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STANDARDS

701006-02701011-01 701101-01 701301-02814001
 702001-06424001-04 857001 880006 701801-03

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

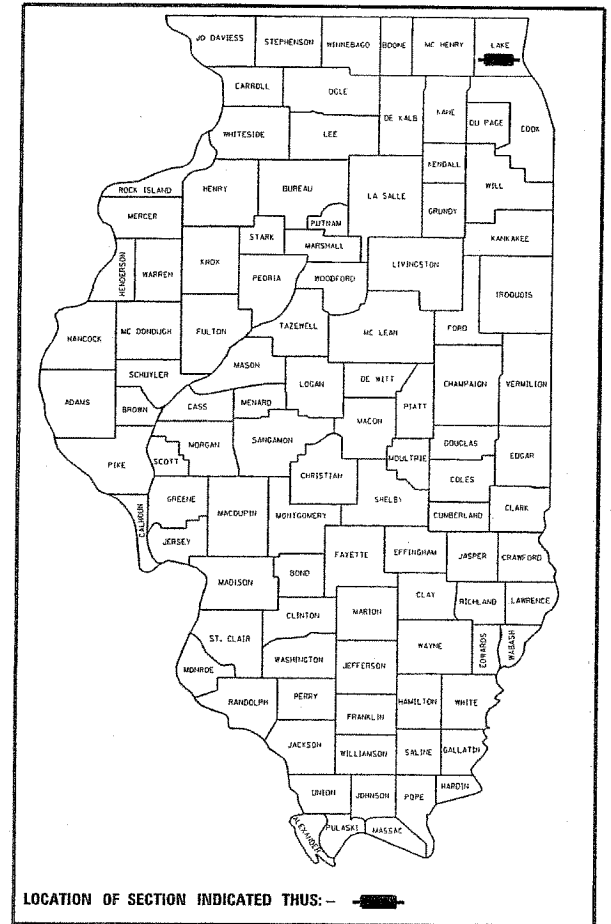
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

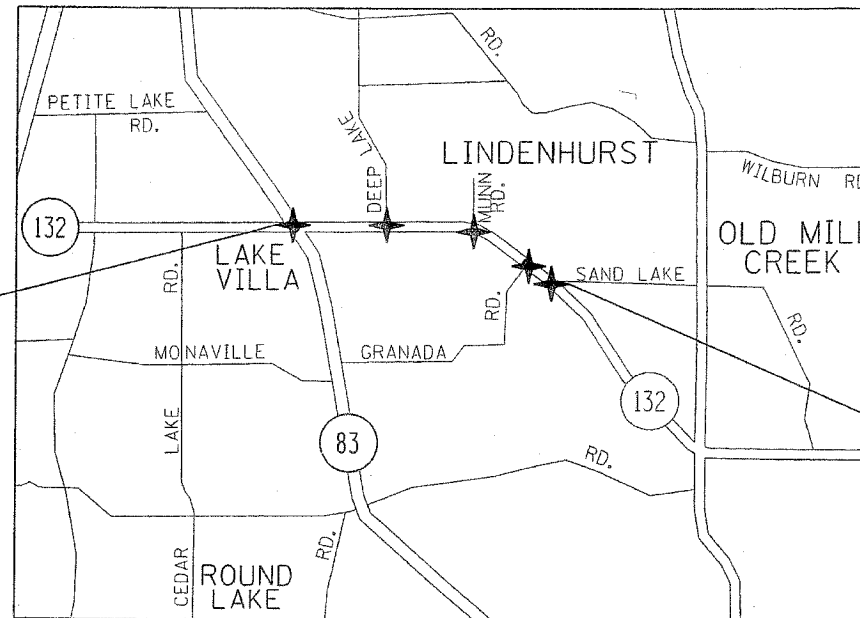
**DISTRICT 1
 CONGESTION MITIGATION AIR QUALITY
 FIBER OPTIC COMMUNICATION NETWORKS
 FAP ROUTE 541 ILL. RTE 132 (GRAND AVE.) FROM
 ILL. RTE. 83 TO SAND LAKE RD.
 SECTION 2004-121 TS
 LAKE COUNTY
 C-91-077-05
 PROJECT: CMF-0541(011)**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 TS	LAKE	19	1

CONTRACT NO. 62887
 D-91-007-05



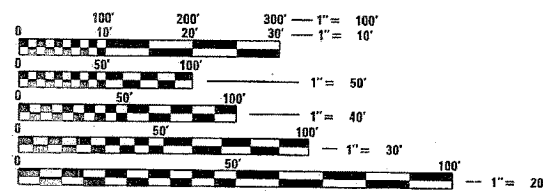
**LOCATION MAP
 (NOT TO SCALE)**



IMPROVEMENT LOCATED IN THE VILLAGE OF LAKE VILLA AND LINDENHURST

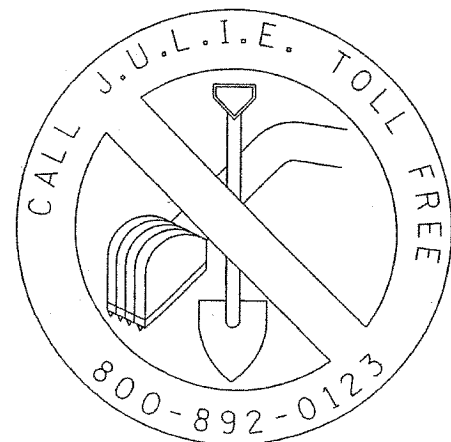
PROJECT ENDS

PROJECT BEGIN



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 Steve Tawin, P.E. Traffic Engineer Date May 13, 2006



LAKE VILLA AND LINDENHURST TOWNSHIP
 LOCATION MAP

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED May 19, 2006

Kevin M. O'Keefe, P.E.
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

June 30, 2006
Mike Hinojosa, P.E.
 ENGINEER OF DESIGN AND ENVIRONMENT

June 30, 2006
Rutton L. Sees, P.E.
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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 OF THE STATE OF ILLINOIS**

DISTRICT ONE - BUREAU OF TRAFFIC - STEVE TRAVIA/DARYLE DREW (847) 705-4420

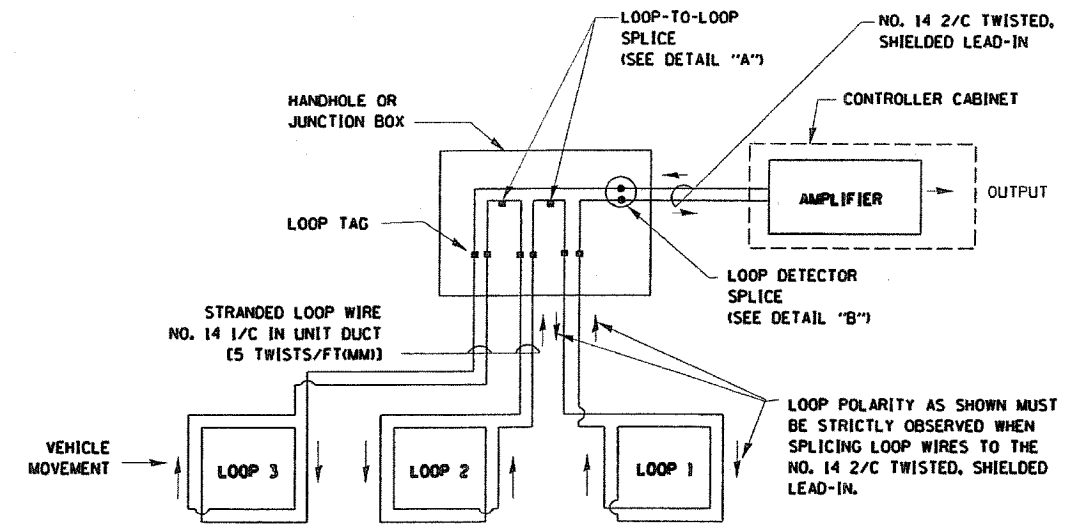
SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE							SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE							
CODE NO	ITEM	UNIT	URBAN 80% FED. 20% STATE TOTAL QUANTITIES	IL. RTE. 132	IL. RTE. 132	IL. RTE. 132	IL. RTE. 132	IL. RTE. 132	INTERCONNECT SCHEMATIC IL. RTE. 132 FROM IL. RTE. 83 TO SAND LAKE RD.	CODE NO	ITEM	UNIT	URBAN 80% FED. 20% STATE TOTAL QUANTITIES	IL. RTE. 132	IL. RTE. 132	IL. RTE. 132	IL. RTE. 132	IL. RTE. 132	INTERCONNECT SCHEMATIC IL. RTE. 132 FROM IL. RTE. 83 TO SAND LAKE RD.	
				IL. RTE. 83	DEEP LAKE RD.	MUNN RD.	GRANADA BLVD.	SAND LAKE RD.						IL. RTE. 83	DEEP LAKE RD.	MUNN RD.	GRANADA BLVD.	SAND LAKE RD.		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL. MO.	4	0.80	0.80	0.80	0.80	0.80		X8800040	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2		2					
67100100	MOBILIZATION	L SUM	1	0.17	0.17	0.17	0.17	0.17	0.15	X8800045	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	4		2			1	1	
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1	0.17	0.17	0.17	0.17	0.17	0.15	X8800060	SIGNAL HEAD, L.E.D., 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3					1	2	
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	0.17	0.17	0.17	0.17	0.17	0.15	X8805280	SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	3					1	2	
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	0.17	0.17	0.17	0.17	0.17	0.15	X8810620	PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED	EACH	4		4					
81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	9338	375			140	395	8428	88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	16		8			4	4	
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	1961	113			170	48	1630	88500100	INDUCTIVE LOOP DETECTOR	EACH	27	6	10			5	6	
81400100	HANDHOLE	EACH	14						14	88800100	PEDESTRIAN PUSH-BUTTON	EACH	6		4				2	
81500200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	9338	375			140	395	8428	89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	68		21			10	37	
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	5	1	1	1	1	1		89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	3		1			1	1	
85700205	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	3		1		1	1		X0322925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	12847							12847
86400100	TRANSCEIVER - FIBER OPTIC	EACH	3		1		1	1		X8050015	SERVICE INSTALLATION - POLE MOUNTED	EACH	3		1			1	1	
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	565.5				270	295.5		X8710020	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	FOOT	12847							12847
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	2925	1365	855			705		X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	68		21			10	37	
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	68		21		10	37		X0325096	OPTIMIZE TRAFFIC SIGNAL SYSTEM	LSUM	1							1
87502480	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	6				5	1												
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	3				1	2												
87900200	DRILL EXISTING HANDHOLE	EACH	20	5			4	4	7											
X8800035	SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	7		2		2	3												
X8800020	SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	12		6		3	3												

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION	
NAME	DATE	SUMMARY OF QUANTITIES	
		IL. RTE. 132 FROM	
		IL. RTE 83 TO SAND LAKE RD.	
PLOT DATE: 5/17/2006			

5/17/2006 10:13:32 AM User:arshphozyc

LOOP DETECTOR NOTES

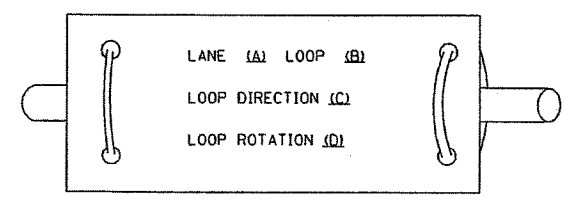
1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED 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.



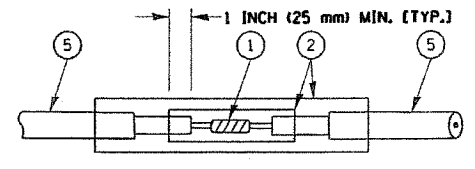
DETECTOR LOOP WIRING SCHEMATIC

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

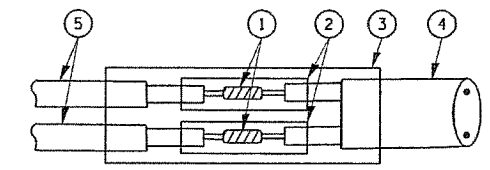
LOOP LEAD-IN CABLE TAG



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



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

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

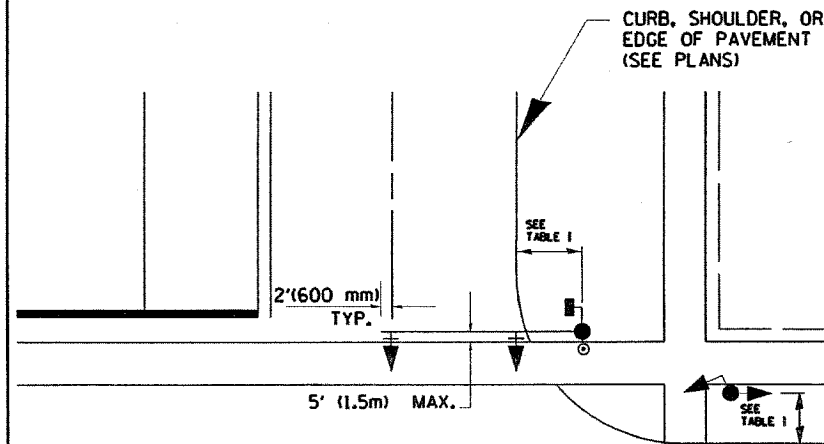
DRAWN BY: RWP
 DESIGNED BY: DAD
 CHECKED BY: DAZ
 SHEET 1 OF 4

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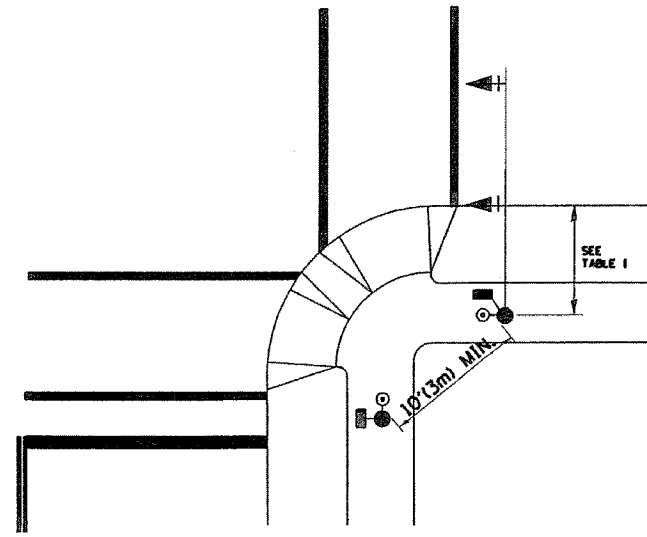
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 TS	LAKE	18	4
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 62887				

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

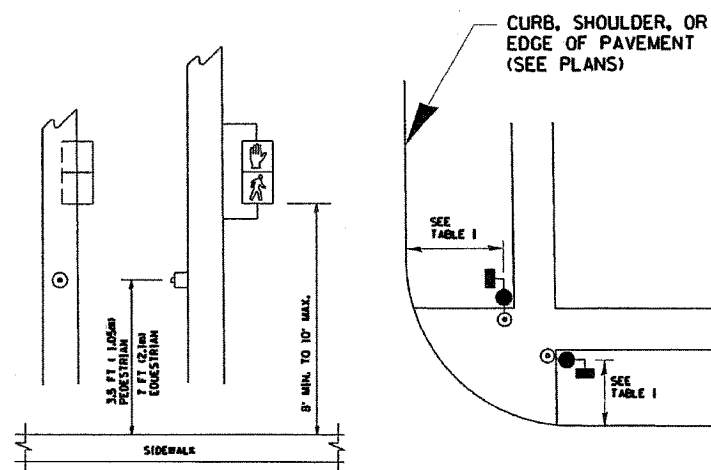


TABLE I

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

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT 1
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

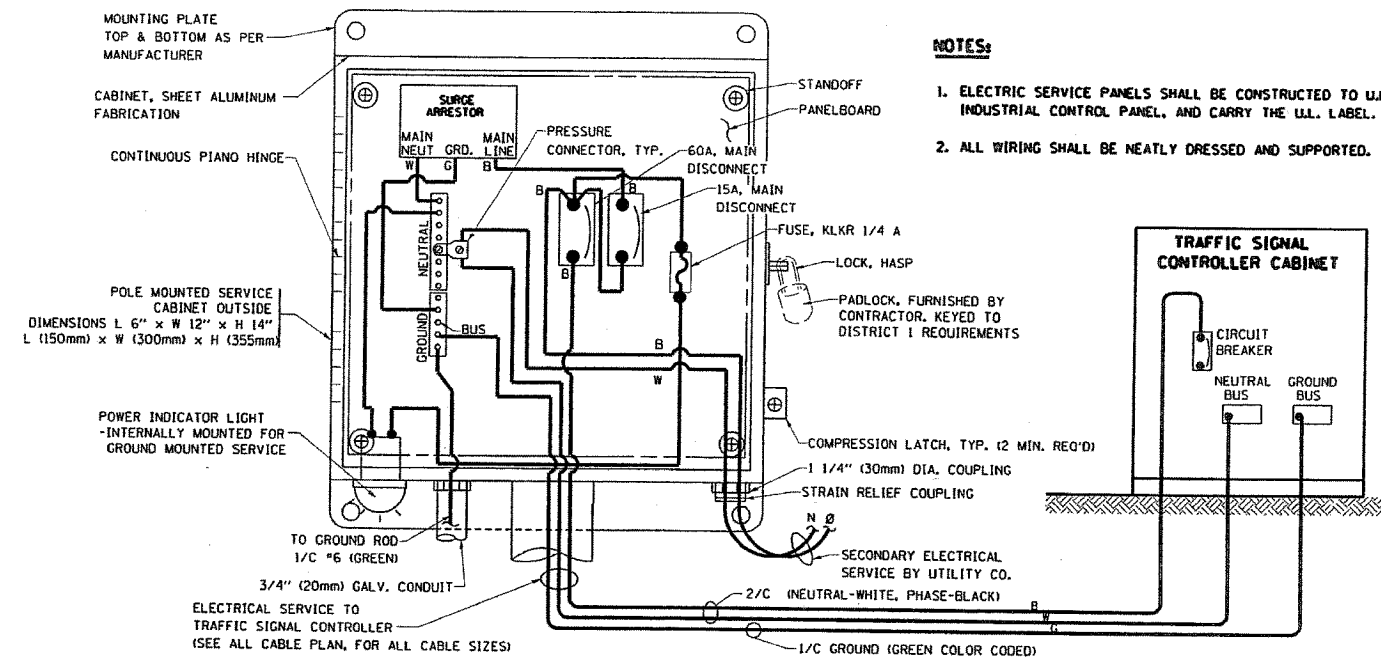
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HORIZ. DATE 1-01-02

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

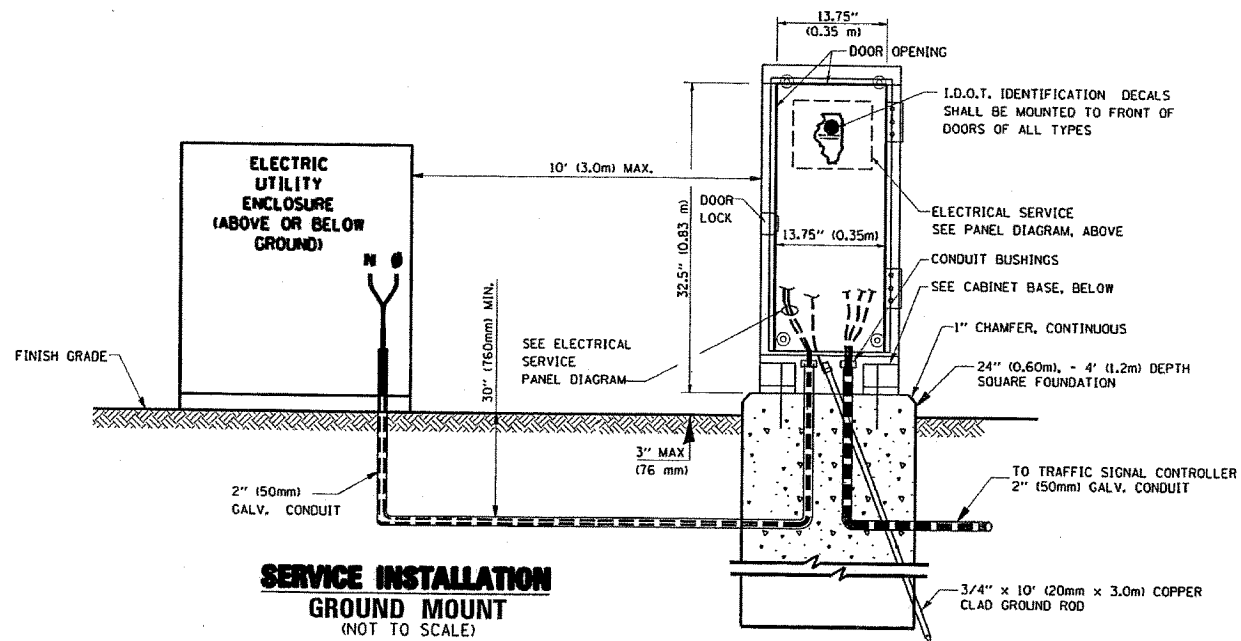
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5/1/2006
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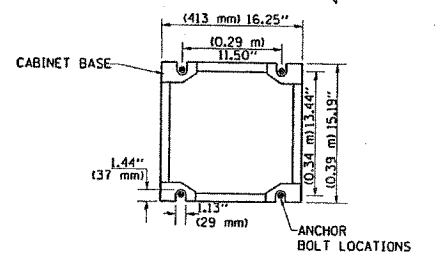
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 TS	LAKE	19	5
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 62887				



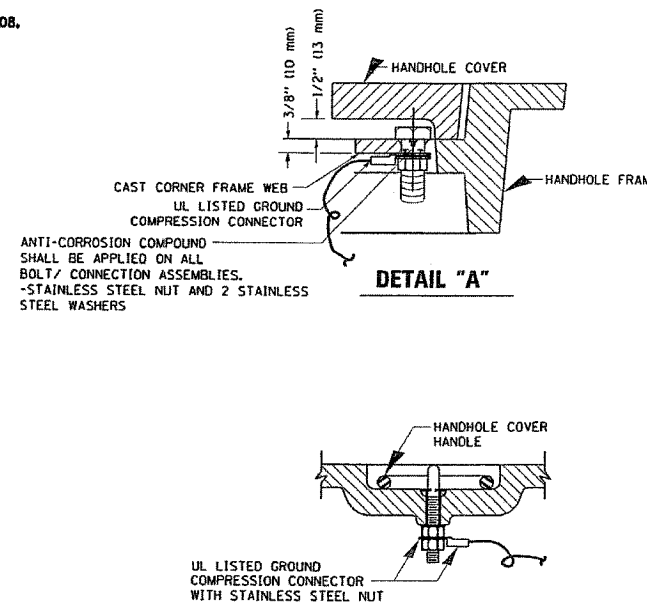
ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)
SERVICE INSTALLATION POLE MOUNT (SHOWN)
 (NOT TO SCALE)



SERVICE INSTALLATION GROUND MOUNT
 (NOT TO SCALE)

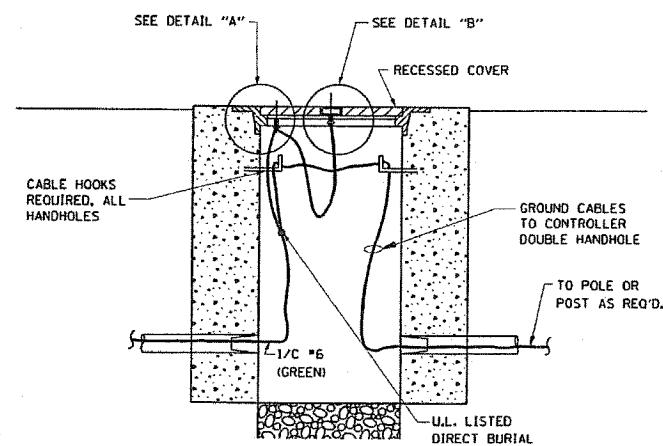


CABINET - BASE BOLT PATTERN
 (NOT TO SCALE)



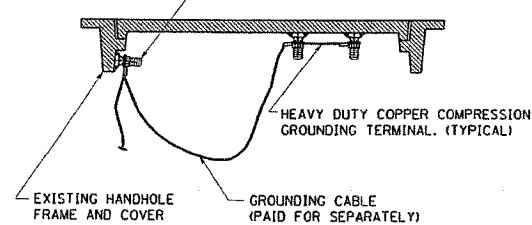
DETAIL "A"

DETAIL "B"



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

(2) 1/2" x 1 1/4" STAINLESS STEEL BOLT WITH SPLIT LOCK WASHER AND NYLON INSERT LOCKOUT WELDED TO FRAME AND TO COVER. (TYPICAL)

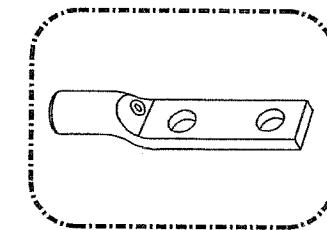


EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL
 (NOT TO SCALE)

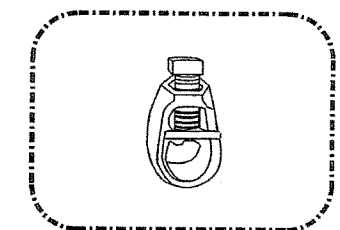
NOTES:

GROUNDING SYSTEM

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



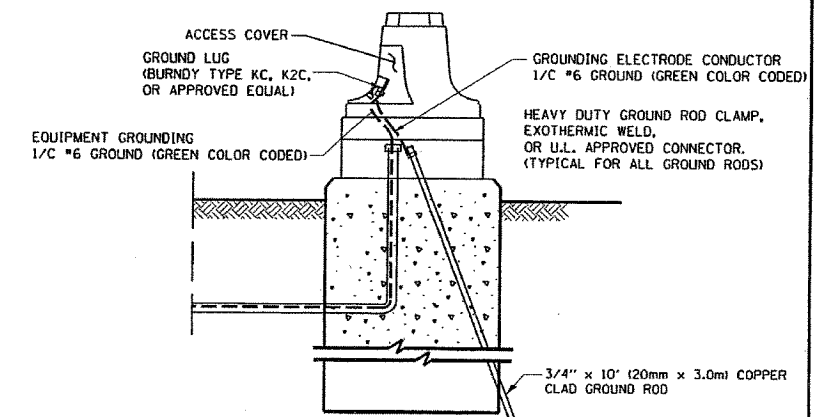
HEAVY-DUTY COMPRESSION TERMINAL
 (BURNDY TYPE YGHA OR APPROVED EQUAL)



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

NOTES:

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



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

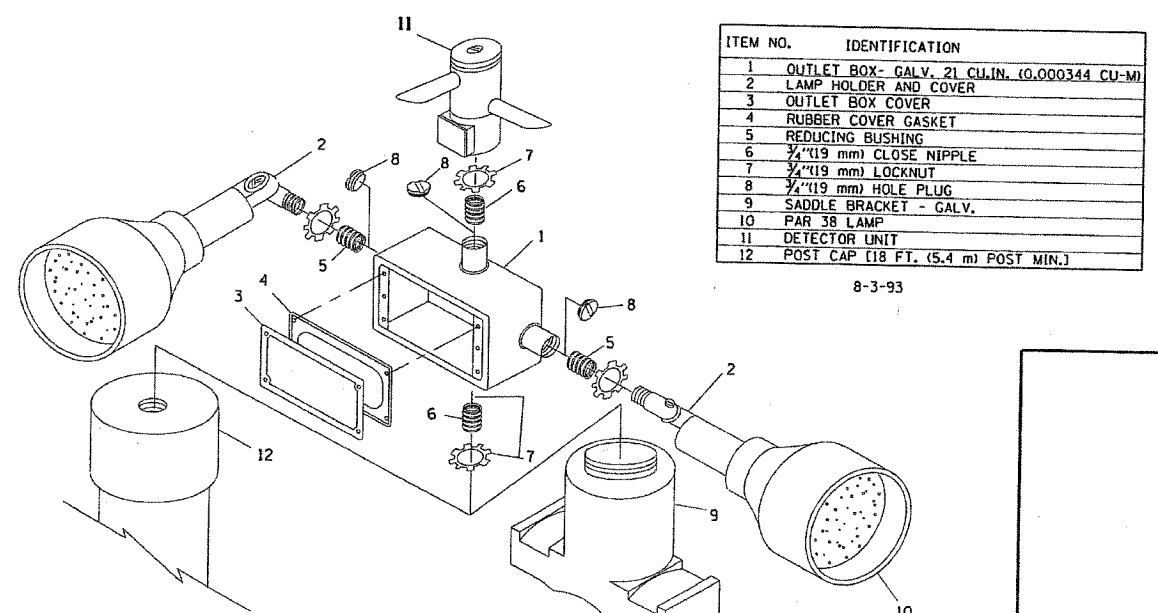
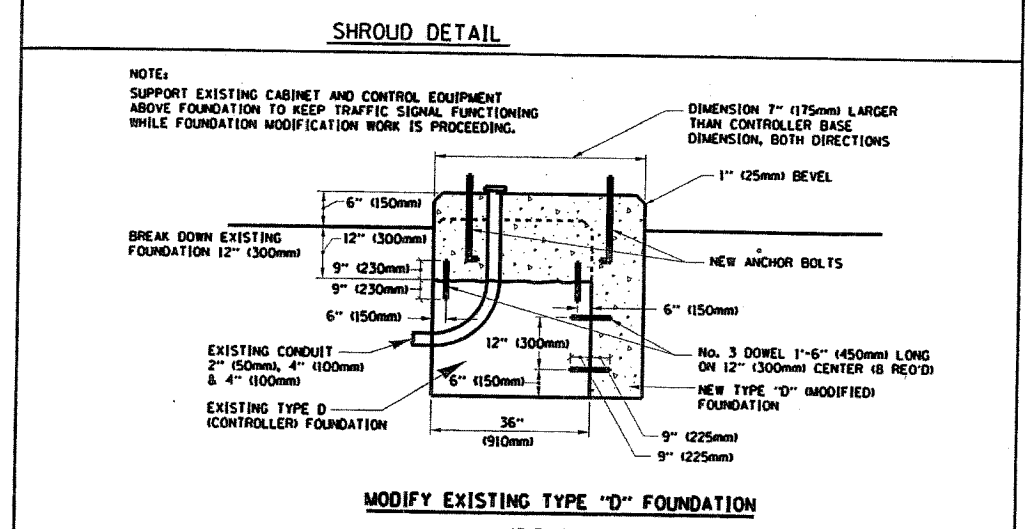
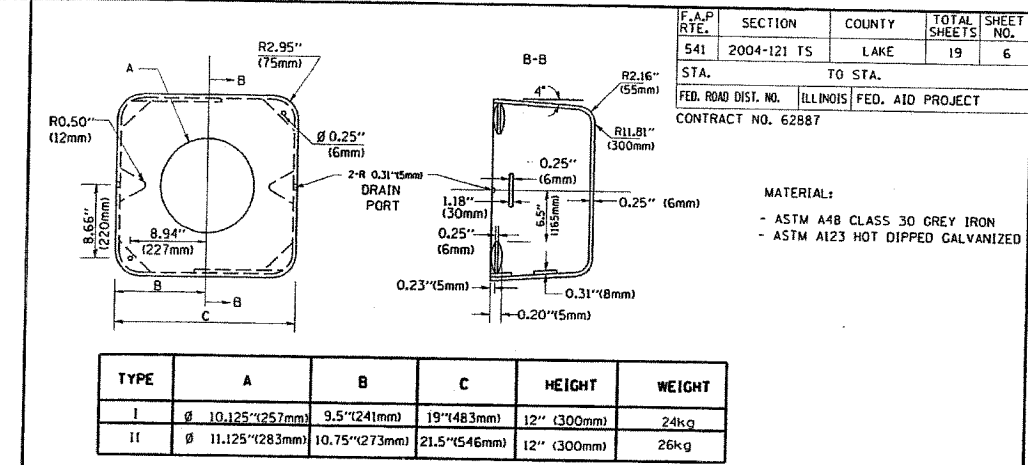
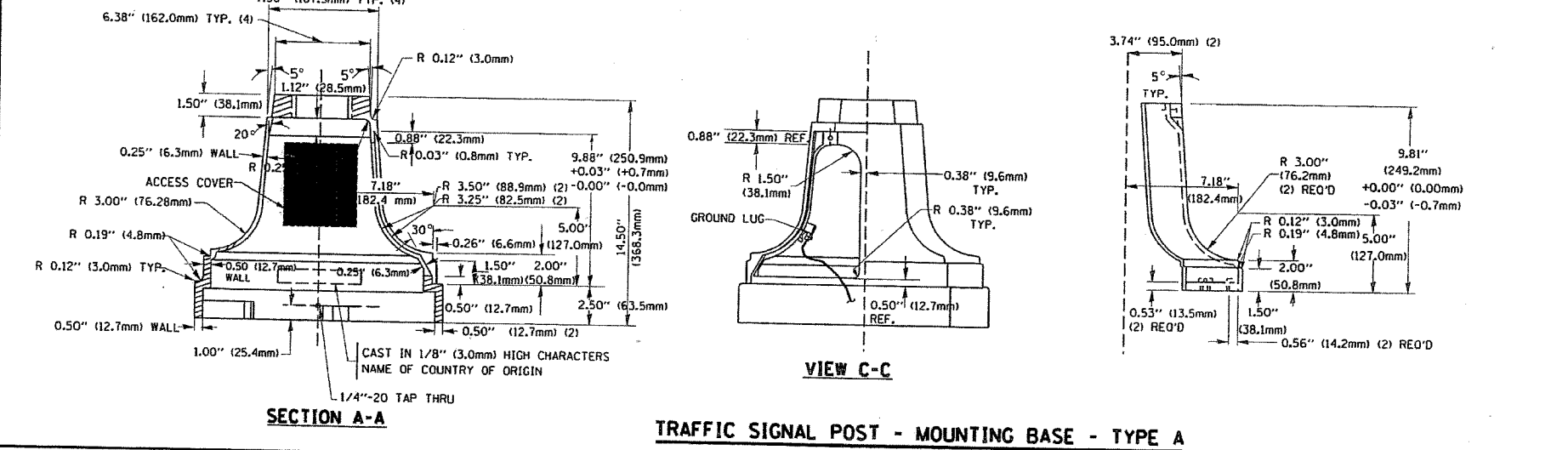
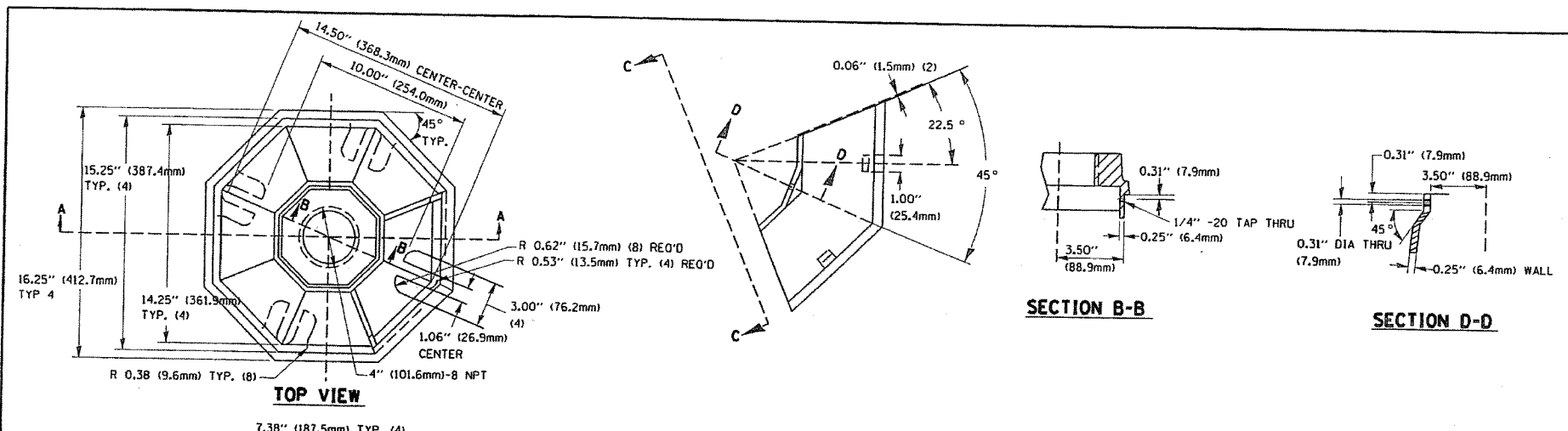
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT 1
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

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

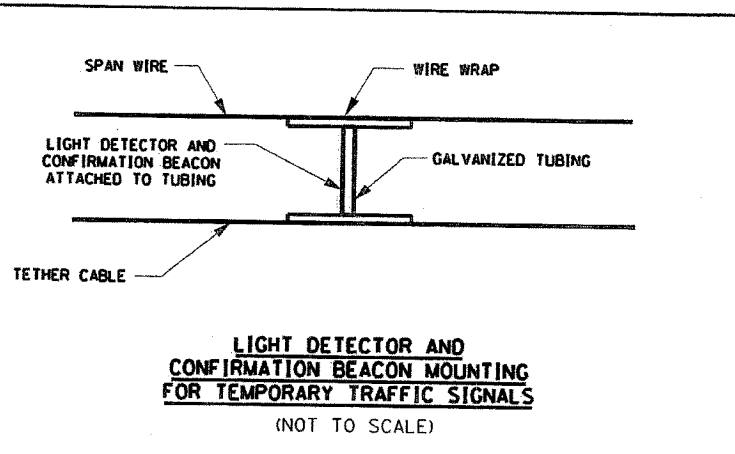
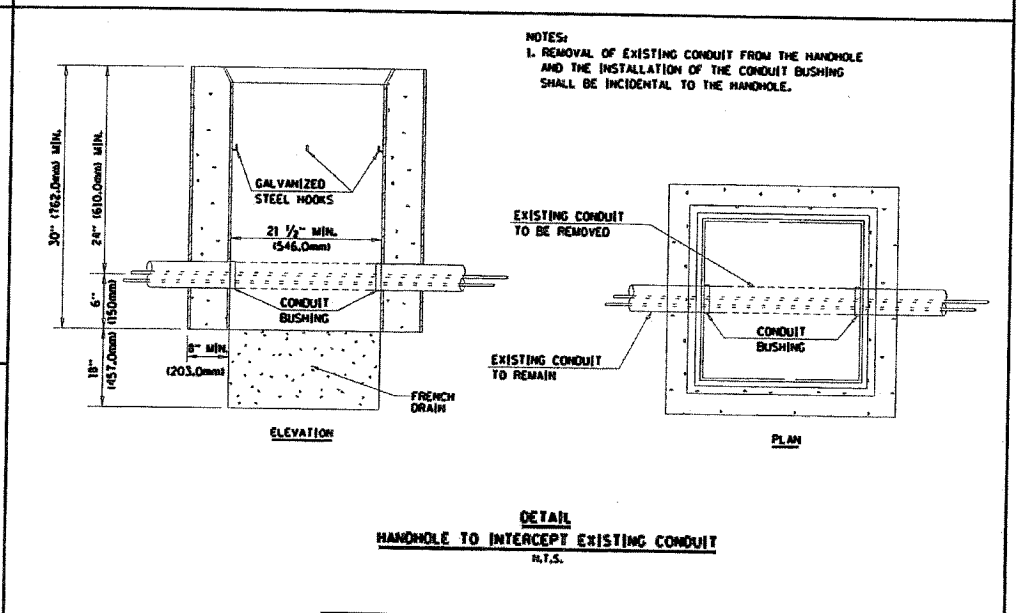
DRAWN BY: RWP
 DESIGNED BY: DAD
 CHECKED BY: DAZ
 SHEET 3 OF 4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 TS	LAKE	19	6
STA. TO STA.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 62887				



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.]

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



REVISIONS		DATE
NAME		

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT 1
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

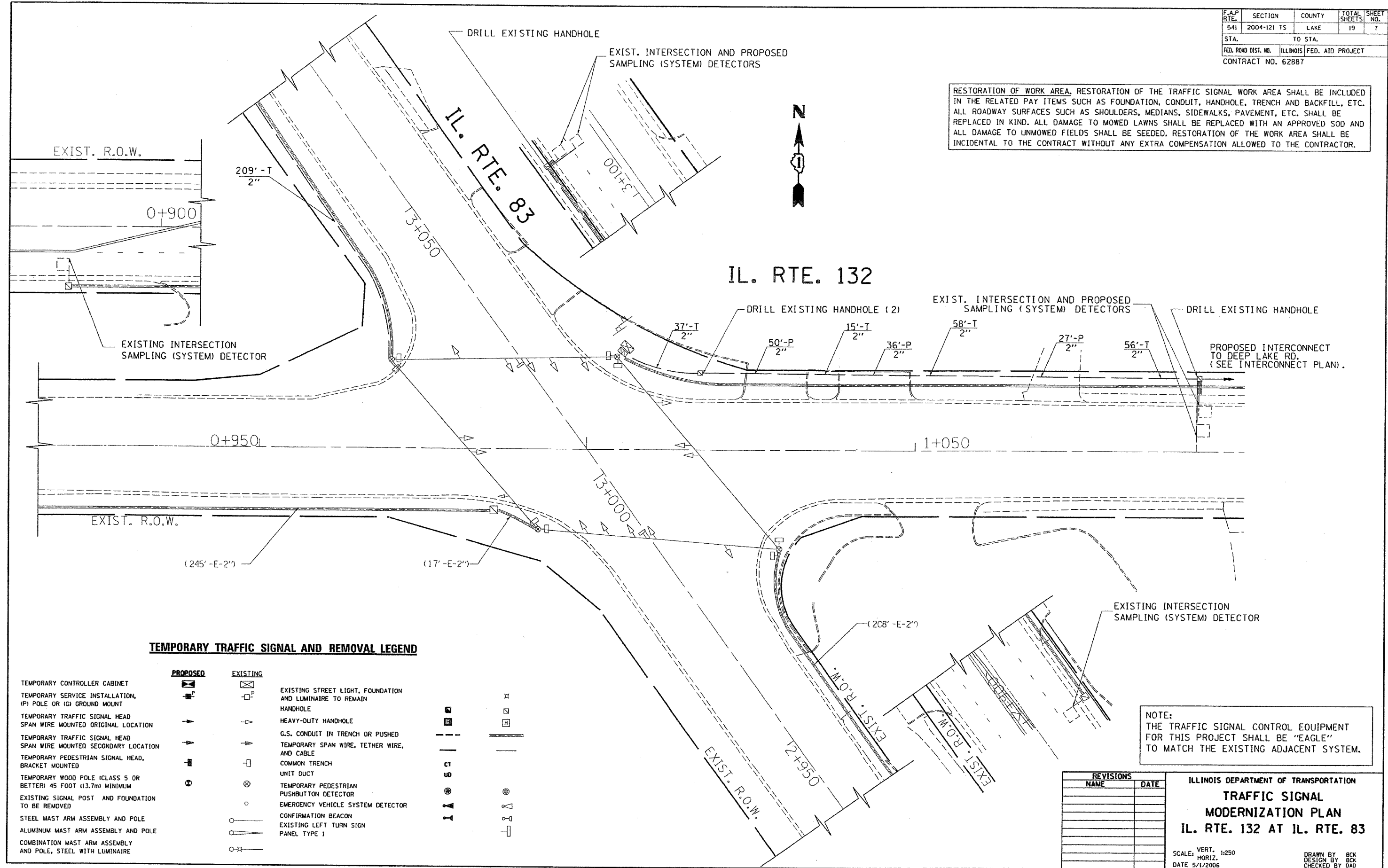
SCALE: VERT. NONE
HORIZ. DATE 1-01-02

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

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 TS	LAKE	19	7
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 62887				

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. 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 SEED. RESTORATION OF THE WORK AREA SHALL BE INCIDENTAL TO THE CONTRACT WITHOUT ANY EXTRA COMPENSATION ALLOWED TO THE CONTRACTOR.



TEMPORARY TRAFFIC SIGNAL AND REMOVAL LEGEND

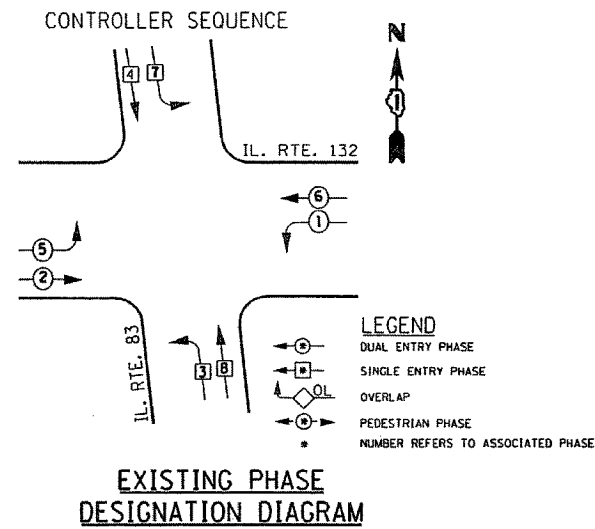
PROPOSED	EXISTING	
TEMPORARY CONTROLLER CABINET		EXISTING STREET LIGHT, FOUNDATION AND LUMINAIRE TO REMAIN HANDHOLE
TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT		HEAVY-DUTY HANDHOLE
TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION		G.S. CONDUIT IN TRENCH OR PUSHED
TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION		TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED		COMMON TRENCH
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM		UNIT DUCT
EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED		TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR
STEEL MAST ARM ASSEMBLY AND POLE		EMERGENCY VEHICLE SYSTEM DETECTOR
ALUMINUM MAST ARM ASSEMBLY AND POLE		CONFIRMATION BEACON
COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE		EXISTING LEFT TURN SIGN PANEL TYPE 1

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

REVISIONS	
NAME	DATE

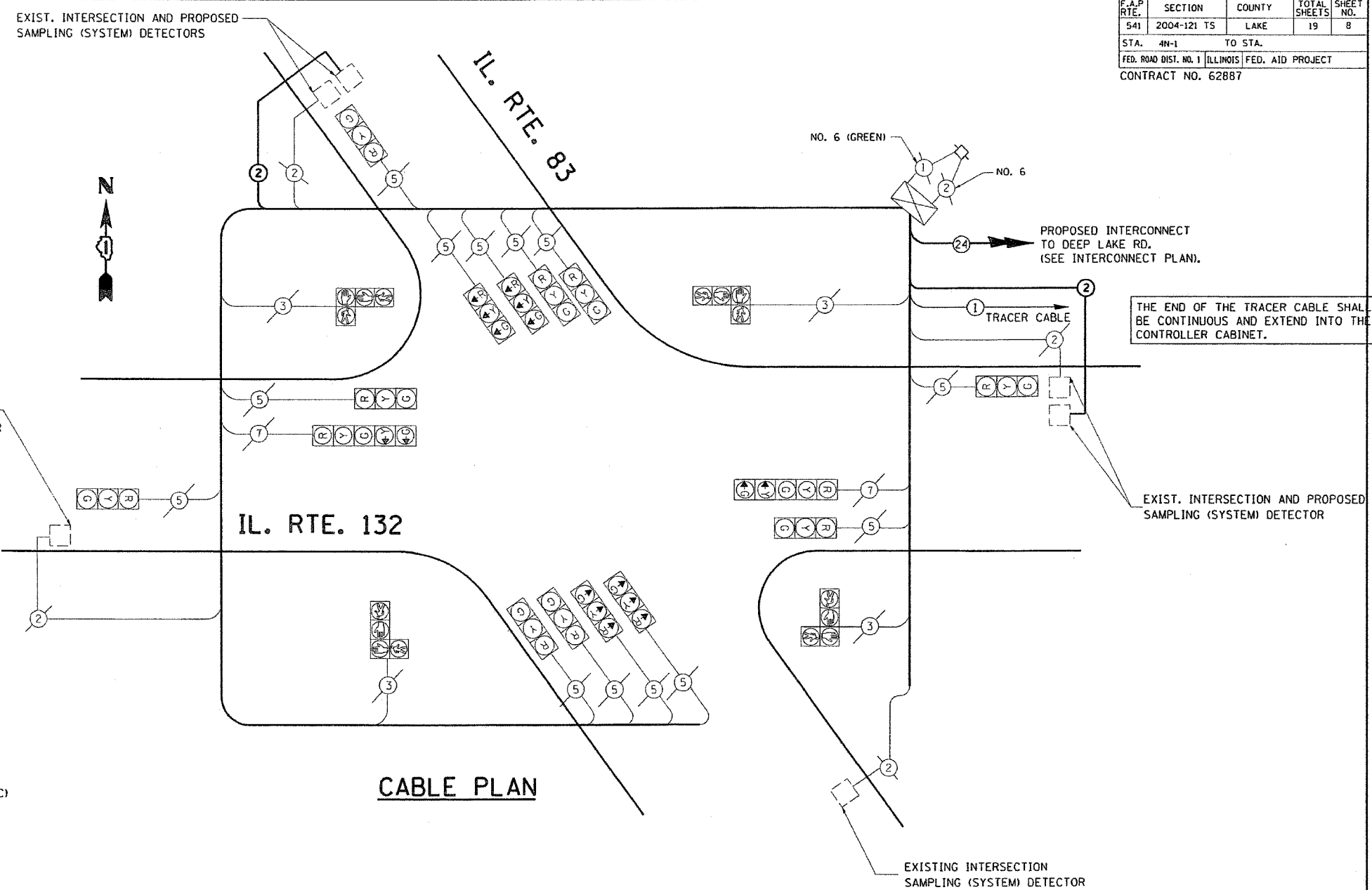
ILLINOIS DEPARTMENT OF TRANSPORTATION
**TRAFFIC SIGNAL
 MODERNIZATION PLAN
 IL. RTE. 132 AT IL. RTE. 83**
 SCALE: VERT. 1:250
 HORIZ. DATE 5/1/2006
 DRAWN BY BCK
 DESIGN BY BCK
 CHECKED BY DAD

F.A.P. RTE. 541	SECTION 2004-121 TS	COUNTY LAKE	TOTAL SHEETS 19	SHEET NO. 8
STA. 4N-1		TO STA.		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
CONTRACT NO. 62887				



CABLE PLAN LEGEND

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



SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	LSUM	.17
TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	LSUM	.17
TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	LSUM	.17
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
CONDUIT IN PUSHED, 2" DIA. GALVANIZED STEEL	FOOT	113
CONDUIT IN TRENCH, 2" DIA. GALVANIZED STEEL	FOOT	375
ELECTRIC CABLE IN CONDUIT, LEAD-IN NO. 14 1 PAIR	FOOT	1365
INDUCTIVE LOOP DETECTOR	EACH	6
DRILL EXISTING HANDHOLE	EACH	5
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	375

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

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS				TOTAL WATTAGE	
TYPE	NO. LAMPS	WATTAGE	% OPERATION		
SIGNAL (RED)	15	135	17	0.50	1012.50
(YELLOW)	16	135	25	0.25	540.00
(GREEN)	16	135	15	0.25	540.00
ARROW	10	135	12	0.10	216.00
PED. SIGNAL	8	90	25	1.00	720.00
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN	1	84		0.05	
FLASHER				0.50	
ENERGY COSTS TO:	TOTAL =			3128.50	

ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHMIDBURG, ILLINOIS 60196-1096
CONTACT: AMADOR VELEZ
PHONE: (847) 816-5248
COMPANY: COM. 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" HL-2=
E - M. ARM POLE		SIGNAL POST	2 (1.0)		16m±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)
36" (900mm)	15 (4.6)	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

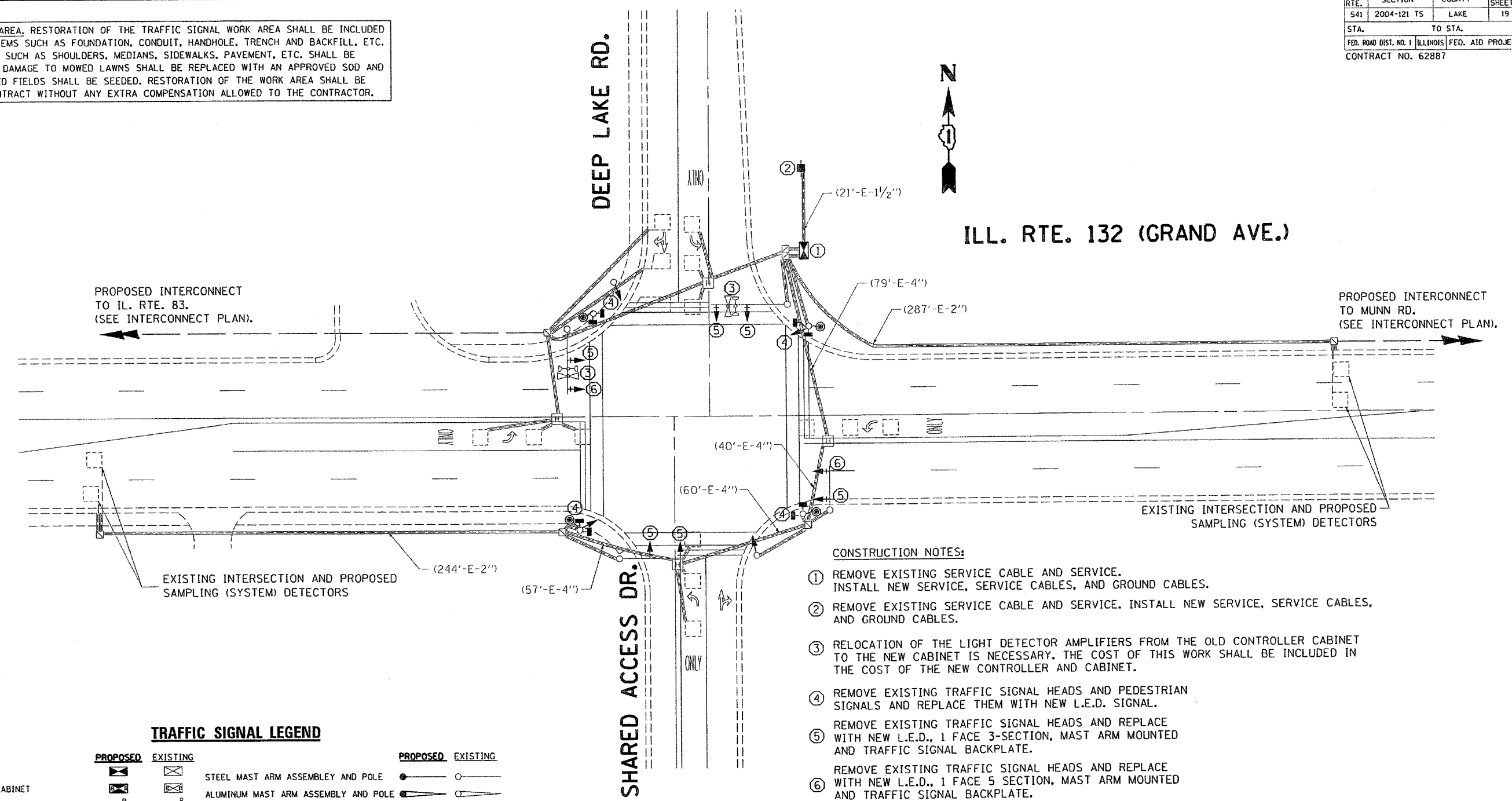
ILLINOIS DEPARTMENT OF TRANSPORTATION
CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE PREEMPTION SEQUENCE, AND SCHEDULE OF QUANTITIES
IL. RTE. 132 @ IL. RTE. 83

SCALE: 1"=20'
DATE: 5/3/2006

DRAWN BY: BCK
DESIGN BY: BCK
CHECKED BY: DAD

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 TS	LAKE	19	9
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 62887				

RESTORATION OF WORK AREA, RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. 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. RESTORATION OF THE WORK AREA SHALL BE INCIDENTAL TO THE CONTRACT WITHOUT ANY EXTRA COMPENSATION ALLOWED TO THE CONTRACTOR.



- CONSTRUCTION NOTES:**
- 1 REMOVE EXISTING SERVICE CABLE AND SERVICE. INSTALL NEW SERVICE, SERVICE CABLES, AND GROUND CABLES.
 - 2 REMOVE EXISTING SERVICE CABLE AND SERVICE. INSTALL NEW SERVICE, SERVICE CABLES, AND GROUND CABLES.
 - 3 RELOCATION OF THE LIGHT DETECTOR AMPLIFIERS FROM THE OLD CONTROLLER CABINET TO THE NEW CABINET IS NECESSARY. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE NEW CONTROLLER AND CABINET.
 - 4 REMOVE EXISTING TRAFFIC SIGNAL HEADS AND REPLACE THEM WITH NEW L.E.D. SIGNAL.
 - 5 REMOVE EXISTING TRAFFIC SIGNAL HEADS AND REPLACE WITH NEW L.E.D., 1 FACE 3-SECTION, MAST ARM MOUNTED AND TRAFFIC SIGNAL BACKPLATE.
 - 6 REMOVE EXISTING TRAFFIC SIGNAL HEADS AND REPLACE WITH NEW L.E.D., 1 FACE 5 SECTION, MAST ARM MOUNTED AND TRAFFIC SIGNAL BACKPLATE.

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 SPECIFICATION.

- 1 EACH CONTROLLER AND CABINET, COMPLETE
- 2 EACH SIGNAL HEADS, 3-SECTION
- 2 EACH SIGNAL HEADS, 5-SECTION
- 2 EACH SIGNAL HEADS, 5-SECTION M.A. MNTD.
- 6 EACH SIGNAL HEADS, 3-SECTION M.A. MNTD.
- 4 EACH PEDESTRIAN SIGNAL HEAD 2-FACE
- 4 EACH PUSH-BUTTONS
- 1 EACH SERVICE INSTALLATION
- 8 EACH BACKPLATES

NOTE:
ALL TRAFFIC SIGNAL HEADS SHALL BE L.E.D. (LIGHT EMITTING DIODE).

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER CABINET			STEEL MAST ARM ASSEMBLY AND POLE		
RAILROAD CONTROL CABINET			ALUMINUM MAST ARM ASSEMBLY AND POLE		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT			JUNCTION BOX		
TELEPHONE CONNECTION			HANDHOLE		
SIGNAL HEAD			HEAVY DUTY HANDHOLE		
SIGNAL HEAD WITH BACKPLATE			DOUBLE HANDHOLE		
SIGNAL HEAD OPTICALLY PROGRAMMED			G.S. CONDUIT IN TRENCH OR PUSHED		
SIGNAL HEAD PEDESTRIAN			COMMON TRENCH		
ILLUMINATED SIGN "NO LEFT TURN"			UNIT DUCT		
ILLUMINATED SIGN "NO RIGHT TURN"			PEDESTRIAN PUSHBUTTON DETECTOR		
SIGNAL POST			DETECTOR LOOP, TYPE I		
WOOD POLE			PERFORMED DETECTOR LOOP		
			EMERGENCY VEHICLE SYSTEM DETECTOR		
			CONFIRMATION BEACON		

REVISIONS	NAME	DATE

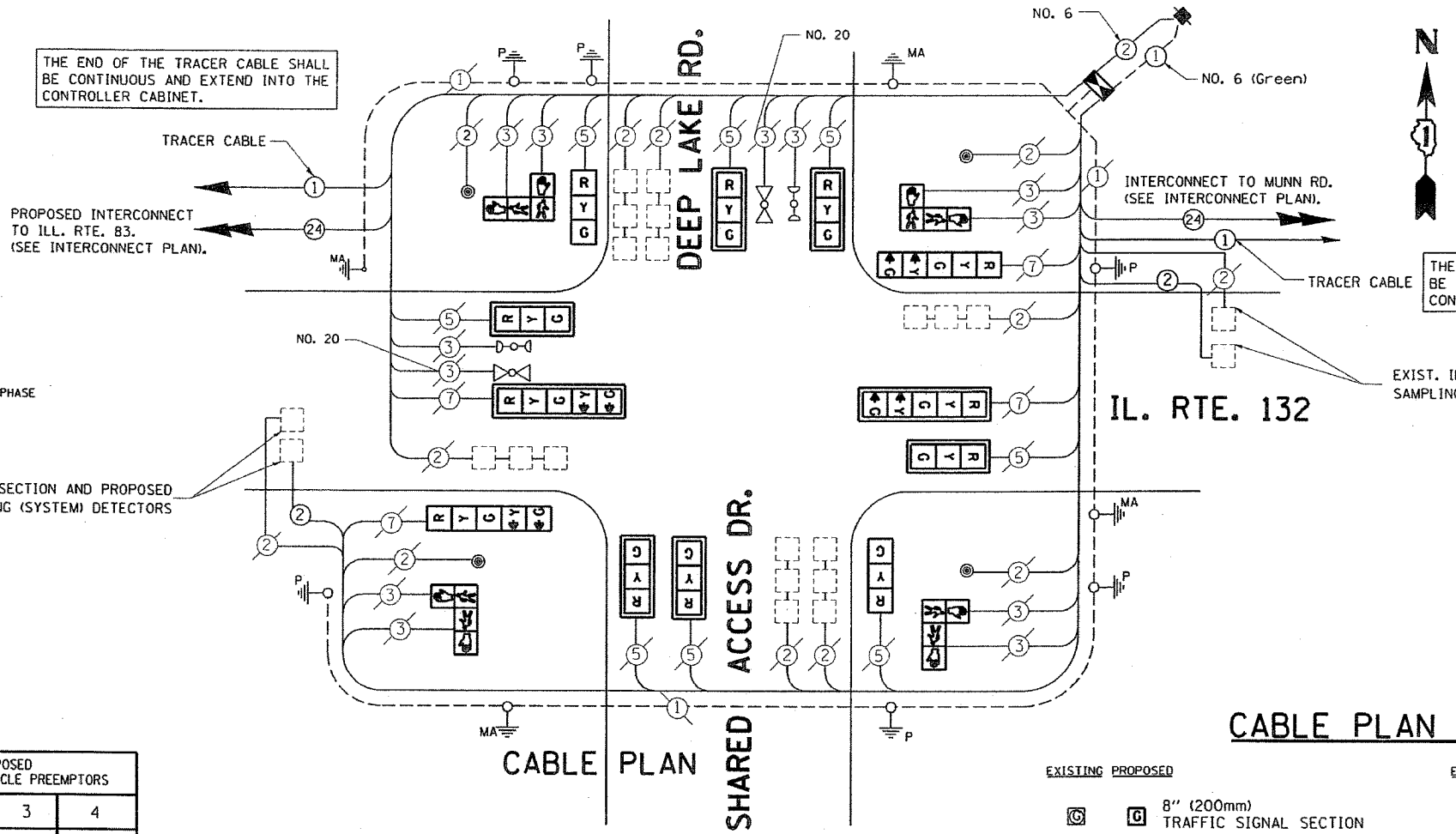
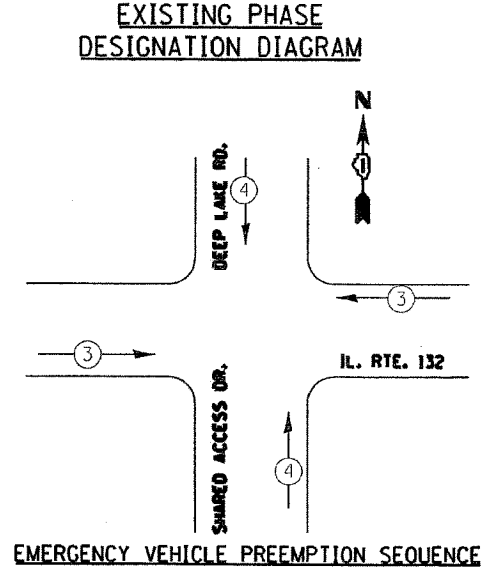
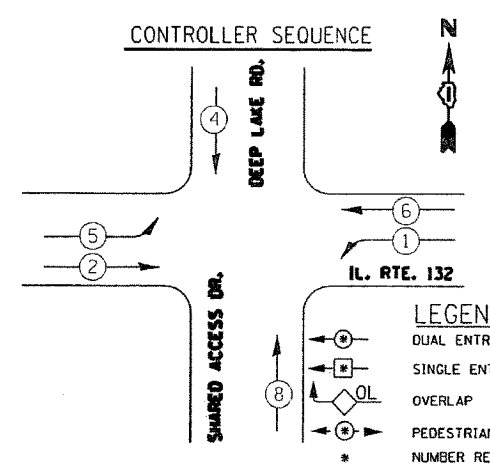
ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC SIGNAL MODERNIZATION PLAN
IL. RTE. 132 AT DEEP LAKE RD.

SCALE: VERT. 1"=20'
HORIZ. DATE 5/3/2006

DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 TS	LAKE	19	10
STA.		TO STA.		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
CONTRACT NO. 62887				



EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	←	↑

CABLE PLAN LEGEND

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

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	LSUM	.17
TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	LSUM	.17
TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	LSUM	.17
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING NO. 6 1 C	FOOT	21
ELECTRIC CABLE IN CONDUIT, LEAD-IN NO. 14 1 PAIR	FOOT	855
ELECTRIC CABLE IN CONDUIT, SERVICE NO. 6 2 C	FOOT	21
SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED.	EACH	2
SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED.	EACH	6
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED.	EACH	2
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED.	EACH	2
PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MT. PUSH-BUTTON	EACH	4
INDUCTIVE LOOP DETECTOR	EACH	4
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL TRANSCEIVER-FIBER OPTIC	EACH	10
SERVICE INSTALLATION, POLE MOUNTED	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	21
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	8

TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	%OPERATION	TOTAL WATTAGE
SIGNAL (RED)	11	135	17	0.50	93.50
(YELLOW)	15	135	25	0.25	93.75
(GREEN)	15	135	15	0.25	56.25
ARROW	8	135	12	0.10	9.60
PED. SIGNAL	8	90	25	1.00	720.00
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	
FLASHER				0.50	
TOTAL =					646.85

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)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
		ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)

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

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE PREEMPTION SEQUENCE, AND SCHEDULE OF QUANTITIES
 IL. RTE. 132 @ DEEP LAKE RD.
 SCALE: VERT. 1"=20'
 HORIZ. 1"=20'
 DATE 5/3/2006
 DRAWN BY: BCK
 DESIGNED BY: BCK
 CHECKED BY: DAD

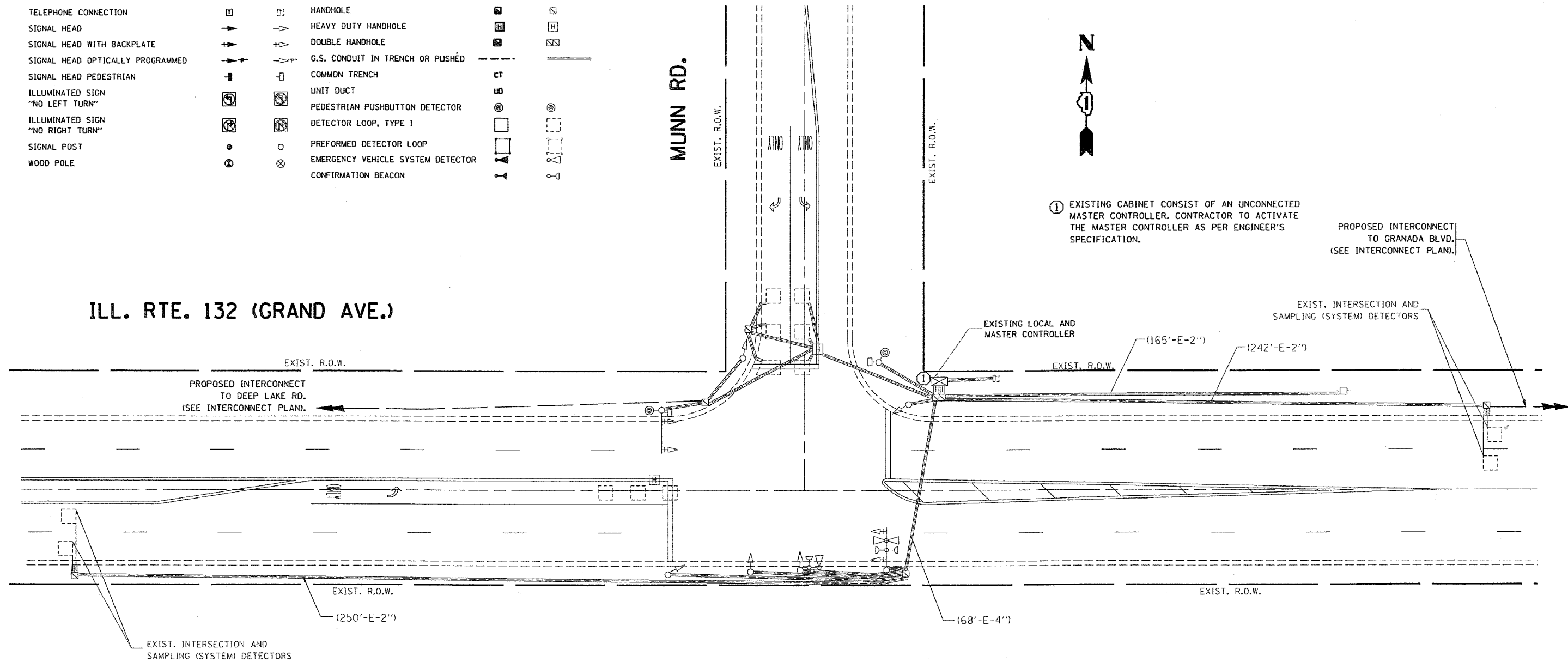
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 TS	LAKE	19	11
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 62887				

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER CABINET			STEEL MAST ARM ASSEMBLY AND POLE		
RAILROAD CONTROL CABINET			ALUMINUM MAST ARM ASSEMBLY AND POLE		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT			JUNCTION BOX		
TELEPHONE CONNECTION			HANDHOLE		
SIGNAL HEAD			HEAVY DUTY HANDHOLE		
SIGNAL HEAD WITH BACKPLATE			DOUBLE HANDHOLE		
SIGNAL HEAD OPTICALLY PROGRAMMED			G.S. CONDUIT IN TRENCH OR PUSHED		
SIGNAL HEAD PEDESTRIAN			COMMON TRENCH		
ILLUMINATED SIGN "NO LEFT TURN"			UNIT DUCT		
ILLUMINATED SIGN "NO RIGHT TURN"			PEDESTRIAN PUSHBUTTON DETECTOR		
SIGNAL POST			DETECTOR LOOP, TYPE I		
WOOD POLE			PREFORMED DETECTOR LOOP		
			EMERGENCY VEHICLE SYSTEM DETECTOR		
			CONFIRMATION BEACON		

ILL. RTE. 132 (GRAND AVE.)

MUNN RD.



① EXISTING CABINET CONSIST OF AN UNCONNECTED MASTER CONTROLLER. CONTRACTOR TO ACTIVATE THE MASTER CONTROLLER AS PER ENGINEER'S SPECIFICATION.

PROPOSED INTERCONNECT TO GRANADA BLVD. (SEE INTERCONNECT PLAN).

RESTORATION OF WORK AREA, RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. 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 SEED. RESTORATION OF THE WORK AREA SHALL BE INCIDENTAL TO THE CONTRACT WITHOUT ANY EXTRA COMPENSATION ALLOWED TO THE CONTRACTOR.

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

NOTE: ALL TRAFFIC SIGNAL HEADS SHALL BE L.E.D. (LIGHT EMITTING DIODE).

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC SIGNAL MODERNIZATION PLAN
ILL. RTE. 132 AT MUNN RD.

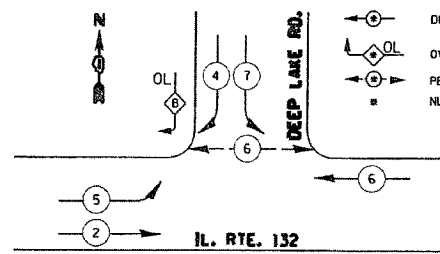
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HORIZ. DATE 5/1/2006

DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 TS	LAKE	19	12
STA. TO STA.		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		
CONTRACT NO. 62887				



CONTROLLER SEQUENCE



LEGEND

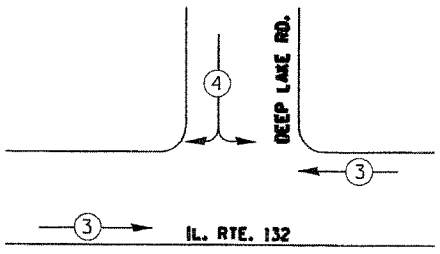
- DUAL ENTRY PHASE
- OVERLAP
- PEDESTRIAN PHASE
- NUMBER REFERS TO ASSOCIATED PHASE

PHASE DESIGNATION DIAGRAM

RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
B	4	5

EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT		

TRACER CABLE
THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET.

PROPOSED INTERCONNECT TO DEEP LAKE RD. (SEE INTERCONNECT PLAN).

FIBER OPTIC CABLE
NO. 62.5/125 12F MULTIMODE
NO. 9/125 12F SINGLE MODE

EXIST. INTERSECTION AND SAMPLING (SYSTEM) DETECTORS

LOCAL AND MASTER CONTROLLER IN TYPE V CABINET

PROPOSED INTERCONNECT TO GRANADA BLVD. (SEE INTERCONNECT PLAN).

THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET.

① EXISTING CABINET CONSIST OF AN UNCONNECTED MASTER CONTROLLER. CONTRACTOR TO ACTIVATE THE MASTER CONTROLLER AS PER ENGINEER'S SPECIFICATION.

CABLE PLAN LEGEND

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

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	LSUM	.17
TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	LSUM	.17
TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	LSUM	.17
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	%OPERATION	
SIGNAL (RED)	10	135	17	0.50	85.00
(YELLOW)	10	135	25	0.25	62.50
(GREEN)	10	135	15	0.25	37.50
ARROW	8	135	12	0.10	24.00
PED. SIGNAL	2	90	25	1.00	50.00
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	
FLASHER				0.50	
ENERGY COSTS TO:					TOTAL = 359.00

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST		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)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
	30" (750mm)	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 "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CABLE PLAN, PHASE DESIGNATION DIAGRAM,
EMERGENCY VEHICLE PREEMPTION SEQUENCE,
AND
SCHEDULE OF QUANTITIES
IL. RTE. 132 @ MUNN RD.
SCALE: VERT. 1"=20'
HORIZ. 1"=20'
DATE: 5/1/2006
DRAWN BY: BK
DESIGNED BY: BCK
CHECKED BY: OAD

5/1/2006
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kanthaphibaybc

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 TS	LAKE	19	13
STA.	TO STA.			
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 62887				

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
RAILROAD CONTROL CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT		
TELEPHONE CONNECTION		
SIGNAL HEAD		
SIGNAL HEAD WITH BACKPLATE		
SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL HEAD PEDESTRIAN		
ILLUMINATED SIGN "NO LEFT TURN"		
ILLUMINATED SIGN "NO RIGHT TURN"		
SIGNAL POST		
WOOD POLE		
STEEL MAST ARM ASSEMBLY AND POLE		
ALUMINUM MAST ARM ASSEMBLY AND POLE		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE		
JUNCTION BOX		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
COMMON TRENCH		
UNIT DUCT		
PEDESTRIAN PUSHBUTTON DETECTOR		
DETECTOR LOOP, TYPE I		
PERFORMED DETECTOR LOOP		
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		

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 SPECIFICATION.

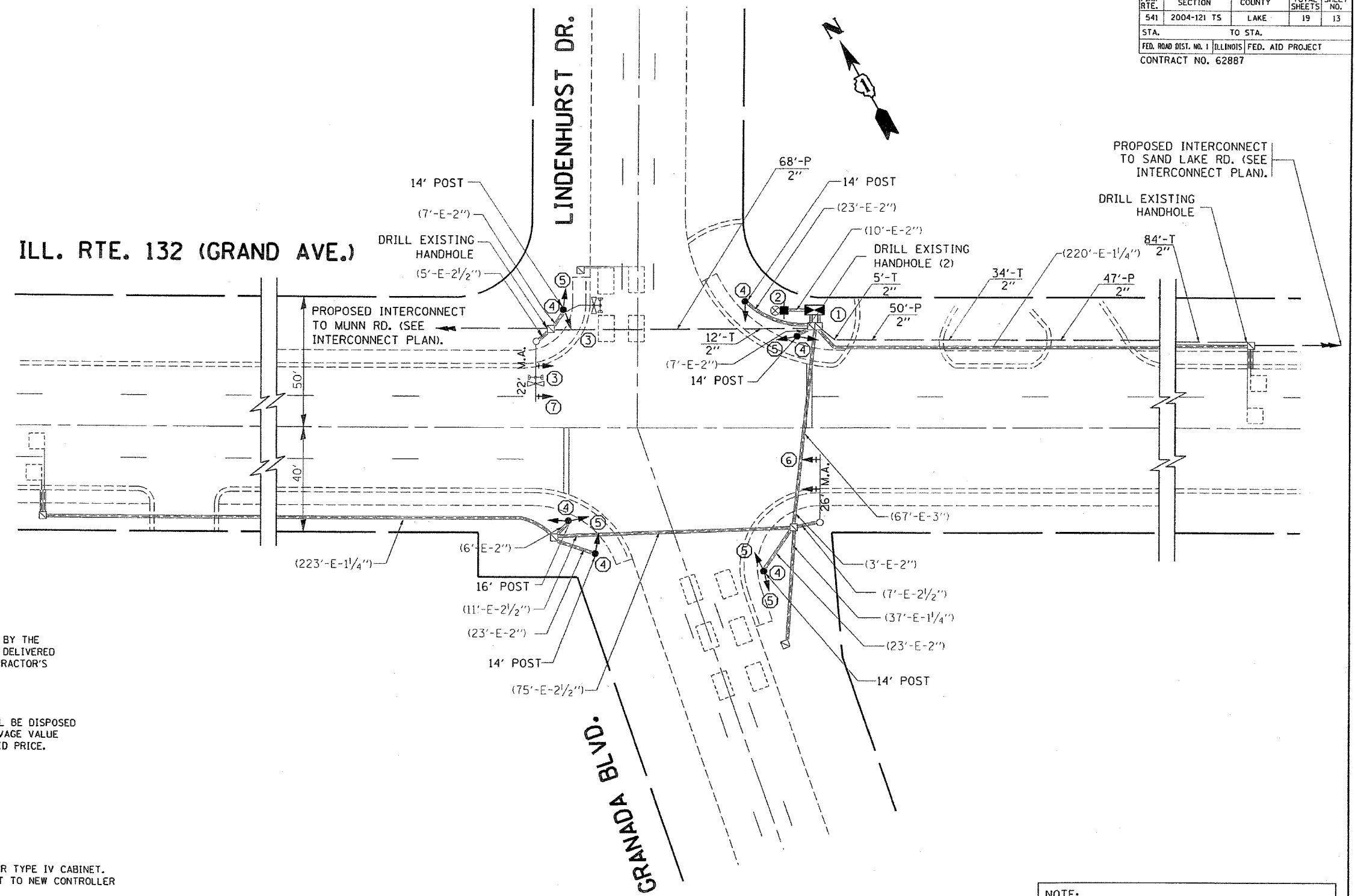
- 1 EACH CONTROLLER AND CABINET, COMPLETE

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

- 2 EACH SIGNAL HEADS, 3-SECTION
- 3 EACH SIGNAL HEADS, 2-FACE, 3-SECTION
- 1 EACH SIGNAL HEADS, 2-FACE, 1-3 SECTION, 1-5 SECTION
- 1 EACH SIGNAL HEADS, 3-SECTION, M.A. MNTD.
- 1 EACH SIGNAL HEADS, 5-SECTION, M.A. MNTD.
- 2 EACH BACKPLATE

CONSTRUCTION NOTES:

- REMOVE EXISTING CONTROLLER AND CABINET. INSTALL A NEW CONTROLLER TYPE IV CABINET. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM PHASING UNIT TO NEW CONTROLLER CABINET INCLUDED IN COST OF THE NEW CONTROLLER AND CABINET.
- REMOVE EXISTING SERVICE CABLE AND SERVICE. INSTALL NEW SERVICE, SERVICE CABLES, AND GROUND CABLES.
- RELOCATION OF THE LIGHT DETECTOR AMPLIFIERS FROM THE OLD CONTROLLER CABINET TO THE NEW CABINET IS NECESSARY. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE NEW CONTROLLER AND CABINET.
- REMOVE EXISTING TRAFFIC SIGNAL POSTS AND REPLACE WITH NEW GALVANIZED STEEL POSTS USING EXISTING FOUNDATION.
- REMOVE EXISTING TRAFFIC SIGNAL HEADS AND REPLACE THEM WITH NEW L.E.D. SIGNAL.
- REMOVE EXISTING TRAFFIC SIGNAL HEADS AND REPLACE WITH NEW L.E.D., 1 FACE 3-SECTION, MAST ARM MOUNTED AND TRAFFIC SIGNAL BACKPLATE.
- REMOVE EXISTING TRAFFIC SIGNAL HEADS AND REPLACE WITH NEW L.E.D., 1 FACE 5-SECTION, MAST ARM MOUNTED AND TRAFFIC SIGNAL BACKPLATE.



NOTE:
ALL TRAFFIC SIGNAL HEADS SHALL BE L.E.D. (LIGHT EMITTING DIODE).

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. 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. RESTORATION OF THE WORK AREA SHALL BE INCIDENTAL TO THE CONTRACT WITHOUT ANY EXTRA COMPENSATION ALLOWED TO THE CONTRACTOR.

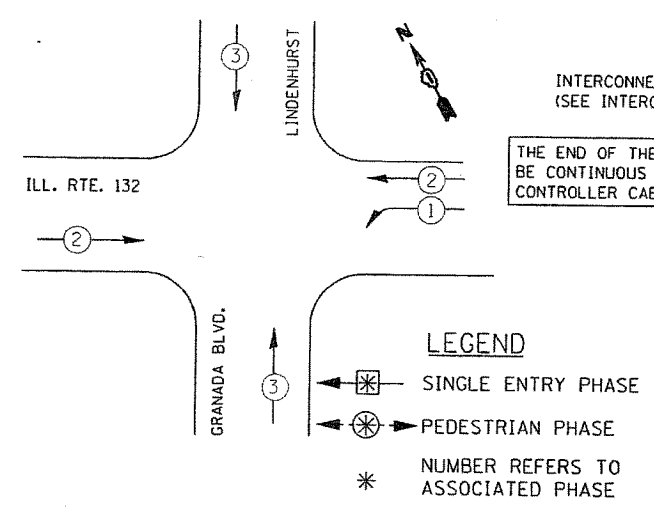
NOTE:
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

REVISIONS	
NAME	DATE

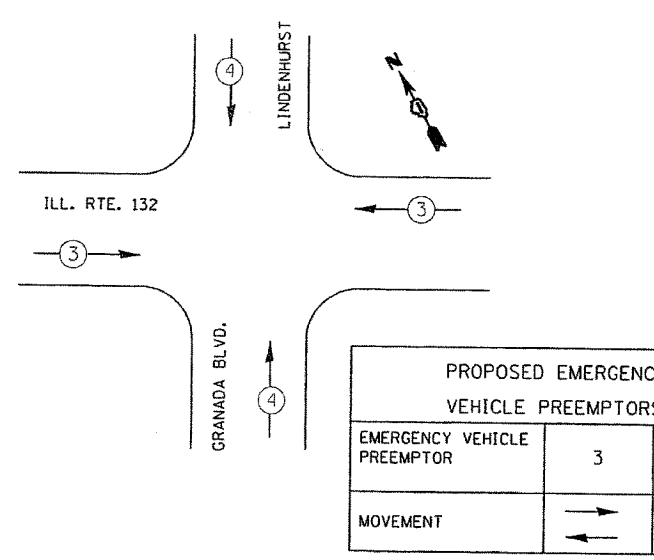
ILLINOIS DEPARTMENT OF TRANSPORTATION
**TRAFFIC SIGNAL
MODERNIZATION PLAN**
IL. RTE. 132 AT GRANADA BLVD.
SCALE: VERT. 1"=20'
HORIZ.
DATE 5/3/2006
DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 T5	LAKE	19	14
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT			
CONTRACT NO. 62887				

CONTROLLER SEQUENCE



EMERGENCY VEHICLE PREEMPTION SEQUENCE

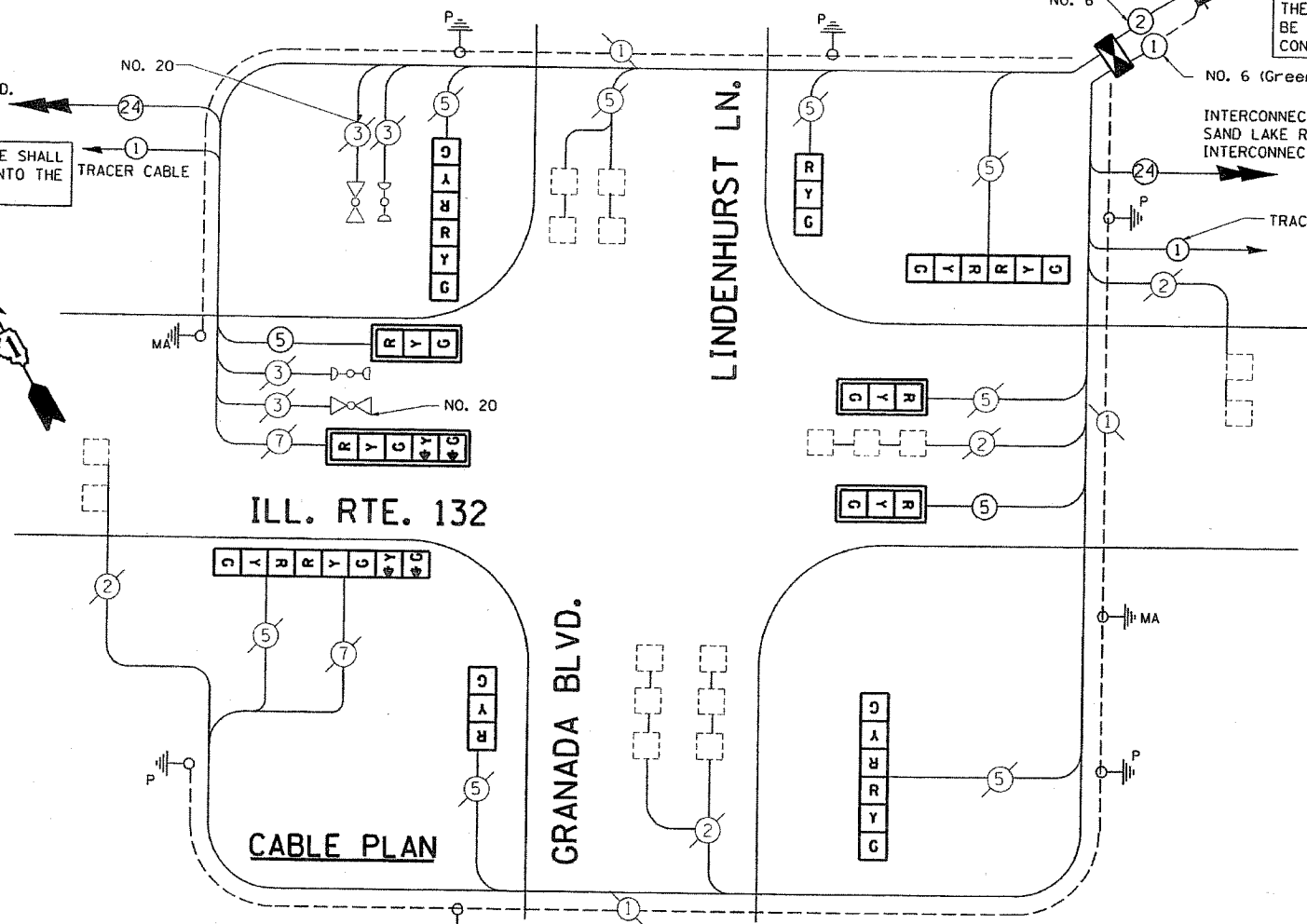


THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET.

INTERCONNECT TO MUNN RD. (SEE INTERCONNECT PLAN).

THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET.

INTERCONNECT TO SAND LAKE RD. (SEE INTERCONNECT PLAN).



CABLE PLAN LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET	[Symbol]	[Symbol]
RAILROAD CONTROL CABINET	[Symbol]	[Symbol]
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT	[Symbol]	[Symbol]
TELEPHONE CONNECTION	[Symbol]	[Symbol]
GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE	[Symbol]	[Symbol]
FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED	[Symbol]	[Symbol]
ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED	[Symbol]	[Symbol]
GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)	[Symbol]	[Symbol]
SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD	[Symbol]	[Symbol]
12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE	[Symbol]	[Symbol]
12" (300mm) TRAFFIC SIGNAL SECTION	[Symbol]	[Symbol]
12" (300mm) PEDESTRIAN SIGNAL SECTION	[Symbol]	[Symbol]
ILLUMINATED SIGN "NO LEFT TURN"	[Symbol]	[Symbol]
ILLUMINATED SIGN "NO RIGHT TURN"	[Symbol]	[Symbol]
PUSHBUTTON DETECTOR	[Symbol]	[Symbol]
DETECTOR LOOP	[Symbol]	[Symbol]
PERFORMED DETECTOR LOOP	[Symbol]	[Symbol]
MICROWAVE VEHICLE SENSOR	[Symbol]	[Symbol]
VIDEO DETECTOR	[Symbol]	[Symbol]
CLOSED CIRCUIT TV	[Symbol]	[Symbol]
EMERGENCY VEHICLE SYSTEM DETECTOR	[Symbol]	[Symbol]
CONFIRMATION BEACON	[Symbol]	[Symbol]

CABLE PLAN

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	LSUM	.17
TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	LSUM	.17
TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	LSUM	.17
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING NO. 6 1 C	FOOT	10
ELECTRIC CABLE IN CONDUIT, SERVICE NO. 6 2 C	FOOT	10
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	270
CONDUIT IN TRENCH, 2" DIA. GALVANIZED STEEL	FOOT	140
CONDUIT IN PUSHED, 2" DIA. GALVANIZED STEEL	FOOT	170
TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	5
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	1
SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED.	EACH	2
SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED.	EACH	2
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED.	EACH	2
SIGNAL HEAD, L.E.D., 2-FACE, 3 SECTION, BRACKET MOUNTED.	EACH	3
SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MNTED.	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	10
SERVICE INSTALLATION, POLE MOUNTED	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
TRANSCIVER-FIBER OPTIC	EACH	1
INDUCTIVE LOOP DETECTOR	EACH	1
DRILL EXISTING HANDHOLE	EACH	5
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	4

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)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
	30" (750mm)	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)

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	% OPERATION	
SIGNAL (RED)	14	135	17	0.50	119.00
(YELLOW)	14	135	25	0.25	87.50
(GREEN)	14	135	15	0.25	52.50
ARROW	4	135	12	0.10	4.80
PED. SIGNAL		90	25	1.00	
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN				0.05	
FLASHER				0.50	
ENERGY COSTS TO:					TOTAL = 363.80

ILLINOIS DEPARTMENT OF TRANSPORTATION
201 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60196-1096

ENERGY SUPPLY CONTACT: AMADOR VELEZ
PHONE: (847) 816-5248
COMPANY: COM. EDISON

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

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION	
NAME	DATE		
		CABLE PLAN, PHASE DESIGNATION DIAGRAM EMERGENCY VEHICLE PREEMPTION SEQUENCE AND SCHEDULE OF QUANTITIES ILL. RTE. 132 AT GRANADA BLVD.	
		SCALE: VERT. 1"=20' HORIZ. DATE 5/3/2006	
		DRAWN BY: BCK DESIGNED BY: BCK CHECKED BY: DAD	

5/3/2006
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 TS	LAKE	19	15
STA.		TO STA.		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
CONTRACT NO. 62887				

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 SPECIFICATION.

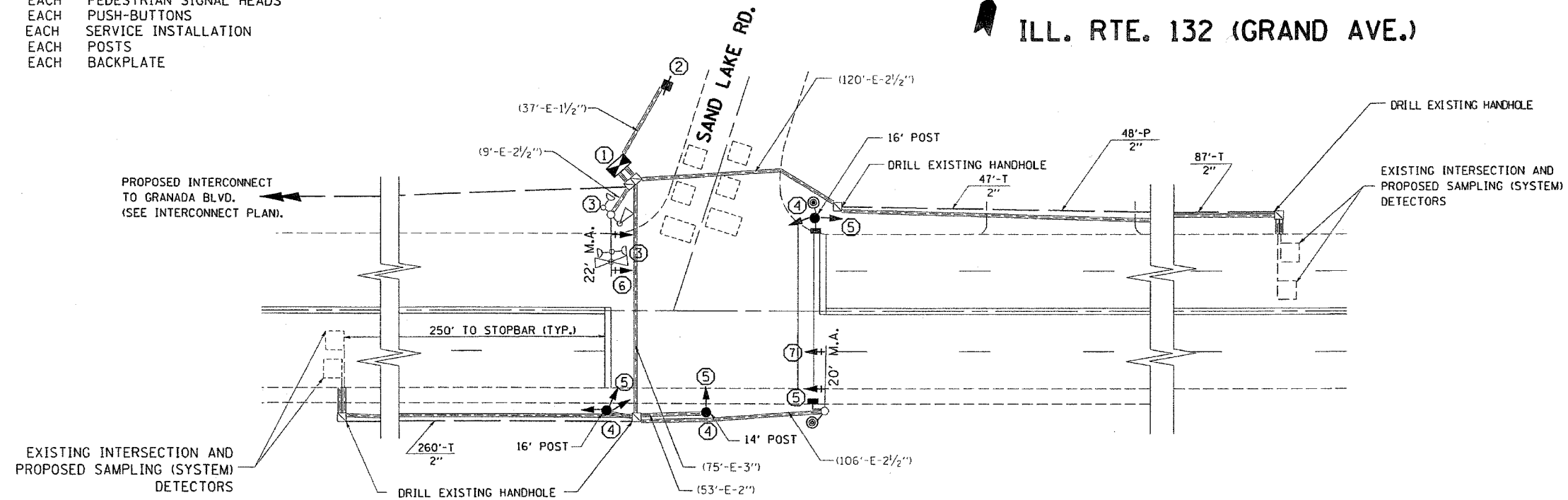
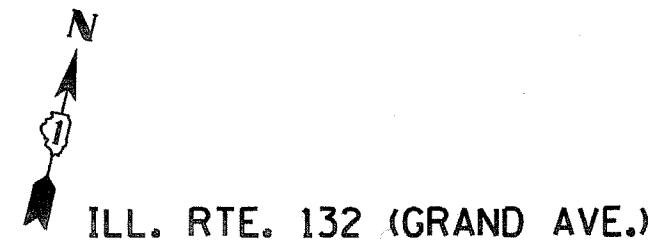
1 EACH CONTROLLER AND CABINET, COMPLETE

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

- 3 EACH SIGNAL HEADS, 3-SECTION
- 2 EACH SIGNAL HEADS, 2-FACE, 1-3 SECTION, 1-5-SECTION
- 1 EACH SIGNAL HEAD, 3-SECTIONS, M.A. MNTED.
- 1 EACH SIGNAL HEAD, 5-SECTIONS, M.A. MNTED.
- 2 EACH PEDESTRIAN SIGNAL HEADS
- 2 EACH PUSH-BUTTONS
- 1 EACH SERVICE INSTALLATION
- 3 EACH POSTS
- 2 EACH BACKPLATE

TRAFFIC SIGNAL LEGEND

	PROPOSED	EXISTING
CONTROLLER CABINET		
RAILROAD CONTROL CABINET		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT		
TELEPHONE CONNECTION		
SIGNAL HEAD		
SIGNAL HEAD WITH BACKPLATE		
SIGNAL HEAD OPTICALLY PROGRAMMED		
SIGNAL HEAD PEDESTRIAN		
ILLUMINATED SIGN "NO LEFT TURN"		
ILLUMINATED SIGN "NO RIGHT TURN"		
SIGNAL POST		
WOOD POLE		
STEEL MAST ARM ASSEMBLY AND POLE		
ALUMINUM MAST ARM ASSEMBLY AND POLE		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE		
JUNCTION BOX		
HANDHOLE		
HEAVY DUTY HANDHOLE		
DOUBLE HANDHOLE		
G.S. CONDUIT IN TRENCH OR PUSHED		
COMMON TRENCH		
UNIT DUCT		
PEDESTRIAN PUSHBUTTON DETECTOR		
DETECTOR LOOP, TYPE I		
PERFORMED DETECTOR LOOP		
EMERGENCY VEHICLE SYSTEM DETECTOR		
CONFIRMATION BEACON		



CONSTRUCTION NOTES:

- 1 REMOVE EXISTING CONTROLLER AND CABINET. INSTALL A NEW CONTROLLER TYPE IV CABINET. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM PHASING UNIT TO NEW CONTROLLER CABINET INCLUDED IN COST OF THE NEW CONTROLLER AND CABINET.
- 2 REMOVE EXISTING SERVICE CABLE AND SERVICE. INSTALL NEW SERVICE, SERVICE CABLES, AND GROUND CABLES.
- 3 RELOCATION OF THE LIGHT DETECTOR AMPLIFIERS FROM THE OLD CONTROLLER CABINET TO THE NEW CABINET IS NECESSARY. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE NEW CONTROLLER AND CABINET.
- 4 REMOVE EXISTING TRAFFIC SIGNAL POSTS AND REPLACE WITH NEW GALVANIZED STEEL POSTS USING EXISTING FOUNDATION.
- 5 REMOVE EXISTING TRAFFIC SIGNAL HEADS AND PEDESTRIAN SIGNALS AND REPLACE THEM WITH NEW L.E.D. SIGNAL.
- 6 REMOVE EXISTING TRAFFIC SIGNAL HEADS AND REPLACE WITH NEW L.E.D., 1 FACE 3-SECTION, MAST ARM MOUNTED AND TRAFFIC SIGNAL BACKPLATE.
- 7 REMOVE EXISTING TRAFFIC SIGNAL HEADS AND REPLACE WITH NEW L.E.D., 1 FACE 5-SECTION, MAST ARM MOUNTED AND TRAFFIC SIGNAL BACKPLATE.

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. 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. RESTORATION OF THE WORK AREA SHALL BE INCIDENTAL TO THE CONTRACT WITHOUT ANY EXTRA COMPENSATION ALLOWED TO THE CONTRACTOR.

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

NOTE:
ALL TRAFFIC SIGNAL HEADS SHALL BE L.E.D. (LIGHT EMITTING DIODE).

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODERNIZATION PLAN

IL. RTE. 132 AT SAND LAKE RD.

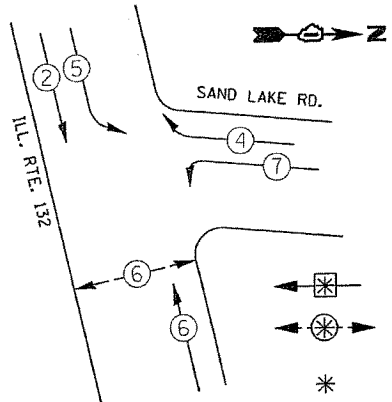
SCALE: VERT. 1"=20'
HORIZ. 1"=20'

DATE 5/3/2006

DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 TS	LAKE	19	16
STA.	TO STA.			
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
CONTRACT NO. 62887				

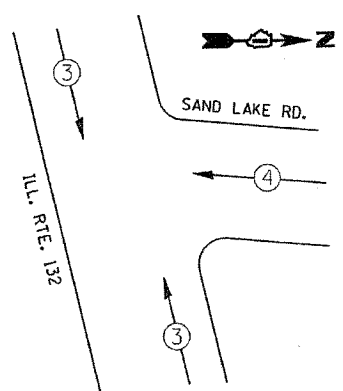
CONTROLLER SEQUENCE



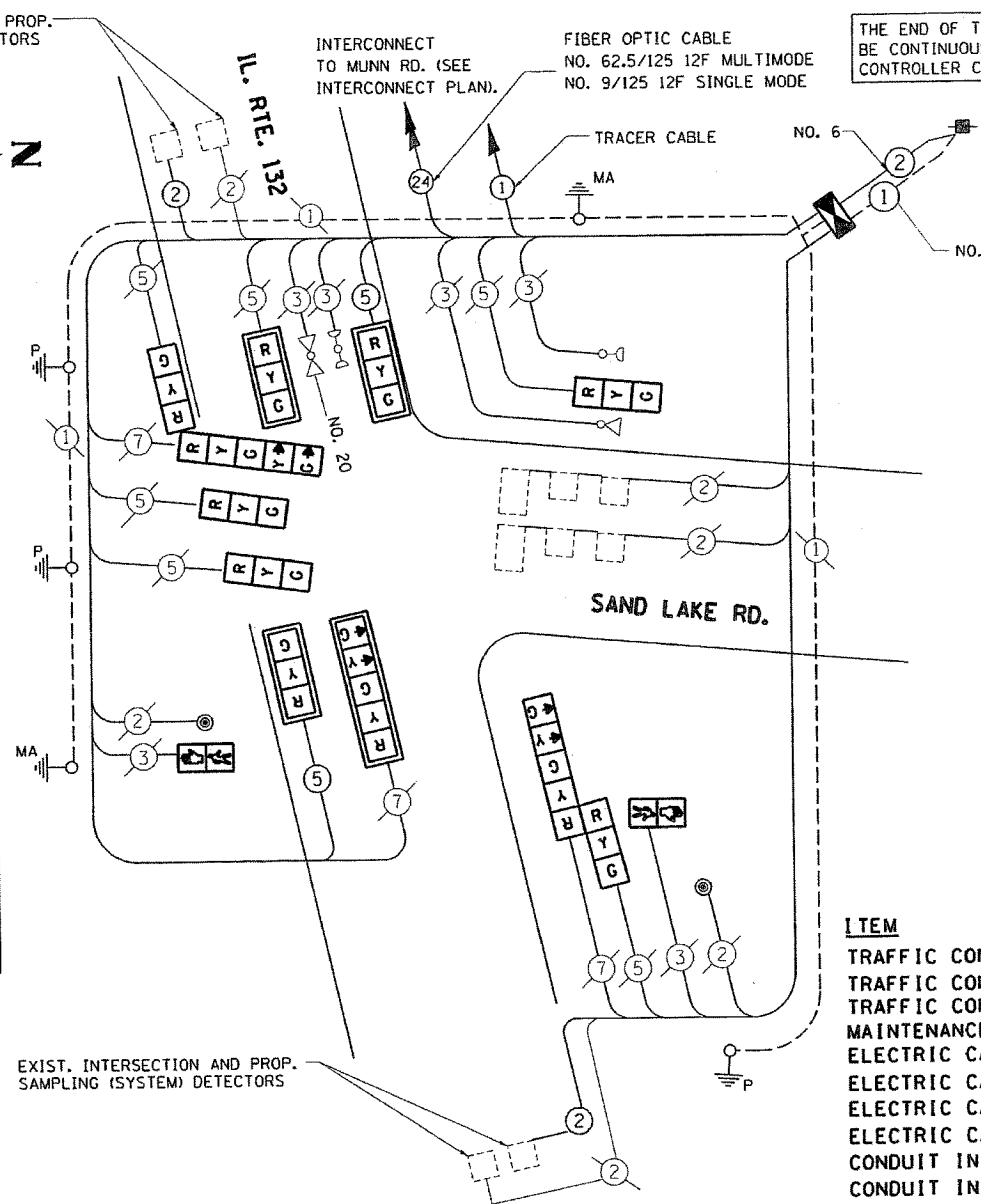
LEGEND
 * SINGLE ENTRY PHASE
 * PEDESTRIAN PHASE
 * NUMBER REFERS TO ASSOCIATED PHASE

PHASE DESIGNATION DIAGRAM

EMERGENCY VEHICLE PREEMPTION SEQUENCE



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



THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET.

CABLE PLAN LEGEND

EXISTING	PROPOSED	EXISTING	PROPOSED
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	(Symbol)	(Symbol)	(Symbol)

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	LSUM	.17
TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	LSUM	.17
TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	LSUM	.17
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING NO. 6 1 C	FOOT	37
ELECTRIC CABLE IN CONDUIT, LEAD-IN NO. 14 1 PAIR	FOOT	705
ELECTRIC CABLE IN CONDUIT, SERVICE NO. 6 2 C	FOOT	37
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	295.5
CONDUIT IN TRENCH, 2" DIA. GALVANIZED STEEL	FOOT	395
CONDUIT IN PUSH, 2" DIA. GALVANIZED STEEL	FOOT	48
TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	1
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	2
SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED.	EACH	3
SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION BRK. MNTED.	EACH	2
SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED.	EACH	3
SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED.	EACH	1
TRANSCEIVER-FIBER OPTIC	EACH	1
SERVICE INSTALLATION, POLE MOUNTED	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	37
INDUCTIVE LOOP DETECTOR	EACH	6
DRILL EXISTING HANDHOLE	EACH	4
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	4
PEDESTRIAN PUSH-BUTTON	EACH	2

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	%OPERATION	
SIGNAL (RED)	9	135	17	0.50	93.50
(YELLOW)	9	135	25	0.25	68.75
(GREEN)	9	135	15	0.25	41.25
ARROW	6	135	12	0.10	7.20
PED. SIGNAL	2	90	25	1.00	50.00
CONTROLLER	1	100	100	1.00	100.00
ILLUM. SIGN		84		0.05	
TOTAL =					360.70

ENERGY COSTS TO:
 ILLINOIS DEPARTMENT OF TRANSPORTATION
 201 WEST CENTER COURT
 SCHAUMBURG, ILLINOIS 60196-1096
 ENERGY SUPPLY CONTACT: AMADOR VELEZ
 PHONE: (847) 816-5248
 COMPANY: COM. EDISON

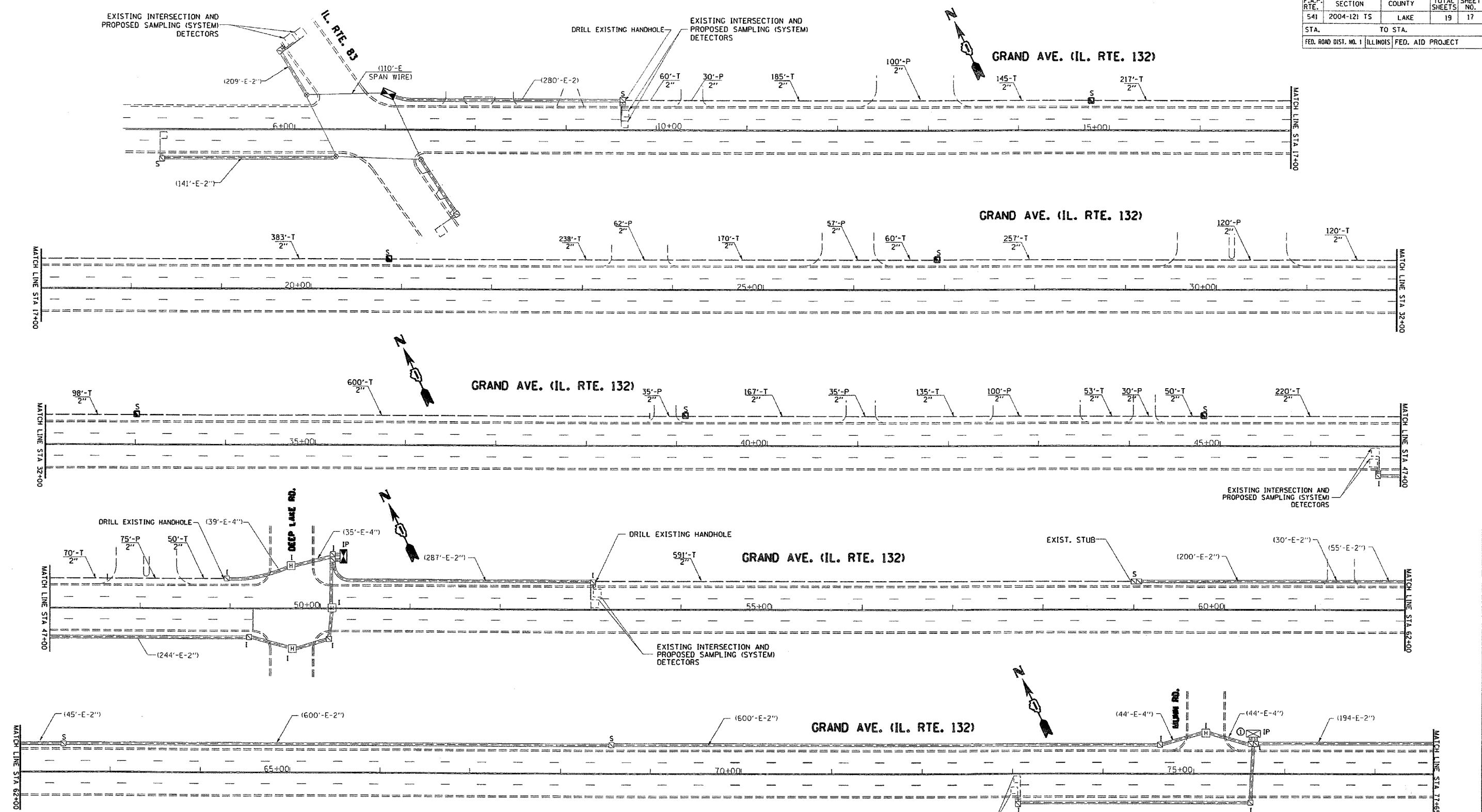
FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'-L-2" (6m+L-0.6m)±
E - M. ARM POLE		SIGNAL POST	2 (1.0)	BRACKET MOUNTED	13 (4.0)
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	PED. PUSHBUTTON	4 (1.2)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
		ELECTRIC SERVICE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
		GROUND CABLE	1 (0.5)	POST MOUNTED	6 (1.8)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 CABLE PLAN, PHASE DESIGNATION DIAGRAM,
 EMERGENCY VEHICLE PREEMPTION SEQUENCE,
 AND
 SCHEDULE OF QUANTITIES
 IL. RTE. 132 @ SAND LAKE RD.
 SCALE: VERT. 1"=20'
 HORIZ.
 DATE 5/3/2006
 DRAWN BY: BCK
 DESIGNED BY: BCK
 CHECKED BY: DAD

REF -
REF -
REF -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 TS	LAKE	19	17
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER CABINET			G.S. CONDUIT IN TRENCH OR PUSHED SYSTEM		
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT			INTERSECTION		
TELEPHONE CONNECTION			UNIT DUCT		
HANDHOLE			COMMON TRENCH		
HEAVY DUTY HANDHOLE			DETECTOR LOOP, TYPE I		
DOUBLE HANDHOLE			PREFORMED DETECTOR LOOP		

EXISTING INTERSECTION SAMPLING (SYSTEM) DETECTORS

① EXISTING CABINET CONSIST OF AN UNCONNECTED MASTER CONTROLLER. CONTRACTOR TO ACTIVATE THE MASTER CONTROLLER AS PER ENGINEER'S SPECIFICATION.

REVISIONS	
NAME	DATE

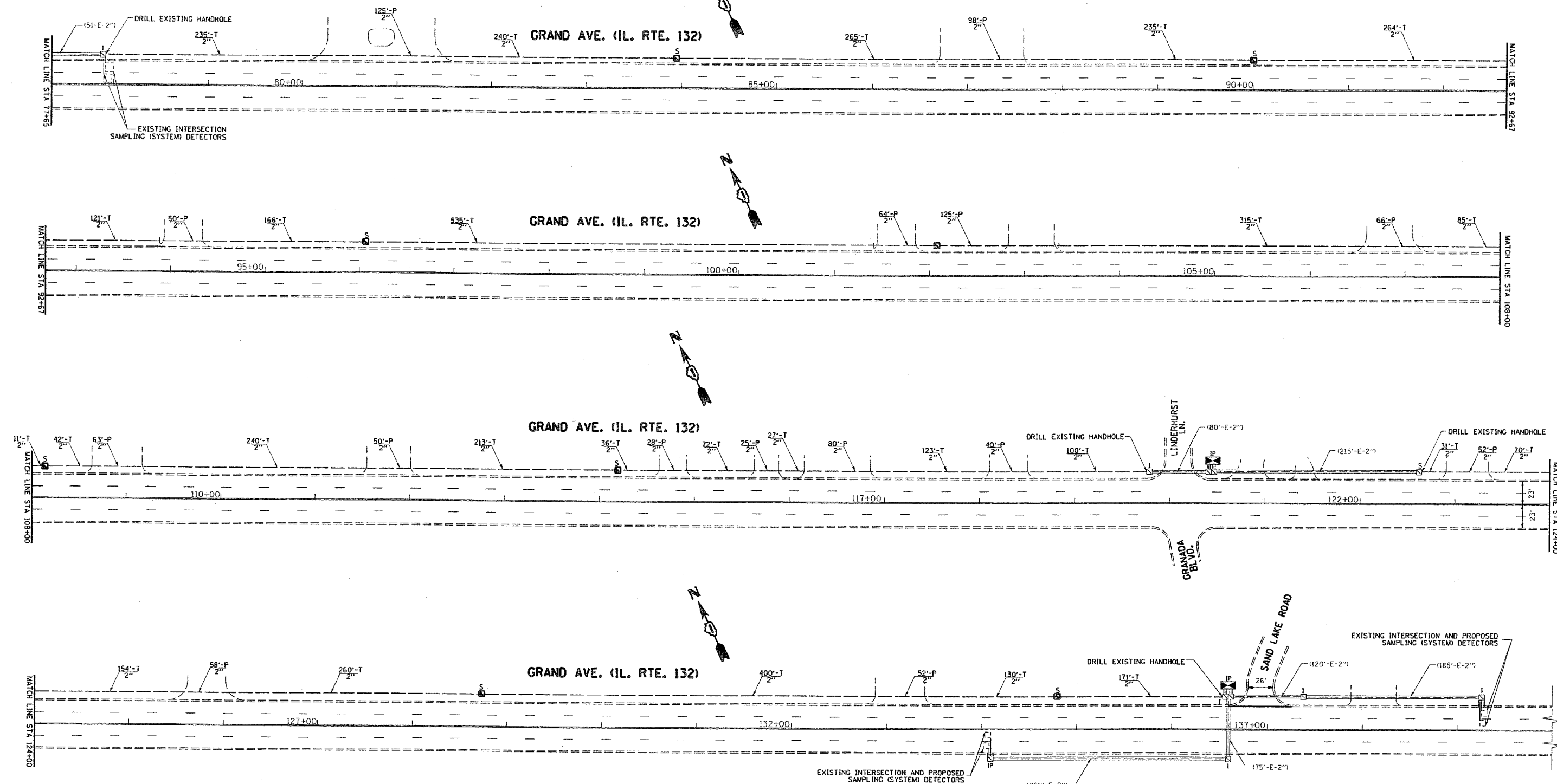
ILLINOIS DEPARTMENT OF TRANSPORTATION
ILLINOIS ROUTE 132

**ILLINOIS ROUTE 132
FROM ILL. 83 TO SANDLAKE RD.
INTERCONNECT PLAN**

SCALE: 1"=50'
DATE: 5/3/2006

DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

F.A.P. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
541	2004-121 TS	LAKE	19	18
STA.	TO STA.			
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



INTERCONNECT PLAN LEGEND

	PROPOSED	EXISTING		PROPOSED	EXISTING
CONTROLLER CABINET	[Symbol]	[Symbol]	G.S. CONDUIT IN TRENCH OR PUSHED	[Symbol]	[Symbol]
SERVICE INSTALLATION, (IP) POLE OR (CG) GROUND MOUNT	[Symbol]	[Symbol]	SYSTEM	S	
TELEPHONE CONNECTION	[Symbol]	[Symbol]	INTERSECTION	IP	I
HANDHOLE	[Symbol]	[Symbol]	UNIT DUCT	UD	
HEAVY DUTY HANDHOLE	[Symbol]	[Symbol]	COMMON TRENCH	CT	
DOUBLE HANDHOLE	[Symbol]	[Symbol]	DETECTOR LOOP, TYPE I	[Symbol]	[Symbol]
			PREFORMED DETECTOR LOOP	[Symbol]	[Symbol]

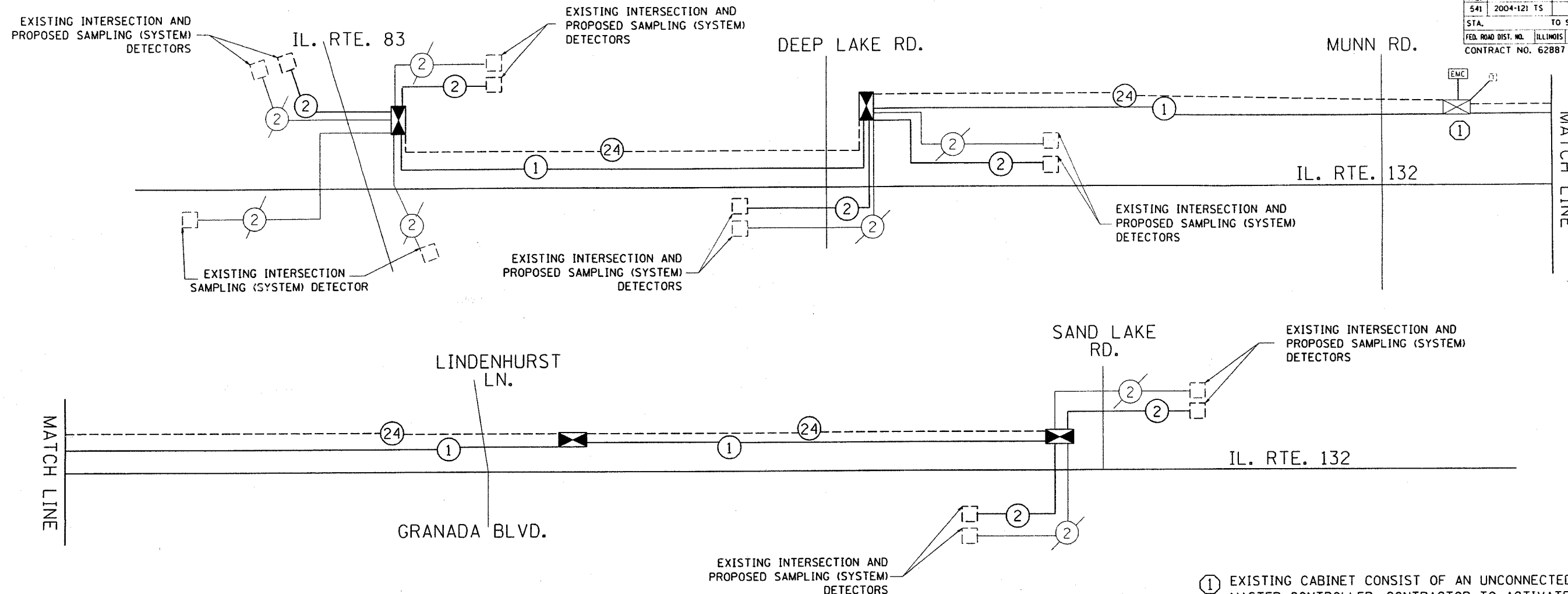
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
ILLINOIS ROUTE 132
**ILLINOIS ROUTE 132
FROM ILL. 83 TO SANDLAKE RD.
INTERCONNECT PLAN**

SCALE: 1"=50'
DATE 5/3/2006

DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD

5/3/2006
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kanthphixaybc



INTERCONNECT SCHEMATIC LEGEND

	PROPOSED	EXISTING
INTERSECTION CONTROLLER		
MASTER CONTROLLER		
MASTER MASTER CONTROLLER		
TELEPHONE CONNECTION		
INTERSECTION & SAMPLING (SYSTEM) DETECTORS		
PERFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS		
EXISTING INTERSECTION LOOP DETECTORS, PROPOSED SAMPLING (SYSTEM) DETECTORS		
SAMPLING (SYSTEM) DETECTORS		
SAMPLING (SYSTEM) PERFORMED DETECTORS		
EXISTING SAMPLING (SYSTEM) DETECTORS; PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS.		
EXISTING SAMPLING (SYSTEM) DETECTORS, PROPOSED SAMPLING (SYSTEM) DETECTORS		
FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED		
INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED		
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, 1 PAIR		
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE		

SCHEDULE OF QUANTITIES

QUANTITY	UNIT	ITEM
.15	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501
.15	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701
.15	L SUM	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801
8428	FOOT	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
1620	FOOT	CONDUIT PUSH, 2" DIA., GALVANIZED STEEL
14	EACH	HANDHOLE
12847	FOOT	ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1C
12847	FOOT	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125 MM12F & SM12F
7	EACH	DRILL EXISTING HANDLOLE
8428	FOOT	TRENCH AND BACKFILL FOR ELECTRICAL WORK
1	L SUM	OPTIMIZED TRAFFIC SIGNAL SYSTEM

① EXISTING CABINET CONSIST OF AN UNCONNECTED MASTER CONTROLLER. CONTRACTOR TO ACTIVATE THE MASTER CONTROLLER AS PER ENGINEER'S SPECIFICATION.

THE COST SHALL BE INCLUDED IN THE OPTIMIZATION PAY ITEM.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		INTERCONNECT SCHEMATIC IL. RTE. 132 @ IL. RTE. 83

SCALE: VERT. 1"=20'
HORIZ. 1"=200'
DATE 5/16/2006

DRAWN BY: BCK
DESIGNED BY: BCK
CHECKED BY: DAD