F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00 ... 14-00-PV	DuPAGE	563	201
STA.	TO STA.			
FED. ... NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024

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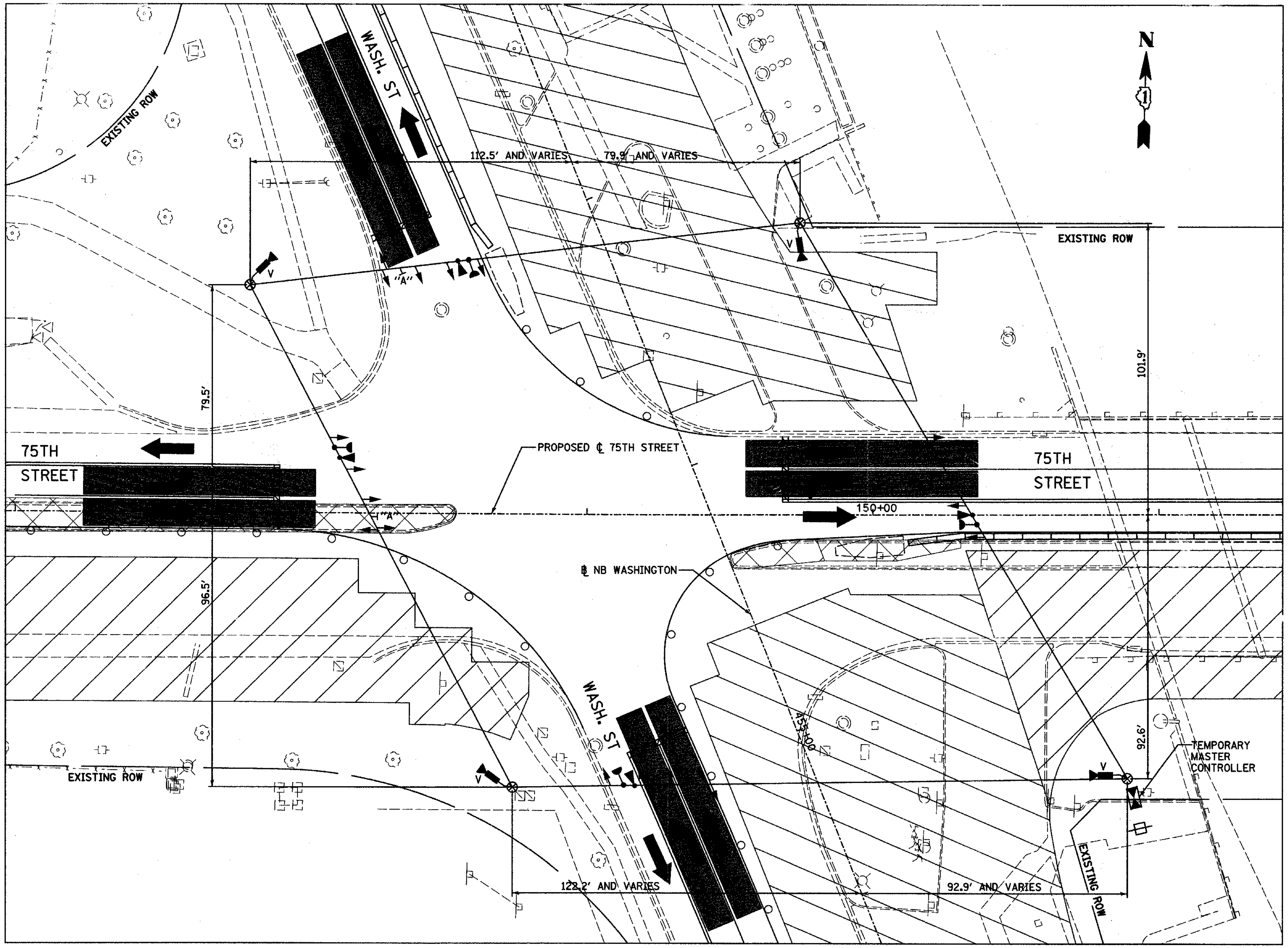

"A" R10-5

STAGE 1

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TEMP. TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT (STAGE 1)

75TH STREET AND WASHINGTON STREET

CONSULTANT

TYLIN INTERNATIONAL

City of Naperville

DRAWN:	SHEET NO.
CHECKED:	
APPROVED:	
DATE: APRIL 11, 2008	
SCALE: 1"=20'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: M-CMM-7003 (985)

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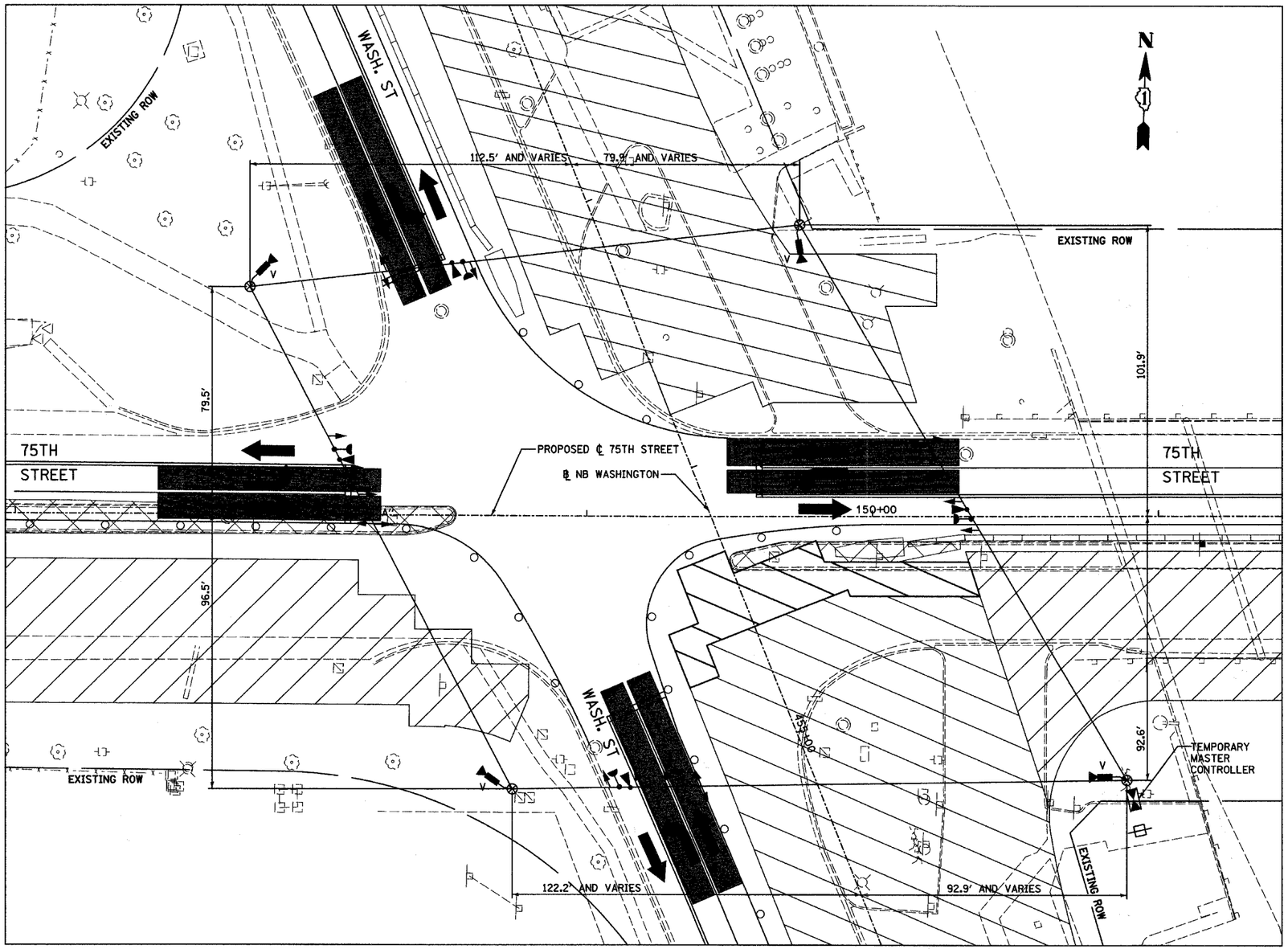
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	202
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024



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"A" R10-5

STAGE 1A

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TEMP. TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT (STAGE 1A)
75TH STREET AND WASHINGTON STREET

CONSULTANT
TY·LIN INTERNATIONAL

City of Naperville

DRAWN:	SHEET NO.
CHECKED:	
APPROVED:	
DATE: APRIL 11, 2008	
SCALE: 1"=20'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: M-CMM-7003 (985)

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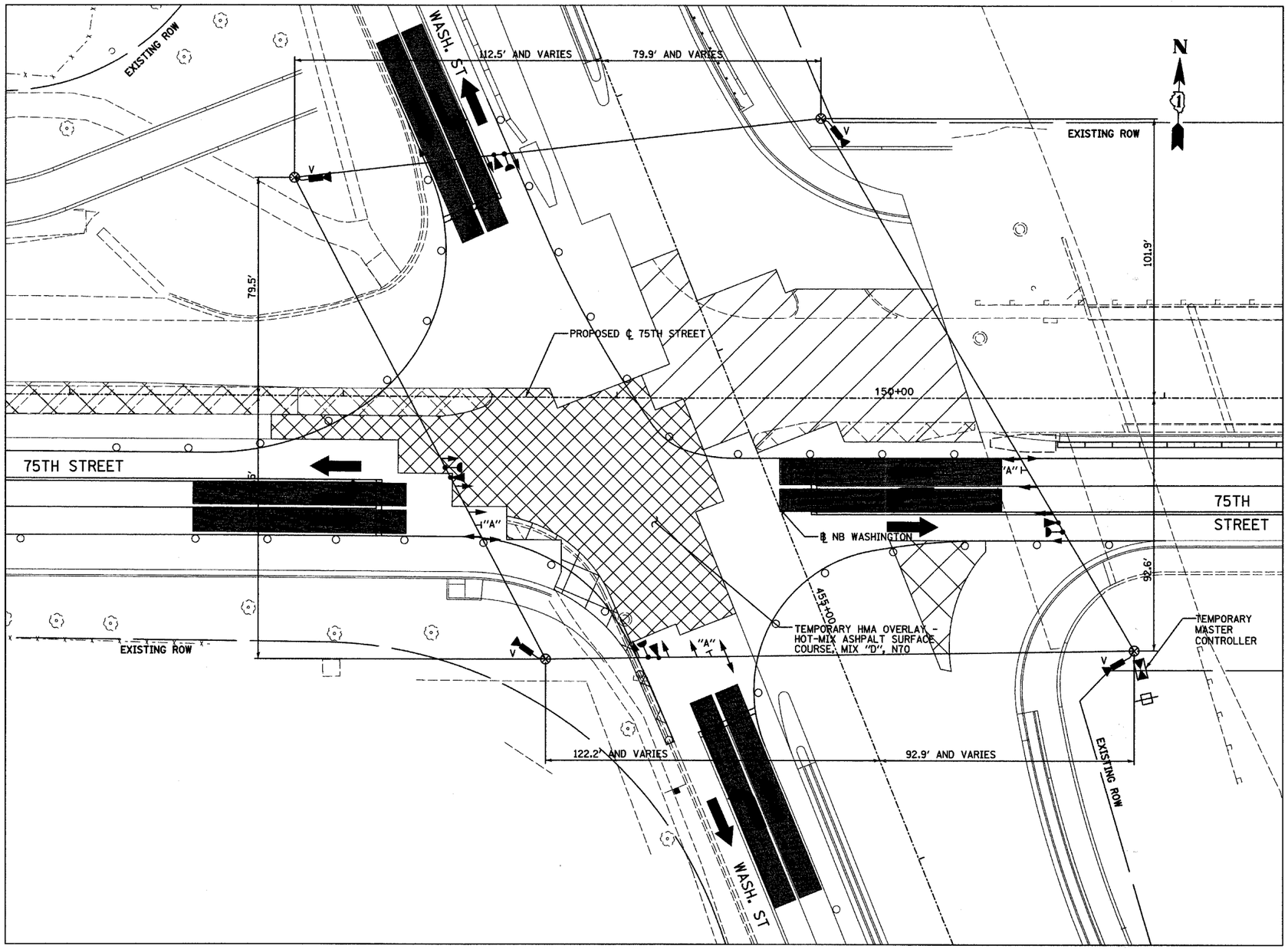
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	203
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024



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"A" R10-5

STAGE 1B

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TEMP. TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT (STAGE 1B)

75TH STREET AND WASHINGTON STREET

CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN:	SHEET NO.
CHECKED:	
APPROVED:	
DATE: APRIL 11, 2008	
SCALE: 1"=20'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: M-CMM-7003 (985)

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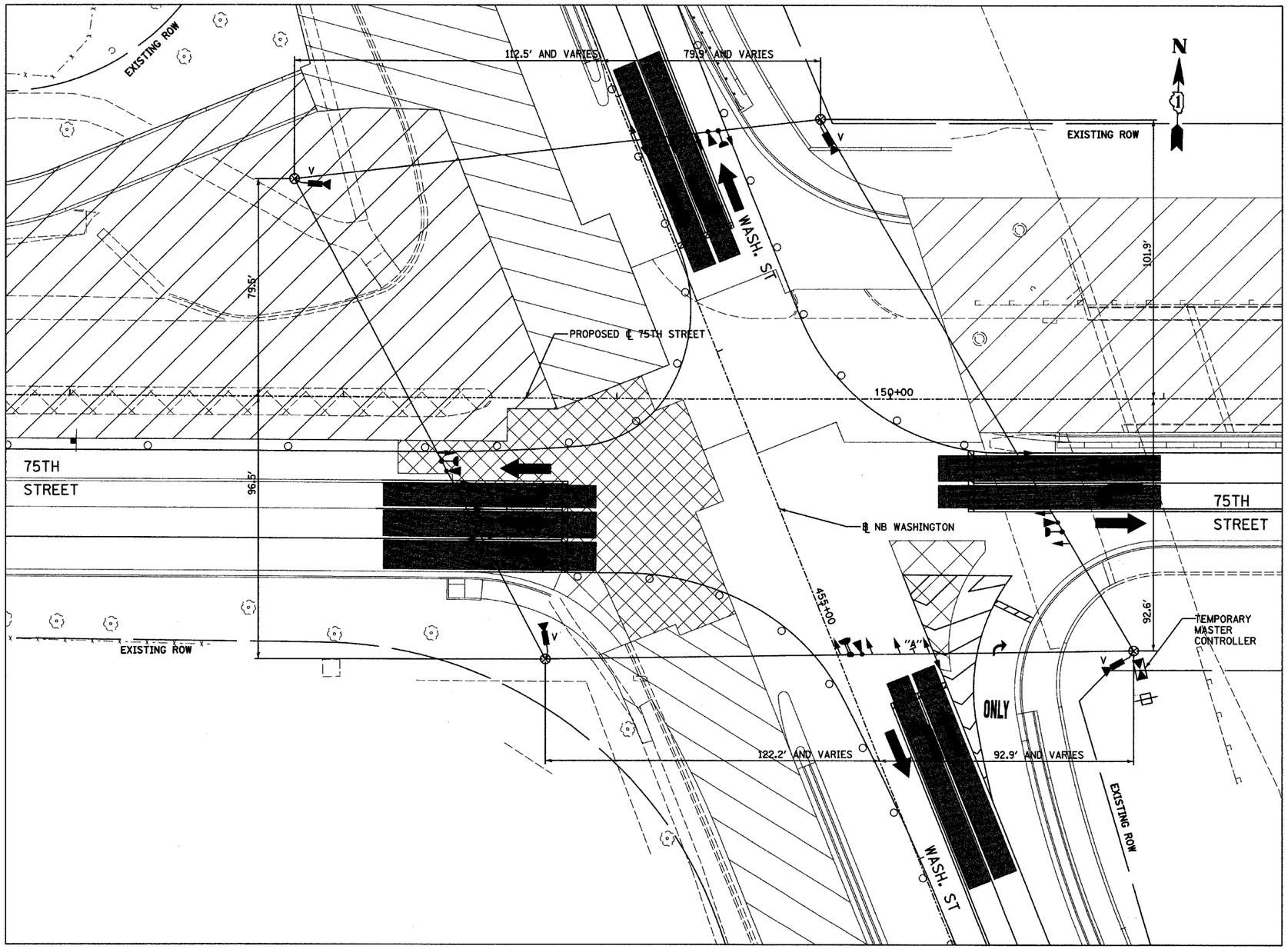
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	204
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024



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"A" R10-5

STAGE 2

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TEMP. TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT (STAGE 2)
75TH STREET AND WASHINGTON STREET

CONSULTANT
TY·LIN INTERNATIONAL

City of Naperville

DRAWN:	SHEET NO.
CHECKED:	
APPROVED:	
DATE: APRIL 11, 2008	
SCALE: 1"=20'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: M-CMM-7003 (985)

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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	205
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024

LEFT ON GREEN ARROW ONLY

"A" R10-5

STAGE 2A

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TEMP. TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT (STAGE 2A)
75TH STREET AND WASHINGTON STREET

CONSULTANT
TY·LIN INTERNATIONAL

City of Naperville

DRAWN:	SHEET NO.
CHECKED:	
APPROVED:	
DATE: APRIL 11, 2008	
SCALE: 1"=20'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: M-CMM-7003 (985)

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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	206
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024

"A" R10-5

STAGE 3

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TEMP. TRAFFIC SIGNAL INSTALLATION AND REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT (STAGE 3)
75TH STREET AND WASHINGTON STREET

CONSULTANT
T·Y·LIN INTERNATIONAL

City of Naperville

DRAWN:
CHECKED:
APPROVED:
DATE: APRIL 11, 2008
SCALE: 1"=20'-0"
JOB NO.: P-91-494-00

SHEET NO.
PROJECT NO.: M-CMM-7003 (985)

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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	207
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024

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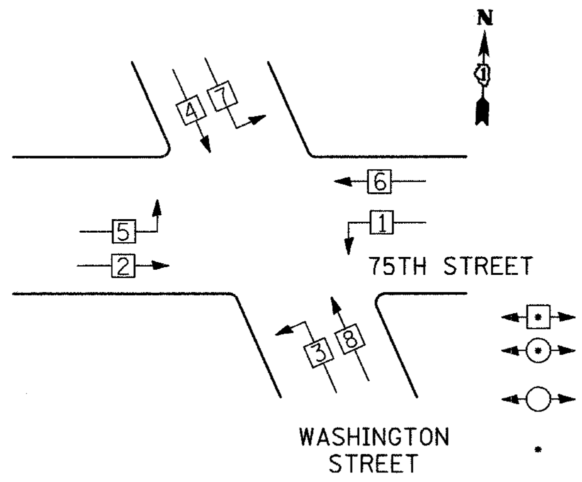
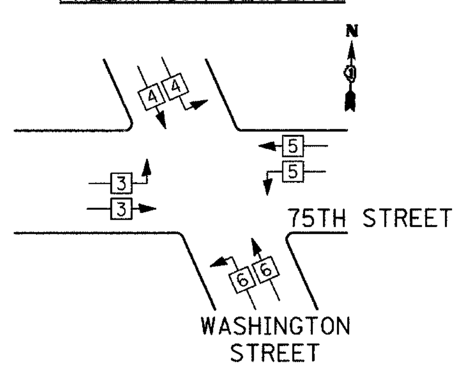
PHASE DESIGNATION DIAGRAM



LEGEND

- SINGLE ENTRY PHASE
- DUAL ENTRY PHASE
- PEDESTRIAN PHASE
- • NUMBER REFERS TO ASSOCIATED PHASE

EMERGENCY VEHICLE PREEMPTION SEQUENCE



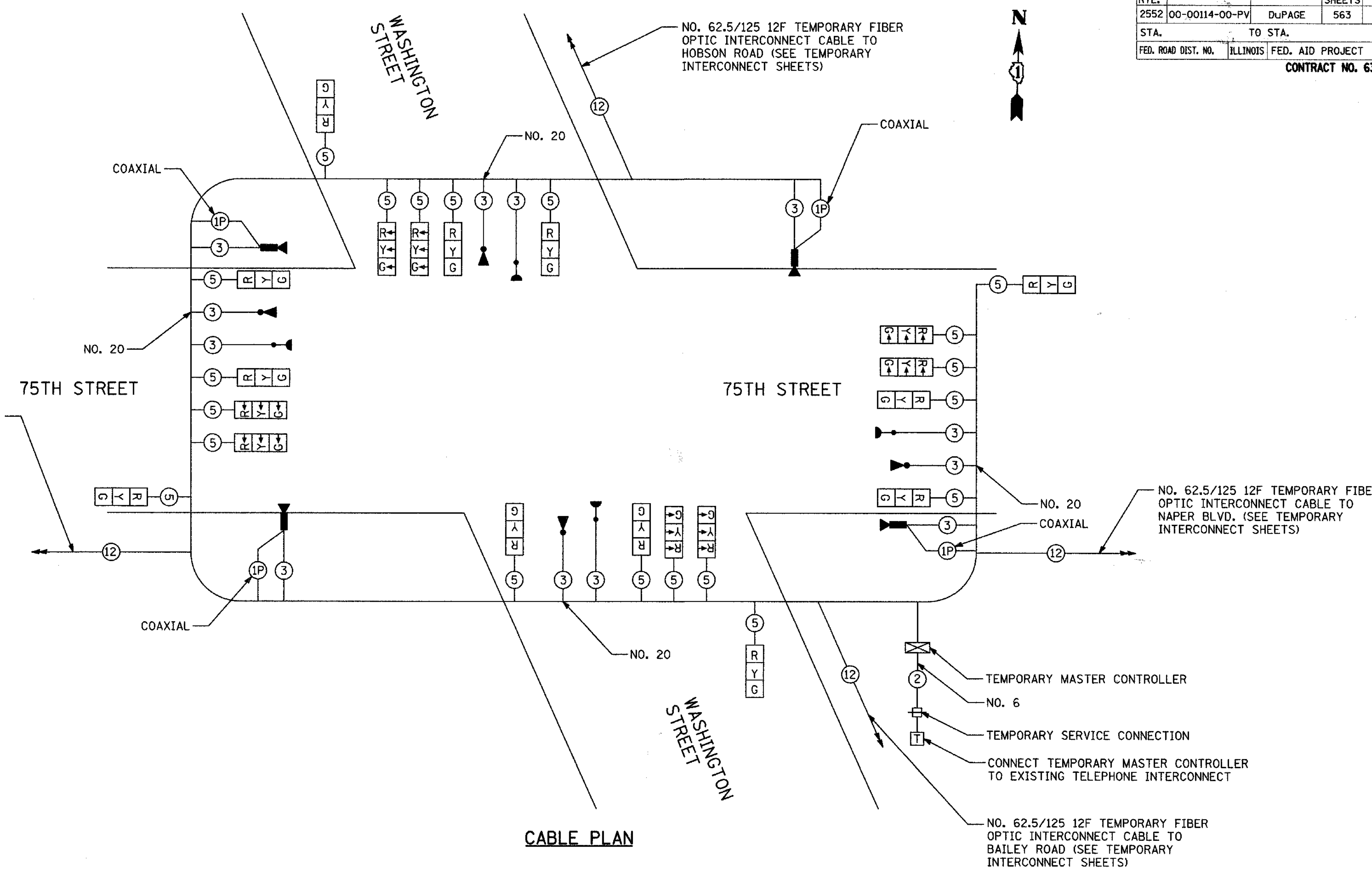
PROPOSED EMERGENCY VEHICLE PREEMPTORS				
EMERGENCY VEHICLE PREEMPTOR	3	4	5	6
MOVEMENT				

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. OF LAMPS	WATTAGE		% OPERATIONS	TOTAL
		INCAND.	LED		WATTAGE
SIGNAL (RED)	12	135	17	0.50	810.0
(YELLOW)	12	135	25	0.25	405.0
(GREEN)	12	135	15	0.25	405.0
ARROW	24	135	12	0.10	324.0
PED. SIGNAL	0	90	25	1.00	0.0
CONTROLLER	1	100	100	1.00	100.0
ILLUM. SIGN	0	252		0.05	0.0
FLASHER	0			0.05	0.0
ENERGY COSTS TO:				TOTAL =	2044.0

CITY OF NAPERVILLE

400 SOUTH EAGLE STREET
P.O. BOX 3020 / NAPERVILLE, ILLINOIS 60566

ENERGY SUPPLY: CONTACT:
PHONE: 630-420-6131
COMPANY: DEPT. OF PUBLIC UTILITIES - ELECTRIC



CABLE PLAN

TEMPORARY CABLE DIAGRAM LEGEND

- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12" (300mm)
- TEMPORARY CONTROLLER CABINET
- T TEMPORARY TELEPHONE CONNECTION
- TEMPORARY SERVICE INSTALLATION
- (5) INDICATES NUMBER OF CONDUCTORS. IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- 12" (300mm) PEDESTRIAN SIGNAL SECTION
- VIDEO VEHICLE DETECTION

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TEMP. CABLE PLAN AND TEMP.
PHASE DESIGNATION DIAGRAM
STAGES PRE STAGE A, PRE STAGE B, 1, 1A, 1B, 2, 2A, AND 3
75TH STREET AND WASHINGTON STREET

CONSULTANT
T·Y·LIN INTERNATIONAL

City of Naperville

DRAWN:
CHECKED:
APPROVED:
DATE: APRIL 11, 2008
SCALE: N.T.S.
JOB NO.: P-91-494-00
SHEET NO.
PROJECT NO.: M-CMM-7003 (985)

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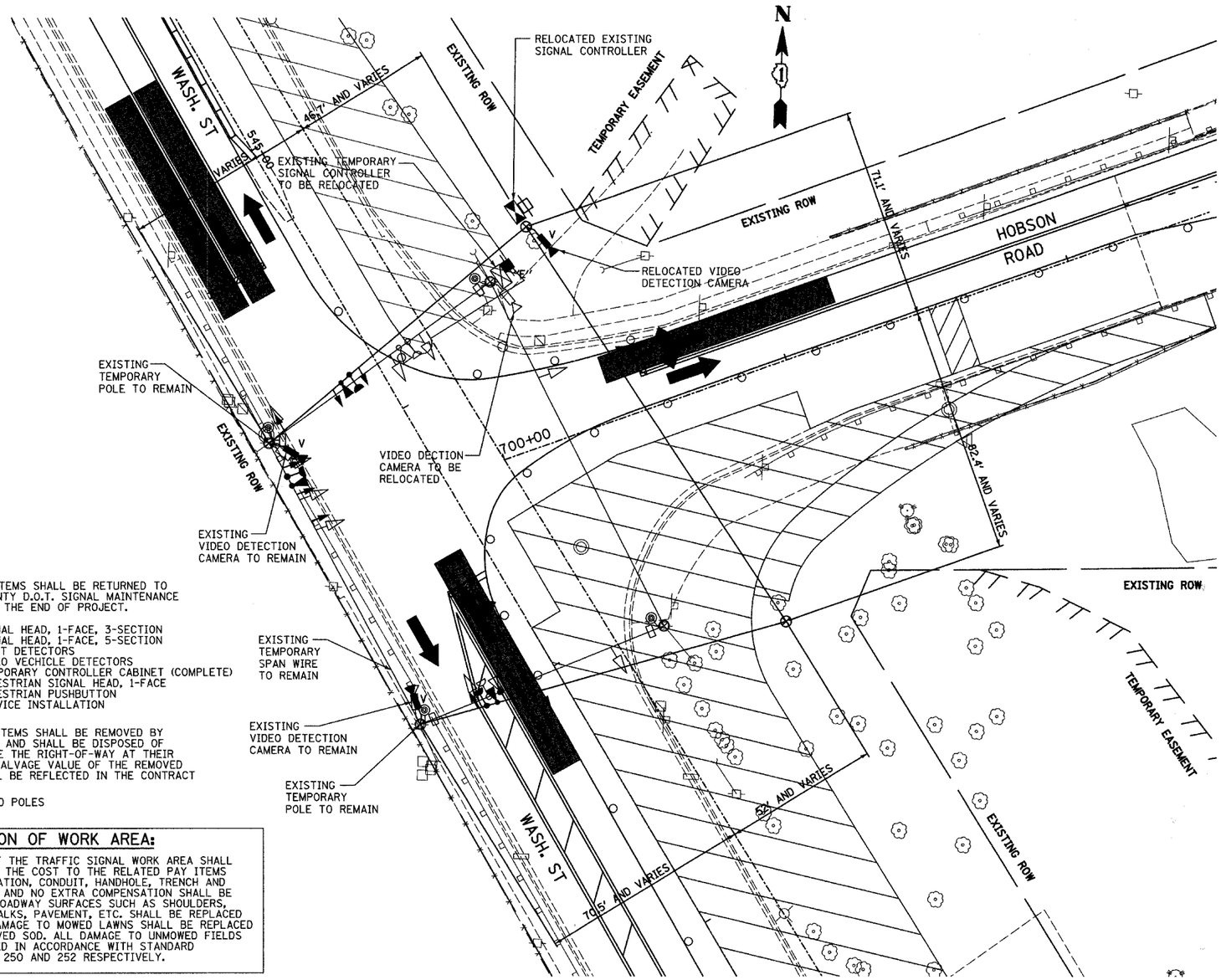
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	208
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024



THE FOLLOWING ITEMS SHALL BE RETURNED TO THE DUPAGE COUNTY D.O.T. SIGNAL MAINTENANCE CONTRACT OR AT THE END OF PROJECT.

5	EACH	SIGNAL HEAD, 1-FACE, 3-SECTION
4	EACH	SIGNAL HEAD, 1-FACE, 5-SECTION
3	EACH	LIGHT DETECTORS
3	EACH	VIDEO VECHICLE DETECTORS
1	EACH	TEMPORARY CONTROLLER CABINET (COMPLETE)
4	EACH	PEDESTRIAN SIGNAL HEAD, 1-FACE
4	EACH	PEDESTRIAN PUSHBUTTON
1	EACH	SERVICE INSTALLATION

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

5	EACH	WOOD POLES

RESTORATION OF WORK AREA:

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

TEMPORARY TRAFFIC SIGNAL LEGEND

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

EXISTING EQUIPMENT TO BE REMOVED LEGEND

- EXISTING SIGNAL HEAD TO BE REMOVED
- "E" EXISTING SERVICE INSTALLATION TO BE REMOVED
- "E" EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" EXISTING HANDHOLE TO BE REMOVED
- "E" EXISTING HEAVY DUTY HANDHOLE TO BE REMOVED
- EXISTING EMERGENCY VEHICLE SYSTEM DETECTOR TO BE REMOVED
- EXISTING EMERGENCY VEHICLE SYSTEM BEACON TO BE REMOVED
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED

NOTES:

1. THE EXISTING TRAFFIC SIGNAL SYSTEM IS A SPAN WIRE MOUNTED TYPE TEMPORARY SYSTEM. THE CONTRACTOR MAY RE-UTILIZE THE EXISTING SIGNAL EQUIPMENT, AS SHOWN IN THE PLANS, FOR THIS PROJECT.
2. THE CONTRACTOR SHALL INSTALL TWO NEW TEMPORARY POLES, INSTALLED IN THE NORTHEAST AND SOUTHEAST QUADRANTS, TO AVOID STAGED CONSTRUCTION CONFLICTS.
3. THE CONTRACTOR SHALL INSTALL NEW SPAN WIRES TO THE NEW TEMPORARY POLES IN ORDER TO COMPLETE THE PROPOSED TEMPORARY LAYOUT.
4. THE CONTRACTOR SHALL RELOCATE THE EXISTING CONTROLLER TO THE AREA INDICATED ON THE PLANS. THE CONTRACTOR SHALL RE-WIRE THE CONTROLLER FOR THE PROPOSED TEMPORARY LAYOUT. THIS WORK SHALL INCLUDE THE TEMPORARY INTERCONNECT FROM THE 75TH AND WASHINGTON MASTER CONTROLLER.
5. THE CONTRACTOR SHALL REMOVE THE EXISTING TEMPORARY SERVICE CONNECTION AND PROVIDE A NEW TEMPORARY SERVICE CONNECTION AT THE LOCATION SHOWN IN THE PLANS.
6. ALL WOOD POLES SHALL BE LOCATED WITH THEIR CENTERLINES A MINIMUM OF SIX (6) FEET FROM THE BACK OF CURB UNLESS NOTED OR DIMENSIONED TO THE CONTRARY ON THE DRAWINGS. IN NON-CURBED AREAS THE WOOD 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.
7. ALL CABLE SHALL HAVE STRANDED CONDUCTORS WHERE ANY PORTION OF THE CABLE INSTALLED AERIAL SUSPENDED. ALL WIRING TERMINATIONS OF STRANDED CONDUCTORS SHALL BE MADE WITH SOLDERLESS TOOL COMPRESSED TERMINALS.
8. THE PROPOSED TRAFFIC SIGNAL SYSTEM SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "TEMPORARY TRAFFIC SIGNAL INSTALLATION (SPECIAL)". THE ITEMS AND QUANTITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. CABLE AND CONDUIT LENGTHS SHALL BE ADJUSTED UP OR DOWN TO SATISFY THE REQUIREMENT OF THE INSTALLATION WITHOUT COMPARABLE CHANGE IN PRICE FOR THE PAY ITEM.
9. THE RELOCATION AND RAISING OF NAPERVILLE ELECTRIC FACILITIES SHALL BE PERFORMED BY NAPERVILLE ELECTRIC.
10. NO ADDITIONAL PAYMENT SHALL BE MADE FOR ANY DELAYS OR SIGNAL HEAD RELOCATIONS RESULTING FROM UTILITY RELOCATIONS, CHANGES IN STAGING,OR REMOVAL OF EXISTING TEMPORARY SIGNALS.

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
MODIFY TEMPORARY TRAFFIC SIGNAL INSTALLATION (STAGES 1 AND 1A)

WASHINGTON STREET AND HOBSON ROAD

CONSULTANT
TY·LIN INTERNATIONAL

City of Naperville

DRAWN:	SHEET NO.
CHECKED:	
APPROVED:	
DATE: APRIL 11, 2008	
SCALE: 1"=20'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: M-CMM-7003 (985)

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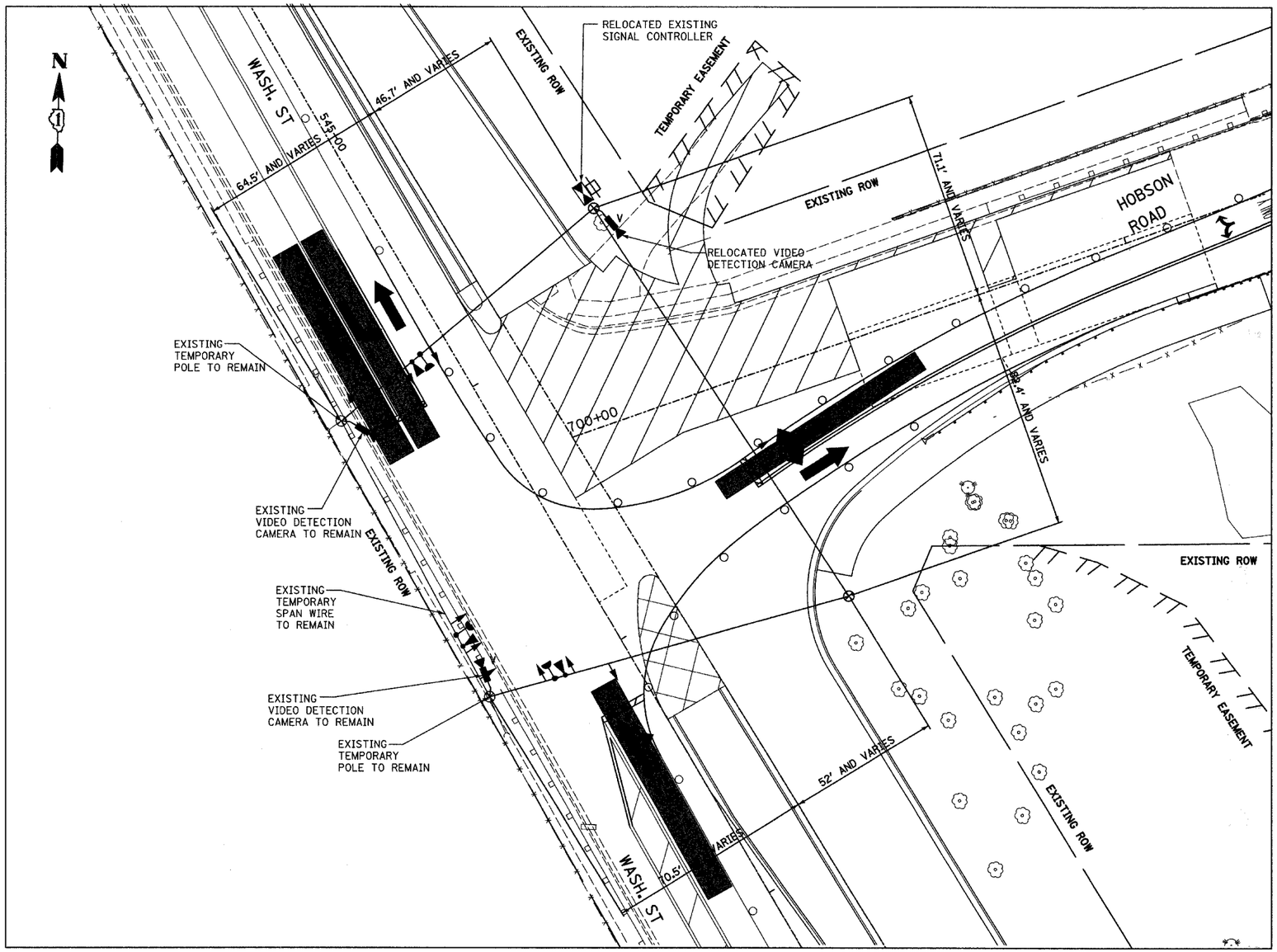
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	209
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024



STAGE 1B

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
MODIFY TEMPORARY TRAFFIC SIGNAL INSTALLATION
(STAGE 1B)

WASHINGTON STREET AND HOBSON ROAD

CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN:	SHEET NO.
CHECKED:	
APPROVED:	
DATE: APRIL 11, 2008	
SCALE: 1"=20'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: M-CMM-7003 (985)

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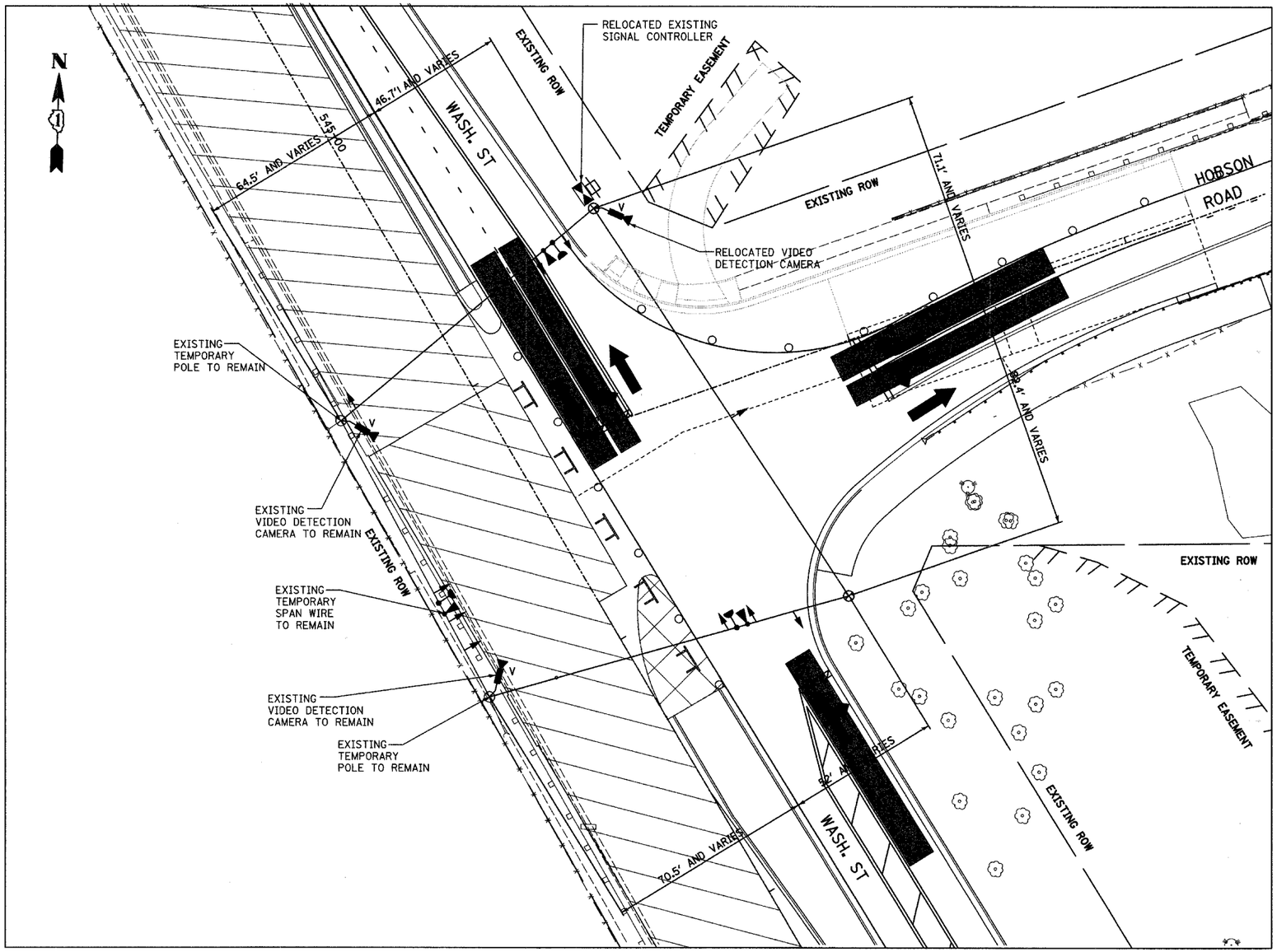
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	210
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024



STAGES 2 & 2A

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
MODIFY TEMPORARY TRAFFIC SIGNAL INSTALLATION
(STAGES 2 & 2A)

WASHINGTON STREET AND HOBSON ROAD

CONSULTANT
TY·LIN INTERNATIONAL

City of Naperville

DRAWN:
CHECKED:
APPROVED:
DATE: APRIL 11, 2008
SCALE: 1"=20'-0"
JOB NO.: P-91-494-00

SHEET NO.
PROJECT NO.: M-CMM-7003 (985)

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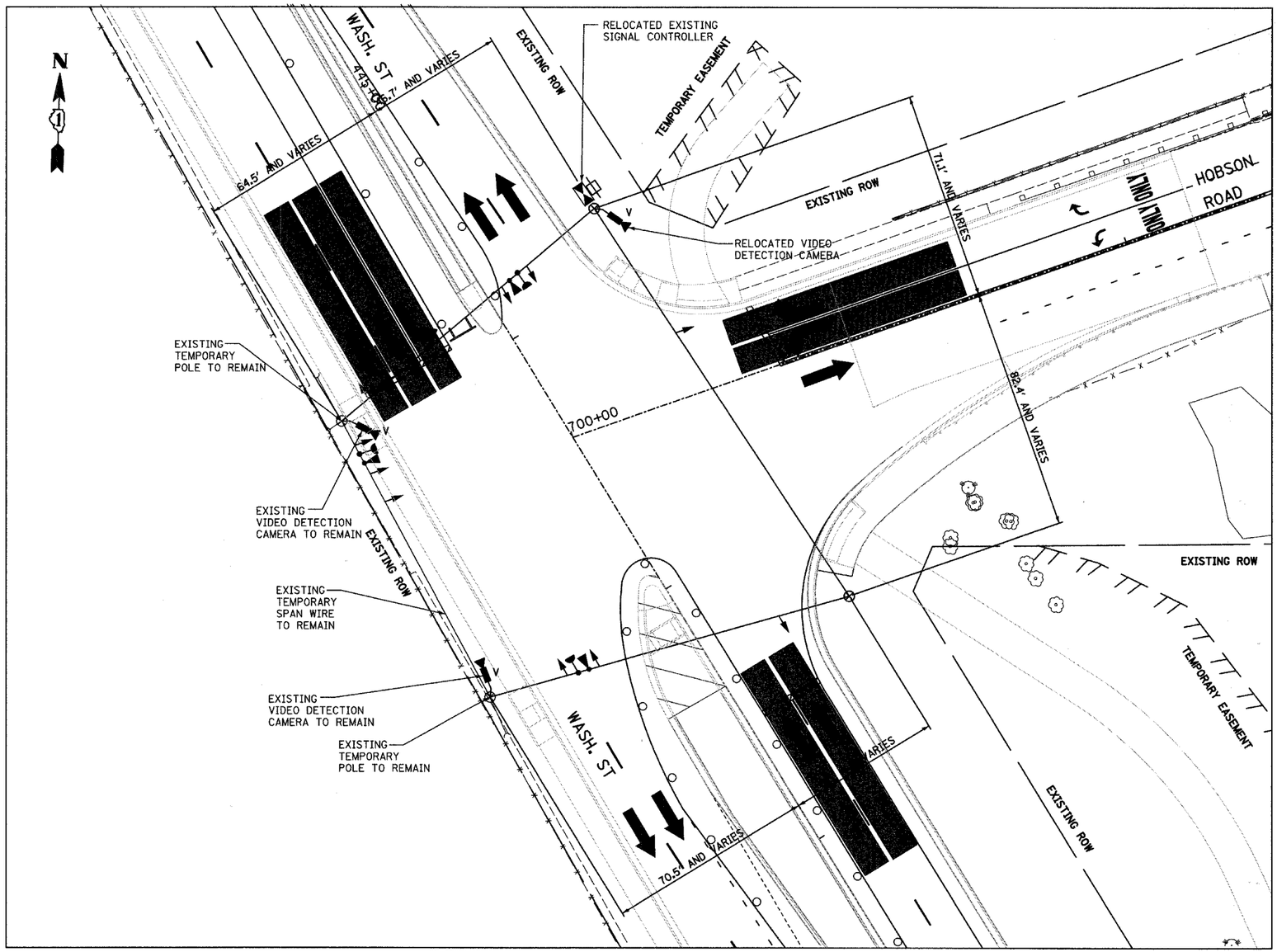
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	211
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024



STAGE 3

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
MODIFY TEMPORARY TRAFFIC SIGNAL INSTALLATION
(STAGE 3)

WASHINGTON STREET AND HOBSON ROAD

CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN:	SHEET NO.
CHECKED:	
APPROVED:	
DATE: APRIL 11, 2008	
SCALE: 1"=20'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: M-CMM-7003 (985)

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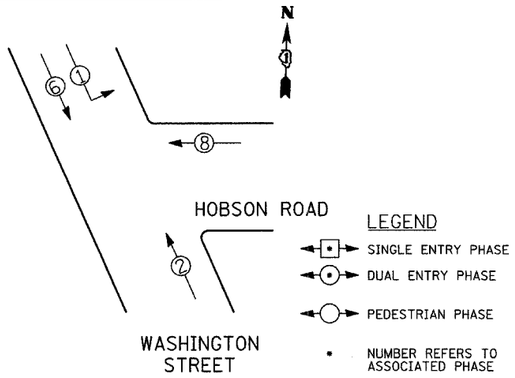
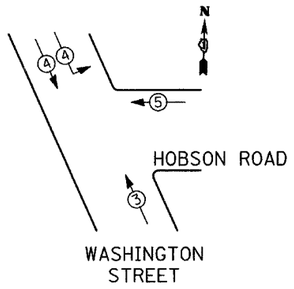
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DUPAGE	563	212
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024

PHASE DESIGNATION DIAGRAM



EMERGENCY VEHICLE PREEMPTION SEQUENCE



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

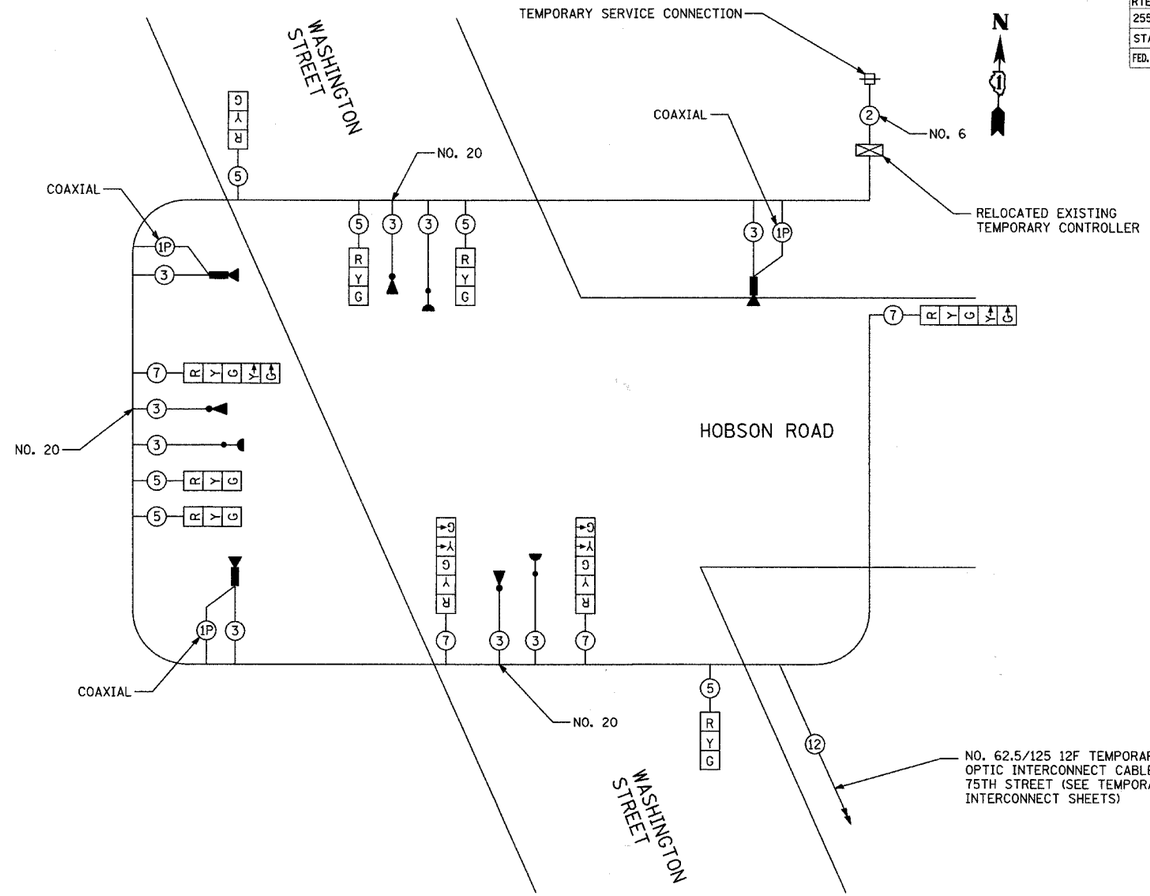
I.D.O.T.
TRAFFIC SIGNAL INSTALLATION
ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. OF LAMPS	WATTAGE		% OPERATIONS	TOTAL WATTAGE
		INCAND.	LED		
SIGNAL (RED)	10	135	17	0.50	675.0
(YELLOW)	10	135	25	0.25	337.5
(GREEN)	10	135	15	0.25	337.5
ARROW	8	135	12	0.10	108.0
PED. SIGNAL	0	90	25	1.00	0.0
CONTROLLER	1	100	100	1.00	100.0
ILLUM. SIGN	0	252		0.05	0.0
FLASHER	0			0.05	0.0
ENERGY COSTS TO:				TOTAL =	1558.0

CITY OF NAPERVILLE

400 SOUTH EAGLE STREET
P.O. BOX 3020 / NAPERVILLE, ILLINOIS 60566

ENERGY SUPPLY: CONTACT: _____
PHONE: 630-420-6131
COMPANY: DEPT. OF PUBLIC UTILITIES - ELECTRIC



CABLE PLAN

NOTE:

THE EXISTING TRAFFIC SIGNAL SYSTEM IS A TEMPORARY SYSTEM. THE CONTRACTOR MAY RE-UTILIZE THE EXISTING TEMPORARY SIGNAL EQUIPMENT. THE CABLE PLAN DEPICTS WHAT IS REQUIRED TO OPERATE THE SYSTEM IN THE PROPOSED LAYOUT.

TEMPORARY CABLE DIAGRAM LEGEND

- R — TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12" (300mm)
- TEMPORARY CONTROLLER CABINET
- T — TEMPORARY TELEPHONE CONNECTION
- TEMPORARY SERVICE INSTALLATION
- (5) — INDICATES NUMBER OF CONDUCTORS. IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- PEDESTRIAN PUSHBUTTON DETECTOR
- 12" (300mm) PEDESTRIAN SIGNAL SECTION
- VIDEO VEHICLE DETECTION

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TEMP. CABLE PLAN AND TEMP.
PHASE DESIGNATION DIAGRAM
STAGES 1, 1A, 1B, 2, 2A, AND 3
WASHINGTON STREET AND HOBSON ROAD

CONSULTANT
TY LIN INTERNATIONAL

City of Naperville

DRAWN:
CHECKED:
APPROVED:
DATE: APRIL 11, 2008
SCALE: N.T.S.
JOB NO.: P-91-494-00
SHEET NO.
PROJECT NO.: M-CMM-7003 (985)

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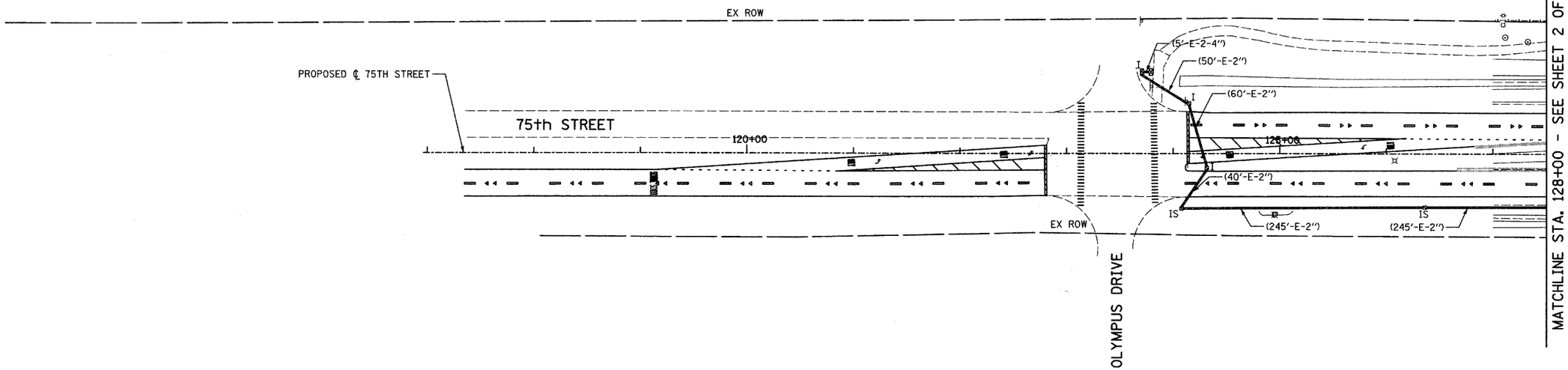
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	213
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024

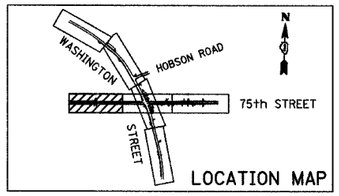


INTERCONNECT PLAN LEGEND

PROPOSED	EXISTING	
▬	⊠	CONTROLLER
◪	◪	HANDHOLE
◪◪	◪◪	DOUBLE HANDHOLE
H	H	HEAVY DUTY HANDHOLE
———	═══	G.S. CONDUIT IN TRENCH(T) OR PUSHED (P)
□	⊡	DETECTOR LOOP
UD		UNIT DUCT
S	IS	SYSTEM
IP	I	INTERSECTION

50 0 50 100

SCALE: 1" = 50'-0"



REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TRAFFIC SIGNAL INTERCONNECT PLAN
75th STREET
SHEET 1 OF 5
STA. 117+00 TO STA. 128+00

CONSULTANT
TY·LIN INTERNATIONAL

City of Naperville

DRAWN:	SHEET NO.
CHECKED:	
APPROVED:	
DATE: APRIL 11, 2008	
SCALE:	
JOB NO.: P-91-494-00	PROJECT NO.: M-CMM-7003 (985)

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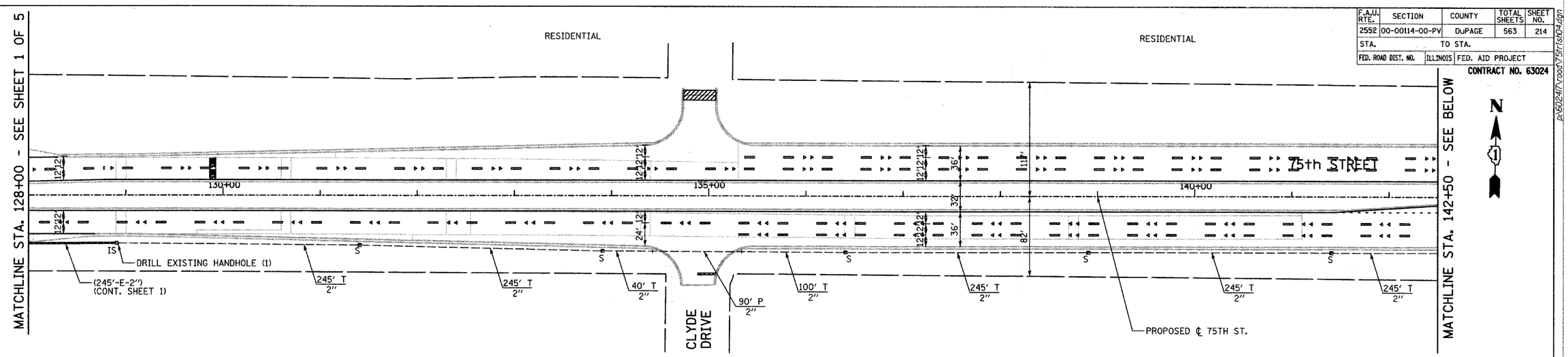
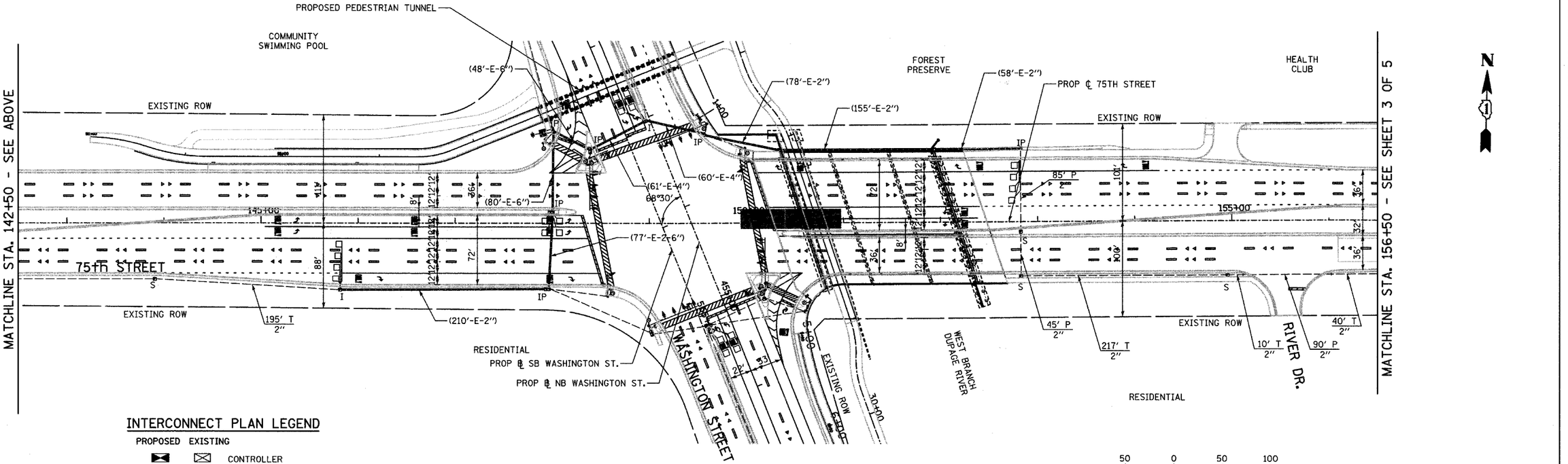
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	214
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024



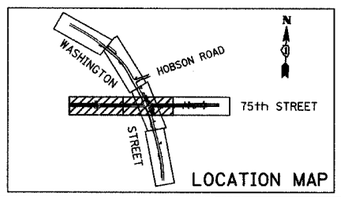


INTERCONNECT PLAN LEGEND

PROPOSED	EXISTING	
■	⊠	CONTROLLER
◪	◪	HANDHOLE
◪◪	◪◪	DOUBLE HANDHOLE
H	H	HEAVY DUTY HANDHOLE
———	═══	G.S. CONDUIT IN TRENCH(T) OR PUSHED (P)
□	[]	DETECTOR LOOP
UD		UNIT DUCT
S	IS	SYSTEM
IP	I	INTERSECTION

50 0 50 100

SCALE: 1" = 50'-0"



REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TRAFFIC SIGNAL INTERCONNECT PLAN
75th STREET
SHEET 2 OF 5
STA. 128+00 TO STA. 156+50

CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN: CBS	SHEET NO.
CHECKED: DAJ	
APPROVED:	
DATE: APRIL 11, 2008	
SCALE:	
JOB NO.: P-91-494-00	PROJECT NO.: M-CMM-7003 (985)

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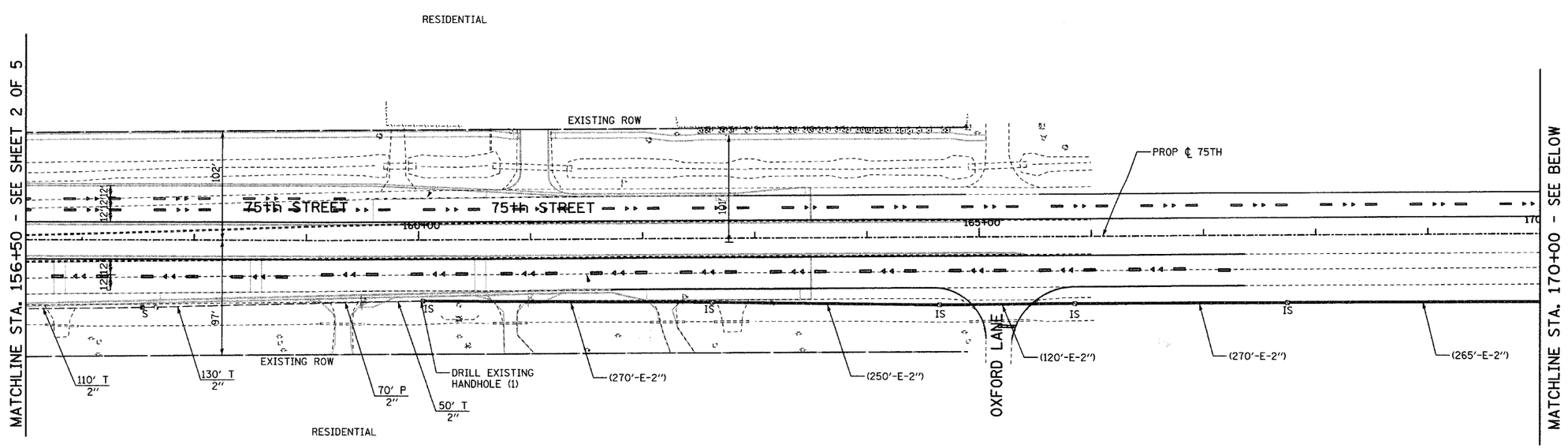
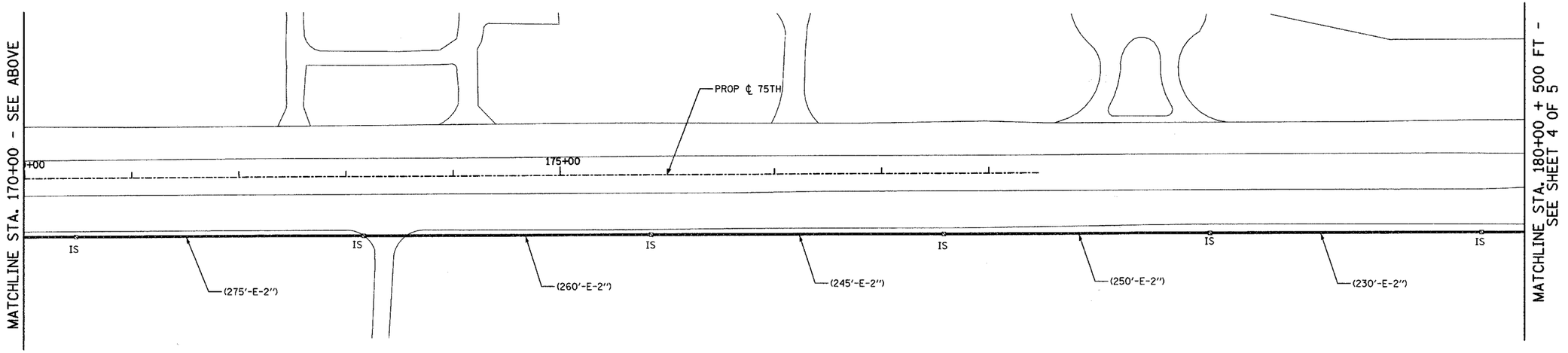
F.A.B. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	215
STA. 156+50	TO STA. EOP			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024



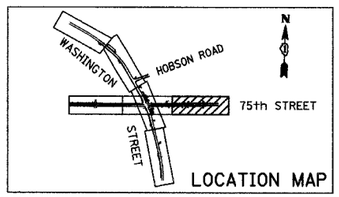


INTERCONNECT PLAN LEGEND

PROPOSED	EXISTING	
▬	⊠	CONTROLLER
◪	▨	HANDHOLE
◪	▨	DOUBLE HANDHOLE
H	H	HEAVY DUTY HANDHOLE
———	═══	G.S. CONDUIT IN TRENCH(T) OR PUSHED (P)
□	⬚	DETECTOR LOOP
UD		UNIT DUCT
S	IS	SYSTEM
IP	I	INTERSECTION

50 0 50 100

SCALE: 1" = 50'-0"



REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TRAFFIC SIGNAL INTERCONNECT PLAN
75th STREET
SHEET 3 OF 5
STA. 156+50 TO 165+85

CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN: CBS
CHECKED: DAJ
APPROVED:
DATE: APRIL 11, 2008
SCALE:
JOB NO.: P-91-494-00

SHEET NO.
PROJECT NO.: M-CMM-7003 (985)

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F.A.B. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	216
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024

N

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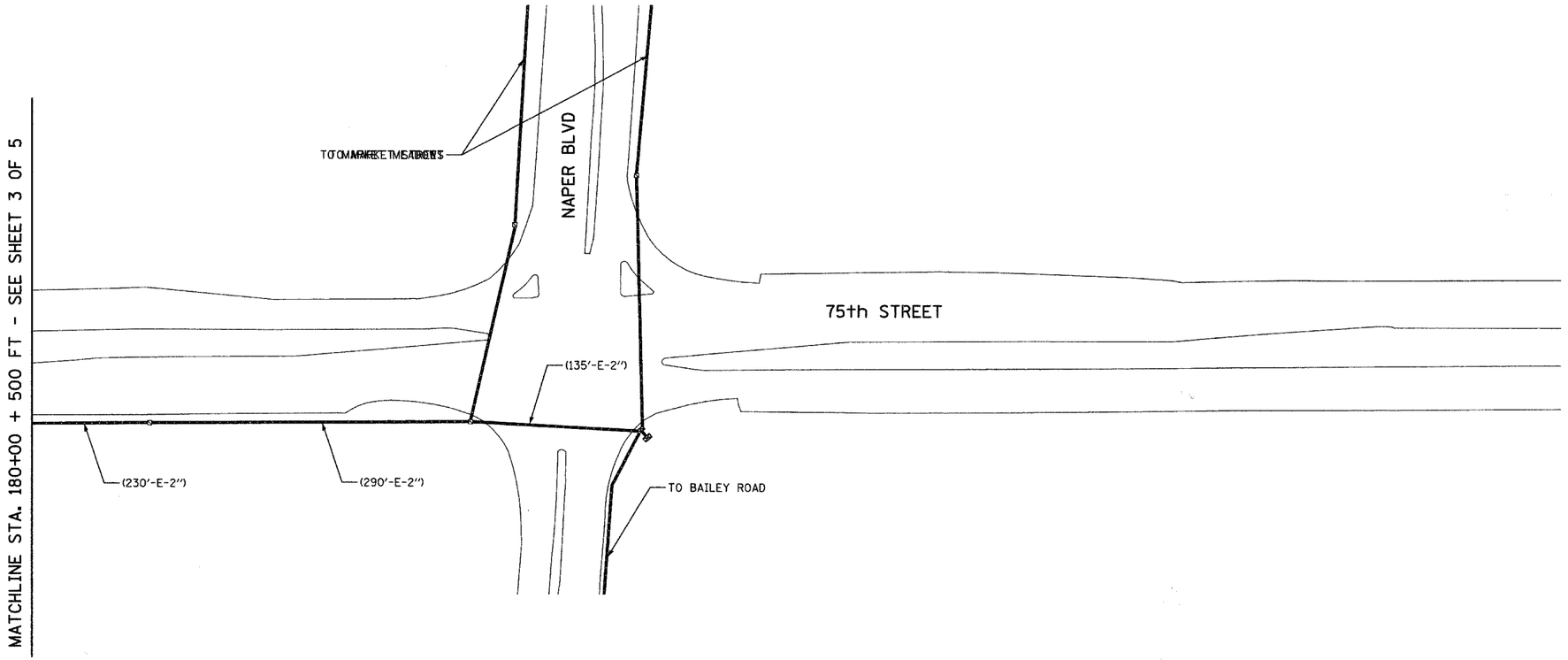
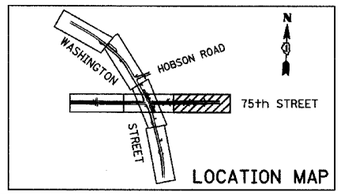


INTERCONNECT PLAN LEGEND

PROPOSED	EXISTING	
▬	⊠	CONTROLLER
◥	◹	HANDHOLE
◥◤	◹◺	DOUBLE HANDHOLE
H	H	HEAVY DUTY HANDHOLE
———	═══	G.S. CONDUIT IN TRENCH(T) OR PUSHED (P)
□	⬚	DETECTOR LOOP
UD		UNIT DUCT
S	IS	SYSTEM
IP	I	INTERSECTION

50 0 50 100

SCALE: 1" = 50'-0"



REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TRAFFIC SIGNAL INTERCONNECT PLAN
75th STREET
SHEET 4 OF 5

CONSULTANT
TY·LIN INTERNATIONAL

City of Naperville

DRAWN: CBS	SHEET NO.
CHECKED: DAJ	
APPROVED:	
DATE: APRIL 11, 2008	
SCALE:	
JOB NO.: P-91-494-00	PROJECT NO.: M-CMM-7003 (985)

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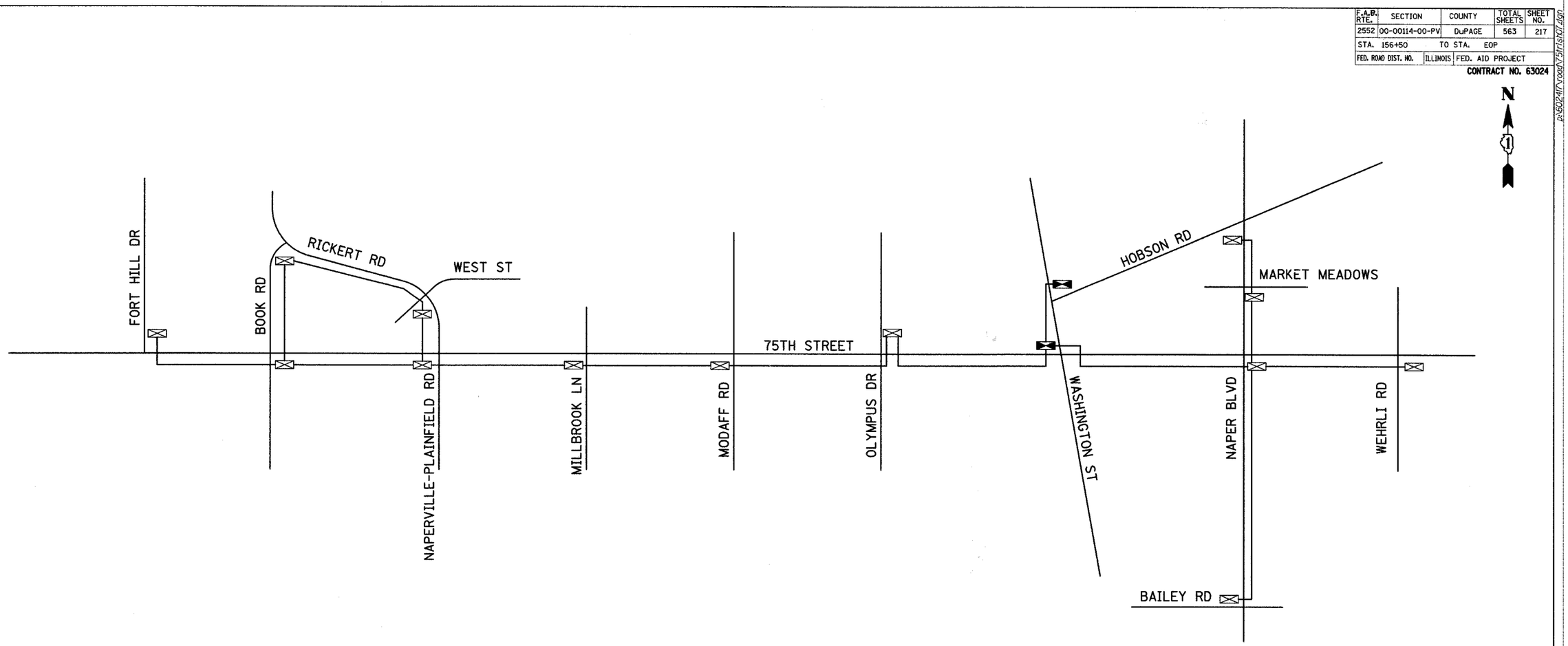
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	217
STA. 156+50		TO STA. EOP		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024



SCHEDULE OF INTERCONNECT QUANTITIES

81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	2202
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	500
81400100	HANDHOLE	EACH	11
81900200	TRENCH AND BACKFILL FOR ELECTRIC WORK	FOOT	2202
87900200	DRILL EXISTING HANDHOLE	EACH	2
89502380	REMOVE EXISTING HANDHOLE	EACH	6
X0322925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14-1C	FOOT	7864
X0324007	OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	1
X8710020	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F, SM12F	FOOT	7864

INTERCONNECT SCHEMATIC LEGEND

EXISTING	PROPOSED	
		INTERSECTION CONTROLLER
EMC	MMC	MASTER CONTROLLER
		TELEPHONE CONNECTION
		MAGNETIC DETECTOR
		VEHICLE DETECTOR, INDUCTION LOOP
(2)	(2)	LOOP DETECTOR CABLE IN CONDUIT NO. 14 2/C TWISTED, SHIELDED

EXISTING	PROPOSED	
(1)	(1)	TRACER CABLE IN CONDUIT, NO. 14 1/C
(24)	(24)	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125 2-MM12F & SM12F
(6)	(6)	INTERCONNECT CABLE IN CONDUIT, NO. 18 3 PAIR TWISTED, SHIELDED
	(1)	EXSITING INTERCONNECT CABLE TO BE REMOVED

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
INTERCONNECT SCHEMATIC, SCHEDULE OF QUANTITIES
75TH ST. AND WASHINGTON ST.
SHEET 5 OF 5

CONSULTANT
TY·LIN INTERNATIONAL

City of Naperville

DRAWN: CBS	SHEET NO.
CHECKED: DAJ	
APPROVED:	
DATE: APRIL 11, 2008	
SCALE: NONE	
JOB NO.: P-91-494-00	PROJECT NO.: M-CMM-7003 (985)

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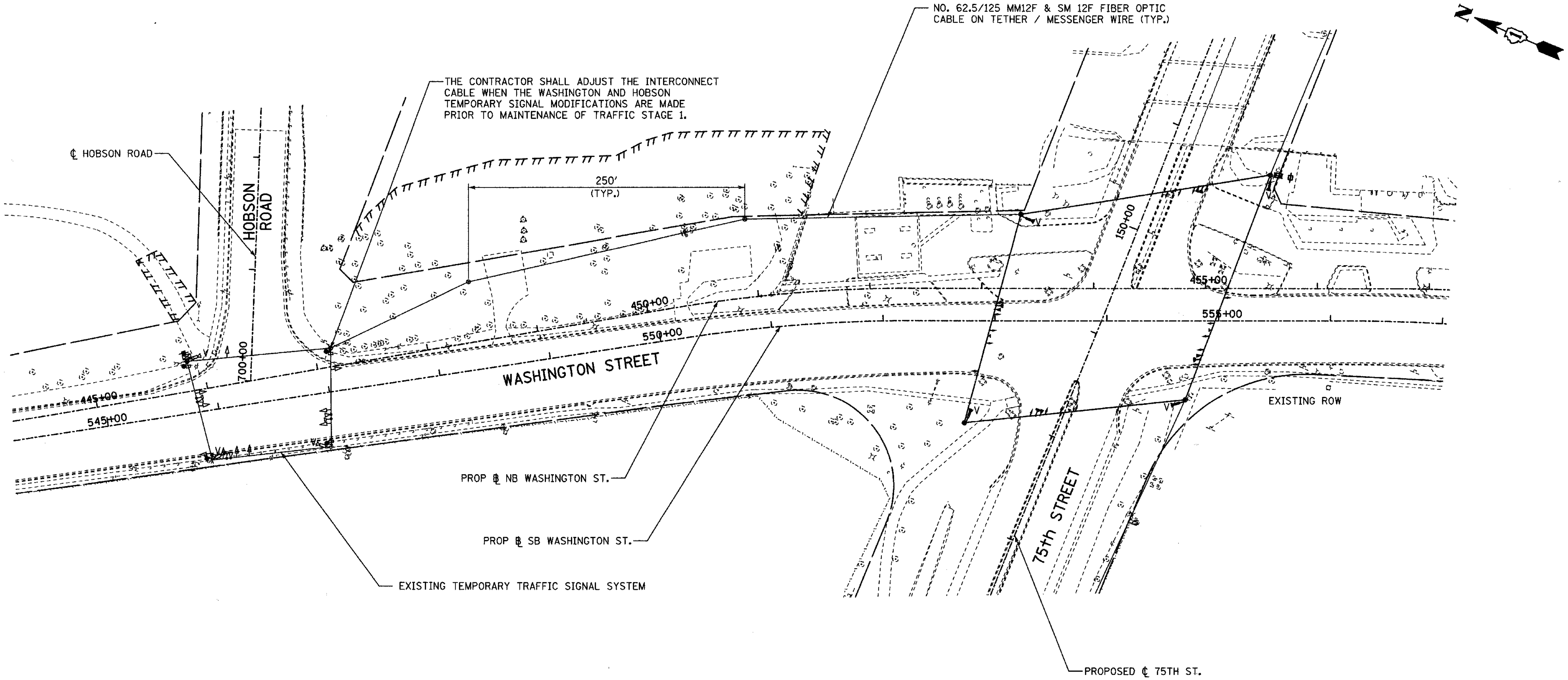
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	218
STA. 448+50	TO STA. 467+55			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024



INTERCONNECT PLAN LEGEND

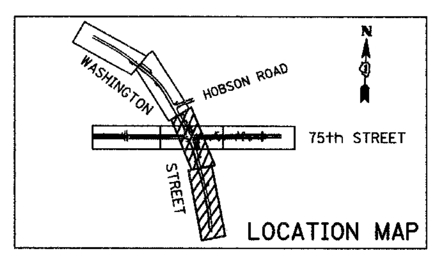
PROPOSED	EXISTING	
		CONTROLLER
		HANDHOLE
		DOUBLE HANDHOLE
		HEAVY DUTY HANDHOLE
		G.S. CONDUIT IN TRENCH(T) OR PUSHED (P)
		DETECTOR LOOP
UD		UNIT DUCT
S	IS	SYSTEM
IP	I	INTERSECTION

TEMPORARY TRAFFIC SIGNAL LEGEND

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

50 0 50 100

SCALE: 1" = 50'-0"



REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TEMPORARY TRAFFIC SIGNAL
INTERCONNECT PLAN
WASHINGTON STREET (AT HOBSON)
SHEET 1 OF 3

CONSULTANT
T·Y·LIN INTERNATIONAL

City of Naperville

DRAWN: CBS	SHEET NO.
CHECKED: DAJ	
APPROVED:	
DATE: APRIL 11, 2008	
SCALE:	
JOB NO.: P-91-494-00	PROJECT NO.: M-CMM-7003 (985)

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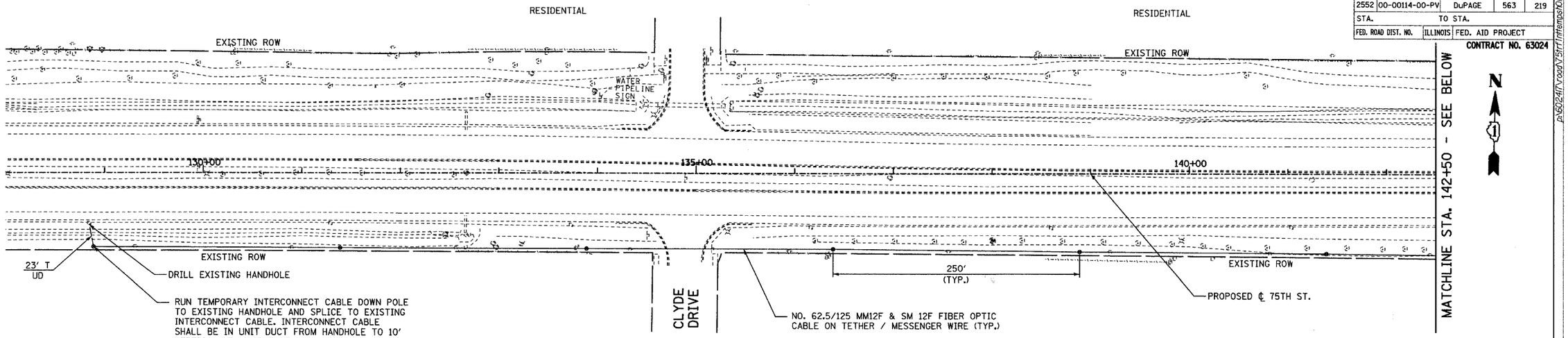
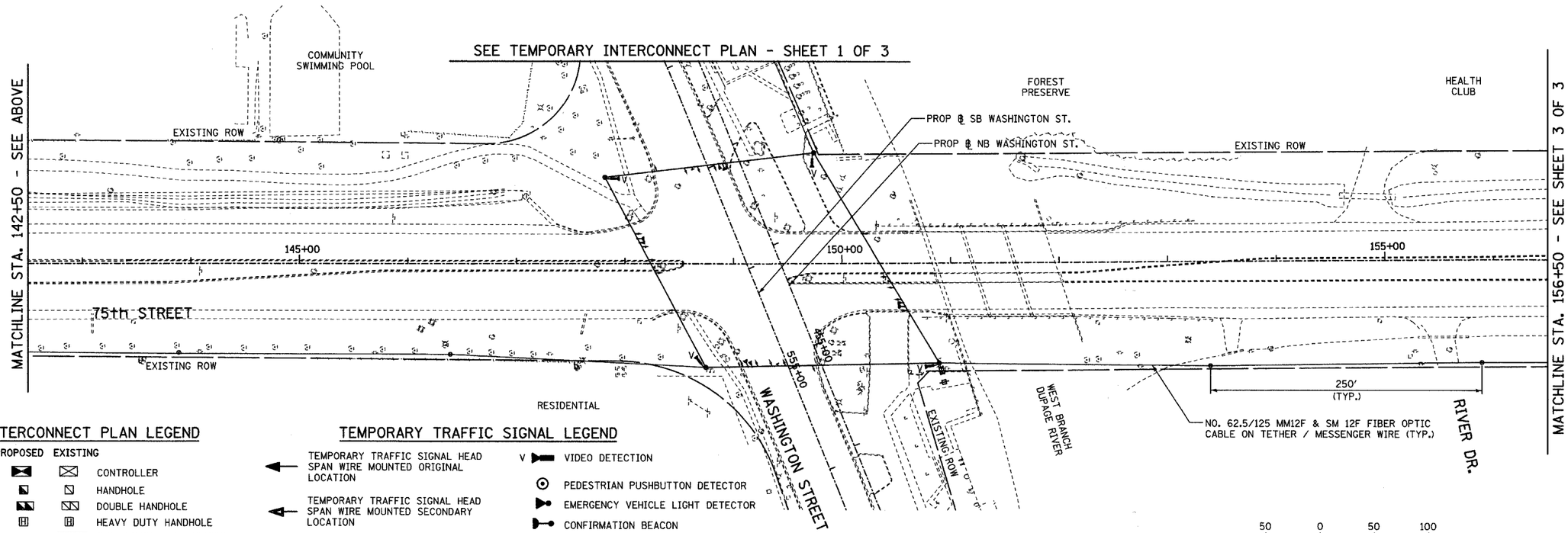
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	219
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024



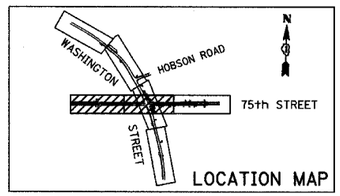


INTERCONNECT PLAN LEGEND

PROPOSED	EXISTING	
▣	⊠	CONTROLLER
◪	⊡	HANDHOLE
◪	⊠	DOUBLE HANDHOLE
H	H	HEAVY DUTY HANDHOLE
———	═══	G.S. CONDUIT IN TRENCH(T) OR PUSHED (P)
□	[ ]	DETECTOR LOOP
UD		UNIT DUCT
S	IS	SYSTEM
IP	I	INTERSECTION

TEMPORARY TRAFFIC SIGNAL LEGEND

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



50 0 50 100
SCALE: 1" = 50'-0"

REVISIONS NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TEMPORARY TRAFFIC SIGNAL
INTERCONNECT PLAN 75th STREET
SHEET 2 OF 3
STA. 128+00 TO STA. 156+50

CONSULTANT
TY·LIN INTERNATIONAL

City of Naperville

DRAWN: CBS	SHEET NO.
CHECKED: DAJ	
APPROVED:	
DATE: APRIL 11, 2008	
SCALE:	
JOB NO.: P-91-494-00	PROJECT NO.: M-CMM-7003 (985)

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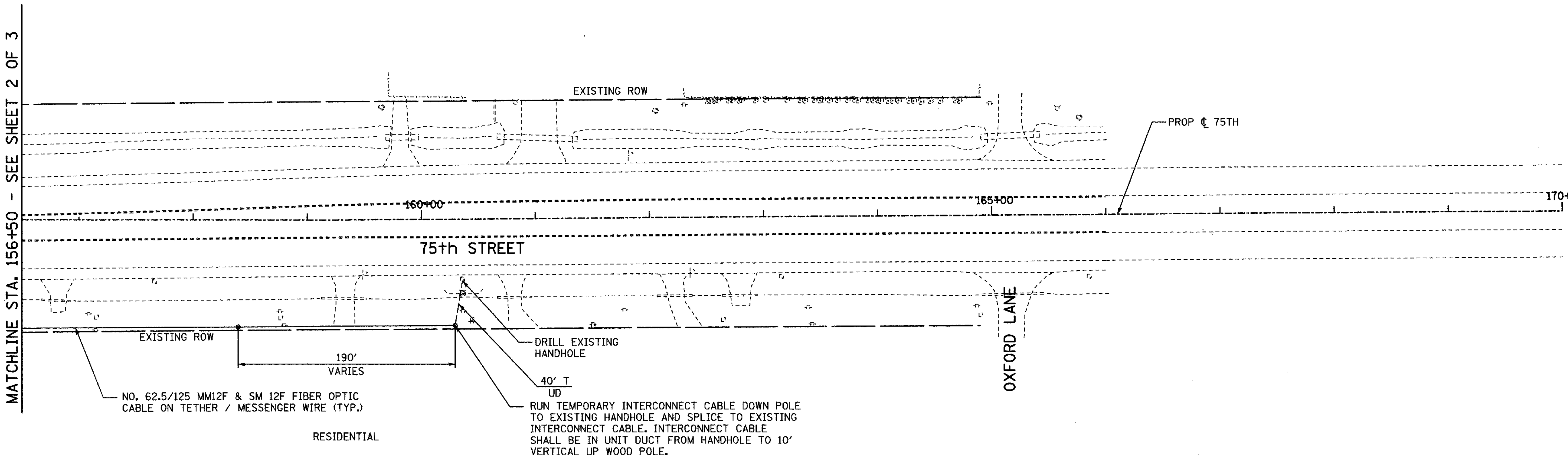
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	220
STA. 156+50	TO STA. EOP			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 63024

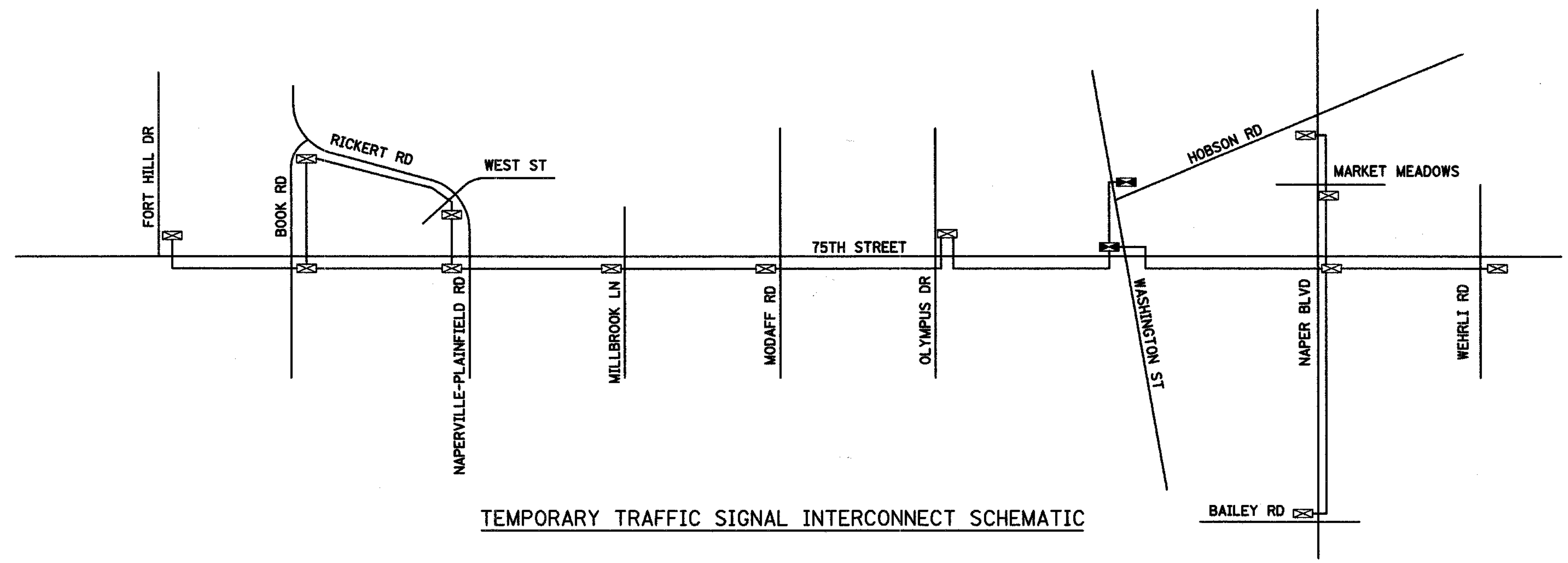


TEMPORARY TRAFFIC SIGNAL LEGEND

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

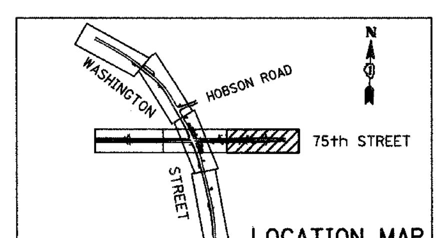
INTERCONNECT PLAN LEGEND

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



TEMPORARY TRAFFIC SIGNAL INTERCONNECT SCHEMATIC

SCALE: 1" = 50'-0"



LOCATION MAP

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
TEMPORARY TRAFFIC SIGNAL
INTERCONNECT PLAN 75th STREET
SHEET 3 OF 3
STA. 156+50 TO EOP

CONSULTANT
T.Y. LIN INTERNATIONAL

City of Naperville

DRAWN: CBS
CHECKED: DAJ
APPROVED:
DATE: APRIL 11, 2008
SCALE:
JOB NO.: P-91-494-00
SHEET NO.
PROJECT NO.: M-CMM-7003 (985)

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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	221
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

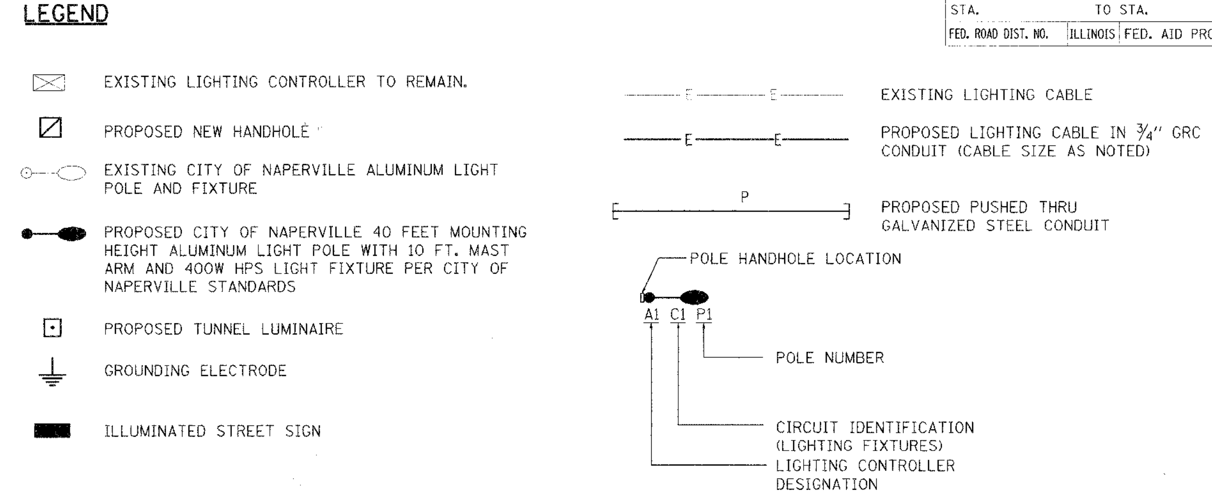
GENERAL LIGHTING NOTES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MARK THE PROPOSED LOCATIONS OF ALL LIGHT POLE FOUNDATIONS, CENTER LINE OF TRENCH AND CONDUIT PUSHES FOR EXAMINATION AND CONFIRMATION WITH THE VILLAGE AND ENGINEER. THE EXACT LOCATIONS OF ALL ITEMS SHALL BE CONFIRMED WITH THE ENGINEER PRIOR TO STARTING WORK.
2. THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE REQUIREMENTS FOR GROUNDING. GROUNDING CONNECTIONS AT THE FOUNDATION SHALL BE EXOTHERMICALLY WELDED, AS SPECIFIED, AND SHALL BE INSPECTED AND APPROVED BY THE RESIDENT ENGINEER PRIOR TO POURING CONCRETE OR BACKFILLING, AS APPLICABLE.
3. THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE SPECIFIED REQUIREMENTS FOR BURIED WARNING TAPE, SPECIFIED AS PART OF "TRENCH AND BACKFILL FOR ELECTRICAL WORK". THE INSTALLATION OF THE TAPE SHALL BE INSPECTED BY THE ENGINEER PRIOR TO BACKFILLING OPERATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ESTABLISHMENT OF FINISHED GRADE. THE ENGINEER MAY ASSIST THE CONTRACTOR, AS APPLICABLE, BUT THE RESPONSIBILITY FOR COORDINATING THE FINISHED GRADE ELEVATION WITH THE TOP OF THE FOUNDATION HEIGHTS AND THE LIKE SHALL REMAIN WITH THE CONTRACTOR.
5. NO LIGHT POLES SHALL BE ERECTED UNTIL THE RESPECTIVE FOUNDATIONS HAVE CURED, A MINIMUM OF SEVEN DAYS OR AS APPROVED BY THE ENGINEER.
6. TO MAINTAIN STRUCTURAL INTEGRITY OF THE LIGHT POLES WITH MAST ARMS, THEY SHALL NOT BE ERECTED AND LEFT TO STAND WITHOUT LUMINAIRES. NOTE THAT POLES SHALL NOT BE PAID UNTIL THE LUMINAIRES ARE INSTALLED.
7. NO EQUIPMENT OR MATERIAL SHALL BE DELIVERED TO THE JOB SITE PRIOR TO THE APPROVAL AND INSPECTION BY THE ENGINEER. ANY EQUIPMENT OR MATERIAL DELIVERED TO THE JOB SITE PRIOR TO APPROVAL AND INSPECTION SHALL BE REMOVED FROM THE JOB SITE AT THE CONTRACTOR'S EXPENSE.
8. CONDUIT PUSHED AND IN TRENCH SHALL EXTEND FIVE (5) FEET BEYOND THE EDGE OF SHOULDER, CURB OR DRIVEWAY, AS APPLICABLE.
9. THE CONTRACTOR SHALL PROVIDE A 3/4 " X 10' COPPER CLAD GROUND ROD AT EACH LIGHT POLE (REFER TO THE FOUNDATION DETAIL). THE GROUND ROD SHALL NOT BE EMBEDDED IN THE FOUNDATION.
10. ALL CONDUIT SHALL BE INSTALLED MIN. 36 INCHES BELOW FINISHED GRADE (UNLESS DIRECTED OTHERWISE) COMPLETE WITH WARNING TAPE. CONTRACTOR SHALL HAND DIG TEST HOLES FOR EVERY 1000 FT. OF TRENCHING FOR ENGINEER'S APPROVAL OF THE INSTALLATION, IF REQUIRED BY THE ENGINEER.
11. MATERIALS AND INSTALLATION METHODS SHALL COMPLY WITH CODES AND ORDINANCES OF FEDERAL, STATE AND LOCAL GOVERNING BODIES HAVING JURISDICTION. NATIONAL ELECTRICAL CODE (LATEST REVISION) SHALL BE CONSIDERED AS A MINIMUM REQUIREMENT.
12. IT IS CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION. CONTACT J.U.L.I.E. PRIOR TO THE START OF ANY EXCAVATION WORK.
13. BEFORE INSTALLING STANDARDS NEAR OVERHEAD FACILITIES CALL NAPERVILLE DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC FOR APPROVAL OF LOCATION.
14. FOR LOCATION OF EXISTING UNDERGROUND MUNICIPAL UTILITIES CALL THE NAPERVILLE DEPARTMENT OF PUBLIC UTILITIES.
15. MATERIAL QUANTITIES ARE APPROXIMATIONS ONLY. IT IS CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL QUANTITIES PRIOR TO ORDERING MATERIAL.
16. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION AND STAGING WITH OTHER WORK BEING DONE IN THE SAME GENERAL AREA BY NAPERVILLE DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC. CONTRACTOR SHALL SET UP COORDINATION MEETINGS IF REQUIRED.
17. A STAGING SCHEDULE FOR MATERIAL INSTALLATION, REMOVAL AND APPROXIMATE DATE OF PROPOSED ENERGIZING OF PERMANENT LIGHTING SHALL BE SUBMITTED PRIOR TO THE COMMENCEMENT OF WORK TO ENSURE COORDINATION WITH CONTRACT WORK SCHEDULE.
18. CITY OF NAPERVILLE DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC SHALL BE CONTACTED WITHIN ONE WEEK OF AWARD OF CONTRACT AND NOTIFIED OF PENDING SERVICE CONNECTIONS AND INSTALLATIONS TO ENSURE CONTINUITY OF NIGHT TIME HOURS OF LIGHTING OPERATION.
19. PROPOSED NEW CONDUITS SHALL BE HIGH DENSITY POLYETHYLENE (HDPE), UNLESS NOTED OTHERWISE.
20. EACH WIRE SHALL BE IDENTIFIED AT EACH POLE BY APPROPRIATE CONTROLLER AND CIRCUIT NUMBER.
21. CONTRACTOR SHALL SUBMIT "RECORD DRAWINGS" A MINIMUM OF 7 DAYS PRIOR TO THE FINAL INSPECTION. "RECORD DRAWINGS" SHALL BE UPDATED REGULARLY DURING CONSTRUCTION AND INDICATE ALL LIGHTING MATERIAL INSTALLATION WITH ANY CHANGES IN RED.
22. ALL AREAS DISTURBED UNDER THIS CONTRACT SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER, TO THE SATISFACTION OF THE VILLAGE AND ENGINEER.
23. CONTRACTOR SHALL NOT PROCEED WITH CUTTING OF TREES OR CLEARING OF RIGHT- OF-WAY WITHOUT WRITTEN NOTIFICATION AND APPROVED BY ENGINEER.
24. CONTRACTOR SHALL VERIFY FOUNDATION BOLT PATTERN PRIOR TO CONSTRUCTING FOUNDATIONS.
25. ALL LIGHT POLES WILL HAVE A MOUNTING HEIGHT OF 47.5' WITH 10' MAST ARM LENGTH UNLESS SPECIFIED OTHERWISE.
26. QUANTITY OF PUSHED CONDUIT AND CONDUIT IN TRENCH ARE APPROXIMATE ONLY. CONTRACTOR SHALL FIELD VERIFY THE QUANTITIES PRIOR TO ORDERING THE MATERIAL AND INSTALL CONDUITS IN FULL COMPLIANCE WITH THE DETAILS AND SPECIFICATIONS SET REQUIREMENTS.
27. THE CONTRACTOR SHALL PROVIDE NEW LIGHT FIXTURES PER SCHEDULE. NEW FIXTURES SHALL BE FURNISHED WITH INTEGRAL PHOTOCELL SOCKET AND WEATHERTIGHT SHORTING CAP.
28. THE CONTROLLER AND CIRCUIT DESIGNATIONS AS SHOWN ON THE DRAWINGS ARE FOR REFERENCE ONLY. EXACT DESIGNATIONS FOR DECALS SHALL BE AS DIRECTED BY THE ENGINEER.
29. THE POLE DESIGNATION AS SHOWN ON THE DRAWINGS ARE FOR REFERENCE ONLY. EXACT DESIGNATION OF ALL POLES SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE INSTALLATION OF THE IDENTIFICATION LABELS.
30. NEW POLES AND RELOCATED POLES SHALL BE AS DIRECTED BY THE ENGINEER.
31. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, FLAG AND PROTECT ALL EXISTING UNDERGROUND UTILITIES PRIOR TO AND DURING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES DURING CONSTRUCTION SHALL BE REPAIRD IMMEDIATELY AT NO EXTRA COST TO THE CITY OF NAPERVILLE DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC. THIS WORK SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE INSTALLATION OF THE PROPOSED CONDUIT.
32. CIRCUIT NUMBERING AND DESIGNATIONS SHOWN ON THE PLANS ARE FROM EXISTING DRAWINGS. CONTRACTOR SHALL VERIFY CIRCUIT NUMBERING, CABLE ROUTING AND POWER SOURCES DURING CONSTRUCTION.
33. ANY REMOVED LIGHT POLES/FIXTURES/PHOTOCELLS SHALL BE TURNED OVER TO THE VILLAGE. COORDINATE LOCATION AND DELIVERY TIMES WITH OWNER/ENGINEER. CONTRACTOR SHALL MAINTAIN THE EXISTING LIGHTING SYSTEM IN OPERATION DURING INSTALLATION OF PROPOSED LIGHTING SYSTEM.
34. UNLESS OTHERWISE INDICATED, ALL ITEMS AND WORK SHOWN ON THESE PLANS ARE PROPOSED NEW ITEMS OF WORK.
35. CONTRACTOR'S STAGING AREA SHALL BE AS DIRECTED BY THE ENGINEER IN THE PRE-CONSTRUCTION MEETING.
36. EXISTING POLES AND FIXTURES TO REMAIN, UNLESS NOTED OTHERWISE. REROUTE AND EXTEND CONDUIT AND WIRING AS REQUIRED FOR EXISTING REMAINING LIGHT POLES.
37. CONTRACTOR SHALL OBTAIN EXISTING LIGHTING PLANS FROM THE CITY OF NAPERVILLE DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC PRIOR TO STARTING CONSTRUCTION.
38. CONTRACTOR SHALL PROVIDE NEW COMPLETE FIXTURES IN PROJECT LIMITS. PROPOSED FIXTURES SHALL BE MANUFACTURED BY GE LIGHTING, CATALOG NUMBER MDCL40S0AZZFMC21 OR APPROVED EQUAL.
39. CONTRACTOR SHALL PROVIDE NEW LIGHT POLES IN PROJECT LIMITS. PROPOSED POLES SHALL BE 40 FEET MOUNTING HEIGHT, ALUMINUM, WITH 10 FOOT MAST ARM.
40. ALL CONDUIT WILL BE ¾" GRC CONDUIT AND ALL CABLES WILL BE 1-3/C No.6, THWN, 1-No.6 GND UNLESS SPECIFIED OTHERWISE.
41. THE DESIGN OF CONDUITS EMBEDDED IN BRIDGE OR RETAINING WALL STRUCTURES ARE DETAILED ON THE STRUCTURAL SHEETS FOR THOSE STRUCTURES.
42. TRAFFIC LIGHT CONTRACTOR NEEDS TO INSTALL SERVICE TO DPU-ELECTRIC FACILITIES, AND FOLLOW DPU-E PROCEDURES ACCORDING TO SERVICE RULES AND POLICIES.

ABBREVIATIONS

AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CCT	CIRCUIT
DIA	DIAMETER
E	ELECTRICAL
EX	EXISTING
GND	GROUND
HDPE	HIGH DENSITY POLYETHYLENE
kW	KILOWATT
REL	RELOCATED
REM	REMOVED
RGS	RIGID GALVANIZED STEEL
P	PROPOSED
PVC	POLY VINYL CHLORIDE (SCHEDULE 80 CONDUIT)
STA	STATION

LEGEND



CODE NO.	ITEM	UNIT	TOTAL QUANTITY
80700110	GROUND ROD, 3/4" DIA. X 10 FT.	EACH	3
80400100	ELECTRIC SERVICE INSTALLATION	EACH	3
80400200	ELECTRIC UTILITY SERVICE CONNECTION	L SUM	1
XX003216	UNIT DUCT, WITH 3-1/C NO. 6 AND 1/C NO. 6 GROUND, 600V (XLP-TYPE USE), 1 1/4" DIA., POLYETHYLENE	FOOT	13122
	UNIT DUCT, WITH 3-1/C NO. 2 AND 1/C NO. 2 GROUND, 600V (XLP-TYPE USE), 2" DIA., POLYETHYLENE	FOOT	155
81001000	CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL	FOOT	170
81018900	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	1033
81400100	HANDHOLE	EACH	8
81500200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	11542
82102400	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	72
82500505	LIGHTING CONTROLLER, SPECIAL	EACH	3
82500605	LIGHTING CONTROLLER PHOTOCELL RELAY	EACH	3
83007400	LIGHT POLE, ALUMINUM, 35 FT. M.H., 10 FT. MAST ARM	EACH	6
83008400	LIGHT POLE, ALUMINUM, 40 FT. M.H., 10 FT. MAST ARM	EACH	66
83600200	LIGHT POLE FOUNDATION, 24" DIAMETER	FOOT	1290
83600215	LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET	FOOT	40
84400105	RELOCATE EXISTING LIGHTING UNIT	EACH	13
X0323574	MAINTENANCE OF LIGHTING SYSTEM	CAL MO	8
84200500	REMOVAL OF EXISTING LIGHTING UNIT, SALVAGE	EACH	26
84200700	LIGHTING FOUNDATION REMOVAL	EACH	26
83800105	BREAKAWAY DEVICE, TRANSFORMER BASE, 11.5 INCH BOLT CIRCLE	EACH	88

CONTRACTOR MUST CALL JULIE AT (800) 892-0123 AT LEAST TWO WORKING DAYS BEFORE DIGGING. RED COLOR USED TO MARK BURIED ELECTRICAL FACILITIES.

Burns & McDonnell SINCE 1898

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
GENERAL NOTES, ABBREVIATIONS AND LEGEND

CONSULTANT
TYLIN INTERNATIONAL

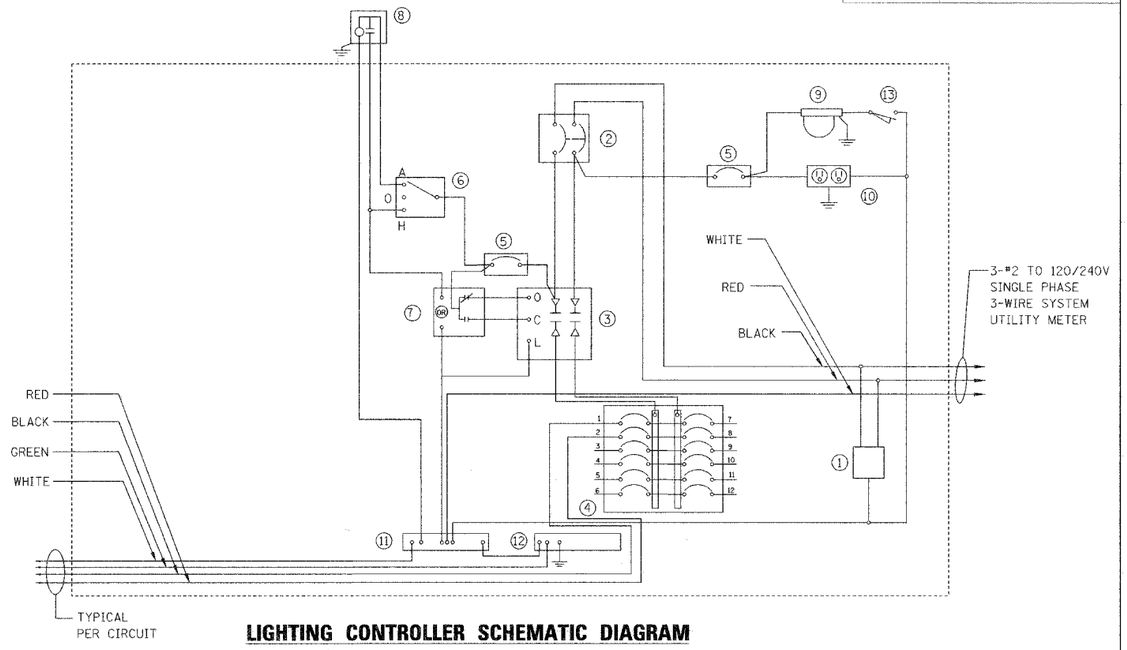
City of Naperville

DRAWN: FO
CHECKED: FI
APPROVED: DEM
DATE: 04/11/08
SCALE:
JOB NO.: P-91-494-00
SHEET NO.
PROJECT NO.: CMM-7003 (983)

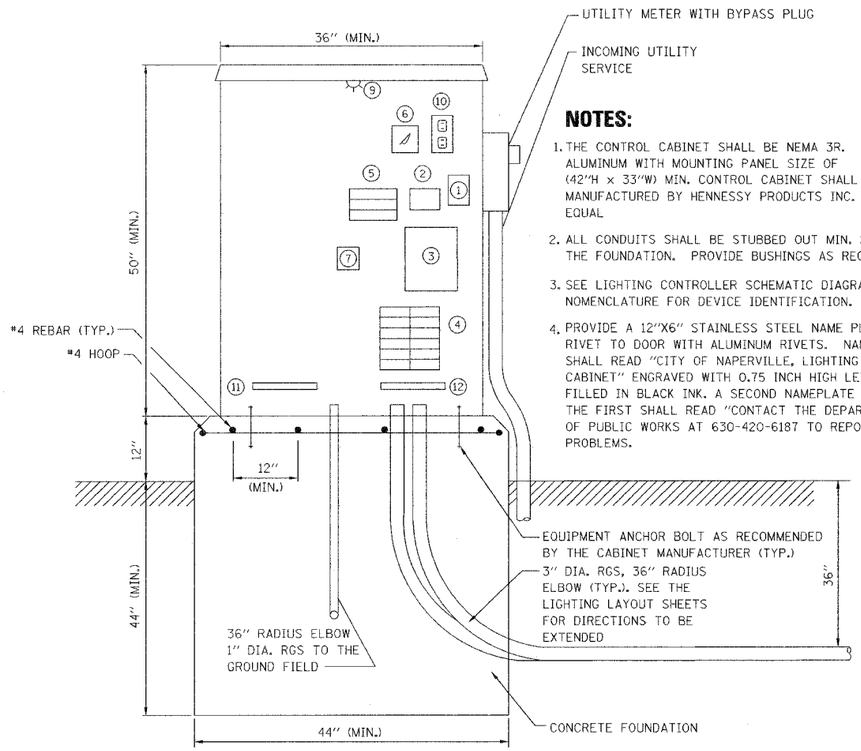
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	222
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

NOMENCLATURE

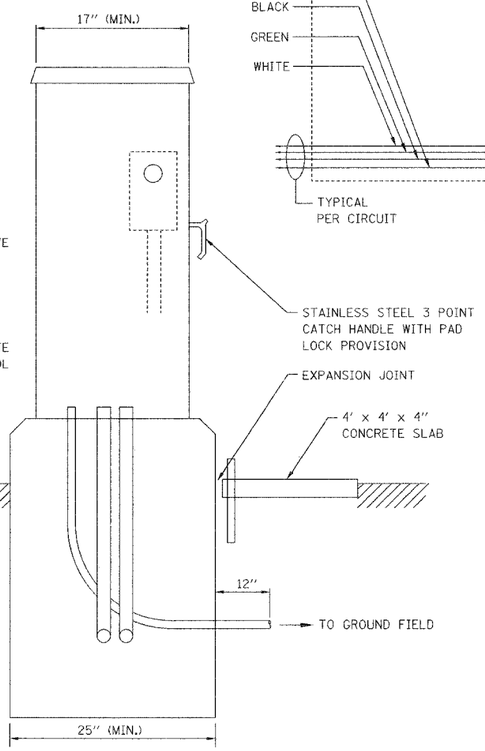
1. 10000 AMP SURGE ARRESTOR (ELETRONIC GUARD, EG 240 RC BY INTERMATIC).
2. 100AMP, 2 POLE MAIN CIRCUIT BREAKER, 240V, 22KAIC (TYPE "TEB" BY GENERAL ELECTRIC OR TYPE "FAL" BY SQUARE D).
3. 100AMP, 2 POLE, SINGLE THROW, ELECTRICALLY OPERATED, MECHANICALLY HELD CONTACTOR (GENERAL ELECTRIC OR SQUARE D).
4. FIVE 20AMP, 1 POLE CIRCUIT BREAKERS, 250 (TYPE "TEB" BY GENERAL ELECTRIC OR TYPE "FAL" BY SQUARE D).
5. 15AMP, 1 POLE CIRCUIT BREAKER, 120V (TYPE "TEB" BY GENERAL ELECTRIC OR EQUAL).
6. 20AMP, SPDT, H-O-A SWITCH, 120V MOUNTED ON 4" X 4" BOX.
7. AUXILLIARY CONTROL RELAY WITH CONTACTS RATED FOR CONTACTOR INRUSH CURRENT.
8. PHOTO-CELL WITH 2 MINUTE TIME DELAY, 120V, MOUNTED ON LUMINAIRE CLOSEST TO THE CONTROLLER CABINET, BY "TORK" OR APPROVED EQUAL.
9. WATER PROOF INCANDESENT LIGHTING FIXTURE WITH 120V, 60 WATT BULB.
10. 15AMP, 120V. DUPLEX GFCI OUTLET.
11. 1" X 12" NEUTRAL STRIP LABELED "NEUTRAL" AND JOINED TO THE GROUND STRIP WITH A BONDING JUMPER.
12. 1" X 12" GROUND STRIP LABELED "GROUND", AND PAINTED GREEN.
13. LIMIT SWITCH FOR CABINET LIGHT FIXTURE.



LIGHTING CONTROLLER SCHEMATIC DIAGRAM



FRONT ELEVATION



LEFT SIDE ELEVATION

NOTES:

1. THE CONTROL CABINET SHALL BE NEMA 3R. ALUMINUM WITH MOUNTING PANEL SIZE OF (42"H x 33"W) MIN. CONTROL CABINET SHALL BE AS MANUFACTURED BY HENNESSY PRODUCTS INC. OR EQUAL
2. ALL CONDUITS SHALL BE STUBBED OUT MIN. 2" ABOVE THE FOUNDATION. PROVIDE BUSHINGS AS REQUIRED.
3. SEE LIGHTING CONTROLLER SCHEMATIC DIAGRAM NOMENCLATURE FOR DEVICE IDENTIFICATION.
4. PROVIDE A 12"X6" STAINLESS STEEL NAME PLATE. RIVET TO DOOR WITH ALUMINUM RIVETS. NAME PLATE SHALL READ "CITY OF NAPERVILLE, LIGHTING CONTROL CABINET" ENGRAVED WITH 0.75 INCH HIGH LETTERS FILLED IN BLACK INK. A SECOND NAMEPLATE BELOW THE FIRST SHALL READ "CONTACT THE DEPARTMENT OF PUBLIC WORKS AT 630-420-6187 TO REPORT PROBLEMS.

LIGHTING CONTROL CABINET AND FOUNDATION DETAIL

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INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
ELECTRICAL DETAILS
SHEET 1 OF 4

Burns & McDonnell SINCE 1898

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City of Naperville

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DATE: 04/11/08	
SCALE:	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

F.AID. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.		TO STA.		
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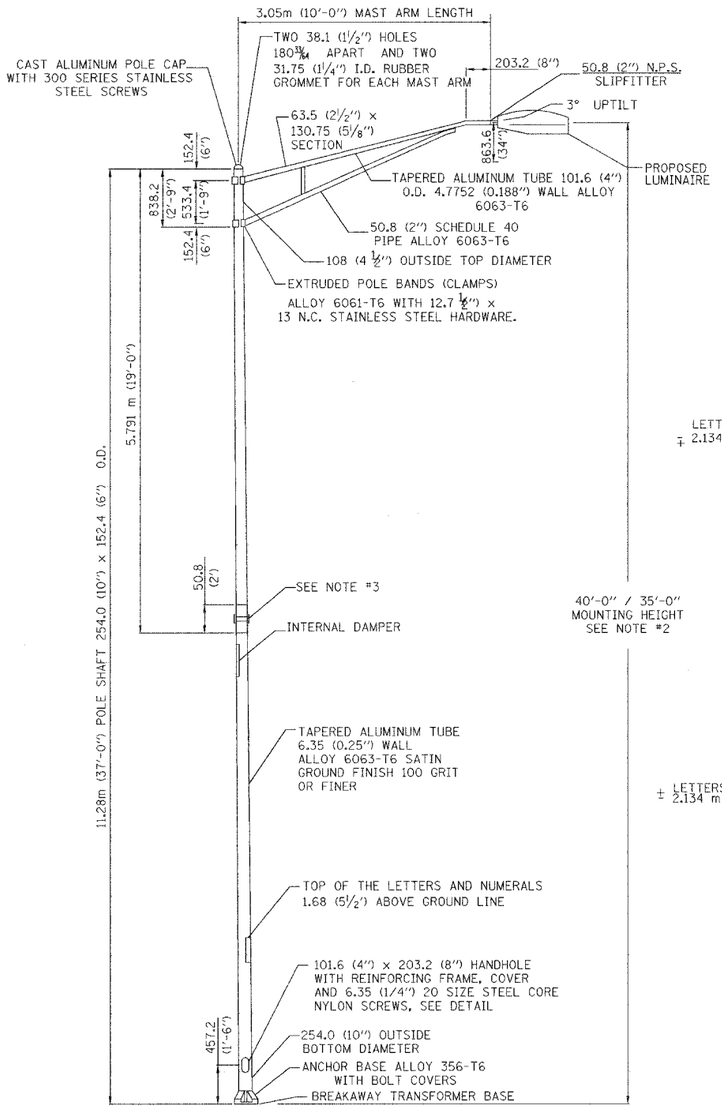
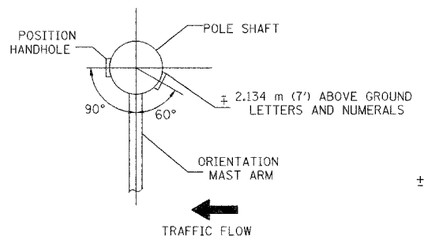
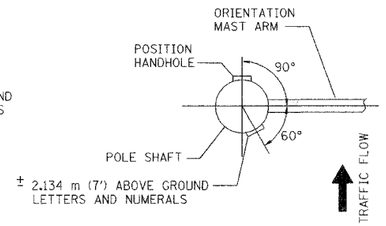


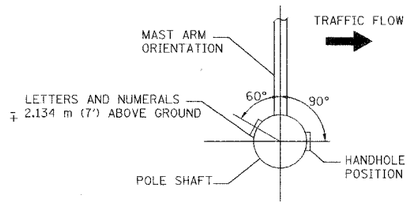
1 ALUMINUM LIGHT POLE (TYPE - A1)
NOT TO SCALE



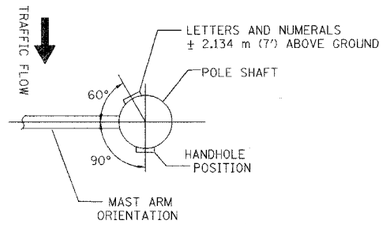
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



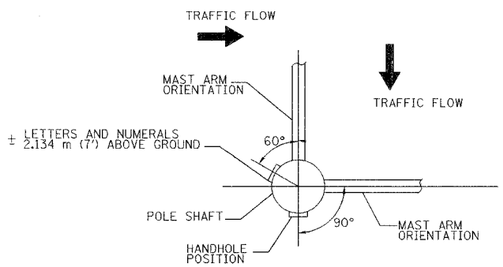
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



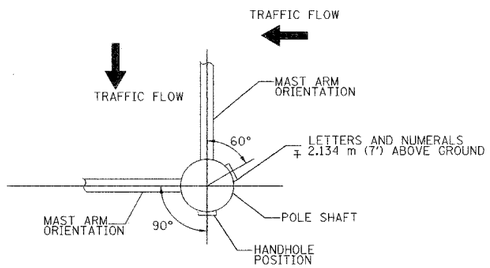
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



SINGLE MAST ARM POLES
POSITION OF HANDHOLE AND POLE NUMBER FOR



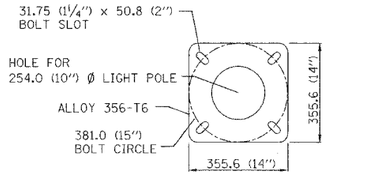
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



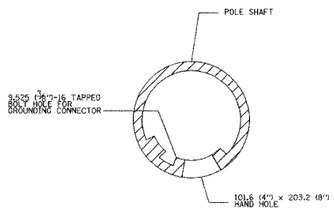
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
2. MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
3. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEBLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF HOLES WILL NOT BE ALLOWED.
4. THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
5. THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR. BURNDY K2C323, T&B SP4DL OR APPROVED EQUAL.
6. LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.
7. LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.
8. LIGHTING UNIT IDENTIFICATION NUMBERS SHALL BE INSTALLED BEFORE THE LIGHTING UNIT IS ENERGIZED.



2 LIGHT POLE BASE PLATE DETAIL
381.0 (15") BOLT CIRCLE
NOT TO SCALE



3 HANDHOLE DETAIL
NOT TO SCALE

REVISIONS NAME	DATE

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INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
ELECTRICAL DETAILS
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2552	00-00114-00-PV	DuPAGE	563	224
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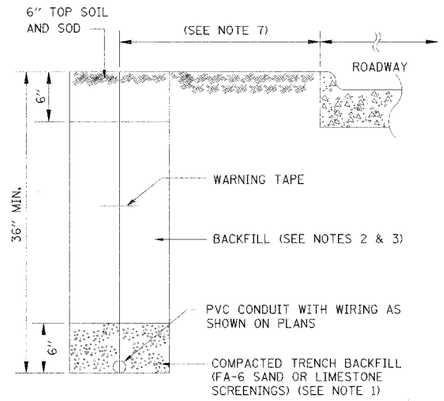
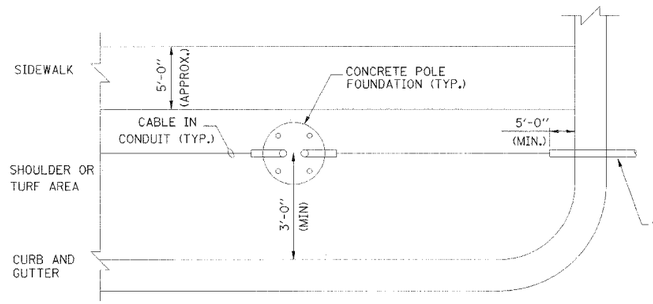


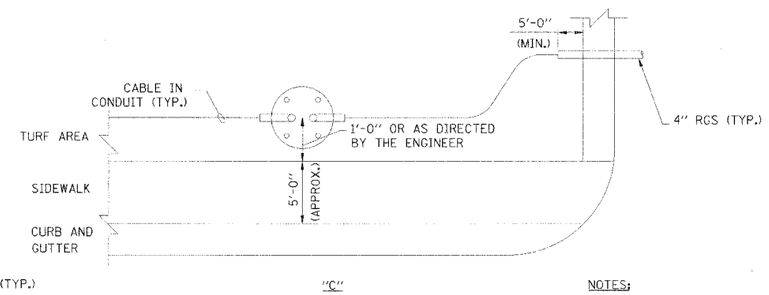
NOTES:

1. CONDUIT INSTALLED IN TRENCHES SHALL BE COVERED WITH A MINIMUM OF 6" OF COMPACTED FA-6 OR LIMESTONE SCREENINGS.
2. IN GRASSY AREAS, THE BACKFILL MAY BE COMPACTED EARTH.
3. TRENCHES WITHIN 2' OF PROPOSED OR EXISTING STREETS, DRIVEWAYS, OR SIDEWALKS SHALL BE BACKFILLED WITH COMPACTED FA-6 SAND OR LIMESTONE SCREENINGS.
4. WHERE 2 OR MORE CONDUITS RUN ADJACENT TO EACH OTHER, THEY SHALL BE PLACED IN A COMMON TRENCH SO AS NOT TO CROSS EACH OTHER.
5. 6" WIDE REINFORCED METALLIC WARNING TAPE, RED WITH BLACK LETTERING TO READ "CAUTION-ELECTRICAL LINE BURIED BELOW". WARNING TAPE TO BE PLACED 1' MINIMUM TO 2' MAXIMUM BELOW FINISHED GRADE.
6. ALL GRASSY AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED WITH 6" OF TOPSOIL AND SOD.
7. EXACT DISTANCE SHALL BE FIELD COORDINATED.

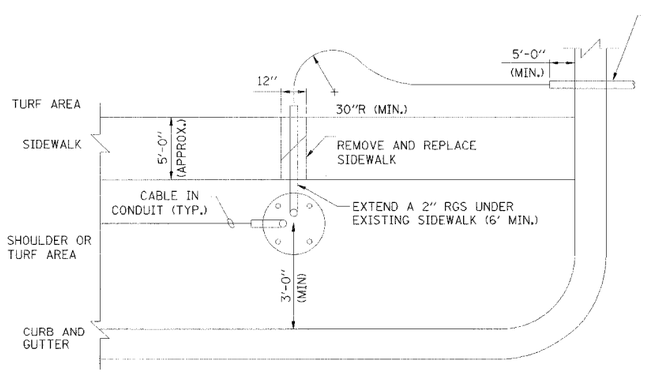
(1) TYPICAL CONDUIT TRENCH DETAIL (ALONG ROADWAY)
NOT TO SCALE



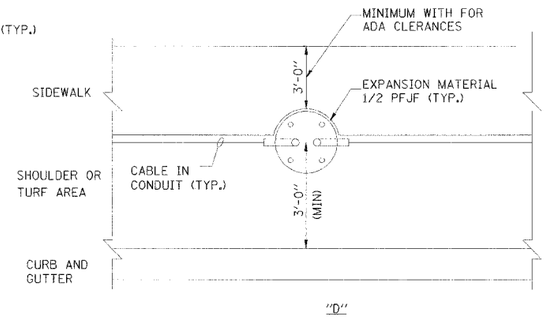
"A"



"C"



"B"



"D"

NOTES:

1. CONDUIT SHALL BE INSTALLED MIN. 2'-0" FROM PAVEMENT EDGE.
2. CONTRACTOR SHALL MAKE AN EFFORT TO INSTALL RGS CONDUITS (UNDER DRIVEWAYS OR ROADWAY) AT THE SAME SIDE OF THE SIDEWALK AS THE POLE FOUNDATION (DETAIL "A").
3. WHEN ITS NECESSARY TO CROSS THE EXISTING SIDEWALK, CONTRACTOR SHALL INSTALL A 4" RGS CONDUIT PERPENDICULAR TO THE SIDEWALK (DETAIL "B").
4. WHEN LOCATION OF A POLE FOUNDATION FALLS COMPLETELY WITHIN THE EXISTING SIDEWALK, CONTRACTOR SHALL CONSTRUCT THE FOUNDATION AT THE SIDE OF SIDEWALK AWAY FROM THE ROAD (DETAIL "C"). WHEN PARTIAL OVERLAP OCCURS, CONTRACTOR SHALL CONSTRUCT THE POLE FOUNDATION AS SHOWN ON DETAIL "D".
5. LOCATIONS SHOWN IN DETAILS ARE APPROXIMATE AND SHALL BE FIELD COORDINATED DURING CONSTRUCTION.

(2) TYPICAL CONDUIT INSTALLATION PLAN VIEWS (NEAR INTERSECTIONS)
NOT TO SCALE

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET

ELECTRICAL DETAILS
SHEET 3 OF 4

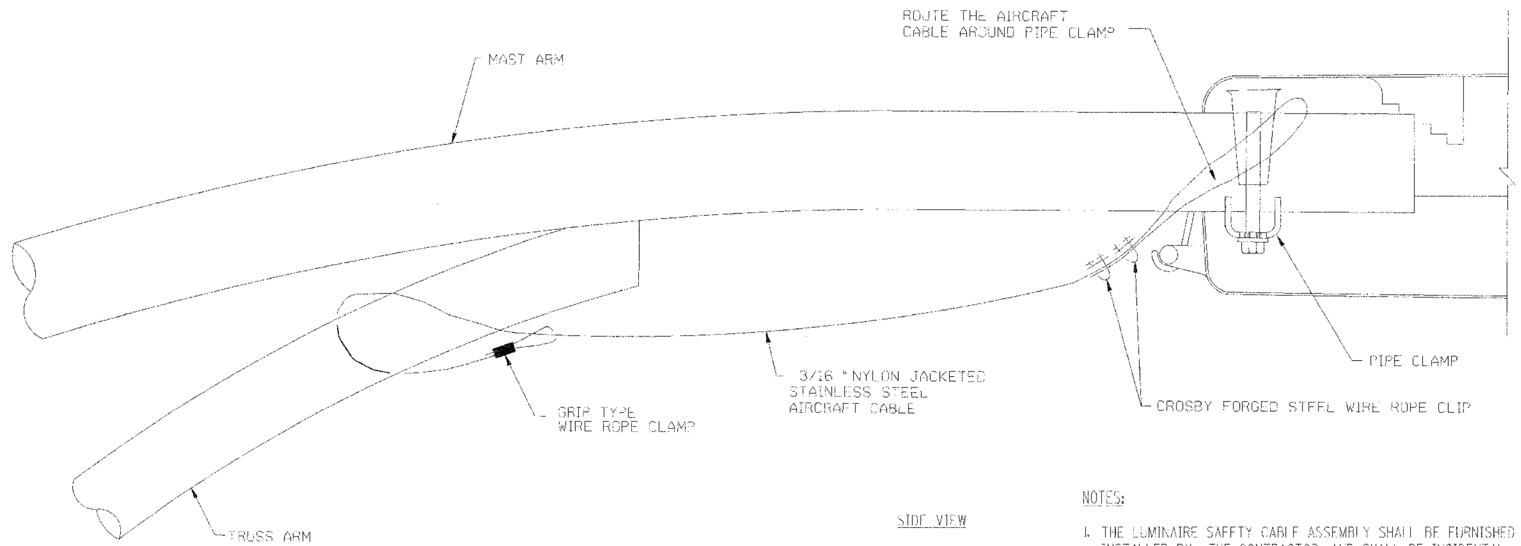
CONSULTANT
TYLIN INTERNATIONAL

Burns & McDonnell SINCE 1898

City of Naperville

DRAWN: FO	SHEET NO.
CHECKED: FI	
APPROVED: DEM	
DATE: 04/11/08	
SCALE:	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

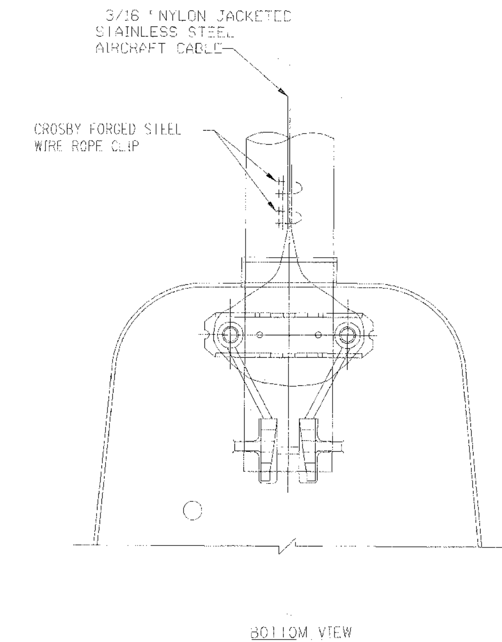
F.A.RT. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	225
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

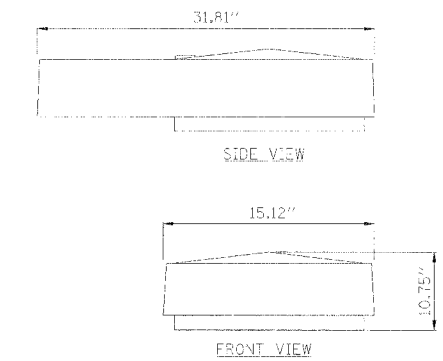


NOTES:

1. THE LUMINAIRE SAFETY CABLE ASSEMBLY SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR, AND SHALL BE INCIDENTAL TO THE CONTRACT.
2. CONTRACTOR SHALL ADJUST THE WIRE CLIP TO ELIMINATE ANY SLACK FROM THE WIRE ROPE.
3. THE 3/16 " NYLON JACKETED STAINLESS STEEL AIRCRAFT CABLE SHALL REMAIN VISIBLE FROM THE GROUND LEVEL.
4. THE BREAKING STRENGTH OF THE CABLE SHALL . BE 2000 lbs. MIN.

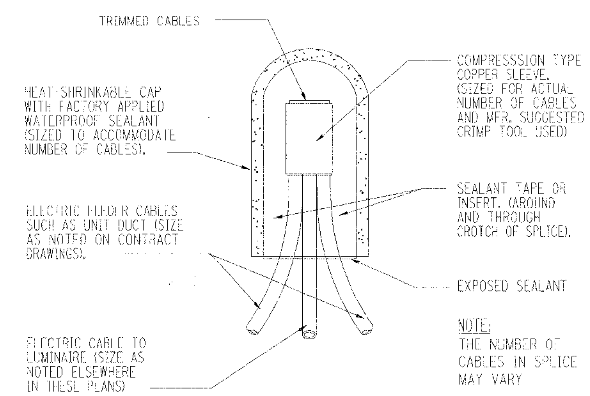
(1) SPLITFILTER LUMINAIRE KEEPER PHYSICAL INSTALLATION DETAIL
NOT TO SCALE





MANUFACTURER : GE LIGHTING SYSTEMS
TYPE : MDCL-40S-3SX-1-X-F-MC2
120 / 240V, 400W HPS, 50,000 LIGHT LUMENS,
APPROX. WEIGHT 36 LBS.

(2) LUMINAIRE DETAIL
NOT TO SCALE



NOTE:
THE NUMBER OF CABLES IN SPLICE MAY VARY

SPLICING ELECTRIC CABLES
(3) BASIC MATERIALS AND METHODS
NOT TO SCALE

Burns & McDonnell
SINCE 1898

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET

ELECTRICAL DETAILS
SHEET 4 OF 4

CONSULTANT
TYLININTERNATIONAL

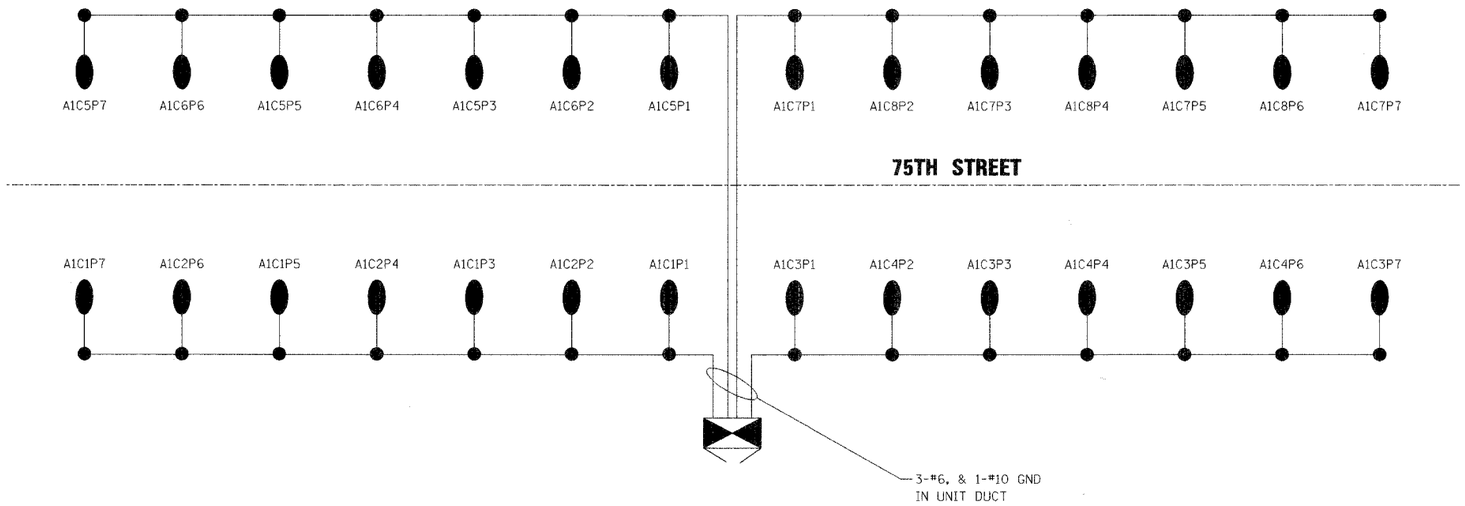
City of Naperville

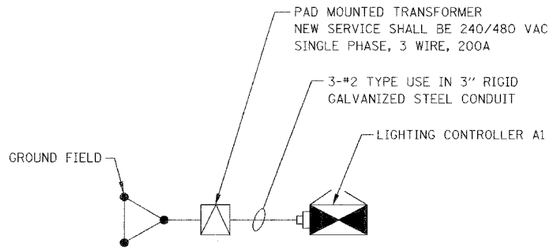
DRAWN:	FO
CHECKED:	FI
APPROVED:	DEM
DATE:	04/11/08
SCALE:	
JOB NO.:	P-91-494-00

SHEET NO.

PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	226
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





LOAD TABULATION FOR LIGHTING CONTROLLER A1

CIRCUIT	POLE NUMBER	PHASE 1 (BLACK) AMP	PHASE 2 (RED) AMP
1	P1,P3,P5,P7	13.4 A	-
2	P2,P4,P6,P8	-	13.4 A
3	P1,P3,P5,P7	13.4 A	-
4	P2,P4,P6,P8	-	13.4 A
5	P1,P3,P5,P7	13.4 A	-
6	P2,P4,P6,P8	-	13.4 A
7	P1,P3,P5,P7	13.4 A	-
8	P2,P4,P6,P8	-	13.4 A
	SUB-TOTAL	53.6 A	53.6 A
		TOTAL	107.2 A

LEGEND

LIGHTING CONTROLLER

400W HPS LUMINARE ON LIGHT POLE
OR COMBINATION MAST ARM

Burns & McDonnell SINCE 1898

REVISIONS NAME	DATE

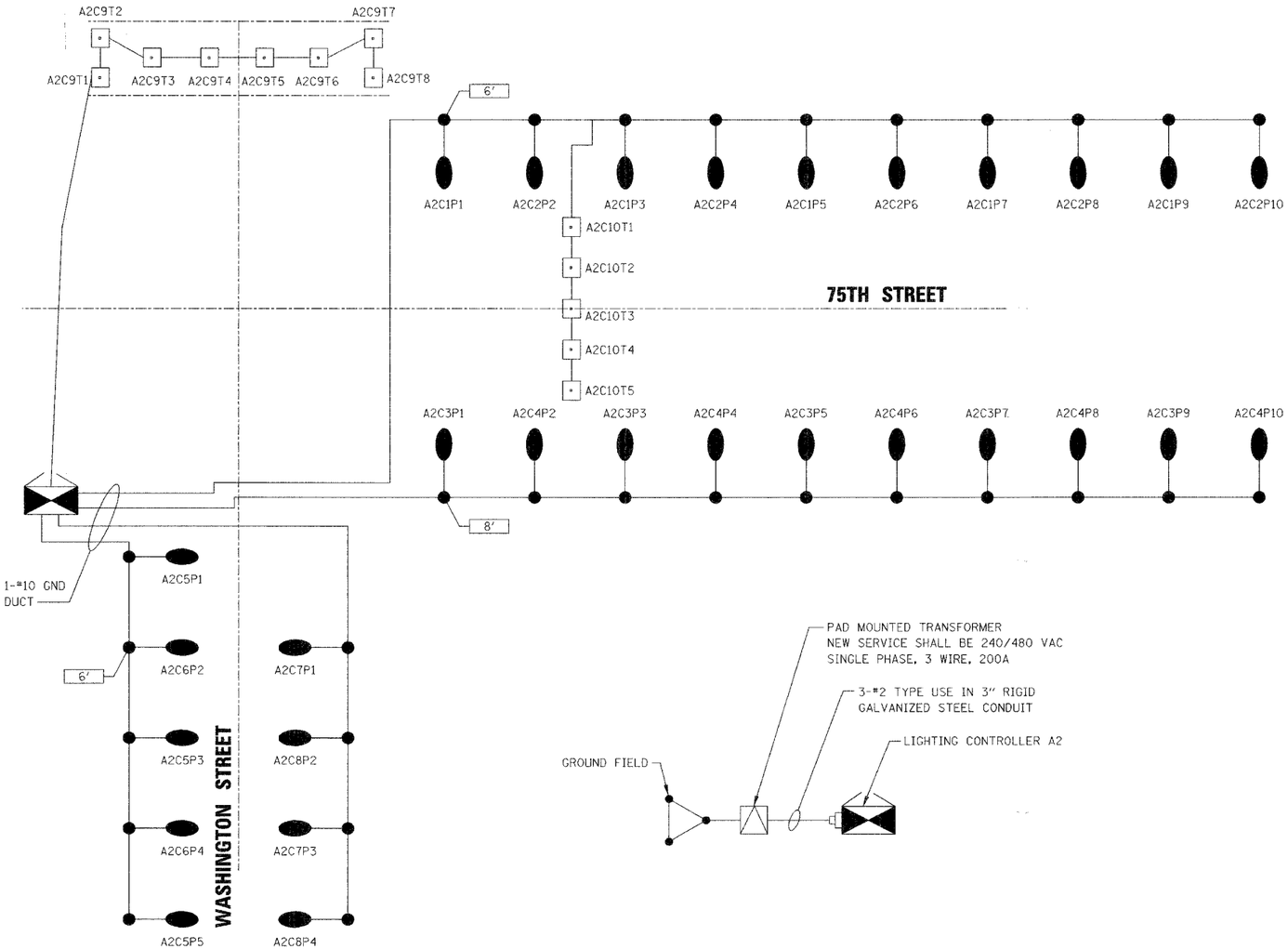
INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
LIGHTING CONTROLLER A1
75th STREET

CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN: FO	SHEET NO.
CHECKED: FI	
APPROVED: DEM	
DATE: 04/11/08	
SCALE:	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	227
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



LOAD TABULATION FOR LIGHTING CONTROLLER A2

CIRCUIT	POLE NUMBER	PHASE 1 (BLACK) AMP	PHASE 2 (RED) AMP
1	P1,P3,P5,P7,P9	16.6 A	-
2	P2,P4,P6,P8	-	13.4 A
3	P1,P3,P5,P7,P9	16.6 A	-
4	P2,P4,P6,P8	-	13.4 A
5	P1,P3,P5	10.0 A	-
6	P2,P4	-	6.6 A
7	P1,P3	6.6 A	-
8	P2,P4	-	6.6 A
9	T1 - T8	4.0 A	-
10	T1 - T5	-	2.5A
	SUB-TOTAL	53.8A	42.5 A
		TOTAL	96.3 A

LEGEND

LIGHTING CONTROLLER

400W HPS LUMINARE ON LIGHT POLE
OR COMBINATION MAST ARM

TUNNEL AND PEDESTRIAN PATH LUMINARE, 70 WATT

x' — ILLUMINATED STREET NAME SIGN, x' INDICATES SIGN LENGTH IN FEET
6' STREET SIGNS WILL USE 90 WATTS; 8' STREET SIGNS WILL USE 120W

Burns & McDonnell SINCE 1898

REVISIONS NAME	DATE

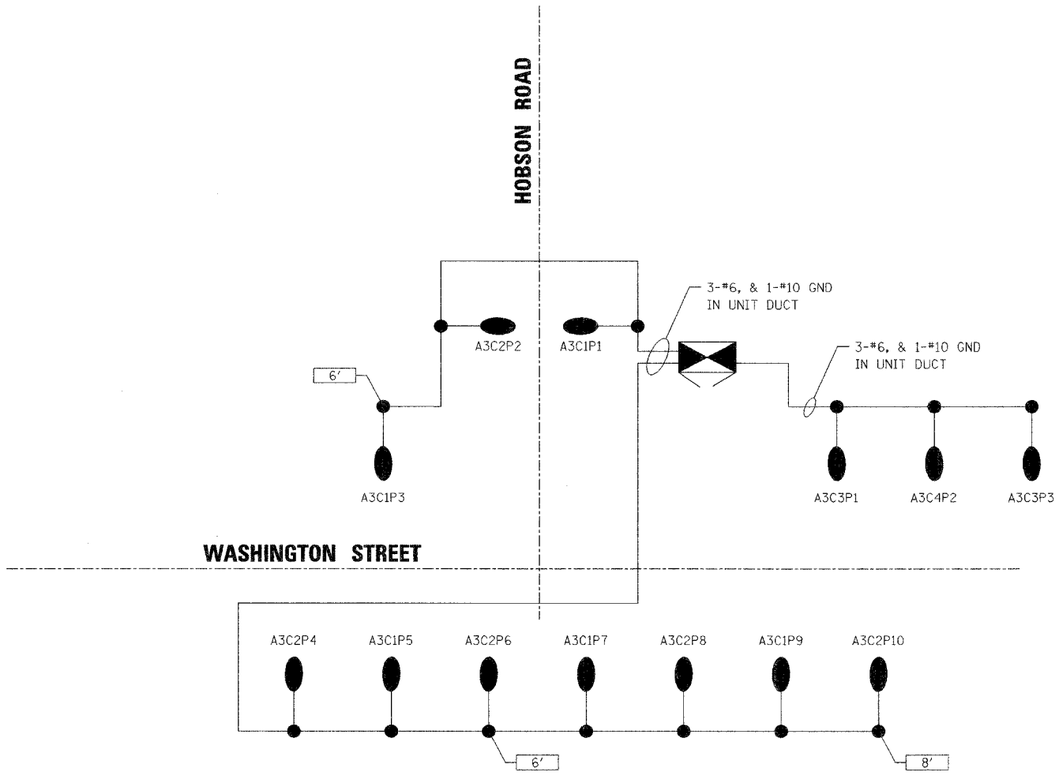
INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
LIGHTING CONTROLLER A2
75th STREET/WASHINGTON

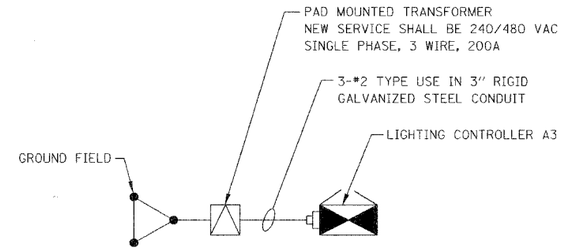
CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN: FO	SHEET NO.
CHECKED: FI	
APPROVED: DEM	
DATE: 04/11/08	
SCALE:	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	228
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		





LOAD TABULATION FOR LIGHTING CONTROLLER A3

CIRCUIT	POLE NUMBER	PHASE 1 (BLACK) AMP	PHASE 2 (RED) AMP
1	P1,P3,P5,P7	13.4 A	-
2	P2,P4,P6	-	10.0 A
3	P1,P3,P5,P7	13.4 A	-
4	P2,P4,P6	-	10.0 A
	SUB-TOTAL	26.8 A	20.0 A
		TOTAL	46.8 A

LEGEND

LIGHTING CONTROLLER

400W HPS LUMINARE ON LIGHT POLE
OR COMBINATION MAST ARM

x' ILLUMINATED STREET NAME SIGN. x' INDICATES SIGN LENGTH IN FEET
6' STREET SIGNS WILL USE 90 WATTS; 8' STREET SIGNS WILL USE 120W

Burns & McDonnell SINCE 1898

REVISIONS NAME	DATE

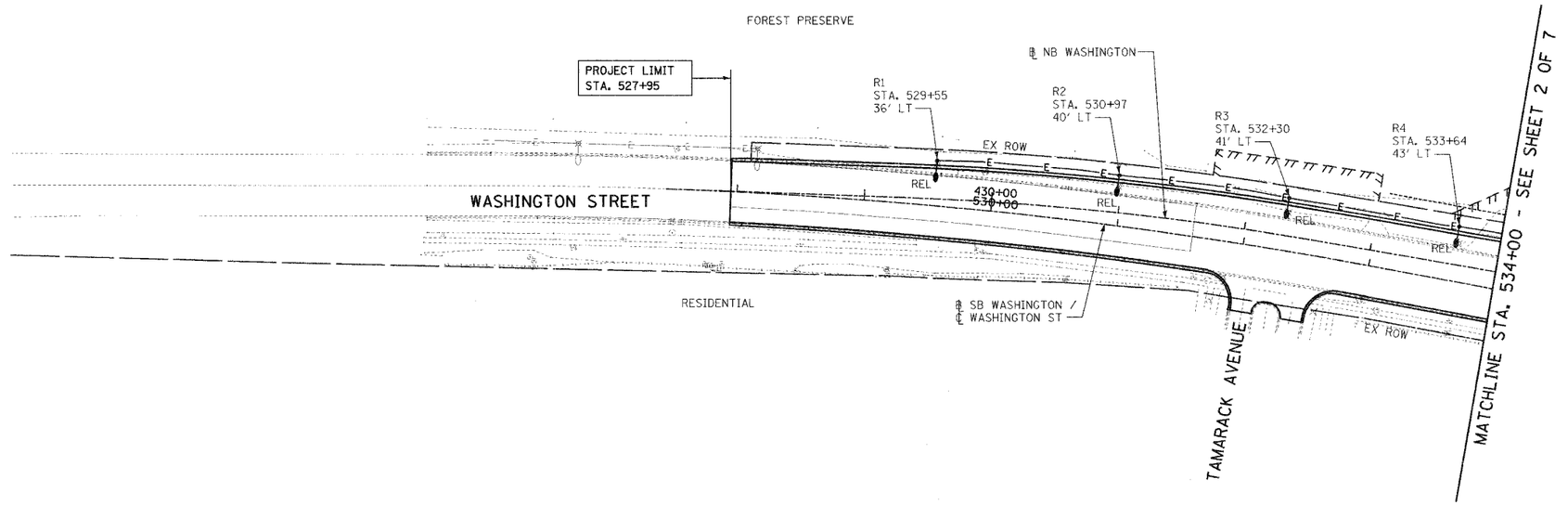
INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
LIGHTING CONTROLLER A3
HOBSON ROAD

CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN: FO	SHEET NO.
CHECKED: FI	
APPROVED: DEM	
DATE: 04/11/08	
SCALE:	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	229
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



Burns & McDonnell SINCE 1898

REVISIONS	
NAME	DATE

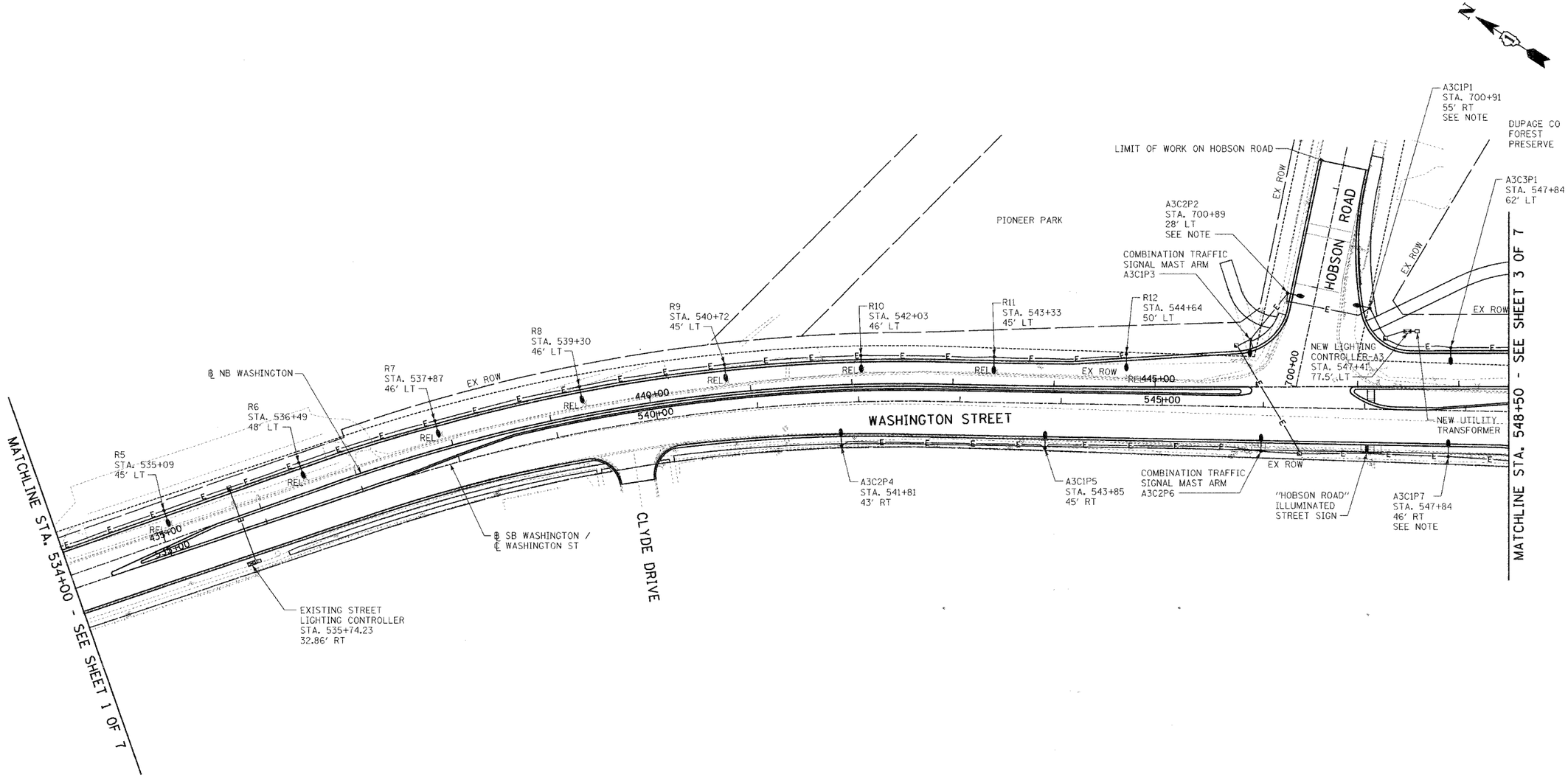
INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
PROPOSED ELECTRICAL PLAN
WASHINGTON STREET
SHEET 1 OF 7
STA. 527+95.02 TO STA. 534+00

CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN: FO	SHEET NO.
CHECKED: FI	
APPROVED: DEM	
DATE: 04/11/08	
SCALE: 1"=50'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	230
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



NOTE:

LIGHT POLE MOUNTING ARE WILL BE SPECIFIED AS 35' WITH 10' MAST ARM LENGTH.

Burns & McDonnell SINCE 1898

REVISIONS	
NAME	DATE

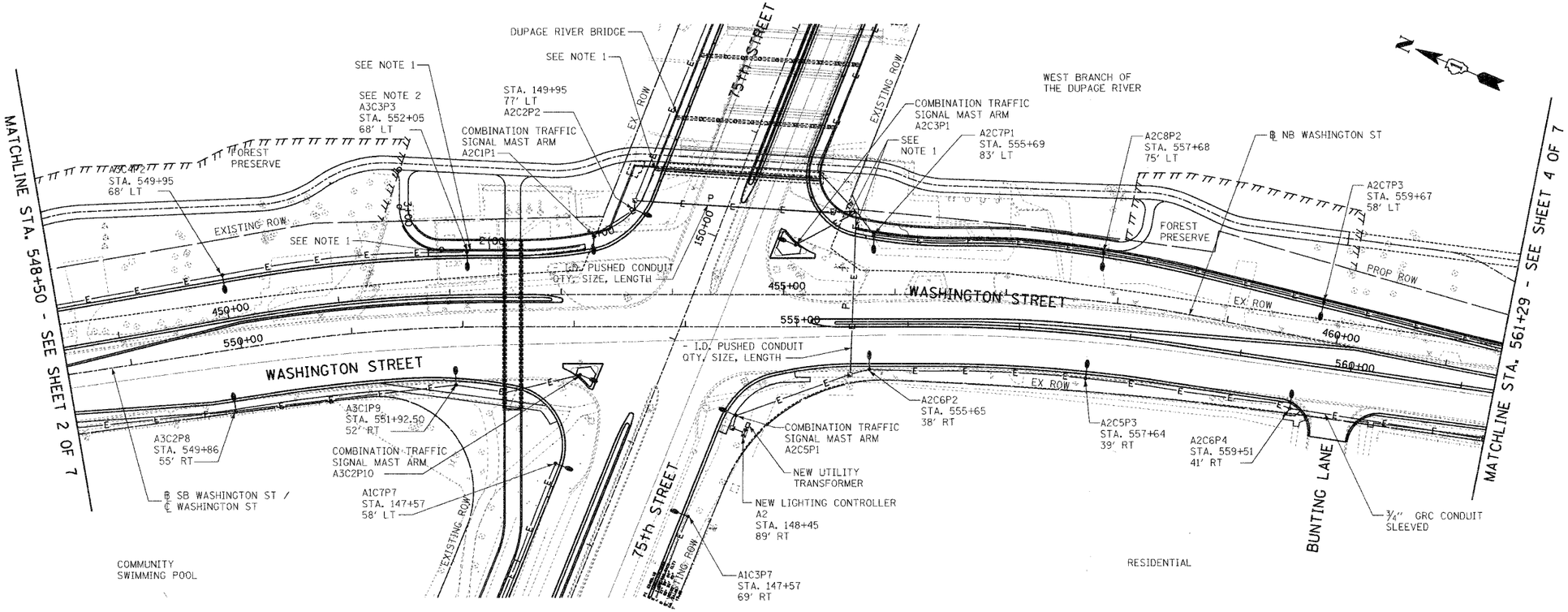
INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
PROPOSED ELECTRICAL PLAN
WASHINGTON STREET
SHEET 2 OF 7
STA. 534+00 TO STA. 548+50

CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN: FO	SHEET NO.
CHECKED: FI	
APPROVED: DEM	
DATE: 04/11/08	
SCALE: 1"=50'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	231
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



NOTES:

1. UNIT DUCT ENTERS CONDUIT EMBEDDED IN STRUCTURE. REFER TO STRUCTURAL PLANS.
2. LIGHT POLE MOUNTED ON STRUCTURE. SO NOT INSTALL BREAKAWAY DEVICE.

Burns & McDonnell SINCE 1898

REVISIONS	
NAME	DATE

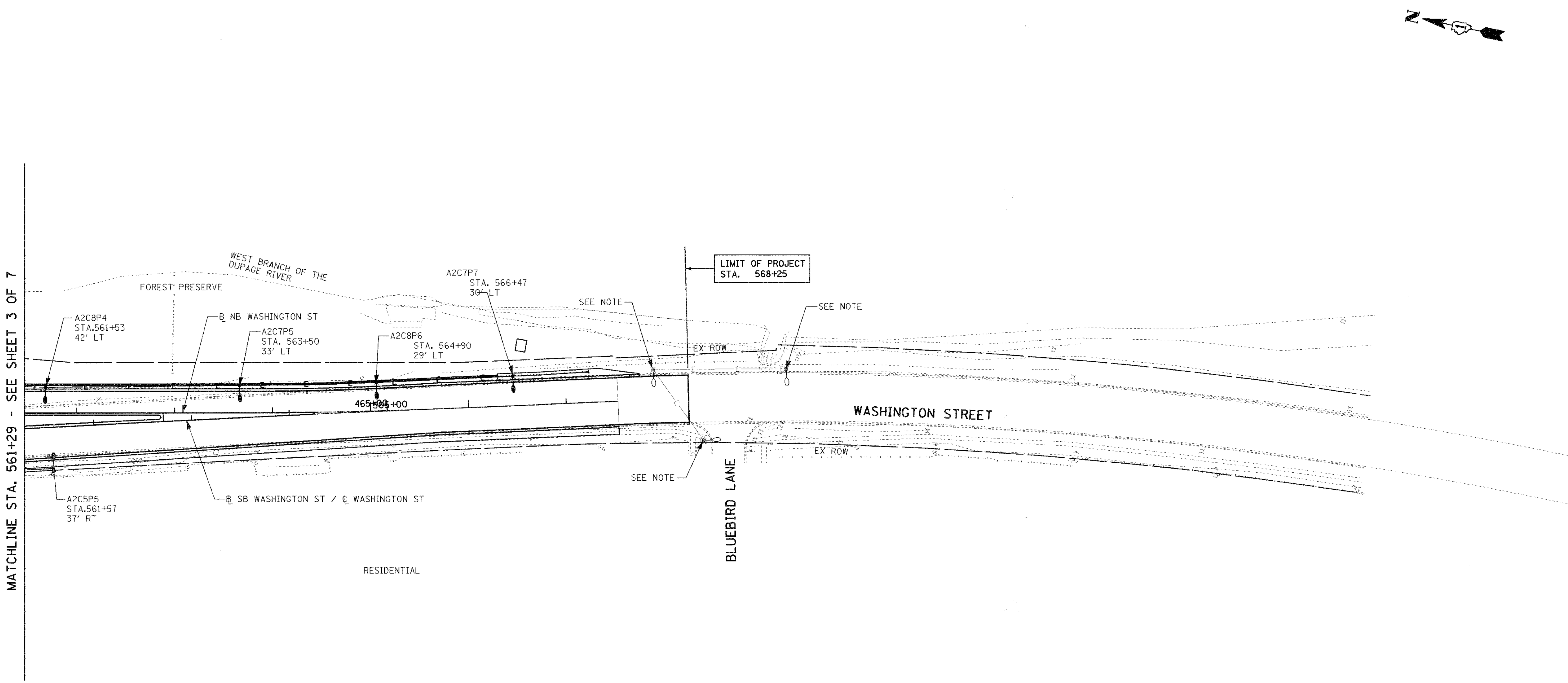
INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
PROPOSED ELECTRICAL PLAN
WASHINGTON STREET
SHEET 3 OF 7
STA. 548+50 TO STA. 561+50

CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN: FO	SHEET NO.
CHECKED: FI	
APPROVED: DEM	
DATE: 04/11/08	
SCALE: 1"=50'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	232
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



NOTE:

EXISTING LIGHT POLE AND FIXTURE TO REMAIN.

Burns & McDonnell SINCE 1898

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
PROPOSED ELECTRICAL PLAN
WASHINGTON STREET
SHEET 4 OF 7
STA. 561+50 TO EOP

CONSULTANT: TYLIN INTERNATIONAL

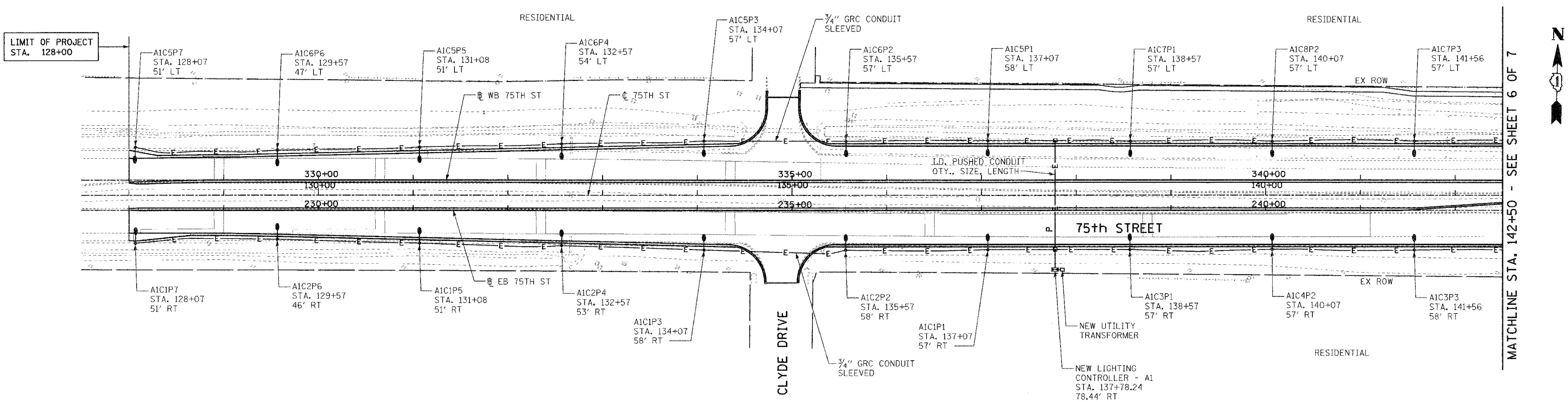
City of Naperville

DRAWN:	FO
CHECKED:	FI
APPROVED:	DEM
DATE:	04/11/08
SCALE:	1"=50'-0"
JOB NO.:	P-91-494-00

SHEET NO.

PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	233
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



REVISIONS	
NAME	DATE

Burns & McDonnell
SINCE 1898

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
PROPOSED ELECTRICAL PLAN
75th STREET
SHEET 5 OF 7
STA. 127+50 TO STA. 142+50

CONSULTANT
TYLININTERNATIONAL

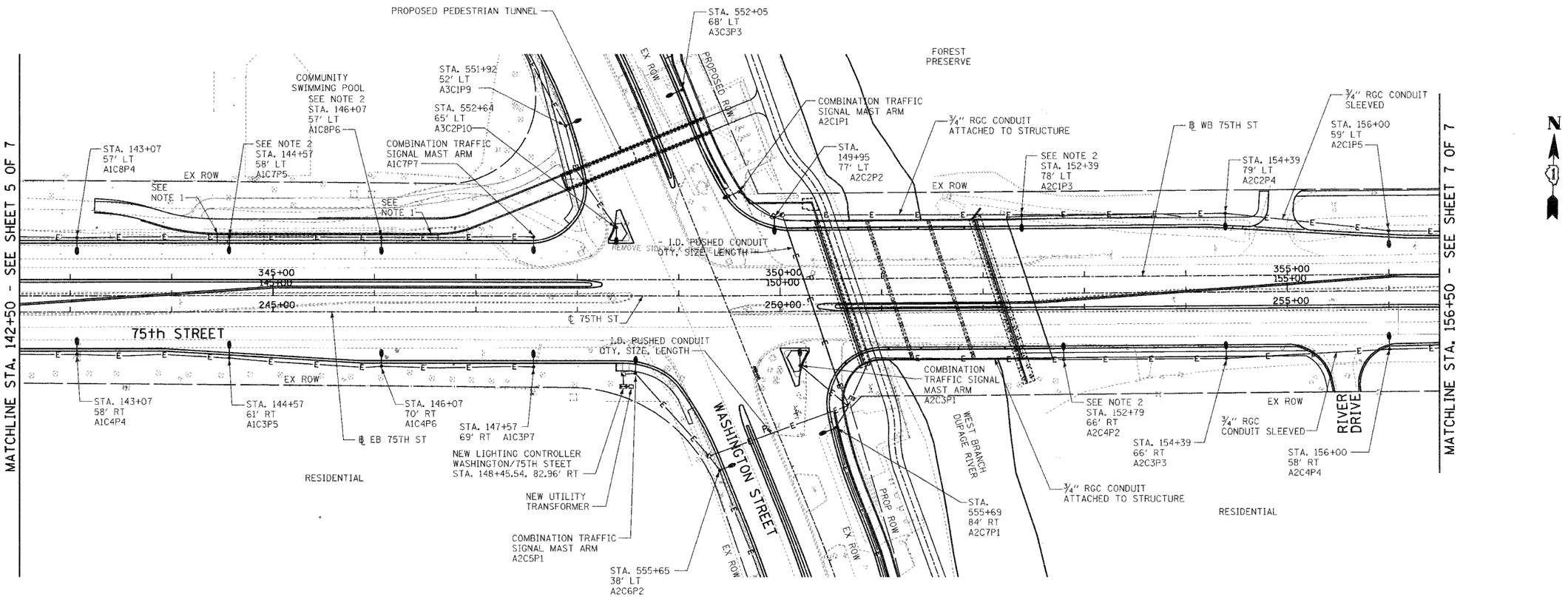
City of Naperville

DRAWN:	FO
CHECKED:	FI
APPROVED:	DEM
DATE:	04/11/08
SCALE:	1"=50'-0"
JOB NO.:	P-91-494-00

SHEET NO.

PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	234
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



NOTES:

1. UNIT DUCT ENTERS CONDUIT EMBEDDED IN STRUCTURE. REFER TO STRUCTURAL PLANS.
2. LIGHT POLE MOUNTED ON STRUCTURE. SO NOT INSTALL BREAKAWAY DEVICE.

Burns & McDonnell
SINCE 1898

REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
PROPOSED ELECTRICAL PLAN
75th STREET
SHEET 6 OF 7
STA. 142+50 TO STA. 156+50

CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN: FO	SHEET NO.
CHECKED: FI	
APPROVED: DEM	
DATE: 04/11/08	
SCALE: 1"=50'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	235
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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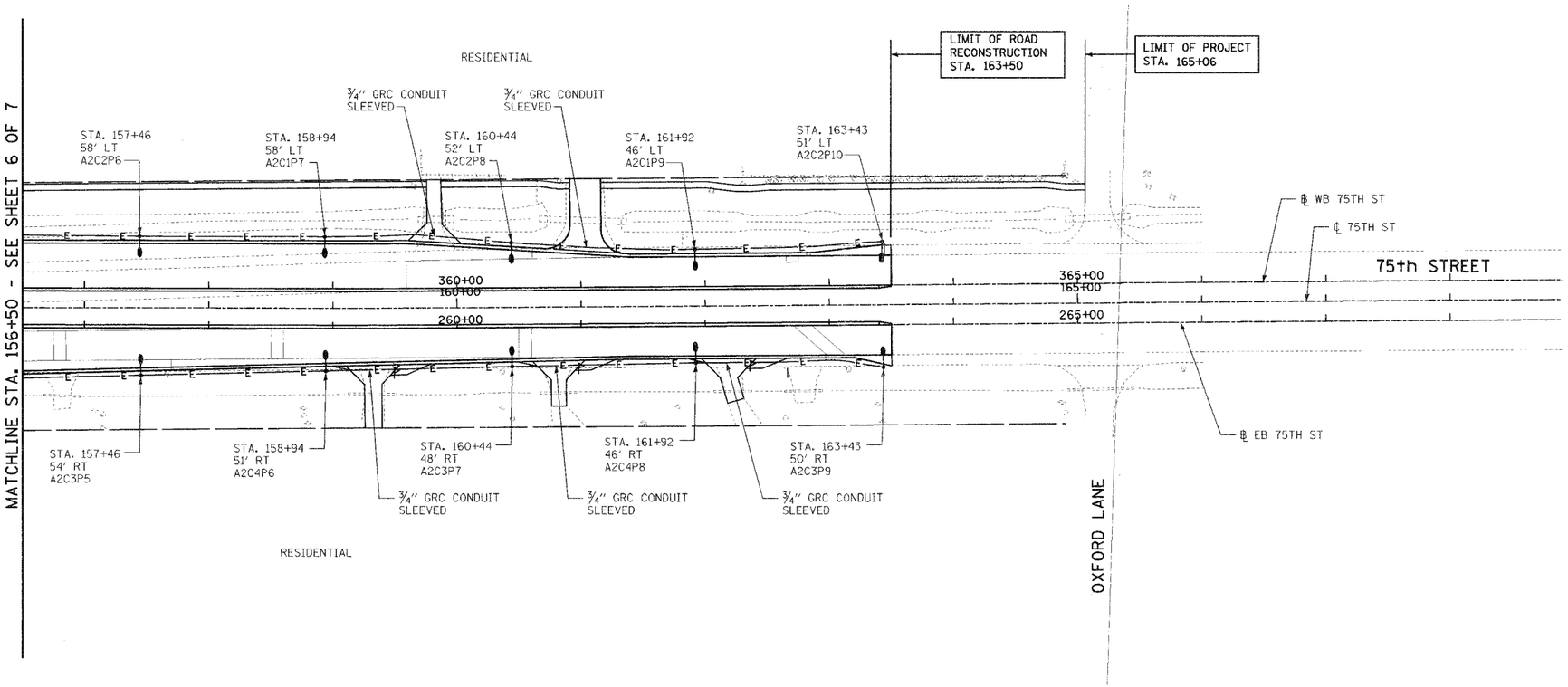


REVISIONS	
NAME	DATE

Burns & McDonnell SINCE 1898

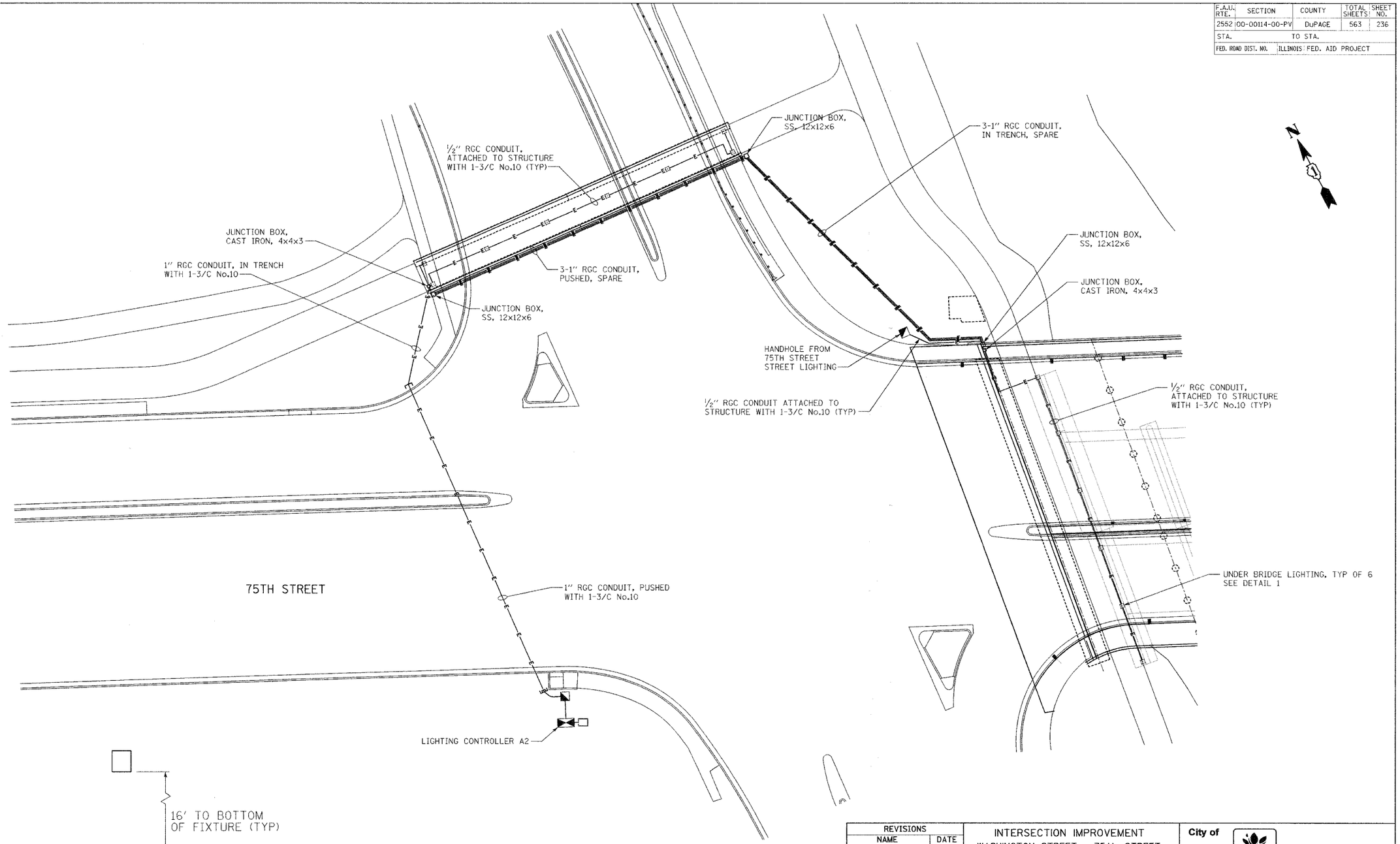
INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
PROPOSED ELECTRICAL PLAN
75th STREET
SHEET 7 OF 7
STA. 156+50 TO EOP

CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN: FO	SHEET NO.
CHECKED: FI	
APPROVED: DEM	
DATE: 04/11/08	
SCALE: 1"=50'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	236
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
PROPOSED ELECTRICAL PLAN
PEDESTRIAN WALKWAY
SHEET 1 OF 1

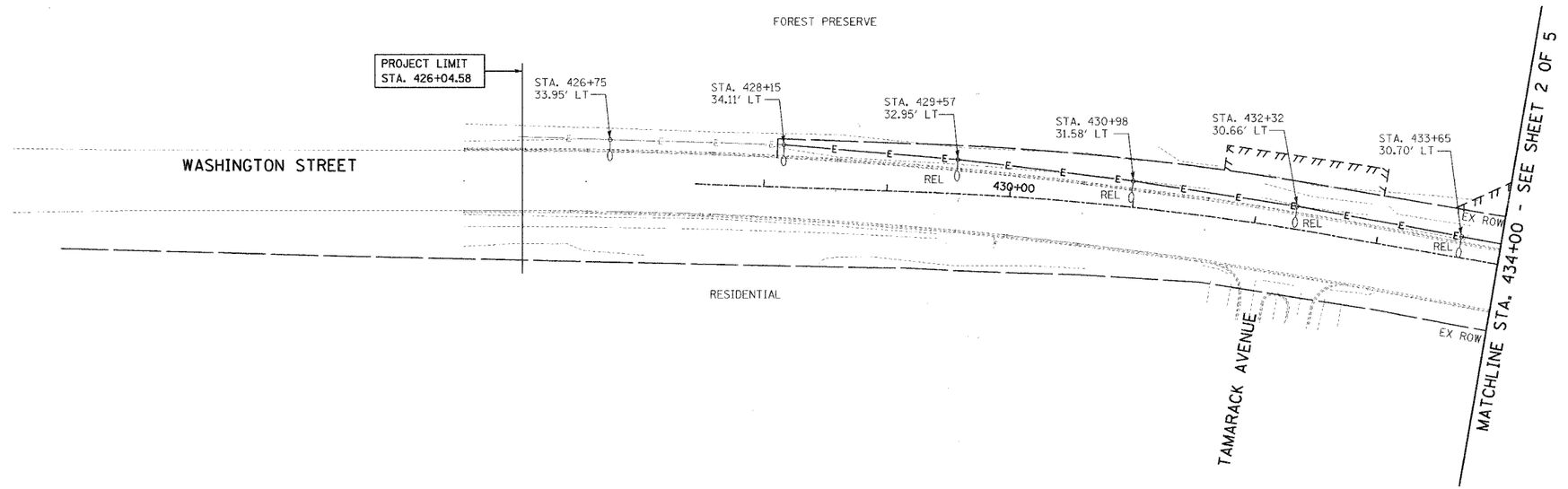
CONSULTANT
TYLIN INTERNATIONAL

Burns & McDonnell SINCE 1898

City of Naperville

DRAWN: JRH	SHEET NO.
CHECKED: FI	
APPROVED: DEM	
DATE: 04/11/08	
SCALE: 1"= 0'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	237
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



Burns & McDonnell
SINCE 1898

REVISIONS	
NAME	DATE

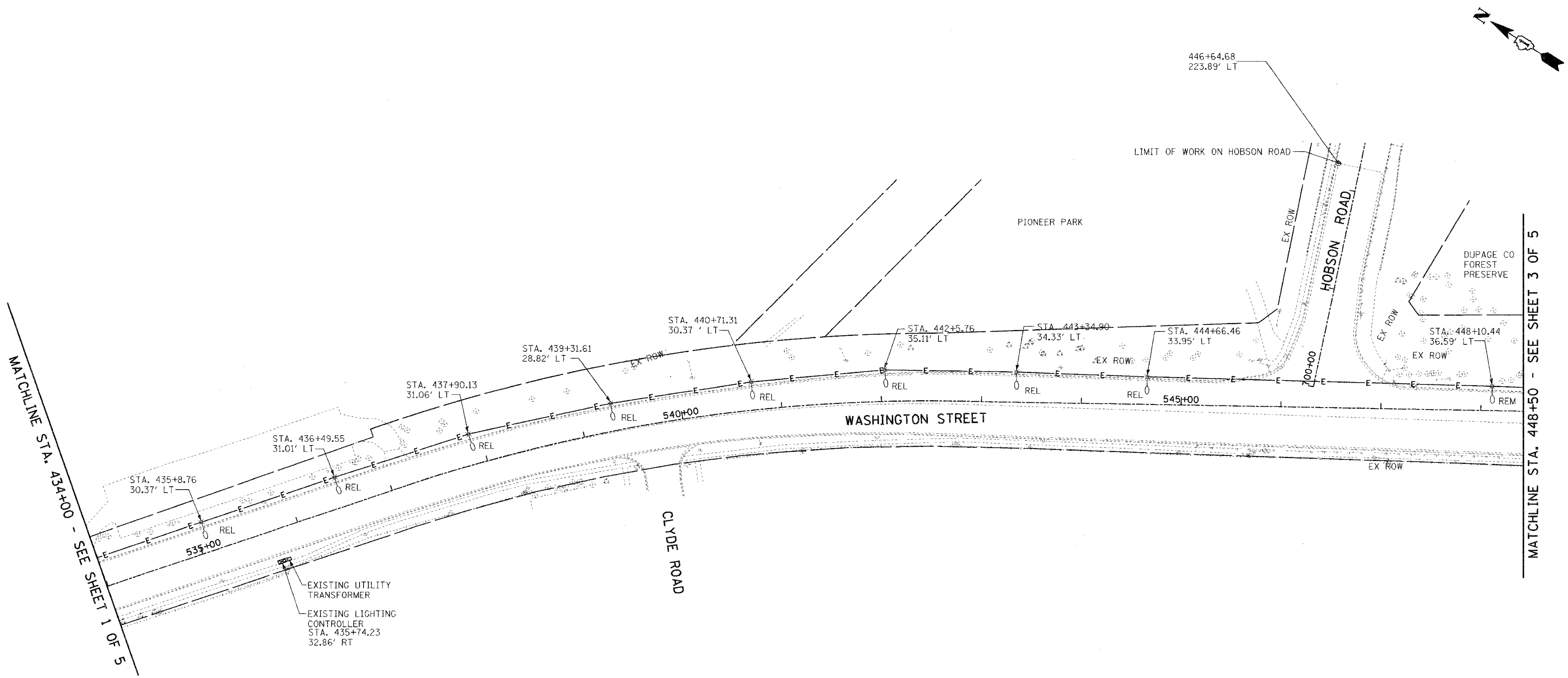
INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
ELECTRICAL DEMOLITION PLAN
WASHINGTON STREET
SHEET 1 OF 5
STA. 426+04.578 TO STA. 434+00

CONSULTANT
TY·LIN INTERNATIONAL

City of Naperville

DRAWN: FO	SHEET NO.
CHECKED: FI	
APPROVED: DEM	
DATE: 04/11/08	
SCALE: 1"=50'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	238
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



NOTES:

1. DISCONNECT AND REMOVE EXISTING CONDUIT AND WIRES PER DEMOLITION WORK REQUIREMENTS.

2. PROVIDE TEMPORARY POLE AND LIGHT FIXTURE. CONNECT TO EXISTING CIRCUIT IN THE EXISTING LIGHTING CONTROLLER.

REVISIONS	
NAME	DATE

Burns & McDonnell
SINCE 1898

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET

ELECTRICAL DEMOLITION PLAN
WASHINGTON STREET

SHEET 2 OF 5
STA. 434+00 TO STA. 448+50

CONSULTANT
TYLIN INTERNATIONAL

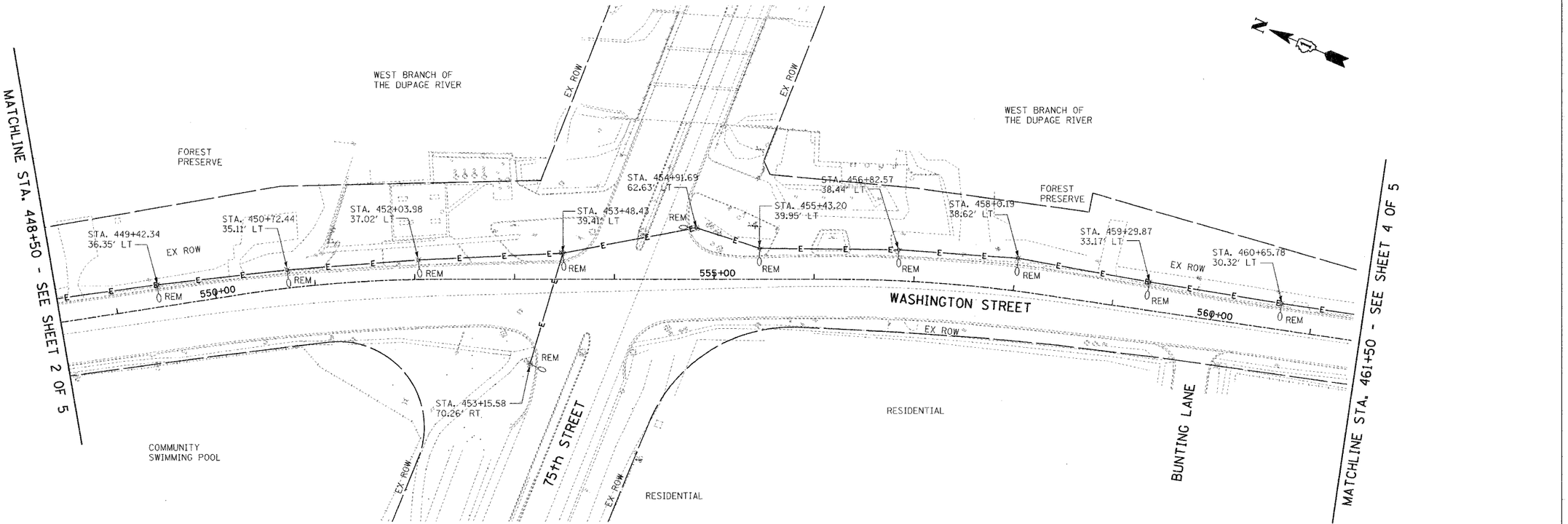
City of Naperville

DRAWN:	FO
CHECKED:	FI
APPROVED:	DEM
DATE:	04/11/08
SCALE:	1"=50'-0"
JOB NO.:	P-91-494-00

SHEET NO.

PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	239
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



REVISIONS	
NAME	DATE

Burns & McDonnell SINCE 1898

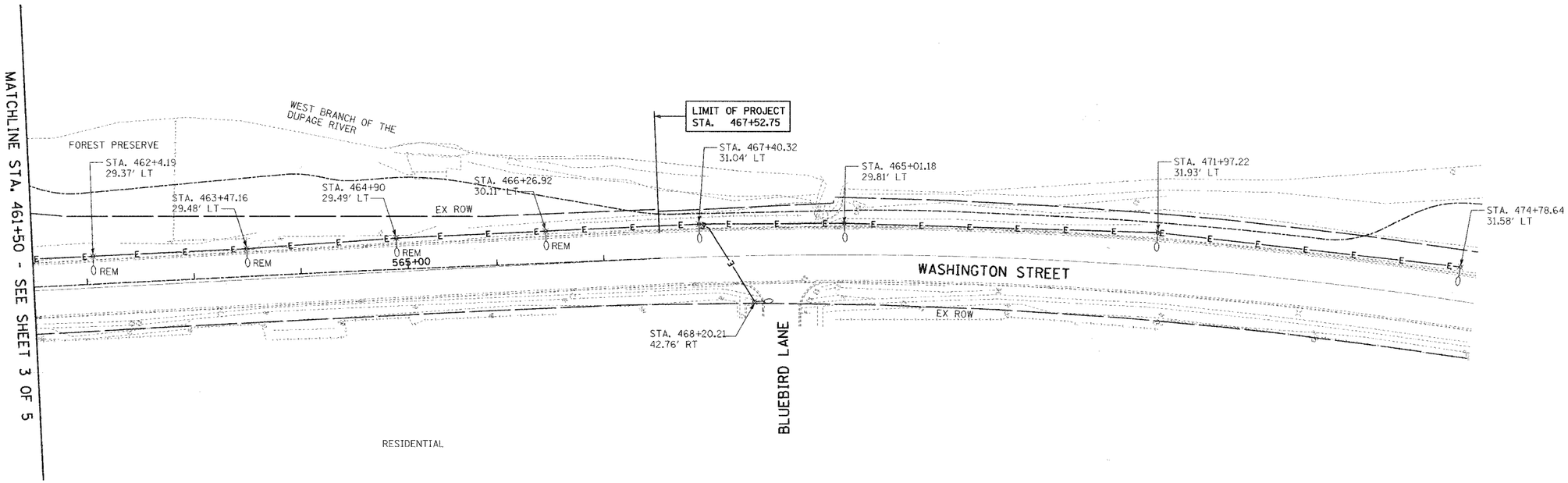
INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
ELECTRICAL DEMOLITION PLAN
WASHINGTON STREET
SHEET 3 OF 5
STA. 448+50 TO STA. 461+50

CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN: FO	SHEET NO.
CHECKED: FI	
APPROVED: DEM	
DATE: 04/11/08	
SCALE: 1"=50'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DUPAGE	563	240
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



REVISIONS	
NAME	DATE

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
ELECTRICAL DEMOLITION PLAN
WASHINGTON STREET
SHEET 4 OF 5
STA. 461+50 TO EOP

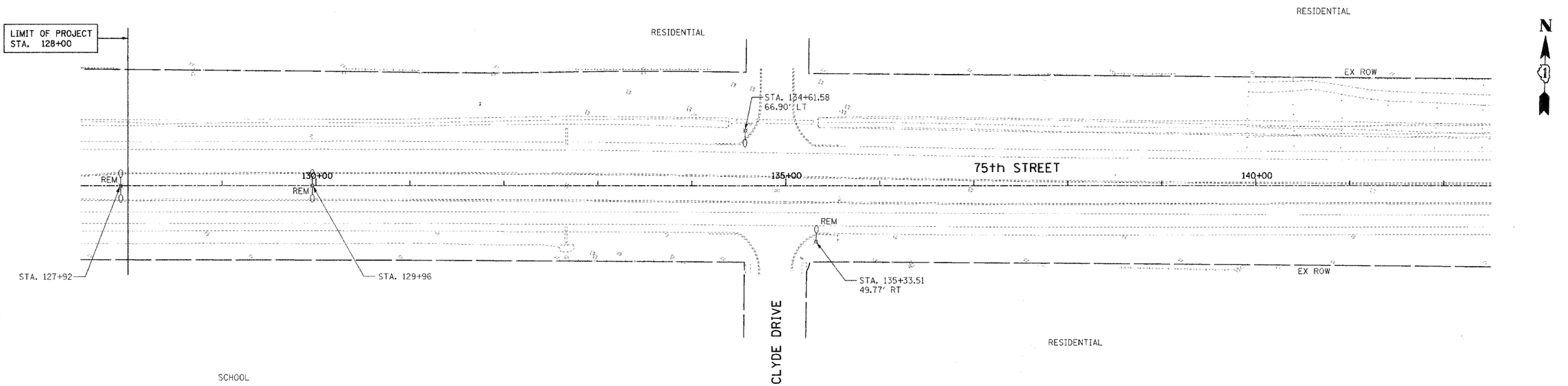
CONSULTANT
TYLIN INTERNATIONAL

Burns & McDonnell SINCE 1898

City of Naperville

DRAWN: FO	SHEET NO.
CHECKED: FI	
APPROVED: DEM	
DATE: 04/11/08	
SCALE: 1"=50'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	00-00114-00-PV	DuPAGE	563	241
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



REVISIONS	
NAME	DATE

Burns & McDonnell SINCE 1898

INTERSECTION IMPROVEMENT
WASHINGTON STREET - 75th STREET
ELECTRICAL DEMOLITION PLAN
75th STREET
SHEET 5 OF 5
STA. 127+50 TO STA. 142+50

CONSULTANT
TYLIN INTERNATIONAL

City of Naperville

DRAWN: FO	SHEET NO.
CHECKED: FI	
APPROVED: DEM	
DATE: 04/11/08	
SCALE: 1"=50'-0"	
JOB NO.: P-91-494-00	PROJECT NO.: CMM-7003 (983)

PROPOSED ELECTRIC CONSTRUCTION
ALONG 75TH ST. (DUPAGE COUNTY)
BETWEEN WASHINGTON ST. AND
RIVER RD. AT THE DUPAGE RIVER
IN THE CITY OF NAPERVILLE, STATE OF ILLINOIS

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	242
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

SPECIAL NOTES

1) ALL UTILITIES MAY NOT BE SHOWN. CALL J.U.L.I.E. AT 1-800-892-0123 FOR FIELD LOCATIONS OF UNDERGROUND UTILITY LINES PRIOR TO ANY DIGGING OR CONSTRUCTION.

2) THE BRUSH AND TREES SMALLER THAN 6 INCHES IN DIAMETER LOCATED IN ROAD RIGHT OF WAY AND THAT IS PRESENT ALONG MOST OF THE PROPOSED ROUTE ARE TO BE TRIMMED OR REMOVED BY THE CONTRACTOR FOR CLEARANCE TO THE PROPOSED UNDERGROUND OR OVERHEAD ELECTRIC WIRES OR EQUIPMENT AS REQUIRED AND IS UNDER THE DIRECTION OF THE CITY OF NAPERVILLE (ELECTRIC) AND PER PERMIT. ALL TREE WORK IS TO BE PERFORMED BY LANDSCAPE CONTRACTOR PROVIDED BY THE CONTRACTOR. THIS WORK IS INCIDENTAL TO THE CONTRACT.

3) THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVE GROUND STRUCTURES, J.U.L.I.E. PAINT MARKS, AND RECORD DRAWINGS. LOCATIONS OF UNDERGROUND UTILITIES/ STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE SURVEY OF THIS WORK TO LOCATE BURIED UTILITIES/STRUCTURES. BEFORE EXCAVATIONS ARE BEGUN, THE FOLLOWING OFFICES SHOULD BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS: TELEPHONE, GAS, ELECTRIC, WATER, SEWER AND CABLE T.V. ALL LOCATED OR POSSIBLE UNDER GROUND FACILITIES SHALL BE EXPOSED ON ALL SIDES BY EXCAVATING TO THE KNOWN OR UNKNOWN UNDER GROUND FACILITY PRIOR TO DIGGING FOUNDATIONS, TRENCHES, HANDHOLES, MANHOLES AND VAULT ETC.

4) EXISTING ELECTRICAL FACILITIES SHALL BE DE-ENERGIZED PRIOR TO THE CONTRACTOR AND HIS SUBCONTRACTOR'S WORKERS COMMENCING WORK. THE CONTRACTOR IS TO CONTACT THE DEPARTMENT OF PUBLIC UTILITIES, ELECTRICAL DIVISION TO DE-ENERGIZED ALL NEARBY ELECTRICAL CIRCUITS AND FACILITIES. HOWEVER, IF CONDITIONS EXIST THAT REQUIRE THE CIRCUIT TO REMAIN ENERGIZED, THE CONTRACTOR SHALL PROCEED TO WORK WITH CONDUCTORS/CABLE, PER OSHA AND NESC REGULATIONS. THE CONTRACTOR SHALL COORDINATE THE PLANNED WORK SCHEDULE, CONSTRUCTION SEQUENCE, AND ANY OUTAGE REQUEST WITH THE DPU-E ELECTRICAL CONTRO AND THE ENGINEER.

5) CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHILE WORKING IN, ON OR NEAR ELECTRICAL FACILITIES. HE AND ALL HIS SUBCONTRACTOR'S WORKERS SHALL FOLLOW APPROPRIATE OSHA LOCK-OUT/TAG-OUT PROCEDURES, CONFINED SPACE ENTRY, CPR AND CLEARANCE REQUIREMENTS FROM ENERGIZED EQUIPMENT.

6) CONNECTION TO EXISTING ELECTRICAL, FACILITIES SHALL BE ACCOMPLISHED ONLY BY CONTRACTOR'S EMPLOYEES AND HIS SUBCONTRACTOR'S EMPLOYEES THAT ARE TRAINED TO WORK ON HIGH VOLTAGE FACILITIES (138kV AND 34.5kV FACILITIES OR LOWER), IN ACCORDANCE WITH OSHA REGULATIONS, 29 CFR. A MINIMUM OF TWO SUCH QUALIFIED PERSONNEL SHALL BE PRESENT WHILE WORKING ON OR NEAR THESE FACILITIES.

7) THE CONTRACTOR SHALL ARRANGE FOR INSPECTION OF HIS AND HIS SUBCONTRACTOR'S WORK, BY DPU-E PERSONAL PRIOR TO STARTING AND UPON COMPLETION.

8) THE CONTRACTOR SHALL INSTALL ALL WORK (UNLESS OTHERWISE SPECIFIED) AT EACH LOCATION TO THE FINAL ELEVATIONS AND INTENDED PURPOSE. THE CONTRACTOR'S SURVEYOR TO OBTAIN THE ELEVATION AND PROVIDE THIS ELEVATION MARK TO THE CONTRACTOR WITH A FIELD STAKE AND ELEVATION WRITTEN ON IT. IN ADDITION, ELEVATION MARKS FOR ALL PROPOSED ELECTRICAL FACILITIES SHALL BE DETERMINED. THIS WORK IS CONSIDERED INCIDENTAL TO THE CONTRACT. THE SURVEYOR SHALL PERFORM ALL LAYOUT WORK, OFFSET STAKES, PROFILE WORK, VOLUMES, CALCULATIONS, FOUNDATION WORK, AS BUILT WORK, SLOPE, GRADE, BENCHMARK WORK, ELEVATION AND DIMENSIONS PER G.P.S. ALL WORK IS TO BE DOCUMENTED AND PROVIDED TO THE CITY.

9) ALL WORK SHALL MEET OSHA REGULATIONS OF LATEST ISSUE.

10) THE CONTRACTOR SHALL REMOVE ONLY THOSE TREES, BUSHES, FLOWERS, AND SHRUBS SO DESIGNATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER, OR THOSE WHICH DIRECTLY INTERFERE WITH THE SAFETY OR QUALITY OF CONSTRUCTION PRACTICES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF TWO (2) DAYS IN ADVANCE OF REMOVAL OF TREES WHICH AFFECT SAFETY. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN WORKING NEAR EXISTING TREES AND SHRUBS TO AVOID DAMAGING THOSE NOT SCHEDULED FOR REMOVAL. THE CONTRACTOR SHALL PROTECT ALL OTHER TREES, BUSHES AND LANDSCAPING FEATURES. TREES REMOVED OR DAMAGED BY THE CONTRACTOR WHICH HAVE NOT BEEN DESIGNATED FOR REMOVAL, SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE CITY. TREES TO HAVE BRANCHES OR ROOTS PRUNED SHALL BE DONE IN A NEAT AND CLEAN MANNER (i.e., WITH A SAW OR SHEARS) AND NOT TORN OR BROKEN WITH CONSTRUCTION EQUIPMENT.

GENERAL NOTES

1) CONTRACTOR SHALL RESTRICT HIS OPERATIONS TO EASEMENTS AND ROAD RIGHT-OF-WAY AS SHOWN ON THE DRAWINGS.

2) PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL ARRANGE TO HAVE ALL UNDERGROUND UTILITIES INCLUDING WATER, GAS, ELECTRIC, STORM SEWER, SANITARY SEWER, SPRINGLER SYSTEM, TRAFFIC CONTROL SIGNALS, TELEPHONE AND CABLE TV LOCATED AND SUITABLY MARKED. SHOULD A UTILITY BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED AT ONCE. IF UTILITIES INTERFERE WITH THE CONSTRUCTION ALIGNMENT, THEY SHALL BE PROTECTED AT NO ADDITIONAL EXPENSE TO THE OWNER AND WITHOUT CLAIM BY THE CONTRACTOR FOR DELAYS DUE TO UTILITY LINES ENCOUNTERED. THE CITY OF NAPERVILLE SHALL BE NOTIFIED 96 HOURS IN ADVANCE OF WATERMAIN, SANITARY, AND ELECTRIC CROSSINGS.

3) INFORMATION ON THE PLANS REGARDING UNDERGROUND UTILITIES IS TAKEN FROM THE BEST AVAILABLE RECORDS, BUT IS NOT REPRESENTED AS BEING ENTIRELY CORRECT OR COMPLETE. THE CONTRACTOR SHALL NOTIFY OPERATING AGENCY IN ADVANCE OF CROSSING OVER OR UNDER ANY UTILITIES SHOWN ON THE PLANS. THE CONTRACTOR SHALL NOTIFY OPERATING AGENCY AND ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS. ANY UTILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

4) MSDS SHEETS ARE REQUIRED ON THE JOB SITE FOR ALL MATERIALS USED.

5) THE CONTRACTOR SHALL UNDER NO CIRCUMSTANCES DISTURB OR REMOVE A TREE UNLESS SPECIFICALLY DIRECTED TO DO SO ON THE PLANS OR BY THE ENGINEER. CONTRACTOR SHALL NOTE PROTECTION OF ALL TREES, SHRUBS ETC., ALONG THE LINE OF CONSTRUCTION IS REQUIRED. WRITTEN PERMISSION FROM THE OWNER IS REQUIRED PRIOR TO ANY TREE OR SHRUB REMOVAL.

6) THE CONTRACTOR SHALL PROTECT ALL PROPERTY PINS AND SURVEY MONUMENTS AND SHALL RESTORE ANY WHICH ARE DISTURBED BY HIS OPERATIONS AT NO ADDITIONAL COST TO THE CONTRACT.

7) ALL FIELD TILE, CULVERTS, GRATES, DRAIN PIPE, ENCOUNTERED DURING CONSTRUCTION OPERATIONS AND DAMAGED SHALL BE REPAIRED WITH NEW MATERIALS PER THE SPECIFICATIONS. A RECORD OF THE LOCATION OF ALL FIELD TILE, CULVERTS OR DRAIN PIPE ENCOUNTERED SHALL BE KEPT BY THE CONTRACTOR AND TURNED OVER TO THE ENGINEER UPON COMPLETION OF THE PROJECT. ALL FIELD REPAIRS SHALL BE AT CONTRACTOR'S EXPENSE.

8) ANY PAVEMENT OR PAVEMENT STRIPING DAMAGED OR REMOVED DURING CONSTRUCTION OPERATIONS, OTHER THAN THE AREAS SHOWN ON DRAWING 56270 SHEETS 1 THRU 73, SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO COST TO THE CITY.

9) ALL EXISTING UTILITY FACILITIES SHALL BE KEPT IN SERVICE DURING CONSTRUCTION EXCEPT WHERE PERMISSION IS GRANTED OTHERWISE BY THE OWNER. ALL VALVE BOXES AND VALVE VAULTS, ELECTRIC MANHOLES, SWITCH GEARS OR TRANSFORMERS SHALL REMAIN ACCESSIBLE TO THE RESPECTIVE UTILITY COMPANY.

10) THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING FENCE, POSTS, AND GATES DURING CONSTRUCTION. ALL WORK AND MATERIAL NECESSARY TO REPLACE EXISTING FENCE, POSTS, AND GATES DAMAGED BECAUSE OF NONCOMPLIANCE WILL BE AT CONTRACTOR'S OWN EXPENSE, AND NO EXTRA COMPENSATION WILL BE ALLOWED. ALL REPLACEMENT MATERIALS ARE TO BE NEW.

11) ALL EXISTING TRAFFIC SIGNS, ELECTRIC UNDERGROUND CABLES, DUCTS, FENCES, GUARDRAILS, STREET LIGHTS, STREET SIGNS, ETC., WHICH INTERFERE WITH CONSTRUCTION OPERATIONS AND NOT NOTED FOR REMOVAL OR DISPOSAL SHALL BE MAINTAINED BY THE CONTRACTOR OR TEMPORARILY RELOCATED. THIS IS CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED. DAMAGE TO THESE ITEMS SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE. IN ADDITION, ALL MAILBOXES THAT INTERFERE WITH CONSTRUCTION SHALL BE SIMILARLY RELOCATED AT NO ADDITIONAL COST. CONTRACTOR SHALL PROVIDE TEMPORARY TRAFFIC, REGULATORY, AND SAFETY SIGNAGE THAT IS DISTURBED BY CONSTRUCTION ACTIVITIES. SUCH COST SHALL BE CONSIDERED INCIDENTAL TO THE COST OF TRAFFIC CONTROL.

THE COST OF A SUFFICIENT NUMBER OF FLAGGERS AND ELECTRONIC MESSAGE BOARDS TO DIRECT TRAFFIC IS INCLUDED AND IS PART OF TRAFFIC CONTROL PAY ITEM.

12) THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL BUSINESS, THE CONSTRUCTION SITE, RESIDENCES, AGRICULTURE AREAS, AND ALL OTHER SITES NECESSARY FOR THE MAINTENANCE OF COMMERCE AND SAFETY AT ALL TIMES. THE CONTRACTOR MAY PLACE TEMPORARY PLATES OR OTHER SUCH DEVICES IN A SAFE AND ACCESSIBLE MANOR TO TEMPORARILY MAINTAIN ACCESS. IN NO CASE MAY MORE THAN ONE POINT OF ACCESS TO ANY RESIDENCE, BUSINESS OR SITE BE UNDER CONSTRUCTION SIMULTANEOUSLY. SHOULD A PROPERTY HAVE ONLY ONE POINT OF ACCESS. THE CONTRACTOR SHALL STAGE HIS WORK SO AS TO ONLY OBSTRUCT ONE HALF OF THIS ENTRANCE AT ANY TIME AND SHALL MAINTAIN ACCESS TO HIS PROPERTY AT ALL TIME. COSTS FOR MAINTAINING ACCESS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT (SEE NOTE 28).

13) CONTRACTOR SHALL PLACE AND MAINTAIN TEMPORARY 2" TO 6" HMA PATCHES ACROSS ALL PAVEMENT REPAIR AREAS PRIOR TO THE INSTALLATION OF THE FINAL PAVEMENT REPAIRS. COSTS SHALL BE INCIDENTAL TO THE ASSOCIATED PAY ITEMS. PLATES MAY BE PLACED IN LIEU OF HMA PATCHES AT THE DISCRETION OF THE FIELD ENGINEER. PLATES ARE TO BE RAMPED AND PINNED IN PLACE TO PREVENT MOVEMENT AND CAPABLE OF SUPPORTING HS-20 LOADING. COUNTER SINKING OF PLATES IS REQUIRED.

14) THE CONTRACTOR SHALL REMOVE AND REPLACE ALL SIGNS OF ALL TYPES, SIZES, AND OWNERSHIP NECESSARY TO COMPLETE INDICATED WORK. COST OF THIS WORK SHALL BE INCIDENTAL TO THE WORK AND CONTRACT.

15) THE CONTRACTOR SHALL BRACE ALL STREET LIGHT POLES, DPU-E POLES, CABLE TV OR COMED POLES WITHIN THE VICINITY OF THE INDICATED WORK. COST OF THIS WORK SHALL BE INCIDENTAL TO THE WORK AND CONTRACT. ANY DELAY DUE TO OBTAINING PERMISSION OR A PERMIT FROM THE OWNER OF THE FACILITY TO SUPPORT OR RELOCATE OF ANY EXISTING FACILITY IS AT THE CONTRACTOR'S EXPENSE.

16) THE CONTRACTOR SHALL CONTACT THE CITY OF NAPERVILLE'S TRANSPORTATION ENGINEERING AND DEVELOPMENT BUSINESS GROUP 48 HOURS PRIOR TO PERFORMING WORK IN OR AROUND THE WORK AREA WHERE DETECTOR LOOPS OR TRAFFIC SIGNALS HAVE THE POSSIBILITY OF BEING ENCOUNTERED AND/OR DAMAGED. THE CONTRACTOR SHALL CONTACT THE DUPAGE COUNTY DEPARTMENT OF TRANSPORTATION WITH THE SAME INFORMATION.

CONTINUED ON PAGE 2

WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC			
		CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION			
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: 1311/1324	CAD FILE: DGN\S270001C1.DWG	
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT DESCRIPTION: GENERAL NOTES	DRAWN BY: JK	PROJECT NO.: EU12-06-03 EU73	
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	DATE: 4-01 08	WORK REQUEST NO.: 56270	CHKD:	SEC:
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	ISSUED		APPV:	SCALE: NTS
		ENGINEER: RPS			COMPLETED BY:
		REVISION: 1 2 3			SHEET 1 OF 73

PROPOSED ELECTRIC CONSTRUCTION
ALONG 75TH ST. (DUPAGE COUNTY)
BETWEEN WASHINGTON ST. AND
RIVER RD. AT THE DUPAGE RIVER
IN THE CITY OF NAPERVILLE, STATE OF ILLINOIS

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	243
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

GENERAL NOTES (CONTINUED)

17) THE CONTRACTOR SHALL PROVIDE TIME DURING CONSTRUCTION OPERATIONS FOR THE LANDSCAPER TO REMOVE, PRESERVE, AND REINSTALL ANY BUSH OR SHRUB. EVERGREENS, BUSHES, SHRUBS, VINES, AND SEEDINGS SHALL BE DUG UP WITH CARE, AVOIDING INJURY TO THE PLANTS OR LOSS OR DAMAGE OF THE ROOTS. IMMEDIATELY AFTER DIGGING, ROOTS SHALL BE PROTECTED AGAINST DRYING OUT AND FREEZING BY WRAPPING ROOT SYSTEM IN BURLAP, REMOVED VEGETATION SHALL BE PLACED IN TEMPORARY STORAGE EITHER ON SITE OR AT OTHER APPROVED LOCATIONS. IF LANDSCAPER IS UNABLE TO REUSE EXISTING VEGETATION, HE SHALL REPLACE WITH SAME SIZE AND SPECIES AT HIS OWN EXPENSE. COST OF THIS WORK SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE LANDSCAPING CONTRACT AND IS PART OF THE RESTORATION (PAY ITEM).

18) DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR IS NOT ALLOWED TO PERMANENTLY STOCK PILE MATERIAL ON SITE. CONTRACTOR SHALL SUPPLY LIGHTED BARRICADES AROUND ALL STOCKPILES AND IS RESPONSIBLE FOR THE SECURITY OF ALL THE MATERIALS STORED OFF SITE.

19) ALL RESTORATION IS DIRECTED BY THE CITY OR COUNTY PERMIT WHICH THE CONTRACTOR IS REQUIRED TO OBTAIN PRIOR TO STARTING WORK. ALL REQUESTS REQUIRED BY THE CITY SHALL BE HONORED AND COMPLETED BY THE LANDSCAPER AT NO EXPENSE TO THE CITY. THE LANDSCAPE CONTRACTOR SHALL PERFORM ALL RESTORATION PER CITY OF NAPERVILLE SPECIFICATIONS. THE CONTRACTOR SHALL PERFORM ALL WORK TO THE MOST RESTRICTIVE REQUIREMENT OF THE GOVERNING BODIES. THIS IS PART OF THE RESTORATION PRICE (PAY ITEM). SEE 56270-1000, TRANSMISSION LINE LANDSCAPING OVERHEAD AND UNDER GROUND FOR PROJECT GENERAL REQUIREMENTS.

20) ALL IDENTIFIED OR SUSPECTED UNDERGROUND FACILITIES OR OBSTRUCTIONS SHALL BE LOCATED BY HAND DIGGING TO A DEPTH OF 8 FEET, WIDTH OF 4 FEET AND LENGTH OF 5 FEET AND IDENTIFIED BY NAME AND SIZE. THIS IS PART OF THE CONDUIT AND OR MANHOLE (PAY ITEMS).

21) WHEN REPAIRING, REPLACING, OR INSTALLING ITEMS, THE ITEMS SUPPLIED BY THE CONTRACTOR SHALL BE NEW AND NOT USED.

22) THE COST TO LOCATE SUPPORT, MOVE AND PROTECT THE UTILITIES (SHOWN ON THE DRAWINGS) SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO WORK.

23) ALL MATERIALS REMOVED DURING THE CONSTRUCTION OF THE PROJECT AND DESIGNATED ON THE PLANS OR BY THE CITY AS SALVAGED MATERIALS SHALL BE REMOVED, CLEANED, AND STACKED AT THE DESIGNATED CITY OF NAPERVILLE SITE. ALL UNUSED MATERIALS SHALL BE THE PROPERTY OF THE CITY.

24) ALL MATERIALS REMOVED BY THE CONTRACTOR, SUCH AS POLES, CONDUIT, HANDHOLES, MANHOLES, RISERS, EXCAVATED MATERIALS, WIRE, STEEL POLES, FOUNDATIONS, ANCHORS, GUYS, CROSS ARMS, INSULATOR GROUND WIRES, CONDUCTORS, AND HARDWARE AND DESIGNATED ON THE PLAN FOR REMOVAL SHALL BE REMOVED TO AN APPROPRIATE DUMP SITE FOR WASTE. DUMP TICKETS RECEIVED AND RETURNED TO THE CITY. ALL AREAS LEFT DAMAGED BY THE REMOVAL SHALL BE REPAIRED, REPLACED OR INSTALLED TO FINISHED GRADE. THIS PART OF THE WORK IS COVERED IN THE COST OF RESTORATION.

25) THE CITY OF NAPERVILLE DOES NOT GUARANTEE A SEQUENCE OF WORK OR AVAILABILITY OF THE WORK AREA OR QUANTITY OF WORK.

26) ALL WORK WILL OCCUR DURING ALL 4 SEASONS OF THE YEAR. THEREFORE, THERE SHALL BE NO COMPENSATION PAID BY THE CITY FOR SNOW, ICE, RAIN, WIND, OR HOT OR COLD WEATHER. IT IS ASSUMED THE CONTRACTOR HAS INCLUDED THESE ITEMS IN THE PRICING.

27) THE CONTRACTOR IS ADVISED THAT JOINTED, FISSURED ROCK, LARGE BOULDERS (12 INCHES OR LARGER) AND VERY TOUGH STRATIFIED ROCK/SHALE EXISTS FROM 1'-0" TO 10'-0" BELOW GRADE AND SOLID ROCK EXISTS FROM 10'-0" TO 20'-0" BELOW GRADE AND REQUIRES ADDITIONAL WORK AND IS INCLUDED IN THE COST OF INSTALLING THE DUCT BANK WORK OR HAND HOLE WORK, MANHOLE WORK, VAULT WORK OR RISER WORK. THE CONTRACTOR WILL EXCAVATE IN ROCK ACCORDING TO SECTION 502 OF THE STANDARD SPECIFICATIONS FOR ROCK EXCAVATION FOR STRUCTURES. THE BOTTOM OF THE TRENCH SHALL BE LINED WITH 2 INCHES OF FA2 MATERIALS OR CA-6 MATERIALS TO FORM A BEDDING FOR THE DUCT PACKAGE AND IS INCIDENTAL TO THE COST.

SEE SPECIFICATION C30-1950 FOR HDD ROCK DEFINITION AND METHOD OF PAYMENT.

28) THE CONTRACTOR SHALL COORDINATE AND PERFORM ALL WORK OR AS MUCH AS POSSIBLE USING TRAFFIC CONTROL AND LANE CLOSURES AS REQUIRED FOR THE BRIDGE WORK. ALL ELECTRICAL WORK REQUIRING A LANE CLOSURE OR TRAFFIC CONTROL SHALL ONLY BE ACCEPTED IF THE BRIDGE WORK IS NOT INVOLVED. THE CONTRACTOR TO INCLUDE THESE COSTS UNDER THE TRAFFIC CONTROL (PAY ITEM).

29) THE CONTRACTOR SHALL, DURING THE PROGRESS OF THE JOB, NOTE ANY AND ALL CHANGES OR DEVIATIONS FROM THE ORIGINAL DRAWING. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A COPY OF ALL RECORDED DIMENSIONS AND ELEVATIONS. ALL MANHOLES, HAND HOLES VAULTS OR RISERS, BENDS AND FITTINGS, SHALL BE TIED TO A MINIMUM OF TWO PERMANENT VISIBLE POINTS (i.e. PROPERTY IRONS AND BUILDINGS). DEVIATIONS FROM CHANGES IN GRADE SHALL ALSO BE NOTED ON THE RECORD DRAWINGS.

30) WATER MAIN VALVES, INCLUDING TAP VALVES, ADJACENT TO AN EXISTING WATER MAIN, AND EXISTING WATER MAIN VALVES SHALL ONLY BE OPERATED BY THE CITY OF NAPERVILLE, DEPARTMENT OF PUBLIC UTILITIES CEE/CM DIVISION PERSONNEL WITH 48-HOURS NOTICE (MONDAY-FRIDAY) 630-420-4122.

31) THE CONTRACTOR PERFORMING THE ELECTRICAL WORK FOR THE CITY OF NAPERVILLE SHALL BE A QUALIFIED ELECTRICAL CONTRACTOR WITH NO LESS THAN SEVEN YEARS EXPERIENCE IN THE ELECTRICAL POWER DISTRIBUTION FIELD (34kV AND BELOW ELECTRICAL WORK).

THE CONTRACTOR SHALL PROVIDE AT LEAST FOUR REFERENCES. EACH REFERENCES MUST INCLUDE THE FOLLOWING:
A) CONTRACT NAME AND PHONE NUMBER.
B) SCOPE OF WORK.
C) CONTRACT DOLLAR AMOUNT FOR ELECTRICAL DUCT, MANHOLE AND SWITCH GEAR INSTALLATION WORK COMPLETED FOR EACH REFERENCE.

32) CONTRACTOR IS ADVISED THE AREA HAS PRESENTLY INSTALLED A 138kV SINGLE CIRCUIT STEEL POLE LINE THAT SHALL REMAIN ENERGIZED DURING THE ENTIRE PROJECT. CONTRACTOR SHALL OBSERVE ALL OSHA SAFETY REQUIREMENTS IN THE WORK AREA.

UTILITY CONTACTS:

CITY OF NAPERVILLE:

NDPU-	WATER AND WASTEWATER MR. PAT EYRE (630) 420-4122
NDPU-	ELECTRIC MRS. LUCY HYNES (630) 305-5375
NDPW-	PUBLIC WORKS MR. DAN VORREN (630) 548-2981
TED-	TRANSPORTATION, ENGINEERING & DEVELOPMENT BUSINESS GROUP MR. BILL NOVAK (630) 420-6704

OTHER UTILITIES:

SBC AMERITECH AT&T-	MR. GREG LAWERANCE (630) 462-5846 MS. DONNA SZPYTEK (630) 941-4223
COMCAST-	MR. BOB SCHULTER (630) 600-6347
COMMONWEALTH EDISION-	MR. JOE STACHO OR TOM MUNAR (630) 424-5704
NICOR GAS-	MS. CONSTANCE LANE (630) 983-8676 X3830
WIDE OPEN WEST-	MR. TOM JEBENS (630) 536-3153 MR. JIM PIRTANO (630) 669-2707
DUPAGE COUNTY PERMIT ADMINISTRATOR-	MR. ROBERT KOLAR 421 N. COUNTY FARM RD. WHEATON, IL 60187 (630) 407-6900

WF# INFORMATION	
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

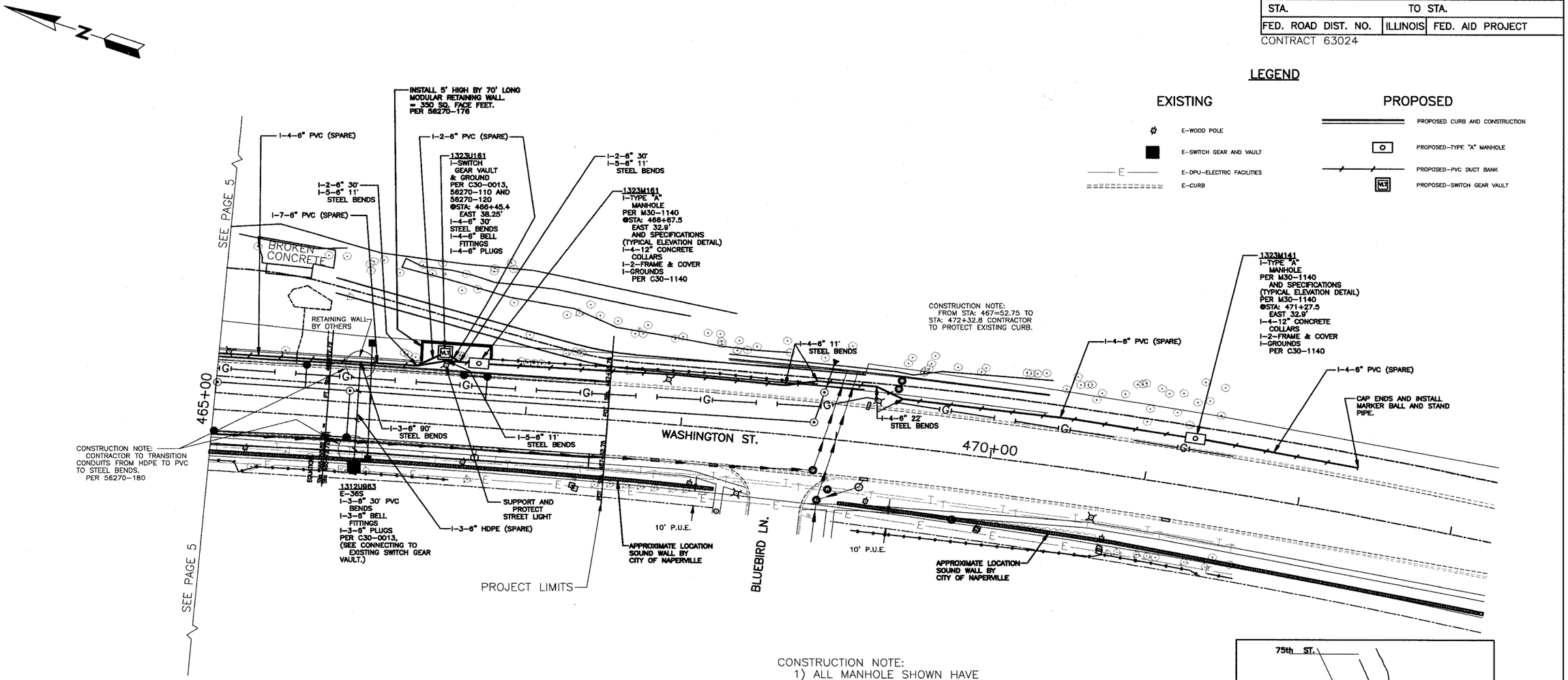
PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS										MAP NO.: 1311/1324	CAD FILE: D0562700001C2.DWG
PROJECT DESCRIPTION: GENERAL NOTES										DRAWN BY: JK	PROJECT NO.: EU-06-03
DATE	4-01 08					WORK REQUEST NO. 56270	CHK'D:			SBC:	COMPLETED BY:
ISSUED											
ENGINEER	RPS						APPR:			SCALE: NTS	SHEET 2 OF 73
REVISION		1	2	3							

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	244
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

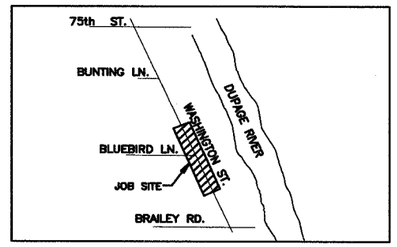
CONTRACT 63024

LEGEND

EXISTING	PROPOSED
E-WOOD POLE	PROPOSED CURB AND CONSTRUCTION
E-SWITCH GEAR AND VAULT	PROPOSED-TYPE "A" MANHOLE
E-DPU-ELECTRIC FACILITIES	PROPOSED-PVC DUCT BANK
E-CURB	PROPOSED-SWITCH GEAR VAULT



CONSTRUCTION NOTE:
1) ALL MANHOLE SHOWN HAVE 4-1' COLLARS AND 2 FRAME AND COVERS. MANHOLES CAN HAVE 1 OR 2 OPENING.
2) LOCATE, SUPPORT, AND PROTECT ALL UTILITIES AT ALL CROSSINGS, AND NEXT TO, AND PARALLEL WITH ALL EXCAVATED AREAS.
3) ROOT PRUNE ALL TREES SAVE AND PROTECT. PER 56270-150 AND 56270-160.



LOCATION MAP
N.T.S.

WF# INFORMATION	
WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: 1311/1312	CAD FILE: 0056270001C3.DWG
PROJECT DESCRIPTION: CONDUIT LAYOUT, WITHOUT SECTIONS	DRAWN BY: PM	PROJECT NO.: EU12-06-03 RU23
DATE: 4-01-08 / ISSUED / ENGINEER: RPS / REVISION: 1 2 3	WORK REQUEST NO.: 56270 / CHKD: / APPV:	AT&T: / SCALE: 1"=30'	COMPLETED BY: SHEET 3 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	245
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

CONSTRUCTION NOTE:
1) * REPRESENTS EARTH EXCAVATION SPECIAL
2) ALL RESTORATION ON THIS PAGE TO BE DONE BY ELECTRICAL CONTRACTOR. (UNDER RESTORATION)
3) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)
4)ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.
5) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.

LEGEND

EXISTING		PROPOSED	
ϕ	E-WOOD POLE		PROPOSED CURB AND CONSTRUCTION
■	E-SWITCH GEAR AND VAULT	○	PROPOSED-TYPE "A" MANHOLE
E	E-DPU-ELECTRIC FACILITIES		PROPOSED-PVC DUCT BANK
	E-CURB	M.T	PROPOSED-SWITCH GEAR VAULT

N

SEE PAGE 6

SEE PAGE 6

465+00

470+00

BROKEN CONCRETE

RETAINING WALL BY OTHERS

INSTALL 5' HIGH BY 70' LONG MODULAR RETAINING WALL

PROJECT LIMITS

WASHINGTON ST.

BLUEBIRD LN.

SIDEWALK

TO 1323M161
FROM 1312M981
TO 1323U161
FROM 1312M981
TO 1312U963
FROM 1323M161
I-7-6" PVC CONCRETE ENCASE SPOILS BACKFILL * PER C30-1900 (75')
ROLL CONDUITS TO MAKE SECTION V-V

TO 1323M161
FROM 1312M981
I-4-6" PVC CONCRETE ENCASE SPOILS BACKFILL * (90')
SECTION R-R

TO 1323U161
FROM 1312M981
I-2-6" PVC CONCRETE ENCASE SPOILS BACKFILL * PER C30-1900 (15')
SECTION M-M

1323U161
I-SWITCH GEAR VAULT

TO 1323M161
FROM 1323U161
I-2-6" PVC CONCRETE ENCASE SPOILS BACKFILL * PER C30-1900 (15')
SECTION M-M

1323M161
I-TYPE "A" MANHOLE

4.5'
21.5'
6.25'

1312U963
E-36S

SEE DETAIL 1

TO 1312U963
FROM 1323M161
I-3-6" HDPE (PUSH 70')
PER C30-1950 AND 56270-180
SECTION UU-UU

TO 1323M161
FROM 1312M981
TO 1312U963
FROM 1323M161
I-5-6" PVC CONCRETE ENCASE SPOILS BACKFILL * PER C30-1900 (35')
ROLL CONDUITS TO MAKE SECTION S-S

APPROXIMATE LOCATION OF SOUND WALL BY CITY OF NAPERVILLE

10' P.U.E.

TO 1323M141
FROM 1323M161
I-4-6" PVC FA-2 ENCASE SPOILS BACKFILL * PER C30-1900 (455')
SECTION R-R

1323M141
I-TYPE "A" MANHOLE

TO STUB
FROM 1323M141
I-4-6" PVC FA-2 ENCASE SPOILS BACKFILL * PER C30-1900 (100')
SECTION R-R

APPROXIMATE LOCATION SOUND WALL BY CITY OF NAPERVILLE

CONSTRUCTION NOTE:
FROM APPROXIMATELY STA:467+00 TO STA: 472+00 BRUSH IS TO BE REMOVED.
CONTRACTOR WITH ARBORIST SHALL INSTALL 18 TREES 3"-5" IN DIAMETER SPECIE OF TREES TO BE DETERMINED. BY ARBORIST TO MATCH THE REMOVED TREES.
DO NOT INSTALL TREES OVER NEW DUCT BANK.
EASTSIDE OF ELECTRIC RETAINING WALL THERE ARE TWO LARGE TREES TO BE PROTECTED. TREES ARE APPROXIMATELY 24" IN DIAMETER.

DETAIL 1

REMOVE 10' OF CURB. TO BE REPLACED BY OTHERS. INSTALL TEMPORARY CURB AND GUTTER.

REMOVE AND REPLACE SIDEWALK

1312U963
E-36S

LANDSCAPE AREA
SEED = .032 ACRES
SOD = 154.5 SQ. YDS.

REMOVE AND REPLACE SIDEWALK AREA
= 75 SQ. FT.

BACKFILL AREA WITH MODULAR RETAINING WALL TO THE HEIGHT OF CURB. WITH CA-6 AND 6" OF BLACK DIRT. MINUS VAULT AND MANHOLE AREA = 81.2 SQ. YDS. PER 56270-170

IRON FENCE TO REMOVED. BY OTHERS FOR BIKE PATH.

CURB AND GUTTER BY OTHERS

1323U161
I-SWITCH GEAR VAULT

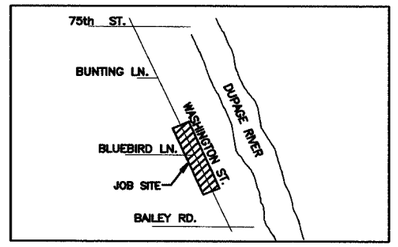
1323M161
I-TYPE "A" MANHOLE

SAW CUT AND REMOVE SECTIONS OF BIKE PATH AND REPLACE.
AREA = 2070 SQ. FT.

LANDSCAPE AREA = 877 SQ. YDS.
SEED = .18 ACRES
SOD = 877 SQ. YDS.

EXISTING CURB AND GUTTER

1323M141
I-TYPE "A" MANHOLE



LOCATION MAP
N.T.S.

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS
PROJECT DESCRIPTION: CONDUIT LAYOUT. WITH SECTIONS
MAP NO.: 1312/1323
CAD FILE: 00562700001C4.DWG
DRAWN BY: PM
PROJECT NO.: EU12-06-03 EU73
DATE: 4-01 08
ISSUED:
ENGINEER: RPS
DIVISION:
WORK REQUEST NO.: 56270
CHK'D:
APP'D:
AT&T:
COMPLETED BY:
SCALE: 1"=30'
SHEET 4 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	246
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

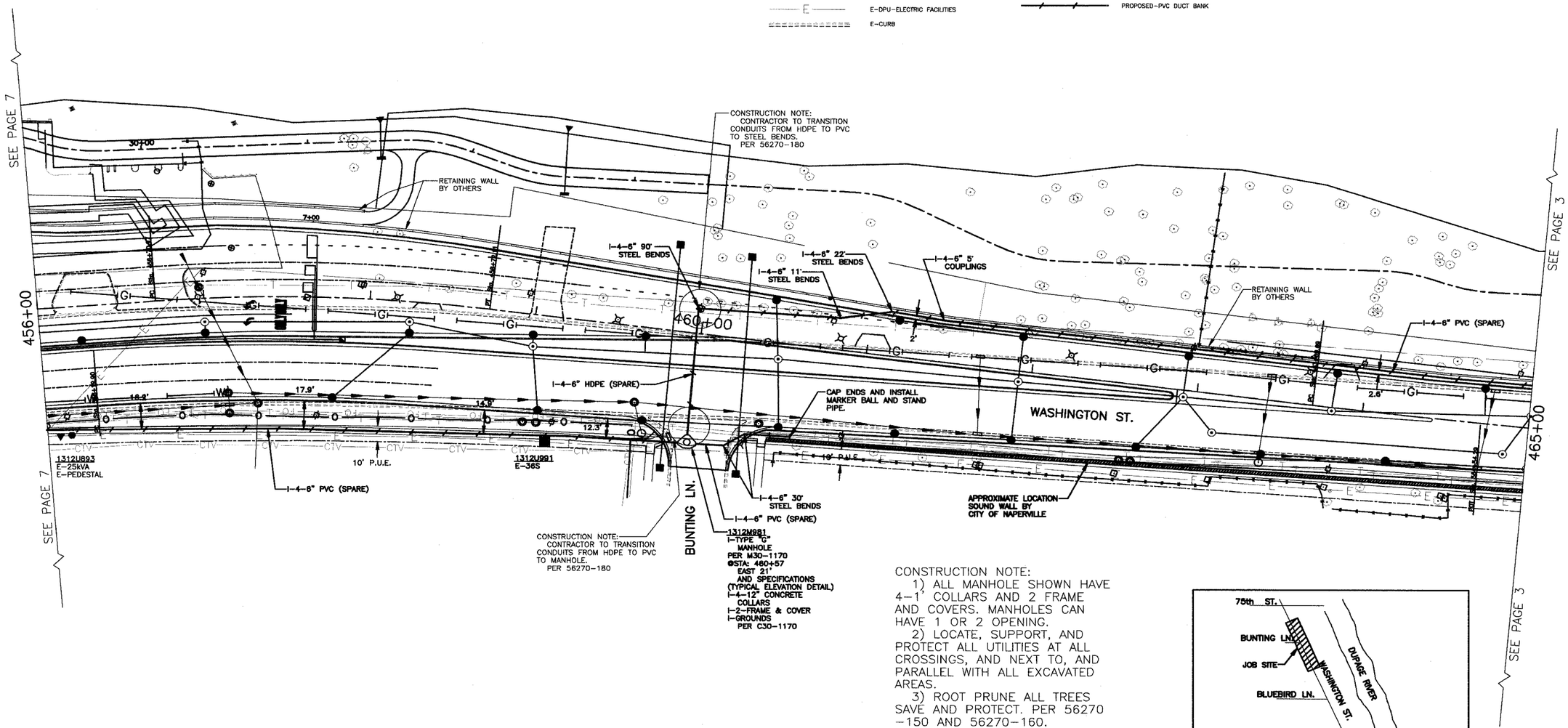
LEGEND

EXISTING

- E-WOOD POLE
- E-SWITCH GEAR AND VAULT
- E-DPU-ELECTRIC FACILITIES
- E-CURB

PROPOSED

- PROPOSED CURB AND CONSTRUCTION
- PROPOSED-TYPE "A" MANHOLE
- PROPOSED-PVC DUCT BANK



CONSTRUCTION NOTE:
1) ALL MANHOLE SHOWN HAVE 4-1' COLLARS AND 2 FRAME AND COVERS. MANHOLES CAN HAVE 1 OR 2 OPENING.
2) LOCATE, SUPPORT, AND PROTECT ALL UTILITIES AT ALL CROSSINGS, AND NEXT TO, AND PARALLEL WITH ALL EXCAVATED AREAS.
3) ROOT PRUNE ALL TREES SAVE AND PROTECT. PER 56270 -150 AND 56270-160.

LOCATION MAP
N.T.S.

WF# INFORMATION	
WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS
PROJECT DESCRIPTION: CONDUIT LAYOUT, WITHOUT SECTIONS
MAP NO.: 1312
CAD FILE: 0056270001C5.DWG
DRAWN BY: PM
PROJECT NO.: EU15-08-03 EU75
DATE: 4-01 08
ISSUED
ENGINEER: RPS
REVISION: 1 2 3
WORK REQUEST NO.: 56270
CHK'D:
APR'V:
AT&T:
COMPLETED BY:
SCALE: 1"=30'
SHEET 5 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	247
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

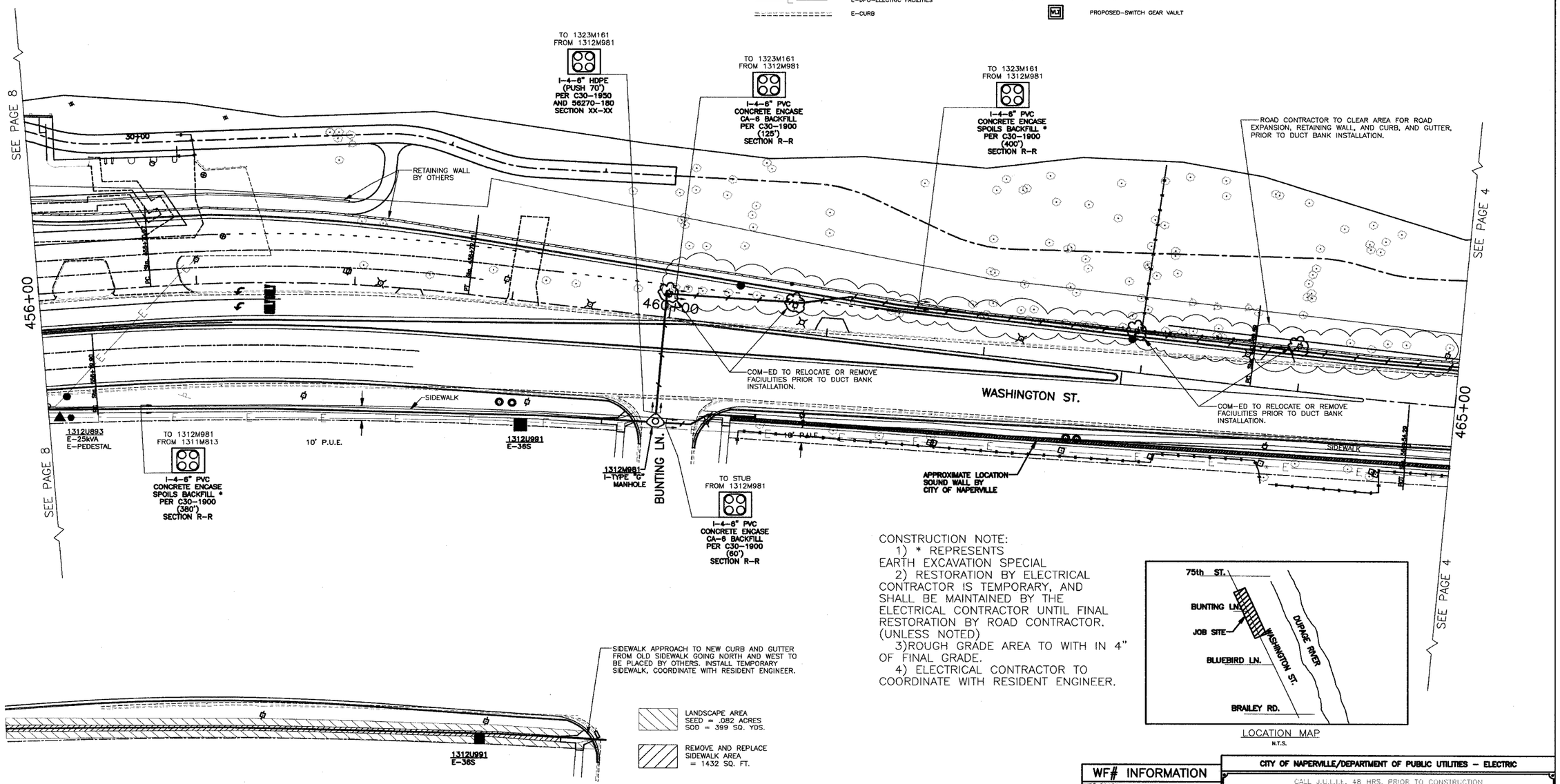
LEGEND

EXISTING

- E-WOOD POLE
- E-DPU-ELELCTRIC UTILITY POLE
- E-DPU-ELELCTRIC SWITCH GEAR AND VAULT
- E-DPU-ELECTRIC FACILITIES
- E-CURB

PROPOSED

- PROPOSED CURB AND CONSTRUCTION
- PROPOSED-TYPE "A" MANHOLE
- PROPOSED-PVC DUCT BANK
- PROPOSED-SWITCH GEAR VAULT



CONSTRUCTION NOTE:
1) * REPRESENTS EARTH EXCAVATION SPECIAL
2) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)
3)ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.
4) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.

LOCATION MAP
N.T.S.

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS									MAP NO.: 1312		CAD FILE: 005627000 1C6.DWG
PROJECT DESCRIPTION: CONDUIT LAYOUT, WITH SECTIONS									DRAWN BY: PM		PROJECT NO.: EU12-06-03 EU03
DATE	4-01 -08								WORK REQUEST NO. 56270	CHKD:	AT&T:	COMPLETED BY:
ISSUED										APPV:	SCALE: 1"=30'	SHEET 6 OF 73
ENGINEER	RPS											
REVISION		1	2	3								

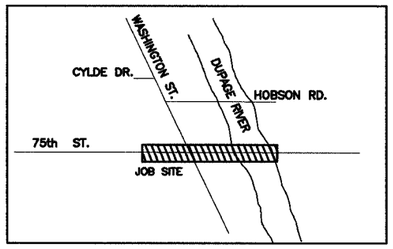
F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	248
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

LEGEND

EXISTING	PROPOSED
E–WOOD POLE	PROPOSED CURB AND CONSTRUCTION
E–DPU–ELECTRIC PEDESTAL	PROPOSED–TYPE "A" MANHOLE
E–DPU–ELECTRIC TRANSFORMER	PROPOSED–TYPE "E" MANHOLE
E–SWITCH GEAR AND VAULT	PROPOSED–TYPE "G" MANHOLE
E–DPU–ELECTRIC FACILITIES	PROPOSED–PVC DUCT BANK
E–CURB	PROPOSED–TRANSFORMER VAULT
	PROPOSED–DPU–E PEDESTAL

LOCATION MAP



CONSTRUCTION NOTE: HAND DIG OVER 24" AND 36" WATER MAINS. INSTALL DUCT BANK UNDER BOTH WATER MAINS AND PHONE DUCT BANK. APPROXIMATE DEPTH OF WATER MAIN TO INVERT IS 6' TO 8'. MAINTAIN 12" OF SEPARATION FROM OTHER UTILITIES. CONCRETE ENCASE DUCT BANK AT WATER MAIN CROSSING. (40') CONTACT DUPAGE WATER COMMISION PRIOR TO DIGGING.

CONSTRUCTION NOTE: CABLE LOCATED INSIDE MANHOLE NEEDS TO BE RELOCATED PRIOR TO REMOVAL OF MANHOLE. AFTER CABLE HAS BEEN REMOVED CUT CONDUITS EXITING FROM MANHOLE 1311M811 GOING EAST, WEST, AND SOUTH.

CONSTRUCTION NOTE: CONTRACTOR TO TRANSITION CONDUITS FROM HDPE TO PVC TO STEEL BENDS. PER 56270-180

CONSTRUCTION NOTE: CONTRACTOR TO TRANSITION CONDUITS FROM HDPE TO PVC. PER 56270-180

CONSTRUCTION NOTE: CONTRACTOR TO TRANSITION CONDUITS FROM HDPE TO PVC TO MANHOLE. PER 56270-180

CONSTRUCTION NOTE: CONTRACTOR TO TRANSITION CONDUITS FROM HDPE TO PVC TO PVC BENDS. PER 56270-180

CONSTRUCTION NOTE: AT MANHOLE 1311M613. INSTALL DUCT BANK TO THE NORTH OF MANHOLE TO GO OVER AND UNDER EXISTING 10-WAY DUCT BANK. SHAVE CONCRETE FROM TOP OF EXISTING DUCTBANK FOR NEW CONDUIT TO REST ON.

CONSTRUCTION NOTE:
1) ALL MANHOLES SHOWN HAVE 4–1' COLLARS AND 2 FRAME AND COVERS. MANHOLES CAN HAVE 1 OR 2 OPENING.
2) LOCATE, SUPPORT, AND PROTECT ALL UTILITIES AT ALL CROSSINGS, AND NEXT TO, AND PARALLEL WITH ALL EXCAVATED AREAS.
3) ROOT PRUNE ALL TREES SAVE AND PROTECT. PER 56270–150 AND 56270–160.
4) MAINTAIN DRAINAGE FOR THE DURATION OF PROJECT.

DETAIL 1
VIEW LOOKING EAST TOWARDS MANHOLE 1311M613

WF# INFORMATION	
WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

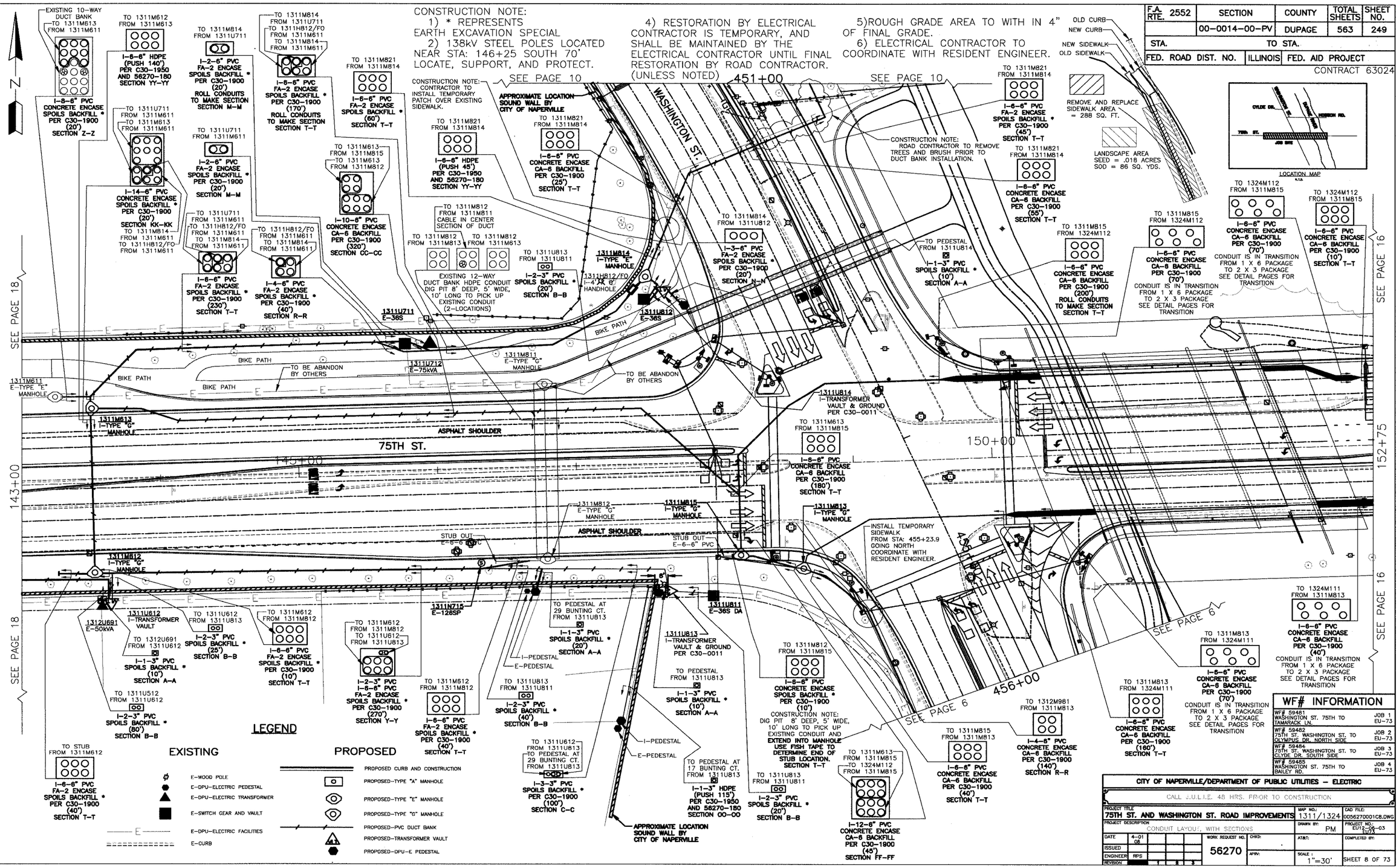
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS		MAP NO.: 1311/1312	CAD FILE: D056270001C7.DWG
PROJECT DESCRIPTION: CONDUIT LAYOUT, WITHOUT SECTIONS		DRAWN BY: PM	PROJECT NO.: EU12-06-03 EU73
DATE: 3-20 08	WORK REQUEST NO.: 56270	CHKD:	AT&T:
ISSUED		APPR:	COMPLETED BY:
ENGINEER: RPS		SCALE: 1"=30'	SHEET 7 OF 73
REVISION: 1 2 3			

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	249
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

CONSTRUCTION NOTE:
1) * REPRESENTS EARTH EXCAVATION SPECIAL
2) 138kV STEEL POLES LOCATED NEAR STA: 146+25 SOUTH 70' LOCATE, SUPPORT, AND PROTECT.
4) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)
5)ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.
6) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.



WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73

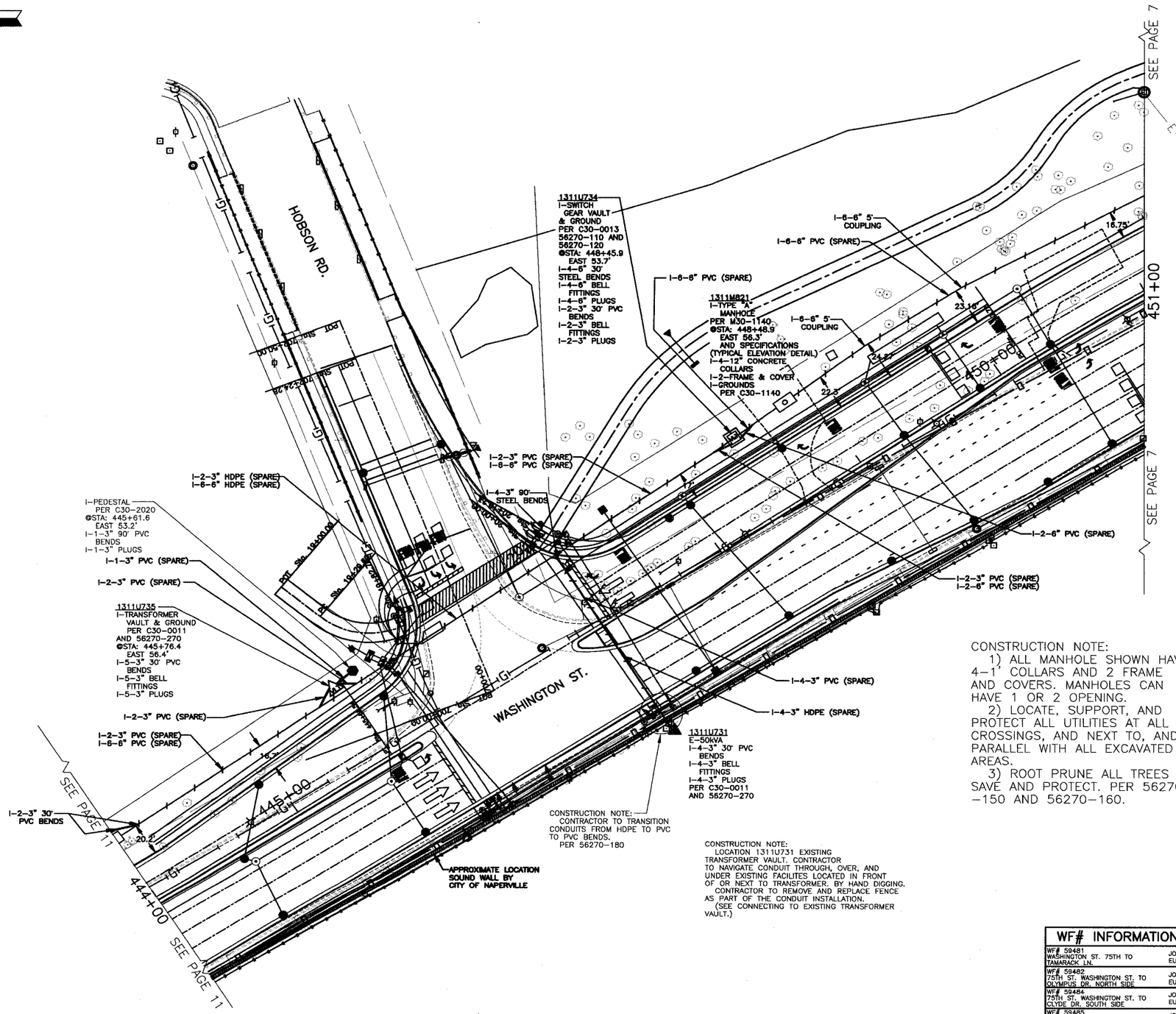
CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS		MAP NO.: 1311/1324	CAD FILE: 005627D001CB.DWG
PROJECT DESCRIPTION: CONDUIT LAYOUT WITH SECTIONS		DRAWN BY: PM	PROJECT NO.: EU12-06-03 EU03
DATE: 4-01-08	WORK REQUEST NO.: 56270	CHKD:	AT&T:
ISSUED		APPR:	COMPLETED BY:
ENGINEER: RPS		SCALE: 1"=30'	SHEET 8 OF 73
REVISION: 1 2 3			

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	250
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024



LEGEND

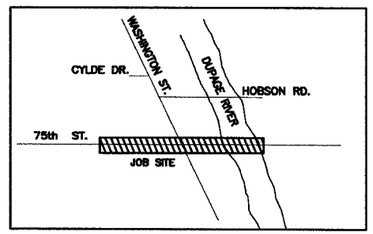
EXISTING

- E-WOOD POLE
- E-DPU-ELECTRIC PEDESTAL
- E-DPU-ELECTRIC TRANSFORMER
- E-SWITCH GEAR AND VAULT
- E-DPU-ELECTRIC FACILITIES
- E-CURB

PROPOSED

- PROPOSED CURB AND CONSTRUCTION
- PROPOSED-TYPE "A" MANHOLE
- PROPOSED-PVC DUCT BANK
- PROPOSED-TRANSFORMER VAULT
- PROPOSED-DPU-E PEDESTAL
- PROPOSED-DPU-E HANDHOLE

CONSTRUCTION NOTE:
1) ALL MANHOLE SHOWN HAVE 4-1' COLLARS AND 2 FRAME AND COVERS. MANHOLES CAN HAVE 1 OR 2 OPENING.
2) LOCATE, SUPPORT, AND PROTECT ALL UTILITIES AT ALL CROSSINGS, AND NEXT TO, AND PARALLEL WITH ALL EXCAVATED AREAS.
3) ROOT PRUNE ALL TREES SAVE AND PROTECT. PER 56270-150 AND 56270-160.

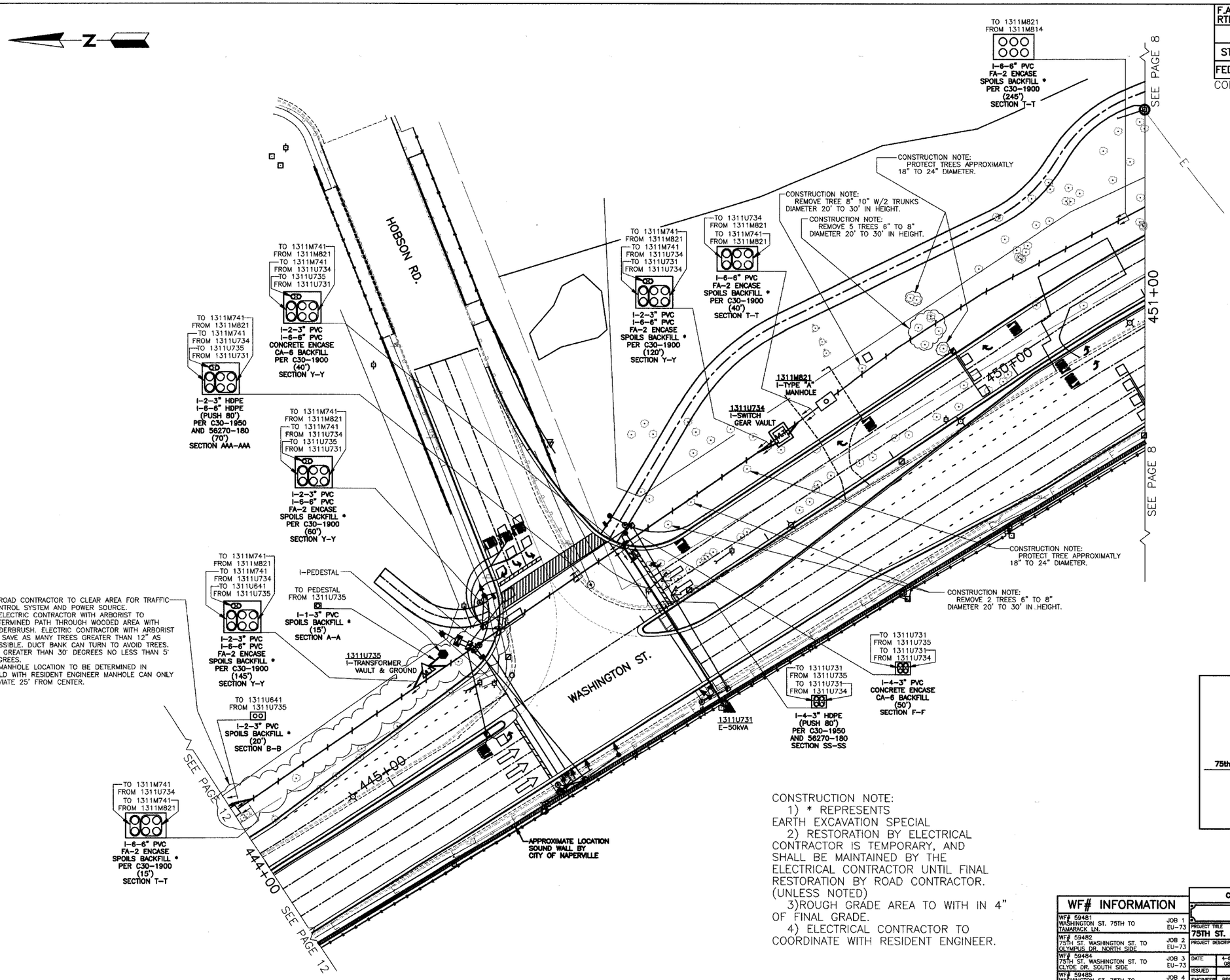


LOCATION MAP
N.T.S.

WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC		
WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION		
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: 1311/1324	CAD FILE: 0056270001C9.DWG
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION: CONDUIT LAYOUT, WITHOUT SECTIONS	DRAWN BY: PM	PROJECT NO.: EU12-08-03
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73	DATE: 4-01 08 / ISSUED / ENGINEER: RPS / REVISION: 1 2 3	WORK REQUEST NO.: 56270	CHKD.: . / APRV.: / AT&T: / SCALE: 1"=30'	COMPLETED BY: / SHEET 9 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	251
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024



LEGEND

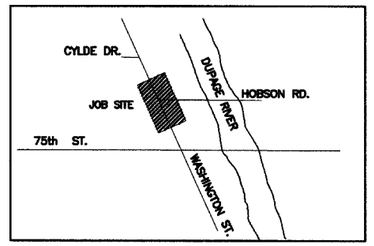
EXISTING

- E-WOOD POLE
- E-DPU-ELECTRIC PEDESTAL
- E-DPU-ELECTRIC TRANSFORMER
- E-SWITCH GEAR AND VAULT
- E-DPU-ELECTRIC FACILITIES
- E-CURB

PROPOSED

- PROPOSED CURB AND CONSTRUCTION
- PROPOSED-TYPE "A" MANHOLE
- PROPOSED-PVC DUCT BANK
- PROPOSED-TRANSFORMER VAULT
- PROPOSED-DPU-E PEDESTAL
- PROPOSED-DPU-E HANDHOLE

CONSTRUCTION NOTE:
1) * REPRESENTS EARTH EXCAVATION SPECIAL
2) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)
3) ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.
4) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.



LOCATION MAP
N.T.S.

WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC		
WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION		
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: 1311/1324	CAD FILE: 20562700D1C10.DWG
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION: CONDUIT LAYOUT, WITH SECTIONS	DRAWN BY: PM	PROJECT NO.: EU12-06-03 EU73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73	DATE: 4-01-08 / ISSUED / ENGINEER: RPS / REVISION: 1 2 3	WORK REQUEST NO.: 56270	CHKD: . APPR: . ATT&T: . SCALE: 1"=30' COMPLETED BY: SHEET 10 OF 78

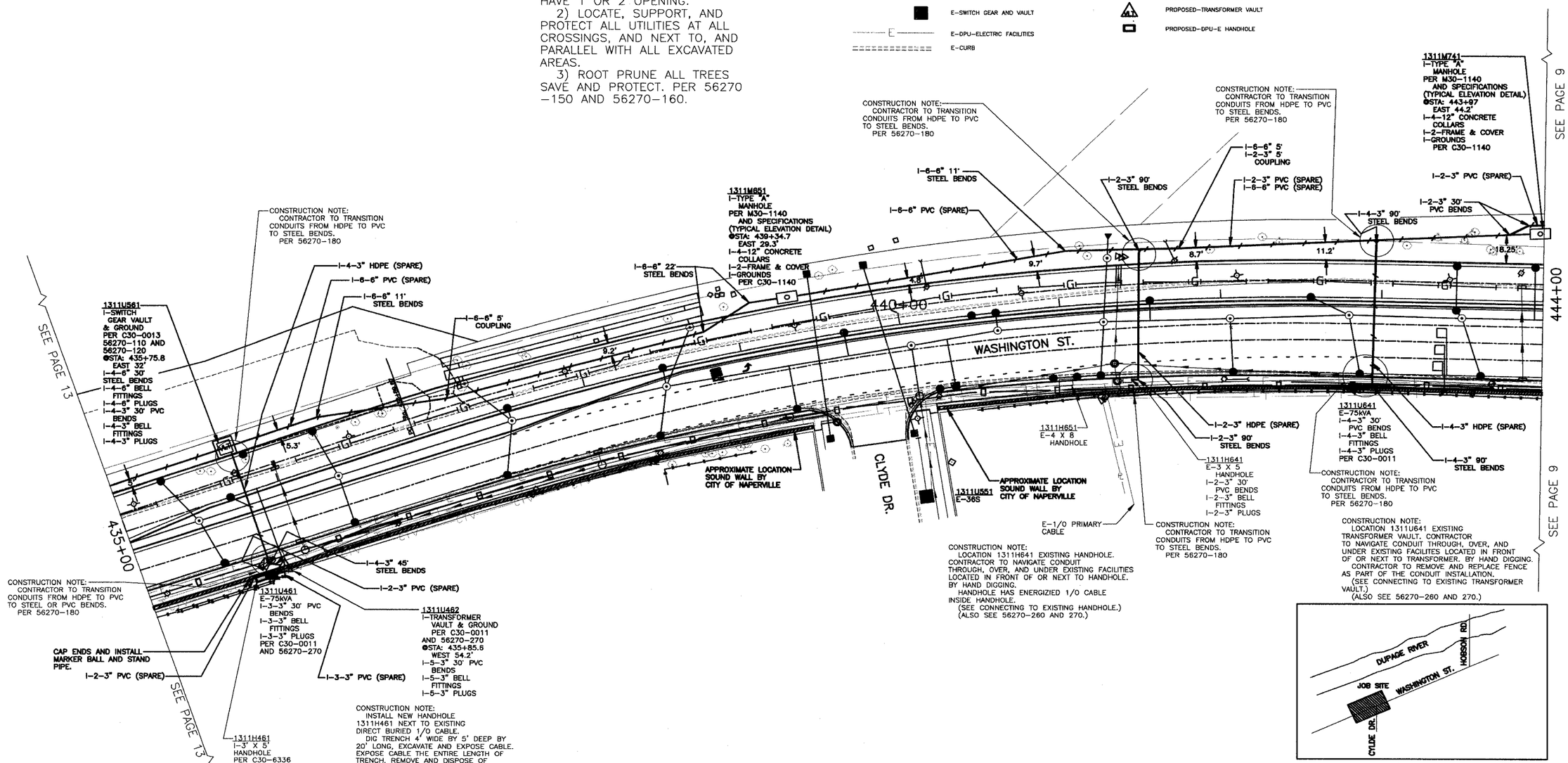
F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	252
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

CONSTRUCTION NOTE:
1) ALL MANHOLE SHOWN HAVE 4-1' COLLARS AND 2 FRAME AND COVERS. MANHOLES CAN HAVE 1 OR 2 OPENING.
2) LOCATE, SUPPORT, AND PROTECT ALL UTILITIES AT ALL CROSSINGS, AND NEXT TO, AND PARALLEL WITH ALL EXCAVATED AREAS.
3) ROOT PRUNE ALL TREES SAVE AND PROTECT. PER 56270-150 AND 56270-160.

LEGEND

EXISTING	PROPOSED
E-WOOD POLE	PROPOSED CURB AND CONSTRUCTION
E-DPU-ELECTRIC PEDESTAL	PROPOSED-TYPE "A" MANHOLE
E-DPU-ELECTRIC TRANSFORMER	PROPOSED-PVC DUCT BANK
E-SWITCH GEAR AND VAULT	PROPOSED-TRANSFORMER VAULT
E-DPU-ELECTRIC FACILITIES	PROPOSED-DPU-E HANDHOLE
E-CURB	



LOCATION MAP
N.T.S.

WF# INFORMATION

WF# 59461 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73
WF# 59462 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: **75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS**
MAP NO.: 1311
CAD FILE: 056270001C11.DWG
PROJECT DESCRIPTION: CONDUIT LAYOUT, WITHOUT SECTIONS
DRAWN BY: PM
PROJECT NO.: EU12-06-03 (U72)
DATE: 4-01-08
ISSUED
ENGINEER: RPS
REVISION: 1 2 3
WORK REQUEST NO.: 56270
CHKD:
APP'D:
A1&1:
SCALE: 1"=30'
COMPLETED BY:
SHEET 11 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	253
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

CONSTRUCTION NOTE:
1) * REPRESENTS EARTH EXCAVATION SPECIAL
2) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)
3) ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.
4) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.

LEGEND

EXISTING

- E-WOOD POLE
- E-DPU-ELECTRIC PEDESTAL
- E-DPU-ELECTRIC TRANSFORMER
- E-SWITCH GEAR AND VAULT
- E — E-DPU-ELECTRIC FACILITIES
- E-CURB

PROPOSED

- PROPOSED CURB AND CONSTRUCTION
- PROPOSED-TYPE "A" MANHOLE
- PROPOSED-PVC DUCT BANK
- PROPOSED-TRANSFORMER VAULT
- PROPOSED-DPU-E HANDHOLE

ROAD CONTRACTOR TO CLEAR AREA FOR ROAD EXPANSION, AND CURB AND GUTTER.
DUCT BANK INSTALLATION.
ELECTRIC CONTRACTOR WITH ARBORIST TO DETERMINED PATH THROUGH WOODED AREA WITH UNDERBRUSH. ELECTRIC CONTRACTOR WITH ARBORIST TO SAVE AS MANY TREES GREATER THAN 12" AS POSSIBLE. DUCT BANK CAN TURN TO AVOID TREES. NO GREATER THAN 30° DEGREES NO LESS THAN 5° DEGREES.
MANHOLE LOCATION TO BE DETERMINED IN FIELD WITH RESIDENT ENGINEER MANHOLE CAN ONLY DEVIATE 25' FROM CENTER.

SEE PAGE 14

TO 1311M461
FROM 1311U561
TO 1311M461
FROM 1311M651
1-6-6" PVC
FA-2 ENCASE
SPOILS BACKFILL *
PER C30-1900
(80')
SECTION T-T

CONSTRUCTION NOTE:
PROTECT TREE APPROXIMATLY 24" TO 30" DIAMETER.

1311U561
1-SWITCH GEAR VAULT

435+00

TO 1311H461
FROM 1311U561
1-2-3" PVC
SPOILS BACKFILL *
PER C30-1900
(10')
SECTION B-B

1311U462
1-TRANSFORMER VAULT & GROUND

1311U461
E-75kVA

1311H461
1-3' X 5'
HANDHOLE

TO STUB
FROM 1311H461
1-2-3" PVC
SPOILS BACKFILL *
PER C30-1900
(10')
SECTION B-B

TO 1311U462
FROM 1311U561
1-2-3" PVC
SPOILS BACKFILL *
PER C30-1900
(10')
SECTION B-B

TO 1311U461
FROM 1311U462
1-3-3" PVC
SPOILS BACKFILL *
(10')
SECTION C-C

SEE PAGE 14

TO 1311U462
FROM 1311U561
TO 1311H461
FROM 1311U561
1-4-3" HDPE
(PUSH 90')
PER C30-1950
AND 56270-180
SECTION SS-SS

TO 1311U561
FROM 1311M651
TO 1311M461
FROM 1311M651
1-6-6" PVC
CONCRETE ENCASE
SPOILS BACKFILL *
PER C30-1900
(355')
SECTION T-T

1311M651
1-TYPE "A"
MANHOLE

440+00

WASHINGTON ST.

APPROXIMATE LOCATION SOUND WALL BY CITY OF NAPERVILLE

CLYDE DR.

1311U551
E-36S

TO 1311M651
FROM 1311M741
1-6-6" PVC
FA-2 ENCASE
SPOILS BACKFILL *
PER C30-1900
(220')
SECTION T-T

1311H651
E-4 X 8
HANDHOLE

APPROXIMATE LOCATION SOUND WALL BY CITY OF NAPERVILLE

E-1/0 PRIMARY CABLE

TO 1311M651
FROM 1311M741
TO 1311H641
FROM 1311U641
1-2-3" PVC
1-6-6" PVC
FA-2 ENCASE
SPOILS BACKFILL *
PER C30-1900
(150')
SECTION Y-Y

1311H641
E-3 X 5
HANDHOLE

TO 1311H641
FROM 1311U641
1-2-3" HDPE
(PUSH 100')
PER C30-1950
AND 56270-180
SECTION PP-PP

TO 1311M651
FROM 1311M741
TO 1311U641
FROM 1311U735
1-2-3" PVC
1-6-6" PVC
FA-2 ENCASE
SPOILS BACKFILL *
PER C30-1900
(65')
SECTION Y-Y

1311U641
E-75kVA

TO 1311M651
FROM 1311M741
1-6-6" PVC
FA-2 ENCASE
SPOILS BACKFILL *
PER C30-1900
(20')
SECTION T-T

TO 1311U641
FROM 1311U735
1-2-3" PVC
SPOILS BACKFILL *
PER C30-1900
(25')
SECTION B-B

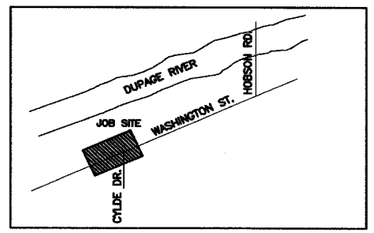
TO 1311U641
FROM 1311H641
TO 1311U641
FROM 1311U735
1-4-3" HDPE
(PUSH 110')
PER C30-1950
AND 56270-180
SECTION SS-SS

1311M741
1-TYPE "A"
MANHOLE

444+00

SEE PAGE 10

SEE PAGE 10



LOCATION MAP
N.T.S.

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS		MAP NO.: 1311/1324	CAD FILE: 00562700D012C.DWG
PROJECT DESCRIPTION: CONDUIT LAYOUT, WITH SECTIONS		DRAWN BY: PM	PROJECT NO.: EU12-06-03 EU73
DATE: 4-01-08	WORK REQUEST NO.: 56270	AT&T:	COMPLETED BY:
ISSUED:	CHKD: -		
ENGINEER: RPS	APPR:	SCALE: 1"=30'	SHEET 12 OF 73
REVISION: 1 2 3			

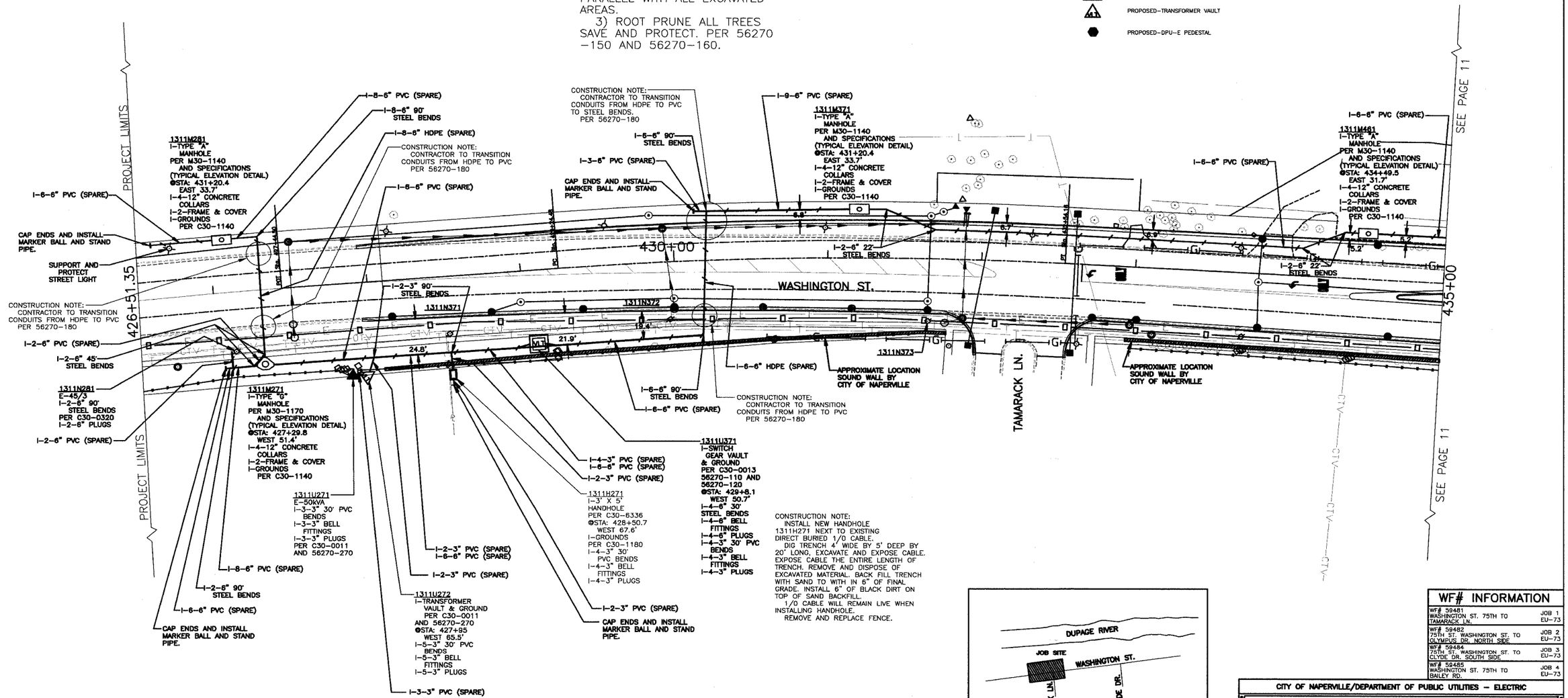
F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	254
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

CONSTRUCTION NOTE:
1) ALL MANHOLE SHOWN HAVE 4-1' COLLARS AND 2 FRAME AND COVERS. MANHOLES CAN HAVE 1 OR 2 OPENING.
2) LOCATE, SUPPORT, AND PROTECT ALL UTILITIES AT ALL CROSSINGS, AND NEXT TO, AND PARALLEL WITH ALL EXCAVATED AREAS.
3) ROOT PRUNE ALL TREES SAVE AND PROTECT. PER 56270-150 AND 56270-160.

LEGEND

EXISTING	PROPOSED
	PROPOSED CURB AND CONSTRUCTION
E-WOOD POLE	PROPOSED-TYPE "A" MANHOLE
E-DPU-ELECTRIC PEDESTAL	PROPOSED-TYPE "E" MANHOLE
E-DPU-ELECTRIC TRANSFORMER	PROPOSED-TYPE "G" MANHOLE
E-DPU-ELECTRIC FACILITIES	PROPOSED-PVC DUCT BANK
E-CURB	PROPOSED-SWITCH GEAR VAULT
	PROPOSED-TRANSFORMER VAULT
	PROPOSED-DPU-E PEDESTAL



LOCATION MAP
N.T.S.

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73

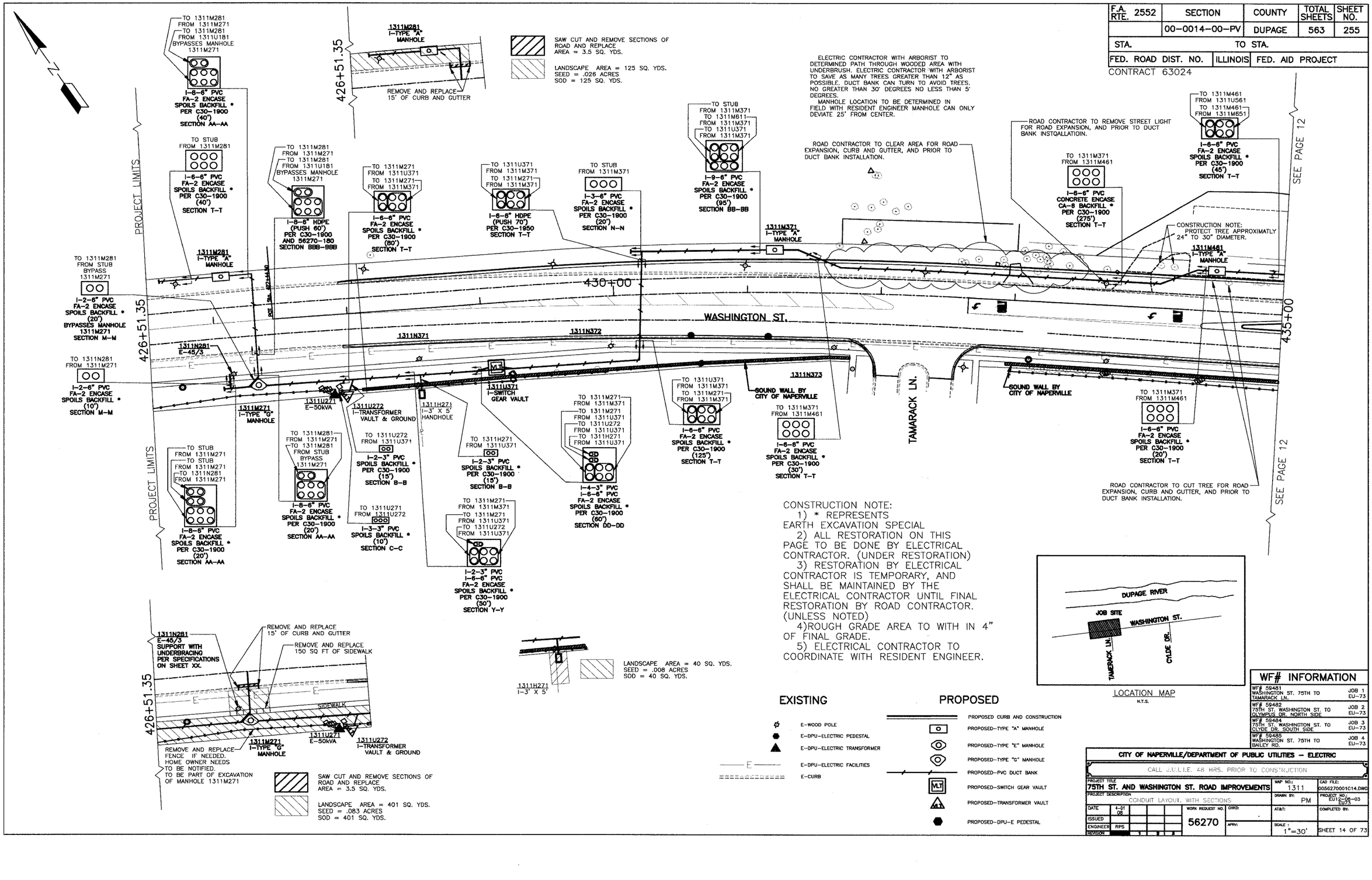
CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS		MAP NO.: 1311	CAD FILE: 0058270001C13.DWG
PROJECT DESCRIPTION: CONDUIT LAYOUT, WITHOUT SECTIONS		DRAWN BY: PM	PROJECT NO.: EU12-06-03 EU73
DATE: 4-01-08	WORK REQUEST NO.: 56270	AT&T:	COMPLETED BY:
ISSUED	CHKD:	SCALE: 1"=30'	SHEET 13 OF 73
ENGINEER: RPS	APRV:		
REVISION: 1 2 3			

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	255
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024



CONSTRUCTION NOTE:
1) * REPRESENTS EARTH EXCAVATION SPECIAL
2) ALL RESTORATION ON THIS PAGE TO BE DONE BY ELECTRICAL CONTRACTOR. (UNDER RESTORATION)
3) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)
4)ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.
5) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.

LOCATION MAP
N.T.S.

EXISTING

- E-WOOD POLE
- E-DPU-ELECTRIC PEDESTAL
- E-DPU-ELECTRIC TRANSFORMER
- E-DPU-ELECTRIC FACILITIES
- E-CURB

PROPOSED

- PROPOSED CURB AND CONSTRUCTION
- PROPOSED-TYPE "A" MANHOLE
- PROPOSED-TYPE "E" MANHOLE
- PROPOSED-TYPE "G" MANHOLE
- PROPOSED-PVC DUCT BANK
- PROPOSED-SWITCH GEAR VAULT
- PROPOSED-TRANSFORMER VAULT
- PROPOSED-DPU-E PEDESTAL

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

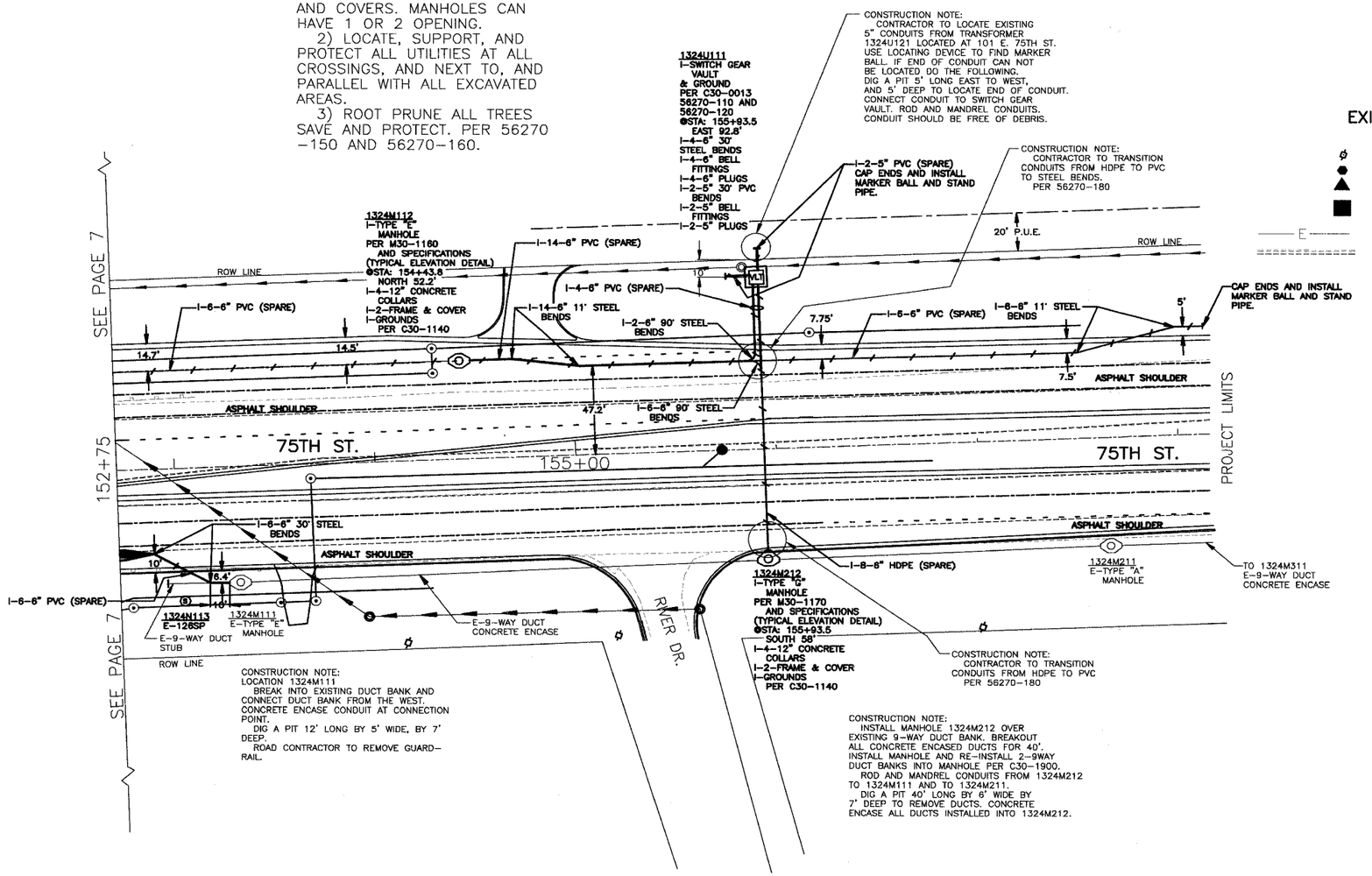
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS			MAP NO.: 1311	CAD FILE: 005627000IC14.DWG
PROJECT DESCRIPTION: CONDUIT LAYOUT, WITH SECTIONS			DRAWN BY: PM	PROJECT NO.: EU72-05-03 EU73
DATE	4-01-08	WORK REQUEST NO.: 56270	CHKD:	AT&T:	COMPLETED BY:
ISSUED			APPV:	SCALE: 1"=30'	SHEET 14 OF 73
ENGINEER	RIPS				
REVISION					

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	256
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

CONSTRUCTION NOTE:
1) ALL MANHOLE SHOWN HAVE 4-1' COLLARS AND 2 FRAME AND COVERS. MANHOLES CAN HAVE 1 OR 2 OPENING.
2) LOCATE, SUPPORT, AND PROTECT ALL UTILITIES AT ALL CROSSINGS, AND NEXT TO, AND PARALLEL WITH ALL EXCAVATED AREAS.
3) ROOT PRUNE ALL TREES SAVE AND PROTECT. PER 56270 -150 AND 56270-160.

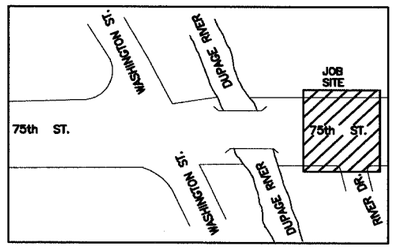


CONSTRUCTION NOTE:
LOCATION 1324M111
BREAK INTO EXISTING DUCT BANK AND CONNECT DUCT BANK FROM THE WEST. CONCRETE ENCASE CONDUIT AT CONNECTION POINT.
DIG A PIT 12' LONG BY 5' WIDE, BY 7' DEEP.
ROAD CONTRACTOR TO REMOVE GUARD-RAIL.

CONSTRUCTION NOTE:
INSTALL MANHOLE 1324M212 OVER EXISTING 9-WAY DUCT BANK. BREAKOUT ALL CONCRETE ENCASED DUCTS FOR 40'. INSTALL MANHOLE AND RE-INSTALL 2-9WAY DUCT BANKS INTO MANHOLE PER C30-1900. ROD AND MANDREL CONDUITS FROM 1324M212 TO 1324M111 AND TO 1324M211.
DIG A PIT 40' LONG BY 6' WIDE BY 7' DEEP TO REMOVE DUCTS. CONCRETE ENCASE ALL DUCTS INSTALLED INTO 1324M212.

LEGEND

EXISTING	PROPOSED
	PROPOSED CURB AND CONSTRUCTION
E-WOOD POLE	PROPOSED-TYPE "E" MANHOLE
E-DPU-ELECTRIC PEDESTAL	PROPOSED-TYPE "G" MANHOLE
E-DPU-ELECTRIC TRANSFORMER	PROPOSED-PVC DUCT BANK
E-SWITCH GEAR AND VAULT	PROPOSED-TRANSFORMER VAULT
E-DPU-ELECTRIC FACILITIES	PROPOSED-DPU-E PEDESTAL
E-CURB	



LOCATION MAP
N.T.S.

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73

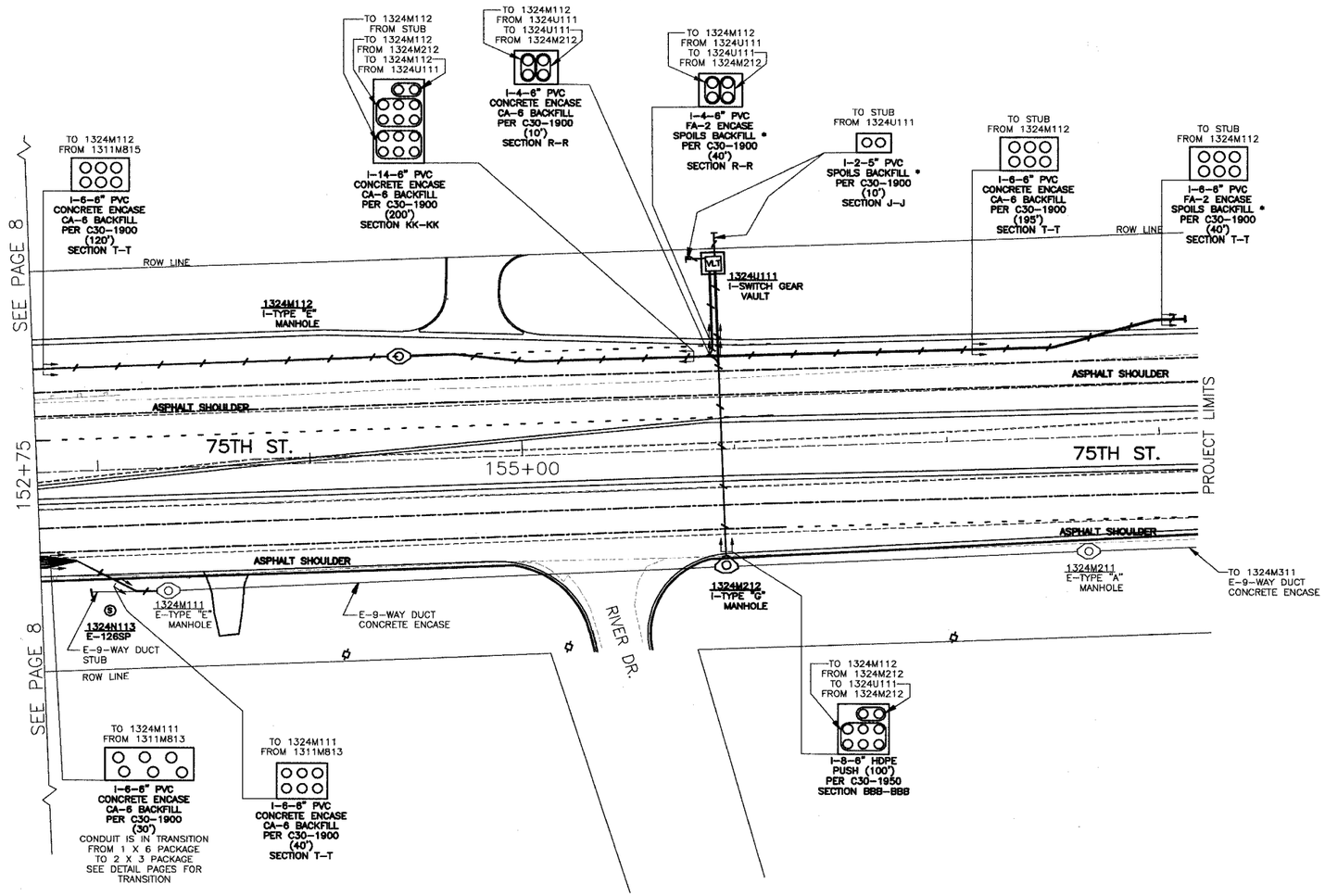
CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

CALL J.U.L.I.F. 48 HRS. PRIOR TO CONSTRUCTION

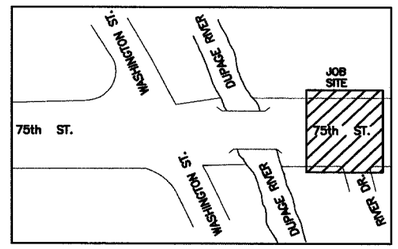
PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS
PROJECT DESCRIPTION: CONDUIT LAYOUT, WITHOUT SECTIONS
MAP NO.: 1324
CAD FILE: 005627000IC15.DWG
DRAWN BY: PM
PROJECT NO.: EU12-06-03 EU13-
DATE: 4-01-08
ISSUED:
ENGINEER: RPS
REVISION: 1 2 3
WORK REQUEST NO.: 56270
CHK'D:
APPR'D:
AT&T:
COMPLETED BY:
SCALE: 1"=30'
SHEET 15 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	257
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024



CONSTRUCTION NOTE:
1) * REPRESENTS EARTH EXCAVATION SPECIAL
2) 138kV STEEL POLES LOCATED AT NEAR STA: 153+00 SOUTH 70' LOCATE, SUPPORT, AND PROTECT.
3) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)
4)ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.
5) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.



LOCATION MAP
N.T.S.

LEGEND

EXISTING	PROPOSED
E-WOOD POLE	PROPOSED CURB AND CONSTRUCTION
E-DPU-ELECTRIC PEDESTAL	PROPOSED-TYPE "E" MANHOLE
E-DPU-ELECTRIC TRANSFORMER	PROPOSED-TYPE "G" MANHOLE
E-SWITCH GEAR AND VAULT	PROPOSED-PVC DUCT BANK
E-DPU-ELECTRIC FACILITIES	PROPOSED-TRANSFORMER VAULT
E-CURB	PROPOSED-DPU-E PEDESTAL

WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC		
WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION		
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: 1324	CAD FILE: 005827000IC16.DWG
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION: CONDUIT LAYOUT, WITH SECTIONS	DRAWN BY: PM	PROJECT NO.: EU12-08-03 EU73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73	DATE: 4-01-08; ISSUED; ENGINEER: RPS; REVISION: 1 2 3	WORK REQUEST NO.: 56270	CHKD: APRV: AT&T: SCALE: 1"=30'	COMPLETED BY: SHEET 16 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	258
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

CONSTRUCTION NOTE:
1) ALL MANHOLE SHOWN HAVE 4-1' COLLARS AND 2 FRAME AND COVERS. MANHOLES CAN HAVE 1 OR 2 OPENING.
2) LOCATE, SUPPORT, AND PROTECT ALL UTILITIES AT ALL CROSSINGS, AND NEXT TO, AND PARALLEL WITH ALL EXCAVATED AREAS.
3) ROOT PRUNE ALL TREES SAVE AND PROTECT. PER 56270-150 AND 56270-160.
4) MAINTAIN DRAINAGE FOR THE DURATION OF PROJECT.

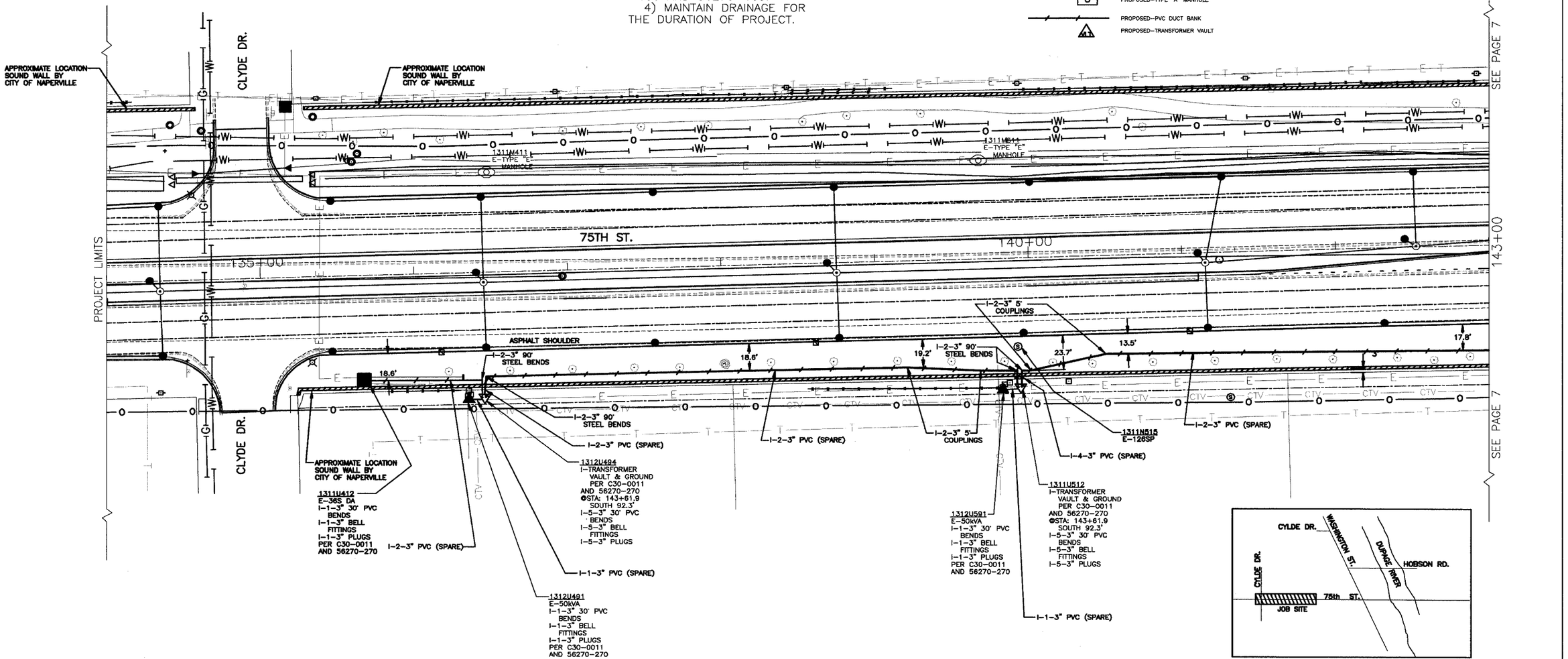
LEGEND

EXISTING

- E-DPU-ELECTRIC TRANSFORMER
- E-SWITCH GEAR AND VAULT
- E-DPU-ELECTRIC FACILITIES
- E-CURB

PROPOSED

- PROPOSED CURB AND CONSTRUCTION
- PROPOSED-TYPE "A" MANHOLE
- PROPOSED-PVC DUCT BANK
- PROPOSED-TRANSFORMER VAULT



LOCATION MAP
N.T.S.

WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC		
		CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION		
WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: 1311/1324	CAD FILE: OD56270001C17.DWG
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT DESCRIPTION: CONDUIT LAYOUT, WITHOUT SECTIONS	DRAWN BY: PM	PROJECT NO.: EU12-06-03 EU73
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	DATE: 4-01-08	WORK REQUEST NO.: 56270	CHKD: -	AT&T:	COMPLETED BY:
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73	ISSUED		APP'R:	SCALE: 1"=30'	SHEET 17 OF 73
		ENGINEER: RPS				
		REVISION				

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	259
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

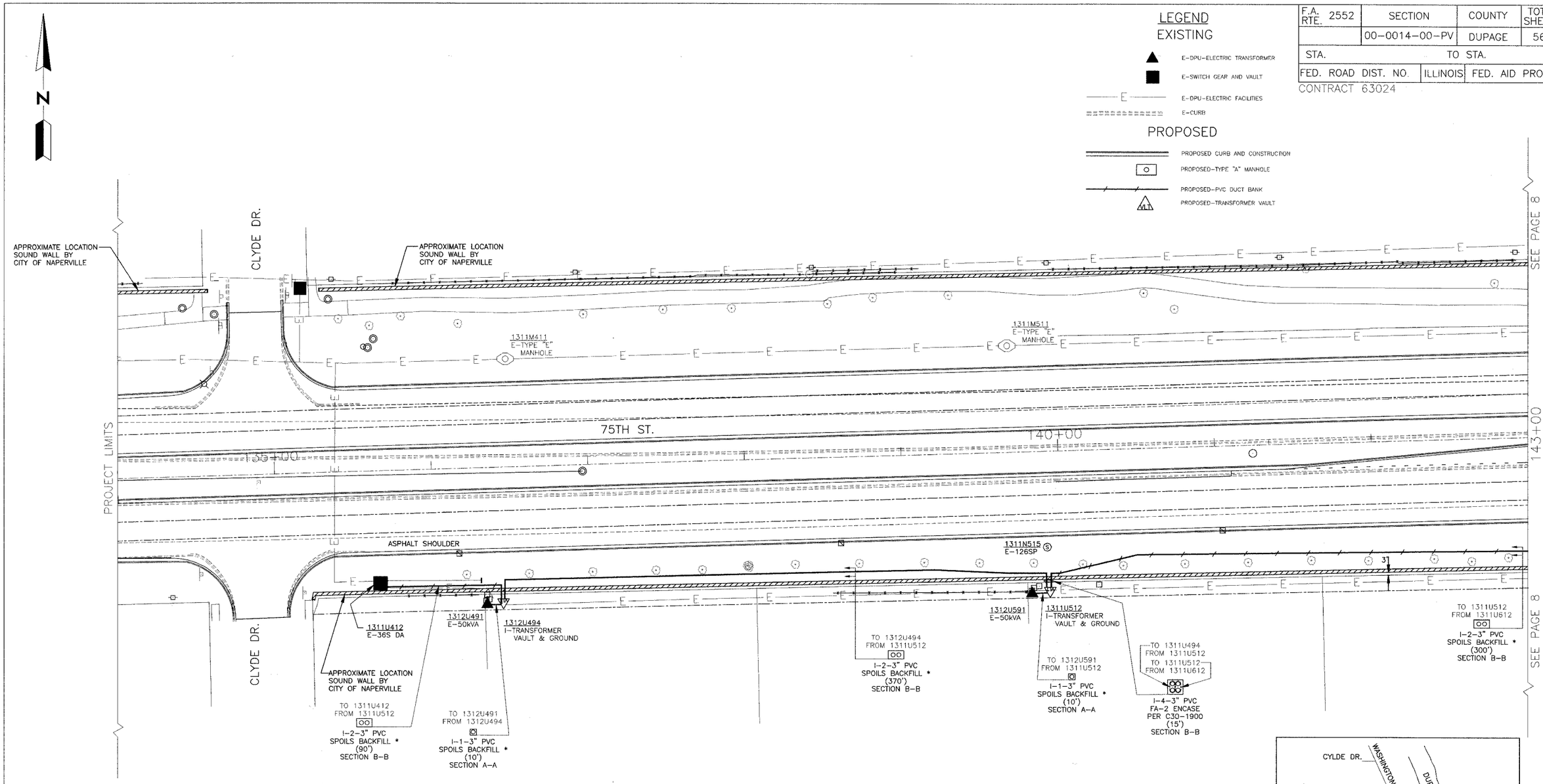
LEGEND

EXISTING

- E-DPU-ELECTRIC TRANSFORMER
- E-SWITCH GEAR AND VAULT
- E-DPU-ELECTRIC FACILITIES
- E-CURB

PROPOSED

- PROPOSED CURB AND CONSTRUCTION
- PROPOSED-TYPE "A" MANHOLE
- PROPOSED-PVC DUCT BANK
- PROPOSED-TRANSFORMER VAULT



CONSTRUCTION NOTE:

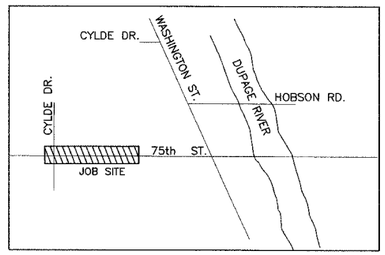
1) * REPRESENTS EARTH EXCAVATION SPECIAL

2) 138kV STEEL POLES LOCATED AT NEAR STA: 153+00 SOUTH 70' LOCATE, SUPPORT, AND PROTECT.

3) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)

4)ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.

5) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.



LOCATION MAP
N.T.S.

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO TAMARACK LN.	JOB 1 EU-73
WF# 59482 75TH ST. WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH ST. WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD.	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

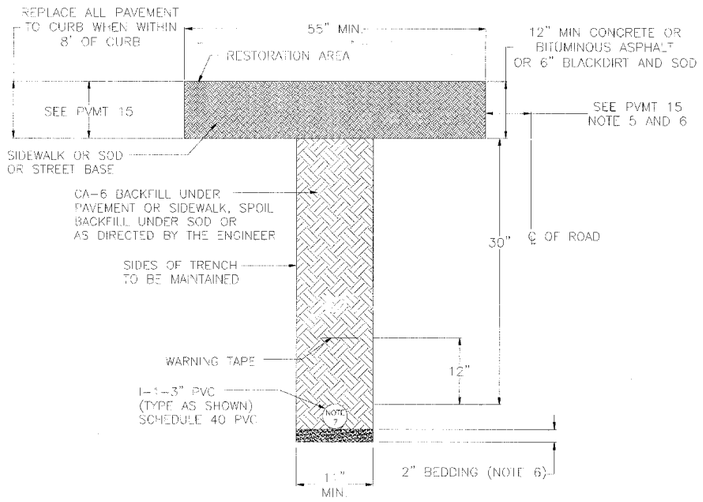
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS				MAP NO.: 1311/1312	CAD FILE: 005627000TC18.DWG
PROJECT DESCRIPTION: CONDUIT LAYOUT, WITH SECTIONS				DRAWN BY: PM	PROJECT NO.: EU12-00-03 EU73
DATE	4-01 08	WORK REQUEST NO.: 56270	CHKD:	AT&T:	COMPLETED BY:
ISSUED					
ENGINEER	RPS		APPV:	SCALE: 1"=30'	SHEET 18 OF 73
REVISION	1 2 3				

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	260
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

1-WAY DUCT BANK - 1 HIGH BY 1 WIDE (3" DUCT)



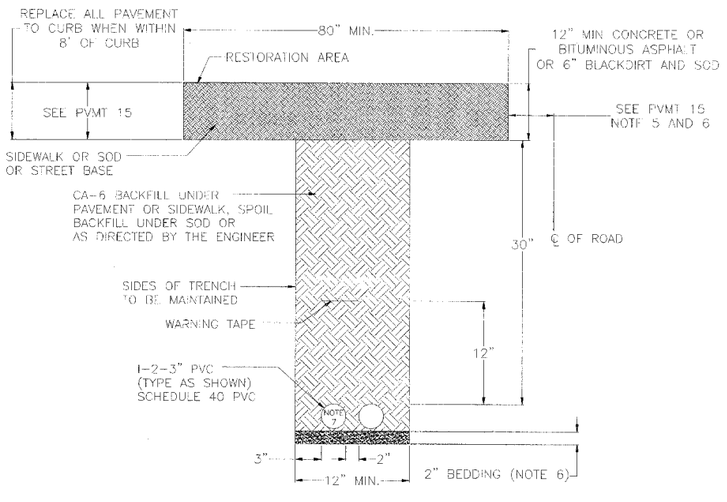
SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL

SECTION A-A

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION A-A
75TH STREET
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = 80 FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) INSTALL BEDDING FA-2 OR CA-6.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

2-WAY DUCT BANK - 1 HIGH BY 2 WIDE (3" DUCT)



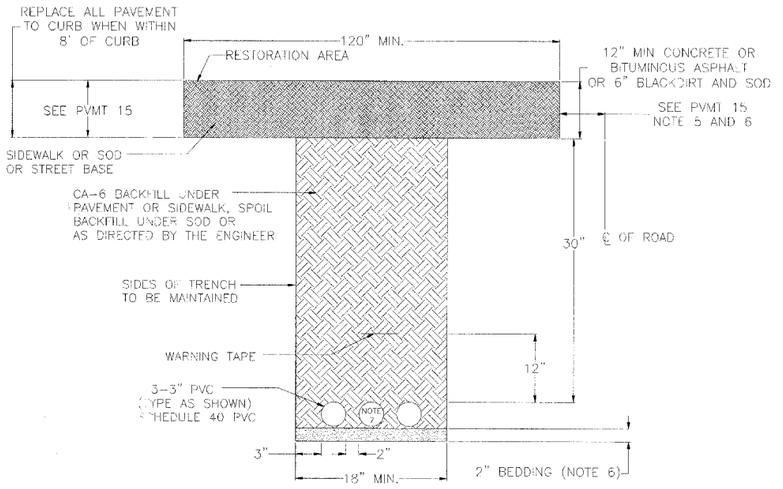
SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL

SECTION B-B

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION B-B
75TH STREET
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = 970 FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) INSTALL BEDDING FA-2 OR CA-6.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

3-WAY DUCT BANK - 1 HIGH BY 3 WIDE (3" DUCT)



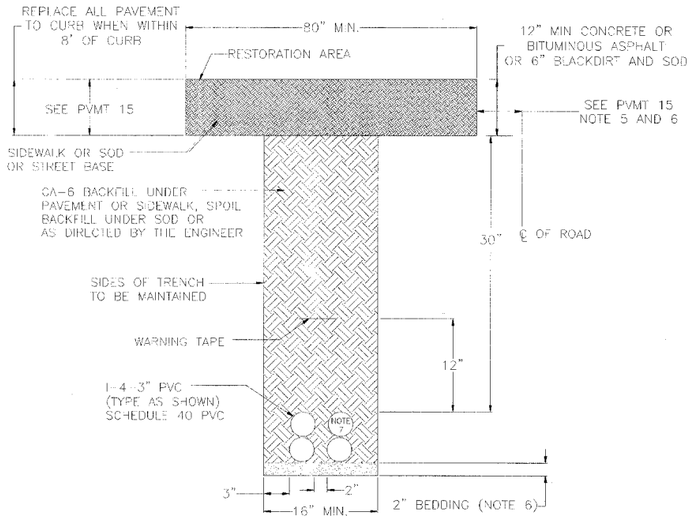
SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL

SECTION C-C

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION C-C
75TH STREET
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = 120 FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) INSTALL BEDDING FA-2 OR CA-6.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

4-WAY DUCT BANK - 2 HIGH BY 2 WIDE (3" DUCT)



SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL

SECTION D-D

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION D-D
75TH STREET
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = 50 FEET CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = 15 FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) INSTALL BEDDING FA-2 OR CA-6.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

1) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)
2) ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.
3) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

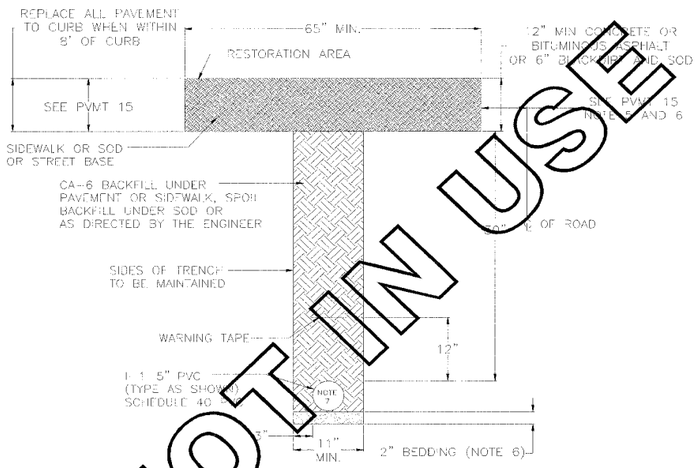
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: —		CAD FILE: D056270001D19.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS		DRAWN BY: JK, FM	PROJECT NO.: EU12-06-03 EU73
DATE 4-01 08	WORK REQUEST NO.: 56270	CHKD:	SBC:	COMPLETED BY:
ISSUED		APPV:	SCALE: NTS	SHEET 19 OF 73
ENGINEER RPS				
REVISION 1 2 3				

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	261
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

1-WAY DUCT BANK – 1 HIGH BY 1 WIDE (5" DUCT)

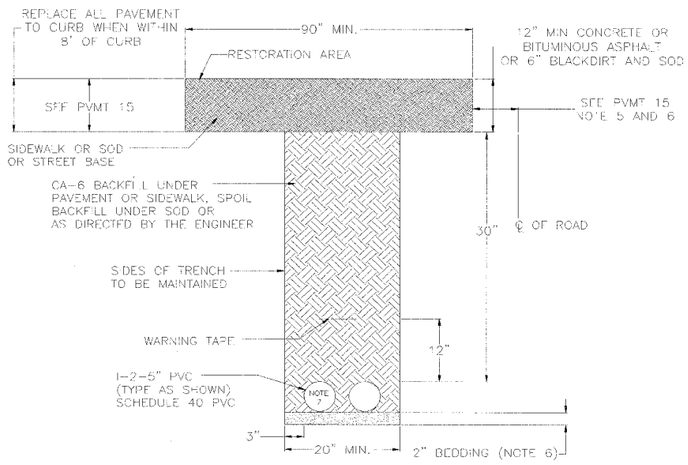


SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL
SECTION H-H

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION H-H
75TH STREET
APPROXIMATE LENGTH = ? FEET, CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = ? FEET, CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT:
ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) INSTALL BEDDING FA-2 OR CA-6.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

2-WAY DUCT BANK – 1 HIGH BY 2 WIDE (5" DUCT)

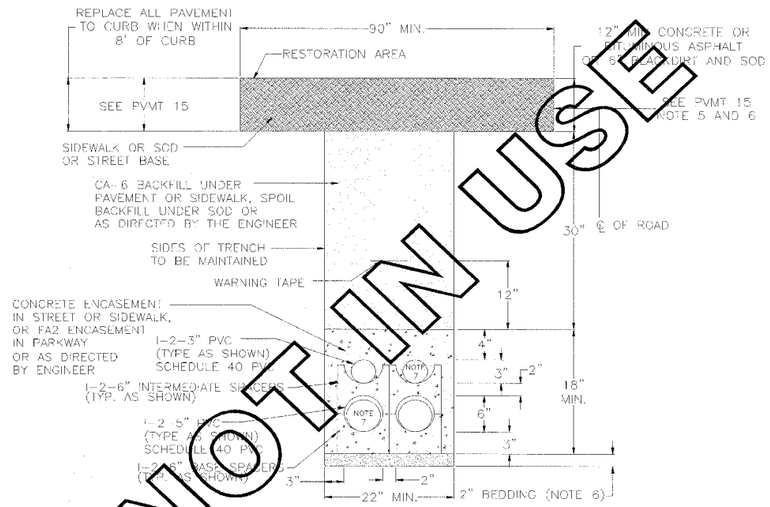


SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL
SECTION J-J

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION J-J
75TH STREET
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = 20 FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT:
ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) INSTALL BEDDING FA-2 OR CA-6.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

4-WAY DUCT BANK – 2 HIGH BY 2 WIDE (3" AND 5" DUCT)

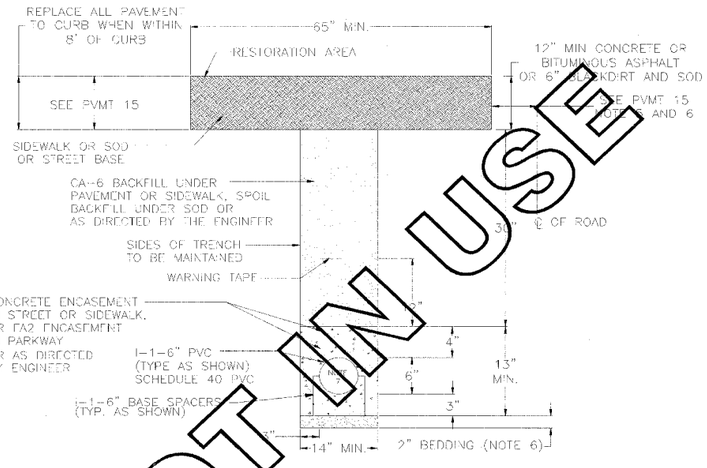


SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL
SECTION K-K

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION K-K
75TH STREET
APPROXIMATE LENGTH = ? FEET, CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = ? FEET, CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 8" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

1-WAY DUCT BANK – 1 HIGH BY 1 WIDE (6" DUCT)

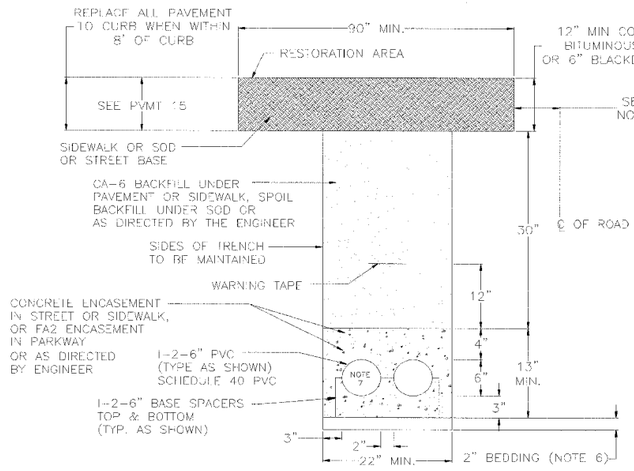


SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL
SECTION L-L

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION L-L
75TH STREET
APPROXIMATE LENGTH = ? FEET, CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = ? FEET, CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 5" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 5" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

2-WAY DUCT BANK – 1 HIGH BY 2 WIDE (6" DUCT)



SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL
SECTION M-M

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION M-M
75TH STREET
APPROXIMATE LENGTH = 30 FEET CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = 60 FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

1) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)
2) ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.
3) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

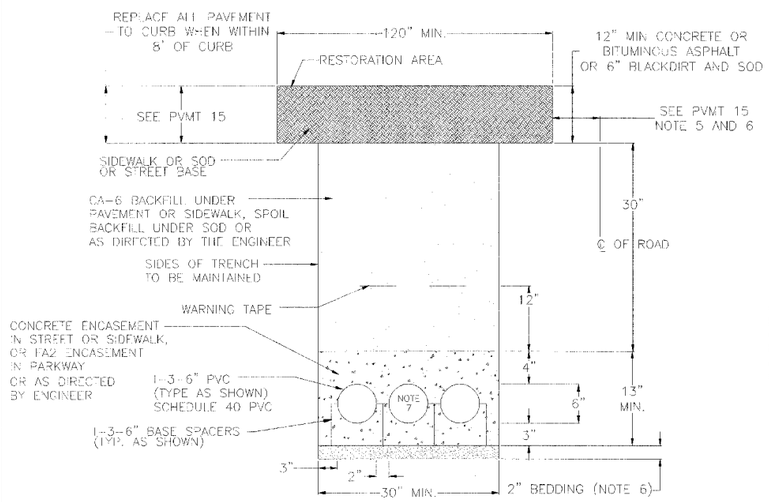
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: –	CAD FILE: 005627000120.DWG	
PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-08-03 EU73	
DATE 4-01 08 / ISSUED / ENGINEER RPS / REVISION 1 2 3	WORK REQUEST NO.: 56270	CHK'D: / APP'D:	SBC:	COMPLETED BY:
			SCALE: NTS	SHEET 20 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	262
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

3-WAY DUCT BANK – 1 HIGH BY 3 WIDE (6" DUCT)

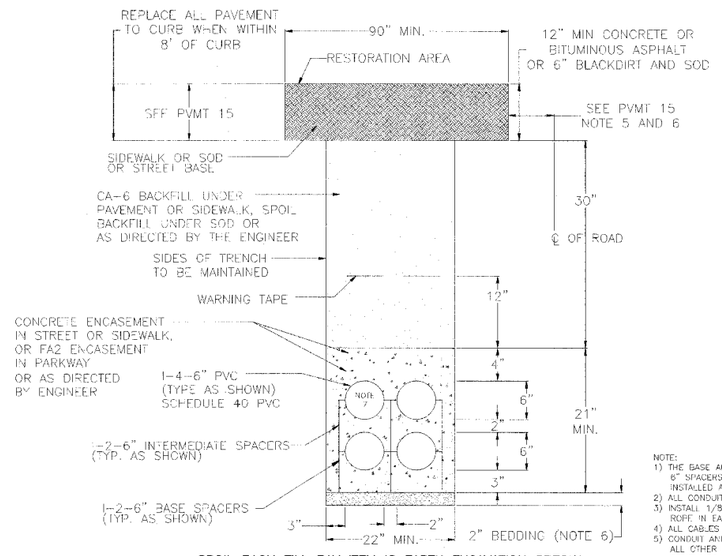


SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL SECTION N-N

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION N-N
75TH STREET
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = 40 FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

4-WAY DUCT BANK – 2 HIGH BY 2 WIDE (6" DUCT)

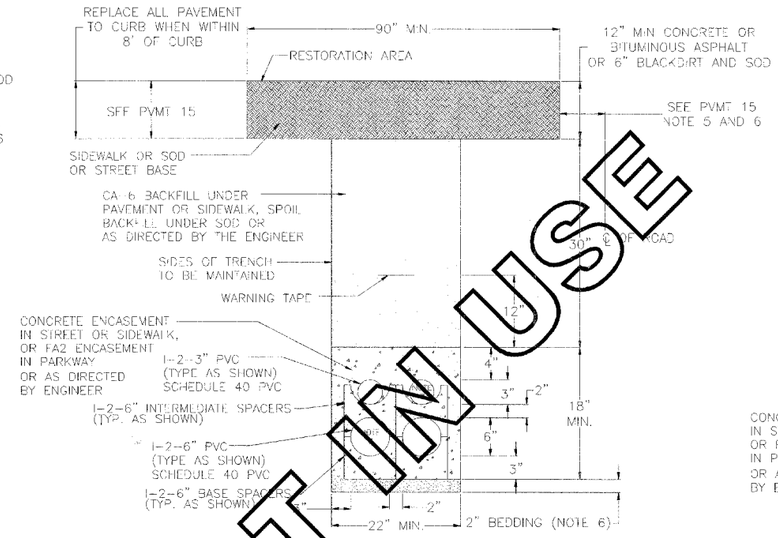


SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL SECTION R-R

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION R-R
75TH STREET
APPROXIMATE LENGTH = 870 FEET CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = 195 FEET CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = 595 FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

4-WAY DUCT BANK – 2 HIGH BY 2 WIDE (3" AND 6" DUCT)

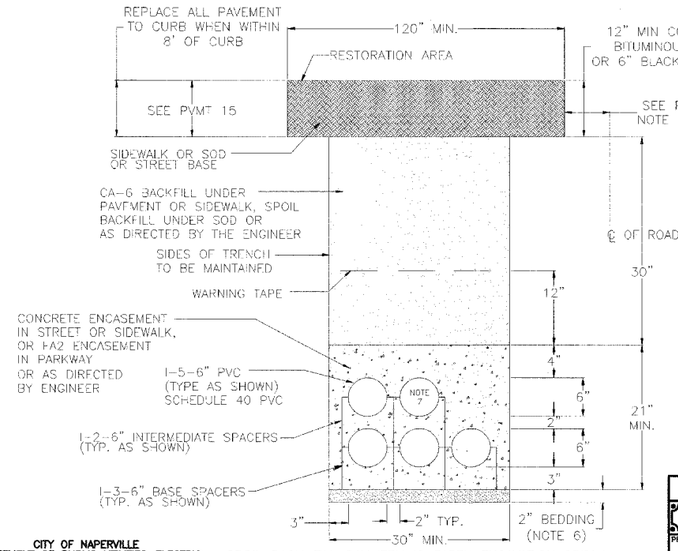


SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL SECTION Q-Q

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION Q-Q
75TH STREET
APPROXIMATE LENGTH = ? FEET CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = ? FEET. CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLD AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

5-WAY DUCT BANK – 2 HIGH BY 3 WIDE (6" DUCT)

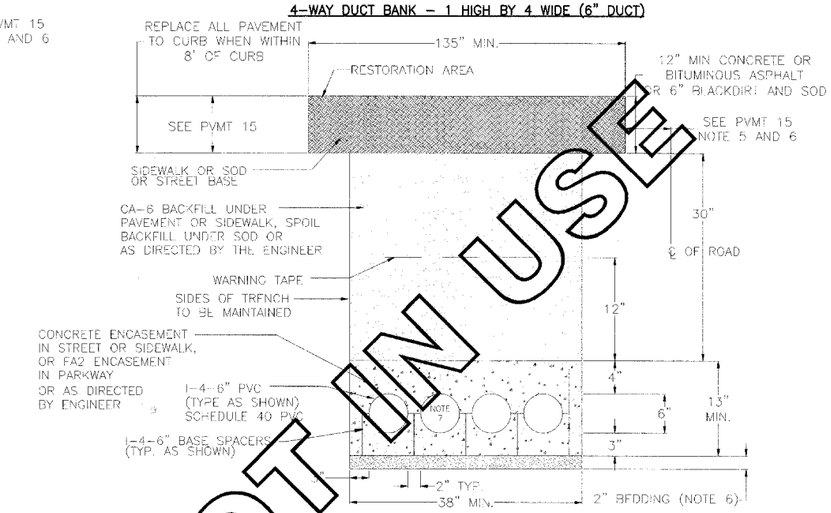


SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL SECTION S-S

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION S-S
75TH STREET
APPROXIMATE LENGTH = 35 FEET CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

4-WAY DUCT BANK – 1 HIGH BY 4 WIDE (6" DUCT)



SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL SECTION P-P

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION P-P
75TH STREET
APPROXIMATE LENGTH = ? FEET. CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = ? FEET. CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

1) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)
2) ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.
3) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.

WF# INFORMATION	
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

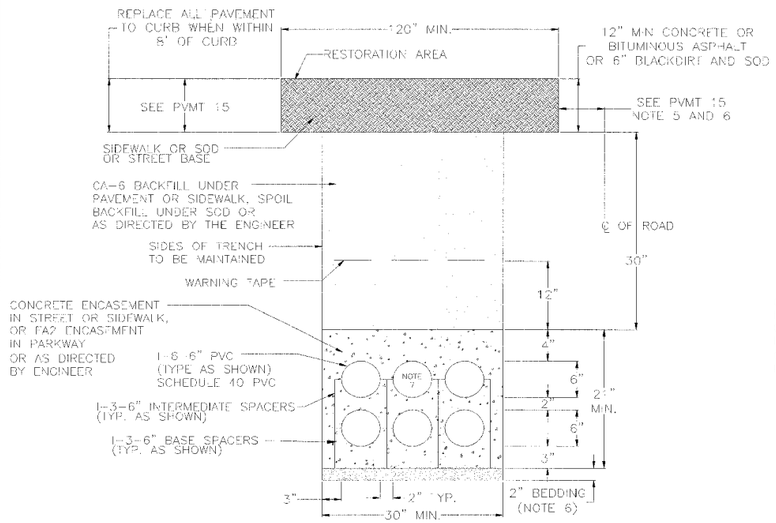
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: —	CAD FILE: 005627000101D21.DWG	
PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: 5U17-06-03 EU73	
DATE: 4-01 08	CHKD:	SBC:	COMPLETED BY:
ISSUED	WORK REQUEST NO.: 56270		
ENGINEER: RPS	APPV:	SCALE: NTS	SHEET 21 OF 73
REVISION: 1 2 3			

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	263
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

6-WAY DUCT BANK – 2 HIGH BY 3 WIDE (6" DUCT)



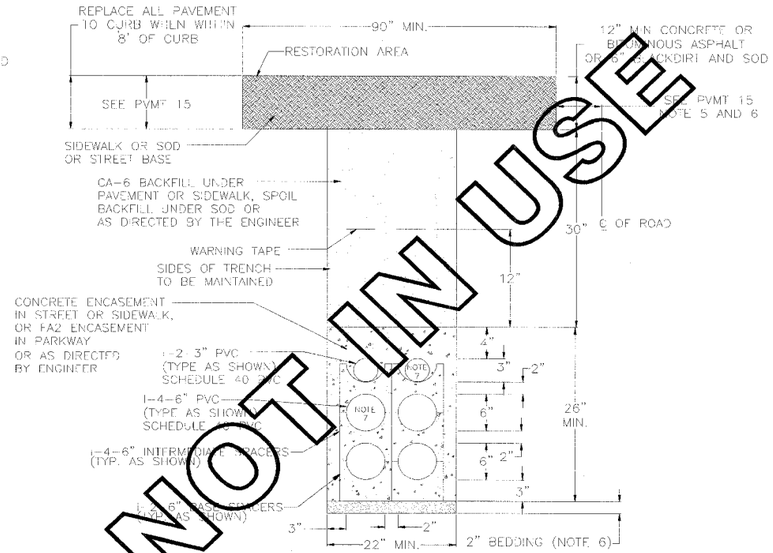
SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL

SECTION T-T

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION T-T
75TH STREET
APPROXIMATE LENGTH = 685 FEET CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = 1110 FEET CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = 1640 FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = ? FEET (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

6-WAY DUCT BANK – 3 HIGH BY 2 WIDE (3" AND 6" DUCT)



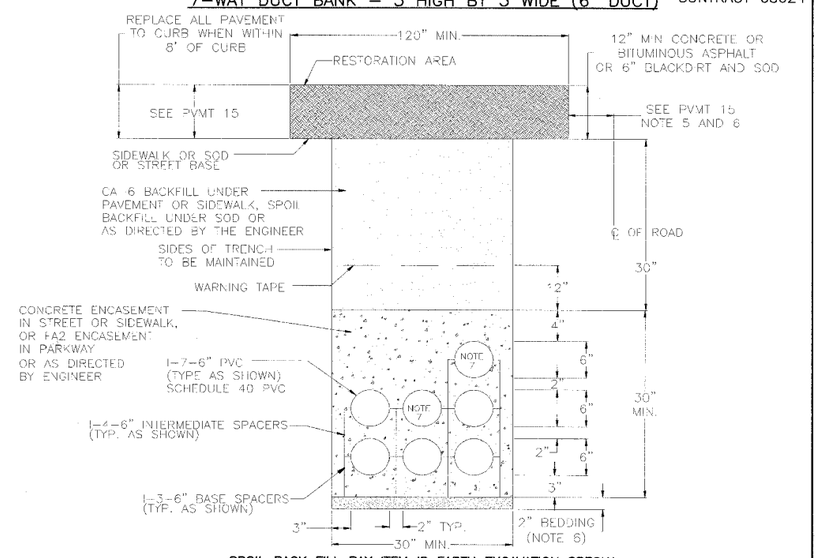
SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL

SECTION U-U

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION U-U
75TH STREET
APPROXIMATE LENGTH = ? FEET. CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = ? FEET. CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

7-WAY DUCT BANK – 3 HIGH BY 3 WIDE (6" DUCT)



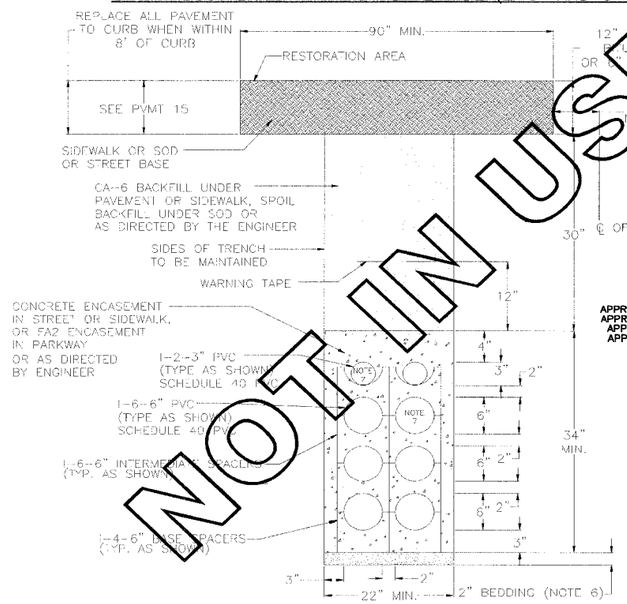
SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL

SECTION V-V

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION V-V
75TH STREET
APPROXIMATE LENGTH = 75 FEET CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

8-WAY DUCT BANK – 4 HIGH BY 2 WIDE (2-3" AND 6-6" DUCT)



SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL

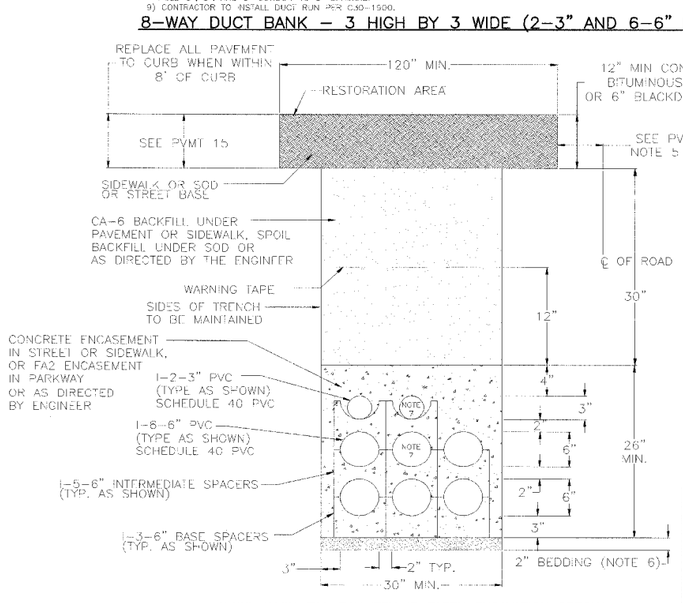
SECTION X-X

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION X-X
75TH STREET
APPROXIMATE LENGTH = ? FEET. CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = ? FEET. CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

1) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)
2) ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.
3) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.

8-WAY DUCT BANK – 3 HIGH BY 3 WIDE (2-3" AND 6-6" DUCT)



SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL

SECTION Y-Y

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION Y-Y
75TH STREET
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = 760 FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

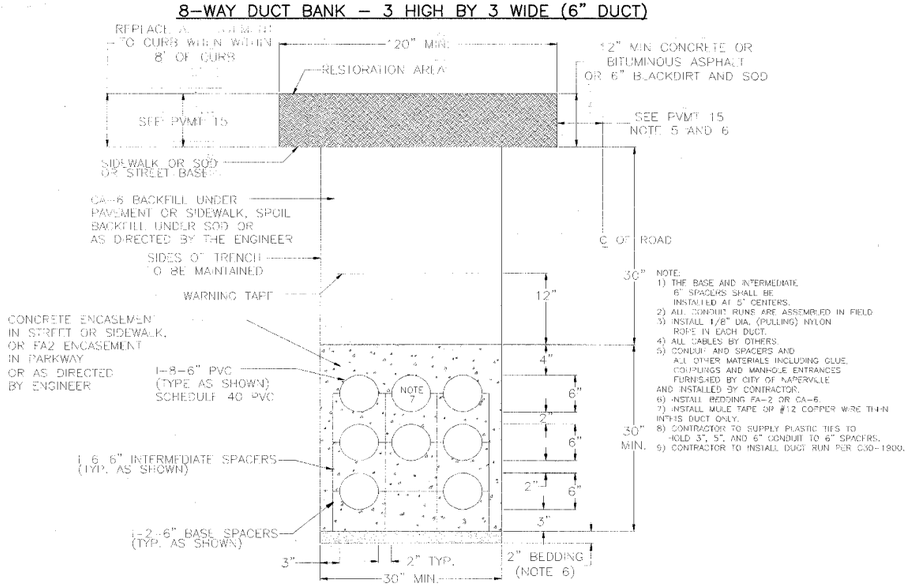
WF# INFORMATION	
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS			MAP NO.: –	CAD FILE: 0056270001D22.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS			DRAWN BY: JK, PM	PROJECT NO.: EU12-08-03 EU73
DATE: 4-01 08	WORK REQUEST NO.: 56270	CHKD:	SBC:	COMPLETED BY:
ISSUED		APPR:	SCALE: NTS	SHEET 22 OF 73
ENGINEER: RPS				
REVISION:				

8-WAY DUCT BANK – 3 HIGH BY 3 WIDE (6" DUCT)



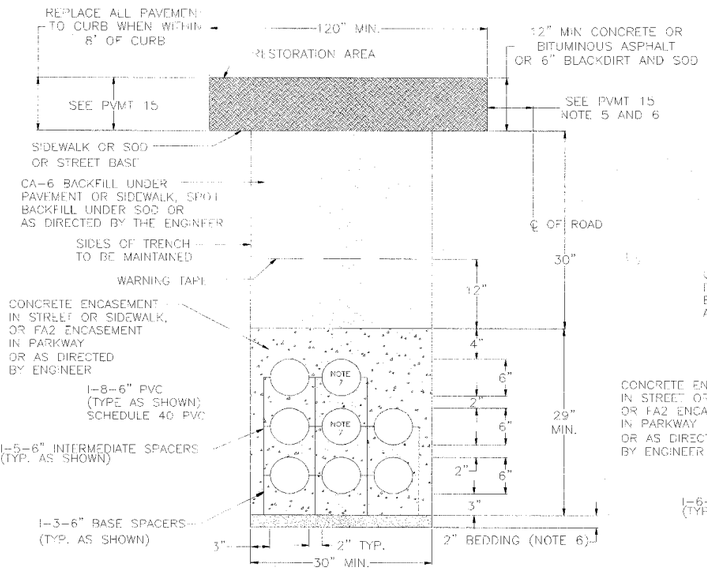
NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL

SECTION Z-Z

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION Z-Z
75TH STREET
APPROXIMATE LENGTH = 20 FEET CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

8-WAY DUCT BANK – 3 HIGH BY 3 WIDE (6" DUCT)



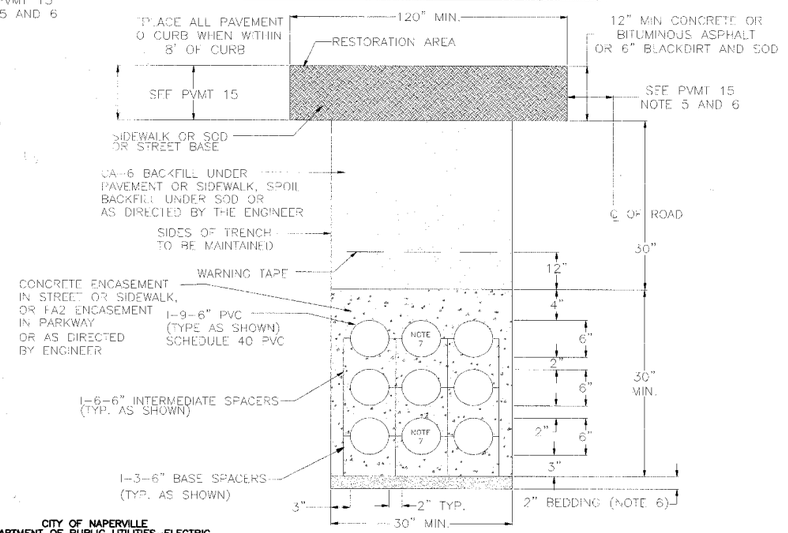
SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL

SECTION AA-AA

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION AA-AA
75TH STREET
APPROXIMATE LENGTH = 20 FEET CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = 60 FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

9-WAY DUCT BANK – 3 HIGH BY 3 WIDE (6" DUCT)



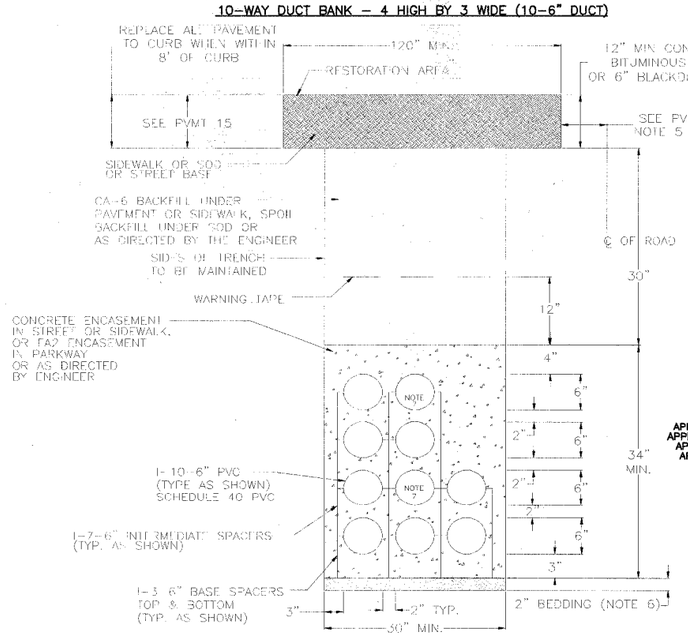
CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION BB-BB
75TH STREET
APPROXIMATE LENGTH = 95 FEET CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL

SECTION BB-BB

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

10-WAY DUCT BANK – 4 HIGH BY 3 WIDE (10-6" DUCT)



SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL

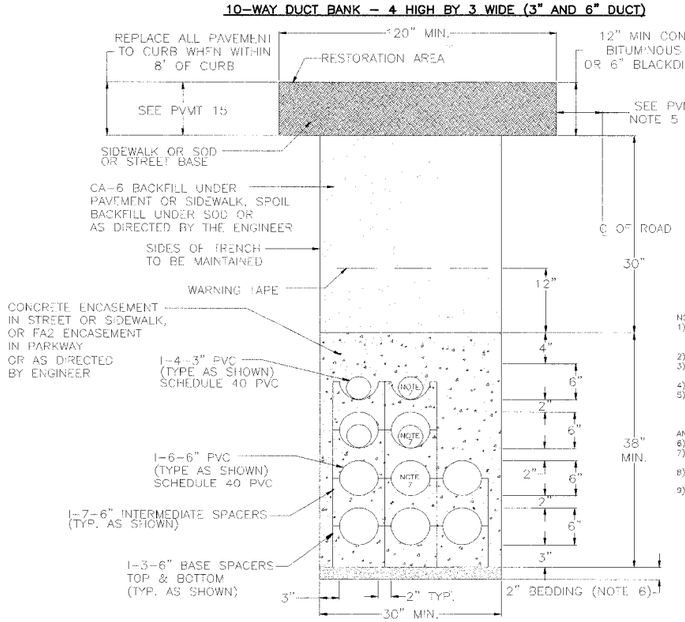
SECTION CC-CC

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION CC-CC
75TH STREET
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = 320 FEET CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = 20 FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

1) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)
2) ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.
3) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.

10-WAY DUCT BANK – 4 HIGH BY 3 WIDE (3" AND 6" DUCT)



SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL

SECTION DD-DD

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION DD-DD
75TH STREET
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = 60 FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	264
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

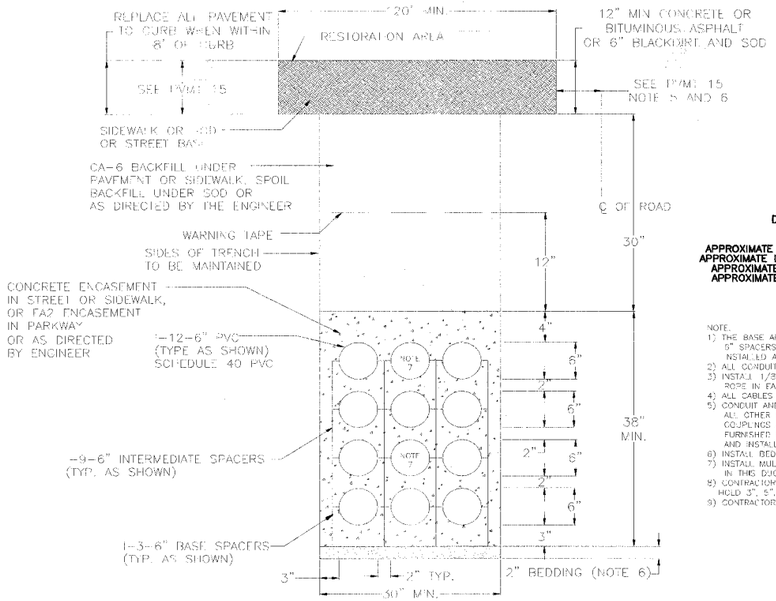
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS
MAP NO.: —
CAD FILE: 0056270001D23.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS
DRAWN BY: JK, PM
PROJECT NO.: EU12-08-03 EU73
DATE: 4-01-08
ISSUED:
ENGINEER: RPS
REVISION: 1 2 3
WORK REQUEST NO.: 56270
CHKD:
APPV:
SBC:
COMPLETED BY:
SCALE: NTS
SHEET 23 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	265
STA.	TC STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

12-WAY DUCT BANK - 4 HIGH BY 3 WIDE (6" DUCT)

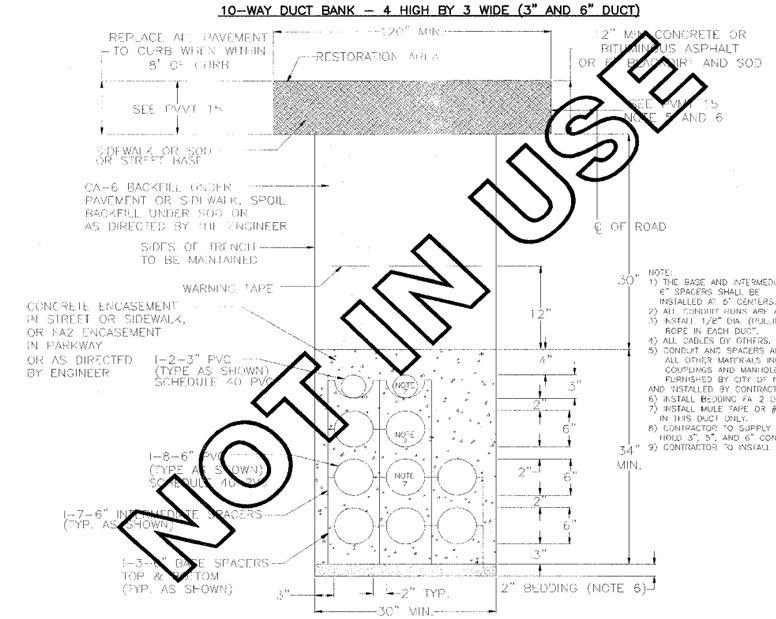


SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL SECTION FF-FF

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION FF-FF
75TH STREET
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = 175 FEET CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

10-WAY DUCT BANK - 4 HIGH BY 3 WIDE (3" AND 6" DUCT)

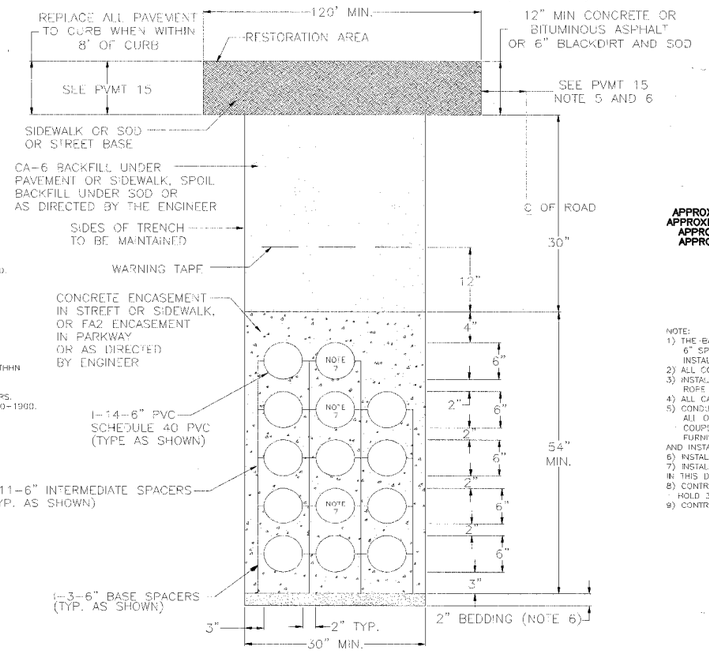


NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5" CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL SECTION JJ-JJ

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION JJ-JJ
75TH STREET
APPROXIMATE LENGTH = ? FEET. CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = ? FEET. CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = ? FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = ? FEET (FA2 ENCASED) CA-6 BACKFILL

14-WAY DUCT BANK - 5 HIGH BY 3 WIDE (6" DUCT)

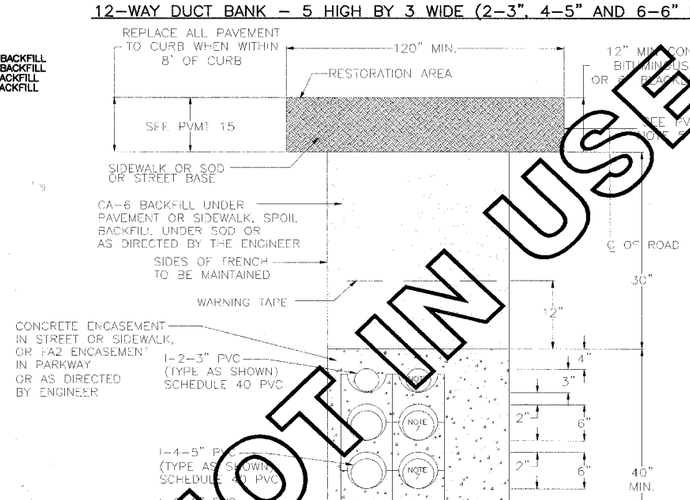


SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL SECTION KK-KK

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION KK-KK
75TH STREET
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = 200 FEET CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-5.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

12-WAY DUCT BANK - 5 HIGH BY 3 WIDE (2-3", 4-5" AND 6-6" DUCT)



SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL SECTION HH-HH

1) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)
2) ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.
3) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.

WF# INFORMATION	
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

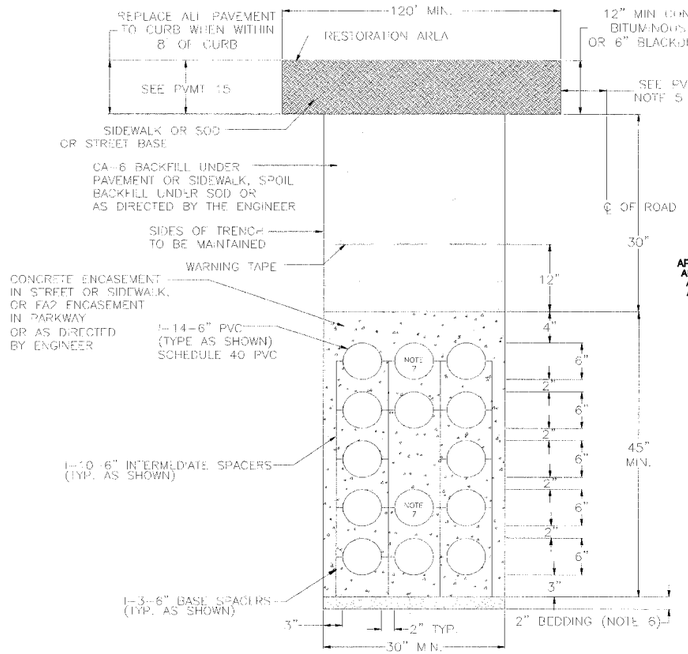
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS
PROJECT DESCRIPTION: TRENCH SECTION DETAILS
MAP NO.: -
CAD FILE: D056270001D24.DWG
DRAWN BY: JK, PM
PROJECT NO.: EU12-06-03 EU73
DATE: 4-01 08
ISSUED:
ENGINEER: RPS
REVISION: 1 2 3
WORK REQUEST NO.: 56270
CHKD:
APPR:
SBC:
COMPLETED BY:
SCALE: NTS
SHEET 24 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	266
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

14-WAY DUCT BANK - 6 HIGH BY 3 WIDE (6" DUCT)



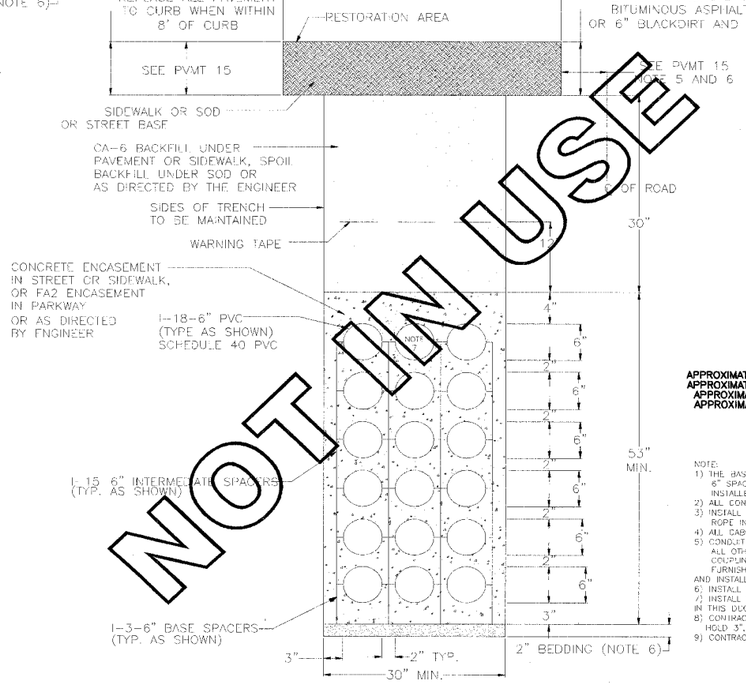
SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL
SECTION LL-LL

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION LL-LL
75TH STREET

APPROXIMATE LENGTH = 20 FEET CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = (NONE) (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THWN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

18-WAY DUCT BANK - 6 HIGH BY 3 WIDE (6" DUCT)



SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL
SECTION NN-NN

DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
CITY OF NAPERVILLE
TYPICAL CONDUIT SECTION NN-NN
75TH STREET

APPROXIMATE LENGTH = ? FEET. CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = ? FEET. CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = ? FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = ? FEET (FA2 ENCASED) CA-6 BACKFILL

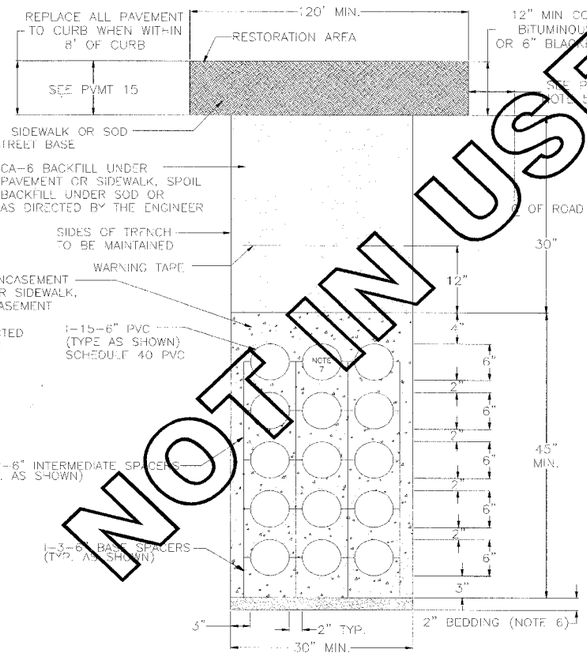
NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THWN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION MM-MM
75TH STREET

APPROXIMATE LENGTH = ? FEET. CONCRETE ENCASE SPOIL BACKFILL
APPROXIMATE LENGTH = ? FEET. CONCRETE ENCASE CA-6 BACKFILL
APPROXIMATE LENGTH = ? FEET (FA2 ENCASED) SPOIL BACKFILL
APPROXIMATE LENGTH = ? FEET (FA2 ENCASED) CA-6 BACKFILL

NOTE:
1) THE BASE AND INTERMEDIATE 6" SPACERS SHALL BE INSTALLED AT 5' CENTERS.
2) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
3) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
4) ALL CABLES BY OTHERS.
5) CONDUIT AND SPACERS AND ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
6) INSTALL BEDDING FA-2 OR CA-6.
7) INSTALL MULE TAPE OR #12 COPPER WIRE THWN IN THIS DUCT ONLY.
8) CONTRACTOR TO SUPPLY PLASTIC TIES TO HOLD 3", 5", AND 6" CONDUIT TO 6" SPACERS.
9) CONTRACTOR TO INSTALL DUCT RUN PER C30-1900.

14-WAY DUCT BANK - 6 HIGH BY 3 WIDE (6" DUCT)



SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL
SECTION MM-MM

1) RESTORATION BY ELECTRICAL CONTRACTOR IS TEMPORARY, AND SHALL BE MAINTAINED BY THE ELECTRICAL CONTRACTOR UNTIL FINAL RESTORATION BY ROAD CONTRACTOR. (UNLESS NOTED)
2) ROUGH GRADE AREA TO WITH IN 4" OF FINAL GRADE.
3) ELECTRICAL CONTRACTOR TO COORDINATE WITH RESIDENT ENGINEER.

WF# INFORMATION	
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

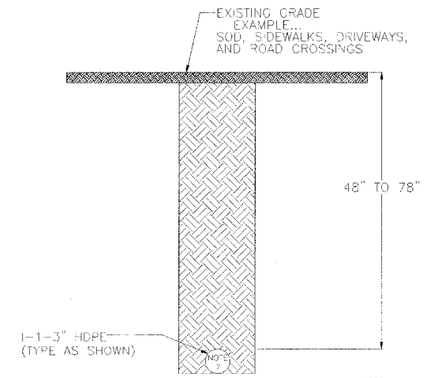
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: **75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS**
MAP NO.: —
CAD FILE: 005627000I025.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS
DRAWN BY: JK, PM
PROJECT NO.: EU12-06-03 EU73
DATE: 4-01 08
WORK REQUEST NO.: 56270
CHKD:
SBC:
COMPLETED BY:
ISSUED
ENGINEER: RPS
APPV:
SCALE: NTS
REVISION: 1 2 3
SHEET 25 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	267
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

HORIZONTAL DIRECTIONAL DRILLING METHOD 1-3" HDPE

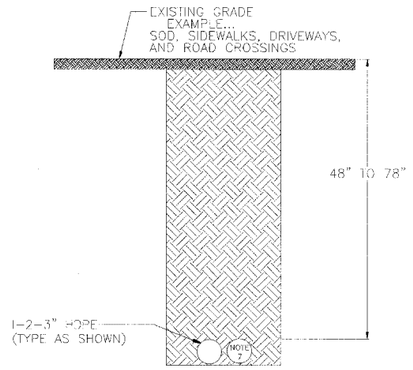


HORIZONTAL DIRECTIONAL DRILL METHOD
SECTION 00-00

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION 00-00
75TH STREET
APPROXIMATE LENGTH = 115 FEET. HORIZONTAL DIRECTIONAL DRILL METHOD

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT
ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) CONTRACTOR TO SUPPLY POLY TO PVC CONNECTOR OR POLY TO STEEL CONNECTOR.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THRU IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL PUSH PER C30-1950.

HORIZONTAL DIRECTIONAL DRILLING METHOD 2-3" HDPE

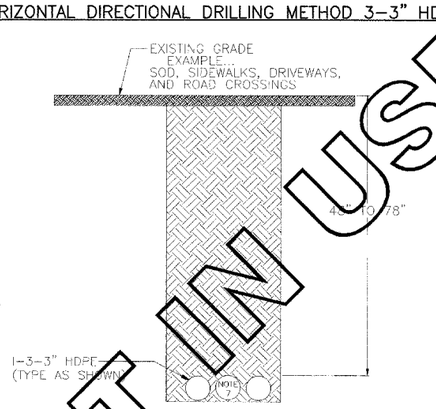


HORIZONTAL DIRECTIONAL DRILL METHOD
SECTION PP-PP

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION PP-PP
75TH STREET
APPROXIMATE LENGTH = 100 FEET. HORIZONTAL DIRECTIONAL DRILL METHOD

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT
ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) CONTRACTOR TO SUPPLY POLY TO PVC CONNECTOR OR POLY TO STEEL CONNECTOR.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THRU IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL PUSH PER C30-1950.

HORIZONTAL DIRECTIONAL DRILLING METHOD 3-3" HDPE

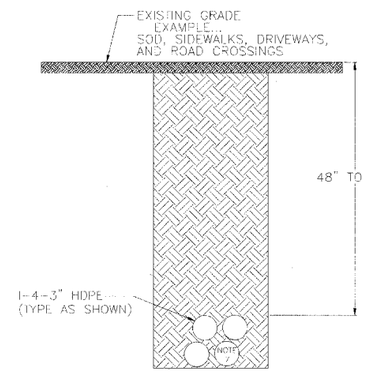


HORIZONTAL DIRECTIONAL DRILL METHOD
SECTION RR-RR

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION RR-RR
75TH STREET
APPROXIMATE LENGTH = ? FEET. HORIZONTAL DIRECTIONAL DRILL METHOD

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT
ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) CONTRACTOR TO SUPPLY POLY TO PVC CONNECTOR OR POLY TO STEEL CONNECTOR.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THRU IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL PUSH PER C30-1950.

HORIZONTAL DIRECTIONAL DRILLING METHOD 4-3" HDPE

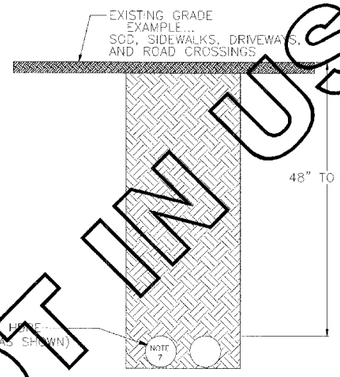


HORIZONTAL DIRECTIONAL DRILL METHOD
SECTION SS-SS

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION SS-SS
75TH STREET
APPROXIMATE LENGTH = 280 FEET. HORIZONTAL DIRECTIONAL DRILL METHOD

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT
ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) CONTRACTOR TO SUPPLY POLY TO PVC CONNECTOR OR POLY TO STEEL CONNECTOR.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THRU IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL PUSH PER C30-1950.

HORIZONTAL DIRECTIONAL DRILLING METHOD 2-5" HDPE



HORIZONTAL DIRECTIONAL DRILL METHOD
SECTION TT-TT

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION TT-TT
75TH STREET
APPROXIMATE LENGTH = ? FEET. HORIZONTAL DIRECTIONAL DRILL METHOD

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT
ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) CONTRACTOR TO SUPPLY POLY TO PVC CONNECTOR OR POLY TO STEEL CONNECTOR.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THRU IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL PUSH PER C30-1950.

WF# INFORMATION	
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

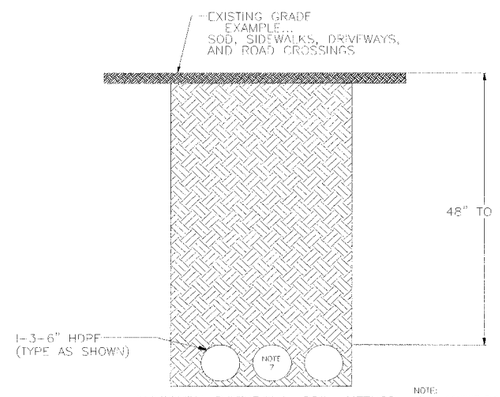
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: —		CAD FILE: 005627000101D26.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM		PROJECT NO.: EU12-08-03 EU73
DATE 4-01 08 / ISSUED / ENGINEER RPS / REVISION 1 2 3	WORK REQUEST NO. 56270	CHKD: / APPV:	SBC: / SCALE: NTS	COMPLETED BY: SHEET 26 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	268
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

HORIZONTAL DIRECTIONAL DRILLING METHOD 3-6" HDPE

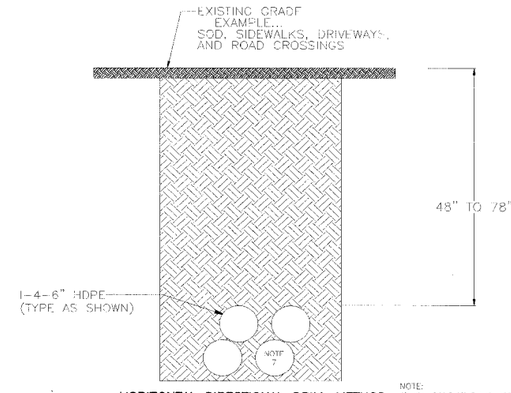


HORIZONTAL DIRECTIONAL DRILL METHOD
SECTION UU-UU

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION UU-UU
75TH STREET
APPROXIMATE LENGTH = 70 FEET. HORIZONTAL DIRECTIONAL DRILL METHOD

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT
ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) CONTRACTOR TO SUPPLY POLY TO PVC CONNECTOR OR POLY TO STEEL CONNECTOR.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL PUSH PER C30-1950.

HORIZONTAL DIRECTIONAL DRILLING METHOD 4-6" HDPE

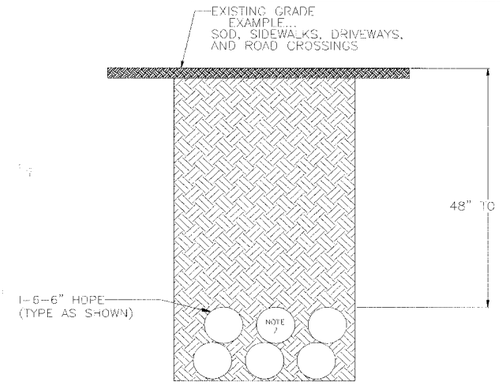


HORIZONTAL DIRECTIONAL DRILL METHOD
SECTION XX-XX

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION XX-XX
75TH STREET
APPROXIMATE LENGTH = 70 FEET. HORIZONTAL DIRECTIONAL DRILL METHOD

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT
ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) CONTRACTOR TO SUPPLY POLY TO PVC CONNECTOR OR POLY TO STEEL CONNECTOR.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL PUSH PER C30-1950.

HORIZONTAL DIRECTIONAL DRILLING METHOD 6-6" HDPE

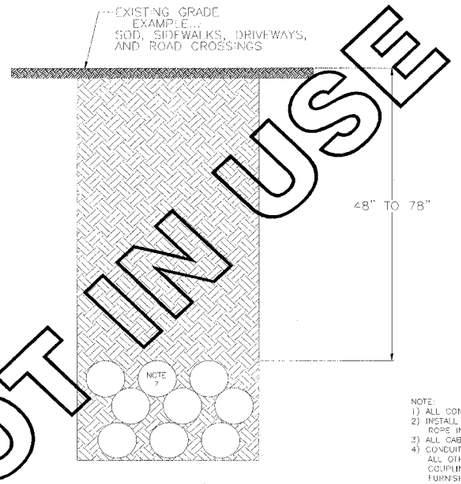


HORIZONTAL DIRECTIONAL DRILL METHOD
SECTION YY-YY

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION YY-YY
75TH STREET
APPROXIMATE LENGTH = 255 FEET. HORIZONTAL DIRECTIONAL DRILL METHOD

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT
ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) CONTRACTOR TO SUPPLY POLY TO PVC CONNECTOR OR POLY TO STEEL CONNECTOR.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL PUSH PER C30-1950.

9-WAY DUCT BANK - 3 HIGH BY 3 WIDE (6" DUCT)



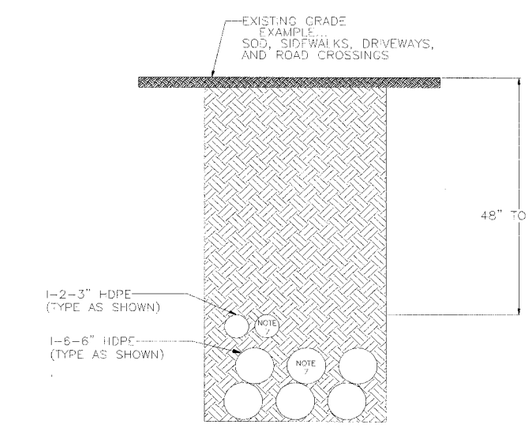
NOT IN USE

SPOIL BACK FILL PAY ITEM IS EARTH EXCAVATION SPECIAL
SECTION ZZ-ZZ

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION MM-MM
75TH STREET
APPROXIMATE LENGTH = ? FEET. HORIZONTAL DIRECTIONAL DRILL METHOD

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT
ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) CONTRACTOR TO SUPPLY POLY TO PVC CONNECTOR OR POLY TO STEEL CONNECTOR.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL PUSH PER C30-1950.

HORIZONTAL DIRECTIONAL DRILLING METHOD 2-3", AND 6-6" HDPE

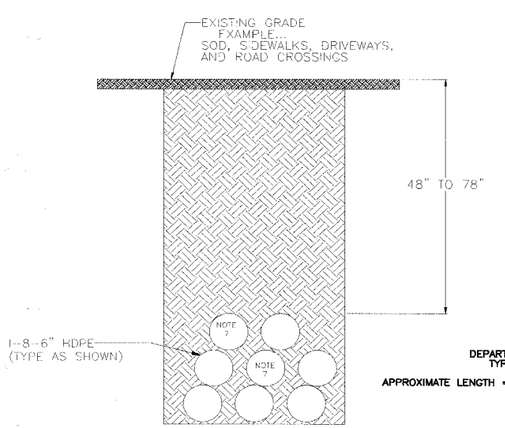


HORIZONTAL DIRECTIONAL DRILL METHOD
SECTION AAA-AAA

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION AAA-AAA
75TH STREET
APPROXIMATE LENGTH = 70 FEET. HORIZONTAL DIRECTIONAL DRILL METHOD

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT
ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) CONTRACTOR TO SUPPLY POLY TO PVC CONNECTOR OR POLY TO STEEL CONNECTOR.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL PUSH PER C30-1950.

HORIZONTAL DIRECTIONAL DRILLING METHOD 8-6" HDPE



HORIZONTAL DIRECTIONAL DRILL METHOD
SECTION BBB-BBB

CITY OF NAPERVILLE
DEPARTMENT OF PUBLIC UTILITIES-ELECTRIC
TYPICAL CONDUIT SECTION BBB-BBB
75TH STREET
APPROXIMATE LENGTH = 180 FEET. HORIZONTAL DIRECTIONAL DRILL METHOD

NOTE:
1) ALL CONDUIT RUNS ARE ASSEMBLED IN FIELD.
2) INSTALL 1/8" DIA. (PULLING) NYLON ROPE IN EACH DUCT.
3) ALL CABLES BY OTHERS.
4) CONDUIT
ALL OTHER MATERIALS INCLUDING GLUE, COUPLINGS AND MANHOLE ENTRANCES FURNISHED BY CITY OF NAPERVILLE AND INSTALLED BY CONTRACTOR.
5) CONTRACTOR TO SUPPLY POLY TO PVC CONNECTOR OR POLY TO STEEL CONNECTOR.
6) INSTALL MULE TAPE OR #12 COPPER WIRE THHN IN THIS DUCT ONLY.
7) CONTRACTOR TO INSTALL PUSH PER C30-1950.

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

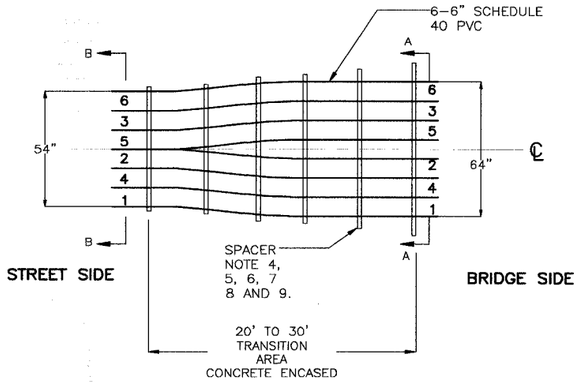
PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS					MAP NO.: -	CAD FILE: 005627000 1D27.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS					DRAWN BY: JK, PM	PROJECT NO.: EU12-08-03 EU73
DATE	4-01 08				WORK REQUEST NO. 56270	CHKD:	SBC:	COMPLETED BY:
ISSUED						APPR:	SCALE: NTS	SHEET 27 OF 73
ENGINEER	RPS							
REVISION		1	2	3				

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	269
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

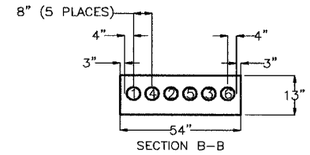
CONTRACT 63024

TRANSITION OF CONDUIT DETAIL – A

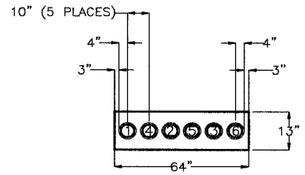
TRANSITION OF CONDUIT FROM 1 HIGH BY 6 WIDE (10" CENTER) TO 1 HIGH BY 6 WIDE (8" CENTER) (6 INCH DUCT)



EAST BOUND + WEST BOUND (4 LOCATIONS)



SECTION B–B

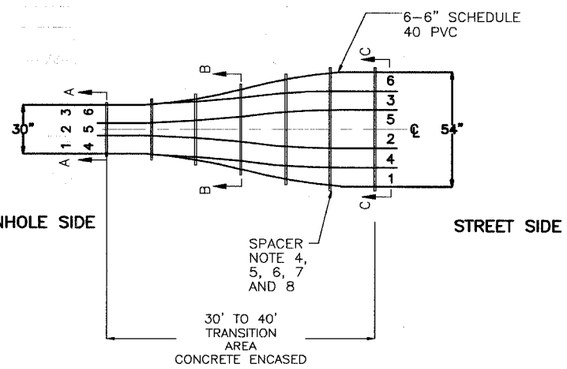


SECTION A–A

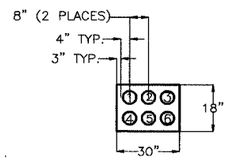
1 – THE DUCTS IN TRANSITION/TRANSPOSING FROM SECTION A–A TO SECTION B–B SHALL FOLLOW UNIFORM RADIUS REVERSE CURVES, WHICH LIE IN THE PLANE OF CURVED SURFACES, INDICATED IN THE PLAN OF DUCT AXES.
2 – SEPARATION BETWEEN DUCTS AND SHEATHING THICKNESS SHALL BE THE SAME AS FOR THE STANDARD FORMATION IN THE REMAINDER OF THE RUN.
3 – ALL EQUIPMENT, TOOLS AND MATERIAL TO COMPLETE THE TRANSPOSITION WILL BE FURNISHED AND INSTALLED BY THE CONTRACTOR, EXCEPT FOR THE SCHEDULE 40 PVC CONDUIT.
4 – CONTRACTOR TO SUPPLY SPACERS, COUPLING, ADAPTERS, TIES, AND WOOD FORM MATERIALS.
5 – USE PLASTIC TIES AS REQUIRED.
6 – USE 5 DEGREE BENDS AS REQUIRED.
7 – CONTRACTOR SHALL ASSEMBLE, PRE FIT, LEVEL, CUT ARRANGE, CHOP, CHIP, SUPPORT AND SECURE DUCT FOR A COMPLETE JOB.
8 – ALL CONDUITS SHALL BE ENCASED IN CONCRETE AND FORMED IN FIELD BY THE CONTRACTOR. USING FORMS CUT TO FIT OF WOOD ALL MATERIALS FURNISHED BY THE CONTRACTOR.
9 – CONTRACTOR TO FORM BENDS IN FIELD USING A HOT BOX IF MANUFACTURED BENDS ARE NOT ACCEPTABLE. ALL DUCT TO REMAIN ROUND.
10 – ALL EQUIPMENT AND TOOLS FURNISHED BY CONTRACTOR.
11 – ALL SCHEDULE 40 PVC CONDUIT SHALL BE SUPPLIED BY THE CITY AND INSTALLED BY THE CONTRACTOR.
12 – ALL STEEL TO PLASTIC COUPLING AND HDPE TO STEEL AND HDPE TO PLASTIC SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

TRANSPOSING OF CONDUIT DETAIL – B

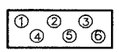
TRANSPOSING OF CONDUIT (SCHEDULE 40 PVC) FROM 1 HIGH BY 6 WIDE TO 2 HIGH BY 3 WIDE (6 INCH DUCT)



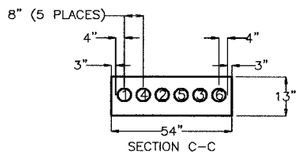
EAST BOUND + WEST BOUND (4 LOCATIONS)



SECTION A–A



SECTION B–B



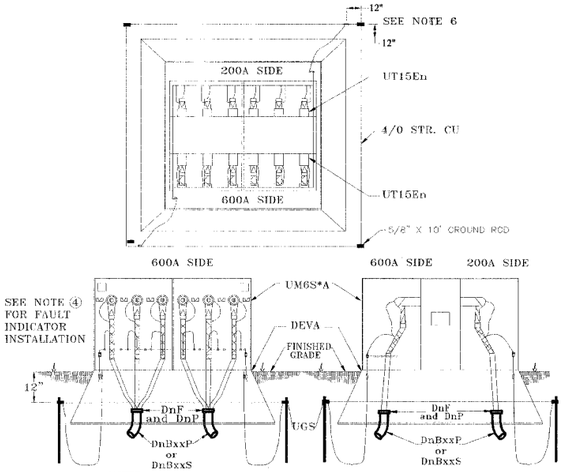
SECTION C–C

1 – THE DUCTS IN TRANSITION/TRANSPOSING FROM SECTION A–A TO SECTION B–B SHALL FOLLOW UNIFORM RADIUS REVERSE CURVES, WHICH LIE IN THE PLANE OF CURVED SURFACES, INDICATED IN THE PLAN OF DUCT AXES.
2 – SEPARATION BETWEEN DUCTS AND SHEATHING THICKNESS SHALL BE THE SAME AS FOR THE STANDARD FORMATION IN THE REMAINDER OF THE RUN.
3 – ALL EQUIPMENT, TOOLS AND MATERIAL TO COMPLETE THE TRANSPOSITION WILL BE FURNISHED AND INSTALLED BY THE CONTRACTOR, EXCEPT FOR THE SCHEDULE 40 PVC CONDUIT.
4 – CONTRACTOR TO SUPPLY SPACERS, COUPLING, ADAPTERS, TIES, AND WOOD FORM MATERIALS.
5 – USE PLASTIC TIES AS REQUIRED.
6 – USE 5 DEGREE BENDS AS REQUIRED.
7 – CONTRACTOR SHALL ASSEMBLE, PRE FIT, LEVEL, CUT ARRANGE, CHOP, CHIP, SUPPORT AND SECURE DUCT FOR A COMPLETE JOB.
8 – ALL CONDUITS SHALL BE ENCASED IN CONCRETE AND FORMED IN FIELD BY THE CONTRACTOR. USING FORMS CUT TO FIT OF WOOD ALL MATERIALS FURNISHED BY THE CONTRACTOR.
9 – CONTRACTOR TO FORM BENDS IN FIELD USING A HOT BOX IF MANUFACTURED BENDS ARE NOT ACCEPTABLE. ALL DUCT TO REMAIN ROUND.
10 – ALL EQUIPMENT AND TOOLS FURNISHED BY CONTRACTOR.
11 – ALL SCHEDULE 40 PVC CONDUIT SHALL BE SUPPLIED BY THE CITY AND INSTALLED BY THE CONTRACTOR.
12 – ALL STEEL TO PLASTIC COUPLING AND HDPE TO STEEL AND HDPE TO PLASTIC SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC		
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION		
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: –	CAD FILE: D056270001D28.DWG
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-08-03 Z173
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE: 4-01 08 / ISSUED: / ENGINEER: RPS / REVISION: 1 2 3	WORK REQUEST NO.: 56270	CHKD: / APPR: / SSC: / SCALE: NTS / COMPLETED BY: / SHEET 28 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	270
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024



NOTES:

1. BENDS SHALL BE INSTALLED PER FIELD CONDITION.
2. SPARES NOT SHOWN.
3. INSTALL ELBOW ARRESTERS AT NORMAL OPEN SWITCH LOCATIONS ON 600A SIDE.
4. SEE C30-1070 FOR FAULT INDICATOR LOCATION.
5. FOR VAULT INSTALLATIONS ONLY, INSTALL UGS - DEVAL.
6. GROUND GRID INSTALLED 12" FROM VAULT AND 12" BELOW GRADE.
7. CONTRACTOR IS ADVISED THIS SPECIFICATION INDICATES WHAT IS INSIDE AN EXISTING ENERGIZED SWITCH GEAR THAT IS TO BE WORKED IN BY THE CONTRACTOR.

THE ASSEMBLY CODE 'UTABI' - BUSHING INSERT, 15kV 200 Amps WAS ELIMINATED AFTER S&C ADDED THE BUSHING INSERT OPTION TO ALL NEW PME SWITCH-GEAR! THE UTABI OPTION IS STILL AVAILABLE FOR USE AS A REPLACEMENT OPTION.

NOTES (CONTINUED):

8) THIS DRAWING SHOWS AN EXISTING SWITCH GEAR WITH CABLE INSTALLED WITH MATERIAL LIST ON RIGHT.

9) CONTRACTOR TO OBTAIN OUTAGE OF SWITCH GEAR PRIOR TO DOING ANY WORK.

10) CONTRACTOR TO INSTALL 3", 5" AND 6" CONDUIT INTO EXISTING AS SPECIFIED IN SPECIFICATIONS CAP AND PLUGS ALL CONDUITS.

11) ALL GROUNDING CONNECTIONS AND TERMINATORS SHALL BE INSPECTED TO DETERMINE CONDITION OF CONNECTIONS BY THE CONTRACTOR REPORT FINDING.

ASSEMBLY CODES

CODE	QTY	DESCRIPTION
DEVA	1	Vault, Air Switch
DnBxxP	**	Bend, PVC
DnBxxS	**	Bend, Steel
DnF	**	Bell Fitting, PVC
DnP	**	Plug, PVC
UT15n	**	Faulted Circuit Indicator
UM6S*A	**	Fuse Unit, 15kV, SMU 20
UM6S*A	1	Switch, Pad mounted
UGS#	1	Grounding, Switchgear
UT15AE	**	Arrester, Elbow, 9kV
UT15En	**	Elbow, 15kV

n is dependent on size
* 2(2-way) or 3(3-way)
** qty is dependent on application
xx bend angle dependent on field condition. (typically 45°)
V for vault only, E for switchgear only

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	3ø 15kV AIR SWITCH MODULE ASSEMBLY	DATE: 4-22-07 Page 1 of 3
ELECTRIC STANDARDS		C30-0013

DEVA: VAULT, AIR SWITCH

Item Code	Description 1	Description 2	DEV 7E Qty	A Qty	TC Qty	PC Qty	F Qty	AE Qty	M Qty	AL Qty
284 100 00120	EXTENDER, 1ø TRF VAULT	44"X44"X 9" W/25"X25" OPEN	1							
284 101 00010	VAULT, AIR SWITCH	74"X76"X36" (FIBER-CRETE)		1						
284 101 00020	VAULT, 1ø TRF/FUSE CAN	44"X44"X52" (FIBER-CRETE)			1					
284 101 00030	VAULT, 3ø PLUG CAN	23"X69"X36" (FIBER-CRETE)				1				
284 101 00040	VAULT, 3ø FUSE CAN	49"X69"X36" (FIBER-CRETE)					1			
284 101 00100	EXTENDER, AIR SWITCH VAULT	74"X76"X9" (FIBER-CRETE)						1		
NON	CA-6	CRUSHED LIMESTONE		1	26	25	5			
NON	VAULT, 12.47kV PRI. METERING	56" X56" X26" (FIBER CRETE)							1	
NON	LID, AIR SWITCH VAULT	2-PIECE DESIGN W/HARDWARE								1

DnBxxP: BEND, PVC

Assembly	Item Code	Description 1	Description 2	Qty
D3B30P	285 101 00025	ELBOW, PVC 30 DEG 3"	STANDARD RADIUS SCH 40	1
D3B45P	285 101 00030	ELBOW, 36"R PVC 45 DEG 3"	SCH 40	1
D3B90P	285 101 00040	ELBOW, 36"R PVC 90 DEG 3"	SCH 40	1
D5B30P	285 101 00060	ELBOW, 36"R PVC 30 DEG 5"	SCH 40	1
D5B45P	285 101 00090	ELBOW, 36"R PVC 45 DEG 5"	SCH 40	1
D5B90P	285 101 00100	ELBOW, 36"R PVC 90 DEG 5"	SCH 40	1
D6B30P	285 101 00220	ELBOW, 48"R PVC 30 DEG 6"	SCH 40	1
D6B45P	285 101 00230	ELBOW, 48"R PVC 45 DEG 6"	SCH 40	1
D6B90P	285 101 00240	ELBOW, 48"R PVC 90 DEG 6"	SCH 40	1

D3BxxS: BEND, 3" STEEL

Item Code	Description 1	Description 2	D3B90S Qty
285 101 00140	ELBOW, 30"R STL 90 DEG 3"	GALVANIZED	1
285 102 00040	COUPLING, PVC 3"	LONG LINE SCH 40	1

D5BxxS: BEND, 5" STEEL

Item Code	Description 1	Description 2	D5B30S Qty	D5B45S Qty	D5B90S Qty
285 101 00160	ELBOW, 36"R STL 30 DEG 5"	GALVANIZED	1		
285 101 00170	ELBOW, 36"R STL 45 DEG 5"	GALVANIZED		1	
285 101 00180	ELBOW, 36"R STL 90 DEG 5"	GALVANIZED			1
285 102 00110	COUPLING, PVC 5"	LONG LINE SCH 40	1	1	1

D6BxxS: BEND, 6" STEEL

Item Code	Description 1	Description 2	D6B11S Qty	D6B22S Qty	D6B30S Qty	D6B45S Qty	D6B90S Qty
285 101 00185	ELBOW, 48"R STL 11 DEG 6"	GALVANIZED	1				
285 101 00188	ELBOW, 48"R 22.5 DEG 6"	GALVANIZED		1			
285 101 00190	ELBOW, 48"R STL 30 DEG 6"	GALVANIZED			1		
285 101 00200	ELBOW, 48"R STL 45 DEG 6"	GALVANIZED				1	
285 101 00210	ELBOW, 48"R STL 90 DEG 6"	GALVANIZED					1
285 102 00140	COUPLING, PVC 6"	LONG LINE SCH 40	1	1	1	1	1

DnF: BELL FITTING, PVC

Item Code	Description 1	Description 2	D3F Qty	D5F Qty	D6F Qty
285 103 00040	BELL FITTING, PVC 3"	SCH 40 & SCH 80	1		
285 103 00080	BELL FITTING, PVC 5"	SCH 40 & SCH 80		1	
285 103 00100	BELL FITTING, PVC 6"	SCH 40 & SCH 80			1

DnP: PLUG, PVC

Item Code	Description 1	Description 2	D3P Qty	D5P Qty	D6P Qty
285 103 00020	PLUG, PVC 3"	WITH PULL TAB	1		
285 103 00070	PLUG, PVC 5"	WITH PULL TAB		1	
285 103 00090	PLUG, PVC 6"	WITH PULL TAB			1

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	3ø 15kV AIR SWITCH MODULE ASSEMBLY	DATE: 10-22-06 PAGE 2 OF 3
ELECTRIC STANDARDS		C30-0013

UMGS*A: FUSE UNIT, 15kV, SMU20

Item Code	Description 1	Description 2	25 Qty	50 Qty	65 Qty	80 Qty	100 Qty	140 Qty	200 Qty
283 105 00030	FUSE UNIT, SMU20, 15KV	25K	1						
283 105 00040	FUSE UNIT, SMU20, 15KV	50K		1					
283 105 00050	FUSE UNIT, SMU20, 15KV	65K			1				
283 105 00060	FUSE UNIT, SMU20, 15KV	80K				1			
283 105 00070	FUSE UNIT, SMU20, 15KV	100K					1		
283 105 00080	FUSE UNIT, SMU20, 15KV	140K						1	
283 105 00090	FUSE UNIT, SMU20, 15KV	200K							1

UGS: GROUNDING, SWITCHGEAR

Item Code	Description 1	Description 2	UGS Qty	UGSV Qty	UGSE Qty
280 107 00070	CU BASE SD	4/0 7-STR	1	1	1
283 156 00010	GROUND ROD, COPPER CLAD	5/8" X 10'	4	4	–
284 199 00184	CLAMP, CABLE TO FLAT GND	#6 SOL - 250 MCM CU	4	–	4
288 199 00260	CONNECTOR, WEDGE CU	4/0 STR (7) - 4/0 STR (7)	4	2	2
288 199 00320	CONNECTOR, WEDGE CU	4/0 STR (7) - 5/8" ROD	4	4	–
288 101 00010	SHELL, WEDGE AMP	WHITE	8	4	4
285 199 00220	BREAK-AWAY	1/0-4/0 STR X 1/0 - 4/0 STR	12	–	12

UT15n: FAULTED CIRCUIT INDICATOR

Item Code	Description 1	Description 2	UT15 S1 Qty	UT15 S3 Qty	UT15 L3 Qty
283 199 00210	GUARD, WIRE	SPIRAL	4	6	6
284 120 00010	FAULT INDICATOR, 1/0 - 4/0	10kV	1	3	–
284 120 00020	FAULT INDICATOR, 750 - 1000	15kV	–	–	3
284 120 00030	INDICATOR CABLE, 4 TO 1	10 FOOT	–	1	1
284 120 00040	INDICATOR CABLE, 1 TO 1	5 FOOT	1	–	–
284 120 00050	TIES, CABLE	SMALL	4	6	6
284 120 00060	CLIP	ADHESIVE BACKED	4	6	6

UM6S*A: SWITCH, PAD MOUNTED

Item Code	Description 1	Description 2	UM6S 2A Qty	3A Qty	2AA Qty	3AA Qty
NON	3PH, 2-WAY AUTOMATED SWITCH	15kV, 600A			1	
NON	3PH, 3-WAY AUTOMATED SWITCH	15kV, 600A				1
284 200 00050	3PH, 2 WAY	8.3/15kV, 600A	1			
284 200 00060	3PH, 3-WAY	8.3/15kV, 600A		1		
284 199 00310	SIGN NOTICE/OBSTRUCTION	8" X 6"	2	2	2	2
207 109 00240	PADLOCK, BRONZE	W/1-1/2" SHACKLE	4	5	5	5

UTABI: BUSHING INSERT, 15KV 200

Item Code	Description 1	Description 2	Qty
284 117 00086	INSERT, LOADBREAK BUSHING	15kV, 200A	1*

*THIS OPTION IS STILL AVAILABLE FOR USE AS REPLACEMENTS.

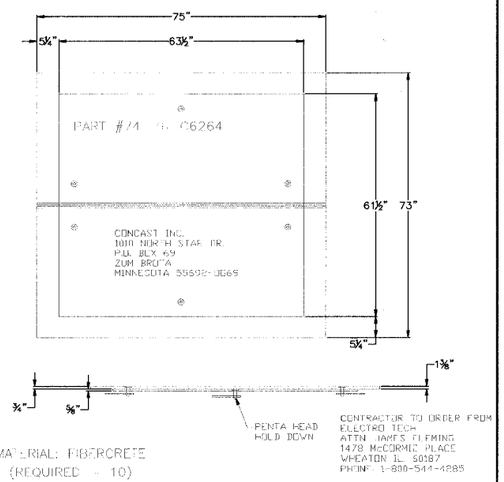
UT15AE: ARRESTER, ELBOW, 9KV

Item Code	Description 1	Description 2	UT15A B Qty	E Qty	P Qty
284 118 00020	ARRESTER, ELBOW	9/10 kV		1	
284 118 00030	ARRESTER, PARKING STAND	9/10 kV			1
284 118 00040	ARRESTER, BUSHING INSERT	9/10kV	1		
286 199 00220	CONNECTOR, BREAKAWAY CU	1/0 - 4/0 STR	1	1	1

UT15E: ELBOW, 15KV

Item Code	Description 1	Description 2	UT15E 10 Qty	10F Qty	40 Qty	406 Qty	C75 Qty	C09 Qty	UT15EE 10 Qty	40 Qty	75 Qty	99 Qty
284 109 00010	FUSE, ELBOW 8kV	30A		1								
284 117 00020	ELBOW, FUSED 8.3kV 200A	1/0 STR AL 175-220 MIL		1								
284 117 00030	ELBOW, 15kV 200A	1/0 STR AL 175-220 MIL	1									
284 117 00031	ELBOW, 15kV 200A EXTENDED	1/0 STR AL 175-220 MIL							1			
284 117 00049	ELBOW, 15kV 200A	4/0 STR AL 175-220 MIL		1								
284 117 00041	ELBOW, 15kV 200A EXTENDED	4/0 STR AL 175-220 MIL							1			
284 117 00065	ELBOW, 15kV 600A W/LETP	750 MCM STR AL 175-220 MIL				1						
284 117 00066	ELBOW, 15kV 600A EXTENDED	750 MCM STR AL 175-220 MIL								1		
284 117 00095	ELBOW, 15kV 600A, W/LETP	1000 MCM STR AL 175-220 MIL					1					
284 117 00096	ELBOW, 15kV 600A EXTENDED	1000 MCM STR AL 175-220 MIL										1
284 117 00400	ELBOW, 15kV 600A	4/0 STR AL 175-220 MIL			1							
284 117 00430	KIT CABLE JACKET SEAL	1/0-4/0 (0.95"-1.50")	1	1	1	1			1	1		
284 117 00440	KIT CABLE JACKET SEAL	250-1000 MCM (1.30"-2.62")					1	1			1	1
255 199 00100	CABLE CLEANER	QUARTS	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
284 199 00120	CAP, INSULATED W/GROUND	15kV 200A					1	1				

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	3ø 15kV AIR SWITCH MODULE ASSEMBLY	DATE: 10-22-06 PAGE 3 OF 3
ELECTRIC STANDARDS		C30-0013

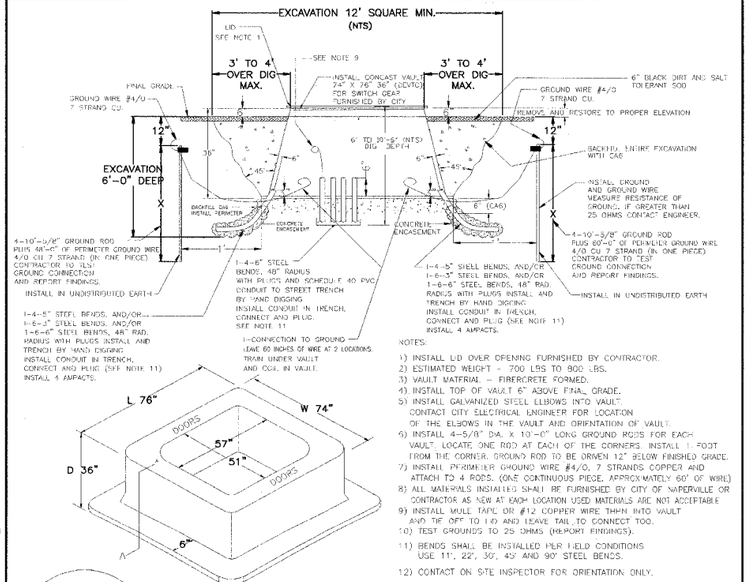


CONTRACTOR TO ORDER FROM
ELECTRO TECH
ATTN: JAMES FLEMING
1478 McCORMIC PLACE
WHEATON IL 60187
PHONE: 1-800-544-4285

MATERIAL: FIBERCRETE
(REQUIRED - 10)

NOTE:
1) INSTALL THIS COVER OVER SWITCH GEAR VAULT UNTIL SWITCH IS INSTALLED.
2) RETURN COVER TO CITY OF NAPERVILLE'S STOCK YARD.
3) CONTRACTOR TO FURNISH LID.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SWITCH GEAR VAULT COVER (50 LBS.) (CONSTRUCTION SPECIFICATION)	DATE: 05-01-06 Page 1 of 1
ELECTRIC STANDARDS		56270-110



SWITCH GEAR VAULT DETAIL
NTS

NOTES:
1) INSTALL LID OVER OPENING FURNISHED BY CONTRACTOR.
2) ESTIMATED WEIGHT - 700 LBS TO 800 LBS.
3) VAULT MATERIAL - FIBERCRETE FORMED.
4) INSTALL TOP OF VAULT 6" ABOVE FINAL GRADE.
5) INSTALL GALVANIZED STEEL ELBOWS INTO VAULT CONTACT CITY ELECTRICAL ENGINEER FOR LOCATION OF THE ELBOWS IN THE VAULT AND ORIENTATION OF VAULT.
6) INSTALL 4-5/8" DIA. X 10'-0" LONG GROUND RODS FOR EACH VAULT. LOCATE ONE ROD AT EACH OF THE CORNERS. INSTALL 1 FOOT FROM THE CORNER. GROUND ROD TO BE DRIVEN 12" BELOW FINISHED GRADE.
7) INSTALL PERIMETER GROUND WIRE #4/0, 7 STRANDS COPPER AND ATTACH TO 4 RODS. (ONE CONTINUOUS PIECE, APPROXIMATELY 60' OF WIRE)
8) ALL MATERIALS INSTALLED SHALL BE FURNISHED BY CITY OF NAPERVILLE OR CONTRACTOR AS NEW AT EACH LOCATION USED MATERIALS ARE NOT ACCEPTABLE
9) INSTALL MULE TAPE OR #12 COPPER WIRE THRU INTO VAULT AND TIE OFF TO LID AND LEAVE TAIL TO CONNECT TOO.
10) TEST GROUNDS TO 25 OHMS (REPORT FINDINGS).
11) BENDS SHALL BE INSTALLED PER FIELD CONDITIONS USE 11°, 22°, 30°, 45° AND 90° STEEL BENDS.
12) CONTACT ON SITE INSPECTOR FOR ORIENTATION ONLY.
13) TESTING EQUIPMENT BY CONTRACTOR.
14) TESTING RESULTS TO BE GIVEN TO THE CITY IN WRITTEN FORM.
15) VAULT, GROUND MATERIALS, PLASTIC AND STEEL BENDS AND GROUND WIRE FURNISHED BY CITY, INSTALLED BY CONTRACTOR.
16) CUT VAULT TO INSTALL CONDUIT AS REQUIRED.
17) SEE SPEC. C30-6332 FOR VAULT EXTENDER.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	INSTALL NEW SWITCH GEAR VAULT (CONSTRUCTION SPECIFICATION)	DATE: 05-01-06 Page 1 of 1
ELECTRIC STANDARDS		56270-120

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

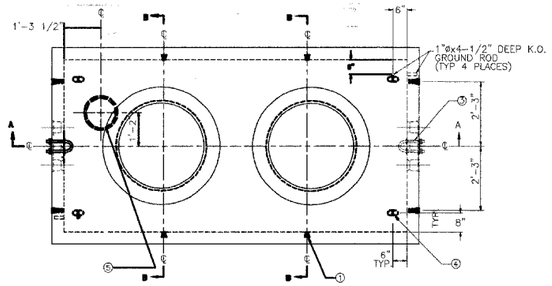
PROJECT TITLE: **75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS**

PROJECT DESCRIPTION: TRENCH SECTION DETAILS

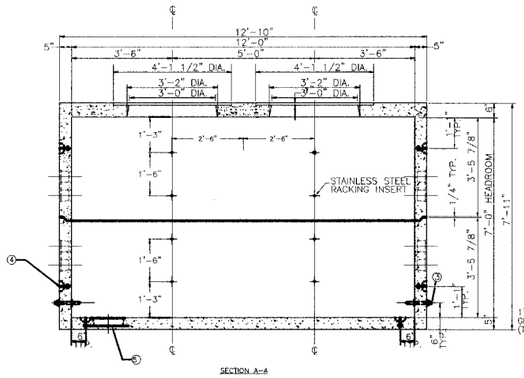
DATE	4-01 08					
ISSUED						
ENGINEER	RPS					
REVISION		1	2	3		

WORK REQUEST NO.: 56270

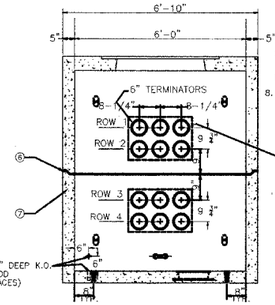
MAP NO.: –
CAD FILE: 0056270001D29.DWG
DRAWN BY: JK, PM
CHKD:
SBC:
PROJECT NO.: EU12-05-03 EU73
COMPLETED BY:
APPV:
SCALE: NTS
SHEET 29 OF 73



PLAN VIEW



SECTION A-A



SECTION B-B

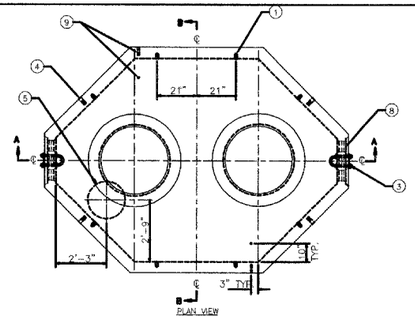
ITEM	DESCRIPTION		QTY	NOTE
	TOTAL MANHOLE WEIGHT	5000 P.S.I. CONC.	40,615 LBS.	
⑦	TOP SECTION WEIGHT		13,570 LBS.	1
	BASE SECTION WEIGHT		27,045 LBS.	
⑦	REBAR: GR. 60, EPOXY COATED			2
⑧	6" DUCT TERMINATORS		24	
⑥	1"ø BUTYL RUBBER JOINT SEALANT		8 ROLLS	
⑤	SUMP GRATE & 12"x12"x1/8" P.		1	4
④	5" LIFTING ANCHORS		12	
③	1"ø S/S PULLING IRONS		2	
①	1/2"ø x 3" DEEP, S/S INSERTS WITH 1/2"ø x 3" S/S HEX HEAD BOLT AND WASHER.		16	

NOTES:

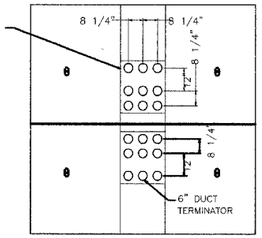
1. CONCRETE: 5000 psi @ 28 DAYS, 5%-8% ENTRAINED AIR, 4" MAX. SLUMP.
2. REBAR: ASTM A-615 GRD. 60 EPOXY COATED
3. PULLING IRON: ø" STAINLESS STEEL
4. ADD GROUNDROD KNOCKOUTS IN FLOOR AND WALLS.
5. RACKING INSERTS: STAINLESS STEEL.
6. IDENTIFICATION: IMPRESSED INTO CEILING OF VAULT.
7. DESIGN CRITERIA:
   DESIGNED AND BUILT IN ACCORDANCE WITH ASTM C858 "STANDARD SPECIFICATION FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES".
   B.) ALL LOADING AS PER ASTM C857 "MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES" INCLUDING:
   A.)
   - EARTH COVER: MIN. 2.0', MAX. 5.0'.
   - AASHTO HS-20 WHEEL LOAD AND APPLICABLE IMPACT.
   - VERTICAL AND LATERAL SOIL PRESSURES DETERMINED USING A SOIL DENSITY OF 120 PCF.
   - GROUNDWATER AT 3'-0" BELOW GRADE.
   C.) STRUCTURAL DESIGN PERFORMED USING AASHTO STRENGTH DESIGN METHOD.
   D.) REINFORCING COVER REQUIREMENTS AS PER ACI 318.
8. SEE SPECIFICATION C30-1900 FOR ROW IDENTIFICATION WITH CONDUIT.

ADDING THE MANHOLE CENTER ASSEMBLY CONVERTS TYPE "A" MANHOLE TO TYPE "C" MANHOLE.

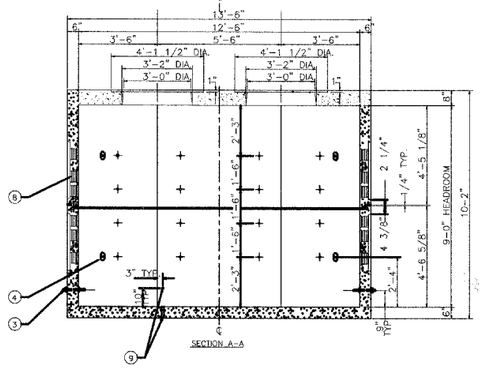
NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	TYPE A MANHOLE	DATE: 03-03-08 M30-1140



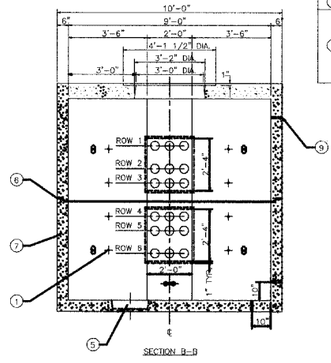
PLAN VIEW



8" DUCT TERMINATOR
ENDWALL SHOWN



SECTION A-A



SECTION B-B

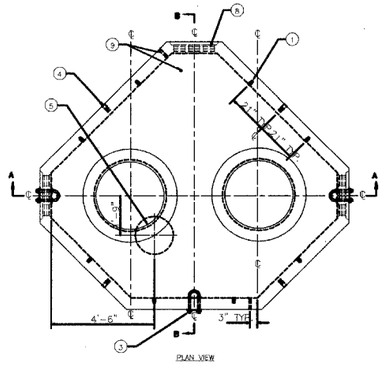
F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	271
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

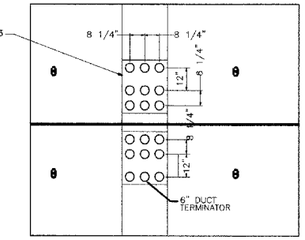
ITEM	DESCRIPTION		QTY	NOTE
	TOTAL MANHOLE WEIGHT	5000 P.S.I. CONC.	42,470 LBS.	
⑦	TOP SECTION WEIGHT		21,470 LBS.	1
	BASE SECTION WEIGHT		21,000 LBS.	
⑦	REBAR, EPOXY COATED			2
⑨	1"ø x 5 1/2" GROUND WIRE HOLE, 1/2" KNOCKOUT		4	
⑧	6" DUCT TERMINATORS		36	3
⑥	1"ø BUTYL RUBBER JOINT SEALANT		4 ROLLS	
⑤	IBT SUMP DEPRESSION		1	
④	6" LIFTING ANCHORS		8	
③	1"ø S.S. PULLING IRONS		2	4
①	CABLE RACK INSERTS: 1/2" 304 STAINLESS STEEL THREADED INSERTS EACH WITH 1/2" x 2" 304 S.S. HEX HEAD BOLT, 1/2" S.S. WASHER, AND 1/2" PVC WASHER		32	

NOTES:
1. CONCRETE: 5000 psi @ 28 DAYS, 5%-8% ENTRAINED AIR, 4" MAX. SLUMP.
2. REBAR: ASTM A-615 GRD. 60, EPOXY COATED.
3. DUCT ENTRANCE: SINGLE DUCT TERMINATORS TO ACCEPT 6" DIAMETER SCH. 40 PVC CONDUIT. SEE DETAIL THIS SHEET.
4. PLEASE NOTE PULLING IRON DESIGNED AS PER A.C.I. 318 FOR WORKING LOAD CAPACITY OF 28,000 POUNDS APPLIED COINCIDENT TO THE MAJOR AXIS OF THE PULLING IRON.
5. IDENTIFICATION: IMPRESSED INTO CEILING OF VAULT.
6. DESIGN CRITERIA:
DESIGNED AND BUILT IN ACCORDANCE WITH ASTM C858
A.)
"STANDARD SPECIFICATION FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES".
ALL LOADING AS PER ASTM C857 "MINIMUM STRUCTURAL
B.)
DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES" INCLUDING:
- EARTH COVER: MIN. 2.0', MAX. 5.0'.
- AASHTO HS-20 WHEEL LOAD AND APPLICABLE IMPACT.
- VERTICAL AND LATERAL SOIL PRESSURES DETERMINED USING A SOIL DENSITY OF 120 PCF.
- GROUNDWATER AT 3'-0" BELOW GRADE.
STRUCTURAL DESIGN PERFORMED USING AASHTO STRENGTH
C.)
DESIGN METHOD.
REINFORCING COVER REQUIREMENTS AS PER ACI 318.
D.)
7. SEE SPECIFICATION C30-1900 FOR ROW IDENTIFICATION WITH CONDUIT.

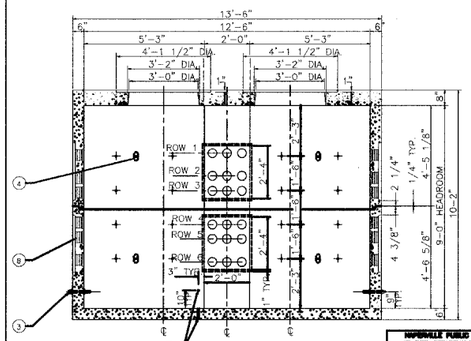
NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	TYPE E MANHOLE	DATE: 03-03-08 M30-1160



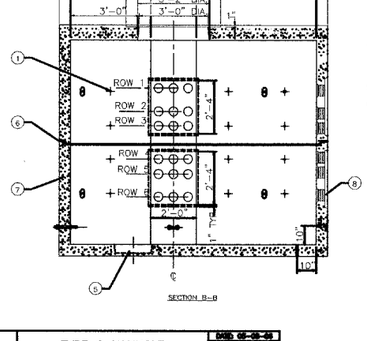
PLAN VIEW



6" DUCT TERMINATOR
ENDWALL SHOWN



SECTION A-A



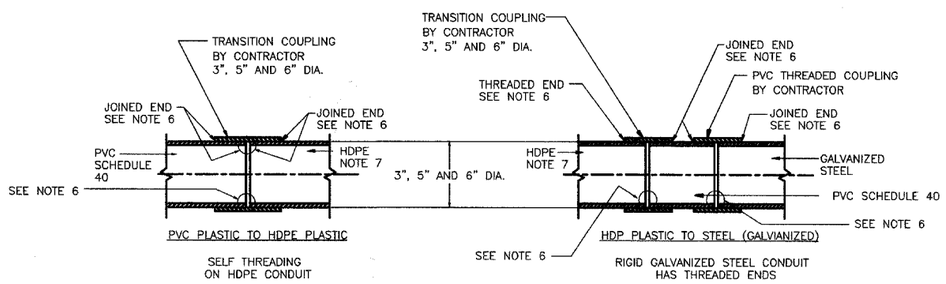
SECTION B-B

ITEM	DESCRIPTION		QTY	NOTE
	TOTAL MANHOLE WEIGHT	5000 P.S.I. CONC.	45,470 LBS.	
⑦	TOP SECTION WEIGHT		23,470 LBS.	1
	BASE SECTION WEIGHT		22,000 LBS.	
⑦	REBAR, EPOXY COATED			2
⑨	1"ø x 5 1/2" GROUND WIRE HOLE, 1/2" KNOCKOUT		4	
⑧	6" DUCT TERMINATORS		54	3
⑥	1"ø BUTYL RUBBER JOINT SEALANT		4 ROLLS	
⑤	IBT SUMP DEPRESSION		1	
④	6" LIFTING ANCHORS		8	
③	1"ø S.S. PULLING IRONS		3	4
①	CABLE RACK INSERTS: 1/2" 304 STAINLESS STEEL THREADED INSERTS EACH WITH 1/2" x 2" 304 S.S. HEX HEAD BOLT, 1/2" S.S. WASHER, AND 1/2" PVC WASHER		32	

NOTES:
1. CONCRETE: 5000 psi @ 28 DAYS, 5%-8% ENTRAINED AIR, 4" MAX. SLUMP.
2. REBAR: ASTM A-615 GRD. 60, EPOXY COATED.
3. DUCT ENTRANCE: SINGLE DUCT TERMINATORS TO ACCEPT 6" DIAMETER SCH. 40 PVC CONDUIT. SEE DETAIL THIS SHEET.
4. PLEASE NOTE PULLING IRON DESIGNED AS PER A.C.I. 318 FOR WORKING LOAD CAPACITY OF 28,000 POUNDS APPLIED COINCIDENT TO THE MAJOR AXIS OF THE PULLING IRON.
5. IDENTIFICATION: IMPRESSED INTO CEILING OF VAULT.
6. DESIGN CRITERIA:
   A.) DESIGNED AND BUILT IN ACCORDANCE WITH ASTM C858 "STANDARD SPECIFICATION FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES".
   B.) ALL LOADING AS PER ASTM C857 "MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES" INCLUDING:
   - EARTH COVER: MIN. 2.0', MAX. 5.0'.
   - AASHTO HS-20 WHEEL LOAD AND APPLICABLE IMPACT.
   - VERTICAL AND LATERAL SOIL PRESSURES DETERMINED USING A SOIL DENSITY OF 120 PCF.
   - GROUNDWATER AT 3'-0" BELOW GRADE.
   C.) STRUCTURAL DESIGN PERFORMED USING AASHTO STRENGTH DESIGN METHOD.
   D.) REINFORCING COVER REQUIREMENTS AS PER ACI 318.
7. SEE SPECIFICATION C30-1900 FOR ROW IDENTIFICATION WITH CONDUIT.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	TYPE G MANHOLE	DATE: 03-03-08 M30-1170

3, 5 AND 6 INCH PLASTIC TRANSITION CONDUIT COUPLINGS
PVC TO HDPE
GALVANIZED STEEL TO HDPE



NOTES:

1) CONTRACTOR SHALL SUPPLY TRANSITION COUPLING TO GO FROM HDPE TO STEEL AND HDPE TO PVC SCHEDULE 40.

2) THE COST OF THIS MATERIAL IS INCLUDED IN UNIT PRICES FOR VAULTS AND HANDHOLES, PLUG CANS, FUSE CANS, SIDE WALK SPLICE BOXES AND CONDUIT.

3) THE CONTRACTOR SHALL SUPPLY ALL TRANSITION COUPLINGS.

4) THE CONTRACTOR SHALL NOT USE TRANSITION COUPLING TO CONNECT HDPE TO HDPE IN THE MAIN LINE. ALL MAINLINE CONNECTIONS SHALL BE BUTT FUSED.

5) CONTRACTOR TO USE ELECTROFUSTION PROCESS AT ALL TIMES TO MAKE HDPE TO HDPE CONNECTIONS.

6) CONTRACTOR TO ASSEMBLE, CUT, ALIGN, BEVEL, AND FIT TO CREATE A SMOOTH INSIDE INTERFACE AT CONNECTION POINT.

7) HDPE, PVC AND STEEL CONDUIT HAVE DIFFERENT INSIDE DIAMETER.

8) ENCASE IN CONCRETE FOR 5 FEET.

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

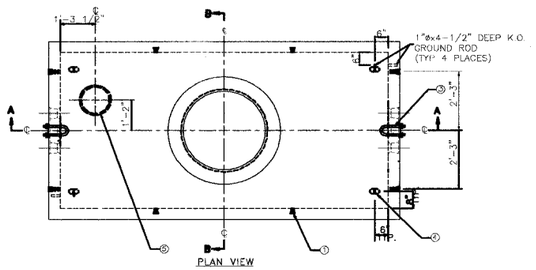
CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

CALL JULIE, 48 HRS. PRIOR TO CONSTRUCTION

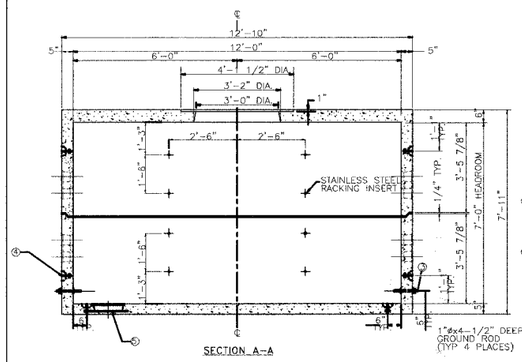
PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: —	CAD FILE: D056270001D30.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 EU73
DATE: 4-01 08	WORK REQUEST NO.: 56270	CHKD:	SSC:	COMPLETED BY:
ISSUED		APPR:	SCALE: NTS	SHEET 30 OF 73
ENGINEER: RPS				
REVISION: 1 2 3				

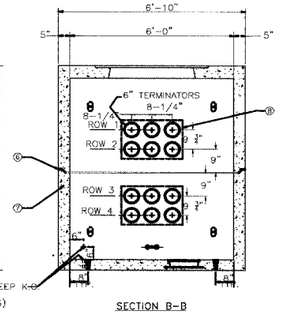
F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	272
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024



ITEM	DESCRIPTION		QTY	NOTE
	TOTAL MANHOLE WEIGHT	4500 P.S.I. CONC.	27,405 LBS.	
⑦	TOP SECTION WEIGHT		14,100 LBS.	1
	BASE SECTION WEIGHT		13,305 LBS.	
⑦	REBAR: GR. 60, EPOXY COATED			2
⑱	6" DUCT TERMINATORS		24	
⑯	1"ø BUTYL RUBBER JOINT SEALANT		4 ROLLS	
⑮	SUMP GRATE & 12"x12"x1/8" P		1	4
④	5" LIFTING ANCHORS		12	
③	1"ø S/S PULLING IRONS		2	
○	1/2"ø x 3" DEEP, S/S INSERTS WITH 1/2"ø x 3" S/S HEX HEAD BOLT AND WASHER.		16	



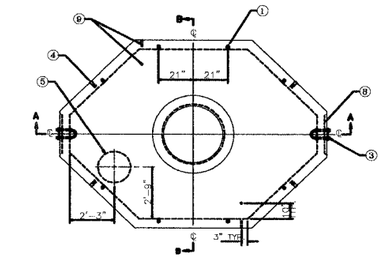


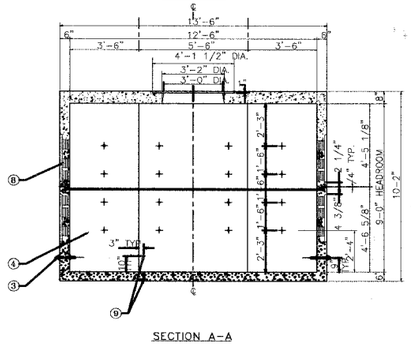
NOTES:

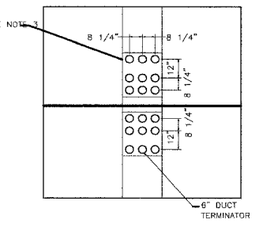
1. CONCRETE: 4500 psi @ 28 DAYS, 5%-8% ENTRAINED AIR, 4" MAX. SLUMP.
2. REBAR: ASTM A-615 GRD. 60 EPOXY COATED
3. PULLING IRON: ø" STAINLESS STEEL
4. ADD GROUNDROD KNOCKOUTS IN FLOOR AND WALLS.
5. RACKING INSERTS: STAINLESS STEEL.
6. IDENTIFICATION: IMPRESSED INTO CEILING OF VAULT.
7. DESIGN CRITERIA:
   A.) DESIGNED AND BUILT IN ACCORDANCE WITH ASTM C858 "STANDARD SPECIFICATION FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES".
   B.) ALL LOADING AS PER ASTM C857 "MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES" INCLUDING:
   - EARTH COVER: MIN. 2.0', MAX. 5.0'.
   - AASHTO HS-20 WHEEL LOAD AND APPLICABLE IMPACT.
   - VERTICAL AND LATERAL SOIL PRESSURES DETERMINED USING A SOIL DENSITY OF 120 PCF.
   - GROUNDWATER AT 3'-0" BELOW GRADE.
   C.) STRUCTURAL DESIGN PERFORMED USING AASHTO STRENGTH DESIGN METHOD.
   D.) REINFORCING COVER REQUIREMENTS AS PER ACI 318.
8. CONTRACTOR SHALL CONFIRM DUCT LOCATION WITH INSPECTOR.
9. SEE SPECIFICATION C30-1900 FOR ROW IDENTIFICATION WITH CONDUIT.

ADDING THE MANHOLE CENTER ASSEMBLY CONVERTS TYPE "A" MANHOLE TO TYPE "C" MANHOLE.

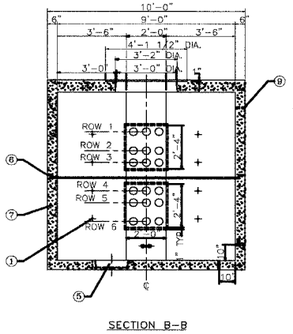
NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	TYPE A MANHOLE	DATE: 12-18-04 M30-1140







6" DUCT TERMINATOR
ENDWALL SHOWN

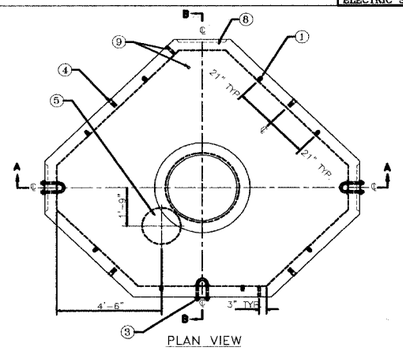


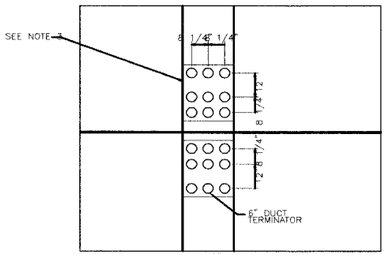
ITEM	DESCRIPTION		QTY	NOTE
	TOTAL MANHOLE WEIGHT	4500 P.S.I. CONC.	43,000 LBS.	
⑦	TOP SECTION WEIGHT		22,000 LBS.	1
	BASE SECTION WEIGHT		21,000 LBS.	
⑦	REBAR, EPOXY COATED			2
⑲	1"ø x 5 1/2" GROUND WIRE HOLE, 1/2" KNOCKOUT		4	
⑱	6" DUCT TERMINATORS		36	3
⑯	1"ø BUTYL RUBBER JOINT SEALANT		4 ROLLS	
⑭	IBT SUMP DEPRESSION		1	
④	6" LIFTING ANCHORS		8	
③	1"ø S.S. PULLING IRONS		2	4
○	CABLE RACK INSERTS: 1/2" 304 STAINLESS STEEL THREADED INSERTS EACH WITH 1/2" x 2" 304 S.S. HEX HEAD BOLT, 1/2" S.S. WASHER, AND 1/2" PVC WASHER		32	

NOTES:

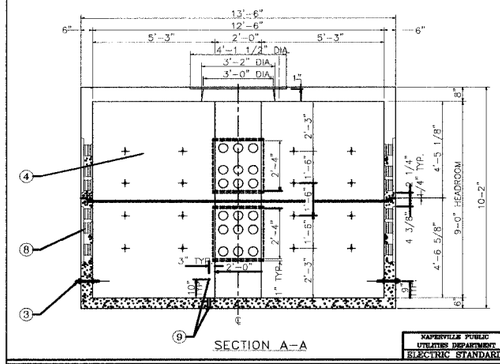
1. CONCRETE: 4500 psi @ 28 DAYS, 5%-8% ENTRAINED AIR, 4" MAX. SLUMP.
2. REBAR: ASTM A-615 GRD. 60, EPOXY COATED.
3. DUCT ENTRANCE: SINGLE DUCT TERMINATORS TO ACCEPT 6" DIAMETER SCH. 40 PVC CONDUIT. SEE DETAIL THIS SHEET.
4. PLEASE NOTE PULLING IRON DESIGNED AS PER A.C.I. 318 FOR WORKING LOAD CAPACITY OF 28,000 POUNDS APPLIED COINCIDENT TO THE MAJOR AXIS OF THE PULLING IRON.
5. IDENTIFICATION: IMPRESSED INTO CEILING OF VAULT.
6. DESIGN CRITERIA:
   A.) DESIGNED AND BUILT IN ACCORDANCE WITH ASTM C858 "STANDARD SPECIFICATION FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES".
   B.) ALL LOADING AS PER ASTM C857 "MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES" INCLUDING:
   - EARTH COVER: MIN. 2.0', MAX. 5.0'.
   - AASHTO HS-20 WHEEL LOAD AND APPLICABLE IMPACT.
   - VERTICAL AND LATERAL SOIL PRESSURES DETERMINED USING A SOIL DENSITY OF 120 PCF.
   - GROUNDWATER AT 3'-0" BELOW GRADE.
   C.) STRUCTURAL DESIGN PERFORMED USING AASHTO STRENGTH DESIGN METHOD.
   D.) REINFORCING COVER REQUIREMENTS AS PER ACI 318.
7. SEE SPECIFICATION C30-1900 FOR ROW IDENTIFICATION WITH CONDUIT.

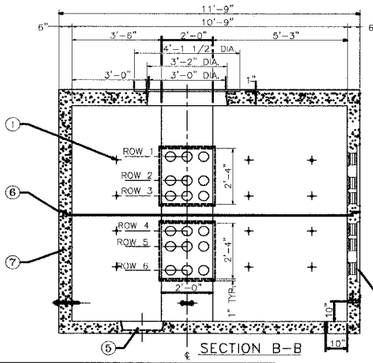
NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	TYPE E MANHOLE	DATE: 12-24-04 M30-1160





6" DUCT TERMINATOR
ENDWALL SHOWN





ITEM	DESCRIPTION		QTY	NOTE
	TOTAL MANHOLE WEIGHT	4500 P.S.I. CONC.	46,000 LBS.	
⑦	TOP SECTION WEIGHT		24,000 LBS.	1
	BASE SECTION WEIGHT		22,000 LBS.	
⑦	REBAR, EPOXY COATED			2
⑲	1"ø x 5 1/2" GROUND WIRE HOLE, 1/2" KNOCKOUT		4	
⑱	6" DUCT TERMINATORS		54	3
⑯	1"ø BUTYL RUBBER JOINT SEALANT		4 ROLLS	
⑭	IBT SUMP DEPRESSION		1	
④	6" LIFTING ANCHORS		8	
③	1"ø S.S. PULLING IRONS		3	4
○	CABLE RACK INSERTS: 1/2" 304 STAINLESS STEEL THREADED INSERTS EACH WITH 1/2" x 2" 304 S.S. HEX HEAD BOLT, 1/2" S.S. WASHER, AND 1/2" PVC WASHER		32	

NOTES:

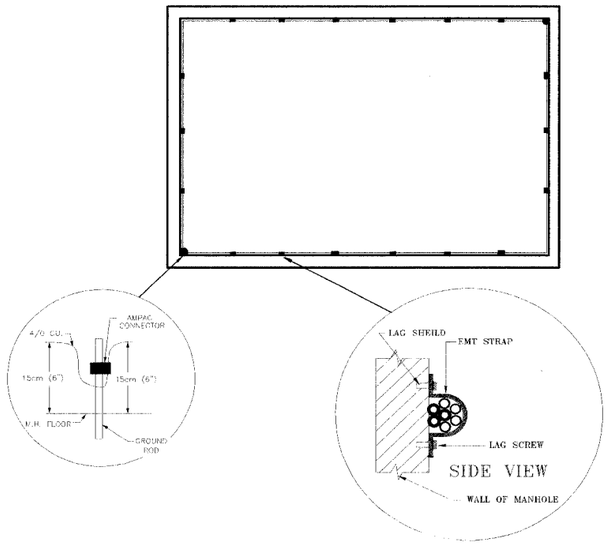
1. CONCRETE: 4500 psi @ 28 DAYS, 5%-8% ENTRAINED AIR, 4" MAX. SLUMP.
2. REBAR: ASTM A-615 GRD. 60, EPOXY COATED.
3. DUCT ENTRANCE: SINGLE DUCT TERMINATORS TO ACCEPT 6" DIAMETER SCH. 40 PVC CONDUIT. SEE DETAIL THIS SHEET.
4. PLEASE NOTE PULLING IRON DESIGNED AS PER A.C.I. 318 FOR WORKING LOAD CAPACITY OF 28,000 POUNDS APPLIED COINCIDENT TO THE MAJOR AXIS OF THE PULLING IRON.
5. IDENTIFICATION: IMPRESSED INTO CEILING OF VAULT.
6. DESIGN CRITERIA:
   A.) DESIGNED AND BUILT IN ACCORDANCE WITH ASTM C858 "STANDARD SPECIFICATION FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES".
   B.) ALL LOADING AS PER ASTM C857 "MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES" INCLUDING:
   - EARTH COVER: MIN. 2.0', MAX. 5.0'.
   - AASHTO HS-20 WHEEL LOAD AND APPLICABLE IMPACT.
   - VERTICAL AND LATERAL SOIL PRESSURES DETERMINED USING A SOIL DENSITY OF 120 PCF.
   - GROUNDWATER AT 3'-0" BELOW GRADE.
   C.) STRUCTURAL DESIGN PERFORMED USING AASHTO STRENGTH DESIGN METHOD.
   D.) REINFORCING COVER REQUIREMENTS AS PER ACI 318.
7. SEE SPECIFICATION C30-1900 FOR ROW IDENTIFICATION WITH CONDUIT.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	TYPE G MANHOLE	DATE: 12-24-04 M30-1170

NOTE:

1) EXISTING MANHOLES USUALLY SINGLE OPENING MANHOLES

WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC		
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION		
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: –	CAD FILE: 0056270001D31.DWG
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 EU73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE: 4-01-08 / ISSUED / ENGINEER: RPS / REVISION: 1 2 3	CHKD:	SBC:
		WORK REQUEST NO.: 56270	APPV:	COMPLETED BY:
			SCALE: NTS	SHEET 31 OF 73



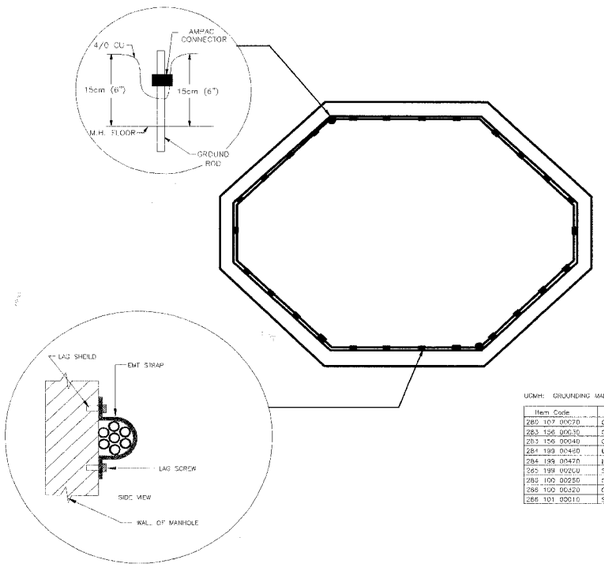
UGMH: GROUNDING MANHOLE

Item Code	Description 1	Description 2	UGMH Qty	UGMHC Qty	UGMHR Qty
280 107 00070	CU WIRE 50	4/0 7-STR	40	40	
283 156 00030	GROUND ROD, COPPER CLAD	5/8" X 5' USE 10 FOOTER	4		4
283 156 00040	COUPLING, BRONZE	5/8" ROD	2		2
284 192 00460	LAG SHIELD, LEAD SHORT	1/4"	26		
284 199 00470	LAG SCREW, SS	1/4" X 1"	26	26	
285 199 00200	STRAP, EMT	1/2" SS	26	26	
286 100 00360	CONNECTOR, WEDGE CU	4/0 STR(7) - 4/0 STR(7)	1	1	
286 100 00320	CONNECTOR, WEDGE CU	4/0 STR(7) - 5/8" ROD	2	2	
286 101 00010	SHELL, WEDGE AMP	WHITE	3	3	

1. KEEP 4/0 CU IN ONE PIECE AROUND INNER WALL; TIE TOGETHER WITH ONE AMPAC.
   4/0 IS SUPPORTED ALONG INNER WALL OF M.H., 15cm (6") ABOVE M.H. FLOOR, AT (2 FOOT) INTERVALS.
2. COPPER STRAP AND LEAD ANCHOR SHALL BE INSTALL AT 60cm (TWO FOOT) INTERVALS.
3. THE TWO KNOCKOUTS IN THE FLOOR SHOULD BE USED. IF SOLID ROCK IS ENCOUNTERED UNDER THE MANHOLE, REFER TO ENGINEERING.
4. TWO 1.5 METER (5') GROUND RODS AND ONE COUPLING SHOULD BE INSTALLED WITH A DRIVING STUD PER KNOCKOUT.

ASSEMBLY CODES		
CODE	QTY.	DESCRIPTION
UGMH	1	GROUNDING MANHOLE

NAPERVILLE PUBLIC UTILITIES DEPARTMENT / ELECTRIC STANDARDS	GROUNDING DETAIL TYPE "A" MANHOLE	DATE: 03-17-04 C30-1140



F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	273
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

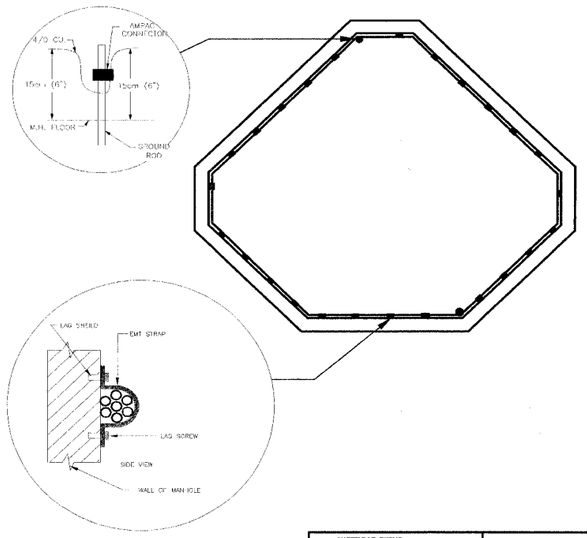
UGMH: GROUNDING MANHOLE

Item Code	Description 1	Description 2	UGMH Qty	UGMHC Qty	UGMHR Qty
280 107 00070	CU WIRE 50	4/0 7-STR	40	40	
283 156 00030	GROUND ROD, COPPER CLAD	5/8" X 5' USE 10 FOOTER	4		4
283 156 00040	COUPLING, BRONZE	5/8" ROD	2		2
284 193 00460	LAG SHIELD, LEAD SHORT	1/4"	26		
284 199 00470	LAG SCREW, SS	1/4" X 1"	26	26	
285 199 00200	STRAP, EMT	1/2" SS	26	26	
286 100 00360	CONNECTOR, WEDGE CU	4/0 STR(7) - 4/0 STR(7)	1	1	
286 100 00320	CONNECTOR, WEDGE CU	4/0 STR(7) - 5/8" ROD	2	2	
286 101 00010	SHELL, WEDGE AMP	WHITE	3	3	

1. KEEP 4/0 CU IN ONE PIECE AROUND INNER WALL; TIE TOGETHER WITH ONE AMPAC.
   4/0 IS SUPPORTED ALONG INNER WALL OF M.H., 15cm (6") ABOVE M.H. FLOOR, AT (2 FOOT) INTERVALS.
2. COPPER STRAP AND LEAD ANCHOR SHALL BE INSTALL AT 60cm (TWO FOOT) INTERVALS.
3. THE TWO KNOCKOUTS IN THE FLOOR SHOULD BE USED. IF SOLID ROCK IS ENCOUNTED UNDER THE MANHOLE, REFER TO ENGINEERING.
4. TWO 1.5 METER (5') GROUND RODS AND ONE COUPLING SHOULD BE INSTALLED WITH A DRIVING STUD PER KNOCKOUT.

ASSEMBLY CODES		
CODE	QTY.	DESCRIPTION
UGMH	1	GROUNDING MANHOLE

NAPERVILLE PUBLIC UTILITIES DEPARTMENT / ELECTRIC STANDARDS	GROUNDING DETAIL TYPE "E" MANHOLE	DATE: 03-17-04 C30-1160



UGMH: GROUNDING MANHOLE

Item Code	Description 1	Description 2	UGMH Qty	UGMHC Qty	UGMHR Qty
280 107 00070	CU WIRE 50	4/0 7-STR	40	40	
283 156 00030	GROUND ROD, COPPER CLAD	5/8" X 5' USE 10 FOOTER	4		4
283 156 00040	COUPLING, BRONZE	5/8" ROD	2		2
284 192 00460	LAG SHIELD, LEAD SHORT	1/4"	26		
284 199 00470	LAG SCREW, SS	1/4" X 1"	26	26	
285 199 00200	STRAP, EMT	1/2" SS	26	26	
286 100 00360	CONNECTOR, WEDGE CU	4/0 STR(7) - 4/0 STR(7)	1	1	
286 100 00320	CONNECTOR, WEDGE CU	4/0 STR(7) - 5/8" ROD	2	2	
286 101 00010	SHELL, WEDGE AMP	WHITE	3	3	

1. KEEP 4/0 CU IN ONE PIECE AROUND INNER WALL; TIE TOGETHER WITH ONE AMPAC.
   4/0 IS SUPPORTED ALONG INNER WALL OF M.H., 15cm (6") ABOVE M.H. FLOOR, AT (2 FOOT) INTERVALS.
2. COPPER STRAP AND LEAD ANCHOR SHALL BE INSTALL AT 60cm (TWO FOOT) INTERVALS.
3. THE TWO KNOCKOUTS IN THE FLOOR SHOULD BE USED. IF SOLID ROCK IS ENCOUNTED UNDER THE MANHOLE, REFER TO ENGINEERING.
4. TWO 1.5 METER (5') GROUND RODS AND ONE COUPLING SHOULD BE INSTALLED WITH A DRIVING STUD PER KNOCKOUT.

ASSEMBLY CODES		
CODE	QTY.	DESCRIPTION
UGMH	1	GROUNDING MANHOLE

NAPERVILLE PUBLIC UTILITIES DEPARTMENT / ELECTRIC STANDARDS	GROUNDING DETAIL TYPE "G" MANHOLE	DATE: 03-17-04 C30-1170

NOTES:

1) ALL MANHOLES SHALL BE INSTALLED AND GROUNDS INSTALLED AND GROUND RODS TESTED IMMEDIATELY.

2) IF TESTING INDICATES A GROUND RESISTANCE MORE THAN 25 OHMS ADDITIONAL RODS NEED TO BE ADDED OR COUNTER POISE INSTALLED.

3) THE COUNTER POISE IF REQUIRED, WILL BE INSTALLED IN THE TRENCH WHEN THE DUCT IS INSTALLED. INSTALL 4/0 BARE 7-STRAND COPPER WIRE THRU THE 2-KNOCKOUTS IN WALL. TRAIN AROUND MANHOLE TO DUCT RUNS AND INSTALL 200 FEET OF COUNTER POISE IN TWO DIRECTIONS FROM MANHOLE ABOVE DUCT AND BEFORE BACK FILLING.

4) CONTRACTOR IS ADVISED IF THE DUCT IS INSTALLED PRIOR TO MANHOLE WORK. THE CONTRACTOR SHALL TEST SOIL RESISTANCE AT MANHOLE LOCATION PRIOR TO INSTALLING DUCT.

5) AFTER COUNTER POISE IS INSTALLED GROUNDS SHALL BE RETESTED AND FINDINGS GIVEN TO THE CITY.

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

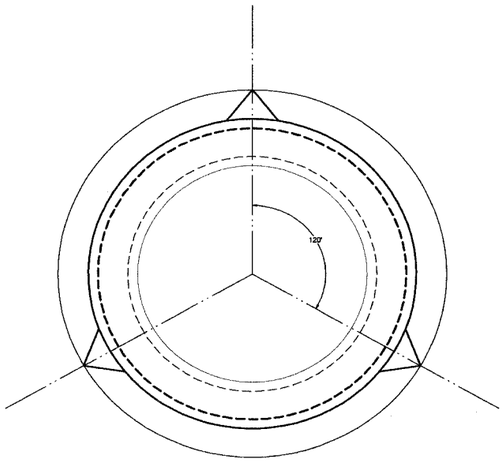
CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: —	CAD FILE: 00562700010302.DWG	
PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 EU73	
DATE: 4-01 08 / ISSUED / ENGINEER: RPS / REVISION	WORK REQUEST NO.: 56270	CHK'D: / APP'V:	SEC: / SCALE: NTS	COMPLETED BY: SHEET 32 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	274
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

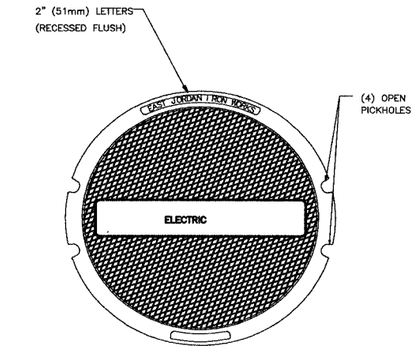
CONTRACT 63024

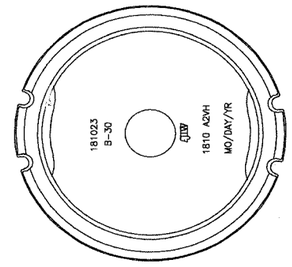


NOTES: 1. CONCRETE 4500 PSI AT 28 DAYS

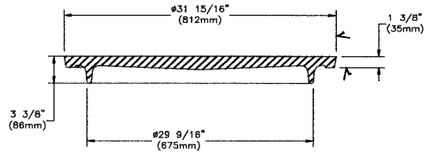
2. EACH ADJUSTING RING SHALL COME WITH 14 FEET OF 1" INCH DIAMETER JOINT SEALANT TAPE.

MANHOLE ADJUSTING RING





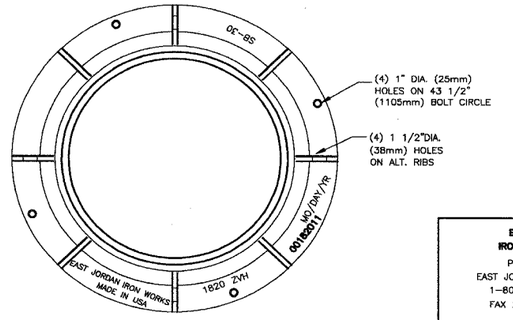
BOTTOM OF COVER



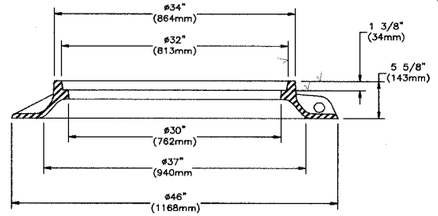
EAST JORDAN IRON WORKS, INC. P.O. BOX 439 EAST JORDAN, MI. 49727 1-800-874-4100 FAX 231-536-4458
EST. WT. COVER: 295 LBS 134kg

√ MACHINED SURFACE

COVER SECTION



EAST JORDAN IRON WORKS, INC. P.O. BOX 439 EAST JORDAN, MI. 49727 1-800-874-4100 FAX 231-536-4458
EST. WT. FRAME: 295 LBS 134kg



√ MACHINED SURFACE

FRAME SECTION

NOTES:

1) CONTRACTOR IS ADVISED THE MANHOLE AS SUPPLIED FROM UTILITY CONCRETE PRODUCTS (UCP). IS SHIPPED WITH 4-12" ADJUSTING RING ONLY.

2) CONTRACTOR IS ADVISED THAT 2" AND 6" ADJUSTING RINGS ARE AVAILABLE FROM THE CITY, IF REQUESTED BY THE CONTRACTOR. CONTRACTOR TO PICK UP AND IS INCIDENTAL TO THE CONTRACT.

3) COVERS AND FRAME SECTIONS ARE TO BE PICKED UP AT THE CITY STORAGE YARD AND IS INCIDENTAL TO THE CONTRACT.

WF# INFORMATION	
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

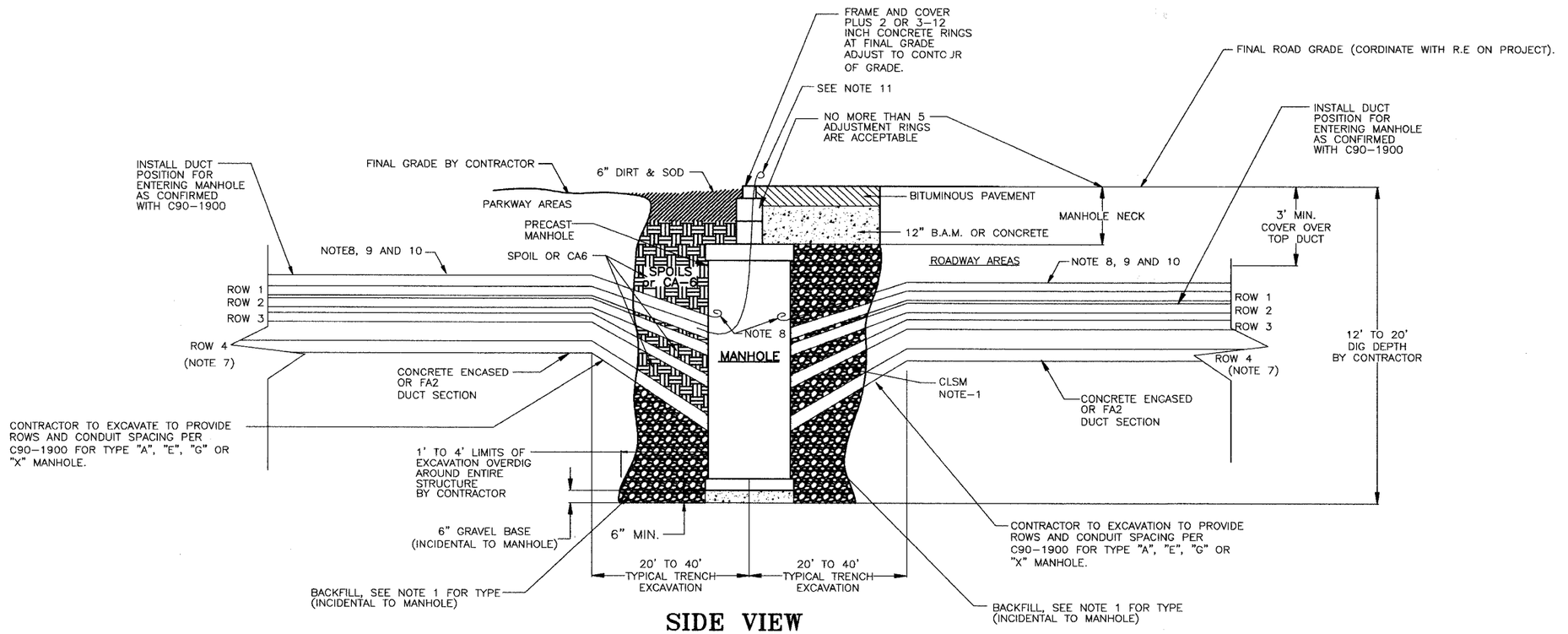
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: -	CAD FILE: 0056270001D33.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-08-03 EU73
DATE: 4-01-08	WORK REQUEST NO.: 56270	CHKD:	SBC:	COMPLETED BY:
ISSUED:		APPV:	SCALE: NTS	SHEET 33 OF 73
ENGINEER: RPS				
REVISION: 1 2 3				

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	275
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

TYPICAL
EXCAVATION DETAIL
TYPE "A", "E", "G" OR "X" MANHOLE



SIDE VIEW
TYPICAL MANHOLE

NOTE:

1. CA6 BACKFILL TO BE PLACED 360 DEGREES AROUND MANHOLES TO GRADE. MINUS SURFACE RESTORATION. WHERE MANHOLE IS WITHIN 5' OF ROADWAY, CLSM BACKFILL TO BE USED TO FILL TO TOP OF ROOF OF MANHOLE AND CA6 BACKFILL TO FILL TO GRADE.
2. SEE MANHOLE DETAIL DRAWINGS FOR DIMENSIONS AND WEIGHT.
3. CONTRACTOR TO ESTABLISH FINAL ELEVATION, LEVEL AND GRADE FOR MANHOLE.
4. MANHOLES DELIVERED TO SITE BY MANUFACTURER. CONTRACTOR TO COORDINATE UNLOAD, STORE AND INSTALL (TAIL GATE DELIVERY BY UCP).
5. CONTRACTOR SHALL SUPPORT AND REROUTE UTILITIES AS REQUIRED.
6. CONTRACTOR SHALL INSTALL CONDUIT INTO MANHOLES PER C30-1900, AND IS PART OF PRICE TO INSTALL MANHOLE.
7. ROWS 5 AND 6 OMITTED FOR CLARITY.
8. LEAVE 20 FEET OF 4/0 BARE COPPER CONDUCTOR FOR TAIL (COUNTER POISE).
9. INSTALL 250 FEET OF 4/0 BARE COPPER CONDUCTOR ABOVE DUCT BANK, COUNTER POISE, IF NEEDED IN 2 DIRECTIONS..
10. CORE DRILL 1 1/2" HOLE THRU WALL OF 6" THICK MANHOLE WALL TO CONNECT COUNTER POISE. IF KNOCK OUTS ARE NOT INSTALLED.
11. INSTALL #12 THHN WIRE (25' AND COIL) FROM MIDDLE DUCT TO MANHOLE COVER , LEAVING 12" TAIL (USED FOR LOCATING).
12. ALL OF THE ABOVE ITEMS AND DETAIL EXCEPT ITEM 9, ARE INCLUDED IN THE COST OF INSTALLING THE MANHOLE.
13. INSTALL MANHOLE PER O.S.H.A REGULATIONS OF LATEST ISSUE.

WF# INFORMATION	
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

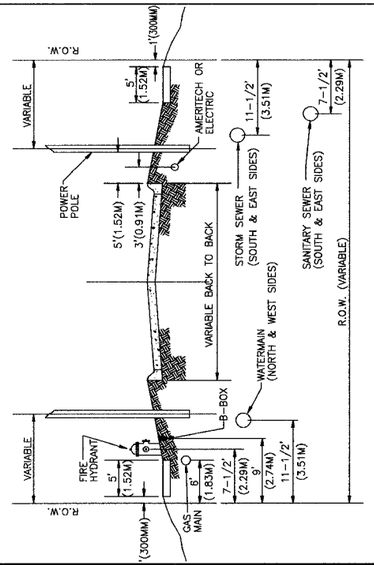
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS		MAP NO.: -	CAD FILE: D056270001D34.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS		DRAWN BY: JK, PM	PROJECT NO.: EU12-08-03 EU23
DATE: 4-01 08	WORK REQUEST NO.: 56270	CHKD:	SBC:
ISSUED:		APPR:	COMPLETED BY:
ENGINEER: RPS		SCALE: NTS	SHEET 34 OF 73
REVISION: 1 2 3			

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	276
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

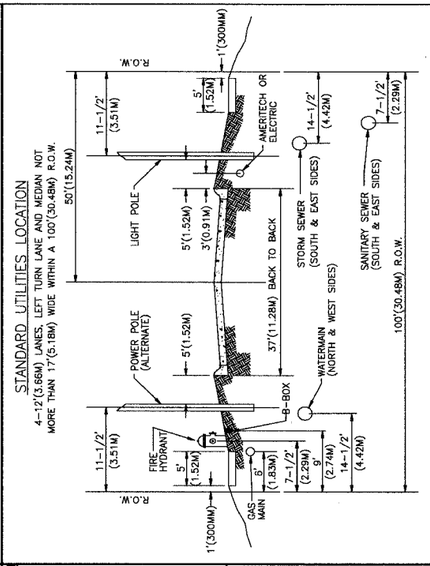
STANDARD UTILITIES LOCATION



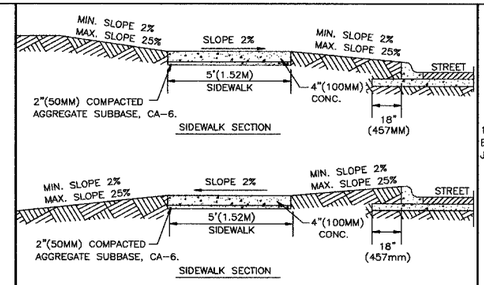
Title: STANDARD UTILITIES LOCATION	CITY OF NAPERVILLE STANDARD DETAIL		
Approved By:	DATE: 9/21/98	REV:	Detail: MISC 1
	SCALE: NTS	SHEET 1 OF 2	

STANDARD UTILITIES LOCATION

4-12'(3.66M) LANES, LEFT TURN LANE AND MEDIAN NOT MORE THAN 17'(5.18M) WIDE WITHIN A 100'(30.48M) R.O.W.



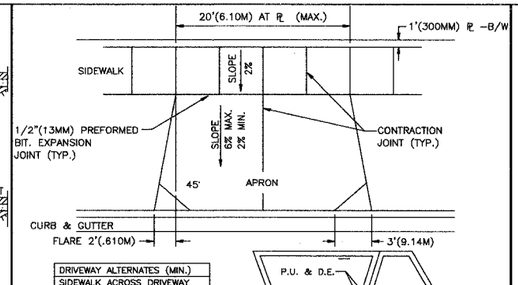
Title: STANDARD UTILITIES LOCATION	CITY OF NAPERVILLE STANDARD DETAIL		
Approved By:	DATE: 9/29/98	REV:	Detail: MISC 1
	SCALE: NTS	SHEET 2 OF 2	



NOTES:

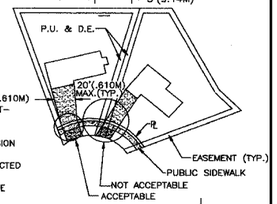
1. CONCRETE SHALL BE IDOT CLASS SI
2. MINIMUM SIDEWALK THICKNESS SHALL BE 4" (100mm)
3. SIDEWALK THICKNESS ACROSS DRIVEWAY SHALL BE AT A MINIMUM 6" (150mm) FOR RESIDENTIAL DRIVEWAYS AND 8" (200mm) FOR COMMERCIAL DRIVEWAYS
4. MAXIMUM LONGITUDINAL SLOPE SHALL NOT EXCEED 5% (20:1). FOR ANY SLOPE IN EXCESS OF 5%, ALL REQUIREMENTS OF THE ILLINOIS ACCESSIBILITY CODE (LATEST EDITION) SHALL BE MET.
5. MINIMUM TRANSVERSE SLOPE SHALL BE 1/4" PER 1' (2%) MAXIMUM TRANSVERSE SLOPE SHALL BE 1/2" PER 1' (4%).
6. A MINIMUM 2" (50mm) AGGREGATE SUBBASE (CA-6) SHALL BE PROVIDED. (4" (100mm) THROUGH COMMERCIAL DRIVEWAYS).
7. AGGREGATE SUBBASE SHALL BE MECHANICALLY COMPACTED.
8. ALL SIDEWALKS SHALL BE PROMPTLY BACKFILLED AND PROTECTED FROM DAMAGE.

Title: SIDEWALK	CITY OF NAPERVILLE STANDARD DETAIL		
Approved By:	DATE: 6/15/98	REV:	Detail: PVMT 3
	SCALE: NTS		

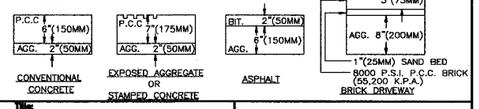


DRIVEWAY ALTERNATES (MIN.)
SIDEWALK ACROSS DRIVEWAY
6"(150MM) P.C.C. CONCRETE ON 2"(50MM) CA-6

NOTES:
1. DRIVEWAYS SHALL NOT EXCEED 20'(.610M) IN WIDTH MEASURED AT THE RIGHT-OF-WAY LINE.
2. DRIVEWAYS SHALL NOT ENCROACH OVER THE PROPERTY LINE EXTENSION IN THE PARKWAY.
3. DRIVEWAYS SHALL NOT BE CONSTRUCTED IN EASEMENTS.
4. ALL AGGREGATE SUB-BASE SHALL BE MECHANICALLY COMPACTED.



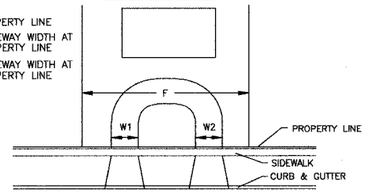
DRIVEWAYS



Title: TYPICAL RESIDENTIAL DRIVEWAY DETAIL	CITY OF NAPERVILLE STANDARD DETAIL		
Approved By:	DATE: 6/2/98	REV:	Detail: PVMT 9
	SCALE: NTS	SHEET: 1 OF 2	

MULTIPLE DRIVEWAYS

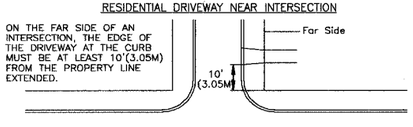
F = PROPERTY LINE
W1 = DRIVEWAY WIDTH AT PROPERTY LINE
W2 = DRIVEWAY WIDTH AT PROPERTY LINE



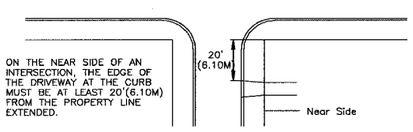
FOR MULTIPLE DRIVEWAYS TO BE PERMITTED, THE FOLLOWING CONDITIONS MUST BE MET:
1. THE PROPERTY FRONTAGE (F) MUST BE GREATER THE 75'(22.86M).
2. (F/75)(20) ≥ W1+W2

RESIDENTIAL DRIVEWAY NEAR INTERSECTION

ON THE FAR SIDE OF AN INTERSECTION, THE EDGE OF THE DRIVEWAY AT THE CURB MUST BE AT LEAST 10'(3.05M) FROM THE PROPERTY LINE EXTENDED.

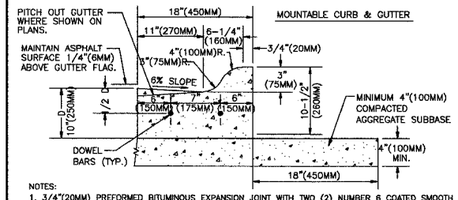


ON THE NEAR SIDE OF AN INTERSECTION, THE EDGE OF THE DRIVEWAY AT THE CURB MUST BE AT LEAST 20'(6.10M) FROM THE PROPERTY LINE EXTENDED.



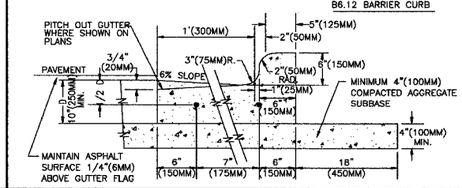
Title: TYPICAL RESIDENTIAL DRIVEWAY DETAIL	CITY OF NAPERVILLE STANDARD DETAIL		
Approved By:	DATE: 6/2/98	REV:	Detail: PVMT 9
	SCALE: NTS	SHEET: 2 OF 2	

MOUNTABLE CURB & GUTTER

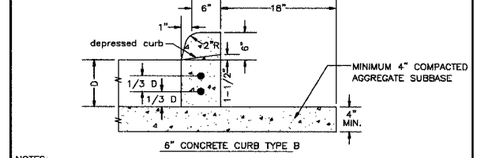


NOTES:
1. 3/4"(20MM) PREFORMED BITUMINOUS EXPANSION JOINT WITH TWO (2) NUMBER 6 COATED SMOOTH DOWEL BARS (3/4"(20MM) DIA. X 18"(450MM)) WITH GREASE CAPS SHALL BE PLACED EVERY 150' (45M). 10'(3M) EITHER SIDE OF DRAINAGE STRUCTURES, P.C.'S, RADIUS POINTS AND BACK OF CUL-DE-SACS. WHEN EXPANSION JOINTS ARE CONSTRUCTED ADJACENT TO EXISTING CURB & GUTTER THE EXISTING CURB SHALL BE DRILLED AND TWO (2) NUMBER 6 COATED SMOOTH DOWEL BARS (3/4"(20MM) X 18"(450MM)) GROUTED IN PLACE. GREASE CAPS SHALL BE PLACED ON THE SIDE OF THE NEW CURB AND GUTTER SHALL HAVE A PINCHED STOP THAT WILL PROVIDE A MINIMUM 1"(25MM) EXPANSION.
2. TOOLED CONTROL JOINTS OR SAWCUTS SHALL BE MADE EVERY 15'(4.5M).
3. SAWCUTS SHALL BE MADE WITHIN TWENTY-FOUR (24) HOURS AND SEALED WITH A CITY APPROVED JOINT SEALANT. JOINTS SHALL BE CLEAN AND DRY PRIOR TO APPLICATION OF SEALANT.
4. FOR CURB AND GUTTER CONSTRUCTED OVER UTILITY TRENCHES, TWO (2) EPOXY COATED REINFORCING BARS (NO. 4) SHALL BE PLACED IN THE CURB AND GUTTER, CENTERED OVER THE TRENCH.

B6.12 BARRIER CURB

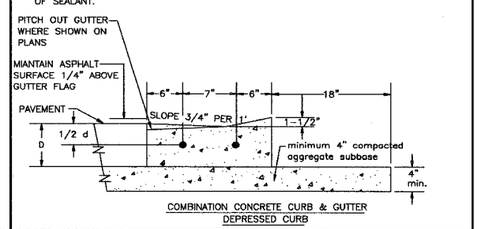


Title: CURB & GUTTER	CITY OF NAPERVILLE STANDARD DETAIL		
Approved By:	DATE: 6/2/98	REV:	Detail: PVMT 11
	SCALE: NTS		



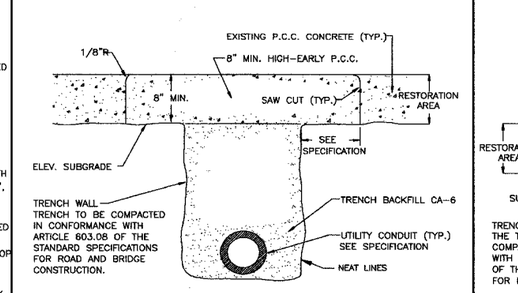
6" CONCRETE CURB TYPE B

NOTES:
1. 3/4" PREFORMED BITUMINOUS EXPANSION JOINT MATERIAL WITH TWO (2) 6 COATED SMOOTH DOWEL BARS (3/4" DIAMETER X 18") WITH GREASE CAPS SHALL BE PLACED EVERY 150', 10' EITHER SIDE OF DRAINAGE STRUCTURES, P.C.'S, RADIUS POINTS AND BACK OF CUL-DE-SACS. WHEN EXPANSION JOINTS ARE CONSTRUCTED ADJACENT TO EXISTING CURB & GUTTER THE EXISTING CURB SHALL BE DRILLED AND TWO (2) NUMBER 6 COATED SMOOTH DOWEL BARS (3/4" DIAMETER X 18") GROUTED IN PLACE. GREASE CAPS SHALL BE PLACED ON THE SIDE OF THE NEW CURB AND GUTTER AND SHALL HAVE A PINCHED STOP THAT WILL PROVIDE A MINIMUM 1" EXPANSION.
2. TOOLED CONTROL JOINTS OR SAWCUTS SHALL BE MADE EVERY 15'.
3. SAWCUTS SHALL BE MADE WITHIN TWENTY-FOUR (24) HOURS AND SEALED WITH A CITY APPROVED JOINT SEALANT. JOINTS SHALL BE CLEAN AND DRY PRIOR TO APPLICATION OF SEALANT.



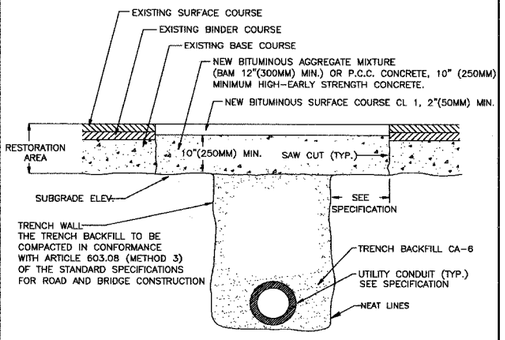
COMBINATION CONCRETE CURB & GUTTER DEPRESSED CURB

Title: Curb & Gutter	City of Naperville Standard Detail		
	Scale: N.T.S.	Date: 11/13/94	Detail: PVMT 12



NOTES:
1. THE OPENING OF PAVEMENTS SHALL NOT BE ALLOWED WITHOUT FIRST RECEIVING A PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS PER SECTION 9-1A-6 OF THE NAPERVILLE MUNICIPAL CODE.
2. THE TRENCH SHALL BE BACKFILLED WITH AGGREGATE (CA-6) AND COMPACTED TO 95% OF THE STANDARD PROCTOR DENSITY. TRENCH SPOILS OR EXCAVATED MATERIAL SHALL BE DISCARDED BY THE CONTRACTOR, AT HIS EXPENSE, AT DUMP SITES OR IN A SUITABLE FASHION AS APPROVED BY THE CITY ENGINEER.
3. PRIOR TO PLACING OF P.C.C. CONCRETE, THE EXPOSED EDGES OF ALL EXISTING PAVEMENT SHALL BE SAW CUT TO PROVIDE A SMOOTH, CLEAN EDGE, FREE OF LOOSE MATERIAL.
4. EXCAVATIONS SHALL BE PROTECTED BY BARRICADES WITH FLASHING LIGHTS. A ONE (1) INCH STEEL PLATE SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR AT LOCATIONS WHERE ADJUSTMENTS ARE LOCATED IN TRAVEL LANES UNTIL THE SURFACE RESTORATION IS COMPLETE. THE PLATE SHALL BE PROTECTED FROM SLIDING AND PROVIDED WITH BITUMINOUS RAMPS.

Title: Utility Trench Paving Section Thru Existing Rigid Pavements	City of Naperville Standard Detail		
	Scale: N.T.S.	Date: 1/13/94	Detail: PVMT 14



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3. PRIOR TO PLACING OF P.C.C. CONCRETE, THE EXPOSED EDGES OF ALL EXISTING PAVEMENT SHALL BE SAW CUT TO PROVIDE A SMOOTH, CLEAN EDGE, FREE OF LOOSE MATERIAL.
4. EXCAVATIONS SHALL BE PROTECTED BY BARRICADES WITH FLASHING LIGHTS. A 1"(25MM) STEEL PLATE SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR AT LOCATIONS WHERE ADJUSTMENTS ARE LOCATED IN TRAVEL LANES UNTIL THE SURFACE RESTORATION IS COMPLETE. THE PLATE SHALL BE PROTECTED FROM SLIDING AND PROVIDED WITH BITUMINOUS RAMPS.

Title: UTILITY TRENCH PAVING SECTION THROUGH EXISTING FLEXIBLE PAVEMENTS	CITY OF NAPERVILLE STANDARD DETAIL		
Approved By:	DATE: 6/15/98	REV:	Detail: PVMT 15
	SCALE: NTS		

NOTES:

1) SEE GENERAL SPECIFICATIONS FOR CHANGES TO THE ABOVE SPECIFICATIONS.

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS		MAP NO.: —	CAD FILE: 00562700010135.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS		DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 EU23
DATE: 4-01-08	WORK REQUEST NO.: 56270	CHKD:	SBC:	COMPLETED BY:
ISSUED		APPR:	SCALE: NTS	SHEET 35 OF 73
ENGINEER: RPS				
REVISION: 1 2 3				

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	277
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

CONDUIT RUN TRENCH PREPARATION

THESE INSTRUCTIONS COVER DESIGN AND CONSTRUCTION INFORMATION NECESSARY FOR THE LAY-OUT AND INSTALLATION OF CONDUIT RUNS.

SAFEGUARDING UNDERGROUND FACILITIES

IN ORDER TO SAFEGUARD THE UNDERGROUND FACILITIES OF BOTH THE CITY OF NAPERVILLE AND OTHERS, APPLICABLE INSTRUCTIONS AND PROCEDURES COVERING THE PROVISIONS OF ANY AGREEMENT BETWEEN THE CITY OF NAPERVILLE AND ANOTHER UTILITY CONCERNING INTERCHANGE OF INFORMATION AND CONSTRUCTION WORK PRACTICES SHALL BE FOLLOWED. BEFORE ANY SOIL IS DISTURBED, J.U.L.I.E. MUST BE NOTIFIED TO MARK ALL UTILITIES IN THE AREA OF THE TRENCH.

CONDUIT RUN LAYOUT

CONDUIT RUNS AND MANHOLES SHOULD BE LOCATED SO THAT THE RUN WILL FOLLOW AS NEARLY AS POSSIBLE A STRAIGHT LINE BETWEEN MANHOLES. IF OBSTRUCTIONS MAKE THIS IMPRACTICAL, THE RUN MAY BE CURVED AS NECESSARY.

CONDUIT RUNS BETWEEN MANHOLES SHALL HAVE AN OVERALL LENGTH FROM MANHOLE TO MANHOLE NOT TO EXCEED 475 FT. SPECIAL CASES INVOLVING LONGER LENGTHS MAY BE CONSIDERED BY THE ENGINEER, BUT ONLY IF SPECIALLY ORDERED CABLE REELS CAN ACCOMODATE THIS LONG-PULL CONSTRUCTION.

A CONDUIT RUN MAY ENTER A STANDARD MANHOLE AT A MAXIMUM ANGLE OF 15° TO THE RESPECTIVE AXIS OF THE MANHOLE. IN CASES WHERE A LARGER ANGLE IS REQUIRED, THE MANHOLE SHALL BE REDESIGNED TO OBTAIN SATISFACTORY CABLE PULLING AND TRAINING CONDITIONS. IN LOCATIONS WHERE STREET LINES ARE NOT DETERMINED BY CURBS, SIDEWALKS OR BUILDINGS, THE EXACT POSITION OF THE CONDUIT RUN SHALL BE DETERMINED BY A SURVEY.

THE PROPOSED TRENCH MAY BE MARKED OFF BY MEANS OF A CHALK LINE IN UNPAVED TERRITORY AND BY A ROUTE IDENTIFICATION SPRAY PAINTED IN PAVED TERRITORY. BOTH SIDES OF THE TRENCH SHALL BE MARKED IF THE TRENCH IS TO BE DUG BY HAND. IF A MACHINE IS TO BE USED, ONLY ONE SIDE OF THE TRENCH NEED BE MARKED.

EXCAVATION

THE STANDARD WIDTH OF THE TRENCH SHALL BE EQUAL TO THE OVERALL WIDTH OF THE CONDUIT RUN AS SHOWN ON PAGE 6 FOR REGULAR FORMATIONS, AND SHALL BE ADJUSTED TO INCLUDE WHERE TRANSPOSITIONS ARE NECESSARY TO PASS OBSTRUCTIONS. THE SIDES OF THE TRENCH SHALL BE TRIMMED SMOOTHLY TO GIVE A UNIFORM THICKNESS OF CONCRETE AROUND THE CONDUIT. THE SIDES OF THE EXCAVATION SHALL BE SHORED IN ACCORDANCE WITH SAFETY REGULATING COMMISSION PRACTICES TO PREVENT CAVE-INS.

DEPTH OF TRENCH

THE DEPTH OF THE TRENCH IN THE RUN IS GOVERNED BY THE MINIMUM DEPTH OF THE CONDUIT RUN BELOW THE STREET SURFACE OR ESTABLISHED GRADE, THE HEIGHT OF THE DUCT SECTION, AND THE PRESENCE OF OBSTRUCTIONS, AT THE APPROACH TO THE MANHOLE. THE MINIMUM DISTANCE FROM THE MANHOLE ROOF TO THE TOP DUCTS AND THE FANNING OF THE DUCTS AT THE DUCT ENTRANCE OF THE MANHOLE ALSO GOVERN THE DEPTH OF THE TRENCH.

IF CINDERS, SLAG, RUBBISH FILL OR OTHER MATERIAL HAVING POOR HEAT CONDUCTING PROPERTIES ARE UNCOVERED IN THE EXCAVATION, THE WIDTH AND DEPTH OF THE TRENCH SHALL BE INCREASED. THIS EXTRA SPACE IS TO PROVIDE FOR THE PLACING OF SPECIAL BACKFILL GRAVEL AROUND THE CONDUIT

THE MINIMUM DISTANCE FROM THE TOP OF A CONDUIT RUN TO THE SURFACE OF A ROADWAY OR ESTABLISHED GRADE SHALL BE 2 FEET 6 INCHES EXCEPT WHERE THE CONDUIT PASSES UNDER A VIADUCT AND CAUSES A SUMP IN THE LINE. IN THIS CASE THE MINIMUM DISTANCE SHALL BE 3 FEET 0 INCHES. CONDUIT RUNS WHICH PASS UNDER RAILROAD SWITCH TRACKS, OR MAIN LINE TRACKS SHALL HAVE THE MINIMUM DISTANCE OF 4 FEET 2 INCHES BELOW THE TOP OF THE RAIL.

THE HEIGHT OF THE DUCT SECTION FOR VARIOUS STANDARD CONDUIT FORMATIONS OF DUCTS IS SHOWN ON PAGE 6, AND SHALL BE ADJUSTED FOR TRANSPOSITION SECTIONS.

THE MINIMUM DISTANCE FROM THE TOP OF THE DUCTS TO THE MANHOLE ROOF IS SPECIFIED ON THE MANHOLE DRAWINGS AND THE SEPARATION OF THE DUCTS AT THE MANHOLE DUCT ENTRANCE IS SHOWN ON THE MANHOLE STANDARDS. THIS WILL DETERMINE THE MINIMUM WIDTH AND DEPTH OF THE TRENCH AT THE MANHOLE.

OBSTRUCTIONS AFFECT THE DEPTH OF THE TRENCH IN THAT THE GRADE OF THE CONDUIT RUN MUST BE ADJUSTED TO AVOID THEM. THE ENTIRE TRENCH SHOULD BE OPENED BETWEEN MANHOLES BEFORE ANY CONDUIT IS LAID TO ASCERTAIN THE EXISTENCE AND POSITION OF ANY OBSTRUCTIONS.

WHEN THE REQUIRED DEPTH OF THE TRENCH IS KNOWN FOR ALL POINTS, THE GRADE MAY BE ESTABLISHED.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	DUCTBANK CONSTRUCTION SPECIFICATION	DATE: 04-24-07
ELECTRIC STANDARDS		Page 1 of 12
		C30-1900

GRADE

IN GENERAL, ALL CONDUIT RUNS SHALL BE UNIFORMLY GRADED SO THAT WATER WILL DRAIN INTO THE MANHOLES FROM ANY POINT IN THE RUN. THE EXCEPTIONS TO THIS RULE ARE CONDUIT RUNS WHICH PASS UNDER RIVERS, VIADUCTS, AND ABNORMAL OBSTRUCTIONS IN THE RUN. IT IS ESSENTIAL THAT THE CONDUIT RUN SHALL BE UNIFORMLY GRADED SO THAT THERE WILL BE NO RIPPLES IN THE RUN.

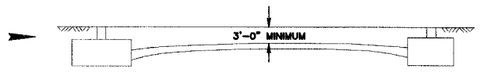
THE MINIMUM GRADE FOR A CONDUIT RUN SHALL BE 1 INCH PER 100 FT. ALL GRADES SHALL BE ESTABLISHED WITH A LEVEL BY THE CONTRACTOR'S ENGINEER AND MARKED BY WOODEN GRADE STAKES ON THE CENTER LINE OF THE BOTTOM OF THE TRENCH. THE STAKES SHALL BE SET 5 FT. APART WHEN CONCRETE CONDUIT IS TO BE INSTALLED AND 10 FT., APART FOR PLASTIC CONDUIT ALONE.

THE TOP OF THE GRADE STAKE SHALL INDICATE THE TOP SURFACE OF THE BOTTOM CONDUIT CONCRETE ENCASEMENT.

AFTER THE GRADE OF THE CONDUIT RUN HAS BEEN ESTABLISHED BY MEANS OF THE GRADE STAKES, THE BOTTOM OF THE TRENCH SHALL BE TRIMMED 3 INCHES BELOW THE TOP OF THE STAKES EXCEPT WHERE THE TRENCH CROSSES A RAILROAD TRACK. IN SUCH CASES THE BOTTOM SHALL BE TRIMMED 6 INCHES BELOW THE TOP OF THE STAKES. TRENCHES WHICH HAVE BEEN DUG TOO DEEP AND THEN PARTIALLY REFILLED SHALL BE TAMPED SOLID AFTER REFILLING BEFORE POURING THE CONCRETE ENCASEMENT.

DOUBLE SLOPE GRADING

THE MOST DESIRABLE METHOD OF GRADING A CONDUIT RUN BETWEEN MANHOLES IS ILLUSTRATED IN THE SKETCH SHOWN BELOW. THE MINIMUM DISTANCE FROM THE TOP OF THE CONDUIT RUN TO THE STREET SURFACE IS 3 FT. 0 INCHES, AT THE CENTER OF THE RUN. FROM THERE THE RUN FALLS IN A DOUBLE SLOPE AND DRAINS TOWARD BOTH MANHOLES.

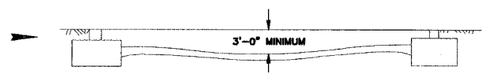


SINGLE SLOPE GRADING

WHERE THE STREET LEVEL SLOPES FROM ONE MANHOLE TO THE OTHER, OR WHERE OBSTRUCTIONS WILL NOT PERMIT DOUBLE SLOPE GRADING, THE CONDUIT RUN SHALL BE GRADED IN ONLY ONE DIRECTION AS SHOWN.

GRADING UNDER VIADUCT OR LARGE OBSTRUCTIONS

A CONDUIT RUN, WHICH IS TO BE INSTALLED UNDER A VIADUCT WHERE THE STREET GRADE IS DEPRESSED, OR UNDER A LARGE OBSTRUCTION, MAY BE GRADED WITH A SUMP IN THE LINE AS SHOWN, PROVIDED THAT THE SINGLE SLOPE GRADING METHOD IS NOT PRACTICAL OR ECONOMICAL. THE TOP OF THE RUN SHALL BE AT LEAST 3 FT., BELOW STREET GRADE TO PREVENT FREEZING. IF THE STREET GRADE IS LEVEL UNDER THE VIADUCT THIS RULE DOES NOT APPLY.



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CONDUIT RUN INSTALLATION

MONOLITHIC METHOD

APPLICATION

- THIS STANDARD COVERS THE PROCEDURE TO BE FOLLOWED WHEN INSTALLING CONCRETE ENCASED CONDUIT BY THE MONOLITHIC METHOD. THIS METHOD CONSISTS OF BUILDING UP THE LAYERS OF CONDUIT ON SPACERS AND THEN POURING THE CONCRETE ENCASEMENT IN A MONOLITHIC MASS.

GENERAL

THE SIZE AND TYPE OF CONDUIT IS GIVEN ON M30-1500 BUT SHALL BE SPECIFIED FOR EACH JOB ON THE INSTALLATION DRAWINGS.

SPLIT CONDUIT, IF AVAILABLE, MAY BE USED TO REBUILD OR CHANGE THE LOCATION OF EXISTING DUCTS THAT CONTAIN CABLES

ALL CONDUIT TRENCHES SHALL BE DUG WITH A 100 FOOT HEADWAY TO ALLOW FOR VERTICAL ADJUSTMENTS.

INSTALL ALL TRENCHES AS PER OSHA STANDARDS FOR OPEN CUTTING THE GROUND.

ALL CONDUIT WITH BROKEN ENDS SHALL BE CUT, AND USED WHENEVER POSSIBLE.

TRENCH PREPARATION

THE PREPARATION OF THE TRENCH FOR CONDUIT RUNS SHALL BE AS PRESCRIBED ON PAGE 1 OF THIS STANDARD. WHERE SWAMPY OR UNSTABLE SOIL IS ENCOUNTERED, CONDUIT SHALL BE PLACED ON A CONCRETE BASE. LAYING THE CONDUIT AFTER THE CONCRETE IS LEVELED AND STARTS TO SET. AT THIS POINT THE BASE OF THE CONCRETE WILL SUPPORT THE CONDUIT AND PERMIT THE BASE SPACERS TO BE DEPRESSED AND TO FIND AN EVEN BEARING WHILE THE BASE CONCRETE IS STILL YIELDING. THE BASE CONCRETE IS BY VOLUME: 1 PART PORTLAND CEMENT, 3 PARTS #2 TORPEDO SAND, AND 5 PARTS 3/4 INCH TO #4 GRAVEL (NOT CRUSHED STONE) .

IF THE CONDUIT DOES NOT REST ON UNDISTURBED EARTH WITHIN 3 FEET OF THE MANHOLE OR VAULT, BRIDGE THE GAP TO THE UNDISTURBED EARTH WITH A 6 INCH BASE OF REINFORCED CONCRETE. THIS CONCRETE SHALL BE A "DENSE SHEATHING" (PAGE 5) WITH #4 REINFORCING BARS ON 6 INCH CENTERS, 3 INCHES FROM THE BOTTOM.

CONCRETE MIX FOR CONDUIT ENCASEMENT (SHEATHING)

(a) READY-MIXED

READY MIXED CONCRETE DELIVERED TO THE JOB SHALL BE SPECIFIED AS 3000 POUNDS PER SQUARE INCH MINIMUM (AT 28 DAYS) CONCRETE. THE COARSE AGGREGATE SHALL BE PEA GRAVEL. THE FINE AGGREGATE SHALL BE #2 TORPEDO SAND. SLUMP AT POINT OF DELIVERY SHALL NOT BE MORE THAN 4 INCHES NOR LESS THAN 2 INCHES.

MINIMUM CEMENT CONTENT SHALL BE 3 1/2 BAGS OF TYPE1 PORTLAND CEMENT PER CUBIC YARD. FLY ASH SHALL BE INCORPORATED INTO THE MIX ON THE BASIS OF 20 POUNDS PER SACK OF CEMENT. INCLUDE AIR ENTRAINMENT AGENT TO ENTRAIN BETWEEN 4 PERCENT AND 6 PERCENT OF AIR IN THE CONCRETE.

EXCEPT AS OTHERWISE DESIGNATED IN THIS STANDARD, ANY READY-MIXED CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF SPECIFICATIONS FOR READY-MIXED CONCRETE (ASTM C94 LATEST EDITION).

READY-MIXED CONCRETE SHALL BE PLACED WITHIN 1 HOUR AFTER WATER HAS BEEN ADDED TO THE MIX.

(b) BATCH-MIXED

WHEN THE CONCRETE IS MIXED ON THE JOB, A PRE-BAGGED CEMENT MIX CONSISTNG BY WEIGHT OF 70 PERCENT PORTLAND CEMENT AND 30 PERCENT FLY ASH SHALL NORMALLY BE USED. THE CONCRETE MIX PROPORTIONS BY VOLUME (RODDED SATURATED SURFACE DRY BASIS) SHALL BE: 1 PART OF PRE-BAGGED MIX (1 BAG IS 1 CUBIC FOOT), 3 1/2 PARTS OF #2 TORPEDO SAND, AND 2 1/2 PARTS PEA GRAVEL. MAXIMUM WATER CONTENT, INCLUDING FREE SURFACE MOISTURE IN AGGREGATES, SHALL NOT EXCEED 7 GALLONS PER BAG OF CEMENT MIX. SLUMP SHALL BE AS SPECIFIED ABOVE UNDER READY-MIXED CONCRETE.

IN THE EVENT THAT THE PRE-BAGGED CEMENT MIX IS NOT AVAILABLE, 1 BAG OF TYPE I PORTLAND CEMENT SHALL BE SUBSTITUTED FOR 1 BAG OF THE CEMENT MIX. WATER CONTENT, SLUMP, AND THE CONCRETE MIX PROPORTIONS SHALL REMAIN AS STATED IN THE PRECEDING PARAGRAPH.

THE AGGREGATES SHALL BE MEASURED BEFORE BEING PUT IN THE MIXER, AND SHALL BE IN SUCH PROPORTIONS THAT ONE FULL BAG OF CEMENT WILL BE USED IN EACH BATCH. ALL CONCRETE SHALL BE MIXED FOR A MINIMUM OF TWO MINUTES IN A MACHINE MIXER.

HAND MIXING SHALL NOT BE DONE EXCEPT BY THE SPECIAL PERMISSION OF THE ENGINEER. NO MORTAR OR CONCRETE SHALL BE "RETEMPERED" EITHER BY REMIXING OR BY THE ADDITION OF ANY MATERIALS OR ADMIXTURES. THE DRUM OF THE MIXER SHALL BE COMPLETELY EMPTIED BEFORE RECEIVING MATERIALS FOR THE SUCCEEDING BATCH. CONCRETE THAT HAS OBTAINED ITS INITIAL SET BEFORE BEING PLACED SHALL BE DISCARDED AND NOT USED ON THE JOB.

COLD WEATHER CONCRETING (BELOW 40°F)

INGREDIENTS OF CONCRETE POURED WHEN THE SURROUNDING AIR IS BELOW 40° F SHALL BE HEATED SO THAT THE TEMPERATURE OF THE CONCRETE AFTER PLACEMENT IS NEITHER LOWER THAN 55° F NOR GREATER THAN 65° F. PLUG ENDS OF CONDUIT RUN TO PREVENT AIR CIRCULATION. PROTECT CONCRETE FROM FREEZING FOR A MINIMUM OF 48 HOURS.

WHEREVER POSSIBLE, ALL CONCRETE MATERIALS AND ALL REINFORCEMENT, FORMS, FILLERS AND GROUND WITH WHICH CONCRETE IS TO COME IN CONTACT SHOULD BE FREE FROM FROST.

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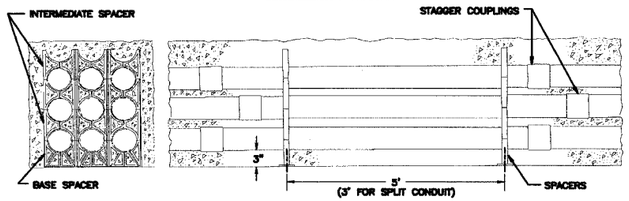
LAYING CONDUIT



ELEVATION OF MONOLITHIC METHOD

CONDUIT INSTALLATION

THE STANDARD ARRANGEMENT AND SEPARATION OF DUCTS AND THE THICKNESS OF CONCRETE SHEATHING SHALL BE AS SHOWN ON PAGE 7 FOR CONDUIT RUNS UNDER MAIN LINE RAILROAD TRACK, OR ON PAGE 6 OF THIS STANDARD FOR ALL OTHER LOCATIONS. IF SPECIAL ARRANGEMENTS ARE REQUIRED, THE SECTIONAL OUTLINE OF THE DUCTS SHALL BE SHOWN ON THE INSTALLATION DRAWINGS. TRANSPOSITION OF THE DUCTS, MADE NECESSARY BY OBSTRUCTIONS, SHALL BE MADE FOLLOWING THIS STANDARD, BUT SHALL BE DONE ONLY WHEN SPECIFIED ON THE DRAWINGS OR WHEN SPECIALLY AUTHORIZED BY THE ENGINEER AFTER UNFORESEEN OBSTRUCTIONS ARE UNCOVERED.

THE FIRST LAYER OF THE CONDUIT SHALL BE LAID ON PLASTIC 6 INCH BASE SPACERS (DPU-E #285-199-00170) HORIZONTALLY LOCKED, WHICH WILL PROVIDE A 3-INCH LAYER OF CONCRETE BELOW THE CONDUIT. THEY SHALL BE PLACED AT INTERVALS OF APPROXIMATELY 5 FEET. ALL OF THE SUCCEEDING LAYERS ARE PLACED ON PLASTIC 6 INCH INTERMEDIATE SPACERS (DPU-E# 285-199-00180) VERTICALLY LOCKED TO PREVIOUSLY PLACED SPACERS. THE CONDUIT COUPLINGS SHALL BE STAGGERED SO THAT NO COUPLING IS IN-LINE WITH THE COUPLING ON AN ADJACENT CONDUIT. WHEN THE REQUIRED LAYERS OF CONDUIT ARE BUILT UP, THE ENTIRE ASSEMBLY SHALL BE BRACED TO PREVENT LATERAL AND VERTICAL MOVEMENT. WHEN THE INSTALLATION OF SPLIT DUCT IS SPECIFIED, PLACE SPACERS AT THREE FOOT INTERVALS.

THE CONCRETE SHALL BE THOROUGHLY SPADED AND PUDDLED IN AND AROUND THE CONDUIT PACKAGE. BRACING SHALL BE REMOVED WHEN CONCRETE HAS STARTED TO SET AND THERE IS NO FURTHER DANGER THAT DUCTS WILL FLOAT OR MOVE OUT OF ALIGNMENT. HOLES LEFT BY BRACING SHOULD THEN BE FILLED WITH GROUT.

IN FORMATIONS GREATER THAN 4 DUCTS HIGH, THE PREFERRED PRACTICE IS TO INSTALL THE FORMATION IN TWO LAYERS WITH THE CONCRETE BEING POURED IN 2 STEPS. THIS WILL PREVENT THE SPACERS FROM SPREADING OUT UNEVENLY AND CREATING UNEVEN VARIANCES IN CLEARANCES BETWEEN CONDUITS. THIS PROCEDURE WILL ALSO ENSURE THAT THERE IS A CONCRETE ENVELOPE AROUND EVERY DUCT AND DECREASE VERTICAL DROP TO THE LOWEST POSSIBLE DISTANCE WHEN POURING THE CONCRETE.

UNFINISHED CONSTRUCTION

IF THE CONDUIT RUN MUST BE TEMPORARILY LEFT UNFINISHED DURING CONSTRUCTION, CONDUIT SHALL BE CLOSED WITH PLASTIC CONDUIT PLUGS. IF THE CONDUIT RUN IS TO BE DEAD-ENDED, FOR COMPLETION AT SOME FUTURE TIME, THE END OF EACH CONDUIT SHALL BE PLUGGED AND STAGGERED APPROXIMATELY 3 INCHES FROM THE ADJACENT CONDUIT. THE END OF THE CONCRETE SHEATHING SHALL BE STEPPED BACK APPROXIMATELY 6 INCHES FOR EACH HORIZONTAL ROW OF CONDUIT. THE ENDS OF THE INSTALLED CONDUIT SHALL EXTEND BEYOND THE SHEATHING TO PERMIT CONNECTION TO FUTURE CONDUIT.

IN INSTANCES WHERE THE CONDUIT ENDS MAY NOT BE EASILY LOCATED, INSTALL AN ELECTRONIC MARKER BALL (DPU-E# 284-199-00250) TO ASSIST IN LOCATION. AFTER THE CONDUIT IS INSTALLED, BACKFILL THE HOLE COVERING THE CONDUIT ENDS APPROXIMATELY 6 TO 12 INCHES AND INSERT MARKER IN HOLE ABOVE THE CONDUIT END. LAY MARKER ON FLAT GROUND AND CONTINUE BACKFILLING, INSURING THAT THE MARKER STAYS IN A HORIZONTAL POSITION SO THAT IT MAY BE LOCATED BY THE LOCATOR TOOL.

TRANSPOSING AROUND OBSTRUCTIONS

WHEN SMALL OBSTRUCTIONS ARE ENCOUNTERED, AND IT IS NOT ECONOMICAL OR DESIRABLE TO INSTALL THE CONDUIT RUN BELOW THE OBSTRUCTION, THE CONDUIT PACKAGE MAY BE TRANSPOSED. IN SUCH AN OPERATION, A 1-INCH SPACE SHALL BE LEFT ABOVE AND BELOW, BETWEEN THE CONCRETE SHEATH AND THE OBSTRUCTION. A 6 INCH GAP SHALL BE LEFT AROUND UTILITIES THAT ARE OBSTRUCTIONS. EACH PORTION OF THE TRANSPOSED CONDUIT SECTION SHALL BE INSTALLED AS A DOUBLE REVERSE CURVE USING A MINIMUM RADIUS OF 300 FEET.

THE SPACE BETWEEN THE TWO PORTIONS OF THE TRANSPOSED SECTION SHALL BE COMPLETELY FILLED WITH CONCRETE TO

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WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION		
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: -	CAD FILE: D0562700001D36.DWG
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 EU173
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE: 4-01 08 / ISSUED / ENGINEER: RPS / REVISION: 1 2 3	CHKD: / APRV:	SEC: / COMPLETED BY:
		WORK REQUEST NO.: 56270	SCALE: NTS	SHEET 36 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	278
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

CONDUIT RUN INSTALLATION

CONDUIT BELLS

ALL CONDUITS SHALL TERMINATE AT A PRE-CAST MANHOLE IN PLASTIC CONDUIT ENTRANCE BELL ENDS AS SHOWN ON PAGE 8 OF THIS STANDARD. ALL CONDUITS SHALL TERMINATE AT A VAULT PER THIS STANDARD. IF CONDUIT PLUGS ARE USED, THEY SHOULD BE REMOVED AFTER CONSTRUCTION IS COMPLETED UNLESS OTHERWISE SPECIFIED.

BACKFILLING

AFTER THE CONCRETE SHEATHING HAS ATTAINED ITS INITIAL SET, THE TRENCH SHALL BE BACKFILLED. SAND OR OTHER STATE OR MUNICIPAL APPROVED MATERIAL SHALL BE USED UNDER PAVEMENTS EXCEPT WHEN THE EXCAVATED MATERIAL IS FINE, DRY, CAN BE WELL COMPACTED, AND WILL NOT SETTLE AFTER PAVEMENT IS RESTORED. IF THE EXCAVATION IS MADE IN SANDY SOIL, THE REMOVED MATERIAL MAY BE USED FOR BACKFILL IF SATISFACTORY TO THE ENGINEER. LAKE SAND SHALL NEVER BE USED FOR THE BACKFILL IN CONDUIT TRENCHES BECAUSE OF ITS POOR HEAT-CONDUCTING PROPERTIES. ALL BACKFILL IN PAVED AREAS SHALL BE THOROUGHLY COMPACTED AND FLOODED.

CONDUIT RUNS IN PARKWAYS MAY BE BACKFILLED WITH THE EXCAVATED MATERIAL IF IT IS CLAY, COARSE SAND, OR CA6 GRAVEL. ALL BACKFILL MATERIALS SHALL BE FREE OF ALL ORGANIC MATERIALS AND ROCKS LARGER THAN 1".

WHEN LAKE SAND, PEAT, CINDERS, SLAG, OR OTHER MATERIALS WITH POOR HEAT CONDUCTING PROPERTIES ARE ENCOUNTERED IN THE CONDUIT EXCAVATION, THERMAL BACKFILL SHALL BE ADDED AROUND AND ABOVE THE CONDUIT, AS SPECIFIED ON THE INSTALLATION PLANS OR BY THE ENGINEER. THIS THERMAL BACKFILL WILL BE SPECIFIED OR BANK RUN GRAVEL FROM A LOCATION APPROVED BY THE ENGINEER.

PAVING, CURBS, SIDEWALKS

REPLACEMENT OF PAVING, CURBS, AND SIDEWALKS SHALL BE DONE IN ACCORDANCE WITH THE MUNICIPAL OR STATE REQUIREMENTS.

CONDUIT PREPARATION

AFTER THE CONCRETE SHEATHING HAS ATTAINED ITS INITIAL SET, EACH CONDUIT SHALL BE RODDED AND MANDRELLED, BY THE CONTRACTOR OR CREW, THROUGH EACH OF THE CONDUIT. WHEN A PREVIOUSLY DEAD-END CONDUIT RUN IS EXTENDED, THE ENTIRE RUN SHALL BE RODDED AND MANDRELLED. CONDUIT RUNS CONTAINING OR TERMINATING IN SMALL RADIUS BENDS THAT WILL NOT PERMIT THE PASSAGE OF A STANDARD SIZE MANDREL, SHALL BE MANDRELLED THROUGH THEIR STRAIGHT PORTION PRIOR TO THE CONSTRUCTION OR INSTALLATION OF THE BENDS. THE MANDRELING OF SMALL RADIUS BENDS SHALL BE DONE WITH A FLEXIBLE MANDREL NO SMALLER IN DIAMETER THAN 1/2 INCH LESS THAN THE NOMINAL DIAMETER OF THE BEND.

WHEN REQUESTED, THE CONTRACTOR SHALL, AS A PART OF THE MANDRELING OPERATION, PULL IN AND LEAVE IN CERTAIN DESIGNATED DUCTS A #12 SOL. CU. MARKER CABLE (DPU-E# 280-113-00040, WHITE), (DPU-E# 280-113-00041, BLACK), (DPU-E# 280-113-00042, RED), (DPU-E# 280-113-00043, GREEN), (DPU-E# 280-113-00044, BLUE), (DPU-E# 280-113-00045, ORANGE), OR (DPU-E# 280-113-00046, YELLOW). ADDITIONALLY A 22GA DETECTABLE MULETAPE 1250# STRENGTH @ 3000' (DPU-E# 450-024-00010), MAY BE USED. EITHER OPTION WILL BE FURNISHED BY THE CITY OF NAPERVILLE DPU-E.

LATERALS

CONDUIT LATERALS THAT ARE TO BE CONCRETE ENCASED SHALL BE INSTALLED IN THE SAME MANNER AS MAIN CONDUIT RUNS. LATERALS THAT TERMINATE AT MANHOLE WALLS SHALL BE CONSTRUCTED AS SHOWN ON THIS STANDARD. THOSE THAT TERMINATE AT A POLE SHALL BE CONSTRUCTED PER PAGE 9 OF THIS STANDARD. THOSE TERMINATING AT AN EQUIPMENT FOUNDATION SHALL BE CONSTRUCTED PER THAT SPECIFIC EQUIPMENT FOUNDATION STANDARD.

DENSE CONDUIT SHEATHING FOR SPECIAL CONDITIONS

WHEN SPECIFIED ON THE INSTALLATION DRAWINGS, CONDUIT RUNS TO BE INSTALLED IN KNOWN CORROSIVE LOCATIONS, SUCH AS IN CINDER FILL ADJACENT TO COAL STORAGE PILES, IN GAS PURIFIER SLAG, ETC., SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING INSTRUCTIONS. ALL OTHER PROCEDURES GIVEN IN PRECEEDING PAGES OF THIS STANDARD SHALL BE FOLLOWED.

FA-2 CONDUIT ENCASEMENT

CONDUIT RUNS IN PARKWAY NOT UNDER, BIKE PATHS, SIDEWALKS OR DRIVEWAY MAY BACKFILL WITH FA-2. AGGREGATE TO THE DIMENSIONS SHOWN ON PAGE 6.

THE OUTER SHEATHING ALL AROUND SHALL BE 4 INCHES THICK.

CONCRETE SHALL CONSIST OF THE FOLLOWING MIX:

1 PART TYPE 1 PORTLAND CEMENT
2 PARTS #2 TORPEDO SAND
2 PARTS PEA GRAVEL (NOT CRUSHED LIME STONE)
1/2 BAG OF FLY ASH SHALL BE ADDED TO THE MIX FOR EACH BAG OF PORTLAND CEMENT USED.
FOR AN ALTERNATIVE TO PORTLAND CEMENT AND FLY ASH, LUMNITE CEMENT SHALL BE SPECIFIED. INCLUDE AIR ENTRAINMENT AGENT TO ENTRAIN 7 1/2 PERCENT OF AIR IN CONCRETE.

INCLUDING FREE SURFACE MOISTURE IN THE AGGREGATES OF NOT MORE THAN 6 GALLONS OF WATER PER BAG OF CEMENT SHALL BE USED.

MINIMUM SLUMP SHALL BE 2 INCHES AND MAXIMUM SLUMP IS 4 INCHES.

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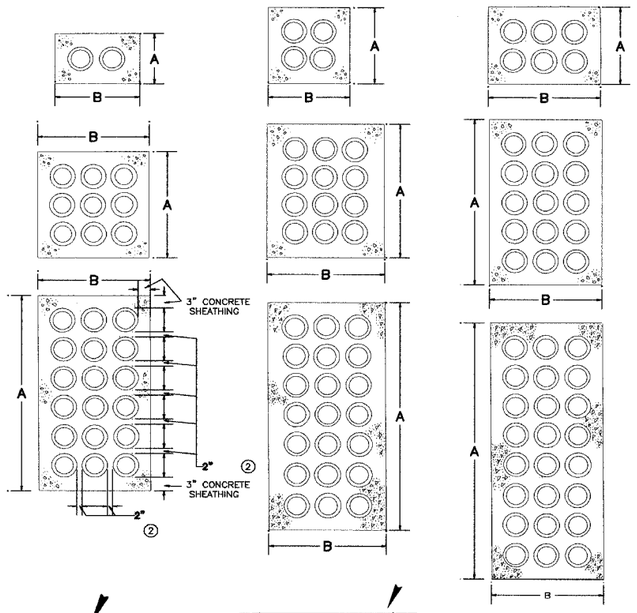
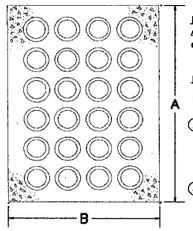
CONDUIT RUN FORMATIONS

BETWEEN MANHOLES



NO. OF DUCTS	DIMENSIONS (2)(3) PLASTIC CONDUIT 5" CONDUIT A *	5" CONDUIT B *	6" CONDUIT A *	6" CONDUIT B *
4	11 3/4"	19"	12 3/4"	21 1/2"
6	19"	19"	21 1/2"	21 1/2"
9	19"	26 1/2"	21 1/2"	30"
	26 1/2"	26 1/2"	30"	30"
12	33 3/4"	26 1/2"	38 3/4"	30"
15	41"	26 1/2"	47 1/2"	30"
18	48 1/4"	26 1/2"	55 3/4"	30"
	55 1/2"	26 1/2"	64 3/4"	30"
24(3X8)	63"	26 1/2"	73"	30"
24(4X6)	48 1/4"	34"	55 3/4"	38 3/4"

* DIMENSIONS ARE TO THE NEXT LARGER 1/4"



NOTES:

APPLICATION

- THIS STANDARD SHALL BE USED FOR THE ARRANGEMENT OF CONDUIT FORMATIONS BETWEEN MANHOLES.

INFORMATION

1. THIS STANDARD COVERS THE ARRANGEMENT OF THE CONDUIT IN CONDUIT RUNS AND LATERALS.
2. THE SEPARATION BETWEEN CONDUITS SHALL BE 2" INCHES. CONCRETE SHEATHING SHALL BE 3" INCHES THICK EXCEPT WHERE A CONDUIT RUN IS UNDER RAILROAD SWITCH TRACKS OR MAIN LINE RAILROAD TRACKS. THEN THE SHEATHING SHALL BE AS SHOWN ON PAGE 7.
3. THESE DIMENSIONS REFLECT THE USE OF PLASTIC BASE SPACERS WHICH PROVIDES A HORIZONTAL AND VERTICAL SEPARATION AT OR GREATER THAN **THE MINIMUM REQUIREMENTS.**

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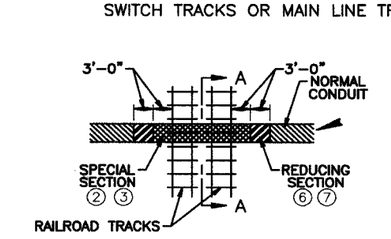
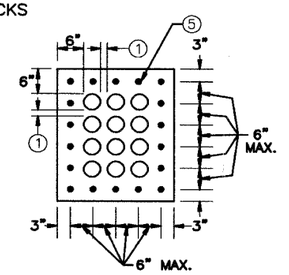
CONDUIT RUN RR TRACK CROSSING

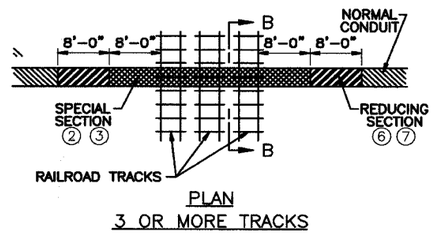
SWITCH TRACKS OR MAIN LINE TRACKS



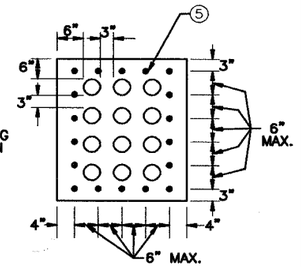
PLAN
1 OR 2 TRACKS



SECTION A-A
TYPICAL



PLAN
3 OR MORE TRACKS



SECTION B-B
TYPICAL

NOTES:

APPLICATION

- THIS STANDARD SHALL BE USED FOR THE FORMATION OF CONDUIT RUNS THAT CROSS UNDER RAILROAD TRACKS.

INFORMATION

1. NORMAL DUCT SPACING AS ON PAGE 6 (2 INCHES).
2. TOP OF SPECIAL SECTION TO BE AT LEAST 50" BELOW TOP OF RAIL.
3. CONCRETE MIXTURE OF SPECIAL SECTION TO BE OF DENSE SHEATHING, SEE PAGE 5.
4. LEAVE TRACK SHORING IN PLACE AT LEAST 7 DAYS UNLESS QUICK SETTING CEMENT IS USED.
5. #6 GRADE 60 REINFORCING BARS, OVERLAP THE ENDS 18".
6. DUCTS OF REDUCING SECTION TO BE LAID AS REVERSE CURVE.
7. REDUCE HORIZONTAL AND VERTICAL SEPARATION OF DUCTS FROM 3" TO NORMAL, AND THE ENVELOPE FROM 6" TO 3". CONCRETE MIXTURE OF REDUCING SECTION TO BE NORMAL SHEATHING.

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WF# INFORMATION

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WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS
PROJECT DESCRIPTION: TRENCH SECTION DETAILS
DATE: 4-01-08 (ISSUED)
ENGINEER: RPS
REVISION: 1 2 3
WORK REQUEST NO.: 56270
CHKD:
APPV:
MAP NO.: —
DRAWN BY: JK, PM
SBC:
SCALE: NTS
CAD FILE: D0562700001D37.DWG
PROJECT NO.: EU12-06-03 EU73
COMPLETED BY:
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CONDUIT ENTRANCE INTO MANHOLE/HANDHOLE

APPLICABLE TO SWITCHGEAR AND TRANSFORMER VAULTS

GENERAL

CONDUIT ENTRANCES INTO MANHOLES/HANDHOLES SHALL NORMALLY BE MADE WITH PLASTIC ENTRANCE BELLS PER FIGURE 1 OR 2. THE ENTRANCE CONDUIT SHALL BE PLASTIC OR STEEL ENCASED IN CONCRETE AS PER FIGURE 1 AND 2 BELOW, SPECIFIED BY THE ENGINEER ON THE CONSTRUCTION DRAWINGS.

POCKETS

DUCT POCKETS SHALL BE PROVIDED IN WALLS WHERE SPECIFIED ON CONSTRUCTION DRAWINGS. POCKET NOT REQUIRED ON NEWER STYLE MANHOLE DESIGNS (FIGURE 2). TYPICAL POCKET DIMENSIONS ARE INDICATED BELOW ON FIGURE 1.

CONDUIT SPACING

CONDUIT SHALL NORMALLY BE SUPPORTED BY VERTICAL AND HORIZONTALLY INTERLOCKED PLASTIC SPACERS TO PROVIDE ALIGNMENT WITH PLASTIC ENTRANCE BELL UNITS AT 8 1/4 IN. SPACING.

ENTRANCE BELL UNITS

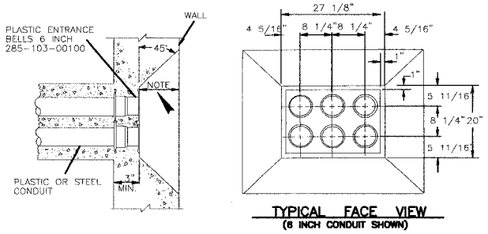
PLASTIC 6 INCH ENTRANCE BELLS, DPU-E# 285-103-00100 SHALL BE USED ON CONDUIT ENTRANCES TO MANHOLES.

ENTRANCE PIPES

GALVANIZED STEEL CONDUIT, M30-1550, SHALL BE USED FOR ALL BENDS. PIPES INTENDED FOR CABLES ON INITIAL INSTALLATION SHALL BE CAPPED WITH PLUGS (DPU-E# 285-103-00090) TO PREVENT CONTAMINATION FROM ENTERING THE PIPES.

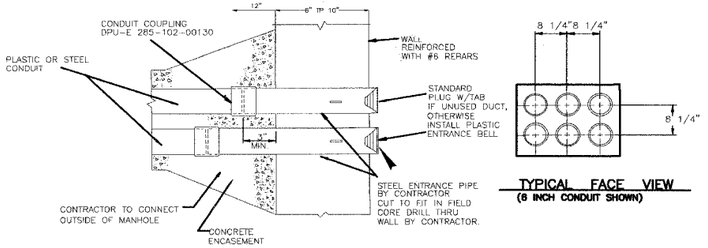
INSTALLATION METHODS

EVERY EFFORT SHALL BE MADE TO INSURE A WATERTIGHT INSTALLATION OF ENTRANCE PIPES. WHERE PIPES ARE INSTALLED THROUGH AN OPENING LEFT IN A MANHOLE, OR BROKEN OUT OF AN EXISTING MANHOLE WALL, SURFACES SHALL BE CLEANED, WETTED AND COVERED WITH A COATING OF 3 TO 1 SAND AND CEMENT MORTAR. IF BRICKWORK IS EXISTING ON THE INNER FACE OF WALL, IT SHALL ALSO BE COATED WITH A SAND AND CEMENT MORTAR. AN ALTERNATE PROCEDURE IS TO DRILL HOLES IN THE WALL AND GROUT THE PIPES IN PLACE WITH A SAND AND CEMENT MORTAR. THE INSIDE SURFACE OF THE HOLES SHALL BE ROUGHENED TO OBTAIN A STRONG AND WATERTIGHT BOND.



TYPICAL FACE VIEW
(6 INCH CONDUIT SHOWN)

FIG. 1 MANHOLE ENTRANCE WITH PLASTIC TERMINATORS (OLDER STYLE)
FOR PLASTIC OR STEEL CONDUIT (POCKET TYPE)



TYPICAL FACE VIEW
(8 INCH CONDUIT SHOWN)

FIG. 2 ENTRANCE IN MANHOLE/HANDHOLE (NEWER STYLE)

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	DUCTBANK CONSTRUCTION SPECIFICATION	DATE: 04-24-07
ELECTRIC STANDARDS		Page 8 of 12
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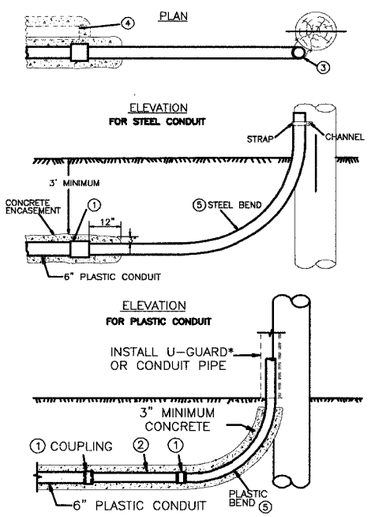
CONDUIT TO RISER AT POLE

DUCTBANK

CONDUIT TO RISER AT POLE
FOR PLASTIC OR STEEL CONDUIT

APPLICATION

- THIS STANDARD SHALL BE USED WHEN A TRANSITION FROM A SINGLE DUCT TO SINGLE RISER PIPE IS REQUIRED.



SUPPLEMENTARY MATERIAL

① IF BELLED END OF PLASTIC CONDUIT CAN BE CONNECTED TO STEEL BEND OMIT COUPLING.

NOTES:

A). FIRST SECTION ABOVE ELBOW MUST BE SCHEDULE 80.

B). FOR LARGER POLES (>50'), ADDITIONAL CONDUIT AND HARDWARE MAY BE REQUIRED.

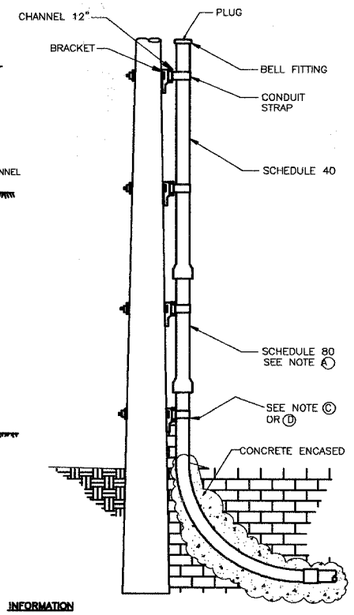
C). STEEL BEND AND POLE BRACKET EXISTING FROM PREVIOUS DUCT BANK INSTALLATION.

D). INSTALL STEEL BEND AND POLE BRACKET AND CHANNEL.

E). INSTALL SPARE OF CONDUIT UP POLE WITH BEND, ATTACH TO BRACKET AND PLUG.

RISER CONSTRUCTION

FOLLOW CONSTRUCTION STANDARD C20-5220



INFORMATION

② FIELD CUT SO THAT A GOOD CONNECTING FIT CAN BE MADE BETWEEN THE CONDUITS AND BENDS.

③ LOCATE THE BEND ON A QUADRANT OF THE POLE WHERE IT IS THE LEAST SUSCEPTIBLE TO DAMAGE BY VEHICLES.

④ IF SPARE DUCT IS INSTALLED, PLUG AT BOTH ENDS AND ENCASE IN CONCRETE WHEN NECESSARY.

⑤ SCHEDULE 80 PVC DOES NOT REQUIRE CONCRETE ENCASEMENT.

⑥ CONDUIT TO A U-GUARD® RISER FOLLOWS C20-5222, FOR USE AS MAINTENANCE ONLY.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	DUCTBANK CONSTRUCTION SPECIFICATION	DATE: 04-24-07
ELECTRIC STANDARDS		Page 9 of 12
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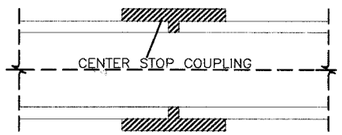
F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	279
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

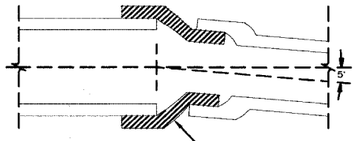
PLASTIC CONDUIT COUPLINGS

FOR CONCRETE ENCASED PLASTIC CONDUIT



PLASTIC TO PLASTIC OR PLASTIC TO STEEL COUPLING

SIZE	DPU-E #	MATERIAL / USE
3"	285-102-00040	PLASTIC TO PLASTIC
5"	285-102-00110	PLASTIC TO PLASTIC
6"	285-102-00140	PLASTIC TO PLASTIC
5"	285-102-00110	PLASTIC TO STEEL
6"	285-102-00140	PLASTIC TO STEEL



PLASTIC TO PLASTIC 5° COUPLING

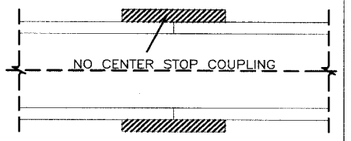
SIZE	DPU-E #	MATERIAL / USE
3"	285-102-00050	PLASTIC TO PLASTIC
5"	285-102-00120	PLASTIC TO PLASTIC
6"	285-102-00150	PLASTIC TO PLASTIC

PLUG W/PULL TAB

SIZE	DPU-E #
3"	285-103-00030
5"	285-103-00070
6"	285-103-00090

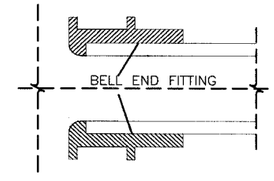
APPLICATION

THIS STANDARD SHALL BE USED FOR THE INSTALLATION OF CONDUIT CONNECTIONS ON CONCRETE ENCASED PLASTIC CONDUIT DUCTBANK.



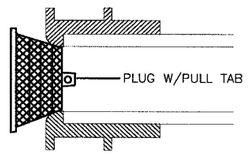
PLASTIC TO PLASTIC OR PLASTIC TO STEEL SLEEVE

SIZE	DPU-E #	MATERIAL / USE
3"	285-102-00060	PLASTIC TO PLASTIC
5"	285-102-00100	PLASTIC OR STEEL
6"	285-102-00130	PLASTIC OR STEEL



PLASTIC BELL END FITTINGS

SIZE	DPU-E #	MATERIAL
3"	285-103-00040	PLASTIC
5"	285-103-00080	PLASTIC
6"	285-103-00100	PLASTIC



THE 6" EXPANDING PLUG W/EYE NUT DPU-E# 285-103-00150

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	DUCTBANK CONSTRUCTION SPECIFICATION	DATE: 04-24-07
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WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC		
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION		
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: –	CAD FILE: D056270001D38.DWG
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 EU73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE: 4-01 08 / ISSUED / ENGINEER: RPS / REVISION: 1 2 3 4	WORK REQUEST NO.: 56270	CHKD: / APRV: / SBC: / SCALE: NTS / COMPLETED BY: / SHEET 38 OF 73

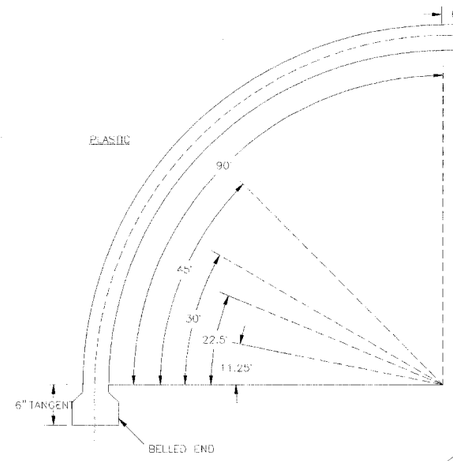
F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	280
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

PLASTIC & STEEL CONDUIT BEND

FOR CONCRETE ENCASED CONDUIT

BEND UP TO 90° DEGREE ANGLES



3 INCH BENDS

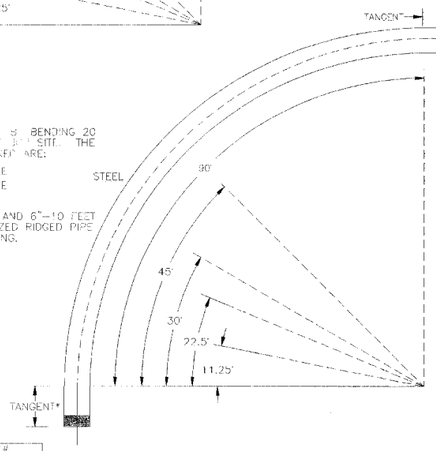
RADIUS	ANGLE	MATERIAL	DPU-E#
3'-6"	30°	PLASTIC	285-101-00025
3'-0"	45°	PLASTIC	285-101-00030
3'-0"	90°	PLASTIC	285-101-00040
5'	90°	STEEL	285-101-00130
2'-6"	90°	STEEL	285-101-00140

5 INCH BENDS

RADIUS	ANGLE	MATERIAL	DPU-E#
3'-0"	30°	STEEL	285-101-00160
3'-0"	45°	STEEL	285-101-00170
3'-0"	90°	STEEL	285-101-00180

INFORMATION

1. LARGE RADIUS CURVES MAY BE MADE BY BENDING 20 FOOT LENGTHS OF CONDUIT ON THE JOB SITE. THE MINIMUM RADII THAT CAN BE OBTAINED ARE:
   25 FEET FOR 5 INCH SIZE
   30 FEET FOR 6 INCH SIZE
2. CONTRACTOR TO SUPPLY ALL 3", 5" AND 6"-10 FEET LONG STRAIGHT PIECES OF GALVANIZED RIDGED PIPE THREADED BOTH ENDS WITH COUPLING.



* THE TANGENT LENGTH FOR STEEL CONDUIT BENDS IS SPECIFIED IN M30-1550

6 INCH BENDS

RADIUS	ANGLE	MATERIAL	DPU-E#
4'-0"	11.25°	STEEL	285-101-00186
4'-0"	22.5°	STEEL	285-101-00188
4'-0"	30°	STEEL	285-101-00190
4'-0"	45°	STEEL	285-101-00200
4'-0"	90°	STEEL	285-101-00210

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	DUCTBANK CONSTRUCTION SPECIFICATION	DATE: 04-24-07
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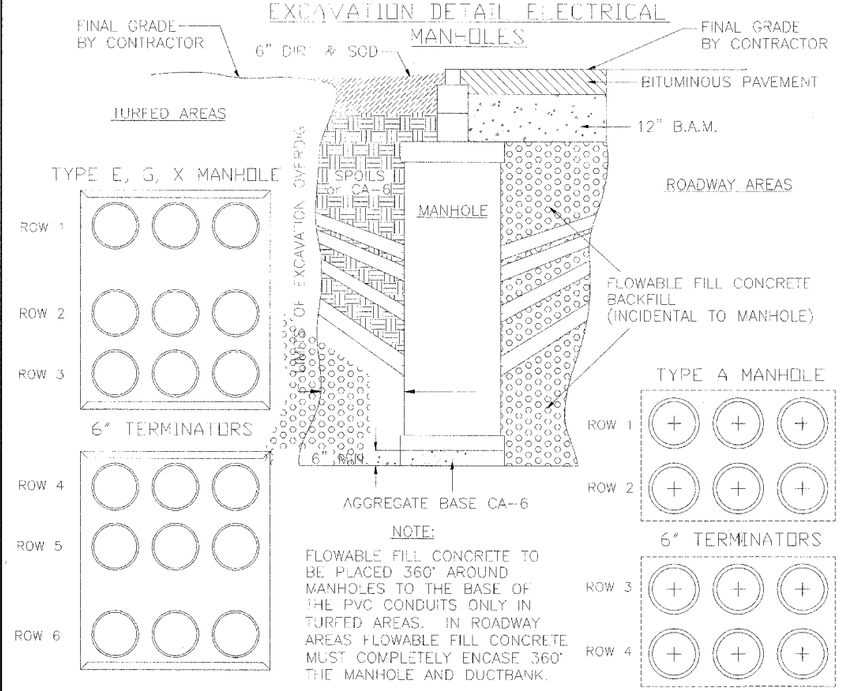
EXCAVATION DETAIL ELECTRICAL MANHOLES



NOTE:

FLOWABLE FILL CONCRETE TO BE PLACED 360° AROUND MANHOLES TO THE BASE OF THE PVC CONDUITS ONLY IN TURFED AREAS. IN ROADWAY AREAS FLOWABLE FILL CONCRETE MUST COMPLETELY ENCASE 360° THE MANHOLE AND DUCTBANK.

TYPICAL DUCT BANK ARRANGEMENT FOR PORT USACE INTO MANHOLES

TYPE	ROW 1	ROW 2	ROW 3	ROW 4	ROW 5	ROW 6
4-WAY DUCT BANK	------	------	------	2 X 6"	2 X 6"	------
6-WAY DUCT BANK	------	------	------	3 X 6"	3 X 6"	------
8-WAY DUCT BANK	------	------	2 X 6'	3 X 6"	3 X 6"	------
9-WAY DUCT BANK	------		3 X 6"	3 X 6"	3 X 6"	------
10-WAY DUCT BANK	------	1 X 6"	3 X 6"	3 X 6"	3 X 6"	------
12-WAY DUCT BANK	------	3 X 6"	3 X 6"	3 X 6"	3 X 6"	------

FILL THE OUTSIDE DUCTS IN EACH ROW FIRST

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	DUCTBANK CONSTRUCTION SPECIFICATION	DATE: 04-24-07
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WF# INFORMATION	
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

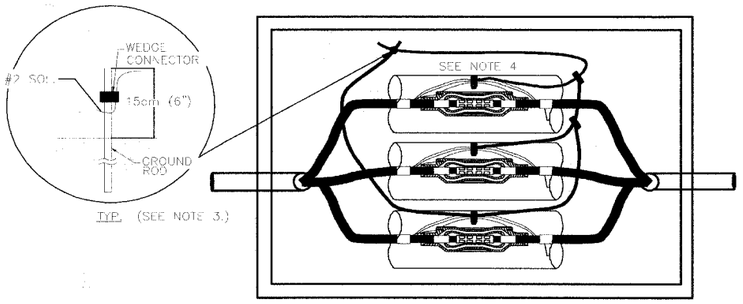
CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS
PROJECT DESCRIPTION: TRENCH SECTION DETAILS
MAP NO.: —
CAD FILE: 005627000103D.DWG
DRAWN BY: JK, [illegible]M
PROJECT NO.: EU12-06-03 EU73
DATE: 4-01-08
ISSUED:
ENGINEER: RPS
REVISION: 1 2 3
WORK REQUEST NO.: 56270
CHKD:
APPV:
SBC:
COMPLETED BY:
SCALE: NTS
SHEET 39 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	281
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

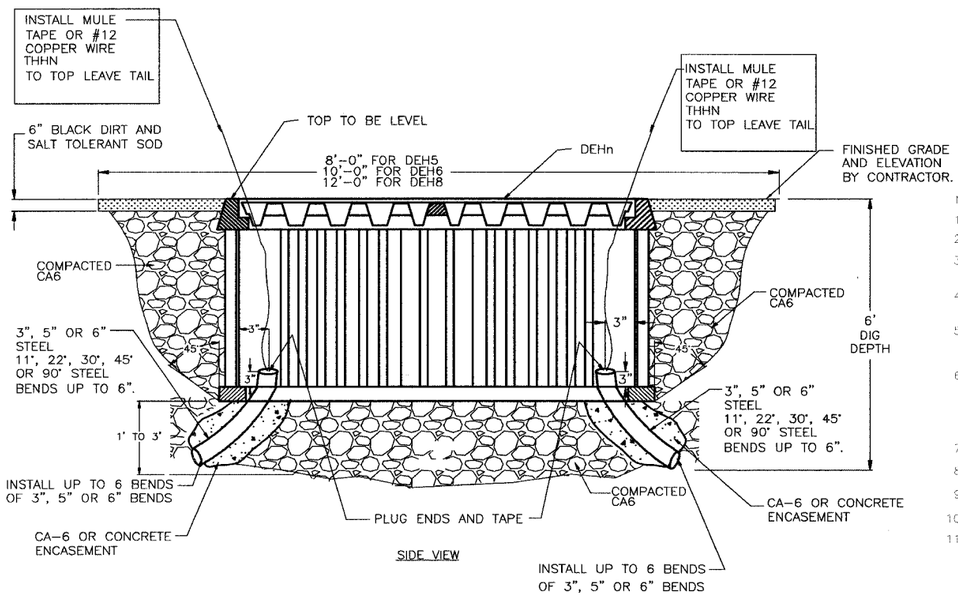
CONTRACT 63024



TOP VIEW

ASSEMBLY CODES		
CODE	QTY	DESCRIPTION
DEHn	1	SPLICE BOX
DnBxxP	**	BEND, PVC
DnBxxS	**	BEND, STEEL
UGHn	1	GROUNDING HANDHOLE

n dependent on size
xx bend angle dependent on field condition (typically 30°)
** quantity is dependent on application



NOTE:

1. BENDS SHALL BE INSTALLED PER FIELD CONDITION.
2. SPARES NOT SHOWN.
3. GROUNDING WILL NOT BE INSTALLED AT TIME OF HANDHOLE INSTALLATION, BUT WILL BE INSTALLED WITH SPLICE.
4. BREAK-AWAY MUST BE WRAPPED WITH AQUA SEAL MASTIC TO PREVENT TEARING OF HEAT SHRINK WRAP AROUND SLEEVE.
5. INSTALL COVERS BEFORE BACKFILLING OPERATIONS TO HELP SUPPORT UPPER BOX SECTION WHILE EARTH IS PLACED AND COMPACTED.
6. EXCAVATION:
   8' LONG BY 6' DEEP BY 6' WIDE DEH5.
   10' LONG BY 6' DEEP BY 6' WIDE DEH6.
   12' LONG BY 6' DEEP BY 6' WIDE DEH8.
7. BACK FILL WITH COMPACTED CA6.
8. CUT HANDHOLE TO INSTALL PIPE, IF REQUIRED.
9. ALL MATERIALS BY THE CITY EXCEPT BACKFILL AND RESTORATION.
10. CABLE WORK NOT REQUIRED.
11. RESTORATION BY CONTRACTOR.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	HANDHOLE ASSEMBLY	DATE: 04-07-04
ELECTRIC STANDARDS		Page 1 of 2
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DEHn: HANDHOLE (SPLICE BOX)

Item Code	Description 1	Description 2	DEH 5 Qty	DEH 6 Qty	DEH 8 Qty	DEH 8A Qty
284 104 00010	HANDHOLE	36" X 60" X 36"	1			
284 104 00020	HANDHOLE	48" X 78" X 36"		1		
284 104 00030	HANDHOLE	48" X 96" X 36"			1	
284 104 00040	HANDHOLE, ADJUSTABLE	48" X 96" X 36"				1

DnBxxP: BEND, PVC

Assembly	Item Code	Description 1	Description 2	Qty
D3B30P	285 101 00025	ELBOW, PVC 30 DEG 3"	STANDARD RADIUS SCH 40	1
D3B45P	285 101 00030	ELBOW, 36"R PVC 45 DEG 3"	SCH 40	1
D3B90P	285 101 00040	ELBOW, 36"R PVC 90 DEG 3"	SCH 40	1
D5B30P	285 101 00080	ELBOW, 36"R PVC 30 DEG 5"	SCH 40	1
D5B45P	285 101 00090	ELBOW, 36"R PVC 45 DEG 5"	SCH 40	1
D5B90P	285 101 00100	ELBOW, 36"R PVC 90 DEG 5"	SCH 40	1
D6B30P	285 101 00220	ELBOW, 48"R PVC 30 DEG 6"	SCH 40	1
D6B45P	285 101 00230	ELBOW, 48"R PVC 45 DEG 6"	SCH 40	1
D6B90P	285 101 00240	ELBOW, 48"R PVC 90 DEG 6"	SCH 40	1

D3BxxS: BEND, 3" STEEL

Item Code	Description 1	Description 2	D3B90S Qty
285 101 00140	ELBOW, 30"R STL 90 DEG 3"	GALVANIZED	1
285 102 00040	COUPLING, PVC 3"	LONG LINE SCH 40	1

D5BxxS: BEND, 5" STEEL

Item Code	Description 1	Description 2	D5B30S Qty	D5B45S Qty	D5B90S Qty
285 101 00160	ELBOW, 36"R STL 30 DEG 5"	GALVANIZED	1		
285 101 00170	ELBOW, 36"R STL 45 DEG 5"	GALVANIZED		1	
285 101 00180	ELBOW, 36"R STL 90 DEG 5"	GALVANIZED			1
285 102 00110	COUPLING, PVC 5"	LONG LINE SCH 40	1	1	1

D6BxxS: BEND, 6" STEEL

Item Code	Description 1	Description 2	D6B11S Qty	D6B22S Qty	D6B30S Qty	D6B45S Qty	D6B90S Qty
285 101 00186	ELBOW, 48"R STL 11 DEG 6"	GALVANIZED	1				
285 101 00188	ELBOW, 48"R 22.5 DEG 6"	GALVANIZED		1			
285 101 00190	ELBOW, 48"R STL 30 DEG 6"	GALVANIZED			1		
285 101 00200	ELBOW, 48"R STL 45 DEG 6"	GALVANIZED				1	
285 101 00210	ELBOW, 48"R STL 90 DEG 6"	GALVANIZED					1
285 102 00140	COUPLING, PVC 6"	LONG LINE SCH 40	1	1	1	1	1

UGHn: GROUNDING, HANDHOLE

Item Code	Description 1	Description 2	UGH1 Qty	UGH3 Qty
280 107 00020	CU BARE SD	#2 SOL	10	30
283 156 00010	GROUND ROD COPPER CLAD	5/8" X 10'	1	1
286 100 00320	CONNECTOR, WEDGE CU	4/0 STR(/) - 5/8" ROD	1	1
286 101 00010	SHELL, WEDGE AMP	BLUE	1	1
286 199 00210	CONNECTOR, BREAK-AWAY CU	2SOL-2/0STR X 2SOL 2/0STR		2

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	HANDHOLE ASSEMBLY	DATE: 04-07-04
ELECTRIC STANDARDS		Page 2 of 2
		C30-6336

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: **75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS**
PROJECT DESCRIPTION: TRENCH SECTION DETAILS
DATE: 4-01-08
ISSUED
ENGINEER: RPS
REVISION: 1 2 3
WORK REQUEST NO.: **56270**
MAP NO.: –
DRAWN BY: JK, PM
CHK'D:
APP'V:
SBC:
SCALE: NTS
CAD FILE: D056270001D40.DWG
PROJECT NO.: EU12-08-03 EU73
COMPLETED BY:
SHEET 40 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	282
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

GROUND ELECTRODE MEASUREMENT

SCOPE:

GROUNDING TESTS SHALL DONE FOR MANHOLE GROUNDS, GROUND ROD CONNECTIONS AND COUNTERPOISE CONNECTIONS TO ENSURE THE INTEGRITY OF THE ELECTRODE INSTALLATION. TESTING OF THE GROUND SYSTEM AND CONNECTIONS SHALL BE DONE USING THE CLAMP-ON RESISTANCE TEST METHOD FOR GROUND RODS AND COUNTERPOISE.

CLAMP-ON GROUND RESISTANCE TEST (NORMAL TEST)/
THREE POINT FALL OF POTENTIAL TEST (NORMAL TEST)

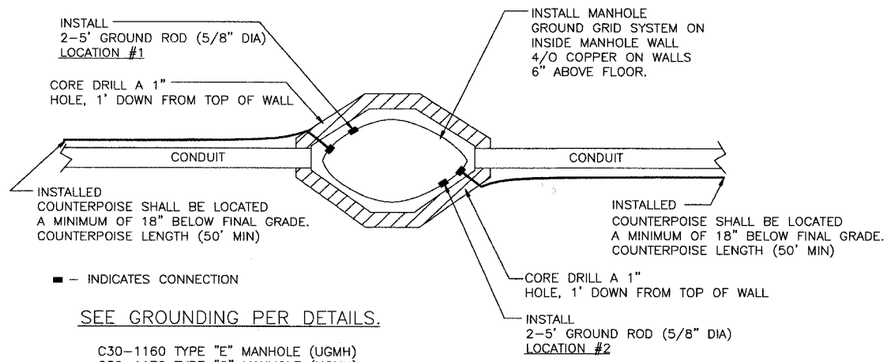
TESTS SHALL BE PERFORMED WHEN THE GROUND IS NOT FROZEN TO ELIMINATE HIGH RESISTANCE READINGS IN THE MANHOLES. THE CLAMP ON TEST SHALL BE DONE AT EACH GROUND ROD AND COUNTERPOISE CONNECTION AND FROM THE MANHOLE PERIMETER GROUND CABLE TO THE GROUND ROD. AEMC INSTRUMENT MODEL 3710, 3730, OR EQUIVALENT MAY BE USED. THE CLAMP ON GROUND METER SHALL CLAMPED ON TO THE POWER NEUTRAL BETWEEN THE UTILITY TRANSFORMER, POLE GROUND, SWITCH GEAR GROUND AND THE SITE GROUND. THE USER MUST BE AWARE THAT A 0.7 READING INDICATION A CONTINUITY LOOP AND NOT A GROUND RESISTANCE. IF A POWER NEUTRAL IS NOT CLOSE TO THE NEW INSTALLATION THEN THE THREE POINT FALL OF "Ω" POTENTIAL, GROUND RESISTANCE CAN BE USED.

ALL TESTING MATERIAL AND TOOLS ARE FURNISHED BY THE CONTRACTOR. THIS SPECIFICATION IS USED TO TEST HANDHOLES, SWITCH GEAR VAULTS, MANHOLES, TRANSFORMER VAULTS AND OTHER EQUIPMENT AS DIRECTED.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	GROUNDING WITH GROUND RODS (DETAIL)	DATE: 05-01-05
ELECTRIC STANDARDS		Page 1 of 7
		56270-100

CLAMP ON METER TEST
STANDARD MANHOLE

(GROUNDING WITH GROUND RODS AND COUNTERPOISE)



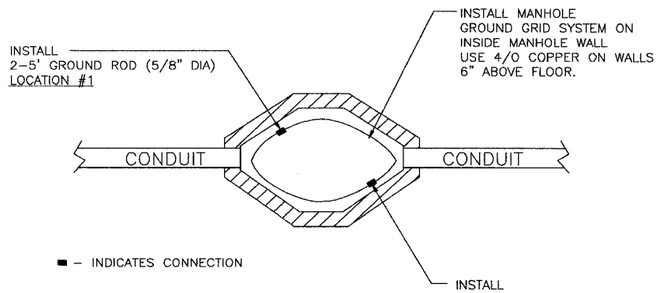
SEE GROUNDING PER DETAILS.

C30-1160 TYPE "E" MANHOLE (UGMH)
C30-1170 TYPE "G" MANHOLE (UGMH)
C30-1140 TYPE "A" MANHOLE (UGMH)

TOP VIEW

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	GROUNDING WITH GROUND RODS (DETAIL)	DATE: 05-01-05
ELECTRIC STANDARDS		Page 2 of 7
		56270-100

STANDARD MANHOLE
(GROUNDING WITH RODS)

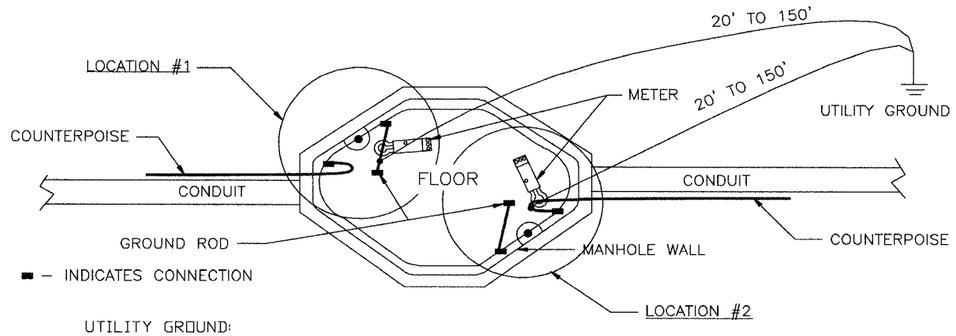


SEE GROUNDING PER DETAILS

C30-1160 TYPE "E" MANHOLE (UGMH)
C30-1170 TYPE "G" MANHOLE (UGMH)
C30-1140 TYPE "A" MANHOLE (UGMH)

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	GROUNDING WITH GROUND RODS (DETAIL)	DATE: 05-01-05
ELECTRIC STANDARDS		Page 3 of 7
		56270-100

PLACEMENT OF METER FOR READING



UTILITY GROUND:
TRANSFORMER CASE
SWITCH GEAR CASE
FUSE/PLUG CAN CASE
NEUTRAL ON CABLE
GROUND ON POLE
INDEPENDENT GROUND SET

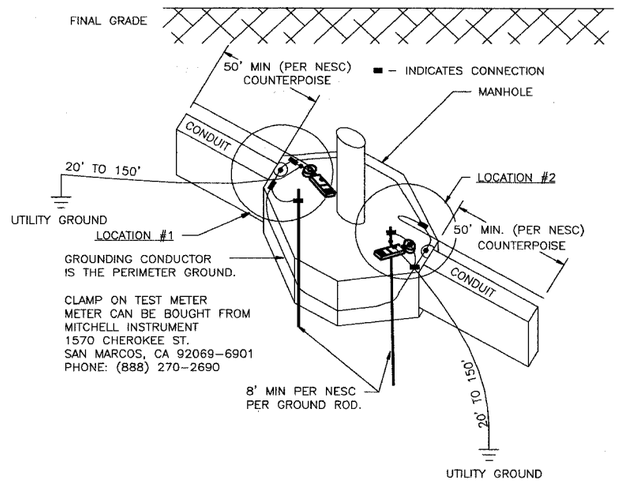
NAPERVILLE PUBLIC UTILITIES DEPARTMENT	GROUNDING WITH GROUND RODS (DETAIL)	DATE: 05-01-05
ELECTRIC STANDARDS		Page 4 of 7
		56270-100

WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC		
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION		
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: -	CAD FILE: D056270001D41.DWG
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 21273
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE: 4-01-08 / ISSUED / ENGINEER: RPS / REVISION: 1 2 3	WORK REQUEST NO.: 56270 / CHKD: / APPR:	SBC: / COMPLETED BY: / SCALE: NTS / SHEET 41 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	283
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

SAMPLE INSTALLATION (CLAMP ON METER)



NOTE:

OBSERVE ALL SAFETY REQUIREMENTS AND THEN REMOVE COVERING ON THE GROUND CONDUCTOR IF PRESENT AND PROVIDE SUFFICIENT ROOM FOR THE MODEL 3710/3730 JAWS, WHICH MUST BE ABLE TO CLOSE EASILY AROUND THE CONDUCTOR. THE JAWS CAN BE PLACED AROUND THE GROUND ROD ITSELF.
NOTE: THE CLAMP MUST BE PLACED SO THAT THE JAWS ARE IN AN ELECTRICAL PATH FROM THE SYSTEM NEUTRAL OR GROUND WIRE TO THE GROUND ROD, OR COUNTERPOISE.

SELECT THE CURRENT RANGE "A". CLAMP ONTO THE GROUND CONDUCTOR AND MEASURE THE GROUND CURRENT. THE MAXIMUM CURRENT RANGE IS 30 A. IF THE GROUND CURRENT EXCEEDS 5 A, GROUND RESISTANCE MEASUREMENTS ARE NOT POSSIBLE. DO NOT PROCEED FURTHER WITH THE MEASUREMENT. REMOVE THE CLAMP-ON TESTER FROM THE CIRCUIT, NOTING THE LOCATION FOR MAINTENANCE, AND CONTINUE TO THE NEXT TEST LOCATION. RECORD CURRENT ON DATA SHEET.

AFTER NOTING THE GROUND CURRENT, SELECT THE GROUND RESISTANCE RANGE "Ω" (OHM) AND MEASURE THE RESISTANCE DIRECTLY. THE READING YOU MEASURE WITH THE 3710/3730 INDICATES THE RESISTANCE OF THE ROD, RESISTANCE OF THE COUNTERPOISE, BUT ALSO OF THE CONNECTION TO THE SYSTEM NEUTRAL AND ALL BONDING CONNECTIONS BETWEEN THE NEUTRAL AND THE ROD.

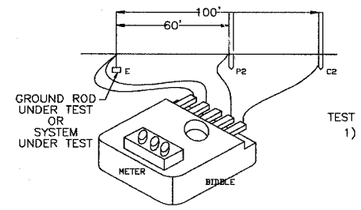
RECORD 2 OR 4 RESISTANCE READINGS ON DATA SHEET. IF ANY ONE READING IS ABOVE 25 OHMS, CONTACT DPU-E IMMEDIATELY.
SEND COMPLETED DATA SHEET TO THE PROJECT ENGINEER AND RECORDS.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	GROUNDING WITH GROUND RODS (DETAIL)	DATE: 05-01-05 Page 6 of 7 56270-100

DATA SHEET FOR RECORDING GROUND RESISTANCE BY THE FALL OF POTENTIAL METHOD.

DATE:
TYPE OF METER AND MFG.:
MANHOLE NUMBER + TYPE:
POLE NUMBER + SIZE:
STREET ADDRESS:
NAME OF PERSON
PERFORMING TEST:
W.F. #
TEMPERATURE (AIR): ___°F
SIZE OF GROUND RODS: 5/8 DIA COPPER CLAD, UNLESS NOTED
SIZE OF CABLE FOR GROUND WIRE AND/OR COUNTERPOISE IS 4/0 COPPER (BARE) 7 STRAND, UNLESS NOTED

TEST INSTRUMENT:
MANUFACTURER:
MODEL NO:
CALIBRATION DATE:



TEST METHOD USED
1) 3 POINT ELECTRODE AC "FALL-OF-POTENTIAL"

LOCATION	TEST METHOD	NO. OF RODS	ROD SIZE & LENGTH	DISTANCE BETWEEN RODS (FT.)	AUX. ELECTRODE TEST POINT (FT.)		RESISTANCE OHMS	REMARKS
					P2	C2		

NOTE

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	GROUNDING WITH GROUND RODS (DETAIL)	DATE: 05-01-05 Page 6 of 7 56270-100

DATA SHEET FOR RECORDING GROUND RESISTANCE MEASUREMENT BY THE CLAMP ON GROUND RESISTANCE TEST METHOD

DATE:
TYPE OF METER AND MFG.:
MANHOLE NUMBER + TYPE:
POLE NUMBER + SIZE:
STREET ADDRESS:
NAME OF PERSON
PERFORMING TEST:
W.F. #
TEMPERATURE (AIR): ___°F
SIZE OF GROUND RODS: 5/8 DIA COPPER CLAD, UNLESS NOTED
SIZE OF CABLE FOR GROUND WIRE AND/OR COUNTERPOISE IS 4/0 COPPER (BARE) 7 STRAND, UNLESS NOTED

INSTALL FEET OF GROUND RODS TOTAL PER LOCATION		INSTALL FEET OF COUNTERPOISE TOTAL PER LOCATION		MEASURED RESISTANCE OF GROUND RODS (OHMS)		MEASURED RESISTANCE OF COUNTERPOISE (OHMS)		MEASURED RESISTANCE OF GROUND RODS AND COUNTERPOISE (OHMS)		SOIL CONDITION i.e. ROCK, CLAY SAND, WET OR DRY		METHOD OF CONNECTION TO GROUND RODS i.e. CADWELD BOLTED, AMPACT, CRIMP.		CURRENT READING (AMPS)		MEASURED WATER LEVEL IN MANHOLE (FT)	REMARKS
LOCATION #1	LOCATION #2	LOCATION #1	LOCATION #2	LOCATION #1	LOCATION #2	LOCATION #1	LOCATION #2	LOCATION #1	LOCATION #2	LOCATION #1	LOCATION #2	LOCATION #1	LOCATION #2	LOCATION #1	LOCATION #2		

NOTE:
A HIGH READING INDICATES ONE OR MORE OF THE FOLLOWING:
1) POOR GROUND RODS.
2) OPEN GROUND CONDUCTOR.
3) HIGH RESISTANCE, DUE TO POOR CONNECTIONS ON RODS, HARDWARE & CLAMPS.
4) METER CLAMP IS IMPROPERLY CLOSED.
5) FAULTY METER.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	GROUNDING WITH GROUND RODS (DETAIL)	DATE: 05-01-05 Page 7 of 7 56270-100

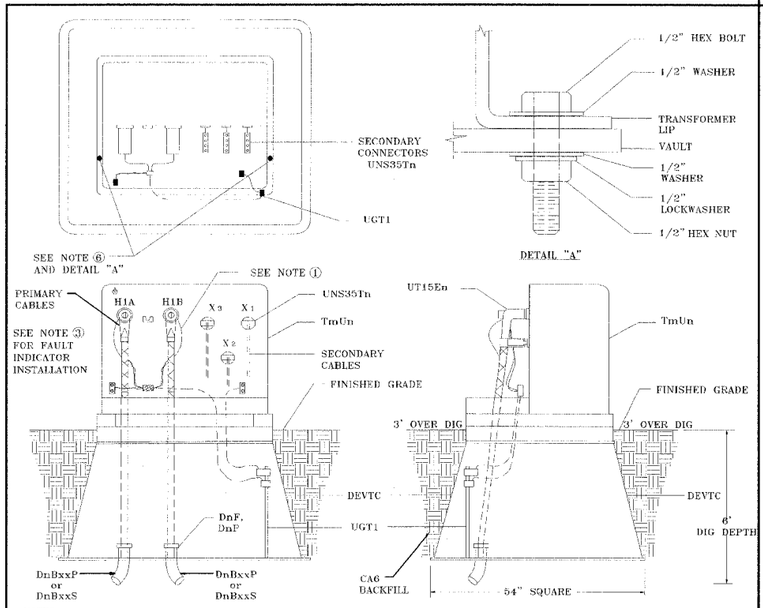
WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS
PROJECT DESCRIPTION: TRENCH SECTION DETAILS
MAP NO.: _
CAD FILE: 0056270001D42.DWG
DRAWN BY: JK, PM
PROJECT NO.: EU12-08-03 F1173
DATE: 4-01-08
ISSUED:
ENGINEER: RPS
REVISION: 1 2 3
WORK REQUEST NO.: 56270
CHKD:
APPV:
SBC:
COMPLETED BY:
SCALE: NTS



NOTES:

1. ONE STRAND OF CONCENTRIC NEUTRAL FOR DRAIN WIRE.
2. SEE C30-0500 FOR 200A ELBOW STANDARD.
3. SEE C30-1010 FOR FAULT INDICATOR INSTALLATION. FAULT INDICATORS NOT REQUIRED FOR RADIAL TRANSFORMER INSTALLATION.
4. BENDS SHALL BE INSTALLED PER FIELD CONDITION.
5. SPARES NOT SHOWN.
6. TRANSFORMER TO BE BOLTED TO VAULT IN TWO LOCATIONS. DRILL 9/16" HOLES IN VAULT. REFER TO TOP VIEW AND DETAIL "A."
7. ALLOW SUFFICIENT SLACK IN PRIMARY AND SECONDARY CABLES TO ACCOMMODATE SLIGHT VARIATIONS IN BUSHING HEIGHTS BETWEEN DIFFERENT TRANSFORMER SIZES AND MANUFACTURERS.
8. THIS DRAWING SHOWS AN EXISTING TRANSFORMER WITH CABLE INSTALLED WITH MATERIAL LIST ON RIGHT.
9. CONTRACTOR TO OBTAIN OUTAGE OF TRANSFORMER PRIOR TO DOING ANY WORK.
10. CONTRACTOR TO INSTALL 3", 5" AND 6" CONDUIT INTO EXISTING AS SPECIFIED IN SPECIFICATIONS CAP AND PLUGS ALL CONDUITS.
11. ALL GROUNDING CONNECTIONS AND TERMINATORS SHALL BE INSPECTED TO DETERMINE CONDITION OF CONNECTIONS BY THE CONTRACTOR REPORT FINDING.

ASSEMBLY CODES

CODE	QTY	DESCRIPTION
DEVTC	1	Vault, 1ø trf/fuse can
DnBxxP	**	Bend, PVC
DnBxxS	**	Bend, Steel
DnF	**	Bell Fitting, PVC
DnP	**	Plug, PVC
TmUn	1	Transformer, pad mounted
UGT1	1	Grounding, Transformer, 1ø
UI15n	1	Faulted Circuit Indicator
UNS35Tn	3	Connector 1ø Set Screw
UT15A*	**	Arrester
UT15En	2	Elbow, 15kV

* E or P (Elbow or Parking Stand)
** qty is dependent on application
n is dependent on size
m is dependent on secondary voltage
xx bend angle dependent on field condition (typically 45°)

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SINGLE PHASE PADMOUNT TRANSFORMER ASSEMBLY	DATE: 01-16-06
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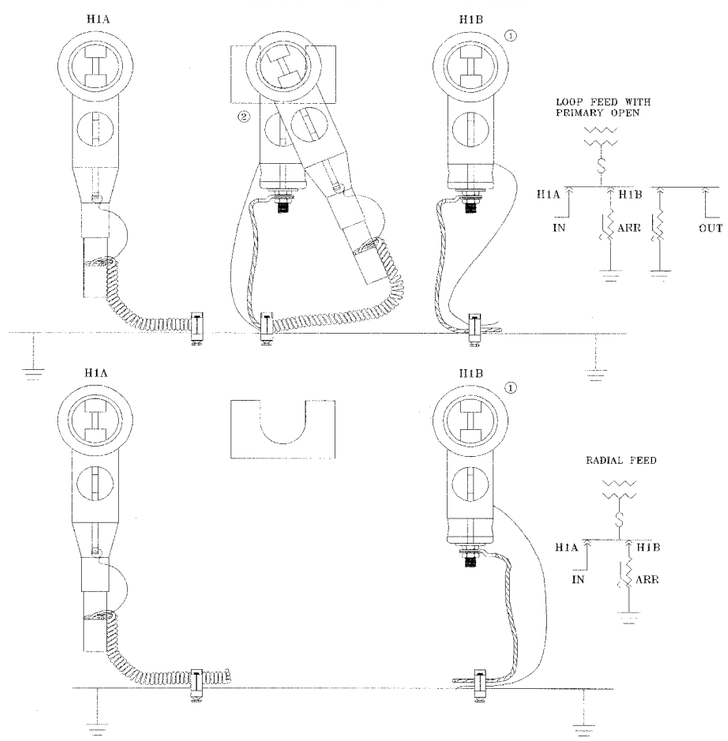
CONFIGURATIONS FOR ELBOW ARRESTERS IN 1ø DEAD FRONT PAD MOUNT TRANSFORMERS



NOTES:

1. ELBOW ARRESTER.
2. PARKING STAND ARRESTER.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SINGLE PHASE PADMOUNT TRANSFORMER ASSEMBLY	DATE: 01-16-06
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F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	284
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

DEVTC: VAULT, 1ø TRF/FUSE CAN

			DEV					
			TE	A	TC	PC	F	AE	M
Item Code	Description 1	Description 2	Qty	Qty	Qty	Qty	Qty	Qty	Qty
284 100 00120	EXTENDER, 1ø TRF VAULT	44"X44"X9" W/25"X25" OPEN	1						
284 101 00010	VAULT, AIR SWITCH	74"X76"X36" (FIBER-CRETE)		1					
284 101 00020	VAULT, 1ø TRF/FUSE CAN	44"X44"X32" (FIBER-CRETE)			1				
284 101 00030	VAULT, 3ø PLUG CAN	23"X69"X36" (FIBER-CRETE)				1			
284 101 00040	VAULT, 3ø FUSE CAN	49"X69"X36" (FIBER-CRETE)					1		
284 101 00100	EXTENDER, AIR SWITCH VAULT	74"X76"X9" (FIBER-CRETE)						1	
NON	CA-6	CRUSHED LIMESTONE		1	.25	.25	.5		
NON	VAULT, 12.47kV PRI. METERING	56" X56" X20" (FIBER-CRETE)							1

DnBxxP: BEND, PVC

Assembly	Item Code	Description 1	Description 2	Qty
D3E90P	285 101 00025	ELBOW, PVC 90 DEG 3"	STANDARD RADIUS SCH 40	1
D3B45P	285 101 00030	ELBOW, 36"R PVC 45 DEG 3"	SCH 40	1
D3B90P	285 101 00040	ELBOW, 36"R PVC 90 DEG 3"	SCH 40	1
D5B30P	285 101 00080	ELBOW, 36"R PVC 30 DEG 5"	SCH 40	1
D5B45P	285 101 00090	ELBOW, 36"R PVC 45 DEG 5"	SCH 40	1
D5B90P	285 101 00100	ELBOW, 36"R PVC 90 DEG 5"	SCH 40	1
D6B30P	285 101 00220	ELBOW, 48"R PVC 30 DEG 6"	SCH 40	1
D6B45P	285 101 00230	ELBOW, 48"R PVC 45 DEG 6"	SCH 40	1
D6B90P	285 101 00240	ELBOW, 48"R PVC 90 DEG 6"	SCH 40	1

D3BxxS: BEND, 3" STEEL

			D3E90S
Item Code	Description 1	Description 2	Qty
285 101 00140	ELBOW, 90"R STL 90 DEG 3"	GALVANIZED	1
285 102 00040	COUPLING, PVC 3"	LONG LINE SCH 40	1

D5BxxS: BEND, 5" STEEL

			D5B30S	D5B45S	D5B90S
Item Code	Description 1	Description 2	Qty	Qty	Qty
285 101 00160	ELBOW, 36"R STL 30 DEG 5"	GALVANIZED	1		
285 101 00170	ELBOW, 36"R STL 45 DEG 5"	GALVANIZED		1	
285 101 00180	ELBOW, 36"R STL 90 DEG 5"	GALVANIZED			1
285 102 00110	COUPLING, PVC 5"	LONG LINE SCH 40	1	1	1

D6BxxS: BEND, 6" STEEL

			D6B11S	D6B22S	D6B30S	D6B45S	D6B90S
Item Code	Description 1	Description 2	Qty	Qty	Qty	Qty	Qty
285 101 00186	ELBOW, 48"R STL 11 DEG 6"	GALVANIZED	1				
285 101 00188	ELBOW, 48"R 22.5 DEG 6"	GALVANIZED		1			
285 101 00190	ELBOW, 48"R STL 30 DEG 6"	GALVANIZED			1		
285 101 00200	ELBOW, 48"R STL 45 DEG 6"	GALVANIZED				1	
285 101 00210	ELBOW, 48"R STL 90 DEG 6"	GALVANIZED					1
285 102 00140	COUPLING, PVC 6"	LONG LINE SCH 40	1	1	1	1	1

DnF: BELL FITTING, PVC

			D3F	D5F	D6F
Item Code	Description 1	Description 2	Qty	Qty	Qty
285 103 00040	BELL FITTING, PVC 3"	SCH 40 & SCH 80	1		
285 103 00080	BELL FITTING, PVC 5"	SCH 40 & SCH 80		1	
285 103 00100	BELL FITTING, PVC 6"	SCH 40 & SCH 80			1

DnP: PLUG, PVC

			D3P	D5P	D6P
Item Code	Description 1	Description 2	Qty	Qty	Qty
285 103 00030	PLUG, PVC 3"	WITH PULL TAB	1		
285 103 00070	PLUG, PVC 5"	WITH PULL TAB		1	
285 103 00090	PLUG, PVC 6"	WITH PULL TAB			1

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SINGLE PHASE PADMOUNT TRANSFORMER ASSEMBLY	DATE: 01-16-06
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TmUn: TRANSFORMER, PAD MOUNTED

			QTY							
Item Code	Description 1	Description 2	7200 240/120				T24U			
			10	25	37	50	75	100	167	250
281 100 00120	1-PH LOOP TRANFORMER	10kVA 7.2kV 120/240 V	1							
281 100 00130	1-PH LOOP TRANFORMER	25kVA 7.2kV 120/240 V		1						
281 100 00140	1-PH LOOP TRANFORMER	37.5kVA 7.2kV 120/240 V			1					
281 100 00150	1-PH LOOP TRANFORMER	50kVA 7.2kV 120/240 V				1				
281 100 00160	1-PH LOOP TRANFORMER	75kVA 7.2kV 120/240 V					1			
281 100 00170	1-PH LOOP TRANFORMER	100kVA 7.2kV 120/240 V						1		
281 100 00180	1-PH LOOP TRANFORMER	167kVA 7.2kV 120/240 V							1	
281 100 00190	1-PH LOOP TRANFORMER	250kVA 7.2kV 120/240 V								1
284 199 00310	SIGN	8" X 5" WITH BRUSHES	1	1	1	1	1	1	1	1
286 199 00232	CONNECTOR, 1" STUD, 10-350	1PH TRF, 6 CONDUCTORS						1	1	1
286 199 00235	CONNECTOR, 5/8 STUD, 6-500	1PH TRF	1	1	1	1	1			
287 199 00240	PADLOCK, BRONZE	W/1 1/2" SHACKLE	1	1	1	1	1	1	1	1

UGT1: GROUNDING, TRANSFORMER, 1ø

			UGT1	UGT3
Item Code	Description 1	Description 2	Qty	Qty
280 107 00050	CU BARE SD	#4 7-STR	12	
280 107 00070	CU BARE SD	4/0 7-STR		75
283 156 00010	GROUND ROD, COPPER CLAD	5/8" X 10'	1	4
283 156 00020	CLAMP, GROUND ROD	5/8" ROD - #4 STR	2	
284 199 00180	CLAMP, TRANSF TANK GND.	#8 SOL - 2/0 STR CU	2	
284 199 00182	CLAMP, TRANSF TANK GND.	#6 SOL - 250MCM		2
286 100 00260	CONNECTOR, WEDGE CU	4/0 STR (7) - 4/0 STR (7)		2
286 100 00320	CONNECTOR, WEDGE CU	4/0 STR (7) - 5/8" ROD		1
286 101 00010	SHELL, WEDGE AMP	WHITE		6
286 199 00210	BREAK-AWAY	2 SOL - 2/0 STR X 2 SOL - 2/0 STR	2	
286 199 00220	BREAK-AWAY	1/0-4/0 STR X 1/0-4/0 STR		6

UI15n: FAULTED CIRCUIT INDICATOR

			UI15		
			S1	S3	L3
Item Code	Description 1	Description 2	Qty	Qty	Qty
283 199 00210	GUARD, WIRE	SPIRAL	4	6	6
284 120 00010	FAULT INDICATOR, 1/0 - 4/0	15kV	1	3	-
284 120 00020	FAULT INDICATOR, 750 - 1000	15kV	-	-	3
284 120 00030	INDICATOR CABLE, 3 TO 1	10 FOOT	-	1	1
284 120 00040	INDICATOR CABLE, 1 TO 1	6 FOOT	1	-	-
284 120 00050	TIES, CABLE	SMALL	4	6	6
284 120 00060	CLIP	ADHESIVE BACKED	4	6	6

UNSnTn: CONNECTOR 1ø SET SCREW

Assembly Code	Item Code	Description 1	Description 2	Qty
UNS35T6	286 199 00230	CONN, 5/8 STUD, 10-350	1PH TRF, 6 CONDUCTORS	1
UNS50T61	**286 199 00235**	CONN, 5/8 STUD, 6-500	1 PH TRF	1

UNSnTn: CONNECTOR 1ø SET SCREW

			UT15A			UT15A3		
			B	E	P	B	E	P
Item Code	Description 1	Description 2	Qty	Qty	Qty	Qty	Qty	Qty
284 118 00020	ARRESTER, ELBOW	9/10 kV		1			3	
284 118 00030	ARRESTER, PARKING STAND	9/10 kV			1			3
284 118 00040	ARRESTER, BUSHING INSERT	9/10kV	1			3		
286 199 00220	CONNECTOR, BREAKAWAY CU	1/0 - 4/0 STR	1	1	1	3	3	3

UT15E: ELBOW, 15kV

			UT15E					UT15EE			
			10	10F	40	406	C75	C99	10	40	75	99
Item Code	Description 1	Description 2	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty
284 109 00010	FUSE, ELBOW 8kV	30A		1								
284 117 00020	ELBOW, FUSED 8.3kV 200A	1/0 STR AL 175-220 MIL		1								
284 117 00030	ELBOW, 15kV 200A	1/0 STR AL 175-220 MIL	1									
284 117 00031	ELBOW, 15kV 200A EXTENDED	1/0 STR AL 175-220 MIL						1				
284 117 00040	ELBOW, 15kV 200A	4/0 STR AL 175-220 MIL			1							
284 117 00041	ELBOW, 15kV 200A EXTENDED	4/0 STR AL 175-220 MIL							1			
284 117 00065	ELBOW, 15kV 600A, W/LRTP	750 MCM STR AL 175-220 MIL				1						
284 117 00066	ELBOW, 15kV 600A EXTENDED	750 MCM STR AL 175-220 MIL								1		
284 117 00095	ELBOW, 15kV 600A, W/LRTP	1000 MCM STR AL 175-220 MIL					1					
284 117 00096	ELBOW, 15kV 600A EXTENDED	1000 MCM STR AL 175-220 MIL										1
284 117 00400	ELBOW, 15kV 600A	4/0 STR AL 175-220 MIL				1						
284 117 00430	KIT CABLE JACKET SEAL	1/0-4/0 (0.95" - 1.50")	1	1	1	1			1	1		
284 117 00440	KIT CABLE JACKET SEAL	250-1000 MCM (1.30"-2.67")				1	1				1	1
255 199 00100	CABLE CLEANER	QUARTS	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SINGLE PHASE PADMOUNT TRANSFORMER ASSEMBLY	DATE: 01-16-06
ELECTRIC STANDARDS		Page 4 of 4
		C30-0011

NOTES:

1) CONTRACTOR IS ADVISED THIS SPECIFICATION SHOWS AN EXISTING TRANSFORMER AND VAULT INSTALLATION. THIS IS WHAT IS STANDARD SO WHEN CONTRACTOR HAS TO INSTALL DUCTS INTO AN EXISTING LOCATION. THE CONTRACTOR CAN PLAN THE WORK.

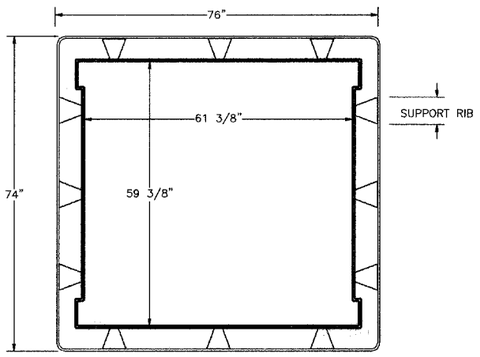
2) WHEN A VAULT IS TO BE INSTALLED THE CONTRACTOR SHALL INSTALL THE VAULT, GROUNDING, EXCAVATION, BACKFILL AND RESTORATION TO THE ELEVATION IN THE GENERAL SPECIFICATION.

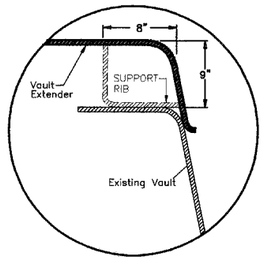
WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC		
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION		
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: —	CAD FILE: D056270001D43.DWG
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-08-03 EU73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE: 4-01-08 ISSUED; ENGINEER: RPS; REVISION: 1 2 3	WORK REQUEST NO.: 56270	CHKD: SBC: APVD:	SCALE: NTS	COMPLETED BY: SHEET 43 OF 73

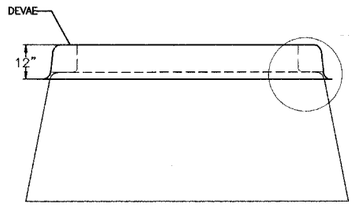
F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	285
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

VAULT EXTENDER FOR AIR SWITCH







NOTES:
1. SHIMS MAY BE USED TO LEVEL THE EXTENSION SPACER ON THE EXISTING SWITCH VAULT.
2. WHEN REPLACING AN OIL SWITCH WITH AN AIR SWITCH, THE EXTENDER MAY BE USED WITH GRAVEL PADDING AROUND THE EXISTING VAULT.
3. FILL THE VOIDS WITH FOAM FOR STABILITY.
4. SEE SPECIFICATIONS OR DRAWINGS WHERE EXTENDER'S AIR REQUIRED.

ASSEMBLY CODES		
CODE	QTY	DESCRIPTION
DEVAE	1	Vault Extender, Air Switch
DEVTE	1	Vault Extender, 1ø Transformer

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	VAULT EXTENDER	DATE: 04-04-06
ELECTRIC STANDARDS		Page 1 of 2
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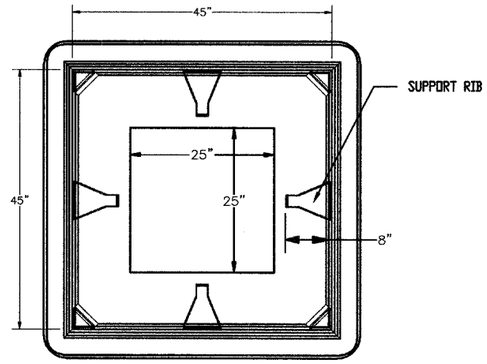
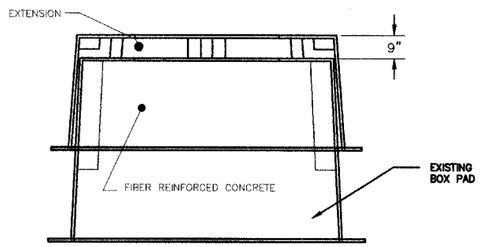
VAULT EXTENDER FOR 1ø TRANSFORMER





DEVAE: VAULT EXTENDER

			DEV					
			TE	A	TC	PC	F	AE	M
Item Code	Description 1	Description 2	Qty	Qty	Qty	Qty	Qty	Qty	Qty
284 100 00120	EXTENDER, 44"X44" BOX PAD	9" WITH/25"X25" OPENING	1						
284 101 00010	VAULT, AIR SWITCH	74"X76"X36" (FIBER-CRETE)		1					
284 101 00020	VAULT, 1ø TRF/FUSE CAN	44"X44"X32" 25"X25"OPENING			1				
284 101 00030	VAULT, 3ø PLUG CAN	23"X69"X36" (FIBER-CRETE)				1			
284 101 00040	VAULT, 3ø FUSE CAN	49"X69"X36" (FIBER-CRETE)					1		
284 101 00100	EXTENDER, AIR SWITCH VAULT	74"X76"X9" (FIBER-CRETE)						1	
NON	CA-6	CRUSHED LIMESTONE		1	.25	.25	.5		
NON	VAULT, 12.47kV PRI. METERING	56" X56" X20" (FIBER-CRETE)							1

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	VAULT EXTENDER	DATE: 04-04-06
ELECTRIC STANDARDS		Page 2 of 2
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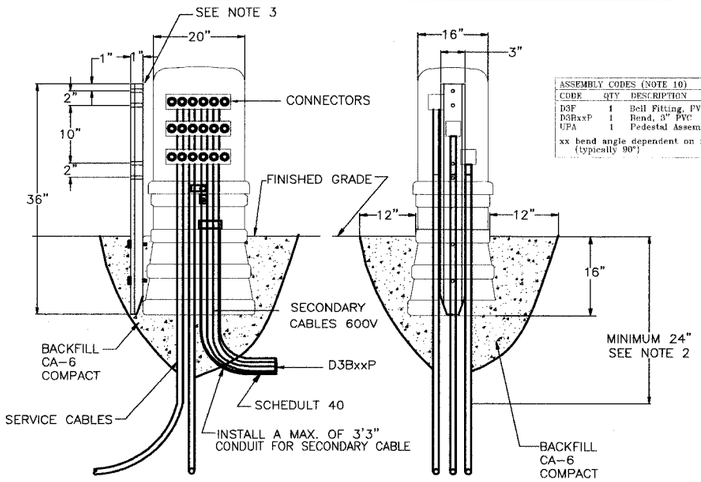
WF# INFORMATION		
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1	EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2	EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3	EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4	EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

CALL J.U.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS				MAP NO.: —	CAD FILE: 005627000I044.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS				DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 EU73
DATE	4-01 08		WORK REQUEST NO.: 56270	CHKD:	SBC:	COMPLETED BY:
ISSUED				APPV:	SCALE: NTS	SHEET 44 OF 73
ENGINEER	RPS					
REVISION		1 2 3				



ASSEMBLY CODES (NOTE 10)		
CODE	QTY	DESCRIPTION
D3F	1	Bell Fitting, PVC, 3"
D3BxxP	1	Bend, 3" PVC (NOTE 10)
UPA	1	Pedestal Assembly
xx bend angle dependent on field condition (typically 90°)		

FRONT VIEW **SIDE VIEW**

NOTES:

1. ALL CABLES MUST BE TAGGED TO PROVIDE POSITIVE IDENTIFICATION.
2. THE CABLE MUST BE PROTECTED BY THE FOOTPRINT OF THE PEDESTAL FOR A MINIMUM OF 24". IF AN EXCEPTION HAS TO BE MADE, THE CABLE MUST BE PROTECTED INSIDE OF CONDUIT.
3. SECONDARY PEDESTAL POST IS FOR JOINT LOCATIONS WITH AMERITECH ONLY.
4. BENDS SHALL BE INSTALLED PER FIELD CONDITION.
5. ALL CONDUIT SHALL BE PLUGGED.
6. THIS DRAWING SHOWS AN EXISTING PEDESTAL WITH CABLE INSTALLED WITH MATERIAL LIST ON RIGHT.
7. CONTRACTOR TO OBTAIN OUTAGE OF PEDESTAL PRIOR TO DOING ANY WORK.
8. CONTRACTOR TO INSTALL 3", 5" AND 6" CONDUIT INTO EXISTING OR NEW PEDESTAL AS SPECIFIED IN SPECIFICATIONS. CAP AND PLUGS ALL CONDUITS.
9. ALL GROUNDING CONNECTIONS AND TERMINATORS SHALL BE INSPECTED TO DETERMINE CONDITION OF CONNECTIONS BY THE CONTRACTOR REPORT FINDINGS.
10. CONTRACTOR TO INSTALL PEDESTAL, EXCAVATION CONDUIT, CONDUIT BENDS AND FITINGS FOR A COMPLETE JOB.
11. GROUNDING BY OTHERS.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SECONDARY PEDESTAL WIDE BASE	DATE: 03-17-04 Page 1 of 2
ELECTRIC STANDARDS		C30-2020

DnBxxP: BEND, PVC

Assembly	Item Code	Description 1	Description 2	Qty
D3B30P	285 101 00025	ELBOW, PVC 30 DEG 3"	STANDARD RADIUS SCH 40	1
D3B45P	285 101 00030	ELBOW, 36"R PVC 45 DEG 3"	SCH 40	1
D3B90P	285 101 00040	ELBOW, 36"R PVC 90 DEG 3"	SCH 40	1
D5B30P	285 101 00080	ELBOW, 36"R PVC 30 DEG 5"	SCH 40	1
D5B45P	285 101 00090	ELBOW, 36"R PVC 45 DEG 5"	SCH 40	1
D5B90P	285 101 00100	ELBOW, 36"R PVC 90 DEG 5"	SCH 40	1
D6B30P	285 101 00220	ELBOW, 48"R PVC 30 DEG 6"	SCH 40	1
D6B45P	285 101 00230	ELBOW, 48"R PVC 45 DEG 6"	SCH 40	1
D6B90P	285 101 00240	ELBOW, 48"R PVC 90 DEG 6"	SCH 40	1

DnF: BELL FITTING, PVC

			D3F	D5F	D6F
Item Code	Description 1	Description 2	Qty	Qty	Qty
285 103 00040	BELL FITTING, PVC 3"	SCH 40 & SCH 80	1		
285 103 00080	BELL FITTING, PVC 5"	SCH 40 & SCH 80		1	
285 103 00100	BELL FITTING, PVC 6"	SCH 40 & SCH 80			1

UPA: PEDESTAL ASSEMBLY

			UP				
			A	–	SS	C	CC
Item Code	Description 1	Description 2	Qty	Qty	Qty	Qty	Qty
284 105 00010	PEDESTAL, SECONDARY UPRGT	HDPE RECT. 10"X14"X41"	1	1			
284 106 00040	CONNECTOR, 6 COND, 10-350	1 EA	3			1	
284 106 00050	COVER, FOR 6 COND 10-350	EPDM	2				1

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SECONDARY PEDESTAL	DATE: 03-17-04 Page 2 of 2
ELECTRIC STANDARDS		C30-2020

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	286
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

1. SCOPE

This specification covers the manufacture and delivery of Large Radius Rigid Steel Conduit Galvanized Elbows

2. STANDARDS

The steel elbows shall be manufactured and tested in accordance with the latest applicable standards of **Underwriters Laboratory (UL 6), ANSI C80-1, and NEC 2002 – Article 344.**

3. TECHNICAL REQUIREMENTS

3.1 Material
The elbows shall be manufactured from rigid galvanized steel conduit and conform to the most recent **UL specifications.**

3.2 Specifications

SIZE (INCHES)	RADIUS (INCHES)	DEGREES BEND	TANGENT (INCHES)*	NOM WT (LBS)	ARC LENGTH (INCHES)	MATERIAL ID
2"	36"	45°	11" ± 1	16	28.28"	N/A
2"	36"	90°	11" ± 1	18	56.57"	N/A
3"	15"	90°	9" ± ½	22	23.57"	285 101 00130
3"	30"	90°	11" ± 1	42	47.14"	285 101 00140
5"	36"	30°	11" ± 1	73	18.85"	285 101 00160
5"	36"	45°	11" ± 1	77	28.28"	285 101 00170
5"	36"	90°	11" ± 1	91	56.57"	285 101 00180
6"	48"	11°	12" ± 1	112	9.43"	285 101 00186
6"	48"	22.5°	12" ± 1	118	18.85"	285 101 00188
6"	48"	30°	12" ± 1	122	25.14"	285 101 00190
6"	48"	45°	12" ± 1	129	37.71"	285 101 00200
6"	48"	90°	12" ± 1	152	75.43"	285 101 00210

**Tangent length shall be the same on both ends of the elbow.*

4. SHIPPING

4.1 Size
The rigid steel galvanized elbows shall be shipped in palletized cartons or on pallets. Pallets shall be non-returnable and any associated costs shall be included in the quoted price of the steel elbows. All galvanized items shall have a total skid weight of less than 3000 pounds. Each layer shall have at least three (3) 2 X 4's as dividers for layer support and improved handling characteristics. The top layer shall be level dependent on the quantity ordered.

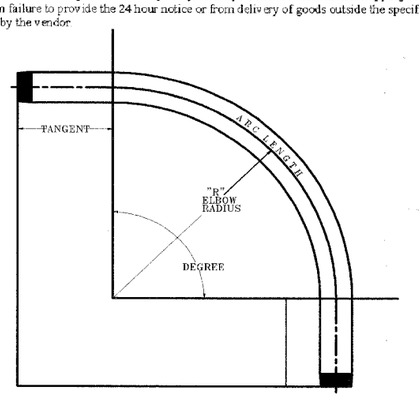
4.2 Capping
Plastic open-end thread protector caps to prevent the entrance of dirt and/or moisture shall be supplied to the open threaded ends of each rigid steel elbow.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	LARGE RADIUS RIGID STEEL CONDUIT GALVANIZED ELBOWS	DATE: 01-16-05 Page 1 of 2
ELECTRIC STANDARDS		M30-1550

4.3 Identification
Rigid Steel Elbows shall have a durable label securely attached (or have a permanent stencil) on the elbows with the following information: Manufacturer's identification, radius, size, theoretic tangent length and degrees bend, P.O. number, shipping length of elbow, and year of manufacture

5. DELIVERY

All pallets shall be shipped on a flat-bed trailer when the load requires. Pallets shall not be double stacked for shipment. There shall be no mixture of items on each pallet. The City shall be notified by telephone (630-420-6186) at least 24 hours prior to delivery of the pallets. Pallets shall be unloaded by the City between 8:00 a.m. and 3:30 p.m. on weekdays only, holidays excluded. Additional shipping costs resulting from failure to provide the 24 hour notice or from delivery of goods outside the specified times shall be paid by the vendor.



NAPERVILLE PUBLIC UTILITIES DEPARTMENT	LARGE RADIUS RIGID STEEL CONDUIT GALVANIZED ELBOWS	DATE: 01-16-05 Page 2 of 2
ELECTRIC STANDARDS		M30-1550

WF# INFORMATION	
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE	MAP NO.:	CAD FILE:
75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	–	D056270001D45.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 EU73
DATE: 4-01-08	WORK REQUEST NO.: 56270	CHKD:
ISSUED		APRV:
ENGINEER: RPS		SCALE: NTS
REVISION: 1 2 3		SHEET 45 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	287
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

I. GENERAL

A. THIS SPECIFICATION COVERS THE SODDING AND SEEDING THAT ARE APPLICABLE TO ALL CITY PROPERTIES.

B. ALL CONTRACTOR'S OPERATIONS ON CITY PROPERTIES SHALL MEET THE APPROVAL OF AND SHALL BE DONE TO THE SATISFACTION OF THE GENERAL SUPERINTENDENT OF THE CITY OR HIS AUTHORIZED REPRESENTATIVE.

C. THE CONTRACTOR SHALL DEPOSIT WITH THE CITY A CERTIFIED OR CASHIER'S CHECK IN AN AMOUNT AS SPECIFIED IN "SPECIAL INSTRUCTIONS" OF THE "GENERAL SPECIFICATION AND INSTRUCTIONS TO BIDDERS". THE CONTRACTOR SHALL ALSO FURNISH THE CITY WITH A CERTIFICATE OF INSURANCE, PUBLIC LIABILITY AMD PROPERTY DAMAGE. IN THE EVENT THE INSURANCE IS DEEMED UNSATISFACTORY BY THE CITY, THE CONTRACTOR SHALL, UPON REQUEST, FURNISH THE CITY WITH A SURETY BOND IN AN AMOUNT AS SPECIFIED IN THE SPECIFICATION "SPECIAL INSTRUCTIONS" OF THE "GENERAL SPECIFICATION".

D. ALL WORK SHALL BE PAID FOR WORK, IN PLACE. ALL MEASUREMENT MADE BY THE CITY OF NAPERVILLE WITH ASSISTANCE OF THE CONTRACTOR OR NO ASSISTANCE IS FINAL.

II. NOTIFICATION

THE CONTRACTOR SHALL GIVE THE CITY 72 HOURS PRIOR NOTICE, EXCLUSIVE OF SATURDAYS, SUNDAYS OR LEGAL HOLIDAYS, BEFORE STARTING WORK OR ANY OPERATIONS ON THE CITY'S PROPERTY.

III. TREE REMOVAL AND PROTECTION

A. ONLY TREES AND/OR OTHER PLANTINGS MARKED WITH PAINT SHALL BE REMOVED OR TRIMMED. ALL OTHER TREES OR PLANTINGS WITHIN THE WORK AREA ARE TO BE PROTECTED BY WOOD CRIBBING. ALL OTHER WORK REQUIRED SHALL BE DIRECTED BY THE PROJECT ENGINEER.

IV. SODDING

B. ALL CONSTRUCTION STORAGE OF EQUIPMENT AND MATERIALS SHALL BE CONFINED TO THE RIGHT-OF-WAY OR SET ASIDE AREA PROVIDED BY THE CONTRACTOR OFF SITE AND SUBJECT TO THE APPROVAL OF THE GENERAL SUPERINTENDENT OF THE CITY OR HIS AUTHORIZED REPRESENTATIVE. ALL CONSTRUCTIONS ACTIVITIES SHALL BE CONFIRMED TO THE RIGHT-OF-WAY.

C. ALL SURPLUS EXCAVATED MATERIALS SHALL BE DISPOSED OF OFF THE CITY'S PROPERTY. ALL TREES, STUMPS AND OTHER DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS SHALL BE DISPOSED OF OFF THE CITYS PROPERTY.

D. IMMEDIATELY AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED, ALL AREAS DISTURBED BY CONSTRUCTION OPERATIONS SHALL BE GRADED AS NEARLY AS POSSIBLE TO THEIR ORIGINAL CONTOURS EXCEPT AREAS OF EXCAVATION WHICH SHALL BE NEATLY CROWNED OVER TO ALLOW FOR SETTLEMENT.

E. THE CONTRACTOR SHALL RETAIN A LICENSED LANDSCAPE CONTRACTOR APPROVED BY THE CITY TO PERFORM ALL THE FINAL TOPSOILING, FINE GRADING AND SEEDING OR SODDING WORK IN ACCORDANCE WITH PARAGRAPH E AND F BELOW. THE SEEDING OR SODDIDNG SHALL BE DONE UNDER THE SUPERVISION OF THE CITY IN THE PROPER SEASON FOR SUCH WORK AND SHALL BE AT NO COST TO THE CITY.

F. THE GRASS AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED WITH SOD AND 6 INCHES OF BLACK PULVERIZED DIRT, AREA PREPARED, EXISTING DIRT AND GRASS DEBRIS REMOVED AND DISPOSED OF OFF SITE, MADE LEVEL AND GRADED, ALL AREAS SHALL PROMOTE DRAINAGE, ALL EXCAVATED MATERIALS AND EXISTING GRASS AND LANDSCAPING SHALL REMOVED AND UNACCEPTABLE FILL REMOVED AND DEPOSITED OFF SITE.

G. ALL GRASS WORK AREA'S SHOWN ON THE CONSTRUCTION DRAWINGS PLUS ALL OTHER AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR AND IS INCIDENTAL TO THE WORK. THE CONTRACTOR IS ADVISED SOME OF THE WORK AREAS ARE BETWEEN ROAD WAY PROPERTY LINES AND WITHIN THE ROAD AREA AS SHOWN ON COUNTY DRAWINGS SHALL BE DONE TO THE DUPAGE COUNTY DEPARTMENT OF TRANSPORTATION, SATISFACTION THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR SURFACE RESTORATION, FOR ALL AREA'S INSIDE/OUTSIDE THE
ROAD AREA'S. THE CONTRACTOR SHALL REVIEW ALL DRAWING PREPARED TO DETERMINE THE EXACT LIMITS OF THE ROADWAY TO DETERMINE THE RESTORATION AREA'S, WHICH IS THEREFORE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL NOT BE GIVEN ANY CONSIDERATION BY THE OWNER FOR ANY CLAIM ARISING OUT OF A LACK OF UNDERSTANDING, INTENT, OR INTERPRETATION NOT CONSIDER WITH DRAWINGS OF THE ROAD AS APPLIED TO SURFACE RESTORATION.

ALL GRASS AREAS SHALL BE RESTORED WITH A MINIMUM 6 INCH LAYER OF DELIVERED SCREENED RICK DARK PULVERIZED TOP SOIL. TOP SOIL SHALL NOT BE PULVERIZED ON THE JOB SITE PRIOR TO THE APPLICATION OF THE TOP SOIL ALL EXCAVATIONS SHALL BE PROPERLY BACKFILLED AND COMPACTED SO AS MINIMIZE FUTURE SETTLEMENT. TOP SOIL SHALL BE FREE FROM ROOTS STICKS, WEEDS, BRUSH, STONES, OR OTHER LITTER, WASTE PRODUCTS OR VISIBLE ORGANIC MATERIALS SUCH AS WOOD. IT SHALL BE A LOAMY MIXTURE HAVING AT LEAST 90 PERCENT PASSING THE NO 10 SIEVE.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SODDING AND SEEDING WORK ON CITY PROPERTY OVERHEAD OR UNDERGROUND CONSTRUCTION	DATE: 05-01-06 Page 1 of 3
ELECTRIC STANDARDS	(CONSTRUCTION SPECIFICATION)	56270-200

IV. SODDING (CONTINUED)

H. A SAMPLE, FREE FROM EXTRANEOUS MATERIALS, SHALL COMPLY WITH FOLLOWING REQUIREMENTS.

IT SHALL CONTAIN NOT LESS THEN 1 PERCENT NOR MORE THAN 10 PERCENT ORGANIC MATTER AS DETERMINED BY THE TEST FOR ORGANIC MATTER IN ACCORDANCE WITH AASHTO T 194.

IT SHALL CONTAIN NOT LESS THAN 12 PERCENT NOT MORE THAN 50 PERCENT CLAY AS DETERMINED IN ACCORDANCE WITH AASHTO 88.

THE SAND CONTENT SHALL NOT EXCEED 55 PERCENT AS DETERMINED IN ACCORDANCE WITH AASHTO T 88.

I. THE PH OF THE SAMPLE SHALL NOT BE LOWER THAN 5.0 OR HIGHER THAN 8.0. THE PH SHALL BE DETERMINED WITH AN ACCEPTABLE PH METER, IN THAT PORTION OF THE SAMPLE PASSING THE NO. 10 SIEVE, IN ACCORDANCE WITH THE SUGGESTED METHODS OF TEST FOR HYDROGEN ION CONCENTRATION (PH) OF SOILS INCLUDED IN THE PROCEDURES FOR TESTING SOILS ISSUED DECEMBER 1964 BY THE AMERICAN SOCIETY FOR TESTING AND MATERIALS.

J. FERTILIZER SHALL BE A COMPLETE FERTILIZER, PART OF THE ELEMENTS OF WHICH IS DERIVED FROM ORGANIC SOURCES. IT SHALL CONTAIN A MINIMUM OF 5 PERCENT NITROGEN, 10 PERCENT PHOSPHORUS AND 5 PERCENT POTASH BY WEIGHT.

K. SOD SHALL BE GOOD QUALITY KENTUCKY BLUE GRASS (POA PRATENSIS). SODDING SHALL BE DONE IN ACCORDANCE SECTION 252 (SODDING) OF THE LATEST REVISION OF THE STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, ILLINOIS DEPARTMENT OF TRANSPORTATION. THE SOD SHALL BE SALT TOLERANT. THE SOD SHALL BE STAKED TO MAINTAIN POSITION ON THE GROUND DUE TO A SLOPE OR A POSSIBLE TURNOFF.

L. THE SOD SHALL BE STAKED ON ALL SLOPES OF 1:4 (V:H) OR STEEPER. SOD SHALL BE STAKED WITH NOT LESS THAN 4 STAKED WITH NOT LESS THAN 4 STAKES PER SQUARE YARD, WITH A MINIMUM OF ONE STAKE FOR EACH PIECE OF SOD, STAKES SHALL BE INSTALLED SO THEY HOLD THE SOD FIRMLY AND PRESENT NO DANGER TO PEDESTRIAN OR MOVING CREWS.

M. WITHIN 2 HOURS AFTER THE SOD HAS BEEN PLACED, 5 GALLONS OF WATER PER SQUARE YARD SHALL BE APPLIED. ANOTHER WATERING WITHIN 3 DAYS OF THE PLACEMENT SHALL BE APPLIED (5 GAL/S.Y.). THEN ONE MORE WATERING WITHIN 5 DAYS OF THE LAST AT THE SAME 5 GAL/S.Y. RATE. HOWEVER, IN THE ABSENCE OF 1 INCH OF RAIN PER WEEK, SODDED AREAS SHALL BE WATERED A MINIMUM OF 3 TIMES A WEEK WITH 5 GALLONS OF WATER PER SQUARE YARD APPLIED FOR NOT LESS THAN 6 WEEKS USING CONTRACTORS SUPPLIED WATER AND AS CALLED FOR IN ACCORDANCE WITH SECTION 250 AND SECTION 252 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE LATEST REVISION, ILLINOIS OF TRANSPORTATION. ALL WATERING SHALL START THE DAY THE SOD IS FIRST PUT DOWN. ALL WATER USED SHALL BE CONTRACTOR SUPPLIED WATER. A FAILURE TO WATER THE SOD MAY RESULT IN THE CITY OF NAPERVILLE REJECTING ALL RESTORATION WORK PERFORMED. CITY OF NAPERVILLE SHALL REQUIRE ALL SOD IN AN AREA REMOVED, RE-PREP THE AREA, AND INSTALL NEW SOD.

N. THE CONTRACTOR AT HIS EXPENSE SHALL DISPOSE OF SURPLUS MATERIALS AND WASTE ITEMS.

O. SODDING SHALL BE MEASURED BY THE SQUARE YARD. ALL TURFED AREAS RESTORED WITH SOD WITHIN THE LIMITS OF RESTORATION WILL BE ELIGIBLE FOR PAYMENT. AREAS BEYOND THE PUBLIC RIGHT-OF-WAY OR THE EASEMENT AREAS SHOWN THAT ARE DISTURBED BY THE CONTRACTOR'S ACTIVITIES SHALL BE RESTORED TO EQUAL OR BETTER CONDITION BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. IN NO CASE SHALL THE PAY LIMITS FOR RESTORATION EXTEND BEYOND 20 FEET TOTAL WIDTH/RADIUS FROM THE CENTER OF THE PROPOSED UTILITY BEING CONSTRUCTED OR A 20 FEET WIDTH FOR A TRENCH LENGTH.

P. CONTRACTOR IS ADVISED SODDING INSTALLATION, REMOVAL AND REPLACEMENT IS INCLUDED IN THE APPROPRIATE UNIT PRICING FOR FOUNDATIONS, POLE ERECTION, CONDUIT WORK, MANHOLE WORK AND VAULT WORK OR AS SPECIFIED.

Q. ALL VANDALISM, RUTS, OR DAMAGE OF ANY KIND SHALL BE CAUSE FOR REPLACEMENT AT CONTRACTOR'S COST.

R. PAYMENT FOR SODDING SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER SQUARE YARD FOR SALT TOLERANT SODDING. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS TO COMPLETE THE ITEM AS SHOWN ON THE PLANS AND AS SPECIFIED. FERTILIZING AND INITIAL WATERING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICE FOR SODDING.

S. THE SODDING AND RESTORATION WORK SHALL CARRY A 1 YEAR 6 MONTHS GUARANTEE FROM THE DATE OF FINAL PAYMENT AND IS INCLUDE IN THE PRICING FOR THIS ITEM.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SODDING AND SEEDING WORK ON CITY PROPERTY OVERHEAD OR UNDERGROUND CONSTRUCTION	DATE: 05-01-06 Page 2 of 3
ELECTRIC STANDARDS	(CONSTRUCTION SPECIFICATION)	56270-200

V. SEEDING

A. THE WORK SHALL INCLUDE THE SEEDING AND FERTILIZING OF ALL DISTURBED AREAS ALONG THE PROPOSED IMPROVEMENTS AS DIRECTED BY THE ENGINEER.

B. SEEDING AND FERTILIZING MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 250 OF THE STANDARD SPECIFICATIONS. SEED SHALL BE CLASS 1A, SALT TOLERANT LAWN MIXTURE.

C. CONTRACTOR SHALL REMOVE ALL UNSUITABLE MATERIALS, DEBRIS AND RUBBISH RESULTING FROM CONSTRUCTION OPERATIONS, AND AN STONES OR BOULDERS LARGER THAN 1 INCH SHALL BE REMOVED FROM THE SITE.

D. THE GROUND SHALL BE PREPARED PRIOR, BUT NOT IN EXCESS OF 24 HOURS BEFORE THE SEED IS PLACED. THE SOIL SHALL BE WORKED UNTIL IT IS RELATIVELY FREE FROM DEBRIS, WASHES, GULLIES, CLODS AND STONES. THE SURFACE SHALL BE WORKED TO A DEPTH OF NOT LESS THAN 3 INCHES, WITH A DISK, TILLER, OR THEIR EQUIPMENT APPROVED BY THE ENGINEER. PREPARED SURFACES THAT BECOME CRUSTED SHALL BE REWORKED TO AN ACCEPTABLE CONDITION FOR SEEDING AND A MINIMUM 6 INCHES OF PULVERIZED TOP SOIL SHALL BE PLACED OVER ALL DISTRIBUTED AREAS. ALL SOIL SURFACES SHALL BE MOIST WHEN THE SEED IS APPLIED. AREAS SHOWN TO BE AGRICULTURE IN NATURE SHALL BE RESTORED WITH AN EQUAL DEPTH OF TOP SOIL. SEEDED AREAS SHALL BE COVERED IMMEDIATELY AN EXCELSIOR BLANKET IS INCLUDED IN THIS WORK.

E. FERTILIZER SHALL BE APPLIED AT THE FOLLOWING RATES:

NITROGEN FERTILIZER NUTRIENTS	90 LBS/ACRE.
PHOSPHORUS FERTILIZER NUTRIENTS	54 LBS/ACRE.
POTASSIUM FERTILIZER NUTRIENTS	36 LBS/ACRE.

F. HYDRO SEEDED WITH APPROVED GRASS SEED AT A RATE OF 175 POUNDS PER ACRE AND MULCHED AS DIRECTED BY THE CITY OF NAPERVILLE. THE CONTRACTOR SHALL FURNISH APPROVED TOP SOIL TO INSURE A 6 INCH COVERAGE OVER THE AREA TO SEEDED AND WATERED. THE SEED IS TO BE MIXED IN THE FOLLOWING PROPERTIES.

40 LBS. KENTUCKY BLUE GRASS PLUS FERTILIZER PER IDOT REQUIREMENTS.
40 LBS. ALTA FESCUE GRASS.
20 LBS. PERENNIAL RYE GRASS.

G. AREAS BEYOND THE PUBLIC RIGHT-OF-WAY OR THE EASEMENT AREAS SHOWN THAT ARE DISTURBED BY THE CONTRACTOR'S ACTIVITIES SHALL BE RESTORED TO EQUAL OR BETTER CONDITION BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. IN NO CASE SHALL THE PAY LIMITS FOR RESTORATION EXTEND BEYOND 20 FEET TOTAL WIDTH/RADIUS FROM THE CENTER OF THE PROPOSED UTILITY BEING CONSTRUCTED OR A 20 FEET WIDTH FOR A TRENCH LENGTH.

H. ALL SEEDED AREAS SHALL BE MOWED 4 TIMES TO A HEIGHT OF 3 INCHES. THE CUT MATERIAL SHALL NOT BE WIND ROWED OR LEFT IN A LUMPY CONDITION BY EVENLY DISTRIBUTED. AREAS BEYOND THE WORK AREA LIMITS SHOWN ON THE PLAN SHALL BE RESTORED TO BETTER OR EQUAL CONDITIONS AT THE CONTRACTOR'S EXPENSE.

I. WITHIN 2 HOURS AFTER THE SEED HAS BEEN PLACED, 3 GALLONS OF WATER PER SQUARE YARD SHALL BE APPLIED. ANOTHER WATERING WITHIN 3 DAYS OF THE PLACEMENT SHALL BE APPLIED (3 GAL/S.Y.), THEN ONE MORE WATERING WITHIN 5 DAYS OF THE LAST AT THE SAME 3 GAL/S.Y. RATE. HOWEVER, IN THE ABSENCE OF 1 INCH OF RAIN PER WEEK, SEEDED AREAS SHALL BE WATERED A MINIMUM OF 3 TIMES A WEEK, WITH 3 GALLONS OF WATER PER SQUARE YARD APPLIED FOR NOT LESS THAN 6 WEEKS USING CONTRACTORS SUPPLIED WATER AND AS CALLED FOR IN ACCORDANCE WITH SECTION 250 AND SECTION 252 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE LATEST REVISION, ILLINOIS DEPARTMENT OF TRANSPORTATION. ALL WATERING SHALL START THE DAY THE SEED IS FIRST PUT DOWN. ALL WATER USED SHALL BE CONTRACTOR SUPPLIED WATER. A FAILURE TO WATER THE SEED MAY RESULT IN THE CITY OF NAPERVILLE REJECTING ALL RESTORATION WORK PERFORMED. CITY OF NAPERVILLE SHALL REQUIRE ALL SEEDED AREAS REMOVED, RE-PREP THE AREA, AND INSTALL NEW SEED.

J. THIS WORK INCLUDES ALL SEED, FERTILIZER, WATERING, OTHER MATERIALS, LABOR EQUIPMENT AND INCIDENTALS TO COMPLETE THE JOB OR AS DIRECTED BY THE ENGINEER ON A UNIT OF PER ACRE.

K. THE SEEDING AND RESTORATION WORK SHALL CARRY A 1 YEAR 6 MONTHS GUARANTEE FROM THE DATE OF FINAL PAYMENT (RECEIPT OF AS BUILTS') AND IS INCLUDED IN PRICING FOR THIS ITEM.

L. CONTRACTOR IS ADVISED SEEDING INSTALLATION, REMOVAL AND REPLACEMENT IS INCLUDED IN THE APPROPRIATE UNIT PRICING FOR FOUNDATIONS, POLE ERECTION, CONDUIT WORK, MANHOLE WORK AND VAULT WORK OR AS SPECIFIED.

M. ALL VANDALISM, RUTS, OR DAMAGE OF ANY KIND SHALL BE CAUSE FOR REPLACEMENT AT CONTRACTOR'S COST.

N. PAYMENT FOR SEEDING SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER ACRE FOR SEEDING. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS TO COMPLETE THE ITEM AS SHOWN ON THE PLANS AND AS SPECIFIED. FERTILIZING AND INITIAL WATERING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICE FOR SEEDING.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SODDING AND SEEDING WORK ON CITY PROPERTY OVERHEAD OR UNDERGROUND CONSTRUCTION	DATE: 05-01-06 Page 3 of 3
ELECTRIC STANDARDS	(CONSTRUCTION SPECIFICATION)	56270-200

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

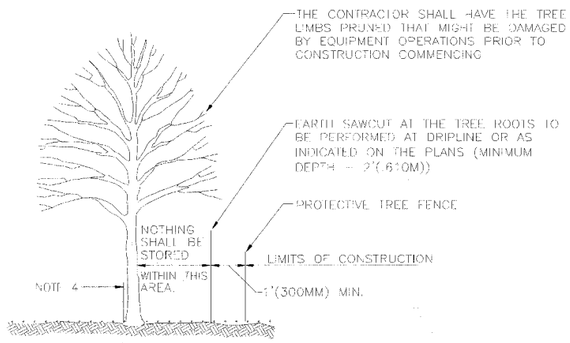
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS
MAP NO.: –
CAD FILE: 0056270001D46.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS
DRAWN BY: JK, PM
PROJECT NO.: EU12-08-03 FU73
DATE: 4-01 08
ISSUED:
ENGINEER: RPS
REVISION:
WORK REQUEST NO.: 56270
CHKD:
APPR:
SBC:
COMPLETED BY:
SCALE: NTS
SHEET 46 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	288
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

TREE PROTECTION DETAIL

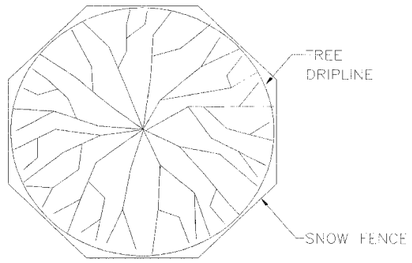


NOTE:

1. IF A UTILITY MUST BE WITHIN 15 FEET OF A TREE TRUNK, IT IS RECOMMENDED THAT IT BE AUGERED.
2. ALL TREES PROTECTED SHALL BE DEEP ROOT FERTILIZED.
3. ALL TREES SHALL BE WATERED.
4. PROTECT TREES WITH PLANKS FOR 10' ABOVE GROUND AND COMPLETELY AROUND TREE.
5. ALL MATERIALS SUPPLIED BY CONTRACTOR.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	TREE PROTECTION DETAIL	DATE: 05-01-05 Page 1 of 1 56270-300

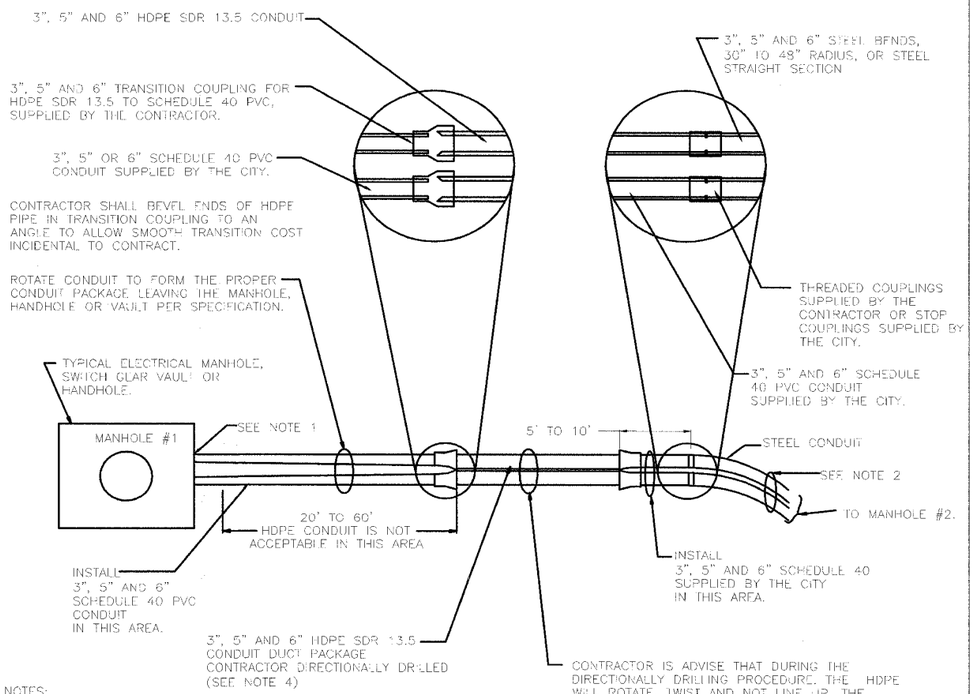
RECOMMENDED PRACTICES FOR TREES TO BE SAVED



1. SNOW FENCE SHALL EXTEND TO THE DRIPLINE OF THE TREE. THE SNOW FENCE SHALL BE HIGH ENOUGH SO AS TO BE VISIBLE TO ALL CONSTRUCTION PERSONNEL.
2. GRADE CHANGES, UTILITY TRENCHES, STORAGE OF CONSTRUCTION MATERIAL, DUMPING OF WASTE OR STORAGE OF CONSTRUCTION EQUIPMENT SHALL NOT BE ALLOWED WITHIN SNOW FENCING.
3. IF A UTILITY MUST BE WITHIN 15'(4.57M) OF A TREE TRUNK, IT IS RECOMMENDED THAT IT BE AUGERED.
4. ALL TREES TO BE SAVED WHICH HAVE BEEN SUBJECTED TO CONSTRUCTION ACTIVITY WITHIN THE DRIPLINE SHOULD BE SELECTIVELY THINNED 10% BY AN ARBORIST SKILLED AT THE SELECTIVE THINNING PROCEDURE. NONE OF THE TREES SHALL BE TOPPED, HEADED BACK, SKINNED (REMOVAL OF THE INTERIOR BRANCHES), OR CLIMBED WITH SPIKES. ALL DEAD WOOD SHOULD BE REMOVED TO AVOID HAZARD.
5. IT IS RECOMMENDED THAT FOLLOWING CONSTRUCTION, TREES BE MAINTAINED IN THEIR NATIVE CONDITION. NO LAWN SHOULD BE PLACED AROUND THE TREES. IT IS RECOMMENDED THAT THE AREA BE MULCHED WITH 2"(50MM) OF DECOMPOSED LEAVES AND 2"(50MM) OF WOOD CHIPS OR BARK.
6. ALL TREES PROTECTED SHALL BE DEEP ROOT FERTILIZED.
7. ALL TREES SHALL BE WATERED.
8. ALL MATERIALS SUPPLIED BY CONTRACOR.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	RECOMMENDED PRACTICES FOR TREES TO BE SAVED	DATE: 05-01-05 Page 1 of 1 56270-310

TYPICAL CONDUIT CONNECTIONS ENTERING MANHOLE, HANDHOLE AND VAULTS WHEN HDPE CONDUIT IS USED



NOTES:

1. SEE SPECIFICATION FOR PROPER DUCT ALIGNMENT INTO MANHOLE
2. SEE SPECIFICATION FOR PROPER DUCT ALIGNMENT ON THE OTHER END OF DUCT RUN. THE NUMBERED DUCTS SHOULD BE IN THE SAME LOCATION ON BOTH ENDS (SEE SAMPLE AT LOWER RIGHT).
3. COST TO PROPERLY INSTALL CONDUIT FROM ONE ELECTRICAL FACILITY TO ANOTHER IS INCIDENTAL TO THE COST OF THE WORK.
4. DUCT PACKAGE CAN BE ANY NUMBER OF DUCTS, FROM 2 DUCTS TO 18 DUCTS.
5. COST OF ALIGNING DUCTS ARE INCIDENTAL TO THE CONTRACT.

SAMPLE OF HOW DUCTS ARE TO LINE UP

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	TYPICAL CONDUIT CONNECTIONS	DATE: 01-02-08 56270-320

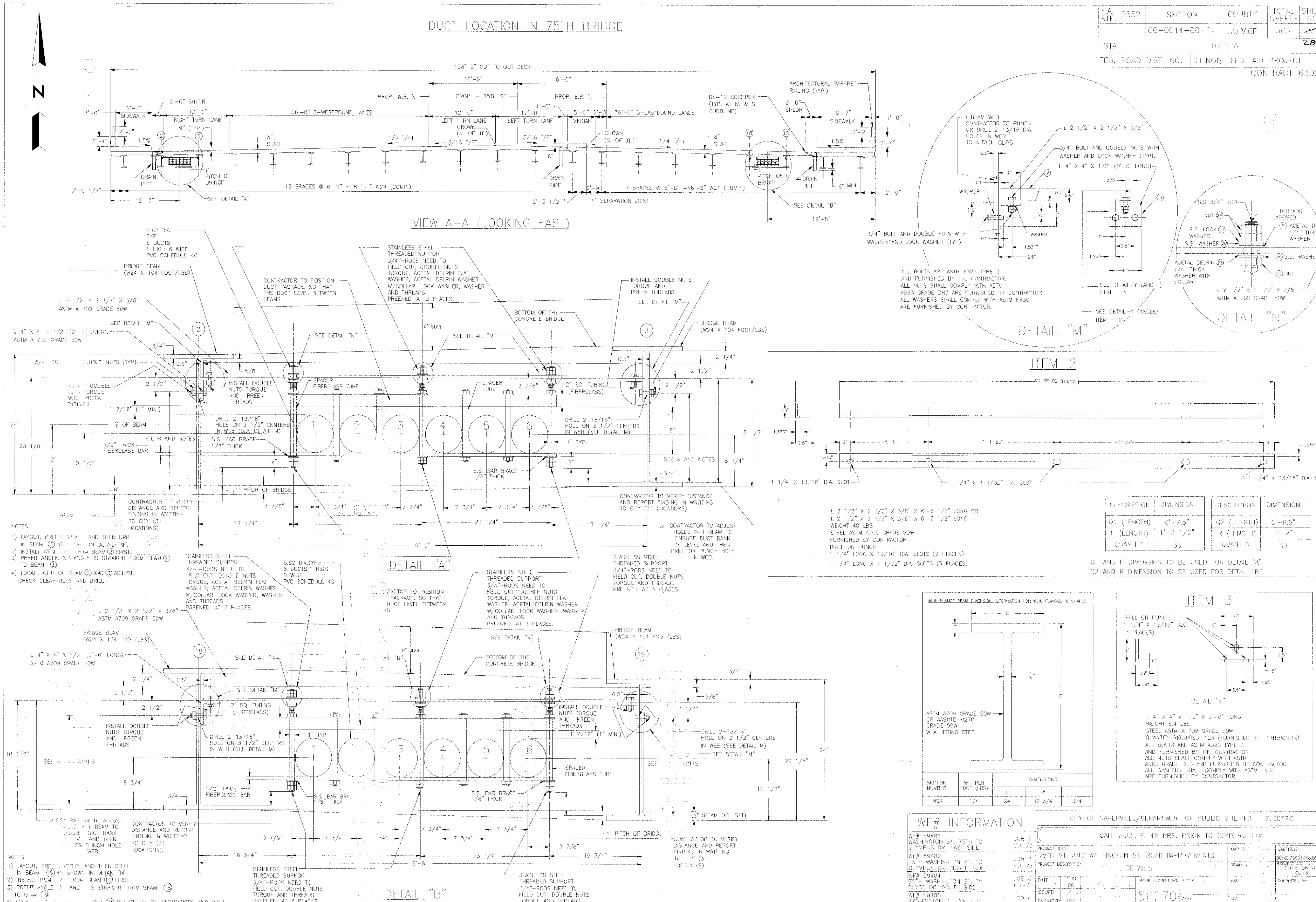
WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS
PROJECT DESCRIPTION: TRENCH SECTION DETAILS
MAP NO.: –
CAD FILE: 2056270001D47.DWG
DRAWN BY: JK, PM
PROJECT NO.: EU12-08-03 EU73
DATE: 4-01-08
ISSUED
ENGINEER: RPS
REVISION: 1 2 3
WORK REQUEST NO.: 56270
CHKD:
APPR:
SBC:
COMPLETED BY:
SCALE: NTS
SHEET 47 OF 73

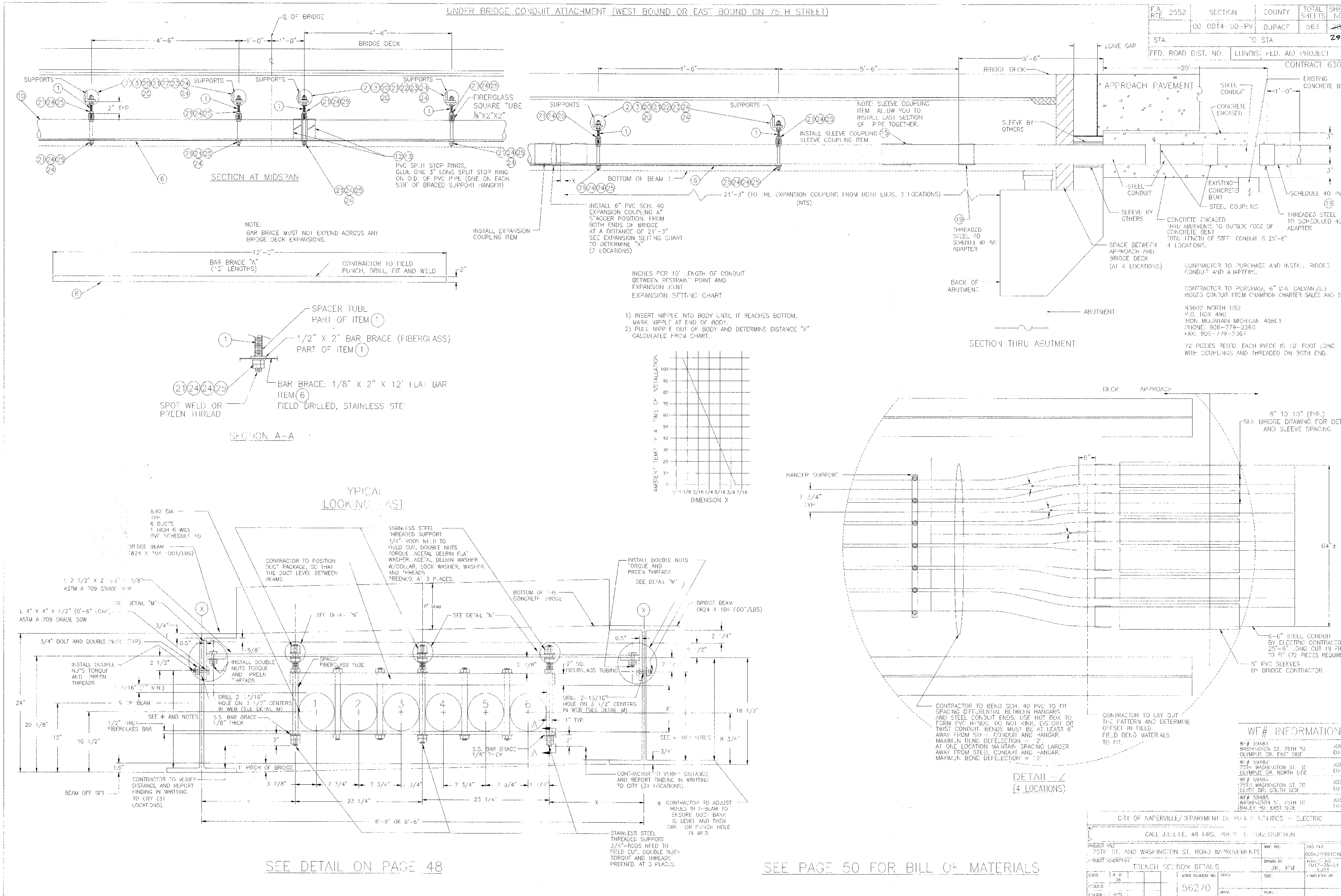


F.A. RTE. 2552
SECTION
COUNTY
TOTAL SHEETS
SHEET NO.
00-0014-CC-TV
DUPAGE
363
289
STA.
TO STA.
FED. ROAD DIST. NO.
ILLINOIS FED. AID PROJECT
CONTRACT 63024
DUCT LOCATION IN 75TH BRIDGE
138' 2" OUT TO OUT DECK
16'-0"
6'-0"
PROP. W.B.
PROP. ~ 75TH ST.
PROP. E.B.
36'-0" 3-WESTBOUND LANES
LEFT TURN LANE
MEDIAN
26'-0" 3-EASTBOUND LANES
RIGHT TURN LANE
SIDEWALK
ARCHITECTURAL PARAPET RAILING (TYP.)
DS-12 SCUPPER
DRAIN PIPE
12 SPACES @ 6'-9" = 81'-0" W24 (COMP.)
7 SPACES @ 6'-8" =46'-8" W24 (COMP.)
SEE DETAIL "A"
SEE DETAIL "B"
1" SEPARATION JOINT
VIEW A-A (LOOKING EAST)
STAINLESS STEEL THREADED SUPPORT
3/4"-RODS NEED TO FIELD CUT, DOUBLE NUTS TORQUE, ACETAL DELRIN FLAT WASHER, ACETAL DELRIN WASHER W/COLLAR, LOCK WASHER, WASHER AND THREADS PREENED, AT 3 PLACES.
CONTRACTOR TO POSITION DUCT PACKAGE, SO THAT THE DUCT LEVEL BETWEEN BEAMS.
BRIDGE BEAM (W24 X 104 FOOT/LBS)
BOTTOM OF THE CONCRETE BRIDGE
SEE DETAIL "M"
SEE DETAIL "N"
INSTALL DOUBLE NUTS TORQUE AND PREEN THREADS
SPACER FIBERGLASS TUBE
2" SQ. TUBING (FIBERGLASS)
S.S. BAR BRACE 1/8" THICK
1/2" THICK FIBERGLASS BAR
CONTRACTOR TO VERIFY DISTANCE AND REPORT FINDING IN WRITING TO CITY (31 LOCATIONS).
NOTES:
1) LAYOUT, PREFIT, VERIFY AND THEN DRILL IN BEAM (2) AS SHOWN IN DETAIL "M".
2) INSTALL ITEM 2 FROM BEAM (2) FIRST.
3) PREFIT ANGLE, SO ANGLE IS STRAIGHT FROM BEAM (2) TO BEAM (3).
4) LOCATE CLIP ON BEAM (2) AND (3) ADJUST, CHECK CLEARANCES AND DRILL.
DETAIL "A"
DETAIL "B"
DETAIL "M"
DETAIL "N"
ALL BOLTS ARE ASTM A325 TYPE 3 AND FURNISHED BY THE CONTRACTOR. ALL NUTS SHALL COMPLY WITH ASTM A563 GRADE DH3 ARE FURNISHED BY CONTRACTOR. ALL WASHERS SHALL COMPLY WITH ASTM F436 ARE FURNISHED BY CONTRACTOR.
ITEM-2
L 2 1/2" X 2 1/2" X 3/8" X 6'-6 1/2" LONG OR L 2 1/2" X 2 1/2" X 3/8" X 6'-7 1/2" LONG
WEIGHT 40 LBS
STEEL ASTM A709 GRADE 50W FURNISHED BY CONTRACTOR
DRILL OR PUNCH
1 1/4" LONG X 13/16" DIA. SLOTS (2 PLACES)
1 1/4" LONG X 1 1/32" DIA. SLOTS (3 PLACES)
Q1 AND P DIMENSION TO BE USED FOR DETAIL "A"
Q2 AND R DIMENSION TO BE USED FOR DETAIL "B"
ITEM-3
DETAIL "Y"
L 4" X 4" X 1/2" X 0'-6" LONG
WEIGHT 6.4 LBS
STEEL ASTM A 709 GRADE 50W
ASTM A709 GRADE 50W OR AASHTO M270 GRADE 50W WEATHERING STEEL
WF# INFORMATION
CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION
75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS
DETAILS
56270

DESCRIPTION	DIMENSION
Q1 (LENGTH)	6'-7.5"
P (LENGTH)	1'-2 1/2"
QUANTITY	33

DESCRIPTION	DIMENSION
Q2 (LENGTH)	6'-6.5"
R (LENGTH)	1'-2"
QUANTITY	33

SECTION NUMBER	WT. PER FOOT (LBS)	D	W	T
W24	104	24	12 3/4	3/4


UNDER BRIDGE CONDUIT ATTACHMENT (WEST BOUND OR EAST BOUND ON 75TH STREET)
F.A. RTE. 2552
SECTION
COUNTY
TOTAL SHEETS
SHEET NO.
00 C0T4-00-PV
DUPAGE
563
290
STA.
TO STA.
FED. ROAD DIST. NO.
ILLINOIS FED. AID PROJECT
CONTRACT 63024
BRIDGE DECK
SUPPORTS
FIBERGLASS SQUARE TUBE 1/8"X2"X2"
2" TYP.
PVC SPLIT STOP RINGS, GLUE ONE 3" LONG SPLIT STOP RING ON O.D. OF PVC PIPE (ONE ON EACH SIDE OF BRACED SUPPORT HANGER)
SECTION AT MIDSPAN
NOTE: BAR BRACE MUST NOT EXTEND ACROSS ANY BRIDGE DECK EXPANSIONS.
BAR BRACE "A" (12' LENGTHS)
CONTRACTOR TO FIELD PUNCH, DRILL, FIT AND WELD
SPACER TUBE PART OF ITEM 1
1/2" X 2" BAR BRACE (FIBERGLASS) PART OF ITEM 1
BAR BRACE: 1/8" X 2" X 12" FLAT BAR ITEM 6 FIELD DRILLED, STAINLESS STEEL
SPOT WELD OR PREEN THREAD
SECTION A-A
NOTE: SLEEVE COUPLING ITEM ALLOW YOU TO INSTALL LAST SECTION OF PIPE TOGETHER.
INSTALL SLEEVE COUPLING 15 SLEEVE COUPLING ITEM
BOTTOM OF BEAM
21'-3" (TO THE EXPANSION COUPLING FROM BOTH ENDS, 2 LOCATIONS) (NTS)
INSTALL 6" PVC SCH. 40 EXPANSION COUPLING AT STAGGER POSITION FROM BOTH ENDS OF BRIDGE AT A DISTANCE OF 21'-3" SEE EXPANSION SETTING CHART TO DETERMINE "X" (2 LOCATIONS)
INSTALL EXPANSION COUPLING ITEM
INCHES PER 10' LENGTH OF CONDUIT BETWEEN RESTRAINT POINT AND EXPANSION JOINT
EXPANSION SETTING CHART
1) INSERT NIPPLE INTO BODY UNTIL IT REACHES BOTTOM, MARK NIPPLE AT END OF BODY.
2) PULL NIPPLE OUT OF BODY AND DETERMINE DISTANCE "X" CALCULATED FROM CHART.
AMBIENT TEMP. AT TIME OF INSTALLATION
DIMENSION X
LEAVE GAP
APPROACH PAVEMENT
STEEL CONDUIT
CONCRETE ENCASED
EXISTING CONCRETE BENT
SLEEVE BY OTHERS
THREADED STEEL TO SCHEDULE 40 PVC ADAPTER
SCHEDULE 40 PVC
EXISTING CONCRETE BENT
STEEL COUPLING
CONCRETE ENCASED THRU ABUTMENTS TO OUTSIDE FACE OF CONCRETE BENT TOTAL LENGTH OF STEEL CONDUIT IS 25'-6" 4 LOCATIONS.
SPACE BETWEEN APPROACH AND BRIDGE DECK (AT 4 LOCATIONS)
BACK OF ABUTMENT
ABUTMENT
SECTION THRU ABUTMENT
CONTRACTOR TO PURCHASE AND INSTALL RIDGED CONDUIT AND ADAPTERS.
CONTRACTOR TO PURCHASE 6" DIA. GALVANIZED RIDGED CONDUIT FROM CHAMPION CHARTER SALES AND SVC
N3602 NORTH US2
P.O. BOX 490
IRON MOUNTAIN MICHIGAN 49801
PHONE: 906-779-2360
FAX: 906-779-2367
72 PIECES REQ'D. EACH PIECE IS 10' FOOT LONG WITH COUPLINGS AND THREADED ON BOTH END.
DECK
APPROACH
8" TO 10" (TYP.)
SEE BRIDGE DRAWING FOR DETAIL AND SLEEVE SPACING
HANGER SUPPORT
7 3/4" TYP.
64"±
6" STEEL CONDUIT BY ELECTRIC CONTRACTOR 25'-6" LONG CUT IN FIELD TO FIT (72 PIECES REQUIRED)
8" PVC SLEEVES BY BRIDGE CONTRACTOR
CONTRACTOR TO BEND SCH. 40 PVC TO FIT SPACING DIFFERENTIAL BETWEEN HANGARS AND STEEL CONDUIT ENDS. USE HOT BOX TO FORM PVC BENDS. DO NOT KINK, DISTORT OR TWIST CONDUIT. BENDS MUST BE AT LEAST 6" AWAY FROM STEEL CONDUIT AND HANGAR. MAXIMUM BEND DEFLECTION = 12". AT ONE LOCATION MAINTAIN SPACING LARGER AWAY FROM STEEL CONDUIT AND HANGAR. MAXIMUM BEND DEFLECTION = 12".
CONTRACTOR TO LAY OUT THE PATTERN AND DETERMINE OFFSET IN FIELD. FIELD BEND MATERIALS TO FIT.
DETAIL Z (4 LOCATIONS)
TYPICAL LOOKING EAST
6.62 DIA. TYP. 6 DUCTS 1 HIGH 6 WIDE PVC SCHEDULE 40
BRIDGE BEAM (W24 X 104 FOOT/LBS)
STAINLESS STEEL THREADED SUPPORT 3/4" RODS NEED TO FIELD CUT, DOUBLE NUTS TORQUE. ACETAL DELRIN FLAT WASHER, ACETAL DELRIN WASHER W/COLLAR, LOCK WASHER, WASHER AND THREADS PREENED AT 3 PLACES.
CONTRACTOR TO POSITION DUCT PACKAGE, SO THAT THE DUCT LEVEL BETWEEN BEAMS.
INSTALL DOUBLE NUTS TORQUE AND PREEN THREADS
SEE DETAIL "M"
BOTTOM OF THE CONCRETE BRIDGE
ASTM A 709 GRADE 50W
SEE DETAIL "N"
SPACER FIBERGLASS TUBE
2" SQ. FIBERGLASS TUBING
DRILL 2-13/16" HOLE ON 3 1/2" CENTERS IN WEB (SEE DETAIL M)
S.S. BAR BRACE 1/8" THICK
1/2" THICK FIBERGLASS BAR
BEAM OFF SET
CONTRACTOR TO VERIFY DISTANCE AND REPORT FINDING IN WRITING TO CITY (31 LOCATIONS).
1" PITCH OF BRIDGE
* CONTRACTOR TO ADJUST HOLES IN I-BEAM TO ENSURE DUCT BANK IS LEVEL AND THEN DRILL OR PUNCH HOLE IN WEB.
6'-8" OR 6'-6"
SEE DETAIL ON PAGE 48
SEE PAGE 50 FOR BILL OF MATERIALS
WF# INFORMATION
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE JOB 4 EU-73
CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION
75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS
TRENCH SECTION DETAILS
JK, PM
56270
NTS
SHEET 49 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEET SHEETS	NO.
	00-0014-00-PV	DUPAGE	563	~~269~~
STA.	TO STA.			291
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
			CONTRACT 65024	

THE CONTRACTOR SHALL FURNISH UNLOAD DELIVER AND INSTALL THE FOLLOWING MATERIALS PER CITY OF NAPERVILLE'S SPECIFICATION FOR W.F. #56270 AT THE 75TH STREET BRIDGE.
MATERIAL LIST FOR BRIDGE WORK.
CONDUX INTERNATIONAL, INC.
P.O. BOX. 247
145 KINGSWOOD RD.
MANKATO, MN 56002-0247
ATTN: BRIAN GAYNES (1-800-533-2077)

INSTALLATION GUIDE:

1. BEGIN AT ONE ABUTMENT BY INSTALLING A ADAPTER COUPLING ONTO THE CONDUIT THAT IS PROTRUDING FROM THE ABUTMENT. THIS CONDUIT IS THREADED STEEL.

2. LAYOUT CONNECTIONS AT WEB-NEAR SPLICE PLATES AND DIAPHRAGM FIRST. CONTRACTOR TO ADJUST LOCATION OF COUPLINGS, CONNECTIONS, EXPANSION JOINTS TO MISS DIAPHRAGM LOCATIONS AND ARE TO BE LOCATED A MINIMUM OF ONE FOOT ON EITHER SIDE OF A DIAPHRAGM. CONTRACTOR TO TRAIN EACH CONDUIT THROUGH EACH DIAPHRAGM AND ENSURE CONDUIT IS FREE TO MOVE LONGITUDINALLY. THEN CONTINUE TO FINISH LAY OUT FROM ABUTMENT WALL TO ABUTMENT WALL. ATTACH ALL CLIPS TO WEB ON BOTH BEAMS ADJUST AS REQUIRED AND CHECK CLEARANCES INSTALL ITEM-2.

3. INSTALL AS MANY SUPPORTS AS REQUIRED TO REACH THE FIRST CONDUIT JOINT. THE CONTRACTOR SHALL INSTALL HANGER SYSTEM TO **ALLOW THE CONDUIT TO MOVE** AND TO BE SURE THE SPACER TUBE IS CUT TO ALLOW THE RODS TO BE TORQUED WITHOUT RESTRICTING CONDUIT MOVEMENT. INSTALL NYLON WASHER BETWEEN STAINLESS STEEL NUTS AND WEATHERING STEEL ANGLE TO PROVIDE AN INSULATOR BETWEEN MATERIALS.

4. NEXT INSTALL THE FIRST PIECE OF CONDUIT AND MAKE THE CONNECTION AT THE ABUTMENT ACCORDING TO STANDARD PRACTICES FOR TYPE OF CONDUIT BEING USED. CONTINUE THE PROCESS OF INSTALLING SEGMENTS OF SUPPORTS AND CONDUIT, WORKING FROM ONE ABUTMENT TO THE OTHER. NO JOINT SHOULD BE WITHIN 12 INCHES OF A HANGER.

5. EXPANSION JOINTS ARE INSTALLED AT (2) TWO LOCATIONS IN THE CONDUIT SYSTEM DURING THIS ONGOING ASSEMBLY PROCESS. THE EXPANSION JOINTS MUST BE PLACED AS THE REQUIRED LOCATIONS BY ATTACHING THE EXPANSION SLEEVE TO THE CONDUIT THAT IS IN PLACE. IF THE EXPANSION SLEEVE IS OF THE TYPE THAT WILL ACCEPT THE SPIGOT END OF THE NEXT CONDUIT PIECE, THEN THE NEXT CONDUIT PIECE SHOULD BE INSERTED TO THE HALFWAY POINT OF THE SLEEVE ALLOWING FOR EQUAL MOVEMENT IN EITHER DIRECTION. IF THE EXPANSION SLEEVE IS OF THE TYPE THAT REQUIRES AN EXPANSION NIPPLE, THE THE NIPPLE SHOULD BE ADJUSTED TO THE HALFWAY POINT OF THE SLEEVE AND SUBSEQUENTLY ASSEMBLED TO THE END OF THE NEXT CONDUIT SECTION.

A. CARE MUST BE TAKEN THAT THE EXPANSION JOINTS REMAIN AT MID-TRAVEL DURING THE REMAINDER OF THE INSTALLATION PROCESS. THE JOINT MAY BE WRAPPED WITH TAPE FOR ASSURANCE.

B. NO EXPANSION JOINT SHOULD BE CLOSER THAN 12 INCHES TO ANY SUPPORT. THE IDEAL LOCATION IS 1/4 THE DISTANCE TO THE NEXT SUPPORT.

6. SPLIT STOP RINGS ARE INSTALLED ON THE CONDUIT AT ANCHOR POINTS WHICH OCCUR AT THE MIDWAY POINT BETWEEN EXPANSION JOINTS, WHICH IS THE CENTER OF THE BRIDGE WHEN AN ANCHOR POINT LOCATION IS REACHED, TWO STOP RINGS SHOULD BE SLIPPED OVER THE CONDUIT SECTION SO THAT ONE FALLS ON EACH SIDE OF THE ANCHOR POINT SUPPORT. AFTER THE CONDUIT CONNECTION HAS BEEN MADE, AND THE LAST EXPANSION JOINT HAS BEEN CHECKED TO MAKE SURE THAT IT HAS NOT MOVED, THE STOP RINGS CAN BE EPOXIDE TO THE OUTSIDE OF THE CONDUIT AGAINST EACH SIDE OF THE SUPPORT. PLASTIC TIE WRAPS OR TAPE CAN BE USED TO HOLD THE STOP RINGS IN PLACE UNTIL THE EPOXY HAS CURED.

7. THE LAST SECTION OF CONDUIT SHOULD BE CUT TO LENGTH SO THAT IT HAS END TO END WITH THE CONDUIT THAT PROTRUDES FROM THE ABUTMENT. IF THE TWO CONDUITS ARE THE SAME, THE CONNECTION CAN BE MADE WITH A SLEEVE COUPLING OR SLIP COUPLING. SIMPLY SLIDE THE SLEEVE ONTO ONE OF THE CONDUITS, APPLY EPOXY TO EACH END, PLACE THE ENDS TOGETHER AND SLIDE THE SLEEVE OVER THE JOINT. IF AN ADAPTER COUPLING IS REQUIRED, THEN THE LAST CONNECTION IS MADE BY RETRACTING THE LAST EXPANSION JOINT, THEREBY ALLOWING ENOUGH SPACE BETWEEN THE CONDUIT ENDS TO INSTALL THE ADAPTER. AFTER THE CONNECTION HAS BEEN MADE, THE EXPANSION JOINT SHOULD BE BACK AT MID-TRAVEL.*

*THIS PRINCIPLE HOLDS TRUE FOR A TEMPERATURE RANGE OF APPROX. 50°-70° ACCOUNT FOR YOUR JOBSITE AMBIENT TEMPERATURE WHEN INSTALLING EXPANSION JOINTS.

8. CHECK ALL CONNECTIONS, MAKE FINAL ADJUSTMENTS, TORQUE BOLTS, PREEN THREADS, TACK WELD ALL NUTS TO RODS. CHECK LOW STEEL FOR CLEARANCE. THIS IS A FINAL CHECK PRIOR TO APPROVAL BY THE CITY.

9. CONTRACTOR SHALL PROVIDE FALL PROTECTION.

MATERIAL LIST FOR WEST BOUND LANES (WF #56270)

ITEM	BILL OF MATERIALS (UNDER BRIDGE SUPPORT SYSTEM) PURCHASE BY CONTRACTOR	UNIT	QTY.	PRODUCT NO.
1	HANGER, 11"-6W, FIBERGLASS & STAINLESS STEEL, OPENING FOR 6" PVC DUCT THREADED RODS: 3/4-10 X 24" LONG WITH (S.S. MOUNTING HARDWARE) NUTS, BOLTS AND WASHERS	ASSEMBLY	33	16125F3512
2	L 2 1/2" X 2 1/2" X 3/8" X 6'-7 1/2" LONG ASTM A709 GRADE 50W (SEE PAGE 46 FOR DETAIL-Q1)	EACH	DETAIL-A 33	TBA
3	L 4" X 4" 1/2" X 0'-6" LONG ASTM A709 GRADE 50W ANGLE (SEE PAGE 48 FOR DETAIL)	EACH	66	TBA
4	3/4" BOLT X 3" LONG, ASTM A325 TYPE 3	EACH	196	TBA
5	N/A	N/A	N/A	N/A
6	FLAT BAR: 1/8 X 2.0 X 12 FT. STAINLESS STEEL 316 (BAR BRACE A)	EACH	28	00166100
7	HEX NUT: 3/4-10 UNC ASTM A563 GRADE DH3 TYPE 3	EACH	392	--
8	LOCK WASHER: 3/4" ASTM F436	EACH	392	--
9	FLAT WASHER: 3/4" ASTM F436	EACH	784	--
10	CONDUIT, SCH 40/6.00" UL CONDUIT: 6" PVC SCH 40 UL MEETING NEMA TC-2, UL651 ('0' LENGTH)/ PURCHASED FROM CONDUX	FEET	960	05101160
11	CPLG, EXP PVC-6.62 SC40-6IN EXPANSION JOINT: 6" SCH 40 WITH O-RING	EACH	12	06101360
12	CPLG, 6.62 ID PVC-STOP COUPLING STOP: 6" SCH 40 PVC	EACH	12	05210060
13	RING, STOP 6.62 ID-PVC-SCH 40	EACH	12	08501961
14	SOLVENT CEMENT 32 OZ-FAST SET AS REQUIRED	EACH	12	08519103
15	CPLG, 6.62 ID PVC - COUPLING SLEEVE: 6" SCH 40 PVC	EACH	12	05170060
16	ADAPTER: 6" PVC TO 6" THREADED FEMALE	EACH	12	06100160
17	COUPLING 5 DEGREE STOP PVC SCH 40	EACH	24	06101860
18	6" RIGID GALVANIZED CONDUIT - IN TEN FOOT (10') LENGTH (BY CONTRACTOR)	EACH	36	TBA
19	6" PVC ADAPTER THREADED ON ONE END-SOCKET ON OTHER (BY CONTRACTOR)	EACH	72	06100260
20	FLAT WASHER, 3/4" ASTM STAINLESS STEEL 316 (2" DIA.)	EACH	210	02125200
21	LOCK WASHER 3/4" STAINLESS STEEL 316	EACH	186	02125300
22	ACETAL DELRIN, NATURAL WHITE WASHER 1/4" THICK	EACH	105	--
23	ACETAL DELRIN, NATURAL WHITE WASHER WITH COLLAR 1/4" THICK	EACH	105	--
24	HEX NUT 3/4"-10 UNC STAINLESS STEEL 316	EACH	297	02125100
25	WASHER, 3/4" ASTM STAINLESS STEEL 316	EACH	210	02125100

CONDUIT HANGER SUPPORTS BY CONDUX INTERNATIONAL, INC.

CONTRACTOR TO COUNT ALL ITEMS AND ALL MATERIALS PREFIT PRIOR TO INSTALLATION ANY ITEMS MISSING SHALL BE ORDERED BY THE CONTRACTOR WITH SUFFICIENT LEAD TIME TO AVOID DELAYS.

MATERIAL LIST FOR EAST BOUND LANES (WF #56270)

ITEM	BILL OF MATERIALS (UNDER BRIDGE SUPPORT SYSTEM) PURCHASE BY CONTRACTOR	UNIT	QTY.	PRODUCT NO.
1	HANGER, 11"-6W, FIBERGLASS & STAINLESS STEEL, OPENING FOR 6" PVC DUCT THREADED RODS: 3/4-10 X 24" LONG WITH (S.S. MOUNTING HARDWARE) NUTS, BOLTS AND WASHERS	ASSEMBLY	33	16125F3512
2	L 2 1/2" X 2 1/2" X 3/8" X 6'-7 1/2" LONG ASTM A709 GRADE 50W (SEE PAGE 48 FOR DETAIL-Q2)	EACH	DETAIL B 33	TBA
3	L 4" X 4" 1/2" X 0'-6" LONG ASTM A709 GRADE 50W ANGLE (SEE PAGE 48 FOR DETAIL)	EACH	66	TBA
4	3/4" BOLT X 3" LONG, ASTM A325 TYPE 3	EACH	196	TBA
5	N/A	N/A	N/A	N/A
6	FLAT BAR: 1/8 X 2.0 X 12 FT. STAINLESS STEEL 316 (BAR BRACE A)	EACH	28	00166100
7	HEX NUT: 3/4-10 UNC ASTM A563 GRADE DH3 TYPE 3	EACH	392	--
8	LOCK WASHER: 3/4" ASTM F436	EACH	392	--
9	FLAT WASHER: 3/4" ASTM F436	EACH	784	--
10	CONDUIT, SCH 40/6.00" UL CONDUIT: 6" PVC SCH 40 UL MEETING NEMA TC-2, UL651 (10' LENGTH)/ PURCHASED FROM CONDUX	FEET	960	05101160
11	CPLG, EXP PVC-6.62 SC40-6IN EXPANSION JOINT: 6" SCH 40 WITH O-RING	EACH	12	06101360
12	CPLG, 6.62 ID PVC-STOP COUPLING STOP: 6" SCH 40 PVC	EACH	12	05210060
13	RING, STOP 6.62 ID PVC SCH 40	EACH	12	08501961
14	SOLVENT CEMENT 32 OZ-FAST SET AS REQUIRED	EACH	12	08519103
15	CPLG, 6.62 ID PVC - COUPLING SLEEVE: 6" SCH 40 PVC	EACH	12	05170060
16	ADAPTER: 6" PVC TO 6" THREADED FEMALE	EACH	12	06100160
17	COUPLING 5 DEGREE STOP PVC SCH 40	EACH	24	06101860
18	6" RIGID GALVANIZED CONDUIT - IN TEN FOOT (10') LENGTH (BY CONTRACTOR)	EACH	36	TBA
19	6" PVC ADAPTER THREADED ON ONE END-SOCKET ON OTHER (BY CONTRACTOR)	EACH	72	06100260
20	FLAT WASHER, 3/4" ASTM STAINLESS STEEL 316 (2" DIA.)	EACH	210	02125200
21	LOCK WASHER 3/4" STAINLESS STEEL 316	EACH	186	02125300
22	ACETAL DELRIN, NATURAL WHITE WASHER 1/4" THICK	EACH	105	--
23	ACETAL DELRIN, NATURAL WHITE WASHER WITH COLLAR 1/4" THICK	EACH	105	--
24	HEX NUT 3/4"-10 UNC STAINLESS STEEL 316	EACH	297	02125100
25	WASHER, 3/4" ASTM STAINLESS STEEL 316	EACH	210	02125100

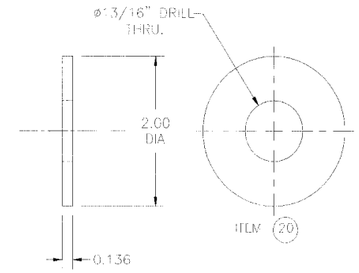
CONDUIT HANGER SUPPORTS BY CONDUX INTERNATIONAL, INC.

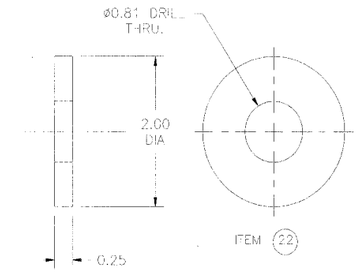
BOLT TORQUE

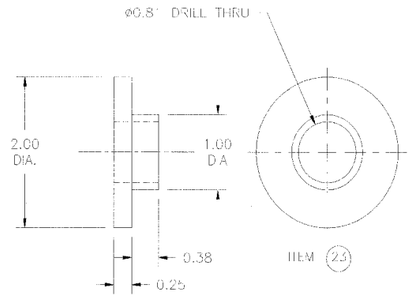
BOLT SIZE (DIAMETER)	A325 TYPE 3
3/4	130 FT/LBS.

THE VALUES ARE STATED IN FOOT POUNDS

NOTE:
THE CONTRACTOR SHALL ALLOW 24 TO 30 WEEKS FOR THE ABOVE MATERIALS TO BE DELIVERED TO JOB SITE AFTER CONFIRMATION FROM CONDUX THAT THE P.O. HAS BEEN RECEIVED IN THE CONDUX OFFICE.







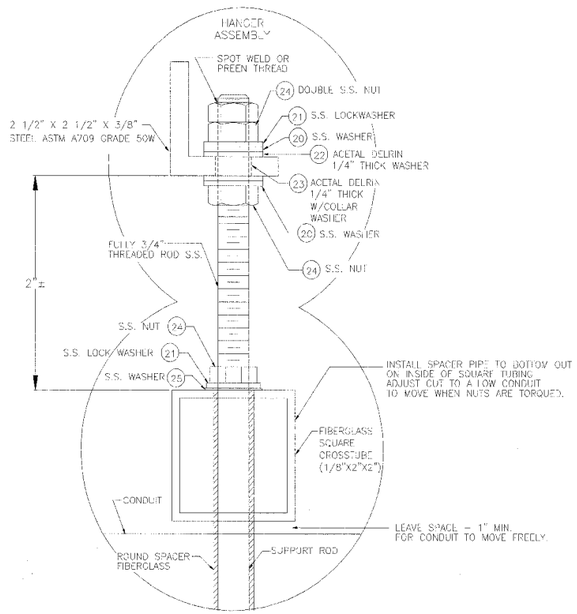
WF#	INFORMATION	
WF# 56451	WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 56452	75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 56484	75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 56485	WASHINGTON ST. 75TH TO BAILEY RD EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC
CALL JULIE, 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE	MAP NO.	CAD FILE
75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	–	00562/56001250.DWG
PROJECT DESCRIPTION	DRAWN BY	PROJECT NO.
TRENCH SECTION DETAILS	JK, PM	EU12-06-03 DWG
DATE 4-07-06	WORK REQUEST NO. / CHKD	COMPLETED BY
ISSUED	56270	
ENGINEER RPS	DWN	SCALE NTS
REVISION 1 2		SHEET 50 OF 73

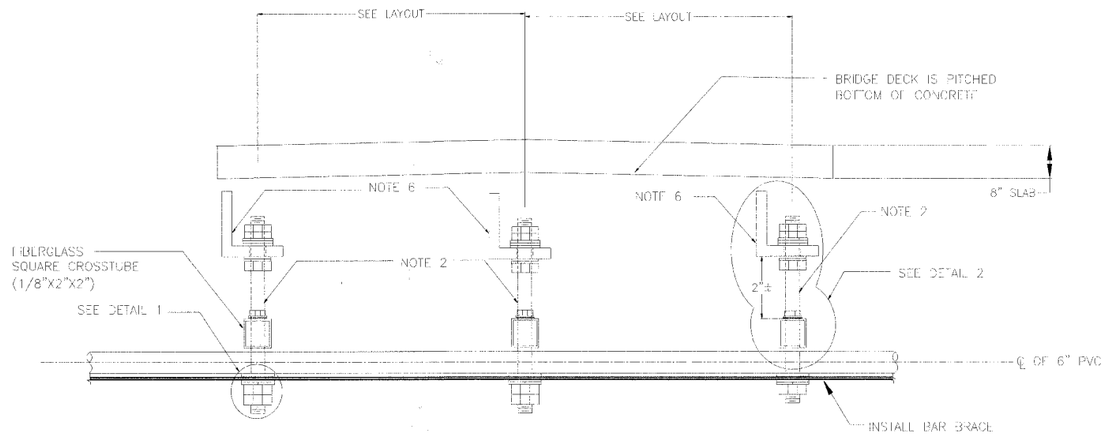
RTE.	SECTION	COUNTY	SHEET NO.
DA.			TOTAL 292
STA.		TO STA.	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

DETAIL 1
NTS



DETAIL 2
NTS

PLAN



NTS

NOTES:

1) ALL STEEL ANGLES ARE TO BE INSTALLED, BOLTS TORQUED, AND ANGLES LEVELED PRIOR TO INSTALLING HANGER ASSEMBLIES.

2) ALL 3/4 S.S. RODS AND HANGER ASSEMBLIES SHALL BE INSTALLED FROM THE A709 GRADE 50W ANGLE IRON.

3) ALL CONNECTIONS TO BE TORQUED PER SPECIFICATIONS AND IDOT AND DOCUMENTED.

4) ALL SUPPORT LOCATIONS SHALL BE CHECKED BY VISUAL OBSERVATION AND FIELD CHECKED AND MEASURED TO BE SURE THAT THE ANGLE AND BRACES WILL NOT MOVE OR FALL OFF DURING THE CONSTRUCTION PROCESS.

5) CONTRACTOR SHALL ALLOW FOR DELAY DUE TO CONCRETE CURING WHICH CAN TAKE UP TO 6 WEEKS OR MORE.

6) CONTRACTOR TO PROVIDE FALL PROTECTION.

7) A709 GRADE 50W ANGLE IRON IS SUPPORTED BY CLIPS ANGLES ATTACHED TO BOTH I-BEAMS ON EITHER SIDE OF DUCT PACKAGE.

8) ALL ASSEMBLY, PREFIT, LAYOUT, MATERIALS FABRICATION, DIMENSION CHECKS, CLEARANCE CHECKS, AND INSTALLATION BY CONTRACTOR.

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

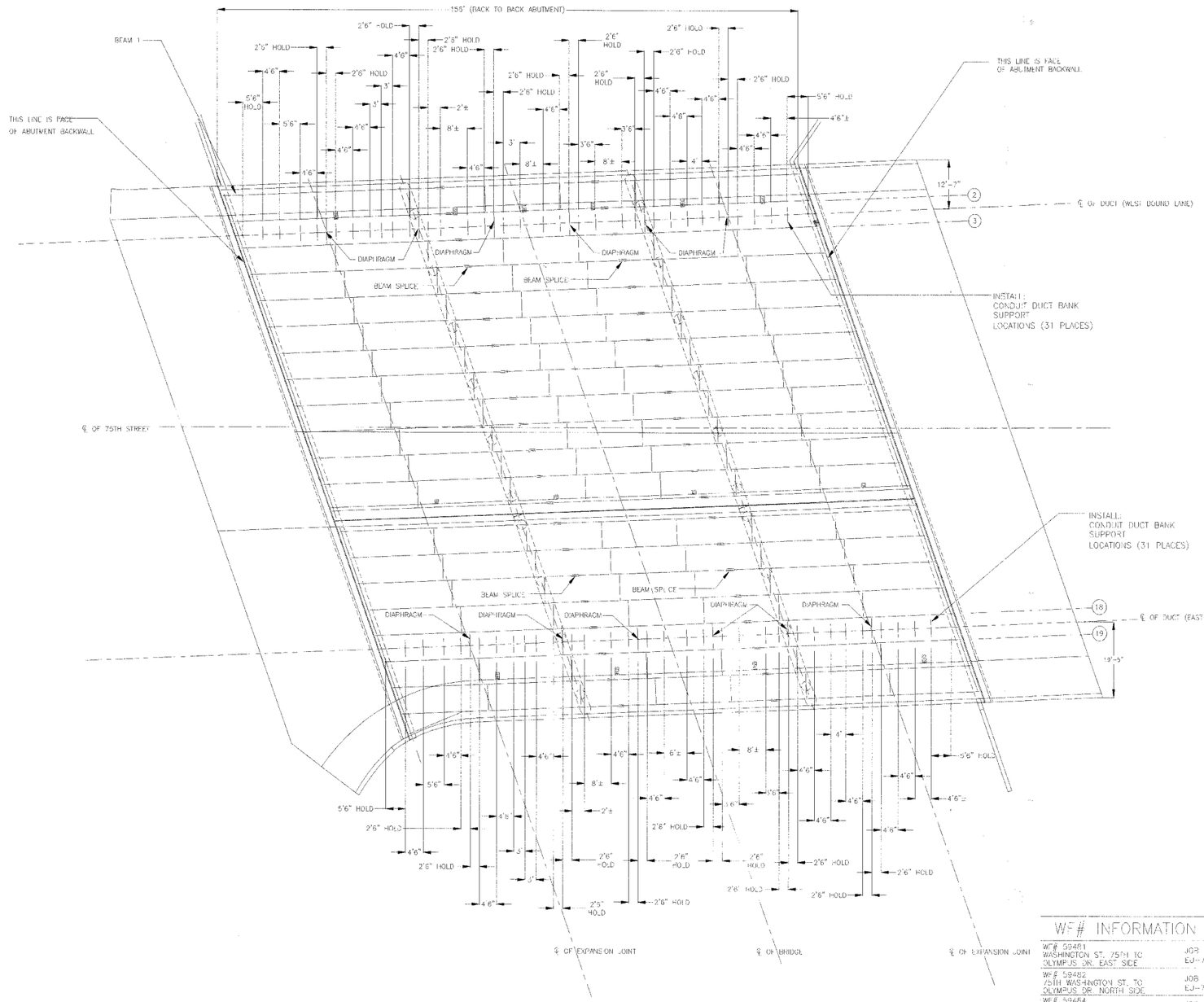
WF# INFORMATION								
WF# 53451 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS					MAP NO.: 1311/1324	CAD FILE: QUS6270001DE1.DWG
WF# 53452 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT DESCRIPTION: EAST BOUND/WEST BOUND LANES					DRAWN BY: JK	PROJECT NO.: FUS-6270-03
WF# 53454 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	DATE	1 4-01			WORK REQUEST NO. 56270	CHKD:	APVD:	SCALE: NTS	SHEET 31 OF 73
WF# 53455 WASHINGTON ST. 75TH TO DAILEY RD. EAST SIDE	JOB 4 EU-73	ISSUED								
		ENGINEER: RPS								
		REVISION		2	3					

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	583	293
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

ANGLE CLIP AND ANGLE SUPPORT LAYOUT
FOR BOTH EAST BOUND AND WEST BOUND LANES OF THE 75TH STREET BRIDGE
(62 PLACES)

SCALE: 1"=15'



LEGEND

NOTE:

1) THE CONTRACTOR SHALL LAYOUT AND PREFIT DUCT BANK SUPPORTS IN I-BEAM TO STRADDLE THE DIAPHRAGM BEAM LOCATIONS BY 2'-0"± ON EITHER SIDE OF CENTER LINE OF DIAPHRAGM ADJUST AS REQUIRED AND THEN INSTALL.

2) THE CONTRACTOR SHALL LAYOUT AND PREFIT DUCT BANK SUPPORTS IN I-BEAMS TO STRADDLE THE SPLICE PLATE LOCATIONS BY 2'-3" ON EITHER SIDE OF THE CENTER LINE OF THE SPLICE PLATES ADJUST AS REQUIRED AND THEN INSTALL.

3) FOLLOW PROCEDURE ON PAGE 50.

4) RETURN ALL UNUSED MATERIALS TO THE CITY OF NAPERVILLE STORE ROOM OR TOLLWAY SUBSTATION AS DIRECTED BY THE CITY.

5) THE CONTRACTOR IS REQUIRED TO INSTALL EACH CONDUIT THROUGH EACH DIAPHRAGM (6 TOTAL IN EACH CROSSING), AS THE CONDUIT IS INSTALLED. CONDUIT SHALL BE INSTALLED TO ALLOW MOVEMENT OF CONDUIT THROUGH DIAPHRAGM.

6) NO CONNECTION, EXPANSION JOINT OR COUPLING SHALL BE INSTALLED WITH IN ONE FOOT OF DIAPHRAGM.

7) CONTRACTOR SHALL PREFIT CONDUIT THROUGH DIAPHRAGM PRIOR TO INSTALLING. CHECK FOR FIT AND CLEARANCES. ANY DELAY DUE TO NOT PREFITTING EACH DIAPHRAGM IS AT THE CONTRACTOR'S EXPENSE.

WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC		
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION		
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.:	CAD FILE: 005E2700C 592.DWG
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-06-02 EU73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE: 4-6-06 ISSUED: ENGINEER: RPS REVISION: 1 2 3	WORK REQUEST NO.: 5827O CHK:	SEC: APPV: SCALE: NTS	CUMULATIVE: SHEET 52 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	294
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

SEGMENTAL CONCRETE BLOCK WALL SYSTEM

PART 1: GENERAL SPECIFICATIONS

1.01 Work included

A. Work shall consist of furnishing and construction a Rockwood Classic 8TM unit segmental retaining wall in accordance with these specifications to the lines and grades shown on the construction plans and drawings. Alternate wall systems will not be considered.

B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit drainage fill, and backfill to the lines and grades shown on the construction plans and drawings.

C. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location and lengths as designated on the construction drawings.

D. Includes design work with calculations and stamped by a registered/licensed professional engineer.

E. Work includes the services of a professional surveyor to layout the plan, check elevation, plumb ness, and dimensions are followed and prepare a site plan, grades, elevations and proper drainage is maintained.

F. Work includes all backfilling, grading, grubbing, clearing, and disposal of all materials and excavating materials off site, plus restoration with sod and seed.

G. Work includes all materials, transportation, tools, equipment, labor, consumables, and traffic control for a complete job.

1.02 Related Sections

A. See general condition or special condition for additional requirements of the contract.

B. See contract, plans and drawings for locations and dimensions of segmental concrete block wall systems requirements.

1.03 Reference Documents

A. American Society for Testing and Materials (ASTM)

1.	ASTM C1372	Standard Specification for Segmental Retaining Wall Units
2.	ASTM C 140	Sampling and Testing Concrete Masonry Units
3.	ASTM D 422	Particle Size Analysis
4.	ASTM D 698	Laboratory Compaction Characteristics of Soil-Standard Effort
5.	ASTM D 4318	Liquid Limit, Plastic Limit and Plasticity Index of Soils
6.	ASTM D 4595	Tensile Properties of Geotextiles-Wide Width Strip
7.	ASTM D 5262	Unconfined Tension Creep Behavior of Geosynthetics
8.	ASTM D 3034	Polyvinyl Chloride Pipe (PVC)
9.	ASTM D 1248	Corrugated Plastic Pipe
10.	ASTM D 1262	Freeze-Thaw Durability of Concrete Units
11.	ASTM D 5638	Determining Connection Strength between Geogrid and Segmental Unit

B. Geosynthetic Research Institute (GRI)

1.	GRI-GG4	Determination of Long Term Design Strength of Geogrid
2.	GRI-GG5	Determination of Geogrid (soil) Pullout

C. National Concrete Masonry Association (NCMA)

1. NCMA SRWU-2 Test Method for Determining Shear Strength of SRW

1.04 Submittals/Certification

A. Prior to the start of work, the Contractor shall prepare construction drawings and design calculations. All calculations and design drawings shall be stamped by a Professional Engineer registered/licensed in the state of the proposed retaining wall. The Contractor shall have the proposed retaining wall drawn so the City can obtain a permit by the appropriate governing authorities.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SEGMENTAL CONCRETE BLOCK WALL SYSTEM	DATE: 01-02-08
ELECTRIC STANDARDS		Page 1 of 6
		56270-400

B. Prior to start of work, the Contractor shall submit a manufacturers certification for each of the retaining wall system components. The certification shall state that the component meets the requirements of this specification.

1.05 Quality Assurance

A. The Contractor shall be competent and experienced in the construction of reinforced segmental retaining walls. The Contractors competency and experience shall be determined by the Owner thru demonstration of successfully completed projects and/or completion of a nationally recognized course of instruction, such as the NCMA's Segmental Retaining Wall Installers Education Program.

B. The Design Engineer shall be competent and experienced in the design and analysis of reinforced segmental retaining walls. The Design Engineer shall provide proof of current professional liability insurances with an aggregate coverage limit of not less than $1,000.00.

C. The Contractor shall provide independent soil testing and quality assurance inspection and testing during earthwork and wall construction operations. The quality assurance program does not relieve the Contractor of responsibility for quality control and wall performance.

1.06 Delivery, Storage and handling

A. The Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification have been received.

B. The Contractor shall protect all materials from damage due to jobsite conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

PART 2: COMPONENTS

2.01 Definitions

Block – a Rockwood Classic 8TM concrete segmental wall unit.

Cap – a Rockwood Classic Universal Cap TM concrete segmental retaining wall unit.

Geogrid – a geosynthetic material manufactured for the primary purpose to reinforce soil. Same as geosynthetic reinforcement and soil reinforcement.

Filter Fabric – a geosynthetic material manufactured for the primary purpose to filter soils from water. Same as geosynthetic fabric.

Drainage Fill – crushed rock aggregate that is placed within and immediately behind the block. Same as core fill and drainage rock.

Backfill – compacted soil that is placed behind the blocks and drainage fill and within the reinforced soil volume of the retaining wall as outlined on the plans. Same as reinforced backfill and infill soil.

Base leveling Pad – aggregate base material or concrete used as a foundation for the blocks. Same as leveling pad.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SEGMENTAL CONCRETE BLOCK WALL SYSTEM	DATE: 01-02-08
ELECTRIC STANDARDS		Page 2 of 6
		56270-400

Drainage Pipe – typically, a 4" diameter PVC or corrugated HDPE pipe, that is perforated or slotted to accept water from the surrounding soils. Same as drain tile.

2.02 Blocks and Caps

A. Blocks shall be Rockwood Classic 8TM concrete segmental retaining wall units. The Owner shall specify the color and face finish.

B. Caps shall be Rockwood Classic Cap TM concrete segmental retaining wall units.

C. Blocks and caps shall conform to the following requirements.

1. Block dimensions shall be: H = 8", L = 18", W = 12".
2. Blocks shall have a built in lug protruding 5/8" from the base of the block.
3. Cap dimensions shall be: H = 4", LFRONT = 18", LREAR = 14", W = 10.5"
4. Permissible variations in block/cap dimensions shall be per ASTM C 1372.
5. The finish and appearance of blocks/caps shall be per ASTM C 1372.
6. Strength and absorption requirements shall be per ASTM C 1372.
7. The unit weight (weight per unit volume) of an in-filled block shall b e greater than 115 pcf.

2.03 Base Leveling Pad Material

A. Base leveling pad materials shall consist of compacted aggregate base or non-reinforced concrete, as shown on the construction drawings and/or determined based upon field conditions. Aggregate base materials shall meet the following gradation in accordance with ASTM D-422:

Sieve Size	Percent Passing
1 inch	100
No. 4	35 - 70
No. 200	0 - 15

2.04 Drainage Fill Material

A. Drainage fill material shall consist of crushed rock meeting the following gradation in accordance with ASTM D-422.

Sieve Size	Percent Passing
3 inch	100
¾ inch	75 - 100
No. 4	0 - 25
No. 200	0 – 5

2.05 Backfill

A. Backfill shall consist of soil that is free of debris and deleterious material. Unless the Designer specifies Otherwise and accounts for in his/her design analysis, backfill shall meet the following gradation in accordance with ASTM D-422.

Sieve Size	Percent Passing
3 inch	100
1 inch	50 – 100
No. 4	20 – 100
N0. 40	0 – 75
N0. 200	0 – 35

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SEGMENTAL CONCRETE BLOCK WALL SYSTEM	DATE: 01-02-08
ELECTRIC STANDARDS		Page 3 of 6
		56270-400

WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC		
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION		
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: –	CAD FILE: 0056270001053.DWG
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-08-03 EU73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE: 4-01-08 (ISSUED); ENGINEER: RPS; REVISION: 1 2 3	WORK REQUEST NO.: 56270	CHKD: APRV: SBC: SCALE: NTS COMPLETED BY: SHEET 53 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	295
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

SEGMENTAL CONCRETE BLOCK WALL SYSTEM

B. Backfill shall have a Plasticity Index (PI) < 15 and Liquid Limit (LL) < 40 per ASTM D 4318.

C. The Contractor shall obtain independent laboratory test results to verify that the backfill meets the requirements of 2.06 A. and B.

2.06 Geogrid

A. The geogrid, as required by the Contractor's Designer in the construction plans and drawings, shall be manufactured specifically for soil reinforcement applications.

2.07 Drainage Pipe

A. If required, drainage pipe shall be PVC pipe manufactured in accordance with ASTM D-3034 or corrugated HDPE pipe manufactured ion accordance with ASTM D-1248. Drainage pipe shall be perforated, slotted, or non-perforated as shown in the construction drawings.

PART 3: EXECUTION

3.01 Excavation

A. The Contractor shall excavate to the lines and grades shown on the construction drawings. The Contractor and/or Owner's representative shall inspect the excavation and approve/disapprove its competency as a foundation soil prior to placement of the leveling pad or backfill.

B. If remedial work is required to improve the foundation soil, the Owner shall compensate the Contractor as mutually agreed.

C. The foundation soil shall be compacted to minimum of 95% of the maximum density per ASTM D-698.

D. If seepage or evidence of past seepage is observed in the excavation, the Contractor shall consult the Contractor Design Engineer in order to add or modify a drainage system to mitigate future seepage.

3.02 Base Leveling Pad

A. Leveling pad materials shall be place to the lines and grades shown on the construction drawings, to a minimum thickness of 6 inches, extending laterally a minimum of 6 inch, both in front of and behind the block.

B. Leveling pad materials shall be compacted to a minimum of 95% of the maximum density per ASTM D-698.

C. Leveling pad shall be prepared to insure full contact to the base surface of the block.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	SEGMENTAL CONCRETE BLOCK WALL SYSTEM	DATE: 01-02-08 Page 4 of 6 56270-400

3.03 Block Installation

A. First course of units shall be placed on the leveling pad at the appropriate line and grade as shown on the construction drawings. Alignment and level shall be checked in all directions. Ensure that all units are in full contact with the leveling pad and properly seated.

B. Place the front of unit side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.

C. Place drainage fills within and behind blocks. Place backfill behind drainage fill in lifts no greater than 6 to 12 inches and compact to a minimum of 95% of the maximum density per ASTM D-698. After placement of backfill, compact drainage fills by probing.

D. Do not stack more than two courses of block prior to placing and compacting drainage fill and backfill.

3.04 Geogrid Installation

A. Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.

B. Geogrid shall be placed at the type, lengths, and elevations shown on the construction drawings or as directed by the Contractor's Design Engineer.

C. The geogrid shall be laid horizontally from within 2 inches of the face of the block back across compacted backfill. Place the next course of blocks over the geogrid. The geogrid shall be pulled taut and anchored prior to placing additional drainage fill or backfill.

D. Geogrid shall be continuous throughout their embedment length. Geogrid shall be placed side-by-side or overlapped with 3 inch backfill between to provide 100% coverage at each designed geogrid level where possible. Geogrid shall not be spliced along its designed embedment length.

3.05 Backfill Placement

A. Backfill shall be placed, spread, and compacted in such a manner that minimize the development of slack and installation damage in the geogrid.

B. Backfill shall be placed and compacted in lifts not to exceed 6 inches where hand compaction is used, or 8 to 12 inches (depending on soil type and soil processing) where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required compaction.

C. Backfill shall be compacted to 95% of the maximum density per ASTM D-698. The moisture content of the backfill material, prior to and during compaction, shall be uniformly distributed throughout each layer and shall be within 20% of the optimum moisture content as determined by ASTM D-698.

D. Only lightweight hand-operated equipment shall be allowed within 4 feet from the face of the block.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	SEGMENTAL CONCRETE BLOCK WALL SYSTEM	DATE: 01-02-08 Page 5 of 6 56270-400

E. Tracked construction equipment shall not be operated directly upon the geogrid. A minimum of 6 inches of backfill is required over the geogrid prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the backfill and damaging the geogrid.

F. Rubber tired equipment may pass over geogrid at slow speeds, less than 10 mph. Sudden braking and sharp turning shall be avoided.

G. At the end of each day's operation, the Contractor shall slope the last lift of backfill away from the blocks and drainage fill in order to direct runoff away from wall face. The Contractor shall ensure surface runoff from adjacent areas does not enter the wall construction site.

3.06 Drainage System Installation

A. Drainage systems, both internal to the wall and surficial, shall be determined based upon site conditions by the Contractor in consultation with the Owner and the Contactors Design Engineer.

B. Within the time of construction, the Contractor must ensure that all surficial drainage is directed away from the wall system by use of drainge swales, area drains, or other competent measure.

C. Within the lifetime of the wall, the Owner must ensure that all surficial drainage is directed away from the wall system.

3.07 Cap Installation

A. Caps shall be adhered to underlying blocks and caps with Super-Stikm.

3.08 As-Built Construction Tolerances

A. **Vertical Alignment:** the top of wall shall be within 0.1 feet (1.2 inch) from design grade.

B. **Wall Batter:** within 2 degrees of design batter, excluding a negative batter.

C. **Horizontal alignment:** the bottom of the wall (B.W.), at design B.W. grade, shall within 1 foot of design line.

D. **Maximum horizontal gap:** between erected blocks shall be ½ inch.

3.09 Field Quality Control

A. The Contractor shall engage inspection and testing services (quality control) during construction to ensure project specification are met. The lack of quality control by the Contractor does not relieve the Contractor from meeting project specifications.

B. Quality control should include, but not be limited to: foundation soil inspection, verification of geotechnical design parameters; and verification that construction is in general compliance with the design drawings and project specifications. (Quality Assurance is usually best performed by the site geotechnical engineer.)

C. Only qualified and experienced technicians and engineers shall perform testing and inspection services.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	SEGMENTAL CONCRETE BLOCK WALL SYSTEM	DATE: 01-02-08 Page 6 of 6 56270-400

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

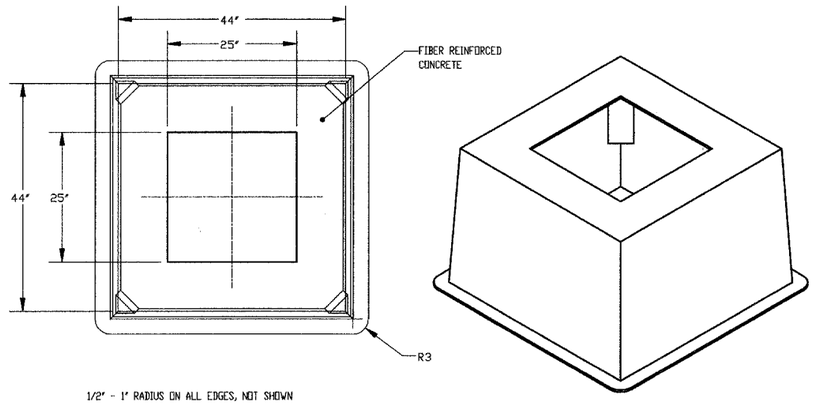
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS		MAP NO.: –	CAD FILE: 005627000 1D54.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS		DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 EU73
DATE: 4-01 08	WORK REQUEST NO.: 56270	CHKD:	SBC:	COMPLETED BY:
ISSUED		APPR:	SCALE: NTS	SHEET 54 OF 73
ENGINEER: RPS				
REVISION: 1 2 3				

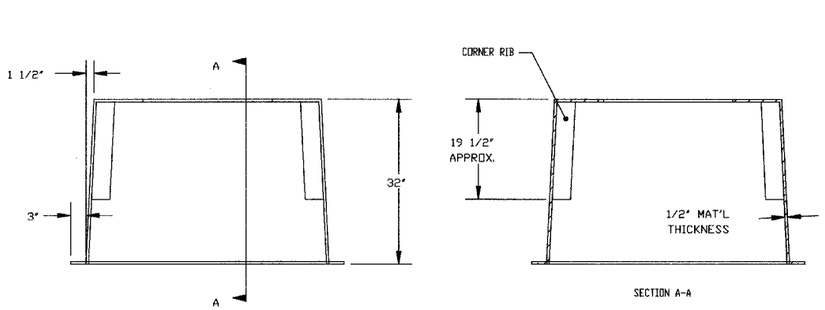
F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	296
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

TRANSFORMER PAD



1/2" - 1" RADIUS ON ALL EDGES, NOT SHOWN



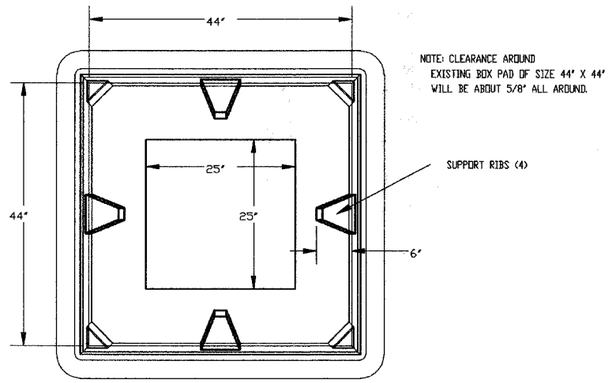
SECTION A-A

DEVTC

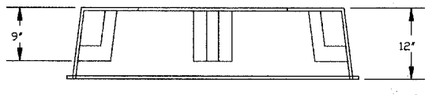
NOTES:
1) SEE M30-1400 FOR PRODUCT MATERIAL SPECIFICATIONS.
2) BOX PAD EXTENSIONS WILL FIT OVER NEW (44 X 44 X 32) AND EXISTING (38 X 43 X 32) TRANSFORMER BOX PADS (SEE M30-1444).

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	FIBERCRETE BOX PAD FOR 1ø TRANSFORMER	DATE: 12-25-04
ELECTRIC STANDARDS		M30-1440

1ø TRANSFORMER PAD EXTENDER

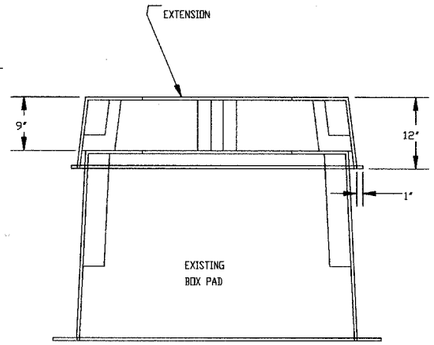


TOP VIEW w/ EXTENSION



FC-44-44-9EX

FC-44-44-32



FC-44-44-9EX
FC-44-44-32 w/ 9" EXTENSION

NOTES:
1) SEE M30-1400 FOR PRODUCT MATERIAL SPECIFICATIONS.
2) BOX PAD EXTENSIONS WILL FIT OVER NEW (44 X 44 X 32) AND EXISTING (43 X 38 X 32) TRANSFORMER BOX PADS (SEE M30-1440).

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	BOX PAD EXTENSION FOR 1ø TRANSFORMER	DATE: 11-02-05
ELECTRIC STANDARDS		M30-1444

WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: —	CAD FILE: D056270001D55.DWG
PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 EU73
DATE: 4-01-08	WORK REQUEST NO.: 56270	CHKD:	SBC:	COMPLETED BY:
ISSUED		APPR:	SCALE: NTS	SHEET 55 OF 73
ENGINEER: RPS				
REVISION: 1 2 3				

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	297
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

Guided Horizontal Drilling System (HDD)

The work specified in this specification consists of furnishing and installing underground utilities using the horizontal directional drilling (HDD) method of installation, also commonly referred to as directional boring or guided horizontal boring. This work shall include all services, equipment, materials, and labor for the complete and proper installation, testing, restoration of underground utilities and environmental protection and restoration. For the supply of domestic water during construction, the contractor shall utilize cities supply (meter & backflow device) and pay for all water consumed. Un-accountable domestic water quantities shall be minimized, where possible.

The requirements set forth in this specification specify a wide range of procedure precautions necessary to insure that the very basic, essential aspects of proper directional bore installation are adequately controlled. Strict adherence shall be required under specifically covered conditions outlined in these specifications or within any associated permit. Adherences to the specifications contained herein are required. DPU-E approval on any aspect of any directional bore operation covered by this specification shall in no way relieve the Contractor of their ultimate responsibility for the satisfactory completion of the work authorized under the Contract. The HDD Contractor shall be responsible for the repair of all damage to private and/or public property (at no expense to DPU-E). Repair work shall meet all local state and federal rules and requirements.

The project schedule shall be established on the basis of working a normal work schedule including five days per week, single shift, and eight hours per day. Unless approved otherwise by DPU-E normal or general items of work, such as testing, and final inspections, shall be scheduled during the normal work schedule. Due to operational, and manpower limitations on the DPU-E systems, DPU-E will require the Contractor to perform outage work outside of the normal work schedule. These operational outage and manpower limitations, including but not limited to tie-in work, (cut-in work or other work) and other phases of the work are required to limit the impact and the continued (non-interruptible) service to existing DPU-E customers. The Contractor shall plan and anticipate the cost impact of these systems limitations and provide such work or services at no additional cost to DPU-E.

Prior to beginning work, the Contractor must submit to DPU-E a work plan detailing the procedure and schedule to be used to execute the project. The work plan should include a description of all equipment to be used, down-hole tools, a list of personnel and their qualifications and experience (including back-up personnel in the event that an individual is unavailable), list of sub-Contractor, a schedule of work activity, a safety plan (including MSDS of any potentially hazardous substances to be used), traffic control plan (if applicable), an environmental protection plan and contingency plans for possible problems including a Frac-Out and Surface Spill Contingency Plan. Work plan should be comprehensive, realistic and based on actual working conditions for this particular project. Plan should document the thoughtful planning required to successfully complete the project. The HDD Contractor shall submit and obtain DPU-E's approval of a pre-construction bore-log depicting a plan and profile (horizontal and vertical alignment) of the proposed bore path. The bore-log shall show all utility crossings and existing structures.

The DPU-E representative must be notified 96 hours (minimum) in advance of starting the drilling work. The Directional Bore shall not begin until the proper preparation (work plan) for operation has been completed.

Prior to any alterations to work-site, Contractor shall video tape entire work area. One copy of which shall be given to DPU-E Representative and one copy to remain with Contractor for a period of two (2) years following the completion of the project.

HDD – Horizontally directionally drilling by definition.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SPECIFICATION FOR THE INSTALLATION OF HDPE CONDUIT BY THE HORIZONTAL DRILLING SYSTEM (HDD)	DATE: 02-19-08
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Guided Horizontal Drilling System (HDD) (Continued)

Work site shall be graded and filled to provide a level working area. No alterations beyond what is required for operations are to be made. Contractor shall confine all activities to designated work areas. Following drilling operations, Contractor will de-mobilize equipment and restore the work-site to original condition or better. All exactions will be backfilled and compacted to 95% of original density (as a minimum).

Contractor shall place site/silt fence between all drilling operations and any drainage, wetland, waterway or other area designated for such protection by contract documents, state, federal and local regulations. Contractor shall place hay bales, or approved protection, to limit instruction upon project area. Additional environmental protection necessary to contain any hydraulic or drilling fluid spills shall be put in place, including berms, lines, turbidity curtains and other measures. Contractor shall adhere to all applicable environmental regulations including environment condition stated in local, state and federal permits. Fuel may not be stored in bulk containers (greater than 25 gallons) within 200' of any water-body or wetland.

The horizontal Directional Drilling operation is to be operated in a manner to eliminate the discharge of water, drilling mud and cuttings to the adjacent creek or land areas involved during the construction process. The Contractor shall provide equipment and procedures to maximize the recirculation or reuse of drilling mud to minimize waste. All excavated pits used in the drilling operation shall be lined by Contractor with heavy duty plastic sheeting with sealed joints to prevent the migration of drilling fluids and/or ground water.

The Contractor shall visit the site and must be aware of all structures and the limitations at the directional drill crossing and provide the Engineer with a drilling plan outlining procedures to prevent drilling fluid from adversely affecting the surrounding area.

Clearing and grubbing shall consist of the removal and disposal of all trees (less than 6" dia.), stumps, roots, logs, shrubs, grass, weeds, fallen timber and other surface liter, wherever they occur within the right-of-way and within such other areas as directed and staked out by the Contractor.

Within the limits of the right-of-way and staked out by the Contractor's land surveyor all brush and trees, except those designated to be saved, shall be cut level with the ground, and all surface debris, including fallen timber, slash limbs, brush, grass and weeds, shall be disposed of off site.

Within areas where excavation will be made and where the embankment grade is less than 3 feet above the original ground level, all stumps and roots shall be grubbed out.

Trees shall be felled towards the centre of the area to be cleared. Any brush or trees falling outside of the area to be cleared shall be moved back to the right-of-way and disposed of. The Contractor shall take all precautions against damage to other trees, traffic, structures, pole lines or property in his felling of trees, and he shall be liable for any damages occurring in the performance of this work.

Clearing and grubbing shall be completed in advance of grading operations. The Contractor shall not start any clearing, grubbing without permission from the Engineer.

Removal of debris shall be carried on concurrently with clearing operations so that the debris from each day's operations is disposed of in that day. No additional compensation will be payable because of being required to handle the debris in this manner.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SPECIFICATION FOR THE INSTALLATION OF HDPE CONDUIT BY THE HORIZONTAL DRILLING SYSTEM (HDD)	DATE: 02-19-08
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		C30-1950

Guided Horizontal Drilling System (HDD)

Debris and other materials must be disposed of off site by the Contractor and shall perform these operations well in advance of grading operations

Clearing, grubbing operations shall be conducted in accordance with the applicable Federal, County and Municipal regulations and Acts.

Before final acceptance of the work; the Contractor shall make a final clean-up of the right-of-way and remove debris which may have been covered with snow or blown in by the wind after the original clearing and grubbing operations were completed at no cost.

The general work areas on the entry and exit sides of the crossing shall be enclosed by a berm to contain unplanned spills or discharge.

Waste cuttings and drilling mud shall be processed through a solids control plant comprised as a minimum of sumps, pumps, tanks, desalter/desander, centrifuges, material handlers and haulers all in a quantity sufficient to perform the cleaning/separating operation without interference with the drilling program. The cuttings and excess drilling fluids shall be dewatered and dried by the Contractor to the extent necessary for disposal in offsite landfills. Water from the dewatering process shall be treated by the Contractor to meet permit requirements and disposed of locally. The cuttings and water for disposal are subject to being sampled and tested. The construction site and adjacent areas will be checked frequently for signs of unplanned leaks or seeps.

Equipment (graders, shovels, etc.) and materials (such as groundsheets, hay bales, booms and absorbent pads) for cleanup and contingencies shall be provided in sufficient quantities by the Contractor and maintained at all sites for use in the event of inadvertent leaks, frac out, seeps or spills.

Waste drilling mud and cuttings shall be dewatered, dried, and stock piled such that it can be loaded by a front end loader,, transferred to a truck and hauled offsite to a suitable legal disposal site. The maximum allowed water content of these solids is 50% of weight.

Due to a limited storage space at the worksites, dewatering and disposal work shall be concurrent with drilling operations. Treatment of water shall satisfy regulatory agencies before it is discharged.

The Contractor shall install; 3inch, 5 Inch or 6 inch HDPE coilable conduit, into various configurations and lengths and combinations. Contractor to review drawings for all work. The HDPE coilable conduit shall be connected by the butt fusion process. The Contractor shall reposition the conduit, for installation in to electrical facilities after installing the HDPE conduit by the HDD method, using schedule 40 PVC or Steel conduit and positioning conduit into the proper cross sections. The Contractor is to connect HDPE conduit by rotating, aligning, cutting, leveling, bending, coupling, mitering, measuring, cropping, fitting, positioning and laying out the conduit using steel conduit or schedule 40 PVC as required to provide the cross section required and then connecting this cross section to splices boxes, hand holes, manholes, switchgear vaults, transformer vaults, pedestals or risers. The work to reposition the HDPE is included in the contract and is incidental to the pricing.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SPECIFICATION FOR THE INSTALLATION OF HDPE CONDUIT BY THE HORIZONTAL DRILLING SYSTEM (HDD)	DATE: 02-19-08
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WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION		
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: –	CAD FILE: 005627000I056.DWG
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-08-03 EU23
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE: 4-01 08 / ISSUED / ENGINEER: RPS / REVISION: 1 2 3	WORK REQUEST NO.: 56270 / CHKD: / APPR:	SBC: / SCALE: NTS	COMPLETED BY: / SHEET 56 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	298
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

Guided Horizontal Drilling System (HDD)

The HDPE conduit shall be installed based on the use of a guided horizontal drilling system. A guided horizontal drilling system is a trench less technique that employs small diameter fluid jets and/or mechanical cutting tools attached to a flexible drill string to form a bore as the head is thrust forward. Steering in both the vertical and horizontal planes can be effected by controlling the orientation of fluid jets or a slanted face head. Soil conditions and obstructions vary the drilling direction; adjustments are made to keep the drill on-line to the receiving pit. Once the bore is accomplished the conduit section up to 24 inches in diameter shall be installed using the same equipment. The Contractor shall provide boring equipment to bore a minimum length of 20 feet and a maximum length of 1000 feet with varying depths of 2-foot 6inches min to 12-foot 6inches in depth max in one setup. The normal drilling depth of all pulls for 3,5or 6inch HDPE and for all configurations is approximately 5 to 6 feet below grade to top of conduit.

The drilling is accomplished in two steps. The first step consists of drilling a small diameter hole along a specific path. The second step consists of enlarging the pilot hole by a back reamer to the size required to install the conduit/ conduits. The first and second step may require several reiterations to accomplish the proper diameter hole to install the duct. The position and location of the drilling operation is monitored with an above ground electronic locator and/or a remote guidance system.

The HDPE conduit sections consists of installing conduit sections of one duct, two ducts, three ducts, four ducts, or six ducts of solid coilable HDPE Conduit.
The HDPE is supplied in 3 inch **13.5 SDR**, 5 inch **13.5 SDR or** 6 inch **13.5 SDR** conduit of 450 feet to 500 feet on 10-foot diameter steel non-returnable reels or HDPE 3inch **13.5 SDR** conduits of 1000 feet to 1500 feet on 12 feet to 15 foot diameter reels. The Contractor transports the HDPE to the work site, prepares entry pits, exit pits and turning pits at the work site, connecting pits to allow for fusion of the HDPE conduit is done, and the route is prepared, potholes are dug and completed along the route, all prep work is completed, and any adjustments are made to the alignment to miss all obstructions below and above grade, the final alignment is identified and chosen and then the HDPE is assembled into the desired sections, configurations and quantities and lengths. The HDPE shall then be installed. During the installation process the duct section rolls and twists resulting in a cross section not acceptable for connecting to any electrical facilities. The contractor shall correct this situation in the field by performing the following: the HDPE conduits ends shall be connected to a section of schedule 40 PVC or steel conduits, during the connection process the conduits are positioned, rotated and aligned to meet the cross section required by the specification and then connected to the electrical facilities for a complete system by the Contractor. The Contractor is not permitted to install HDPE 3inch SDR or HDPE 5 inch SDR or HDPE 6 inch SDR into any electrical equipment. The conduit to be used for entering equipment is steel conduit section or a section of schedule 40 PVC. HDPE in 40-foot straight sections and then butt fused together is not acceptable. The Contractor is advised 3inch, 5inch, and 6inch HDPE Conduit is furnished on non- returnable steel reels which must be disposed of off site by the contractor. The couplings, connections, materials, and tools to perform the butt fusion process are furnished by the Contractor.

Nominal pipe sizes only are indicated on the drawings and bid form. Outside diameter of pipe is generally 1 to 2 inches greater than the nominal pipe diameter.

Only HDPE conduit shall be installed by the Horizontal Directional Boring method by the Contractor. The 3inch, 5inch, and 6 inch SDR HDPE conduit on steel reels; couplings and connections except 3inch, 5inch or 6inch connections to schedule 40 PVC or steel conduit, which are furnished by the Contractor, are furnished by the City of Naperville and can be picked up at the city storage yard on Aurora Road. The inside duct diameter size is 5.62 inches for 6inch SDR 13.5 and is 4.75 inch for 5inch SDR 13.5and is 2.75inch for 3inch SDR 13.5. The contractor is advised the wall thickness of HDPE conduit is usually thicker than the wall thickness of steel conduit or Schedule 40 PVC conduit. All duct sections shall be field assembled, cut, positioned, leveled, reamed, fillers inserted, aligned, fused, connected and are to be pulled in at the same time with warning tape and are continuous. The Contractor shall use a spreader tool furnished by the Contractor to reform the HDPE Conduit from oval to round to allow for the installing of couplings. Joining shall be performed by thermal butt fusion in accordance with the manufacturer's recommendations.

Guided Horizontal Drilling System (HDD) (Continued)

The conduit, at the joined inner surface area, at the interface between schedule 40 PVC plastic or steel conduit is to be field milled to a smooth level connection from one material to another. This area shall be level and smooth to allow for the cable to pass with out being obstructed by a difference in conduit thickness or diameters. The Contractor is advised that the site preparation and the process of installing 1 duct, 2ducts, 3ducts, 4ducts or 6ducts of HDPE in a duct package, may require 2 pulls or more and may require additional work to complete the installation and is included in the pricing.

The Contractor at his expense may do exploratory soil borings to determine the existing soil conditions. This information is used to determine the best work method to use, lubricant requirements, determine soil classification, determine the size and type of equipment to use for the HDD operation, determine the auger type to use, speed of installation, and back pressure to help eliminate any frac out of any kind. All work of this type is limited to the City Right of Way. The Contractor is required to HDD bore through all types and classification of earth materials i.e.: sand , clay, clayey sand, peat, mud, muck, silt, water, sandy clay, cobbles, fissured rock, hard pan, splinter rock, gravel, stones, organic materials, and small boulders less than 8 inches in diameter.
However, the City will make additional payment on a per linear foot basis of a duct package installed in solid rock for a complete job if the following is met. The city shall be informed when the solid rock is found. Failure to inform the city immediately may be cause for rejecting a claim of solid rock. Solid Rock is defined as having an RDQ of at least 70 or more and bigger than 8 inches in diameter to be classified as solid rock. The Contractor shall employee a materials laboratory, at the Contractors cost, with city approval to make this determination. The final decision is made by the City.

Solid rock, as referred to herein in connection with the classifying of excavation, shall comprise and include (1) 8" diameter or bigger boulders measuring 1 cubic yard or more in volume, (2) all rock material which is in ledges, bedded deposits and unstratified masses and which cannot be removed without drilling and blasting, and (3) conglomerate deposits which are so firmly cemented as to present all the characteristics of solid rock and which cannot be removed without drilling and blasting.

When solid rock layers have an overburden of material of common classification which cannot practically be stripped and handled separately from the solid rock and/or are interspersed with a material of common classification, the entire mass will be classified as solid rock if the solid rock constitutes an area of conduit which crosses under the surfaced portion of the highway or street, the installation shall be either tunneled, jacked, driven or bored under the surface.

The ducts are to be joined together, glued where applicable, fused, and installed with the total degree of bends (vertical and horizontal) not to exceed 235 degrees in 1000 feet. The Contractor is responsible for monitoring this requirement and reports any deviation to the city. The Contractor shall provide a smooth transition from HDPE to HDPE, from HDPE to steel, from HDPE to schedule 40 PVC conduits on the outside and inside of the duct at all connection points. The area at the interface of the connection shall be smooth to the touch without more than a 1/8-inch bead of material left after fusion on the inside of the pipe. Any ridge that is larger than 1/8 inch shall be removed and reconnected to insure the connection will not separate or be an obstruction for the cable pulling process. All connections shall fit uniformly, concrete encased at each connection with ready-mix, and with equal pressure being applied on all exterior conduit pieces and fittings Connections may be tested in the field for pulling capability at the Contractors expense as directed by the Engineer. All ducts shall be inspected for roundness prior to installing. All ducts shall be pulled to the manufactures recommended tensions. Ducts that are necked down due to pulling or become separated shall be rejected. The 3inch SDR HDPE, 5-inch SDR HDPE, 6-inch SDR HDPE conduit that becomes oval shall be cut back a maximum of 7 feet or until the pipe becomes round or is rejected if more than 7 feet is to be cut off. The contractor shall record all depth, speed information as required on the forms provided, with special interest to the duct pulling tensions, torques and depths as installed. Each pull shall be documented and the form filled out by the contractor and given to the city. Any documentation missing may result in not obtaining approval for payment. All 11, 22, 30, 45 and 90 degree steel bends or schedule 40 PVC bends shall be installed by the machine aided trenching method/or hand dug using prefabricated manufactured type steel bends.

Guided Horizontal Drilling System (HDD) (Continued)

The use of 5 inch and 6 inch steel bends for all angles above 5 degrees and 3 inch steel bends for angles at 90 degrees, shall be required at all angles in the line and as directed by the Engineer. The steel or plastic ducts and the area around the ducts (sometimes called turning pits) where bends are installed shall be supported by ready-mix 3000 pound concrete delivered to the location to provide sufficient strength to withstand a pull of 10,000 lbs and remain serviceable.

Please see the specifications and drawings for the number of 3, 5, and 6- inch ducts, configurations, route, lengths and types of formations to be installed. The Contractor shall coordinate all ingress and egress to the work site with the city prior to performing the work. This work may require the Contractor to provide a detail of the work to be done in a particular area with some down time and this is considered a normal working conditions. The Contractor shall install 3 inch, 5inch and 6-inch HDPE SDR 13.5 conduit under and along all street rights of way, easements or road crossings in the number, lengths and locations shown on the drawings. All splice pits; entry and exit pits, exploratory digging, potholing by machine or hand, turning pits and staging areas to make connections of the conduit are included in the work. All conduit staging areas, entry and exit pits, exploratory digging, potholing, turning pits and splice pits shall be approved by the City of Naperville before any work is started.
Failure to get approval of the staging areas, entry and exit pits may result in moving an area or pit, abandoning an area or pit and starting over at another location all at the expense of the Contractor.
If at the end of a day's work to install the HDPE conduit is not completed The Contractor shall follow the following guidelines: Equipment shall be disconnected from the rods and moved back to the contractor's storage area if the drilling machine is to be left over the weekend in some one's back yard. However, if the contractor can obtain approval from the property owner and the machine can be made safe to the general public the machine can stay. The Contractor shall abide by all permit restriction and work practice methods about leaving equipment out in the General Public.

The Contractor shall, by his won inspection and by careful examination, fully convince himself as to the accessibility of the site for performing the work. The Contractor shall be responsible for maintaining the access roads during the duration of construction. Any modifications to the construction limits shall be submitted by the Contractor to the Engineer for approval at least one week prior to making any modifications

All areas disturbed by the Contractor in constructing temporary access roads and ramps shall be regarded and restored to the pre-existing conditions, or as otherwise approved by the Engineer

All conduit staging area's, turning pits, or splice pits, entry and exit pits shall be identified in the field with stakes, dimensioned and recorded in the surveyor's field book records after the job is awarded to the Contractor. This information is part of the as Build's and documentation required.

The Contractor shall not at any time leave the work area with conduit protruding above the surface of the ground at equipment location sites, turning pits, exit pits, entry pits, access pits, or splice pits. The Contractor shall dig a ditch of sufficient size to push the conduit below the ground surface for later connection. The open ends of all sections of joined and/or installed pipe (not a service) shall be plugged at night to prevent animals or foreign material from entering the pipe line of pipe section.

Waterproof nightcaps of approved design may be used but they shall also be so constructed that they will prevent the entrance off any type of natural precipitation into the pipe and will be fastened to the pipe in such a manner that the wind cannot blow them loose. The practice of stuffing cloth or paper in the open ends of the pipe will be considered unacceptable.

WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC			
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION			
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: –	CAD FILE: D056270001D57.DWG	
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 EU73	
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE: 4-01 08 / ISSUED / ENGINEER: RPS / REVISION: 1 2 3	WORK REQUEST NO.: 56270	CHKD: / APPV:	SBC: / SCALE: NTS	COMPLETED BY:	SHEET 57 OF 73

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	00-0014-00-PV	DUPAGE	563	299
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

Guided Horizontal Drilling System (HDD) (Continued)

The Contractor shall backfill and level area immediately, and remove fill later to make all connections. No claims for extra compensation will be considered for cost incurred because of delay due to changing the location of a staging area, a frac out incident, splice pit location determination, turning pit location determination, or obtaining approval for said work area or opening the equipment for inspection or installation. The Contractor shall minimize the inconvenience to the public when picking and staging the work The Contractor shall provide CA-6 backfill materials, black dirt, sod, grading, landscaping, stone/rock removal, tunneling, hand digging, install new fencing, removal of fencing, sidewalk replacement, curb and gutter replacement, tree and brush protection, arborist services, and/or replacement and dispose of all removed materials off site. The removal of spoils off the site is a major concern and must be removed off site immediately or by the end of the work day or next day. The excavated materials as well as spilled drilling fluids shall be removed in the same day as the dig or the next day at the latest The Contractor shall not block pedestrian traffic or create a line of site problem with their equipment or work methods to the general public and this equipment or method shall be moved or changed at the request of the City of Naperville at no cost. Hand digging is considered incidental to the work and no claim for additional funds shall be honored Storing of excavated materials of any kind in the City Right of Way over night is not permitted unless a permit has been issued that approves such methods.

The Contractor shall explain in detail in the bid submittal the technique and construction method that shall be used on the project to minimize the amount scrap of 3 inch, 5inch and 6-inch conduit. The Contractor shall provide an approximate estimate of scrap in linear feet of each size. A method that minimizes scrap is very desirable.

All 3 inch, 5inch, and 6 inch HDPE SDR 13.5 is furnished to the Contractor by the City of Naperville and picked up by the Contractor. However, the couplings for 3inch, 5inch and 6 inch 13.5 SDR HDPE to schedule 40 PVC plastic or steel shall be furnished and installed by the Contractor and the cost is in the pricing.

Contractor shall furnish all labor, tools, transportation, communication, supervision, equipment, all materials not furnished by the City of Naperville, however, the following is required: registered professional land surveying services, soil boring services, licensed professional landscaping services, services of a registered professional arborist, and all consumables necessary for a complete job and is included in each unit of pricing of the work for a complete job.

The Contractor shall be responsible, at no additional cost, for timely repair or replacement of structures, equipment, pipelines, power lines, or any facilities and/or other on-going or completed construction item damage by the Contractor's and/or his subcontractor's operations and/or personnel.

The Contractor shall be required to inform the residents if drilling work is going to be done during, before and after a snow fall incident so they can move their cars to allow the Contractor to shovel and remove snow from the street that is being used to get to the job site and at the job site. The Contractor has the responsibility to remove and keep clear at all times the roads being used including snow removal and disposal of snow from street The Contractor shall spread salt to improve drivability. The Contractor shall include in the installation cost of all 3inch SDR HDPE, 5inch SDR HDPE and 6inch SDR HDPE conduit materials and accessories including couplings, shipping and ordering, transportation of materials and disposal of the reels in the pricing of the unit of foot. Landscaping and restoration including fences gates, trees, bushes, grass, and black dirt, humps, frac outs, cleaning up frac outs, remove and restore all plantings, trimming all trees and brush,, all temporary work, all patching, flowers, access to and from job site, pothole repairs, sodding and watering, street repair, curb and gutter repair, side walk repair, transplanting functions, street light cable repair/ move, all cable TV repair/ move, all telephone repairs/ move ,and disposal of all excavated materials off site are included.

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Guided Horizontal Drilling System (HDD) (Continued)

The Contractor shall submit in writing that the installed HDPE 13.5 (SDR) conduit, pipe couplings, and fittings installed under this specification are in conformance with the material and mechanical requirements for the type of conduit installed and are compatible with the cable tensions required to install: namely 12kv 1000 MCM or 34 Kv 1000 MCM triplexed cable in the installed conduit. The Contractor shall be responsible, for all couplings, fittings, to provide a smooth and unobstructed path through the HDPE conduit and connection area plus provide sufficient strength of the connection to maintain a continuous conduit with out separation for the cable installation. All tooling and connection materials for steel conduit to HDPE conduit and HDPE conduit to PVC schedule 40 conduits are to be supplied by the Contractor. A failure of the cable to be installed in the conduit shall be reason enough to reject the entire installation and delay further payments until the problem is corrected to the satisfaction of the City of Naperville

The contractor shall install pits for example: receiving, sending, entry, exit, turning, connecting etc; the contractor shall layout the work to install the minimum number of pits. The number of pits shall be kept to a minimum to reduce the damage to the surrounding landscaping. All pits must be approved by the city of Naperville before any work is started. All access pits must be identified in the field by staking after the job is awarded by the contractor and documented with a sketch and provided to the City.
No claims for extra compensation will be considered for cost incurred because of delay due changing the route location or location of access pits due to lack of notification, or obtaining approval. Contractor to provide compacted CA6 backfill materials and black dirt. Dispose of all removed materials off site.

Hand digging is considered as part of the work. Pits are excavations and must be covered and fenced in and not left open and are to be made safe for the Public and meet OSHA regulations

The Contractor shall furnish all connection fittings, tools, equipment, labor and transportation for joining together the 3-inch, 5inch, and 6- inch flexible poly coiled SDR13.5 HDPE poly conduit to steel conduit or schedule 40 PVC
The Contractor shall provide a butt fused or electro fused coupling to connect the 3, 5or 6-inch to 3, 5 or 6-inch flexible coiled conduit.
The Contractor shall provide mechanical adapters to connect 3,5, 6-inch steel or 3,5, 6-inch schedule 40 PVC bends or straight pieces of PVC to the flexible poly coiled 3, 5, 6- inch HDPE (13.5 SDR) conduit.

The Contractor shall provide fast setting glue for schedule 40 PVC conduit connections at the Contractor's cost and furnish in sufficient quantities for a complete job, if the Contractor decides to substitute.

The cost to provide this material is included in the installation price for: 3 inch, 5inch, and 6-inch directional bored 3, 5, and or 6-inch conduit 1-way, 2-way, 3 -way, 4way, and 6 way duct sections of HDPE (13.5 SDR) flexible poly coiled conduit.

The cost of all materials furnished by the Contractor shall be included in the installation of the conduit duct section per the unit pricing.

It is the contractor's responsibility to obtain and direct the surveying services required to establish the right of way limits of all the city of Naperville's recorded easements within the work area. The contractor is responsible for installing all duct sections and maintaining all construction activities inside the limits the city of Naperville's right of way. No ingress or egress will be provided other than shown on the recorded easements

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Guided Horizontal Drilling System (HDD) (Continued)

The Contractor shall establish reference points to horizontal and vertical control near and/or within the construction site at the beginning of construction from the County or City records. From these reference points, the Contractor shall provide all horizontal and vertical controls necessary to complete the work to grades, slopes and dimensions shown on the Drawings. The Contractor's surveying service shall be in compliance with the vertical and horizontal tolerances in the specifications, and shall be conducted under the direct supervision of Registered Land Surveyor. Marketing and grade stakes shall be provided as needed by the Contractor to facilitate and expedite inspection of the finished grade for compliance with the dimensions on the Drawings and specified grade tolerances.

The lines, grades and dimensions shown on the Drawings have been selected to approximate the best route based on certain simplifying assumptions, and as such are approximate. Final grades, elevations and dimensions are subject to adjustment during construction at the sole discretion of the Engineer. Any such adjustment shall not constitute a changed condition and shall be undertaken at no additional cost.

It is the responsibility of the Contactor to verify all dimensions prior to fabrication, installation and/or construction of any item of work.

After installation, contractor shall mark the plan drawings or provide new drawings to accurately show the actual installation and alignment of the conduit installed. This information shall be provided to the owner.

The information provided by the Contractor's surveyor to the City shall be the measured conduit lengths from electrical structure to electrical structure, number, and size of conduit and depth of conduits. All above and below ground obstructions, road ways drives, entry and exit pits, turning pits and all equipment installed. All elevations and GPS coordinates of every conduit with dimensions and connections shall be identified and shown.

Materials indicated in these Specifications as supplied by the DPU--E shall be picked up by the Contractor at storage facilities as designated by the DPU—E and this picking up, sorting, hauling, loading, unloading, tracking, security, proper size equipment, labor, tools, storage off site, preparing damage claims, and replacing all materials found unacceptable to use after the contractor accepts the materials and keeping an inventory of all materials picked up until completion of the project shall be considered incidental to the contract.

It is the Contractors responsibility to determine from the work specification that materials furnished by the City of Naperville are sufficient to complete the job. The Contractor shall maintain a tally of all materials picked up by WF number and continuously update the tally to show what has been installed and what is needed to complete each WF# as each project progresses. The Contractor Shall notify the City of Naperville in writing, before the commencement of work, of any shortages of one or more types or quantities of materials required for a complete job. The Contractor shall be responsible to provide any shortages of materials in type or quantity furnished by the City of Naperville during the progress of the work. No claims for extra compensation will be considered for cost incurred because of lack of adequate materials.

The Contractor is responsible for inspecting materials delivered to the site for damage. All materials found during inspection or during the progress of work to have cracks, flaws, cracked linings, or other defects shall be rejected and removed from the job site without delay. Unload and store opposite or near the place where the work will proceed with minimum handling. Store material under cover out of direct sun light. Do not store directly on the ground. Keep all materials free of dirt and debris. Contractor is responsible for obtaining, transporting and sorting any fluids, including water, to the work site. Disposal of fluids is the responsibility of the Contractor. Disposal of fluids shall be done in a manner that is in compliance with all permits and applicable federal, state, or local environmental regulations. The bentonite drilling slurry may be recycled for reuse in the hole opening operation, or shall be hauled by the Contractor to an approved location or landfill for proper disposal. Contractor shall thoroughly clean entire area of any fluid residue upon completion of installation, and replace and all plants and sod damaged, discolored or stained by drilling fluids.

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WF# INFORMATION	
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WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES – ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION

PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS
PROJECT DESCRIPTION: TRENCH SECTION DETAILS

DATE	4-01 08				WORK REQUEST NO.	56270
ISSUED						
ENGINEER	RPS					
REVISION		1	2	3		

CHKD:
APRV:
MAP NO.: —
DRAWN BY: JK, PM
SBC:
SCALE: NTS
CAD FILE: D0562700001D58.DWG
PROJECT NO.: EU 2-06-03 5473
COMPLETED BY:
SHEET 58 OF 73

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	300
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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Guided Horizontal Drilling System (HDD) (Continued)

The Contractor shall cause to have prepared in written form, a list of all materials showing quantities, size, and types of materials the Contractor needs to complete the entire Project and present it to the Project Engineer two weeks after the Project is awarded and prior to the start of Work. Failure by the contractor to inventory the materials prior to start of work and inform the City in writing shall indicate to the City of Naperville all materials are correct in size, quantity and type to do all the work required for a complete installed project.

The Contractor shall follow the following material pick up procedures:

A. Material from the warehouse shall be issued from the "Material Issue Desk" located inside the west service door marked "Water Meter Pickup".

B. Material shall be issued to the correct WF #. This WF # shall be provided after award. The person picking up material shall have the WF # so we can provide the correct materials to do the work. The person picking up the material shall sign the material ticket indicating materials picked up, condition, quantity and date. The ticket shall be given to the company engineer on the work site.

C. Material shall be relensed from the stockyard to the Contractor contacting the warehouse personnel at the "Material Issue Desk".

D. The Contractor shall be allowed inside the stockyard only when accompanied by warehouse personnel.

E. Material shall be loaded on trucks, trailers or pickups only with proper restraints to secure material for public safety on the roadways. Warehouse will not supply straps, blocking or other restraints.

F. Material pick-up - Monday through Friday, 7:00 a.m. to 3:00 p.m. Contractors will not be loaded on Saturdays, Sundays or Holidays.

G The warehouse is closed daily from 12:00 p.m. to 12:30 p.m.

H. Between 7:00 a.m. and 8:00 a.m. City of Naperville crews will be loaded first. After they are loaded, it will be first come, first served.

J. For any discrepancies in type and quantity of materials to be received, please call the Project Engineer. The Project Engineer will be identified at the preconstruction meeting.

K. Please call Terry Skala at (630) 420-4136 for questions regarding all warehouse

The contractor is advised this work is located in an area of heavy tree growth, with a high degree of low growing shrubs and vegetation. The lots are fenced in. Also, many lots have dogs which need to be put up before entering. The subdivision is typical for Naperville and the contractor shall work with the people in this subdivision to save and protect all trees and landscaping. The contractor shall develop a plan
To work in this environment, the plan shall be reviewed by the city of Naperville.

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Guided Horizontal Drilling System (HDD) (Continued)

The directional drilling equipment shall consist of a directional drilling rig of sufficient capacity to perform the bore and pullback the pipe, a drilling fluid mixing, delivery and recovery system of sufficient capacity to successfully complete the drill, a drilling fluid recycling system to remove solids from the drilling fluid so that the fluid can be reused, a guidance system to accurately guide boring operations, a vacuum truck of sufficient capacity to handle the drilling fluid volume, trained and competent personnel to operate the system. All equipment shall be in good, safety operating condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of this project.

The Contractor shall provide a typical drilling system as follows:

Drilling Rig:
The directional drilling machine shall consist of a power system to rotate, push and pull hollow drill pipe into the ground at a variable angle while delivering a pressurized fluid mixture to a guidable drill (bore) head. The power system shall be self contained with sufficient pressure and volume to power drilling operations. Hydraulic system shall be free of leaks. Rig shall have a system to monitor and record maximum pull back pressure during pull back operations. The rig shall be grounded during drilling and pull back operations. There shall be a system to detect electrical current from the drilling string and an audible alarm which automatically sounds when an electrical current is detected.

Drill Head:
The drill head shall be steerable by changing its rotation and shall provide the necessary cutting surfaces and drilling fluid jets.

Mud Motors (if required):
Mud motors shall be a adequate power to turn the required drilling tools.

Drill Pipe:
Shall be constructed of high quality 4130 seamless tubing, grade D or better.

The contractor's supervision assigned to this work must be experienced in work of this nature and must have successfully completed similar work using guided horizontal drilling systems.

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Guided Horizontal Drilling System (HDD) (Continued)

As part of the bid submission, the contractor shall submit a description of such and name the supervision that will be on the work site for the duration of the work

A guided horizontal drilling system consists of the following major components:

-- Directional/ steering head
-- Electronic navigation system which may include an electronic transmitter and above ground locator and/or a remote guidance system that confirms the position and orientation of the steering head.
-- Mobile drilling rig
-- Power unit
-- High pressure water pumps
-- Water/slurry mixing tank

The exact size and manufacture of the guided horizontal drilling system is at the discretion of the contractor. Contractor's selection shall consider the overall project requirements and the anticipated ground damage, digging conditions, water conditions, fence locations, tree conflicts, noise abatement, and seasons of the year and restoration of work area.

The contractor shall furnish the following information;

The guided horizontal drilling system provided shall have the following minimum capabilities: (contractor to fill in blanks)

---Thrust and pullback_____
--- Spindle torque_____
--- Drilling fluid pressure and flow rate_____

GUIDANCE AND LOCATION

Contractor shall keep the drill head on line and within the maximum deviations from the planned installation.

The contractor shall furnish the following information;

Maximum lateral (horizontal) deviation_____

Maximum vertical deviation_____

A Magnetic Guidance System (MGS) or proven gyroscopic system shall be used to provide a continuous and accurate determination of the location of the drill head during the drilling operation. The guidance shall be capable of tracking at all depths up to eighty feet and in any soil condition, including hard rock. It shall enable the driller to guide the drill head by providing immediate information on the tool face, azimuth (horizontal direction), and inclination (vertical direction) the guidance system shall be accurate to +/-2% of the vertical depth of the borehole at sensing position at depths up to one hundred feet and accurate within 4 feet horizontally. The guidance system shall be of a proven type and shall be operated by personnel trained and experience with this system. The operator shall be aware of any magnetic anomalies on the surface of the drill path and shall consider such influences in the operation of the guidance system if using a magnetic system.

Bore Tracking and Monitoring:
At all times during the pilot bore the Contractor shall provide and maintain a bore tracking system that is capable of accurately locating the position of the drill head in the x, y, and z axes. The Contractor shall record these data at least once per drill pipe length of every twenty five (25) feet, whichever is most frequent.

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WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE: 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: –	CAD FILE: 005627000105 9.DWG
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION: TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 EU23
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE: 4-01 08 / ISSUED / ENGINEER: RPS / REVISION: 1 2 3 — WORK REQUEST NO.: 56270	CHKD: / APPV:	SBC: / SCALE: NTS	COMPLETED BY: SHEET 59 OF 73