

62201

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	2001-050 TS	COOK	21	1

D-91-185-01

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STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

PLAN AS NOTED ON PLANS
 PROFILE HORIZ.
 PROFILE VERT.
 CROSS SECTIONS

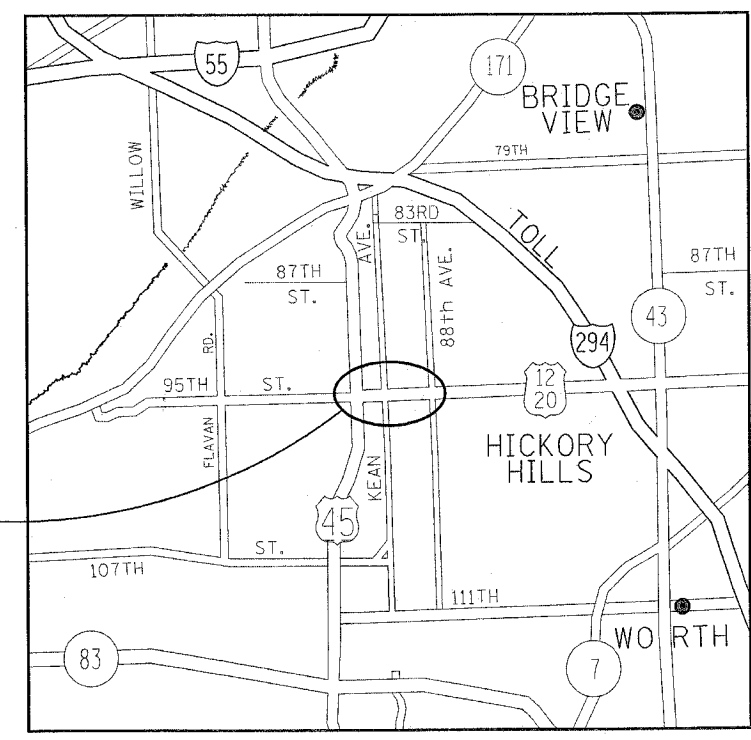
DISTRICT 1

CONGESTION MITIGATION AIR QUALITY FIBER OPTIC COMMUNICATIONS NETWORK

FAP 029
 U.S. RTE. 12/20 (95TH STREET)
 U.S. RTE. 12/20/45 (96TH AVENUE) TO 88TH AVENUE
 PROJECT: CMF-0029(110)
 SECTION NO. 2001-050 TS

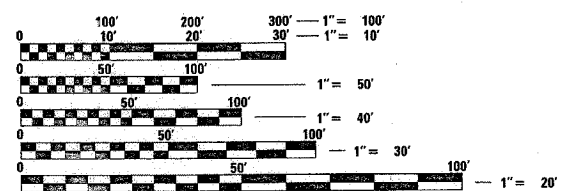
COOK COUNTY
 C-91-185-01

PALOS TOWNSHIP



STANDARD DRAWINGS

- 701006-02
- 701011-01
- 701101-01
- 701301-02
- 701501-03
- 701701-04
- 701801-03
- 702001-06
- 814001
- 857001
- 880006



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

Prepared by Stephen M. Trank Traffic Engineer Date March 17, 2006

CONTRACT NO. 62201

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED March 17 2006
Deane M. O'Keefe
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 12, 2006
Mike New
 ENGINEER OF DESIGN AND ENVIRONMENT

May 12, 2006
Milton Sosa P.E.
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER



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

STEVE TRANK / DARLYN DREW 847-705-4420

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	2001-050-TS	COOK	21	2
STA.		TO STA.		
FED. ROAD DIST. NO.	BLANK	FED. AID PROJECT		

CONTRACT # 62201

PERCENTAGES				URBAN 80% FED. / 20% STATE			
LOCATION OF WORK				U.S. RTE. 12/20 (95TH ST.) AND U.S. RTE. 12/20/45 (96TH AVE.)	U.S. RTE. 12/20 (95TH ST.) AND KEAN AVE.	U.S. RTE. 12/20 (95TH ST.) AND 88TH AVE.	U.S. RTE. 12/20 (95TH ST.) FROM U.S. RTE. 45 (96TH AVE.) TO 88TH AVE. INTERCONNECT
SUMMARY OF TRAFFIC SIGNAL QUANTITIES				CONSTRUCTION CODE			
CODE NO.	ITEM	UNIT	TOTAL	Y031 1F	Y031 1F	Y031 1F	Y031 1F
67100100	MOBILIZATION	L SUM	1	0.25	0.25	0.25	0.25
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1	0.25	0.25	0.25	0.25
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	0.25	0.25	0.25	0.25
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	0.25	0.25	0.25	0.25
81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	2365				2365
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	795				795
81400100	HANDHOLE	EACH	6				6
81500200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	2365				2365
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	3	1	1	1	
85700205	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)	EACH	2		1	1	
86400100	TRANSCETIVER - FIBER OPTIC	EACH	2		1	1	
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	344		344		
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	729			729	
X0322925	ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1C	FOOT	4024				4024
X8710020	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125 MM12F & SM12F	FOOT	4076				4076
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL, 16 FT.	EACH	4		4		
87900200	DRILL EXISTING HANDHOLE	EACH	4				4
X8800020	SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	4		4		
X8800040	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	4		4		
X8800045	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	4		4		
X8810610	PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED	EACH	2		2		
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	8		8		
88500100	INDUCTIVE LOOP DETECTOR	EACH	19		9	10	
88800100	PEDESTRIAN PUSHBUTTON	EACH	2		2		
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	2		1	1	
XX002856	RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM	L SUM	1				1

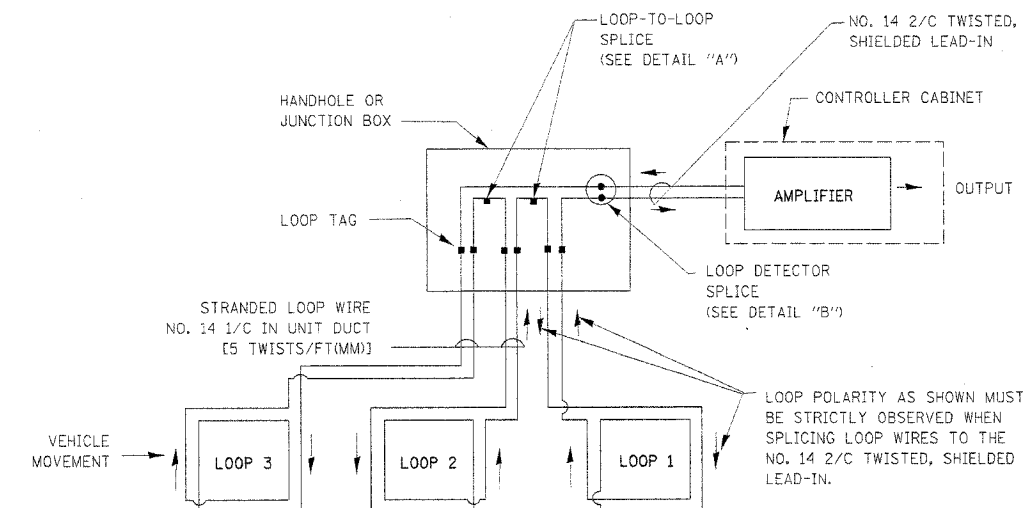
RESTORATION OF WORK AREA, RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC.,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

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION SUMMARY OF QUANTITIES
NAME	DATE	
		U.S. RTE. 12/20 (95TH ST.) FROM U.S. RTE. 45 (96TH AVE.) TO 88TH AVE. SCALE : NTS DATE : 12/12/05 DRAWN BY : PRT DESIGNED BY : RKF CHECKED BY : JVV

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	2001-050-TS	COOK	21	3
STA.		TO STA.		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
CONTRACT # 62201				

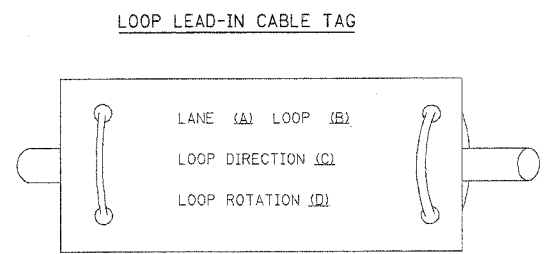
LOOP DETECTOR NOTES

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

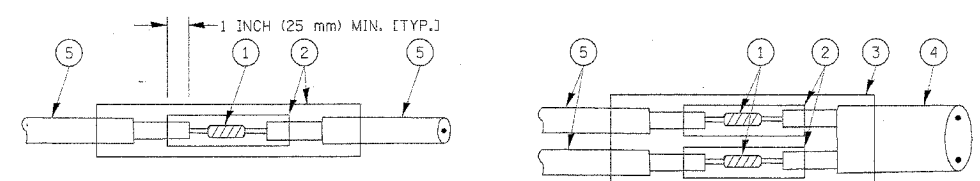


DETECTOR LOOP WIRING SCHEMATIC

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



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



DETAIL "A" LOOP-TO-LOOP SPLICE

DETAIL "B" LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

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

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

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: VERT. NONE
 HORIZ. DATE 10/18/2002

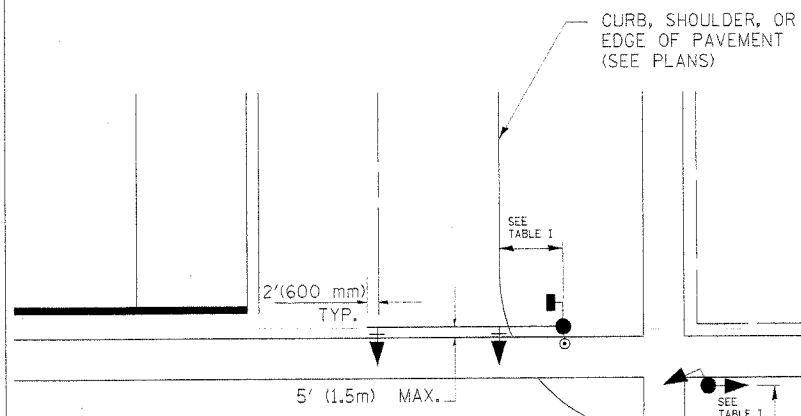
DRAWN BY: RWP
 DESIGNED BY: DAD
 CHECKED BY: DAZ
 SHEET 1 OF 4

10/18/2002
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 VHT-505

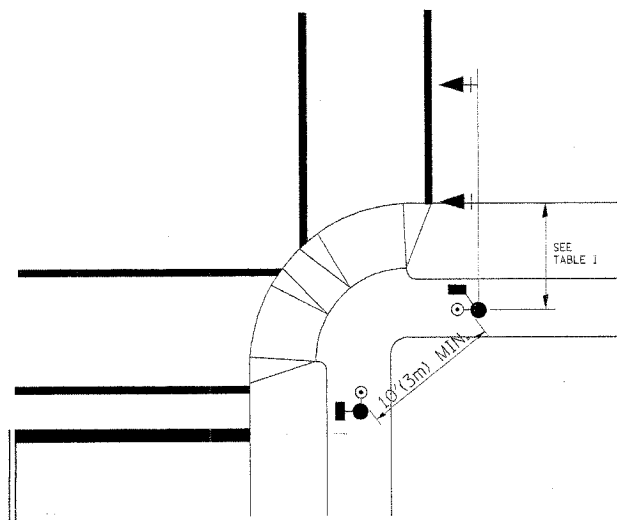
REVISION DATE: 01/01/02

TRAFFIC SIGNAL MAST ARM AND POST

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



PEDESTRIAN SIGNAL PUSHBUTTON



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

NOTES:

- AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS WITH PEDESTRIAN ACTUATION, EACH PUSHBUTTON SHALL ACTIVATE BOTH THE WALK INTERVAL AND THE ACCESSIBLE PEDESTRIAN SIGNALS.

AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS, PUSHBUTTONS SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSHBUTTON. PUSHBUTTONS AND TACTILE ARROWS SHOULD HAVE HIGH VISUAL CONTRAST (SEE THE DEPARTMENT OF JUSTICE'S AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN, 1991). TACTILE ARROWS SHOULD POINT IN THE SAME DIRECTION AS THE ASSOCIATED CROSSWALK. AT CORNERS OF SIGNALIZED LOCATIONS WITH ACCESSIBLE PEDESTRIAN SIGNALS WHERE PEDESTRIAN PUSHBUTTONS ARE PROVIDED, THE PUSHBUTTONS SHOULD BE SEPARATED BY THE DISTANCE OF AT LEAST 10 FT (3m). THIS ENABLES PEDESTRIANS WHO HAVE VISUAL DISABILITIES TO DISTINGUISH AND LOCATE THE APPROPRIATE PUSHBUTTON.

PUSHBUTTONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHOULD BE LOCATED AS FOLLOWS:
 A: ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS AN ALL WEATHER SURFACE, WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.
 B: WITHIN 5 FT (1.5m) OF THE CROSSWALK EXTENDED.
 C: WITHIN 10 FT (3m) OF THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
 D: PARALLEL TO THE CROSSWALK TO BE USED (SEE MUTCD FIGURE 4E-2).
 E: NORMAL PEDESTRIAN PUSHBUTTON MOUNTING HEIGHT SHOULD BE 3.5 FT (1.05m) ABOVE ADJACENT SIDEWALK.
- PEDESTRIAN SIGNAL FACES SHALL BE MOUNTED WITH THE BOTTOM OF THE HOUSING NOT LESS THAN 8 FT (2.4m) NOR MORE THAN 10 FT (3.0m) ABOVE THE SIDEWALK LEVEL AND SO THERE IS A PEDESTRIAN INDICATION IN THE LINE OF PEDESTRIANS' VISION WHICH PERTAINS TO THE CROSSWALK BEING USED.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, NOT MOUNTED OVER A ROADWAY, SHALL BE AT LEAST 10 FT (3.0m) BUT NOT MORE THAN 15 FT (4.5m) ABOVE THE SIDEWALK OR, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALKS EXIST.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, MOUNTED OVER A ROADWAY, SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001 AND 877006. (16 FT (5m) MIN., 18 FT (5.5m) MAX., FROM HIGHEST POINT OF PAVEMENT)

PEDESTRIAN SIGNAL POST

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION

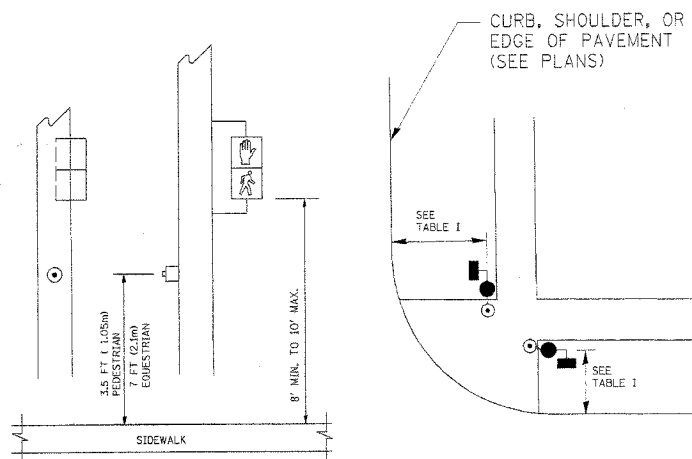


TABLE I

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
BUREAU OF TRAFFIC	1/01/02

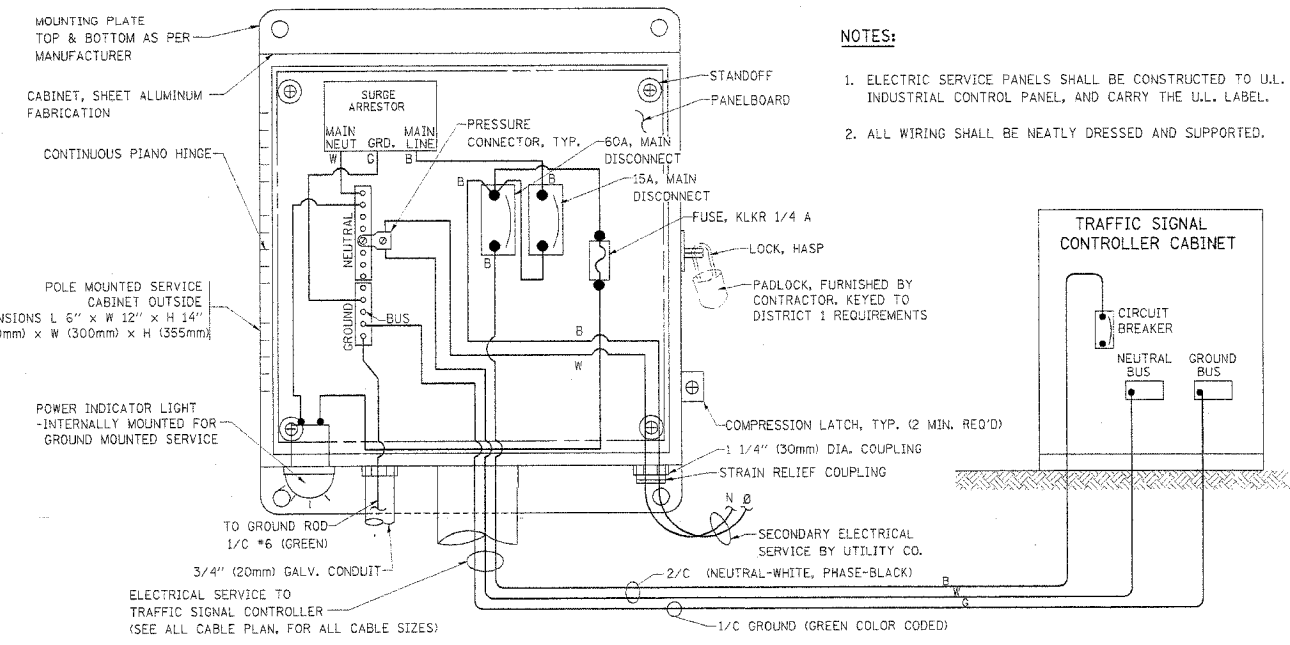
ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT 1
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: VERT. NONE
HORIZ. NONE
DATE 10/18/2002

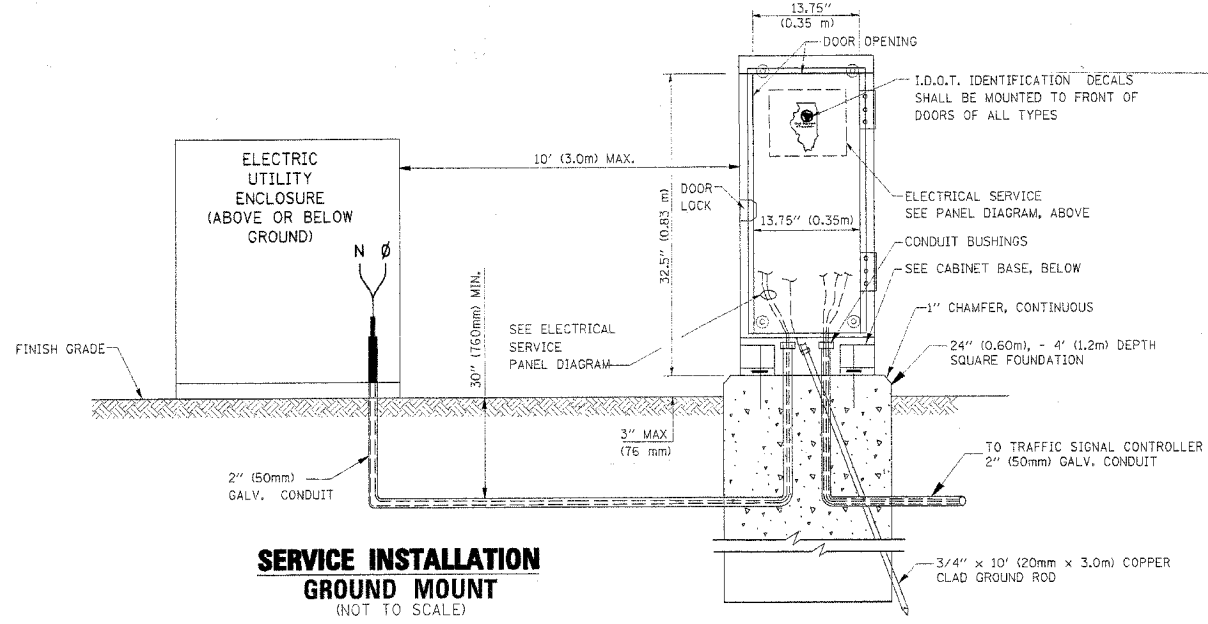
DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 2 OF 4

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	2001-050-TS	COOK	21	5
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

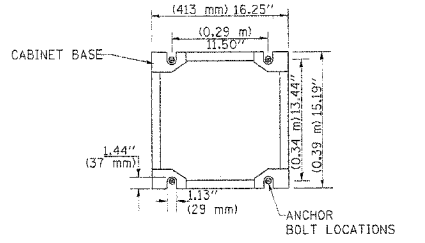
CONTRACT # 62201



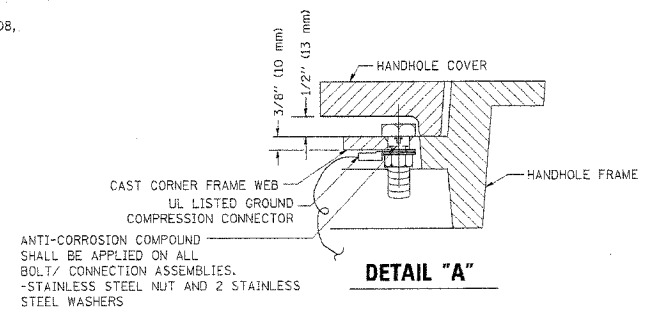
ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)
SERVICE INSTALLATION POLE MOUNT (SHOWN)
 (NOT TO SCALE)



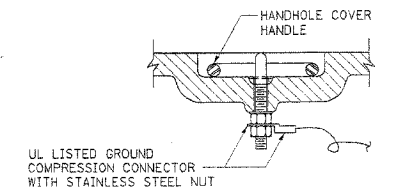
SERVICE INSTALLATION GROUND MOUNT
 (NOT TO SCALE)



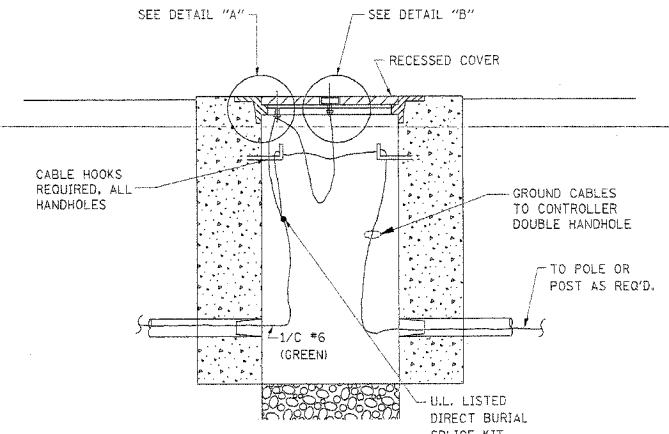
CABINET - BASE BOLT PATTERN
 (NOT TO SCALE)



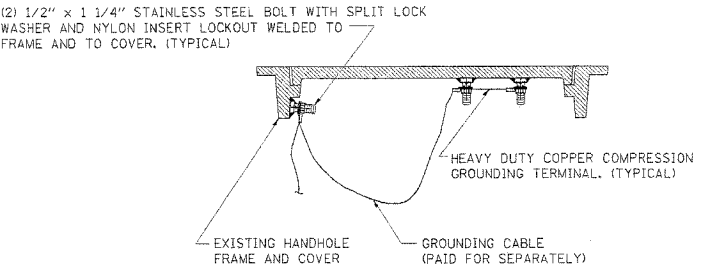
DETAIL "A"



DETAIL "B"



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

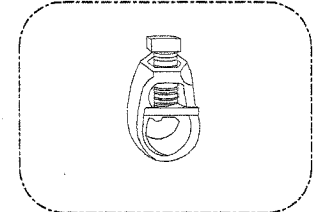
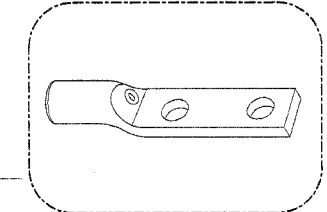


EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL
 (NOT TO SCALE)

NOTES:

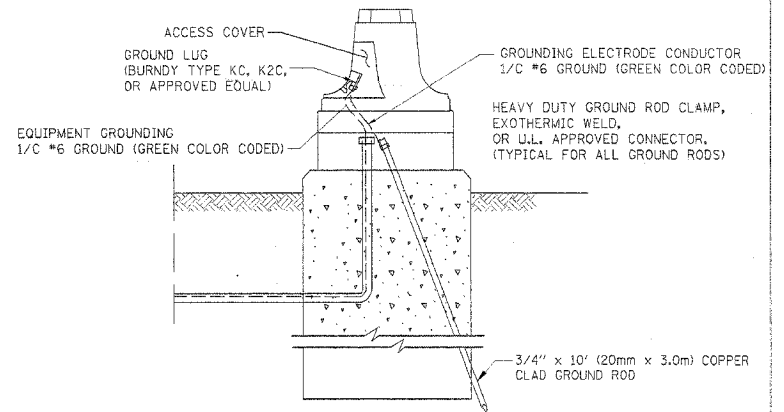
GROUNDING SYSTEM

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



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.



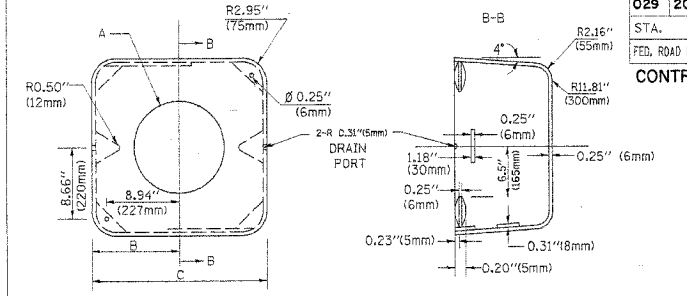
MAST ARM POLE / POST-GROUNDING DETAIL
 (NOT TO SCALE)

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

ILLINOIS DEPARTMENT OF TRANSPORTATION
 DISTRICT 1
 STANDARD TRAFFIC SIGNAL
 DESIGN DETAILS

SCALE: VERT. NONE
 HORIZ. NONE
 DATE: 10/18/2002
 DRAWN BY: RWP
 DESIGNED BY: DAD
 CHECKED BY: DAZ
 SHEET 3 OF 4

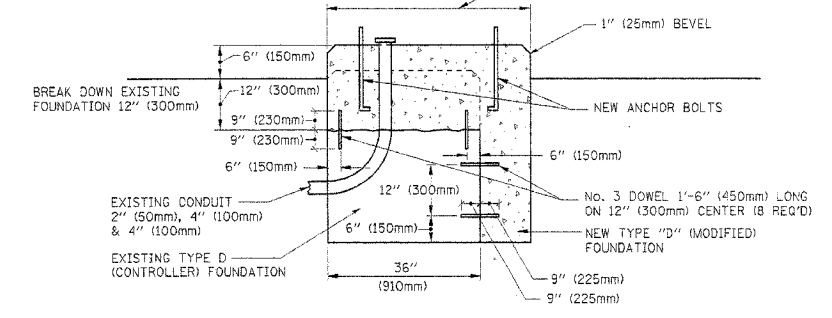
MATERIAL:
 - ASTM A48 CLASS 30 GREY IRON
 - ASTM A123 HOT DIPPED GALVANIZED



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

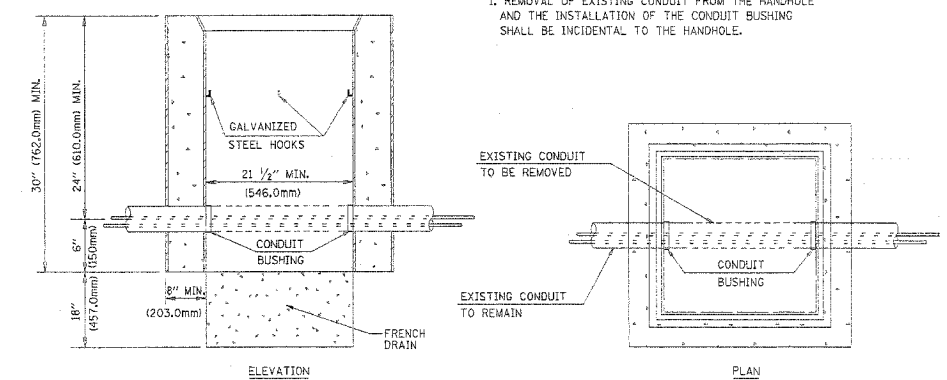
NOTE:
 SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



MODIFY EXISTING TYPE "D" FOUNDATION

(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.



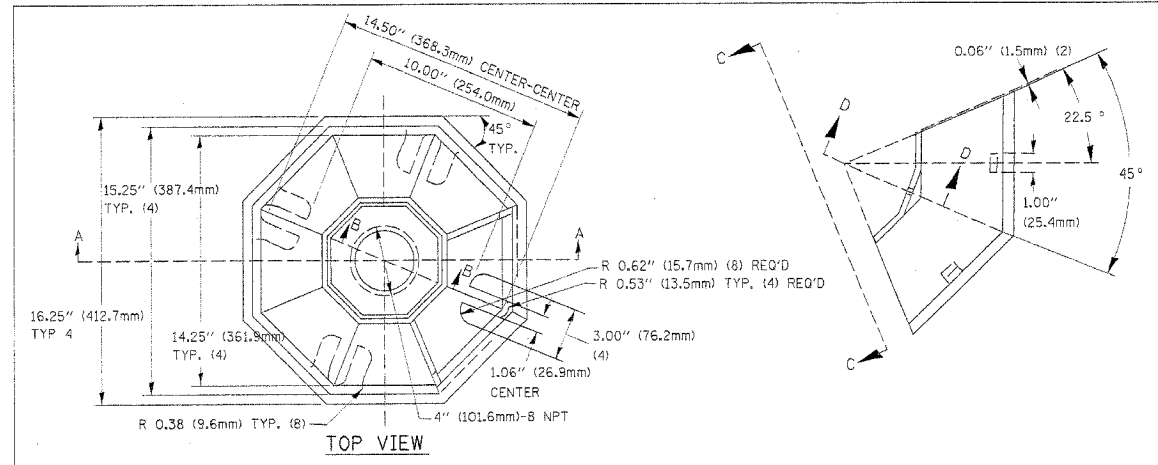
DETAIL HANDHOLE TO INTERCEPT EXISTING CONDUIT

ILLINOIS DEPARTMENT OF TRANSPORTATION
 DISTRICT 1
 STANDARD TRAFFIC SIGNAL DESIGN DETAILS

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

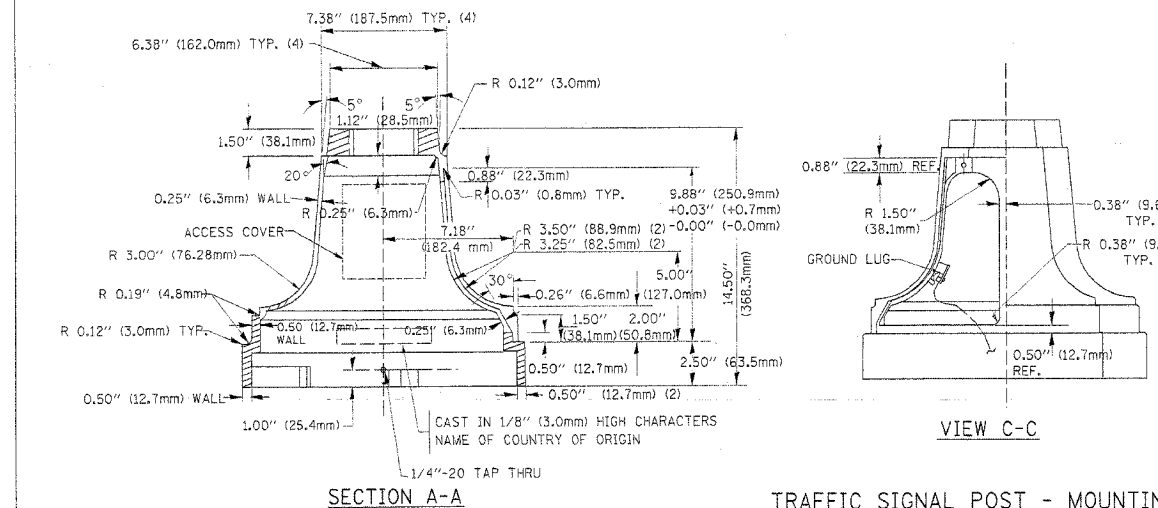
SCALE: VERT. NONE
 HORIZ. NONE
 DATE 10/18/2002

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



SECTION B-B

SECTION D-D



VIEW C-C

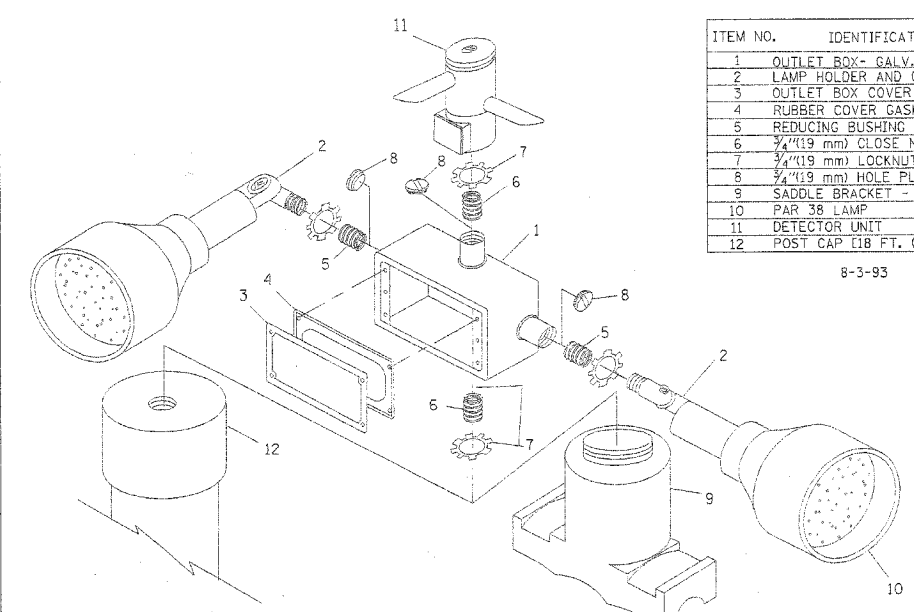
TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A

NOTES:

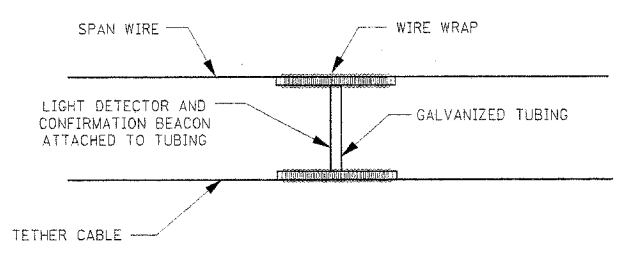
- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
- ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
 ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT
 ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
- WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION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

ITEM NO.	IDENTIFICATION
1	OUTLET BOX - GALV. 21 CU.IN. (0.00344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4" (19 mm) CLOSE NIPPLE
7	3/4" (19 mm) LOCKNUT
8	3/4" (19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	PAR 38 LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

8-3-93



POST CAP MOUNT
 MAST ARM MOUNT
 EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL



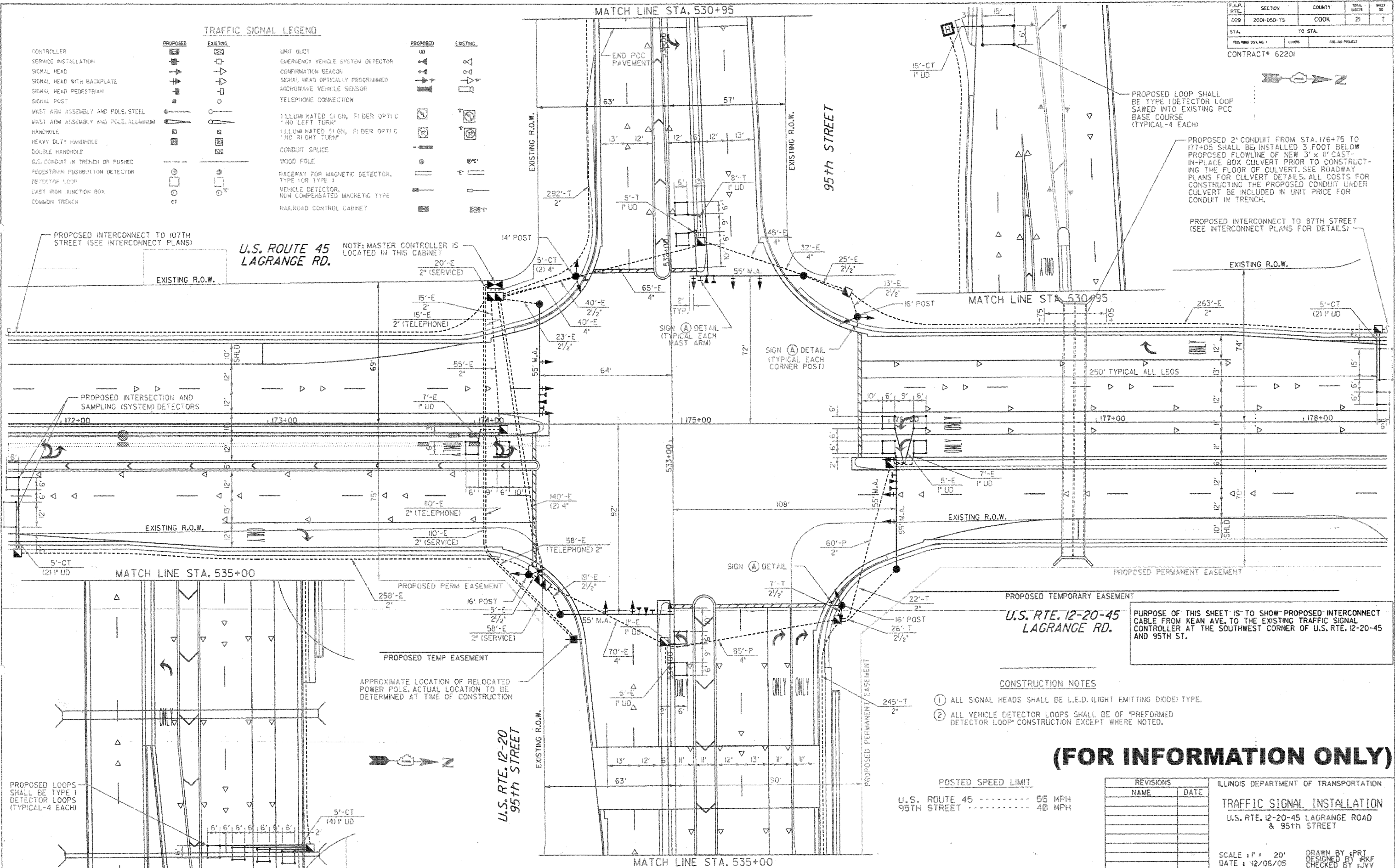
LIGHT DETECTOR AND CONFIRMATION BEACON MOUNTING FOR TEMPORARY TRAFFIC SIGNALS
 (NOT TO SCALE)

F.S.P. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	2004-090-TS	COOK	21	7
STA.	TO STA.			
176+75	177+05			
TREAS. DIST. NO. 1	LANDS	F.S.P. NO. PROJECT		

CONTRACT# 62201

TRAFFIC SIGNAL LEGEND

- | | | |
|--|--|--|
| | | UNIT DUCT |
| | | EMERGENCY VEHICLE SYSTEM DETECTOR |
| | | CONFIRMATION BEACON |
| | | SIGNAL HEAD OPTICALLY PROGRAMMED |
| | | MICROWAVE VEHICLE SENSOR |
| | | TELEPHONE CONNECTION |
| | | ILLUMINATED SIGN, FIBER OPTIC
"NO LEFT TURN" |
| | | ILLUMINATED SIGN, FIBER OPTIC
"NO RIGHT TURN" |
| | | CONDUIT SPLICE |
| | | WOOD POLE |
| | | RAILWAY FOR MAGNETIC DETECTOR,
TYPE 1 OR TYPE 2 |
| | | VEHICLE DETECTOR,
NON COMPENSATED MAGNETIC TYPE |
| | | RAILROAD CONTROL CABINET |
| | | |
| | | |
| | | |



PROPOSED LOOP SHALL BE TYPE I DETECTOR LOOP SAWED INTO EXISTING PCC BASE COURSE (TYPICAL-4 EACH)

PROPOSED 2" CONDUIT FROM STA. 176+75 TO 177+05 SHALL BE INSTALLED 3 FOOT BELOW PROPOSED FLOWLINE OF NEW 3' x 11" CAST-IN-PLACE BOX CULVERT PRIOR TO CONSTRUCTING THE FLOOR OF CULVERT. SEE ROADWAY PLANS FOR CULVERT DETAILS. ALL COSTS FOR CONSTRUCTING THE PROPOSED CONDUIT UNDER CULVERT BE INCLUDED IN UNIT PRICE FOR CONDUIT IN TRENCH.

PROPOSED INTERCONNECT TO 87TH STREET (SEE INTERCONNECT PLANS FOR DETAILS)

U.S. ROUTE 45 LAGRANGE RD.

NOTE: MASTER CONTROLLER IS LOCATED IN THIS CABINET

U.S. RTE. 12-20-45 LAGRANGE RD.

PURPOSE OF THIS SHEET IS TO SHOW PROPOSED INTERCONNECT CABLE FROM KEAN AVE. TO THE EXISTING TRAFFIC SIGNAL CONTROLLER AT THE SOUTHWEST CORNER OF U.S. RTE. 12-20-45 AND 95TH ST.

CONSTRUCTION NOTES

- ALL SIGNAL HEADS SHALL BE L.E.D. (LIGHT EMITTING DIODE) TYPE.
- ALL VEHICLE DETECTOR LOOPS SHALL BE OF "PREFORMED DETECTOR LOOP" CONSTRUCTION EXCEPT WHERE NOTED.

(FOR INFORMATION ONLY)

POSTED SPEED LIMIT
 U.S. ROUTE 45 55 MPH
 95TH STREET 40 MPH

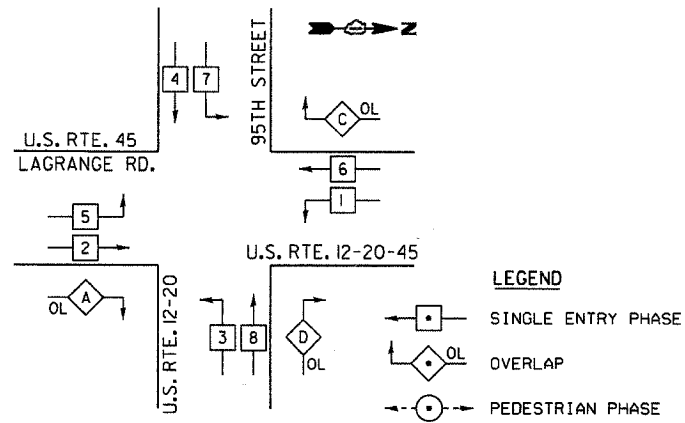
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC SIGNAL INSTALLATION
 U.S. RTE. 12-20-45 LAGRANGE ROAD
 & 95TH STREET

SCALE: 1" = 20'
 DATE: 12/06/05
 DRAWN BY: JPR
 DESIGNED BY: RKF
 CHECKED BY: JVV

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	2001-050-TS	COOK	21	8
STA.	TO STA.			
	ILLINOIS	FED. RD. PROJECT		
CONTRACT# 62201				

CONTROLLER SEQUENCE



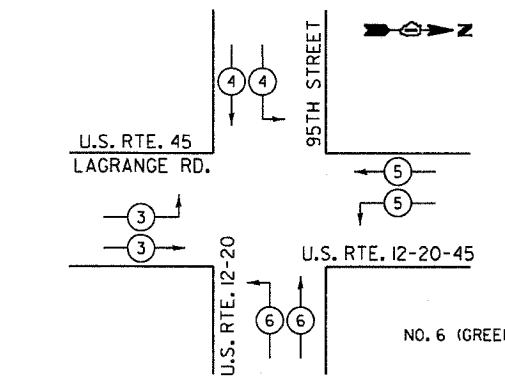
PHASE DESIGNATION DIAGRAM

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

SCHEDULE OF QUANTITIES

UNIT	QUANTITY	ITEM
EACH	1	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION

EMERGENCY VEHICLE PREEMPTION SEQUENCE



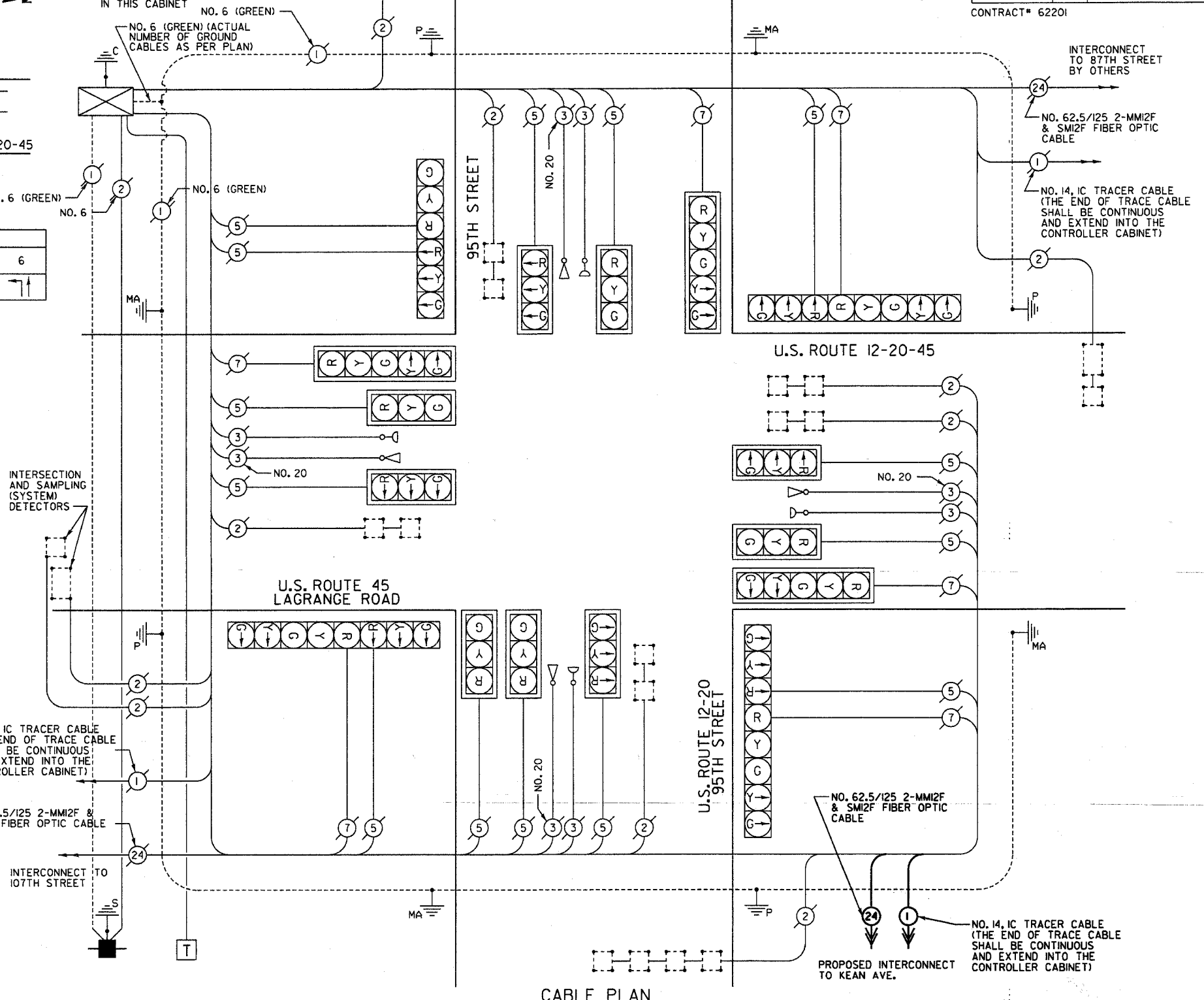
EMERGENCY VEHICLE PREEMPTORS

EMERGENCY VEHICLE PREEMPTOR	3	4	5	6
MOVEMENT	[Symbol]	[Symbol]	[Symbol]	[Symbol]

CABLE PLAN LEGEND

- | | | |
|----------|----------|---|
| EXISTING | PROPOSED | |
| [Symbol] | [Symbol] | 8" (200mm) TRAFFIC SIGNAL SECTION |
| [Symbol] | [Symbol] | 12" (300mm) TRAFFIC SIGNAL SECTION |
| [Symbol] | [Symbol] | 12" (300mm) PEDESTRIAN SIGNAL SECTION |
| [Symbol] | [Symbol] | 12" (300mm) PEDESTRIAN SIGNAL SECTION |
| [Symbol] | [Symbol] | CONTROLLER CABINET |
| [Symbol] | [Symbol] | SERVICE INSTALLATION |
| [Symbol] | [Symbol] | TELEPHONE CONNECTION |
| [Symbol] | [Symbol] | MAGNETIC DETECTOR |
| [Symbol] | [Symbol] | EMERGENCY VEHICLE LIGHT DETECTOR |
| [Symbol] | [Symbol] | CONFIRMATION BEACON |
| [Symbol] | [Symbol] | PUSHBUTTON DETECTOR |
| [Symbol] | [Symbol] | VEHICLE DETECTOR, INDUCTION LOOP |
| [Symbol] | [Symbol] | 2 DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| [Symbol] | [Symbol] | M CROWWAVE VEHICLE SENSOR |
| [Symbol] | [Symbol] | SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD |
| [Symbol] | [Symbol] | RAILROAD CONTROL CABINET |
| [Symbol] | [Symbol] | ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN" |
| [Symbol] | [Symbol] | ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN" |
| [Symbol] | [Symbol] | GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (HI), OR CONTROLLER (C). |
| [Symbol] | [Symbol] | GROUND ROD AT POST (P), OR MAST ARM POLE (MA). |
| [Symbol] | [Symbol] | GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| [Symbol] | [Symbol] | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN) |
| [Symbol] | [Symbol] | 1 FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM2F SM2F |

NOTE: MASTER CONTROLLER SHALL BE LOCATED IN THIS CABINET



CABLE PLAN

PURPOSE OF THIS SHEET IS TO SHOW PROPOSED INTERCONNECT CABLE FROM KEAN AVE. TO THE EXISTING TRAFFIC SIGNAL CONTROLLER AT THE SOUTHWEST CORNER OF U.S. RTE. 12-20-45 AND 95TH ST.

REVISIONS

NAME	DATE

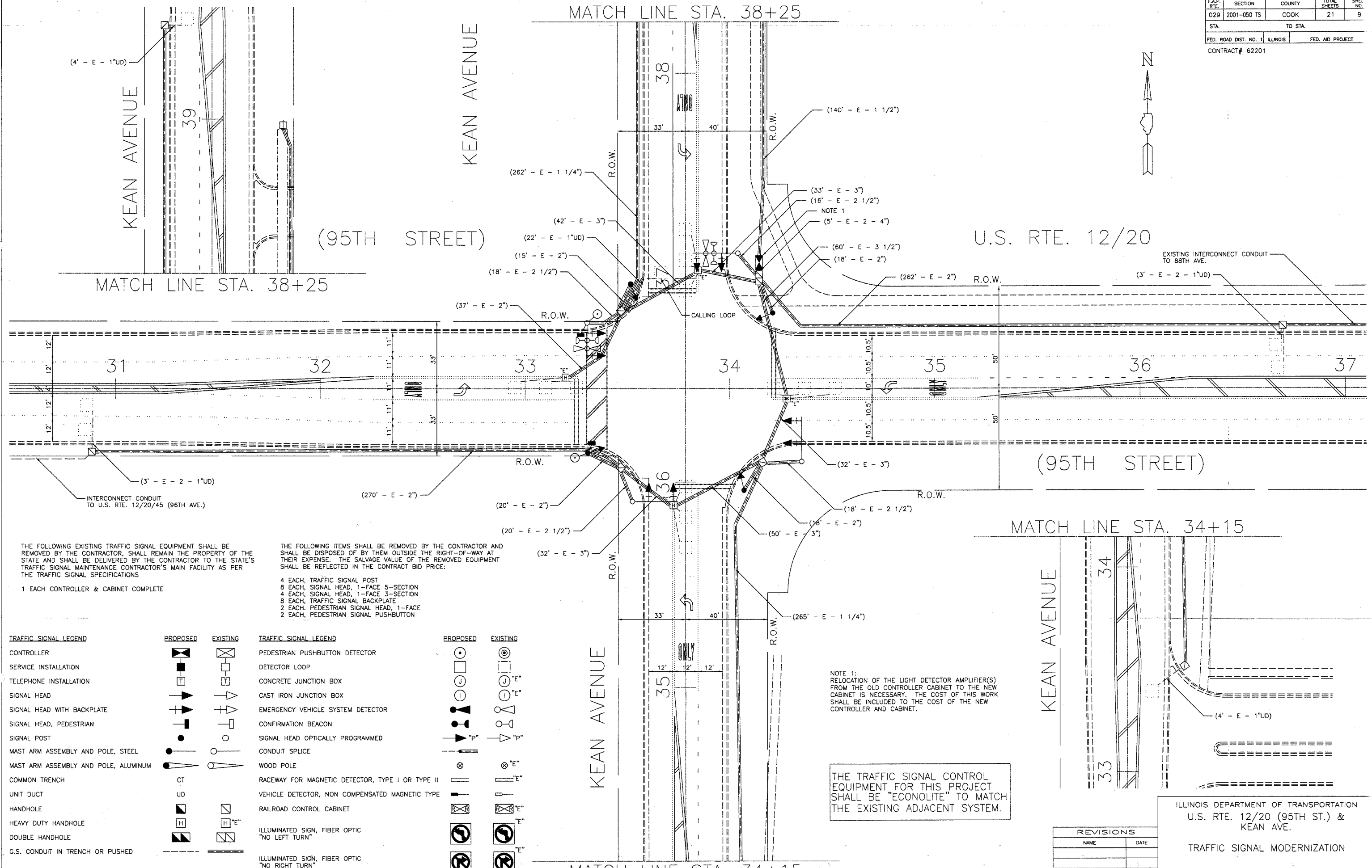
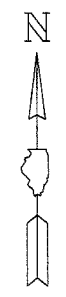
ILLINOIS DEPARTMENT OF TRANSPORTATION
**CABLE PLAN PHASE DESIGNATION
 DIAGRAM EMERGENCY PREEMPTION
 SEQUENCE SCHEDULE OF QUANTITIES**
 U.S. RTE. 12-20-45 LAGRANGE ROAD
 & 95TH STREET
 SCALE : NTS
 DATE : 12/03/05
 DRAWN BY : PRT
 DESIGNED BY : RKF
 CHECKED BY : JVV

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

TYPE	NO. LAMPS	WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	20	135	17	170.0
(YELLOW)	20	135	25	125.0
(GREEN)	20	135	15	75.0
ARROW	12	135	12	14.4
PED. SIGNAL	90	25	1.00	200.0
CONTROLLER	2	100	1.00	200.0
ILLUM. SIGN	84		0.05	
FLASHER			0.50	
TOTAL				584.4

FOUNDATION (DEPTH)	FT. (M)	CABLE SLACK	FT. (M)	VERTICAL CABLE	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 x 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)

MATCH LINE STA. 38+25



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 & CABINET COMPLETE

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:

- 4 EACH, TRAFFIC SIGNAL POST
- 8 EACH, SIGNAL HEAD, 1-FACE 5-SECTION
- 4 EACH, SIGNAL HEAD, 1-FACE 3-SECTION
- 8 EACH, TRAFFIC SIGNAL BACKPLATE
- 2 EACH, PEDESTRIAN SIGNAL HEAD, 1-FACE
- 2 EACH, PEDESTRIAN SIGNAL PUSHBUTTON

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER		
SERVICE INSTALLATION		
TELEPHONE 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		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
PEDESTRIAN PUSHBUTTON DETECTOR		
DETECTOR LOOP		
CONCRETE JUNCTION BOX		
CAST IRON JUNCTION BOX		
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		
SIGNAL HEAD OPTICALLY PROGRAMMED		
CONDUIT SPLICE		
WOOD POLE		
RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II		
VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE		
RAILROAD CONTROL CABINET		
ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"		
ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"		

NOTE 1:
RELOCATION OF THE LIGHT DETECTOR AMPLIFIER(S) FROM THE OLD CONTROLLER CABINET TO THE NEW CABINET IS NECESSARY. THE COST OF THIS WORK SHALL BE INCLUDED TO THE COST OF THE NEW CONTROLLER AND CABINET.

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

MATCH LINE STA. 34+15

MATCH LINE STA. 34+15

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
U.S. RTE. 12/20 (95TH ST.) & KEAN AVE.

TRAFFIC SIGNAL MODERNIZATION

SCALE: VERT. 1" = 20'
DATE 12-11-05

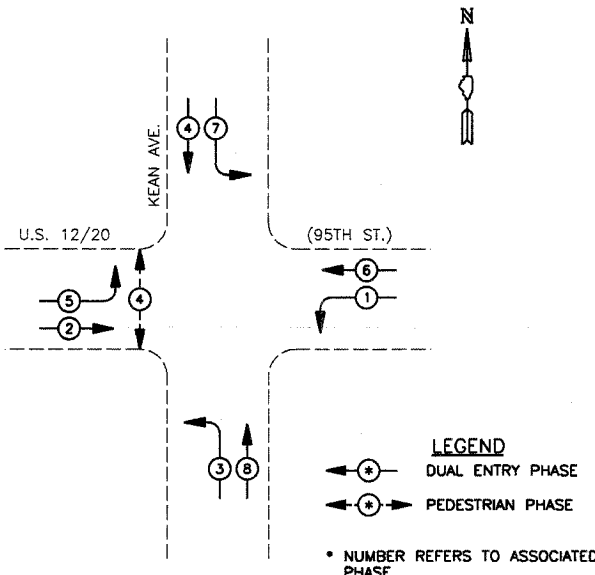
DRAWN BY PRT
DESIGNED BY RKF
CHECKED BY JVV
05-009

CONTRACT # 62201

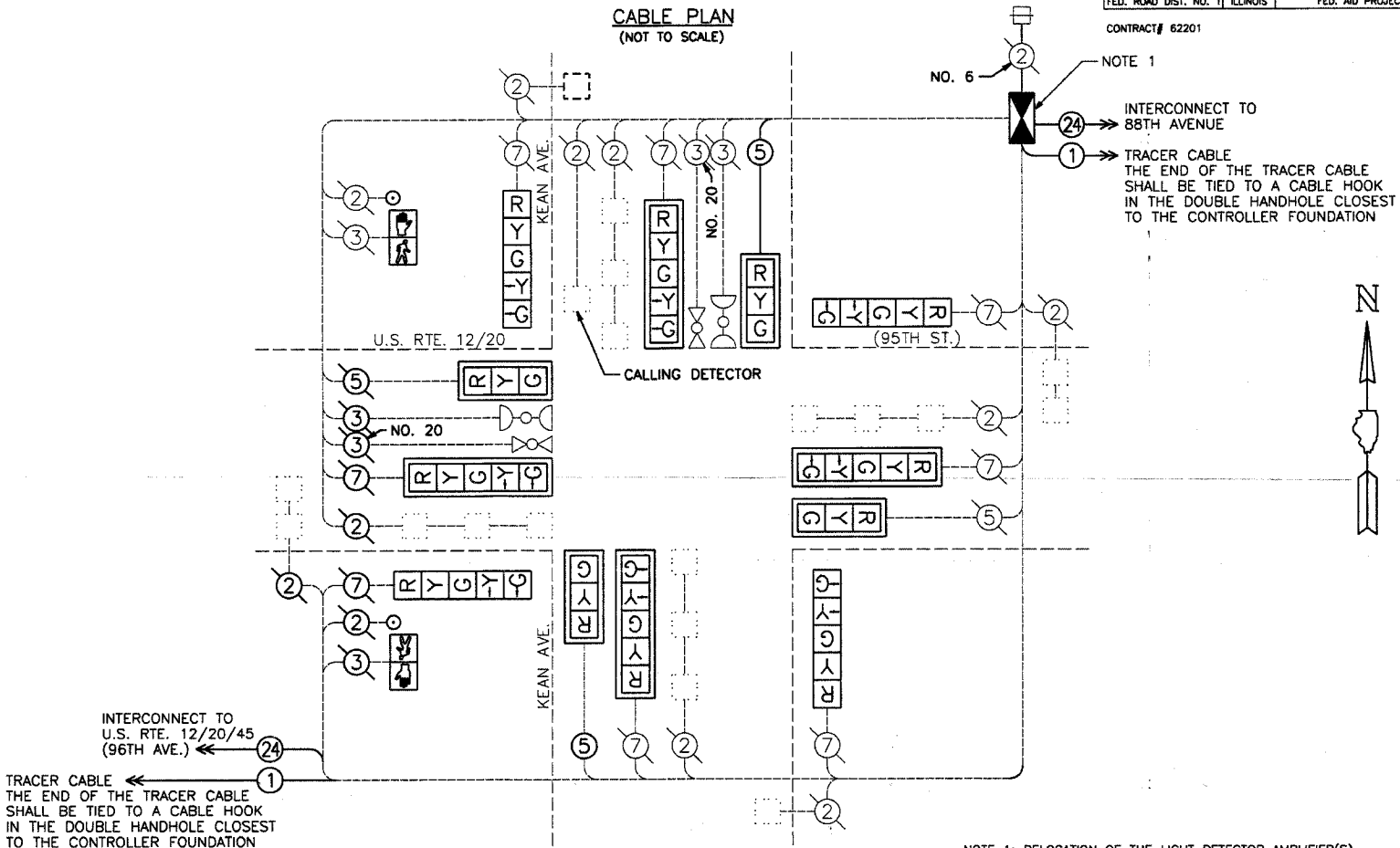
SCHEDULE OF QUANTITIES

0.25	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501
0.25	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701
0.25	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801
344.0	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
9	EACH	INDUCTIVE LOOP DETECTOR
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)
1	EACH	TRANSCENER - FIBER OPTIC
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
4	EACH	SIGNAL HEAD, LED, 1-FACE 3-SECTION, MAST ARM MOUNTED
4	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL, 16 FT.
4	EACH	SIGNAL HEAD, LED, 1-FACE 5-SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED
4	EACH	SIGNAL HEAD, LED, 1-FACE 5-SECTION, MAST ARM MOUNTED
2	EACH	PEDESTRIAN SIGNAL PUSHBUTTON

CONTROLLER SEQUENCE



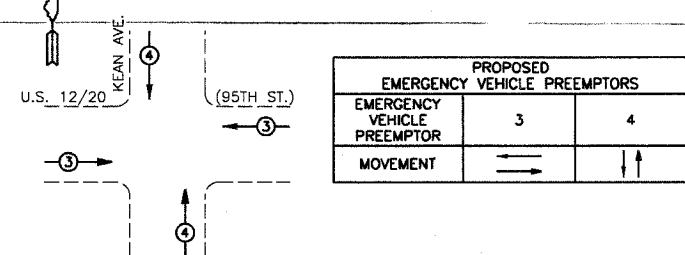
PHASE DESIGNATION DIAGRAM (NOT TO SCALE)



NOTE 1: RELOCATION OF THE LIGHT DETECTOR AMPLIFIER(S) FROM THE OLD CONTROLLER CABINET TO THE NEW CABINET IS NECESSARY. THE COST OF THIS WORK SHALL BE INCLUDED TO THE COST OF THE NEW CONTROLLER AND CABINET.

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE (NOT TO SCALE)



CABLE PLAN LEGEND

EXISTING	PROPOSED	DESCRIPTION
		8" (200 mm) TRAFFIC SIGNAL SECTION
		12" (300 mm) TRAFFIC SIGNAL SECTION
		12" (300 mm) PEDESTRIAN SIGNAL SECTION
		12" (300 mm) PEDESTRIAN SIGNAL SECTION
		CONTROLLER CABINET
		SERVICE INSTALLATION
		TELEPHONE INSTALLATION
		VEHICLE DETECTOR, INDUCTION LOOP
		MAGNETIC DETECTOR
		EMERGENCY VEHICLE LIGHT DETECTOR
		CONFIRMATION BEACON
		PUSHBUTTON DETECTOR
		SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
		RAILROAD CONTROL CABINET
		ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"
		ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"
		GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER
		GROUND ROD AT POST OR MAST ARM POLE
		GROUND ROD AT ELECTRIC SERVICE INSTALLATION

IDD.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	51
(GREEN)	12	135	15	0.25	51
ARROW	16	135	12	0.10	19.2
PED. SIGNAL	2	90	25	1.00	50.0
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	-	84	-	0.05	-
FLASHER LED	-	-	-	0.50	-
TOTAL =					273.2

ENERGY COSTS - BILLED TO: ILLINOIS DEPARTMENT OF TRANSPORTATION (ADDRESS) DIVISION OF HIGHWAYS / DISTRICT 1 201 W. CENTER COURT/SCHAUMBURG, ILL. 60196-1096

ENERGY SUPPLY - CONTACT: BOB LETTO (708) 410-5122 COMPANY: CDM, ED.

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	24" (600mm)	SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
	30" (750mm)	CONTROLLER CAB.	1 (0.5)	FIBER OPTIC	4 (1.2)
		FIBER OPTIC	13 (4.0)	PEID. PUSHBUTTON	13.5 (4.1)
		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)

REVISIONS

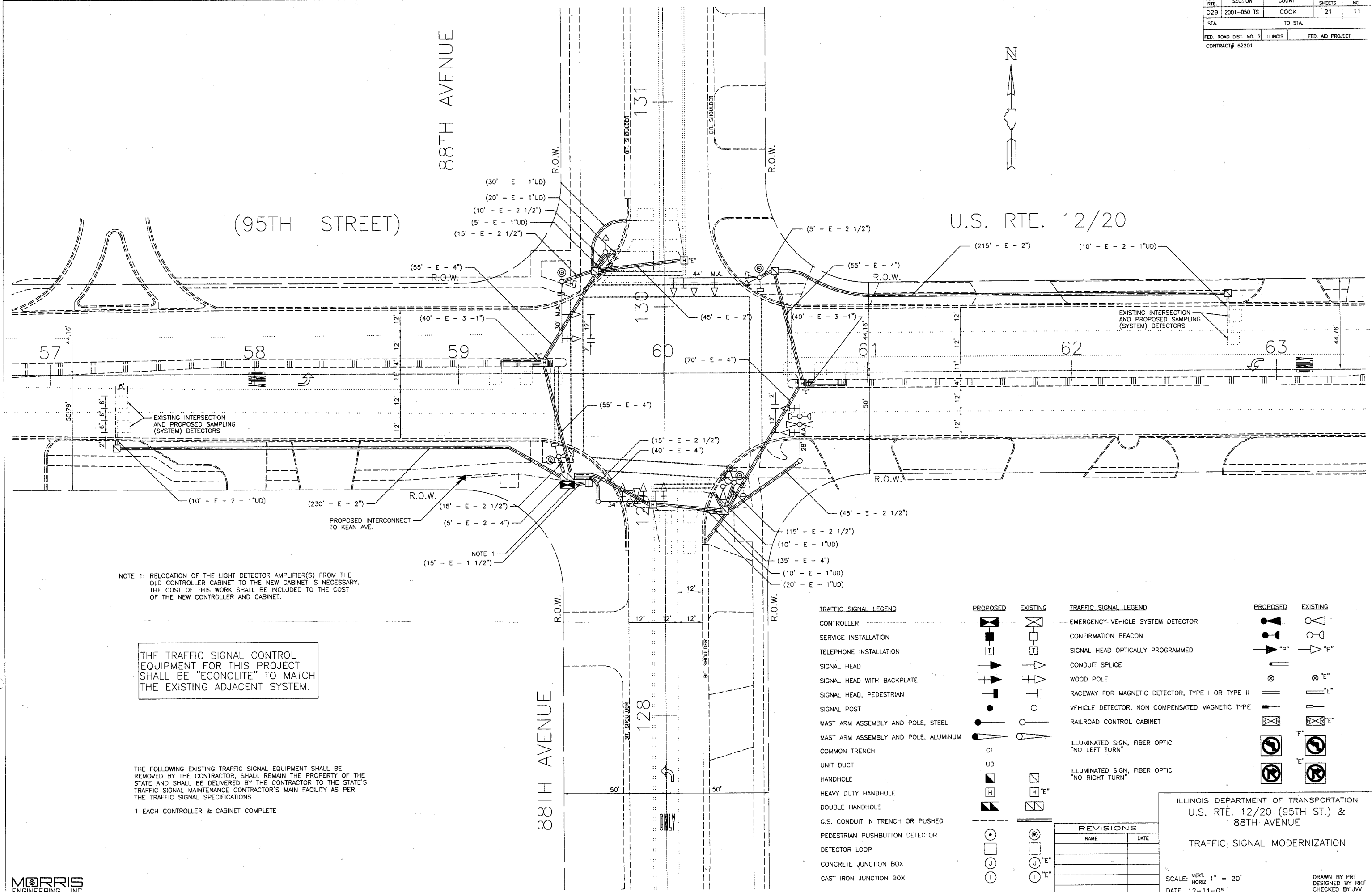
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 U.S. RTE. 12/20 (95TH ST.) & KEAN AVE.
 CABLE PLAN
 PHASE DESIGNATION DIAGRAM
 EMERGENCY VEHICLE PREEMPTION SEQUENCE
 SCHEDULE OF QUANTITIES

SCALE: VERT. NONE
 DATE 12-11-05

DRAWN BY PRT
 DESIGNED BY RKF
 CHECKED BY JVV

MORRIS ENGINEERING, INC.



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

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 & CABINET COMPLETE

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 U.S. RTE. 12/20 (95TH ST.) &
 88TH AVENUE
 TRAFFIC SIGNAL MODERNIZATION

SCALE: VERT. 1" = 20'
 DATE 12-11-05

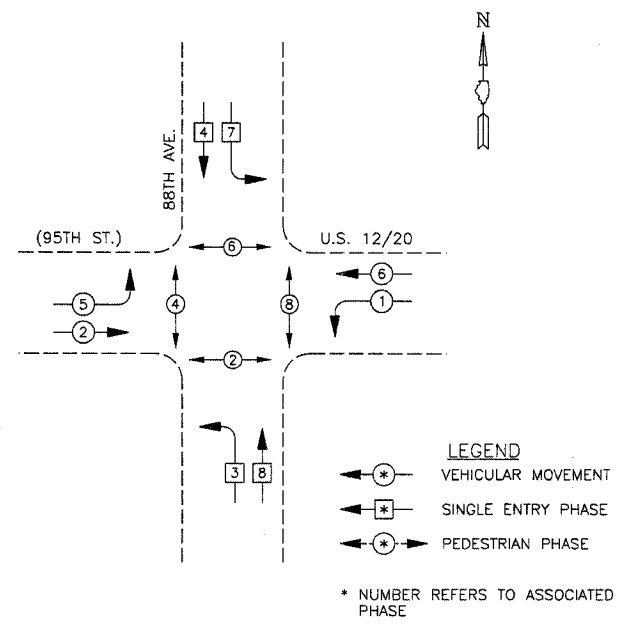
DRAWN BY PRT
 DESIGNED BY RKF
 CHECKED BY JW
 05-009

CABLE PLAN
(NOT TO SCALE)

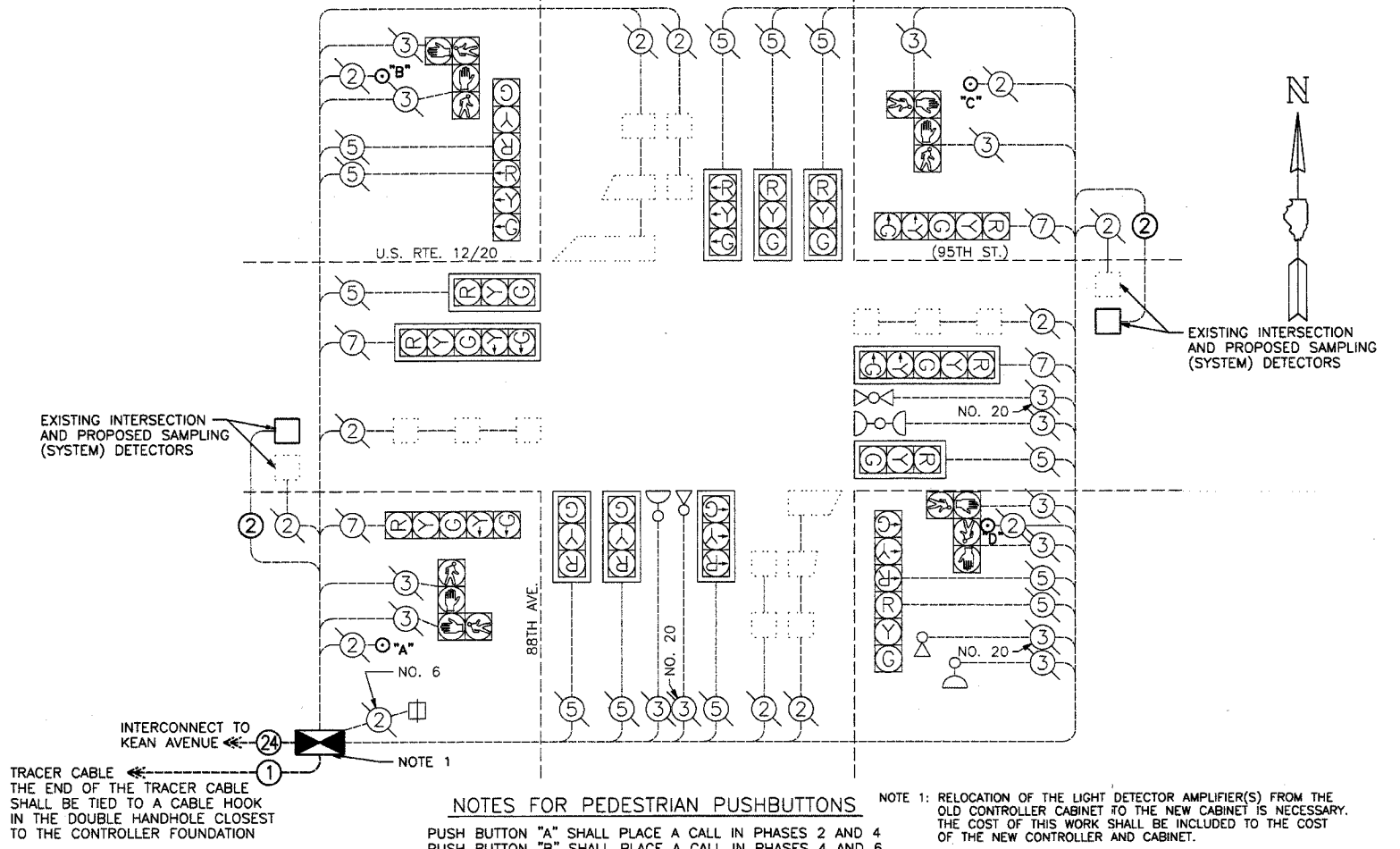
SCHEDULE OF QUANTITIES

0.25	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501
0.25	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701
0.25	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801
729.0	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR
10	EACH	INDUCTIVE LOOP DETECTOR
1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)
1	EACH	TRANSCEIVER - FIBER OPTIC
1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

CONTROLLER SEQUENCE

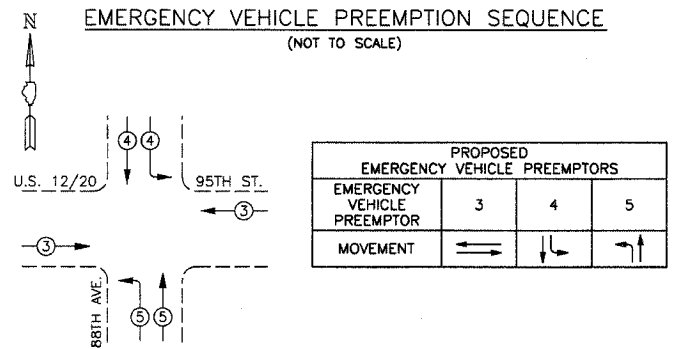


PHASE DESIGNATION DIAGRAM
(NOT TO SCALE)



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

EMERGENCY VEHICLE PREEMPTION SEQUENCE
(NOT TO SCALE)



I.D.D.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		%OPERATION	
		INCAND.	LED		
SIGNAL (RED)	16	135	17	0.50	1080
(YELLOW)	16	135	25	0.25	540
(GREEN)	16	135	15	0.25	540
ARROW	8	135	12	0.10	108
PED. SIGNAL	8	90	25	1.00	720
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	-	84	-	0.05	-
FLASHER LED	-	-	-	0.50	-
TOTAL =					3088

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	2 (0.6)	SIGNAL POST	2 (0.6)	(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	19 (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)

EXISTING	PROPOSED	DESCRIPTION
⊙	⊙	8" (200 mm) TRAFFIC SIGNAL SECTION
⊙	⊙	12" (300 mm) TRAFFIC SIGNAL SECTION
⊙	⊙	12" (300 mm) PEDESTRIAN SIGNAL SECTION
⊙	⊙	12" (300 mm) PEDESTRIAN SIGNAL SECTION
⊙	⊙	CONTROLLER CABINET
⊙	⊙	SERVICE INSTALLATION
⊙	⊙	TELEPHONE INSTALLATION
⊙	⊙	VEHICLE DETECTOR, INDUCTION LOOP
⊙	⊙	MAGNETIC DETECTOR
⊙	⊙	EMERGENCY VEHICLE LIGHT DETECTOR
⊙	⊙	CONFIRMATION BEACON
⊙	⊙	PUSHBUTTON DETECTOR
⊙	⊙	DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
⊙	⊙	GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
⊙	⊙	FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F & SM12F

EXISTING	PROPOSED	DESCRIPTION
⊙	⊙	SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD
⊙	⊙	RAILROAD CONTROL CABINET
⊙	⊙	ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"
⊙	⊙	ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"
H/C	H/C	GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER
P	P	GROUND ROD AT POST OR MAST ARM POLE
S	S	GROUND ROD AT ELECTRIC SERVICE INSTALLATION

REVISIONS	
NAME	DATE

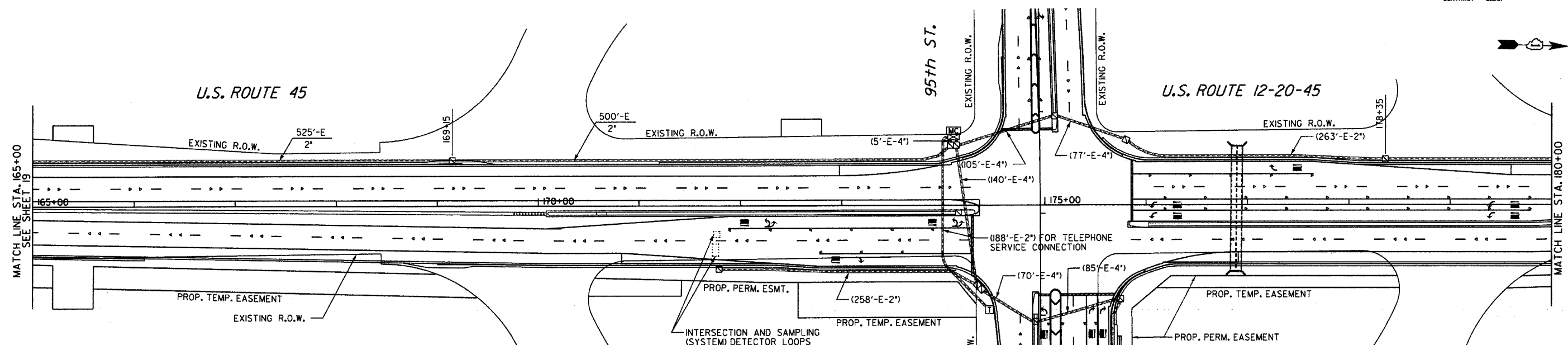
ILLINOIS DEPARTMENT OF TRANSPORTATION
U.S. RTE. 12/20 (95TH ST.) & 88TH AVENUE
CABLE PLAN
PHASE DESIGNATION DIAGRAM
EMERGENCY VEHICLE PREEMPTION SEQUENCE
SCHEDULE OF QUANTITIES

SCALE: VERT. NONE
HORIZ. NONE

DATE 12-11-05

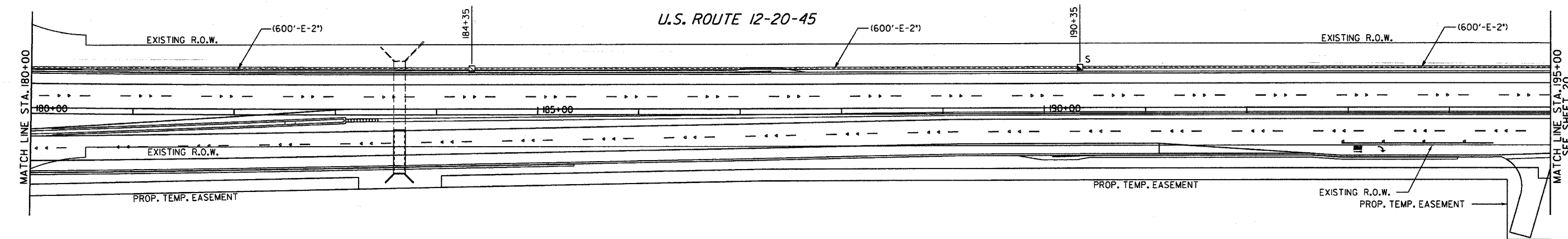
DRAWN BY PRT
DESIGNED BY RKF
CHECKED BY JVV

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	2001-050-TS	COOK	21	13
STA. 165+00 TO STA. 195+00				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT # 62201				



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
DETECTOR LOOP		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	
COMMON TRENCH	CT	

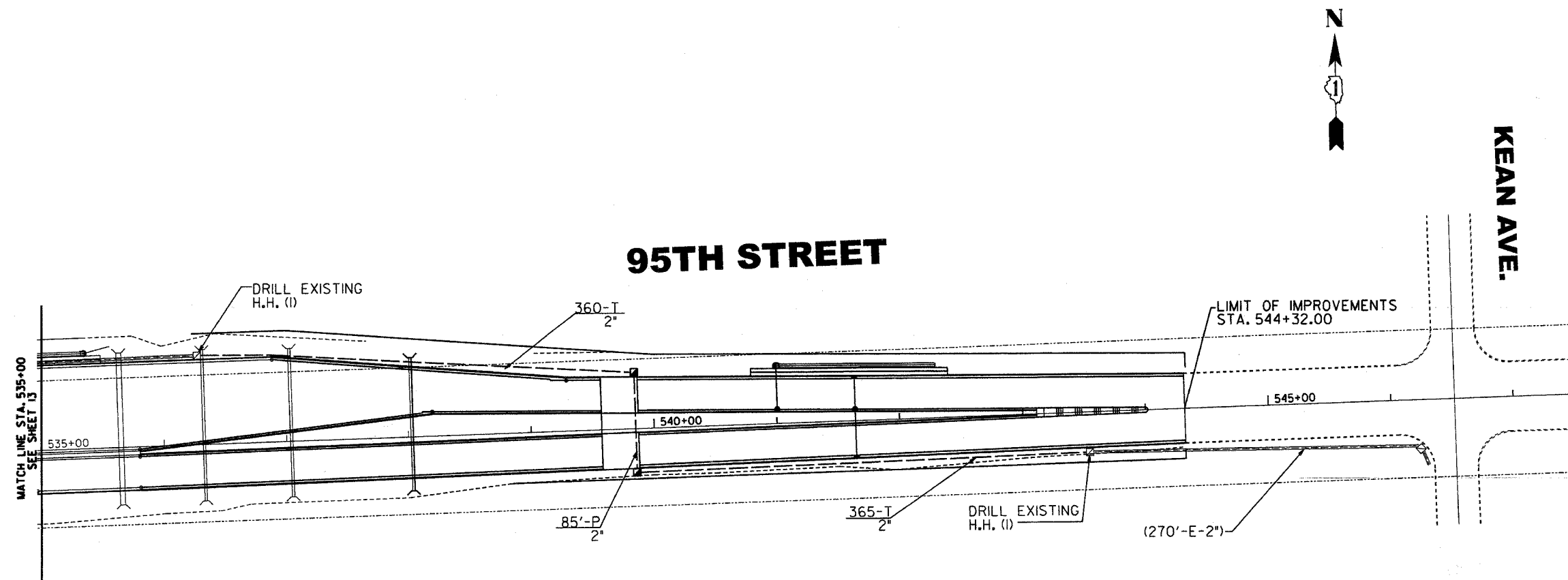


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERCONNECT PLAN
 U.S. RTE. 12-20-45 (LAGRANGE ROAD)
 STA. 165+00 TO STA. 195+00
 SHEET 1 OF 8
 SCALE: 1" = 50'
 DATE: 01/31/06
 DRAWN BY: PRT
 DESIGNED BY: RKF
 CHECKED BY: JVV

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	2001-050-TS	COOK	21	14
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

CONTRACT # 62201



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
DETECTOR LOOP		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	
COMMON TRENCH	CT	

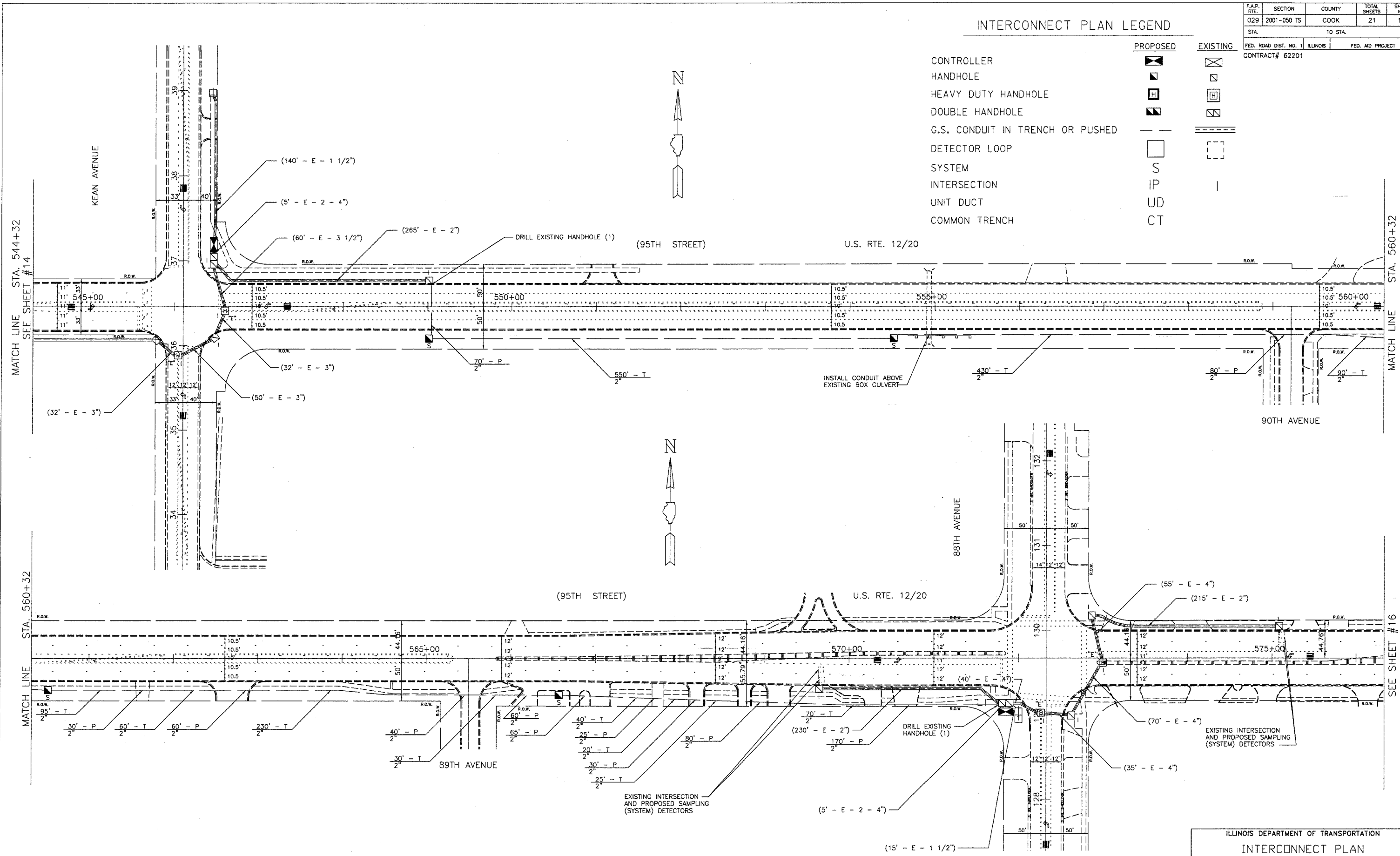
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERCONNECT PLAN
 95TH STREET AND
 U.S. RTE. 12-20-45 (LAGRANGE RD.)
 SHEET 2 OF 8
 SCALE : NTS
 DATE : 12/12/05
 DRAWN BY : PRT
 DESIGNED BY : RKF
 CHECKED BY : JVV

INTERCONNECT PLAN LEGEND

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	2001-050 IS	COOK	21	15
STA.	TO STA.			
	FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT
CONTRACT# 62201				

	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
DETECTOR LOOP		
SYSTEM		
INTERSECTION		
UNIT DUCT		
COMMON TRENCH		



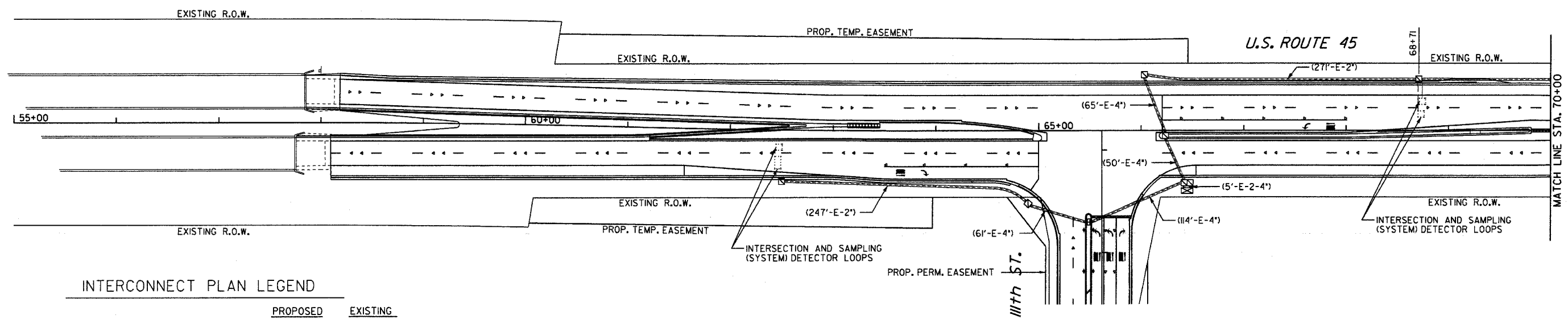
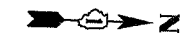
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERCONNECT PLAN
 U.S. RTE. 12/20 (95TH ST.)
 FROM U.S. RTE. 12/20/45 (96TH AVE.)
 TO 88TH AVE.
 SHEET 3 OF 8

SCALE: VERT. 1" = 50'
 HORIZ. 1" = 50'
 DATE 12-6-05

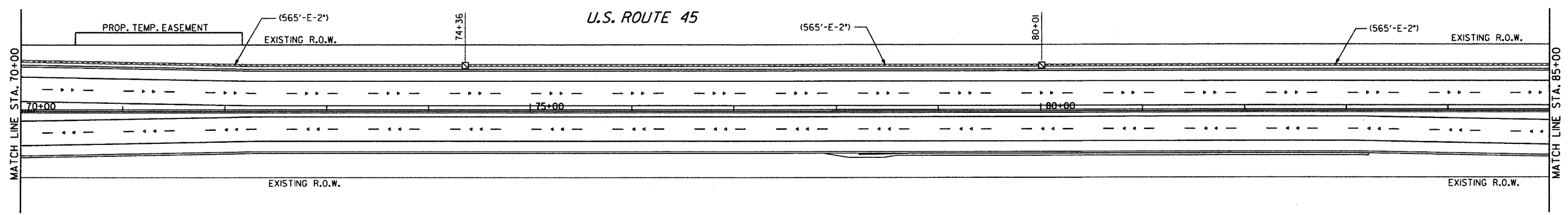
DRAWN BY PRT
 DESIGNED BY RKF
 CHECKED BY JWV
 05-009

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	2001-050-TS	COOK	21	16
STA. 55+00 TO STA. 85+00				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT # 62201				



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
DETECTOR LOOP		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	
COMMON TRENCH	CT	

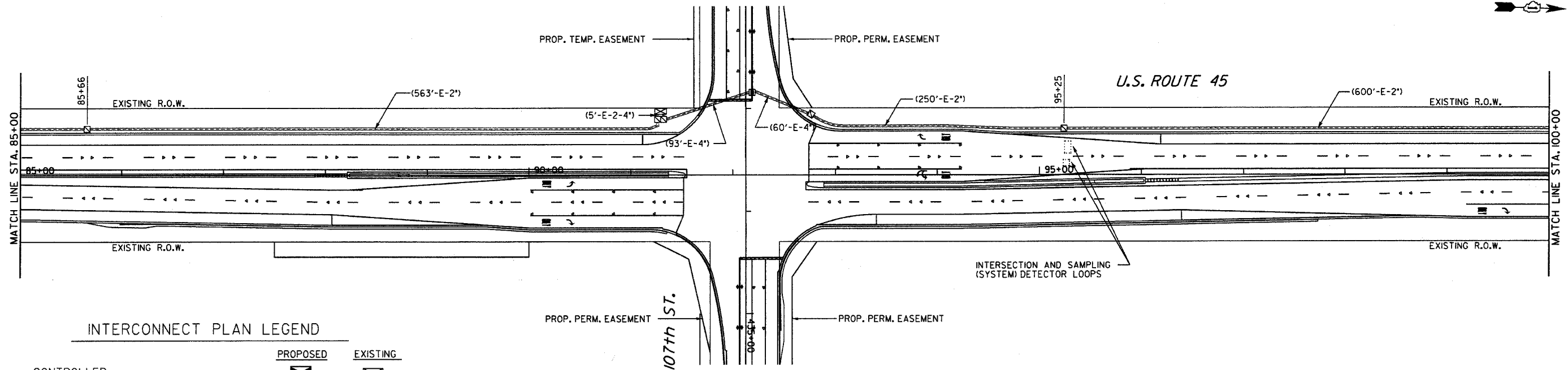


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION	
INTERCONNECT PLAN	
U.S. RTE. 12-20-45 (LAGRANGE ROAD)	
STA. 55+00 TO STA. 85+00	
SHEET 4 OF 8	
SCALE : 1" = 50'	DRAWN BY : PRT
DATE : 01/31/06	DESIGNED BY : RKF
	CHECKED BY : JVV

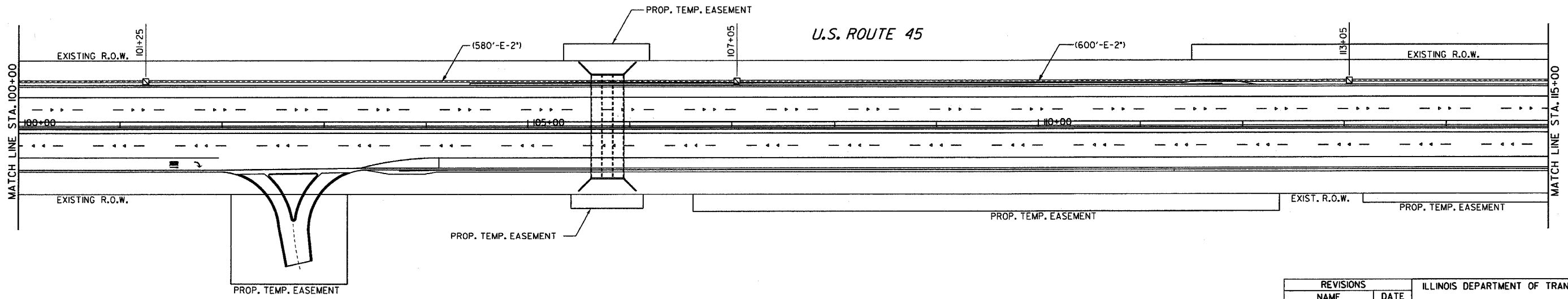
MORRIS
ENGINEERING, INC.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	2001-050-TS	COOK	21	17
STA. 85+00 TO STA. 115+00				
FED. ROAD DIST. NO.	LLINOS	FED. AID PROJECT		
CONTRACT # 62201				



INTERCONNECT PLAN LEGEND

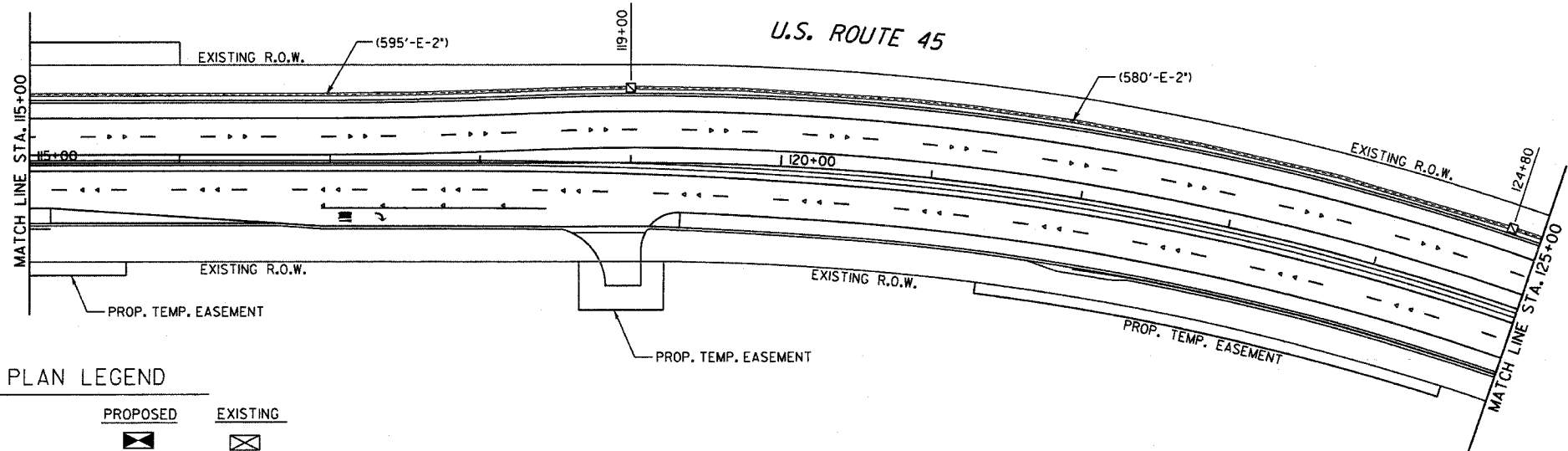
	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
DETECTOR LOOP		
SYSTEM		
INTERSECTION		
UNIT DUCT		
COMMON TRENCH		



REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION INTERCONNECT PLAN U.S. RTE. 12-20-45 (LAGRANGE ROAD) STA. 85+00 TO STA. 115+00 SHEET 5 OF 8
NAME	DATE	
		SCALE : 1" = 50' DATE : 01/31/06 DRAWN BY : PRT DESIGNED BY : RKF CHECKED BY : JVV

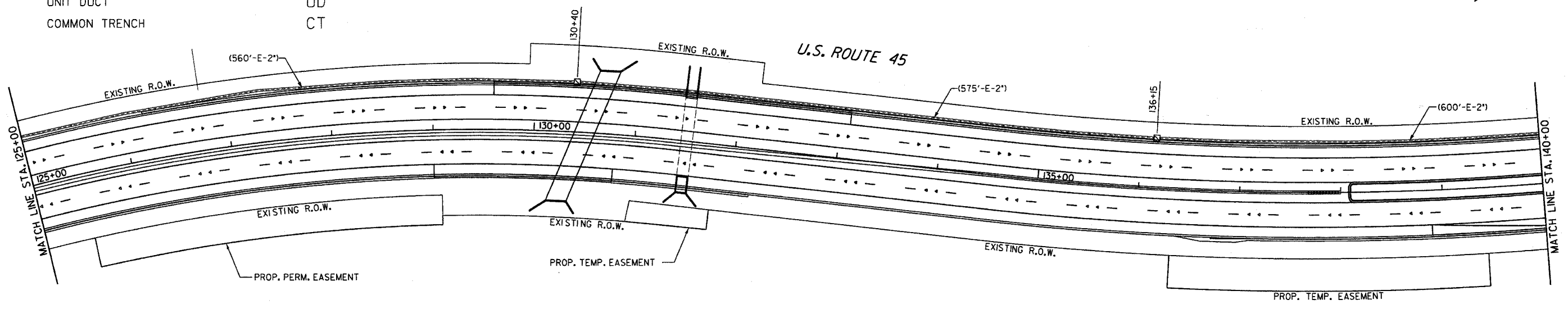
MORRIS
ENGINEERING, INC.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	200I-050-TS	COOK	21	18
STA. 115+00 TO STA. 140+00				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT # 62201				



INTERCONNECT PLAN LEGEND

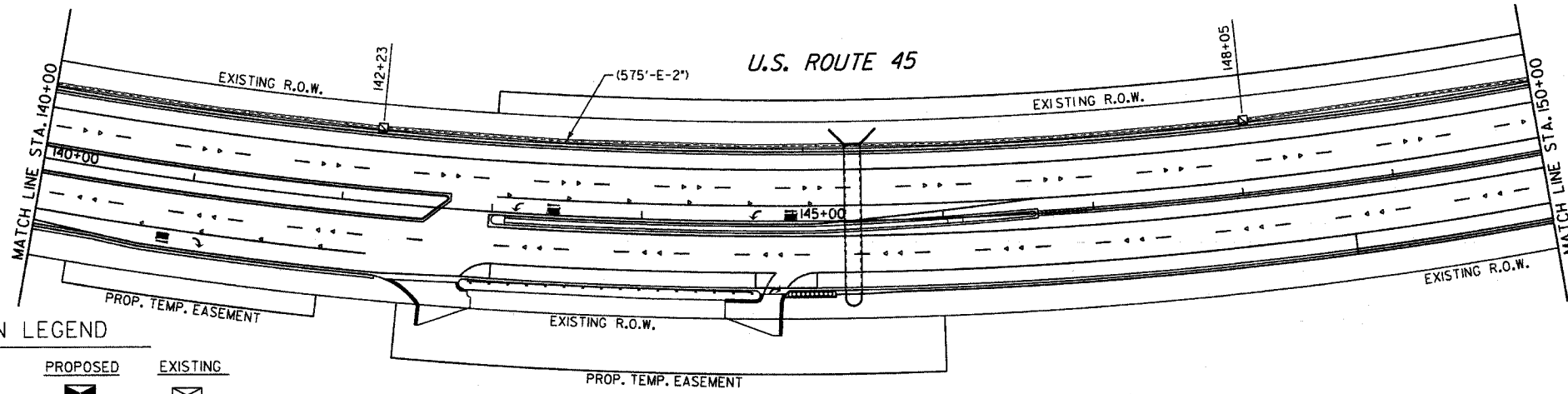
	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
DETECTOR LOOP		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	
COMMON TRENCH	CT	



REVISIONS	
NAME	DATE

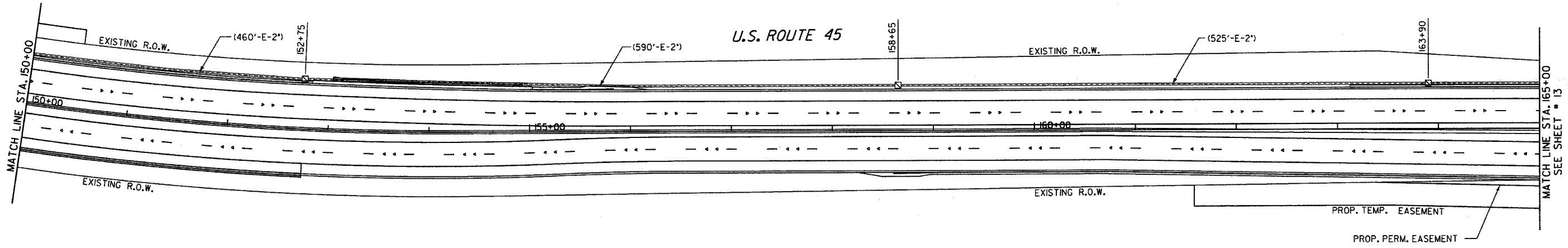
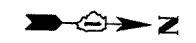
ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERCONNECT PLAN
 U.S. RTE. 12-20-45 (LAGRANGE ROAD)
 STA. 115+00 TO STA. 140+00
 SHEET 6 OF 8
 SCALE : 1" = 50'
 DATE : 02/03/06
 DRAWN BY : PRT
 DESIGNED BY : RKF
 CHECKED BY : JVV

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	2001-050-TS	COOK	21	19
STA. 140+00 TO STA. 165+00				
FEL. ROAD DIST. NO.	ILLINOIS	FEL. RD. PROJECT		
CONTRACT # 62201				



INTERCONNECT PLAN LEGEND

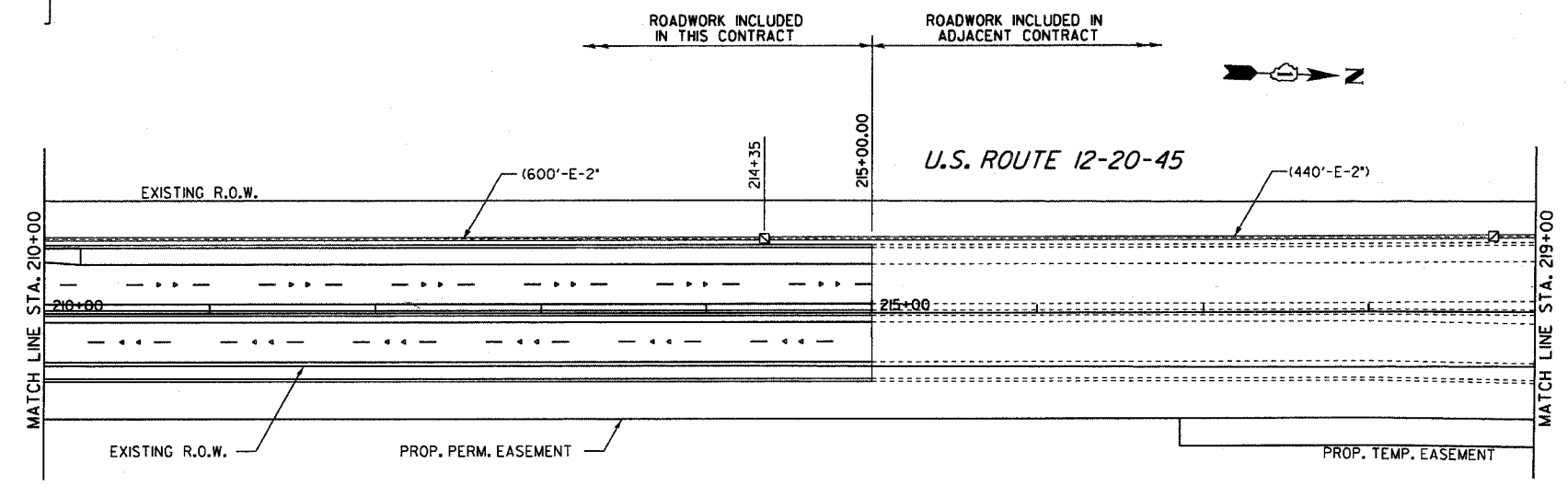
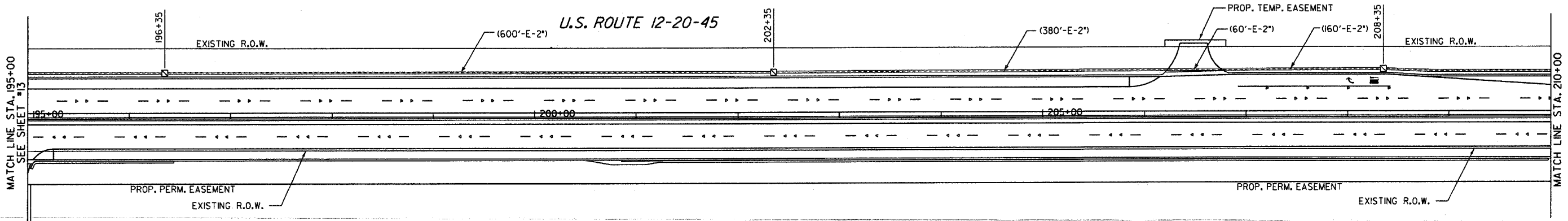
	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
DETECTOR LOOP		
SYSTEM	S	
INTERSECTION	IP	I
UNIT DUCT	UD	
COMMON TRENCH	CT	



REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION INTERCONNECT PLAN
NAME	DATE	
		U.S. RTE. 12-20-45 (LAGRANGE ROAD) STA. 140+00 TO STA. 165+00 SHEET 7 OF 8 SCALE: 1" = 50' DATE: 01/31/06 DRAWN BY: PRT DESIGNED BY: RKF CHECKED BY: JVV

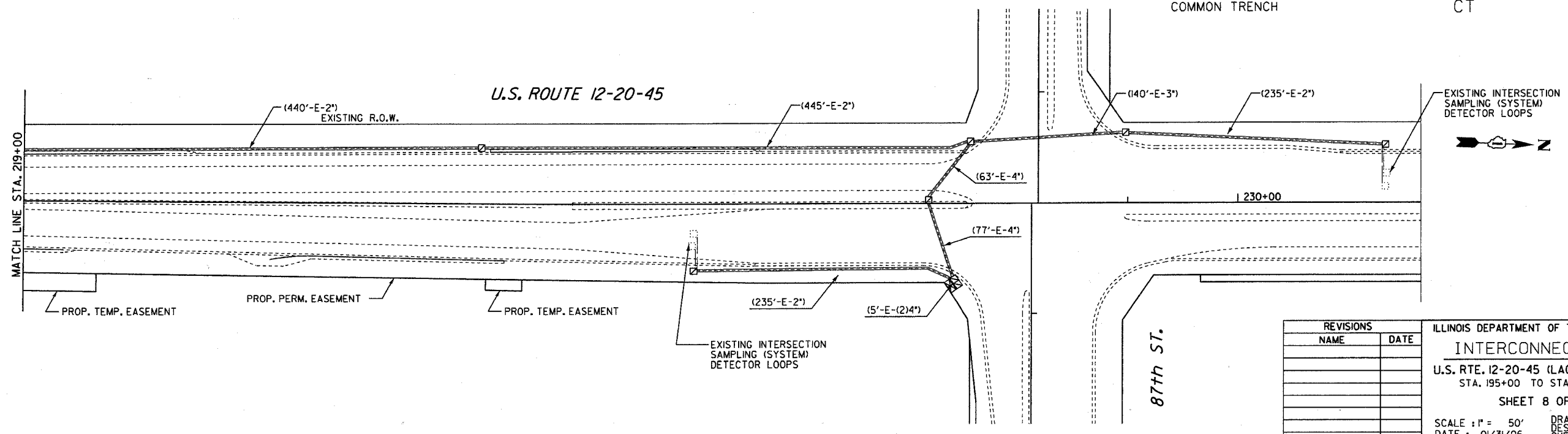
MORRIS
ENGINEERING, INC.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	200I-050-TS	COOK	21	20
STA. 195+00 TO STA. 231+00				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT # 6220I				



INTERCONNECT PLAN LEGEND

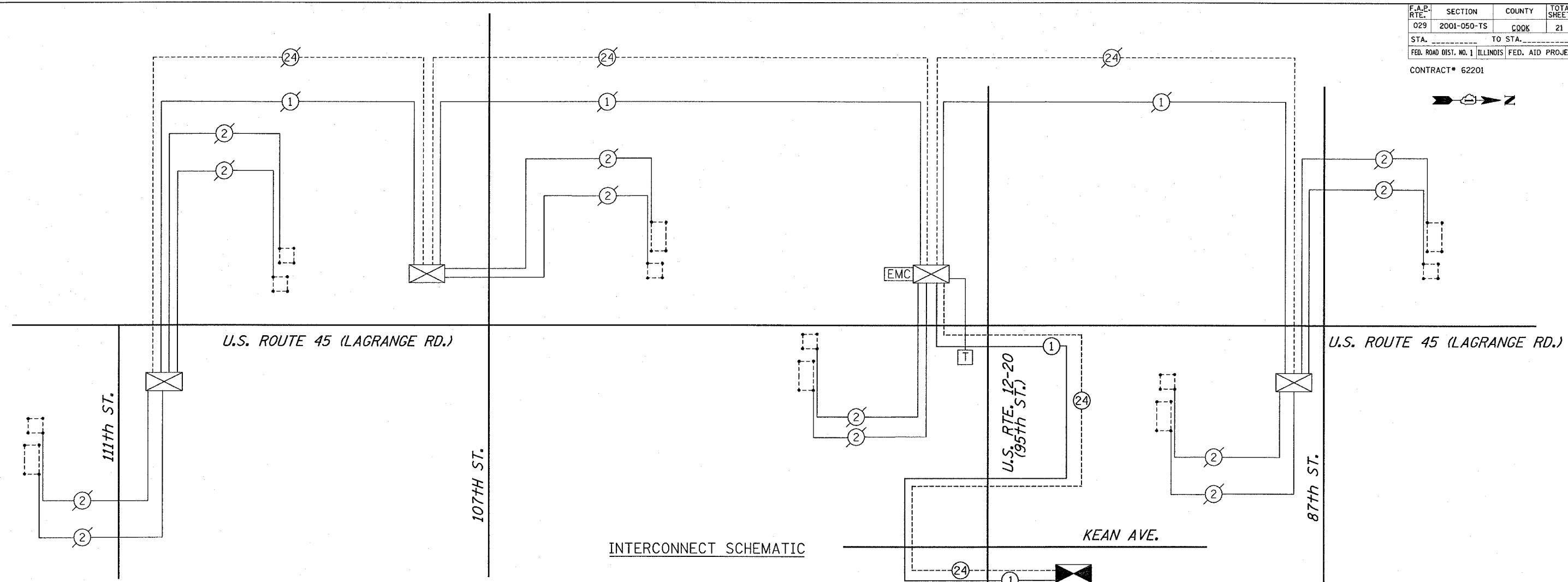
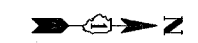
	PROPOSED	EXISTING
CONTROLLER		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
DETECTOR LOOP SYSTEM		
INTERSECTION	IP	I
UNIT DUCT	UD	
COMMON TRENCH	CT	



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERCONNECT PLAN
 U.S. RTE. 12-20-45 (LAGRANGE ROAD)
 STA. 195+00 TO STA. 231+00
 SHEET 8 OF 8
 SCALE: 1" = 50'
 DATE: 01/31/06
 DRAWN BY: PRT
 DESIGNED BY: RKF
 CHECKED BY: JVV

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
029	2001-050-TS	COOK	21	21
STA.		TO STA.		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
CONTRACT# 62201				



INTERCONNECT SCHEMATIC

INTERCONNECT SCHEMATIC LEGEND

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

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	2365
CONDUIT PUSHED, 2" DIA. GALVANIZED STEEL	FOOT	795
HANDHOLE	EACH	6
ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1C	FOOT	4024
FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125 MM12F & SM12F	FOOT	4076
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	2365
DRILL EXISTING HANDHOLE	EACH	4

REVISIONS	
NAME	DATE

Illinois Department of Transportation
DISTRICT 1
INTERCONNECT SCHEMATIC
U.S. RTE. 12-20-45 (LAGRANGE ROAD)
(111th STREET TO 87th STREET)
95th ST, U.S. 45 TO 88th AVE.
SCALE: NONE
DATE: 12/6/05
DRAWN BY: PRT
DESIGNED BY: RC
CHECKED BY: JVV

10:45:44 03/10/2006