

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1332	2004-022TS	COOK	20	1
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
D-91-175-04				

INDEX OF SHEETS

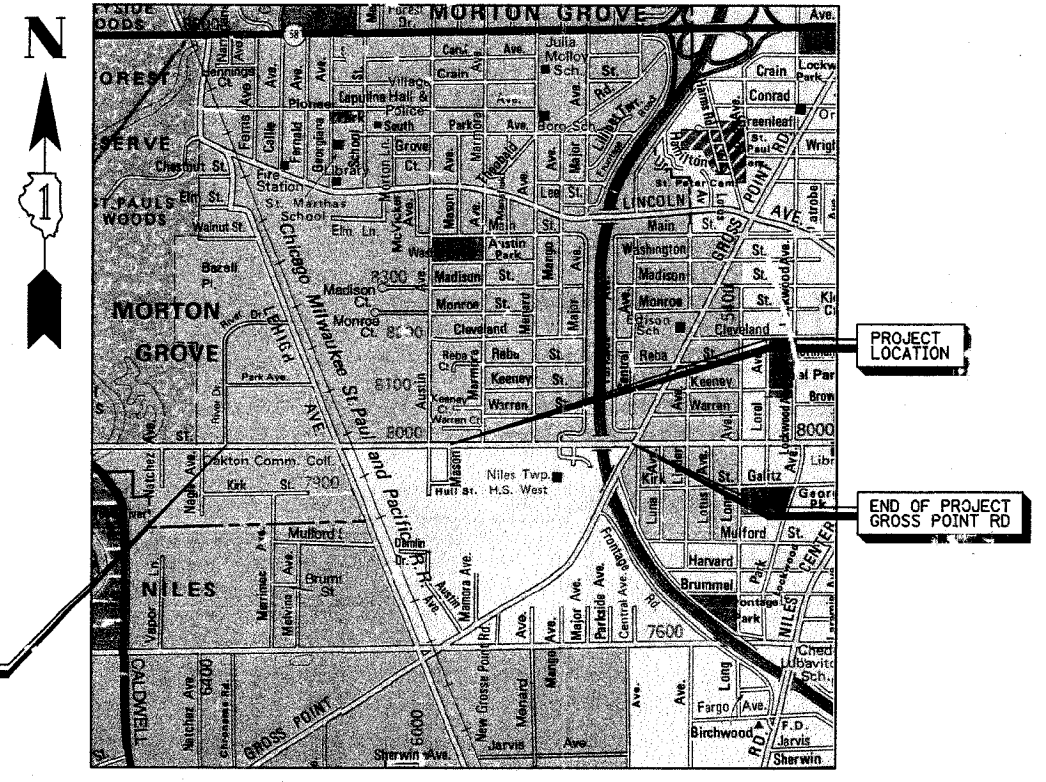
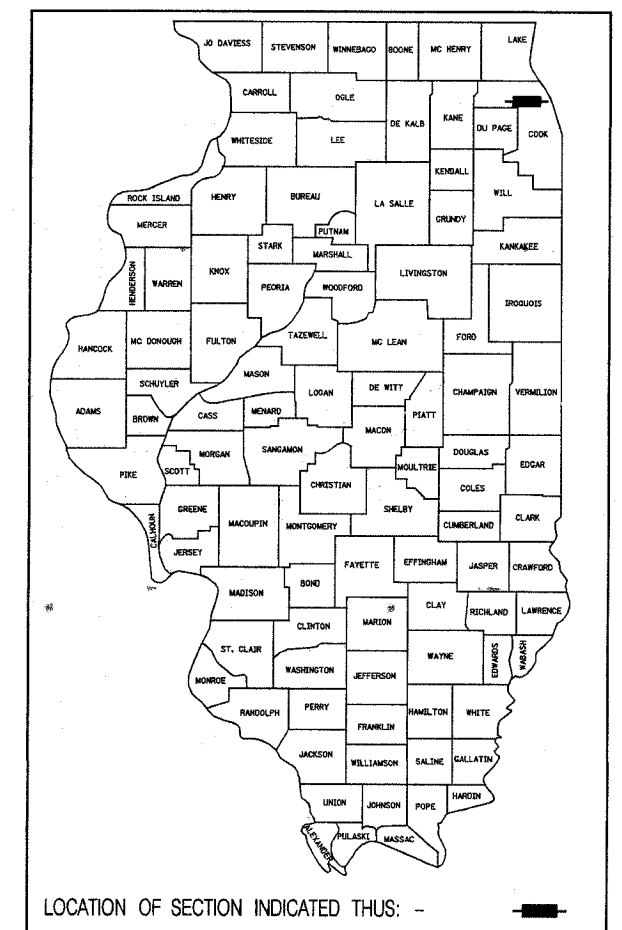
SHEET NO.	DESCRIPTION
1.	TITLE SHEET
2.	SUMMARY OF QUANTITIES OAKTON STREET FROM RIVER DRIVE TO GROSS POINT ROAD
3, 4, 5, & 6.	STANDARD TRAFFIC SIGNAL DESIGN DETAILS
7.	TRAFFIC SIGNAL MODIFICATION PLAN OAKTON STREET AT RIVER DRIVE
8.	CABLE PLAN, PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE PREEMPTION SEQUENCE AND SCHEDULE OF QUANTITIES OAKTON STREET AT RIVER DRIVE
9.	TRAFFIC SIGNAL MODIFICATION PLAN OAKTON STREET AT LEHIGH AVENUE
10.	CABLE PLAN AND SCHEDULE OF QUANTITIES OAKTON STREET AT LEHIGH AVENUE
11.	SEQUENCE OF OPERATION, RAILROAD PREEMPTION SEQUENCE OF OPERATION AND EMERGENCY VEHICLE PREEMPTION SEQUENCE OAKTON STREET AT LEHIGH AVENUE
12.	TRAFFIC SIGNAL MODIFICATION AND REMOVAL PLAN OAKTON STREET AT AUSTIN AVENUE
13.	CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES OAKTON STREET AT AUSTIN AVENUE
14.	TRAFFIC SIGNAL MODIFICATION AND REMOVAL PLAN OAKTON STREET AT MENARD AVENUE
15.	CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES OAKTON STREET AT MENARD AVENUE
16.	TRAFFIC SIGNAL MODIFICATION AND REMOVAL PLAN OAKTON STREET AT GROSS POINT ROAD
17.	CABLE PLAN AND SCHEDULE OF QUANTITIES OAKTON STREET AT GROSS POINT ROAD
18. & 19.	INTERCONNECT PLAN OAKTON STREET FROM RIVER DRIVE TO GROSS POINT ROAD
20.	INTERCONNECT SCHEMATIC OAKTON STREET FROM RIVER DRIVE TO GROSS POINT ROAD

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

SCALES { PLAN 1" = 20' AND 1" = 50'
 PROFILE HORIZ. N.A.
 PROFILE VERT. N.A.
 CROSS SECTION N.A.

DISTRICT 1
CONGESTION MITIGATION AIR QUALITY
FIBER OPTIC COMMUNICATIONS NETWORK
OAKTON STREET
FROM RIVER DRIVE TO GROSS POINT ROAD
F.A.U. ROUTE 1332
SECTION 2004-022TS
C-91-175-04



STANDARD DRAWINGS

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

NOTE: STANDARD DRAWINGS REQUIRED (CIRCLED).

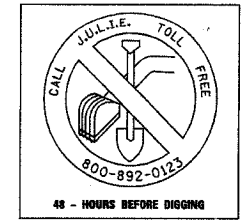
CONTRACT NO. 62741
 PREPARED BY: Terry Rammacher 3/14/05
 TRAFFIC ENGINEER DATE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED March 14 20 05
Deanne M. O'Keefe
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 13, 20 05
Mike Hine
 ENGINEER OF DESIGN AND ENVIRONMENT

May 13, 20 05
Victor Mader
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER



PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

BUREAU OF TRAFFIC: TERRY RAMMACHER / DARYLE DREW 847-705-4420

PERCENTAGES									
LOCATION OF WORK									
SUMMARY OF QUANTITIES									
CODE NO.	ITEM	UNIT	TOTAL	CONSTRUCTION TYPE CODE					
				Y 031-1F	Y 031-1F	Y 031-1F	Y 031-1F	Y 031-1F	Y 031-1F
67100100	MOBILIZATION	L.SUM	1	0.15	0.15	0.15	0.15	0.15	0.25
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L.SUM	1	0.15	0.15	0.15	0.15	0.15	0.25
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L.SUM	1	0.15	0.15	0.15	0.15	0.15	0.25
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L.SUM	1	0.15	0.15	0.15	0.15	0.15	0.25
81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	3957		15				3942
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	448						448
81100600	CONDUIT ATTACHED TO STRUCTURE, 2" DIA., GALVANIZED STEEL	FOOT	260						260
81400100	HANDHOLE	EACH	5						5
81500200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	3981		15				3966
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	5	1	1	1	1	1	
*88700200	LIGHT DETECTOR	EACH	9		2	2	2	3	
*88700300	LIGHT DETECTOR AMPLIFIER	EACH	4		1	1	1	1	
85700200	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	4	1		1	1	1	
85700300	FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	1		1				
86000100	MASTER CONTROLLER	EACH	1						1
86400100	TRANSCEIVER-FIBER OPTIC	EACH	5	1	1	1	1	1	
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C	FOOT	412			245	167		
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C	FOOT	2753		570	687	873	623	
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	2235	772			713	750	
X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	539	62	114	216	25	122	
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	5	1	1	1	1	1	
87900200	DRILL EXISTING HANDHOLE	EACH	20				4		16
*87502520	TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT.	EACH	2				1	1	
88000160	SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	8		2	1		5	
X8800035	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	3				3		
88000420	SIGNAL HEAD, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2			2			
X8800060	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2				2		
X8805280	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1				1		
X8805320	SIGNAL HEAD, LED, 3-FACE, 2-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	1				1		
X8800045	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	2				2		
88100200	PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED	EACH	4					4	
X8810610	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	10			6	4		
88100400	PEDESTRIAN SIGNAL HEAD, 2-FACE, BRACKET MOUNTED	EACH	2					2	
X8810620	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	EACH	2				2		
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	2				2		
88500100	INDUCTIVE LOOP DETECTOR	EACH	44	10	8	8	7	11	
88600100	DETECTOR LOOP, TYPE 1	FOOT	122				122		
88800100	PEDESTRIAN PUSH-BUTTON	EACH	11			5	6		
X8050015	SERVICE INSTALLATION, POLE MOUNTED	EACH	5	1	1	1	1	1	
X0322925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	5599						5599
X8710020	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F	FOOT	5599						5599
*X8730250	ELECTRIC CABLE IN CONDUIT, NO. 20 3/C, TWISTED, SHIELDED	FOOT	1757		570	422	353	412	
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L.SUM	1						1

* - 100% COST TO VILLAGE OF MORTON GROVE - Y031-30

Rev. 5-26-05

SETON ENGINEERING
 CONSULTING SERVICE CORPORATION
 CIVIL ENGINEERS
 19 S. BOTHWELL STREET
 PALATINE, ILLINOIS 60067
 VOICE: 847-776-7200 FAX: 847-776-7239
 SETON PROJECT # 200409-00-06

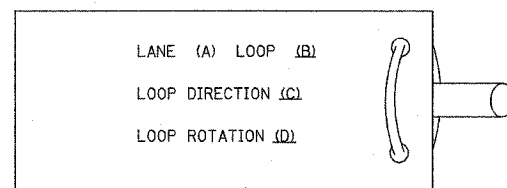
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUMMARY OF QUANTITIES
 OAKTON STREET
 FROM RIVER DRIVE TO GROSS POINT ROAD
 MORTON GROVE, IL
 SCALE: NONE
 DATE 09-20-2004
 DRAWN BY BR
 DESIGNED BY VO
 CHECKED BY TJM

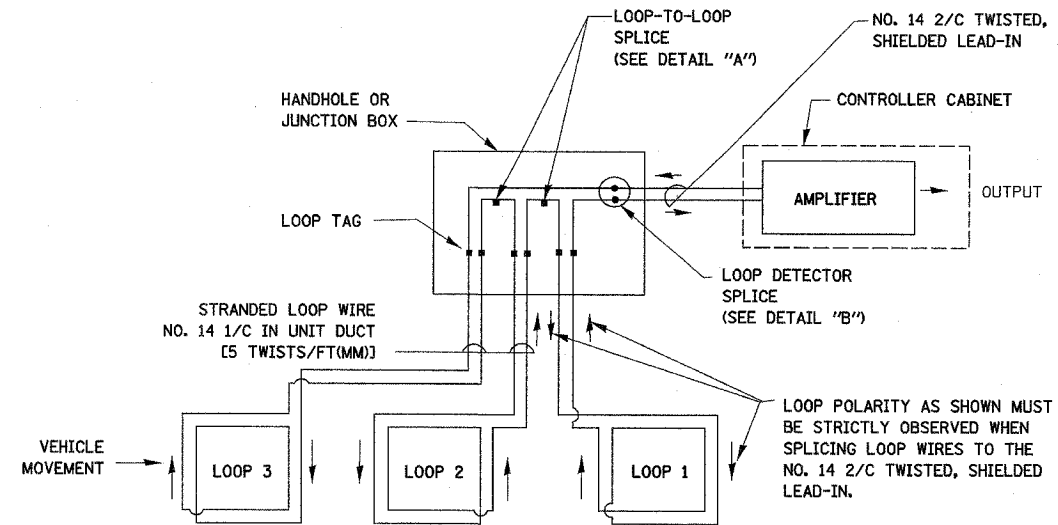
LOOP DETECTOR NOTES

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

LOOP LEAD-IN CABLE TAG

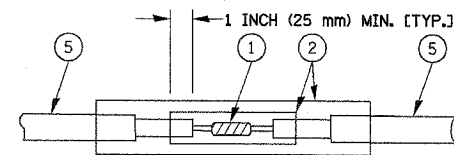


- LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

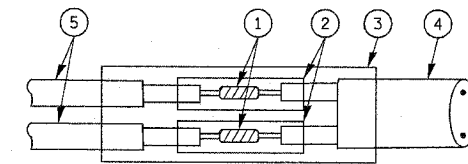


DETECTOR LOOP WIRING SCHEMATIC

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



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

- 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

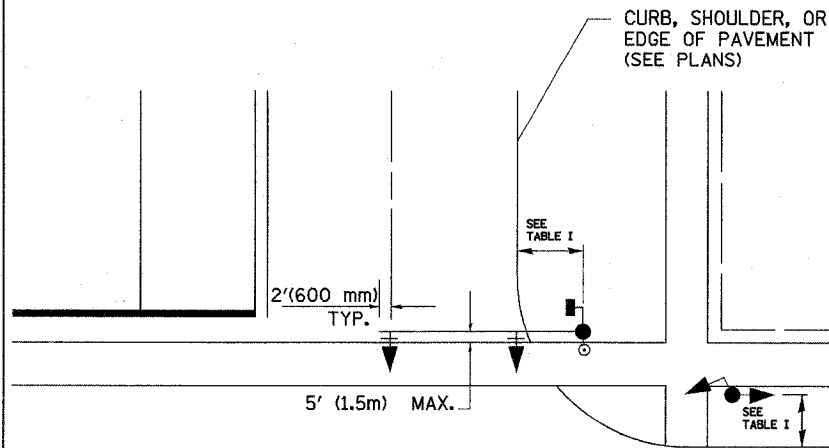
ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

SCALE: VERT. NONE
HORIZ. NONE
DATE 03-19-2004

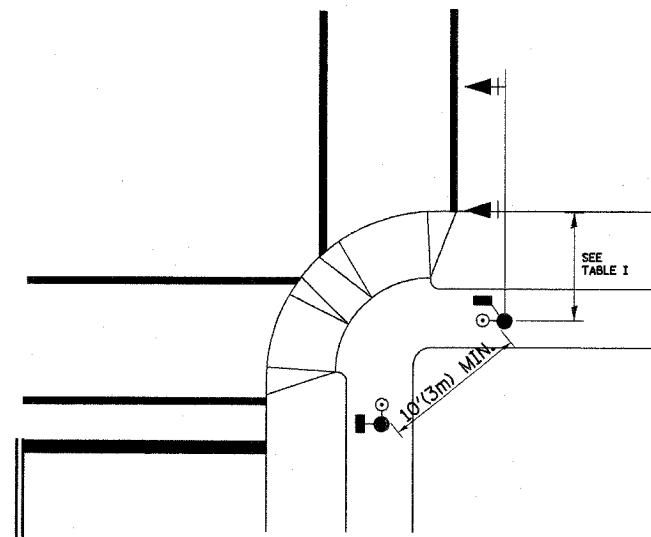
DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 1 OF 4

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

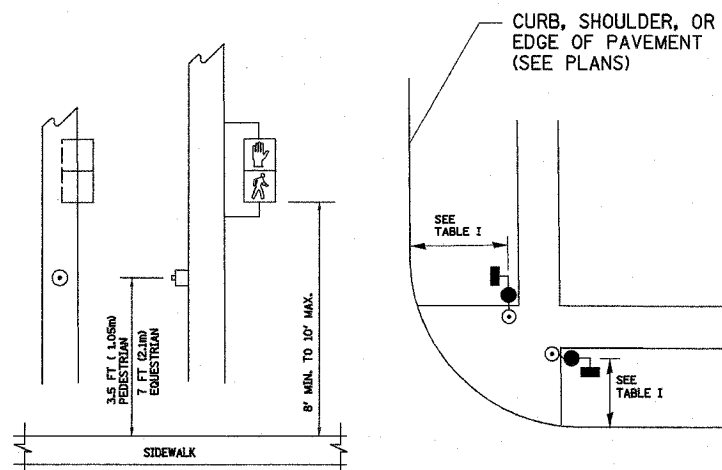


TABLE I

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

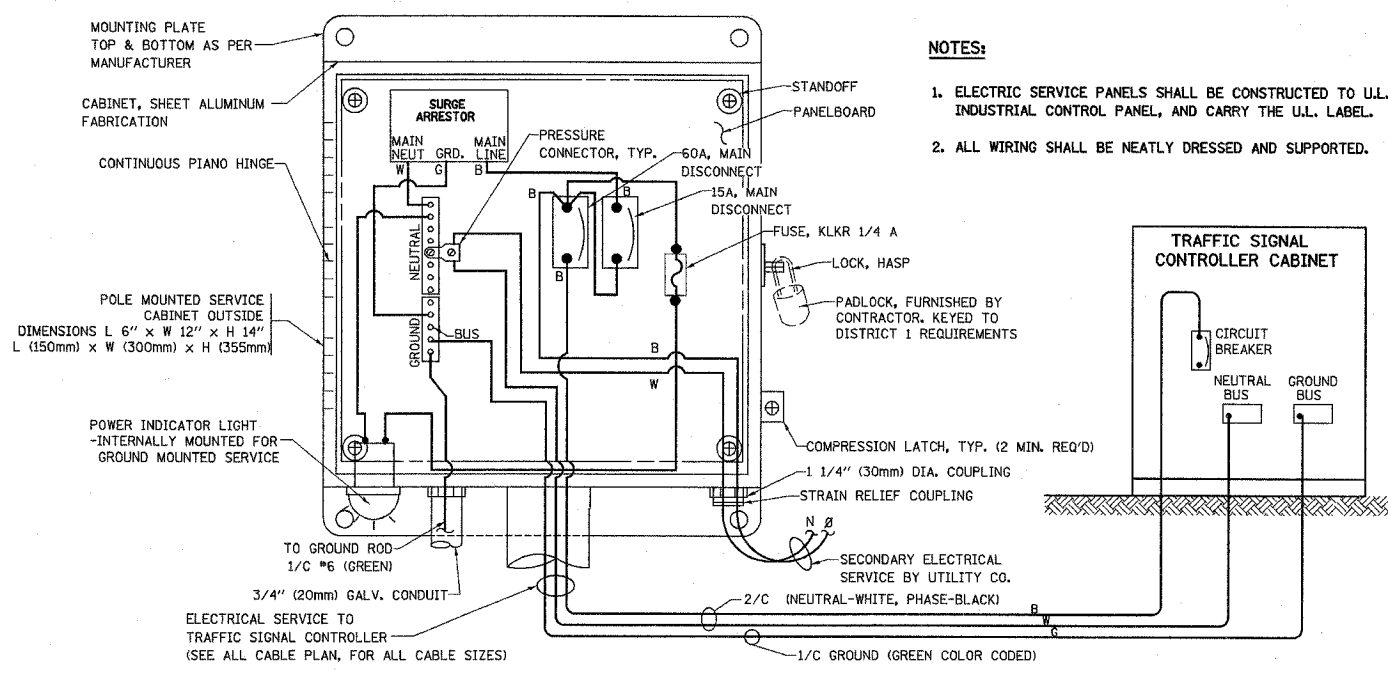
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

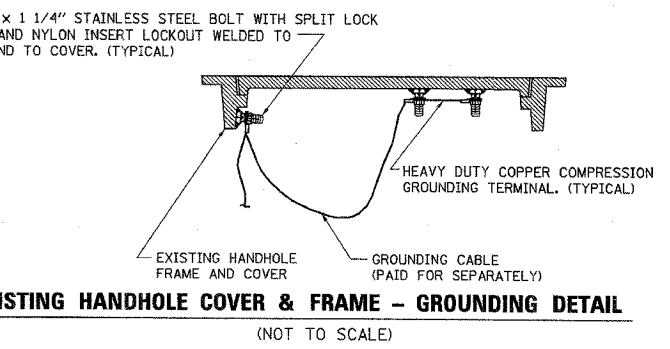
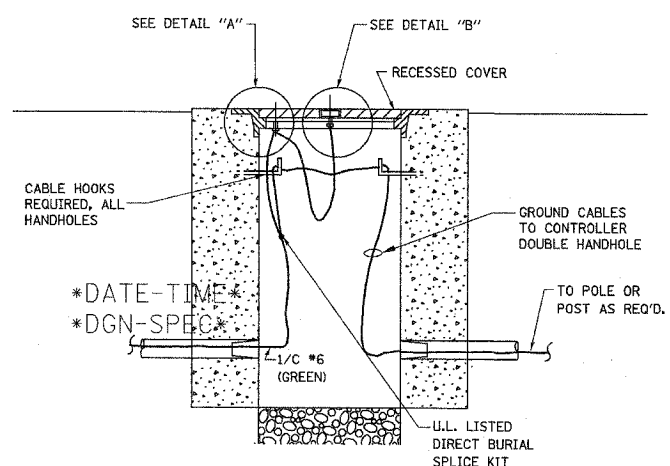
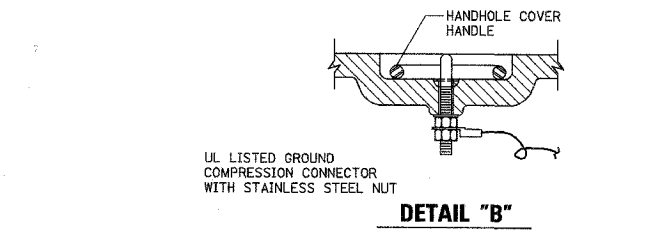
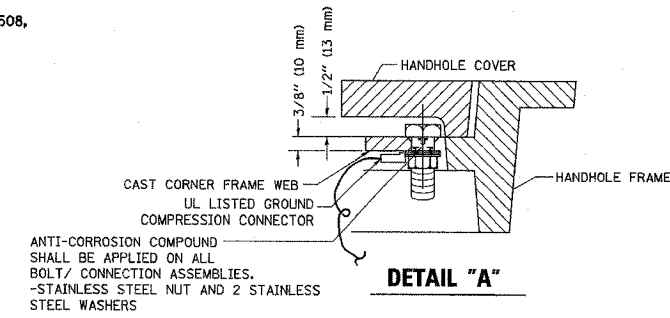
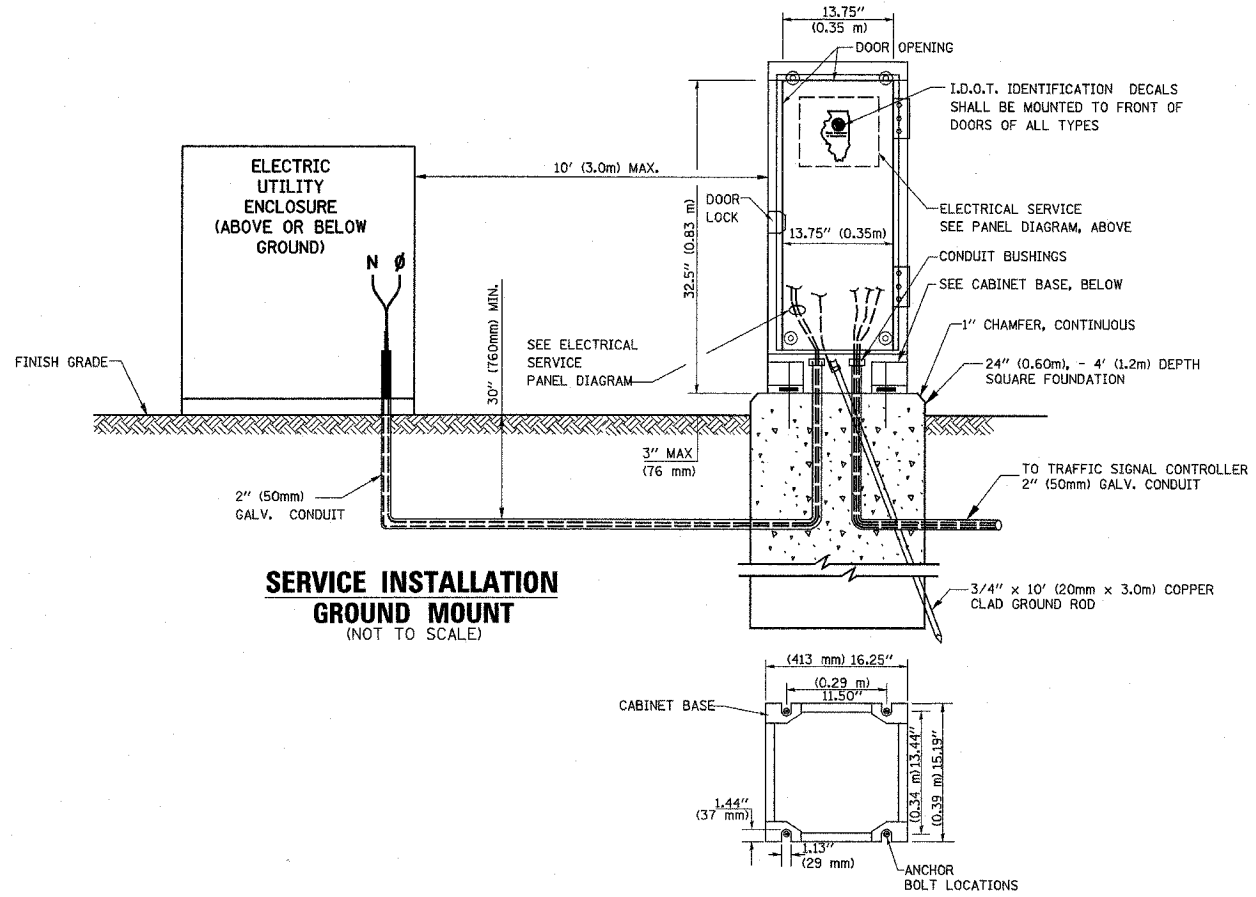
SCALE: VERT. NONE
HORIZ. NONE
DATE 03-19-2004

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

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1332	2004-022TS	COOK	20	5
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
CONTRACT NO. 62741				



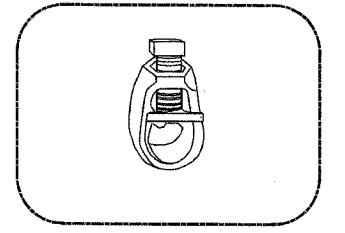
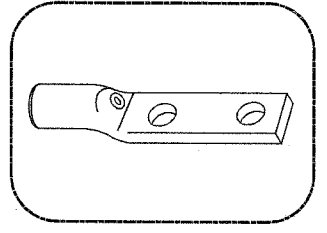
ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)
SERVICE INSTALLATION POLE MOUNT (SHOWN)
 (NOT TO SCALE)



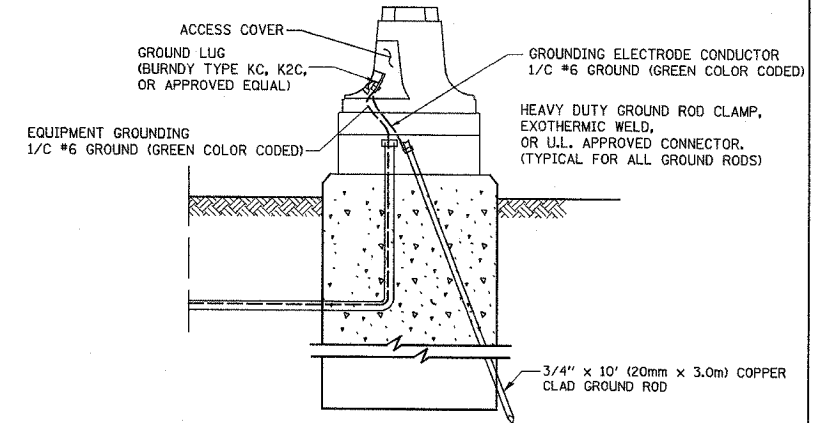
NOTES:

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



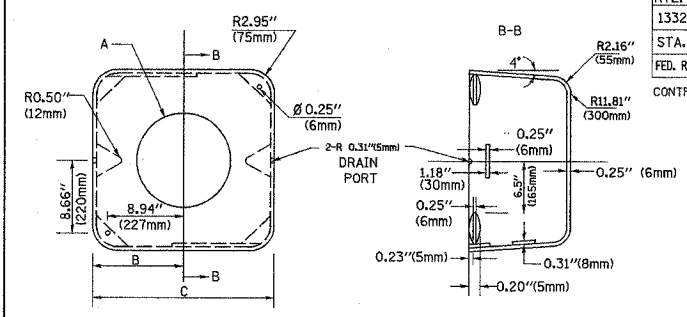
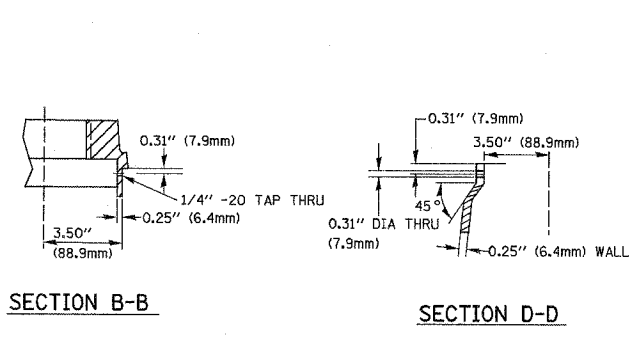
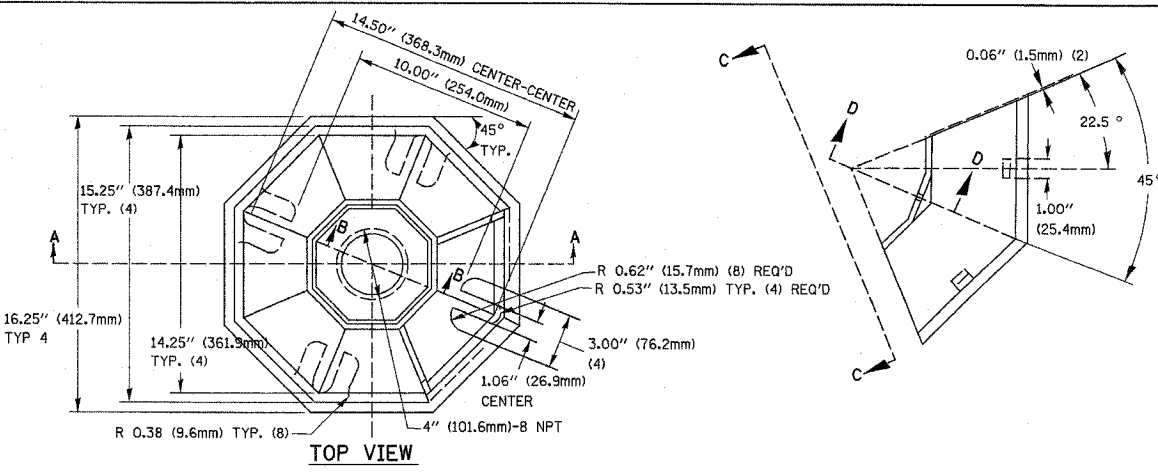
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 DISTRICT ONE
 STANDARD TRAFFIC SIGNAL
 DESIGN DETAILS

SCALE: VERT. NONE
 HORIZ. NONE
 DATE 03-19-2004

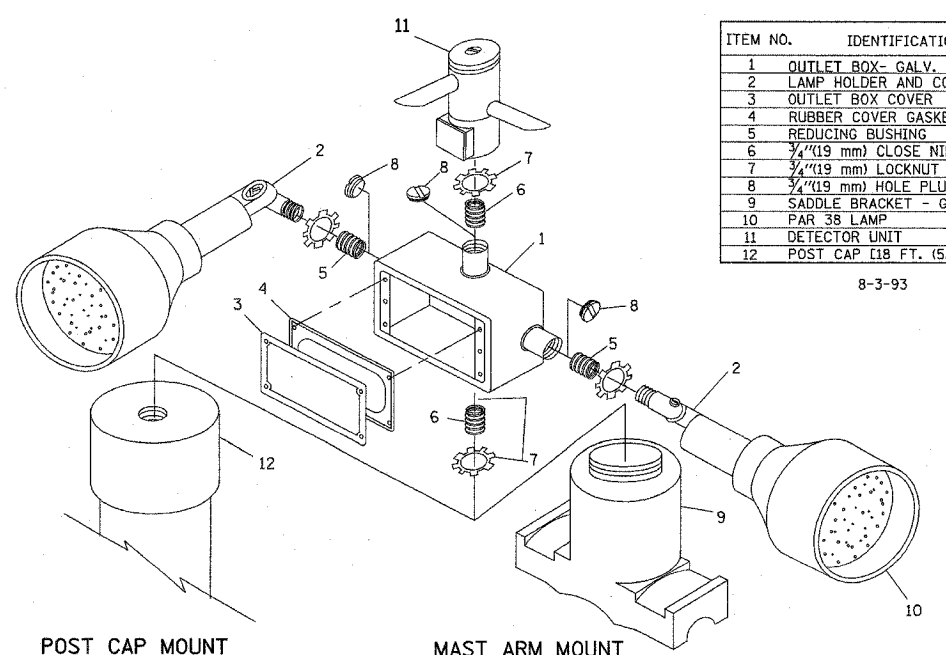
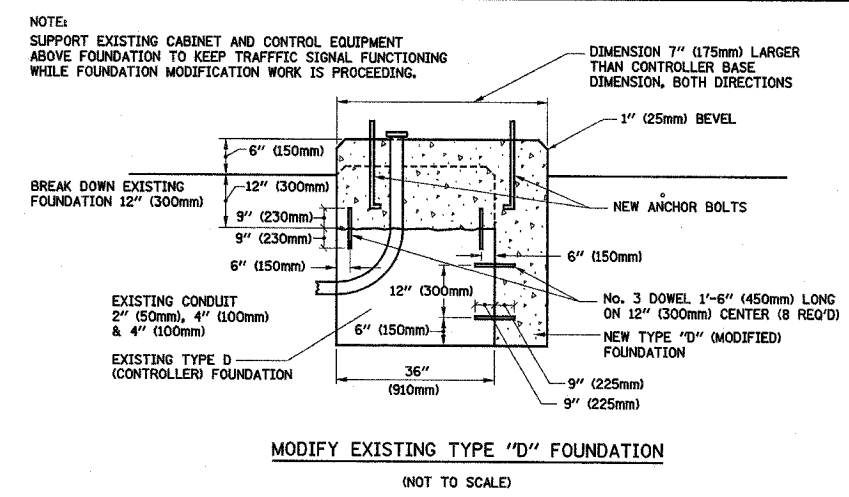
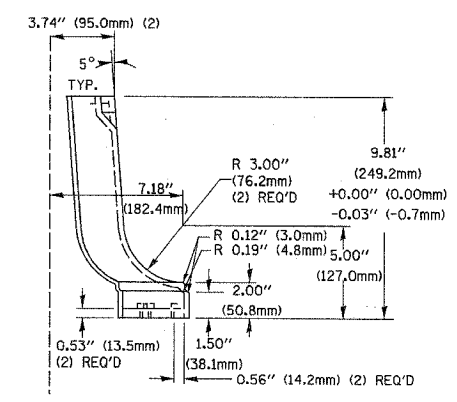
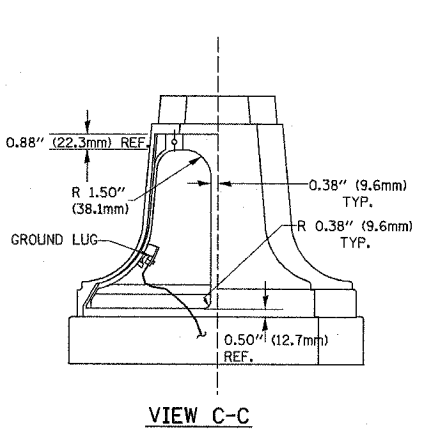
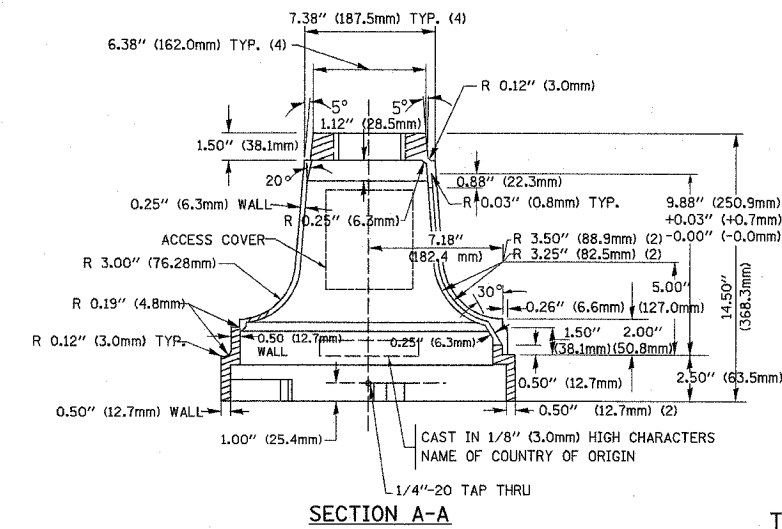
DRAWN BY: RWP
 DESIGNED BY: DAD
 CHECKED BY: DAZ
 SHEET 3 OF 4

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1332	2004-022TS	COOK	20	6
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 62741				



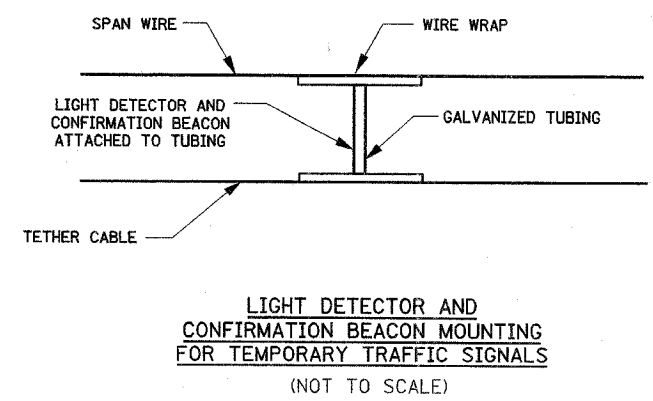
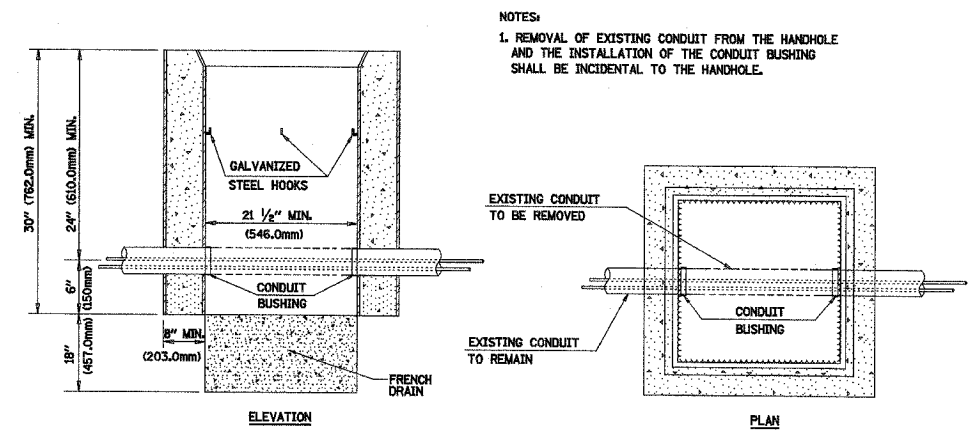
TYPE	A	B	C	HEIGHT	WEIGHT
I	Ø 10.125\"(257mm)	9.5\"(241mm)	19\"(483mm)	12\"(300mm)	24kg
II	Ø 11.125\"(283mm)	10.75\"(273mm)	21.5\"(546mm)	12\"(300mm)	26kg

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



ITEM NO.	IDENTIFICATION
1	OUTLET BOX - GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\"(19 mm) CLOSE NIPPLE
7	3/4\"(19 mm) LOCKNUT
8	3/4\"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	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.



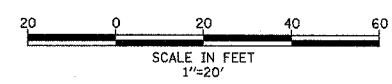
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 DISTRICT ONE
 STANDARD TRAFFIC SIGNAL
 DESIGN DETAILS

SCALE: VERT. NONE
 HORIZ. NONE
 DATE 03-19-2004

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

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1332	2004-022TS	COOK	20	7
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 62741				

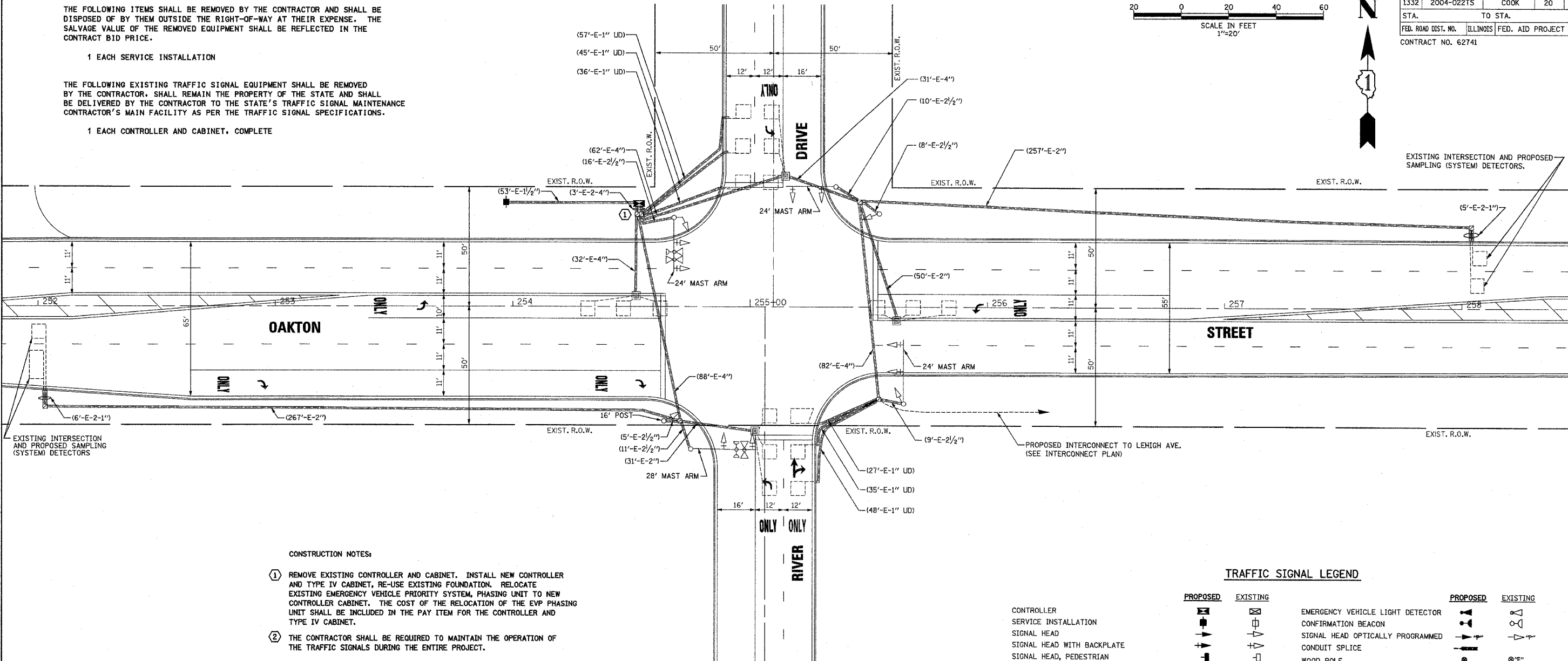


THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

1 EACH SERVICE INSTALLATION

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

1 EACH CONTROLLER AND CABINET, COMPLETE



CONSTRUCTION NOTES:

- ① REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, RE-USE EXISTING FOUNDATION. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT TO NEW CONTROLLER CABINET. THE COST OF THE RELOCATION OF THE EVP PHASING UNIT SHALL BE INCLUDED IN THE PAY ITEM FOR THE CONTROLLER AND TYPE IV CABINET.
- ② THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.

TRAFFIC SIGNAL LEGEND

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

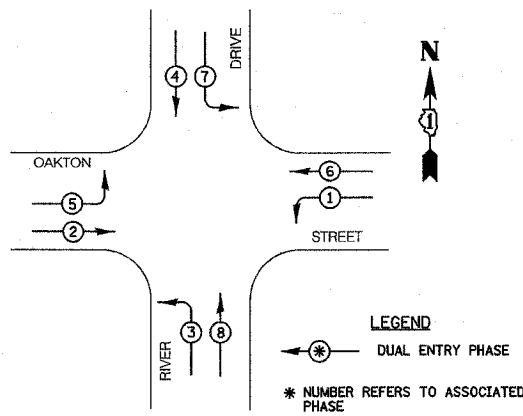
SETON ENGINEERING
 A SERVICE CORPORATION
 CIVIL ENGINEERS
 19 S. BOWWELL STREET
 PALATINE, ILLINOIS 60067
 VOICE: 847-776-7200 FAX: 847-776-7239

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC SIGNAL MODIFICATION PLAN
 OAKTON STREET AT RIVER DRIVE
 MORTON GROVE, ILLINOIS
 SCALE: 1"=20'
 DATE: 09-20-2004
 DRAWN BY: BR
 DESIGNED BY: VO
 CHECKED BY: TJM

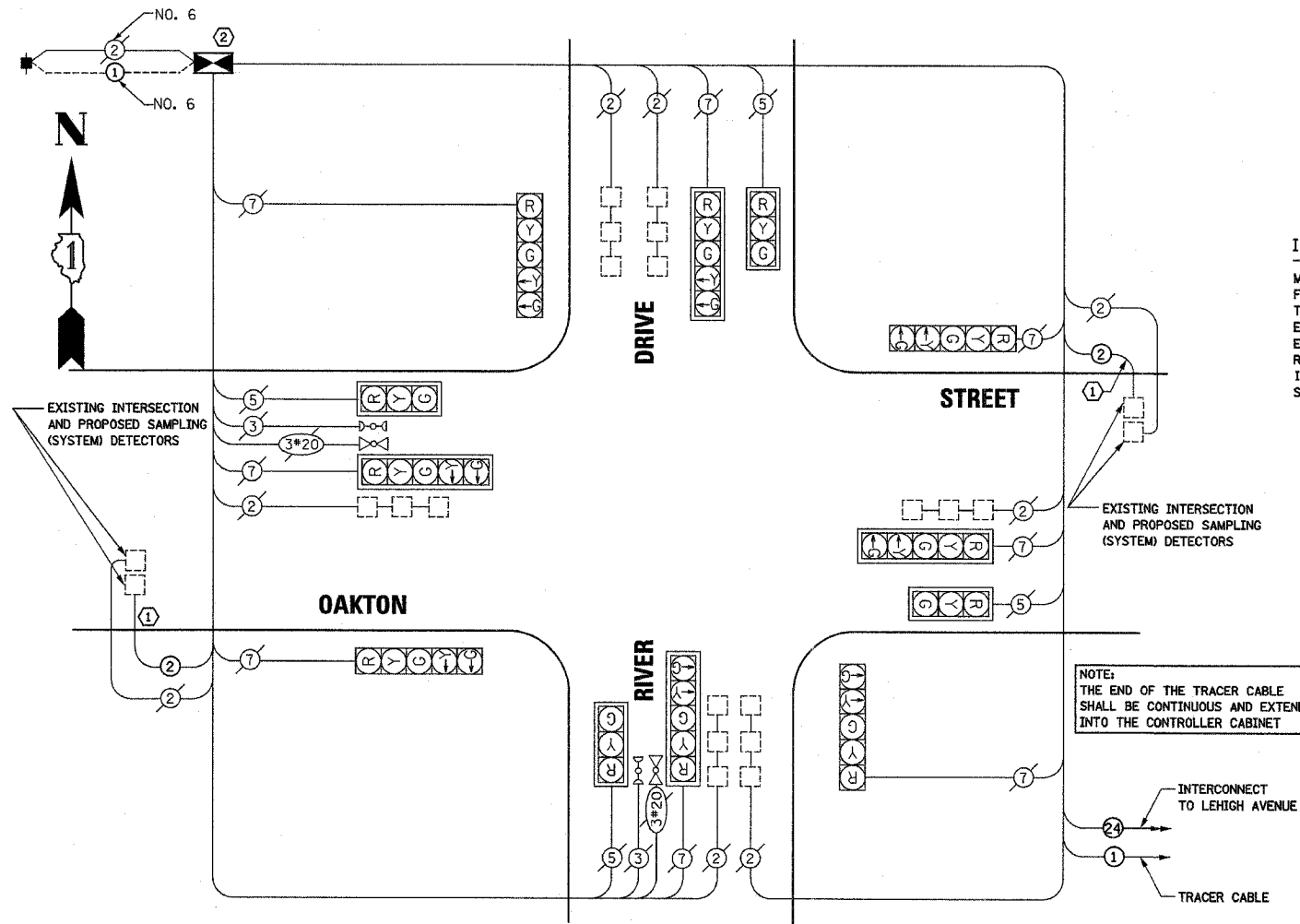
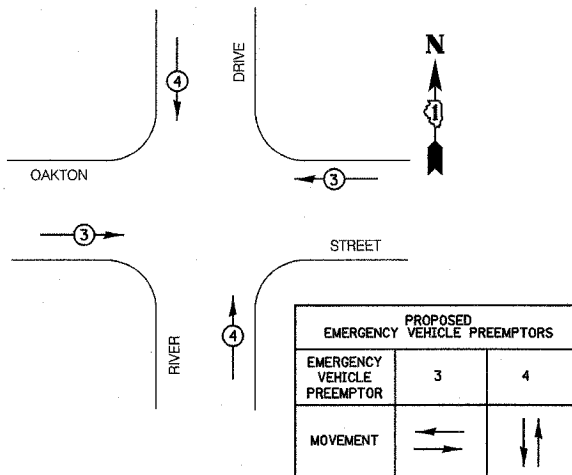
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1332	2004-022TS	COOK	20	8
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 62741				

CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM

EMERGENCY VEHICLE PREEMPTION SEQUENCE



SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1
TRANSCEIVER-FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	772
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	62
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
INDUCTIVE LOOP DETECTOR	EACH	10
SERVICE INSTALLATION, POLE MOUNTED	EACH	1

- CONSTRUCTION NOTES:**
- INSTALL NEW ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO.14, 1 PAIR
 - REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, RE-USE EXISTING FOUNDATION. RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM PHASING UNIT TO NEW CONTROLLER CABINET. THE RELOCATION OF THE EVP PHASING UNIT SHALL BE INCLUDED IN THE COST OF THE CONTROLLER CABINET ITEM.
 - THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.

CABLE PLAN LEGEND

EXISTING	PROPOSED	DESCRIPTION
Ⓜ	Ⓜ	8" (200mm) TRAFFIC SIGNAL SECTION
Ⓡ	Ⓡ	12" (300mm) TRAFFIC SIGNAL SECTION
Ⓦ	Ⓦ	12" (300mm) PEDESTRIAN SIGNAL SECTION
Ⓢ	Ⓢ	12" (300mm) PEDESTRIAN SIGNAL SECTION
Ⓢ	Ⓢ	CONTROLLER CABINET
Ⓢ	Ⓢ	SERVICE INSTALLATION
Ⓢ	Ⓢ	TELEPHONE CONNECTION
Ⓢ	Ⓢ	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 MM12F SM12F
Ⓢ	Ⓢ	Ⓢ 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
Ⓢ	Ⓢ	Ⓢ MICROWAVE VEHICLE SENSOR

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	OPERATION	
SIGNAL (RED)	12	135		0.50	810
(YELLOW)	12	135		0.25	405
(GREEN)	12	135		0.25	405
ARROW	16	135		0.10	216.0
PED. SIGNAL	-	-		-	-
CONTROLLER	1	100		1.00	100.0
TOTAL =					2152

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

SETON ENGINEERING
 TRAFFIC SERVICE CORPORATION
 CIVIL ENGINEER
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 PALATINE, ILLINOIS 60067
 VOICES: 847-776-7200 FAX: 847-776-7239
 SETON PROJECT # 2002001-001-206

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**CABLE PLAN, PHASE DESIGNATION DIAGRAM
 EMERGENCY VEHICLE PREEMPTION SEQUENCE
 AND SCHEDULE OF QUANTITIES**
OAKTON STREET AT RIVER DRIVE
 MORTON GROVE, ILLINOIS

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

DRAWN BY: BR
 DESIGNED BY: VO
 CHECKED BY: TJM

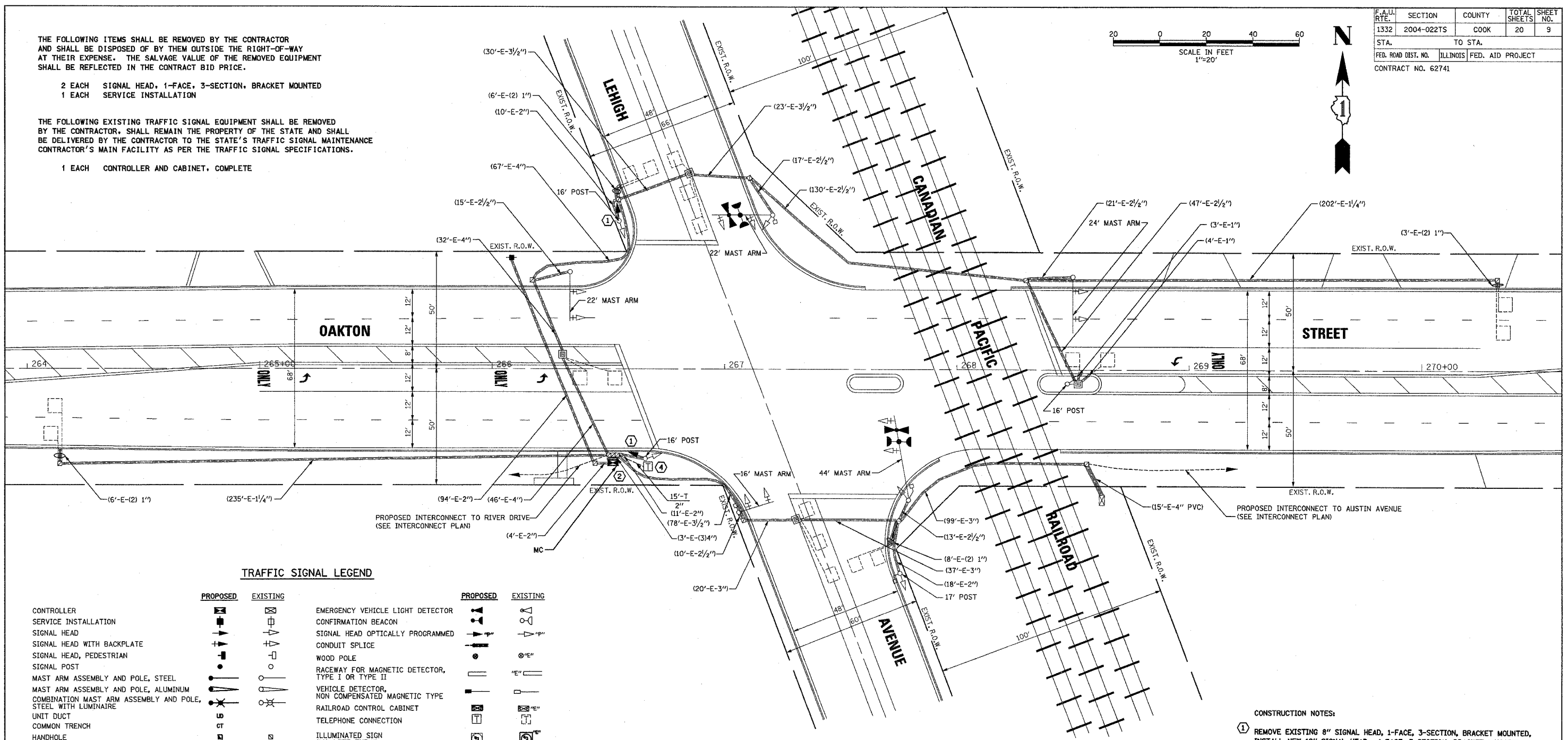
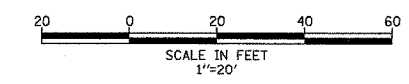
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1332	2004-022TS	COOK	20	9
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
CONTRACT NO. 62741				

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.

- 2 EACH SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED
- 1 EACH SERVICE INSTALLATION

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

- 1 EACH CONTROLLER AND CABINET, COMPLETE



TRAFFIC SIGNAL LEGEND

PROPOSED	EXISTING	DESCRIPTION
		CONTROLLER
		SERVICE INSTALLATION
		SIGNAL HEAD
		SIGNAL HEAD WITH BACKPLATE
		SIGNAL HEAD, PEDESTRIAN
		SIGNAL POST
		MAST ARM ASSEMBLY AND POLE, STEEL
		MAST ARM ASSEMBLY AND POLE, ALUMINUM
		COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE
		UNIT DUCT
		COMMON TRENCH
		HANDHOLE
		HEAVY DUTY HANDHOLE
		DOUBLE HANDHOLE
		G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)
		PEDESTRIAN PUSHBUTTON DETECTOR
		DETECTOR LOOP
		CAST IRON JUNCTION BOX
		EMERGENCY VEHICLE LIGHT 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
		TELEPHONE CONNECTION
		ILLUMINATED SIGN "NO LEFT TURN"
		ILLUMINATED SIGN "NO RIGHT TURN"
		MICROWAVE VEHICLE SENSOR
		ILLUMINATED SIGN
		MASTER CONTROLLER

- CONSTRUCTION NOTES:**
- REMOVE EXISTING 8" SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW 12" SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED.
 - REMOVE EXISTING CONTROLLER AND CABINET. INSTALL MASTER CONTROLLER AND LOCAL CONTROLLER IN TYPE V CABINET, RE-USE EXISTING FOUNDATION.
 - THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.
 - INSTALL 1" UNIT DUCT FOR THE AMERITECH SERVICE FROM THE POINT OF ENTRY OF THE TELEPHONE CONDUIT IN THE DOUBLE HANDHOLE THROUGH THE CONTROLLER CABINET FOUNDATION. THIS WORK SHALL BE INCIDENTAL TO THE MASTER CONTROLLER PAY ITEM.

REVISIONS	
NAME	DATE

SETON ENGINEERING
 CIVIL ENGINEERS
 19 S. BOTHWELL STREET
 PALATINE, ILLINOIS 60067
 VOICE: 847-776-7200 FAX: 847-776-7239

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC SIGNAL MODIFICATION PLAN
 OAKTON STREET AT LEHIGH AVENUE
 MORTON GROVE, ILLINOIS

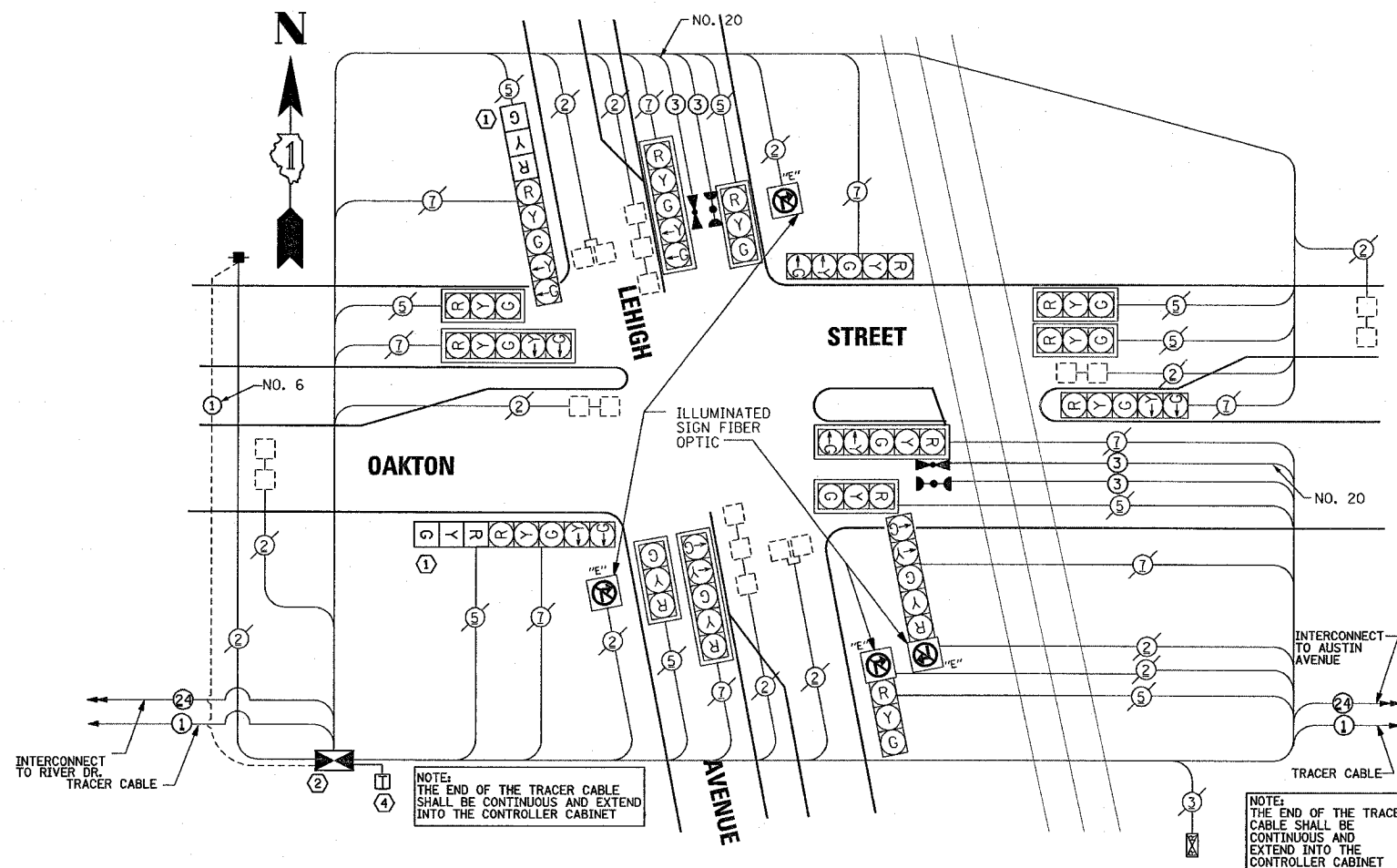
SCALE: 1"=20'
 DATE: 09-20-2004
 DRAWN BY: BR
 DESIGNED BY: VO
 CHECKED BY: TJM

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1332	2004-022TS	COOK	20	10
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 62741				

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	15
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	15
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
LIGHT DETECTOR	EACH	2
LIGHT DETECTOR AMPLIFIER	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	1
TRANSMITTER-FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C	FOOT	570
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	114
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2
INDUCTIVE LOOP DETECTOR	EACH	8
SERVICE INSTALLATION, POLE MOUNTED	EACH	1
ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED	FOOT	570

* 100% COST TO VILLAGE OF MORTON GROVE



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

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

CABLE PLAN LEGEND

EXISTING	PROPOSED	EXISTING	PROPOSED	DESCRIPTION
⊠	⊠	①	①	8" (200mm) TRAFFIC SIGNAL SECTION
⊠	⊠	②	②	12" (300mm) TRAFFIC SIGNAL SECTION
⊠	⊠	⊠	⊠	12" (300mm) PEDESTRIAN SIGNAL SECTION
⊠	⊠	⊠	⊠	12" (300mm) PEDESTRIAN SIGNAL SECTION
⊠	⊠	⊠	⊠	CONTROLLER CABINET
⊠	⊠	⊠	⊠	SERVICE INSTALLATION
⊠	⊠	⊠	⊠	TELEPHONE CONNECTION
⊠	⊠	⊠	⊠	VEHICLE DETECTOR, INDUCTION LOOP
⊠	⊠	⊠	⊠	MAGNETIC DETECTOR
⊠	⊠	⊠	⊠	EMERGENCY VEHICLE LIGHT DETECTOR
⊠	⊠	⊠	⊠	CONFIRMATION BEACON
⊠	⊠	⊠	⊠	PUSHBUTTON DETECTOR
⊠	⊠	⊠	⊠	GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
⊠	⊠	⊠	⊠	FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM12F
⊠	⊠	⊠	⊠	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
⊠	⊠	⊠	⊠	MICROWAVE VEHICLE SENSOR

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	X % OPERATION	
SIGNAL (RED)	18	135	17	0.50	1215.00
(YELLOW)	18	135	25	0.25	607.50
(GREEN)	18	135	15	0.25	607.50
ARROW	18	135	12	0.10	243.00
PED. SIGNAL	0	90	25	1.00	0.00
CONTROLLER	1	100	100	1.00	100.0
ILLUM. SIGN	4	84	35	0.05	16.8
FLASHER	0			0.50	0.00
TOTAL =					2789.80

CONSTRUCTION NOTES:

- REMOVE EXISTING 8" SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW 12" SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED.
- REMOVE EXISTING CONTROLLER AND CABINET. INSTALL MASTER CONTROLLER AND LOCAL CONTROLLER IN TYPE V CABINET, RE-USE EXISTING FOUNDATION.
- THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.
- INSTALL 1" UNIT DUCT FOR THE AMERITECH SERVICE FROM THE POINT OF ENTRY OF THE TELEPHONE CONDUIT IN THE DOUBLE HANDHOLE THROUGH THE CONTROLLER CABINET FOUNDATION. THIS WORK SHALL BE INCIDENTAL TO THE MASTER CONTROLLER PAY ITEM.

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)

SETON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS

19 S. BOWHILL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

SETON PROJECT # 2002031-001-206

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
OAKTON STREET AT LEHIGH AVENUE
MORTON GROVE, ILLINOIS

SCALE: 1/8"=1'-0"
DATE: 09-20-2004
DRAWN BY: BR
DESIGNED BY: VO
CHECKED BY: TJM

SEQUENCE OF OPERATION

RAILROAD PREEMPTION SEQUENCE OF OPERATION

MOVEMENT	1+5				1+6				2+5				2+6				3+7				3+8				4+7				4+8								
PHASE	1+5				1+6				2+5				2+6				3+7				3+8				4+7				4+8								
INTERVAL	1	2	3A	3B	3C	4A	4B	5	6A	6B	6C	7	8	9	10A	10B	10C	10D	11	12	13	14	15	16A	16B	17	18	19A	19B	20	21	22A	22B				
CHANGE TO	1+6				2+5				2+6				3+7				3+8				4+7				4+8												
OAKTON STREET E/B END MAST ARM AND FAR LEFT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	G	G	G	G	G	G	G	G	G	G	G	R	R	R	R	R	R	R	R	R	R
OAKTON STREET E/B NEAR RIGHT AND FAR RIGHT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	G	G	G	G	G	G	G	G	G	G	G	R	R	R	R	R	R	R	R	R	R
OAKTON STREET (EAST OF TRACKS) W/B MAST ARM SIGNALS	R	R	R	R	R	R	R	G	G	G	G	G	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
OAKTON STREET (EAST OF TRACKS) W/B NEAR LEFT SIGNAL	R	R	R	R	R	R	R	G	G	G	G	G	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
OAKTON STREET (WEST OF TRACKS) W/B END MAST ARM AND FAR LEFT SIGNALS	R	R	R	R	R	R	R	G	G	G	G	G	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
OAKTON STREET (WEST OF TRACKS) W/B FAR RIGHT SIGNAL	R	R	R	R	R	R	R	G	G	G	G	G	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
LEHIGH AVENUE N/B END MAST ARM AND FAR LEFT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
LEHIGH AVENUE N/B NEAR RIGHT AND FAR RIGHT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
LEHIGH AVENUE S/B END MAST ARM AND FAR LEFT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
LEHIGH AVENUE S/B NEAR RIGHT AND FAR RIGHT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R

PHASE 2+6 SHALL BE PLACED ON RECALL

W = "WALK"
 FL = FLASHING "DON'T WALK"
 DW = "DON'T WALK"

CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER	1	5	7	9	11	15	18	21	PREEMPTOR NUMBER 3	PREEMPTOR NUMBER 4	PREEMPTOR NUMBER 2												
CHANGE FROM EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER									2	3													
RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1A	1B	1C	1D	1E	1F	1G	1H	1J	1K	1L	1M	1N	1P	1Q	1R	1S	1T	1U	2	3	4	CLEAR TO NORMAL SEQUENCE
CHANGE TO RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	2	1C	2	1E	2	1G	2	1J	2	1L	2	1N	2	1Q	2	1S	2	1U	2	3	4		
OAKTON STREET E/B END MAST ARM AND FAR LEFT SIGNALS	R	R	R	Y	R	Y	R	R	R	R	R	R	R	R	R	Y	R	R	R	R	R	R	△
OAKTON STREET E/B NEAR RIGHT AND FAR RIGHT SIGNALS	R	R	R	Y	R	Y	R	R	R	R	R	R	R	R	R	Y	R	R	R	R	R	R	△
OAKTON STREET (EAST OF TRACKS) W/B MAST ARM SIGNALS	R	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	Y	R	R	R	R	R	R	△
OAKTON STREET (EAST OF TRACKS) W/B NEAR LEFT SIGNAL	R	Y	R	R	R	Y	R	R	R	R	R	R	R	R	R	Y	R	R	R	R	R	R	△
OAKTON STREET (WEST OF TRACKS) W/B END MAST ARM AND FAR LEFT SIGNALS	R	G	G	R	R	G	G	R	R	R	R	R	R	R	R	G	G	R	R	G	Y	R	△
OAKTON STREET (WEST OF TRACKS) W/B FAR RIGHT SIGNAL	R	G	G	R	R	G	G	R	R	R	R	R	R	R	R	G	G	R	R	G	Y	R	△
LEHIGH AVENUE N/B END MAST ARM AND FAR LEFT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	△
LEHIGH AVENUE N/B NEAR RIGHT AND FAR RIGHT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	△
LEHIGH AVENUE S/B END MAST ARM AND FAR LEFT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	△
LEHIGH AVENUE S/B NEAR RIGHT AND FAR RIGHT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	△
INTERNALLY ILLUMINATED NO LEFT TURN SIGNS	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	NLT	△
INTERNALLY ILLUMINATED NO RIGHT TURN SIGNS	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	△

HOLD

EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION

CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER	1	1	5	5	7	7	9	9	11	11	15	15	18	18	21	21	PREEMPTOR NUMBER 3	PREEMPTOR NUMBER 4	CLEAR TO NORMAL SEQUENCE																	
EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1A	1B	1C	1D	1E	1F	1G	1H	1J	1K	1L	1M	1N	1P	1Q	1R	1S	1T	1U	1V	1W	1X	1Y	1Z	1AA	1BB	1CC	1DD	1EE	1FF	2	3				
CHANGE TO EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER	1B	2	1D	3	1F	1G	2	1J	1K	3	2	1N	3	2	1R	1S	1T	3	1V	2	3	1Y	2	3	1BB	2	3	1EE	2	3						
OAKTON STREET E/B END MAST ARM AND FAR LEFT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
OAKTON STREET E/B NEAR RIGHT AND FAR RIGHT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
OAKTON STREET (EAST OF TRACKS) W/B MAST ARM SIGNALS	R	G	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
OAKTON STREET (EAST OF TRACKS) W/B NEAR LEFT SIGNAL	R	G	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
OAKTON STREET (WEST OF TRACKS) W/B END MAST ARM AND FAR LEFT SIGNALS	R	G	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
OAKTON STREET (WEST OF TRACKS) W/B FAR RIGHT SIGNAL	R	G	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
LEHIGH AVENUE N/B END MAST ARM AND FAR LEFT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
LEHIGH AVENUE N/B NEAR RIGHT AND FAR RIGHT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
LEHIGH AVENUE S/B END MAST ARM AND FAR LEFT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
LEHIGH AVENUE S/B NEAR RIGHT AND FAR RIGHT SIGNALS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R

△ RAILROAD PREEMPTION SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY AN EMERGENCY VEHICLE INTERVAL (IF APPLICABLE) AFTER RAILROAD PREEMPTION INTERVAL 4 IS TERMINATED.

NRT = "NO RIGHT TURN" OR

NLT = "NO LEFT TURN" OR

◇ EMERGENCY VEHICLE SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY A DIFFERENT EMERGENCY VEHICLE INTERVAL AFTER THE EMERGENCY VEHICLE PREEMPTION INTERVAL 2 OR 3 IS TERMINATED.

SETON ENGINEERING
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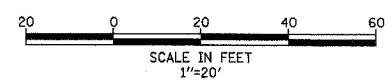
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SEQUENCE OF OPERATION, RAILROAD PREEMPTION SEQUENCE OF OPERATION AND EMERGENCY VEHICLE PREEMPTION SEQUENCE
 OAKTON STREET AT LEHIGH AVENUE
 MORTON GROVE, ILLINOIS

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

DRAWN BY: BR
 DESIGNED BY: VO
 CHECKED BY: TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1332	2004-022TS	COOK	20	12
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
CONTRACT NO. 62741				

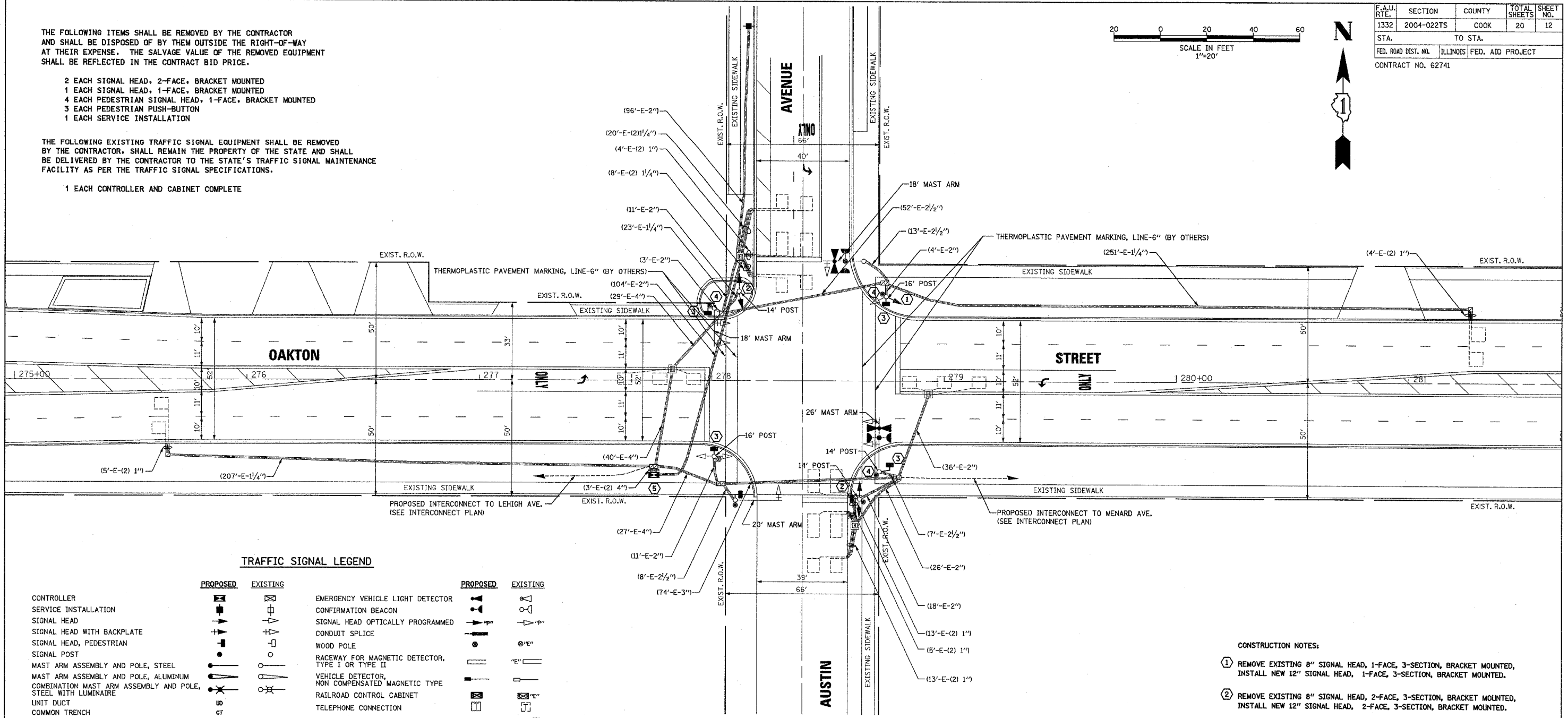


THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 2 EACH SIGNAL HEAD, 2-FACE, BRACKET MOUNTED
- 1 EACH SIGNAL HEAD, 1-FACE, BRACKET MOUNTED
- 4 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED
- 3 EACH PEDESTRIAN PUSH-BUTTON
- 1 EACH SERVICE INSTALLATION

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 FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

- 1 EACH CONTROLLER AND CABINET COMPLETE



TRAFFIC SIGNAL LEGEND

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

- CONSTRUCTION NOTES:**
- 1 REMOVE EXISTING 8" SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW 12" SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED.
 - 2 REMOVE EXISTING 8" SIGNAL HEAD, 2-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW 12" SIGNAL HEAD, 2-FACE, 3-SECTION, BRACKET MOUNTED.
 - 3 REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED, AND INSTALL NEW LED PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED.
 - 4 REMOVE EXISTING PEDESTRIAN PUSH-BUTTON. INSTALL NEW PEDESTRIAN PUSH-BUTTON.
 - 5 REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, RE-USE EXISTING FOUNDATION.
 - 6 THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.

REVISIONS	
NAME	DATE

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 VOICES: 847-776-7200 FAX: 847-776-7239
SETON PROJECT # 200201-201-206

ILLINOIS DEPARTMENT OF TRANSPORTATION
**TRAFFIC SIGNAL
 MODIFICATION AND
 REMOVAL PLAN**
 OAKTON STREET AT AUSTIN AVENUE
 MORTON GROVE, ILLINOIS

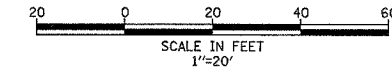
SCALE: 1"=20'
 DATE: 09-20-2004
 DRAWN BY: BR
 DESIGNED BY: VO
 CHECKED BY: TJM

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.

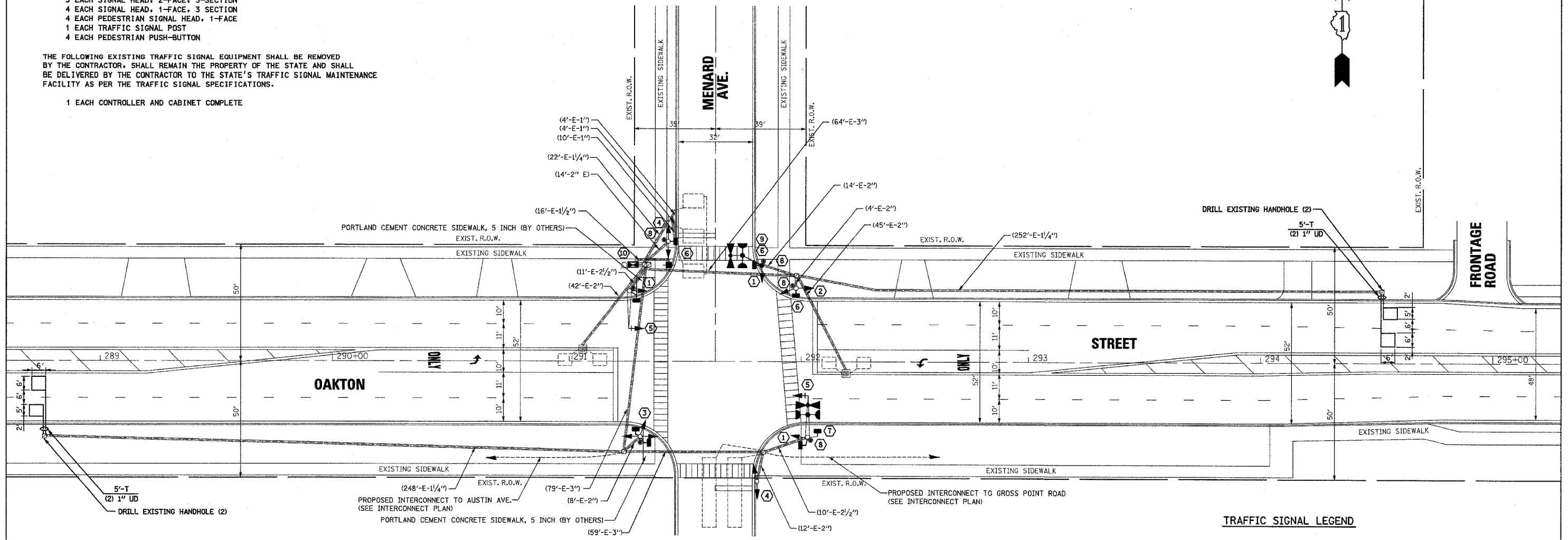
- 3 EACH SIGNAL HEAD, 2-FACE, 3-SECTION
- 4 EACH SIGNAL HEAD, 1-FACE, 3 SECTION
- 4 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE
- 1 EACH TRAFFIC SIGNAL POST
- 4 EACH PEDESTRIAN PUSH-BUTTON

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 FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

- 1 EACH CONTROLLER AND CABINET COMPLETE



F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1332	2004-022TS	COOK	20	14
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 62741			EXIST. R	



- CONSTRUCTION NOTES:**
- ① REMOVE EXISTING 8" SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW 12" SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED.
 - ② REMOVE EXISTING SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5, SECTION, BRACKET MOUNTED, INSTALL NEW SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5, SECTION, BRACKET MOUNTED.
 - ③ REMOVE EXISTING SIGNAL HEAD, 3-FACE, 2-3 SECTION, 1-5 SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, LED, 3-FACE, 2-3 SECTION, 1-5 SECTION, BRACKET MOUNTED.
 - ④ REMOVE EXISTING 8" SIGNAL HEAD, 2-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW 12" SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED.
 - ⑤ REMOVE EXISTING SIGNAL HEAD, 1-FACE, 5-SECTION, MAST ARM MOUNTED. INSTALL NEW SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED.
 - ⑥ REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED, INSTALL NEW PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED.
 - ⑦ REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED, INSTALL NEW PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED.
 - ⑧ REMOVE EXISTING PEDESTRIAN PUSH-BUTTON. INSTALL NEW PEDESTRIAN PUSH-BUTTON.
 - ⑨ REMOVE EXISTING TRAFFIC SIGNAL POST, 16 FT. INSTALL NEW TRAFFIC SIGNAL POST, 18 FT.
 - ⑩ REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET, RE-USE EXISTING FOUNDATION.
 - ⑪ THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.

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

SETON ENGINEERING
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SETON PROJECT # 20040701-001-006

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC SIGNAL MODIFICATION AND REMOVAL PLAN
 OAKTON STREET AT MENARD AVENUE
 MORTON GROVE, ILLINOIS

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

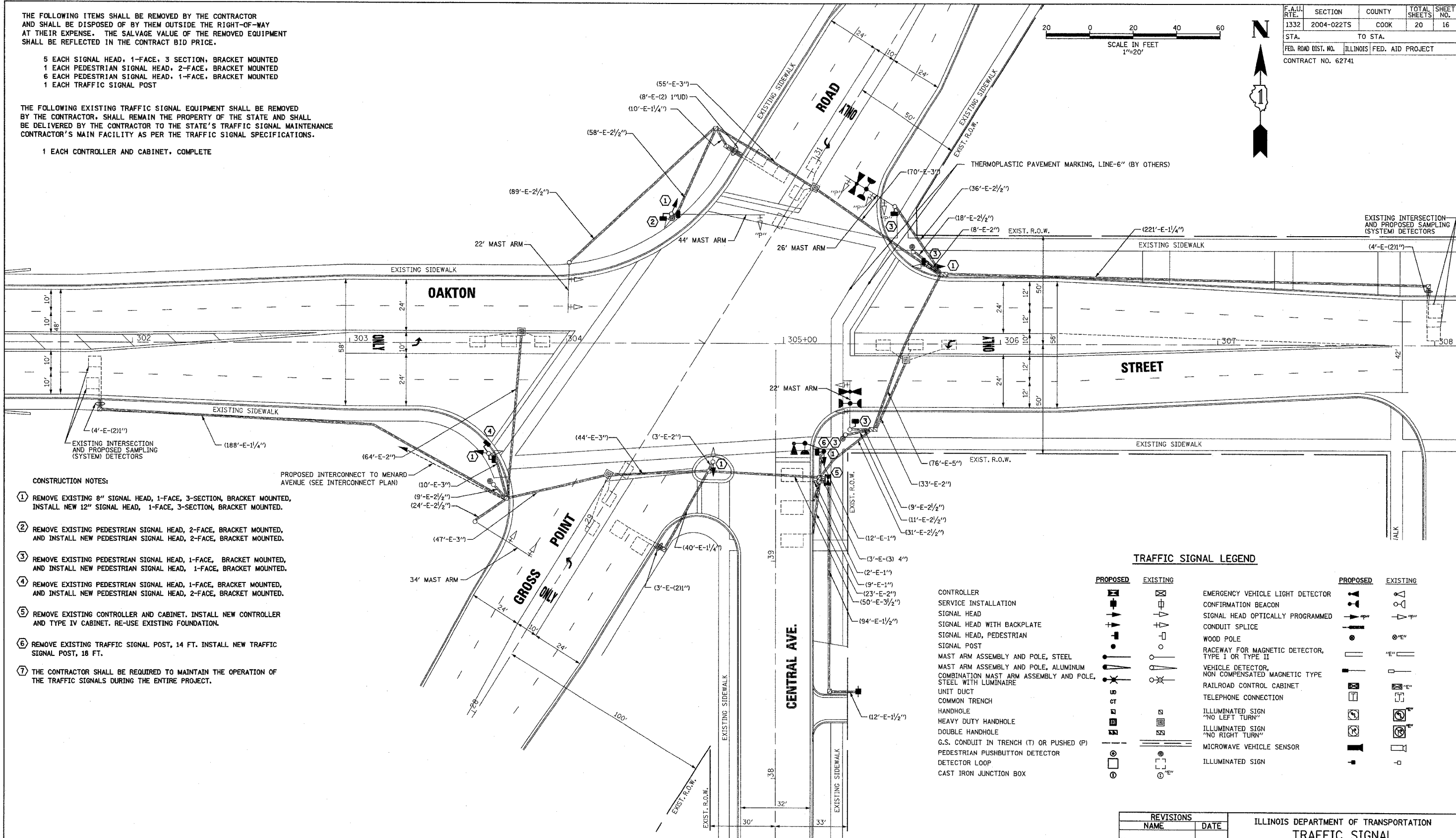
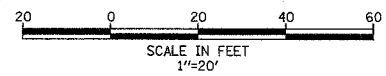
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 5 EACH SIGNAL HEAD, 1-FACE, 3 SECTION, BRACKET MOUNTED
- 1 EACH PEDESTRIAN SIGNAL HEAD, 2-FACE, BRACKET MOUNTED
- 6 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED
- 1 EACH TRAFFIC SIGNAL POST

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

- 1 EACH CONTROLLER AND CABINET, COMPLETE

F.A.U. RYE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1332	2004-022TS	COOK	20	16
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
CONTRACT NO. 62741				



CONSTRUCTION NOTES:

- 1 REMOVE EXISTING 8" SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW 12" SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED.
- 2 REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 2-FACE, BRACKET MOUNTED, AND INSTALL NEW PEDESTRIAN SIGNAL HEAD, 2-FACE, BRACKET MOUNTED.
- 3 REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED, AND INSTALL NEW PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED.
- 4 REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED, AND INSTALL NEW PEDESTRIAN SIGNAL HEAD, 2-FACE, BRACKET MOUNTED.
- 5 REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW CONTROLLER AND TYPE IV CABINET. RE-USE EXISTING FOUNDATION.
- 6 REMOVE EXISTING TRAFFIC SIGNAL POST, 14 FT. INSTALL NEW TRAFFIC SIGNAL POST, 18 FT.
- 7 THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.

TRAFFIC SIGNAL LEGEND

PROPOSED	EXISTING	PROPOSED	EXISTING

REVISIONS	
NAME	DATE

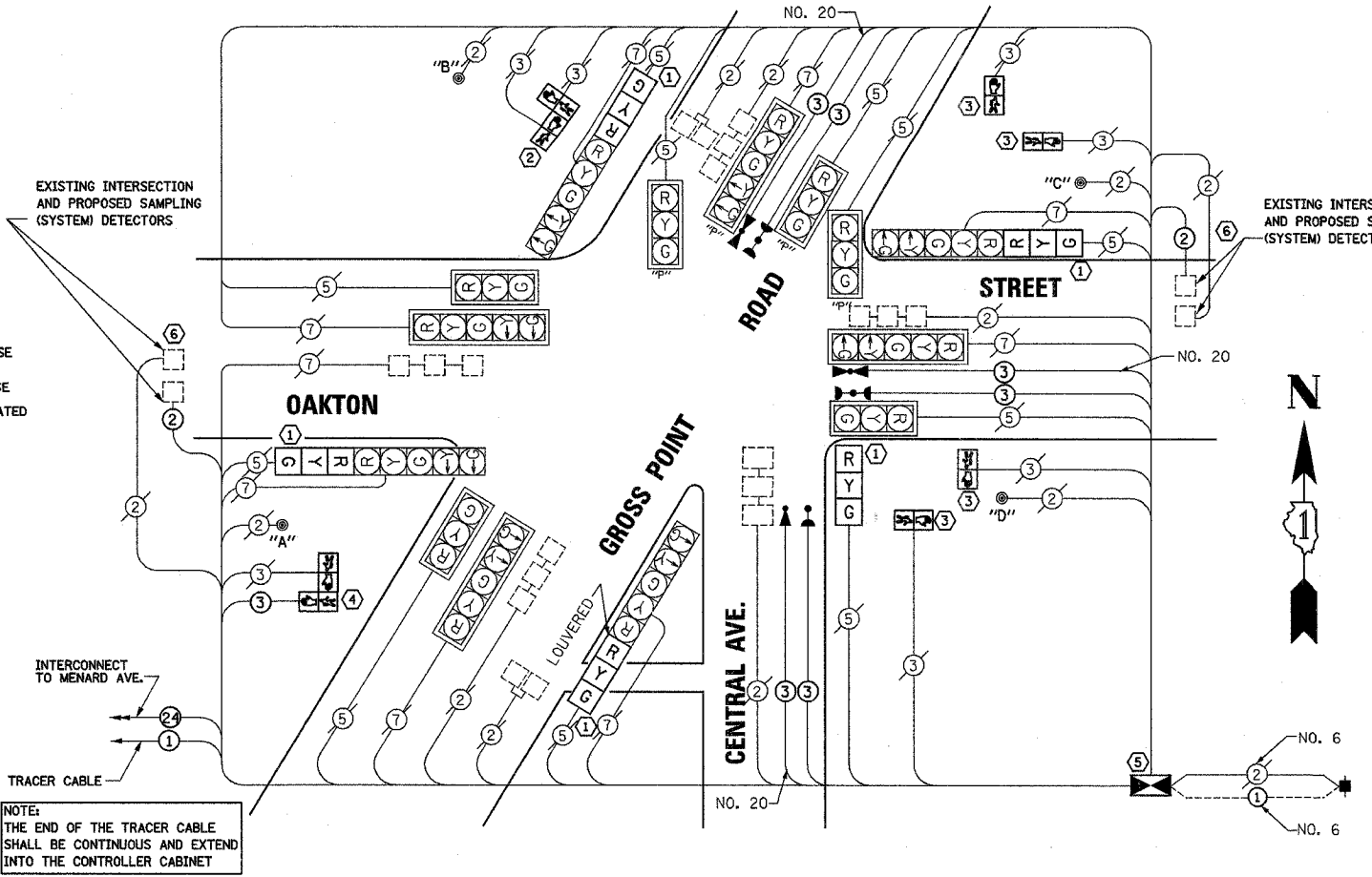
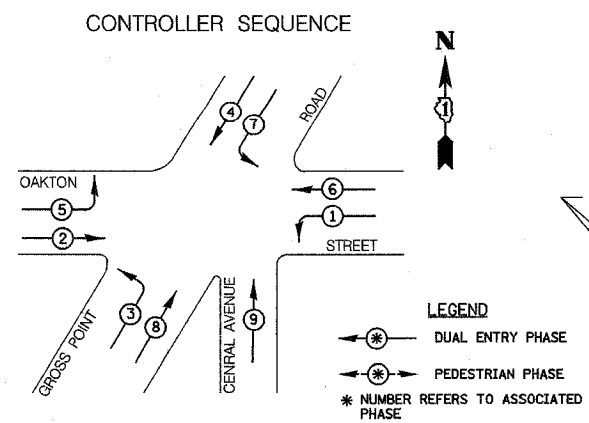
SETON ENGINEERING
CONSULTING ENGINEERS
 19 S. BOWWELL STREET
 PALATINE, ILLINOIS 60067
 VOICES: 847-776-7200 FAX: 847-176-7239
SETON PROJECT # 000000-204-008

ILLINOIS DEPARTMENT OF TRANSPORTATION
**TRAFFIC SIGNAL
 MODIFICATION AND
 REMOVAL PLAN**
 OAKTON STREET AT GROSS POINT ROAD
 MORTON GROVE, ILLINOIS
 SCALE: 1"=20'
 DATE: 09-20-2004
 DRAWN BY: BR
 DESIGNED BY: VO
 CHECKED BY: TJM

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
* LIGHT DETECTOR	EACH	3
* LIGHT DETECTOR AMPLIFIER	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1
TRANSEIVER-FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C	FOOT	623
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	750
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	122
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
* TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT.	EACH	1
SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	5
PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED	EACH	4
PEDESTRIAN SIGNAL HEAD, 2-FACE, BRACKET MOUNTED	EACH	2
INDUCTIVE LOOP DETECTOR	EACH	11
SERVICE INSTALLATION, POLE MOUNTED	EACH	1
* ELECTRIC CABLE IN CONDUIT, NO. 20 3/C, TWISTED, SHIELDED	FOOT	412

* 100% COST TO VILLAGE OF MORTON GROVE



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

PROPOSED EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	5
MOVEMENT	← →	↙ ↘	↑

- CONSTRUCTION NOTES:**
- REMOVE EXISTING 8" SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED, INSTALL NEW 12" SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED.
 - REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 2-FACE, BRACKET MOUNTED, AND INSTALL NEW PEDESTRIAN SIGNAL HEAD, 2-FACE, BRACKET MOUNTED.
 - REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED, AND INSTALL NEW PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED.
 - REMOVE EXISTING PEDESTRIAN HEAD, 1-FACE, BRACKET MOUNTED, INSTALL NEW PEDESTRIAN SIGNAL HEAD, 2-FACE, BRACKET MOUNTED.
 - REMOVE EXISTING CONTROLLER AND CABINET, INSTALL NEW CONTROLLER AND TYPE IV CABINET. RE-USE EXISTING FOUNDATION.
 - INSTALL NEW ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, 1 PAIR
 - THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE OPERATION OF THE TRAFFIC SIGNALS DURING THE ENTIRE PROJECT.

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

CABLE PLAN LEGEND

EXISTING	PROPOSED	DESCRIPTION
⊗	⊗	8" (200mm) TRAFFIC SIGNAL SECTION
⊗	⊗	12" (300mm) TRAFFIC SIGNAL SECTION
⊗	⊗	12" (300mm) PEDESTRIAN SIGNAL SECTION
⊗	⊗	12" (300mm) PEDESTRIAN SIGNAL SECTION
⊗	⊗	CONTROLLER CABINET
⊗	⊗	SERVICE INSTALLATION
⊗	⊗	TELEPHONE CONNECTION
⊗	⊗	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 MM12F SM12F
⊗	⊗	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
⊗	⊗	MICROWAVE VEHICLE SENSOR

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	X% OPERATION	
SIGNAL (RED)	19	135		0.50	1282.5
(YELLOW)	19	135		0.25	641.25
(GREEN)	19	135		0.25	641.25
ARROW	16	135		0.10	216.0
PED. SIGNAL	8	90		1.00	720.0
CONTROLLER	1	100		1.00	100.0
TOTAL =					3601.0

80% - VILLAGE OF MORTON GROVE
 6101 CAPULINA AVENUE
 MORTON GROVE, IL 60053

20% - VILLAGE OF SKOKIE
 5127 OAKTON STREET
 P.O. BOX 309
 SKOKIE, IL 60077

MR. MIKE LYNCH
 (847) 816-5331
 COMED

FOUNDATION (DEPTH)	(FT.) (m)	CABLE SLACK	(FT.) (m)	VERTICAL	(FT.) (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - FOUNDATION	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20' + L - 2 = (6m + L - 0.6m)
C - M. ARM POLE		SIGNAL POST	2 (1.0)	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)

SETON ENGINEERING
 SERVICE CORPORATION
 CIVIL ENGINEERS

19 S. BOTHWELL STREET
 PALATINE, ILLINOIS 60067
 VOICES: 847-716-7200 FAX: 847-716-7239

REVISIONS	
NAME	DATE

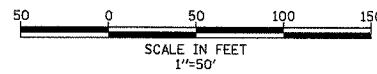
ILLINOIS DEPARTMENT OF TRANSPORTATION

CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES

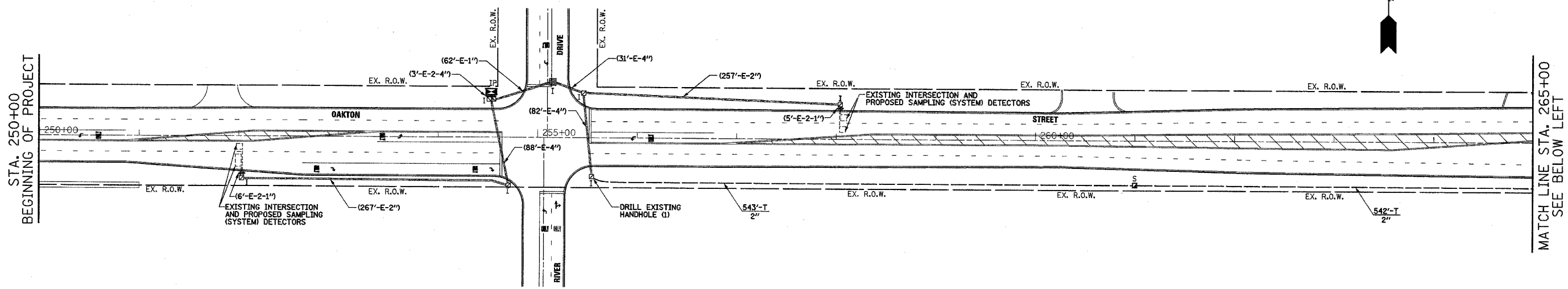
OAKTON STREET AT GROSS POINT ROAD
 MORTON GROVE, ILLINOIS

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

DRAWN BY: BR
 DESIGNED BY: VO
 CHECKED BY: TJM

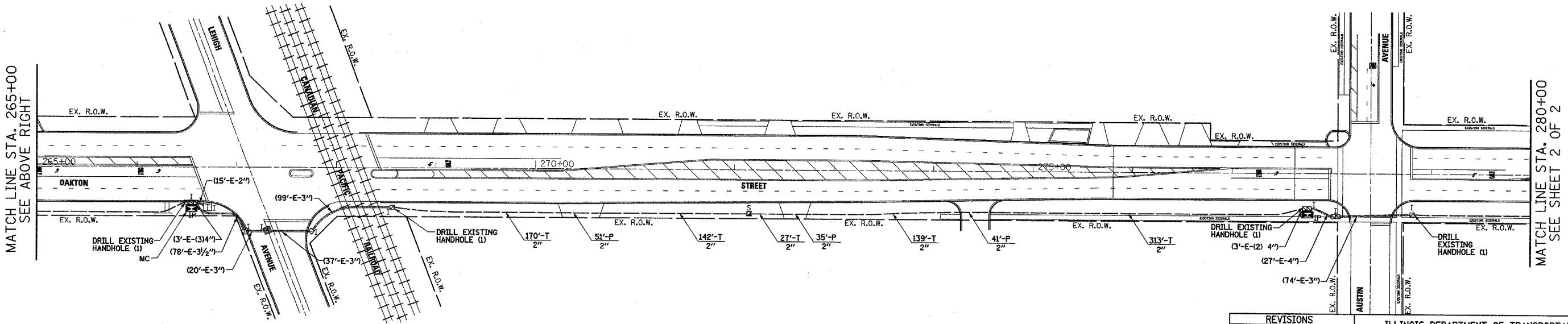


F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1332	2004-022TS	COOK	20	18
STA. 250+00		TO STA. 265+00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 62741				



INTERCONNECT PLAN LEGEND

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

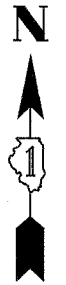
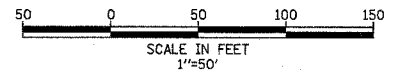


REVISIONS	
NAME	DATE

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

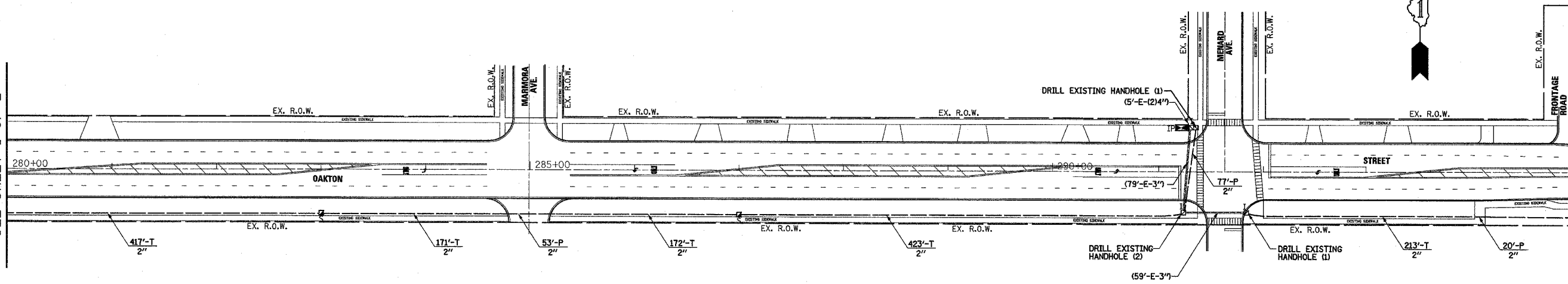
ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERCONNECT PLAN
 OAKTON AVENUE
 FROM RIVER DRIVE TO AUSTIN AVENUE
 MORTON GROVE, IL
 SHEET 1 OF 2
 SCALE: 1" = 50'
 DATE 09-20-2004
 DRAWN BY BR
 DESIGNED BY YO
 CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1332	2004-022TS	COOK	20	19
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 62741				



MATCH LINE STA. 280+00
SEE SHEET 1 OF 2

MATCH LINE STA. 295+00
SEE BELOW LEFT

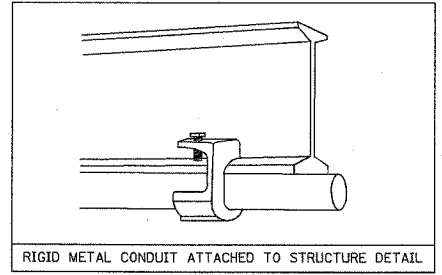
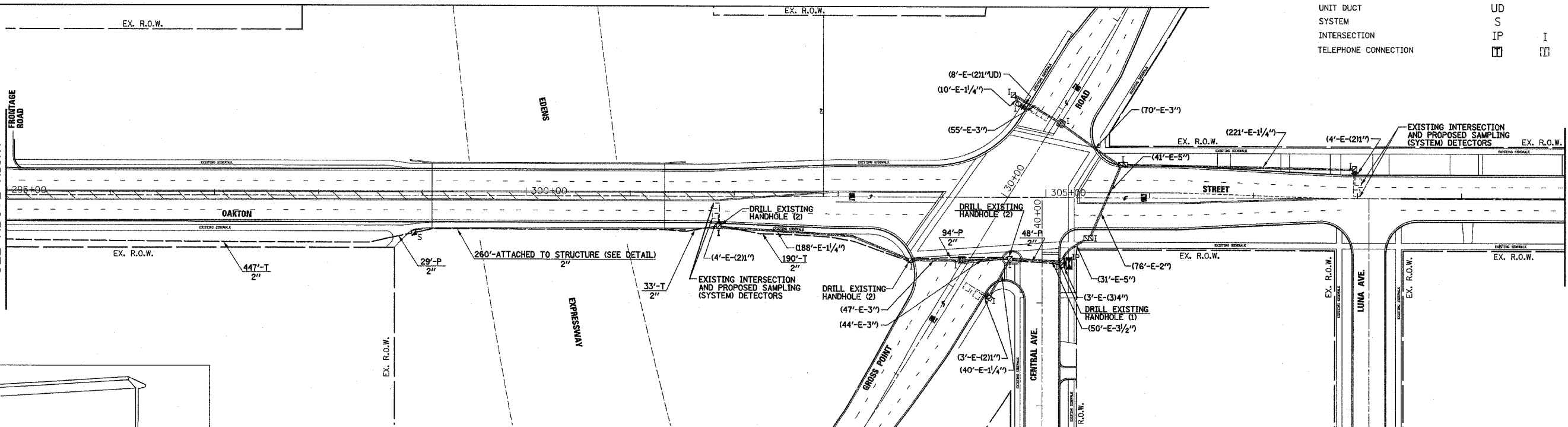


INTERCONNECT PLAN LEGEND

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

MATCH LINE STA. 295+00
SEE ABOVE RIGHT

STA. 310+00
END OF PROJECT

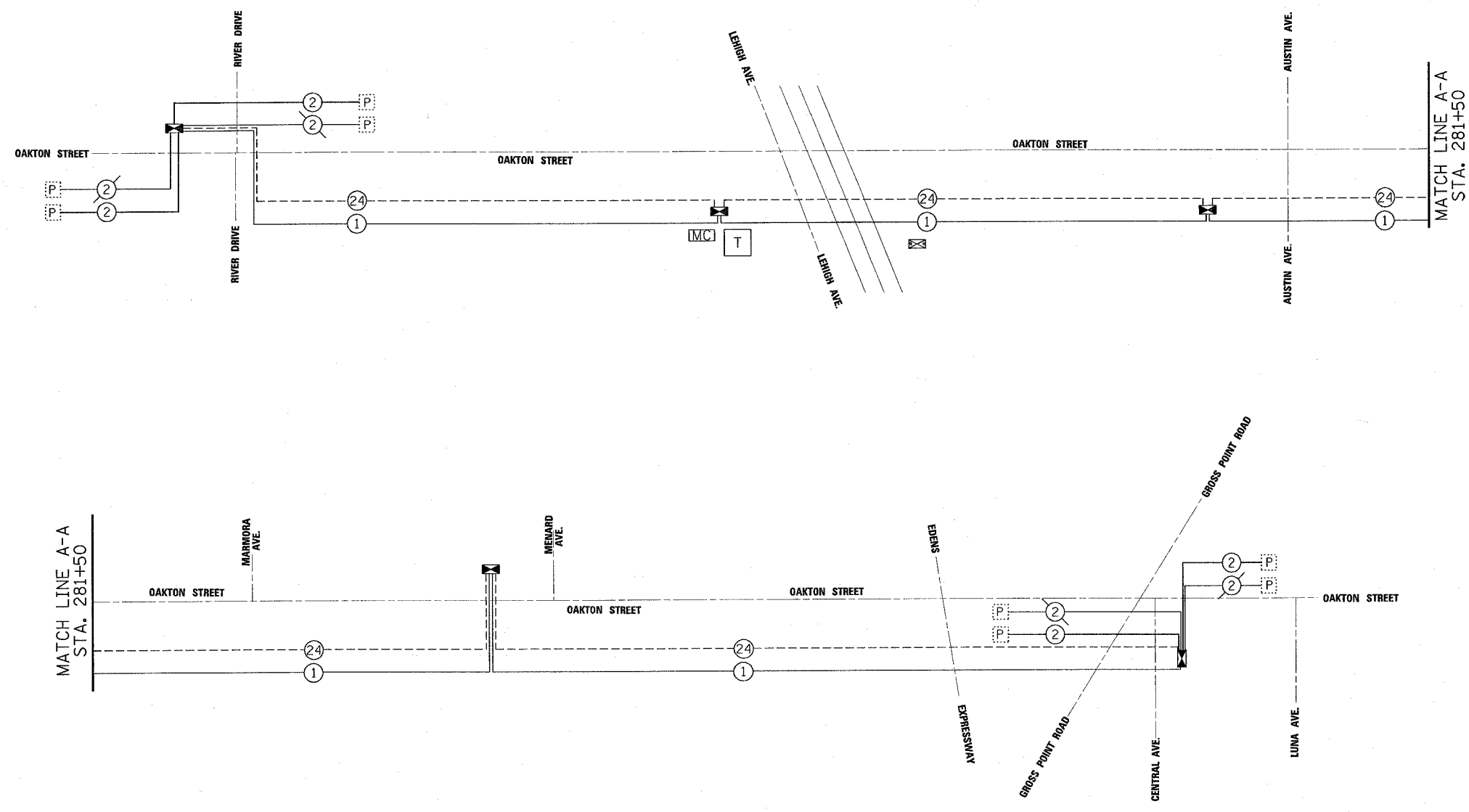


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SERVICE CORPORATION
CIVIL ENGINEERS
19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE 847-776-7200 FAX 847-776-7239
SETON PROJECT # 2002001-200-204

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERCONNECT PLAN
OAKTON AVENUE
FROM AUSTIN AVENUE TO GROSS POINT ROAD
MORTON GROVE, IL
SHEET 2 OF 2
SCALE: 1" = 50'
DATE 09-20-2004
DRAWN BY BR
DESIGNED BY VO
CHECKED BY TJM

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1332	2004-022TS	COOK	20	20
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 62741				



INTERCONNECT SCHEMATIC LEGEND

EXISTING INTERSECTION CONTROLLER	☒
PROPOSED INTERSECTION CONTROLLER	☒
EXISTING MASTER CONTROLLER	EMC
PROPOSED MASTER CONTROLLER	PMC
MASTER MASTER CONTROLLER	MMC
EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS	☐
PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS	☐
EXISTING INTERSECTION LOOP DETECTORS	☐
PROPOSED SAMPLING (SYSTEM) DETECTORS	☐
EXISTING SAMPLING (SYSTEM) DETECTORS	ES
PROPOSED SAMPLING (SYSTEM) DETECTORS	PS
EXISTING SAMPLING (SYSTEM) DETECTORS, PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS.	ESP
EXISTING SAMPLING (SYSTEM) DETECTORS, PROPOSED SAMPLING (SYSTEM) DETECTORS.	ESPS
EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS	PD
PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS	PD
EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS	ESPD
PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS	PSPD
EXISTING FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SMI2F	24
PROPOSED FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SMI2F	24
EXISTING INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE	12
PROPOSED INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE	12
EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	6
PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED	6
EXISTING LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED	2
PROPOSED LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED	2
EXISTING ELECTRIC CABLE, 1/C NO. 10	1
PROPOSED ELECTRIC CABLE, 1/C NO. 14	1
EXISTING TELEPHONE CONNECTION	T
PROPOSED TELEPHONE CONNECTION	T
EXISTING RAILROAD CONTROL CABINET	☒

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
CONDUIT IN TRENCH, 2" DIA, GALVANIZED STEEL	FOOT	3942
CONDUIT PUSHED, 2" DIA, GALVANIZED STEEL	FOOT	448
CONDUIT ATTACHED TO STRUCTURE, 2" DIA, GALVANIZED STEEL	FOOT	280
HANDHOLE	EACH	5
MASTER CONTROLLER	EACH	1
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	3966
DRILL EXISTING HANDHOLE	EACH	16
ELECTRIC CABLE IN CONDUIT TRACER, NO. 14 1C	FOOT	5589
FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SMI2F	FOOT	5589
RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1

REVISIONS	
NAME	DATE

SETON ENGINEERING
SERVICE CORPORATION
CIVIL ENGINEERS

19 S. BOTHWELL STREET
PALATINE, ILLINOIS 60067
VOICE: 847-776-7200 FAX: 847-776-7239

SETON PROJECT # 2002001-001-200

ILLINOIS DEPARTMENT OF TRANSPORTATION

INTERCONNECT SCHEMATIC

OAKTON AVENUE
FROM RIVER DRIVE TO GROSS POINT ROAD
MORTON GROVE, IL

SCALE: NONE 50'

DATE: 09-20-2004

DRAWN BY: BR
DESIGNED BY: VO
CHECKED BY: TJM

13:06:41 03/10/2005