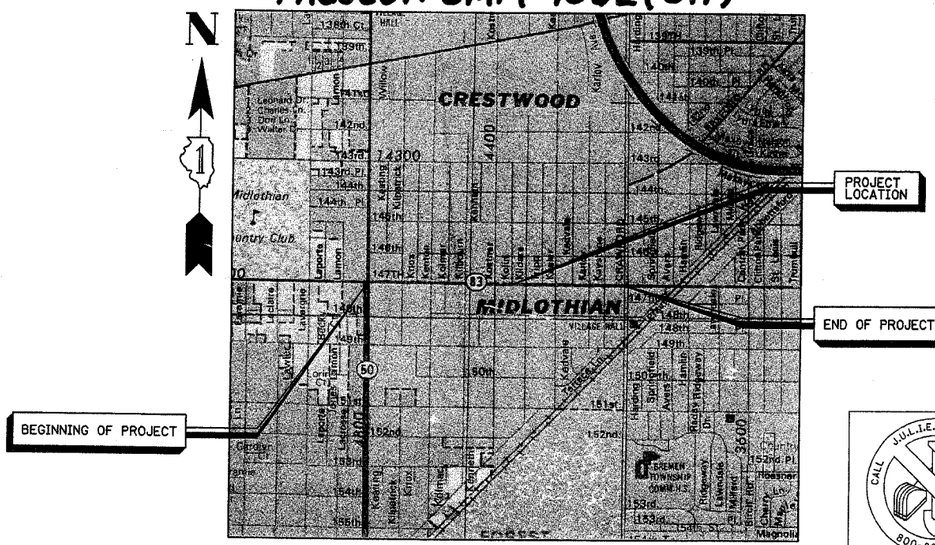


62740

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	1
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

D-91-174-04

INDEX OF SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

SCALES
- PLAN 1″= 20′ AND 1″= 50′
- PROFILE HORIZ. N.A.
- PROFILE VERT. N.A.
- CROSS SECTION N.A.

DISTRICT 1

CONGESTION MITIGATION AIR QUALITY FIBER OPTIC COMMUNICATIONS NETWORK

ILL. ROUTE 83 (147TH STREET) FROM ILL ROUTE 50 (CICERO AVENUE) TO PULASKI ROAD

F.A.U. ROUTE 1602
SECTION 2004-021TS
C-91-174-04
COOK COUNTY

PROJECT: CMM-1602(011)

BREMEN TOWNSHIP

LOCATION OF SECTION INDICATED THUS: -

STANDARD DRAWINGS

701006 02	701011 01	701101 01	701301 02	702001 05
424001 03	720001 02	813001	814001	814006
857001	877001	877006	877011	878001 03
880001	880006	886001	805001	
701201	701316 04	701321 04	701406 04	701501
701502	701606	701601	701701	701801

NOTE: STANDARD DRAWINGS REQUIRED (CIRCLED).

CONTRACT NO. 62740

PREPARED BY: Terry Rammacher 3/14/05
TRAFFIC ENGINEER DATE

BUREAU OF TRAFFIC: TERRY RAMMACHER / DARYLE DREW

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED March 14 2005
Diane M. O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 13, 2005
Mike Hine
ENGINEER OF DESIGN AND ENVIRONMENT

May 13, 2005
Victor Modeer
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

J.U.L.I.E. TOLL FREE CALL 800-892-0123
48 - HOURS BEFORE DIGGING

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	2
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

	PERCENTAGES							
	LOCATION OF WORK		80% FED 20% STATE URBAN	ILL. ROUTE 83 AT ILL. ROUTE 50 (CICERO AVE.)	ILL. ROUTE 83 AT KILBOURN AVE.	ILL. ROUTE 83 AT KEELER AVE.	ILL. ROUTE 83 AT PULASKI RD. (CRAWFORD AVE.)	INTERCONNECT
	SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE				
CODE NO.	ITEM	UNIT	TOTAL	Y 031-1F	Y 031-1F	Y 031-1F	Y 031-1F	Y 031-1F
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	0.5	1.5	1.5	0.5	2
67100100	MOBILIZATION	L.SUM	1	0.2	0.2	0.2	0.2	0.2
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L.SUM	1	0.2	0.2	0.2	0.2	0.2
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L.SUM	1	0.2	0.2	0.2	0.2	0.2
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L.SUM	1	0.2	0.2	0.2	0.2	0.2
* 72000100	SIGN PANEL - TYPE 1	SQ.FT.	60		30	30		
80600400	GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	8	4			4	
81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	4189		486	540		3163
81000700	CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	175		87	88		
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	1280			85		1195
81018900	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	349		172	177		
81100600	CONDUIT ATTACHED TO STRUCTURE, 2" DIA., GALVANIZED STEEL	FOOT	48		24			24
81400100	HANDHOLE	EACH	15		5	5		5
81400300	DOUBLE HANDHOLE	EACH	2		1	1		
81500200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	4364		573	628		3163
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	4	1	1	1	1	
85700205	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	4	1	1	1	1	
86400100	TRANSCEIVER - FIBER OPTIC	EACH	4	1	1	1	1	
X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO.6 1C	FOOT	2841	1050	426	512	853	
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C	FOOT	1167		442	725		
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C	FOOT	1933		956	977		
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C	FOOT	3396		1706	1690		
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	4972	823	681	726	2742	
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	461	175	19	89	178	
X8710020	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125 MM 12F & SM12F	FOOT	5705					5705
X0322925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	5705					5705
87502480	TRAFFIC SIGNAL POST, GALVANIZED STEEL, 14 FT.	EACH	5		2	3		
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL, 16 FT.	EACH	3				3	
87700150	STEEL MAST ARM ASSEMBLY AND POLE, 22 FT.	EACH	4		2	2		
87700210	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	2		2			
87700220	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	2			2		
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	25		10	15		
87800200	CONCRETE FOUNDATION, TYPE D	FOOT	8		4	4		
87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	120		60	60		
87900200	DRILL EXISTING HANDHOLE	EACH	2					2
X8800035	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	8		4	4		
X8800020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	21	1	8	8	4	
X8800040	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	4				4	
X8800045	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	11	7			4	
X8800070	SIGNAL HEAD, LED, 2-FACE, 5-SECTION, BRACKET MOUNTED	EACH	3	3				
X8805280	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION BRACKET MOUNTED	EACH	1	1				
X8810610	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	20	6		6	8	
X8810620	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	EACH	6	1	4	1		
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	32	8	8	8	8	
88500100	INDUCTIVE LOOP DETECTOR	EACH	39	14	4	4	17	
88600100	DETECTOR LOOP, TYPE 1	FOOT	693		304	316	73	
88800100	PEDESTRIAN PUSH-BUTTON	EACH	26	7	4	7	8	
89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	2		1	1		
X8050015	SERVICE INSTALLATION, POLE MOUNTED	EACH	4	1	1	1	1	
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	4	1	1	1	1	
89502380	REMOVE EXISTING HANDHOLE	EACH	10		6	4		
89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	16		8	8		
XX002856	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM	L.SUM	1					1
X8730250	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	FOOT	519		184	335		

*SPECIALTY ITEMS

REVISIONS	
NAME	DATE

SETON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002001-207-211

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

ILL. ROUTE 83 (147TH STREET) FROM
ILL. ROUTE 50 (CICERO AVENUE) TO
PULASKI ROAD

MIDLOTHIAN, ILLINOIS

SCALE: NONE
DATE 09-20-2004

DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	3
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

LOOP DETECTOR NOTES

1. 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.

2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.

3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.

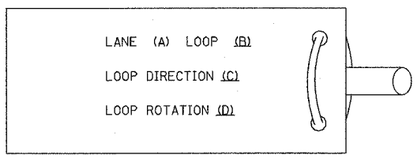
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.

5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.

6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.

7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

LOOP LEAD-IN CABLE TAG

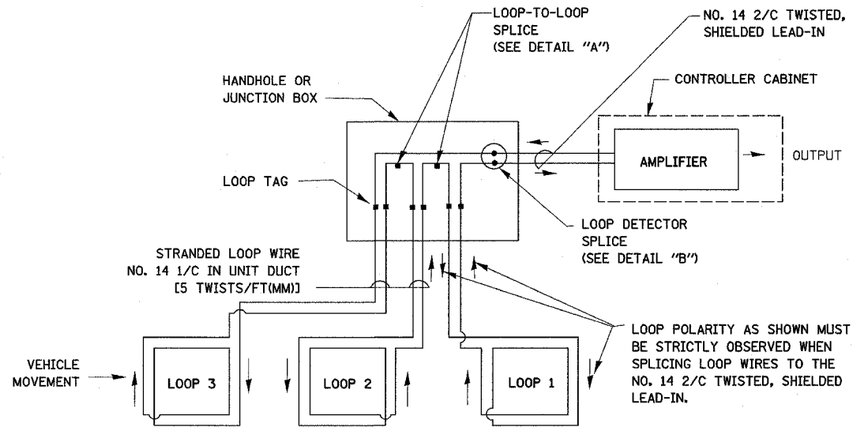


A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY

B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.

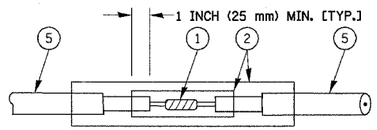
C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".

D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

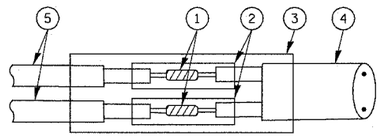


DETECTOR LOOP WIRING SCHEMATIC

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



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

(1) WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.

(2) WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.

(3) WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGHT 6" (150 mm), UNDERWATER GRADE.

(4) NO. 14 2/C TWISTED, SHIELDED CABLE.

(5) LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: VERT. NONE
HORIZ.
DATE 1-01-02

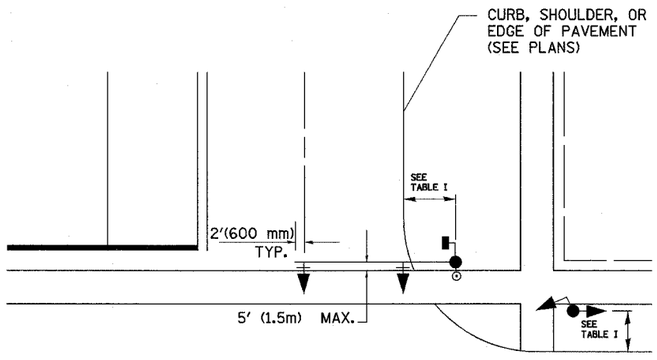
DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 1 OF 4

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-02LTS	COOK	25	4
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

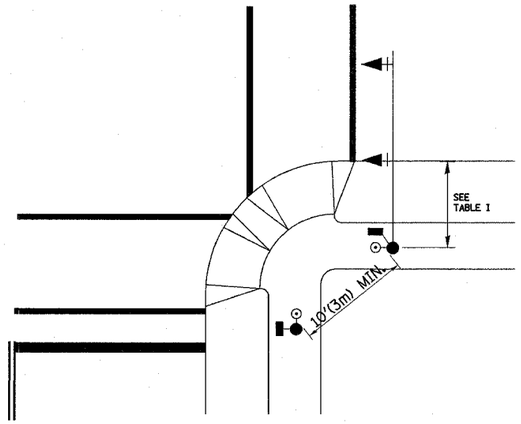
CONTRACT NO. 62740

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:

1. 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

2. 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.

3. 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.

4. 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)

PEDESTRIAN SIGNAL POST

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION

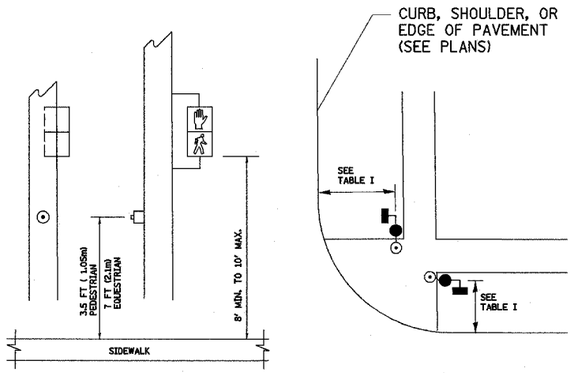


TABLE I

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

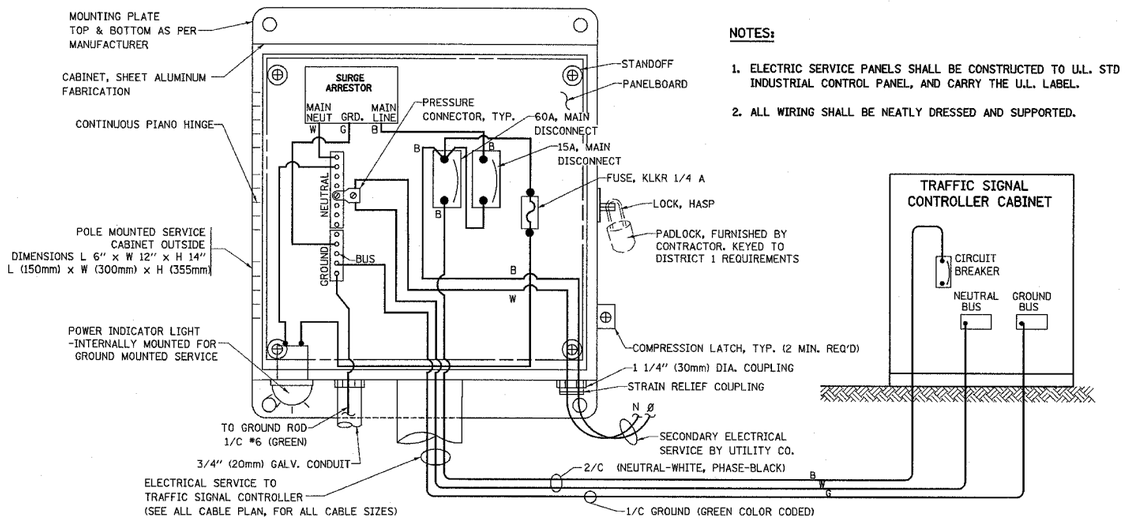
REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: VERT. NONE
HORIZ.
DATE 1-01-02

DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 2 OF 4



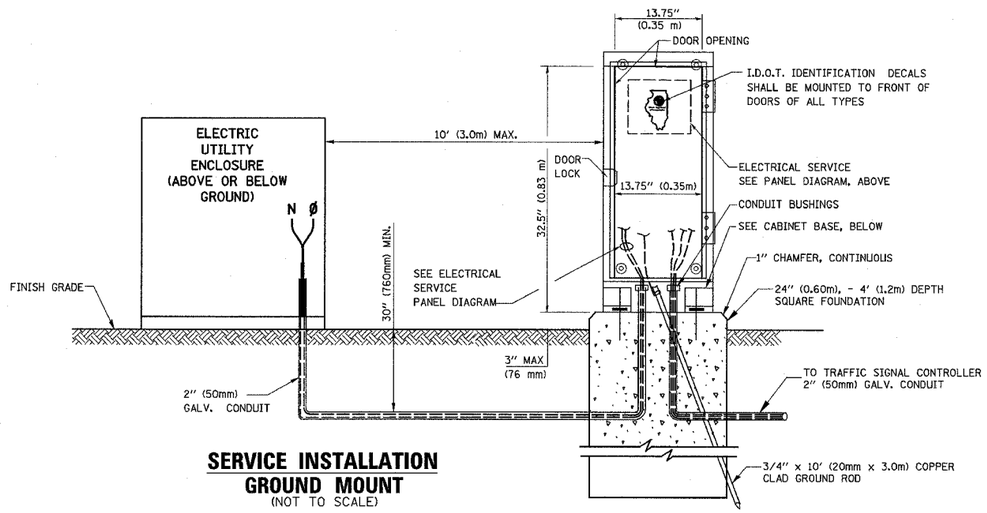
NOTES:

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

ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)

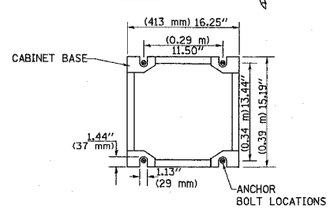
SERVICE INSTALLATION POLE MOUNT (SHOWN)

(NOT TO SCALE)



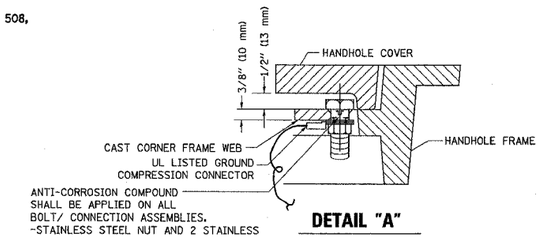
SERVICE INSTALLATION GROUND MOUNT

(NOT TO SCALE)



CABINET – BASE BOLT PATTERN

(NOT TO SCALE)



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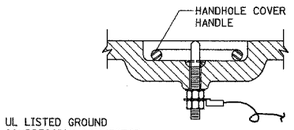
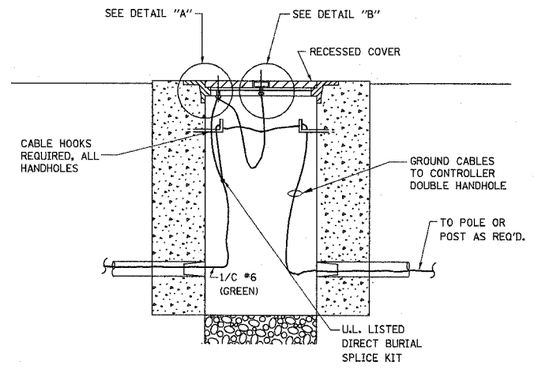
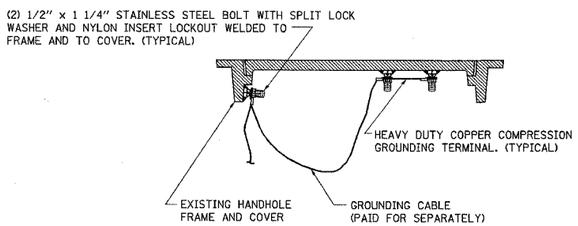


DETAIL "B"



HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)



EXISTING HANDHOLE COVER & FRAME – GROUNDING DETAIL

(NOT TO SCALE)

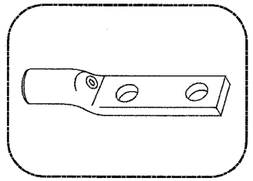
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	5
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

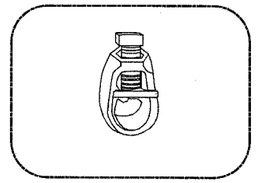
NOTES:

GROUNDING SYSTEM

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



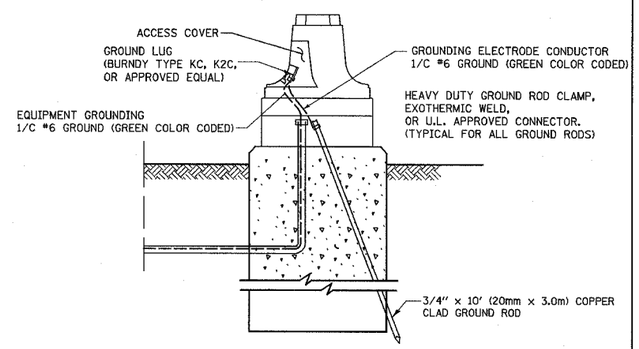
HEAVY-DUTY COMPRESSION TERMINAL (BURNDY TYPE YGHA OR APPROVED EQUAL)



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

NOTES:

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



MAST ARM POLE / POST–GROUNDING DETAIL

(NOT TO SCALE)

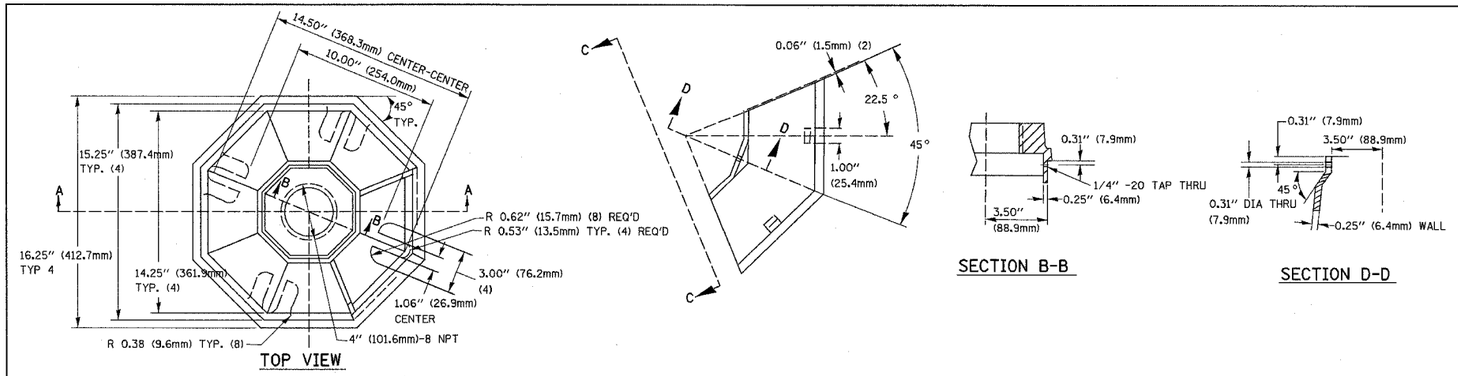
REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: VERT. NONE
HORIZ.
DATE 1-01-02

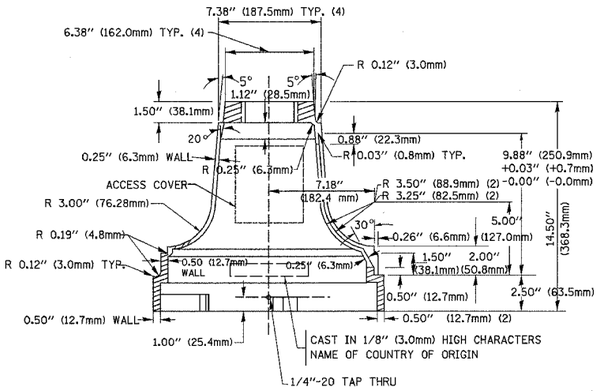
DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 3 OF 4



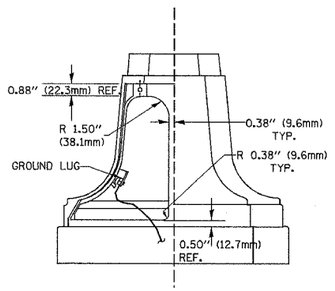
TOP VIEW

SECTION B-B

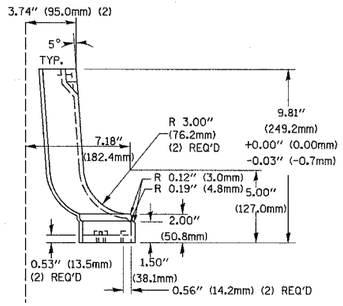
SECTION D-D



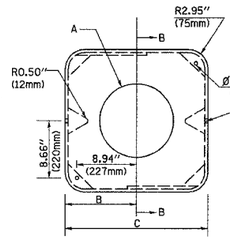
SECTION A-A

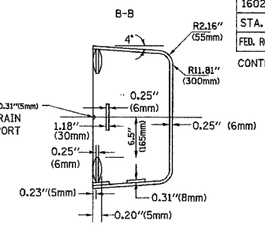


VIEW C-C



TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A





F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	6
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

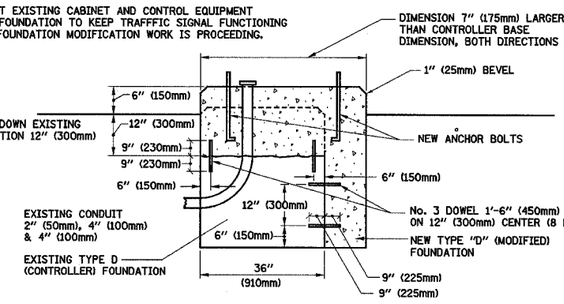
CONTRACT NO. 62740

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

TYPE	A	B	C	HEIGHT	WEIGHT
I	Ø 10.125"(257mm)	9.5"(241mm)	19"(483mm)	12" (300mm)	24kg
II	Ø 11.125"(283mm)	10.75"(273mm)	21.5"(546mm)	12" (300mm)	26kg

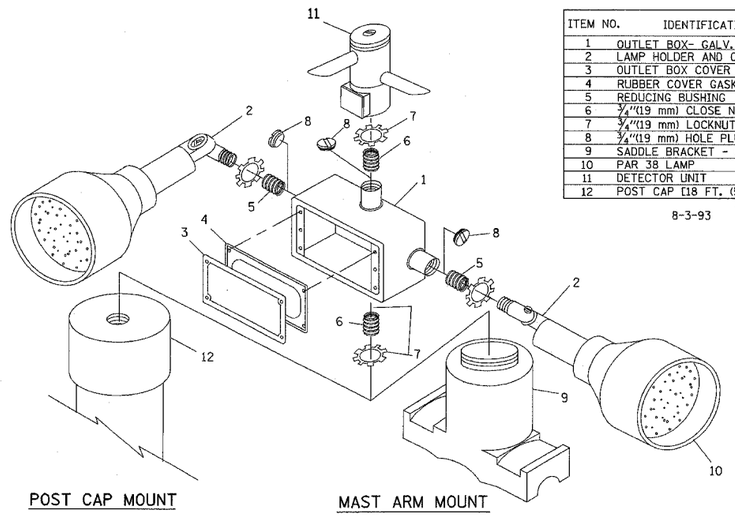
SHROUD DETAIL

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



MODIFY EXISTING TYPE "D" FOUNDATION

(NOT TO SCALE)



POST CAP MOUNT

MAST ARM MOUNT

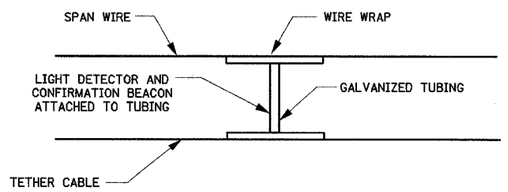
EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL

ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	¾"(19 mm) CLOSE NIPPLE
7	¾"(19 mm) LOCKNUT
8	¾"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	PAR 38 LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

8-3-93

NOTES:

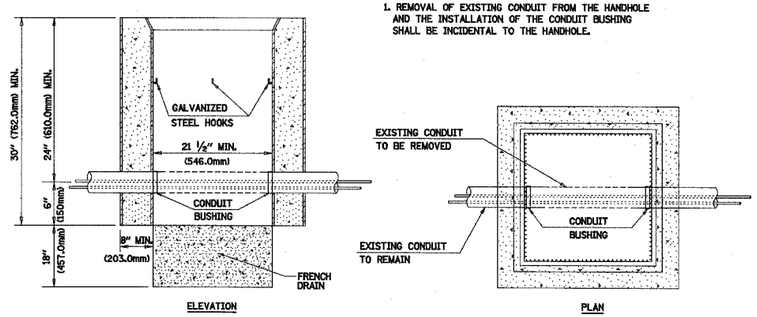
1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS *2 AND *11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM *1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
   ITEM *2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT
   ITEM *9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A ¾"(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.



LIGHT DETECTOR AND CONFIRMATION BEACON MOUNTING FOR TEMPORARY TRAFFIC SIGNALS

(NOT TO SCALE)

NOTES:
1. REMOVAL OF EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHING SHALL BE INCIDENTAL TO THE HANDHOLE.



DETAIL
HANDHOLE TO INTERCEPT EXISTING CONDUIT

N.T.S.

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: VERT. NONE
HORIZ.
DATE 1-01-02

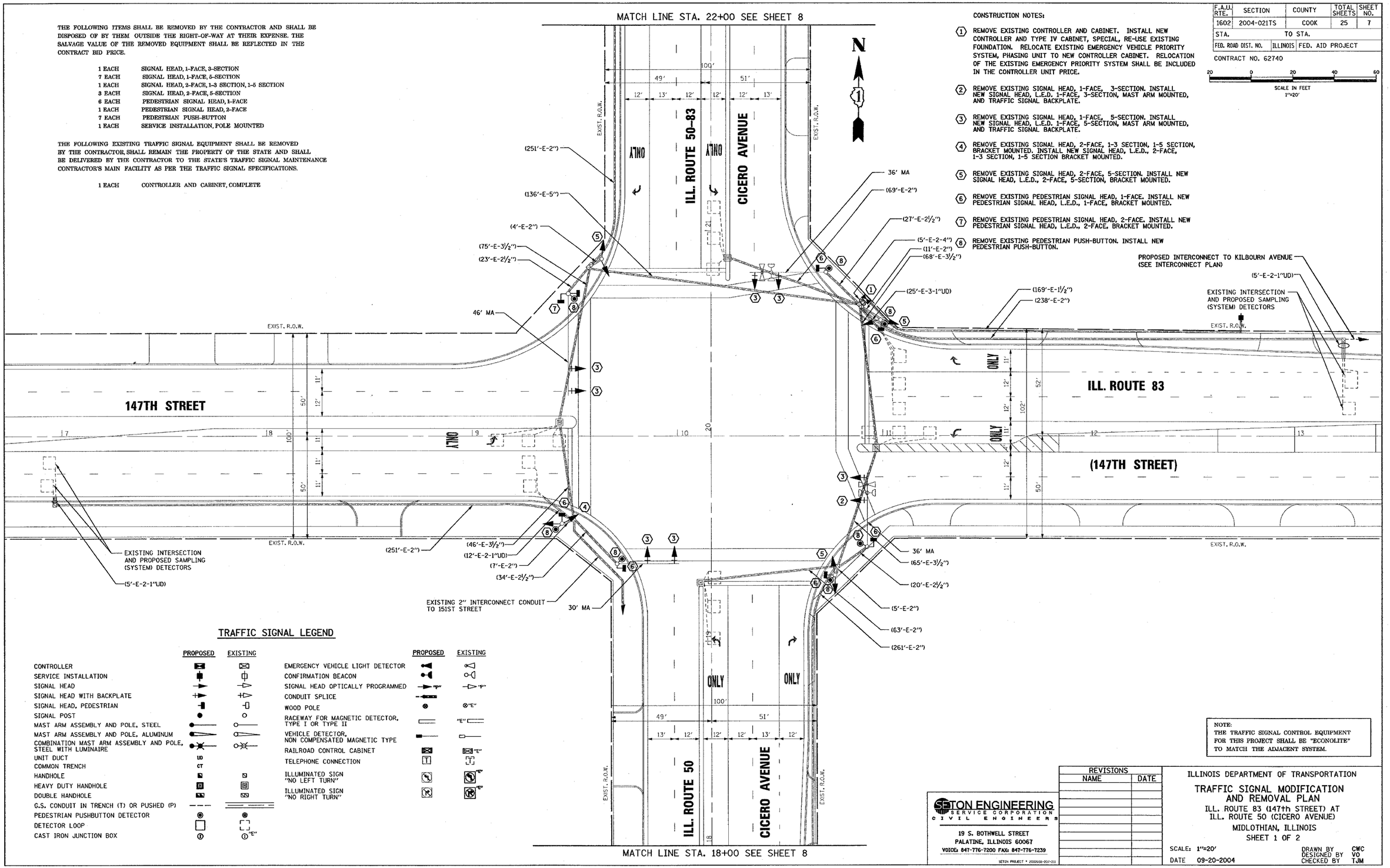
DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 4 OF 4

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

1 EACH	SIGNAL HEAD, 1-FACE, 3-SECTION
7 EACH	SIGNAL HEAD, 1-FACE, 5-SECTION
1 EACH	SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION
3 EACH	SIGNAL HEAD, 2-FACE, 5-SECTION
6 EACH	PEDESTRIAN SIGNAL HEAD, 1-FACE
1 EACH	PEDESTRIAN SIGNAL HEAD, 2-FACE
7 EACH	PEDESTRIAN PUSH-BUTTON
1 EACH	SERVICE INSTALLATION, POLE MOUNTED

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

1 EACH	CONTROLLER AND CABINET, COMPLETE



CONSTRUCTION NOTES:

1. REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, SPECIAL, RE-USE EXISTING FOUNDATION. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT TO NEW CONTROLLER CABINET. RELOCATION OF THE EXISTING EMERGENCY PRIORITY SYSTEM SHALL BE INCLUDED IN THE CONTROLLER UNIT PRICE.
2. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 3-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
3. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 5-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 5-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.
4. REMOVE EXISTING SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION BRACKET MOUNTED.
5. REMOVE EXISTING SIGNAL HEAD, 2-FACE, 5-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D., 2-FACE, 5-SECTION, BRACKET MOUNTED.
6. REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 1-FACE. INSTALL NEW PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED.
7. REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 2-FACE. INSTALL NEW PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED.
8. REMOVE EXISTING PEDESTRIAN PUSH-BUTTON. INSTALL NEW PEDESTRIAN PUSH-BUTTON.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	7
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

SCALE IN FEET
1"=20'

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER	▣	⊠
SERVICE INSTALLATION	▮	⊡
SIGNAL HEAD	▶	▷
SIGNAL HEAD WITH BACKPLATE	▶	▷
SIGNAL HEAD, PEDESTRIAN	▮	▯
SIGNAL POST	●	○
MAST ARM ASSEMBLY AND POLE, STEEL	●	○
MAST ARM ASSEMBLY AND POLE, ALUMINUM	●	○
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE	●	○
UNIT DUCT	UD	
COMMON TRENCH	CT	
HANDHOLE	H	H
HEAVY DUTY HANDHOLE	H	H
DOUBLE HANDHOLE	H	H
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)		
PEDESTRIAN PUSHBUTTON DETECTOR	◉	◉
DETECTOR LOOP	□	□
CAST IRON JUNCTION BOX	①	① "E"

	PROPOSED	EXISTING
EMERGENCY VEHICLE LIGHT DETECTOR		
CONFIRMATION BEACON		
SIGNAL HEAD OPTICALLY PROGRAMMED	"P"	"P"
CONDUIT SPLICE		
WOOD POLE		"E"
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		"E"
VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
RAILROAD CONTROL CABINET		"E"
TELEPHONE CONNECTION	T	T
ILLUMINATED SIGN "NO LEFT TURN"	"E"	"E"
ILLUMINATED SIGN "NO RIGHT TURN"	"E"	"E"

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

REVISIONS NAME	DATE

SETON ENGINEERING
A SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002001-207-211

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION AND REMOVAL PLAN

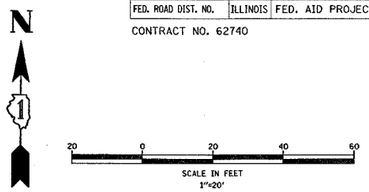
ILL. ROUTE 83 (147th STREET) AT
ILL. ROUTE 50 (CICERO AVENUE)
MIDLOTHIAN, ILLINOIS
SHEET 1 OF 2

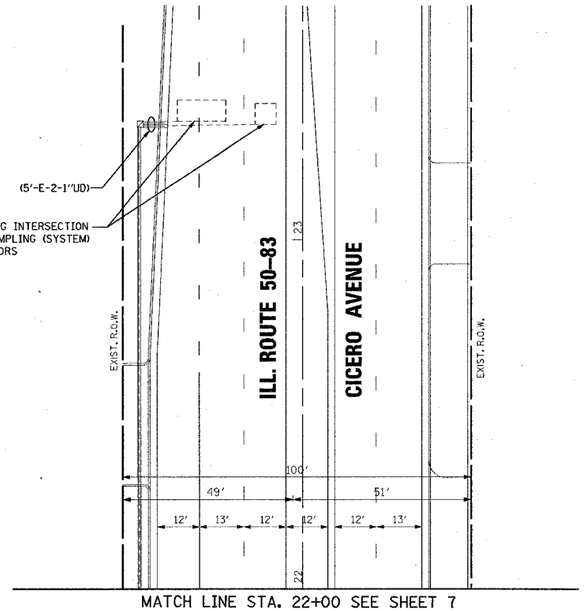
SCALE: 1"=20'
DATE 09-20-2004

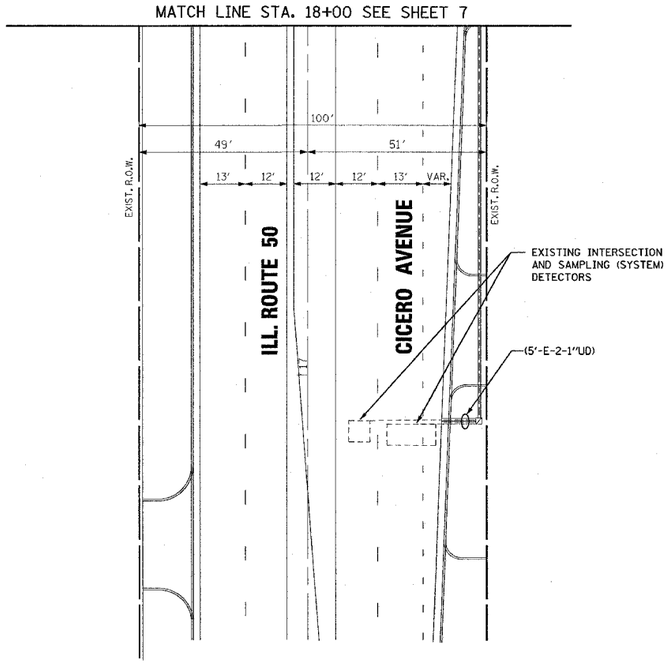
DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	8
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740







NOTE:
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SETON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002006-201-211

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION AND REMOVAL PLAN

ILL. ROUTE 83 (147th STREET) AT
ILL. ROUTE 50 (CICERO AVENUE)
MIDLOTHIAN, ILLINOIS
SHEET 2 OF 2

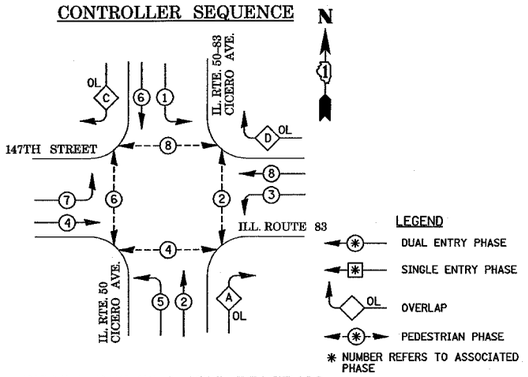
SCALE: 1"=20'
DATE 09-20-2004

DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	9
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM

DUAL ENTRY - ALL LEGS
PROTECTED/PERMITTED LEFT TURN PHASING

RIGHT TURN OVERLAP PHASE DESIGNATION

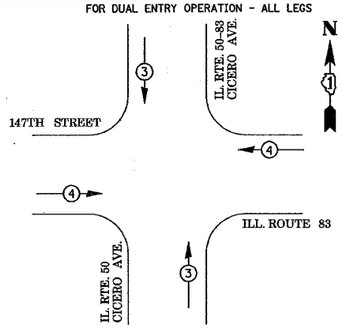
OVERLAP LETTER		PERMISSIVE PHASE		PROTECTED PHASE
A	=	2	+	3
C	=	6	+	7
D	=	8	+	1

DISPLAY:

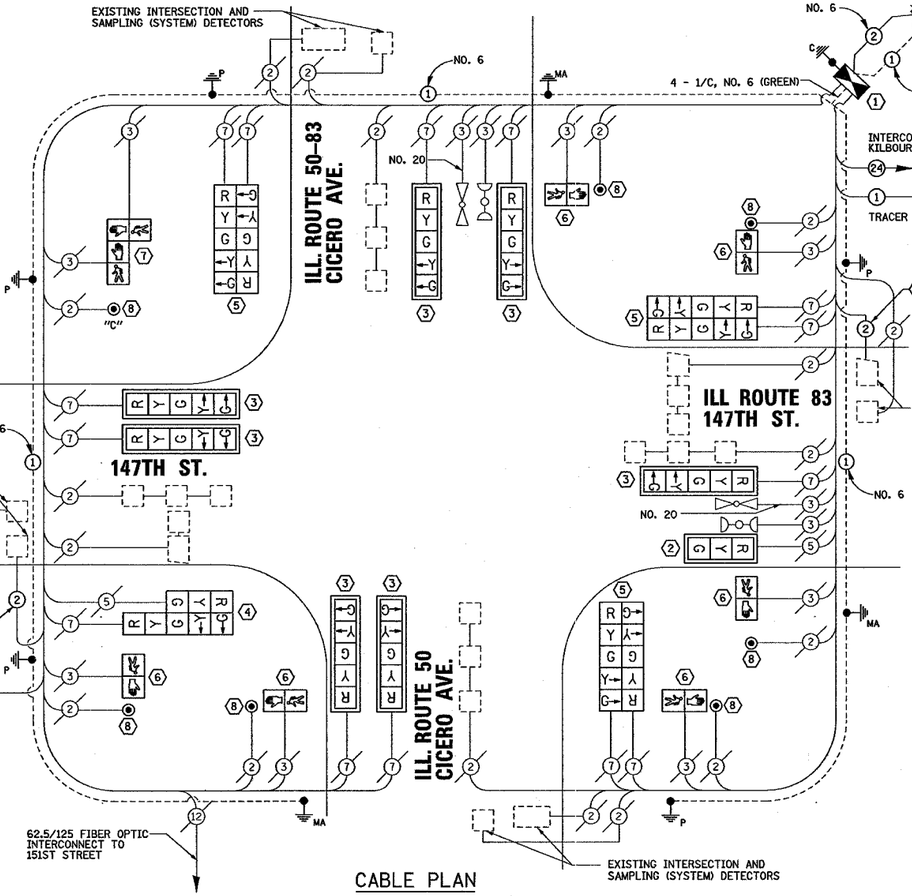
- THE YELLOW RIGHT ARROW OF THE OVERLAP SHALL BE INHIBITED DURING THE PERMISSIVE PHASE'S YELLOW INTERVAL. THE GREEN RIGHT ARROW OF THE OVERLAP SHALL BE INHIBITED DURING THE PERMISSIVE PHASE'S GREEN INTERVAL.

EMERGENCY VEHICLE PREEMPTION SEQUENCE

FOR DUAL ENTRY OPERATION - ALL LEGS



PROPOSED PRIORITY LANES		
PRIORITY LANE INTERVAL	3	4
MOVEMENT		



CABLE PLAN

PUSH-BUTTON NOTES:

PUSH-BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	0.5
GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	4
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
TRANSCEIVER - FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO.6 1C	FOOT	1050
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	823
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	175
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	1
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	7
SIGNAL HEAD, LED, 2-FACE, 5- SECTION, BRACKET MOUNTED	EACH	3
SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	6
PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	EACH	1
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	8
INDUCTIVE LOOP DETECTOR	EACH	14
PEDESTRIAN PUSH-BUTTON	EACH	7
SERVICE INSTALLATION, POLE-MOUNTED	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1

CABLE PLAN LEGEND

EXISTING	PROPOSED		EXISTING	PROPOSED	
C	G	8" (200mm) TRAFFIC SIGNAL SECTION	1	1	GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
R	R	12" (300mm) TRAFFIC SIGNAL SECTION	24	24	FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM12F
W	W	12" (300mm) PEDESTRIAN SIGNAL SECTION	R Y G	R Y G	SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD
		12" (300mm) PEDESTRIAN SIGNAL SECTION			
		CONTROLLER CABINET			
		SERVICE INSTALLATION			
T	T	TELEPHONE CONNECTION	"E"		RAILROAD CONTROL CABINET
		VEHICLE DETECTOR, INDUCTION LOOP	"E"		ILLUMINATED SIGN "NO LEFT TURN"
		MAGNETIC DETECTOR	"E"		ILLUMINATED SIGN "NO RIGHT TURN"
		EMERGENCY VEHICLE LIGHT DETECTOR			
		CONFIRMATION BEACON	H/C	G	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C).
		PUSHBUTTON DETECTOR			
(2)	(2)	DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOOP DETECTOR CABLE TO BE SHIELDED.	P	P	GROUND ROD AT POST (P), OR MAST ARM POLE (MA).
			S	S	GROUND ROD AT ELECTRIC SERVICE INSTALLATION

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS X	WATTAGE INCAND.	WATTAGE LED	X % OPERATION	
SIGNAL (RED)	16	135	17	0.50	136.0
(YELLOW)	16	135	25	0.25	100.0
(GREEN)	16	135	15	0.25	60.0
ARROW	28	135	12	0.10	33.6
PED. SIGNAL	8	90	25	1.00	200.0
CONTROLLER	1	100	100	1.00	100.0
ILLUM. SIGN	0	84		0.05	0.00
FLASHER	0			0.50	0.00
				TOTAL =	629.6

ENERGY COSTS - BILLED TO: VILLAGE OF MIDLOTHIAN
(ADDRESS) 14801 S. PULASKI ROAD
MIDLOTHIAN, IL 60445

ENERGY SUPPLY - CONTACT: LARRY WOODLE
PHONE: (708) 235-2327
COMPANY: COMMONWEALTH EDISON

CONSTRUCTION NOTES:

(1) REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, SPECIAL. RE-USE EXISTING FOUNDATION. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT TO NEW CONTROLLER CABINET. RELOCATION OF THE EXISTING EMERGENCY PRIORITY SYSTEM SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.

(2) REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 3-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.

(3) REMOVE EXISTING SIGNAL HEAD, 1-FACE, 5-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 5-SECTION, MAST ARM MOUNTED, AND TRAFFIC SIGNAL BACKPLATE.

(4) REMOVE EXISTING SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION BRACKET MOUNTED.

(5) REMOVE EXISTING SIGNAL HEAD, 2-FACE, 5-SECTION. INSTALL NEW SIGNAL HEAD, L.E.D., 2-FACE, 5-SECTION, BRACKET MOUNTED.

(6) REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 1-FACE. INSTALL NEW PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED.

(7) REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 2-FACE. INSTALL NEW PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED.

(8) REMOVE EXISTING PEDESTRIAN PUSH-BUTTON. INSTALL NEW PEDESTRIAN PUSH-BUTTON.

(9) INSTALL NEW ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, 1-PAIR

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)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + L - 2 = (6m+L-0.6m)=
E - M. ARM POLE		SIGNAL POST	2 (1.0)		
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
		ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
		GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

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

SETON ENGINEERING SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 20020021207-211

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE PREEMPTION SEQUENCE AND SCHEDULE OF QUANTITIES

ILL. ROUTE 83 (147TH STREET) AT
ILL. ROUTE 50 (CICERO AVENUE)
MIDLOTHIAN, ILLINOIS

SCALE: N.T.S.
DATE 09-20-2004

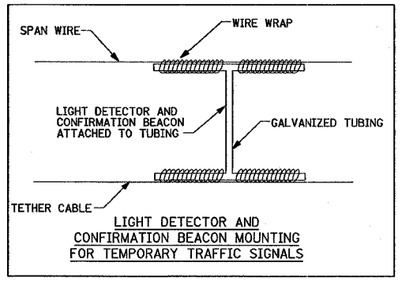
DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

EXISTING EQUIPMENT TO BE REMOVED LEGEND

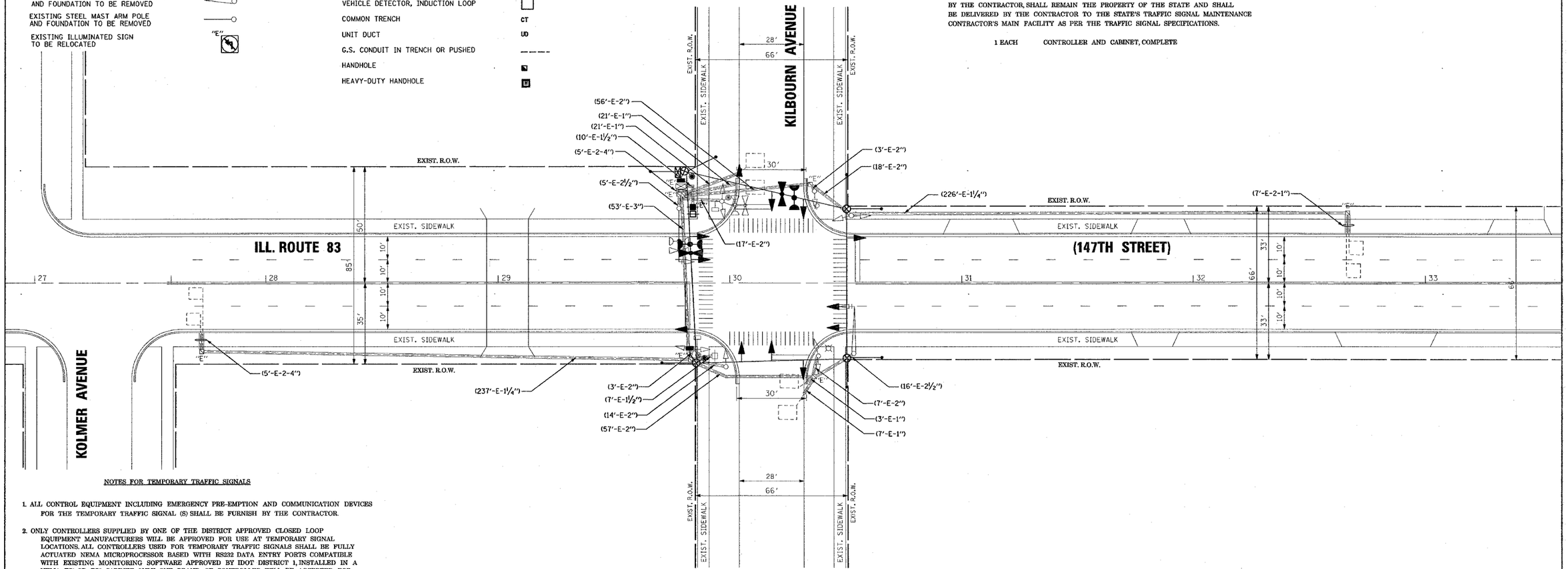
- EXISTING SIGNAL HEAD TO BE REMOVED
- EXISTING SERVICE INSTALLATION TO BE REMOVED "E"
- EXISTING STREET LIGHT, FOUNDATION AND LUMINAIRE TO REMAIN
- EXISTING CONTROLLER TO BE REMOVED "E"
- EXISTING HANDHOLE TO BE REMOVED "E"
- EXISTING DOUBLE HANDHOLE TO BE REMOVED "E"
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSH BUTTON TO BE REMOVED
- EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- CONFIRMATION BEACON TO BE REMOVED
- EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED "E"
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING ILLUMINATED SIGN TO BE RELOCATED "E"

TEMPORARY TRAFFIC SIGNAL LEGEND

- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION ("L" LOUVERED HOOD) "L"
- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR
- MICROWAVE VEHICLE SENSOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- COMMON TRENCH CT
- UNIT DUCT UD
- G.S. CONDUIT IN TRENCH OR PUSHED
- HANDHOLE
- HEAVY-DUTY HANDHOLE



LIGHT DETECTOR AND CONFIRMATION BEACON MOUNTING FOR TEMPORARY TRAFFIC SIGNALS



NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL (S) SHALL BE FURNISH BY THE CONTRACTOR.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS1 OR TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3. ALL CONTROLLERS USED FOR TEMPORARY SIGNALS SHALL MEET OR EXCEED THE REQUIREMENTS OF SECTION 1632 OF THE "STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS" WITH REGARDS TO INTERNAL TIME BASE COORDINATION AND PREMPTION.
4. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
5. ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
6. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.

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

5 EACH	TRAFFIC SIGNAL POST, 14 FT.
1 EACH	TRAFFIC SIGNAL POST, 18 FT.
1 EACH	ALUMINUM MAST ARM ASSEMBLY AND POLE, 20 FT.
1 EACH	STEEL MAST ARM ASSEMBLY AND POLE, 20 FT.
4 EACH	SIGNAL HEAD, 1-FACE, 3-SECTION
4 EACH	SIGNAL HEAD, 2-FACE, 3-SECTION
2 EACH	PEDESTRIAN SIGNAL HEAD, 1-FACE
2 EACH	PEDESTRIAN PUSHBUTTON
1 EACH	SERVICE INSTALLATION, POLE MOUNTED

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR. THE LIGHT DETECTOR SHALL BE RELOCATED ON THE NEW MAST ARM AND THE LIGHT DETECTOR AMPLIFIER SHALL BE RELOCATED IN THE CONTROLLER CABINET. RELOCATION OF THE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.

2 EACH	LIGHT DETECTOR
1 EACH	LIGHT DETECTOR AMPLIFIER

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

1 EACH	CONTROLLER AND CABINET, COMPLETE

N

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	10
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

20 0 20 40 60
SCALE IN FEET
1"=20'

REVISIONS NAME	DATE

SETON ENGINEERING SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002006-207-211

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL PLAN

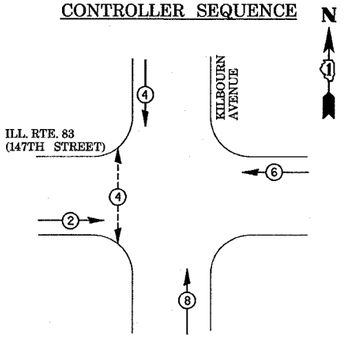
ILL. ROUTE 83 (147TH STREET) AT KILBOURN AVENUE
MIDLOTHIAN, ILLINOIS

SCALE: 1"=20'
DATE 09-20-2004
DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	11
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

CONTROLLER SEQUENCE



LEGEND

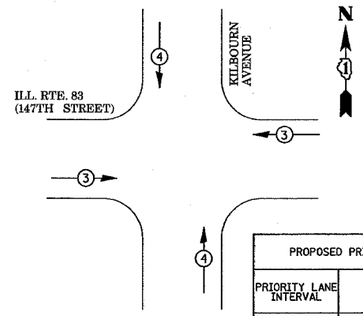
- ⊛ DUAL ENTRY PHASE
- ⊛ PEDESTRIAN PHASE
- ⊛ NUMBER REFERS TO ASSOCIATED PHASE

PHASE DESIGNATION DIAGRAM

DUAL ENTRY - ALL LEGS
PERMITTED LEFT TURN PHASING

EMERGENCY VEHICLE PREEMPTION SEQUENCE

FOR DUAL ENTRY OPERATION - ALL LEGS

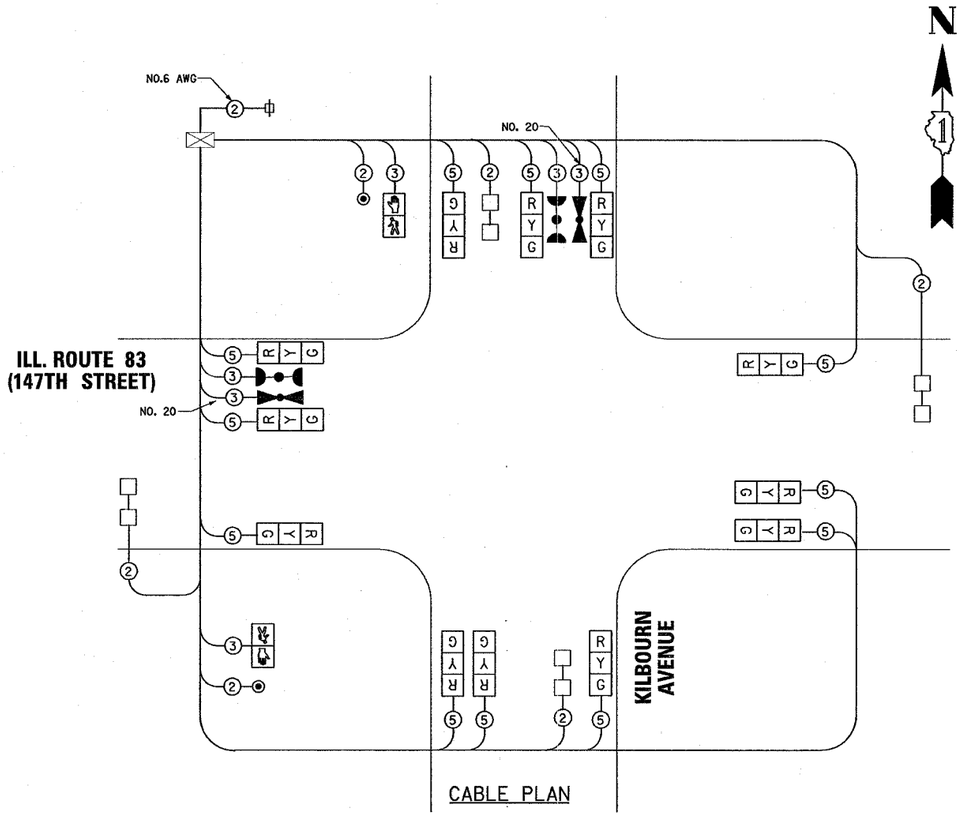


PROPOSED PRIORITY LANES		
PRIORITY LANE INTERVAL	3	4
MOVEMENT	← →	↓ ↑

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS X	WATTAGE INCAND.	WATTAGE LED	X % OPERATION	
SIGNAL (RED)	12	135	17	0.50	810.0
(YELLOW)	12	135	25	0.25	405.0
(GREEN)	12	135	15	0.25	405.0
ARROW	-	135	12	0.10	-
PED. SIGNAL	2	90	25	1.00	180.0
CONTROLLER	1	100	100	1.00	100.0
ILLUM. SIGN	-	84		0.05	-
FLASHER	-	-	-	0.50	-
				TOTAL =	1900.0

ENERGY COSTS - BILLED TO: VILLAGE OF MIDLOTHIAN
(ADDRESS) 14801 S. PULASKI ROAD
MIDLOTHIAN, IL 60445

ENERGY SUPPLY - CONTACT: LARRY WOODLE
PHONE: (708) 235-2327
COMPANY: COMMONWEALTH EDISON



CABLE PLAN

TEMPORARY CABLE DIAGRAM LEGEND

- R — TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12" (300 mm)
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- (5) — INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- PEDESTRIAN PUSHBUTTON DETECTOR
- VEHICLE DETECTOR, INDUCTION LOOP
- 12" (300mm) PEDESTRIAN SIGNAL SECTION
- MICROWAVE VEHICLE SENSOR
- R / Y / G — TEMPORARY TRAFFIC SIGNAL FACE ("L" INDICATES LOUVERED HOOD)

"L"

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION DIAGRAM AND TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE

ILL. ROUTE 83 (147TH STREET) AT
KILBOURN AVENUE
MIDLOTHIAN, ILLINOIS

SCALE: N.T.S.
DATE 09-20-2004

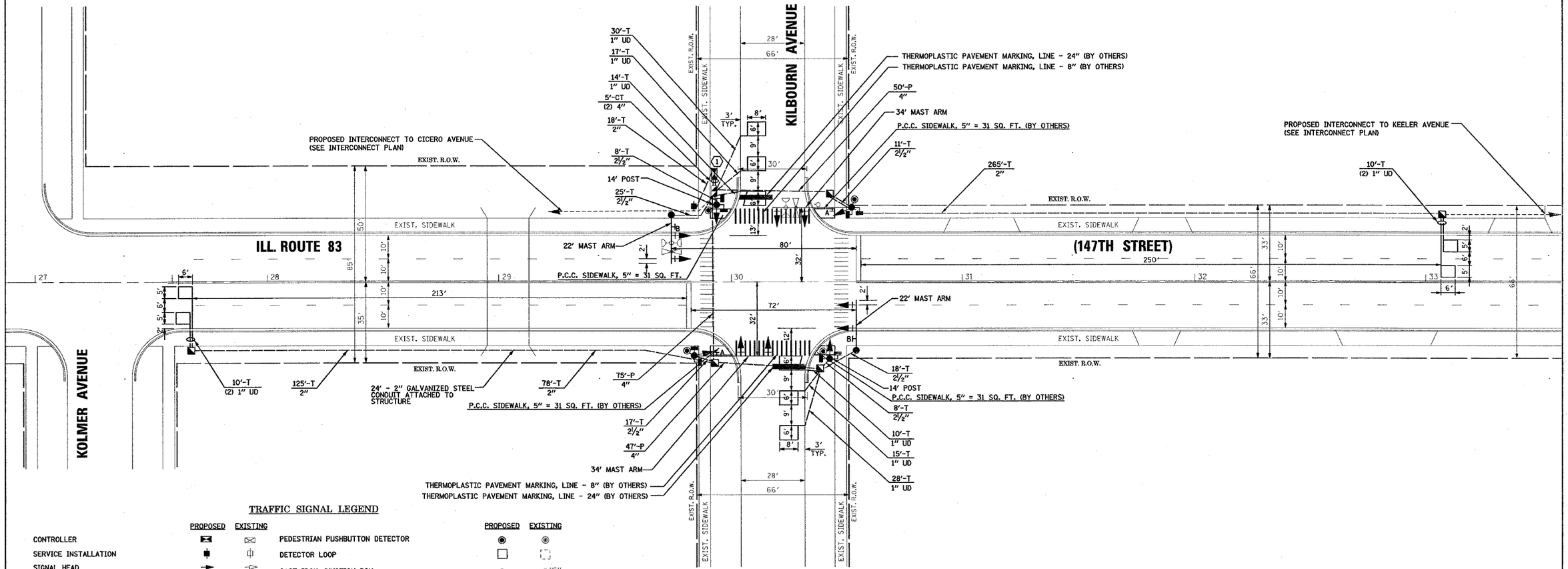
DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	12
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

20 0 20 40 60

SCALE IN FEET
1"=20'



TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER	■	⊠
SERVICE INSTALLATION	■	⊄
SIGNAL HEAD	→	▷
SIGNAL HEAD WITH BACKPLATE	+→	+▷
SIGNAL HEAD, PEDESTRIAN	■	▯
SIGNAL POST	●	○
MAST ARM ASSEMBLY AND POLE, STEEL	●—	○—
MAST ARM ASSEMBLY AND POLE, ALUMINUM	●—	○—
COMMON TRENCH	CT	
UNIT DUCT	UD	
HANDHOLE	◪	◪
HEAVY DUTY HANDHOLE	HH	HH
DOUBLE HANDHOLE	◪◪	◪◪
G.S. CONDUIT IN TRENCH OR PUSHED	———	———

	PROPOSED	EXISTING
PEDESTRIAN PUSHBUTTON DETECTOR	◉	◉
DETECTOR LOOP	□	⬚
CAST IRON JUNCTION BOX	Ⓘ	Ⓘ"E"
EMERGENCY VEHICLE SYSTEM DETECTOR	◀■	◁
CONFIRMATION BEACON	■●	▷○
SIGNAL HEAD OPTICALLY PROGRAMMED	→"P"	▷"P"
CONDUIT SPLICE	—●—	
WOOD POLE	⊗	⊗"E"
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II	▭	▭"E"
VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE	■—	□—
RAILROAD CONTROL CABINET	⊠	"E" ⊠
ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"	⬕	"E" ⬕
ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"	⬕	"E" ⬕
TELEPHONE CONNECTION	T	T

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

CONSTRUCTION NOTES:

(1) REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, SPECIAL. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT TO NEW CONTROLLER CABINET AND RELOCATE DETECTOR UNIT ON NEW MAST ARM. RELOCATION OF THE EMERGENCY PRIORITY SYSTEM EQUIPMENT SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.

⊣A 147TH ST. SIGN PANEL

⊣B KILBOURN AVE. SIGN PANEL

SETON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002092-207-201

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL INSTALLATION PLAN

ILL. ROUTE 83 (147TH STREET) AT
KILBOURN AVENUE
MIDLOTHIAN, ILLINOIS

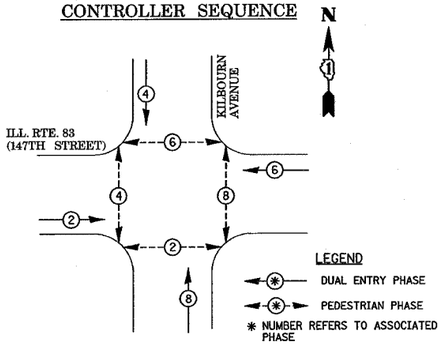
SCALE: 1"=20'
DATE 09-20-2004

DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	13
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

CONTROLLER SEQUENCE

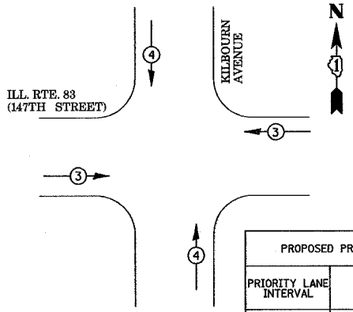


PHASE DESIGNATION DIAGRAM

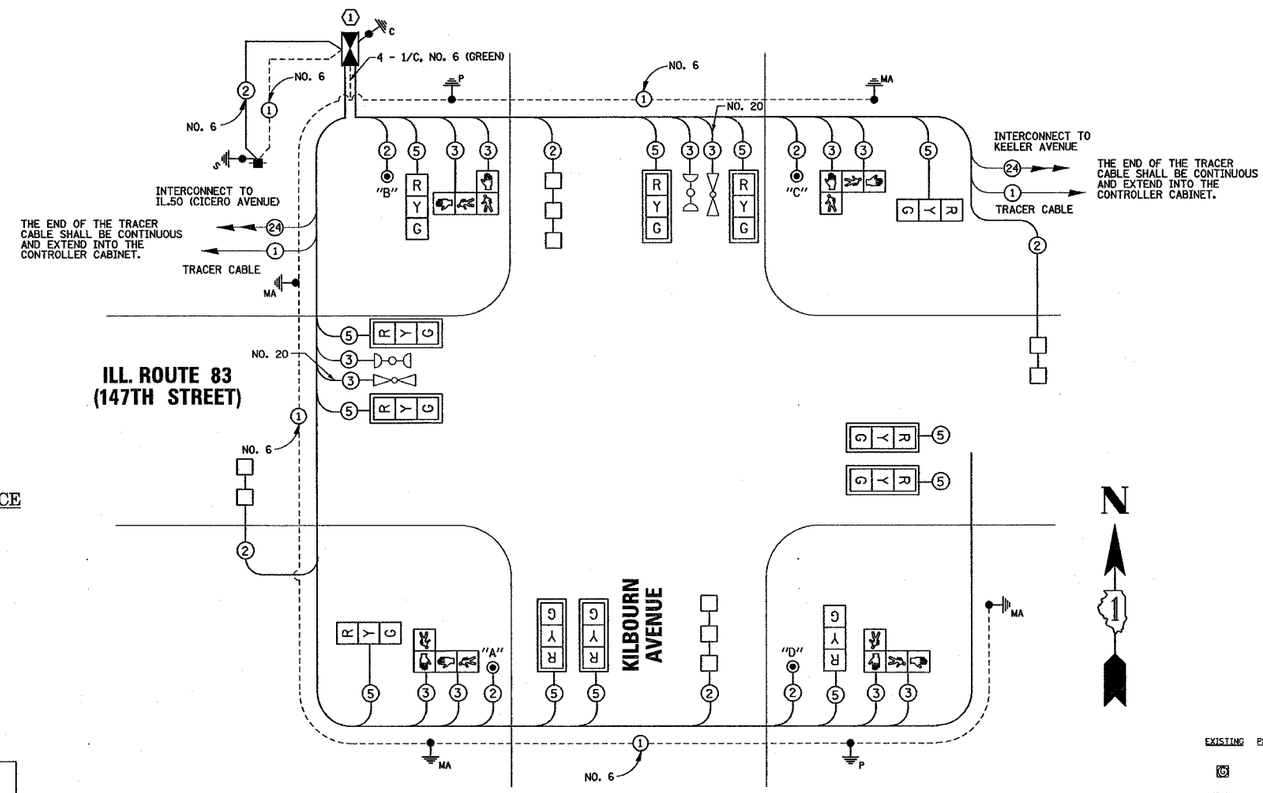
DUAL ENTRY - ALL LEGS
PERMITTED LEFT TURN PHASING

EMERGENCY VEHICLE PREEMPTION SEQUENCE

FOR DUAL ENTRY OPERATION - ALL LEGS



PROPOSED PRIORITY LANES		
PRIORITY LANE INTERVAL	3	4
MOVEMENT	← →	↓ ↑



CABLE PLAN

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	1.5
SIGN PANEL - TYPE 1	SQ FT	30
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	486
CONDUIT IN TRENCH, 2"" DIA., GALVANIZED STEEL	FOOT	87
CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	172
CONDUIT ATTACHED TO STRUCTURE, 2" DIA., GALVANIZED STEEL	FOOT	24
HANDHOLE	EACH	5
DOUBLE HANDHOLE	EACH	1
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	573
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
TRANSCEIVER - FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO.6 1C	FOOT	426
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C	FOOT	442
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C	FOOT	966
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C	FOOT	1706
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	681
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	19
TRAFFIC SIGNAL POST, GALVANIZED STEEL, 14 FT.	EACH	2
STEEL MAST ARM ASSEMBLY AND POLE, 22 FT.	EACH	2
STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	2
CONCRETE FOUNDATION, TYPE A	FOOT	10
CONCRETE FOUNDATION, TYPE D	FOOT	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	60
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	8
PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	EACH	4
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	8
INDUCTIVE LOOP DETECTOR	EACH	4
DETECTOR LOOP, TYPE 1	FOOT	304
PEDESTRIAN PUSH-BUTTON	EACH	4
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
SERVICE INSTALLATION, POLE MOUNTED	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	6
REMOVE EXISTING CONCRETE FOUNDATION	EACH	8
ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED	FOOT	184

CABLE PLAN LEGEND

EXISTING	PROPOSED	
G	G	8" (200mm) TRAFFIC SIGNAL SECTION
R	R	12" (300mm) TRAFFIC SIGNAL SECTION
W	W	12" (300mm) PEDESTRIAN SIGNAL SECTION
		12" (300mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
T	T	TELEPHONE CONNECTION
		VEHICLE DETECTOR, INDUCTION LOOP
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
(2)	(2)	DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOOP DETECTOR CABLE TO BE SHIELDED.

EXISTING	PROPOSED	
(1)	(1)	GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
(24)	(24)	FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM12F
G Y G R "P"	R Y G Y G "P"	SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD
"E"		RAILROAD CONTROL CABINET
"E"		ILLUMINATED SIGN "NO LEFT TURN"
"E"		ILLUMINATED SIGN "NO RIGHT TURN"
H/C	C	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C).
P	P	GROUND ROD AT POST (P), OR MAST ARM POLE (MA).
S	S	GROUND ROD AT ELECTRIC SERVICE INSTALLATION

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS X	WATTAGE INCAND.	WATTAGE LED	X % OPERATION	
SIGNAL (RED)	12	135	17	0.50	102.00
(YELLOW)	12	135	25	0.25	75.00
(GREEN)	12	135	15	0.25	45.00
ARROW	-	135	12	0.10	-
PED. SIGNAL	8	90	25	1.00	200.0
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN	-	84		0.05	-
FLASHER	0			0.50	0.00
				TOTAL =	522.0

ENERGY COSTS - BILLED TO: VILLAGE OF MIDLOTHIAN
(ADDRESS) 14801 S. PULASKI ROAD
MIDLOTHIAN, IL 60445

ENERGY SUPPLY - CONTACT: LARRY WOODLE
PHONE: (708) 235-2327
COMPANY: COMMONWEALTH EDISON

FOUNDATION (DEPTH)	(FT.) (m)
TYPE A - POST	4 (1.2)
D - CONTROLLER	4 (1.2)
E - M. ARM POLE	
24" (600mm)	10 (3.0)
30" (750mm)	15 (4.6)

CABLE SLACK	(FT.) (m)
HANDHOLE	6.5 (2.0)
DOUBLE HANDHOLE	13 (4.0)
SIGNAL POST	2 (1.0)
CONTROLLER CAB.	1 (0.5)
FIBER OPTIC	13 (4.0)
ELECTRIC SERVICE	1 (0.5)
GROUND CABLE	1 (0.5)

VERTICAL	(FT.) (m)
ALL FOUNDATIONS	3.5 (1.0)
MAST ARM (L) POLE	20' + L - 2 = (6m+L-0.6m)=
BRACKET MOUNTED	13 (4.0)
PED. PUSHBUTTON	4 (1.2)
ELECTRIC SERVICE	13.5 (4.1)
SERVICE TO GROUND	13.5 (4.1)
POST MOUNTED	6 (1.8)

CONSTRUCTION NOTES:

(1) REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, SPECIAL. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT TO NEW CONTROLLER CABINET AND RELOCATE DETECTOR UNIT ON NEW MAST ARM. RELOCATION OF THE EMERGENCY PRIORITY SYSTEM EQUIPMENT SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.

PUSH-BUTTON NOTES:

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

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

SETON ENGINEERING SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002001-207-211

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE PREEMPTION SEQUENCE AND SCHEDULE OF QUANTITIES

ILL. ROUTE 83 (147TH STREET) AT KILBOURN AVENUE
MIDLOTHIAN, ILLINOIS

SCALE: N.T.S.
DATE 09-20-2004

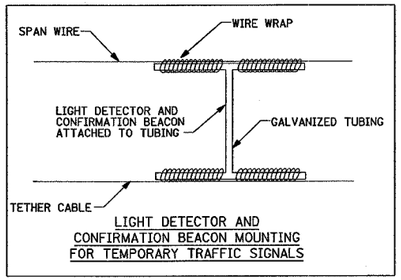
DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

EXISTING EQUIPMENT TO BE REMOVED LEGEND

- EXISTING SIGNAL HEAD TO BE REMOVED
- EXISTING SERVICE INSTALLATION TO BE REMOVED — "E"
- EXISTING STREET LIGHT, FOUNDATION AND LUMINAIRE TO REMAIN
- EXISTING CONTROLLER TO BE REMOVED — "E"
- EXISTING HANDHOLE TO BE REMOVED — "E"
- EXISTING DOUBLE HANDHOLE TO BE REMOVED — "E"
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSH BUTTON TO BE REMOVED
- EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- CONFIRMATION BEACON TO BE REMOVED
- EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED — "E" — HH
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING ILLUMINATED SIGN TO BE RELOCATED — "E"

TEMPORARY TRAFFIC SIGNAL LEGEND

- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION ("L" LOUVERED HOOD) — "L"
- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR
- MICROWAVE VEHICLE SENSOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- COMMON TRENCH — CT
- UNIT DUCT — UD
- G.S. CONDUIT IN TRENCH OR PUSHED
- HANDHOLE
- HEAVY-DUTY HANDHOLE — HH



LIGHT DETECTOR AND CONFIRMATION BEACON MOUNTING FOR TEMPORARY TRAFFIC SIGNALS

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

1 EACH	TRAFFIC SIGNAL POST, 18 FT.
5 EACH	TRAFFIC SIGNAL POST, 14 FT.
2 EACH	ALUMINUM MAST ARM ASSEMBLY AND POLE, 15 FT.
4 EACH	SIGNAL HEAD, 1-FACE, 3-SECTION
4 EACH	SIGNAL HEAD, 2-FACE, 3-SECTION
8 EACH	PEDESTRIAN SIGNAL HEAD, 1-FACE
8 EACH	PEDESTRIAN PUSHBUTTON
1 EACH	SERVICE INSTALLATION, POLE MOUNTED

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR. THE LIGHT DETECTOR SHALL BE RELOCATED ON THE NEW MAST ARM AND THE LIGHT DETECTOR AMPLIFIER SHALL BE RELOCATED IN THE CONTROLLER CABINET. RELOCATION OF THE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.

2 EACH	LIGHT DETECTOR
1 EACH	LIGHT DETECTOR AMPLIFIER

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

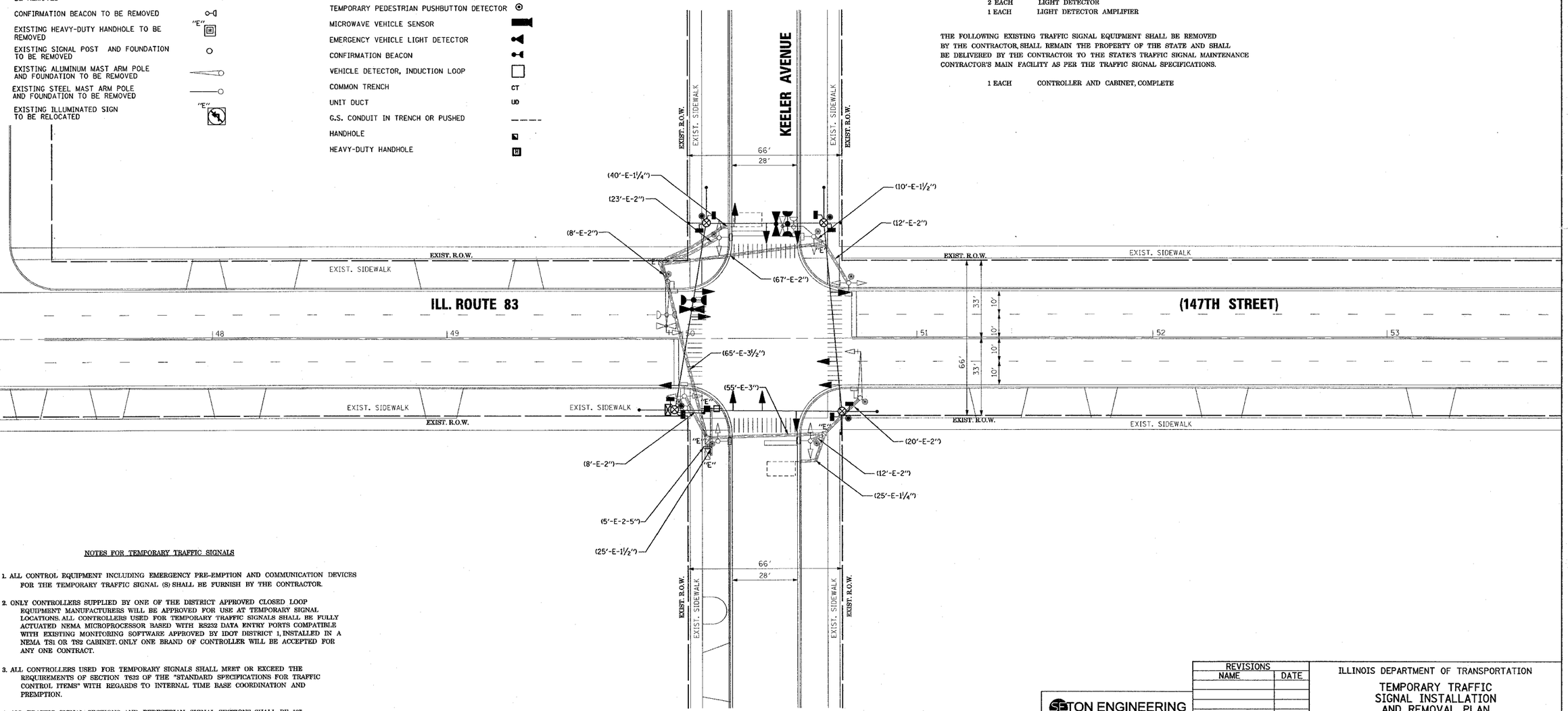
1 EACH	CONTROLLER AND CABINET, COMPLETE

N

SCALE IN FEET
20 0 20 40 60
1"=20'

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	14
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740



NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL (S) SHALL BE FURNISH BY THE CONTRACTOR.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS1 OR TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3. ALL CONTROLLERS USED FOR TEMPORARY SIGNALS SHALL MEET OR EXCEED THE REQUIREMENTS OF SECTION TS32 OF THE "STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS" WITH REGARDS TO INTERNAL TIME BASE COORDINATION AND PREMPTION.
4. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
5. ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
6. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.

SETON ENGINEERING SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002021-207-211

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL PLAN

ILL. ROUTE 83 (147TH STREET) AT KEELER AVENUE
MIDLOTHIAN, ILLINOIS

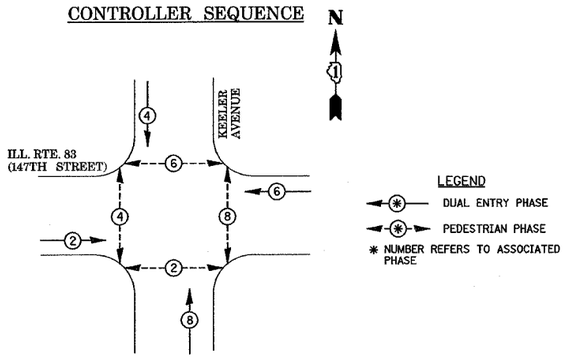
SCALE: 1"=20'
DATE 09-20-2004

DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	15
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

CONTROLLER SEQUENCE



LEGEND

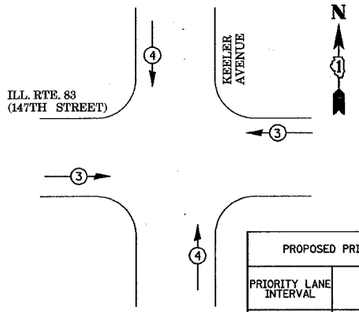
- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- * NUMBER REFERS TO ASSOCIATED PHASE

PHASE DESIGNATION DIAGRAM

DUAL ENTRY - ALL LEGS
PERMITTED LEFT TURN PHASING

EMERGENCY VEHICLE PREEMPTION SEQUENCE

FOR DUAL ENTRY OPERATION - ALL LEGS

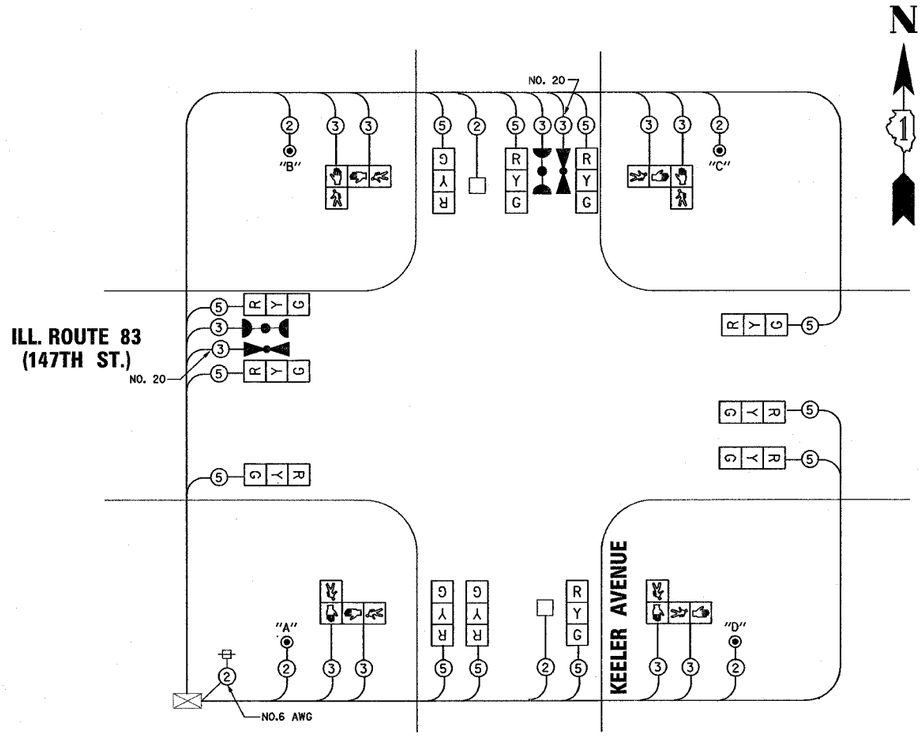


PROPOSED PRIORITY LANES		
PRIORITY LANE INTERVAL	3	4
MOVEMENT	← →	↓ ↑

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS X	WATTAGE INCAND.	WATTAGE LED	X% OPERATION	
SIGNAL (RED)	12	135	17	0.50	810.0
(YELLOW)	12	135	25	0.25	405.0
(GREEN)	12	135	15	0.25	405.0
ARROW	-	135	12	0.10	-
PED. SIGNAL	8	90	25	1.00	720.0
CONTROLLER	1	100	100	1.00	100.0
ILLUM. SIGN	-	84		0.05	-
FLASHER	-	-	-	0.50	-
				TOTAL =	2440.0

ENERGY COSTS - BILLED TO: VILLAGE OF MIDLOTHIAN
(ADDRESS) 14801 S. PULASKI ROAD
MIDLOTHIAN, IL 60445

ENERGY SUPPLY - CONTACT: LARRY WOODLE
PHONE: (708) 235-2327
COMPANY: COMMONWEALTH EDISON



CABLE PLAN

PUSH-BUTTON NOTES:

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

TEMPORARY CABLE DIAGRAM LEGEND

- R — TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12" (300 mm)
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- (5) — INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- PEDESTRIAN PUSHBUTTON DETECTOR
- VEHICLE DETECTOR, INDUCTION LOOP
- 12" (300mm) PEDESTRIAN SIGNAL SECTION
- MICROWAVE VEHICLE SENSOR
- R / Y / G — TEMPORARY TRAFFIC SIGNAL FACE ("L" INDICATES LOUVERED HOOD)

SETON ENGINEERING SERVICE CORPORATION
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VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002001-207-211

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

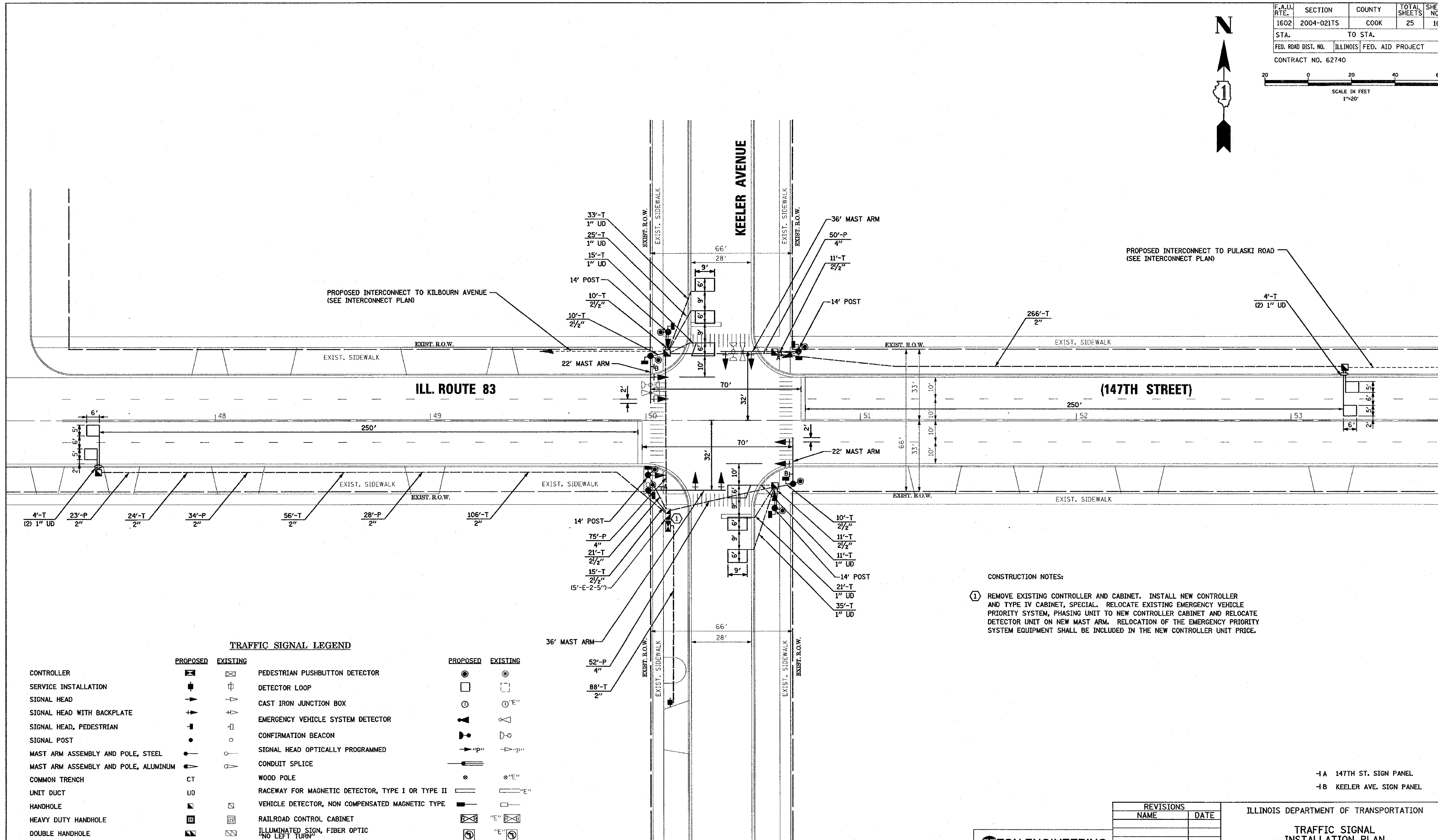
TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION DIAGRAM AND TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE

ILL. ROUTE 83 (147TH STREET) AT KEELER AVENUE
MIDLOTHIAN, ILLINOIS

SCALE: N.T.S.
DATE 09-20-2004
DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	16
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740



CONSTRUCTION NOTES:

1. REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, SPECIAL. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT TO NEW CONTROLLER CABINET AND RELOCATE DETECTOR UNIT ON NEW MAST ARM. RELOCATION OF THE EMERGENCY PRIORITY SYSTEM EQUIPMENT SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.

A 147TH ST. SIGN PANEL
B KEELER AVE. SIGN PANEL

TRAFFIC SIGNAL LEGEND

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

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

SETON ENGINEERING
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PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL INSTALLATION PLAN

ILL. ROUTE 83 (147TH STREET) AT KEELER AVENUE
MIDLOTHIAN, ILLINOIS

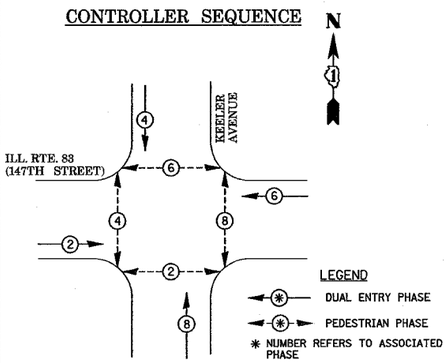
SCALE: 1"=20'
DATE 09-20-2004

DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	17
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

CONTROLLER SEQUENCE

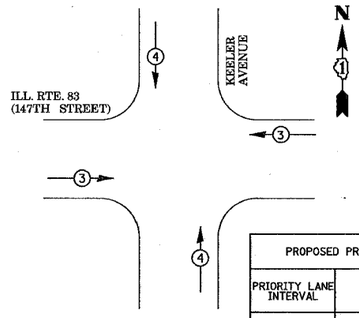


PHASE DESIGNATION DIAGRAM

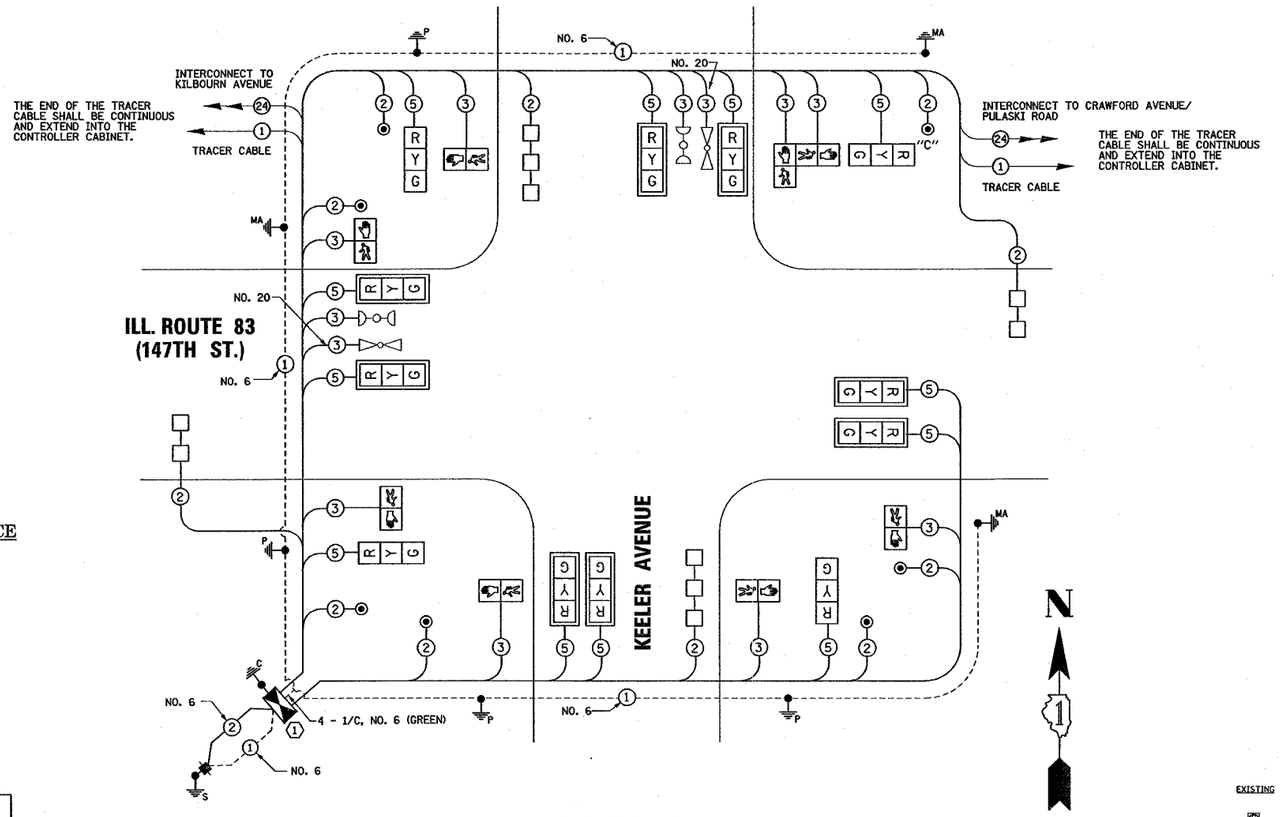
DUAL ENTRY - ALL LEGS
PERMITTED LEFT TURN PHASING

EMERGENCY VEHICLE PREEMPTION SEQUENCE

FOR DUAL ENTRY OPERATION - ALL LEGS



PROPOSED PRIORITY LANES		
PRIORITY LANE INTERVAL	3	4
MOVEMENT	← →	↓ ↑



CABLE PLAN

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	1.5
SIGN PANEL - TYPE 1	SQ FT	30
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	540
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	88
CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	85
CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	177
HANDHOLE	EACH	5
DOUBLE HANDHOLE	EACH	1
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	628
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
TRANSCEIVER - FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO.6 1C	FOOT	512
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C	FOOT	725
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C	FOOT	977
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C	FOOT	1690
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	726
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	89
TRAFFIC SIGNAL POST, GALVANIZED STEEL, 14 FT.	EACH	3
STEEL MAST ARM ASSEMBLY AND POLE, 22 FT.	EACH	2
STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	2
CONCRETE FOUNDATION, TYPE A	FOOT	15
CONCRETE FOUNDATION, TYPE D	FOOT	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	60
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	8
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	6
PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	EACH	1
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	8
INDUCTIVE LOOP DETECTOR	EACH	4
DETECTOR LOOP, TYPE 1	FOOT	316
PEDESTRIAN PUSH-BUTTON	EACH	7
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
SERVICE INSTALLATION, POLE MOUNTED	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	4
REMOVE EXISTING CONCRETE FOUNDATION	EACH	8
ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED	FOOT	335

CABLE PLAN LEGEND

EXISTING	PROPOSED		EXISTING	PROPOSED	
G	G	8" (200mm) TRAFFIC SIGNAL SECTION	1	1	GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
R	R	12" (300mm) TRAFFIC SIGNAL SECTION	24	24	FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM12F
W	W	12" (300mm) PEDESTRIAN SIGNAL SECTION			SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD
		12" (300mm) PEDESTRIAN SIGNAL SECTION			
		CONTROLLER CABINET			
		SERVICE INSTALLATION			
		TELEPHONE CONNECTION	"E"		RAILROAD CONTROL CABINET
		VEHICLE DETECTOR, INDUCTION LOOP	"E"		ILLUMINATED SIGN "NO LEFT TURN"
		MAGNETIC DETECTOR	"E"		ILLUMINATED SIGN "NO RIGHT TURN"
		EMERGENCY VEHICLE LIGHT DETECTOR			
		CONFIRMATION BEACON	H/C	C	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C).
		PUSHBUTTON DETECTOR			
2	2	DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOOP DETECTOR CABLE TO BE SHIELDED.	P	P	GROUND ROD AT POST (P), OR MAST ARM POLE (MA).
			S	S	GROUND ROD AT ELECTRIC SERVICE INSTALLATION

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS X	WATTAGE INCAND.	WATTAGE LED	X % OPERATION	
SIGNAL (RED)	12	135	17	0.50	102.0
(YELLOW)	12	135	25	0.25	75.0
(GREEN)	12	135	15	0.25	45.0
ARROW	-	135	12	0.10	-
PED. SIGNAL	8	90	25	1.00	200.0
CONTROLLER	1	100	100	1.00	100.0
ILLUM. SIGN	-	84		0.05	-
FLASHER	0			0.50	0.00
				TOTAL =	522.0

ENERGY COSTS - BILLED TO: VILLAGE OF MIDLOTHIAN
(ADDRESS) 14801 S. PULASKI ROAD
MIDLOTHIAN, IL 60445

ENERGY SUPPLY - CONTACT: LARRY WOODLE
PHONE: (708) 235-2327
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)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + L - 2 =
E - M. ARM POLE		SIGNAL POST	2 (1.0)		(6m+L-0.6m)=
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
		ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
		GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

PUSH-BUTTON NOTES:

PUSH-BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8

CONSTRUCTION NOTES:

(1) REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, SPECIAL. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT TO NEW CONTROLLER CABINET AND RELOCATE DETECTOR UNIT ON NEW MAST ARM. RELOCATION OF THE EMERGENCY PRIORITY SYSTEM EQUIPMENT SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.

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

SETON ENGINEERING SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002001-207-211

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

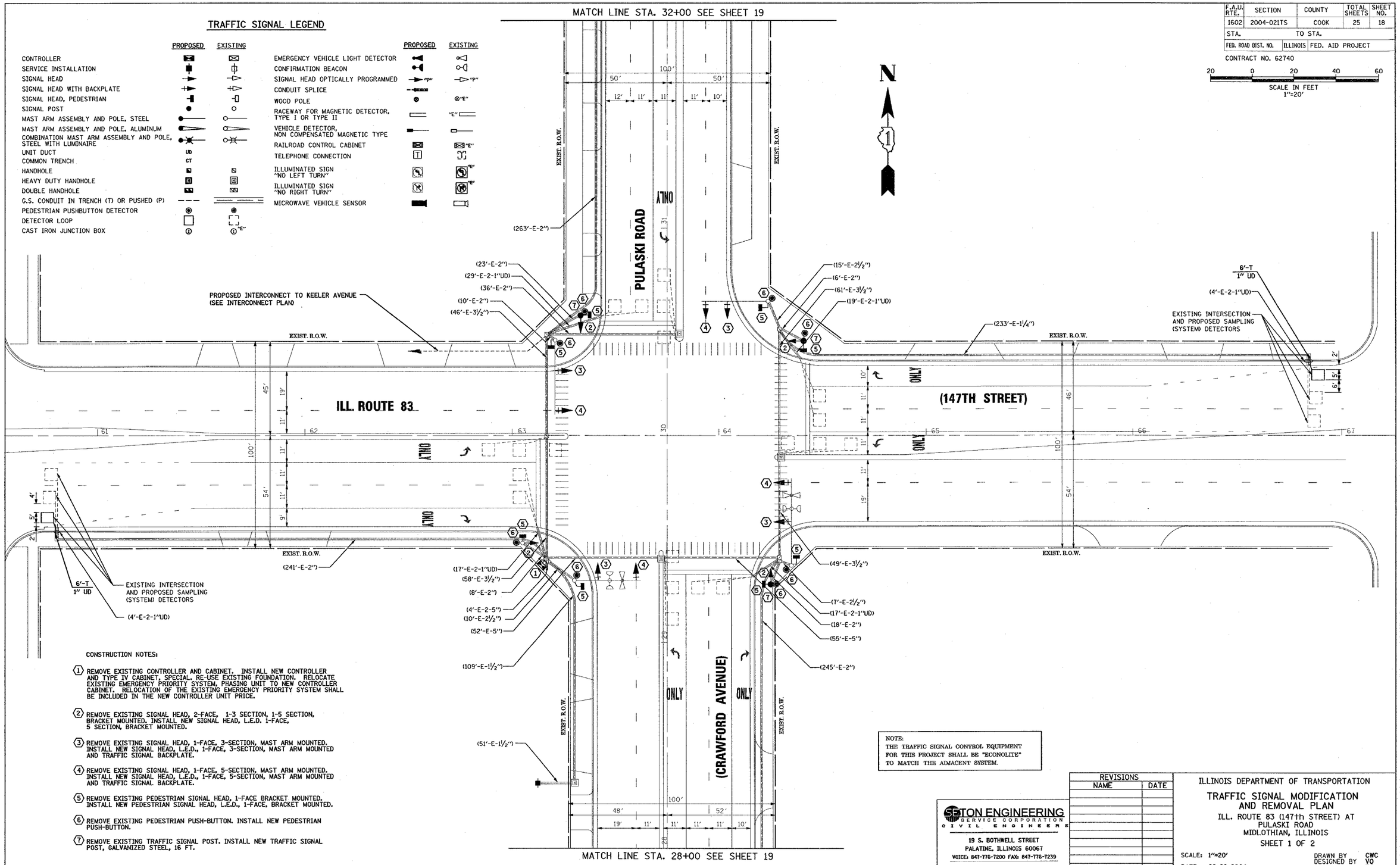
CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE PREEMPTION SEQUENCE AND SCHEDULE OF QUANTITIES
ILL. ROUTE 83 (147TH STREET) AT
KEELER AVENUE
MIDLOTHIAN, ILLINOIS

SCALE: N.T.S.
DATE 09-20-2004
DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER	▣	▣
SERVICE INSTALLATION	▮	▯
SIGNAL HEAD	→	▷
SIGNAL HEAD WITH BACKPLATE	+→	+▷
SIGNAL HEAD, PEDESTRIAN	▮→	▯
SIGNAL POST	●	○
MAST ARM ASSEMBLY AND POLE, STEEL	●———	○———
MAST ARM ASSEMBLY AND POLE, ALUMINUM	●———	○———
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE	●—✳	○—✳
UNIT DUCT	UD	
COMMON TRENCH	CT	
HANDHOLE	▣	▨
HEAVY DUTY HANDHOLE	H	H
DOUBLE HANDHOLE	▣▣	▨▨
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	———	———
PEDESTRIAN PUSHBUTTON DETECTOR	◉	◉
DETECTOR LOOP	□	⊏⊐
CAST IRON JUNCTION BOX	Ⓙ	Ⓙ "E"

	PROPOSED	EXISTING
EMERGENCY VEHICLE LIGHT DETECTOR	◀▬	◁○
CONFIRMATION BEACON	●◀	○◁
SIGNAL HEAD OPTICALLY PROGRAMMED	→"P"	▷"P"
CONDUIT SPLICE	——⊙——	
WOOD POLE	⊗	⊗"E"
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II	▭	"E" ▭
VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE	▬—	—▭
RAILROAD CONTROL CABINET	▣	▣"E"
TELEPHONE CONNECTION	T	T
ILLUMINATED SIGN "NO LEFT TURN"	↰	"E" ↰
ILLUMINATED SIGN "NO RIGHT TURN"	↱	"E" ↱
MICROWAVE VEHICLE SENSOR	▬	▭



CONSTRUCTION NOTES:

1. REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, SPECIAL. RE-USE EXISTING FOUNDATION. RELOCATE EXISTING EMERGENCY PRIORITY SYSTEM, PHASING UNIT TO NEW CONTROLLER CABINET. RELOCATION OF THE EXISTING EMERGENCY PRIORITY SYSTEM SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.
2. REMOVE EXISTING SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 5 SECTION, BRACKET MOUNTED.
3. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION, MAST ARM MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED AND TRAFFIC SIGNAL BACKPLATE.
4. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 5-SECTION, MAST ARM MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED AND TRAFFIC SIGNAL BACKPLATE.
5. REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 1-FACE BRACKET MOUNTED. INSTALL NEW PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED.
6. REMOVE EXISTING PEDESTRIAN PUSH-BUTTON. INSTALL NEW PEDESTRIAN PUSH-BUTTON.
7. REMOVE EXISTING TRAFFIC SIGNAL POST. INSTALL NEW TRAFFIC SIGNAL POST, GALVANIZED STEEL, 16 FT.

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

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	18
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

REVISIONS	
NAME	DATE

SETON ENGINEERING SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002006-0737-251

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION AND REMOVAL PLAN

ILL. ROUTE 83 (147th STREET) AT PULASKI ROAD
MIDLOTHIAN, ILLINOIS

SHEET 1 OF 2

SCALE: 1"=20'
DATE 09-20-2004

DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

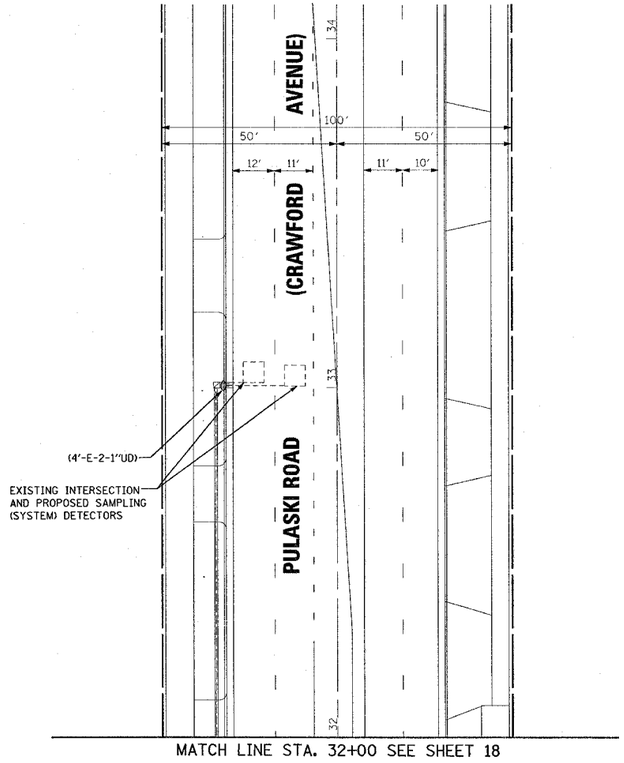
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	19
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

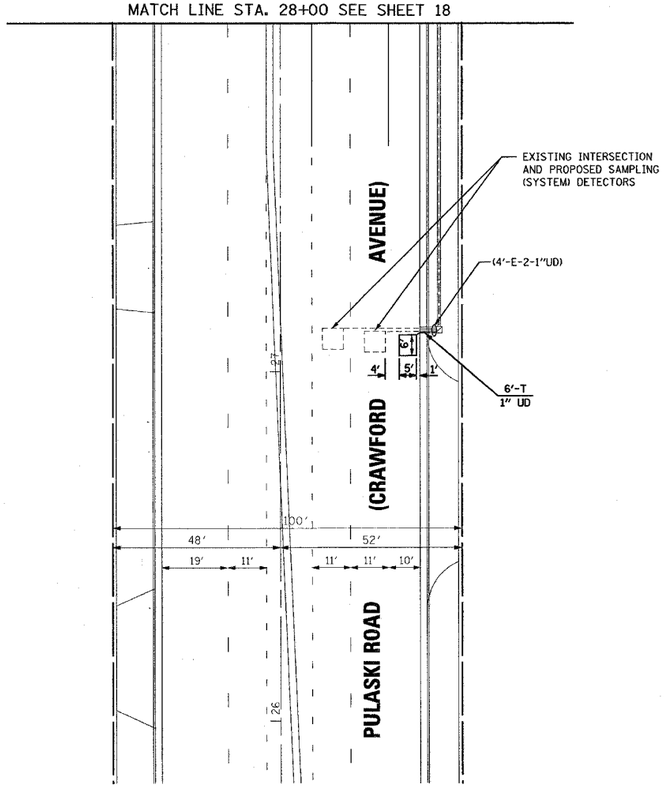
CONTRACT NO. 62740

N

20 0 20 40 60

SCALE IN FEET
1"=20'





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

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, MEDIAN, 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.

SETON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002041-057-211

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION AND REMOVAL PLAN

ILL. ROUTE 83 (147th STREET) AT
PULASKI ROAD
MIDLOTHIAN, ILLINOIS

SHEET 2 OF 2

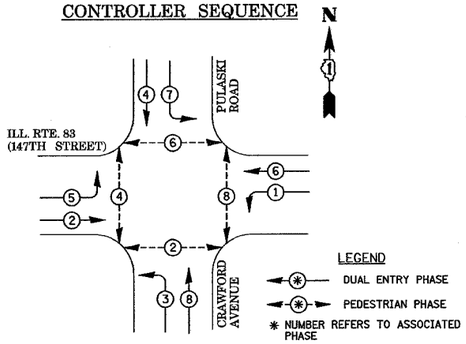
SCALE: 1"=20'
DATE 09-20-2004

DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	20
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

CONTROLLER SEQUENCE

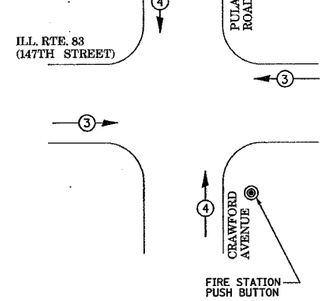


PHASE DESIGNATION DIAGRAM

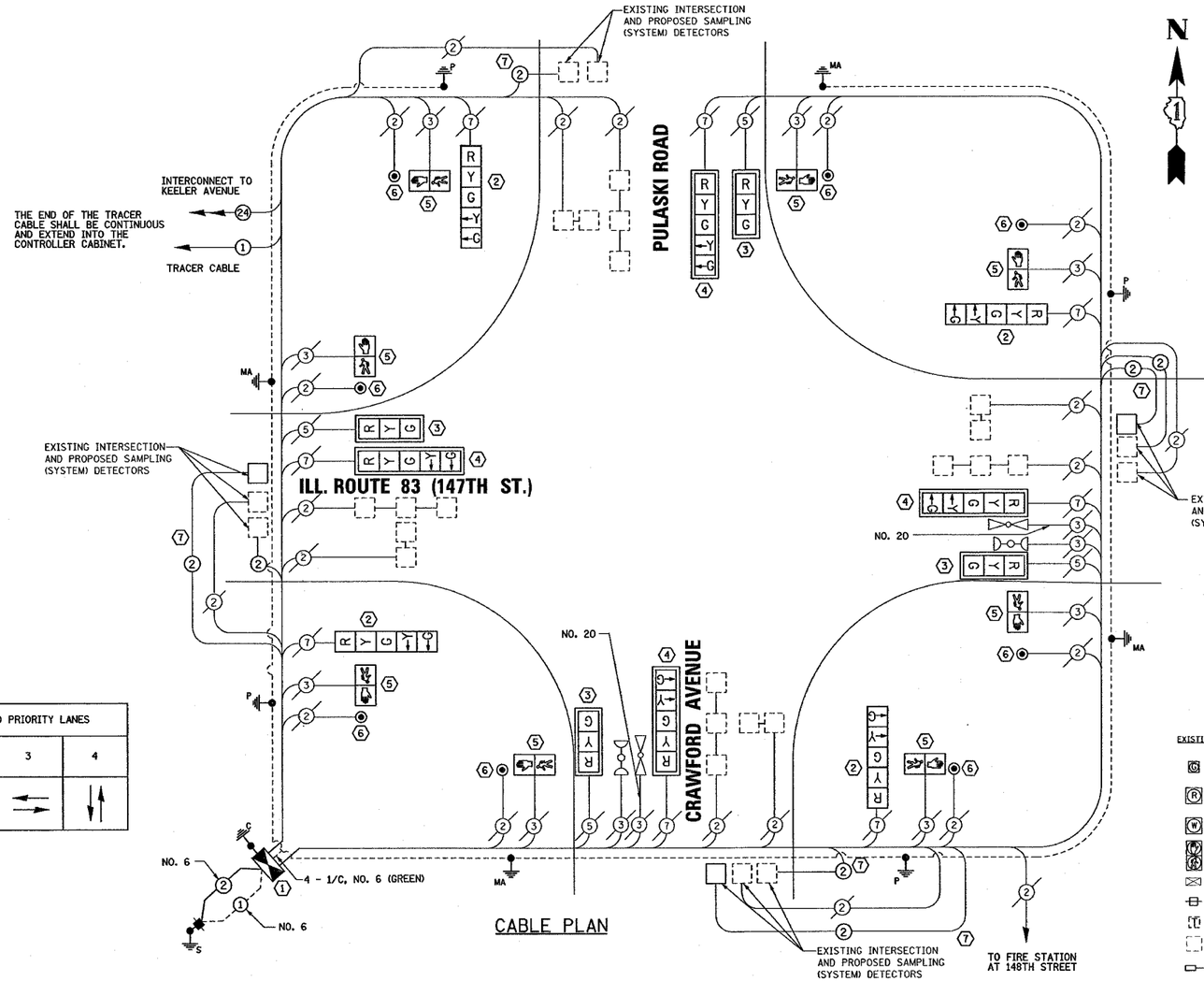
DUAL ENTRY - ALL LEGS
PROTECTED/PERMITTED LEFT TURN PHASING

EMERGENCY VEHICLE PREEMPTION SEQUENCE

FOR DUAL ENTRY OPERATION - ALL LEGS



PROPOSED PRIORITY LANES		
PRIORITY LANE INTERVAL	3	4
MOVEMENT	←	↑



CABLE PLAN

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	0.5
GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	4
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
TRANSCEIVER-FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	853
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	2742
TRAFFIC SIGNAL POST, GALVANIZED STEEL, 16 FT.	EACH	3
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	178
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	4
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	4
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	8
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	8
INDUCTIVE LOOP DETECTOR	EACH	17
DETECTOR LOOP, TYPE 1	FOOT	73
PEDESTRIAN PUSH BUTTON	EACH	8
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
SERVICE INSTALLATION, POLE MOUNTED	EACH	1

CABLE PLAN LEGEND

EXISTING	PROPOSED		EXISTING	PROPOSED	
(G)	G	8" (200mm) TRAFFIC SIGNAL SECTION	1	1	GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
(R)	R	12" (300mm) TRAFFIC SIGNAL SECTION	24	24	FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM12F
(W)	W	12" (300mm) PEDESTRIAN SIGNAL SECTION	R Y G Y G	R Y G Y G	SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD
(W) (H)	W (H)	12" (300mm) PEDESTRIAN SIGNAL SECTION			
		CONTROLLER CABINET	"E"		RAILROAD CONTROL CABINET
		SERVICE INSTALLATION	"E"		ILLUMINATED SIGN "NO LEFT TURN"
T	T	TELEPHONE CONNECTION	"E"		ILLUMINATED SIGN "NO RIGHT TURN"
		VEHICLE DETECTOR, INDUCTION LOOP	H/C	C	GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C).
		MAGNETIC DETECTOR	P	P	GROUND ROD AT POST (P), OR MAST ARM POLE (MA).
		EMERGENCY VEHICLE LIGHT DETECTOR	S	S	GROUND ROD AT ELECTRIC SERVICE INSTALLATION
		CONFIRMATION BEACON			MICROWAVE VEHICLE SENSOR
		PUSHBUTTON DETECTOR			
(2)	2	DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOOP DETECTOR CABLE TO BE SHIELDED.			

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS X	WATTAGE INCAND.	WATTAGE LED	X % OPERATION	
SIGNAL (RED)	12	135	17	0.50	102.0
(YELLOW)	12	135	25	0.25	75.0
(GREEN)	12	135	15	0.25	45.0
ARROW	16	135	12	0.10	19.2
PED. SIGNAL	8	90	25	1.00	200.0
CONTROLLER	1	100	100	1.00	100.0
				TOTAL =	541.2

ENERGY COSTS - BILLED TO: VILLAGE OF MIDLOTHIAN
(ADDRESS) 14801 S. PULASKI ROAD
MIDLOTHIAN, IL 60445

ENERGY SUPPLY - CONTACT: LARRY WOODLE
PHONE: (708) 235-2327
COMPANY: COMMONWEALTH EDISON

CONSTRUCTION NOTES:

1. REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, SPECIAL RE-USE EXISTING FOUNDATION. RELOCATE EXISTING EMERGENCY PRIORITY SYSTEM, PHASING UNIT TO NEW CONTROLLER CABINET. RELOCATION OF THE EXISTING EMERGENCY PRIORITY SYSTEM SHALL BE INCLUDED IN THE NEW CONTROLLER UNIT PRICE.
2. REMOVE EXISTING SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 5 SECTION, BRACKET MOUNTED.
3. REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION, MAST ARM MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED AND TRAFFIC SIGNAL BACKPLATE.
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5. REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 1-FACE BRACKET MOUNTED. INSTALL NEW PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED.
6. REMOVE EXISTING PEDESTRIAN PUSH-BUTTON. INSTALL NEW PEDESTRIAN PUSH-BUTTON.
7. INSTALL NEW ELECTRICAL CABLE IN CONDUIT, LEAD-IN, NO.14, 1 PAIR FOR SYSTEM DETECTION

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)
D - FOUNDATION	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + L - 2 = (6m+L-0.6m)=
C - M. ARM POLE		SIGNAL POST	2 (1.0)		
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
		ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
		GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

NOTE:
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SETON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002001-207-291

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE PREEMPTION SEQUENCE AND SCHEDULE OF QUANTITIES

ILL. ROUTE 83 (147TH STREET) AT
PULASKI ROAD
MIDLOTHIAN, ILLINOIS

SCALE: N.T.S.
DATE 09-20-2004

DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	21
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

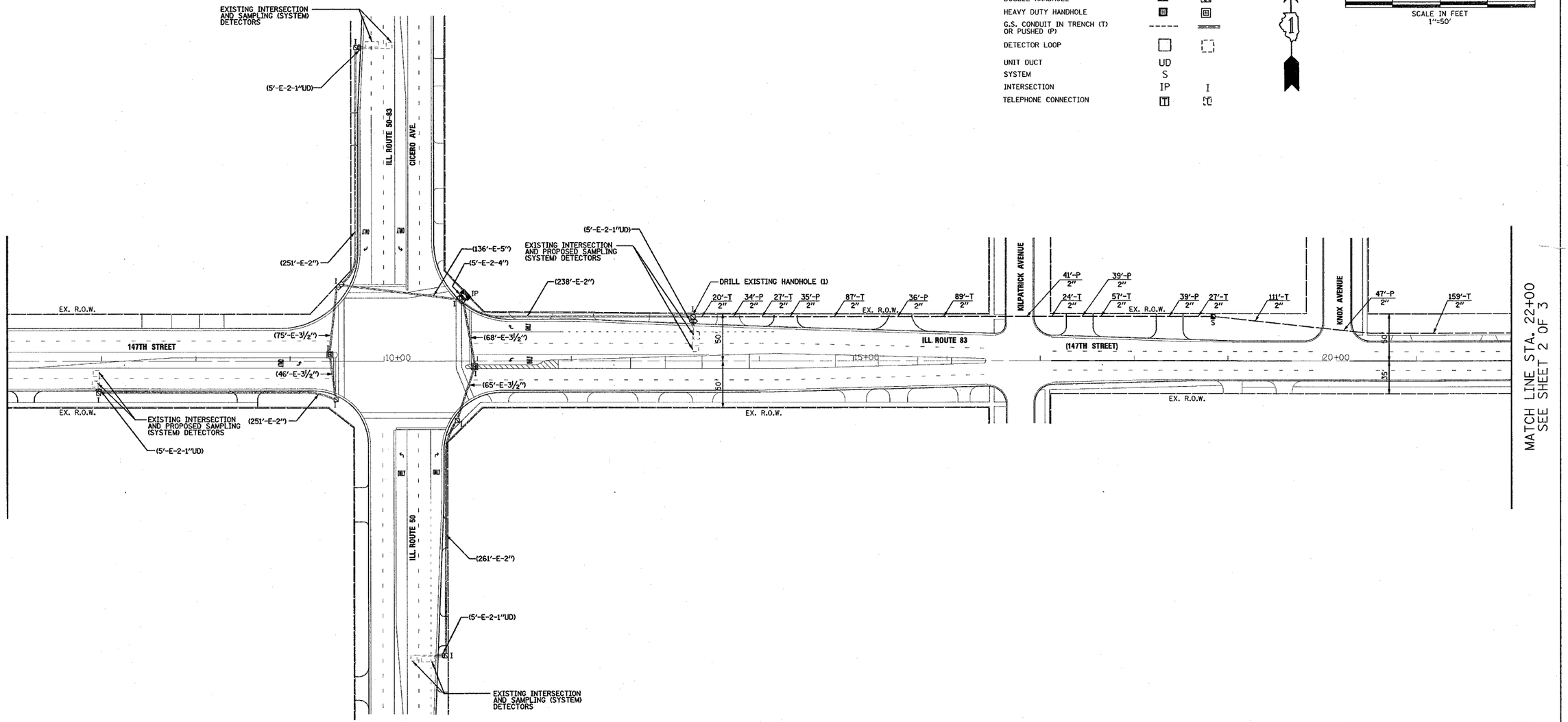
CONTRACT NO. 62740

50 0 50 100 150
SCALE IN FEET
1"=50'

INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER	▣	▣
HANDHOLE	◪	◪
DOUBLE HANDHOLE	◪	◪
HEAVY DUTY HANDHOLE	HD	HD
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	-----	-----
DETECTOR LOOP	□	□
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
TELEPHONE CONNECTION	T	T

N



NOTE:
THE EXISTING MASTER CONTROLLER IS LOCATED AT IL. RTE. 50 (CICERO AVENUE) AND 159TH STREET.

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

SETON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 20020026-207-221

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN

ILL. ROUTE 83 (147TH STREET) FROM
ILL. ROUTE 50 (CICERO AVENUE) TO
PULASKI ROAD
MIDLOTHIAN, IL
SHEET 1 OF 3

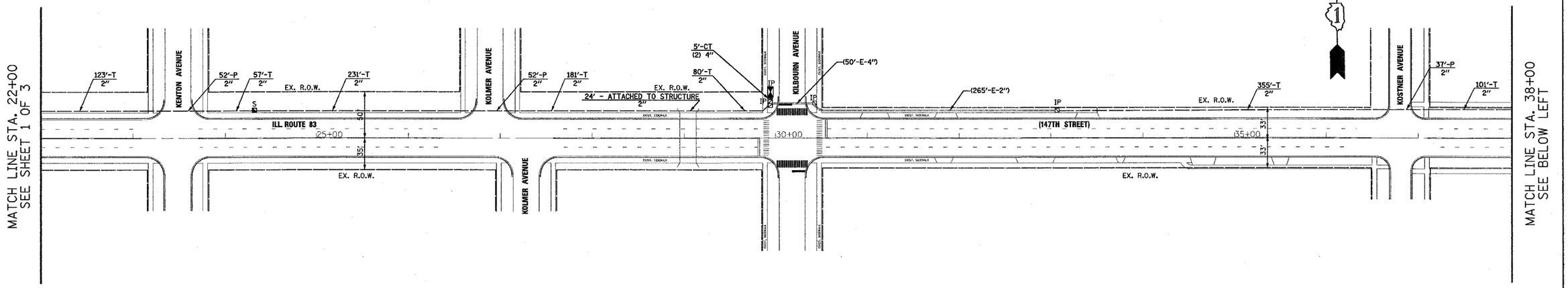
SCALE: 1"=50'
DATE 09-20-2004

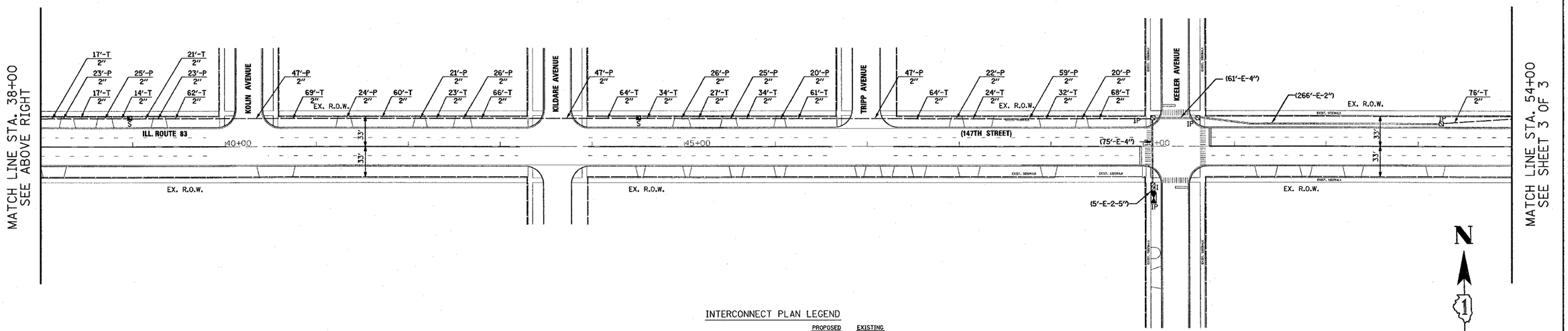
DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	22
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

SCALE IN FEET
1"=50'





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
TELEPHONE CONNECTION	T	T

NOTE:
THE EXISTING MASTER CONTROLLER IS LOCATED AT IL. RTE. 50 (CICERO AVENUE) AND 159TH STREET.

NOTE:
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SETON ENGINEERING SERVICE CORPORATION
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19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002001-207-211

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN

ILL. ROUTE 83 (147TH STREET) FROM
ILL. ROUTE 50 (CICERO AVENUE) TO
PULASKI ROAD
MIDLOTHIAN, IL
SHEET 2 OF 3

SCALE: 1"=50'
DATE 09-20-2004

DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	23
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740

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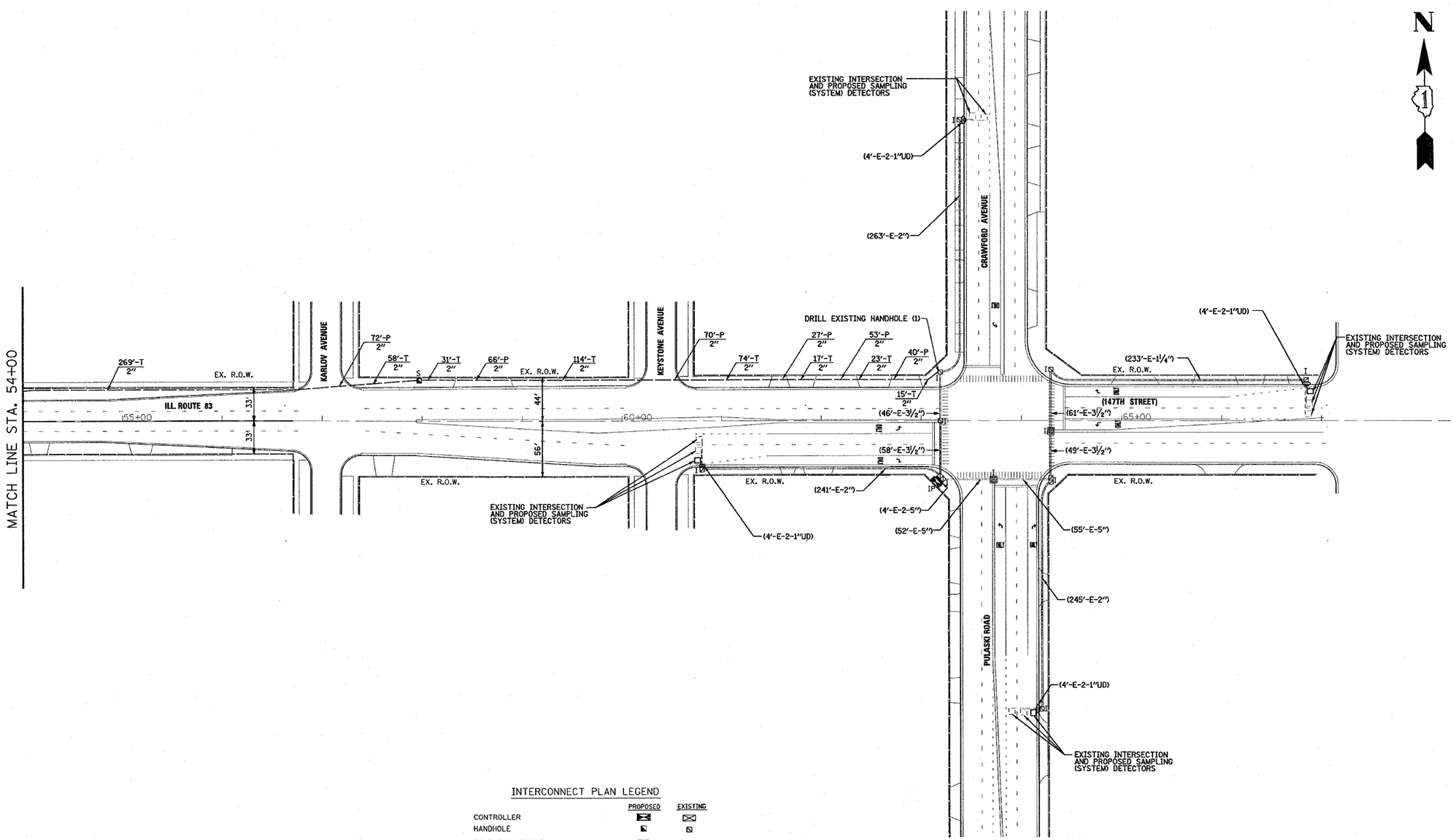
SCALE IN FEET
1"=50'



NOTE:
THE EXISTING MASTER CONTROLLER IS LOCATED AT IL. RTE. 50 (CICERO AVENUE) AND 159TH STREET.

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

INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
DOUBLE HANDHOLE		
HEAVY DUTY HANDHOLE	H	H
G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)	-----	═══
DETECTOR LOOP		
UNIT DUCT	UD	
SYSTEM	S	
INTERSECTION	IP	I
TELEPHONE CONNECTION	T	T

SETON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002001-207-211

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT PLAN

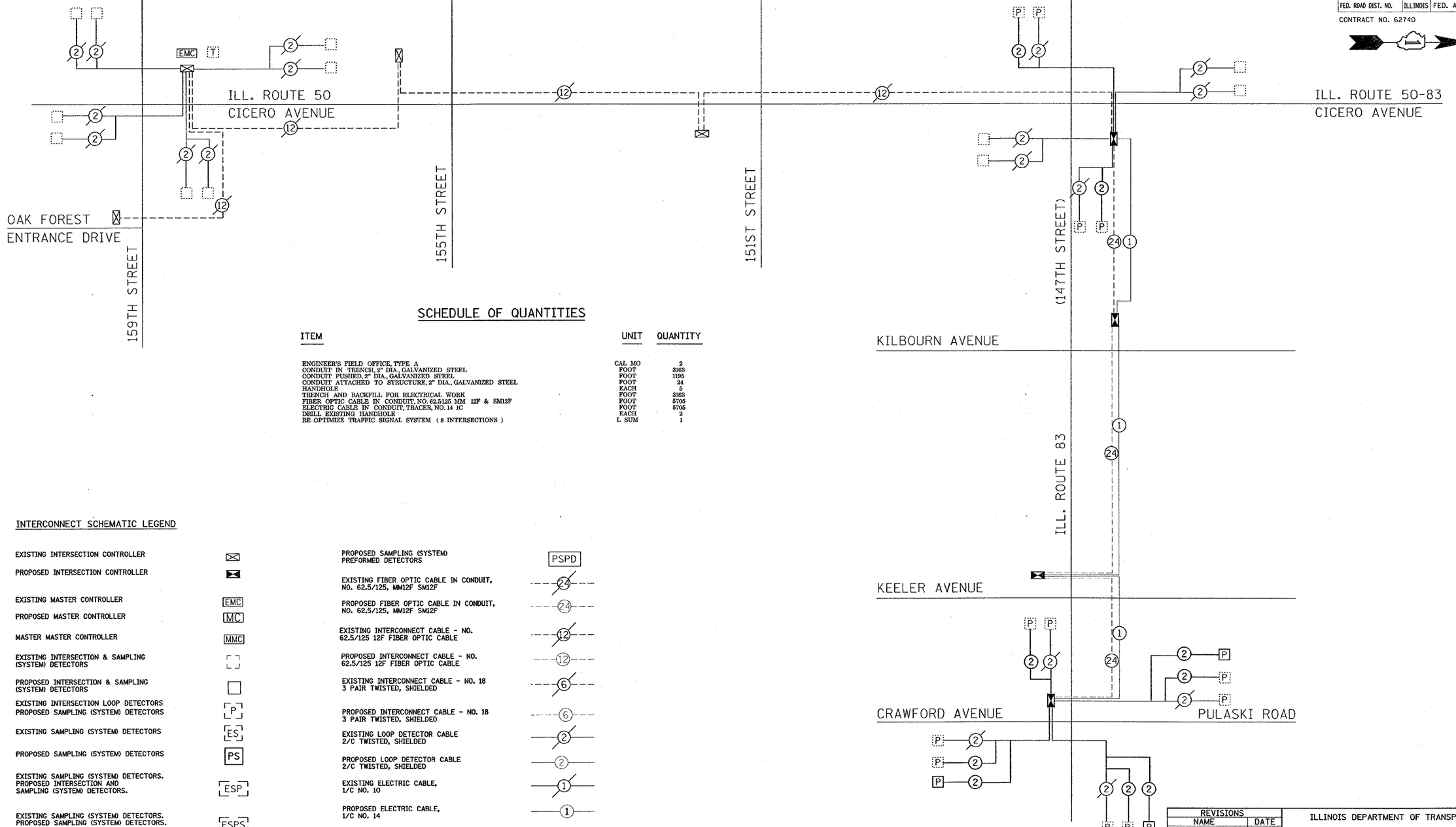
ILL. ROUTE 83 (147TH STREET) FROM
ILL. ROUTE 50 (CICERO AVENUE) TO
PULASKI ROAD
MIDLOTHIAN, IL
SHEET 3 OF 3

SCALE: 1"=50'
DATE 09-20-2004

DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	24
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62740



SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	2
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	3163
CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	1195
CONDUIT ATTACHED TO STRUCTURE, 2" DIA., GALVANIZED STEEL	FOOT	24
HANDHOLE	EACH	5
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	3163
FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125 MM 12F & SM12F	FOOT	5705
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	5705
DRILL EXISTING HANDHOLE	EACH	2
RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM (8 INTERSECTIONS)	L SUM	1

INTERCONNECT SCHEMATIC LEGEND

EXISTING INTERSECTION CONTROLLER	⊠
PROPOSED INTERSECTION CONTROLLER	⊠
EXISTING MASTER CONTROLLER	EMC
PROPOSED MASTER CONTROLLER	MC
MASTER MASTER CONTROLLER	MMC
EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS	[ ]
PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS	□
EXISTING INTERSECTION LOOP DETECTORS PROPOSED SAMPLING (SYSTEM) DETECTORS	P
EXISTING SAMPLING (SYSTEM) DETECTORS	ES
PROPOSED SAMPLING (SYSTEM) DETECTORS	PS
EXISTING SAMPLING (SYSTEM) DETECTORS. PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS.	ESP
EXISTING SAMPLING (SYSTEM) DETECTORS. PROPOSED SAMPLING (SYSTEM) DETECTORS.	ESPS
EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS	PD
PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS	PD
EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS	ESPD
PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS	PSPD
EXISTING FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	24
PROPOSED FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	24
EXISTING INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE	12
PROPOSED INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE	12
EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	6
PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	6
EXISTING LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED	2
PROPOSED LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED	2
EXISTING ELECTRIC CABLE, 1/C NO. 10	1
PROPOSED ELECTRIC CABLE, 1/C NO. 14	1
EXISTING TELEPHONE CONNECTION	T
PROPOSED TELEPHONE CONNECTION	T

SETON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002001-207-211

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT SCHEMATIC

ILL. ROUTE 83 (147TH STREET) FROM
ILL. ROUTE 50 (CICERO AVENUE) TO
PULASKI ROAD
MIDLOTHIAN, IL

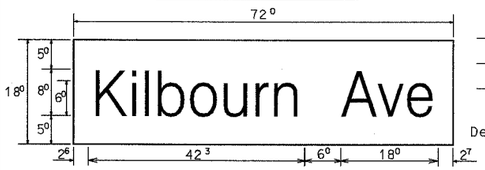
SCALE: NONE
DATE 09-20-2004

DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1602	2004-021TS	COOK	25	25
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

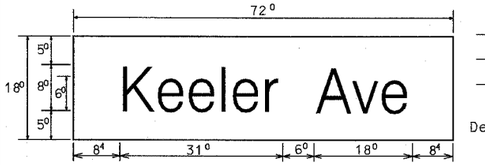
CONTRACT NO. 62740

PANEL SIGN DESIGN TYPE 1



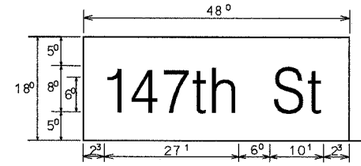
____ Sq. M. each
9 Sq. Ft. each
2 Required

Design Series D



____ Sq. M. each
9 Sq. Ft. each
2 Required

Design Series D

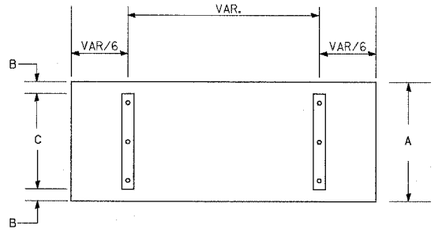


____ Sq. M. each
6 Sq. Ft. each
4 Required

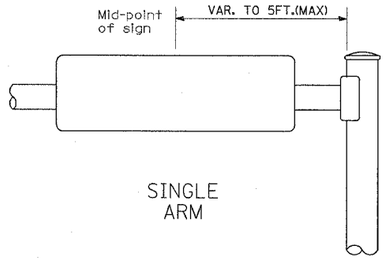
Design Series D

NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS.

SUPPORTING CHANNELS

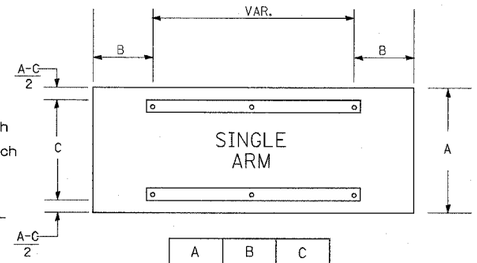


A	B	C
18″	2″	14″



SINGLE ARM

SUPPORTING CHANNELS

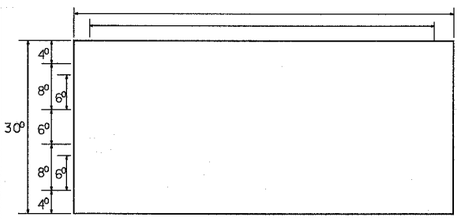


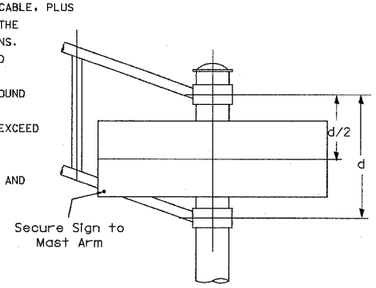
____ Sq. M. each
____ Sq. Ft. each
____ Required

Design Series ___

A	B	C
18″	2″	14″
30″	2″	22″

PANEL SIGN DESIGN TYPE 2





DUAL ARM

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

GENERAL NOTES

1. WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED. THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 834001, 834006 AND 834011, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" X 6'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS. LUMINARES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
2. ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND TYPE A SHEETING.
3. THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 6'-0".
4. ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
5. SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:

*A.K.T. CORPORATION, SCHAUMBURG, IL
*TUCKER COMPANY, INC., WAUWATOSA, WI
*AMERICAN FABRICATION CO., CHICAGO HEIGHTS, IL
*WESTERN TRAFFIC CONTROL, INC., CICERO, IL

PART LISTING:

SIGN CHANNEL	PART #HPNO53(MED. CHANNEL)
SIGN SCREWS	1/4" X 14 X 1" H.W.H. #3 SELF TAPPING WITH NEOPRENE WASHER
BRACKETS	PART # HPNO34 (UNIVERSAL) CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

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

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

EXAMPLE, 2③ DENOTES 3/8"

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

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

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

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

FIRST NUMBER	SECOND NUMBER: 0		1		2		3		4		5		6		7		8		9	
SERIES	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
0 9	1^6	1^7	1^6	1^7	1^4	1^5	1^2	1^4	1^4	1^5	1^4	1^5	1^6	1^7	1^2	1^4	1^6	1^7	1^6	1^7
1	2^0	2^1	2^0	2^1	2^0	2^1	1^6	1^7	1^4	1^5	2^0	2^1	2^0	2^1	1^4	1^5	2^0	2^1	2^0	2^1
2 3 4	1^4	1^5	1^4	1^5	1^4	1^5	1^2	1^4	1^2	1^4	1^4	1^5	1^4	1^5	1^1	1^2	1^6	1^7	1^4	1^5
5	1^4	1^5	1^4	1^5	1^4	1^5	1^1	1^2	1^1	1^2	1^4	1^5	1^4	1^5	1^1	1^2	1^4	1^5	1^4	1^5
6	1^6	1^7	1^4	1^5	1^4	1^5	1^2	1^5	1^2	1^4	1^4	1^5	1^4	1^5	1^1	1^2	1^4	1^5	1^4	1^5
7	1^2	1^4	1^2	1^4	1^4	1^5	1^2	1^5	0^5	0^6	1^2	1^4	1^4	1^5	1^1	1^2	1^4	1^5	1^2	1^4
8	1^6	1^7	1^6	1^7	1^4	1^5	1^2	1^5	1^2	1^4	1^4	1^5	1^6	1^7	1^2	1^4	1^6	1^7	1^4	1^5

UPPER AND LOWER CASE LETTER WIDTHS

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

NUMBER	6 INCH SERIES C	6 INCH SERIES D	8 INCH SERIES C	8 INCH SERIES D
1	1^2	1^4	1^5	2^0
2	3^2	4^0	4^3	5^3
3	3^2	4^0	4^3	5^3
4	3^5	4^3	4^7	5^7
5	3^2	4^0	4^3	5^3
6	3^2	4^0	4^3	5^3
7	3^2	4^0	4^3	5^3
8	3^2	4^0	4^3	5^3
9	3^2	4^0	4^3	5^3
0	3^4	4^2	4^5	5^5

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19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 2002000-207-231

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

MAST ARM MOUNTED STREET NAME SIGNS

ILL. ROUTE 83 (147TH STREET) AT KILBOURN AVENUE
ILL. ROUTE 83 (147TH STREET) AT KEELER AVENUE
MIDLOTHIAN, ILLINOIS

SCALE: N.T.S.
DATE 09-20-2004

DRAWN BY CWC
DESIGNED BY VO
CHECKED BY TJM