT ONE**  
**STANDARD TRAFFIC SIGNAL**  
**DESIGN DETAILS**

SCALE: NONE  
 DATE: 2/15/2006

DRAWN BY: RWP  
 DESIGNED BY: DAD  
 CHECKED BY: DAZ  
 SHEET 3 OF 4

TS05  
 REVISION DATE: 01/01/02

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	PLOT DATE = 4/15/2009	DATE -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

DISTRICT ONE  
 STANDARD TRAFFIC SIGNALS  
 DESIGN DETAILS

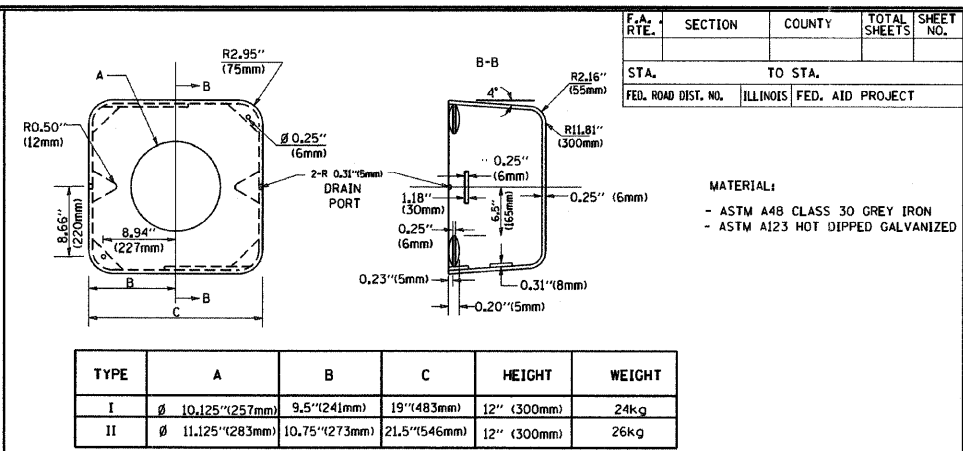
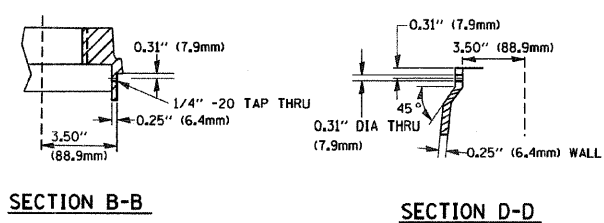
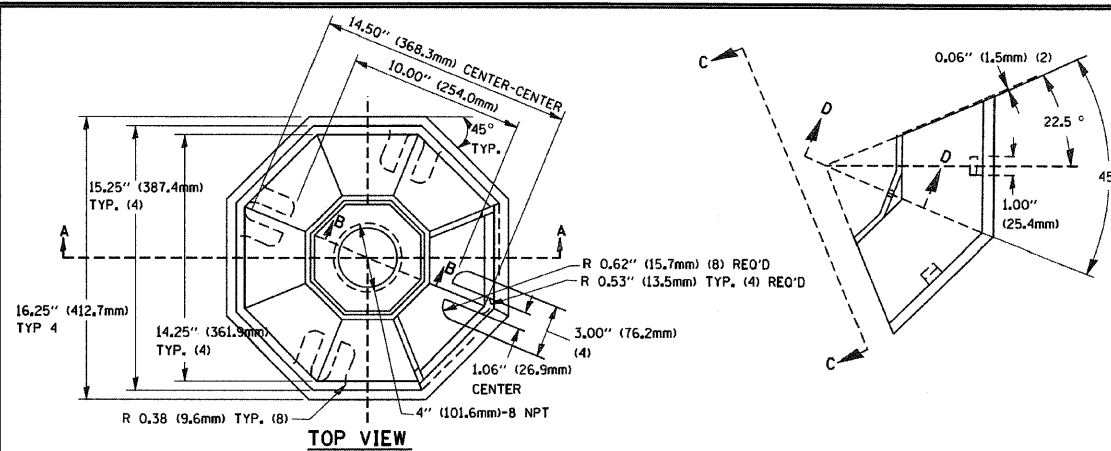
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00257-00-TL	KANE	39	6
				CONTRACT NO. 63105
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN	BY	DATE
REVISIONS		
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ALIGNED		
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PROFILE	BY	DATE
REVISIONS		
NOTED		
GRADES CHECKED		
STRUCTURE NOTATIONS CH'D		
DATE		
FILE NAME		

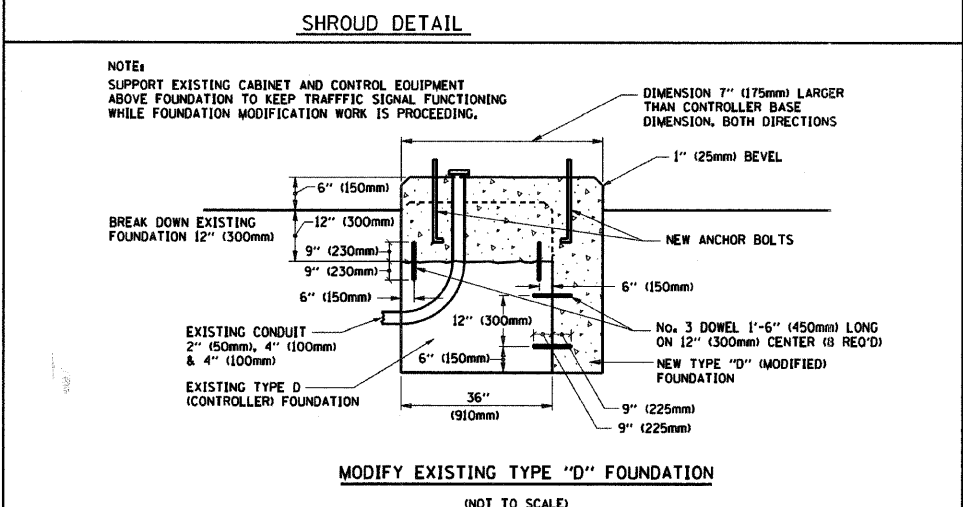
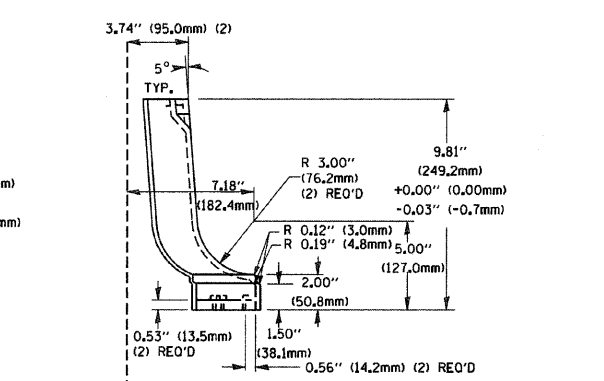
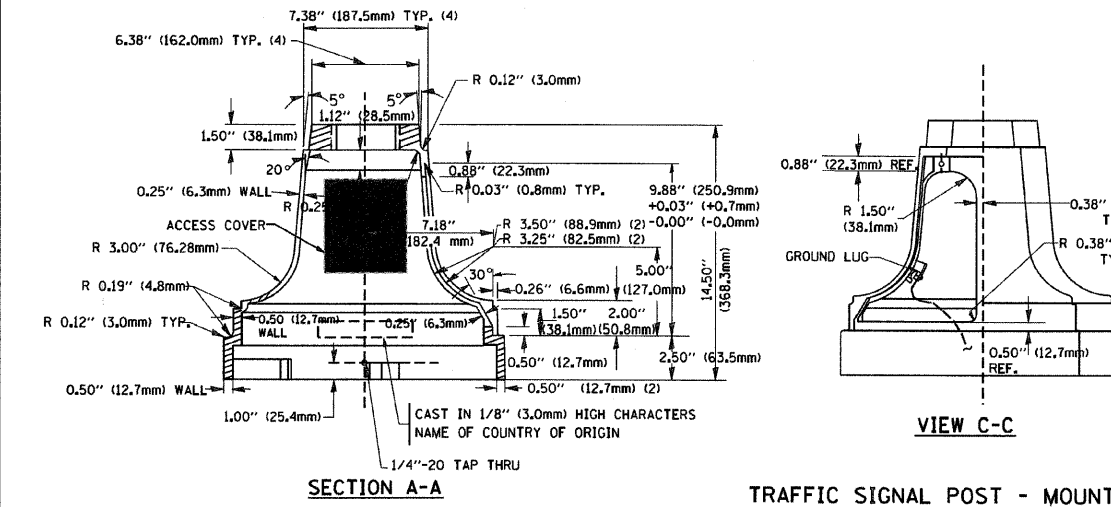
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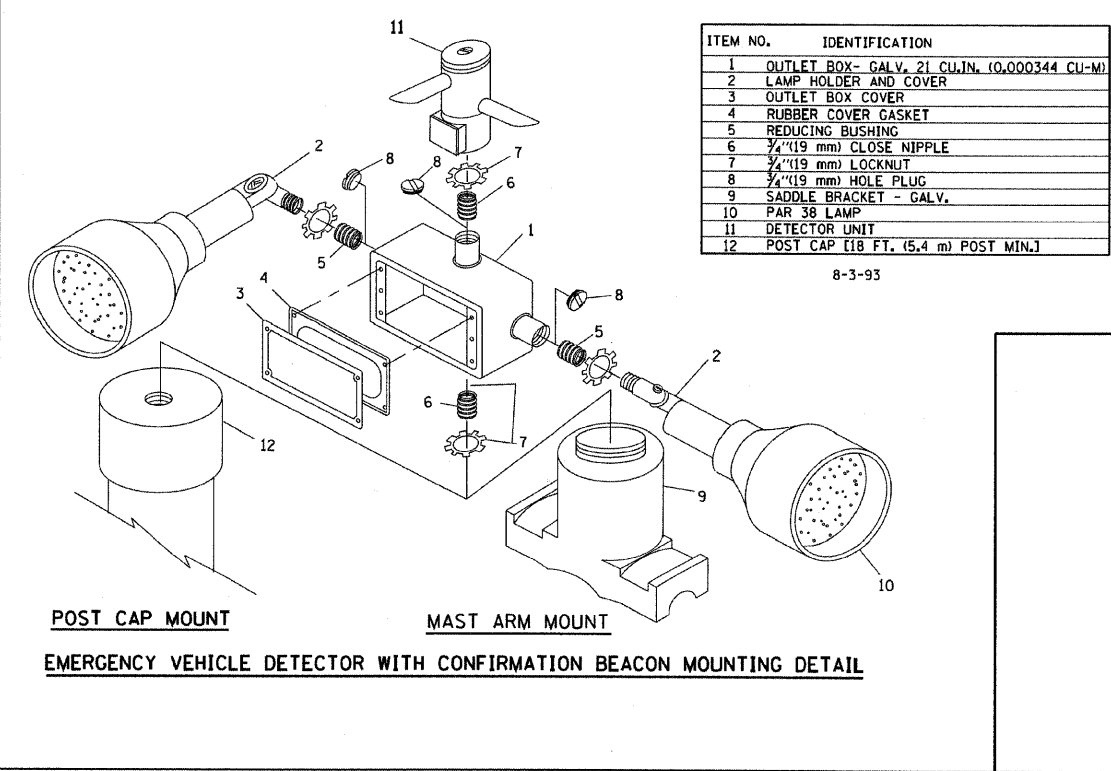


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

MATERIAL:  
 - ASTM A48 CLASS 30 GREY IRON  
 - ASTM A123 HOT DIPPED GALVANIZED

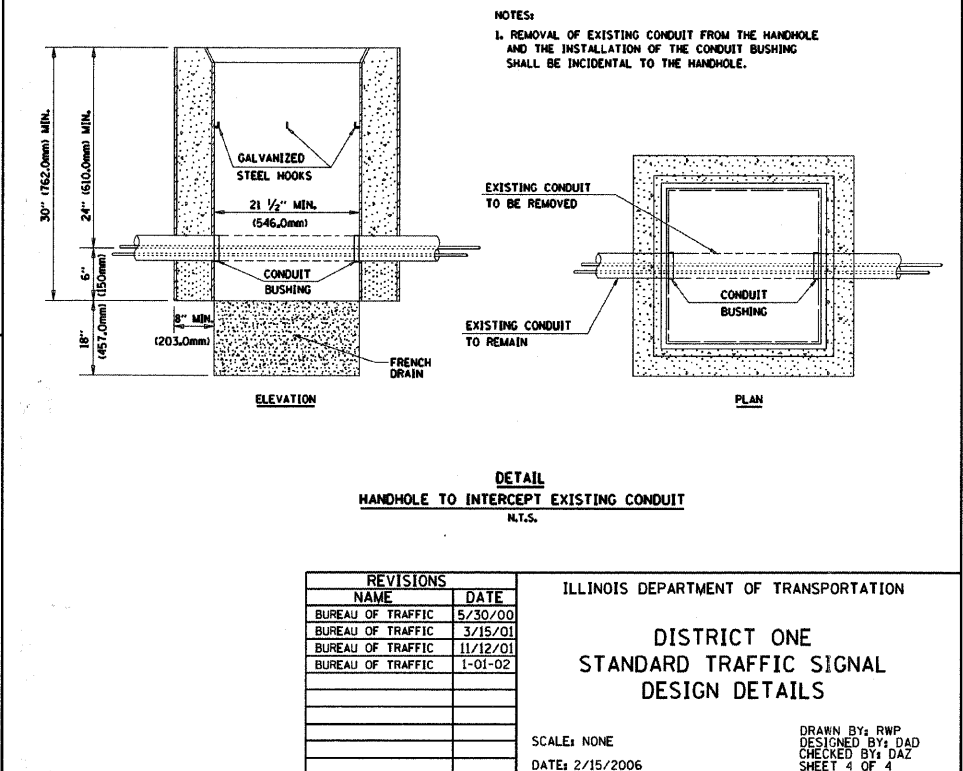
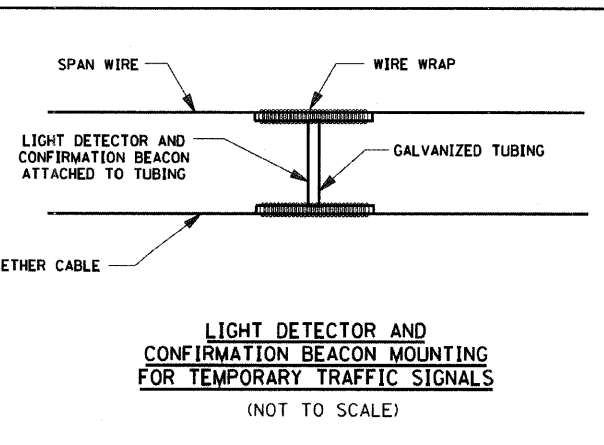


NOTE:  
 SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



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.



REVISIONS	NAME	DATE
	BUREAU OF TRAFFIC	5/30/00
	BUREAU OF TRAFFIC	3/15/01
	BUREAU OF TRAFFIC	11/12/01
	BUREAU OF TRAFFIC	1-01-02

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DISTRICT ONE**  
 STANDARD TRAFFIC SIGNAL  
 DESIGN DETAILS

SCALE: NONE  
 DATE: 2/15/2006

DRAWN BY: RWP  
 DESIGNED BY: DAD  
 CHECKED BY: DAZ  
 SHEET 4 OF 4

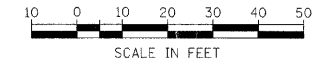
TS05  
 REVISION DATE: 01/01/02

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	PLOT SCALE = #SCALE#	CHECKED APS	REVISED -
	PLOT DATE = 4/15/2009	DATE -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

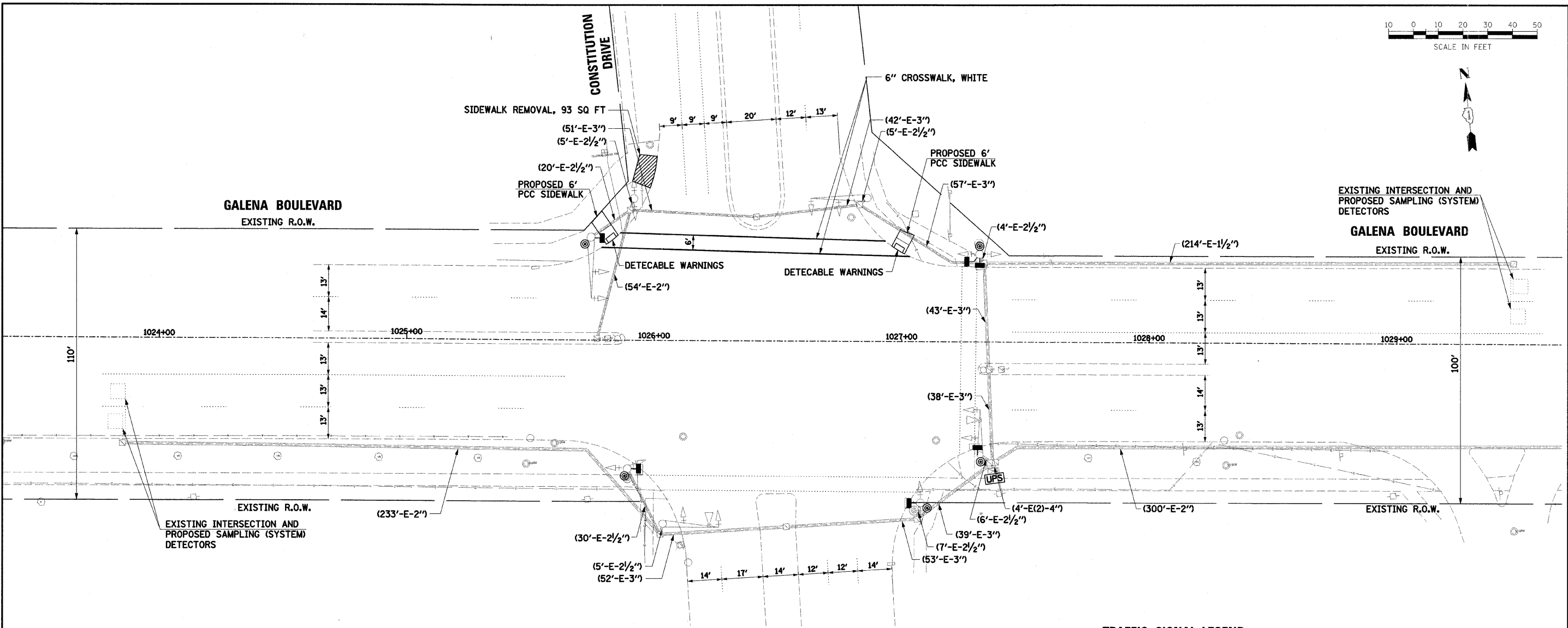
DISTRICT ONE  
 STANDARD TRAFFIC SIGNALS  
 DESIGN DETAILS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00257-00-TL	KANE	39	7
CONTRACT NO. 63105				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



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

- 4 EACH PEDESTRIAN SIGNAL HEADS
- 4 EACH PEDESTRIAN PUSH BUTTONS

**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, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

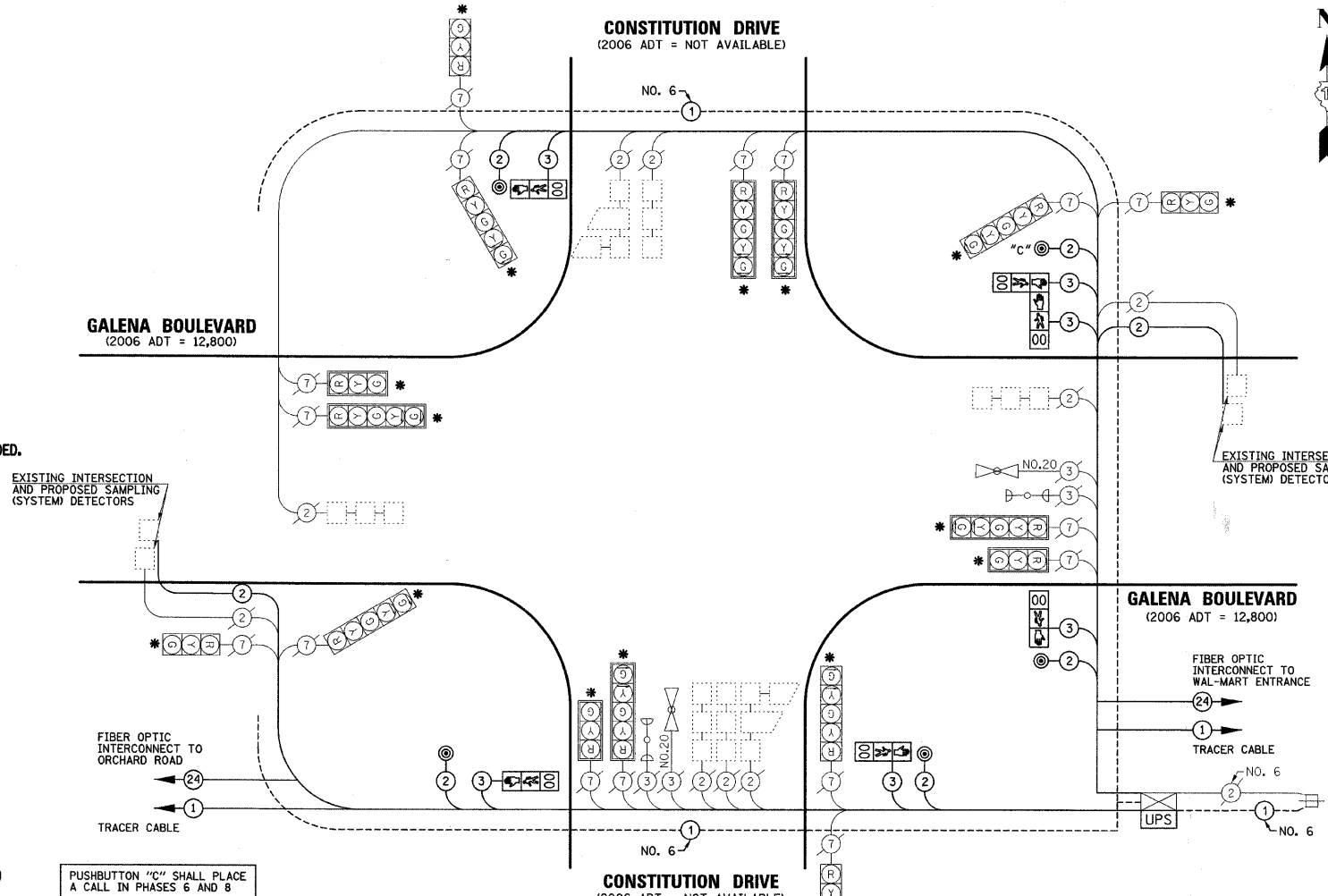
**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER			DETECTOR LOOP		
SERVICE INSTALLATION			CAST IRON JUNCTION BOX		
SIGNAL HEAD			EMERGENCY VEHICLE LIGHT DETECTOR		
SIGNAL HEAD WITH BACKPLATE			CONFIRMATION BEACON		
SIGNAL HEAD, PEDESTRIAN			SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL POST			CONDUIT SPLICE		
MAST ARM ASSEMBLY AND POLE, STEEL			WOOD POLE		
MAST ARM ASSEMBLY AND POLE, ALUMINUM			RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE			VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
UNIT DUCT	UD		RAILROAD CONTROL CABINET		
COMMON TRENCH	CT		TELEPHONE CONNECTION		
HANDHOLE			ILLUMINATED SIGN "NO LEFT TURN"		
HEAVY DUTY HANDHOLE			ILLUMINATED SIGN "NO RIGHT TURN"		
DOUBLE HANDHOLE			UNINTERRUPTABLE POWER SUPPLY	UPS	UPS
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)			VIDEO DETECTION CAMERA		
PEDESTRIAN PUSHBUTTON DETECTOR			VIDEO DETECTION AREA		



**CABLE PLAN LEGEND**

EXISTING	PROPOSED	DESCRIPTION
		8" (200mm) TRAFFIC SIGNAL SECTION
		12" (300mm) TRAFFIC SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
		TELEPHONE INSTALLATION
		VEHICLE DETECTOR, INDUCTION LOOP
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
		LUMINAIRE
		DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
		GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
		FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SMI2F
		SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD.
		RAILROAD CONTROL CABINET
		ILLUMINATED SIGN "NO LEFT TURN"
		ILLUMINATED SIGN "NO RIGHT TURN"
		WIRELESS ANTENNA
		GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C)
		GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
		GROUND ROD AT ELECTRIC SERVICE INSTALLATION
		UNINTERRUPTABLE POWER SUPPLY
		LED STREET NAME SIGN
		VIDEO DETECTION CAMERA



**SCHEDULE OF QUANTITIES**

PAY ITEM DESCRIPTION	UNIT	CONSTITUTION DRIVE
PORTLAND CEMENT CONCRETE SIDEWALK 6 INCH	SQ FT	117
DETECTABLE WARNINGS	SQ FT	16
SIDEWALK REMOVAL	SQ FT	83
THERMOPLASTIC PAVEMENT MARKING - LINE 8"	FOOT	223
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	905.5
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	947.5
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	786.5
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4
PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	1
INDUCTIVE LOOP DETECTOR	EACH	2
PEDESTRIAN PUSH-BUTTON	EACH	5
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	1088
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
UNINTERRUPTABLE POWER SUPPLY	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	506.5
GROUND EXISTING HANDHOLE FRAME AND COVER	EACH	10
SIGNAL HEAD, LED, 3-SECTION, BRACKET MOUNTED, RETROFIT	EACH	3
SIGNAL HEAD, LED, 3-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	3
SIGNAL HEAD, LED, 5-SECTION, BRACKET MOUNTED, RETROFIT	EACH	5
SIGNAL HEAD, LED, 5-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	5

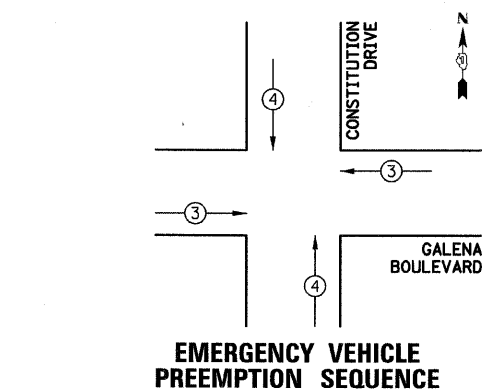
\* SIGNAL HEAD, LED RETROFIT

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

TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16		17	0.50	136
(YELLOW)	16		25	0.25	100
(GREEN)	16		15	0.25	60
ARROW	20		12	0.10	24
PED. SIGNAL	6		25	1.00	150
CONTROLLER	1		100	1.00	100
UPS	1		25	1.00	25
<b>TOTAL =</b>					<b>595</b>

ENERGY COSTS TO: CITY OF AURORA  
44 E. DOWNER PLACE  
AURORA, ILLINOIS 60507-2067

ENERGY SUPPLY CONTACT: MARK SCHERIBEL  
PHONE: (630) 723-2128  
COMPANY: COMMONWEALTH EDISON

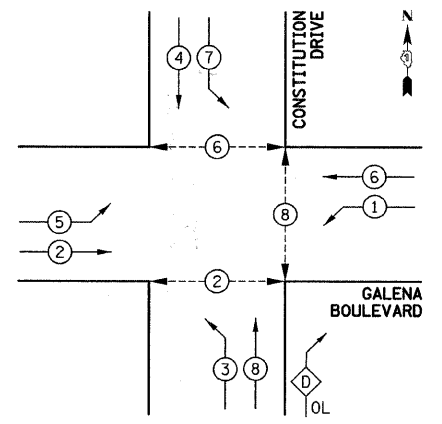


**PROPOSED EMERGENCY VEHICLE PREEMPTORS**

PROPOSED EMERGENCY VEHICLE PREEMPTORS	3	4
MOVEMENT		

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
C - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'-H-2=(6m+H-0.6m)
D - CONTROLLER	4 (1.2)	SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
E - M.A. LENGTH		CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
<30'	30" (900mm)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
<40'	30" (750mm)	ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
<40'	36" (900mm)	GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)
<50'	36" (900mm)				
>50'	36" (900mm)				

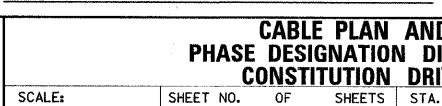
**CONTROLLER SEQUENCE**



**CONTROLLER SEQUENCE LEGEND**

	DUAL ENTRY PHASE
	SINGLE ENTRY PHASE
	OVERLAP
	NUMBER REFERRING TO ASSOCIATED PHASE
	PEDESTRIAN PHASE

**PHASE DESIGNATION DIAGRAM**



DATE: \_\_\_\_\_ BY: \_\_\_\_\_

PLAN SURVEYED \_\_\_\_\_ GRADES CHECKED \_\_\_\_\_

NOTE BOOK \_\_\_\_\_ ALIGNMENT CHECKED \_\_\_\_\_

NO. \_\_\_\_\_ STRUCTURE NOTATIONS CHECKED \_\_\_\_\_

DATE: \_\_\_\_\_ BY: \_\_\_\_\_

PROFILE SURVEYED \_\_\_\_\_ GRADES CHECKED \_\_\_\_\_

NOTE BOOK \_\_\_\_\_ STRUCTURE NOTATIONS CHECKED \_\_\_\_\_

NO. \_\_\_\_\_

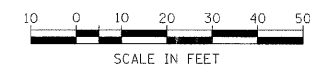
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	PLOT SCALE = #SCALE#	CHECKED APS	REVISED -
	PLOT DATE = 4/15/2009	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**CABLE PLAN AND PHASE DESIGNATION DIAGRAM CONSTITUTION DRIVE**

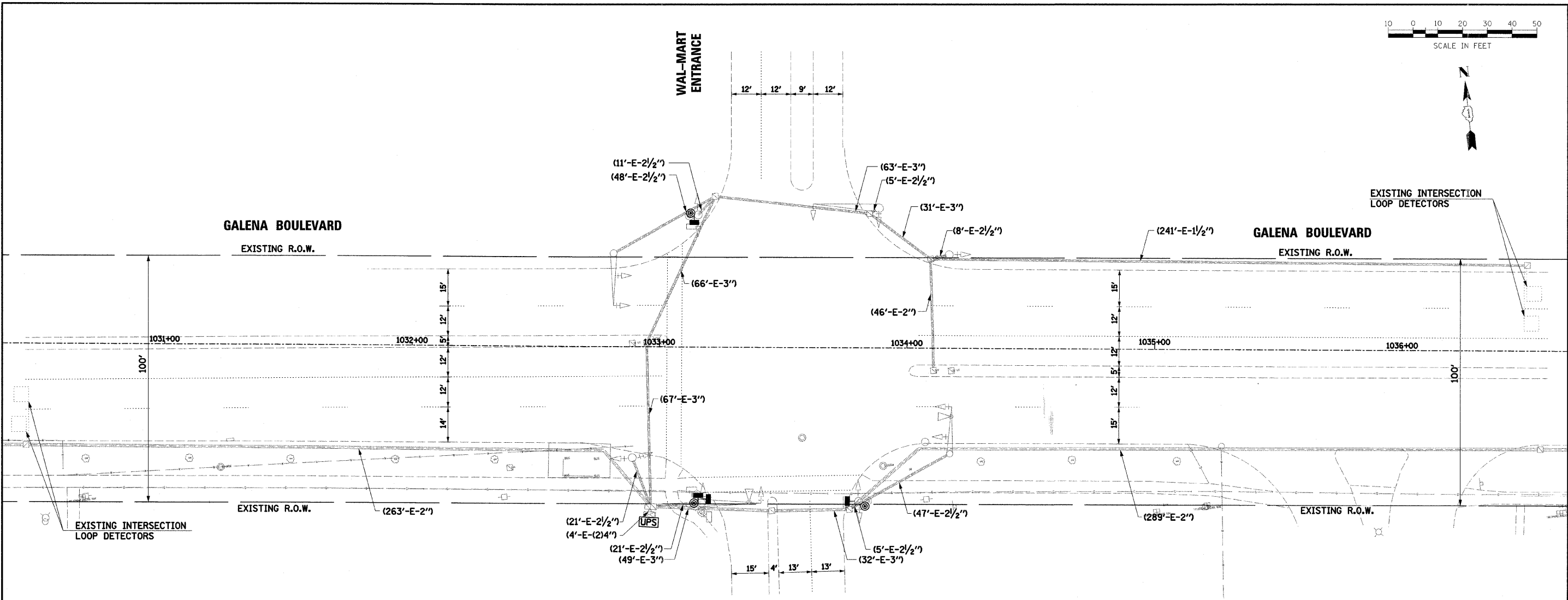
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00257-00-TL	KANE	39	9
CONTRACT NO. 63105				
FED. ROAD DIST. NO. _____ ILLINOIS FED. AID PROJECT				



DATE	
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DESCRIPTION	
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DESCRIPTION	
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REVISIONS	
NO.	
DESCRIPTION	



**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER			DETECTOR LOOP		
SERVICE INSTALLATION			CAST IRON JUNCTION BOX		
SIGNAL HEAD			EMERGENCY VEHICLE LIGHT DETECTOR		
SIGNAL HEAD WITH BACKPLATE			CONFIRMATION BEACON		
SIGNAL HEAD, PEDESTRIAN			SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL POST			CONDUIT SPLICE		
MAST ARM ASSEMBLY AND POLE, STEEL			WOOD POLE		
MAST ARM ASSEMBLY AND POLE, ALUMINUM			RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE			VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
UNIT DUCT	UD		RAILROAD CONTROL CABINET		
COMMON TRENCH	CT		TELEPHONE CONNECTION		
HANDHOLE			ILLUMINATED SIGN "NO LEFT TURN"		
HEAVY DUTY HANDHOLE			ILLUMINATED SIGN "NO RIGHT TURN"		
DOUBLE HANDHOLE			UNINTERRUPTIBLE POWER SUPPLY		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)			VIDEO DETECTION CAMERA		
PEDESTRIAN PUSHBUTTON DETECTOR			VIDEO DETECTION AREA		

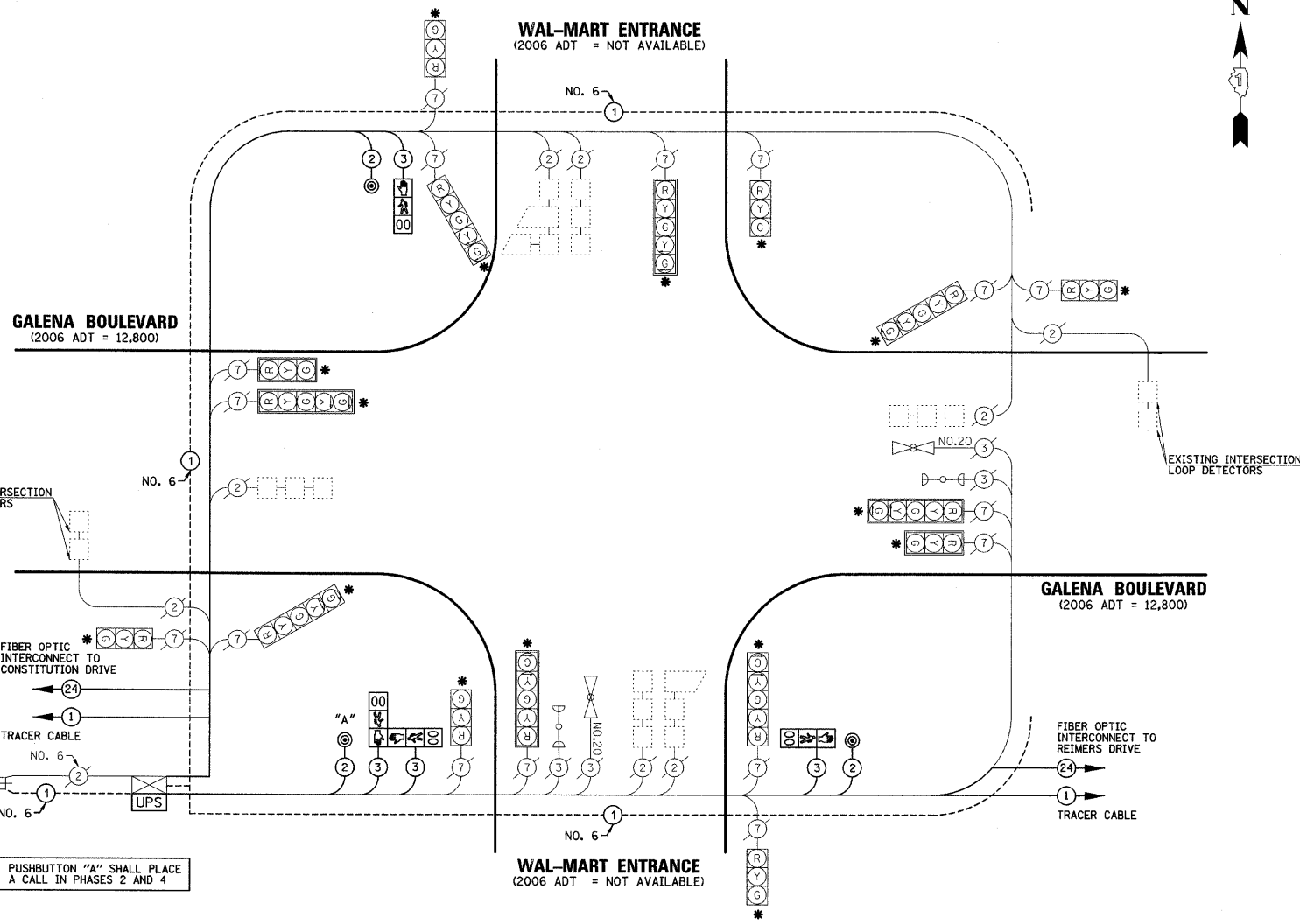
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM OUTSIDE THE RIGHT-OF-WAY AT HIS EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 4 EACH PEDESTRIAN SIGNAL HEADS
- 4 EACH PEDESTRIAN PUSH BUTTONS

**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, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**CABLE PLAN LEGEND**

- |   |                 |   |
|---|-----------------|---|
| <b>EXISTING</b>   | <b>PROPOSED</b> |   |
|   |                 | 8" (200mm) TRAFFIC SIGNAL SECTION                                     |
|   |                 | 12" (300mm) TRAFFIC SIGNAL SECTION                                    |
|   |                 | 12" (300mm) PEDESTRIAN SIGNAL SECTION                                 |
|   |                 | 12" (300mm) PEDESTRIAN SIGNAL SECTION                                 |
|   |                 | CONTROLLER CABINET  |
|   |                 | SERVICE INSTALLATION  |
|   |                 | TELEPHONE INSTALLATION  |
|   |                 | VEHICLE DETECTOR, INDUCTION LOOP                                      |
|   |                 | MAGNETIC DETECTOR   |
|   |                 | EMERGENCY VEHICLE LIGHT DETECTOR                                      |
|   |                 | CONFIRMATION BEACON   |
|   |                 | PUSHBUTTON DETECTOR   |
|   |                 | LUMINAIRE   |
| DENOTES NUMBER OF CONDUCTORS.<br>ALL CABLE NO. 14 EXCEPT AS INDICATED.<br>ALL LOOP DETECTOR CABLE TO BE SHIELDED. |                 |   |
|   |                 | GROUND CABLE IN CONDUIT<br>NO. 6 SOLID COPPER (GREEN)                 |
|   |                 | FIBER OPTIC CABLE IN CONDUIT<br>NO. 62.5/125 2-MM12F SMI2F            |
|   |                 | SIGNAL FACE WITH BACKPLATE.<br>"P" INDICATES PROGRAMMED HEAD.         |
|   |                 | RAILROAD CONTROL CABINET  |
|   |                 | ILLUMINATED SIGN<br>"NO LEFT TURN"                                    |
|   |                 | ILLUMINATED SIGN<br>"NO RIGHT TURN"                                   |
|   |                 | WIRELESS ANTENNA  |
|   |                 | GROUND ROD AT HANDHOLE (H),<br>DOUBLE HANDHOLE (H), OR CONTROLLER (C) |
|   |                 | GROUND ROD AT POST (P)<br>OR MAST ARM POLE (MA)                       |
|   |                 | GROUND ROD AT ELECTRIC<br>SERVICE INSTALLATION                        |
|   |                 | UNINTERRUPTIBLE POWER SUPPLY  |
|   |                 | LED STREET NAME SIGN  |
|   |                 | VIDEO DETECTION CAMERA  |



**SCHEDULE OF QUANTITIES**

PAY ITEM DESCRIPTION	UNIT	WAL-MART ENTRANCE
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	359
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	380
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	2
PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	1
PEDESTRIAN PUSH-BUTTON	EACH	3
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	846
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	419.5
GROUND EXISTING HANDHOLE FRAME AND COVER	EACH	8
SIGNAL HEAD, LED, 3-SECTION, BRACKET MOUNTED, RETROFIT	EACH	6
SIGNAL HEAD, LED, 3-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	2
SIGNAL HEAD, LED, 5-SECTION, BRACKET MOUNTED, RETROFIT	EACH	4
SIGNAL HEAD, LED, 5-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	4

\* SIGNAL HEAD, LED RETROFIT

DATE	BY

DATE	BY

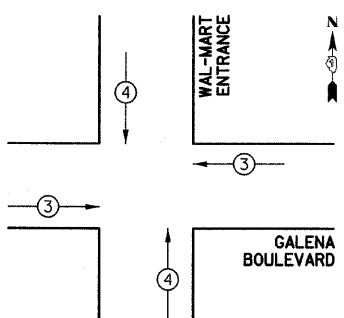
I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16	17	0.50	136	
(YELLOW)	16	25	0.25	100	
(GREEN)	16	15	0.25	60	
ARROW	16	12	0.10	19.2	
PED. SIGNAL	4	25	1.00	100	
CONTROLLER	1	100	1.00	100	
UPS	1	25	1.00	25	
<b>TOTAL =</b>					<b>540.2</b>

ENERGY COSTS TO: CITY OF AURORA  
44 E. DOWNER PLACE  
AURORA, ILLINOIS 60507-2067

ENERGY SUPPLY CONTACT: MARK SCHERIBEL  
PHONE: (630) 723-2128  
COMPANY: COMMONWEALTH EDISON

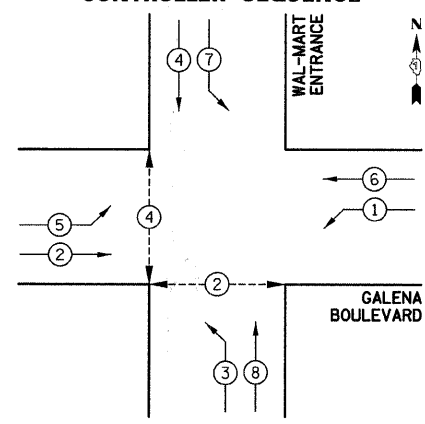
FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
C - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2'
D - CONTROLLER	4 (1.2)	SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
E - M.A. LENGTH		CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
<30'	30" (900mm)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
<40'	30" (750mm)	ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
<40'	36" (900mm)	GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)
<50'	36" (900mm)				
>50'	36" (900mm)				

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
PROPOSED EMERGENCY VEHICLE PREEMPTORS	3	4
MOVEMENT	←	↑

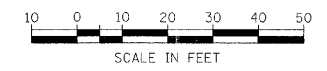
**CONTROLLER SEQUENCE**



**CONTROLLER SEQUENCE LEGEND**

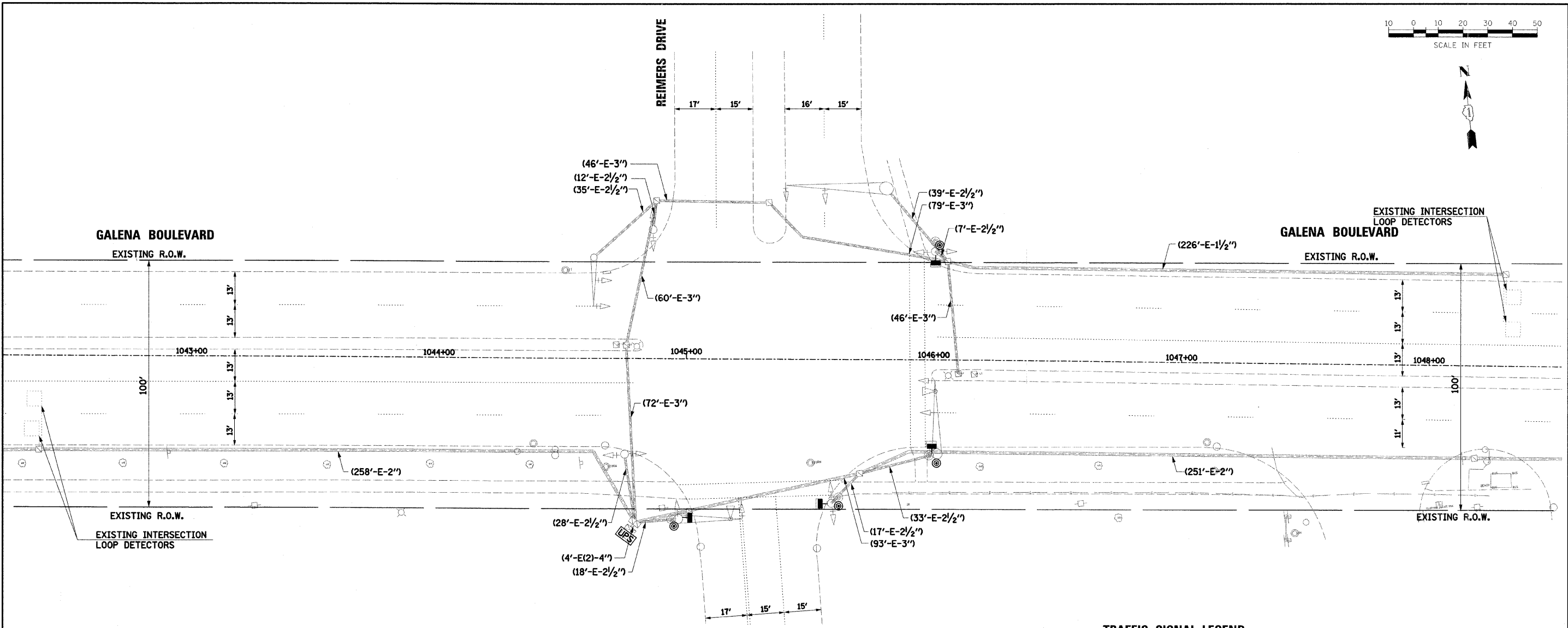
- DUAL ENTRY PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- PEDESTRIAN PHASE
- NUMBER REFERRING TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**



PLAN	BY	DATE
SURVEYED		
GRADES CHECKED		
ALIGNMENT CHECKED		
ADJUSTED		
FIELD FILE NAME		
NO.		

PROFILE	BY	DATE
SURVEYED		
GRADES CHECKED		
FIELD FILE NAME		
NO.		



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

- 4 EACH PEDESTRIAN SIGNAL HEADS
- 4 EACH PEDESTRIAN PUSH BUTTONS

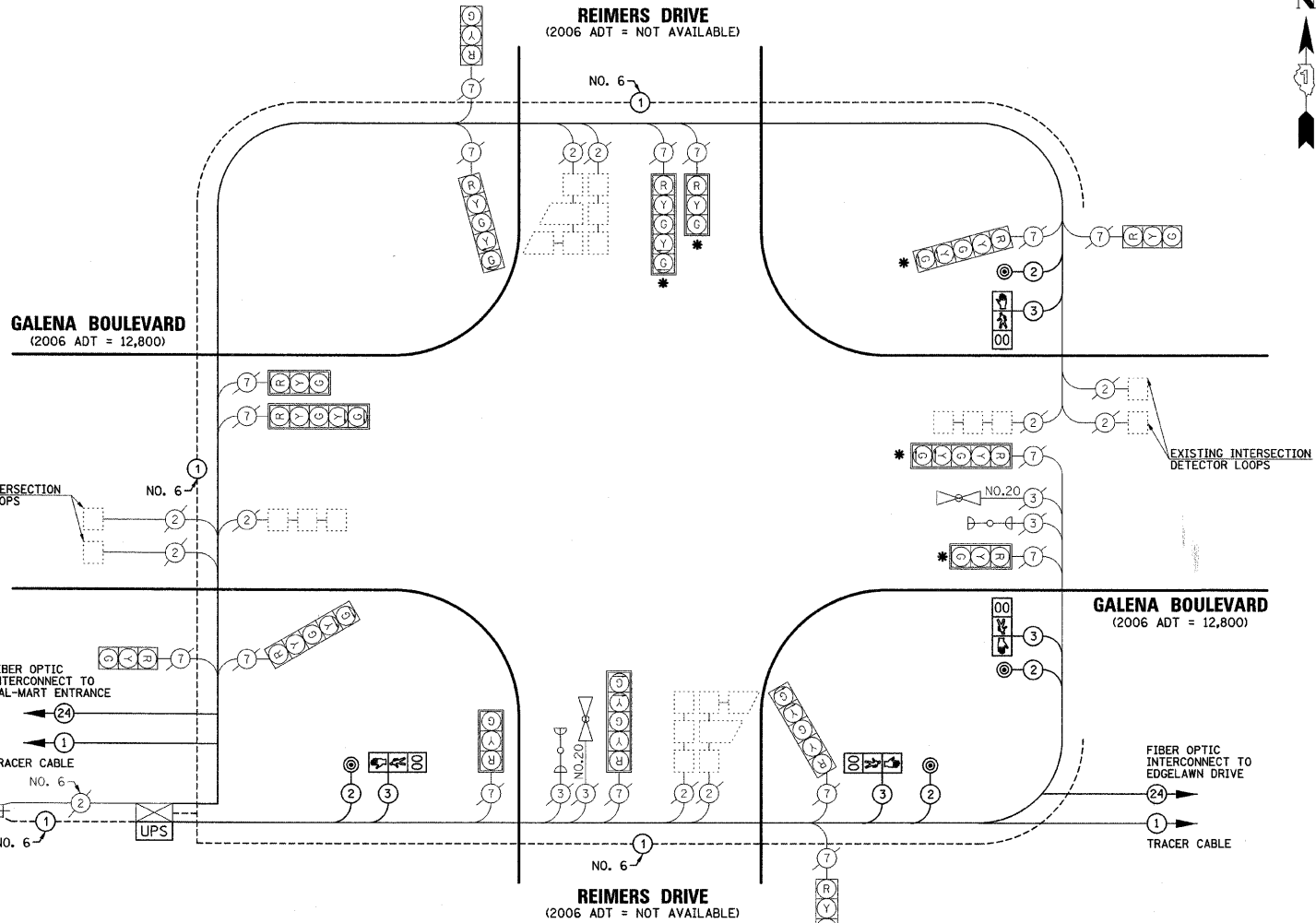
**RESTORATION OF WORK AREA:**  
 RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER			DETECTOR LOOP		
SERVICE INSTALLATION			CAST IRON JUNCTION BOX		
SIGNAL HEAD			EMERGENCY VEHICLE LIGHT DETECTOR		
SIGNAL HEAD WITH BACKPLATE			CONFIRMATION BEACON		
SIGNAL HEAD, PEDESTRIAN			SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL POST			CONDUIT SPLICE		
MAST ARM ASSEMBLY AND POLE, STEEL			WOOD POLE		
MAST ARM ASSEMBLY AND POLE, ALUMINUM			RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE			VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
UNIT DUCT	UD		RAILROAD CONTROL CABINET		
COMMON TRENCH	CT		TELEPHONE CONNECTION		
HANDHOLE			ILLUMINATED SIGN "NO LEFT TURN"		
HEAVY DUTY HANDHOLE			ILLUMINATED SIGN "NO RIGHT TURN"		
DOUBLE HANDHOLE			UNINTERRUPTABLE POWER SUPPLY		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)			VIDEO DETECTION CAMERA		
PEDESTRIAN PUSHBUTTON DETECTOR			VIDEO DETECTION AREA		

**CABLE PLAN LEGEND**

EXISTING	PROPOSED	DESCRIPTION
		8" (200mm) TRAFFIC SIGNAL SECTION
		12" (300mm) TRAFFIC SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
		TELEPHONE INSTALLATION
		VEHICLE DETECTOR, INDUCTION LOOP
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
		LUMINAIRE
		DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
		GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
		FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SMI2F
		SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD.
		RAILROAD CONTROL CABINET
		ILLUMINATED SIGN "NO LEFT TURN"
		ILLUMINATED SIGN "NO RIGHT TURN"
		WIRELESS ANTENNA
		GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (HD), OR CONTROLLER (C)
		GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
		GROUND ROD AT ELECTRIC SERVICE INSTALLATION
		UNINTERRUPTIBLE POWER SUPPLY
		LED STREET NAME SIGN
		VIDEO DETECTION CAMERA



**SCHEDULE OF QUANTITIES**

PAY ITEM DESCRIPTION	UNIT	REIMERS DRIVE
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	873
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	701
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4
PEDESTRIAN PUSH-BUTTON	EACH	4
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	1048
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	455
GROUND EXISTING HANDHOLE FRAME AND COVER	EACH	7
SIGNAL HEAD, LED, 3-SECTION, BRACKET MOUNTED, RETROFIT	EACH	1
SIGNAL HEAD, LED, 3-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	2
SIGNAL HEAD, LED, 5-SECTION, BRACKET MOUNTED, RETROFIT	EACH	1
SIGNAL HEAD, LED, 5-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	2

\* SIGNAL HEAD, LED RETROFIT

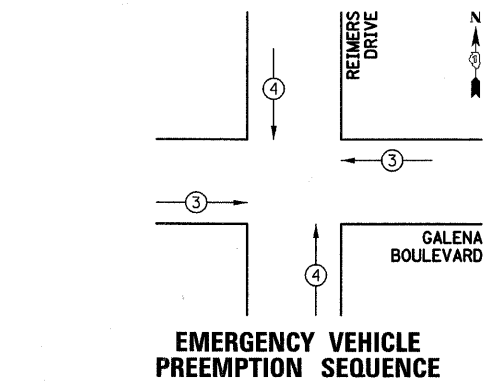
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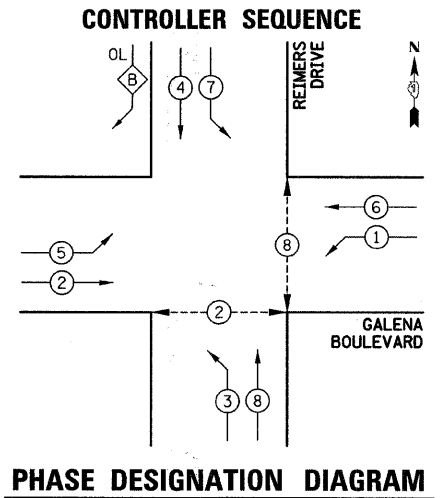
I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16		17	0.50	136
(YELLOW)	16		25	0.25	100
(GREEN)	16		15	0.25	60
ARROW	16		12	0.10	19.2
PED. SIGNAL	4		25	1.00	100
CONTROLLER	1		100	1.00	100
UPS	1		25	1.00	25
TOTAL =					540.2

ENERGY COSTS TO: CITY OF AURORA  
44 E. DOWNER PLACE  
AURORA, ILLINOIS 60507-2067

ENERGY SUPPLY CONTACT: MARK SCHERIBEL  
PHONE: (630) 723-2128  
COMPANY: COMMONWEALTH EDISON

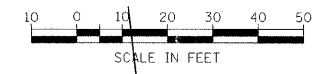
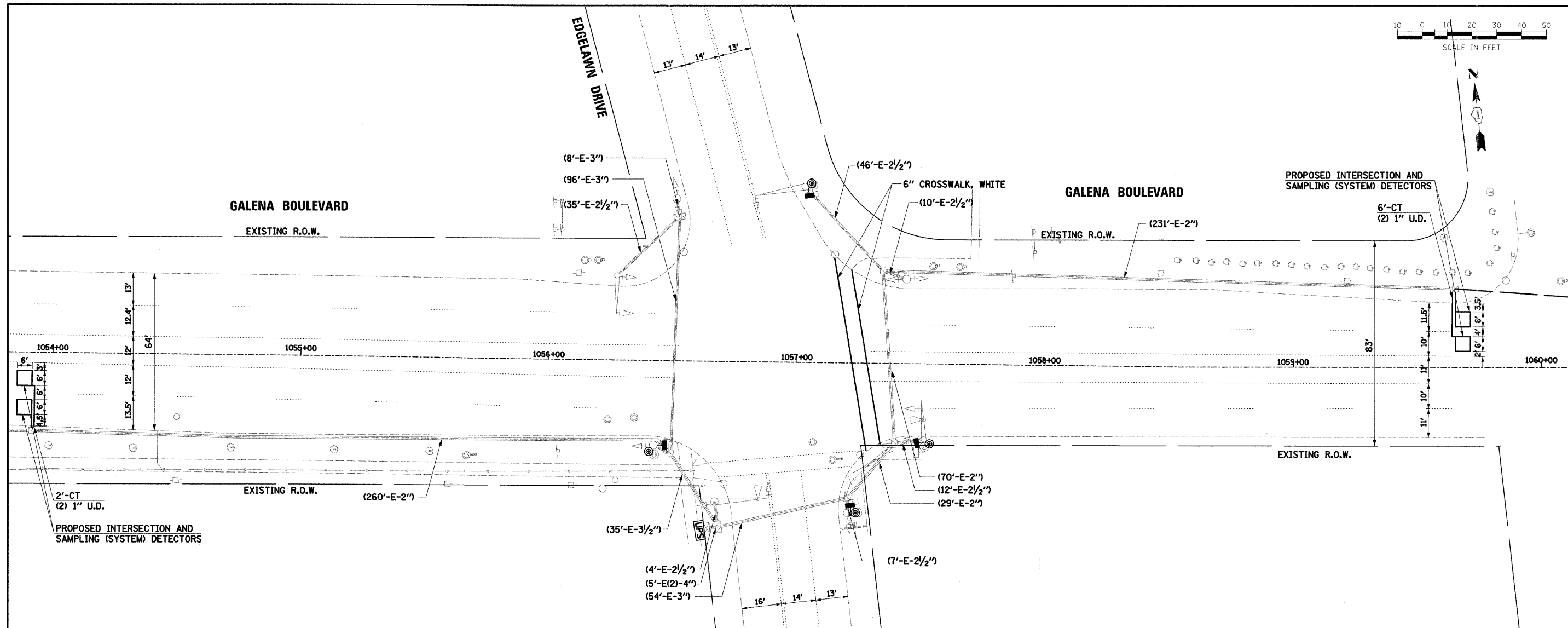


FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
C - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2=(6m+L-0.6m)
D - CONTROLLER	4 (1.2)	SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
E - M.A. LENGTH		CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
<30'	30" (900mm)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
<40'	30" (750mm)	ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
<40'	36" (900mm)	GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)
<50'	36" (900mm)				
>50'	36" (900mm)				



DATE	
BY	
REVIEWED	
DESIGNED	
CHECKED	
PLANNED	
NOTED	
FILE NAME	

DATE	
BY	
REVIEWED	
DESIGNED	
CHECKED	
PLANNED	
NOTED	
FILE NAME	



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

- 4 EACH PEDESTRIAN SIGNAL HEADS
- 4 EACH PEDESTRIAN PUSH BUTTONS

**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, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER			DETECTOR LOOP		
SERVICE INSTALLATION			CAST IRON JUNCTION BOX		
SIGNAL HEAD			EMERGENCY VEHICLE LIGHT DETECTOR		
SIGNAL HEAD WITH BACKPLATE			CONFIRMATION BEACON		
SIGNAL HEAD, PEDESTRIAN			SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL POST			CONDUIT SPLICE		
MAST ARM ASSEMBLY AND POLE, STEEL			WOOD POLE		
MAST ARM ASSEMBLY AND POLE, ALUMINUM			RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE			VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
UNIT DUCT	UD		RAILROAD CONTROL CABINET		
COMMON TRENCH	CT		TELEPHONE CONNECTION		
HANDHOLE			ILLUMINATED SIGN "NO LEFT TURN"		
HEAVY DUTY HANDHOLE			ILLUMINATED SIGN "NO RIGHT TURN"		
DOUBLE HANDHOLE			UNINTERRUPTABLE POWER SUPPLY		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)			VIDEO DETECTION CAMERA		
PEDESTRIAN PUSHBUTTON DETECTOR			VIDEO DETECTION AREA		

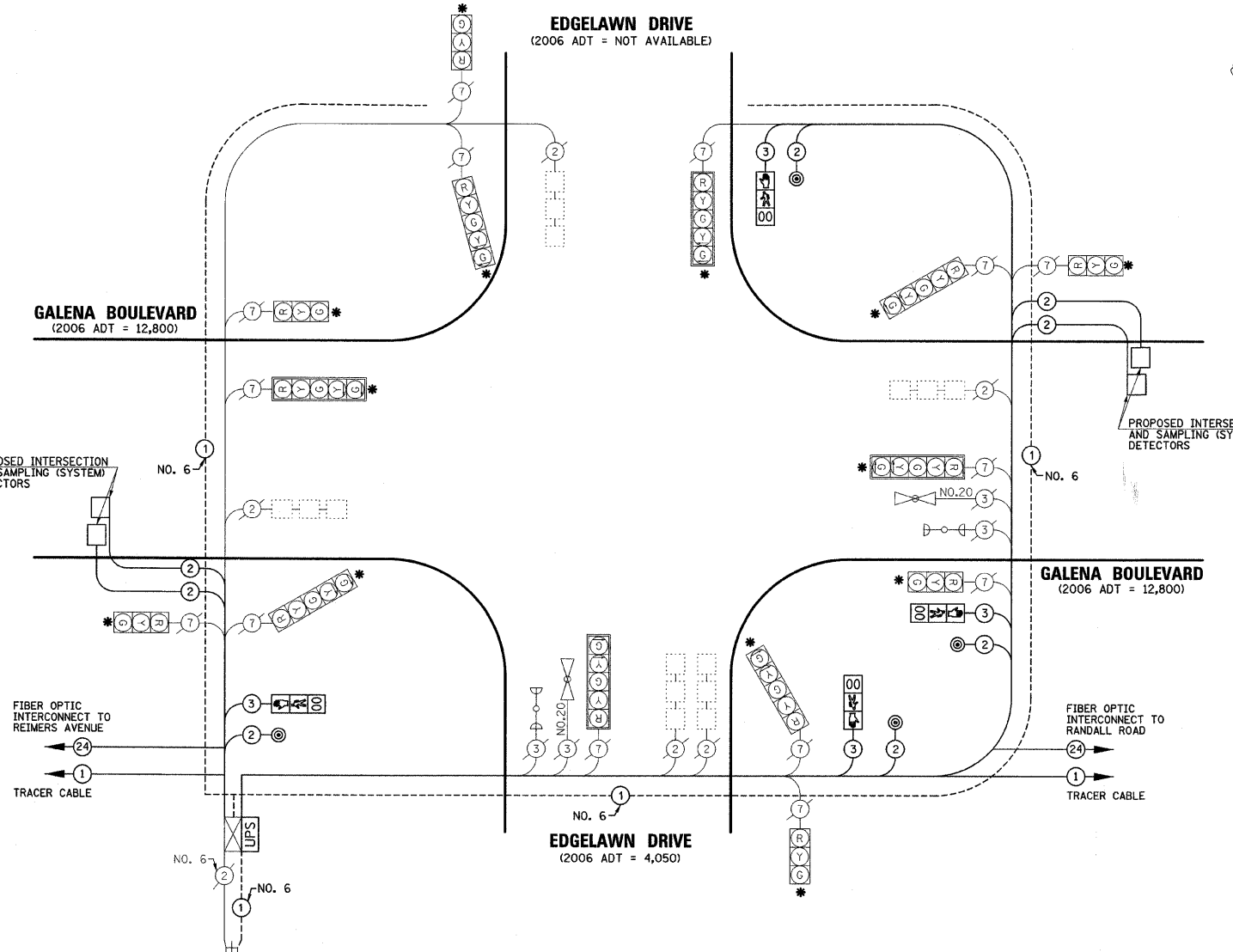
**CABLE PLAN LEGEND**

EXISTING	PROPOSED	DESCRIPTION
		8" (200mm) TRAFFIC SIGNAL SECTION
		12" (300mm) TRAFFIC SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
		TELEPHONE INSTALLATION
		VEHICLE DETECTOR, INDUCTION LOOP
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
		LUMINAIRE
		DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
		GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
		FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SM12F
		SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD.
		RAILROAD CONTROL CABINET
		ILLUMINATED SIGN "NO LEFT TURN"
		ILLUMINATED SIGN "NO RIGHT TURN"
		WIRELESS ANTENNA
		GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (HD), OR CONTROLLER (C)
		GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
		GROUND ROD AT ELECTRIC SERVICE INSTALLATION
		UNINTERRUPTIBLE POWER SUPPLY
		LED STREET NAME SIGN
		VIDEO DETECTION CAMERA

**SCHEDULE OF QUANTITIES**

PAY ITEM DESCRIPTION	UNIT	EDGE LAWN DRIVE
THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	151
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	8
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	549
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	577
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1520
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4
INDUCTIVE LOOP DETECTOR	EACH	4
DETECTOR LOOP, TYPE I	FOOT	138
PEDESTRIAN PUSH-BUTTON	EACH	4
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	968
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	338.5
GROUND EXISTING HANDHOLE FRAME AND COVER	EACH	6
SIGNAL HEAD, LED, 3-SECTION, BRACKET MOUNTED, RETROFIT	EACH	6
SIGNAL HEAD, LED, 5-SECTION, BRACKET MOUNTED, RETROFIT	EACH	4
SIGNAL HEAD, LED, 5-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	3

\* SIGNAL HEAD, LED RETROFIT



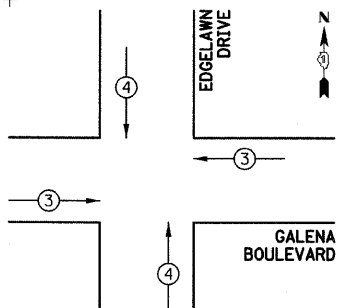
I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	14		17	0.50	119
(YELLOW)	14		25	0.25	87.5
(GREEN)	14		15	0.25	52.5
ARROW	16		12	0.10	19.2
PED. SIGNAL	4		25	1.00	100
CONTROLLER	1		100	1.00	100
UPS	1		25	1.00	25
<b>TOTAL =</b>					<b>503.2</b>

ENERGY COSTS TO: CITY OF AURORA  
44 E. DOWNER PLACE  
AURORA, ILLINOIS 60507-2067

ENERGY SUPPLY CONTACT: MARK SCHERIBEL  
PHONE: (630) 723-2128  
COMPANY: COMMONWEALTH EDISON

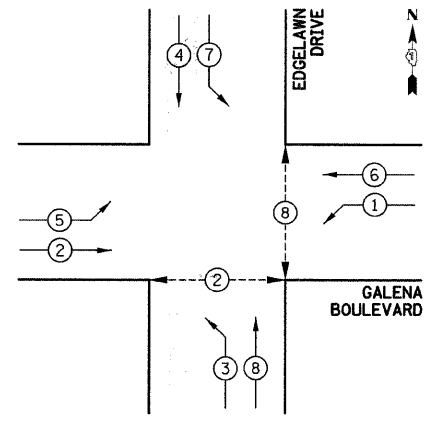
FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
C - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'±L-2= (6m±L-0.6m)
D - CONTROLLER	4 (1.2)	SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
E - M.A. LENGTH		CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
<30'	30" (900mm)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
<40'	30" (750mm)	ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
<40'	36" (900mm)	GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)
<50'	36" (900mm)				
≥50'	36" (900mm)				

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
PROPOSED EMERGENCY VEHICLE PREEMPTORS	3	4
MOVEMENT	←	↑

**CONTROLLER SEQUENCE**

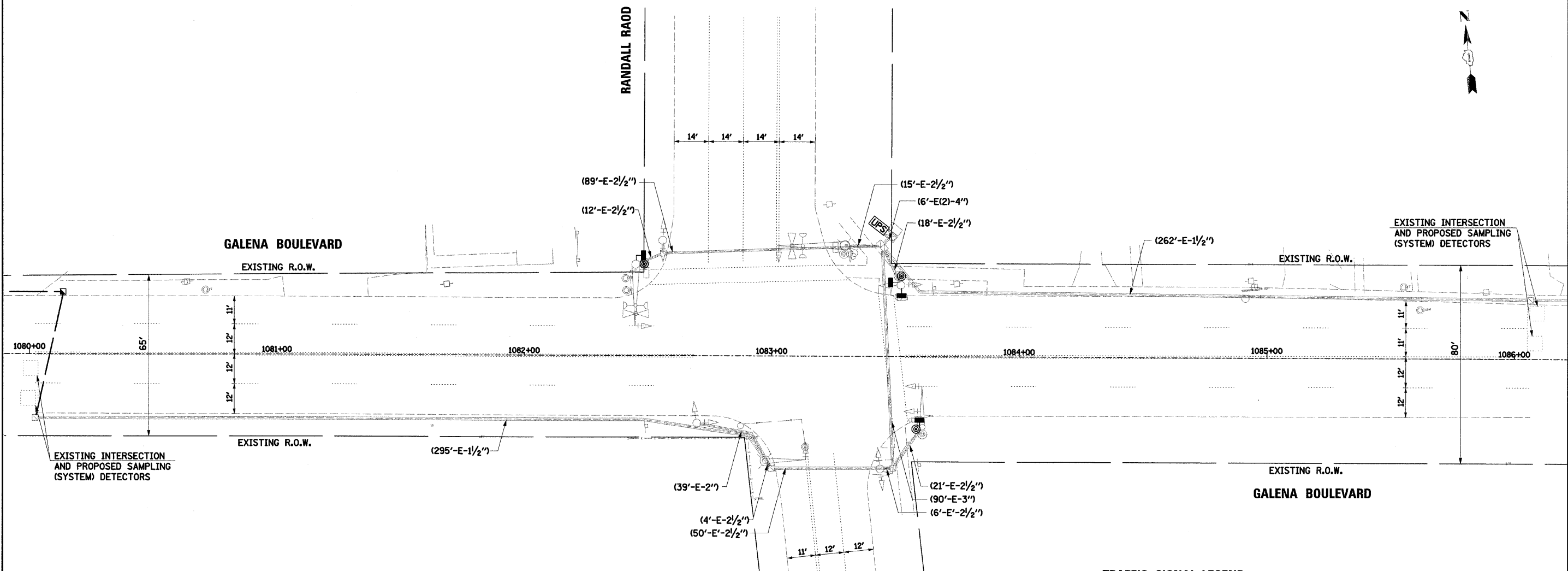
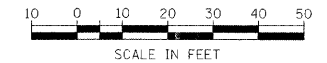


**PHASE DESIGNATION DIAGRAM**

CONTROLLER SEQUENCE LEGEND	
	DUAL ENTRY PHASE
	SINGLE ENTRY PHASE
	OVERLAP
	NUMBER REFERRING TO ASSOCIATED PHASE
	PEDESTRIAN PHASE

DATE	BY
DATE	BY

DATE	BY
DATE	BY



DATE	
BY	
REVIEWED	
DESIGNED	
CHECKED	
DRAWN	
NOTED	
PLANNED	
FILE NAME	

DATE	
BY	
REVIEWED	
DESIGNED	
CHECKED	
DRAWN	
NOTED	
PLANNED	
FILE NAME	

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE CITY OF AURORA AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE MAINTENANCE FACILITY DESIGNATED BY THE CITY.

- 1 EACH TRAFFIC SIGNAL CONTROLLER (EXTRA, NOT TURNED ON)

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

- 4 EACH PEDESTRIAN SIGNAL HEADS
- 4 EACH PEDESTRIAN PUSH BUTTONS

**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, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER			DETECTOR LOOP		
SERVICE INSTALLATION			CAST IRON JUNCTION BOX		
SIGNAL HEAD			EMERGENCY VEHICLE LIGHT DETECTOR		
SIGNAL HEAD WITH BACKPLATE			CONFIRMATION BEACON		
SIGNAL HEAD, PEDESTRIAN			SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL POST			CONDUIT SPLICE		
MAST ARM ASSEMBLY AND POLE, STEEL			WOOD POLE		
MAST ARM ASSEMBLY AND POLE, ALUMINUM			RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE			VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
UNIT DUCT	UD		RAILROAD CONTROL CABINET		
COMMON TRENCH	CT		TELEPHONE CONNECTION		
HANDHOLE			ILLUMINATED SIGN "NO LEFT TURN"		
HEAVY DUTY HANDHOLE			ILLUMINATED SIGN "NO RIGHT TURN"		
DOUBLE HANDHOLE			UNINTERRUPTIBLE POWER SUPPLY		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)			VIDEO DETECTION CAMERA		
PEDESTRIAN PUSHBUTTON DETECTOR			VIDEO DETECTION AREA		



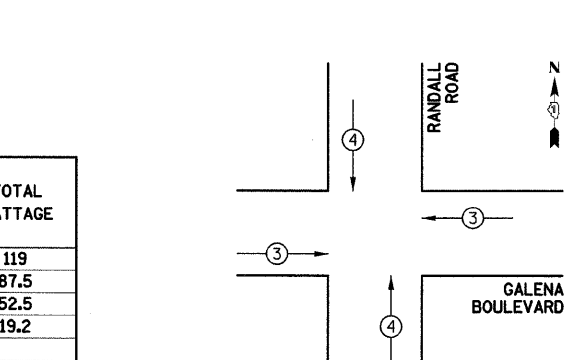
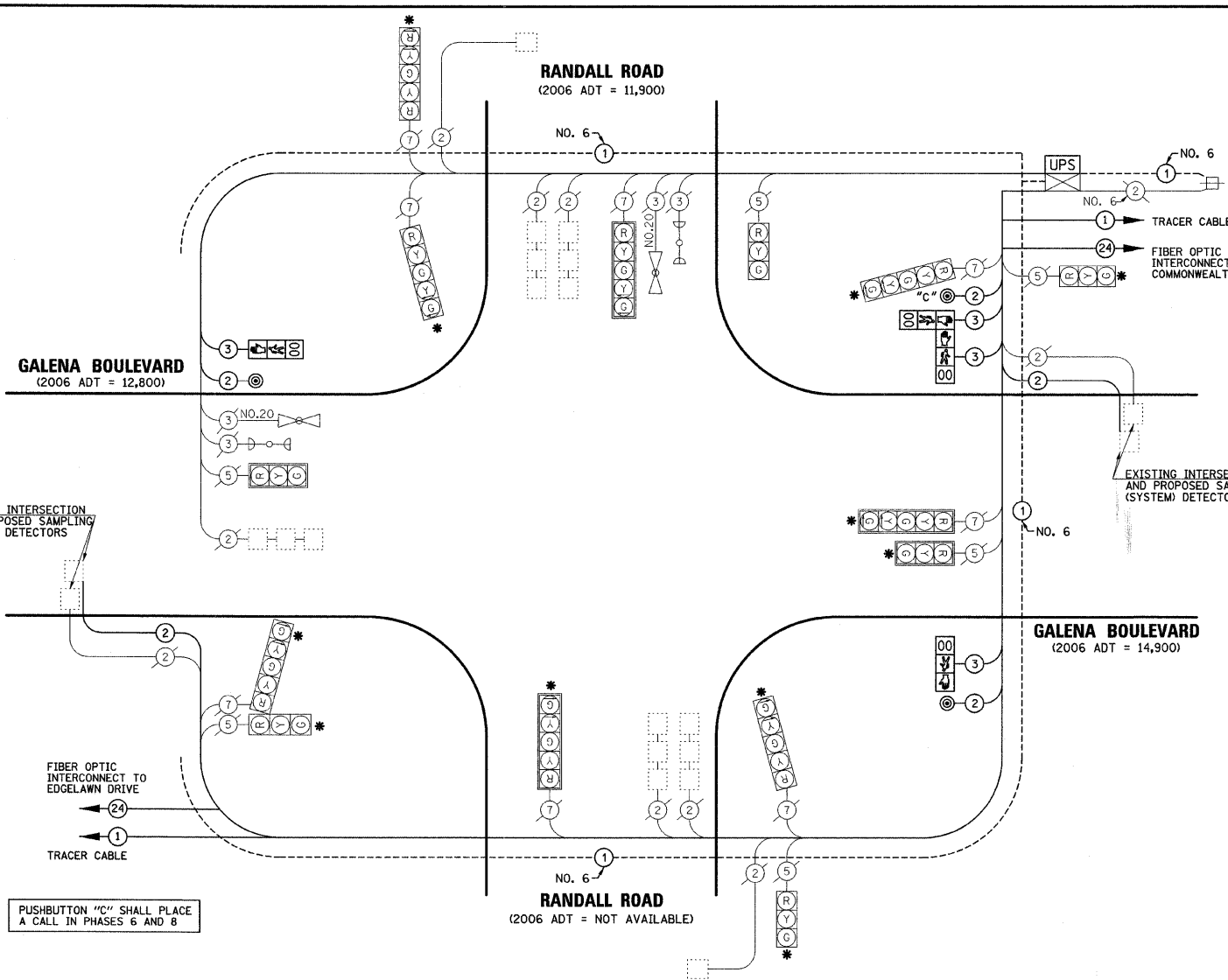
**CABLE PLAN LEGEND**

EXISTING	PROPOSED	DESCRIPTION
		8" (200mm) TRAFFIC SIGNAL SECTION
		12" (300mm) TRAFFIC SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
		TELEPHONE INSTALLATION
		VEHICLE DETECTOR, INDUCTION LOOP
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
		LUMINAIRE
		DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
		GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
		FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SMI2F
		SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD.
		RAILROAD CONTROL CABINET
		ILLUMINATED SIGN "NO LEFT TURN"
		ILLUMINATED SIGN "NO RIGHT TURN"
		WIRELESS ANTENNA
		GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C)
		GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
		GROUND ROD AT ELECTRIC SERVICE INSTALLATION
		UNINTERRUPTABLE POWER SUPPLY
		LED STREET NAME SIGN
		VIDEO DETECTION CAMERA

**SCHEDULE OF QUANTITIES**

PAY ITEM DESCRIPTION	UNIT	RANDALL ROAD
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	336
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	413
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	767
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	2
PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	1
INDUCTIVE LOOP DETECTOR	EACH	2
PEDESTRIAN PUSH-BUTTON	EACH	3
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	792
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
UNINTERRUPTABLE POWER SUPPLY	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	269.5
GROUND EXISTING HANDHOLE FRAME AND COVER	EACH	4
SIGNAL HEAD, LED, 3-SECTION, BRACKET MOUNTED, RETROFIT	EACH	3
SIGNAL HEAD, LED, 3-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	1
SIGNAL HEAD, LED, 5-SECTION, BRACKET MOUNTED, RETROFIT	EACH	5
SIGNAL HEAD, LED, 5-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	2

\* SIGNAL HEAD, LED RETROFIT

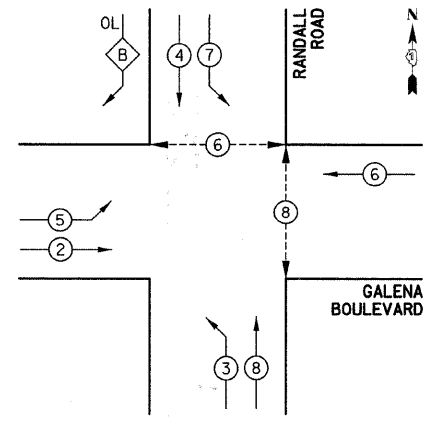


**PROPOSED EMERGENCY VEHICLE PREEMPTORS**

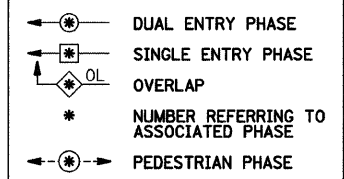
PROPOSED EMERGENCY VEHICLE PREEMPTORS	3	4
MOVEMENT	←	↑

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
C - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'±L-2=
D - CONTROLLER	4 (1.2)	SIGNAL POST	2 (1.0)		(6m±L-0.6m)
E - M.A. LENGTH		CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
<30'	30" (900mm)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
<40'	30" (750mm)	ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
<40'	36" (900mm)	GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
<50'	36" (900mm)			POST MOUNTED	6 (1.8)
≥50'	36" (900mm)				

**CONTROLLER SEQUENCE**

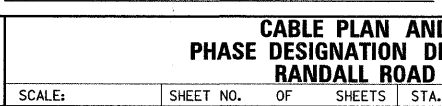


**CONTROLLER SEQUENCE LEGEND**



OVERLAP PHASE = PERMISSIVE PHASE + PROTECTED PHASE  
B = 4 + 5

**PHASE DESIGNATION DIAGRAM**



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

TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	14		17	0.50	119
(YELLOW)	14		25	0.25	87.5
(GREEN)	14		15	0.25	52.5
ARROW	16		12	0.10	19.2
PED. SIGNAL	4		25	1.00	100
CONTROLLER	1		100	1.00	100
UPS	1		25	1.00	25
<b>TOTAL =</b>					<b>503.2</b>

ENERGY COSTS TO: CITY OF AURORA  
44 E. DOWNER PLACE  
AURORA, ILLINOIS 60507-2067

ENERGY SUPPLY CONTACT: MARK SCHERIBEL  
PHONE: (630) 723-2128  
COMPANY: COMMONWEALTH EDISON

DATE: \_\_\_\_\_ BY: \_\_\_\_\_

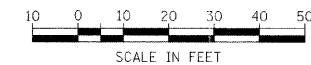
PLAN: \_\_\_\_\_

NO. \_\_\_\_\_

DATE: \_\_\_\_\_ BY: \_\_\_\_\_

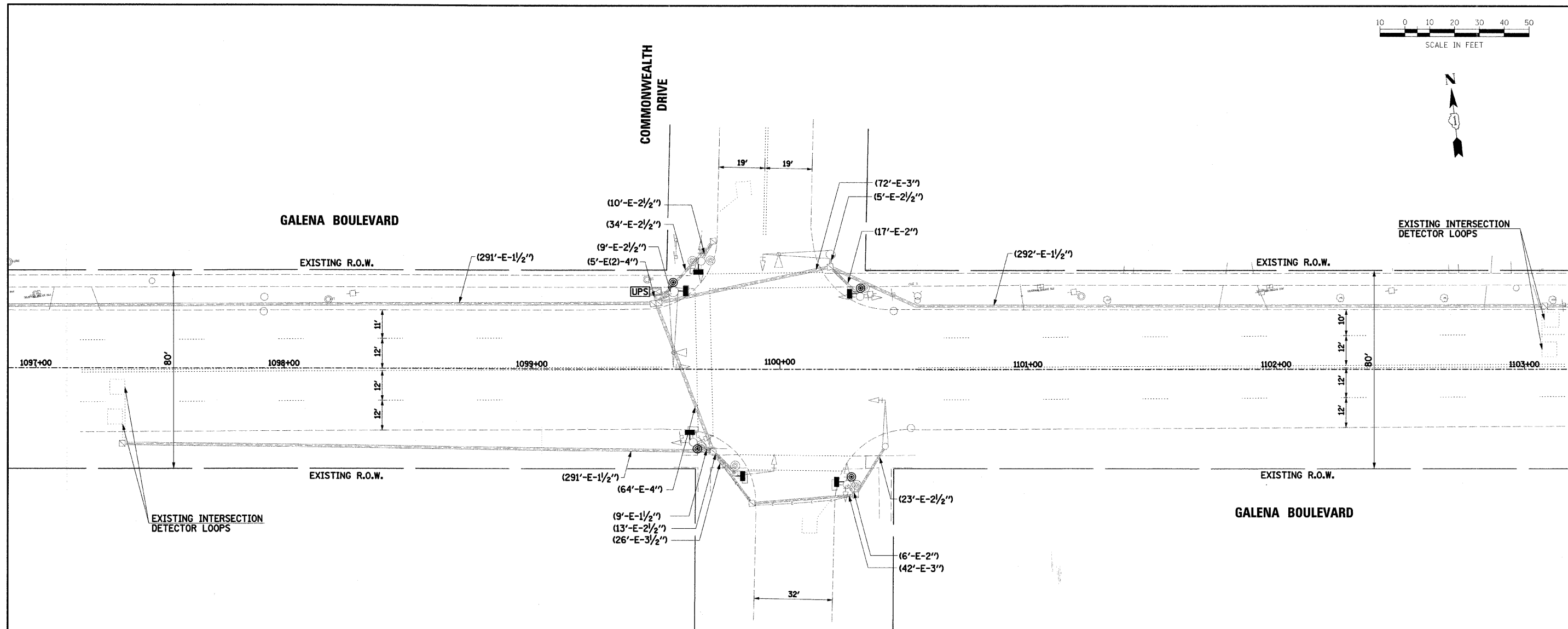
PROFILE: \_\_\_\_\_

NO. \_\_\_\_\_



DATE	
BY	
REVISIONS	
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DATE	
BY	
REVISIONS	
NO.	



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

- 6 EACH PEDESTRIAN SIGNAL HEADS
- 6 EACH PEDESTRIAN PUSH BUTTONS

**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, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

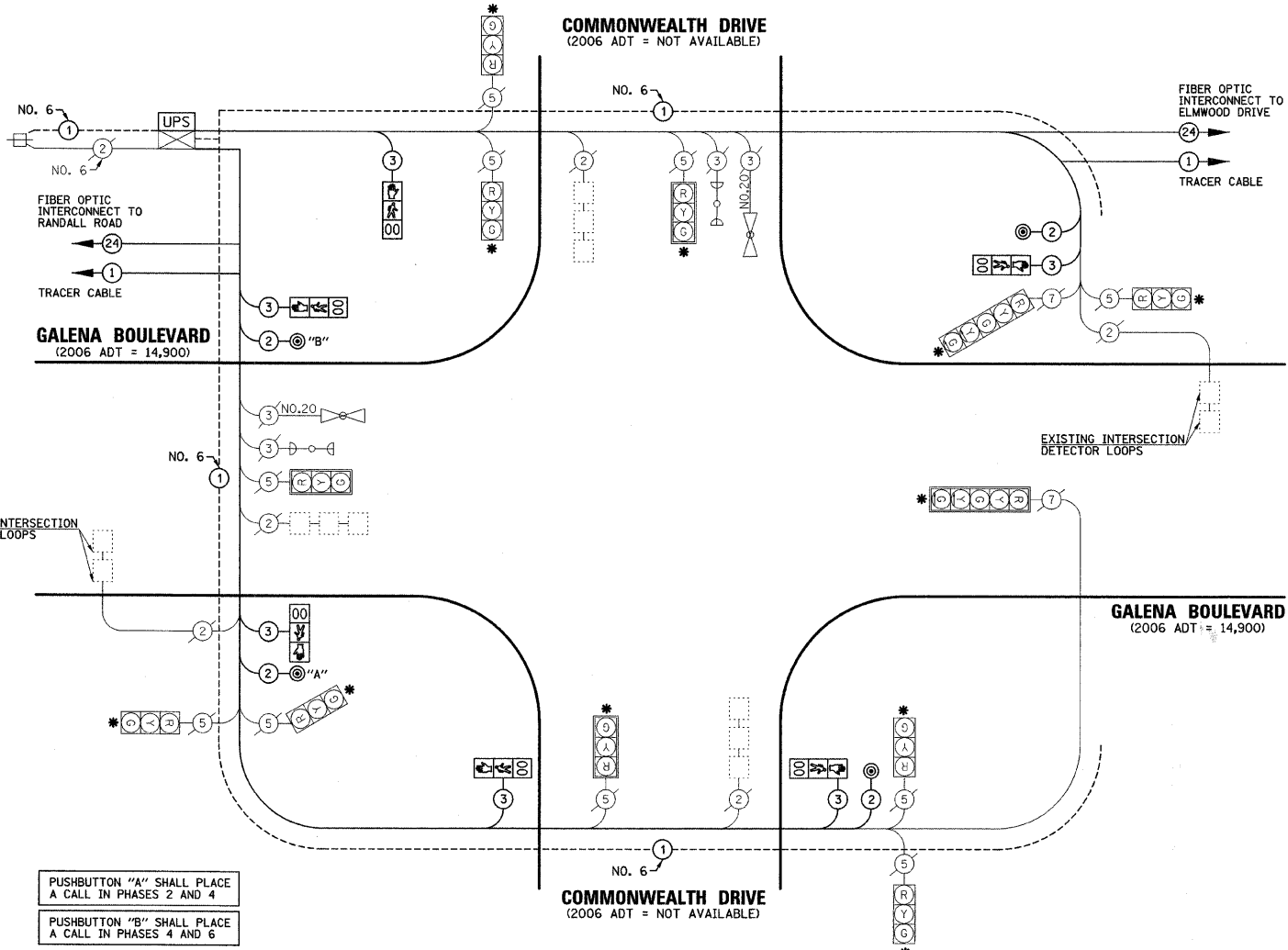
**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER			DETECTOR LOOP		
SERVICE INSTALLATION			CAST IRON JUNCTION BOX		
SIGNAL HEAD			EMERGENCY VEHICLE LIGHT DETECTOR		
SIGNAL HEAD WITH BACKPLATE			CONFIRMATION BEACON		
SIGNAL HEAD, PEDESTRIAN			SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL POST			CONDUIT SPLICE		
MAST ARM ASSEMBLY AND POLE, STEEL			WOOD POLE		
MAST ARM ASSEMBLY AND POLE, ALUMINUM			RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE			VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
UNIT DUCT	UD		RAILROAD CONTROL CABINET		
COMMON TRENCH	CT		TELEPHONE CONNECTION		
HANDHOLE			ILLUMINATED SIGN "NO LEFT TURN"		
HEAVY DUTY HANDHOLE			ILLUMINATED SIGN "NO RIGHT TURN"		
DOUBLE HANDHOLE			UNINTERRUPTABLE POWER SUPPLY		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)			VIDEO DETECTION CAMERA		
PEDESTRIAN PUSHBUTTON DETECTOR			VIDEO DETECTION AREA		

FILE NAME =	USER NAME = .USER.	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC SIGNAL MODIFICATION PLAN COMMONWEALTH DRIVE</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
gn\Jobs\smith\2007\070690 AUR - Traffic	gn\070690.01 AUR Galena Blvd Traffic S	DRAWN BY: BAF	REVISED BY:			05-00257-00-TL	KANE	39	18	
	PLOT SCALE = #SCALE#	CHECKED APS	REVISED -			<b>CONTRACT NO. 63105</b>				
	PLOT DATE = 4/15/2009	DATE -	REVISED -			FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

**CABLE PLAN LEGEND**

EXISTING	PROPOSED	DESCRIPTION
		8" (200mm) TRAFFIC SIGNAL SECTION
		12" (300mm) TRAFFIC SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
		TELEPHONE INSTALLATION
		VEHICLE DETECTOR, INDUCTION LOOP
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
		LUMINAIRE
		DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
		GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
		FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SMI2F
		SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD.
		RAILROAD CONTROL CABINET
		ILLUMINATED SIGN "NO LEFT TURN"
		ILLUMINATED SIGN "NO RIGHT TURN"
		WIRELESS ANTENNA
		GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (HD), OR CONTROLLER (C)
		GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
		GROUND ROD AT ELECTRIC SERVICE INSTALLATION
		UNINTERRUPTIBLE POWER SUPPLY
		LED STREET NAME SIGN
		VIDEO DETECTION CAMERA



PUSHBUTTON "A" SHALL PLACE  
A CALL IN PHASES 2 AND 4

PUSHBUTTON "B" SHALL PLACE  
A CALL IN PHASES 4 AND 6

**SCHEDULE OF QUANTITIES**

PAY ITEM DESCRIPTION	UNIT	COMMONWEALTH DRIVE
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	455
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	697.5
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	6
PEDESTRIAN PUSH-BUTTON	EACH	4
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	1394.5
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	293.5
GROUND EXISTING HANDHOLE FRAME AND COVER	EACH	6
SIGNAL HEAD, LED, 3-SECTION, BRACKET MOUNTED, RETROFIT	EACH	7
SIGNAL HEAD, LED, 3-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	2
SIGNAL HEAD, LED, 5-SECTION, BRACKET MOUNTED, RETROFIT	EACH	1
SIGNAL HEAD, LED, 5-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	1

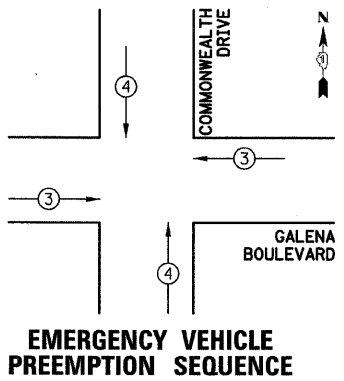
\* SIGNAL HEAD, LED RETROFIT

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12		17	0.50	102
(YELLOW)	12		25	0.25	75
(GREEN)	12		15	0.25	45
ARROW	4		12	0.10	4.8
PED. SIGNAL	6		25	1.00	150
CONTROLLER	1		100	1.00	100
UPS	1		25	1.00	25
<b>TOTAL =</b>					<b>501.8</b>

ENERGY COSTS TO: CITY OF AURORA  
44 E. DOWNER PLACE  
AURORA, ILLINOIS 60507-2067

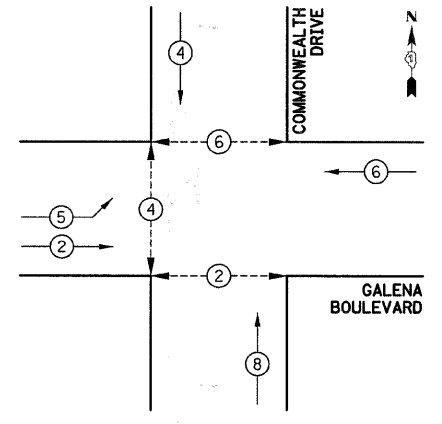
ENERGY SUPPLY CONTACT: MARK SCHERIBEL  
PHONE: (630) 723-2128  
COMPANY: COMMONWEALTH EDISON

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
C - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'-H-2=
D - CONTROLLER	4 (1.2)	SIGNAL POST	2 (1.0)		(6m+L-0.6m)
E - M.A. LENGTH		CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
<30'	30" (900mm)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
<40'	30" (750mm)	ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
<40'	36" (900mm)	GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
<50'	36" (900mm)			POST MOUNTED	6 (1.8)
>50'	36" (900mm)				



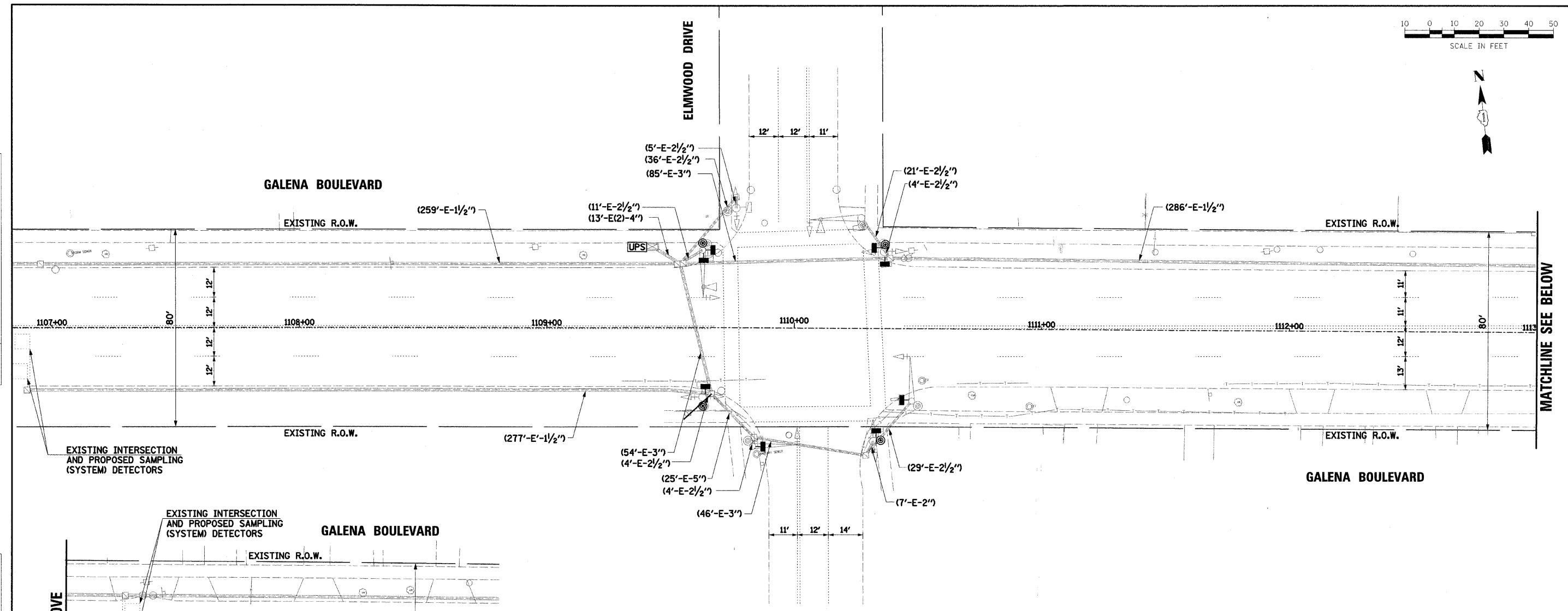
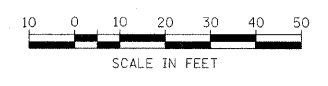
PROPOSED EMERGENCY VEHICLE PREEMPTORS		
PROPOSED EMERGENCY VEHICLE PREEMPTORS	3	4
MOVEMENT	←	↑

**CONTROLLER SEQUENCE**



CONTROLLER SEQUENCE LEGEND	
	DUAL ENTRY PHASE
	SINGLE ENTRY PHASE
	OVERLAP
	NUMBER REFERRING TO ASSOCIATED PHASE
	PEDESTRIAN PHASE

**PHASE DESIGNATION DIAGRAM**



MATCHLINE SEE BELOW

DATE	
BY	
PLAN	
NO.	
NOTE BOOK	
NO.	
ALIGNED CHECKED	
FILE NAME	

DATE	
BY	
PROFILE	
NO.	
NOTE BOOK	
NO.	
GRADES CHECKED	
NOTARY'S OFFICE	

EXISTING INTERSECTION AND PROPOSED SAMPLING (SYSTEM) DETECTORS

EXISTING INTERSECTION AND PROPOSED SAMPLING (SYSTEM) DETECTORS

MATCHLINE SEE ABOVE

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

- 8 EACH PEDESTRIAN SIGNAL HEADS
- 8 EACH PEDESTRIAN PUSH BUTTONS

**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, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER			DETECTOR LOOP		
SERVICE INSTALLATION			CAST IRON JUNCTION BOX		
SIGNAL HEAD			EMERGENCY VEHICLE LIGHT DETECTOR		
SIGNAL HEAD WITH BACKPLATE			CONFIRMATION BEACON		
SIGNAL HEAD, PEDESTRIAN			SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL POST			CONDUIT SPLICE		
MAST ARM ASSEMBLY AND POLE, STEEL			WOOD POLE		
MAST ARM ASSEMBLY AND POLE, ALUMINUM			RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE			VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
UNIT DUCT	UD		RAILROAD CONTROL CABINET		
COMMON TRENCH	CT		TELEPHONE CONNECTION		
HANDHOLE			ILLUMINATED SIGN "NO LEFT TURN"		
HEAVY DUTY HANDHOLE			ILLUMINATED SIGN "NO RIGHT TURN"		
DOUBLE HANDHOLE			UNINTERRUPTABLE POWER SUPPLY	UPS	UPS
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)			VIDEO DETECTION CAMERA		
PEDESTRIAN PUSHBUTTON DETECTOR			VIDEO DETECTION AREA		

FILE NAME =	USER NAME = USER	DESIGNED -	REVISED -
g:\Jobs\smth\2007\070690 AURO - Traffic	signals\070690.01 AURO Galena Blvd Traffic S	DRAWN BY	REVISED -
		CHECKED APS	REVISED -
		DATE	REVISED -

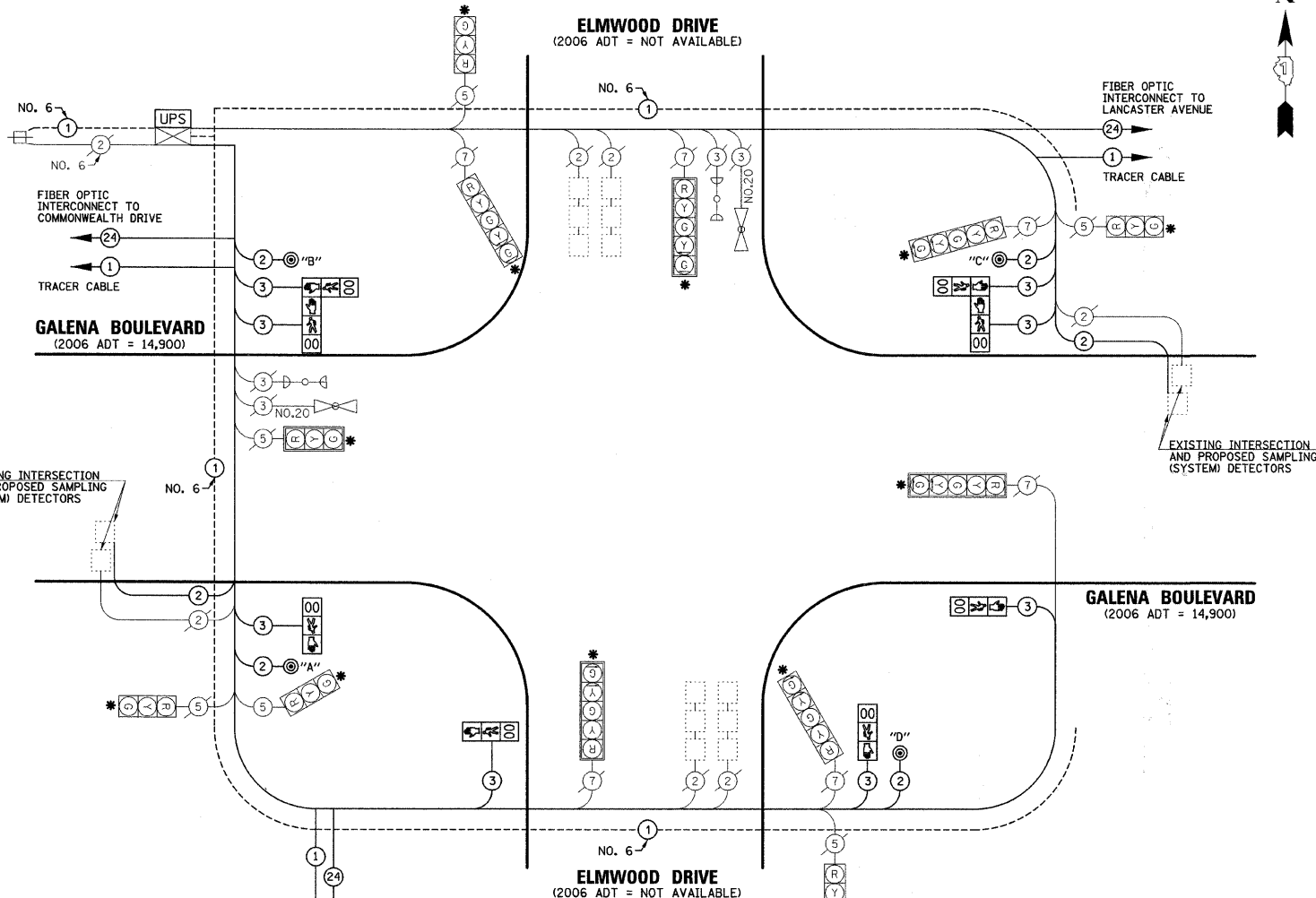
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC SIGNAL MODIFICATION PLAN  
ELMWOOD DRIVE**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00257-00-TL	KANE	39	20
CONTRACT NO. 63105				
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				

**CABLE PLAN LEGEND**

EXISTING	PROPOSED	DESCRIPTION
		8" (200mm) TRAFFIC SIGNAL SECTION
		12" (300mm) TRAFFIC SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
		TELEPHONE INSTALLATION
		VEHICLE DETECTOR, INDUCTION LOOP
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
		LUMINAIRE
		DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
		GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
		FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SM12F
		SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD.
		RAILROAD CONTROL CABINET
		ILLUMINATED SIGN "NO LEFT TURN"
		ILLUMINATED SIGN "NO RIGHT TURN"
		WIRELESS ANTENNA
		GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (HD), OR CONTROLLER (C)
		GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
		GROUND ROD AT ELECTRIC SERVICE INSTALLATION
		UNINTERRUPTIBLE POWER SUPPLY
		LED STREET NAME SIGN
		VIDEO DETECTION CAMERA



PUSHBUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSHBUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6  
 PUSHBUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8  
 PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

PROPOSED EMERGENCY VEHICLE PREEMPTORS

PROPOSED EMERGENCY VEHICLE PREEMPTORS	3	4
MOVEMENT	←	→

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
C - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20"±L-2" (6m±L-0.6m)
D - CONTROLLER	4 (1.2)	SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
E - M.A. LENGTH		CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
<30'	30" (900mm)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
<40'	30" (750mm)	ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
<40'	36" (900mm)	GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)
<50'	36" (900mm)				
≥50'	36" (900mm)				

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

TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12		17	0.50	102
(YELLOW)	12		25	0.25	75
(GREEN)	12		15	0.25	45
ARROW	12		12	0.10	14.4
PED. SIGNAL	8		25	1.00	200
CONTROLLER	1		100	1.00	100
UPS	1		25	1.00	25
<b>TOTAL =</b>					<b>561.4</b>

ENERGY COSTS TO: CITY OF AURORA  
 44 E. DOWNER PLACE  
 AURORA, ILLINOIS 60507-2067

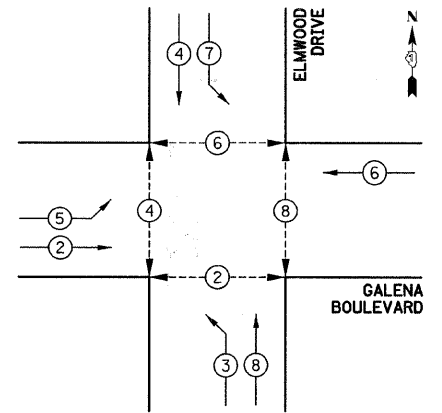
ENERGY SUPPLY CONTACT: MARK SCHERIBEL  
 PHONE: (630) 723-2128  
 COMPANY: COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

PAY ITEM DESCRIPTION	UNIT	ELMWOOD DRIVE
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	474.5
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1058.5
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	786
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4
PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	2
INDUCTIVE LOOP DETECTOR	EACH	2
PEDESTRIAN PUSH-BUTTON	EACH	4
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	2178
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	309.5
GROUND EXISTING HANDHOLE FRAME AND COVER	EACH	6
SIGNAL HEAD, LED, 3-SECTION, BRACKET MOUNTED, RETROFIT	EACH	5
SIGNAL HEAD, LED, 3-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	1
SIGNAL HEAD, LED, 5-SECTION, BRACKET MOUNTED, RETROFIT	EACH	3
SIGNAL HEAD, LED, 5-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	3

\* SIGNAL HEAD, LED RETROFIT

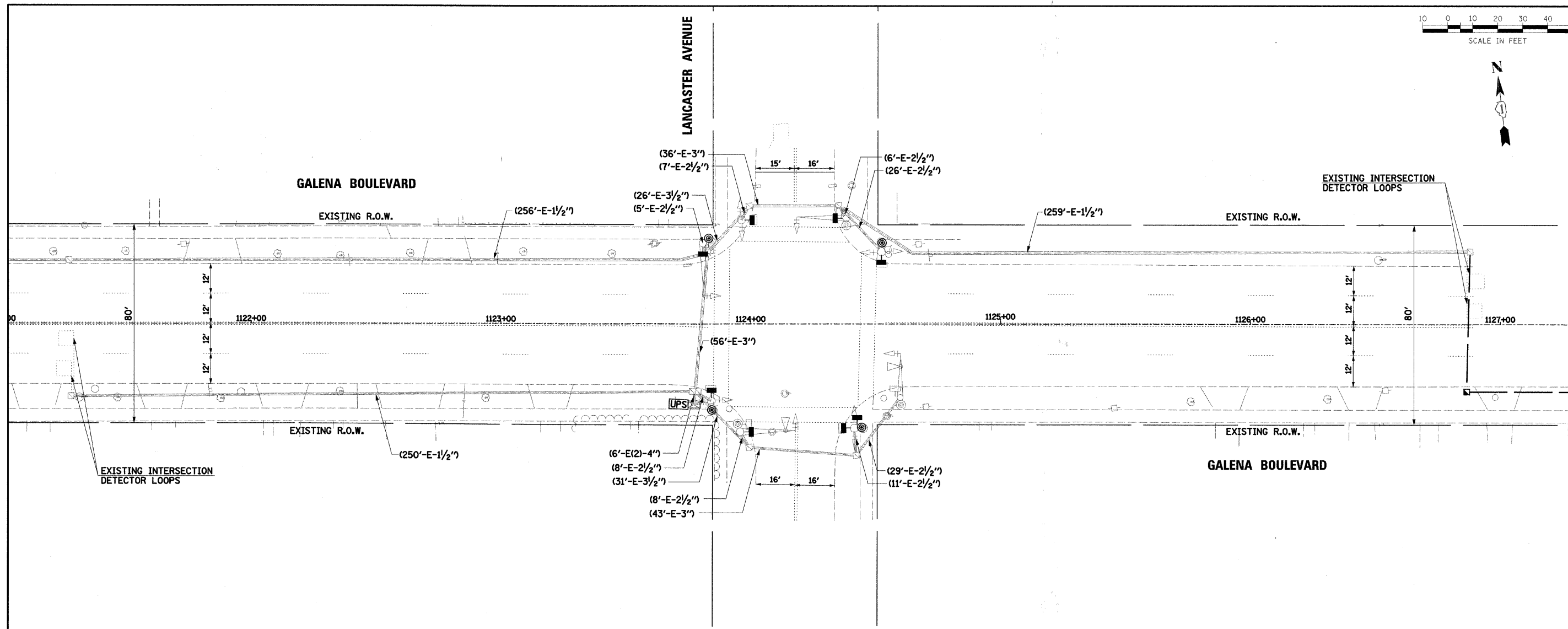
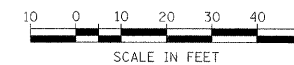
**CONTROLLER SEQUENCE**



**CONTROLLER SEQUENCE LEGEND**

	DUAL ENTRY PHASE
	SINGLE ENTRY PHASE
	OVERLAP
	NUMBER REFERRING TO ASSOCIATED PHASE
	PEDESTRIAN PHASE

**PHASE DESIGNATION DIAGRAM**



DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	
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REVISIONS	
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DATE	
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REVISIONS	
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REVISIONS	
NO.	

**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER			DETECTOR LOOP		
SERVICE INSTALLATION			CAST IRON JUNCTION BOX		
SIGNAL HEAD			EMERGENCY VEHICLE LIGHT DETECTOR		
SIGNAL HEAD WITH BACKPLATE			CONFIRMATION BEACON		
SIGNAL HEAD, PEDESTRIAN			SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL POST			CONDUIT SPLICE		
MAST ARM ASSEMBLY AND POLE, STEEL			WOOD POLE		
MAST ARM ASSEMBLY AND POLE, ALUMINUM			RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE			VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
UNIT DUCT	UD		RAILROAD CONTROL CABINET		
COMMON TRENCH	CT		TELEPHONE CONNECTION		
HANDHOLE			ILLUMINATED SIGN "NO LEFT TURN"		
HEAVY DUTY HANDHOLE			ILLUMINATED SIGN "NO RIGHT TURN"		
DOUBLE HANDHOLE			UNINTERRUPTABLE POWER SUPPLY	UPS	UPS
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)			VIDEO DETECTION CAMERA		
PEDESTRIAN PUSHBUTTON DETECTOR			VIDEO DETECTION AREA		

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

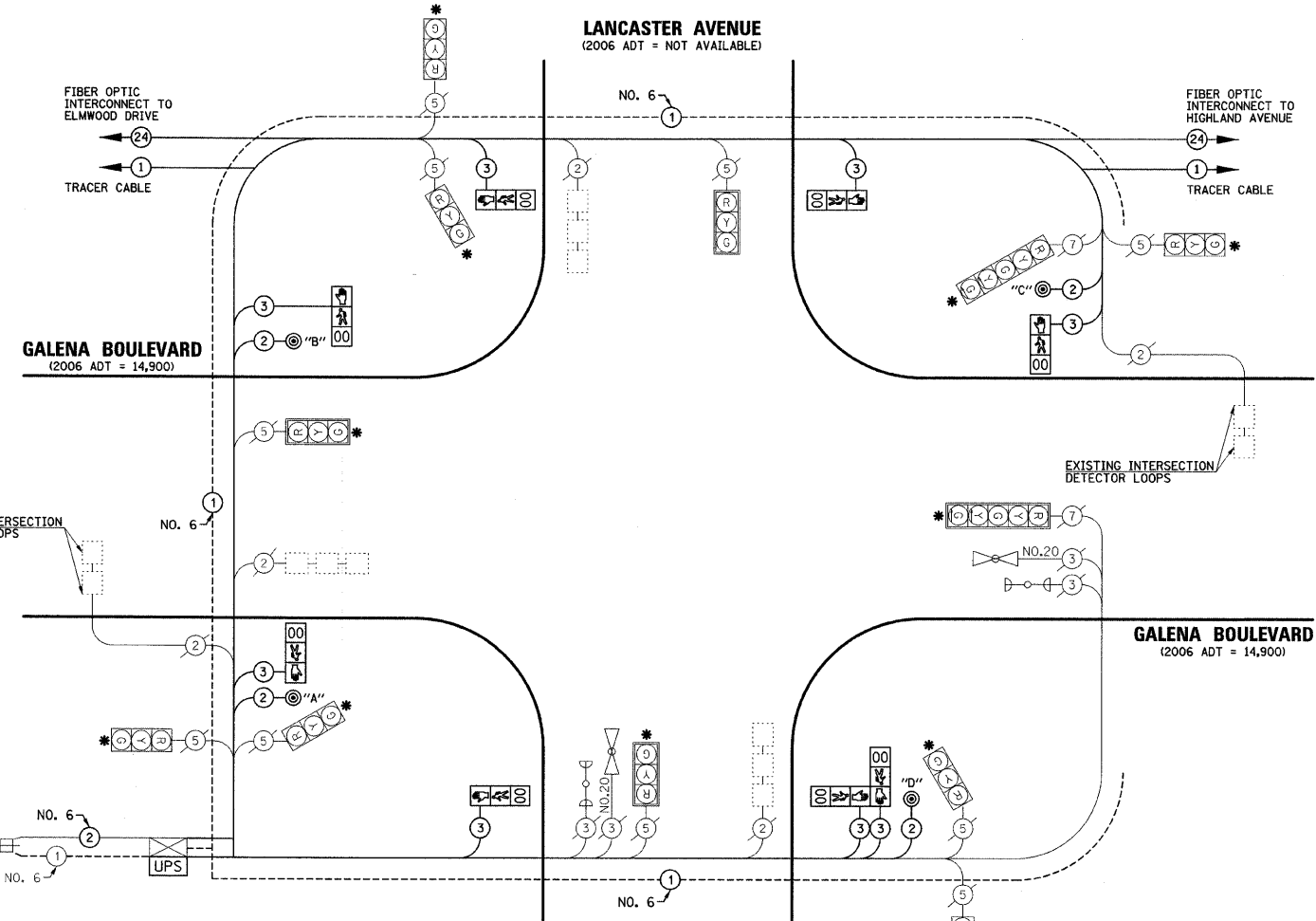
- 8 EACH PEDESTRIAN SIGNAL HEADS
- 8 EACH PEDESTRIAN PUSH BUTTONS

**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, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

FILE NAME =	USER NAME =	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC SIGNAL MODIFICATION PLAN LANCASTER AVENUE</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
g:\Jobs\smth\2007\070690 Auro - Traffic	signals\070690.BI Auro Galena Blvd Traffic S	DRAWN	REVISED			05-00257-00-TL	KANE	39	22	
		CHECKED	REVISED			<b>CONTRACT NO. 63105</b>				
		DATE	REVISED			FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				

**CABLE PLAN LEGEND**

EXISTING	PROPOSED	DESCRIPTION
		8" (200mm) TRAFFIC SIGNAL SECTION
		12" (300mm) TRAFFIC SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
		TELEPHONE INSTALLATION
		VEHICLE DETECTOR, INDUCTION LOOP
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
		LUMINAIRE
		DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
		GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
		FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SM12F
		SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD.
		RAILROAD CONTROL CABINET
		ILLUMINATED SIGN "NO LEFT TURN"
		ILLUMINATED SIGN "NO RIGHT TURN"
		WIRELESS ANTENNA
		GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C)
		GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
		GROUND ROD AT ELECTRIC SERVICE INSTALLATION
		UNINTERRUPTIBLE POWER SUPPLY
		LED STREET NAME SIGN
		VIDEO DETECTION CAMERA



**SCHEDULE OF QUANTITIES**

PAY ITEM DESCRIPTION	UNIT	LANCASTER STREET
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	461
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1030
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	6
PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	1
PEDESTRIAN PUSH-BUTTON	EACH	4
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	2040
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	247.5
GROUND EXISTING HANDHOLE FRAME AND COVER	EACH	6
SIGNAL HEAD, LED, 3-SECTION, BRACKET MOUNTED, RETROFIT	EACH	7
SIGNAL HEAD, LED, 3-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	2
SIGNAL HEAD, LED, 5-SECTION, BRACKET MOUNTED, RETROFIT	EACH	1
SIGNAL HEAD, LED, 5-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	1

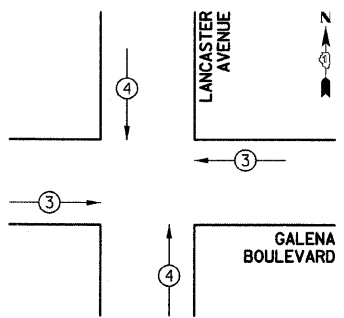
\* SIGNAL HEAD, LED RETROFIT

PUSHBUTTON "A" SHALL PLACE  
A CALL IN PHASES 2 AND 4

PUSHBUTTON "B" SHALL PLACE  
A CALL IN PHASES 4 AND 6

PUSHBUTTON "C" SHALL PLACE  
A CALL IN PHASES 6 AND 8

PUSHBUTTON "D" SHALL PLACE  
A CALL IN PHASES 2 AND 8

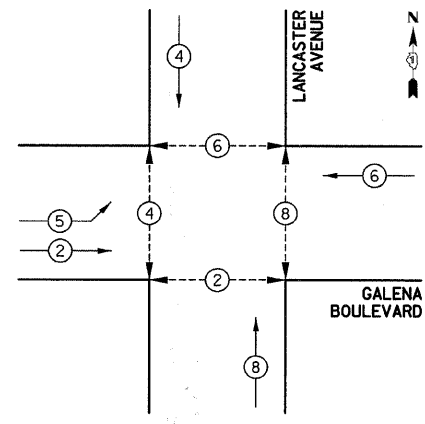


**PROPOSED EMERGENCY VEHICLE PREEMPTORS**

PROPOSED EMERGENCY VEHICLE PREEMPTORS	3	4
MOVEMENT		

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
C - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'-H-2=
D - CONTROLLER	4 (1.2)	SIGNAL POST	2 (1.0)	(6m+H-0.6m)	
E - M.A. LENGTH		CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
<30'	30" (900mm)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
<40'	30" (750mm)	ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
<40'	36" (900mm)	GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
<50'	36" (900mm)			POST MOUNTED	6 (1.8)
>50'	36" (900mm)				

**CONTROLLER SEQUENCE**



**CONTROLLER SEQUENCE LEGEND**

- DUAL ENTRY PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- PEDESTRIAN PHASE
- NUMBER REFERRING TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**

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

TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12		17	0.50	102
(YELLOW)	12		25	0.25	75
(GREEN)	12		15	0.25	45
ARROW	4		12	0.10	4.8
PED. SIGNAL	8		25	1.00	200
CONTROLLER	1		100	1.00	100
UPS	1		25	1.00	25
<b>TOTAL =</b>					<b>551.8</b>

ENERGY COSTS TO: CITY OF AURORA  
44 E. DOWNER PLACE  
AURORA, ILLINOIS 60507-2067

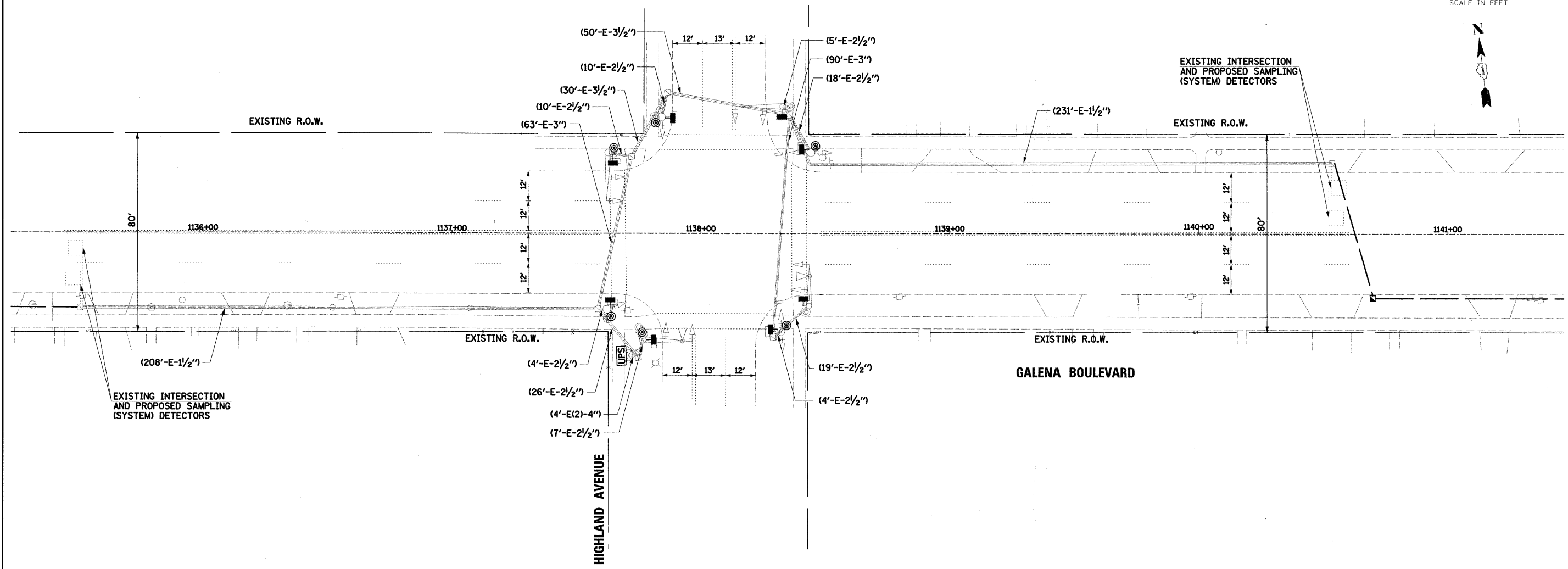
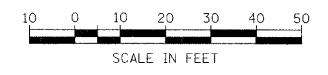
ENERGY SUPPLY CONTACT: MARK SCHERIBEL  
PHONE: (630) 723-2128  
COMPANY: COMMONWEALTH EDISON

PLAN

DATE	BY	REVISION

PROFILE

DATE	BY	REVISION



DATE	
BY	
PLAN	
NO.	
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THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM OUTSIDE THE RIGHT-OF-WAY AT HIS EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH PEDESTRIAN SIGNAL HEADS
- 8 EACH PEDESTRIAN PUSH BUTTONS

**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, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

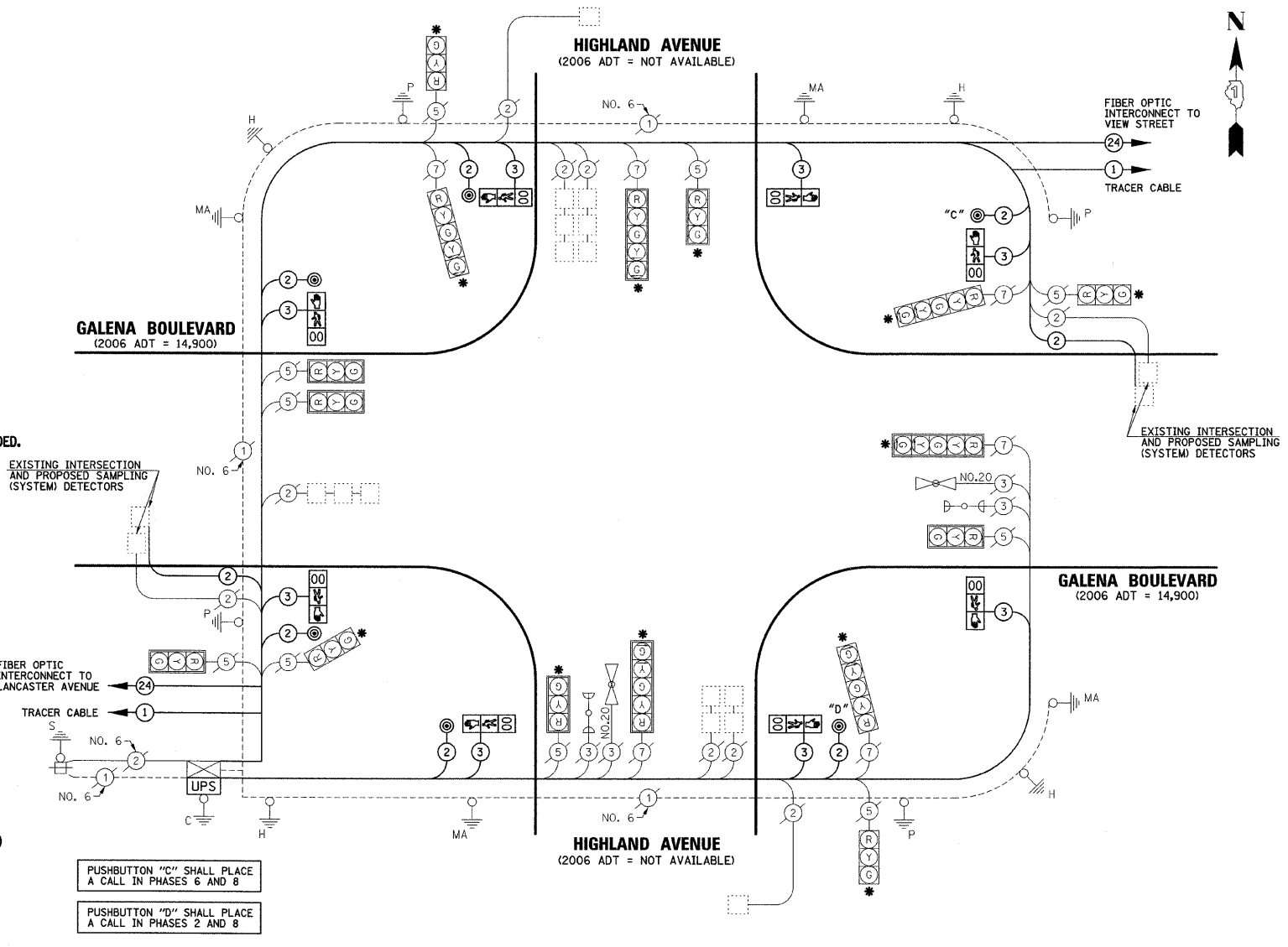
**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER			DETECTOR LOOP		
SERVICE INSTALLATION			CAST IRON JUNCTION BOX		
SIGNAL HEAD			EMERGENCY VEHICLE LIGHT DETECTOR		
SIGNAL HEAD WITH BACKPLATE			CONFIRMATION BEACON		
SIGNAL HEAD, PEDESTRIAN			SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL POST			CONDUIT SPLICE		
MAST ARM ASSEMBLY AND POLE, STEEL			WOOD POLE		
MAST ARM ASSEMBLY AND POLE, ALUMINUM			RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE			VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
UNIT DUCT			RAILROAD CONTROL CABINET		
COMMON TRENCH			TELEPHONE CONNECTION		
HANDHOLE			ILLUMINATED SIGN "NO LEFT TURN"		
HEAVY DUTY HANDHOLE			ILLUMINATED SIGN "NO RIGHT TURN"		
DOUBLE HANDHOLE			UNINTERRUPTIBLE POWER SUPPLY		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)			VIDEO DETECTION CAMERA		
PEDESTRIAN PUSHBUTTON DETECTOR			VIDEO DETECTION AREA		



**CABLE PLAN LEGEND**

- |                 |                 |   |
|-----------------|-----------------|---|
| <b>EXISTING</b> | <b>PROPOSED</b> |   |
|                 |                 | 8" (200mm) TRAFFIC SIGNAL SECTION   |
|                 |                 | 12" (300mm) TRAFFIC SIGNAL SECTION  |
|                 |                 | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
|                 |                 | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
|                 |                 | CONTROLLER CABINET  |
|                 |                 | SERVICE INSTALLATION  |
|                 |                 | TELEPHONE INSTALLATION  |
|                 |                 | VEHICLE DETECTOR, INDUCTION LOOP  |
|                 |                 | MAGNETIC DETECTOR   |
|                 |                 | EMERGENCY VEHICLE LIGHT DETECTOR  |
|                 |                 | CONFIRMATION BEACON   |
|                 |                 | PUSHBUTTON DETECTOR   |
|                 |                 | LUMINAIRE   |
|                 |                 | DENOTES NUMBER OF CONDUCTORS.<br>ALL CABLE NO. 14 EXCEPT AS INDICATED.<br>ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
|                 |                 | GROUND CABLE IN CONDUIT<br>NO. 6 SOLID COPPER (GREEN)   |
|                 |                 | FIBER OPTIC CABLE IN CONDUIT<br>NO. 62.5/125 2-MM12F SM12F  |
|                 |                 | SIGNAL FACE WITH BACKPLATE.<br>"P" INDICATES PROGRAMMED HEAD.   |
|                 |                 | RAILROAD CONTROL CABINET  |
|                 |                 | ILLUMINATED SIGN<br>"NO LEFT TURN"  |
|                 |                 | ILLUMINATED SIGN<br>"NO RIGHT TURN"   |
|                 |                 | WIRELESS ANTENNA  |
|                 |                 | GROUND ROD AT HANDHOLE (H),<br>DOUBLE HANDHOLE (H), OR CONTROLLER (C)   |
|                 |                 | GROUND ROD AT POST (P)<br>OR MAST ARM POLE (MA)   |
|                 |                 | GROUND ROD AT ELECTRIC<br>SERVICE INSTALLATION  |
|                 |                 | UNINTERRUPTIBLE POWER SUPPLY  |
|                 |                 | LED STREET NAME SIGN  |
|                 |                 | VIDEO DETECTION CAMERA  |



**SCHEDULE OF QUANTITIES**

PAY ITEM DESCRIPTION	UNIT	HIGHLAND AVENUE
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1019
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1643.5
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	719.5
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	8
INDUCTIVE LOOP DETECTOR	EACH	2
PEDESTRIAN PUSH-BUTTON	EACH	6
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	3231
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
SIGNAL HEAD, LED, 3-SECTION, BRACKET MOUNTED, RETROFIT	EACH	4
SIGNAL HEAD, LED, 3-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	2
SIGNAL HEAD, LED, 5-SECTION, BRACKET MOUNTED, RETROFIT	EACH	3
SIGNAL HEAD, LED, 5-SECTION, MAST ARM MOUNTED, RETROFIT	EACH	3

\* SIGNAL HEAD, LED RETROFIT

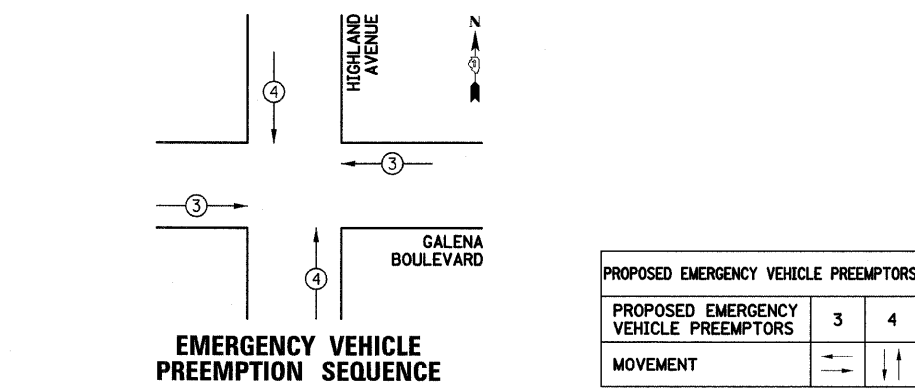
DATE	BY	REVISION

DATE	BY	REVISION

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16	17	0.50	136	
(YELLOW)	16	25	0.25	100	
(GREEN)	16	15	0.25	60	
ARROW	12	12	0.10	14.4	
PED. SIGNAL	8	25	1.00	200	
CONTROLLER	1	100	1.00	100	
UPS	1	25	1.00	25	
TOTAL =				621	

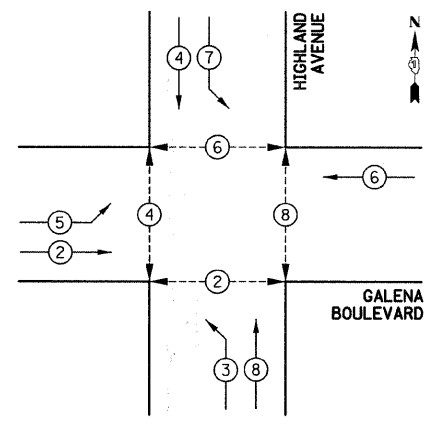
ENERGY COSTS TO: CITY OF AURORA  
44 E. DOWNER PLACE  
AURORA, ILLINOIS 60507-2067

ENERGY SUPPLY CONTACT: MARK SCHERIBEL  
PHONE: (630) 723-2128  
COMPANY: COMMONWEALTH EDISON

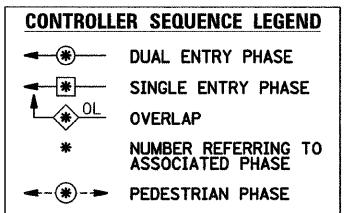


FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
C - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2=
D - CONTROLLER	4 (1.2)	SIGNAL POST	2 (1.0)	(6m+L-0.6m)	
E - M.A. LENGTH		CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
<30'	30" (900mm)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
<40'	30" (750mm)	ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
<40'	36" (900mm)	GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
<50'	36" (900mm)			POST MOUNTED	6 (1.8)
>50'	36" (900mm)				

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**

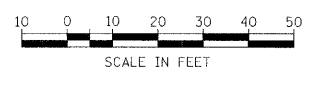


FILE NAME =	USER NAME = .USER.	DESIGNED -	REVISED -
g:\Jobs\amth\2007\070690 AURO - Traffic	signals\070690\01 AURO Gaena Blvd Traffic S	DRAWN - DAF	REVISED -
	PLOT SCALE = #SCALE#	CHECKED - APS	REVISED -
	PLOT DATE = 4/15/2009	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

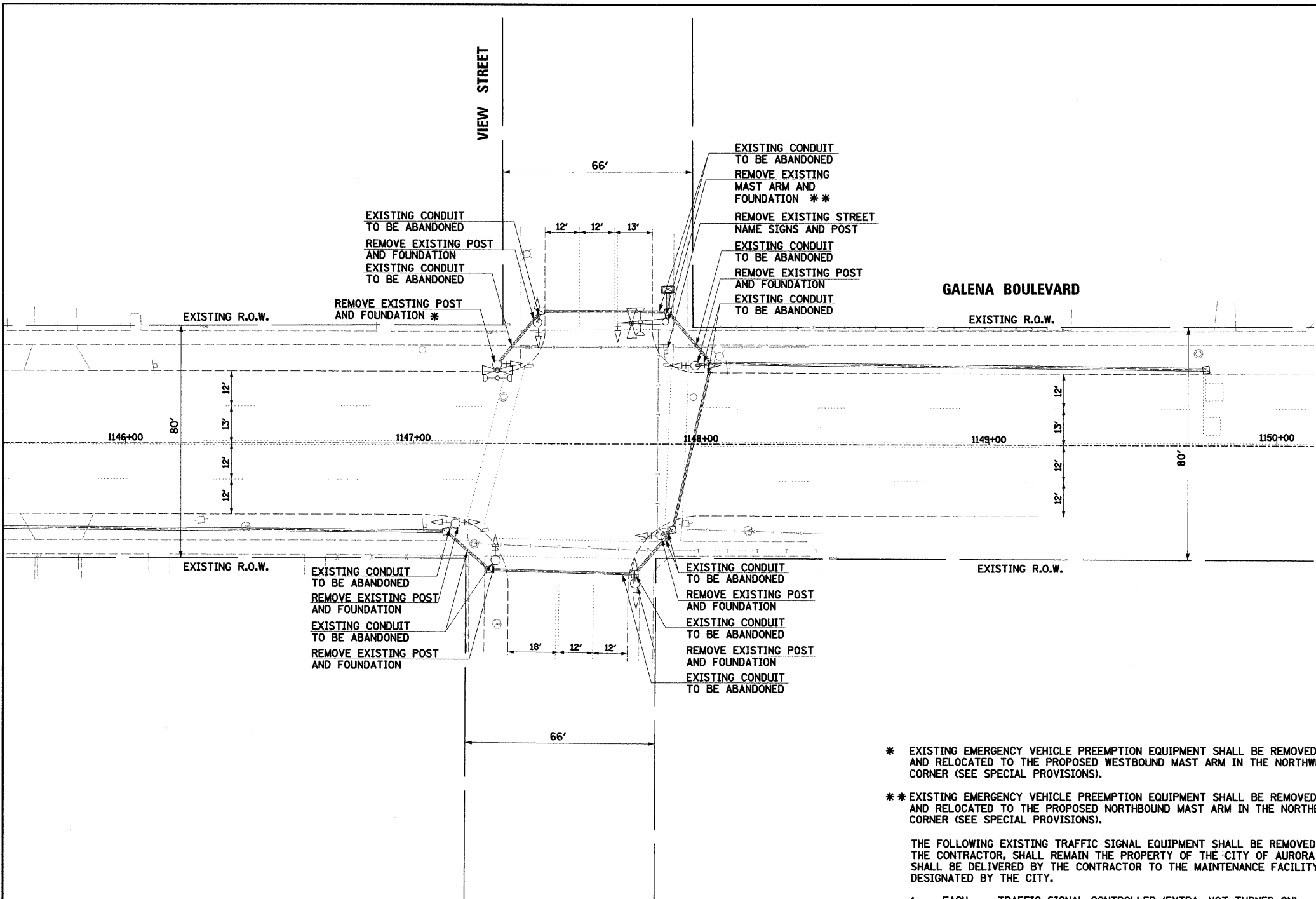
CABLE PLAN AND PHASE DESIGNATION DIAGRAM HIGHLAND AVENUE			
SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00257-00-TL	KANE	39	25
CONTRACT NO. 63105				
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				



DATE	
BY	
PLAN	
NO.	
REVISIONS	
DATE	
BY	
NO.	
REVISIONS	
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REVISIONS	

DATE	
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PROFILE	
NO.	
REVISIONS	
DATE	
BY	
NO.	
REVISIONS	
DATE	
BY	
NO.	
REVISIONS	



**NOTES:**  
 1. A MINIMUM OF ONE EXISTING SIGNAL INDICATION PER PHASE SHALL REMAIN OPERATIONAL UNTIL ALL THE PROPOSED TRAFFIC SIGNAL EQUIPMENT HAS BEEN INSTALLED AND IS OPERATIONAL.

\* EXISTING EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE REMOVED AND RELOCATED TO THE PROPOSED WESTBOUND MAST ARM IN THE NORTHWEST CORNER (SEE SPECIAL PROVISIONS).

\*\* EXISTING EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE REMOVED AND RELOCATED TO THE PROPOSED NORTHBOUND MAST ARM IN THE NORTHEAST CORNER (SEE SPECIAL PROVISIONS).

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE CITY OF AURORA AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE MAINTENANCE FACILITY DESIGNATED BY THE CITY.

- 1 EACH TRAFFIC SIGNAL CONTROLLER (EXTRA, NOT TURNED ON)

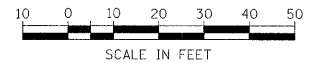
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM OUTSIDE THE RIGHT-OF-WAY AT HIS EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 7 EACH TRAFFIC SIGNAL POST
- 12 EACH TRAFFIC SIGNAL HEADS
- 1 EACH TRAFFIC SIGNAL BACKPLATES
- 2 EACH STREET NAME SIGNS
- 1 EACH STREET NAME POSTS

**EXISTING EQUIPMENT TO BE REMOVED LEGEND**

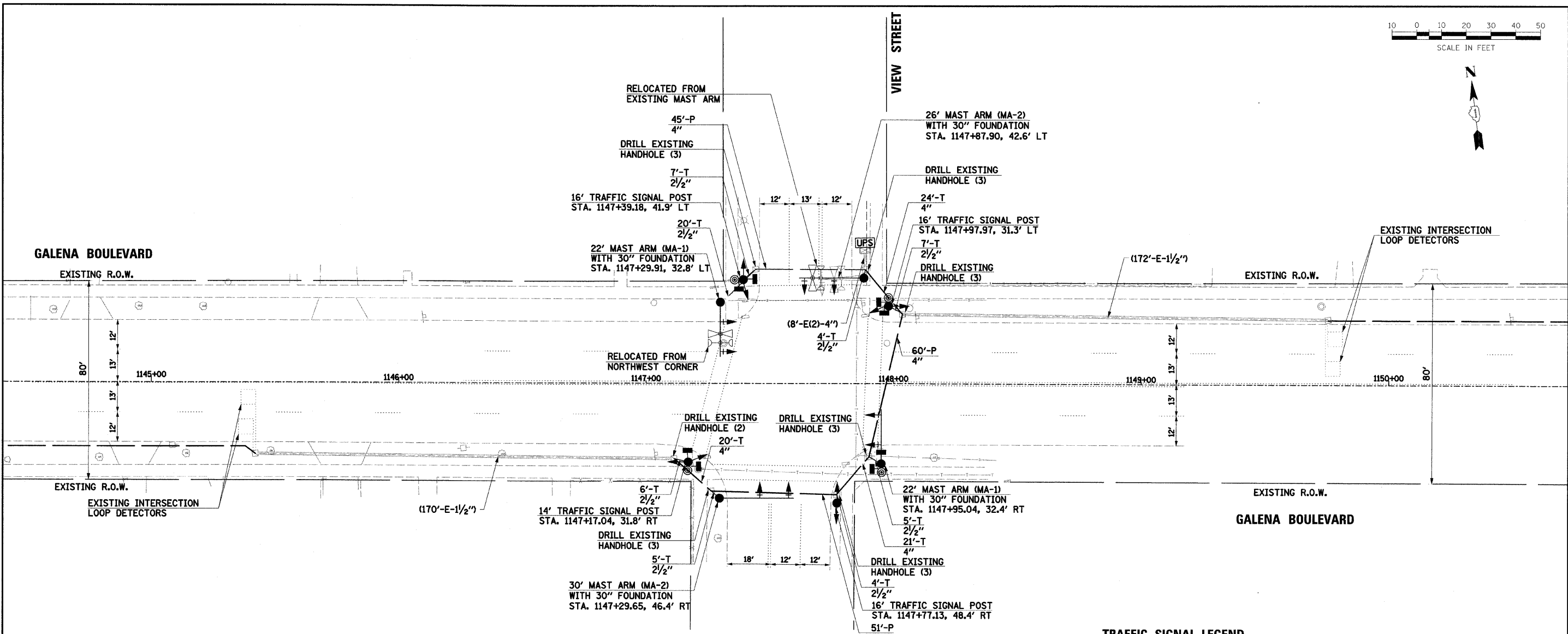
- EXISTING SIGNAL HEAD TO BE REMOVED
- EXISTING SERVICE INSTALLATION TO BE REMOVED
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- CONFIRMATION BEACON TO BE REMOVED
- EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

FILE NAME =	USER NAME = .USER	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED VIEW STREET</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
g:\jobs\smith\2007\070690 AURO - Traffic	Signals\070690\01 AURO Galena Blvd Traffic S	DRAWN d	REVISED -			05-00257-00-TL	KANE	39	26	
PLOT SCALE = #SCALE#	CHECKED APS	REVISED -				CONTRACT NO. 63105				
PLOT DATE = 4/15/2009	DATE -	REVISED -				FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			



DATE	
BY	
SAVED	
NOTED	
FILED	
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NOTE:  
ALL PROPOSED TRAFFIC SIGNAL MAST ARMS AND POSTS SHALL BE PAINTED BLACK.

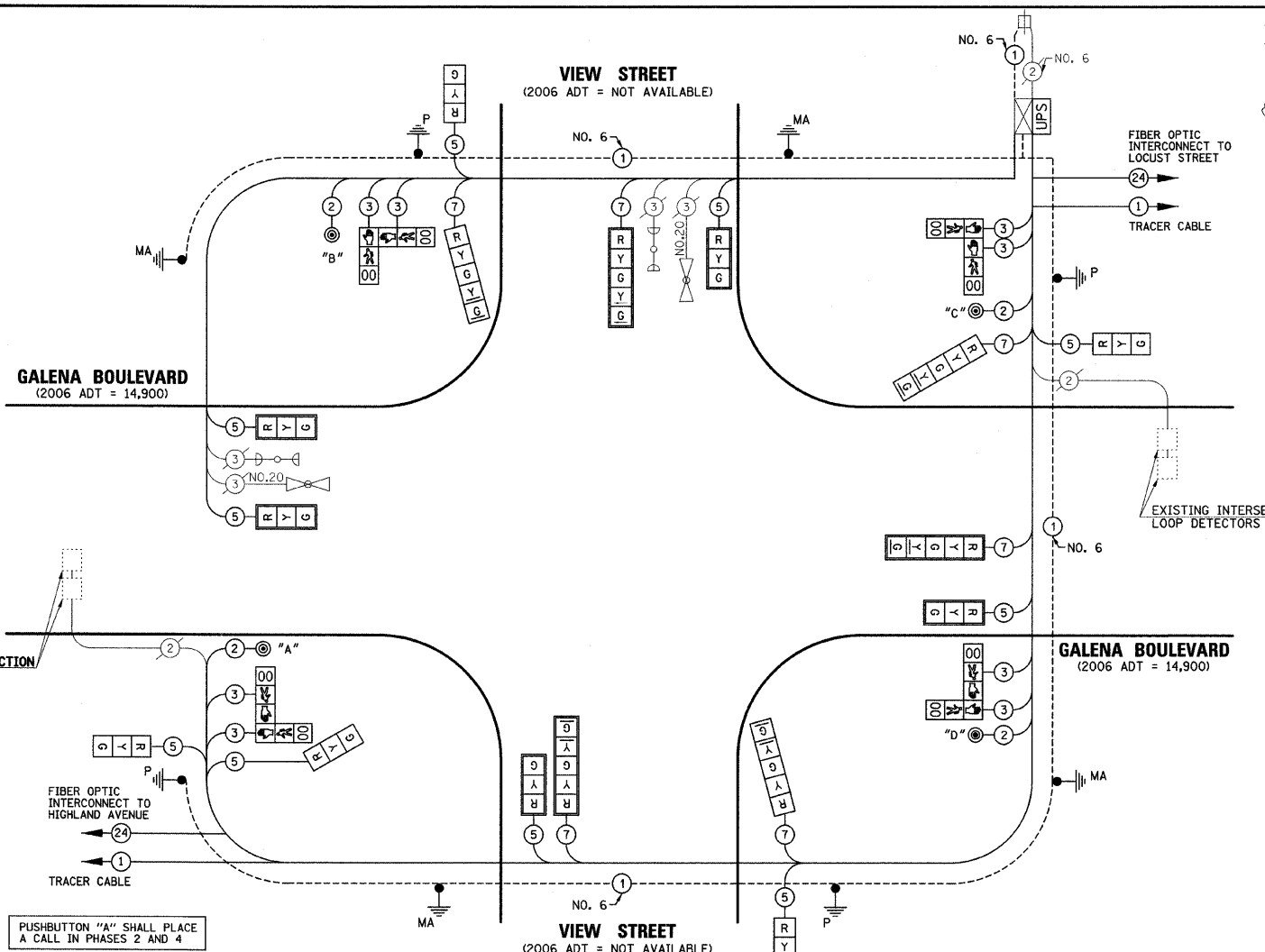
**RESTORATION OF WORK AREA:**  
RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**TRAFFIC SIGNAL LEGEND**

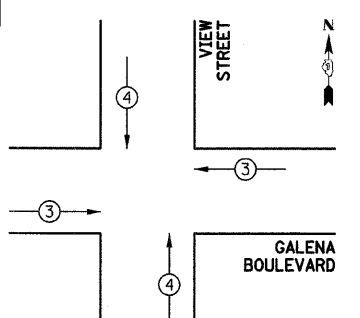
	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER			DETECTOR LOOP		
SERVICE INSTALLATION			CAST IRON JUNCTION BOX		
SIGNAL HEAD			EMERGENCY VEHICLE LIGHT DETECTOR		
SIGNAL HEAD WITH BACKPLATE			CONFIRMATION BEACON		
SIGNAL HEAD, PEDESTRIAN			SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL POST			CONDUIT SPLICE		
MAST ARM ASSEMBLY AND POLE, STEEL			WOOD POLE		
MAST ARM ASSEMBLY AND POLE, ALUMINUM			RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE			VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
UNIT DUCT	UD		RAILROAD CONTROL CABINET		
COMMON TRENCH	CT		TELEPHONE CONNECTION		
HANDHOLE			ILLUMINATED SIGN "NO LEFT TURN"		
HEAVY DUTY HANDHOLE			ILLUMINATED SIGN "NO RIGHT TURN"		
DOUBLE HANDHOLE			UNINTERRUPTABLE POWER SUPPLY		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)			VIDEO DETECTION CAMERA		
PEDESTRIAN PUSHBUTTON DETECTOR			VIDEO DETECTION AREA		

**CABLE PLAN LEGEND**

EXISTING	PROPOSED	DESCRIPTION
		8" (200mm) TRAFFIC SIGNAL SECTION
		12" (300mm) TRAFFIC SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
		TELEPHONE INSTALLATION
		VEHICLE DETECTOR, INDUCTION LOOP
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
		LUMINAIRE
		DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
		GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
		FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SMI2F
		SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD.
		RAILROAD CONTROL CABINET
		ILLUMINATED SIGN "NO LEFT TURN"
		ILLUMINATED SIGN "NO RIGHT TURN"
		GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C)
		GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
		GROUND ROD AT ELECTRIC SERVICE INSTALLATION
		UNINTERRUPTIBLE POWER SUPPLY
		VIDEO DETECTION CAMERA



PUSHBUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSHBUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6  
 PUSHBUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8  
 PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

PROPOSED EMERGENCY VEHICLE PREEMPTORS

PROPOSED EMERGENCY VEHICLE PREEMPTORS	3	4
MOVEMENT	←	↑

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
C - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'-H-2=
D - CONTROLLER	4 (1.2)	SIGNAL POST	2 (1.0)		(6m-H-0.6m)
E - M.A. LENGTH		CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
<30'	30" (900mm)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
<40'	30" (750mm)	ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
<40'	36" (900mm)	GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
<50'	36" (900mm)			POST MOUNTED	6 (1.8)
>50'	36" (900mm)				

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

TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16		17	0.50	136
(YELLOW)	16		25	0.25	100
(GREEN)	16		15	0.25	60
ARROW	12		12	0.10	14.4
PED. SIGNAL	8		25	1.00	200
CONTROLLER	1		100	1.00	100
UPS	1		25	1.00	25.0
<b>TOTAL =</b>					<b>635.4</b>

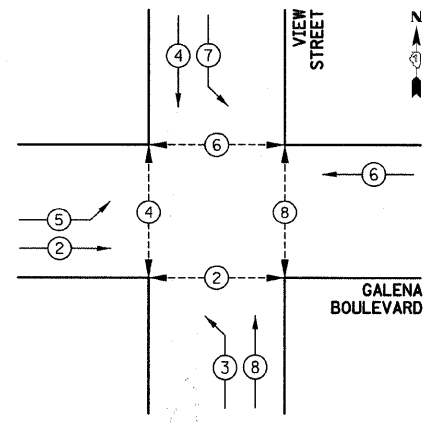
ENERGY COSTS TO: CITY OF AURORA  
 44 E. DOWNER PLACE  
 AURORA, ILLINOIS 60507-2067

ENERGY SUPPLY CONTACT: MARK SCHERIBEL  
 PHONE: (630) 723-2128  
 COMPANY: COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

PAY ITEM DESCRIPTION	UNIT	VIEW STREET
SIGN PANEL - TYPE 1	SQ FT	28.5
CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	58
CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL	FOOT	65
CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	156
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	123
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	544.5
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1145
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 6C	FOOT	1589.5
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	850.5
TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	1
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	3
STEEL MAST ARM ASSEMBLY AND POLE, 22 FT.	EACH	2
STEEL MAST ARM ASSEMBLY AND POLE, 26 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 30 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	16
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	43.5
DRILL EXISTING HANDHOLE	EACH	20
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	5
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	3
SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	3
PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	8
PEDESTRIAN PUSH-BUTTON	EACH	4
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	1583.5
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	8
PAINT NEW MAST ARM POLE, UNDER 40 FEET	EACH	4
PAINT TRAFFIC SIGNAL POST	EACH	4
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	359
RELOCATE LIGHT DETECTOR	EACH	2
GROUND EXISTING HANDHOLE FRAME AND COVER	EACH	7

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**

**CONTROLLER SEQUENCE LEGEND**

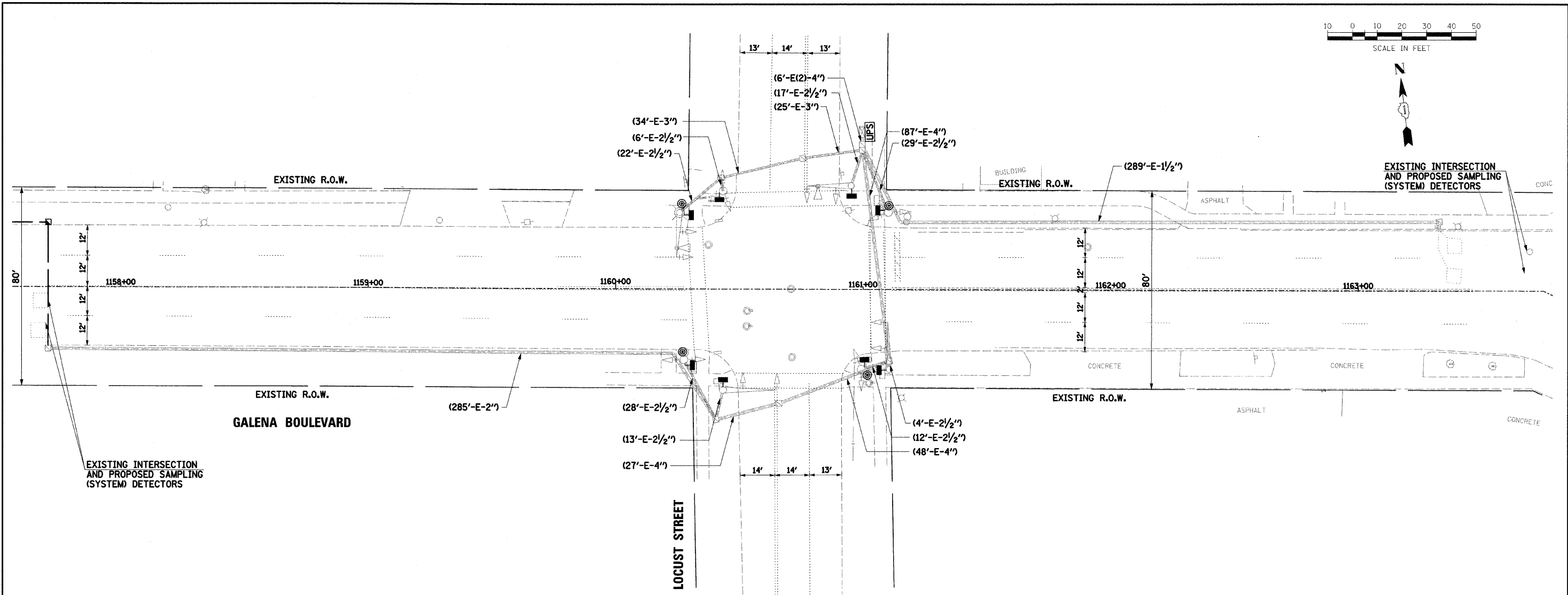
- DUAL ENTRY PHASE
- SINGLE ENTRY PHASE
- OVERLAP
- NUMBER REFERRING TO ASSOCIATED PHASE
- PEDESTRIAN PHASE

DATE	BY	DESCRIPTION



DATE	
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PLAN	
NO.	
DATE	
BY	
PROFILE	
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DATE	
BY	

DATE	
BY	
PROFILE	
NO.	
DATE	
BY	



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

- 8 EACH PEDESTRIAN SIGNAL HEADS
- 4 EACH PEDESTRIAN PUSH BUTTONS

**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, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**TRAFFIC SIGNAL LEGEND**

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER			DETECTOR LOOP		
SERVICE INSTALLATION			CAST IRON JUNCTION BOX		
SIGNAL HEAD			EMERGENCY VEHICLE LIGHT DETECTOR		
SIGNAL HEAD WITH BACKPLATE			CONFIRMATION BEACON		
SIGNAL HEAD, PEDESTRIAN			SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL POST			CONDUIT SPLICE		
MAST ARM ASSEMBLY AND POLE, STEEL			WOOD POLE		
MAST ARM ASSEMBLY AND POLE, ALUMINUM			RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE			VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
UNIT DUCT	LD		RAILROAD CONTROL CABINET		
COMMON TRENCH	CT		TELEPHONE CONNECTION		
HANDHOLE			ILLUMINATED SIGN "NO LEFT TURN"		
HEAVY DUTY HANDHOLE			ILLUMINATED SIGN "NO RIGHT TURN"		
DOUBLE HANDHOLE			UNINTERRUPTABLE POWER SUPPLY	UPS	UPS
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)			VIDEO DETECTION CAMERA		
PEDESTRIAN PUSHBUTTON DETECTOR			VIDEO DETECTION AREA		

FILE NAME =	USER NAME = _USER_	DESIGNED -	REVISED -
g:\jobs\smith\2007\070690 euro - traffic	signals\070690.01 euro galena blvd traffic sig	DRAWN\tr\BAH\dwg\690.1.sig\2b.locus	REVISED -
	PLOT SCALE = #SCALE#	CHECKED APS	REVISED -
	PLOT DATE = 4/15/2009	DATE -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

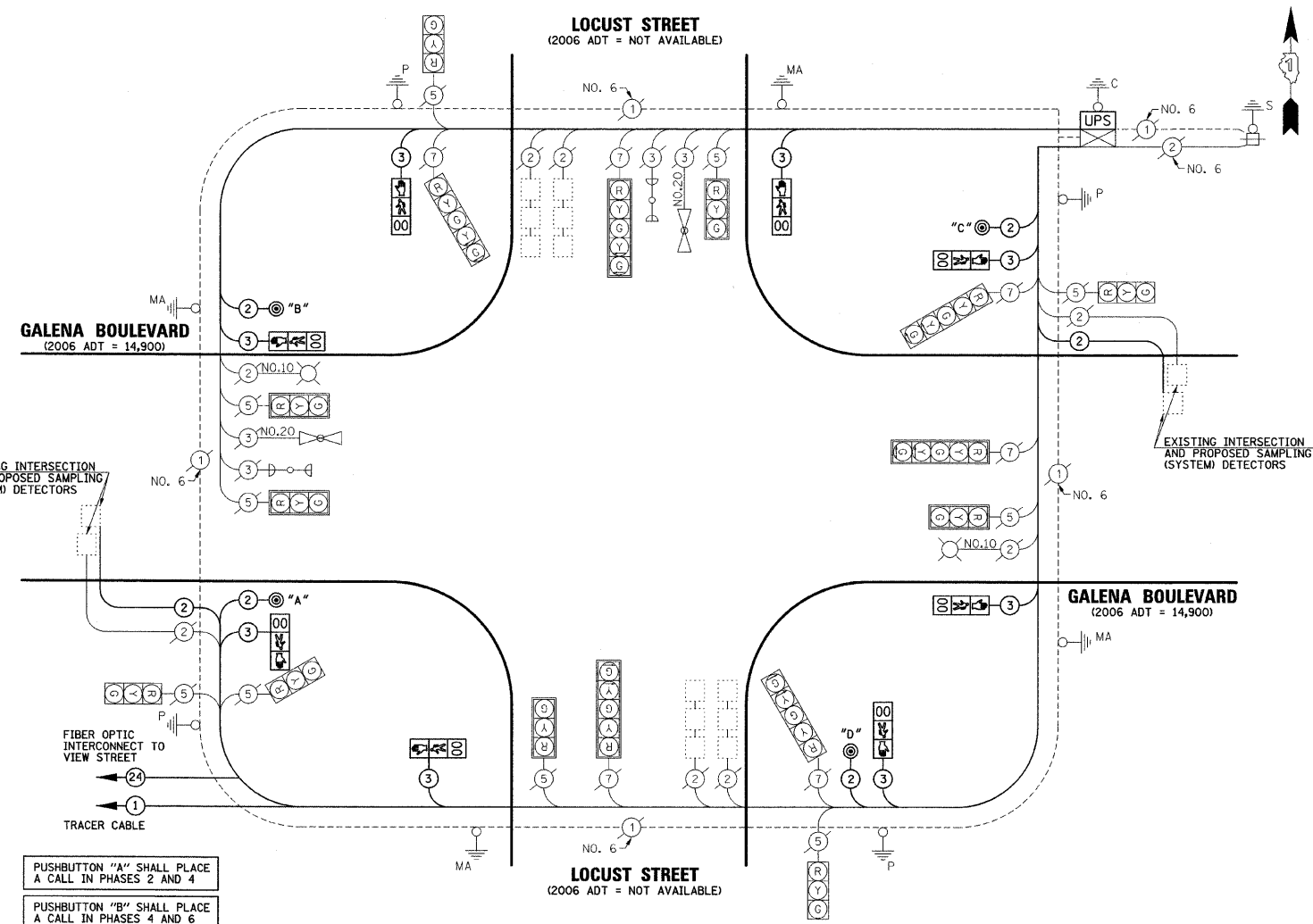
TRAFFIC SIGNAL MODIFICATION PLAN  
 LOCUST STREET

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

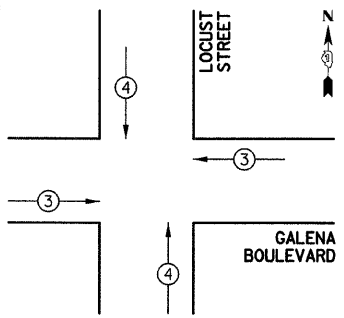
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00257-00-TL	KANE	39	30
CONTRACT NO. 63105				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

**CABLE PLAN LEGEND**

- |                 |                 |   |
|-----------------|-----------------|---|
| <b>EXISTING</b> | <b>PROPOSED</b> |   |
|                 |                 | 8" (200mm) TRAFFIC SIGNAL SECTION       |
|                 |                 | 12" (300mm) TRAFFIC SIGNAL SECTION      |
|                 |                 | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
|                 |                 | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
|                 |                 | CONTROLLER CABINET                      |
|                 |                 | SERVICE INSTALLATION                    |
|                 |                 | TELEPHONE INSTALLATION                  |
|                 |                 | VEHICLE DETECTOR, INDUCTION LOOP        |
|                 |                 | MAGNETIC DETECTOR                       |
|                 |                 | EMERGENCY VEHICLE LIGHT DETECTOR        |
|                 |                 | CONFIRMATION BEACON                     |
|                 |                 | PUSHBUTTON DETECTOR                     |
|                 |                 | LUMINAIRE                               |
|                 |                 | DENOTES NUMBER OF CONDUCTORS.           |
|                 |                 | ALL CABLE NO. 14 EXCEPT AS INDICATED.   |
|                 |                 | ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
|                 |                 | GROUND CABLE IN CONDUIT                 |
|                 |                 | NO. 6 SOLID COPPER (GREEN)              |
|                 |                 | FIBER OPTIC CABLE IN CONDUIT            |
|                 |                 | NO. 62.5/125 2-MM12F SM12F              |
|                 |                 | SIGNAL FACE WITH BACKPLATE.             |
|                 |                 | "P" INDICATES PROGRAMMED HEAD.          |
|                 |                 | RAILROAD CONTROL CABINET                |
|                 |                 | ILLUMINATED SIGN                        |
|                 |                 | "NO LEFT TURN"                          |
|                 |                 | ILLUMINATED SIGN                        |
|                 |                 | "NO RIGHT TURN"                         |
|                 |                 | WIRELESS ANTENNA                        |
|                 |                 | GROUND ROD AT HANDHOLE (H),             |
|                 |                 | DOUBLE HANDHOLE (H), OR CONTROLLER (C)  |
|                 |                 | GROUND ROD AT POST (P)                  |
|                 |                 | OR MAST ARM POLE (MA)                   |
|                 |                 | GROUND ROD AT ELECTRIC                  |
|                 |                 | SERVICE INSTALLATION                    |
|                 |                 | UNINTERRUPTABLE POWER SUPPLY            |
|                 |                 | LED STREET NAME SIGN                    |
|                 |                 | VIDEO DETECTION CAMERA                  |



- PUSHBUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4
- PUSHBUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6
- PUSHBUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8
- PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

PROPOSED EMERGENCY VEHICLE PREEMPTORS	
PROPOSED EMERGENCY VEHICLE PREEMPTORS	3 4
MOVEMENT	← → ↑ ↓

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
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D - CONTROLLER	4 (1.2)	SIGNAL POST	2 (1.0)		(6m±L-0.6m)
E - M.A. LENGTH		CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
<30'	30" (900mm)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
<40'	30" (750mm)	ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
<40'	36" (900mm)	GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
<50'	36" (900mm)			POST MOUNTED	6 (1.8)
>50'	36" (900mm)				

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	16		17	0.50	136
(YELLOW)	16		25	0.25	100
(GREEN)	16		15	0.25	60
ARROW	12		12	0.10	14.4
PED. SIGNAL	8		25	1.00	200
CONTROLLER	2		100	1.00	200
UPS	1		25	1.00	25
<b>TOTAL =</b>					<b>735.4</b>

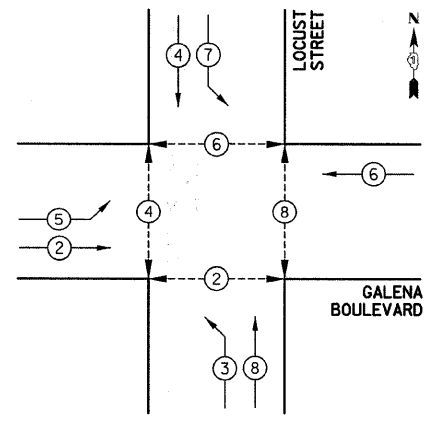
ENERGY COSTS TO: CITY OF AURORA  
44 E. DOWNER PLACE  
AURORA, ILLINOIS 60507-2067

ENERGY SUPPLY CONTACT: MARK SCHERIBEL  
PHONE: (630) 723-2128  
COMPANY: COMMONWEALTH EDISON

**SCHEDULE OF QUANTITIES**

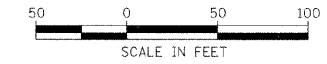
PAY ITEM DESCRIPTION	UNIT	LOCUST STREET
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	562
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1074
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	812.5
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	8
INDUCTIVE LOOP DETECTOR	EACH	2
PEDESTRIAN PUSH-BUTTON	EACH	4
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	1559
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
UNINTERRUPTABLE POWER SUPPLY	EACH	1

**CONTROLLER SEQUENCE**



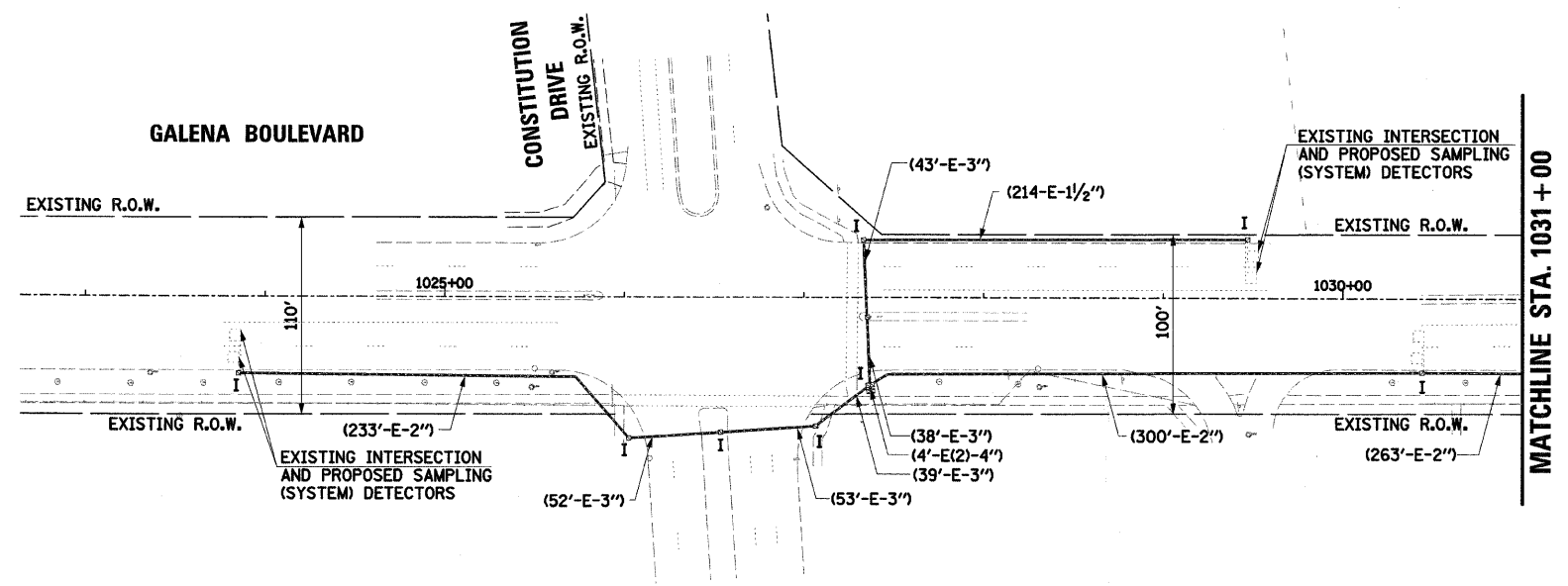
**PHASE DESIGNATION DIAGRAM**

CONTROLLER SEQUENCE LEGEND	
	DUAL ENTRY PHASE
	SINGLE ENTRY PHASE
	OVERLAP
	NUMBER REFERRING TO ASSOCIATED PHASE
	PEDESTRIAN PHASE



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NOTE BOOK	
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GRADES CHECKED	
BLM. NOTED	
STRUCTURE NOTATIONS OTHER	



**INTERCONNECT PLAN LEGEND**

	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
MAST ARM ASSEMBLY AND POLE, STEEL		

**MODIFY EXISTING CONTROLLER (SPECIAL):**  
 ALL TRAFFIC SIGNAL CONTROLLERS MUST BE FULLY OPERATIONAL AND NTCIP COMPATIBLE PRIOR TO INSTALLATION OF THE CENTRALIZED TRANSPORTATION MANAGEMENT SYSTEM (SEE SPECIAL PROVISIONS).

**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, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

FILE NAME =	USER NAME = .USER.	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INTERCONNECT PLAN (SHEET 1 OF 6)</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
g:\jobs\smith\2007\070690 AURD - Traffic	signals\070690.01 AURD Galena Blvd Traffic S	DRAWN dT	REVISED -			05-00257-00-TL	KANE	39	32		
	PLOT SCALE = #SCALE#	CHECKED APS	REVISED -			<b>CONTRACT NO. 63105</b>					
	PLOT DATE = 4/15/2009	DATE -	REVISED -			SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	

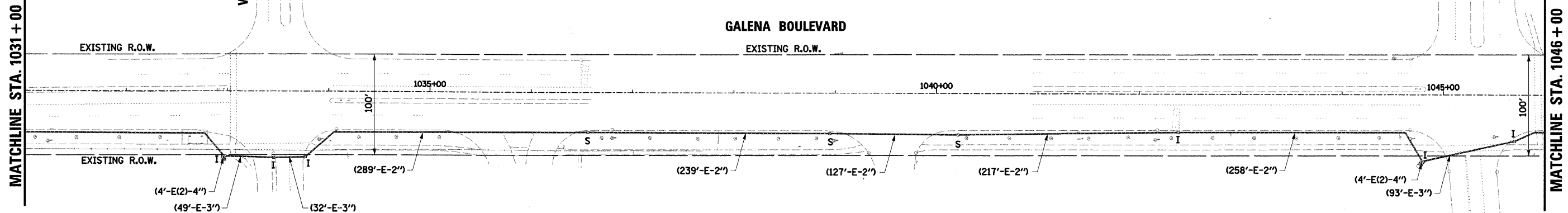




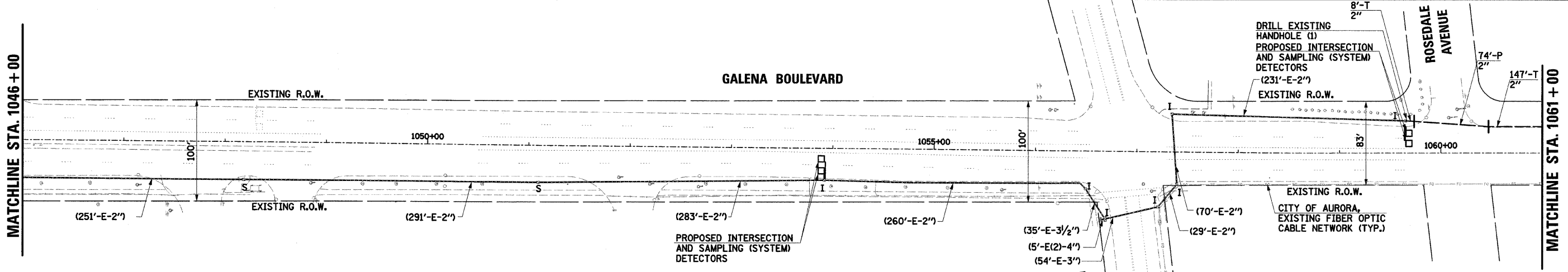
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**INTERCONNECT PLAN LEGEND**

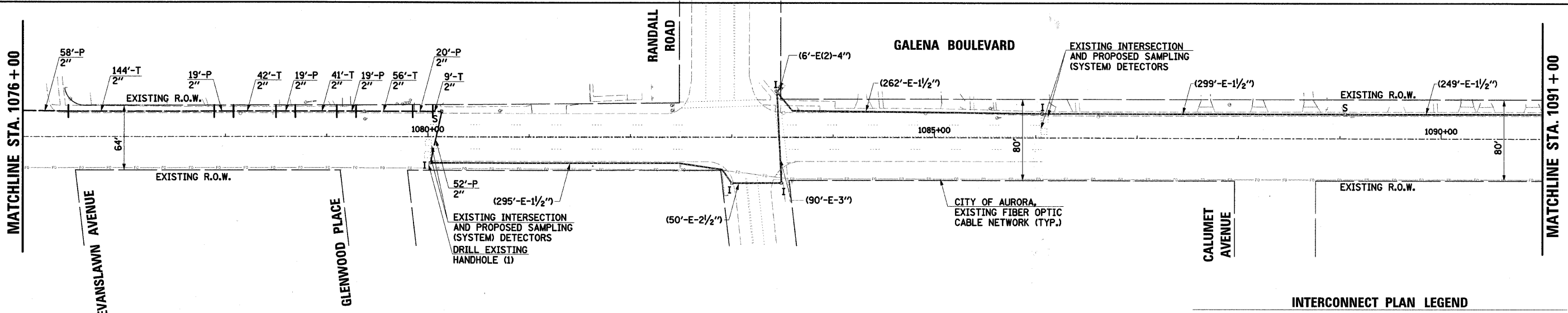
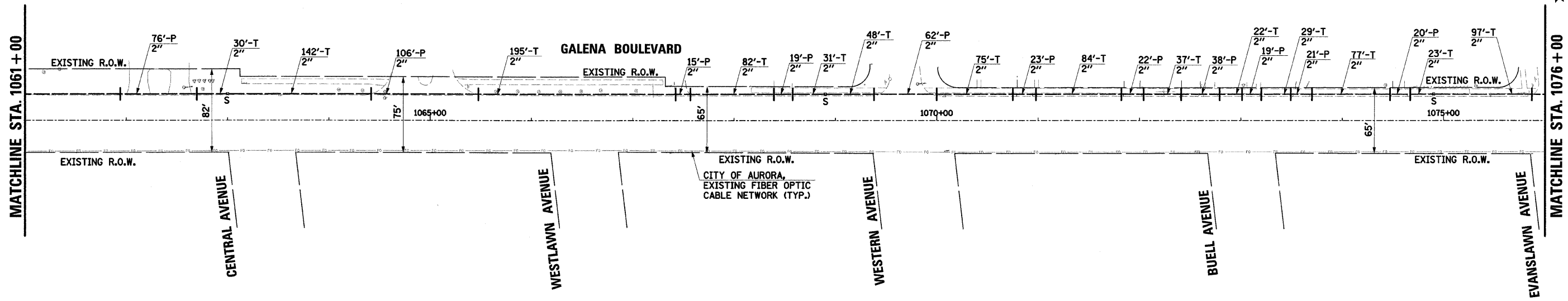
	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
UNIT DUCT		
SYSTEM		
INTERSECTION		
MAST ARM ASSEMBLY AND POLE, STEEL		

**MODIFY EXISTING CONTROLLER (SPECIAL):**  
 ALL TRAFFIC SIGNAL CONTROLLERS MUST BE FULLY OPERATIONAL AND NTCIP COMPATIBLE PRIOR TO INSTALLATION OF THE CENTRALIZED TRANSPORTATION MANAGEMENT SYSTEM (SEE SPECIAL PROVISIONS).

**RESTORATION OF WORK AREA:**  
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**INTERCONNECT PLAN LEGEND**

	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
UNIT DUCT		
SYSTEM		
INTERSECTION		
MAST ARM ASSEMBLY AND POLE, STEEL		

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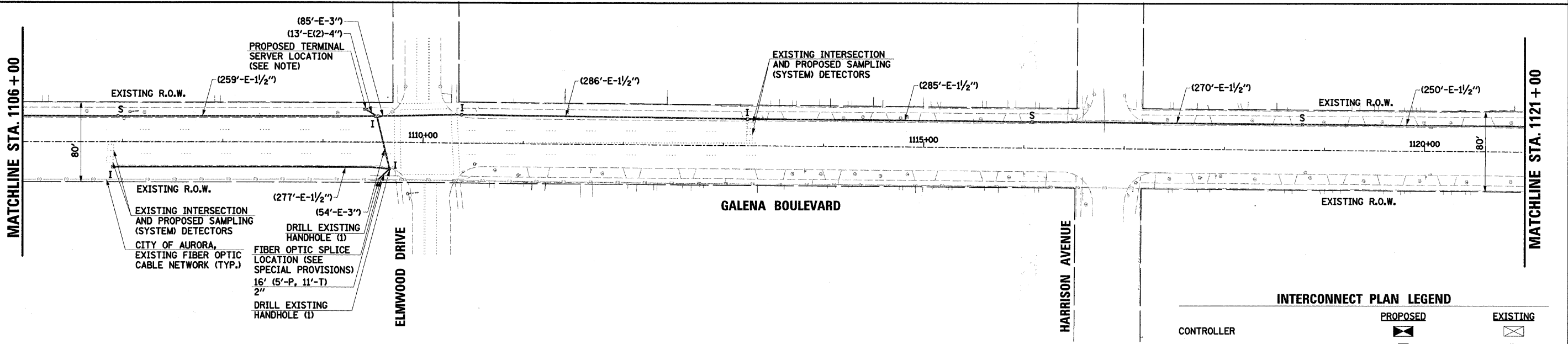
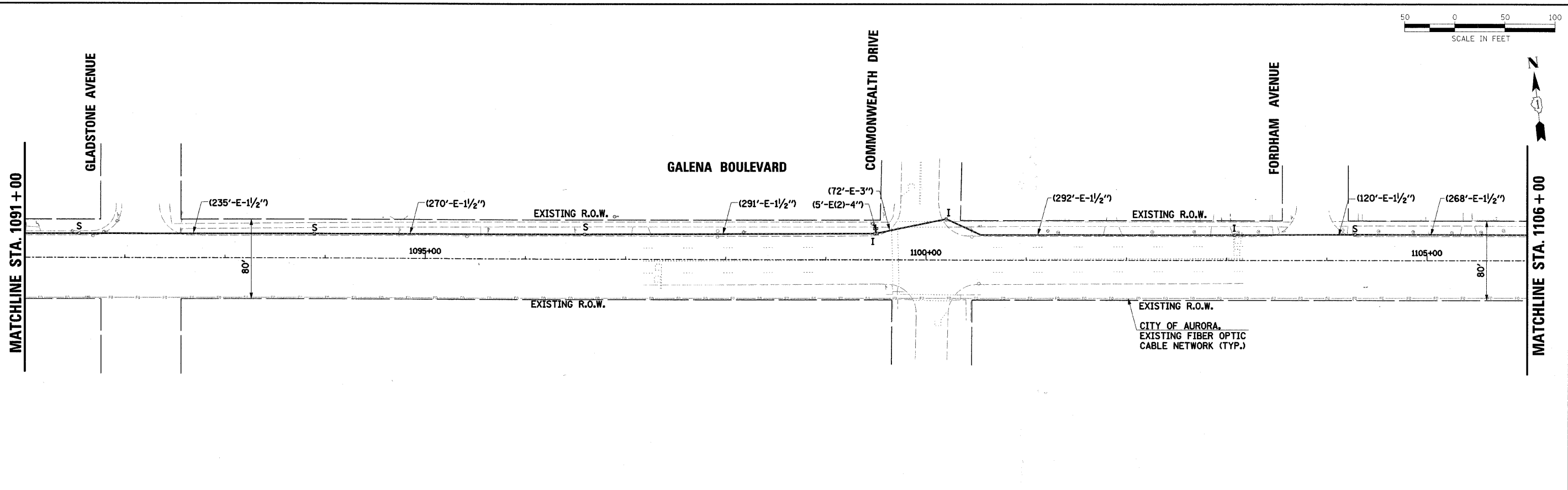
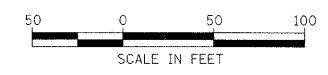
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	PLOT DATE = 4/15/2009	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**INTERCONNECT PLAN  
 (SHEET 3 OF 6)**

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00257-00-TL	KANE	39	34
CONTRACT NO. 63105				
FED. ROAD DIST. NO. (ILLINOIS) FED. AID PROJECT				



**INTERCONNECT PLAN LEGEND**

	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
MAST ARM ASSEMBLY AND POLE, STEEL		

**NOTE:**  
THE PROPOSED TERMINAL SERVER AND ETHERNET SWITCH SHALL BE INSTALLED WITHIN THE EXISTING TRAFFIC SIGNAL CONTROLLER CABINET AT ELMWOOD DRIVE (SEE SPECIAL PROVISIONS).

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	PLOT DATE = 4/15/2009	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INTERCONNECT PLAN  
(SHEET 4 OF 6)**

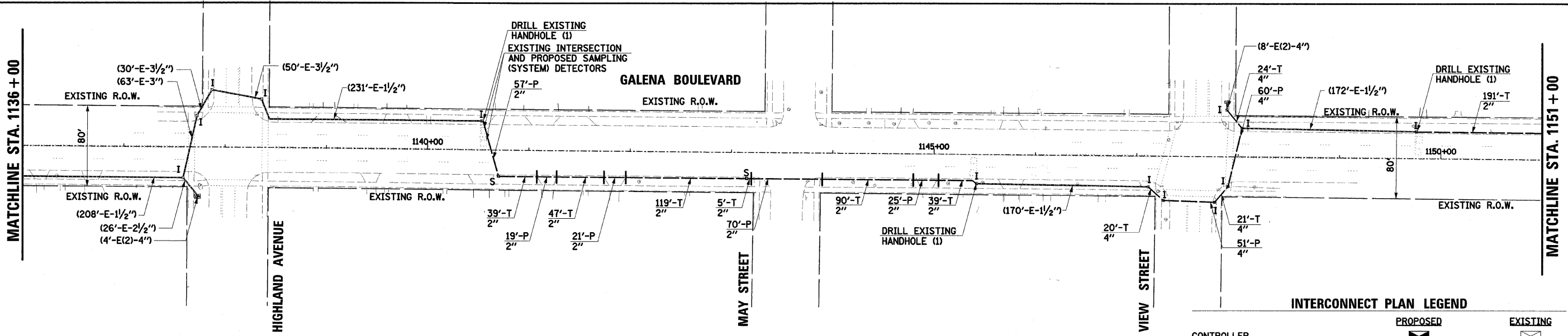
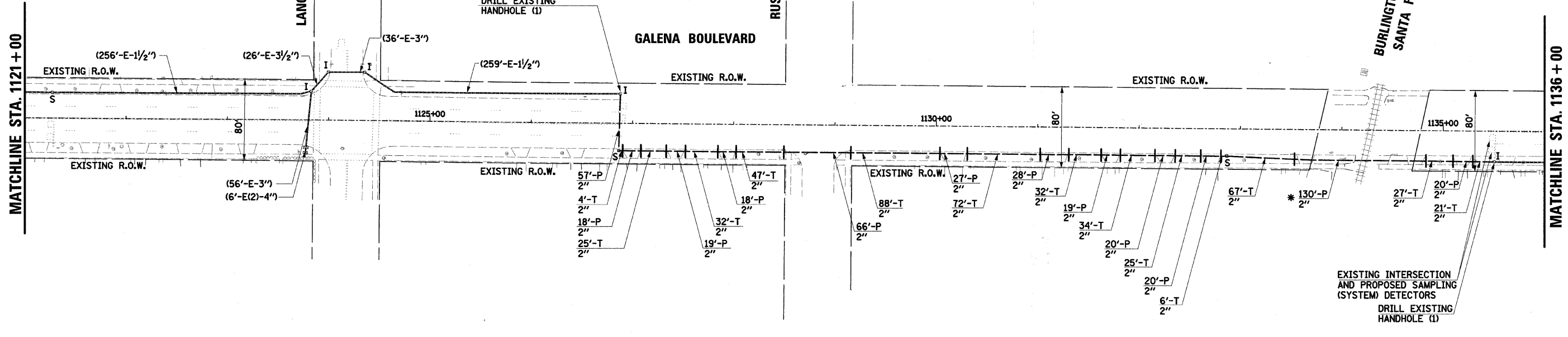
SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00257-00-TL	KANE	39	35
FED. ROAD DIST. NO. (ILLINOIS) FED. AID PROJECT			CONTRACT NO. 63105	



\* WITHIN THE BURLINGTON NORTHERN SANTA FE RIGHT-OF-WAY, THE DEPTH TO THE TOP OF THE PROPOSED CONDUIT SHALL BE A MINIMUM OF 48 INCHES BELOW GRADE AT ALL TIMES WITH A MINIMUM OF 66 INCHES BELOW THE BASE OF THE RAILS.

BURLINGTON NORTHERN SANTA FE RAILROAD



**INTERCONNECT PLAN LEGEND**

	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
UNIT DUCT		
SYSTEM		
INTERSECTION		
MAST ARM ASSEMBLY AND POLE, STEEL		

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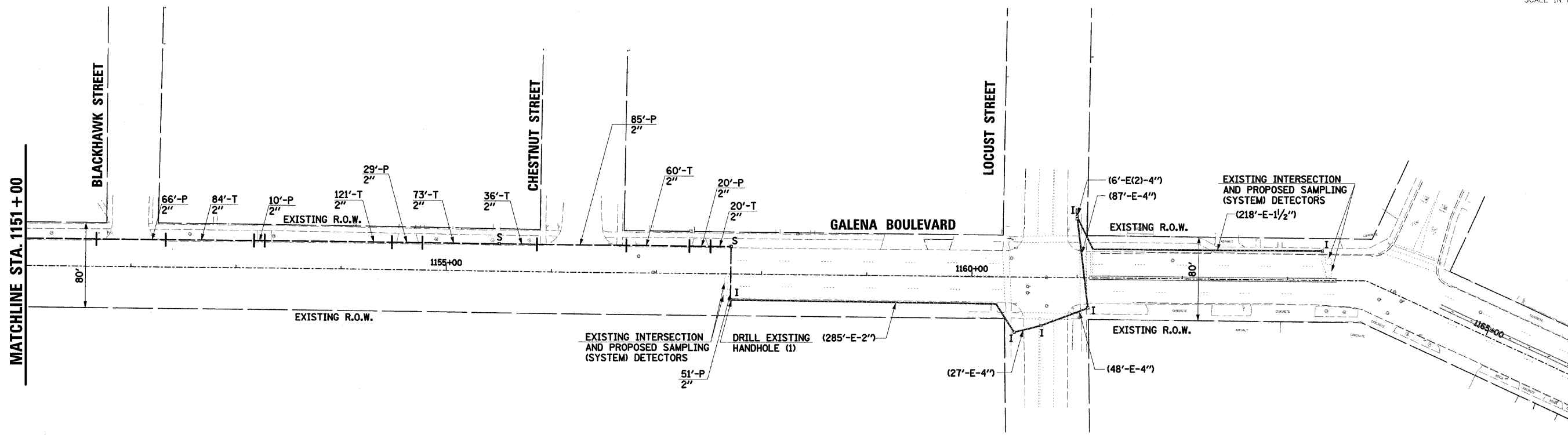
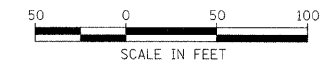
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	PLOT SCALE = #SCALE#	CHECKED APS	REVISED -
	PLOT DATE = 4/15/2009	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN  
(SHEET 5 OF 6)

SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00257-00-TL	KANE	39	36
CONTRACT NO. 63105				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



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ALIGNED	CHECKED
NOTE BOOK	NO.
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NOTE BOOK	NO.
FILE NAME	

**INTERCONNECT PLAN LEGEND**

	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY-DUTY HANDHOLE		
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
DETECTOR LOOP		
UNIT DUCT		
SYSTEM		
INTERSECTION		
MAST ARM ASSEMBLY AND POLE, STEEL		

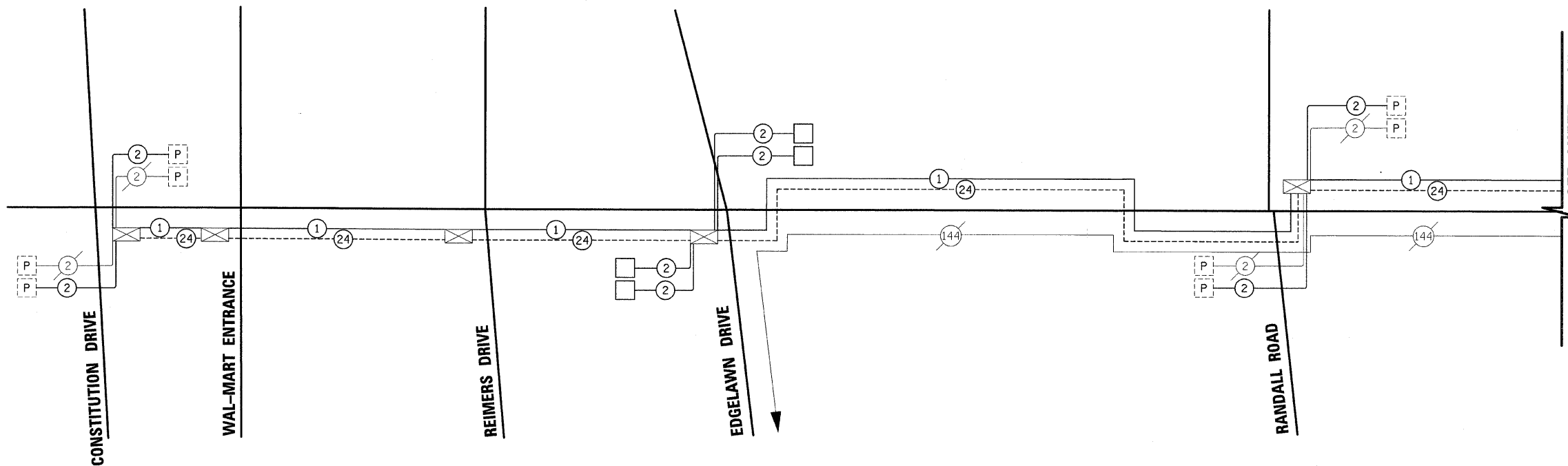
**MODIFY EXISTING CONTROLLER (SPECIAL):**  
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FILE NAME =	USER NAME = .USER	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INTERCONNECT PLAN (SHEET 6 OF 6)</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
u:\jobs\smith\2007\0706590 AURD - Traffic	Signals\0706590.01 AURD Galena Blvd Traffic S	DRAWN d\Tr\APS	REVISED -			05-00257-00-TL	KANE	39	37	
PLOT SCALE = #SCALE#	CHECKED APS	REVISED -				CONTRACT NO. 63105				
PLOT DATE = 4/15/2009	DATE -	REVISED -				FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

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PROFILE	DATE
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NOTE BOOK	NO.
STRUCTURE NOTATIONS	NO.



SEE SHEET 2 OF 2

**INTERCONNECT SCHEMATIC LEGEND**

	EXISTING INTERSECTION CONTROLLER		EXISTING FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F
	PROPOSED INTERSECTION CONTROLLER		PROPOSED FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F
	EXISTING MASTER CONTROLLER		EXISTING INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE
	PROPOSED MASTER CONTROLLER		PROPOSED INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE
	MASTER MASTER CONTROLLER		EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED
	EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS		PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED
	PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		EXISTING LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED
	EXISTING INTERSECTION LOOP DETECTORS		PROPOSED LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED
	PROPOSED SAMPLING (SYSTEM) DETECTORS		EXISTING ELECTRIC CABLE 1/C (AS SPECIFIED)
	EXISTING SAMPLING (SYSTEM) DETECTORS		PROPOSED ELECTRIC CABLE 1/C (AS SPECIFIED)
	PROPOSED SAMPLING (SYSTEM) DETECTORS		EXISTING TELEPHONE CONNECTION
	EXISTING SAMPLING (SYSTEM) DETECTORS & INTERSECTION (SYSTEM) DETECTORS		PROPOSED TELEPHONE CONNECTION
	EXISTING SAMPLING (SYSTEM) DETECTORS & INTERSECTION (SYSTEM) DETECTORS		EXISTING VIDEO DETECTION CAMERA
	EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		EXISTING SAMPLING (SYSTEM) VIDEO DETECTION ZONE
	PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		PROPOSED CENTRALIZED TRANSPORTATION MANAGEMENT SYSTEM
	EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS		
	PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS		

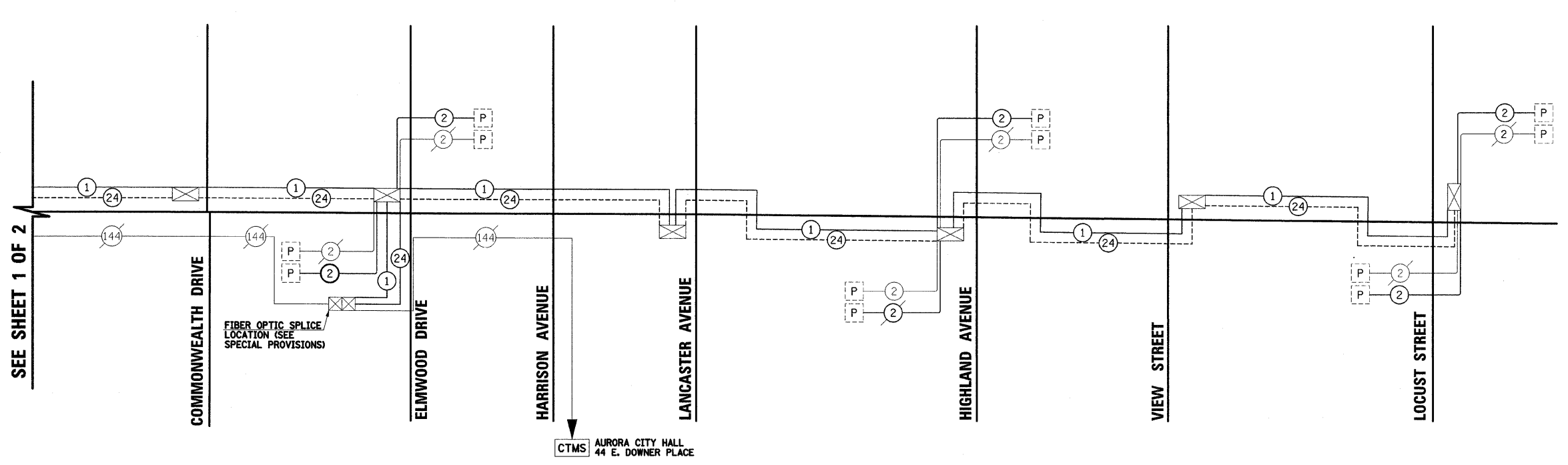
**INTERCONNECT SCHEDULE OF QUANTITIES**

PAY ITEM DESCRIPTION	UNIT	INTERCONNECT
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	2834
CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	1582
HANDHOLE	EACH	10
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	2834
TRANSCEIVER - FIBER OPTIC	EACH	11
DRILL EXISTING HANDHOLE	EACH	10
MODIFY EXISTING CONTROLLER (SPECIAL)	EACH	11
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	7550.5
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	15305
OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	1
FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	FOOT	15305
RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1
CENTRALIZED TRANSPORTATION MANAGEMENT SYSTEM	L SUM	1
TERMINAL SERVER	EACH	1
ETHERNET SWITCH	EACH	1
CENTRALIZED SYSTEM FIELD INTEGRATION / SETUP	L SUM	1
FIBER OPTIC SPLICE	EACH	1

**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, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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**INTERCONNECT SCHEMATIC LEGEND**

	EXISTING INTERSECTION CONTROLLER		EXISTING FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F
	PROPOSED INTERSECTION CONTROLLER		PROPOSED FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F
	EXISTING MASTER CONTROLLER		EXISTING INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE
	PROPOSED MASTER CONTROLLER		PROPOSED INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE
	MASTER MASTER CONTROLLER		EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED
	EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS		PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED
	PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		EXISTING LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED
	EXISTING SAMPLING (SYSTEM) DETECTORS		PROPOSED LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED
	PROPOSED SAMPLING (SYSTEM) DETECTORS		EXISTING ELECTRIC CABLE 1/C (AS SPECIFIED)
	EXISTING SAMPLING (SYSTEM) DETECTORS PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		PROPOSED ELECTRIC CABLE 1/C (AS SPECIFIED)
	EXISTING SAMPLING (SYSTEM) DETECTORS PROPOSED SAMPLING (SYSTEM) DETECTORS		EXISTING TELEPHONE CONNECTION
	EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		PROPOSED TELEPHONE CONNECTION
	PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		EXISTING VIDEO DETECTION CAMERA
	EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS		EXISTING SAMPLING (SYSTEM) VIDEO DETECTION ZONE
	PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS		PROPOSED CENTRALIZED TRANSPORTATION MANAGEMENT SYSTEM

**RESTORATION OF WORK AREA:**  
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FILE NAME =	USER NAME =	DESIGNED -	REVISED -
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		CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>INTERCONNECT SCHEMATIC SHEET 2 OF 2</b>			
SCALE:	SHEET NO.	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	05-00257-00-TL	KANE	39	39
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 63105	