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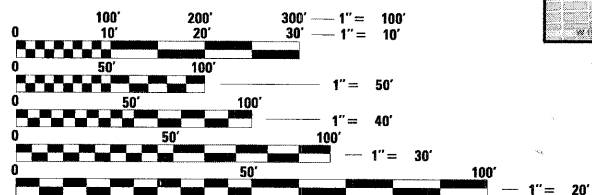
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- 45-48 DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS

LIST OF STATE STANDARDS
STANDARD NO. DESCRIPTION

- STD. 701701-06 URBAN LANE CLOSURE, MULTI-LANE INTERSECTION
- STD. 701901-01 TRAFFIC CONTROL DEVICES
- STD. 857001-01 STANDARD PHASE DESIGNATION DIAGRAMS AND
PHASE SEQUENCES
- STD. 880006-01 TRAFFIC SIGNAL MOUNTING DETAILS

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811



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.

CONTRACT NO. 63087

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
VILLAGE OF OAK LAWN

EMERGENCY VEHICLE
PREEMPTION PROJECT

DISTRICT 1

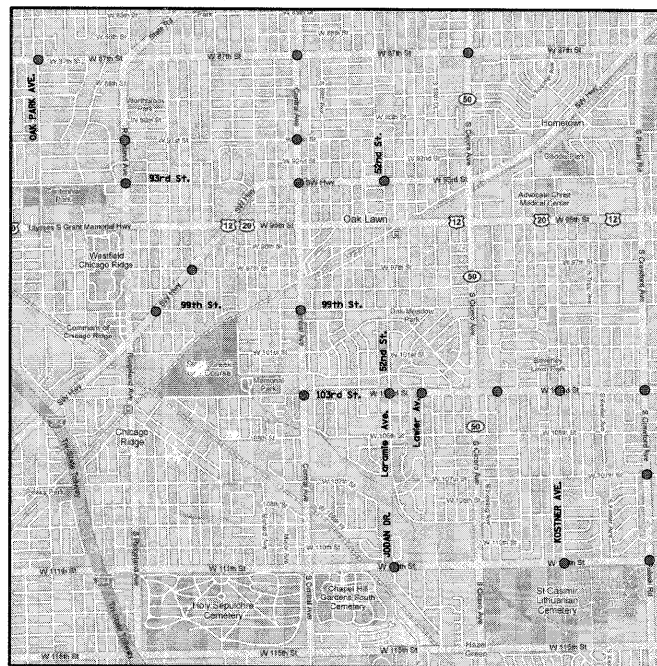
VARIOUS SIGNAL LOCATIONS

FEDERAL PROJECT NO.: HPP-2329 (002)

SECTION 06-00168-02-TL

COOK COUNTY

JOB NO: C-91-024-09



LOCATION MAP
N. T. S.

| | | | | |
|---------------------|----------|--------------------|--------------|-----------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | COOK | 48 | 1 |
| FED. ROAD DIST. NO. | ILLINOIS | CONTRACT NO. 63087 | | |



ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED 11/6 2008
[Signature] Oak Lawn Village Engineer
LOCAL AGENCY POSITION

PASSED NOVEMBER 12 2008
[Signature] CHRISTOPHER HOLT
DISTRICT ONE ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID
BASED ON LIMITED REVIEW
NOVEMBER 13 2008
[Signature] DEAN M. O'KEEFE JR.
DEPUTY DIRECTOR OF HIGHWAYS, REGION ONE ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

[Signature] 11/04/08
ENGINEER DATE

GEORGE M. ZIEGLER
ILLINOIS REGISTRATION No. 062-045853
EXPIRATION DATE: 11-30-2009
PROFESSIONAL DESIGN FIRM No.: 184-001742
EXPIRATION DATE: 04-30-2009

CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018 (847) 823-0500

FEDERAL AID DESIGN ENGINEER: PHIL MARCYN
(847) 705-4189

SUMMARY OF QUANTITIES

CONSTRUCTION TYPE CODE Y031-1F

| CODE NO. | ITEM | UNIT | 87th Street @ Cicero Avenue | Pulaski Avenue @ 103rd Street | Crawford Avenue @ 107th Street | Crawford Avenue @ 111th Street | 111th Street @ Kostner Avenue | 111th Street @ Jodan Dr./ Laramie Av. | 87th Street @ Central Avenue | 87th Street @ Oak Park Avenue | 103rd Street @ Central Avenue | 103rd Street @ Laramie Av./ 52nd Av. | 103rd Street @ Lawler Av./ Father Burns Dr. |
|----------|---|-------|-----------------------------|-------------------------------|--------------------------------|--------------------------------|-------------------------------|---------------------------------------|------------------------------|-------------------------------|-------------------------------|--------------------------------------|---|
| 67100100 | MOBILIZATION | L SUM | | | | | | | | | | | |
| 85000200 | MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 85700505 | FULL-ACTUATED CONTROLLER IN EXISTING CABINET, SPECIAL | EACH | | | | | | | | 1 | | 1 | 1 |
| 87301225 | ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 385 | 244 | 245 | 258 | 355 | 299 | 576 | 559 | 319 | 237 | 555 |
| 87502520 | TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT. | EACH | | | | | 1 | 1 | | 3 | | | |
| 88700200 | LIGHT DETECTOR | EACH | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 2 | 2 | 3 |
| 88700300 | LIGHT DETECTOR AMPLIFIER | EACH | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 89500100 | RELOCATE EXISTING SIGNAL HEAD | EACH | | | | | | | | 3 | | | |
| 89500200 | RELOCATE EXISTING PEDESTRIAN SIGNAL HEAD | EACH | | | | | | 1 | | | | | |
| 89500400 | RELOCATE EXISTING PEDESTRIAN PUSH-BUTTON | EACH | | | | | | 1 | | | | | |
| 89502210 | MODIFY EXISTING CONTROLLER CABINET | EACH | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 89502375 | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | | | | | 1 | 1 | | 1 | | 1 | 1 |
| X8730250 | ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 385 | 244 | 245 | 258 | 355 | 299 | 576 | 559 | 319 | 237 | 555 |
| XX002298 | TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

| CODE NO. | ITEM | UNIT | TOTAL | Southwest Highway @ Central Avenue | Ridgeland Avenue @ 91st Street | Ridgeland Avenue @ 93rd Street | Central Avenue @ 91st Street | Central Avenue @ 99th Street | 103rd Street @ Kilpatrick Avenue | 103rd Street @ Kostner Avenue | Southwest Highway @ 52nd Avenue | Southwest Highway @ 97th Street | Southwest Highway @ 99th Street |
|----------|---|-------|-------|------------------------------------|--------------------------------|--------------------------------|------------------------------|------------------------------|----------------------------------|-------------------------------|---------------------------------|---------------------------------|---------------------------------|
| 67100100 | MOBILIZATION | L SUM | 1 | | | | | | | | | | |
| 85000200 | MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 21 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 85700505 | FULL-ACTUATED CONTROLLER IN EXISTING CABINET, SPECIAL | EACH | 6 | | 1 | | | | | | 1 | | 1 |
| 87301225 | ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 7447 | 315 | 299 | 447 | 257 | 345 | 257 | 543 | 260 | 252 | 440 |
| 87502520 | TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT. | EACH | 8 | | | | | 1 | | | | 1 | 1 |
| 88700200 | LIGHT DETECTOR | EACH | 46 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 88700300 | LIGHT DETECTOR AMPLIFIER | EACH | 21 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 89500100 | RELOCATE EXISTING SIGNAL HEAD | EACH | 8 | | | | | 1 | | | | 1 | 1 |
| 89500200 | RELOCATE EXISTING PEDESTRIAN SIGNAL HEAD | EACH | 2 | | | | | | | | | 1 | |
| 89500400 | RELOCATE EXISTING PEDESTRIAN PUSH-BUTTON | EACH | 2 | | | | | | | | | 1 | |
| 89502210 | MODIFY EXISTING CONTROLLER CABINET | EACH | 21 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 89502375 | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 10 | | 1 | | | 1 | | | 1 | 1 | 1 |
| X8730250 | ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 7447 | 315 | 299 | 447 | 257 | 345 | 257 | 543 | 260 | 252 | 440 |
| XX002298 | TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 21 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

▲
THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

DATE: _____ BY: _____
 SURVEYED _____ ALIGNED _____ CHECKED _____
 PLAN NOTE BOOK NO. _____
 SURVEYED _____ GRADES CHECKED _____
 PROFILE NOTE BOOK NO. _____ STRUCTURE NOTATIONS CHECKED _____

FILE NAME = N:\OakLawn\080363\Tr-traffic\SUM.080363.dgn
 USER NAME = FPACIONE
 DESIGNED - ABR
 DRAWN - FCP
 CHECKED - MJT
 DATE - 11/10/2008
 REVISIONS:
 REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
 OAK LAWN, ILLINOIS

| | | | | |
|---|---------|--------|--------------|-----------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | COOK | 48 | 2 |
| CONTRACT NO. | | | | |
| FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT | | | | |

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

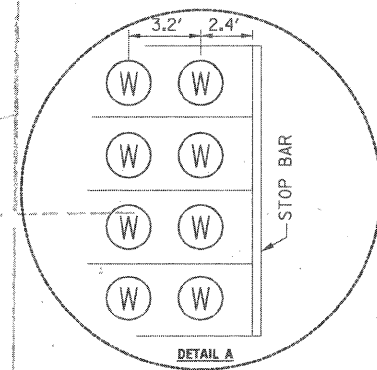
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------|---------|--------|--------------|-----------|
| | | COOK | 48 | 3 |

CONTRACT NO. 63087
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

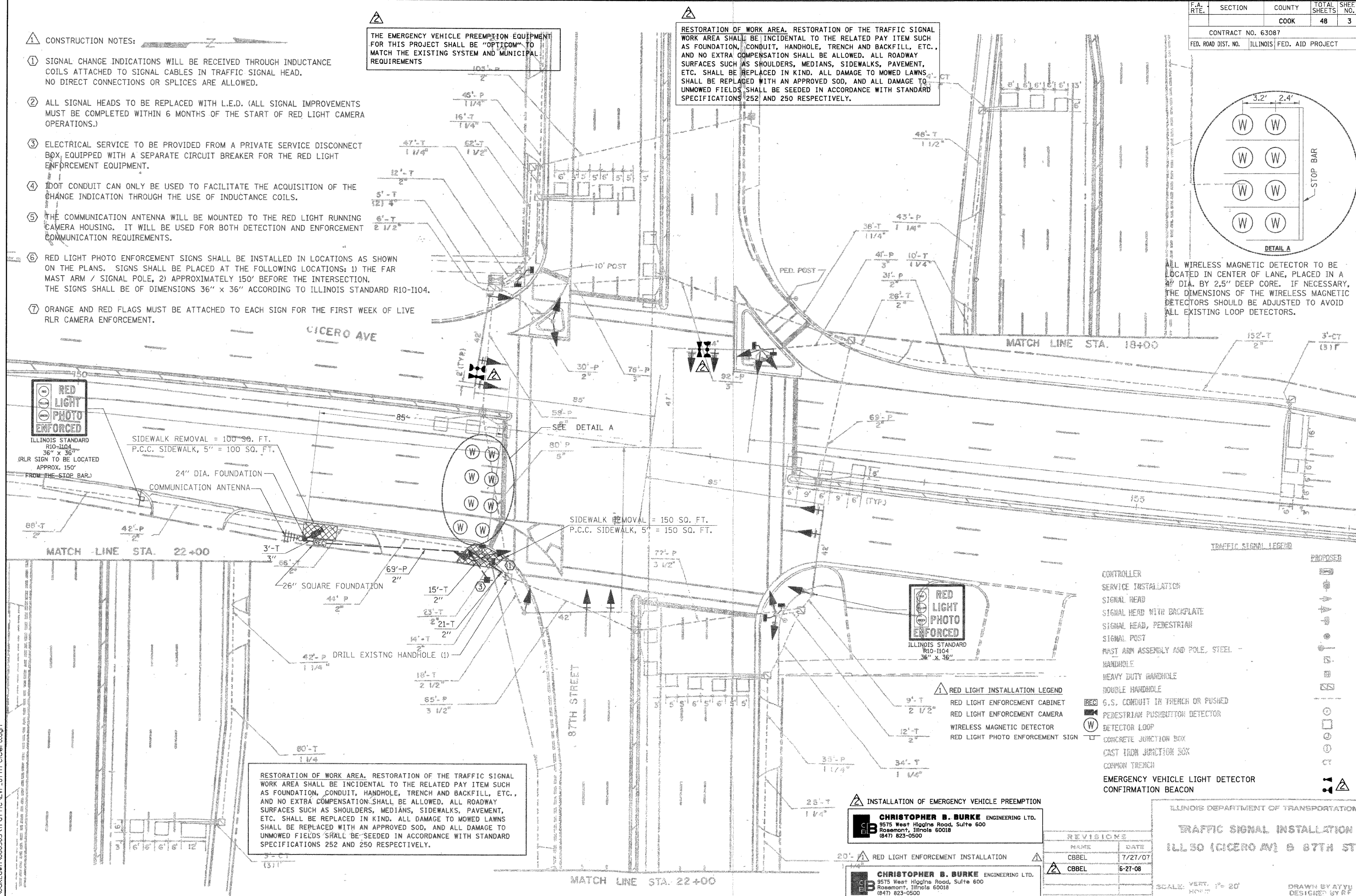
- CONSTRUCTION NOTES:**
- SIGNAL CHANGE INDICATIONS WILL BE RECEIVED THROUGH INDUCTANCE COILS ATTACHED TO SIGNAL CABLES IN TRAFFIC SIGNAL HEAD. NO DIRECT CONNECTIONS OR SPLICES ARE ALLOWED.
 - ALL SIGNAL HEADS TO BE REPLACED WITH L.E.D. (ALL SIGNAL IMPROVEMENTS MUST BE COMPLETED WITHIN 6 MONTHS OF THE START OF RED LIGHT CAMERA OPERATIONS.)
 - ELECTRICAL SERVICE TO BE PROVIDED FROM A PRIVATE SERVICE DISCONNECT BOX EQUIPPED WITH A SEPARATE CIRCUIT BREAKER FOR THE RED LIGHT ENFORCEMENT EQUIPMENT.
 - DOT CONDUIT CAN ONLY BE USED TO FACILITATE THE ACQUISITION OF THE CHANGE INDICATION THROUGH THE USE OF INDUCTANCE COILS.
 - THE COMMUNICATION ANTENNA WILL BE MOUNTED TO THE RED LIGHT RUNNING CAMERA HOUSING. IT WILL BE USED FOR BOTH DETECTION AND ENFORCEMENT COMMUNICATION REQUIREMENTS.
 - RED LIGHT PHOTO ENFORCEMENT SIGNS SHALL BE INSTALLED IN LOCATIONS AS SHOWN ON THE PLANS. SIGNS SHALL BE PLACED AT THE FOLLOWING LOCATIONS: 1) THE FAR MAST ARM / SIGNAL POLE, 2) APPROXIMATELY 150' BEFORE THE INTERSECTION. THE SIGNS SHALL BE OF DIMENSIONS 36" x 36" ACCORDING TO ILLINOIS STANDARD R10-I104.
 - ORANGE AND RED FLAGS MUST BE ATTACHED TO EACH SIGN FOR THE FIRST WEEK OF LIVE RLR CAMERA ENFORCEMENT.

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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



ALL WIRELESS MAGNETIC DETECTOR TO BE LOCATED IN CENTER OF LANE, PLACED IN A 4" DIA. BY 2.5" DEEP CORE. IF NECESSARY, THE DIMENSIONS OF THE WIRELESS MAGNETIC DETECTORS SHOULD BE ADJUSTED TO AVOID ALL EXISTING LOOP DETECTORS.



RED LIGHT PHOTO ENFORCED
ILLINOIS STANDARD R10-I104
36" x 36"
(RLR SIGN TO BE LOCATED APPROX. 150' FROM THE STOP BAR.)

SIDEWALK REMOVAL = 100 SQ. FT.
P.C.C. SIDEWALK, 5" = 100 SQ. FT.

24" DIA. FOUNDATION
COMMUNICATION ANTENNA

SIDEWALK REMOVAL = 150 SQ. FT.
P.C.C. SIDEWALK, 5" = 150 SQ. FT.

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

RED LIGHT PHOTO ENFORCED
ILLINOIS STANDARD R10-I104
36" x 36"

- RED LIGHT INSTALLATION LEGEND**
- RED LIGHT ENFORCEMENT CABINET
 - RED LIGHT ENFORCEMENT CAMERA
 - WIRELESS MAGNETIC DETECTOR
 - RED LIGHT PHOTO ENFORCEMENT SIGN

- PROPOSED**
- CONTROLLER
 - SERVICE INSTALLATION
 - SIGNAL HEAD
 - SIGNAL HEAD WITH BACKPLATE
 - SIGNAL HEAD, PEDESTRIAN
 - SIGNAL POST
 - MAST ARM ASSEMBLY AND POLE, STEEL
 - HANDHOLE
 - HEAVY DUTY HANDHOLE
 - DOUBLE HANDHOLE
 - G.S. CONDUIT IN TRENCH OR PUSHED
 - PEDESTRIAN PUSHBUTTON DETECTOR
 - DETECTOR LOOP
 - CONCRETE JUNCTION BOX
 - CAST IRON JUNCTION BOX
 - COMMON TRENCH
 - EMERGENCY VEHICLE LIGHT DETECTOR
 - CONFIRMATION BEACON

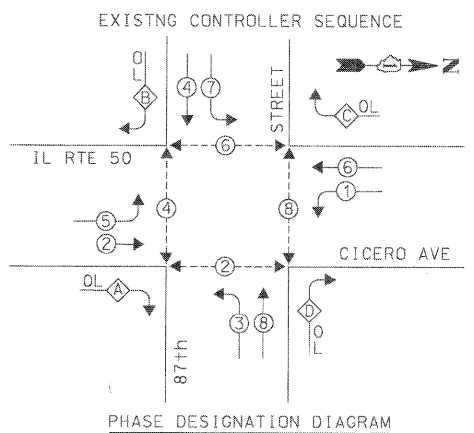
INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

RED LIGHT ENFORCEMENT INSTALLATION
CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

| REVISIONS | |
|-----------|---------|
| NAME | DATE |
| CBBEL | 7/27/07 |
| CBBEL | 6-27-08 |

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC SIGNAL INSTALLATION
ILL 50 (CICERO AV) @ 87TH ST
SCALE: VERT. 1" = 20'
HORIZ. 1" = 40'
DATE APR 23, 1984
DRAWN BY ATYU
DESIGNED BY RF
CHECKED BY WEN

N:\ocklawn\080363\Traffic\VP_87th-Cicero.dgn

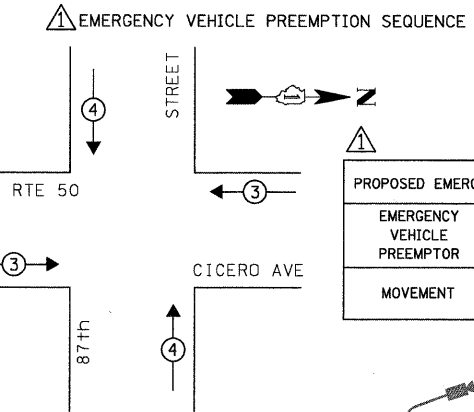


LEGEND

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

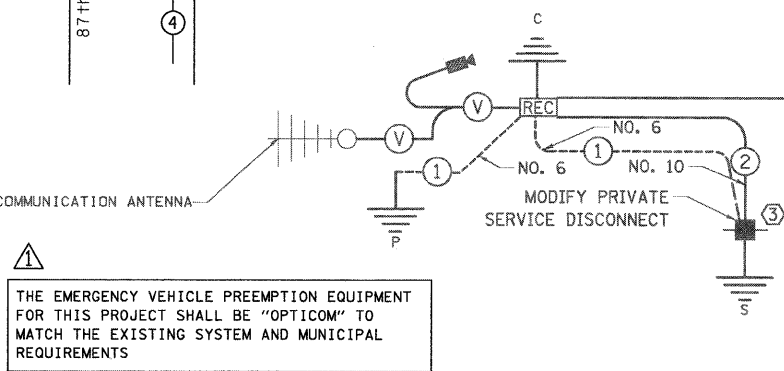
RIGHT TURN OVERLAP PHASE DESIGNATION

| OVERLAP LETTER | PERMISSIVE PHASE | PROTECTED PHASE |
|----------------|------------------|-----------------|
| A | = 2 | + 3 |
| B | = 4 | + 5 |
| C | = 6 | + 7 |
| D | = 8 | + 1 |



PROPOSED EMERGENCY VEHICLE PREEMPTORS

| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
|-----------------------------|----|----|
| MOVEMENT | ←→ | ↑↓ |

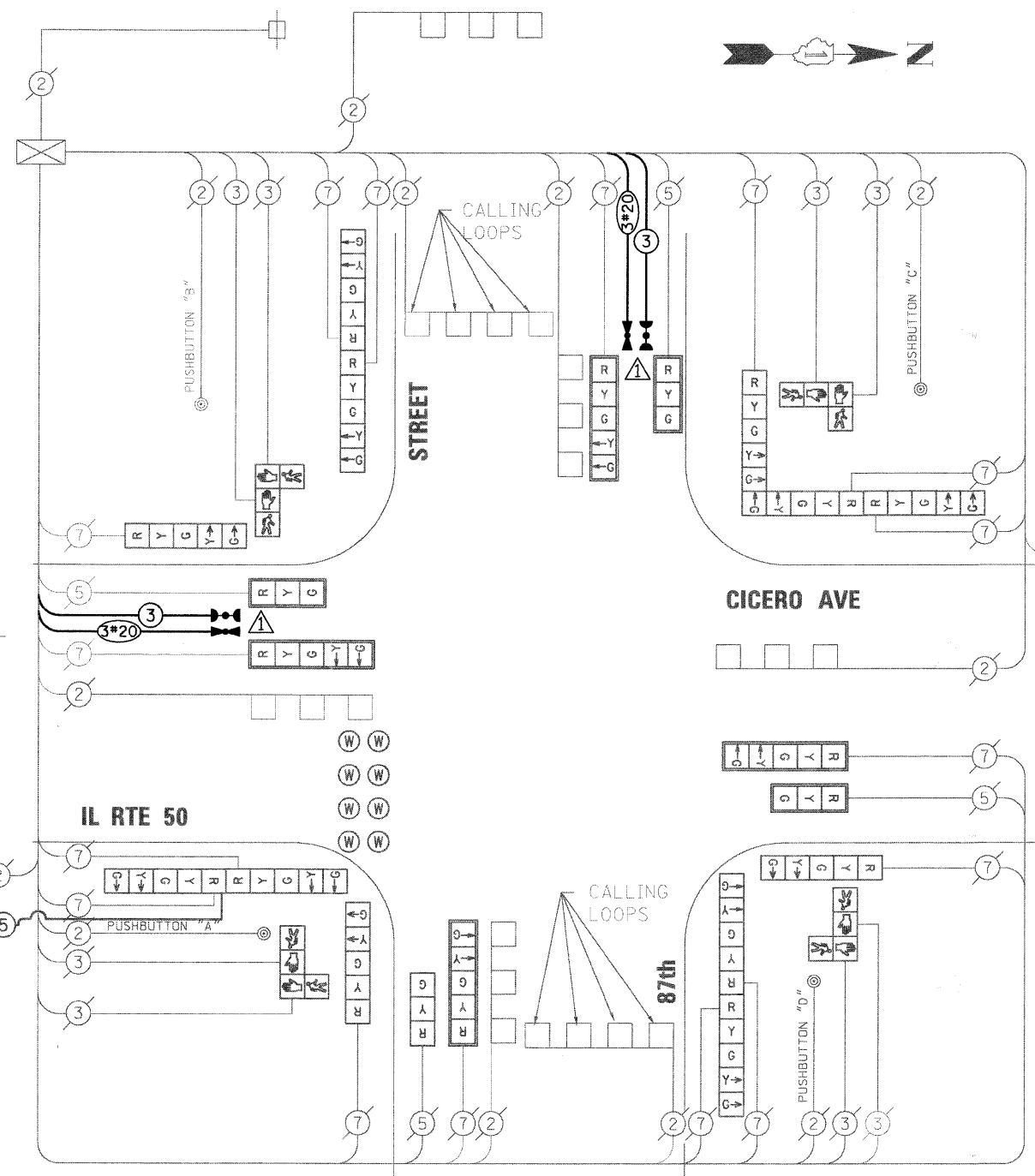


THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

| TYPE | NO. OF LAMPS | WATTAGE (INCAND.) | LED | % OPERATION | TOTAL WATTAGE |
|--------------|--------------|-------------------|------|-------------|---------------|
| SIGNAL (RED) | 20 | 17 | 0.50 | | 170.00 |
| (YELLOW) | 20 | 25 | 0.25 | | 125.00 |
| (GREEN) | 20 | 15 | 0.25 | | 75.00 |
| ARROW | 32 | 12 | 0.10 | | 38.40 |
| PED. SIGNAL | 8 | 25 | 1.00 | | 200.00 |
| CONTROLLER | 1 | 100 | 1.00 | | 100.00 |
| ILLUM. SIGN | - | 25 | 0.05 | | - |
| FLASHER | | | 0.50 | | - |
| TOTAL = | | | | | 708.40 |

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



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

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 385 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 385 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

- CABLE PLAN LEGEND**
- EXISTING: [Symbol] 8" TRAFFIC SIGNAL SECTION
 - PROPOSED: [Symbol] 12" TRAFFIC SIGNAL SECTION
 - [Symbol] 12" PEDESTRIAN SIGNAL SECTION
 - [Symbol] CONTROLLER CABINET
 - [Symbol] SERVICE INSTALLATION
 - [Symbol] VEHICLE DETECTOR, INDUCTION LOOP
 - [Symbol] MAGNETIC DETECTOR
 - [Symbol] EMERGENCY VEHICLE LIGHT DETECTOR
 - [Symbol] CONFIRMATION BEACON
 - [Symbol] PUSHBUTTON DETECTOR
 - [Symbol] DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
 - [Symbol] SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD.
 - [Symbol] NO. 62.5/125 12F FIBER OPTIC CABLE
 - [Symbol] NO. 10 1/C TRACER CABLE
 - [Symbol] RED LIGHT ENFORCEMENT CABINET
 - [Symbol] RED LIGHT ENFORCEMENT CAMERA
 - [Symbol] WIRELESS MAGNETIC DETECTOR
 - [Symbol] VENDOR SPECIFIC CABLE
 - [Symbol] GROUND ROD AT RED LIGHT ENFORCEMENT CABINET
 - [Symbol] GROUND ROD AT SERVICE INSTALLATION
 - [Symbol] GROUND ROD AT CAMERA POST

- CONSTRUCTION NOTES:**
- SIGNAL CHANGE INDICATIONS WILL BE RECEIVED THROUGH INDUCTANCE COILS ATTACHED TO SIGNAL CABLES IN TRAFFIC SIGNAL HEAD. NO DIRECT CONNECTIONS OR SPLICES ARE ALLOWED.
 - ALL SIGNAL HEADS TO BE REPLACED WITH L.E.D. (ALL SIGNAL IMPROVEMENTS MUST BE COMPLETED WITHIN 6 MONTHS OF THE START OF RED LIGHT CAMERA OPERATIONS.)
 - IDOT CONDUIT CAN ONLY BE USED TO FACILITATE THE ACQUISITION OF THE CHANGE INDICATION THROUGH THE USE OF INDUCTANCE COILS.
 - THE COMMUNICATION ANTENNA WILL BE MOUNTED TO THE RED LIGHT RUNNING CAMERA HOUSING. IT WILL BE USED FOR BOTH DETECTION AND ENFORCEMENT COMMUNICATION REQUIREMENTS.

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION

CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

ILLINOIS DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAY/DISTRICT 1
 201 WEST CENTER COURT/SCHAUMBURG, ILLINOIS 60196-1096
 ENERGY SUPPLY CONTACT: _____
 PHONE: _____
 COMPANY: _____

| 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'H-2" |
| E - M. ARM POLE | 10 (3.0) | SIGNAL POST | 2 (0.6) | 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) |
| 36" (900mm) | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5) | SERVICE TO GROUND | 13.5 (4.1) |
| | | GROUND CABLE | 1 (0.5) | POST MOUNTED | 6 (1.8) |

CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

CLIENT: _____

| NO. | DATE | NATURE OF REVISION | CHKD. |
|-----|------|--------------------|-------|
| | | | |

TITLE: **SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**
 87th STREET AND IL. ROUTE 50 (CICERO AVENUE)
 OAK LAWN, ILLINOIS

PROJECT NO. 080363
 SHEET 4 OF 48
 DRAWING NO.

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TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING | | PROPOSED | EXISTING |
|---------------------------------------|----------|----------|--|----------|----------|
| CONTROLLER | [Symbol] | [Symbol] | 6.5. CONDUIT IN TRENCH OR PUSHED | [Symbol] | [Symbol] |
| SERVICE INSTALLATION | [Symbol] | [Symbol] | PEDESTRIAN PUSHBUTTON DETECTOR | [Symbol] | [Symbol] |
| SIGNAL HEAD | [Symbol] | [Symbol] | DETECTOR LOOP | [Symbol] | [Symbol] |
| SIGNAL HEAD WITH BACKPLATE | [Symbol] | [Symbol] | CAST IRON JUNCTION BOX | [Symbol] | [Symbol] |
| SIGNAL HEAD, PEDESTRIAN | [Symbol] | [Symbol] | EMERGENCY VEHICLE SYSTEM DETECTOR | [Symbol] | [Symbol] |
| SIGNAL POLE | [Symbol] | [Symbol] | CONFIRMATION BEACON | [Symbol] | [Symbol] |
| WAST' ARK ASSEMBLY AND POLE, STEEL | [Symbol] | [Symbol] | SIGNAL HEAD OPTICALLY PROGRAMMED | [Symbol] | [Symbol] |
| WAST' ARK ASSEMBLY AND POLE, ALUMINUM | [Symbol] | [Symbol] | CONDUIT SPLICE | [Symbol] | [Symbol] |
| COMMON TRENCH | [Symbol] | [Symbol] | WOOD POLE | [Symbol] | [Symbol] |
| UNIT DUCT | [Symbol] | [Symbol] | RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II | [Symbol] | [Symbol] |
| HANDHOLE | [Symbol] | [Symbol] | VEHICLE DETECTOR, NON COMPENSATED | [Symbol] | [Symbol] |
| HEAVY DUTY HANDHOLE | [Symbol] | [Symbol] | MAGNETIC TYPE | [Symbol] | [Symbol] |
| DOUBLE HANDHOLE | [Symbol] | [Symbol] | RAILROAD CONTROL CABINET | [Symbol] | [Symbol] |
| | | | STREET LIGHT | [Symbol] | [Symbol] |
| | | | EMERGENCY VEHICLE LIGHT DETECTOR | [Symbol] | [Symbol] |
| | | | CONFIRMATION BEACON | [Symbol] | [Symbol] |

MATCHLINE A

INTERCONNECT TO 86TH STREET
 STOPPED INTERCONNECT CABLE TO BE REINSTALLED FOR PERMANENT INTERCONNECT SIGNAL INSTALLATION PLAN
 DRILL EXISTING HANDHOLE (U)

PROPOSED CONDUIT SPLICE ALLOWED ONLY AT EXISTING STREET LIGHT FOUNDATION. NO OTHER CONDUIT SPLICES SHALL BE ALLOWED. CONDUIT INSTALLATION MUST BE VERIFIED BY CONSULTANT PRIOR TO COVERING PROPOSED CONDUITS ON NORTHEAST CORNER.

REMOVE AND REPLACE SIDEWALK (1ST SLYD)
 EXISTING STREET LIGHT POLE

SCALE: 1"=20'

103rd St.

MATCHLINE B

CRAWFORD AVE.
(PULASKI AVE.)

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

CONSTRUCTION NOTE:
 TRENCHING, CONDUIT & UNIT DUCT INSTALLATION ON SOUTHWEST & NORTHWEST CORNERS SHALL BE DONE DURING PROPOSED ROADWAY IMPROVEMENT CONSTRUCTION. THIS WORK SHALL NOT REQUIRE A PAY ITEM FOR REMOVAL AND REPLACEMENT OF SIDEWALK.

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

NOTE: PAVEMENT MARKINGS BY OTHERS.

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

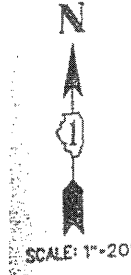
EDWIN HANCOCK ENGINEERING COMPANY
 CONSULTING ENGINEERS
 9933 ROOSEVELT ROAD WESTCHESTER, ILLINOIS 60154-2780
 (708) 865-0300 ESTABLISHED 1911

prepared by METRO for EDWIN HANCOCK COMPANY
 METRO TRANSPORTATION GROUP, INC.
 TRANSPORTATION PLANNING, ENGINEERING, AND DESIGN
 1500 GREENWOOD BLVD. WILLOW PARK, IL 60087
 PH# (630) 213-1000

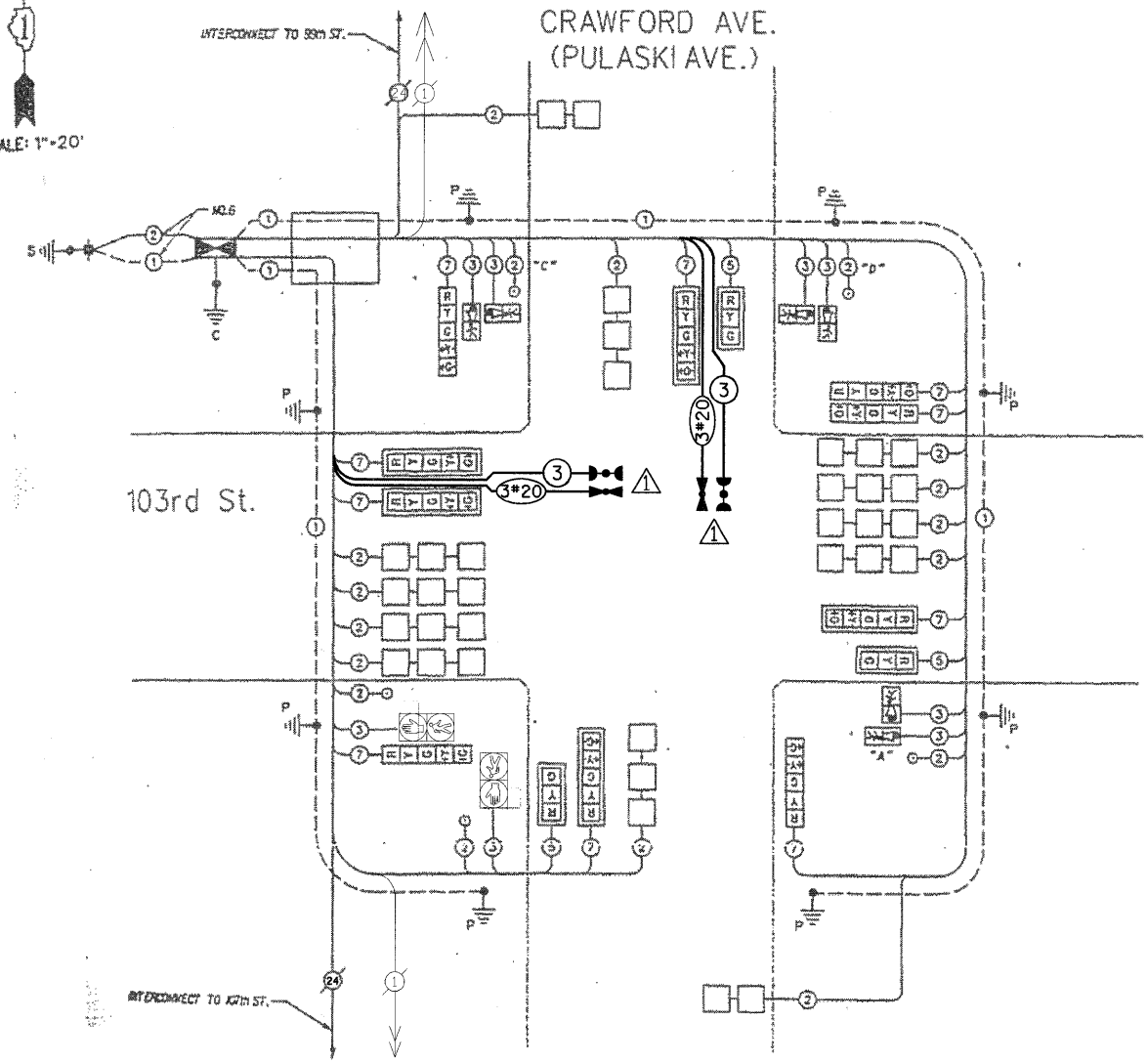


SIGNAL INSTALLATION PLAN
 103rd STREET at PULASKI AVE.
 OAKLAWN, ILLINOIS

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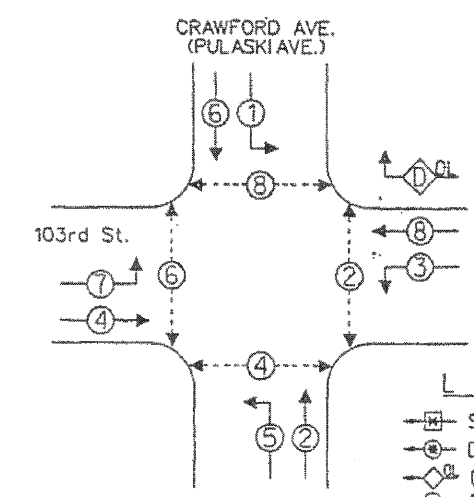
CABLE PLAN



CABLE PLAN LEGEND

- | | | |
|--|--|---|
| | | 8" (203MM) TRAFFIC SIGNAL SECTION |
| | | 12" (305MM) TRAFFIC SIGNAL SECTION |
| | | 12" (305MM) PEDESTRIAN SIGNAL SECTION |
| | | 12" (305MM) PEDESTRIAN SIGNAL SECTION |
| | | CONTROLLER CABINET |
| | | SERVICE INSTALLATION |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | PUSHBUTTON DETECTOR |
| | | Ⓢ DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | SIGNAL FACE WITH BACKPLATE * INDICATES PROGRAMMED HEAD |
| | | H/C GROUND ROD AT HANDHOLE OR CONTROLLER |
| | | P GROUND ROD AT POST OR MAST ARM POLE |
| | | S GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| | | E GROUND ROD EXISTING TO BE REUSED |
| | | --- GROUND CABLE IN CONDUIT, NO. 6 SOLID COPPER (GREEN) |
| | | Ⓢ NO. 62.5/125 MM 12F & SM 12F, FIBER OPTIC CABLE |
| | | Ⓢ NO. 14 IC TRACER CABLE |
| | | ⚠ EMERGENCY VEHICLE LIGHT DETECTOR |
| | | ⚠ CONFIRMATION BEACON |

EXISTING AND PROPOSED CONTROLLER SEQUENCE



LEGEND

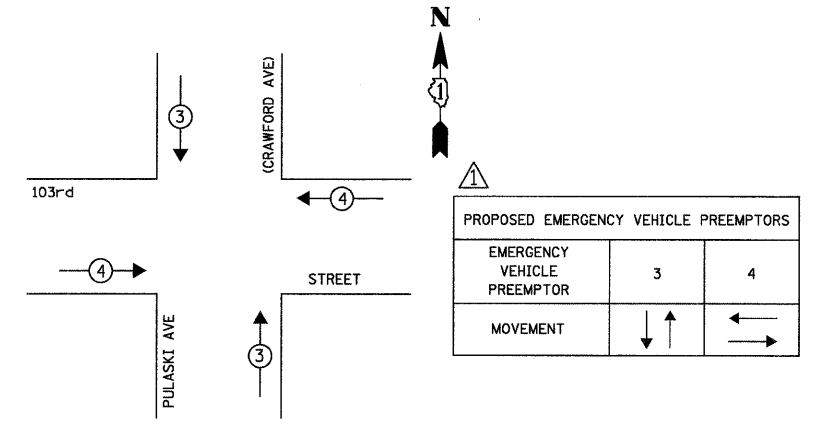
- SINGLE ENTRY PHASE
- DUAL ENTRY PHASE
- OVERLAP
- PEDESTRIAN PHASE
- * NUMBER REFERS TO ASSOCIATED PHASE.

PHASE DESIGNATION DIAGRAM

RIGHT TURN OVERLAP PHASE DESIGNATION

| OVERLAP LETTER | PERMISSIVE PHASE | PROTECTED PHASE |
|----------------|------------------|-----------------|
| 0 | = | 8 + 1 |

EMERGENCY VEHICLE PREEMPTION SEQUENCE



SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 244 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 244 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

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

| TYPE | NO. OF LAMPS | WATTAGE | % OPERATION | TOTAL WATTAGE |
|--------------|--------------|---------|-------------|---------------|
| SIGNAL (RED) | 13 | 17 | 0.50 | 110.50 |
| (YELLOW) | 13 | 25 | 0.25 | 81.25 |
| (GREEN) | 13 | 15 | 0.25 | 48.75 |
| ARROW | 20 | 12 | 0.10 | 24.00 |
| PED. SIGNAL | 8 | 25 | 1.00 | 200.00 |
| CONTROLLER | 1 | 100 | 1.00 | 100.00 |
| ILLUM. SIGN | - | 25 | 0.05 | - |
| FLASHER | | 0.50 | | |
| TOTAL = | | | | 564.50 |

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

| 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 (0.6) | | (6m-H-0.6m) |
| 24" (600mm) | 10 (3.0) | CONTROLLER CAB. | 1 (0.3) | 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 (0.3) | ELECTRIC SERVICE | 13.5 (4.1) |
| | | GROUND CABLE | 1 (0.3) | SERVICE TO GROUND | 13.5 (4.1) |
| | | | | POST MOUNTED | 6 (1.8) |

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

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

N:\Oaklawn\080363\T-traffic\VP_Pulaski-103r.dwg

EDWIN HANCOCK ENGINEERING COMPANY
 CONSULTING ENGINEERS
 9933 ROOSEVELT ROAD
 WESTCHESTER, ILLINOIS 60154-2780
 (708) 865-0300
 ESTABLISHED 1911

prepared by METRO for EDWIN HANCOCK COMPANY
 METRO TRANSPORTATION GROUP, INC.
 TRANSPORTATION, PLANNING, ENGINEERING, AND DESIGN
 1500 GREENWOOD BLVD., HANOVER PARK, IL 60139
 PH# (630) 213-1000

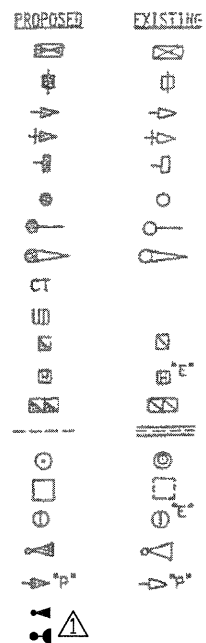


CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
 103rd STREET at PULASKI AVE.
 OAKLAWN, ILLINOIS

| | |
|-------------|--------------|
| SCALE: | SHEET |
| DRAWN BY: | 77 |
| BOOK NO.: | 1386 |
| DATE: | 12-7-01 |
| REVISION: | 2-8-02 |
| E.H.E. NO.: | 640-00-25101 |

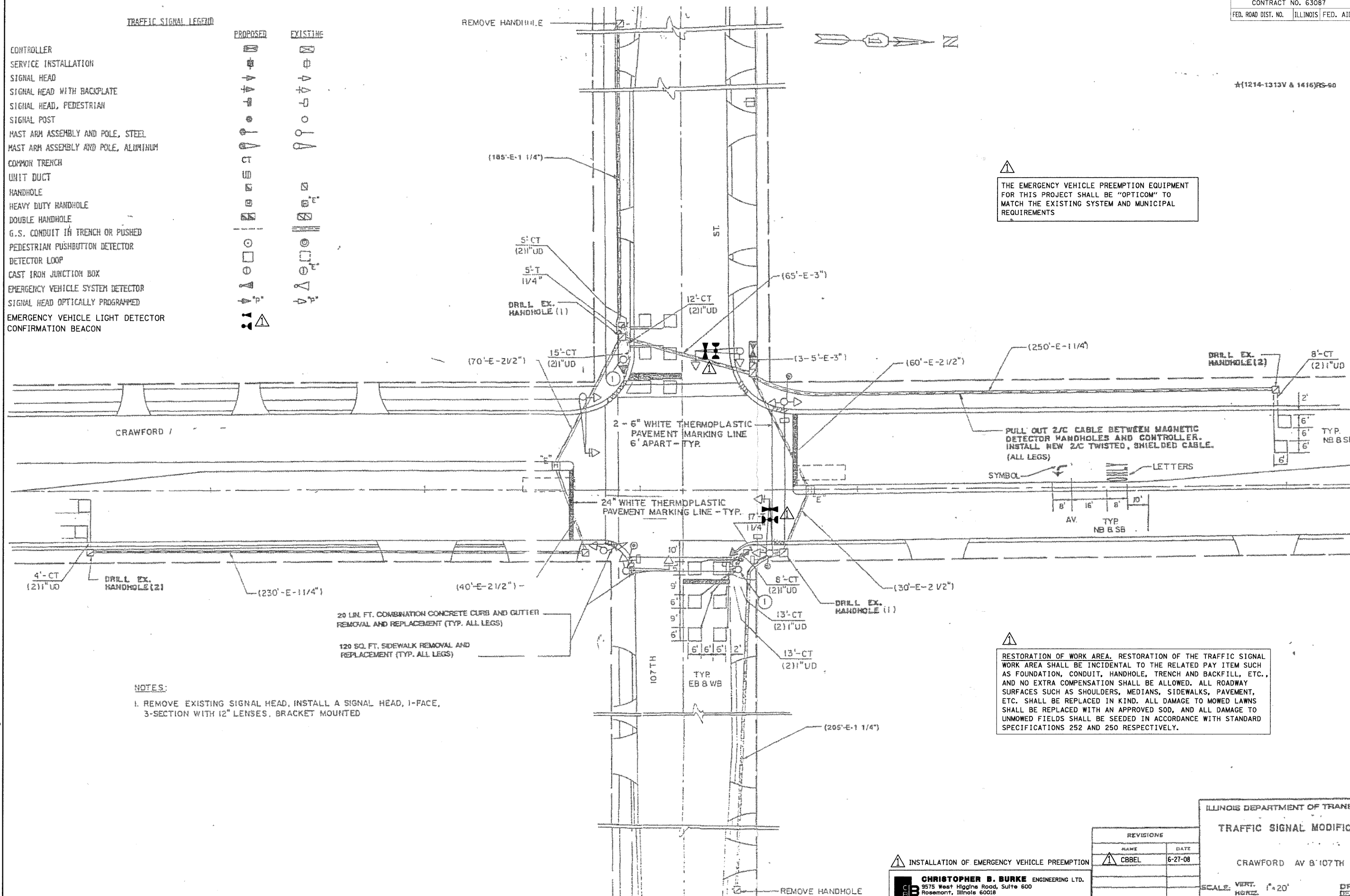
TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMMON TRENCH
- UNIT DUCT
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN TRENCH OR PUSHED
- PEDESTRIAN PUSHBUTTON DETECTOR
- DETECTOR LOOP
- CAST IRON JUNCTION BOX
- EMERGENCY VEHICLE SYSTEM DETECTOR
- SIGNAL HEAD OPTICALLY PROGRAMMED
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON



★(1214-1313V & 1416)RS-80

▲ THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS



NOTES:

1. REMOVE EXISTING SIGNAL HEAD, INSTALL A SIGNAL HEAD, 1-FACE, 3-SECTION WITH 12" LENSES, BRACKET MOUNTED

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

N:\ockLawn\080363 VT-offfic VEP_Pulseki-107th.dgn

▲ INSTALLATION OF EMERGENCY VEHICLE PREEMPTION

CHRISTOPHER B. BURKE ENGINEERING LTD.
 3575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

| REVISIONS | |
|-----------|---------|
| NAME | DATE |
| CBBEL | 6-27-08 |
| | |
| | |

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATIONS

CRAWFORD AV & 107TH ST

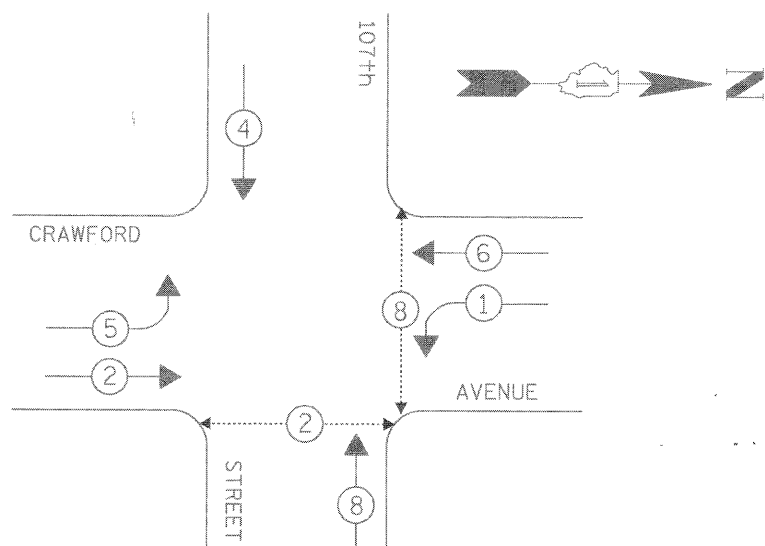
SCALE: VERT. 1"=20'
 HORIZ. 1"=20'

DATE 2-7-90

DRAWN BY APZ
 DESIGNED BY RKF
 CHECKED BY DAZ

CONTROLLER SEQUENCE IV

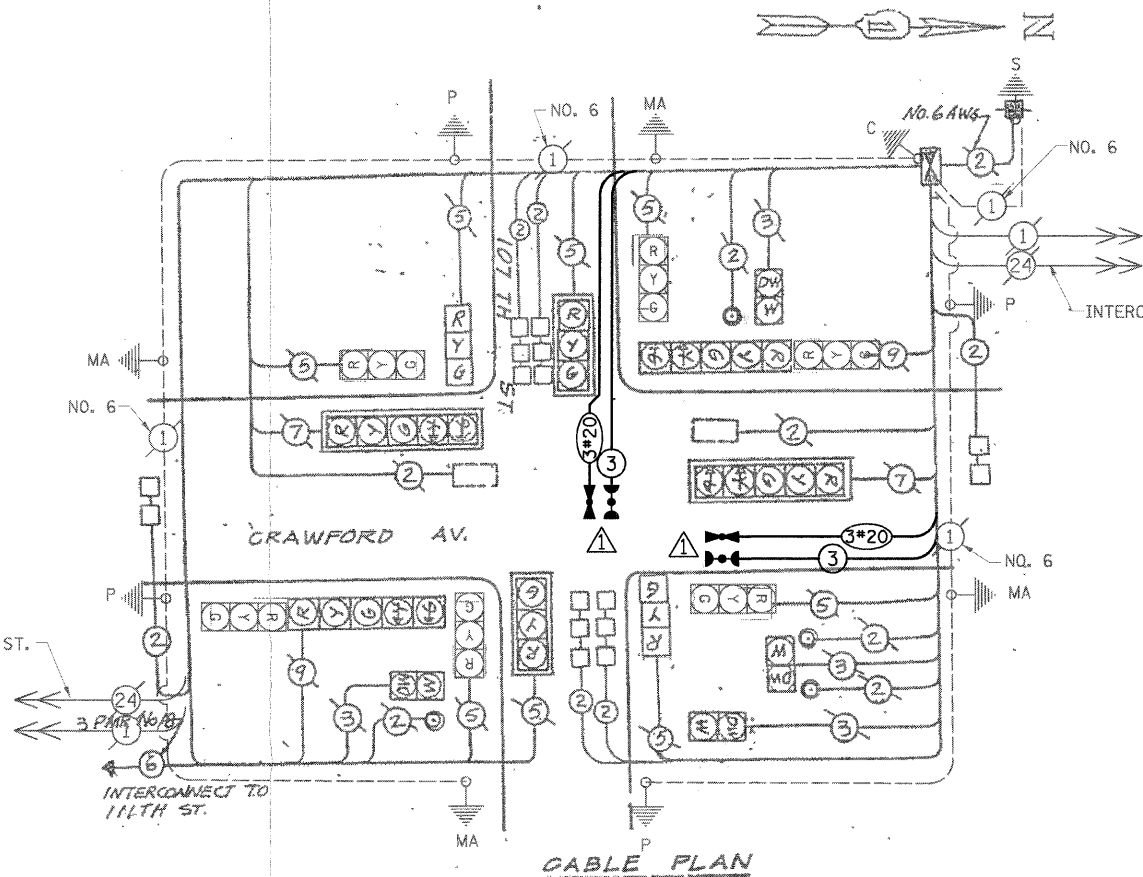
REFERRING TO STANDARD 2393-1, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW.



LEGEND

- ← * → VEHICULAR MOVEMENT
- ← * → PEDESTRIAN MOVEMENT
- * NUMBER REFERS TO ASSOCIATED PHASE

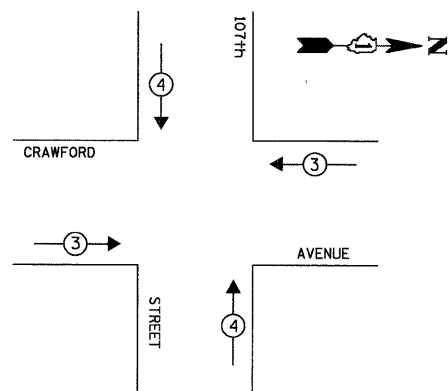
PHASE DESIGNATION DIAGRAM



CABLE PLAN LEGEND

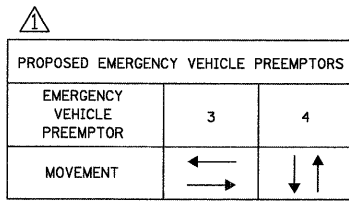
- [6] 6" TRAFFIC SIGNAL SECTION
- [R] 12" TRAFFIC SIGNAL SECTION
- [W] 12" PEDESTRIAN SIGNAL SECTION
- [C] CONTROLLER CABINET
- [S] SERVICE INSTALLATION
- [V] VEHICLE DETECTOR, INDUCTION LOOP
- [P] PUSHBUTTON DETECTOR
- (2) DENOTES NUMBER OF CONDUCTORS (NEW). ALL LOOP DETECTOR CABLE TO BE SHIELDED. ALL CABLE NO. 14 EXCEPT AS INDICATED.
- (2) INDICATES EXISTING CABLE
- [R Y G] SIGNAL FACE WITH BACKPLATE "P" INDICATES PROGRAMMED
- [R] EXISTING SIGNAL SECTION
- (P) EXISTING PUSHBUTTON DETECTOR
- [V] VEHICLE DETECTOR, INDUCTION LOOP, EXISTING
- [V] EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON

EMERGENCY VEHICLE PREEMPTION SEQUENCE



SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 245 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 245 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |



THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION

CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

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

| TYPE | NO. OF LAMPS | WATTAGE | % OPERATION | TOTAL WATTAGE |
|--------------------------|--------------|---------------|-------------|---------------|
| | | X INCAND. LED | | |
| SIGNAL (RED) | 14 | 135 | 0.50 | 945.00 |
| (YELLOW) | 14 | 135 | 0.25 | 472.50 |
| (GREEN) | 14 | 135 | 0.25 | 472.50 |
| ARROW | 8 | 135 | 0.10 | 108.00 |
| PED. SIGNAL | 4 | 90 | 1.00 | 360.00 |
| CONTROLLER | 1 | 100 | 1.00 | 100.00 |
| ILLUM. SIGN | | 252 | 0.05 | - |
| FLASHER | | | 0.50 | |
| ENERGY COSTS TO: TOTAL = | | | | 2458.00 |

| 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'-H-2= |
| E - M. ARM POLE | | SIGNAL POST | 2 (1.0) | | (6m+L-0.6m)= |
| 24" (600mm) | 10 (3.0) | CONTROLLER CAB. | 1 (0.5) | BRACKET MOUNTED | 13 (4.0) |
| 30" (750mm) | 15 (4.6) | FIBER OPTIC | 13 (4.0) | PED. PUSHBUTTON | 4 (1.2) |
| 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) |

ILLINOIS DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAY/DISTRICT 1
 201 WEST CENTER COURT/SCHAUMBURG, ILLINOIS 60196-1096
 ENERGY SUPPLY: CONTACT: _____
 PHONE: _____
 COMPANY: _____

REVISIONS

| NAME | DATE |
|-------|---------|
| CBBEL | 6-27-08 |

ILLINOIS DEPARTMENT OF TRANSPORTATION

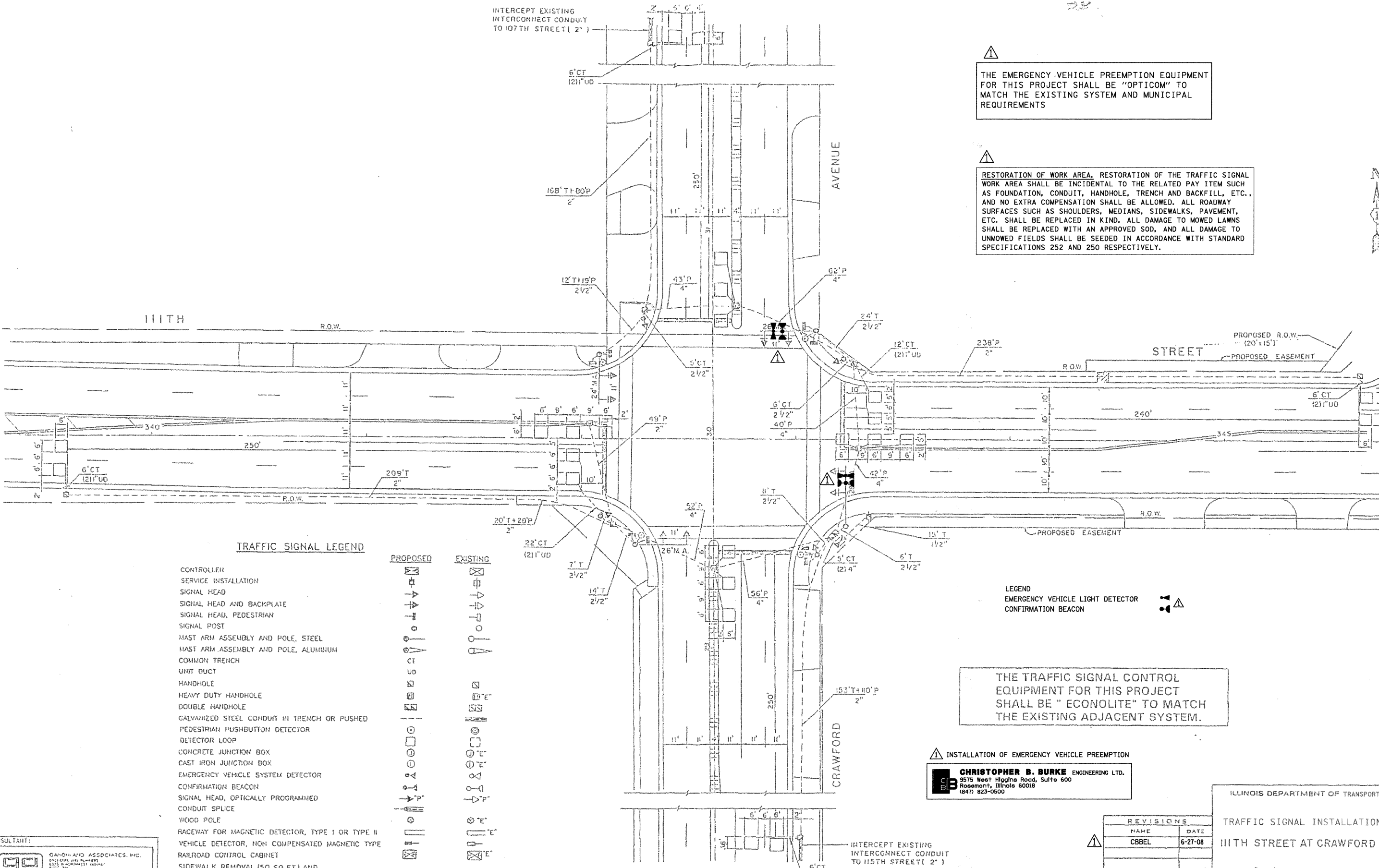
CABLE PLAN
PHASE DESIGNATION DIAGRAM
SCHEDULE OF QUANTITIES

CRAWFORD AV & 107TH ST

SCALE: VERT. NONE
 HORIZ. 2-8-90

DRAWN BY: _____
 CHECKED BY: _____
 DATE: 2-8-90

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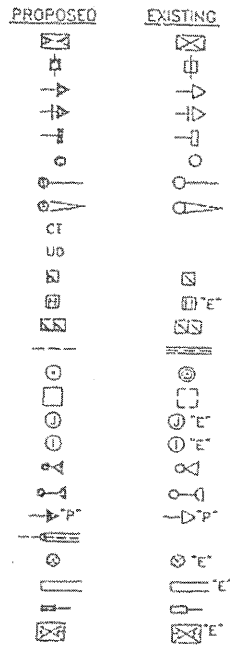


⚠ THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD AND BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMMON TRENCH
- UNT DUCT
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- GALVANIZED STEEL CONDUIT IN TRENCH OR PUSHED
- PEDESTRIAN PUSHBUTTON DETECTOR
- DETECTOR LOOP
- CONCRETE JUNCTION BOX
- CAST IRON JUNCTION BOX
- EMERGENCY VEHICLE SYSTEM DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD, OPTICALLY PROGRAMMED
- CONDUIT SPLICE
- WOOD POLE
- RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II
- VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE
- RAILROAD CONTROL CABINET
- SIDEWALK REMOVAL (50 SQ. FT.) AND PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH (50 SQ. FT.)



LEGEND
EMERGENCY VEHICLE LIGHT DETECTOR
CONFIRMATION BEACON

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

⚠ INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(647) 823-0500

| REVISIONS | |
|-----------|---------|
| NAME | DATE |
| CBBEL | 6-27-08 |
| | |
| | |
| | |

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL INSTALLATION
111TH STREET AT CRAWFORD

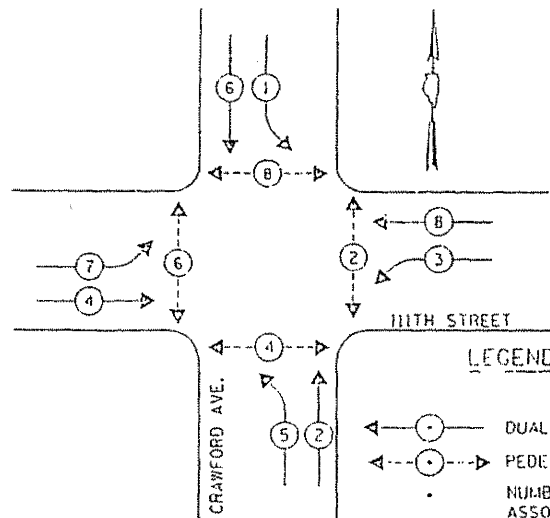
SCALE: 1" = 20'
DATE: 1-10-97
DRAWN: _____
CHECKED: _____

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CONSULTANT:
GD
GARDNER AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
1225 N. WASHINGTON STREET
CHICAGO, ILLINOIS 60610
TEL: 312.467.5500 FAX: 312.467.5501

CONTROLLER SEQUENCE

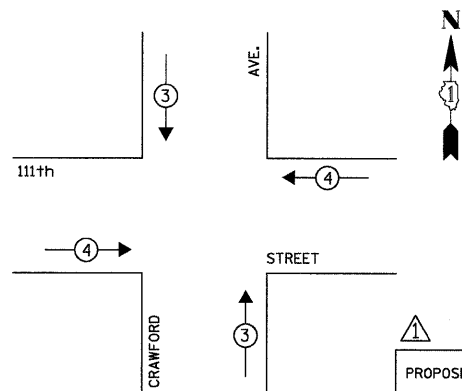
REFERRING TO STANDARD B5700 THE VEHICULAR AND PEDESTRIAN PHASE USED ARE DESIGNATED BELOW.



PHASE DESIGNATION DIAGRAM

DUAL ENTRY - ALL LEGS
PROTECTED/PERMITTED LEFT TURN PHASING

EMERGENCY VEHICLE PREEMPTION SEQUENCE



| PROPOSED EMERGENCY VEHICLE PREEMPTORS | | |
|---------------------------------------|-----|-----|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
| MOVEMENT | ↓ ↑ | ← → |



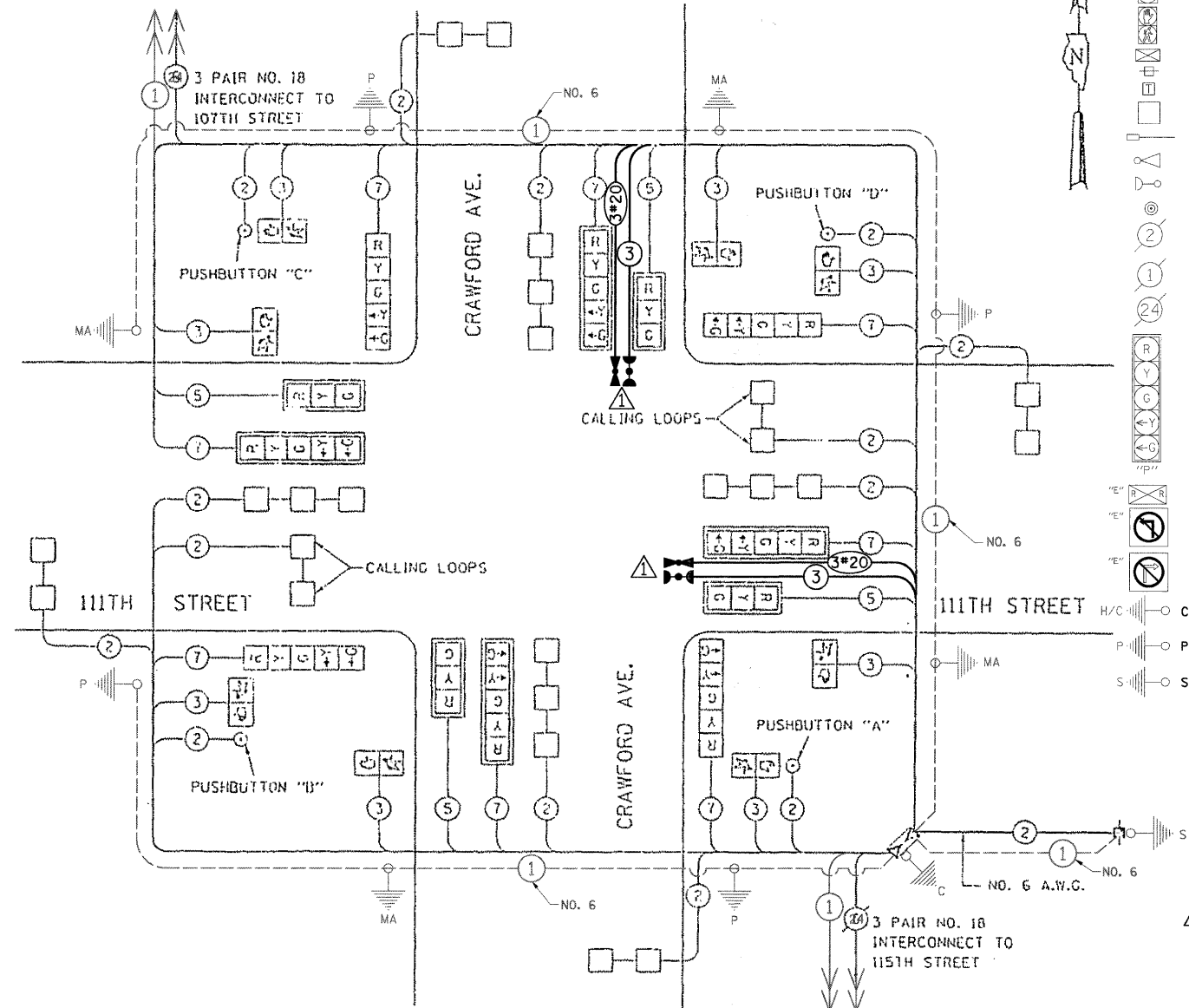
THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS



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

CABLE PLAN LEGEND

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



CABLE DIAGRAM

NOT TO SCALE

PUSHBUTTON NOTES:

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

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 258 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 258 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | TOTAL WATTAGE | |
|--|--------------|----------|-----|---------------|---------|
| TYPE | NO. OF LAMPS | WATTAGE | | | |
| | | KINCAND. | LED | % OPERATION | |
| SIGNAL (RED) | 12 | 135 | | 0.50 | 810.00 |
| (YELLOW) | 12 | 135 | | 0.25 | 405.00 |
| (GREEN) | 12 | 135 | | 0.25 | 405.00 |
| ARROW | 16 | 135 | | 0.10 | 216.00 |
| PED. SIGNAL | 8 | 90 | | 1.00 | 720.00 |
| CONTROLLER | 1 | 100 | | 1.00 | 100.00 |
| ILLUM. SIGN | - | 252 | | 0.05 | - |
| FLASHER | | | | 0.50 | - |
| ENERGY COSTS TO: | | | | TOTAL = | 2656.00 |

| 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) | | (6m+L-0.6m) |
| 24" (600mm) | 10 (3.0) | CONTROLLER CAB. | 1 (0.5) | BRACKET MOUNTED | 13 (4.0) |
| 30" (750mm) | 15 (4.5) | 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) |

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
6035 N. NORTHWEST HIGHWAY
SUITE 306
CHICAGO, ILLINOIS 60631 TEL: (773) 324-5790

CHRISTOPHER B. BURKE ENGINEERING LTD.
3575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

| REVISIONS | |
|-----------|---------|
| NAME | DATE |
| CBBEL | 6-27-08 |

ILLINOIS DEPARTMENT OF TRANSPORTATION
CABLE DIAGRAM
PHASE DESIGNATION DIAGRAM
SCHEDULE OF QUANTITIES
111TH STREET AT CRAWFORD AVENUE
SCALE: NOT TO SCALE DRAWN
DATE: 1-18-97 CHECKED

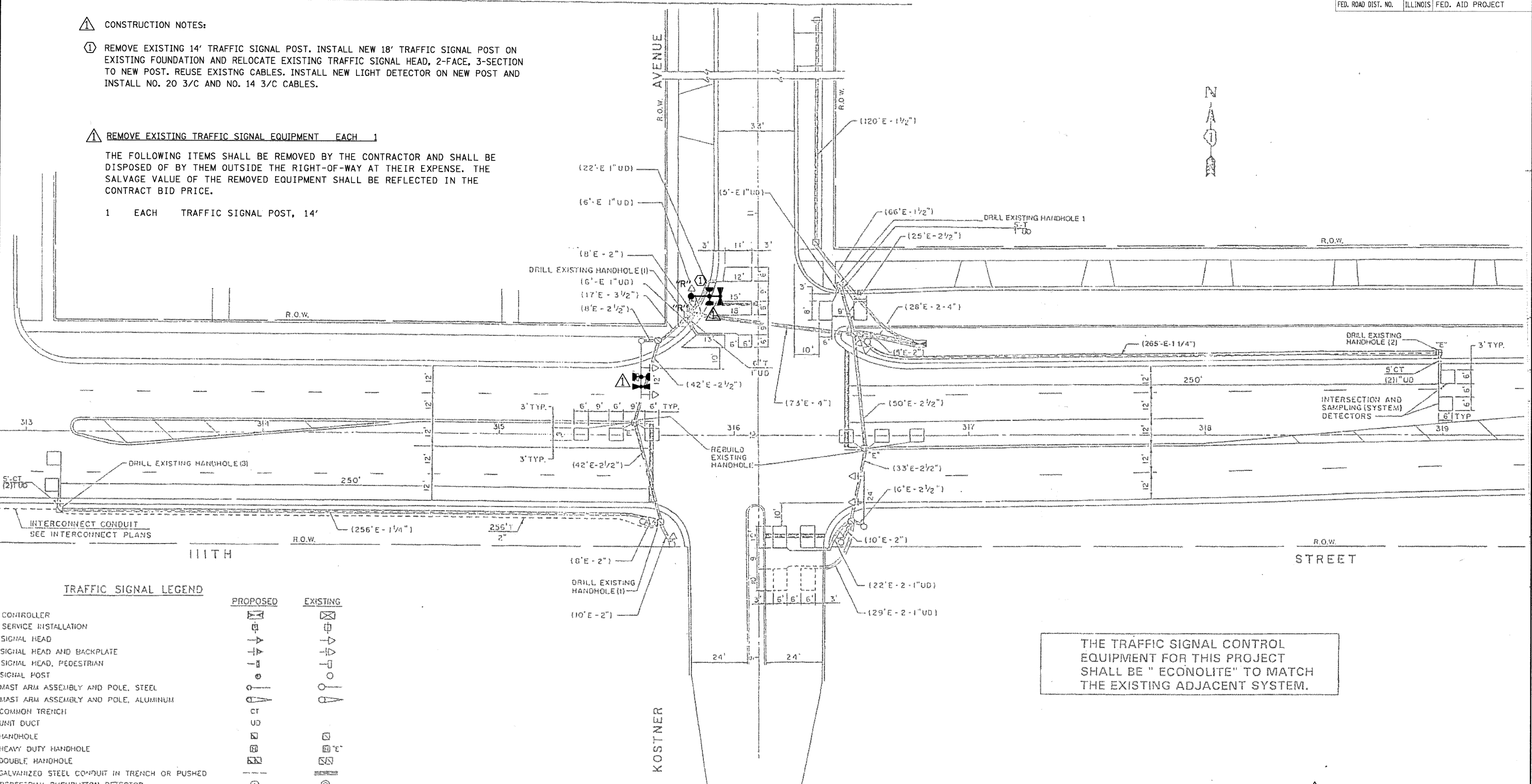
CONSTRUCTION NOTES:

① REMOVE EXISTING 14' TRAFFIC SIGNAL POST. INSTALL NEW 18' TRAFFIC SIGNAL POST ON EXISTING FOUNDATION AND RELOCATE EXISTING TRAFFIC SIGNAL HEAD, 2-FACE, 3-SECTION TO NEW POST. REUSE EXISTING CABLES. INSTALL NEW LIGHT DETECTOR ON NEW POST AND INSTALL NO. 20 3/C AND NO. 14 3/C CABLES.

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT EACH 1

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

1 EACH TRAFFIC SIGNAL POST, 14'



TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER | [Symbol] | [Symbol] |
| SERVICE INSTALLATION | [Symbol] | [Symbol] |
| SIGNAL HEAD | [Symbol] | [Symbol] |
| SIGNAL HEAD AND BACKPLATE | [Symbol] | [Symbol] |
| SIGNAL HEAD, PEDESTRIAN | [Symbol] | [Symbol] |
| SIGNAL POST | [Symbol] | [Symbol] |
| MAST ARM ASSEMBLY AND POLE, STEEL | [Symbol] | [Symbol] |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | [Symbol] | [Symbol] |
| COMMON TRENCH | [Symbol] | [Symbol] |
| UNIT DUCT | [Symbol] | [Symbol] |
| HANDHOLE | [Symbol] | [Symbol] |
| HEAVY DUTY HANDHOLE | [Symbol] | [Symbol] |
| DOUBLE HANDHOLE | [Symbol] | [Symbol] |
| GALVANIZED STEEL CONDUIT IN TRENCH OR PUSHED | [Symbol] | [Symbol] |
| PEDESTRIAN PUSHBUTTON DETECTOR | [Symbol] | [Symbol] |
| DETECTOR LOOP | [Symbol] | [Symbol] |
| CONCRETE JUNCTION BOX | [Symbol] | [Symbol] |
| CAST IRON JUNCTION BOX | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE SYSTEM DETECTOR | [Symbol] | [Symbol] |
| CONFIRMATION BEACON | [Symbol] | [Symbol] |
| SIGNAL HEAD, OPTICALLY PROGRAMMED | [Symbol] | [Symbol] |
| CONDUIT SPICE | [Symbol] | [Symbol] |
| WOOD POLE | [Symbol] | [Symbol] |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II | [Symbol] | [Symbol] |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE LIGHT DETECTOR | [Symbol] | [Symbol] |
| CONFIRMATION BEACON | [Symbol] | [Symbol] |
| RELOCATE | [Symbol] | [Symbol] |

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

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

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

ILLINOIS DEPARTMENT OF TRANSPORTATION
 TRAFFIC SIGNAL MODIFICATION PLAN
 111TH STREET AT KOSTNER AVENUE

| REVISIONS | |
|-----------|---------|
| NAME | DATE |
| CBBEL | 6-27-08 |
| | |
| | |

CONSULTANT:

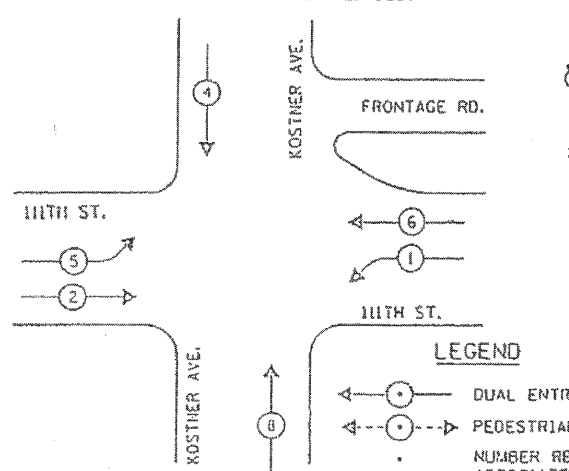
 GANDHI AND ASSOCIATES, INC.
 1100 S. W. 10TH AVE.
 SUITE 100
 MIAMI, FL 33135
 (305) 551-1111

SCALE: 1" = 20'
 DATE: 5-18-97
 DRAWN BY: M.
 CHECKED BY:

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CONTROLLER SEQUENCE

REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN PHASE USED ARE DESIGNATED BELOW.



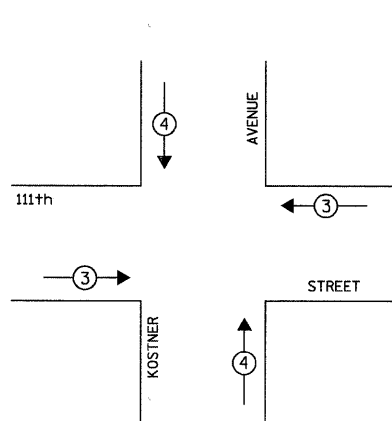
LEGEND

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

PHASE DESIGNATION DIAGRAM

DUAL ENTRY - ALL LEGS
PROTECTED/PERMITTED LEFT TURN PHASING

EMERGENCY VEHICLE PREEMPTION SEQUENCE



| PROPOSED EMERGENCY VEHICLE PREEMPTORS | | |
|---------------------------------------|---|---|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
| MOVEMENT | ← | ↑ |

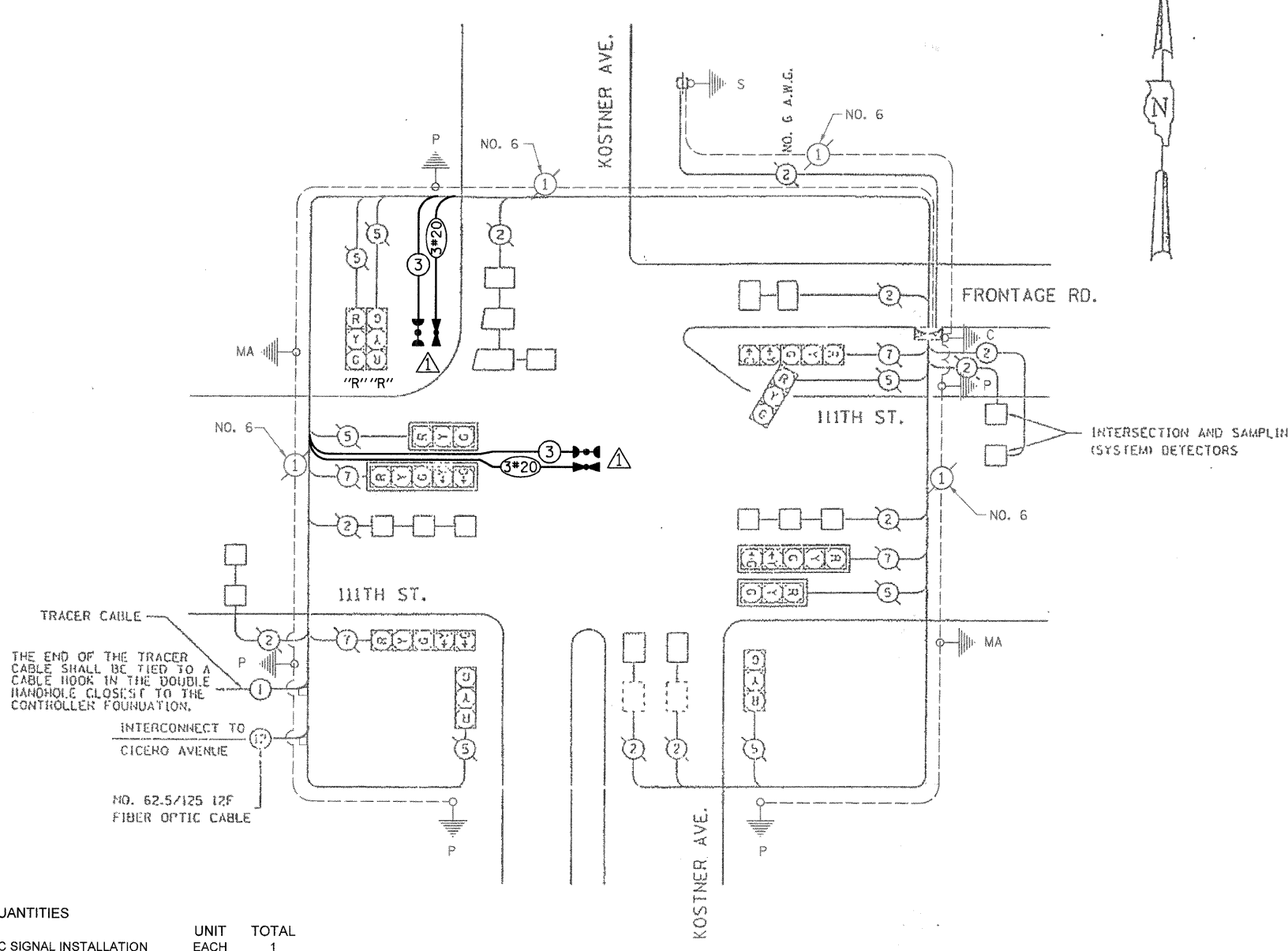
SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 355 |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT. | EACH | 1 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| RELOCATE EXISTING SIGNAL HEAD | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 355 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

| 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' 4L-2" |
| E - M. ARM POLE | | SIGNAL POST | 2 (0.6) | | (6m+1-0.6m) |
| 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) |

CABLE DIAGRAM

NOT TO SCALE



CABLE PLAN LEGEND

- 8' TRAFFIC SIGNAL SECTION
- 12' TRAFFIC SIGNAL SECTION
- PEDESTRIAN SIGNAL
- EXISTING PEDESTRIAN SIGNAL
- PROPOSED CONTROLLER CABINET
- EXISTING SERVICE INSTALLATION
- EXISTING VEHICLE DETECTOR, INDUCTION LOOP
- PROPOSED VEHICLE DETECTOR, INDUCTION LOOP
- PROPOSED PUSHBUTTON DETECTOR
- EXISTING PUSHBUTTON DETECTOR
- 2 DENOTES NUMBER OF CONDUCTORS. (NEW) ALL LOOP DETECTOR CABLE TO BE SHIELDED. ALL CABLE NO. 14 EXCEPT AS INDICATED.
- 2 INDICATES EXISTING CABLE
- SIGNAL FACE WITH BACKPLATE. 'P' INDICATES PROGRAMMED HEAD.
- EXISTING TRAFFIC SIGNAL SECTION
- EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON
- 'R' RELOCATE

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

| REVISIONS | |
|-----------|---------|
| NAME | DATE |
| CBBEL | 6-27-08 |

ILLINOIS DEPARTMENT OF TRANSPORTATION
CABLE DIAGRAM
PHASE DESIGNATION DIAGRAM
SCHEDULE OF QUANTITIES
111TH STREET AT KOSTNER AVE.
SCALE: NOT TO SCALE
DATE: 1-18-97
DRAWN BY: SO
CHECKED BY: PKI

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

| TYPE | NO. OF LAMPS | WATTAGE | LED X % OPERATION | TOTAL WATTAGE |
|------------------|--------------|---------|-------------------|-----------------|
| SIGNAL (RED) | 11 | 135 | 0.50 | 742.50 |
| (YELLOW) | 11 | 135 | 0.25 | 371.25 |
| (GREEN) | 11 | 135 | 0.25 | 371.25 |
| ARROW | 8 | 135 | 0.10 | 108.00 |
| PED. SIGNAL | - | 90 | 1.00 | - |
| CONTROLLER | 1 | 100 | 1.00 | 100.00 |
| ILLUM. SIGN | - | 252 | 0.05 | - |
| FLASHER | | | 0.50 | |
| ENERGY COSTS TO: | | | | TOTAL = 1693.00 |

ILLINOIS DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAY/DISTRICT 1
201 WEST CENTER COURT/SCHAUMBURG, ILLINOIS 60196-1096
ENERGY SUPPLY: CONTACT:
PHONE:
COMPANY:

GANDHI AND ASSOCIATES, INC.
ENGINEERS AND PLANNERS
8051 N. NORTHWEST HIGHWAY
SUITE 300
CHICAGO, ILLINOIS 60631 TEL: 773-714-5900

CONSTRUCTION NOTES:

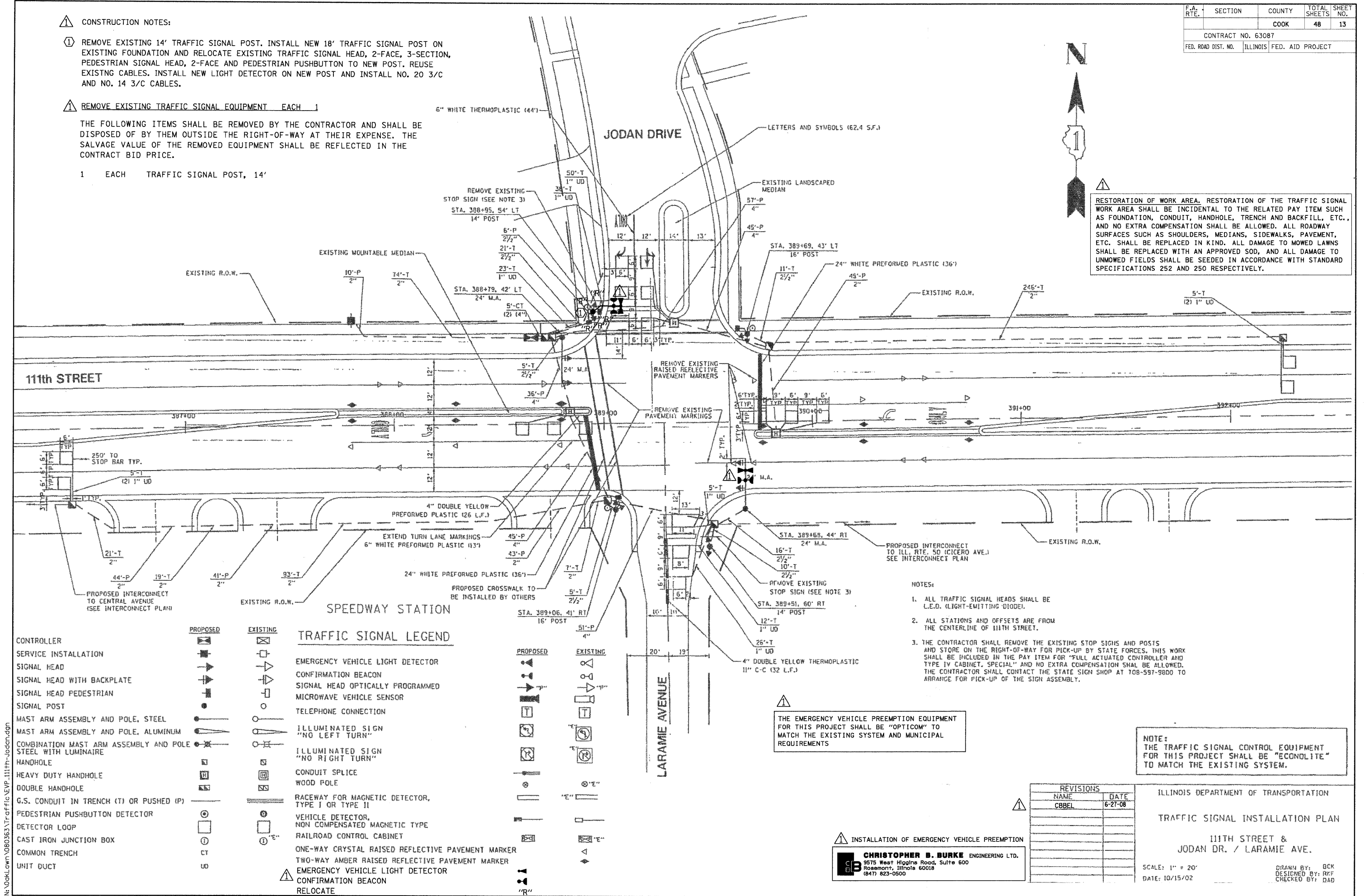
① REMOVE EXISTING 14' TRAFFIC SIGNAL POST. INSTALL NEW 18' TRAFFIC SIGNAL POST ON EXISTING FOUNDATION AND RELOCATE EXISTING TRAFFIC SIGNAL HEAD, 2-FACE, 3-SECTION, PEDESTRIAN SIGNAL HEAD, 2-FACE AND PEDESTRIAN PUSHBUTTON TO NEW POST. REUSE EXISTING CABLES. INSTALL NEW LIGHT DETECTOR ON NEW POST AND INSTALL NO. 20 3/C AND NO. 14 3/C CABLES.

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT EACH

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

- 1 EACH TRAFFIC SIGNAL POST, 14'

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



- NOTES:**
- ALL TRAFFIC SIGNAL HEADS SHALL BE L.E.D. (LIGHT-EMITTING DIODE).
 - ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF 111TH STREET.
 - THE CONTRACTOR SHALL REMOVE THE EXISTING STOP SIGNS AND POSTS AND STORE ON THE RIGHT-OF-WAY FOR PICK-UP BY STATE FORCES. THIS WORK SHALL BE INCLUDED IN THE PAY ITEM FOR "FULL ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL" AND NO EXTRA COMPENSATION SHALL BE ALLOWED. THE CONTRACTOR SHALL CONTACT THE STATE SIGN SHOP AT 708-597-9800 TO ARRANGE FOR PICK-UP OF THE SIGN ASSEMBLY.

① THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

| CONTROLLER | PROPOSED | EXISTING |
|---|----------|----------|
| SERVICE INSTALLATION | [Symbol] | [Symbol] |
| SIGNAL HEAD | [Symbol] | [Symbol] |
| SIGNAL HEAD WITH BACKPLATE | [Symbol] | [Symbol] |
| SIGNAL HEAD PEDESTRIAN | [Symbol] | [Symbol] |
| SIGNAL POST | [Symbol] | [Symbol] |
| MAST ARM ASSEMBLY AND POLE, STEEL | [Symbol] | [Symbol] |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | [Symbol] | [Symbol] |
| COMBINATION MAST ARM ASSEMBLY AND POLE STEEL WITH LUMINAIRE | [Symbol] | [Symbol] |
| HANDHOLE | [Symbol] | [Symbol] |
| HEAVY DUTY HANDHOLE | [Symbol] | [Symbol] |
| DOUBLE HANDHOLE | [Symbol] | [Symbol] |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | [Symbol] | [Symbol] |
| PEDESTRIAN PUSHBUTTON DETECTOR | [Symbol] | [Symbol] |
| DETECTOR LOOP | [Symbol] | [Symbol] |
| CAST IRON JUNCTION BOX | [Symbol] | [Symbol] |
| COMMON TRENCH | [Symbol] | [Symbol] |
| UNIT DUCT | [Symbol] | [Symbol] |

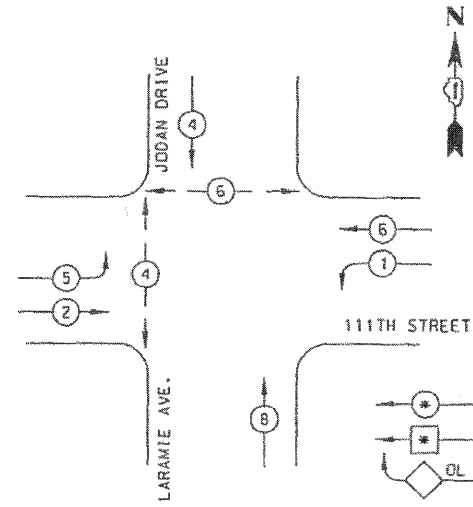
| TRAFFIC SIGNAL LEGEND | PROPOSED | EXISTING |
|---|----------|----------|
| EMERGENCY VEHICLE LIGHT DETECTOR | [Symbol] | [Symbol] |
| CONFIRMATION BEACON | [Symbol] | [Symbol] |
| SIGNAL HEAD OPTICALLY PROGRAMMED | [Symbol] | [Symbol] |
| MICROWAVE VEHICLE SENSOR | [Symbol] | [Symbol] |
| TELEPHONE CONNECTION | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO LEFT TURN" | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO RIGHT TURN" | [Symbol] | [Symbol] |
| CONDUIT SPLICE | [Symbol] | [Symbol] |
| WOOD POLE | [Symbol] | [Symbol] |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II | [Symbol] | [Symbol] |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET | [Symbol] | [Symbol] |
| ONE-WAY CRYSTAL RAISED REFLECTIVE PAVEMENT MARKER | [Symbol] | [Symbol] |
| TWO-WAY AMBER RAISED REFLECTIVE PAVEMENT MARKER | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE LIGHT DETECTOR | [Symbol] | [Symbol] |
| CONFIRMATION BEACON | [Symbol] | [Symbol] |
| RELOCATE | [Symbol] | [Symbol] |

| REVISIONS | |
|-----------|---------|
| NAME | DATE |
| CBBEL | 6-27-08 |
| | |
| | |
| | |
| | |

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

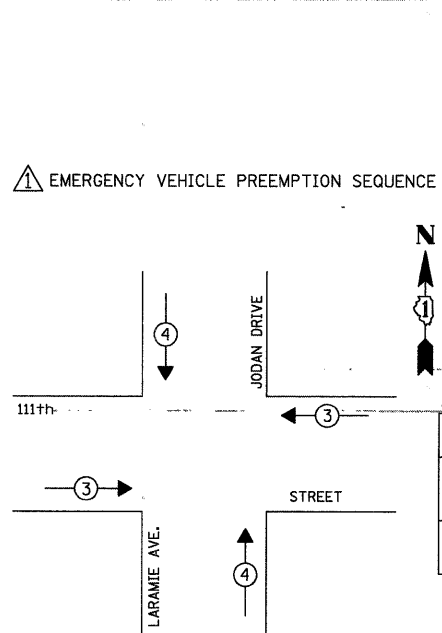
ILLINOIS DEPARTMENT OF TRANSPORTATION
 TRAFFIC SIGNAL INSTALLATION PLAN
 111TH STREET &
 JODAN DR. / LARAMIE AVE.
 SCALE: 1" = 20'
 DATE: 10/15/02
 DRAWN BY: BCK
 DESIGNED BY: RKF
 CHECKED BY: DAD

CONTROLLER SEQUENCE



- LEGEND**
- DUAL ENTRY PHASE
 - SINGLE ENTRY PHASE
 - OVERLAP
 - PEDESTRIAN PHASE
 - NUMBER REFERS TO ASSOCIATED PHASE

PROPOSED PHASE DESIGNATION DIAGRAM



PROPOSED EMERGENCY VEHICLE PREEMPTORS

| | | |
|-----------------------------|-----|-----|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
| MOVEMENT | ← → | ↑ ↓ |

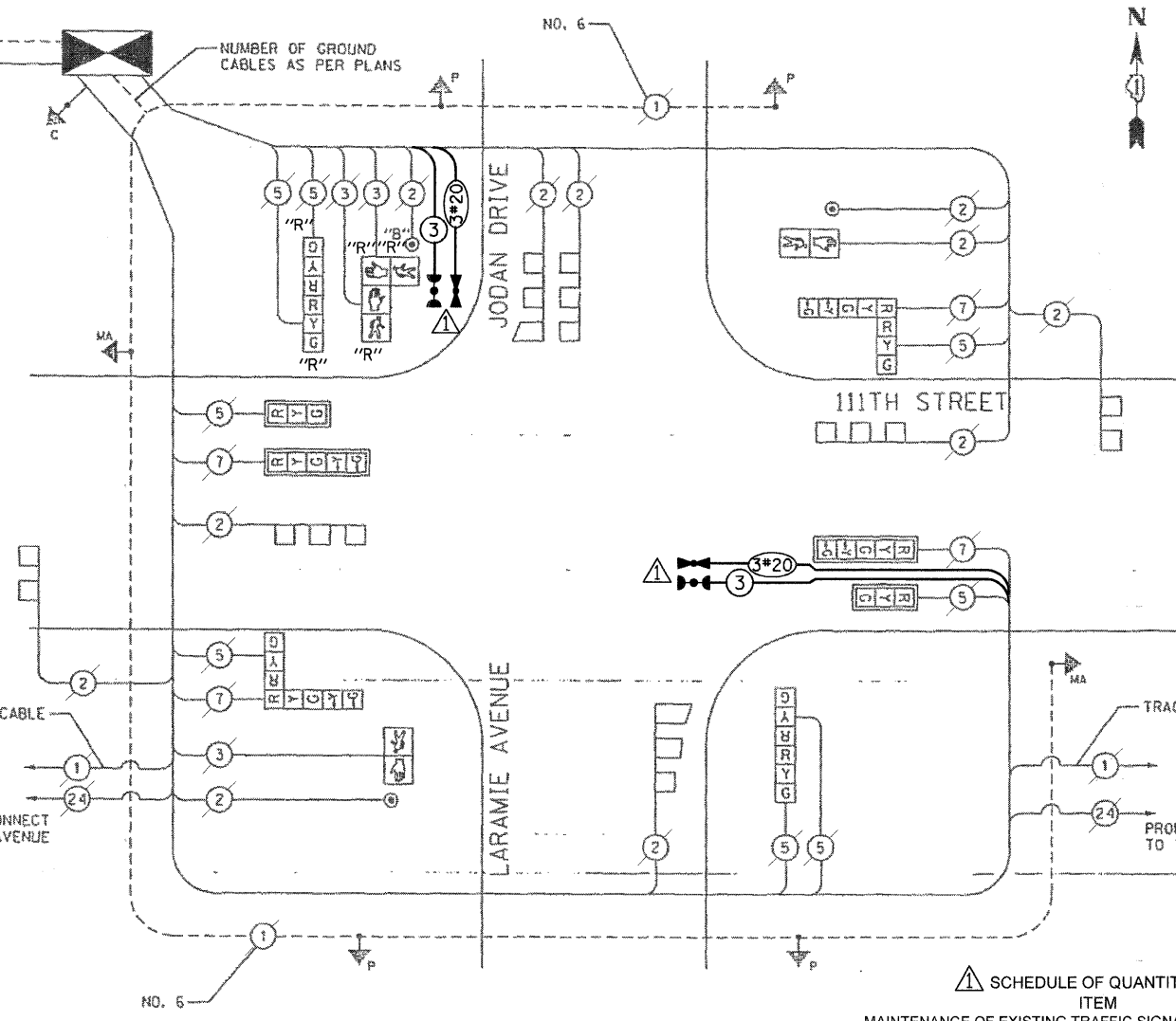
THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET.

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

NOTE: PUSH BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6

CABLE PLAN LEGEND

- EXISTING** **PROPOSED**
- 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
 - MAGNETIC DETECTOR
 - EMERGENCY VEHICLE LIGHT DETECTOR
 - CONFIRMATION BEACON
 - PUSHBUTTON DETECTOR
 - VEHICLE DETECTOR, INDUCTION LOOP
 - MICROWAVE VEHICLE SENSOR
 - 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 (HH), 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 2-MM12F SM12F
 - EMERGENCY VEHICLE LIGHT DETECTOR
 - CONFIRMATION BEACON
 - RELOCATE



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

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 299 |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT. | EACH | 1 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| RELOCATE EXISTING SIGNAL HEAD | EACH | 1 |
| RELOCATE EXISTING PEDESTRIAN SIGNAL HEAD | EACH | 1 |
| RELOCATE EXISTING PEDESTRIAN PUSH-BUTTON | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 299 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

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

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

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

| TYPE | NO. LAMPS | WATTAGE INCAND. | WATTAGE LED | % OPERATION | TOTAL WATTAGE |
|--------------|-----------|-----------------|-------------|-------------|---------------|
| SIGNAL (RED) | 12 | 135 | 17 | 0.50 | 102.00 |
| (YELLOW) | 12 | 135 | 25 | 0.25 | 75.00 |
| (GREEN) | 12 | 135 | 15 | 0.25 | 45.00 |
| ARROW | 8 | 135 | 12 | 0.10 | 9.60 |
| PED. SIGNAL | 4 | 90 | 25 | 1.00 | 100.00 |
| CONTROLLER | 1 | 100 | 100 | 1.00 | 100.00 |
| ILLUM. SIGN | | 84 | | 0.05 | |
| FLASHER | | | | 0.50 | |
| TOTAL = | | | | | 431.60 |

ENERGY COSTS TO: ILLINOIS DEPARTMENT OF TRANSPORTATION
201W. CENTER CT.
SCHAUMBURG, IL 60196

ENERGY SUPPLY: CONTACT: KEN YOUNG
PHONE: JDR-235-232B
COMPANY: COM.ED.

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

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION

CHRISTOPHER B. BURKE ENGINEERING LTD.
8875 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

REVISIONS

| NAME | DATE |
|-------|---------|
| CBBEL | 6-27-08 |

ILLINOIS DEPARTMENT OF TRANSPORTATION

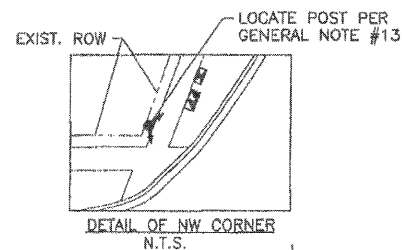
CABLE PLAN & PHASE DESIGNATION DIAGRAM

111TH STREET & JODAN DRIVE / LARAMIE AVENUE

SCALE: NONE
DATE: 10/15/02

DRAWN BY: BCK
DESIGNED BY: R/F
CHECKED BY: DAD

N:\okL\win\080363\111th-offic\111th-Jodan.dgn



NOTES:
 1. FINAL LOCATIONS OF HANDHOLES, POSTS, AND MAST ARMS SHALL BE LOCATED IN THE FIELD BY THE ENGINEER.
 2. PROPOSED CONTROLLER TO BE IN SAME LOCATION AS EXISTING CONTROLLER.

SCALE: 1:250

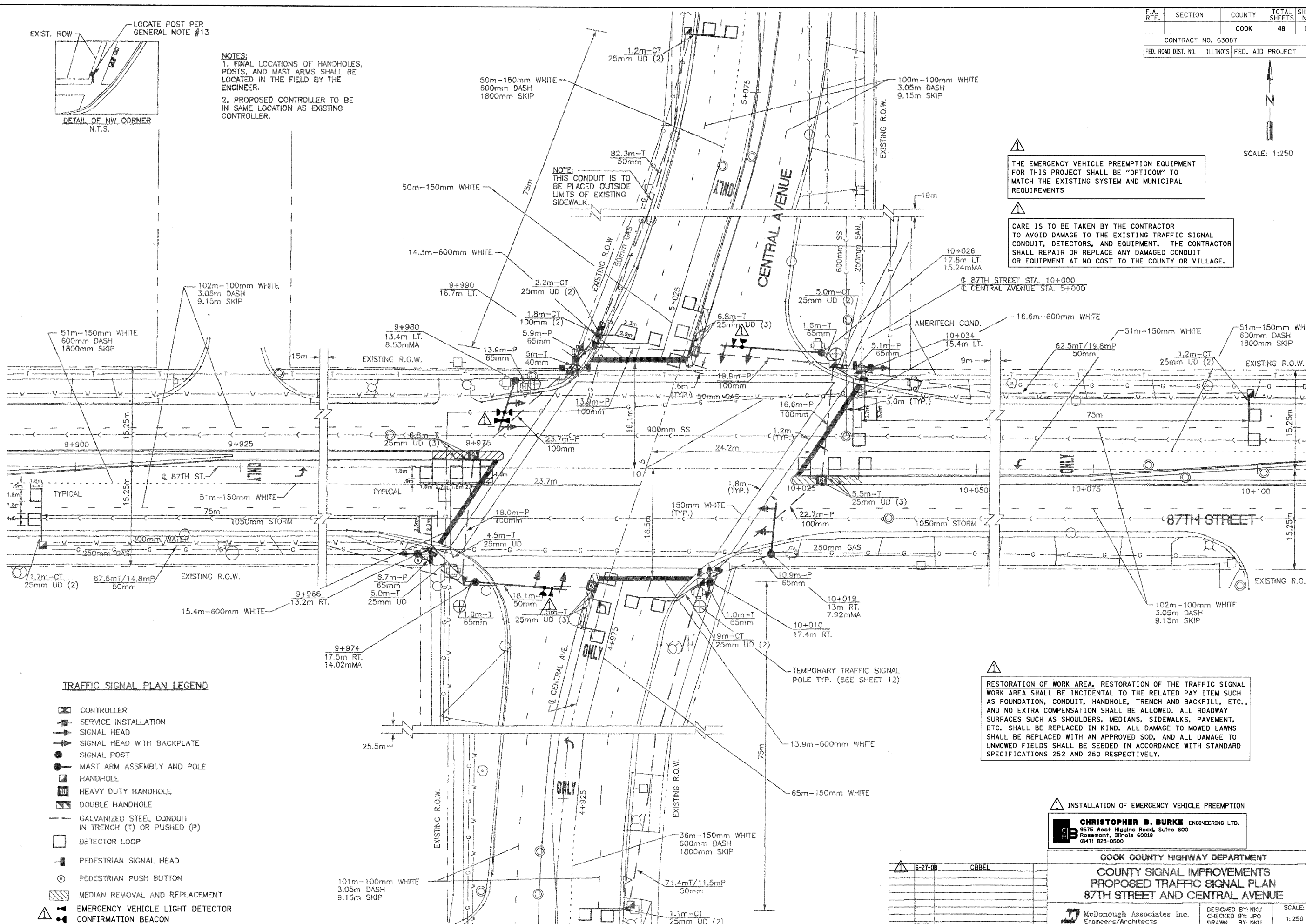
THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

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

TRAFFIC SIGNAL PLAN LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- GALVANIZED STEEL CONDUIT IN TRENCH (T) OR PUSHED (P)
- DETECTOR LOOP
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- MEDIAN REMOVAL AND REPLACEMENT
- EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON



INSTALLATION OF EMERGENCY VEHICLE PREEMPTION

CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

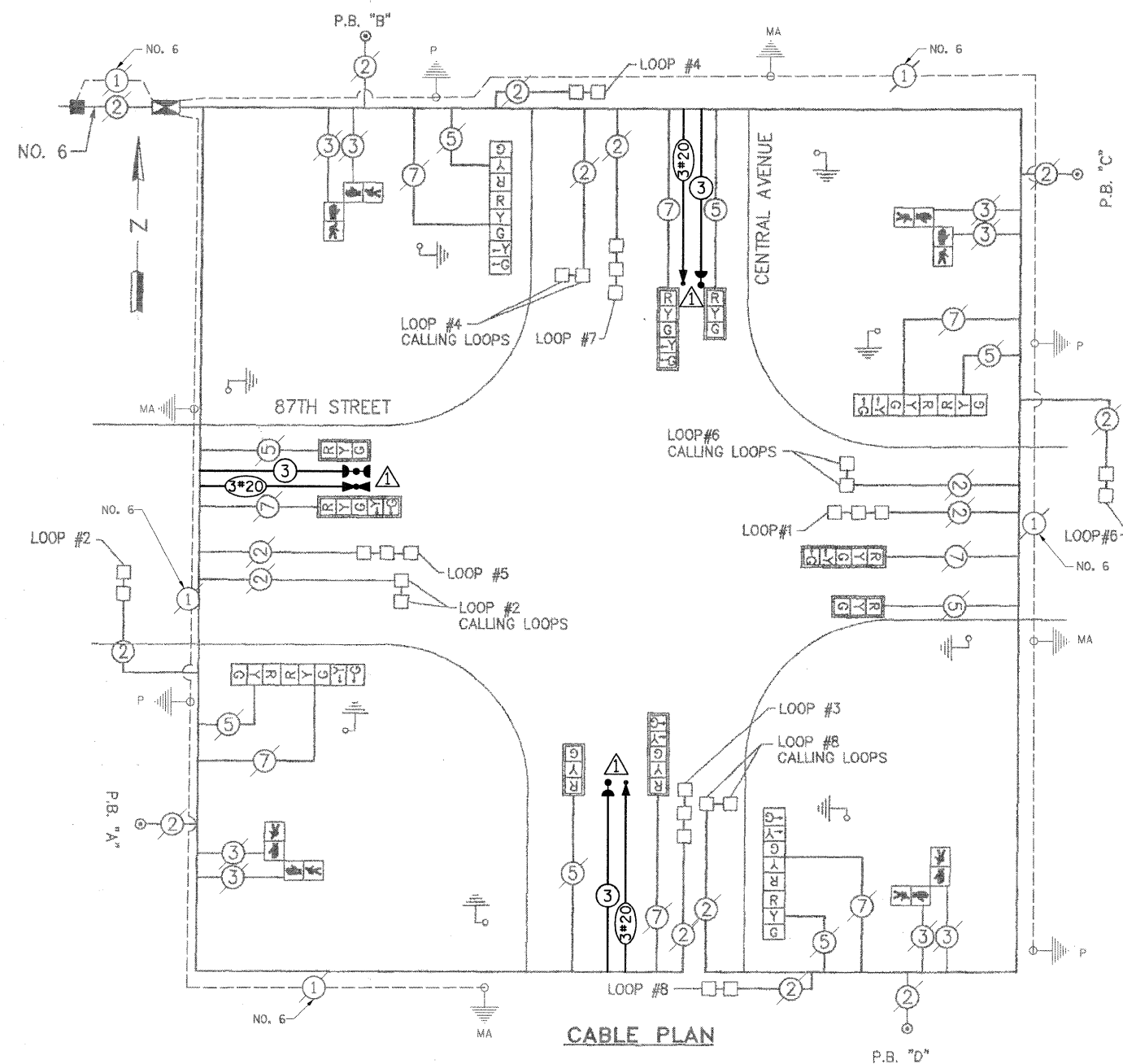
COOK COUNTY HIGHWAY DEPARTMENT
 COUNTY SIGNAL IMPROVEMENTS
 PROPOSED TRAFFIC SIGNAL PLAN
 87TH STREET AND CENTRAL AVENUE

| NO. | DATE | REVISION | BY |
|---------|------|----------|----|
| 6-27-06 | | CBBEL | |

McDonough Associates Inc.
 Engineers/Architects

DESIGNED BY: NKU
 CHECKED BY: JPO
 DRAWN BY: NKU

SCALE: 1:250



CABLE PLAN

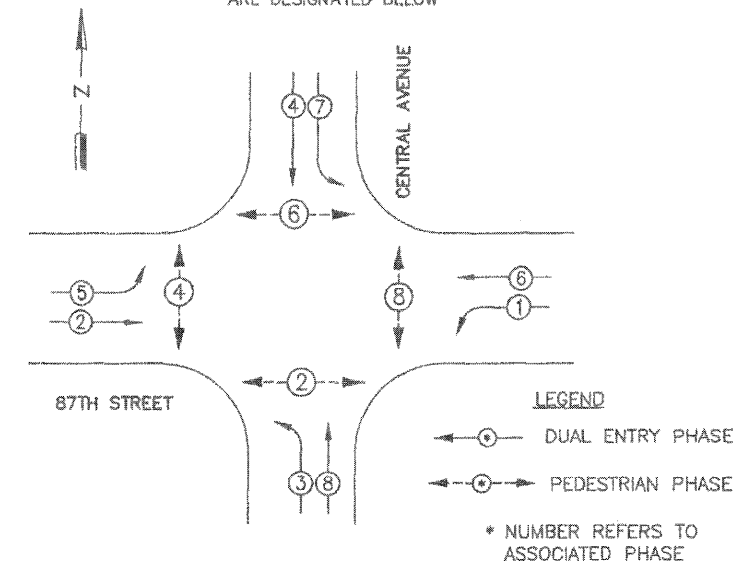
NOTE:
P.B. "A" SHALL PLACE A CALL IN PHASES 2 AND 4
P.B. "B" SHALL PLACE A CALL IN PHASES 4 AND 6
P.B. "C" SHALL PLACE A CALL IN PHASES 6 AND 8
P.B. "D" SHALL PLACE A CALL IN PHASES 8 AND 2

CABLE PLAN LEGEND

- TRAFFIC SIGNAL SECTION [Symbol]
- CONTROLLER CABINET [Symbol]
- SERVICE INSTALLATION [Symbol]
- VEHICLE DETECTOR LOOP [Symbol]
- 5 DENOTES NUMBER OF CONDUCTORS
ALL CABLE NO. 14 EXCEPT AS INDICATED
ALL LOOP DETECTOR CABLE TO BE SHIELDED
- SIGNAL FACE WITH BACKPLATE [Symbol]
- PEDESTRIAN SIGNAL HEAD [Symbol]
- PEDESTRIAN PUSH BUTTON [Symbol]
- GROUND ROD [Symbol]
- EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON [Symbol]

STANDARD CONTROLLER SEQUENCE

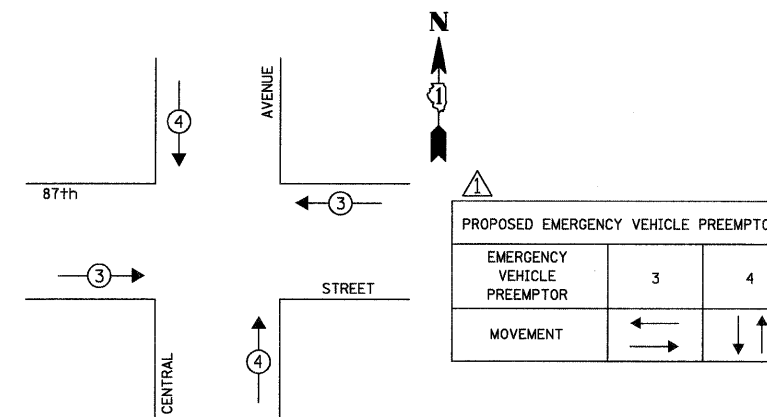
REFERRING TO IDOT STANDARD DRAWING 857001 THE VEHICULAR PHASES USED ARE DESIGNATED BELOW



PHASE DESIGNATION DIAGRAM

DUAL ENTRY-ALL LEGS
PROTECTED/PERMITTED LEFT TURN PHASING

EMERGENCY VEHICLE PREEMPTION SEQUENCE



CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 576 |
| LIGHT DETECTOR | EACH | 3 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 576 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | | TOTAL WATTAGE |
|--|--------------|--------------------|-----|-------------|---------------|
| TYPE | NO. OF LAMPS | WATTAGE (INCANDE.) | LED | % OPERATION | |
| SIGNAL (RED) | 16 | 135 | | 0.50 | 1080.00 |
| (YELLOW) | 16 | 135 | | 0.25 | 540.00 |
| (GREEN) | 16 | 135 | | 0.25 | 540.00 |
| ARROW | 16 | 135 | | 0.10 | 216.00 |
| PED. SIGNAL | 8 | 90 | | 1.00 | 720.00 |
| CONTROLLER | 1 | 100 | | 1.00 | 100.00 |
| ILLUM. SIGN | - | 252 | | 0.05 | - |
| FLASHER | | | | 0.50 | - |
| TOTAL = | | | | | 3196.00 |

ENERGY COSTS TO: TOTAL = 3196.00

COOK COUNTY HIGHWAY DEPARTMENT
69 WEST WASHINGTON ROOM 2139
CHICAGO, ILLINOIS 60602-3134

ENERGY SUPPLY CONTACT:
PHONE:
COMPANY:

| 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'±-2" |
| E - M. ARM POLE | 10 (3.0) | SIGNAL POST | 2 (0.6) | (6m±-0.6m) | |
| 24" (600mm) | 10 (3.0) | CONTROLLER CAB. | 1 (0.3) | 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 (0.3) | ELECTRIC SERVICE | 13.5 (4.1) |
| | | ELECTRIC SERVICE | 1 (0.3) | SERVICE TO GROUND | 13.5 (4.1) |
| | | GROUND CABLE | 1 (0.3) | POST MOUNTED | 6 (1.8) |

| NO. | DATE | REVISION | BY |
|---------|------|----------|----|
| 6-27-08 | | | |

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

COOK COUNTY HIGHWAY DEPARTMENT
COUNTY SIGNAL IMPROVEMENTS
87TH STREET AT CENTRAL AVENUE
CABLE PLAN AND SIGNAL QUANTITIES

DESIGNED BY: NKU
CHECKED BY: JPO
DRAWN BY: NKU
SCALE: N.T.S.

N:\00kL\080363 V1R-offio EVP_87th-Central.dgn

| | | | | |
|---------------------|----------|------------------|--------------|-----------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | COOK | 48 | 17 |
| CONTRACT NO. 63087 | | | | |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |

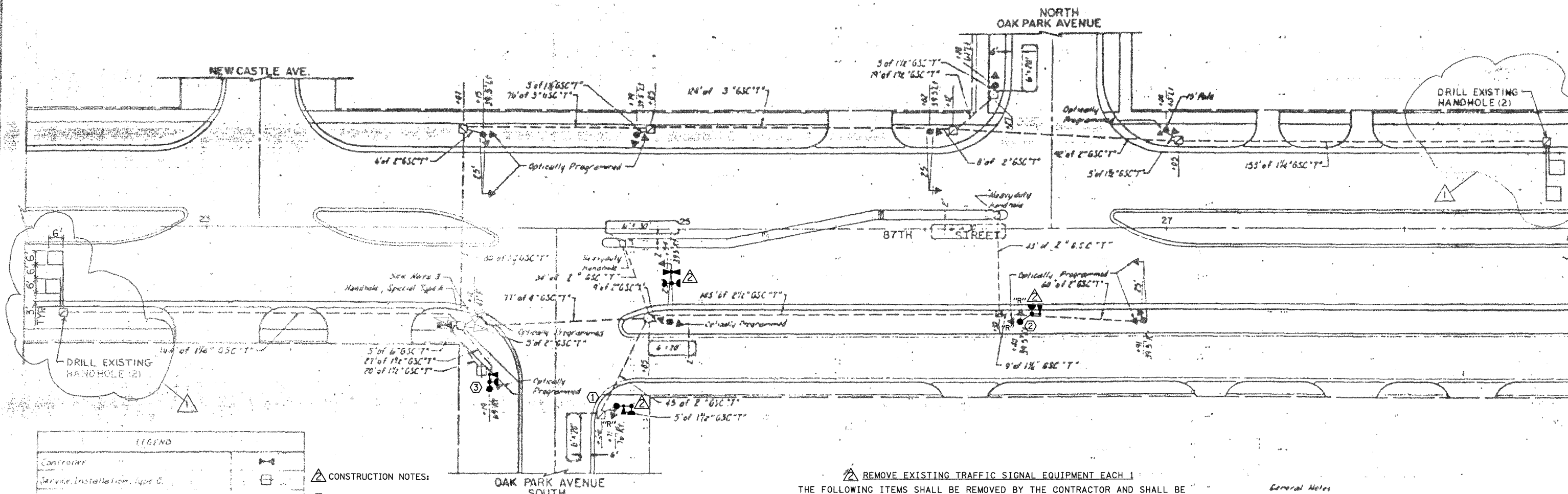
Note: Contractor Settings to be set in the field as directed by the engineer.

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

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

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.



| LEGEND | |
|--|---------|
| Controller | |
| Service Installation, Type C | |
| Signal Head, Traffic Control | |
| Support Bracket for the Control, with Base Plate | |
| Mounting Assembly and Pole, Special | |
| Handhole | |
| Galvanized Steel Conduit in Trench | G S C T |
| Galvanized Steel Conduit | |
| Loop Detector | |
| Post-Mount Signal Head | |
| Recessed Post Button Detector | |

- CONSTRUCTION NOTES:**
- REMOVE EXISTING 14' TRAFFIC SIGNAL POST. INSTALL NEW 18' TRAFFIC SIGNAL POST ON EXISTING FOUNDATION AND RELOCATE EXISTING TRAFFIC SIGNAL HEAD, 1-FACE, 3-SECTION TO NEW POST. REUSE EXISTING CABLES. INSTALL NEW LIGHT DETECTOR ON NEW POST AND INSTALL NO. 20 3/C AND NO. 14 3/C CABLES.
 - REMOVE EXISTING 14' TRAFFIC SIGNAL POST. INSTALL NEW 18' TRAFFIC SIGNAL POST ON EXISTING FOUNDATION AND RELOCATE EXISTING TRAFFIC SIGNAL HEAD, 2-FACE, 3-SECTION TO NEW POST. REUSE EXISTING CABLES. INSTALL NEW LIGHT DETECTOR ON NEW POST AND INSTALL NO. 20 3/C AND NO. 14 3/C CABLES.
 - REMOVE EXISTING 16' TRAFFIC SIGNAL POST. INSTALL NEW 18' TRAFFIC SIGNAL POST ON EXISTING FOUNDATION AND RELOCATE EXISTING OPTICALLY PROGRAMMED TRAFFIC SIGNAL HEAD, 1-FACE, 4-SECTION TO NEW POST. REUSE EXISTING CABLES. INSTALL NEW LIGHT DETECTOR ON NEW POST AND INSTALL NO. 20 3/C AND NO. 14 3/C CABLES.

- REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT EACH 1**
- 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 POST 14 FT.
 - 1 EACH SIGNAL POST 16 FT.

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

- 1 EACH CONTROLLER

REPLACE MAGNETIC DETECTOR WITH DETECTOR LOOPS 02-28-01

- General Notes**
- Communications Division Co. to be contacted by the contractor for connection of Type C Service Installation.
 - All Optically Programmed Signals shall be programmed in the field to the satisfaction of the Engineer and the Cook County Department of Highways.
 - Signal Heads to be bracket mounted on proposed street light pole.

11-17, 21-70

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION

CHRISTOPHER S. BURKE ENGINEERING LTD.
 6515 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

| REVISIONS | |
|-----------|---------|
| NO. | DATE |
| 1 | 6-27-08 |

TYPE A-28

COUNTY OF COOK
DEPARTMENT OF HIGHWAYS

PROPOSED TRAFFIC CONTROL

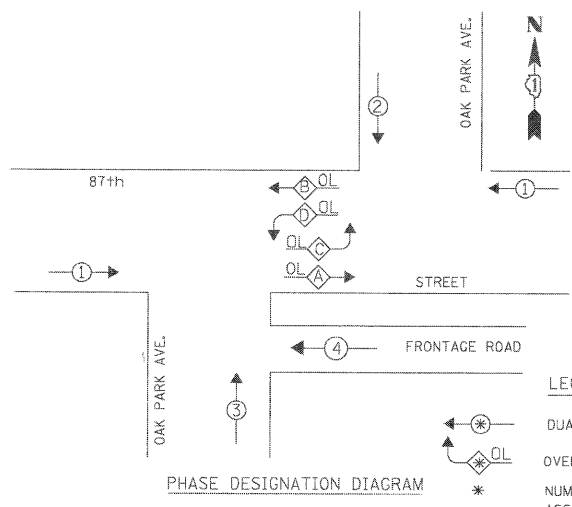
SIGNAL PLAN

87TH STREET & OAK PARK AVENUE

DATE 1-16-06
CHECKED BY AJA

N:\OakLawn\080363\Traffic\NEVP_87th-OakPark.dgn

CONTROLLER SEQUENCE



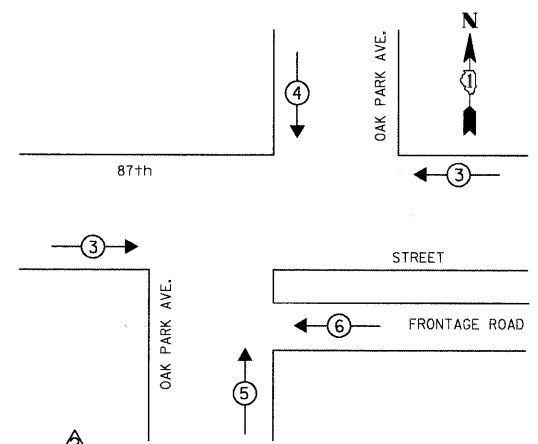
OVERLAP PHASE DESIGNATION

| OVERLAP LETTER | PERMISSIVE PHASE | PROTECTED PHASE |
|----------------|------------------|-----------------|
| A | = 3 + 4 | + 1 |
| B | = 2 | + 1 |
| C | = | 3 + 4 |
| D | = | 2 |

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

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

EMERGENCY VEHICLE PREEMPTION SEQUENCE



| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 | 5 | 6 |
|-----------------------------|---|---|---|---|
| MOVEMENT | ← | ↓ | ↑ | → |

| TYPE | NO. OF LAMPS | WATTAGE X INCAND. | LED X % OPERATION | TOTAL WATTAGE |
|--------------|--------------|----------------------|-------------------|---------------|
| SIGNAL (RED) | 23 | 135 | 0.50 | 1552.50 |
| (YELLOW) | 23 | 135 | 0.25 | 776.25 |
| (GREEN) | 25 | 135 | 0.25 | 843.75 |
| ARROW | 8 | 135 | 0.10 | 108.00 |
| PED. SIGNAL | - | 90 | 1.00 | - |
| CONTROLLER | 1 | 100 | 1.00 | 100.00 |
| ILLUM. SIGN | - | 252 | 0.05 | - |
| FLASHER | | | 0.50 | - |

ENERGY COSTS TO: TOTAL = 3381.00
COOK COUNTY HIGHWAY DEPARTMENT
 69 WEST WASHINGTON ROOM 2139
 CHICAGO, ILLINOIS 60602-3134
 ENERGY SUPPLY: CONTACT: _____
 PHONE: _____
 COMPANY: _____

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

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| FULL-ACTUATED CONTROLLER IN EXISTING CABINET, SPECIAL | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 559 |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT. | EACH | 3 |
| LIGHT DETECTOR | EACH | 4 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| RELOCATE EXISTING SIGNAL HEAD | EACH | 2 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 559 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

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

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CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

| | |
|--------------------|--|
| CLIENT: | |
| NO. | 6-27-08 |
| DATE | INSTALLATION OF EMERGENCY VEHICLE PREEMPTION |
| NATURE OF REVISION | |
| CHKD. | |

| | | |
|--------|------------|--|
| DSGN. | | |
| DWN. | FCP | |
| CHKD. | MJT | |
| SCALE: | N.T.S. | |
| DATE: | 11/10/2008 | |

TITLE: **SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**
 87th STREET AND OAK PARK AVENUE
 OAK LAWN, ILLINOIS

PROJECT NO. 080363
 SHEET 18 OF 48
 DRAWING NO.

NOTES

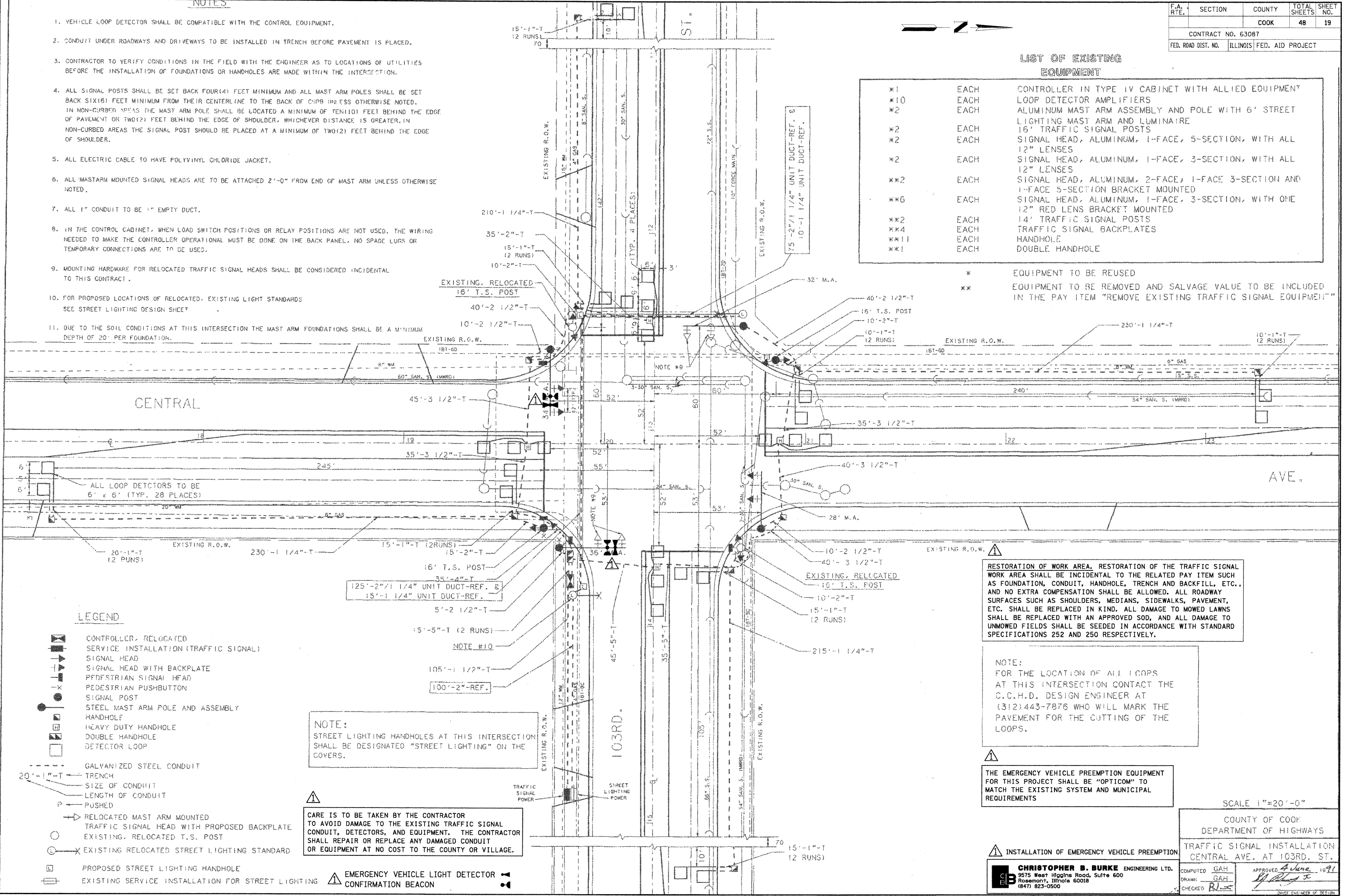
1. VEHICLE LOOP DETECTOR SHALL BE COMPATIBLE WITH THE CONTROL EQUIPMENT.
2. CONDUIT UNDER ROADWAYS AND DRIVEWAYS TO BE INSTALLED IN TRENCH BEFORE PAVEMENT IS PLACED.
3. CONTRACTOR TO VERIFY CONDITIONS IN THE FIELD WITH THE ENGINEER AS TO LOCATIONS OF UTILITIES BEFORE THE INSTALLATION OF FOUNDATIONS OR HANDHOLES ARE MADE WITHIN THE INTERSECTION.
4. ALL SIGNAL POSTS SHALL BE SET BACK FOUR(4) FEET MINIMUM AND ALL MAST ARM POLES SHALL BE SET BACK SIX(6) FEET MINIMUM FROM THEIR CENTERLINE TO THE BACK OF CURB UNLESS OTHERWISE NOTED. IN NON-CURBED AREAS THE MAST ARM POLE SHALL BE LOCATED A MINIMUM OF TEN(10) FEET BEHIND THE EDGE OF PAVEMENT OR TWO(2) FEET BEHIND THE EDGE OF SHOULDER, WHICHEVER DISTANCE IS GREATER. IN NON-CURBED AREAS THE SIGNAL POST SHOULD BE PLACED AT A MINIMUM OF TWO(2) FEET BEHIND THE EDGE OF SHOULDER.
5. ALL ELECTRIC CABLE TO HAVE POLYVINYL CHLORIDE JACKET.
6. ALL MASTARM MOUNTED SIGNAL HEADS ARE TO BE ATTACHED 2'-0" FROM END OF MAST ARM UNLESS OTHERWISE NOTED.
7. ALL 1" CONDUIT TO BE 1" EMPTY DUCT.
8. IN THE CONTROL CABINET, WHEN LOAD SWITCH POSITIONS OR RELAY POSITIONS ARE NOT USED, THE WIRING NEEDED TO MAKE THE CONTROLLER OPERATIONAL MUST BE DONE ON THE BACK PANEL, NO SPADE LUGS OR TEMPORARY CONNECTIONS ARE TO BE USED.
9. MOUNTING HARDWARE FOR RELOCATED TRAFFIC SIGNAL HEADS SHALL BE CONSIDERED INCIDENTAL TO THIS CONTRACT.
10. FOR PROPOSED LOCATIONS OF RELOCATED, EXISTING LIGHT STANDARDS SEE STREET LIGHTING DESIGN SHEET
11. DUE TO THE SOIL CONDITIONS AT THIS INTERSECTION THE MAST ARM FOUNDATIONS SHALL BE A MINIMUM DEPTH OF 20' PER FOUNDATION.

| | | | | |
|---------------------|----------|------------------|--------------|-----------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | COOK | 48 | 19 |
| CONTRACT NO. 63087 | | | | |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |

LIST OF EXISTING EQUIPMENT

| | | |
|------|------|--|
| *1 | EACH | CONTROLLER IN TYPE IV CABINET WITH ALLIED EQUIPMENT |
| *10 | EACH | LOOP DETECTOR AMPLIFIERS |
| *2 | EACH | ALUMINUM MAST ARM ASSEMBLY AND POLE WITH 6' STREET LIGHTING MAST ARM AND LUMINAIRE |
| *2 | EACH | 16' TRAFFIC SIGNAL POSTS |
| *2 | EACH | SIGNAL HEAD, ALUMINUM, 1-FACE, 5-SECTION, WITH ALL 12" LENSES |
| *2 | EACH | SIGNAL HEAD, ALUMINUM, 1-FACE, 3-SECTION, WITH ALL 12" LENSES |
| **2 | EACH | SIGNAL HEAD, ALUMINUM, 2-FACE, 1-FACE 3-SECTION AND 1-FACE 5-SECTION BRACKET MOUNTED |
| **6 | EACH | SIGNAL HEAD, ALUMINUM, 1-FACE, 3-SECTION, WITH ONE 12" RED LENS BRACKET MOUNTED |
| **2 | EACH | 14' TRAFFIC SIGNAL POSTS |
| **4 | EACH | TRAFFIC SIGNAL BACKPLATES |
| **11 | EACH | HANDHOLE |
| **1 | EACH | DOUBLE HANDHOLE |

* EQUIPMENT TO BE REUSED
 ** EQUIPMENT TO BE REMOVED AND SALVAGE VALUE TO BE INCLUDED IN THE PAY ITEM "REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT"



LEGEND

- CONTROLLER, RELOCATED
- SERVICE INSTALLATION (TRAFFIC SIGNAL)
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSHBUTTON
- SIGNAL POST
- STEEL MAST ARM POLE AND ASSEMBLY
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- DETECTOR LOOP
- GALVANIZED STEEL CONDUIT
- TRENCH
- SIZE OF CONDUIT
- LENGTH OF CONDUIT
- PUSHED
- RELOCATED MAST ARM MOUNTED TRAFFIC SIGNAL HEAD WITH PROPOSED BACKPLATE
- EXISTING, RELOCATED T.S. POST
- EXISTING RELOCATED STREET LIGHTING STANDARD
- PROPOSED STREET LIGHTING HANDHOLE
- EXISTING SERVICE INSTALLATION FOR STREET LIGHTING
- EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON

NOTE:
 STREET LIGHTING HANDHOLES AT THIS INTERSECTION SHALL BE DESIGNATED "STREET LIGHTING" ON THE COVERS.

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

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

NOTE:
 FOR THE LOCATION OF ALL LOOPS AT THIS INTERSECTION CONTACT THE C.C.H.D. DESIGN ENGINEER AT (312) 443-7876 WHO WILL MARK THE PAVEMENT FOR THE CUTTING OF THE LOOPS.

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

SCALE 1"=20'-0"

COUNTY OF COOK
 DEPARTMENT OF HIGHWAYS

TRAFFIC SIGNAL INSTALLATION
 CENTRAL AVE. AT 103RD. ST.

COMPUTED GAH
 DRAWN GAH
 CHECKED RL

APPROVED *[Signature]* 4 June 1991
 CHIEF ENGINEER OF DESIGN

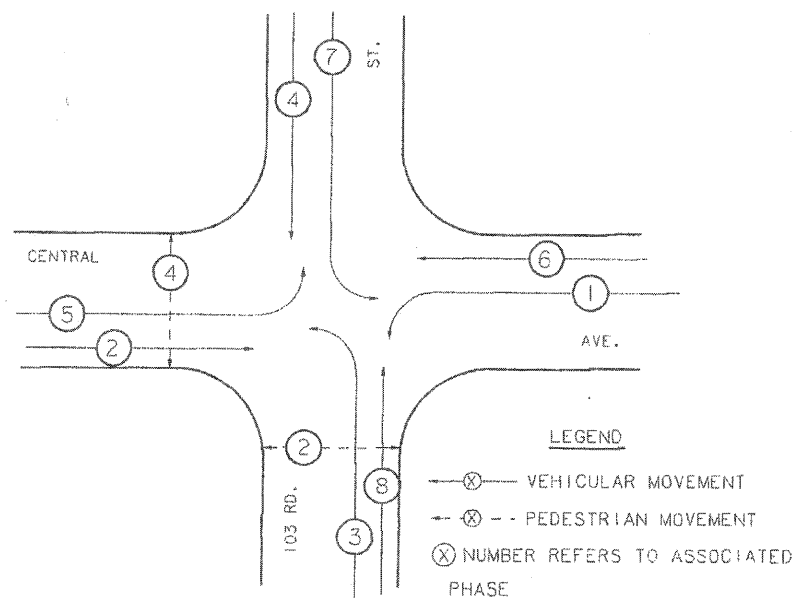
INSTALLATION OF EMERGENCY VEHICLE PREEMPTION

CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

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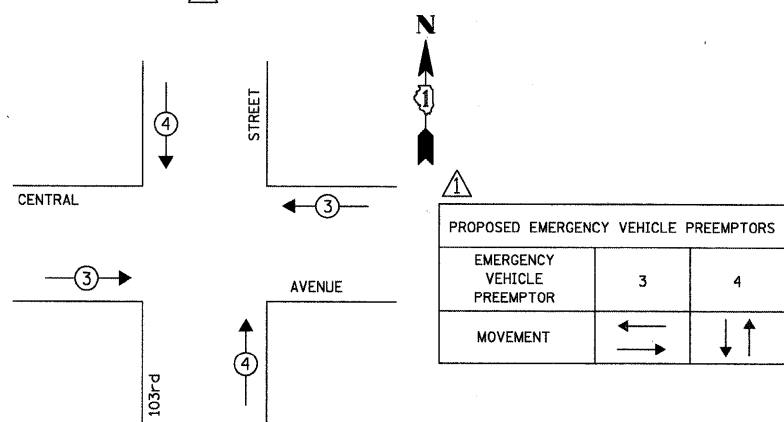
CONTROLLER SEQUENCE IV

REFERRING TO STANDARD 2393, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW

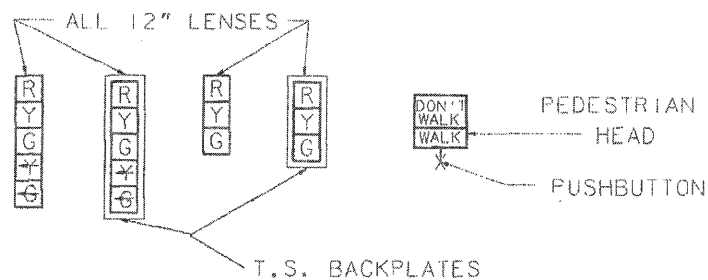


PHASE DESIGNATION DIAGRAM

EMERGENCY VEHICLE PREEMPTION SEQUENCE



SIGNAL FACES

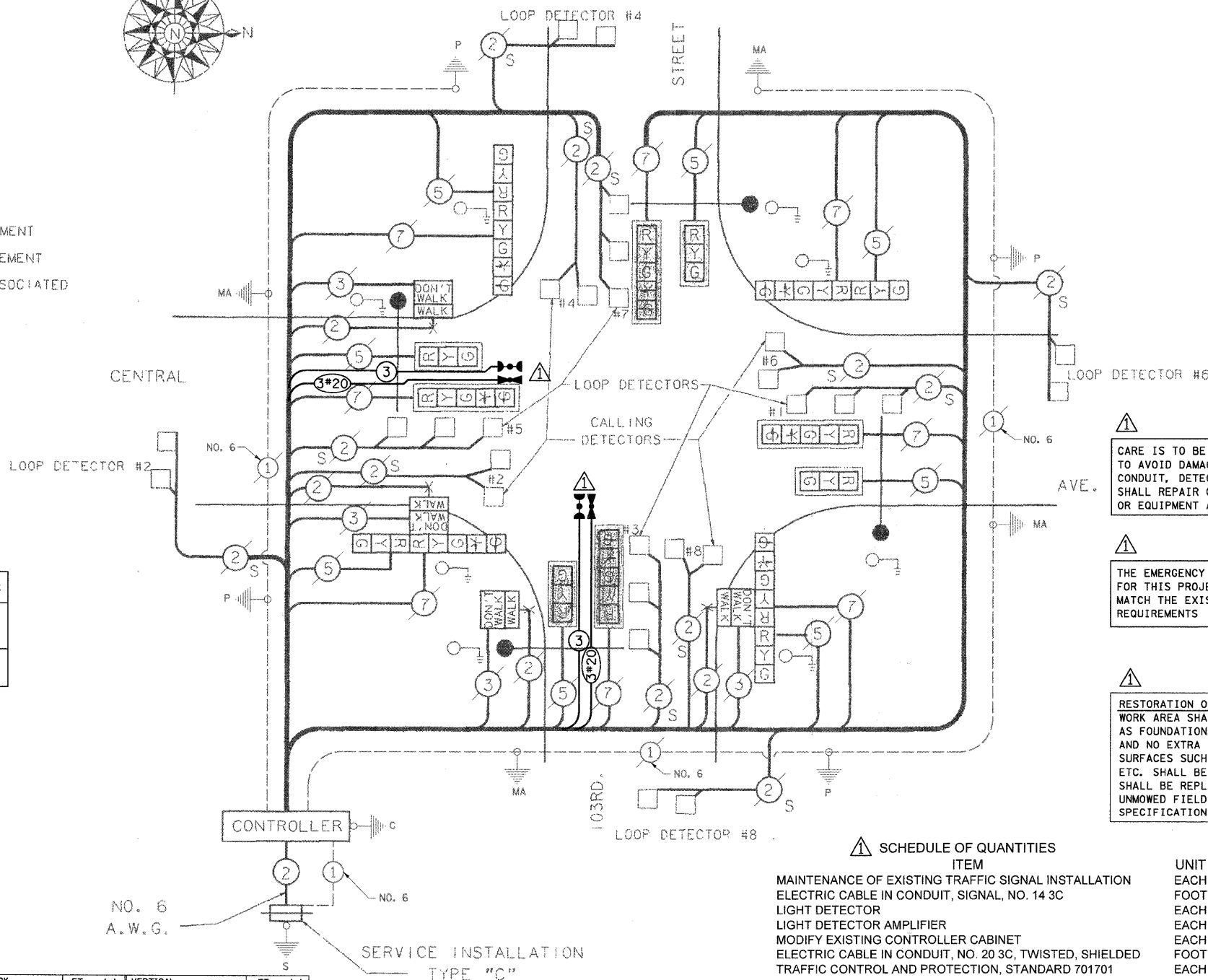


SIGNAL LENSES

- R RED
- Y YELLOW
- G GREEN
- ⊗ YELLOW TURN INDICATOR
- ⊗ GREEN TURN INDICATOR

CABLE PLAN LEGEND

- ⊗ 8" TRAFFIC SIGNAL SECTION
- ⊗ 12" TRAFFIC SIGNAL SECTION
- ☐ CONTROLLER CABINET
- ☐ VEHICLE DETECTOR, INDUCTION LOOP
DENOTES NUMBER OF CONDUCTORS (NEW)
ALL LOOP DETECTOR CABLE TO BE SHIELDED. ALL CABLE NO. 14 EXCEPT AS INDICATED.
- ⊗ INDICATES EXISTING CABLE
- ⊗ MAGNETIC DETECTOR
- ⊗ OPTICAL DETECTOR
- ⊗ SIGNAL FACE WITH BACKPLATE
"P" INDICATES PROGRAMMED
- ⊗ GROUNDING SYSTEM CONNECTION
- S SHIELDED & TWISTED
- ⊗ EXISTING TRAFFIC SIGNAL SECTION
- ⊗ EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON



CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 319 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 319 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

| TYPE | NO. OF LAMPS | WATTAGE | LED | % OPERATION | TOTAL WATTAGE |
|--------------|--------------|---------|-----|-------------|---------------|
| SIGNAL (RED) | 16 | 135 | | 0.50 | 1080.00 |
| (YELLOW) | 16 | 135 | | 0.25 | 540.00 |
| (GREEN) | 16 | 135 | | 0.25 | 540.00 |
| ARROW | 16 | 135 | | 0.10 | 216.00 |
| PED. SIGNAL | 4 | 90 | | 1.00 | 360.00 |
| CONTROLLER | 1 | 100 | | 1.00 | 100.00 |
| ILLUM. SIGN | - | 252 | | 0.05 | - |
| FLASHER | | | | 0.50 | - |
| TOTAL = | | | | | 2836.00 |

| 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 | 20'4L-2' |
| 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) |
| 36" (900mm) | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5) | SERVICE TO GROUND | 13.5 (4.1) |
| | | GROUND CABLE | 1 (0.5) | POST MOUNTED | 6 (1.8) |

CABLE PLAN

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION

COUNTY OF COOK
DEPARTMENT OF HIGHWAYS

TRAFFIC SIGNAL INSTALLATION
CENTRAL AVE AT 103RD. ST.

COMPUTED GAH
DRAWN GAH
CHECKED RL

APPROVED [Signature]
10/21/10
CHIEF ENGINEER OF REGION

CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

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| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------|---------|--------|--------------|-----------|
| | | COOK | 48 | 21 |

CONTRACT NO. 63087
 FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT
 * Village 80-0012-00-11
 State 0606 T5-1(80)

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT EACH 1
 THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE COUNTY AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE COUNTY'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

1 EACH CONTROLLER

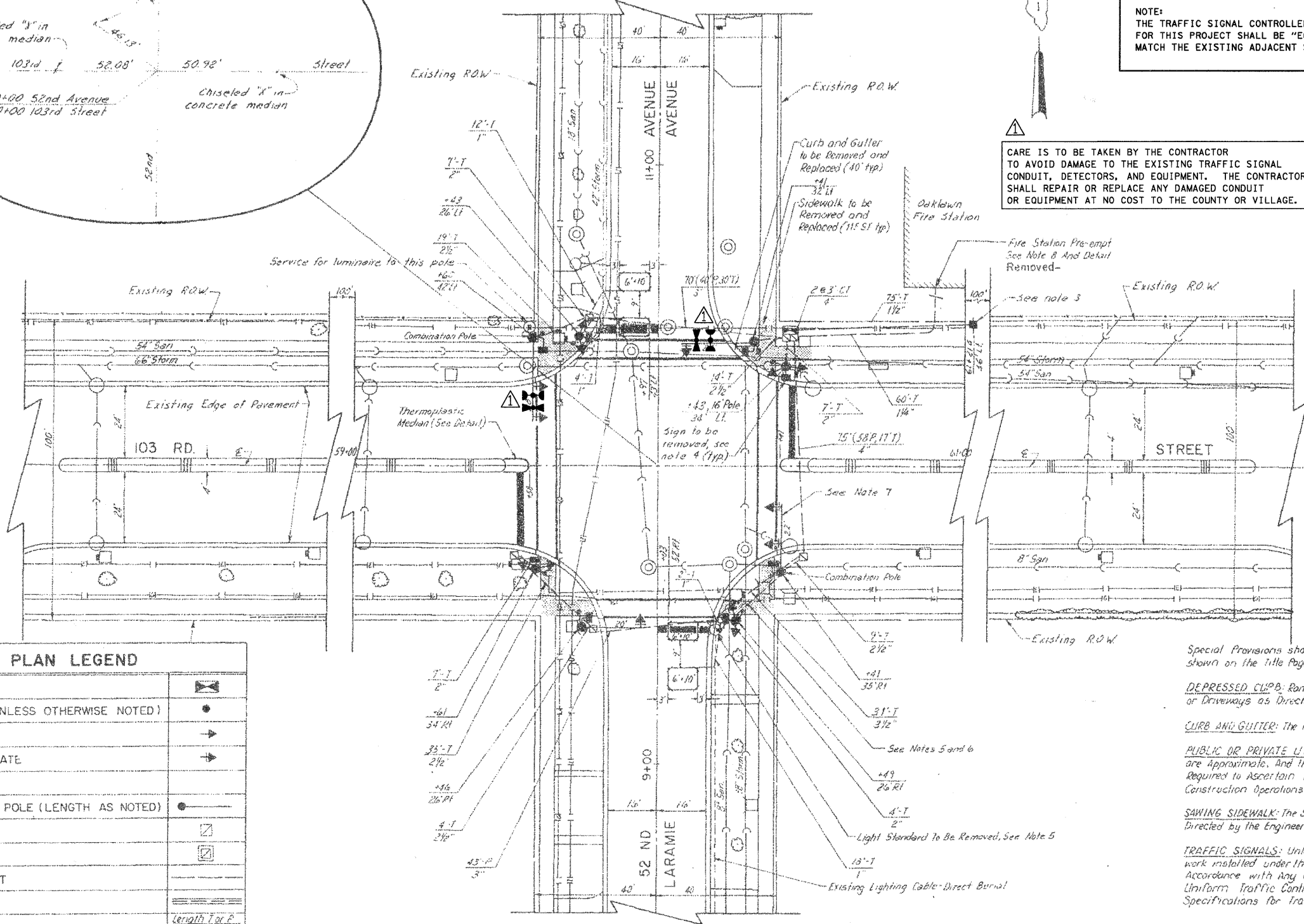
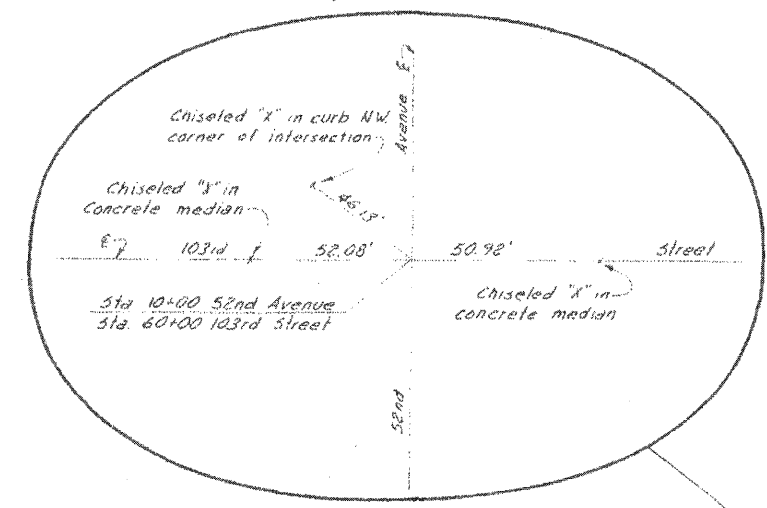
THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

SIGNAL PLAN NOTES

- All conduit shall be galvanized steel conduit.
- All cable shall be No. 14 A.W.G. unless otherwise noted.
- Final location of Service Installation, Type C shall be determined by the Engineer. Any additional cable and conduit shall be paid for at the contract unit price per linear foot of "Electric Cable in Conduit No. 4 2/C and "Galvanized Steel Conduit Trench, 1 1/2".
- All stop signs shall be removed and stored on the job site for pickup by the Village.
- This work shall include only the removal of the existing lighting standard. Once removed the lighting standard shall be stored on the job site for pickup by the Village of Oak Lawn. Removal of the existing foundation shall be paid for separately as "Remove Existing Concrete Foundation". After removal of the existing standard and foundation the existing cable shall be extended as shown on the plan to power the luminaire on the combination pole at Station 60+41, 35' Right.
- Electric cable in trench: 606 V, Type USE-THW 1/0 No. 4, 35' linear feet.
- Mast arm mounted signal heads shall be mounted of a distance of two (2) feet from the end of the mast arm assembly.
- The fire station pre-empt shall be installed as shown on detail. The Union and all hardware required to mount the conduit to the wall shall be incidental to "GALVANIZED STEEL CONDUIT ATTACHED TO WALL".

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.



| | |
|---|-----|
| CONTROLLER CABINET | |
| SIGNAL POST (14' LENGTH UNLESS OTHERWISE NOTED) | |
| SIGNAL HEAD | |
| SIGNAL HEAD WITH BACKPLATE | |
| MAST ARM ASSEMBLY AND POLE (LENGTH AS NOTED) | |
| HANDHOLE | |
| EXISTING HANDHOLE | |
| GALVANIZED STEEL CONDUIT | |
| EXISTING CONDUIT | |
| CONDUIT LENGTH & SIZE (TRENCH AND/OR PUSHED AS INDICATED) | |
| LOOP DETECTOR | |
| PEDESTRIAN SIGNAL HEAD | |
| PEDESTRIAN PUSH BUTTON DETECTOR | |
| SERVICE INSTALLATION, TYPE C | |
| COMMON TRENCH | -CT |

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

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

STANDARDS: Any Reference to "STANDARDS" throughout the Plans or Special Provisions shall be interpreted to be the latest Standard of the Department as shown on the title page.
DEPRESSED CURB: Ramps or Depressed Curbs shall be provided of all Crosswalks, Alleys or Driveways as Directed by the Engineer.
CURB AND GUTTER: The thickness of the Gutter will be Equal to the thickness of the Exist Gutter.
PUBLIC OR PRIVATE UTILITIES: The Locations of Public or Private Utilities shown on the Plans are Approximate. And the village does not Guarantee their Accuracy. The Contractor will be Required to Ascertain the Exact Locations of such Utilities and Exercise Care during his Construction Operations so as not to Damage them, in Accordance with the Special Provisions.
SAWING SIDEWALK: The Sawing of Existing P.C. Concrete Sidewalk, Where shown on the Plans or Directed by the Engineer, shall be considered as incidental to the Contract.
TRAFFIC SIGNALS: Unless Otherwise Specified on the Plans or in the Special Provisions, All work installed under this Contract involving Traffic Control Devices shall be in strict Accordance with Any and All Applicable Requirements of the Department's "Manual on Uniform Traffic Control Devices for Streets and Highways" and the "Standard Specifications for Traffic Control Items" Adopted July 1, 1981.

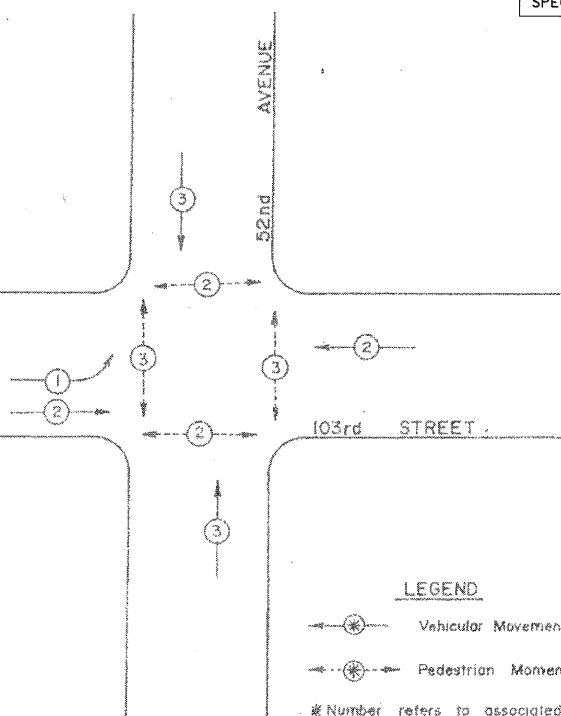
| NAME | DATE |
|------|---------|
| GPD | 8/82 |
| KJK | 11/83 |
| RJL | 3/90 |
| CBEL | 6-27-08 |

VILLAGE OF OAK LAWN
PROPOSED TRAFFIC CONTROL SIGNAL PLAN
 103rd ST. AND 52nd AVE.
 DATE 11/81
 CHECKED BY M.J.J.

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CONTROLLER SEQUENCE II

Referring to Standard 2393, the vehicular and pedestrian phases used are designate blow (Show Movements and Phase Numbers)

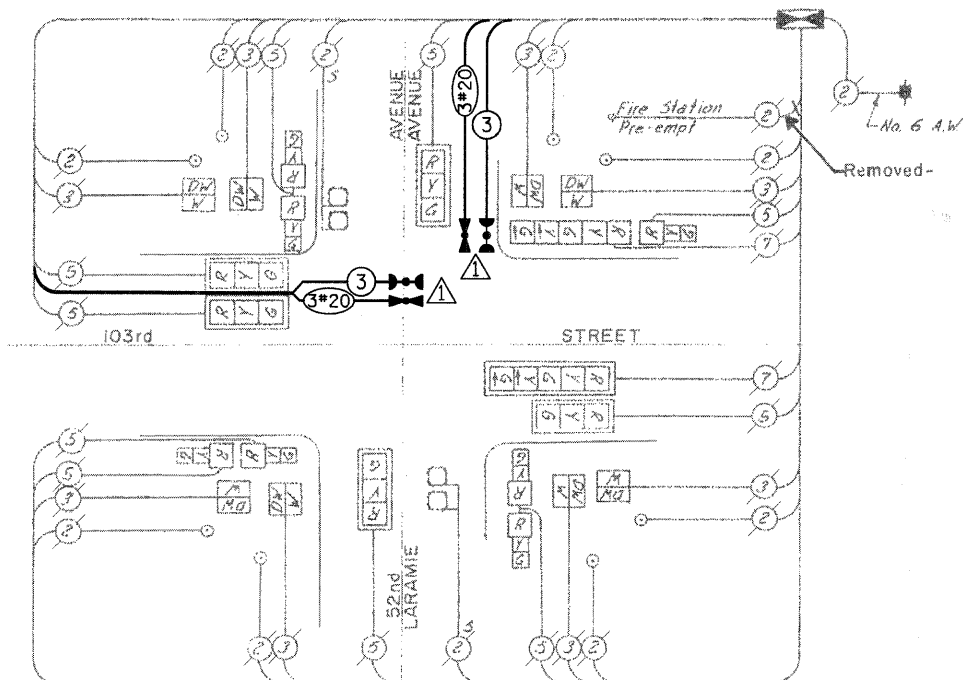


RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL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

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

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

CABLE PLAN



CABLE PLAN LEGEND

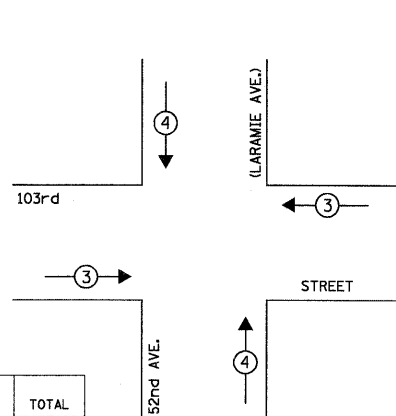
- 8" traffic signal section
- 12" traffic signal section
- Controller cabinet
- Service installation
- Vehicle detector, induction loop
- Denotes number of conductors (new). All loop detector cable to be shielded. All cable no. 14 except as indicated
- Shielded
- Pedestrian push button
- Pedestrian signal head
- Signal face with backplate
- EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

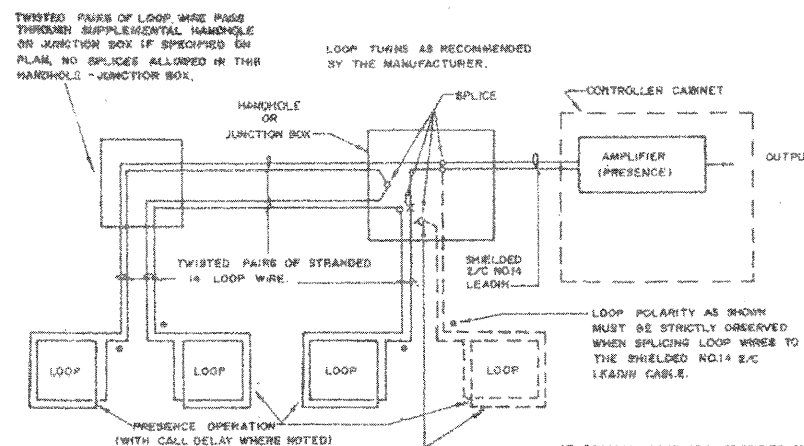
PHASE DESIGNATION DIAGRAM

NOTE: Phase 1 shall be recalled from 4:30 PM. to 5:30 PM. Phase 2 shall be recalled at all other times. See sheet 5 for emergency vehicle Pre-Empt sequence

EMERGENCY VEHICLE PREEMPTION SEQUENCE



| | | |
|-----------------------------|-----|-----|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
| MOVEMENT | ← → | ↑ ↓ |



LOOP DETECTOR SCHEMATIC

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| FULL-ACTUATED CONTROLLER IN EXISTING CABINET, SPECIAL | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 237 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 237 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

SCHEDULE OF SIGNAL HEADS

- 5 each Traffic signal head, aluminum, 1-face 3-section with 12" lenses, Mast arm mounted.
- 1 each Traffic signal head, aluminum, 1-face 5-section with 12" lenses, Mast Arm mounted.
- 3 each Traffic signal head, aluminum, 2-face 2-3 section with 12" red lens, bracket mounted.
- 1 each Traffic signal head, aluminum, 2-face 1-3 section with 12" red lens, 1-5 section with 12" lenses, bracket mounted.
- 8 each Pedestrian signal head, aluminum, 1-face 2-section with 12" lenses, bracket mounted.

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | TOTAL WATTAGE |
|--|--------------|---------|-----------------|---------------|
| TYPE | NO. OF LAMPS | WATTAGE | LED % OPERATION | |
| SIGNAL (RED) | 14 | 135 | 0.50 | 945.00 |
| (YELLOW) | 14 | 135 | 0.25 | 472.00 |
| (GREEN) | 14 | 135 | 0.25 | 472.00 |
| ARROW | 4 | 135 | 0.10 | 54.00 |
| PED. SIGNAL | 8 | 90 | 1.00 | 720.00 |
| CONTROLLER | 1 | 100 | 1.00 | 100.00 |
| ILLUM. SIGN | - | 252 | 0.05 | - |
| FLASHER | | | 0.50 | |
| TOTAL = | | | | 2763.00 |

ENERGY COSTS TO: COOK COUNTY HIGHWAY DEPARTMENT

69 WEST WASHINGTON ROOM 2139 CHICAGO, ILLINOIS 60602-3134

ENERGY SUPPLY CONTACT: _____ PHONE: _____ COMPANY: _____

| 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 | 20'4L-2- |
| E - M. ARM POLE | 10 (3.0) | SIGNAL POST | 2 (0.6) | BRACKET MOUNTED | 13 (4.0) |
| 24" (600mm) | 10 (3.0) | CONTROL CAB. | 1 (0.3) | PED. PUSHBUTTON | 4 (1.2) |
| 30" (750mm) | 15 (4.6) | FIBER OPTIC | 13 (4.0) | ELECTRIC SERVICE | 13.5 (4.1) |
| 36" (900mm) | 15 (4.6) | ELECTRIC SERVICE | 1 (0.3) | SERVICE TO GROUND | 13.5 (4.1) |
| | | GROUND CABLE | 1 (0.3) | POST MOUNTED | 6 (1.8) |

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION

CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

VILLAGE OF OAKLAWN

CABLE PLAN, PHASE DESIGNATION DIAGRAM, AND SCHEDULE OF QUANTITIES

103rd STREET AND 52nd AVENUE

NO SCALE

DATE 11/81
CHECKED BY M. J.J.

| REVISIONS | |
|-----------|---------|
| NAME | DATE |
| GPO | 8/82 |
| KJK | 1/83 |
| RJL | 3/90 |
| CBBEL | 6-27-08 |

| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---------|--------|--------------|-----------|
| | | COOK | 48 | 23 |
| CONTRACT NO. 63087 | | | | |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | | |

⚠ THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

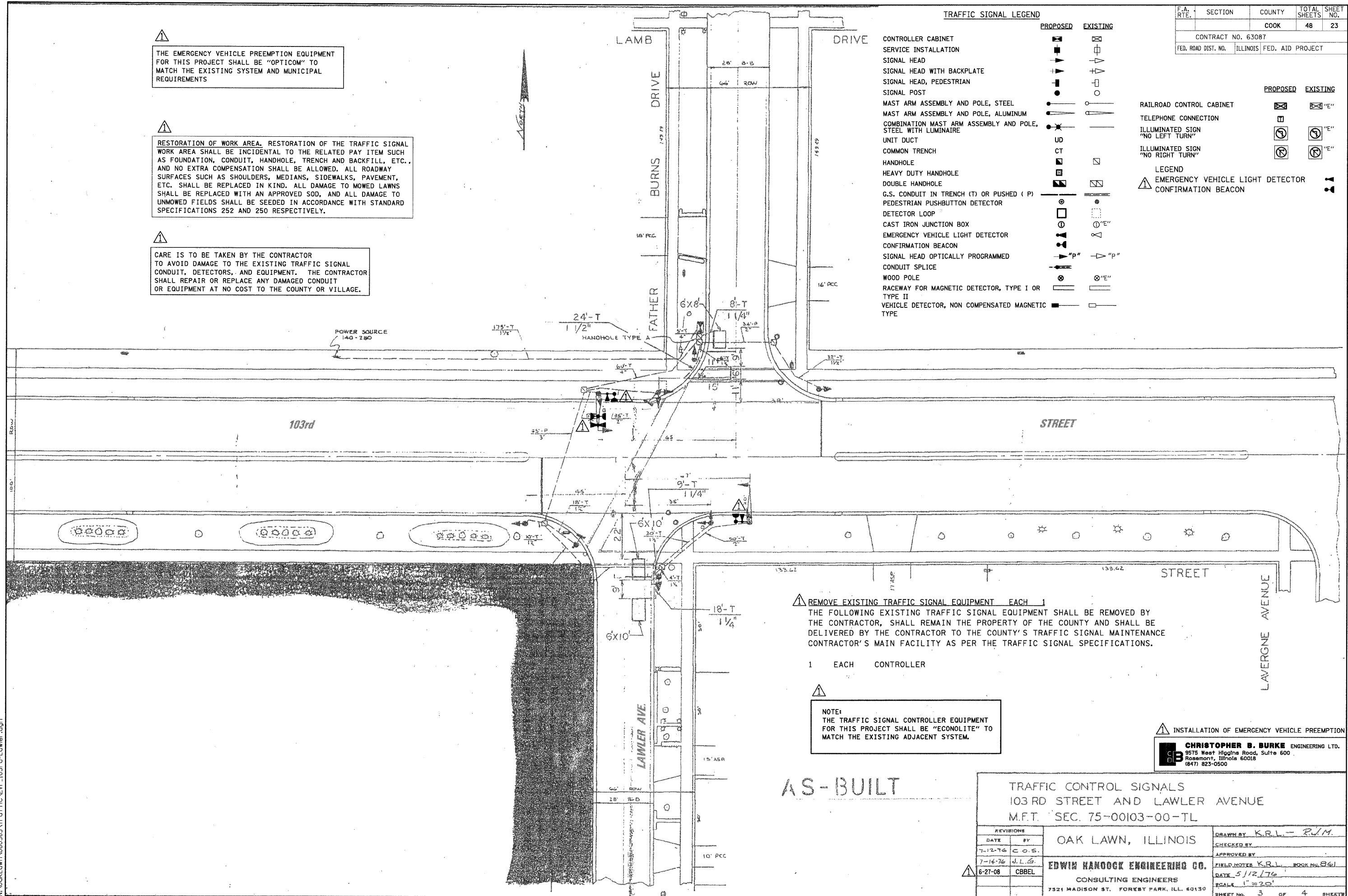
⚠ RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC.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

⚠ CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET | ⊠ | ⊠ |
| SERVICE INSTALLATION | ⊠ | ⊠ |
| SIGNAL HEAD | ⊠ | ⊠ |
| SIGNAL HEAD WITH BACKPLATE | ⊠ | ⊠ |
| SIGNAL HEAD, PEDESTRIAN | ⊠ | ⊠ |
| SIGNAL POST | ⊠ | ⊠ |
| MAST ARM ASSEMBLY AND POLE, STEEL | ⊠ | ⊠ |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | ⊠ | ⊠ |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | ⊠ | ⊠ |
| UNIT DUCT | UD | UD |
| COMMON TRENCH | CT | CT |
| HANDHOLE | ⊠ | ⊠ |
| HEAVY DUTY HANDHOLE | ⊠ | ⊠ |
| DOUBLE HANDHOLE | ⊠ | ⊠ |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | T/P | T/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 | ⊠ | ⊠ |

| | PROPOSED | EXISTING |
|----------------------------------|----------|----------|
| RAILROAD CONTROL CABINET | ⊠ | ⊠ "E" |
| TELEPHONE CONNECTION | ⊠ | ⊠ |
| ILLUMINATED SIGN "NO LEFT TURN" | ⊠ | ⊠ "E" |
| ILLUMINATED SIGN "NO RIGHT TURN" | ⊠ | ⊠ "E" |
| LEGEND | | |
| EMERGENCY VEHICLE LIGHT DETECTOR | ⊠ | ⊠ |
| CONFIRMATION BEACON | ⊠ | ⊠ |



⚠ REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT EACH 1 THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE COUNTY AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE COUNTY'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

- 1 EACH CONTROLLER

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

⚠ INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

AS-BUILT

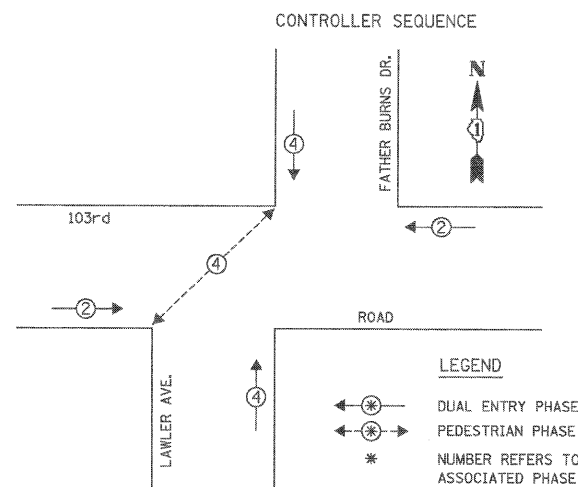
TRAFFIC CONTROL SIGNALS
 103RD STREET AND LAWLIER AVENUE
 M.F.T. SEC. 75-00103-00-TL

| | | |
|--------------------|------------|--------------------------|
| OAK LAWN, ILLINOIS | | DRAWN BY K.R.L. - R.J.M. |
| REVISIONS | CHECKED BY | APPROVED BY |
| DATE BY | | |
| 7-12-76 C.O.S. | | |
| 7-14-76 d.L.G. | | |
| 6-27-08 CBBEL | | |

EDWIN HANCOCK ENGINEERING CO.
 CONSULTING ENGINEERS
 7521 MADISON ST. FOREST PARK, ILL. 60130

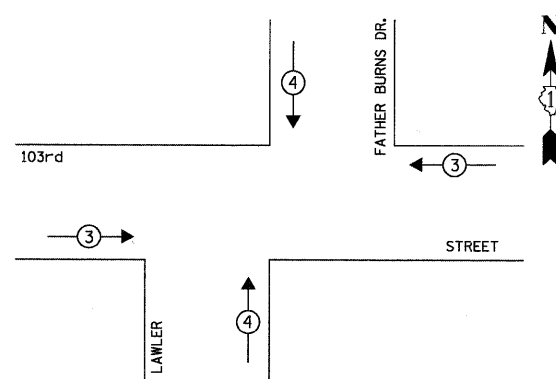
FIELD NOTES K.R.L. BOOK #1861
 DATE 5/12/76
 SCALE 1" = 30'
 SHEET NO. 3 OF 4 SHEETS

N:\OakLawn\080363\Traffic\NEVP_103rd-Lawler.dgn



PHASE DESIGNATION DIAGRAM

EMERGENCY VEHICLE PREEMPTION SEQUENCE



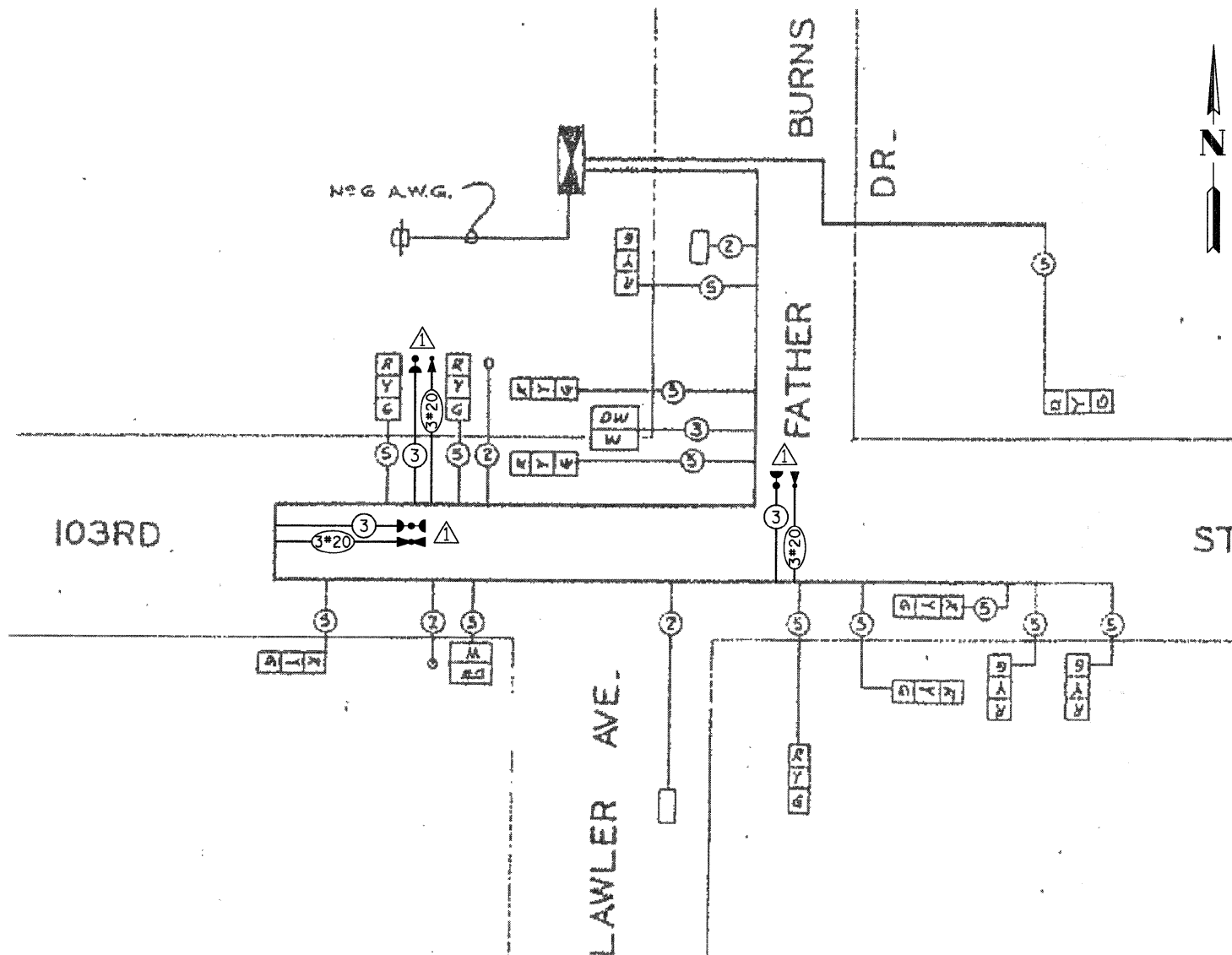
| PROPOSED EMERGENCY VEHICLE PREEMPTORS | | | |
|---------------------------------------|-----|-----|--|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 | |
| MOVEMENT | ← → | ↓ ↑ | |

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

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

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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



CABLE PLAN LEGEND

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

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| FULL-ACTUATED CONTROLLER IN EXISTING CABINET, SPECIAL | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 555 |
| LIGHT DETECTOR | EACH | 3 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 555 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION

CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

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

| TYPE | NO. OF LAMPS | WATTAGE XINCAND. LED | X % OPERATION | TOTAL WATTAGE |
|--------------|--------------|----------------------|---------------|---------------|
| SIGNAL (RED) | 12 | 135 | 0.50 | 810.00 |
| (YELLOW) | 12 | 135 | 0.25 | 405.00 |
| (GREEN) | 12 | 135 | 0.25 | 405.00 |
| ARROW | - | 135 | 0.10 | - |
| PED. SIGNAL | 2 | 90 | 1.00 | 180.00 |
| CONTROLLER | 1 | 100 | 1.00 | 100.00 |
| ILLUM. SIGN | - | 252 | 0.05 | - |
| FLASHER | - | - | 0.50 | - |
| TOTAL = | | | | 1900.00 |

ENERGY COSTS TO: TOTAL = 1900.00

COOK COUNTY HIGHWAY DEPARTMENT
 69 WEST WASHINGTON ROOM 2139
 CHICAGO, ILLINOIS 60602-3134

ENERGY SUPPLY: CONTACT:
 PHONE:
 COMPANY:

| 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 | 20'4L-2' |
| E - M. ARM POLE | - | SIGNAL POST | 2 (1.0) | (6mH-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) |

TRAFFIC CONTROL SIGNALS
 103RD STREET AND LAWLER AVENUE
 M.F.T. SEC. 75-00103-00-TL

OAK LAWN, ILLINOIS

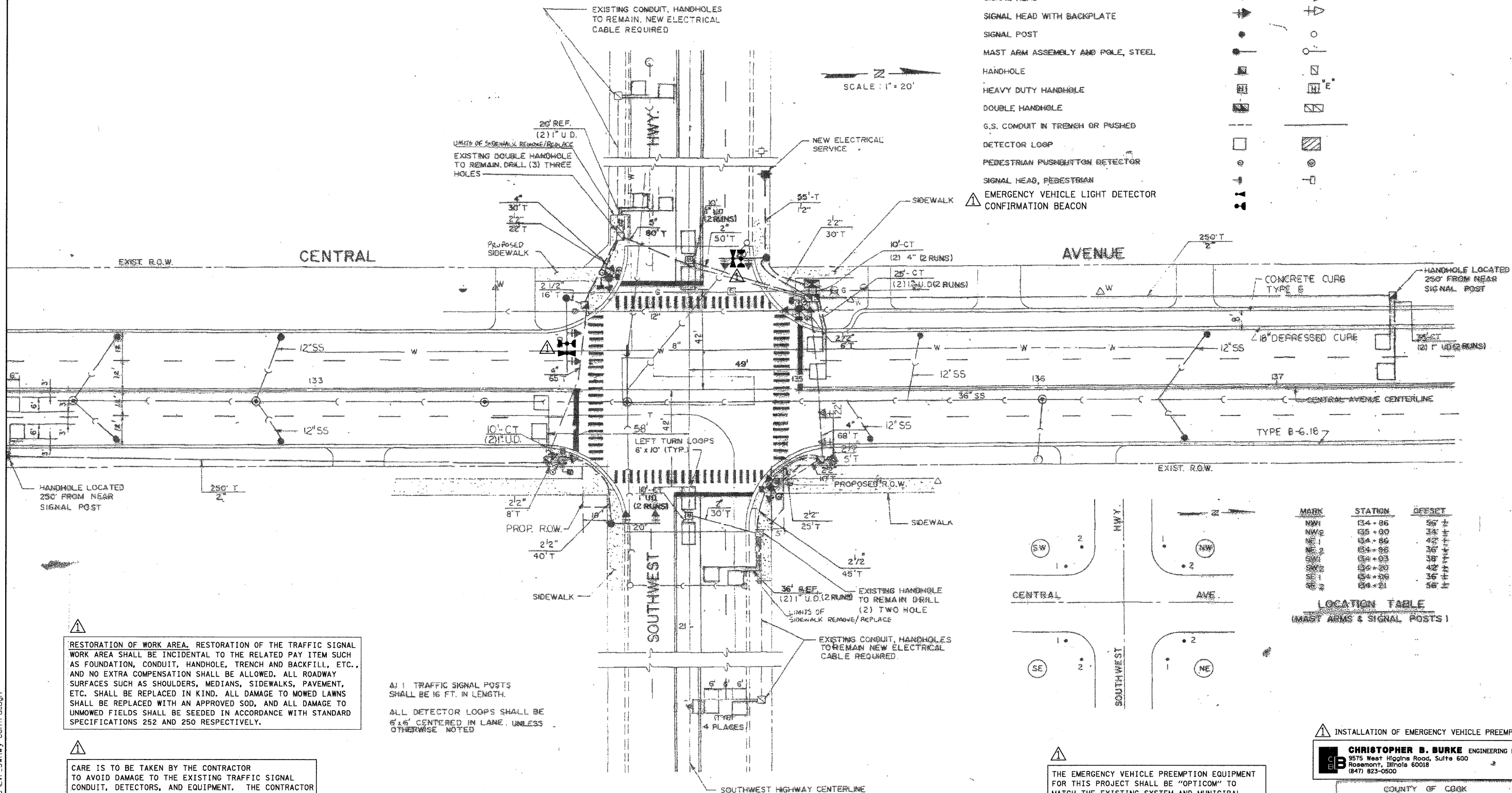
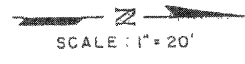
EDWIN HANCOCK ENGINEERING CO.
 CONSULTING ENGINEERS
 7521 MADISON ST. FOREST PARK, ILL. 60130

REVISIONS
 DATE BY
 7-12-76 C.O.S.
 7-14-76 J.L.G.
 CBBEL 6-27-08

DRAWN BY K.R.L. - R.J.M.
 CHECKED BY
 APPROVED BY
 FIELD NOTES K.R.L. BOOK NO. 561
 DATE 5/12/76
 SCALE 1" = 20'
 SHEET NO. 3 OF 4 SHEETS

TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER | [Symbol] | [Symbol] |
| SERVICE INSTALLATION | [Symbol] | [Symbol] |
| SIGNAL HEAD | [Symbol] | [Symbol] |
| SIGNAL HEAD WITH BACKPLATE | [Symbol] | [Symbol] |
| SIGNAL POST | [Symbol] | [Symbol] |
| MAST ARM ASSEMBLY AND POLE, STEEL | [Symbol] | [Symbol] |
| HANDHOLE | [Symbol] | [Symbol] |
| HEAVY DUTY HANDHOLE | [Symbol] | [Symbol] |
| DOUBLE HANDHOLE | [Symbol] | [Symbol] |
| G.S. CONDUIT IN TRENCH OR PUSHED | [Symbol] | [Symbol] |
| DETECTOR LOOP | [Symbol] | [Symbol] |
| PEDESTRIAN PUSHBUTTON DETECTOR | [Symbol] | [Symbol] |
| SIGNAL HEAD, PEDESTRIAN | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON | [Symbol] | [Symbol] |



| MARK | STATION | OFFSET |
|------|---------|--------|
| NW1 | 134+86 | 56" E |
| NW2 | 135+90 | 36" E |
| SW1 | 134+86 | 42" W |
| SW2 | 134+88 | 36" W |
| SW3 | 134+93 | 36" W |
| SW4 | 135+20 | 42" W |
| SW5 | 134+26 | 36" W |
| SW6 | 134+21 | 56" W |

LOCATION TABLE
(MAST ARMS & SIGNAL POSTS)

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

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

ALL TRAFFIC SIGNAL POSTS SHALL BE 16 FT. IN LENGTH.
ALL DETECTOR LOOPS SHALL BE 6' x 6' CENTERED IN LANE, UNLESS OTHERWISE NOTED

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

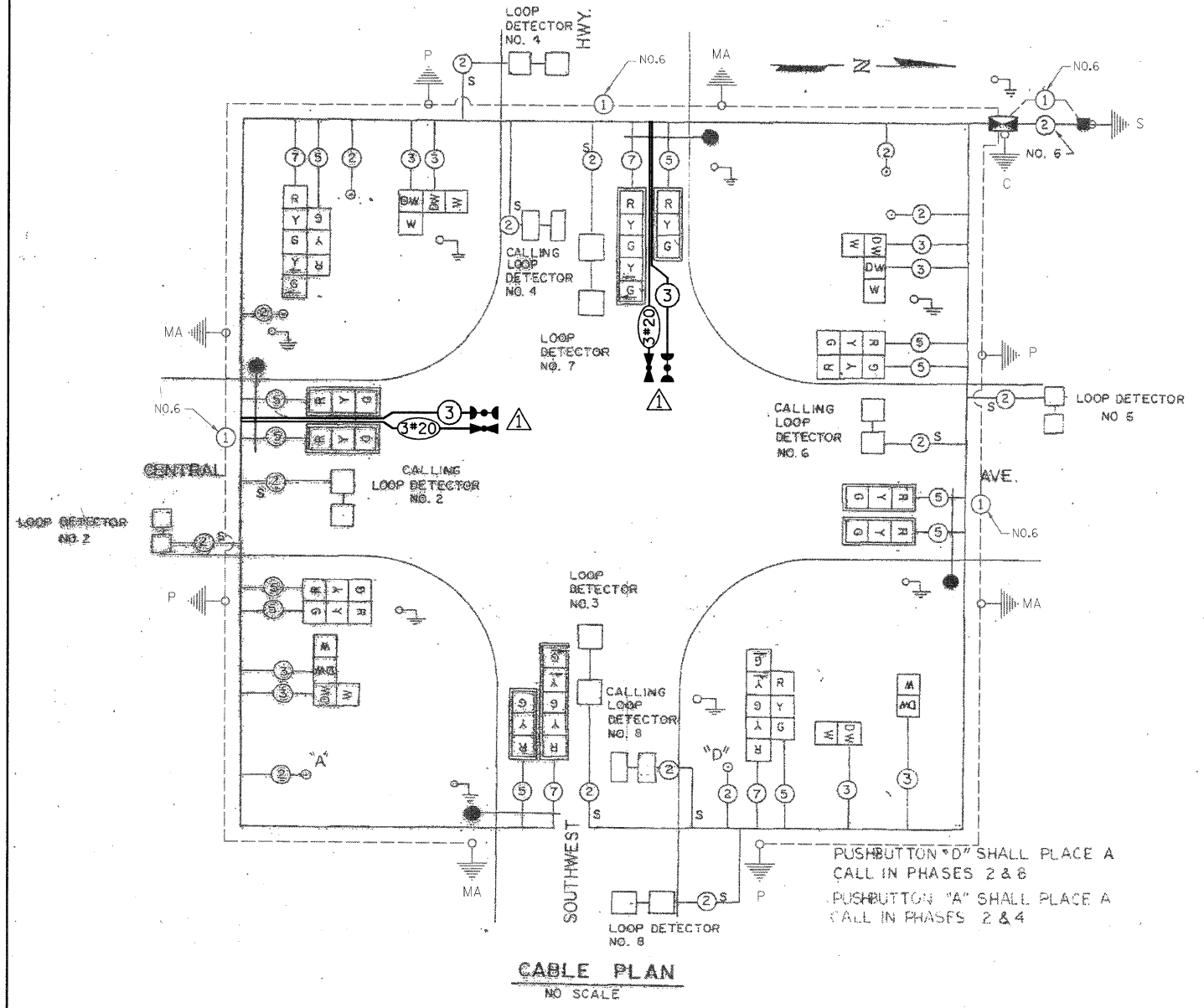
COUNTY OF COOK
DEPARTMENT OF HIGHWAYS

McDONOUGH ASSOCIATES, INC.
ENGINEERS ARCHITECTS

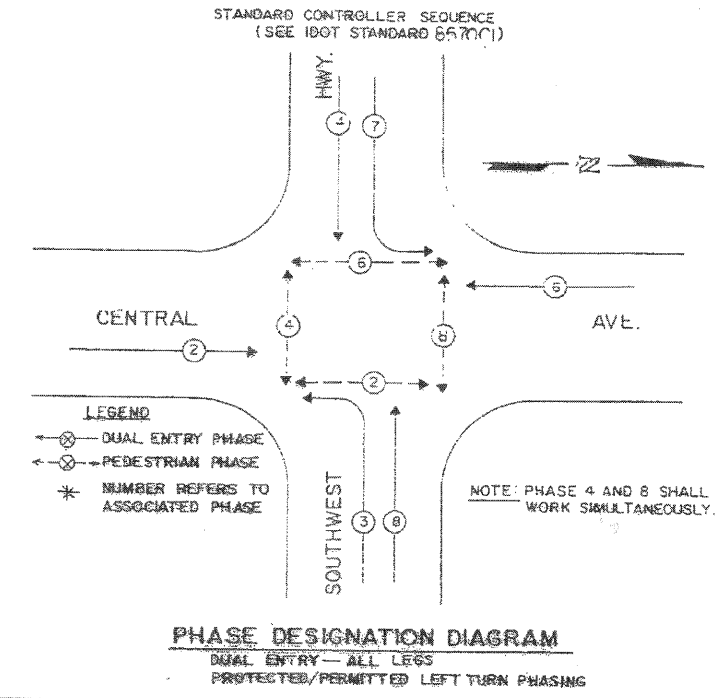
TRAFFIC SIGNAL INSTALLATION PLAN
CENTRAL AVENUE AT SOUTHWEST HWY.

DESIGNED: [Signature] APPROVED: [Signature]
DRAWN: [Signature] CHECKED: [Signature]

UPDATED BY CCHD 9/97
UPDATED BY CCHD 7/97



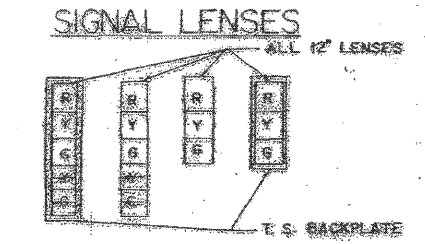
CABLE PLAN
NO SCALE



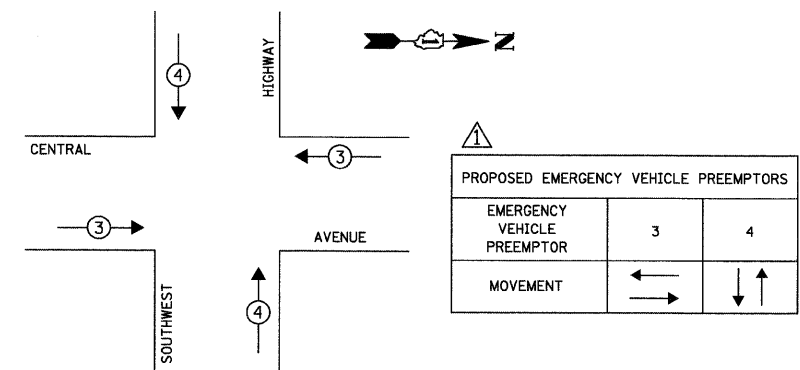
PHASE DESIGNATION DIAGRAM
DUAL ENTRY - ALL LESS PROTECTED/PERMITTED LEFT TURN PHASING

- CABLE PLAN LEGEND**
- [R] 12" TRAFFIC SIGNAL SECTION
 - [C] CONTROLLER CABINET
 - [S] SERVICE INSTALLATION
 - [D] VEHICLE DETECTOR, INDUCTION LOOP
 - (2) DENOTES NUMBER OF CONDUCTORS NEEDED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. ALL CABLE NO. 14 EXCEPT AS INDICATED.
 - [R Y G W] 12" SECTION SIGNAL FACE WITH BACKPLATE
 - [P] PEDESTRIAN PUSHBUTTON DETECTOR
 - [W] 12" PEDESTRIAN SIGNAL SECTION
 - [G] GROUNDING SYSTEM CONNECTION
 - [S] SHIELDED & TWISTED
 - [A] EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON

- SIGNAL LENSES**
- R RED
 - Y YELLOW
 - G GREEN
 - Y+ YELLOW TURN INDICATOR
 - G+ GREEN TURN INDICATOR



EMERGENCY VEHICLE PREEMPTION SEQUENCE



CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 315 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 315 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

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

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

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

| TYPE | NO. OF LAMPS | WATTAGE | INCAND. | LED | % OPERATION | TOTAL WATTAGE |
|------------------|--------------|---------|---------|-----|-------------|-----------------|
| SIGNAL (RED) | 16 | 135 | | | 0.50 | 1080.00 |
| (YELLOW) | 16 | 135 | | | 0.25 | 540.00 |
| (GREEN) | 16 | 135 | | | 0.25 | 540.00 |
| ARROW | 8 | 135 | | | 0.10 | 108.00 |
| PED. SIGNAL | 8 | 90 | | | 1.00 | 720.00 |
| CONTROLLER | 1 | 100 | | | 1.00 | 100.00 |
| ILLUM. SIGN | - | 292 | | | 0.05 | - |
| FLASHER | | | | | | 0.50 |
| ENERGY COSTS TO: | | | | | | TOTAL = 3088.00 |

COOK COUNTY HIGHWAY DEPARTMENT
69 WEST WASHINGTON ROOM 2139
CHICAGO, ILLINOIS 60602-3134
ENERGY SUPPLY CONTACT:
PHONE:
COMPANY:

| 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 | 20'4"-2" |
| E - M. ARM POLE | 10 (3.0) | SIGNAL POST | 2 (0.6) | 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) |
| 36" (900mm) | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5) | SERVICE TO GROUND | 13.5 (4.1) |
| | | GROUND CABLE | 1 (0.5) | POST MOUNTED | 6 (1.8) |

COUNTY OF COOK
DEPARTMENT OF HIGHWAYS
MCDONOUGH ASSOCIATES, INC.
ENGINEERS ARCHITECTS
CABLE PLAN, BILL OF MATERIALS AND PHASE DESIGNATION DIAGRAM
CENTRAL AVENUE AT SOUTHWEST HWY.
DESIGNED BY: [Signature]
CHECKED BY: [Signature]
DATE: [Date]

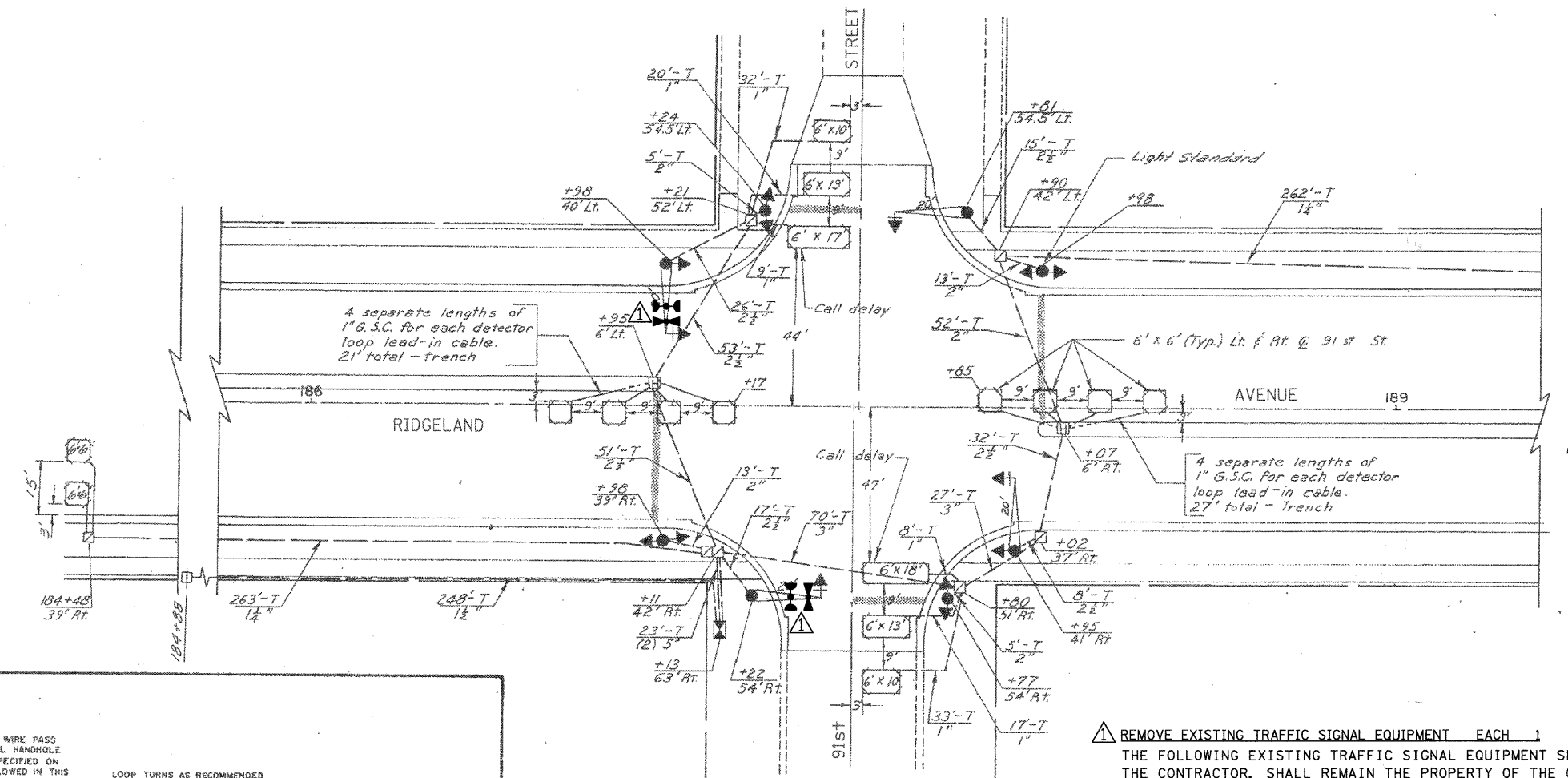
UPDATED BY CCHD 9/97
UPDATED BY CCHD 7/97

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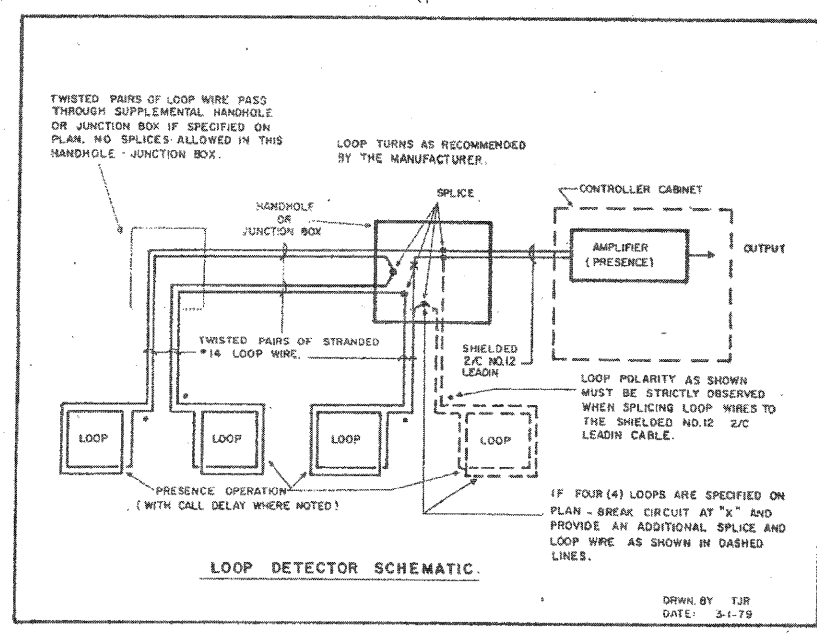
| | | | | |
|---------------------|----------|------------------|--------------|-----------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | COOK | 48 | 27 |
| CONTRACT NO. 63087 | | | | |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |

TRAFFIC SIGNAL LEGEND

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



Note:
For general notes and legend see sheet no. 76



REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT EACH 1
THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE COUNTY AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE COUNTY'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

1 EACH CONTROLLER

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

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

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

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

COUNTY OF COOK
DEPARTMENT OF HIGHWAYS

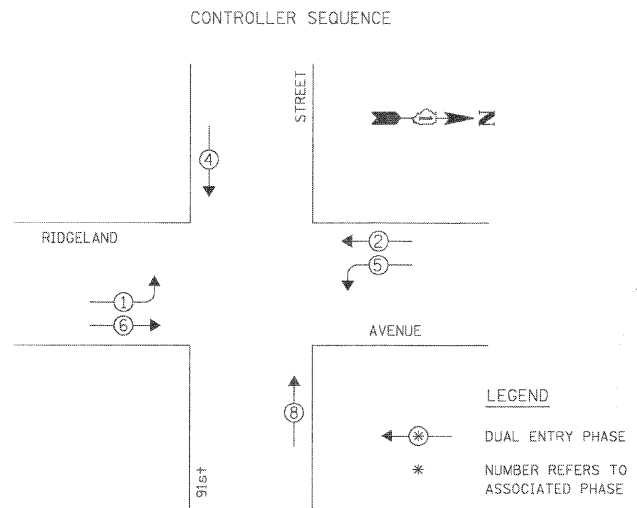
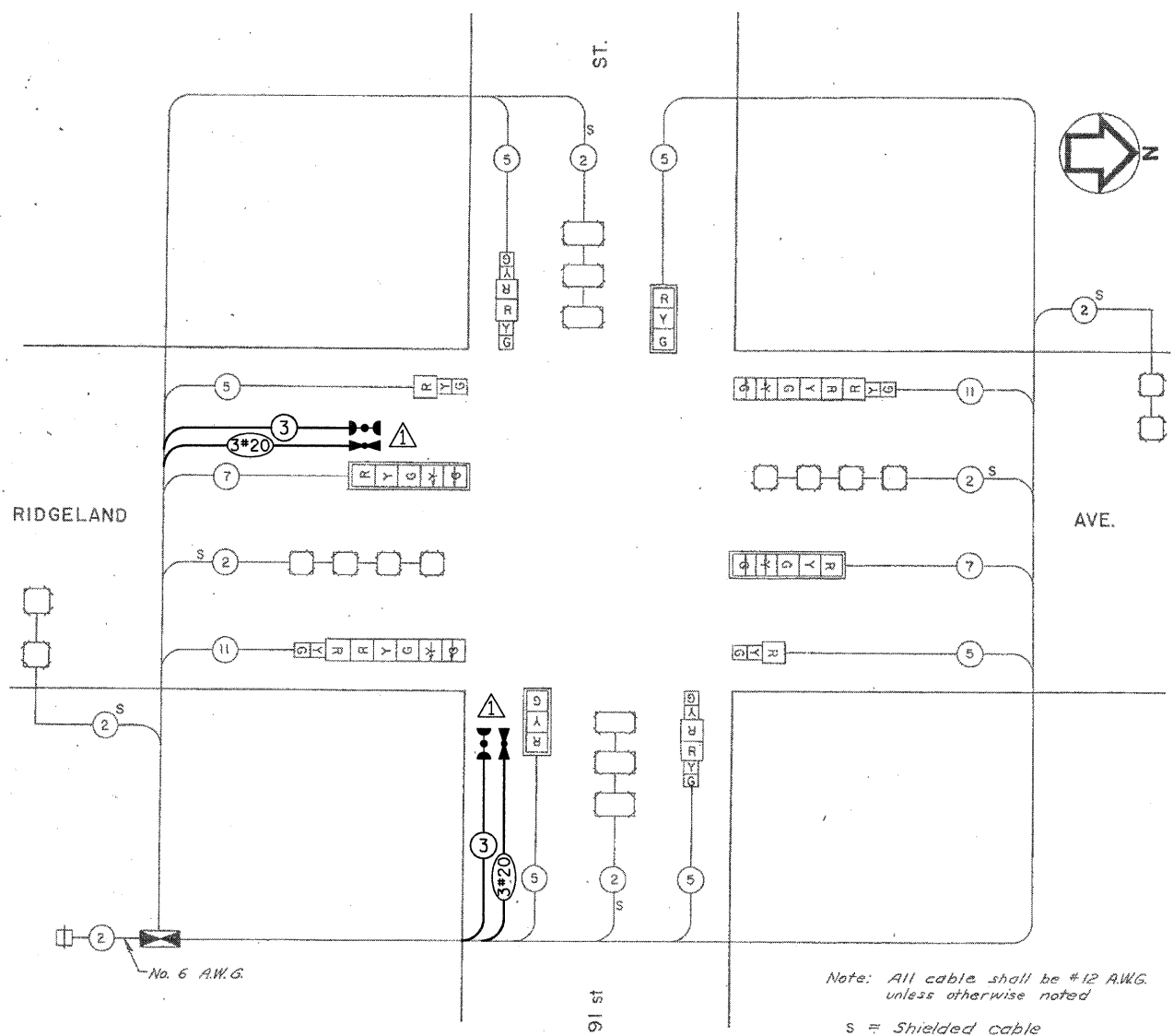
PROPOSED TRAFFIC CONTROL SIGNAL PLAN

RIDGELAND AVE. & 91st ST.

DATE FEB. 1981
CHECKED BY J56

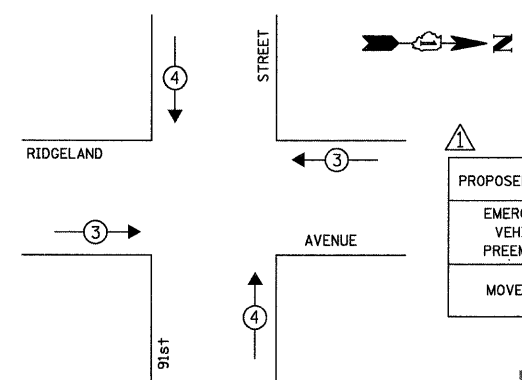
| REVISIONS | |
|-----------|---------|
| NAME | DATE |
| CBBEL | 6-27-08 |

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PHASE DESIGNATION DIAGRAM

EMERGENCY VEHICLE PREEMPTION SEQUENCE



| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
|-----------------------------|-----|-----|
| MOVEMENT | ← → | ↑ ↓ |

SIGNAL HEAD AND CABLE PLAN

- LEGEND**
- Controller
 - Service installation
 - Signal head
 - Signal head with backplate
 - Mast arm assembly and pole
 - Handhole
 - Galvanized steel conduit
 - Signal face, 12" red lenses, number of sections as indicated
 - Signal face, with backplate, 12 lenses, number of section as indicated
 - Cable with number of conductor as indicated
 - Heavy duty handhole
 - Double handhole
 - Vehicle detector, loop type
 - EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON

Note: All cable shall be #12 AWG unless otherwise noted
s = Shielded cable

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

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

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

| TYPE | NO. OF LAMPS | WATTAGE | LED | % OPERATION | TOTAL WATTAGE |
|--------------|--------------|---------|-----|-------------|---------------|
| SIGNAL (RED) | 14 | 135 | | 0.50 | 945.00 |
| (YELLOW) | 14 | 135 | | 0.25 | 472.00 |
| (GREEN) | 14 | 135 | | 0.25 | 472.00 |
| ARROW | 8 | 135 | | 0.10 | 108.00 |
| PED. SIGNAL | - | 90 | | 1.00 | - |
| CONTROLLER | 1 | 100 | | 1.00 | 100.00 |
| ILLUM. SIGN | - | 252 | | 0.05 | - |
| FLASHER | | | | 0.50 | |
| TOTAL = | | | | | 2098.00 |

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| FULL-ACTUATED CONTROLLER IN EXISTING CABINET, SPECIAL | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 299 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 299 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

| 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'-H-2" |
| E - M. ARM POLE | 10 (3.0) | 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) |
| 36" (900mm) | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5) | SERVICE TO GROUND | 13.5 (4.1) |
| | | GROUND CABLE | 1 (0.5) | POST MOUNTED | 6 (1.8) |

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

| DATE | ITEM | BY |
|---------|------|-------|
| 6-27-08 | | CBBEL |

COUNTY OF COOK
DEPARTMENT OF HIGHWAYS
PROPOSED SEQUENCE OF OPERATIONS AND
CABLE PLAN
RIDGELAND AVENUE
91ST ST. and RIDGELAND AVE.
SCALE NONE
DATE: FEB. 1981
DRAWN BY:
DESIGNED BY:
CHECKED BY: JSB

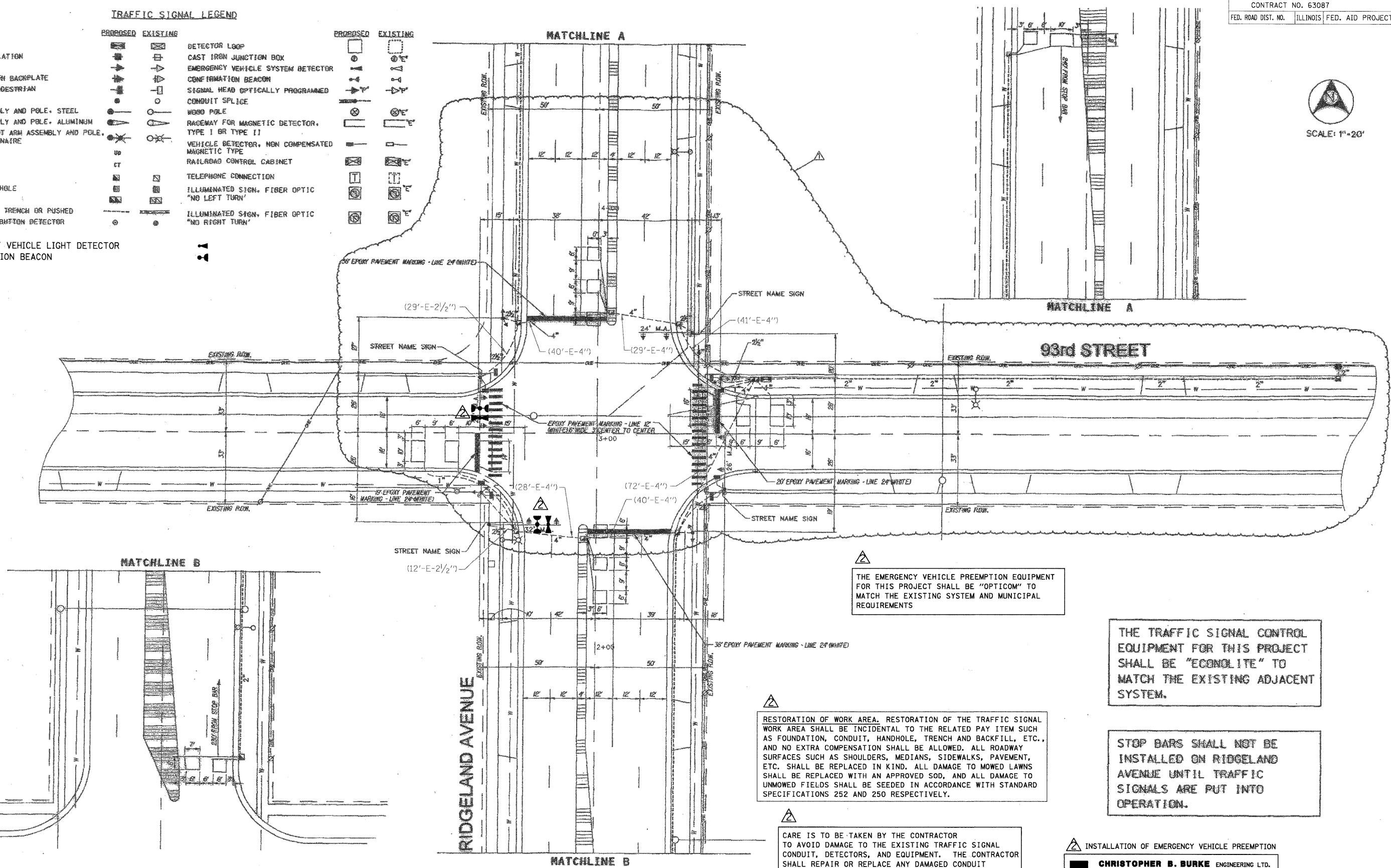
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SCALE: 1"=20'

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 |
| | | CONDUIT IN TRENCH |
| | | HANDHOLE |
| | | HEAVY DUTY HANDHOLE |
| | | DOUBLE HANDHOLE |
| | | G.S. CONDUIT IN TRENCH OR PUSHED |
| | | PEDESTRIAN PUSHBUTTON DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON |
| | | DETECTOR LOOP |
| | | CAST IRON JUNCTION BOX |
| | | EMERGENCY VEHICLE SYSTEM DETECTOR CONFIRMATION BEACON |
| | | SIGNAL HEAD OPTICALLY PROGRAMMED |
| | | CONDUIT SPLICE |
| | | WOOD POLE |
| | | RAGWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II |
| | | VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE |
| | | RAILROAD CONTROL CABINET |
| | | TELEPHONE CONNECTION |
| | | ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN" |
| | | ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN" |



THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

STOP BARS SHALL NOT BE INSTALLED ON RIDGELAND AVENUE UNTIL TRAFFIC SIGNALS ARE PUT INTO OPERATION.

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

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500



METRO TRANSPORTATION GROUP, INC.
 TRAFFIC ENGINEERING, TRANSPORTATION PLANNING
 AND SIGNAL SYSTEMS/DESIGN
 3100 W. HIGGINS ROAD, HOFFMAN ESTATES, IL 60195 PH# 630 213-1000

| REVISIONS | | DESCRIPTION |
|-----------|----------|---------------------|
| NO. | DATE | |
| 1 | 03/21/05 | CONTRACTOR REVISION |
| 2 | 03/29/06 | AS-BUILT |
| 3 | 6-27-08 | CBBEL |

TRAFFIC SIGNAL INSTALLATION PLAN

RIDGELAND AVENUE @ 93rd STREET
 OAK LAWN, ILLINOIS

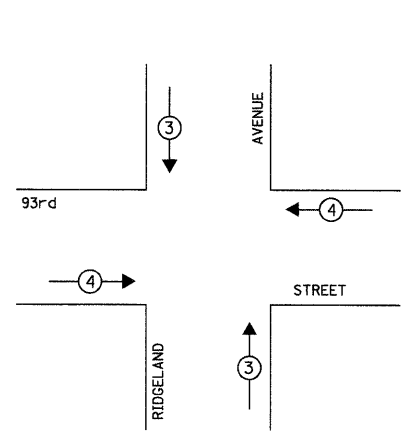
| | | | |
|------------|--------------|--------------|----------|
| FILE NAME: | 07.sp.dgn | SHEET NO.: | 7 |
| DATE: | Aug. 6, 2004 | PROJECT NO.: | H0309-19 |
| | | OF | 9 |

N:\ocklawn\080363\Traffic\93rd\RIDgeland-33r.dgn

CABLE PLAN LEGEND

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE



| PROPOSED EMERGENCY VEHICLE PREEMPTORS | | |
|---------------------------------------|-----|-----|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
| MOVEMENT | ↓ ↑ | ← → |

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

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

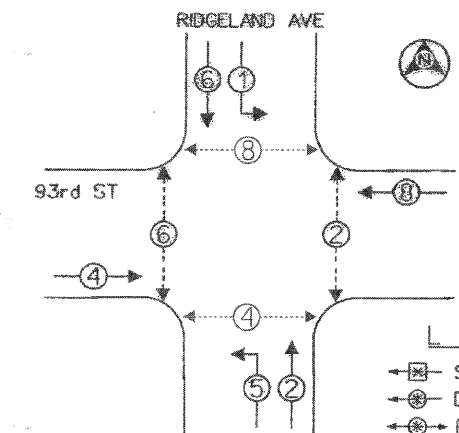
THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 447 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 447 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

PROPOSED CONTROLLER SEQUENCE



LEGEND

- [Symbol] SINGLE ENTRY PHASE
- [Symbol] DUAL ENTRY PHASE
- [Symbol] PEDESTRIAN PHASE

PHASE DESIGNATION DIAGRAM

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | | TOTAL WATTAGE |
|--|--------------|---------|------------------|------|---------------|
| TYPE | NO. OF LAMPS | WATTAGE | LED % OPERATIONS | | |
| SIGNAL (RED) | 36 | 135 | 12 | 0.50 | 135 |
| (YELLOW) | 36 | 135 | 25 | 0.25 | 100 |
| (GREEN) | 36 | 135 | 15 | 0.25 | 60 |
| ARROW | 8 | 135 | 12 | 0.10 | 9.6 |
| PED. SIGNAL | 8 | 90 | 25 | 1.00 | 200 |
| CONTROLLER | 1 | 100 | 100 | 1.00 | 100 |
| ILLUM. SIGN | | 84 | | 0.05 | |
| FLASHER | | | | 0.50 | |
| TOTAL = | | | | | 605.6 |

ENERGY COSTS TO: VILLAGE OF OAKLAWN
OAK LAWN, ILLINOIS 60453

ENERGY SUPPLY - CONTACT: DOUG BROWNFIELD
PHONE: (708) 235-2339
COMPANY: 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 (1.1) |
| D - CONTROLLER | 4 (1.2) | DOUBLE HANDHOLE | 13 (4.0) | MAST ARM (L) POLE | 20'±L-2'± |
| E - M ARM POLE | 2 (1.0) | SIGNAL POST | 2 (1.0) | (6.1+L-1.0)± | |
| 26" (650mm) | 10 (3.0) | CONTROLLER CAB. | 1 (0.3) | BRAKET MOUNTED | 13 (4.0) |
| 30" (750mm) | 15 (4.6) | FIBER OPTIC | 13 (4.0) | PED. PUSHBUTTON | 4 (1.2) |
| | | ELECTRIC SERVICE | 1 (0.3) | ELECTRIC SERVICE | 13.5 (4.1) |
| | | GROUND CABLE | 1 (0.3) | SERVICE TO GROUND | 13.5 (4.1) |
| | | | | POST MOUNTED | 6 (1.8) |

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION

CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

#03-12-6336



METRO TRANSPORTATION GROUP, INC.
TRAFFIC ENGINEERING, TRANSPORTATION PLANNING
AND SIGNAL SYSTEMS/DESIGN
3100 W. HIGGINS ROAD, HOFFMAN ESTATES, IL 60195 PH# 630 213-1000

| REVISIONS | | |
|-----------|----------|-----------------------|
| NO. | DATE | DESCRIPTION |
| 1 | 03/01/05 | CONTROLLER RELOCATION |
| 2 | 6-27-08 | CBBEL |

CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES

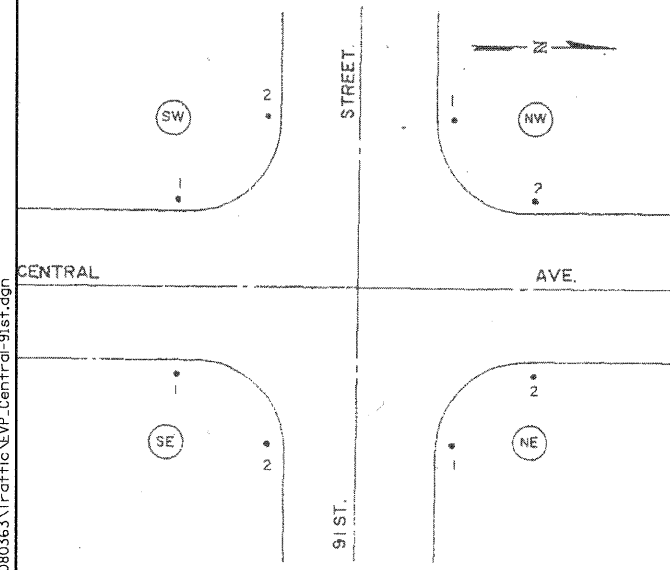
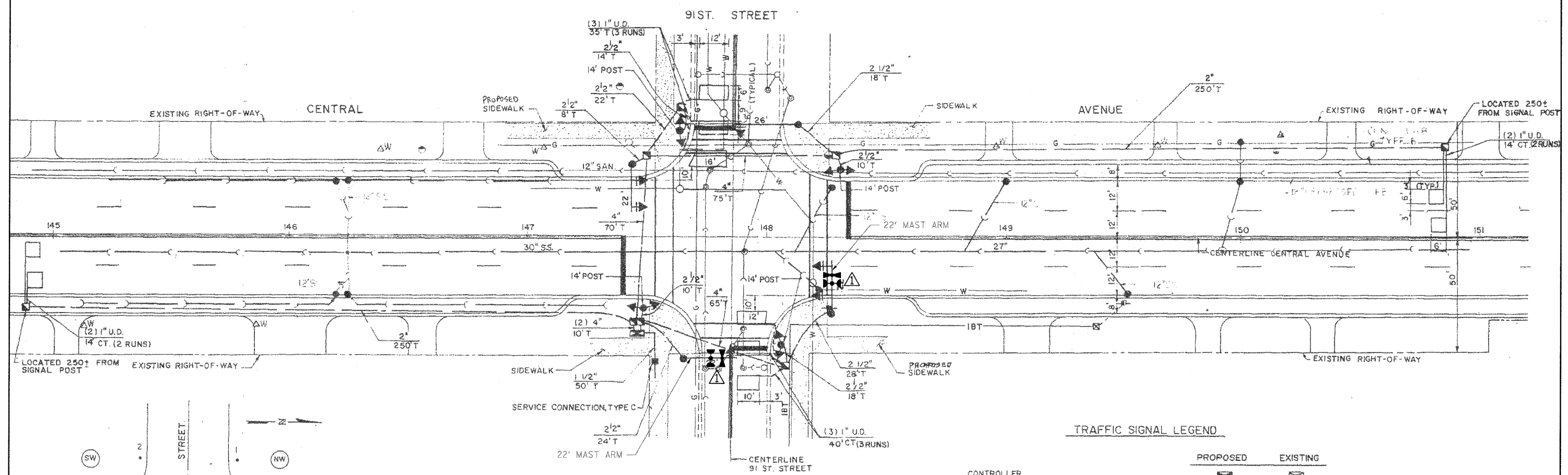
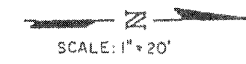
RIDGELAND AVENUE @ 93rd STREET
OAK LAWN, ILLINOIS

FILE NAME: 08_op.dgn SHEET NO.: 8
DATE: Aug. 6, 2004
PROJECT NO.: H0309-19 OF 9

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TRAFFIC SIGNAL NOTES

SEE SHEET NO. FOR NOTES



| MARK | STATION | OFFSET |
|------|----------|--------|
| NW1 | 148 + 14 | 51' ± |
| NW2 | 148 + 30 | 29' ± |
| NE 1 | 148 - 06 | 46' ± |
| NE 2 | 148 + 27 | 32' ± |
| SW1 | 147 + 44 | 31' ± |
| SW2 | 147 + 64 | 46' ± |
| SE 1 | 147 + 48 | 30' ± |
| SE 2 | 147 + 65 | 52' ± |

LOCATION TABLE
(MAST ARMS & SIGNAL POSTS)

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING |
|-----------------------------------|----------|----------|
| CONTROLLER | | |
| SERVICE INSTALLATION | | |
| SIGNAL HEAD | | |
| SIGNAL HEAD WITH BACKPLATE | | |
| SIGNAL POST | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | |
| MANHOLE | | |
| HEAVY DUTY HANDHOLE | | |
| DOUBLE HANDHOLE | | |
| G.S. CONDUIT IN TRENCH OR PUSHED | | |
| DETECTOR LOOP | | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | |
| SIGNAL HEAD, PEDESTRIAN | | |
| EMERGENCY VEHICLE LIGHT DETECTOR | | |
| CONFIRMATION BEACON | | |

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

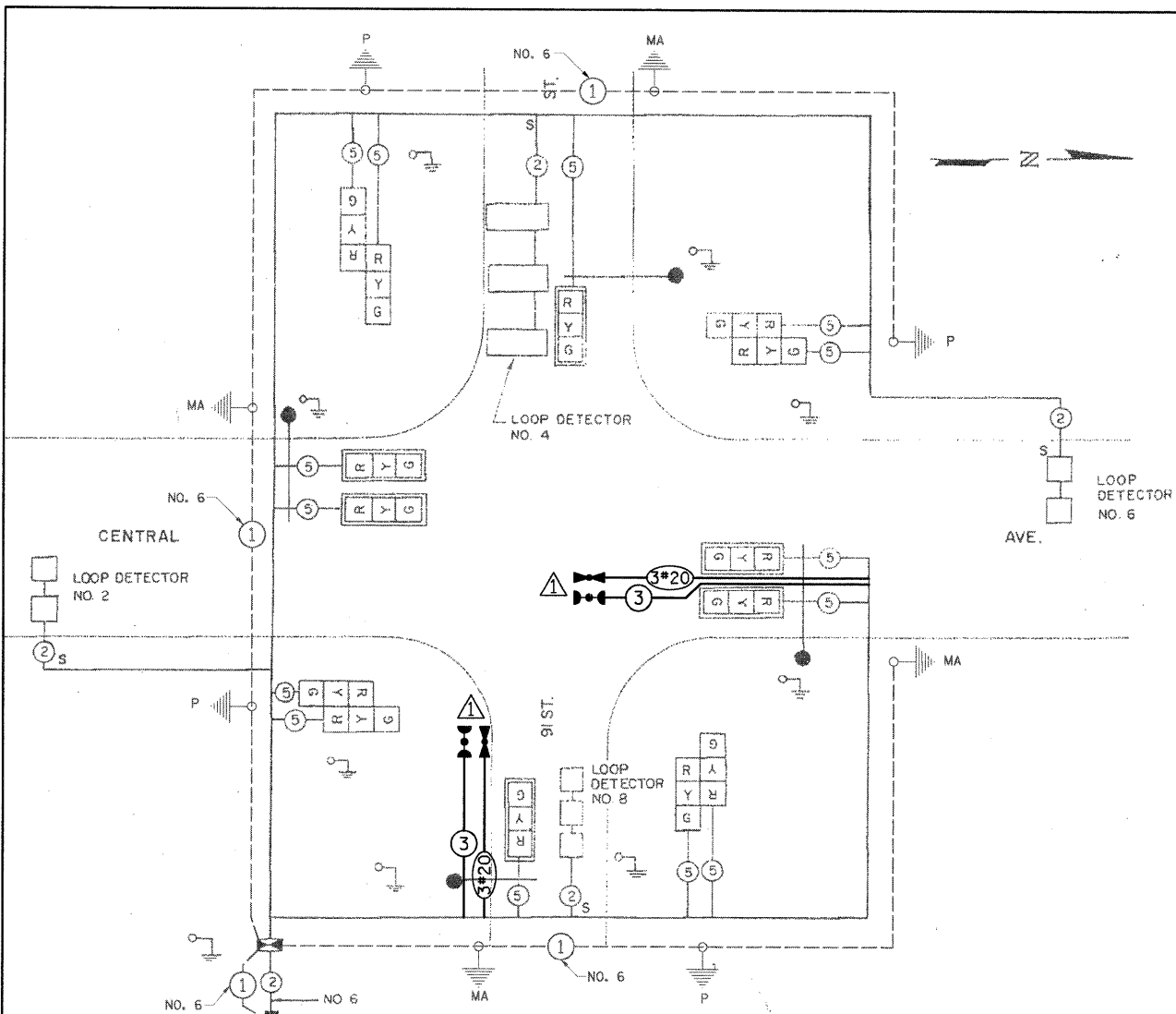
COUNTY OF COOK
 DEPARTMENT OF HIGHWAYS
 McDONOUGH ASSOCIATES, INC.
 ENGINEERS ARCHITECTS

TRAFFIC SIGNAL INSTALLATION PLAN
 CENTRAL AVENUE AT 91ST STREET

| | | | |
|----------|-----|-------------------------|----|
| COMPUTED | RKT | APPROVED | 18 |
| DRAWN | SYR | CHEF ENGINEER OF DESIGN | |
| CHECKED | RKT | | |

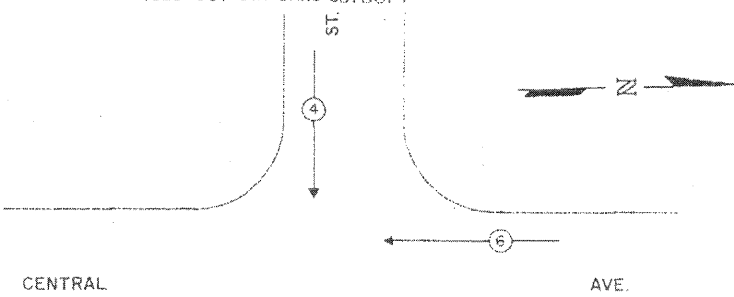
UPDATED BY CCHD 7/97

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CABLE PLAN
NO SCALE

STANDARD CONTROLLER SEQUENCE
(SEE IDOT STANDARD 657001)

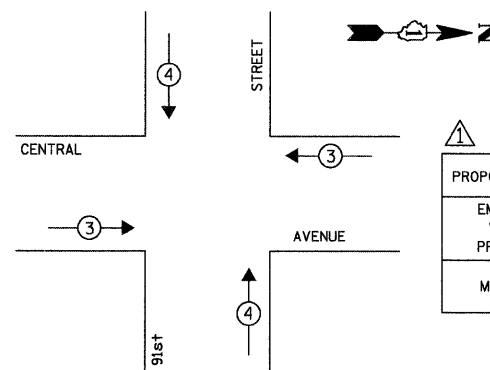


CENTRAL AVE.

PHASE DESIGNATION DIAGRAM
NO SCALE

DUAL ENTRY - ALL LEGS

EMERGENCY VEHICLE PREEMPTION SEQUENCE



| | | |
|-----------------------------|-----|-----|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
| MOVEMENT | ← → | ↑ ↓ |

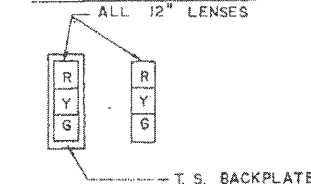
CABLE PLAN LEGEND

- [R] 12" TRAFFIC SIGNAL SECTION
- [C] CONTROLLER CABINET
- [S] SERVICE INSTALLATION
- [□] VEHICLE DETECTOR, INDUCTION LOOP
- (2) DENOTES NUMBER OF CONDUCTORS (NEW). ALL LOOP DETECTOR CABLE TO BE SHIELDED. ALL CABLE NO. 14 EXCEPT AS INDICATED
- [R Y G] 12 INCH SIGNAL FACE WITH BACKPLATE
- [GND] GROUNDING SYSTEM CONNECTION
- [S] SHIELDED & TWISTED EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON

SIGNAL LENSES

- R RED
- Y YELLOW
- G GREEN
- ← Y → YELLOW TURN INDICATOR
- ← G → GREEN TURN INDICATOR

SIGNAL FACES



SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 257 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 257 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION

CHRISTOPHER B. BURKE ENGINEERING LTD.
2575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 923-0500

COUNTY OF COOK
DEPARTMENT OF HIGHWAYS

McDONOUGH ASSOCIATES, INC.
ENGINEERS ARCHITECTS

CABLE PLAN AND
BILL OF MATERIALS
CENTRAL AVENUE AT 91ST STREET

COMPUTED: RKT APPROVED: [Signature]
DRAWN: GYR
CHECKED: RKT CHIEF ENGINEER OF DESIGN

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | TOTAL WATTAGE |
|--|--------------|---------|-------------|-----------------|
| TYPE | NO. OF LAMPS | WATTAGE | % OPERATION | |
| SIGNAL (RED) | 14 | 135 | 0.50 | 945.00 |
| (YELLOW) | 14 | 135 | 0.25 | 472.50 |
| (GREEN) | 14 | 135 | 0.25 | 472.50 |
| ARROW | - | 135 | 0.10 | - |
| PED. SIGNAL | - | 90 | 1.00 | - |
| CONTROLLER | 1 | 100 | 1.00 | 100.00 |
| ILLUM. SIGN | - | 252 | 0.05 | - |
| FLASHER | - | - | 0.50 | - |
| ENERGY COSTS TO: | | | | TOTAL = 1990.00 |

COOK COUNTY HIGHWAY DEPARTMENT
69 WEST WASHINGTON ROOM 2139
CHICAGO, ILLINOIS 60602-3134
ENERGY SUPPLY CONTACT:
PHONE:
COMPANY:

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

| 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 | 10 (3.0) | SIGNAL POST | 2 (0.6) | BRACKET MOUNTED | 13 (4.0) |
| 24" (600mm) | 10 (3.0) | CONTROL 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) |
| 36" (900mm) | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5) | SERVICE TO GROUND | 13.5 (4.1) |
| | | GROUND CABLE | 1 (0.5) | POST MOUNTED | 6 (1.8) |

UPDATED BY CCHD 7/97

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| | | | | |
|---------------------|----------|------------------|--------------|-----------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | COOK | 48 | 33 |
| CONTRACT NO. 63087 | | | | |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |

CONSTRUCTION NOTES:

1 REMOVE EXISTING 14' TRAFFIC SIGNAL POST. INSTALL NEW 18' TRAFFIC SIGNAL POST ON EXISTING FOUNDATION AND RELOCATE EXISTING TRAFFIC SIGNAL HEAD, 2-FACE, 3-SECTION TO NEW POST. REUSE EXISTING CABLES. INSTALL NEW LIGHT DETECTOR ON NEW POST AND INSTALL NO. 20 3/C AND NO. 14 3/C CABLES.

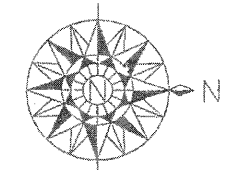
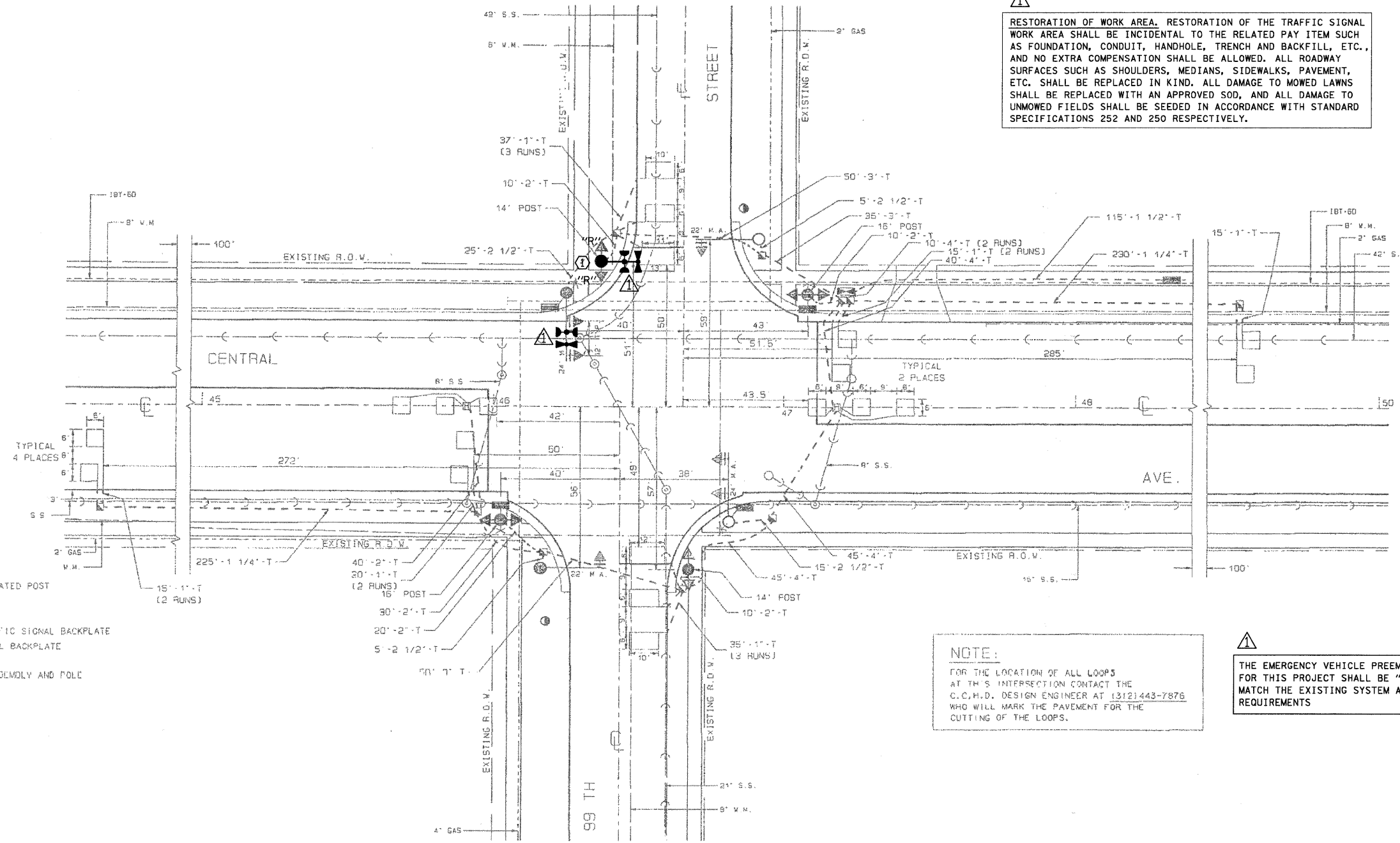
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT EACH

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

- 1 EACH TRAFFIC SIGNAL POST, 14'

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

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



LEGEND

- SIGNAL HEAD AND EXISTING RELOCATED POST
- SIGNAL HEAD AND POST
- SIGNAL HEAD
- EXISTING SIGNAL HEAD WITH TRAFFIC SIGNAL BACKPLATE
- SIGNAL HEAD WITH TRAFFIC SIGNAL BACKPLATE
- MAST ARM ASSEMBLY AND POLE
- (UTILITY RELUCATED) MAST ARM ASSEMBLY AND POLE
- CONTROL CABINET
- LOOP DETECTOR
- DOUBLE HANDHOLE
- HANDHOLE
- HEAVY DUTY HANDHOLE
- GALVANIZED STEEL CONDUIT
- 20"-1"-T IN TRENCH
- SIZE OF CONDUIT
- LENGTH OF CONDUIT
- 20"-1"-P PUSHED
- SERVICE INSTALLATION
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSHBUTTON
- RELOCATED EXISTING LIGHT STANDARD
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- "R"

NOTE:
FOR THE LOCATION OF ALL LOOPS AT THIS INTERSECTION CONTACT THE C.C.H.D. DESIGN ENGINEER AT (312) 443-7876 WHO WILL MARK THE PAVEMENT FOR THE CUTTING OF THE LOOPS.

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION

CHRISTOPHER B. BURKE ENGINEERING LTD.
3575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

SCALE 1"=20'-0"

COUNTY OF COOK
DEPARTMENT OF HIGHWAYS

TRAFFIC SIGNAL INSTALLATION
CENTRAL AVE. AT 99 TH ST.

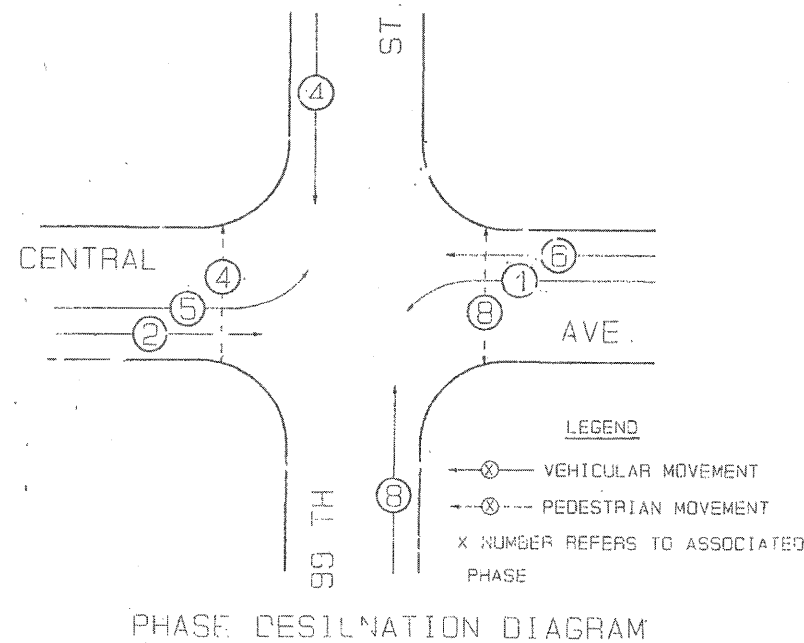
COMPUTED M.T.H.
DRAWN M.T.H.
CHECKED [Signature]

APPROVED [Signature] 10/91
CHIEF ENGINEER OF DESIGN

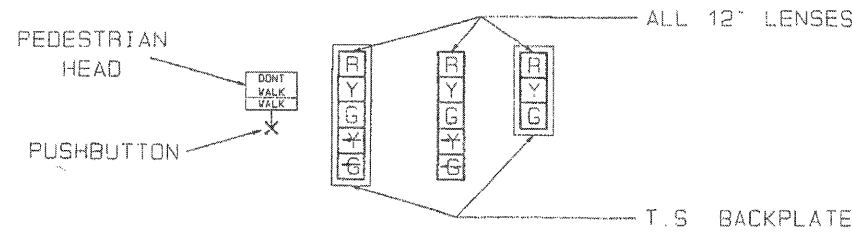
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CONTROLLER SEQUENCE IV

REFERRING TO STANDARD 2393, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW



SIGNAL FACES



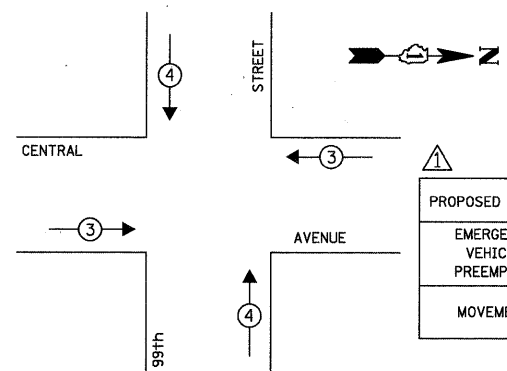
SIGNAL LENSES

- R RED
- Y YELLOW
- G GREEN
- * YELLOW TURN INDICATOR
- † GREEN TURN INDICATOR

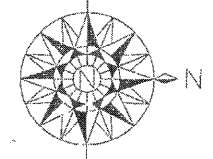
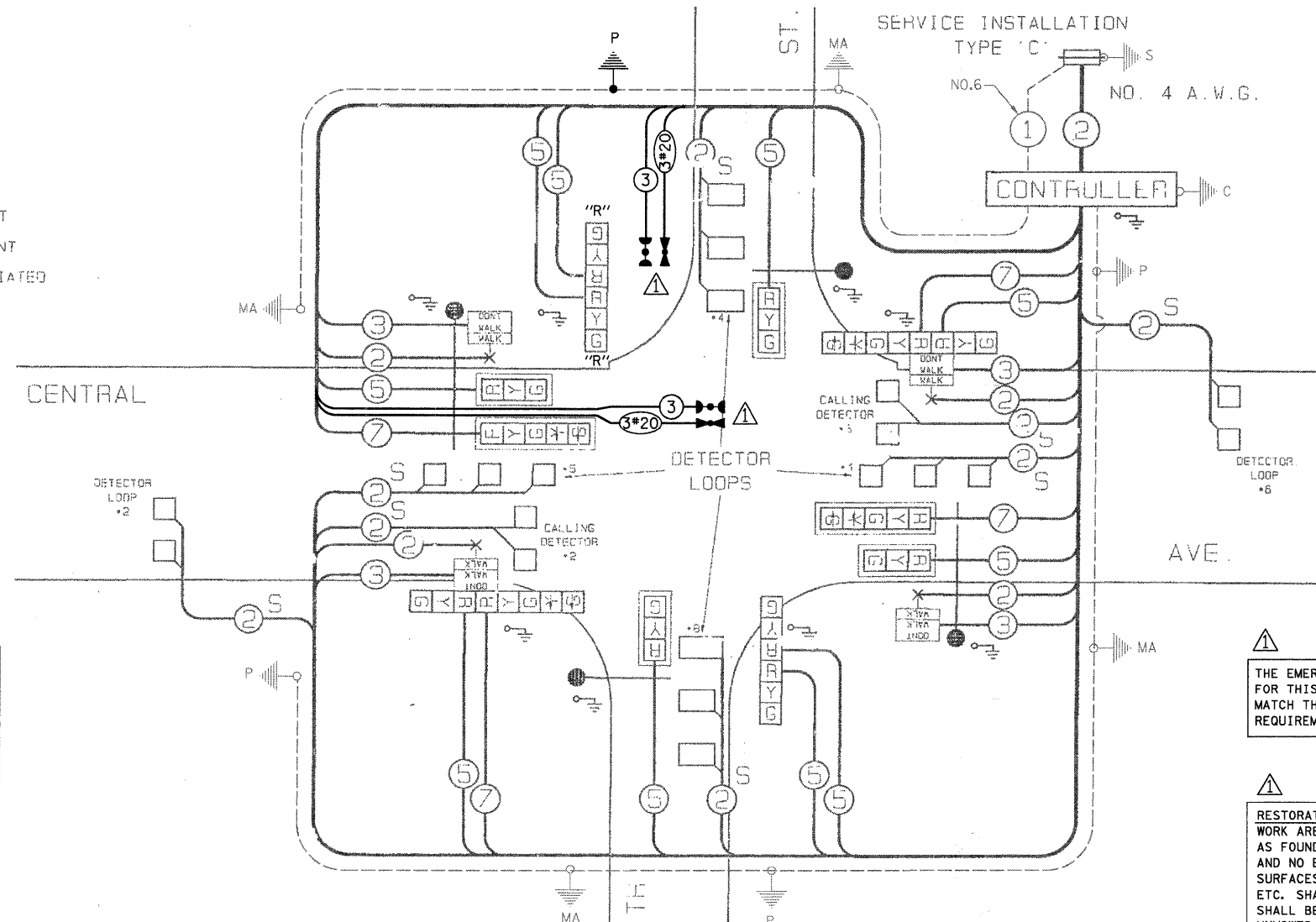
CABLE PLAN LEGEND

- 12" TRAFFIC SIGNAL SECTION
- CONTROLLER CABINET
- VEHICLE DETECTOR, INJECTION LOOP
- DENOTES NUMBER OF CONDUCTORS (NEW) ALL LOOP DETECTOR CABLE TO BE TWISTED & SHIELDED. ALL CABLE NO. 14 EXCEPT AS INDICATED
- SIGNAL FACE WITH BACKPLATE
- 'P' INDICATES PHYGMA
- GROUNDING SYSTEM CONNECTION
- SHIELDED & TWISTED
- SERVICE INSTALLATION
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSHBUTTON
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON RELOCATE

EMERGENCY VEHICLE PREEMPTION SEQUENCE



| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
|-----------------------------|-----|-----|
| MOVEMENT | ← → | ↑ ↓ |



THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 345 |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT. | EACH | 1 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| RELOCATE EXISTING SIGNAL HEAD | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 345 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

CARE IS TO BE TAKEN BY THE CONTRACTOR TO AVOID DAMAGE TO THE EXISTING TRAFFIC SIGNAL CONDUIT, DETECTORS, AND EQUIPMENT. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED CONDUIT OR EQUIPMENT AT NO COST TO THE COUNTY OR VILLAGE.

| TYPE | NO. OF LAMPS | WATTAGE | LED | X OPERATION | TOTAL WATTAGE |
|--------------|--------------|---------|-----|-------------|---------------|
| SIGNAL (RED) | 14 | 135 | | 0.50 | 945.00 |
| (YELLOW) | 14 | 135 | | 0.25 | 472.00 |
| (GREEN) | 14 | 135 | | 0.25 | 472.00 |
| ARROW | 8 | 135 | | 0.10 | 108.00 |
| PED. SIGNAL | 4 | 90 | | 1.00 | 360.00 |
| CONTROLLER | 1 | 100 | | 1.00 | 100.00 |
| ILLUM. SIGN | - | 252 | | 0.05 | - |
| FLASHER | | | | 0.50 | |
| TOTAL = | | | | | 2458.00 |

COOK COUNTY HIGHWAY DEPARTMENT
69 WEST WASHINGTON ROOM 2139
CHICAGO, ILLINOIS 60602-3134
ENERGY SUPPLY: CONTACT:
PHONE:
COMPANY:

| 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'-H-2" |
| 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) |
| 36" (900mm) | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5) | SERVICE TO GROUND | 13.5 (4.1) |
| | | GROUND CABLE | 1 (0.5) | POST MOUNTED | 6 (1.8) |

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

COUNTY OF COOK
DEPARTMENT OF HIGHWAYS
TRAFFIC SIGNAL INSTALLATION
CENTRAL AVE. AT 99 TH ST.
COMPUTED M.T.H.
DRAWN M.T.H.
CHECKED R.E.
APPROVED [Signature]
CHIEF ENGINEER OF DESIGN

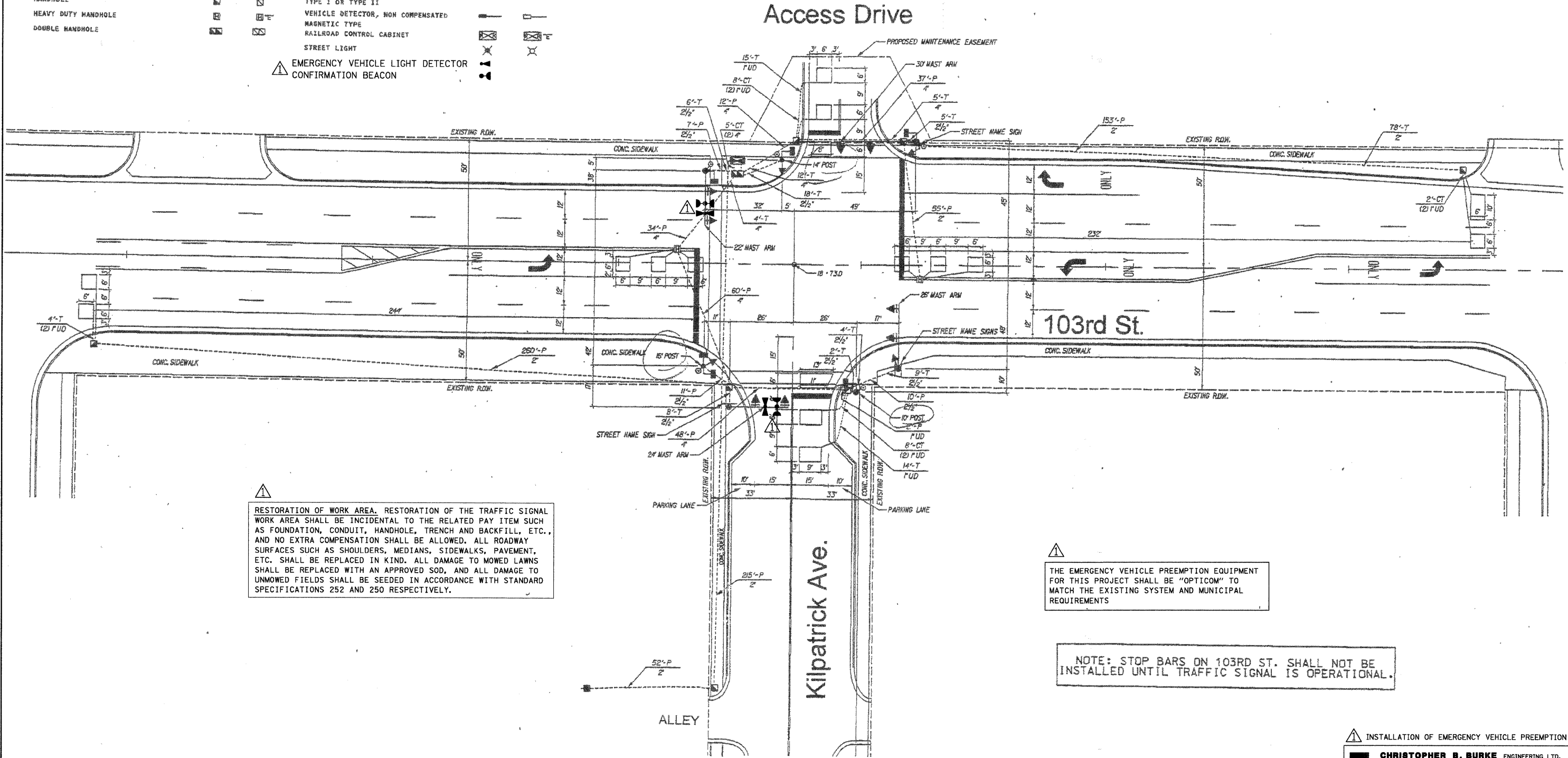
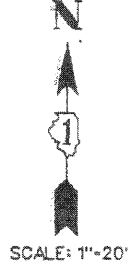
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TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING | | PROPOSED | EXISTING |
|--------------------------------------|----------|----------|--|----------|----------|
| CONTROLLER | | | G.S. CONDUIT IN TRENCH OR PUSHED | | |
| SERVICE INSTALLATION | | | PEDESTRIAN PUSHBUTTON DETECTOR | | |
| SIGNAL HEAD | | | DETECTOR LOOP | | |
| SIGNAL HEAD WITH BACKPLATE | | | CAST IRON JUNCTION BOX | | |
| SIGNAL HEAD, PEDESTRIAN | | | EMERGENCY VEHICLE SYSTEM DETECTOR | | |
| SIGNAL POST | | | CONFIRMATION BEACON | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | | SIGNAL HEAD OPTICALLY PROGRAMMED | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | | CONDUIT SPLICE | | |
| COMMON TRENCH | | | WOOD POLE | | |
| UNIT DUCT | | | RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II | | |
| HANDHOLE | | | VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE | | |
| HEAVY DUTY HANDHOLE | | | RAILROAD CONTROL CABINET | | |
| DOUBLE HANDHOLE | | | STREET LIGHT | | |
| | | | EMERGENCY VEHICLE LIGHT DETECTOR | | |
| | | | CONFIRMATION BEACON | | |

| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------|---------|--------|--------------|-----------|
| | | COOK | 48 | 35 |

CONTRACT NO. 63087
 FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT



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

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

NOTE: STOP BARS ON 103RD ST. SHALL NOT BE INSTALLED UNTIL TRAFFIC SIGNAL IS OPERATIONAL.

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

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EDWIN HANCOCK ENGINEERING COMPANY
 CONSULTING ENGINEERS
 9933 ROOSEVELT ROAD WESTCHESTER, ILLINOIS 60154-2780
 (708) 865-0300 ESTABLISHED 1911

prepared by METRO for EDWIN HANCOCK COMPANY
 METRO TRANSPORTATION GROUP, INC.
 TRANSPORTATION, PLANNING, ENGINEERING, AND DESIGN
 1300 GREENBROOK BLVD. HANOVER PARK, IL 60103
 PH# (630) 213-1000

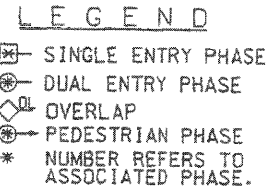
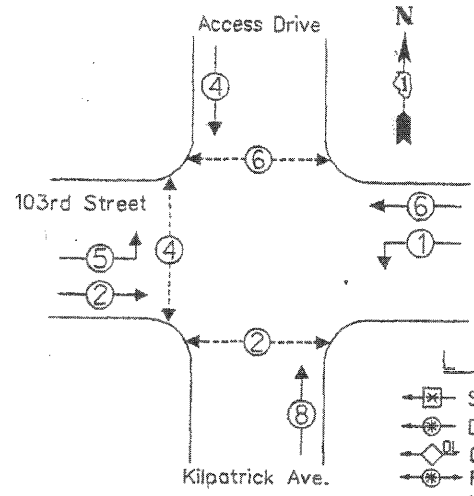


SIGNAL INSTALLATION PLAN
 103rd STREET at KILPATRICK AVE.
 OAKLAWN, ILLINOIS

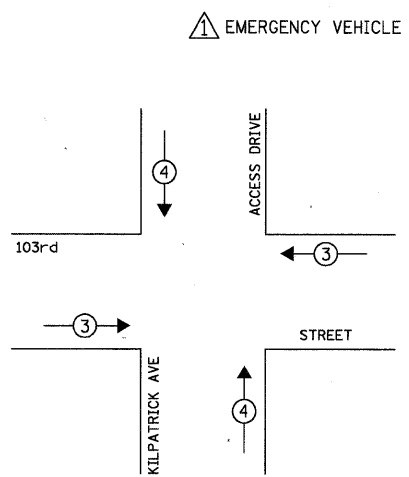
SCALE: 1"=20'
 DRAWN BY:
 BOOK NO.: 1385
 DATE: 12-T-01
 REVISION: 2-8-02

SHEET 69 OF 105
 E.H.E. NO.: 640-00-25701

CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM



EMERGENCY VEHICLE PREEMPTION SEQUENCE

| PROPOSED EMERGENCY VEHICLE PREEMPTORS | | |
|---------------------------------------|-----|-----|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
| MOVEMENT | ← → | ↑ ↓ |

CABLE PLAN LEGEND

- | | | |
|--|--|---|
| | | 8\" (20MM) TRAFFIC SIGNAL SECTION |
| | | 12\" (30MM) TRAFFIC SIGNAL SECTION |
| | | 12\" (30MM) PEDESTRIAN SIGNAL SECTION |
| | | 12\" (30MM) PEDESTRIAN SIGNAL SECTION |
| | | CONTROLLER CABINET |
| | | SERVICE INSTALLATION |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | PUSHBUTTON DETECTOR |
| | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | SIGNAL FACE WITH BACKPLATE |
| | | "P" INDICATES PROGRAMMED HEAD |
| | | GROUND ROD AT HANDHOLE OR CONTROLLER |
| | | GROUND ROD AT POST OR MAST ARM POLE |
| | | GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| | | GROUND ROD EXISTING TO BE REUSED |
| | | GROUND CABLE IN CONDUIT, NO. 6 SOLID COPPER (GREEN) |
| | | NO. 62.5/125 MM 12F & SM 12F, FIBER OPTIC CABLE |
| | | NO. 14 1C TRACER CABLE |

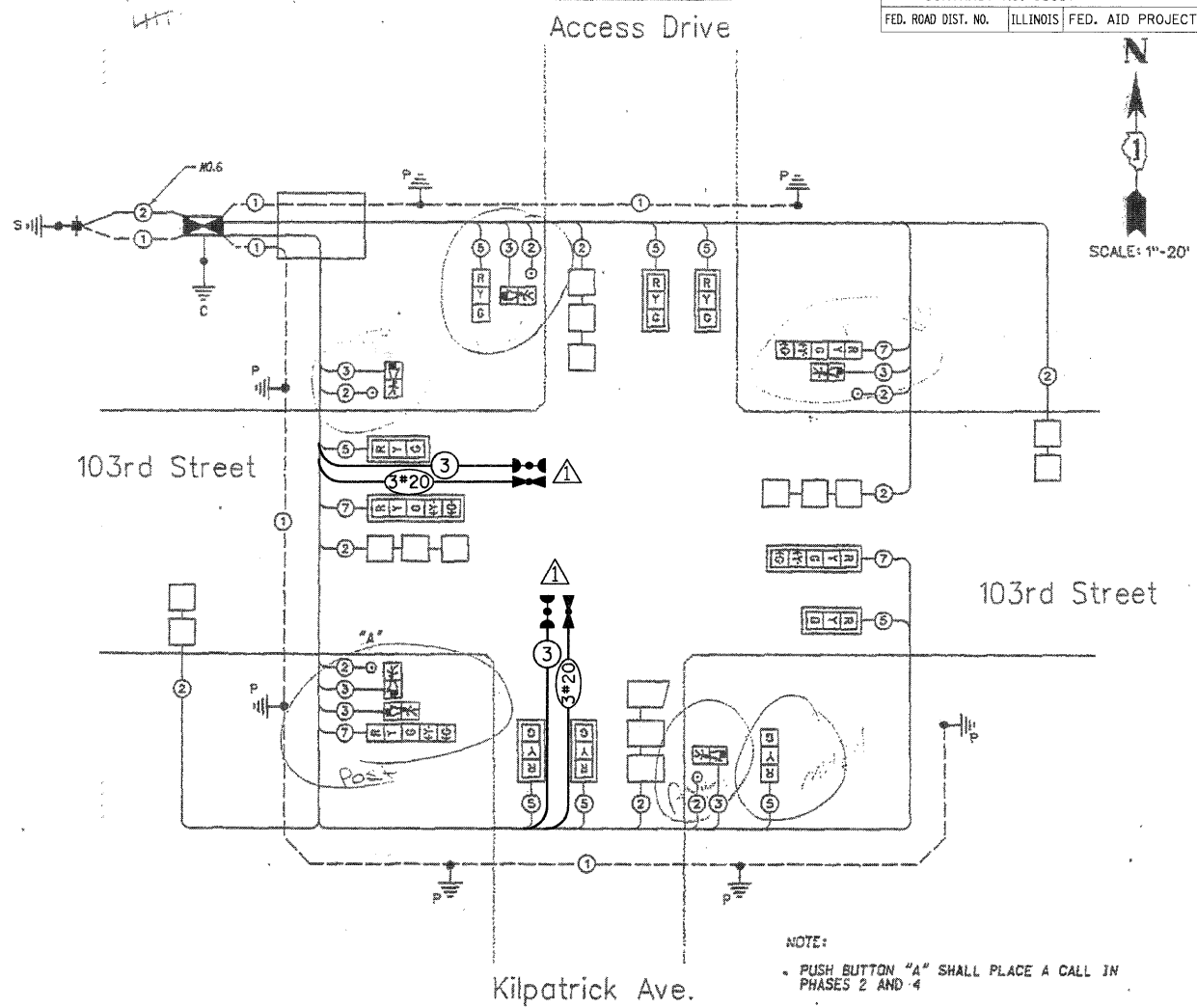
NOTE: ALL NEW GROUND RODS SHALL BE 3/4\" X 10'-0\" LONG COPPER CLAD. THE COST SHALL BE INCIDENTAL TO THE COST OF INSTALLATION.

EMERGENCY VEHICLE LIGHT DETECTOR
 CONFIRMATION BEACON

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

CABLE PLAN



NOTE: PUSH BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 257 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 257 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

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

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | TOTAL WATTAGE |
|--|-----------|---------|--------------|---------------|
| TYPE | NO. LAMPS | WATTAGE | % OPERATIONS | |
| SIGNAL (RED) | 10 | 11 | 0.50 | 55 |
| (YELLOW) | 10 | 22 | 0.25 | 55 |
| (GREEN) | 10 | 15 | 0.25 | 37.5 |
| ARROW (RED) | 9 | 9 | 0.50 | |
| (YELLOW) | 10 | 10 | 0.25 | |
| (GREEN) | 11 | 11 | 0.25 | |
| (YELLOW) | 4 | 10 | 0.10 | 4 |
| (GREEN) | 4 | 11 | 0.10 | 4.5 |
| PED. SIGNAL | 6 | 7 | 1.00 | 42 |
| CONTROLLER | 1 | 100 | 1.00 | 100.00 |
| ILLUM. SIGN | | | 0.50 | |
| FLASHER LED | | | 0.50 | |
| TOTAL = | | | | 298 |

| FOUNDATION (DEPTH) | (FT.) | CABLE SLACK | (FT.) | VERTICAL | (FT.) |
|--------------------|-------|------------------|-------|-------------------|------------|
| TYPE A - POST | 4 | HANDHOLE | 6.5 | ALL FOUNDATIONS | 3.5 |
| D - CONTROLLER | 4 | DOUBLE HANDHOLE | 13 | MAST ARM (L) POLE | 20' ± 1.2' |
| E - M ARM POLE | | SIGNAL POST | 2 | BRACKET MOUNTED | 15 |
| 24" | 10 | CONTROLLER CAB. | 1 | PED. PUSHBUTTON | 4 |
| 30" | 15 | FIBER OPTIC | 13 | ELECTRIC SERVICE | 13.5 |
| | | ELECTRIC SERVICE | 1 | SERVICE TO GROUND | 13.5 |
| | | GROUND CABLE | 1 | POST MOUNTED | 6 |

ENERGY COSTS - BILLED TO: VILLAGE OF OAKLAWN (ADDRESS)
 ENERGY SUPPLY - CONTACT: GARY BROSEAU (708) 396-3434 (PHONE) COMPANY: COMED

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

EDWIN HANCOCK ENGINEERING COMPANY
 CONSULTING ENGINEERS
 9933 RODERVELT ROAD WESTCHESTER, ILLINOIS 60154-2780
 (708) 865-0300 ESTABLISHED 1911

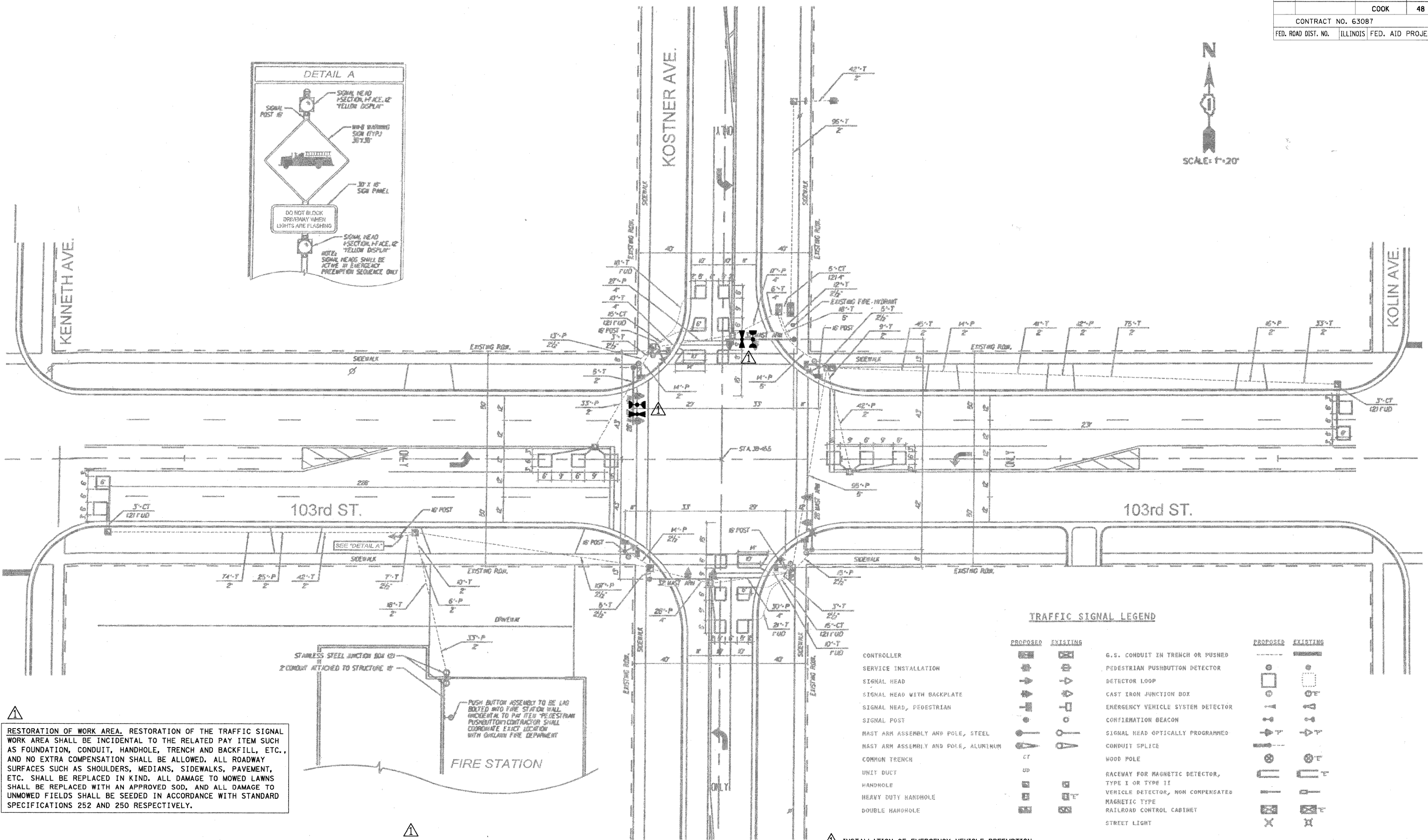
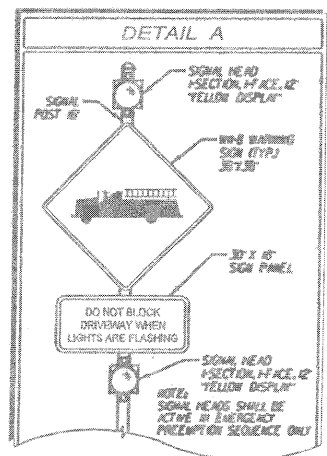
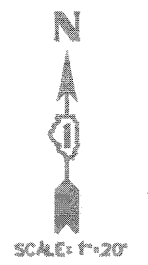
prepared by METRO for EDWIN HANCOCK COMPANY
 METRO TRANSPORTATION GROUP, INC.
 TRANSPORTATION, PLANNING, ENGINEERING, AND DESIGN
 1500 GREENBROOK BLVD. HANOVER PARK, IL 60139
 PH (630) 215-1000



CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES
 103rd STREET at KILPATRICK AVE.
 OAKLAWN, ILLINOIS

SCALE: DRAWN BY: BOOK NO.: DATE: E.H.E. NO. SHEET 70/105
 CBBEL 6-27-08 REVISION: 2-8-02

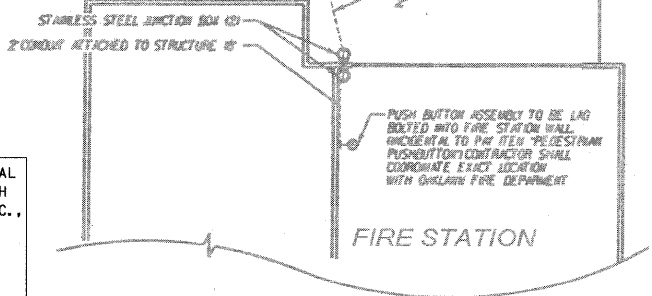
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TRAFFIC SIGNAL LEGEND

| PROPOSED | EXISTING | | PROPOSED | EXISTING |
|----------|----------|--------------------------------------|----------|----------|
| | | CONTROLLER | | |
| | | SERVICE INSTALLATION | | |
| | | SIGNAL HEAD | | |
| | | SIGNAL HEAD WITH BACKPLATE | | |
| | | SIGNAL HEAD, PEDESTRIAN | | |
| | | SIGNAL POST | | |
| | | MAST ARM ASSEMBLY AND POLE, STEEL | | |
| | | MAST ARM ASSEMBLY AND POLE, ALUMINUM | | |
| | | COMMON TRENCH | | |
| | | UNIT DUCT | | |
| | | HANDHOLE | | |
| | | HEAVY DUTY HANDHOLE | | |
| | | DOUBLE HANDHOLE | | |
| | | | | |

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



THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (647) 823-0500

EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON

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EDWIN HANCOCK ENGINEERING COMPANY
 CONSULTING ENGINEERS
 9933 ROOSEVELT ROAD WESTCHESTER, ILLINOIS 60154-2760
 (708) 865-0300 ESTABLISHED 1911

prepared by METRO for EDWIN HANCOCK COMPANY
 METRO TRANSPORTATION GROUP, INC.
 TRANSPORTATION PLANNING, ENGINEERING, AND DESIGN
 1300 GREENBROOK BLVD. HANOVER PARK, IL 60139
 PH: (630) 215-1000

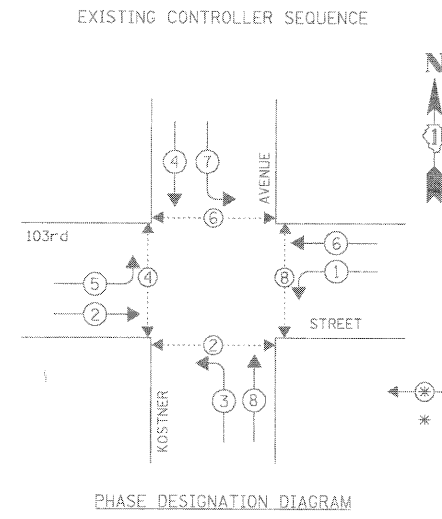


SIGNAL INSTALLATION PLAN
 103rd STREET at KOSTNER AVE.
 OAKLAWN, ILLINOIS

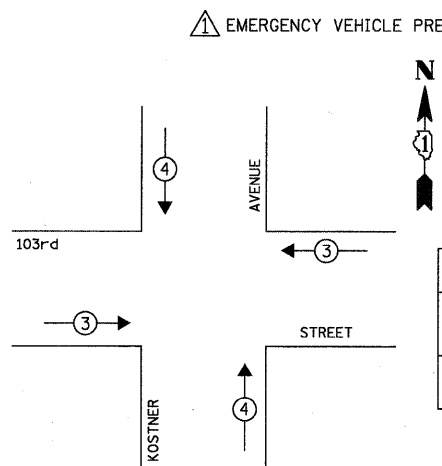
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 DRAWN BY: CBBEL
 BOOK NO.: 1386
 DATE: 12-7-01
 REVISION: 2-8-02

E.H.E. NO. 16-10-00-25701

SHEET 72 OF 105



LEGEND
 * DUAL ENTRY PHASE
 NUMBER REFERS TO ASSOCIATED PHASE
 PHASE DESIGNATION DIAGRAM

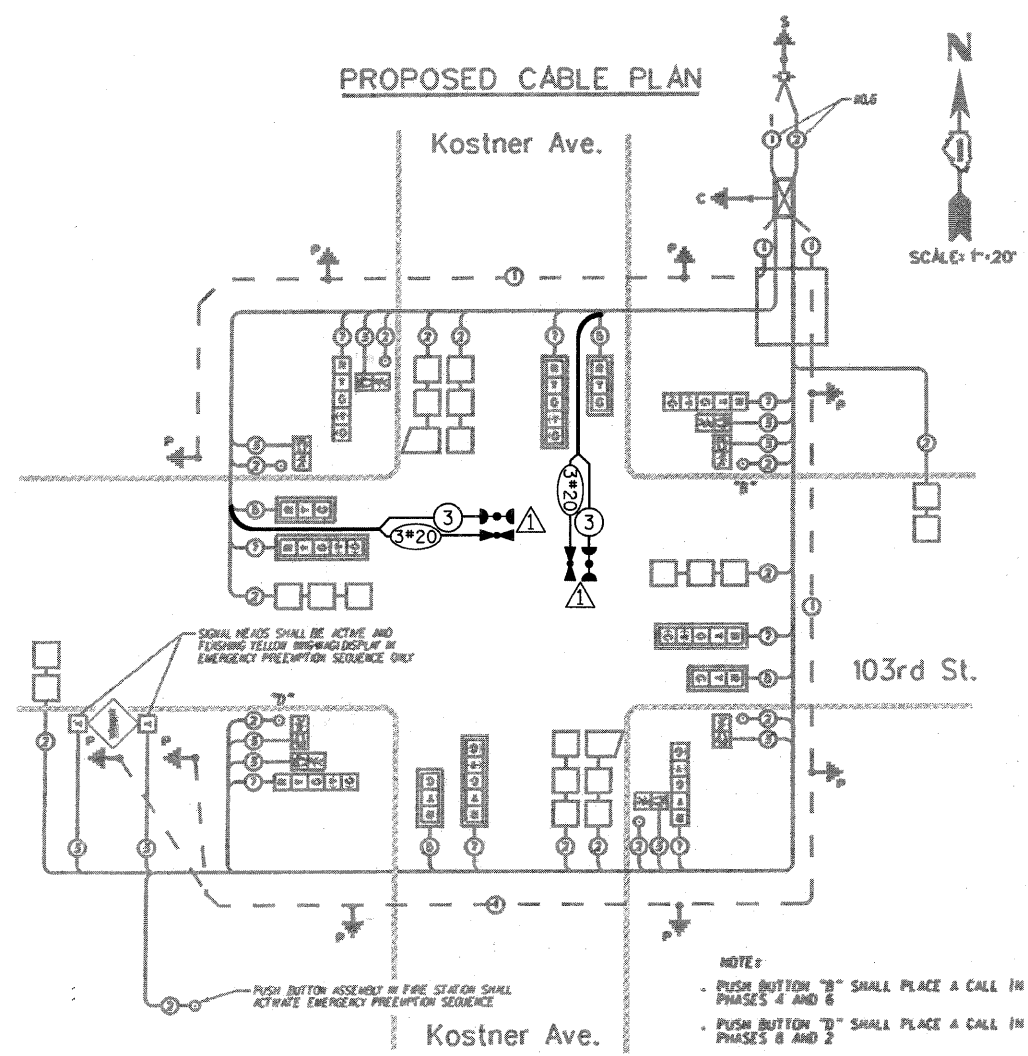


| PROPOSED EMERGENCY VEHICLE PREEMPTORS | | |
|---------------------------------------|-----|-----|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
| MOVEMENT | ← → | ↑ ↓ |

CABLE PLAN LEGEND

- | | |
|--|---|
| | 8" (200MM) TRAFFIC SIGNAL SECTION |
| | 12" (300MM) PEDESTRIAN SIGNAL SECTION |
| | CONTROLLER CABINET |
| | SERVICE INSTALLATION |
| | VEHICLE DETECTOR, INDUCTION LOOP |
| | MAGNETIC DETECTOR |
| | EMERGENCY VEHICLE LIGHT DETECTOR |
| | CONFIRMATION BEACON |
| | PUSHBUTTON DETECTOR |
| | Ⓝ DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | SIGNAL FACE WITH BACKPLATE *P INDICATES PROGRAMMED HEAD |
| | GROUND ROD AT HANDHOLE OR CONTROLLER |
| | GROUND ROD AT POST OR MAST ARM POLE |
| | GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| | GROUND ROD EXISTING TO BE REUSED |
| | GROUND CABLE IN CONDUIT, NO. 6 SOLID COPPER (GREEN) |
| | NO. 62.5/125 MM 12F & SM 12F, FIBER OPTIC CABLE |
| | NO. 14 IC TRACER CABLE |
| | EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON |

NOTE: ALL NEW GROUND RODS SHALL BE 3/4" X 18"-0" LONG COPPER CLAD. THE COST SHALL BE INCIDENTAL TO THE COST OF INSTALLATION.



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

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | TOTAL WATTAGE |
|--|--------------|-------------------|-------------------|----------------|
| TYPE | NO. OF LAMPS | WATTAGE (INCAND.) | LED x % OPERATION | |
| SIGNAL (RED) | 12 | 17 | 0.50 | 102.00 |
| (YELLOW) | 12 | 25 | 0.25 | 75.00 |
| (GREEN) | 12 | 15 | 0.25 | 45.00 |
| ARROW | 8 | 12 | 0.10 | 9.60 |
| PED. SIGNAL | 8 | 25 | 1.00 | 200.00 |
| CONTROLLER | 1 | 100 | 1.00 | 100.00 |
| ILLUM. SIGN | | 25 | 0.05 | |
| FLASHER | | | 0.50 | |
| ENERGY COSTS TO: | | | | TOTAL = 531.60 |

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 543 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 543 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

VILLAGE OF OAK LAWN
 9446 SOUTH RAYMOND AVENUE
 OAK LAWN, ILLINOIS 60453-2449
 ENERGY SUPPLY: CONTACT: GARY BROUSSEAU
 PHONE: (708) 396-3434
 COMPANY: COMED

EDWIN HANCOCK ENGINEERING COMPANY
 CONSULTING ENGINEERS
 9933 ROOSEVELT ROAD WESTCHESTER, ILLINOIS 60154-2780
 (708) 865-0300 ESTABLISHED 1911

prepared by METRO for EDWIN HANCOCK COMPANY
 METRO TRANSPORTATION GROUP, INC.
 TRANSPORTATION, PLANNING, ENGINEERING, AND DESIGN
 1200 GREENBROOK BLVD. HANOVER PARK, IL 60139
 PH# (630) 213-1000



CABLE PLAN AND SCHEDULE OF QUANTITIES
 103rd STREET at KOSTNER AVE.
 OAKLAWN, ILLINOIS

SCALE: CBBEL 6-27-08
 REVISION: 2-8-02

SCALE: DRAWN BY: SHEET 73
 BOOK NO.: 1386
 DATE: 12-7-01
 E.N.E. NO. 1640-00-25701 OF 105

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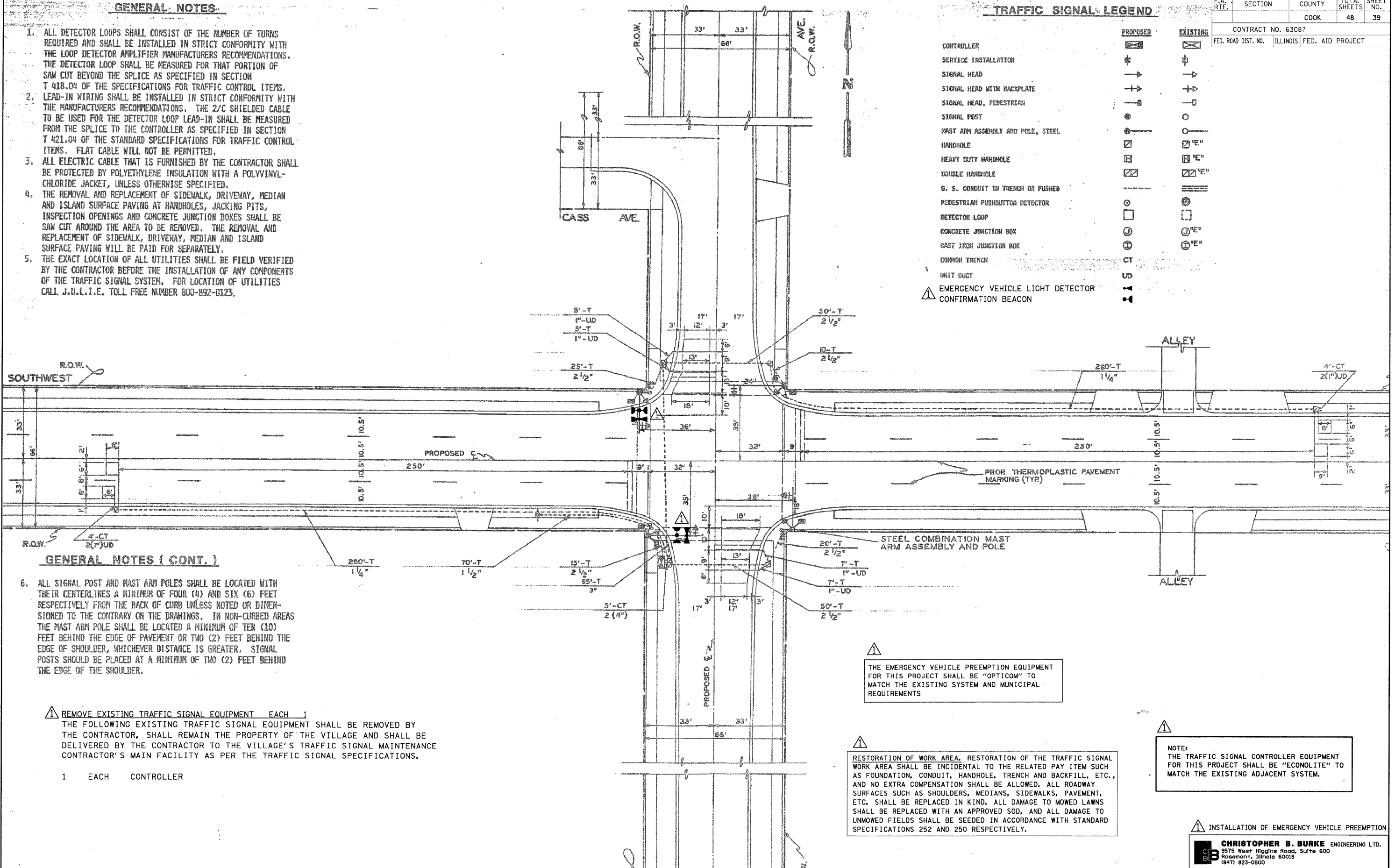
GENERAL NOTES

- ALL DETECTOR LOOPS SHALL CONSIST OF THE NUMBER OF TURNS REQUIRED AND SHALL BE INSTALLED IN STRICT CONFORMITY WITH THE LOOP DETECTOR AMPLIFIER MANUFACTURERS RECOMMENDATIONS. THE DETECTOR LOOP SHALL BE MEASURED FOR THAT PORTION OF SAW CUT BEYOND THE SPLICE AS SPECIFIED IN SECTION T 418.04 OF THE SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS.
- LEAD-IN WIRING SHALL BE INSTALLED IN STRICT CONFORMITY WITH THE MANUFACTURERS RECOMMENDATIONS. THE 2/C SHIELDED CABLE TO BE USED FOR THE DETECTOR LOOP LEAD-IN SHALL BE MEASURED FROM THE SPLICE TO THE CONTROLLER AS SPECIFIED IN SECTION T 421.04 OF THE STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS. FLAT CABLE WILL NOT BE PERMITTED.
- ALL ELECTRIC CABLE THAT IS FURNISHED BY THE CONTRACTOR SHALL BE PROTECTED BY POLYETHYLENE INSULATION WITH A POLYVINYL-CHLORIDE JACKET, UNLESS OTHERWISE SPECIFIED.
- THE REMOVAL AND REPLACEMENT OF SIDEWALK, DRIVEWAY, MEDIAN AND ISLAND SURFACE PAVING AT HANDHOLES, JACKING PITS, INSPECTION OPENINGS AND CONCRETE JUNCTION BOXES SHALL BE SAW CUT AROUND THE AREA TO BE REMOVED. THE REMOVAL AND REPLACEMENT OF SIDEWALK, DRIVEWAY, MEDIAN AND ISLAND SURFACE PAVING WILL BE PAID FOR SEPARATELY.
- THE EXACT LOCATION OF ALL UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR BEFORE THE INSTALLATION OF ANY COMPONENTS OF THE TRAFFIC SIGNAL SYSTEM. FOR LOCATION OF UTILITIES CALL J.U.L.I.E. TOLL FREE NUMBER 800-892-0123.

TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING |
|-----------------------------------|----------|----------|
| CONTROLLER | [Symbol] | [Symbol] |
| SERVICE INSTALLATION | [Symbol] | [Symbol] |
| SIGNAL HEAD | [Symbol] | [Symbol] |
| SIGNAL HEAD WITH BACKPLATE | [Symbol] | [Symbol] |
| SIGNAL HEAD, PEDESTRIAN | [Symbol] | [Symbol] |
| SIGNAL POST | [Symbol] | [Symbol] |
| MAST ARM ASSEMBLY AND POLE, STEEL | [Symbol] | [Symbol] |
| HANDHOLE | [Symbol] | [Symbol] |
| HEAVY DUTY HANDHOLE | [Symbol] | [Symbol] |
| DOUBLE HANDHOLE | [Symbol] | [Symbol] |
| G. S. CONDUIT IN TRENCH OR PUSHED | [Symbol] | [Symbol] |
| PEDESTRIAN PUSHBUTTON DETECTOR | [Symbol] | [Symbol] |
| DETECTOR LOOP | [Symbol] | [Symbol] |
| CONCRETE JUNCTION BOX | [Symbol] | [Symbol] |
| CAST IRON JUNCTION BOX | [Symbol] | [Symbol] |
| COMMON TRENCH | [Symbol] | [Symbol] |
| UNIT DUCT | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE LIGHT DETECTOR | [Symbol] | [Symbol] |
| CONFIRMATION BEACON | [Symbol] | [Symbol] |

| | | | | |
|---|---------|--------|--------------|-----------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | COOK | 48 | 39 |
| CONTRACT NO. 63087 | | | | |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | | |



GENERAL NOTES (CONT.)

- ALL SIGNAL POST AND MAST ARM POLES SHALL BE LOCATED WITH THEIR CENTERLINES A MINIMUM OF FOUR (4) AND SIX (6) FEET RESPECTIVELY FROM THE BACK OF CURB UNLESS NOTED OR DIMENSIONED TO THE CONTRARY ON THE DRAWINGS. IN NON-CURBED AREAS THE MAST ARM POLE SHALL BE LOCATED A MINIMUM OF TEN (10) FEET BEHIND THE EDGE OF PAVEMENT OR TWO (2) FEET BEHIND THE EDGE OF SHOULDER, WHICHEVER DISTANCE IS GREATER. SIGNAL POSTS SHOULD BE PLACED AT A MINIMUM OF TWO (2) FEET BEHIND THE EDGE OF THE SHOULDER.

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT EACH 1 THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE VILLAGE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE VILLAGE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

- 1 EACH CONTROLLER

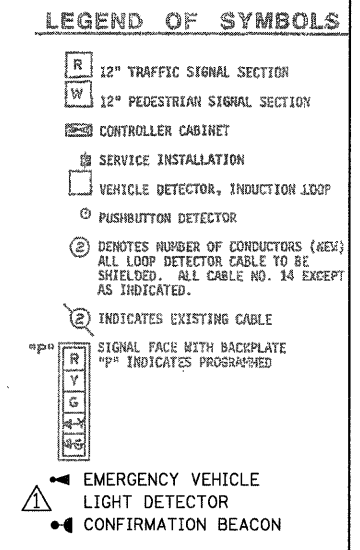
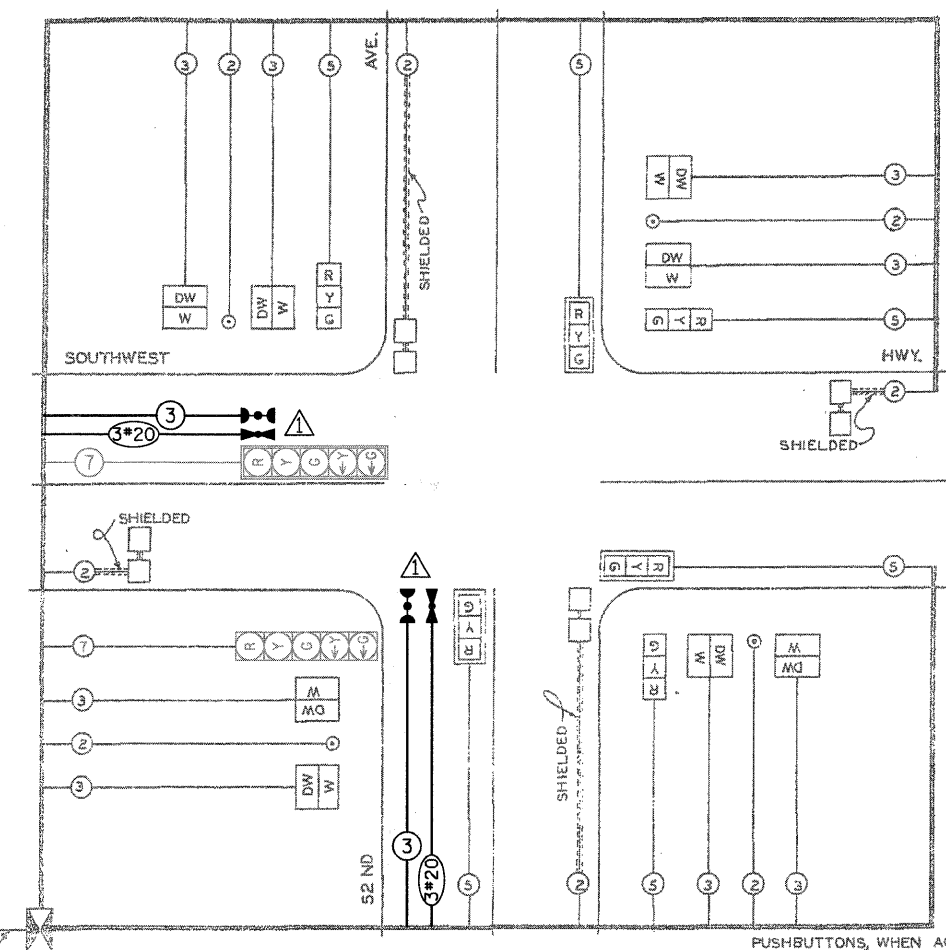
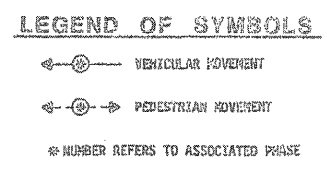
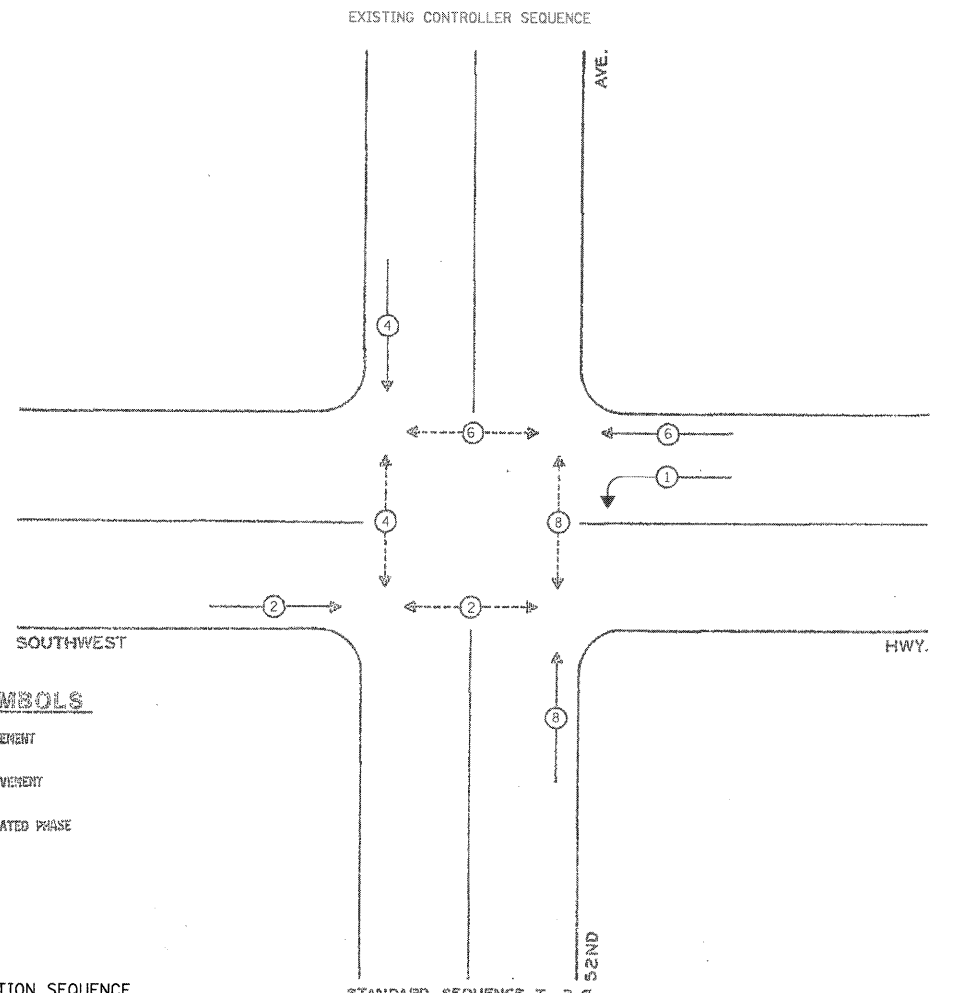
THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

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

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

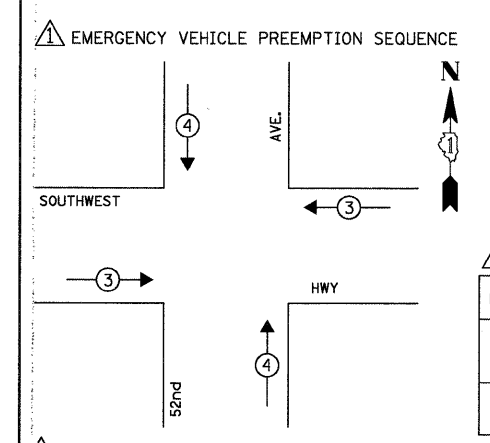
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PHASE DESIGNATION DIAGRAM

CABLE PLAN

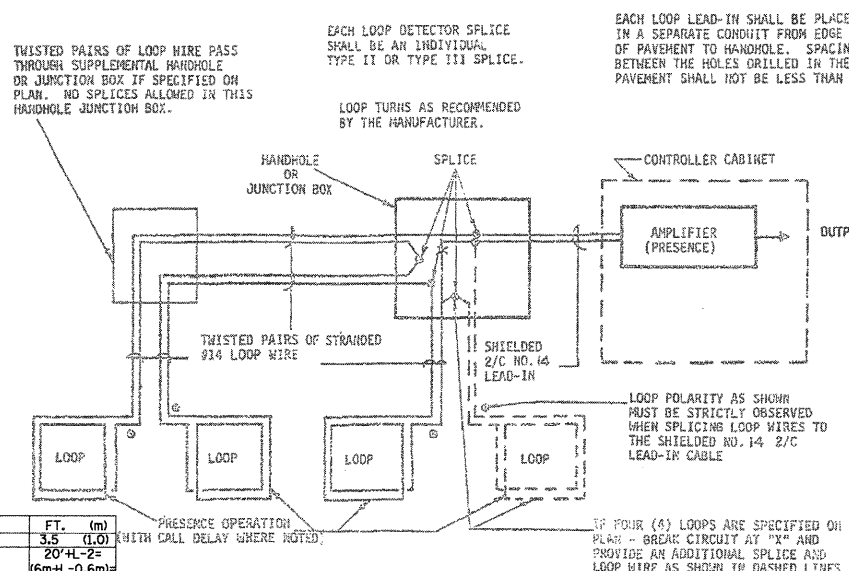
NOTE:
 PUSHBUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4.
 PUSHBUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6.
 PUSHBUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8.
 PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8.



| | | |
|-----------------------------|-----|-----|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
| MOVEMENT | ← → | ↑ ↓ |

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

| TYPE | NO. OF LAMPS | WATTAGE X INCAND. LED | % OPERATION | TOTAL WATTAGE |
|------------------|--------------|-----------------------|-------------|---------------|
| SIGNAL (RED) | 8 | 135 | 0.50 | 540.00 |
| (YELLOW) | 8 | 135 | 0.25 | 270.00 |
| (GREEN) | 8 | 135 | 0.25 | 270.00 |
| ARROW | 4 | 135 | 0.10 | 54.00 |
| PED. SIGNAL | 8 | 90 | 1.00 | 720.00 |
| CONTROLLER | 1 | 100 | 1.00 | 100.00 |
| ILLUM. SIGN | - | 252 | 0.05 | - |
| FLASHER | - | - | 0.50 | - |
| ENERGY COSTS TO: | TOTAL = | | | 1954.00 |



LOOP DETECTOR SCHEMATIC

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| FULL-ACTUATED CONTROLLER IN EXISTING CABINET, SPECIAL | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 260 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 260 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

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

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 3575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

VILLAGE OF OAK LAWN
 9446 SOUTH RAYMOND AVENUE
 OAK LAWN, ILLINOIS 60453-2449
 ENERGY SUPPLY CONTACT:
 PHONE:
 COMPANY:

EDWIN HANCOCK ENGINEERING CO.
 CONSULTING ENGINEERS
 ESTABLISHED 1911 3929 ROOSEVELT ROAD WERTONESTER, ILL 60158-2720 (312) 852-0500

SOUTHWEST HIGHWAY IMPROVEMENT
 F.A.U.S. PROJECT NO. M-6003(223)
 VILLAGE OF OAK LAWN, ILLINOIS

SCHEDULE OF QUANTITIES
CABLE PLAN
PHASE DESIGNATION DIAGRAM

| | | | | |
|---------------------|----------|------------------|--------------|-----------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | COOK | 48 | 41 |
| CONTRACT NO. 63087 | | | | |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |

CONSTRUCTION NOTES

1. INSTALL FOUNDATION AND REDFLEX CONTROL CABINET, 5/8"x15' GROUND ROD AND BOND TO CABINET AND POLE BASES WITH #8 BARE Cu. SEE CABINET FOUNDATION DETAIL.
2. CONTRACTOR SHALL TERMINATE AND LAND ALL POWER CIRCUITS INTO REDFLEX CABINET.
3. INSTALL INLINE FUSE HOLDER ON RED PHASE CONDUCTOR WITH 5 AMP FUSE INSIDE REDFLEX CABINET TO PROTECT CITY TRAFFIC CABINET.
4. INSTALL A 40 AMP CIRCUIT BREAKER INTO EXISTING POWER PANEL FOR 120V SUPPLY TO REDFLEX CABINET.
5. TERMINATE #14 WIRE TO RED PHASE AND NEUTRAL INSIDE CITY TRAFFIC CABINET. SEE CONDUCTOR SCHEDULE FOR APPROACHES. (NOTE: NOTIFY THE TRAFFIC OPERATIONS DEPARTMENT OF THE CITY 24 HOURS BEFORE CONNECTION).
6. INSTALL JUNCTION BOX OF THE SIZE AND TYPE PER STANDARDS OF THE CITY-VERIFY BEFORE INSTALLATION.
7. INSTALL LOOPS AND CONDUIT STUBOUT FOR REDFLEX DETECTION. EACH LOOP MUST HAVE A SEPARATE HOME RUN AND LOOP LEAD IN CABLE; MAXIMUM 2 LOOPS PER SAWCUT. REDFLEX LOOPS TO BE LABELED AT REDFLEX CABINET. REPLACE CITY LOOPS IF REQUIRED TO CITY STANDARDS. SEE LOOP DETAIL AND DRAWING FOR QUANTITY AND LOOP ID#.
8. INSTALL FOUNDATION POLE AND GROUND ROD FOR REDFLEX EQUIPMENT. SEE DRAWING FOR LOCATION. SEE POLE DETAIL.
9. INSTALL CAMERA AND FLASH ENCLOSURE ON REDFLEX POLE; AIM AT MONITORED APPROACHES. INCLUDE 3 #14 AWG CONDUCTOR CABLES FROM CAMERA ENCLOSURE TO FLASH.
10. INSTALL A 250 WATT FLASH UNIT ON REDFLEX POLE. AIM AT MONITORED APPROACHES.
11. CONNECT POLE TO SOLID BARE BOND GROUND AND GROUNDING ROD IN POLE FOUNDATION AND TO SYSTEM GROUND BONDED BACK AT THE REDFLEX CABINET.
12. TRACER WIRE TO BE RUN THROUGH ALL CONDUIT FROM THE REDFLEX CABINET TO ALL REDFLEX EQUIPMENT.
13. CONDUIT TO BE BORED UNDER ROADWAY TO MIN. STANDARD COVER DEPTH REQUIRED BY THE CITY (24" MINIMUM).
14. VERIFY IF EXISTING SIGNAL HEADS HAVE LED'S INSTALLED. IF NOT, INSTALL RED AND AMBER GELCORE LED'S OF THE TYPE APPROVED BY THE CITY-VERIFY BEFORE INSTALLING. IF NEEDED ADJUST SIGNAL HEAD SO IT IS VISIBLE TO THE REDFLEX CAMERA.
15. REFRESH STRIPING (VIOLATION LINE AND LANES ETC) AS NEEDED AT THE MONITORED APPROACHES.
16. TERMINATE POLE TO REDFLEX CABINET POWER CIRCUIT #1 (HOT AND NEUTRAL).
17. TERMINATE POLE TO REDFLEX CABINET POWER CIRCUIT #2 (HOT AND NEUTRAL).

CONSTRUCTION NOTES:

1. REMOVE EXISTING 14' TRAFFIC SIGNAL POST. INSTALL NEW 18' TRAFFIC SIGNAL POST ON EXISTING FOUNDATION AND RELOCATE EXISTING TRAFFIC SIGNAL HEAD, 1-FACE, 3-SECTION, PEDESTRIAN SIGNAL HEAD, 1-FACE, AND PUSH-BUTTON TO NEW POST. REUSE EXISTING CABLES. INSTALL NEW LIGHT DETECTOR ON NEW POST AND INSTALL NO. 20 3/C AND NO. 14 3/C CABLES.

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT EACH 1

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

- 1 EACH SIGNAL POST 14 FT.

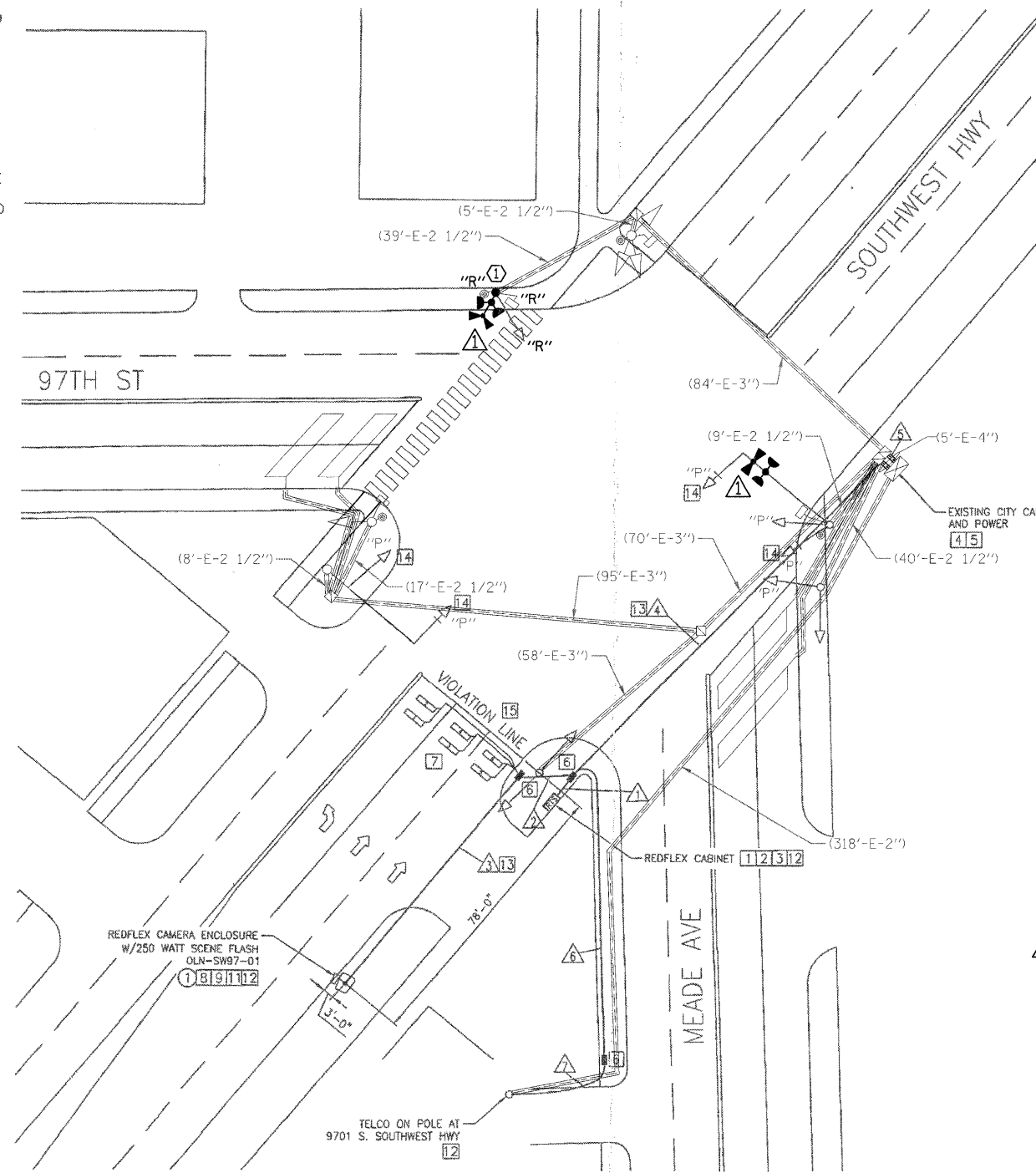
TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET | | |
| SERVICE INSTALLATION | | |
| SIGNAL HEAD | | |
| SIGNAL HEAD WITH BACKPLATE | | |
| SIGNAL HEAD, PEDESTRIAN | | |
| SIGNAL POST | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | |
| UNIT DUCT | UD | |
| COMMON TRENCH | CT | |
| HANDHOLE | | |
| HEAVY DUTY HANDHOLE | | |
| 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" | | |
| EMERGENCY VEHICLE LIGHT DETECTOR | | |
| CONFIRMATION BEACON | | |
| RELOCATED | | |

| POLE SCHEDULE | | | |
|---------------|--------|--------|--------------|
| NO. | TYPE | HEIGHT | NEW/EXISTING |
| 1 | REFLEX | 10' | N |

| LEGEND | |
|--------|----------------------------|
| | TRAFFIC CONTROL CABINET |
| | POWER CABINET |
| | REDFLEX CONTROL CABINET |
| | CAMERA ENCLOSURE |
| | FLASH |
| | NEW PULL/JUNCTION BOX |
| | EXISTING PULL/JUNCTION BOX |

| ABBREVIATIONS | |
|---------------|----------------------------------|
| CAT5 | = CATEGORY FIVE CABLE |
| DLC | = DETECTOR LOOP CABLE (SHIELDED) |
| TSP | = TWISTED SHIELDED PAIR |
| LED | = LIGHT EMITTING DIODE |
| R/W | = RIGHT OF WAY |
| E.O.P. | = EDGE OF PAVEMENT |



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

MUST VERIFY EXISTING UTILITY INFO AND LOCATION

GENERAL NOTES

1. ALL EXISTING UTILITIES SHOWN WITHIN THE PLANS ARE PROVIDED BY THE BEST AVAILABLE INFORMATION PROVIDED BY COOPERATING UTILITY COMPANIES. NEITHER REDFLEX NOR THE CITY ASSUME RESPONSIBILITY AS TO THE PRECISE LOCATION OR ACCURACY OF SHOWN UTILITIES. THE CONTRACTOR SHALL PROPERLY FIELD VERIFY UTILITY LOCATIONS AND SHALL PROPERLY PROTECT, MAINTAIN AND/OR REPAIR ANY DAMAGE OF ALL KNOWN AND ANY EXPOSED UNKNOWN UTILITIES SHOWN WITHIN THE PLANS. REDFLEX AND THE CITY ASSUME NO LIABILITY RESULTING IN POSSIBLE DEFICIENCIES IN UTILITY LOCATIONS AND NO REMEDIAL OR ADDITIONAL COMPENSATION WILL BE ALLOWED.
2. ALL WORK SHALL CONFORM TO ALL NATIONAL BUILDING AND ELECTRICAL CODES EXCEPT WHEN THE STATE D.O.T. AND/OR THE CITY STANDARDS SUPERSEDE.

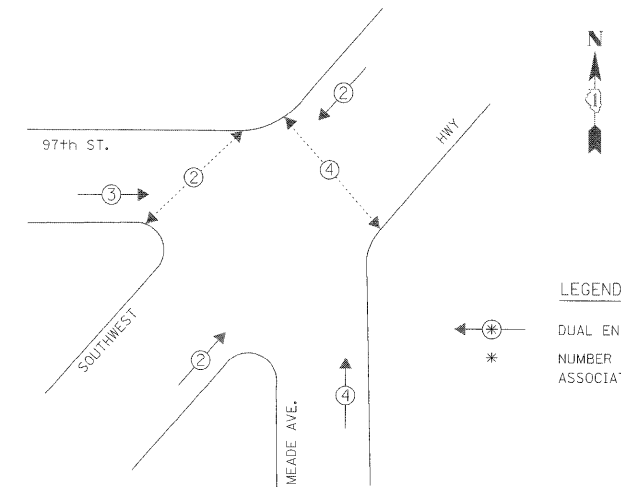
THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 3575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

| SEAL | REVISIONS | | RELAY SCHEDULE | REDFLEX TRAFFIC SYSTEMS 15020 N. 74TH STREET SCOTTSDALE, AZ 85260 PH: 480 607 0705 | DRAWN BY: JPM DESIGNED BY: XXX CHECKED BY: - RECOMMENDED BY: - FIRE DEPT. | REVIEWED BY CITY STAFF DEPARTMENT: PUBLIC WORKS (OPER.) PUBLIC WORKS (ENV.) PUBLIC WORKS (WATER) PUBLIC WORKS (TRAF.) | APPROVED BY: _____ PUBLIC WORKS DIRECTOR / CITY ENGINEER DATE: _____ RECOMMENDED BY: _____ DEPUTY CITY ENGINEER | CITY OF: OAK LAWN TITLE: REDLIGHT PHOTO ENFORCEMENT SOUTHWEST HWY AT 97TH ST | DRAWING NO. 3025 -103 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|---|---------|--|--|---|---|---|---|--|------|--|---|-----|------|--------|--------------|---|--------|-----|---|--|--------|--|--|-------------------------|--|---------------|--|-------------------------|--|------------------|--|-------|--|-----------------------|--|----------------------------|---|---------------|--|------|-----------------------|-----|----------------------------------|-----|-------------------------|-----|------------------------|-----|
| | <table border="1"> <tr> <th>VER.</th> <th>DATE</th> <th>INITIAL</th> <th>DESCRIPTION</th> </tr> <tr> <td>1.0</td> <td>6-27-08</td> <td>CBBL</td> <td>INSTALLATION OF EMERGENCY VEHICLE PREEMPTION</td> </tr> </table> | VER. | | | DATE | INITIAL | DESCRIPTION | 1.0 | 6-27-08 | CBBL | INSTALLATION OF EMERGENCY VEHICLE PREEMPTION | <table border="1"> <tr> <th>NO.</th> <th>TYPE</th> <th>HEIGHT</th> <th>NEW/EXISTING</th> </tr> <tr> <td>1</td> <td>REFLEX</td> <td>10'</td> <td>N</td> </tr> </table> | NO. | TYPE | HEIGHT | NEW/EXISTING | 1 | REFLEX | 10' | N | <table border="1"> <thead> <tr> <th colspan="2">LEGEND</th> </tr> </thead> <tbody> <tr> <td></td> <td>TRAFFIC CONTROL CABINET</td> </tr> <tr> <td></td> <td>POWER CABINET</td> </tr> <tr> <td></td> <td>REDFLEX CONTROL CABINET</td> </tr> <tr> <td></td> <td>CAMERA ENCLOSURE</td> </tr> <tr> <td></td> <td>FLASH</td> </tr> <tr> <td></td> <td>NEW PULL/JUNCTION BOX</td> </tr> <tr> <td></td> <td>EXISTING PULL/JUNCTION BOX</td> </tr> </tbody> </table> | LEGEND | | | TRAFFIC CONTROL CABINET | | POWER CABINET | | REDFLEX CONTROL CABINET | | CAMERA ENCLOSURE | | FLASH | | NEW PULL/JUNCTION BOX | | EXISTING PULL/JUNCTION BOX | <table border="1"> <thead> <tr> <th colspan="2">ABBREVIATIONS</th> </tr> </thead> <tbody> <tr> <td>CAT5</td> <td>= CATEGORY FIVE CABLE</td> </tr> <tr> <td>DLC</td> <td>= DETECTOR LOOP CABLE (SHIELDED)</td> </tr> <tr> <td>TSP</td> <td>= TWISTED SHIELDED PAIR</td> </tr> <tr> <td>LED</td> <td>= LIGHT EMITTING DIODE</td> </tr> <tr> <td>R/W</td> <td>= RIGHT OF WAY</td> </tr> <tr> <td>E.O.P.</td> <td>= EDGE OF PAVEMENT</td> </tr> </tbody> </table> | ABBREVIATIONS | | CAT5 | = CATEGORY FIVE CABLE | DLC | = DETECTOR LOOP CABLE (SHIELDED) | TSP | = TWISTED SHIELDED PAIR | LED | = LIGHT EMITTING DIODE | R/W |
| VER. | DATE | INITIAL | DESCRIPTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.0 | 6-27-08 | CBBL | INSTALLATION OF EMERGENCY VEHICLE PREEMPTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NO. | TYPE | HEIGHT | NEW/EXISTING | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | REFLEX | 10' | N | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LEGEND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TRAFFIC CONTROL CABINET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | POWER CABINET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | REDFLEX CONTROL CABINET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CAMERA ENCLOSURE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FLASH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NEW PULL/JUNCTION BOX | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EXISTING PULL/JUNCTION BOX | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ABBREVIATIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CAT5 | = CATEGORY FIVE CABLE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DLC | = DETECTOR LOOP CABLE (SHIELDED) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TSP | = TWISTED SHIELDED PAIR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LED | = LIGHT EMITTING DIODE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R/W | = RIGHT OF WAY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E.O.P. | = EDGE OF PAVEMENT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

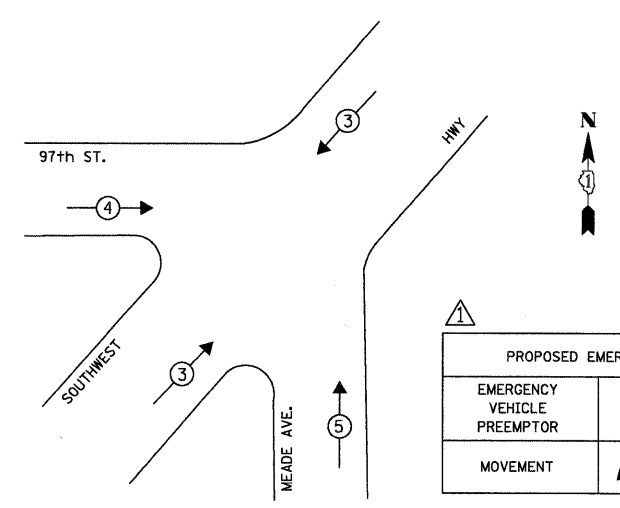
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EXISTING CONTROLLER SEQUENCE

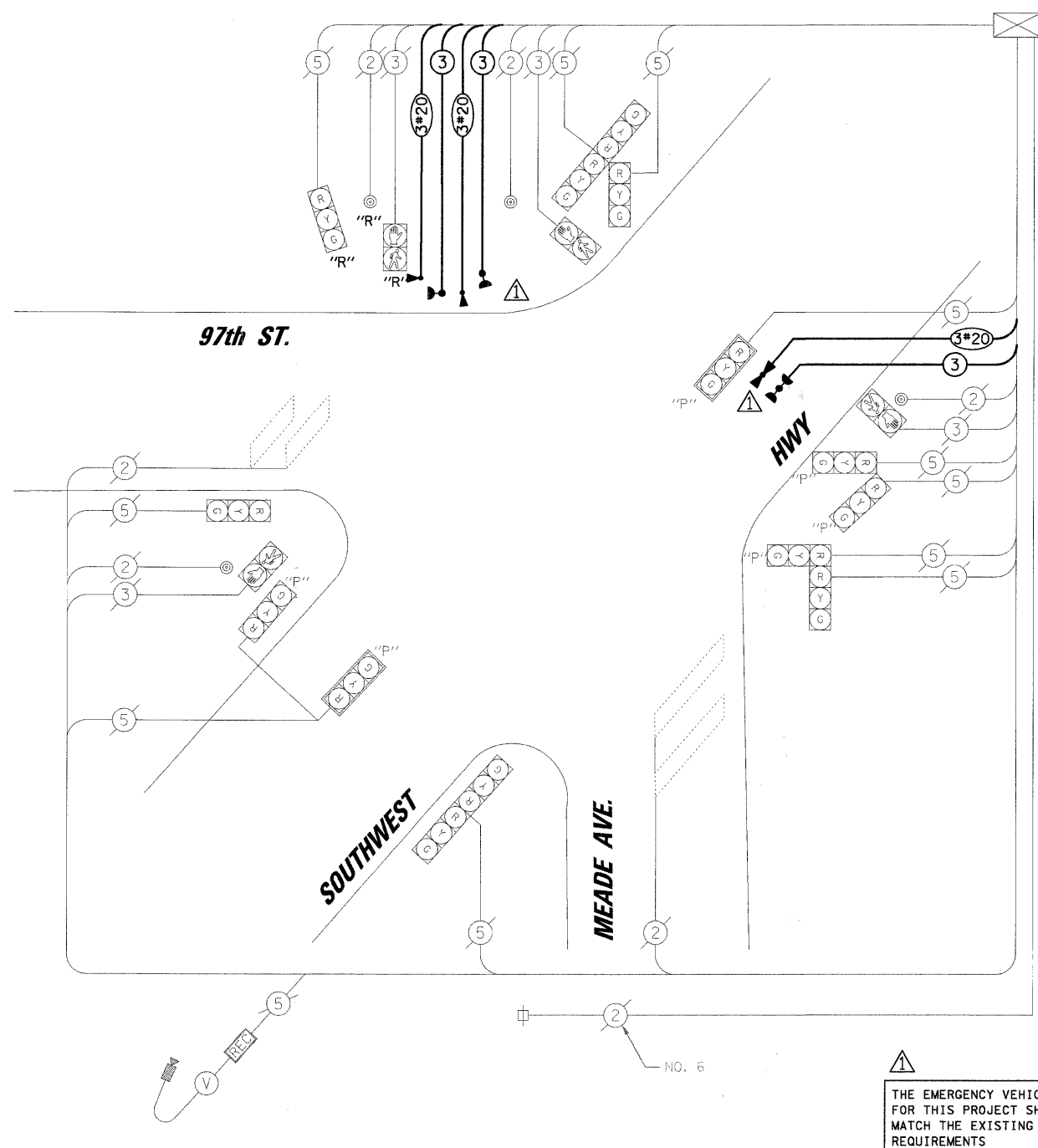


PHASE DESIGNATION DIAGRAM

EMERGENCY VEHICLE PREEMPTION SEQUENCE



| PROPOSED EMERGENCY VEHICLE PREEMPTORS | | | |
|---------------------------------------|---|---|---|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 | 5 |
| MOVEMENT | | | |



TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET | | |
| SERVICE INSTALLATION | | |
| SIGNAL HEAD | | |
| SIGNAL HEAD WITH BACKPLATE | | |
| SIGNAL HEAD, PEDESTRIAN | | |
| SIGNAL POST | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | |
| UNIT DUCT | UD | |
| COMMON TRENCH | CT | |
| HANDHOLE | | |
| HEAVY DUTY HANDHOLE | | |
| 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" | | |
| EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON RELOCATED | | |

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | | TOTAL WATTAGE |
|--|--------------|-----------------|-----|-------------|---------------|
| TYPE | NO. OF LAMPS | WATTAGE INCAND. | LED | % OPERATION | |
| SIGNAL (RED) | 14 | 135 | | 0.50 | 945.00 |
| (YELLOW) | 14 | 135 | | 0.25 | 472.50 |
| (GREEN) | 14 | 135 | | 0.25 | 472.50 |
| ARROW | - | 135 | | 0.10 | |
| PED. SIGNAL | 4 | 90 | | 1.00 | 360.00 |
| CONTROLLER | 1 | 100 | | 1.00 | 100.00 |
| ILLUM. SIGN | | 252 | | 0.05 | |
| FLASHER | | | | 0.50 | |
| TOTAL = | | | | | 2350.00 |

VILLAGE OF OAK LAWN
 9446 SOUTH RAYMOND AVENUE
 OAK LAWN, ILLINOIS 60453-2449
 ENERGY SUPPLY CONTACT:
 PHONE:
 COMPANY:

| 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'-4" - 2' |
| E - M. ARM POLE | | SIGNAL POST | 2 (1.0) | | (6m) - 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) |

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 252 |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT. | EACH | 1 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| RELOCATE EXISTING SIGNAL HEAD | EACH | 1 |
| RELOCATE EXISTING PEDESTRIAN SIGNAL HEAD | EACH | 1 |
| RELOCATE EXISTING PEDESTRIAN PUSH-BUTTON | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 252 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

| | |
|--------------------|--|
| CLIENT: | |
| NO. | 6-27-08 |
| DATE | INSTALLATION OF EMERGENCY VEHICLE PREEMPTION |
| NATURE OF REVISION | |

| | |
|--------|------------|
| DSGN. | FCP |
| DWN. | FCP |
| CHKD. | MJT |
| SCALE: | N.T.S. |
| DATE: | 11/10/2008 |

TITLE: **SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**
 SOUTHWEST HIGHWAY AND 97th STREET
 OAK LAWN, ILLINOIS

| | |
|-------------|----------|
| PROJECT NO. | 080363 |
| SHEET | 42 OF 48 |
| DRAWING NO. | |

| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------|---------|--------|--------------|-----------|
| | | COOK | 48 | 43 |

CONTRACT NO. 63087
 FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING | | PROPOSED | EXISTING |
|--|----------|----------|----------------------------------|----------|----------|
| CONTROLLER CABINET | | | RAILROAD CONTROL CABINET | | |
| SERVICE INSTALLATION | | | TELEPHONE CONNECTION | | |
| SIGNAL HEAD | | | ILLUMINATED SIGN "NO LEFT TURN" | | |
| SIGNAL HEAD WITH BACKPLATE | | | ILLUMINATED SIGN "NO RIGHT TURN" | | |
| SIGNAL HEAD, PEDESTRIAN | | | | | |
| SIGNAL POST | | | | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | | | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | | | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | | | | |
| UNIT DUCT | UD | | | | |
| COMMON TRENCH | CT | | | | |
| HANDHOLE | | | | | |
| HEAVY DUTY HANDHOLE | | | | | |
| 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 | | | | | |
| EMERGENCY VEHICLE LIGHT DETECTOR CONFIRMATION BEACON | | | | | |

CONSTRUCTION NOTES:

1 REMOVE EXISTING 14' TRAFFIC SIGNAL POST. INSTALL NEW 18' TRAFFIC SIGNAL POST ON EXISTING FOUNDATION AND RELOCATE EXISTING TRAFFIC SIGNAL HEAD, 2-FACE, 3-SECTION TO NEW POST. REUSE EXISTING CABLES. INSTALL NEW LIGHT DETECTOR ON NEW POST AND INSTALL NO. 20 3/C AND NO. 14 3/C CABLES.

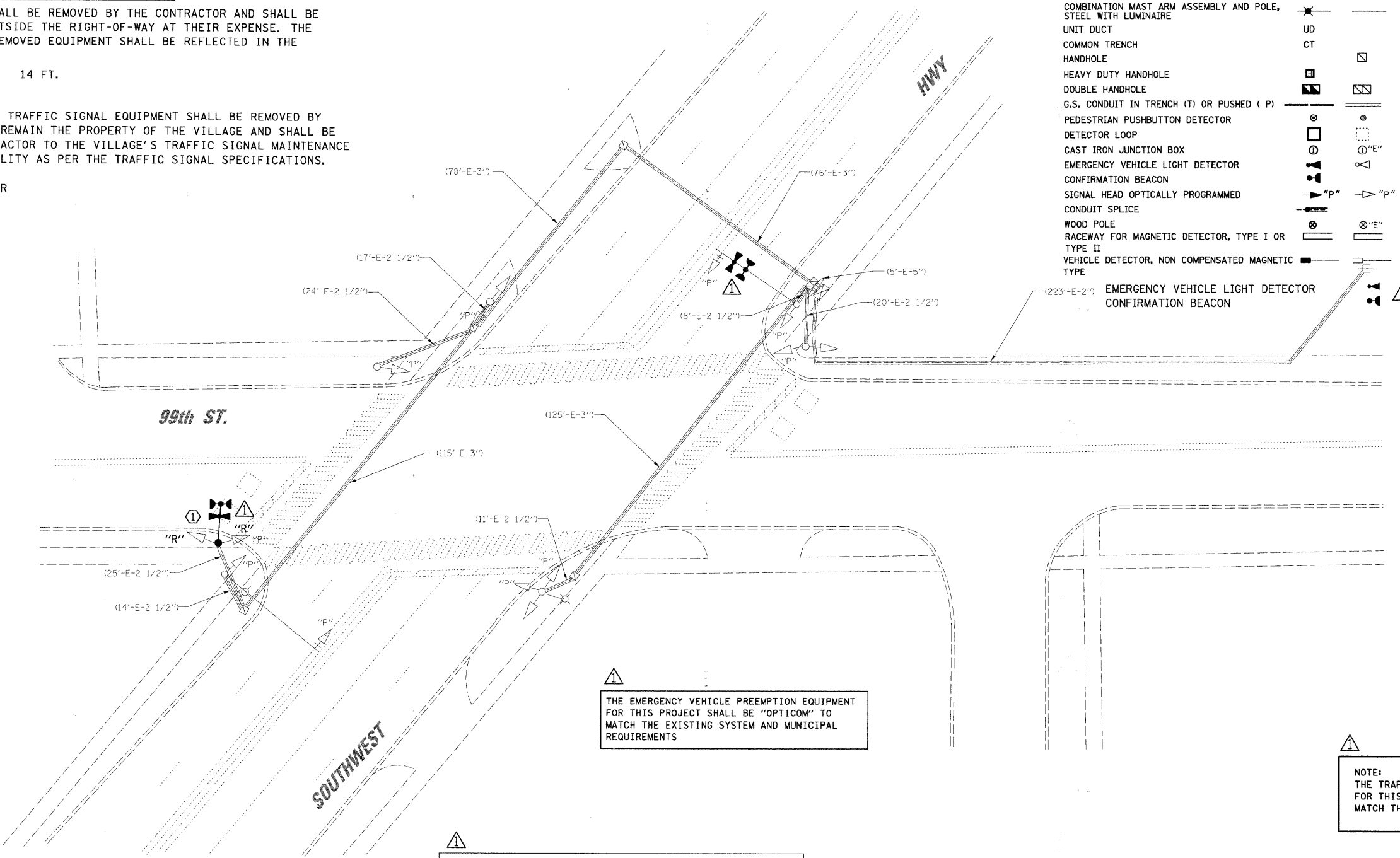
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT EACH 1

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

1 EACH SIGNAL POST 14 FT.

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

1 EACH CONTROLLER



THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

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

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

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION
CHRISTOPHER B. BURKE ENGINEERING LTD.
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

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CB **CHRISTOPHER B. BURKE ENGINEERING LTD.**
 9575 West Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 823-0500

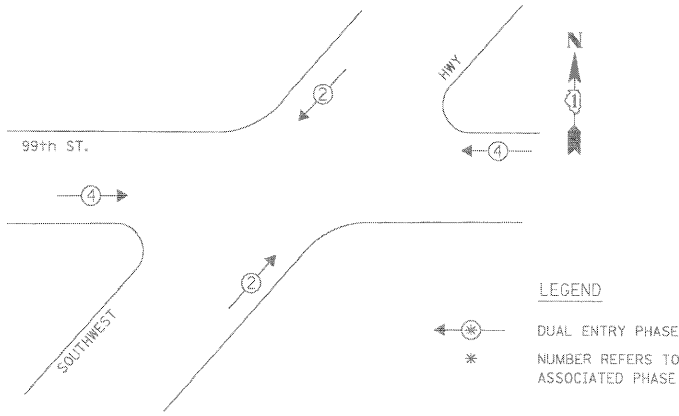
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|--------------------|------|
| CLIENT: | |
| NO. | DATE |
| NATURE OF REVISION | |
| CHKD. | DATE |

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|---------|--|-------|--------|------------|
| 6-27-08 | INSTALLATION OF EMERGENCY VEHICLE PREEMPTION | CBBEL | DSGN. | |
| | | | DWN. | FCP |
| | | | CHKD. | MJT |
| | | | SCALE: | 1" = 20' |
| | | | DATE: | 11/10/2008 |

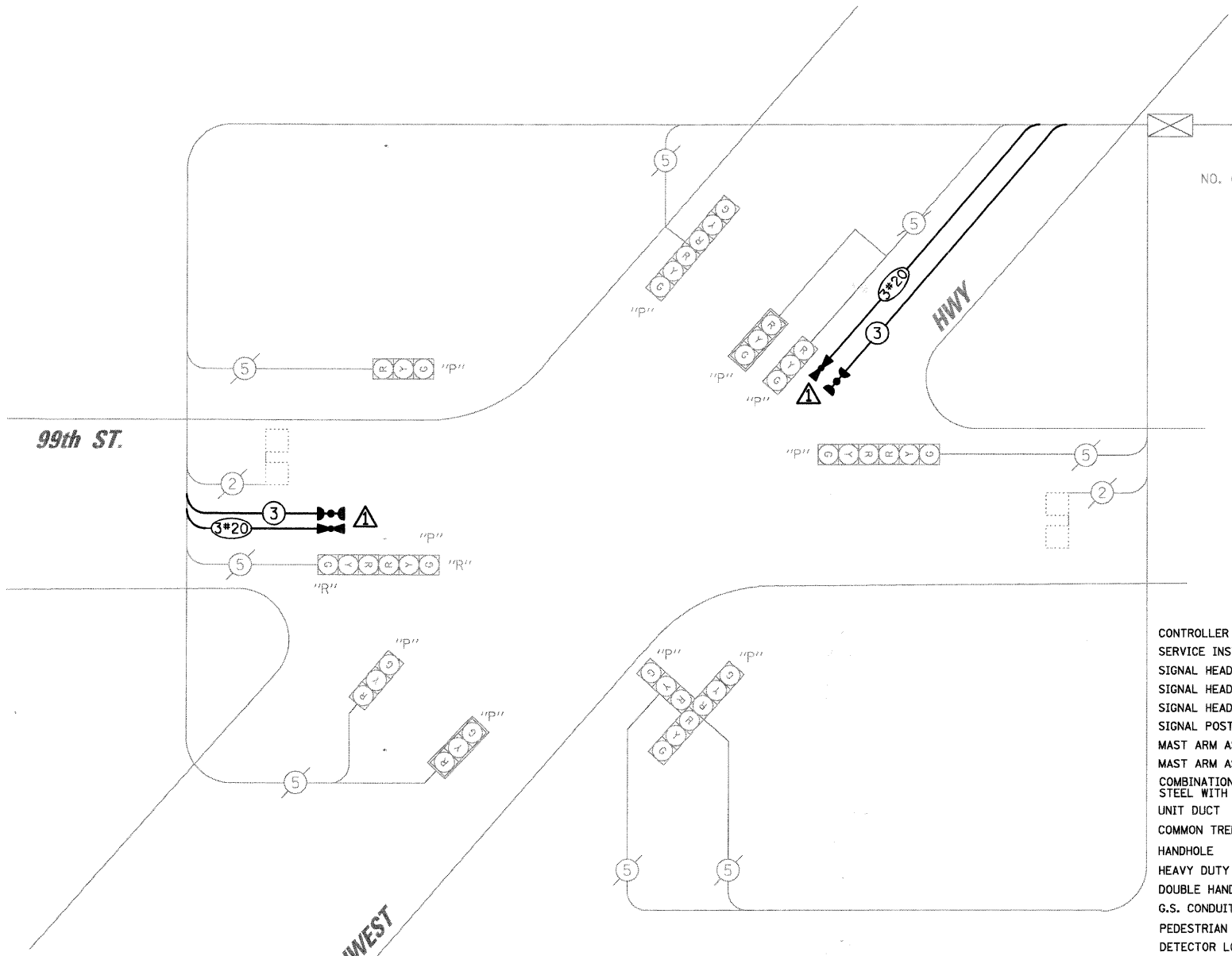
TITLE: **TRAFFIC SIGNAL INSTALLATION PLAN**
 SOUTHWEST HIGHWAY AND 99TH STREET
 OAK LAWN, ILLINOIS

| | |
|-------------|----------|
| PROJECT NO. | 080363 |
| SHEET | 43 OF 48 |
| DRAWING NO. | |

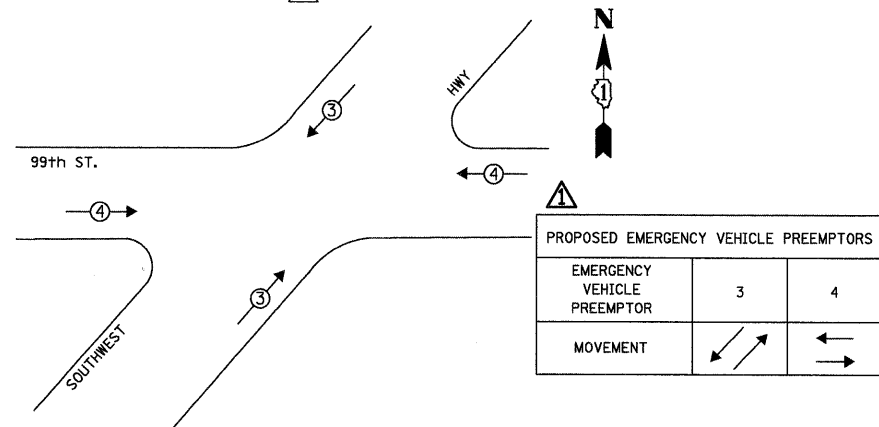
EXISTING CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM



EMERGENCY VEHICLE PREEMPTION SEQUENCE



TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET | | |
| SERVICE INSTALLATION | | |
| SIGNAL HEAD | | |
| SIGNAL HEAD WITH BACKPLATE | | |
| SIGNAL HEAD, PEDESTRIAN | | |
| SIGNAL POST | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | |
| UNIT DUCT | UD | |
| COMMON TRENCH | CT | |
| HANDHOLE | | |
| HEAVY DUTY HANDHOLE | | |
| 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" | | |
| EMERGENCY VEHICLE LIGHT DETECTOR | | |
| CONFIRMATION BEACON | | |
| "R" RELOCATED | | |

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

NOTE:
THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE "OPTICOM" TO MATCH THE EXISTING SYSTEM AND MUNICIPAL REQUIREMENTS

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|------|-------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| FULL-ACTUATED CONTROLLER IN EXISTING CABINET, SPECIAL | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C | FOOT | 440 |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT. | EACH | 1 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| RELOCATE EXISTING SIGNAL HEAD | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED | FOOT | 440 |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701 | EACH | 1 |

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

INSTALLATION OF EMERGENCY VEHICLE PREEMPTION

CHRISTOPHER B. BURKE ENGINEERING LTD.
575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

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

| TYPE | NO. OF LAMPS | WATTAGE X INCAND. LED x % OPERATION | TOTAL WATTAGE |
|------------------|--------------|--|---------------|
| SIGNAL (RED) | 14 | 135 | 0.50 |
| (YELLOW) | 14 | 135 | 0.25 |
| (GREEN) | 14 | 135 | 0.25 |
| ARROW | - | 135 | 0.10 |
| PED. SIGNAL | - | 90 | 1.00 |
| CONTROLLER | 1 | 100 | 1.00 |
| ILLUM. SIGN | - | 252 | 0.05 |
| FLASHER | - | - | 0.50 |
| ENERGY COSTS TO: | | TOTAL = | 1990.0 |

VILLAGE OF OAK LAWN
9446 SOUTH RAYMOND AVE
OAK LAWN, ILLINOIS 60453-2449
ENERGY SUPPLY: CONTACT:
PHONE:
COMPANY:

| 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 (0.6) | 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) |
| 36" (900mm) | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5) | SERVICE TO GROUND | 13.5 (4.1) |
| | | GROUND CABLE | 1 (0.5) | POST MOUNTED | 6 (1.8) |

| | | | |
|-------------|--|--------------------|------------------|
| NO. 6-27-08 | INSTALLATION OF EMERGENCY VEHICLE PREEMPTION | CHGD. | DATE: 11/10/2008 |
| NO. | DATE | NATURE OF REVISION | CHGD. |
| | | | |
| | | | |

TITLE: **SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE**
SOUTHWEST HIGHWAY AND 99TH STREET
OAK LAWN, ILLINOIS

| | |
|-------------|----------|
| PROJECT NO. | 080363 |
| SHEET | 44 OF 48 |
| DRAWING NO. | |

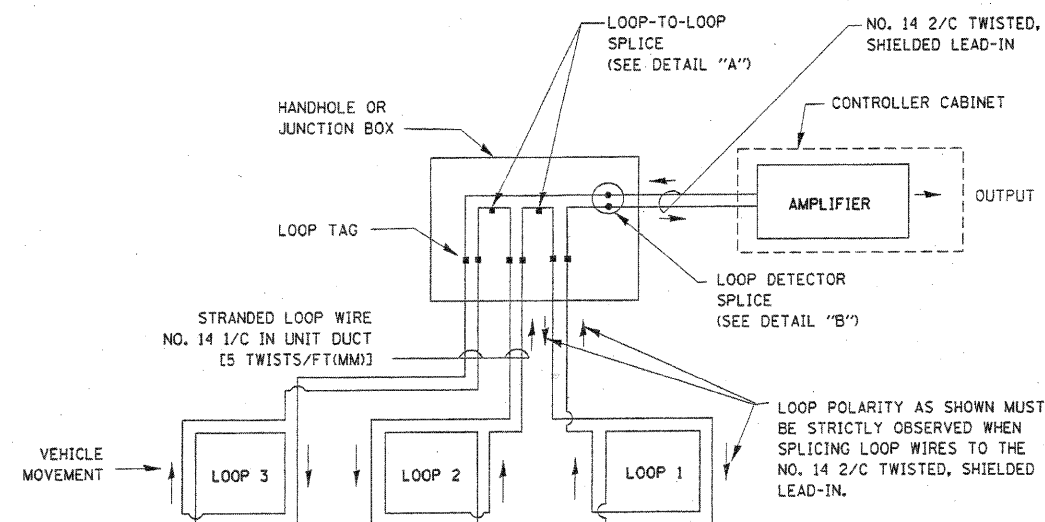
CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

CLIENT:

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LOOP DETECTOR NOTES

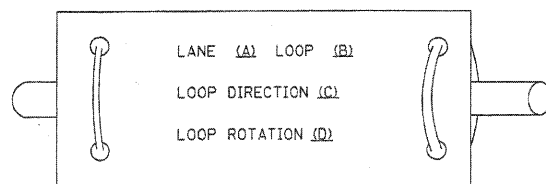
- EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
- THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED 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.
- PERFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PERFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.



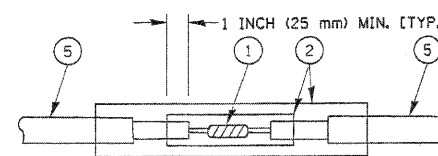
DETECTOR LOOP WIRING SCHEMATIC

- 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.

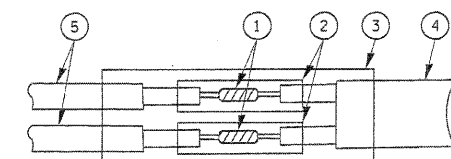
LOOP LEAD-IN CABLE TAG



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



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

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

| REVISIONS | |
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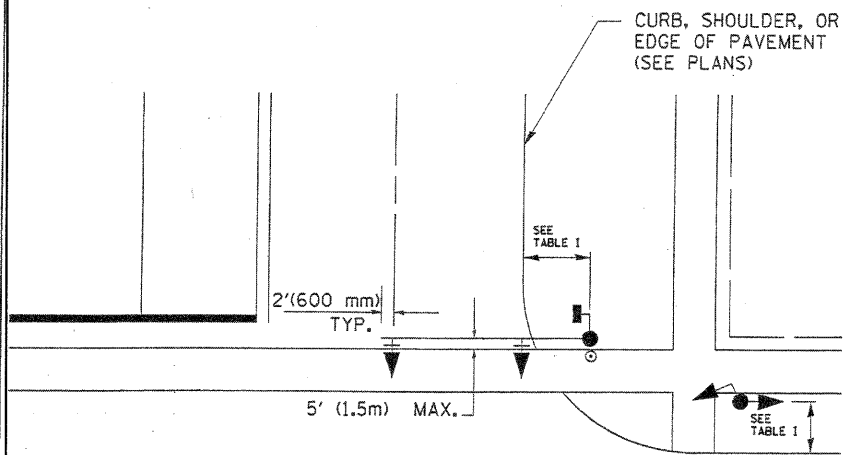
ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT ONE
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

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

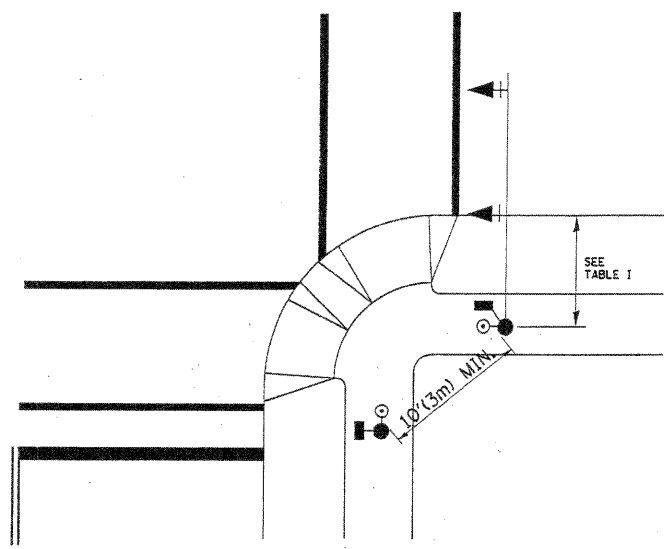
DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 1 OF 4

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

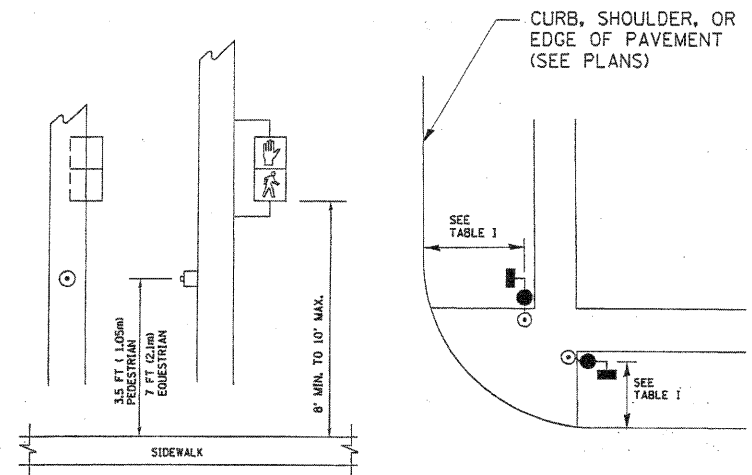


TABLE I

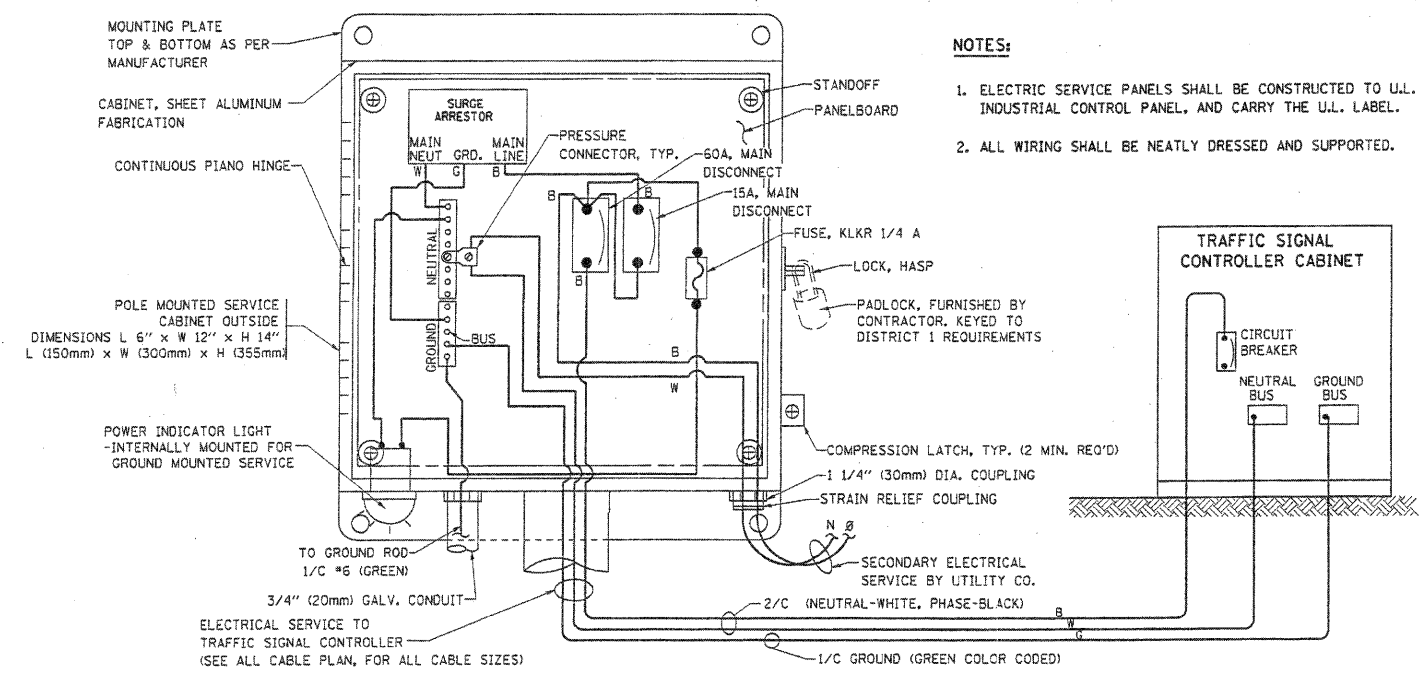
| TRAFFIC SIGNAL EQUIPMENT | COMBINATION CONCRETE CURB AND GUTTER (MIN. DIST. FROM BACK OF CURB) | SHOULDER/NON-CURBED AREA (MIN. DIST. FROM EDGE OF PAVEMENT) |
|------------------------------|---|---|
| TRAFFIC SIGNAL MAST ARM POLE | 6 FT (1.8m) | SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m) |
| TRAFFIC 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 | |
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| NAME | DATE |
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ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT 1
STANDARD TRAFFIC SIGNAL
DESIGN DETAILS

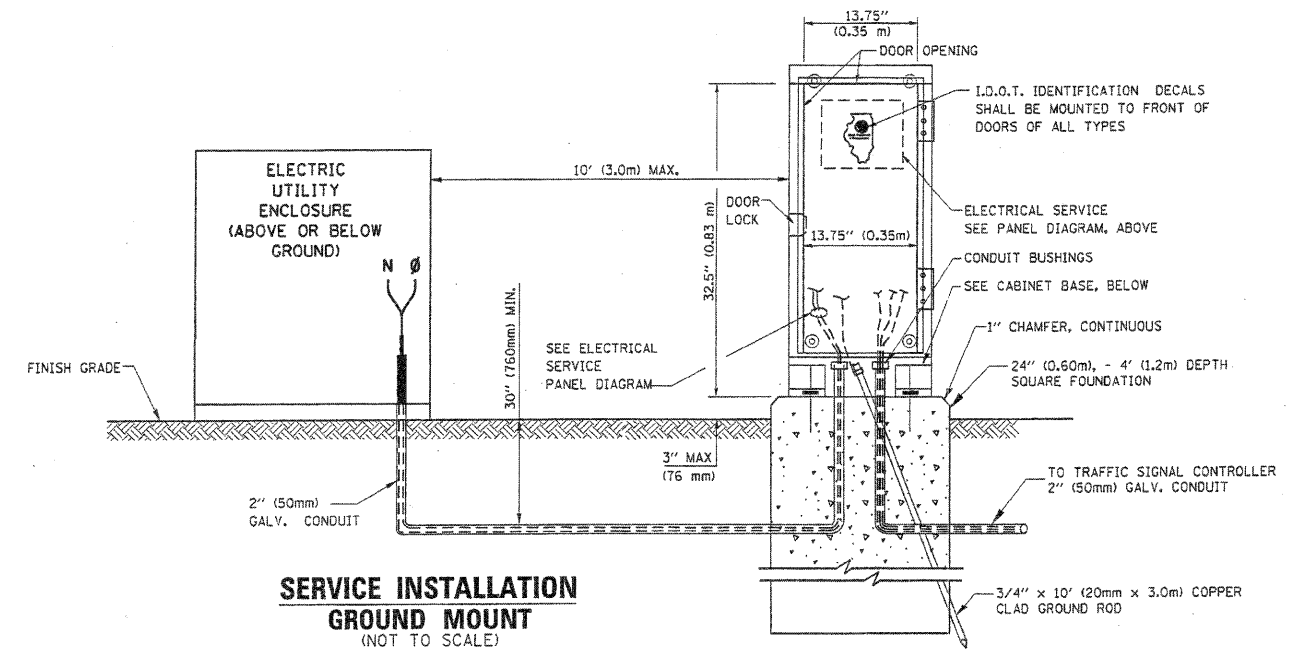
SCALE: VERT. NONE
HORIZ. NONE
DATE 1-01-02
DRAWN BY: RWP
DESIGNED BY: DAD
CHECKED BY: DAZ
SHEET 2 OF 4

| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------|----------------|------------------|--------------|-----------|
| | 06-00169-00-TL | COOK | 48 | 47 |
| STA. | TO STA. | | | |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |

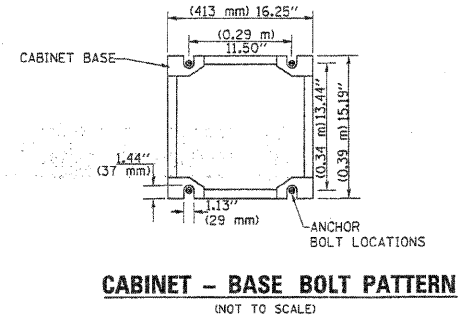


- NOTES:**
1. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
 2. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.

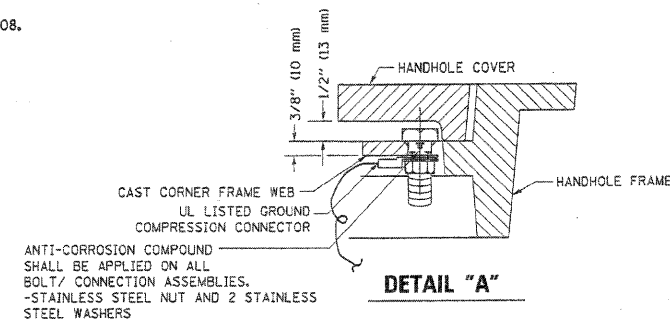
ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)
SERVICE INSTALLATION POLE MOUNT (SHOWN)
 (NOT TO SCALE)



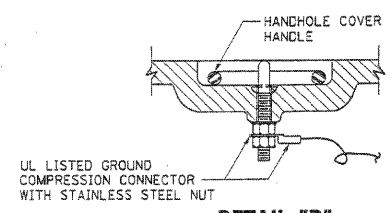
SERVICE INSTALLATION GROUND MOUNT
 (NOT TO SCALE)



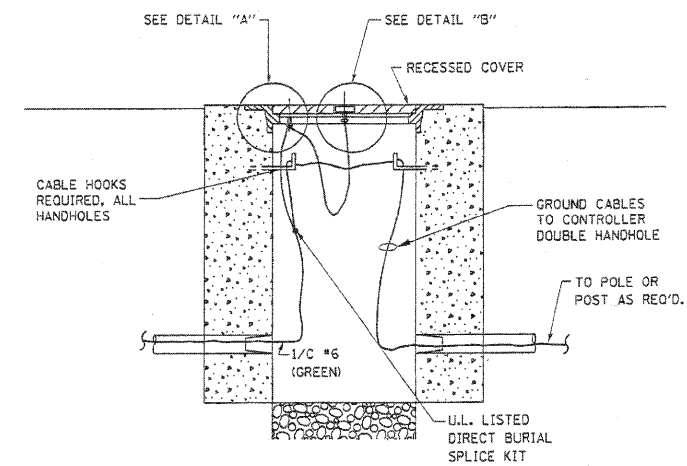
CABINET - BASE BOLT PATTERN
 (NOT TO SCALE)



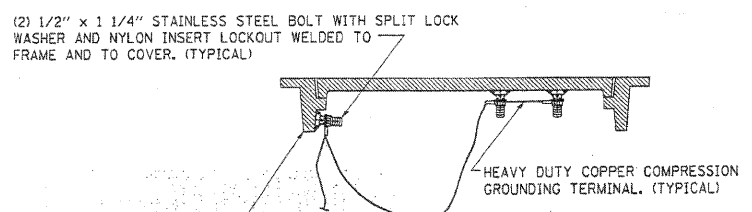
DETAIL "A"



DETAIL "B"



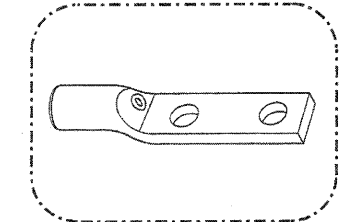
HANDHOLE COVER & FRAME - GROUNDING DETAIL
 (NOT TO SCALE)



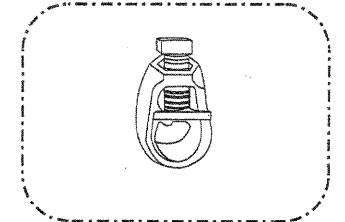
EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL
 (NOT TO SCALE)

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.

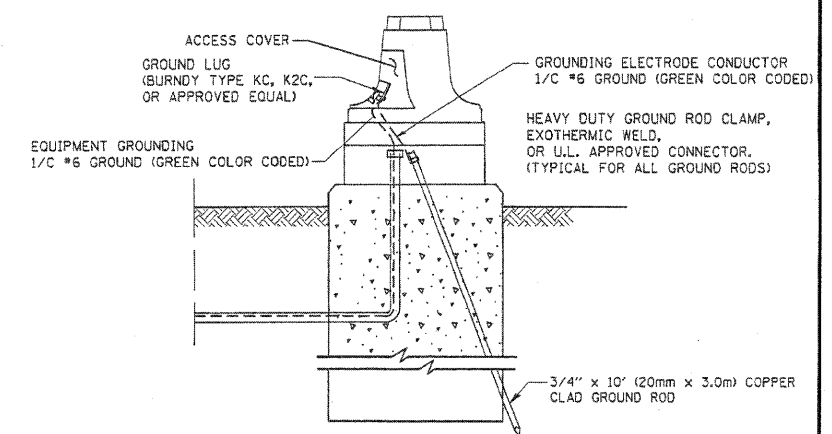


HEAVY-DUTY COMPRESSION TERMINAL
 (BURNDY TYPE YGHA OR APPROVED EQUAL)



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

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



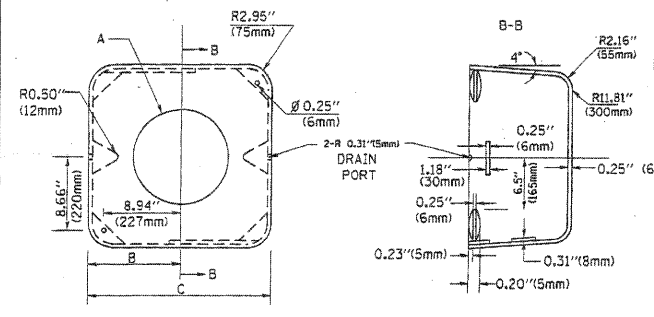
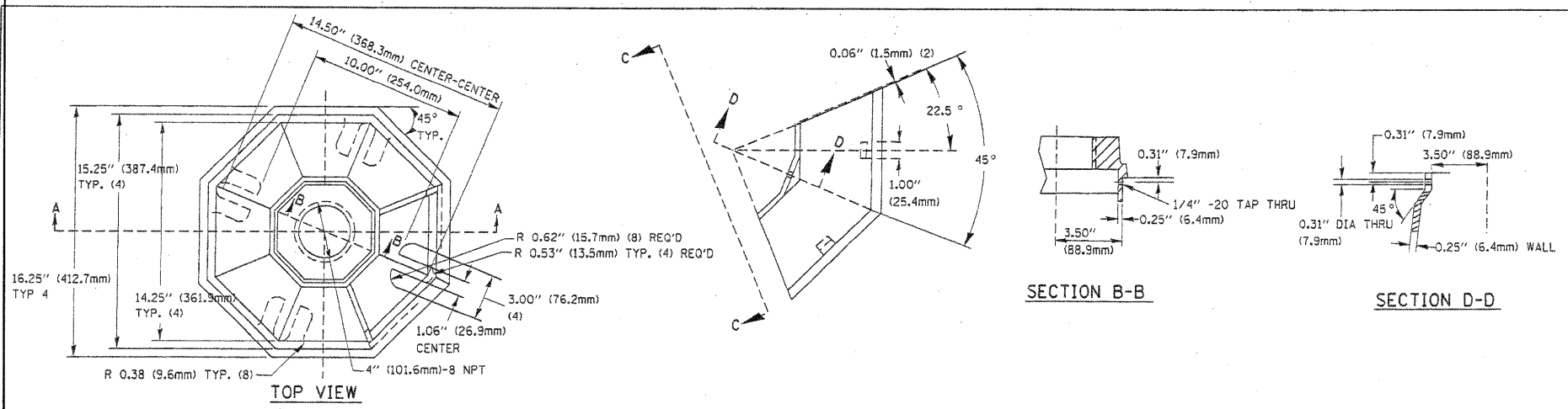
MAST ARM POLE / POST-GROUNDING DETAIL
 (NOT TO SCALE)

| REVISIONS | |
|-----------|------|
| NAME | DATE |
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ILLINOIS DEPARTMENT OF TRANSPORTATION
 DISTRICT 1
 STANDARD TRAFFIC SIGNAL
 DESIGN DETAILS

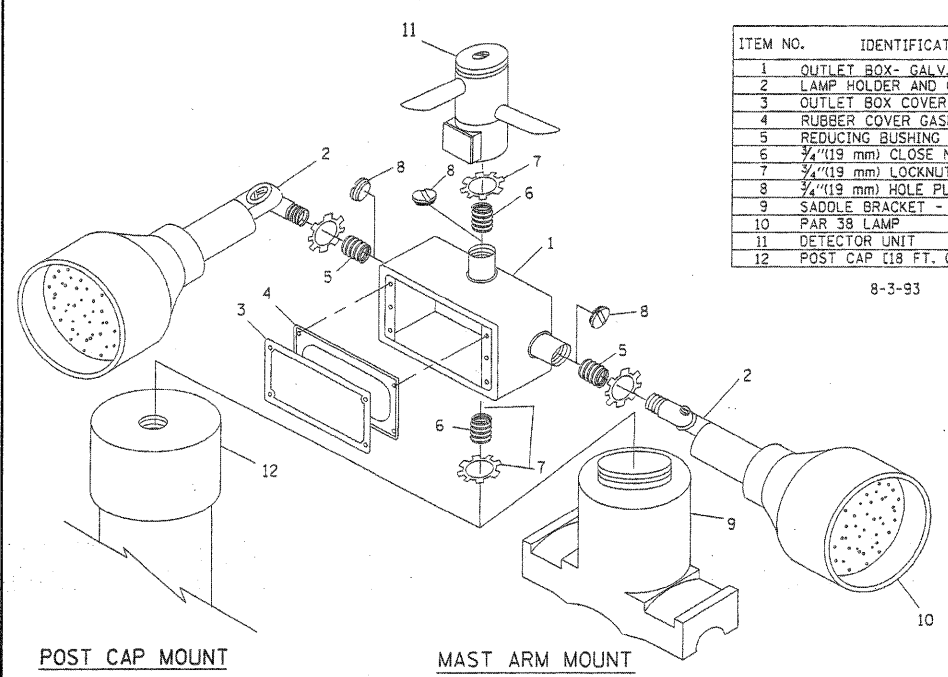
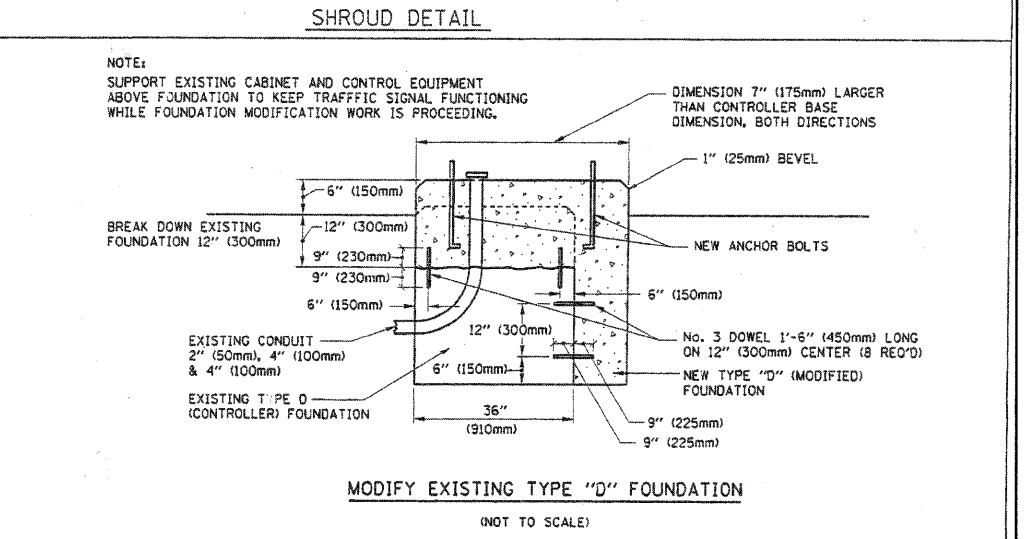
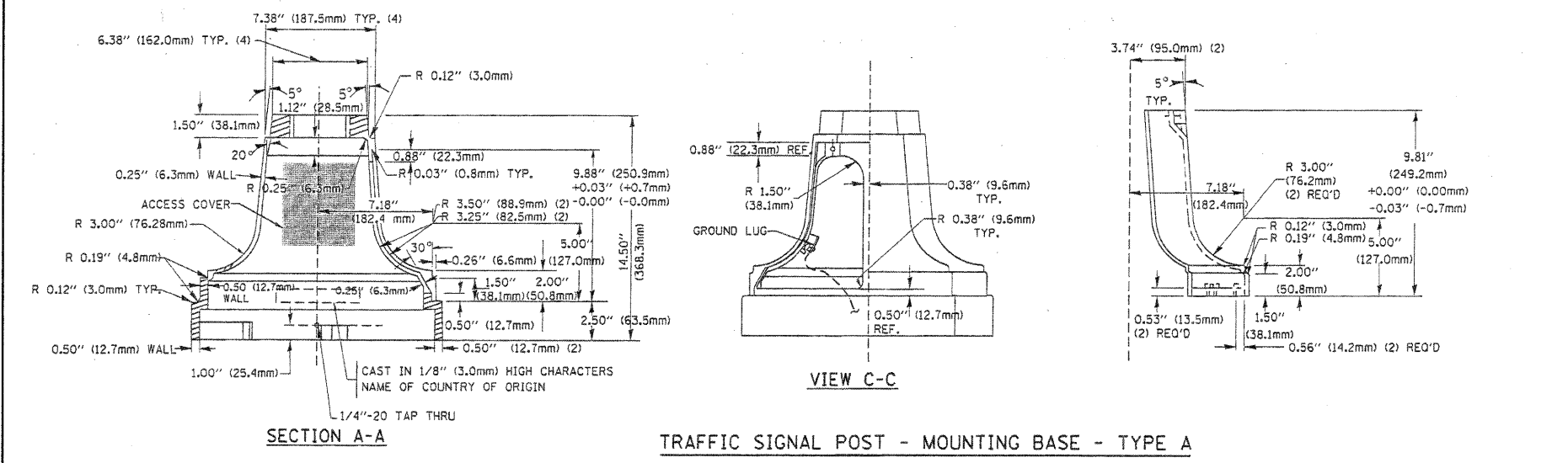
SCALE: VERT. NONE
 HORIZ.
 DATE 1-01-02
 DRAWN BY: RWP
 DESIGNED BY: DAD
 CHECKED BY: DAZ
 SHEET 3 OF 4

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|---------------------|---------------------------|--------|--------------|-----------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | 06-00169-00-TL | COOK | 48 | 48 |
| STA. | TO STA. | | | |
| FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT | | | |



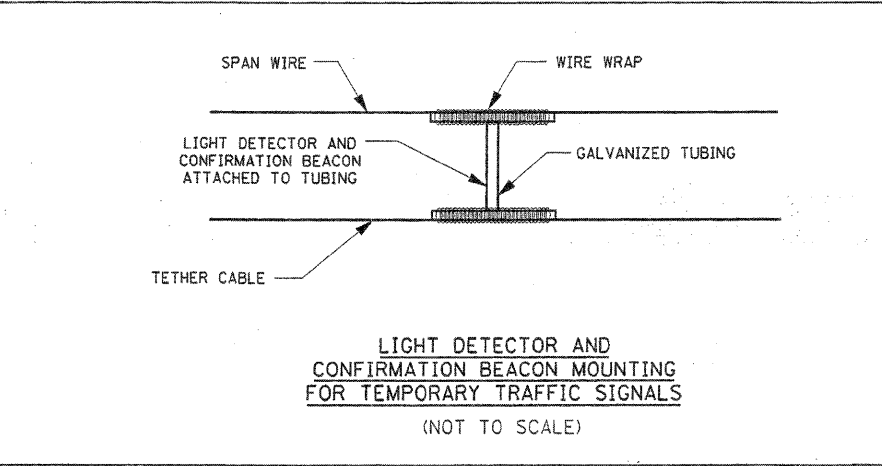
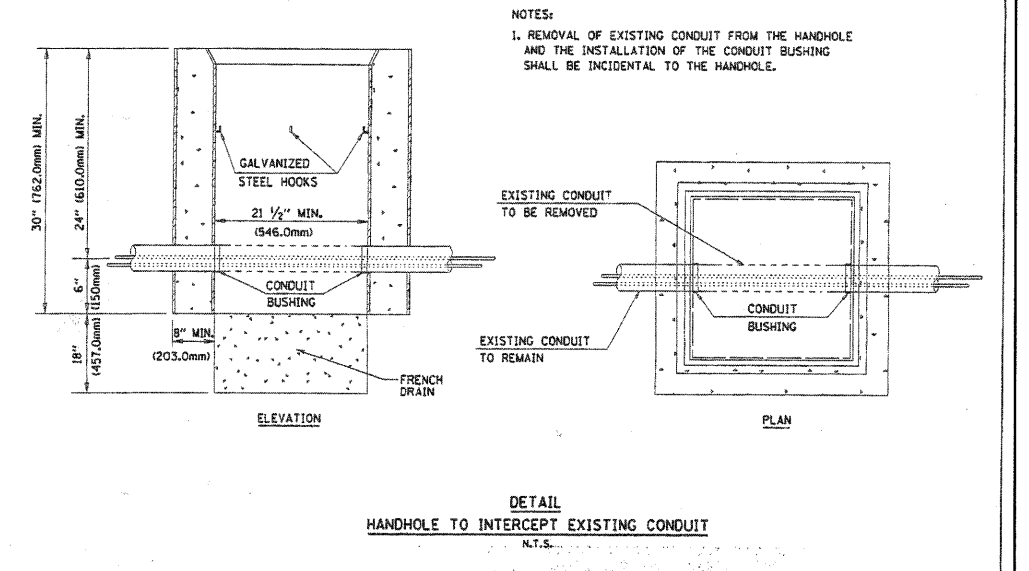
| TYPE | A | B | C | HEIGHT | WEIGHT |
|------|-------------------|----------------|---------------|-------------|--------|
| I | Ø 10.125\"(257mm) | 9.5\"(241mm) | 19\"(483mm) | 12\"(300mm) | 24kg |
| II | Ø 11.125\"(283mm) | 10.75\"(273mm) | 21.5\"(546mm) | 12\"(300mm) | 26kg |

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 | | ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS |
|-----------|------|--|
| NAME | DATE | |
| | | 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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