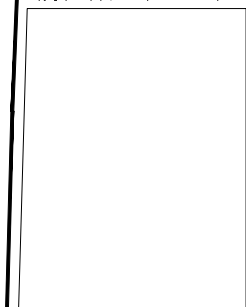


# CITY OF PAINESVILLE, OHIO

## US 20 WIDENING UTILITY RELOCATION CONSTRUCTION SET



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

TITLE SHEET

**PROJECT CONTACTS:**

**CLIENT CONTACT:**  
 JEFFREY McHUGH  
 ELECTRIC SUPERINTENDENT  
 ELECTRIC DIVISION  
 CITY OF PAINESVILLE  
 (440) 392-5939

**ENGINEER CONTACT:**  
 GPD GROUP - GLAUS, PYLE, SCHOMER, BURNS &  
 DEHAVEN, INC.  
 520 SOUTH MAIN STREET, SUITE 2531  
 AKRON, OH 44311  
 (330) 572-2100  
 FOR QUESTIONS PLEASE EMAIL:  
 DMELKEY@GPDGROUP.COM

**SHEET INDEX:**

T-01: TITLE SHEET
N-01: PROJECT NOTES & SYMBOLS LEGEND
FR-01A: - FR-01D: DRAWING INDEXES
FR-02 - FR-60: STAKING SHEETS
SS-01: STRINGING & SAGGING CHARTS (NOT RELEASED)
CU-01 TO CU-24: CONSTRUCTION UNITS

**DESIGN DATA**

REFERENCE STANDARDS	NEC 2017		
NEC SECTION	250B	250C	250D
LOAD CASE DESCRIPTION	HEAVY	EXTREME WIND	EXTREME ICE WITH CONCURRENT WIND
RADIAL ICE (IN)	0.50	0.00	0.75
WIND SPEED (3 SECOND GUST) MPH	40	90	40
TEMPERATURE	0	60	15

ISSUED FOR:

REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
 2022142.01

**T-01**








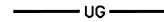















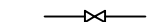















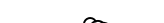


















### GENERAL NOTES

- THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT FOR INSTALLATION OF CITY SUPPLIED MATERIALS FOR THE LINE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HANDLING OF ALL MATERIAL.
- THESE DRAWINGS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE & DIRECT THE WORK & SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, & PROCEDURES.
- CONSTRUCTION WORK PRESENTS UNIQUE THREATS TO HEALTH & SAFETY. THE CONTRACTOR IS RESPONSIBLE TO EDUCATE THEIR WORK FORCE OF THESE DANGERS & LIMIT THEIR EXPOSURE TO HAZARDS. THIS EDUCATION SHALL INCLUDE BUT NOT BE LIMITED TO APPLICABLE TRAINING COURSES & CERTIFICATIONS, PROPER PERSONAL PROTECTIVE EQUIPMENT USAGE, DAILY TAILGATE MEETINGS & ANY OTHER PREVENTATIVE MEASURES WHICH MAY BE REASONABLY EXPECTED. THE CONTRACTOR & ALL SUB-CONTRACTORS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA. ADJACENT AREAS & ANY PROPERTY OCCUPANTS WHO MAY BE AFFECTED BY THE WORK UNDER CONTRACT. THE CONTRACTOR SHALL REVIEW ALL LANDOWNER, PRIME CONTRACTOR, CARRIER, OSHA, & LOCAL SAFETY GUIDELINES & AT ALL TIMES SHALL CONFORM TO THE MOST RESTRICTIVE OF THESE STANDARDS TO ENSURE A SAFE WORKPLACE.
- ALL MANUFACTURERS HARDWARE & ASSEMBLY INSTRUCTIONS SHALL BE FOLLOWED EXACTLY. DEVIATION FROM THE INSTRUCTIONS IS UNACCEPTABLE & REQUIRES WRITTEN APPROVAL FROM ENGINEER.
- MATERIALS & EQUIPMENT SHALL MEET OR EXCEED THE REQUIREMENTS OF RUS BULLETIN 202-1, "LIST OF MATERIALS ACCEPTABLE ON SYSTEMS OF RUS ELECTRIFICATION BORROWS".
- THE CONTRACTOR SHALL REMOVE, REINSTALL, OR TRANSFER ALL STREET LIGHTS AFFECTED. REINSTALLATION OR TRANSFER SHALL BE DONE WITHIN TWENTY-FOUR (24) HOURS OF REMOVAL. WIRE SHALL BE NEATLY INSTALLED USING STAPLES & WIRE MOLDING.
- OUTAGES REQUIRED BY THE CONTRACTOR SHALL BE SUBMITTED IN WRITING TO THE CITY ELECTRIC DEPARTMENT BY 9:00 AM LOCAL TIME A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO THE OUTAGE. WRITTEN SUBMITTALS SHALL INCLUDE A LIST OF THE STREETS WITH ADDRESSES OF ALL BUILDINGS AFFECTED. THE ELECTRIC DISTRIBUTION SUPERINTENDENT WILL THEN APPROVE/DISAPPROVE THE OUTAGES WITHIN SIX (6) HOURS OF SUBMITTAL. THE CONTRACTOR IS THEN REQUIRED TO GIVE NOTICE, IN WRITING, TO EVERY BUILDING AFFECTED. NOTICES SHALL BE HAND DELIVERED BY CONTRACTOR TWENTY-FOUR (24) HOURS PRIOR TO OUTAGE. A "DOOR HANGER" TYPE NOTICE STATING TIME & DATE OF OUTAGE SHALL BE SUFFICIENT. NO OUTAGES SHALL OCCUR BEFORE 9:00 AM LOCAL TIME, UNLESS APPROVED BY ALL PARTIES INVOLVED.
- THE CONTRACTOR IS RESPONSIBLE FOR CONNECTION/RECONNECTION/TRANSFER/EXTENDING OR INSTALLATION OF ALL NEW OR EXISTING PHASE CONDUCTORS, NEUTRALS, TRANSFORMERS, DUPLEX, TRIPLEX, QUADRUPLEX, UNDERGROUND PRIMARY, UNDERGROUND SECONDARY/SERVICE & ALL JUMPERS WHETHER SHOWN OR NOT. INSULINKS OR BUTT SLEEVES ARE NOT ACCEPTABLE FOR SECONDARY CONNECTIONS & EXTENSIONS. COMPRESSION TENSION SLEEVES ARE PERMITTED; HOWEVER, ALL CONNECTION TYPES SHALL BE APPROVED BY THE CITY.
- THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL & RETURNING TO OWNER ALL REPLACED OR ABANDONED CONSTRUCTION MATERIALS & POLES WHETHER SHOWN ON THE DRAWINGS OR NOT. HOWEVER, THE OWNER MAY AT HIS DISCRETION DIRECT THE CONTRACTOR TO DISPOSE OF ITEMS OF MATERIAL THAT THE OWNER JUDGES TO BE USELESS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS INVOLVED IN DISPOSAL OF MATERIAL.
- CONTRACTOR SHALL VERIFY ALL EXISTING CONDUCTOR SIZES & INSTALL CLAMPS & GRIPS ACCORDINGLY.
- THE SURVEY MAKES NO GUARANTEE TO THE ACCURACY OR COMPLETENESS OF THE UTILITIES, EITHER IN SERVICE OR ABANDONED, SHOWN HEREON. NO EXCAVATION WAS PERFORMED TO LOCATE THE UNDERGROUND UTILITIES SHOWN HEREON. CONTRACTOR SHALL NOTIFY THE LOCAL ONE CALL SYSTEM PRIOR TO EXCAVATING. PRIVATE COMPANIES NOT PART OF THE ONE CALL SYSTEM SHALL BE NOTIFIED DIRECTLY.
- ALL EXISTING DISTRIBUTION LINES SHALL REMAIN ENERGIZED UNTIL LOAD HAS BEEN TRANSFERRED TO THE NEW DISTRIBUTION LINES.
- THE CONTRACTOR SHALL PROVIDE MAINTENANCE OF TRAFFIC IN ACCORDANCE WITH ODOT REQUIREMENTS FOR WORK ALONG US 20 & SHALL PROVIDE "FLAGGERS" AS DICTATED BY CITY REQUIREMENTS & TRAFFIC DEMANDS FOR WORK ON THE WALNUT FEEDER SECTION
- CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING PUBLIC & PRIVATE UTILITIES PRIOR TO ANY EXCAVATION OR ANCHOR INSTALLATION.
- ALL TRANSFORMERS SHALL BE SUPPLIED BY THE CITY & INSTALLED BY THE CONTRACTOR. REMOVED TRANSFORMERS SHALL BE CAREFULLY RETURNED TO THE CITY STORAGE FACILITY UNDAMAGED.
- IF ANY CITY GATES OR LOCKS ARE LEFT UNLOCKED OR UNATTENDED, THE CITY ELECTRIC DEPARTMENT WILL BE CALLED OUT, EACH & EVERY DAY THAT THE CONTRACTOR WORKS IN THE CITY TO CLOSE THE LOCKS. THE CONTRACTOR WILL BE BILLED FOR EVERY ONE OF THESE CALLOUTS.
- THE CONTRACTOR SHALL HAVE COMPANY EMBLEMS ON ALL TRUCKS. THE CONTRACTOR SHALL NOT DRIVE ON PRIVATE PROPERTY UNLESS THEY HAVE OWNERS PERMISSION.
- CONSTRUCTION UNITS LISTED ON THE STAKING SHEETS AS "EX" WHERE A NEW POLE IS LISTED SHALL INDICATE A TRANSFER OF THIS EXISTING UNIT FROM THE EXISTING POLE ONTO THE NEW POLE. CONSTRUCTION UNITS LISTED WITH A QUANTITY SHOWN INDICATE THAT THE CONTRACTOR SHALL INSTALL A COMPLETE NEW UNIT INCLUDING HARDWARE, MAJOR MATERIAL ITEMS (I.E. CROSSARMS, POLES, TRANSFORMERS, BRACES, CUTOUTS, SWITCHES & CONDUCTOR) SHALL BE FURNISHED BY THE CITY. MISCELLANEOUS HARDWARE & ITEMS OF CONSTRUCTION SHALL BE FURNISHED BY THE CONTRACTOR.
- DO NOT SCALE DRAWINGS.

### OVERHEAD CONSTRUCTION NOTES

- NO POLES SHALL BE CUT WITHOUT OWNERS APPROVAL, UNLESS SHOWN ON DRAWING.
- ALL POLES SHALL BE INSTALLED WITH MECHANICALLY TAMPED BACKFILL. EXCESS DIRT & STONE SHALL BE REMOVED AT CONTRACTORS EXPENSE & TRANSPORTED TO OWNERS STORAGE PILE.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF COVER-UP IN ALL CONDUCTOR CROSSING AREAS.
- ALL COMMUNICATION COMPANY TRANSFERS WILL BE THE RESPONSIBILITY OF THE RESPECTIVE COMPANIES.
- THE CONTRACTOR SHALL PERFORM ALL POLE STAKING WORK & SHALL VERIFY THAT ALL POLES, GUYS WIRES AND/OR ANCHORS ARE WITHIN OWNERS PROPERTY, ROAD RIGHT-OF-WAY, PRIVATE EASEMENTS AND/OR SPECIAL EASEMENTS. THE CONTRACTOR SHALL EMPLOY A LICENSED REGISTERED SURVEYOR TO VERIFY THE EDGE OF RIGHT-OF-WAY ALONG THE PROPOSED POLE LINE.
- POLELINE FEET DISTANCE IS FROM CENTER OF POLE/EQUIPMENT TO CENTER OF POLE/EQUIPMENT. THIS VALUE DOES NOT ACCOUNT FOR ALL THREE PHASE CONDUCTORS NOR CABLE FOR RISERS, TERMINATIONS, SCRAP, ETC. CONTRACTOR SHALL FIGURE THEIR OWN TOTAL CABLE LENGTHS NECESSARY FOR A COMPLETE & FUNCTIONAL SYSTEM.
- ALL ABANDONED POLES, CONDUCTOR, HARDWARE, EQUIPMENT & ASSOCIATED APPURTENANCES SHALL BE REMOVED BY CONTRACTOR.
- FOR EACH POLE & ASSOCIATED CONDUCTOR TO BE INSTALLED, REMOVE CORRESPONDING EXISTING POLES & CONDUCTOR UNLESS NOTED OTHERWISE.

### SYMBOLS LEGEND

	NEW POLE		THREE PHASE LINE
	EXISTING POLE		TWO PHASE LINE
	NEW POLE SET BY TELEPHONE CO.		SINGLE PHASE LINE
	NEW SELF SUPPORTING STEEL OR WOOD LAMINATED POLE		UNDERGROUND WIRE OR CABLE
	POLE TO BE REMOVED		SECONDARY OR TPX
	1Ø OVERHEAD POLE TRANSFORMER		WIRE OR CABLE TO BE REMOVED
	1Ø OVERHEAD POLE TRANSFORMER TO BE REMOVED		MID SPAN TAP
	3Ø OVERHEAD POLE TRANSFORMER		NEW DOWN GUY
	2Ø OVERHEAD POLE TRANSFORMER		EXISTING DOWN GUY
	3Ø OVERHEAD POLE TRANSFORMER TO BE REMOVED		DOWN GUY TO BE REMOVED
	1Ø PADMOUNT TRANSFORMER		NEW SPAN GUY
	1Ø PADMOUNT TRANSFORMER TO BE REMOVED		EXISTING SPAN GUY
	3Ø PADMOUNT TRANSFORMER		SPAN GUY TO BE REMOVED
	3Ø PADMOUNT TRANSFORMER TO BE REMOVED		RIVER
	PADMOUNT SWITCH & BOXPAD		CREEK
	PRIMARY OR SECONDARY PEDESTAL		DRIVEWAY
	DUAL VOLTAGE		BRIDGE
	REMOVE		FENCE
	GANG OPERATED SWITCH		RAILROAD
	(RH) = RIGHT HAND OPERATION		WOODED AREA OR VEGETATION
	(LH) = LEFT HAND OPERATION		TREE
	GANG OPERATED SWITCH TO BE REMOVED		CULVERT
	DISCONNECT SWITCH		OPENING IN PRIMARY CONDUCTORS
	DISCONNECT SWITCH TO BE REMOVED		OPENING IN SECONDARY CONDUCTORS
	FUSED CUTOUT		CAPACITOR
	FUSED CUTOUT TO BE REMOVED		PRIMARY OR SECONDARY METERING
	STREET LIGHT		DISTRIBUTION RECLOSER
	STREET LIGHT TO BE REMOVED		DISTRIBUTION RECLOSER TO BE REMOVED
	GROUND		PAINESVILLE MUNICIPAL ELECTRIC
	LIGHTNING ARRESTER		FIRSTENERGY

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 Glous, Pyle, Schomer, Burns & DeHaven, Inc.  
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 Akron, OH 44311  
 330.572.2100 Fax 330.572.2101  
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REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 PROJECT NOTES  
 & SYMBOLS LEGEND

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**N-01**

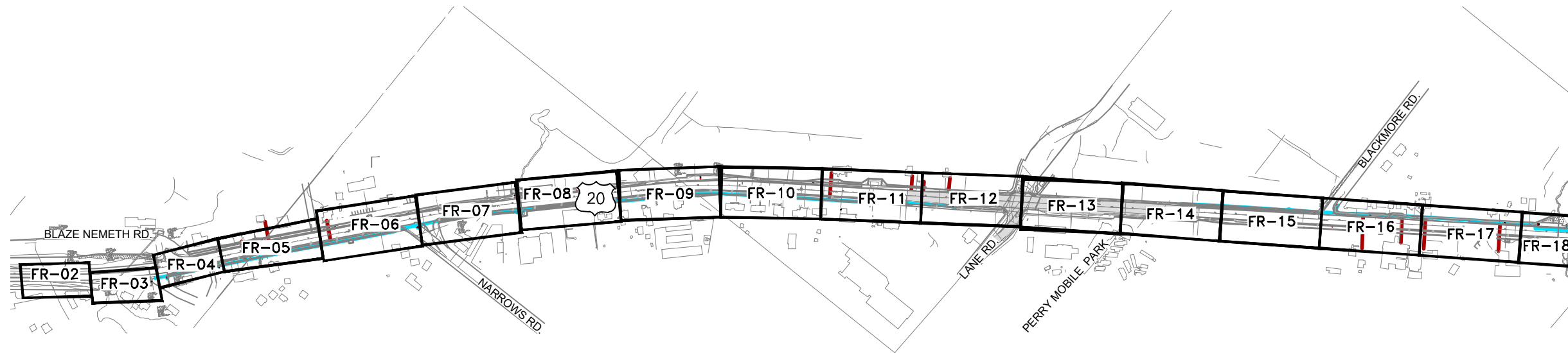
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 July 25, 2024 3:19 PM - franczak

**GENERAL WORK SCOPE:**

RELOCATE EXISTING OVERHEAD 13.2kV 3Ø PRIMARY CIRCUITS. RECONDUCTOR WITH NEW 266.8 kCMIL ACSR 26/7 "PARTRIDGE" PRIMARY & #2/0 AWG ACSR 6/1 "QUAIL" NEUTRAL. INSTALL NEW 15kV CABLE INCLUDING PADMOUNT SWITCHES, & 600V SECONDARY DISTRIBUTION CIRCUITS. TRANSFER & EXTEND EXISTING 600V SERVICE DROPS (OVERHEAD & UNDERGROUND). TRANSFER EX. 3Ø PRIMARY UNDERGROUND SERVICES. REMOVE EXISTING POLES, CONDUCTOR, & ALL ASSOCIATED HARDWARE UNLESS OTHERWISE NOTED.



SCALE: N.T.S.



REV.	DATE	DESCRIPTION

**CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION**

**DRAWING INDEX**

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

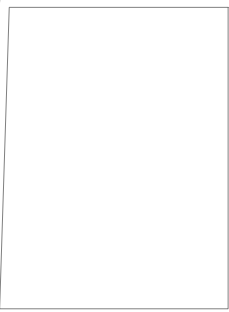
JOB NO.  
**2022142.01**

**FR-01A**

**811**  
 Know what's below.  
 Call before you dig.

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN OHIO, CALL OHIO UTILITIES PROTECTION SERVICE  
 TOLL FREE: 1-800-362-2764 OR www.oups.org

OHIO STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE



REV.	DATE	DESCRIPTION

**CITY OF PAINESVILLE, OHIO**  
**US 20 ROAD WIDENING**  
**UTILITY RELOCATION**

**DRAWING INDEX**

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**FR-01B**

**GENERAL WORK SCOPE:**

RELOCATE EXISTING OVERHEAD 13.2kV 3Ø PRIMARY CIRCUITS. RECONDUCTOR WITH NEW 266.8 kCMIL ACSR 26/7 "PARTRIDGE" PRIMARY & #2/0 AWG ACSR 6/1 "QUAIL" NEUTRAL. INSTALL NEW 15kV CABLE INCLUDING PADMOUNT SWITCHES, & 600V SECONDARY DISTRIBUTION CIRCUITS. TRANSFER & EXTEND EXISTING 600V SERVICE DROPS (OVERHEAD & UNDERGROUND). TRANSFER EX. 3Ø PRIMARY UNDERGROUND SERVICES. REMOVE EXISTING POLES, CONDUCTOR, & ALL ASSOCIATED HARDWARE UNLESS OTHERWISE NOTED.



SCALE: N.T.S.




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 July 25, 2024 3:19 PM - franczak

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RELOCATE EXISTING OVERHEAD 13.2kV 3Ø PRIMARY CIRCUITS. RECONDUCTOR WITH NEW 266.8 kCMIL ACSR 26/7 "PARTRIDGE" PRIMARY & #2/0 AWG ACSR 6/1 "QUAIL" NEUTRAL. INSTALL NEW 15kV CABLE INCLUDING PADMOUNT SWITCHES, & 600V SECONDARY DISTRIBUTION CIRCUITS. TRANSFER & EXTEND EXISTING 600V SERVICE DROPS (OVERHEAD & UNDERGROUND). TRANSFER EX. 3Ø PRIMARY UNDERGROUND SERVICES. REMOVE EXISTING POLES, CONDUCTOR, & ALL ASSOCIATED HARDWARE UNLESS OTHERWISE NOTED.



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REV.	DATE	DESCRIPTION

**CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION**


**DRAWING INDEX**

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**FR-01C**

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 July 25, 2024 3:19 PM - franczak



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**GENERAL WORK SCOPE:**

RELOCATE EXISTING OVERHEAD 13.2kV 3Ø PRIMARY CIRCUITS. RECONDUCTOR WITH NEW 266.8 kCMIL ACSR 26/7 "PARTRIDGE" PRIMARY & #2/0 AWG ACSR 6/1 "QUAIL" NEUTRAL. INSTALL NEW 15kV CABLE INCLUDING PADMOUNT SWITCHES, & 600V SECONDARY DISTRIBUTION CIRCUITS. TRANSFER & EXTEND EXISTING 600V SERVICE DROPS (OVERHEAD & UNDERGROUND). TRANSFER EX. 3Ø PRIMARY UNDERGROUND SERVICES. REMOVE EXISTING POLES, CONDUCTOR, & ALL ASSOCIATED HARDWARE UNLESS OTHERWISE NOTED.



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REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

DRAWING INDEX

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
2022142.01

FR-01D

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July 25, 2024 3:19 PM - franczak



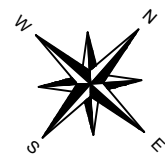
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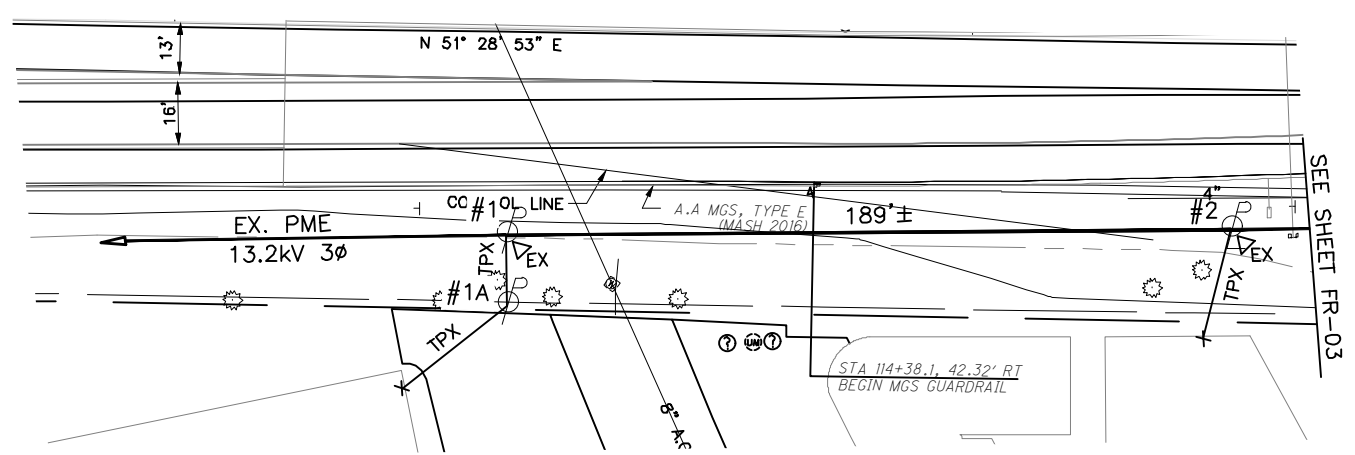
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NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
1	EX					EX		EX	EX								EX	EX						NO WORK	
1A	EX												EX			EX									NO WORK
2	EX					EX		EX	EX				EX			EX	EX	EX							NO WORK

REV.	DATE	DESCRIPTION



SCALE: 1"=50'

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY				
NEUTRAL				
SECONDARY				
SERVICE				



CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

DESIGNER	ENGINEER
JWF	PCT

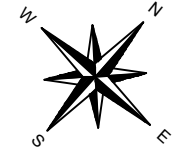
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
2022142.01

FR-02

Drawing Name: O:\2022\2022142 - Painesville\US20 - Road Widening Utility Relocation\400\_Construction Engineering\01\_Construction Design\Poleline ZDWGS\Construction Drawings\Construction Set\CONSTRUCTION SET.dwg  
Date: 07/25/2024 3:10 PM - Jfranczak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS	
3	EX					EX		EX	EX								EX	EX						NO WORK
4	45'	3				EX	1 1 10	C8A-M C7-M M5	EX		1	M24				EX			1 1	G41 GG	12'	1	G24C	CONTRACTOR SHALL INSTALL NEW POLE, FRAMING, GUYING & ALL UNITS AS NOTED IN THE STAKING TABLE. INSTALL SPAN TO
							1 1	A5-2 M10													EX			POLE #5. TRANSFER OF EXISTING CONDUCTORS BY CITY AFTER OVERHEAD SIGN TRUSS HAS BEEN TRANSFERRED IN ODOT PROJECT.
4A	EX					EX			EX									EX						TRANSFER EXISTING SPAN TO POLE #6 TO POLE #4. JUMPER TO NEW C8A-M UNIT ON POLE #4.



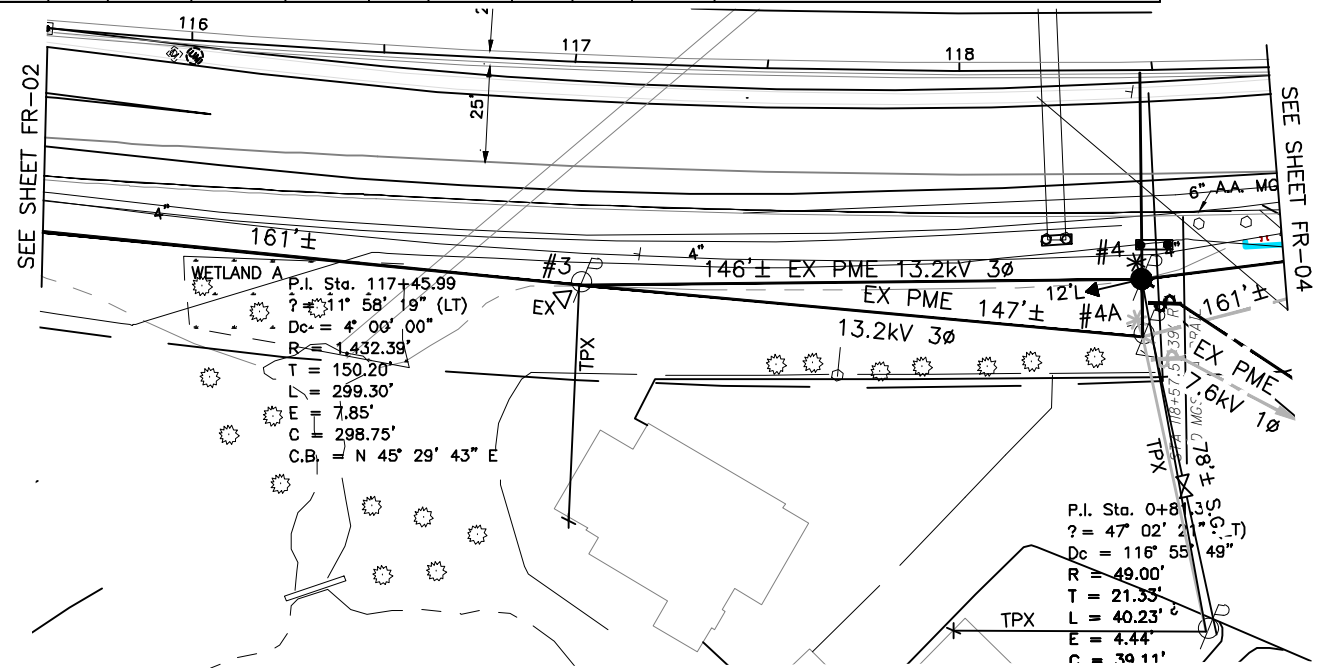
SCALE: 1"=50'

REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

STAKING SHEET

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY				
NEUTRAL				
SECONDARY				
SERVICE				



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RECORD	-

DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
2022142.01

FR-03



POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
5	45'	3				158'	1	6	C8A-M M5	158'	#2/0 #1/0 TPX	1	M27	46'	#2 TPX	1	M27			1	G42A	96'			TRANSFER EX. STREET LIGHT FROM POLE #6.
5A	EX																								NO WORK
5B	EX					EX			EX				EX												NO WORK
6	R/M					R/M			R/M				R/M												REMOVE EX. POLE, HARDWARE & ALL ASSOC. APPURTENANCES.
7	45'	3				149'	1	1	C1A-M T1	149'	#2/0 #1/0 TPX	1	M27	EX											TRANSFER EX. AREA LIGHT, XFMR & SERVICE TPX TO NEW POLE. EXTEND EX SERVICE.



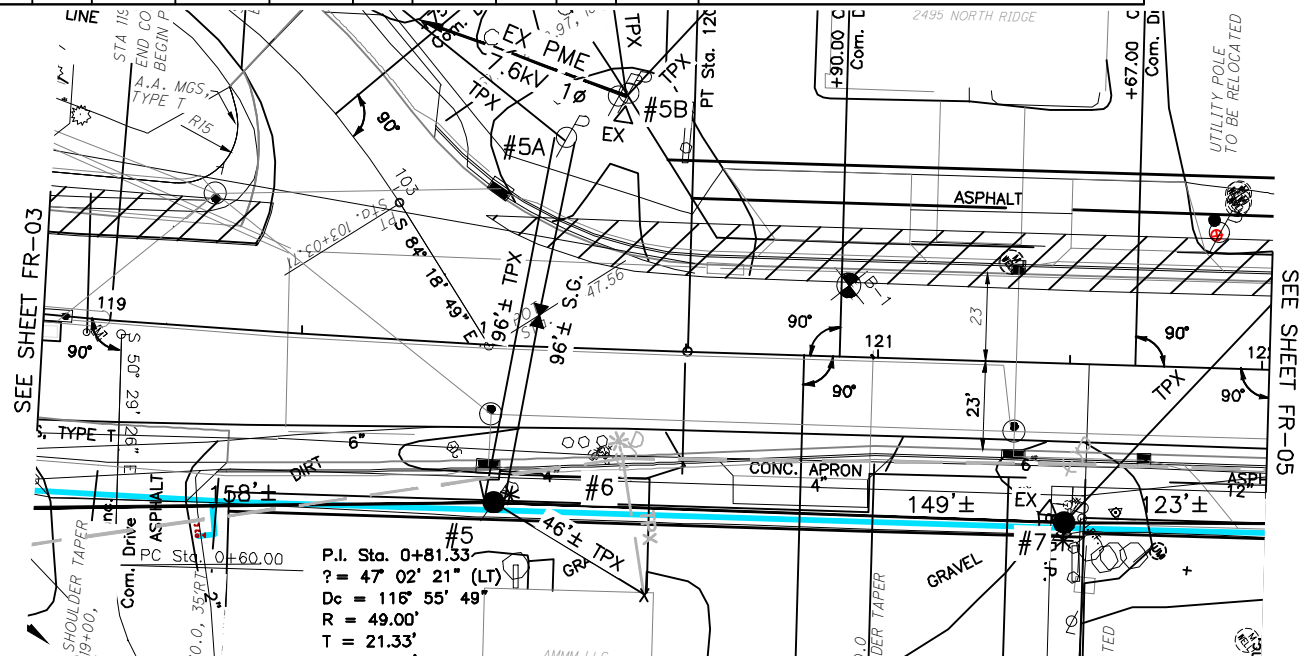
SCALE: 1"=50'

REV.	DATE	DESCRIPTION

**CITY OF PAINESVILLE, OHIO**  
**US 20 ROAD WIDENING**  
**UTILITY RELOCATION**

**STAKING SHEET**

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	307'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	921'
NEUTRAL	307'	1	#2/0 AWG ACSR 6/1 "QUAIL"	307'
SECONDARY	307'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	307'
SERVICE	142'	1	#2 AWG 7/W ACSR TPX "CONCH"	142'



Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_ Construction Engineering\01\_Construction Design\01\_PoleLine 21DWGS\Construction Drawings\Construction Set\CONSTRUCTION SET\_20240722.dwg  
 Date: 7/23/2024 3:10 PM - Jfranczak

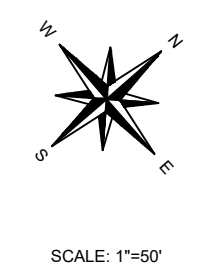
ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**FR-04**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS	
8	45'	3				123'	1	C1A-M	123'	#2/0 #1/0 TPX	1	M27												TRANSFER EX. STREET LIGHT & AREA LIGHT TO NEW POLE.
9	45'	3				123'	1	C1A-M	123'	#2/0 #1/0 TPX	1	M27												TRANSFER EX. AREA LIGHTS (2) TO NEW POLE.
10	45'	3				134'	1	C1A-M T1	134'	#2/0 #1/0 TPX	1	M27	EX		1	M27	EX	G11						TRANSFER EX. AREA LIGHTS (2), XFMR, & SERVICE TPX TO NEW POLE.
11	45'	3				107'	1	C1A-M T1	107'	#2/0 #1/0 TPX	1	M27					EX	G11						TRANSFER EX. AREA LIGHT & XFMR TO NEW POLE.



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

STAKING SHEET

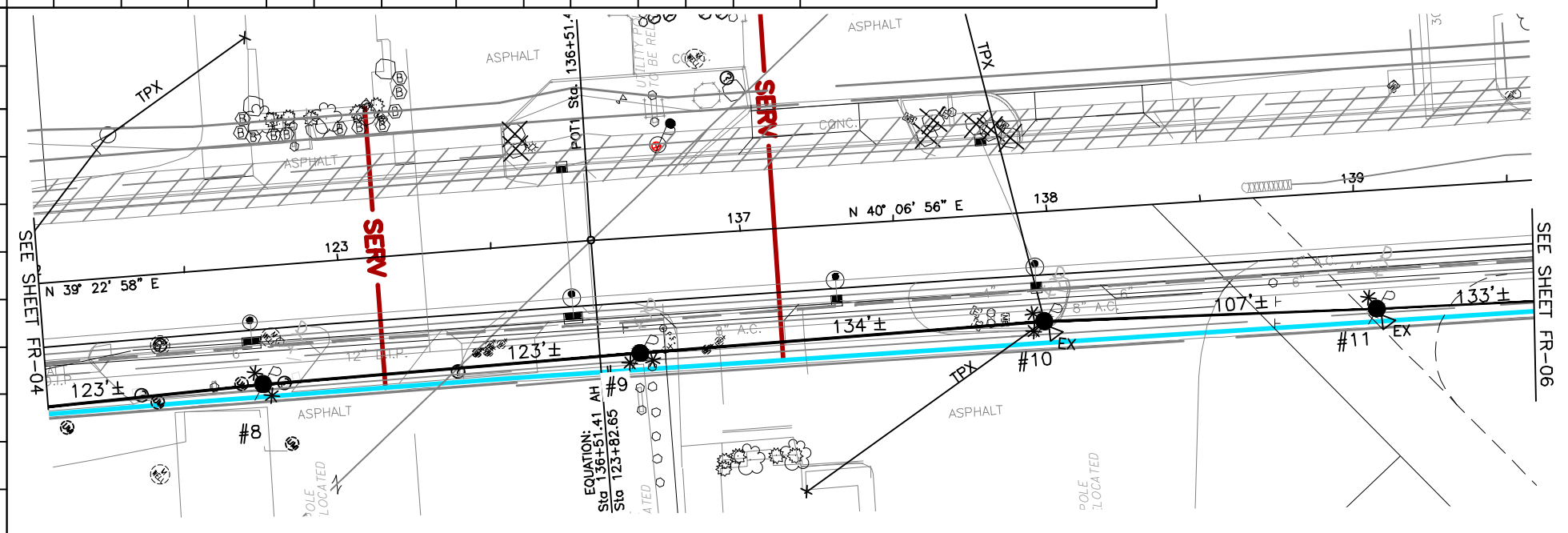
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REVIEW	03/03/2023
BID	-
CONSTRUCTION RECORD	01/31/2024
DESIGNER	JWF
ENGINEER	PCT
PROJECT MANAGER	DLM
APPROVED BY	JWP

JOB NO.  
**2022142.01**

**FR-05**

Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400 - Construction Engineering\01\_Construction Design\ Poleline Z\DWGS\Construction Drawings\Construction Set\CONSTRUCTION SET\_SR20\_FR2.dwg  
July 25, 2024 3:10 PM - jfranzak

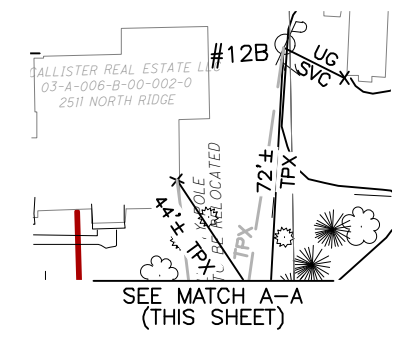
TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	487'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1461'
NEUTRAL	487'	1	#2/0 AWG ACSR 6/1 "QUAIL"	487'
SECONDARY	487'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	487'
SERVICE				



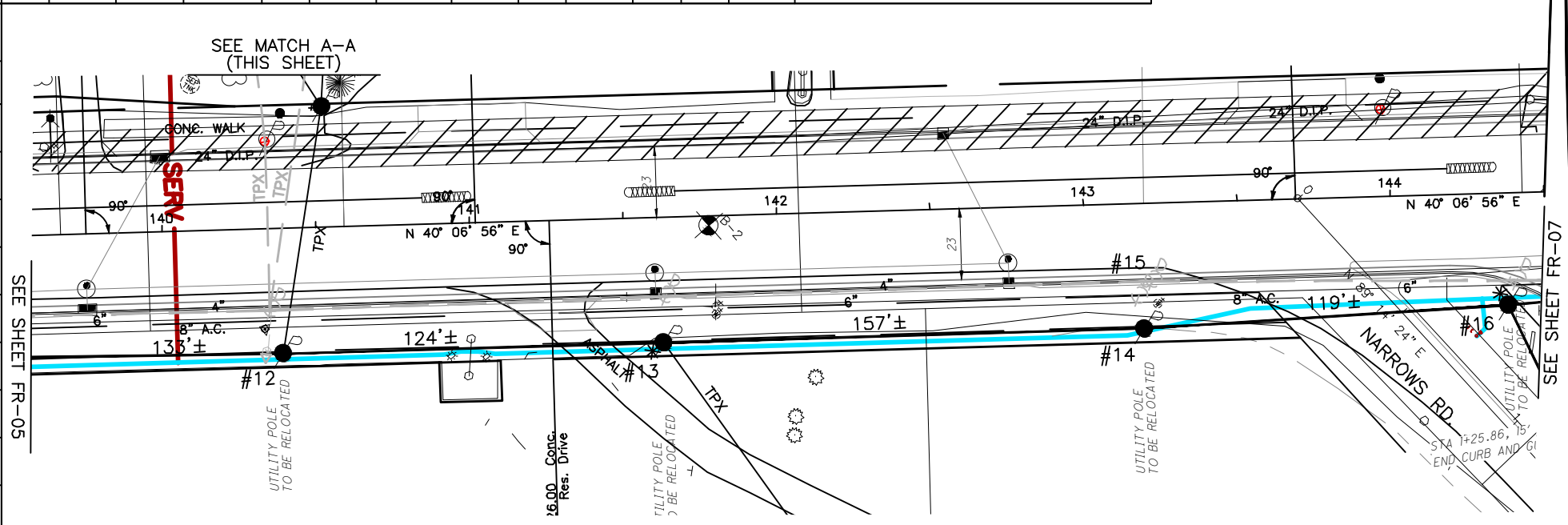
POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS	
12	45'	3				133'	1	C1A-M	133'	#2/0 #1/0 TPX	1	M27	EX											TRANSFER EX. SERVICE TPX TO NEW POLE.
12A	35'	4											44'	#2 TPX	2	M27								F.E. TO INSTALL NEW POLE IN THE VACINITY OF THIS POLE. COORDINATE POLE LOCATION W/F.E. TRANSFER EX. SERVICE TPX TO NEW POLE.
12B	EX												72'	#2 TPX		EX								
13	45'	3				124'	1	C1A-2M	124'	#2/0 #1/0 TPX	1	M27	EX		1	M27								TRANSFER EX. AREA LIGHT & SERVICE TPX TO NEW POLE.
14	45'	3				157'	1	C1A-2M	157'	#2/0 #1/0 TPX	1	M27												
15	R/M																							REMOVE EX. POLE BUTT.
16	45'	3				119'	1	C1A-M	119'	#2/0 #1/0 TPX	1	M27						G11						TRANSFER EX. 3Ø TAP CONDUCTORS & STREET LIGHT TO NEW POLE.



SCALE: 1"=50'



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	533'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1599'
NEUTRAL	533'	1	#2/0 AWG ACSR 6/1 "QUAIL"	533'
SECONDARY	533'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	533'
SERVICE	116'	1	#2 AWG 7/W ACSR TPX "CONCH"	116'



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

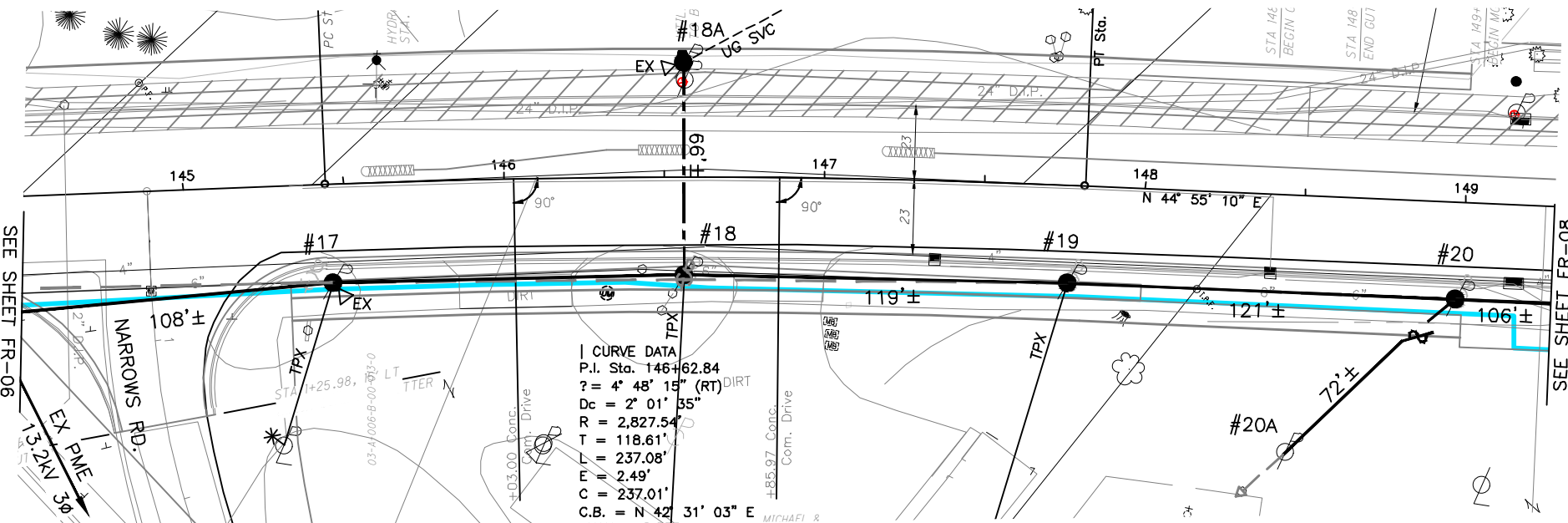
JOB NO.  
**2022142.01**  
**FR-06**

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 SET\_25\_2024.dwg  
 July 23, 2024 3:10 PM - Jfranczak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY		ANCHOR		REMARKS		
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY		UNITS	
17	45'	3				108'	1 6 1	C8A-M M5 T1	108' #2/0 #1/0 TPX		1	M27	EX		1	M27	EX	G11							TRANSFER EX. XFMR & SERVICE TPX TO NEW POLE. RAKE POLE 12" TOWARD FIELD SIDE.
18	45'	3				109'	1 1	C1A-M A5-2	109' #2/0 #1/0 TPX		1	M27	EX		1	M27									TRANSFER EX. SERVICE TPX TO NEW POLE. COORDINATE W/CITY AMI EQUIPMENT.
18A	45'	3				66' #2/0	1 1	A5-2 T1	66' #2/0				EX		1	M27	EX	G11							TRANSFER EX. XFMR & UG SERVICE TO NEW POLE.
19	45'	3				119'	1	C1A-M	119' #2/0 #1/0 TPX		1	M27	EX		1	M27									TRANSFER EX. SERVICE TPX TO NEW POLE.
20	45'	3				121'	1 1 3 5	C1A-M C7-M M10 M5	121' #2/0 #1/0 TPX		1	M27						G11							TRANSFER EX. 3Ø TAP CONDUCTORS TO NEW POLE. TRANSFER EX (3)-1Ø HOOKSTICK SWITCHES TO NEW POLE #21
20A	EX					EX		EX	EX									EX		EX					NO WORK



SCALE: 1"=50'



Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
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 July 25, 2024 3:10 PM - jfranzak

REV.	DATE	DESCRIPTION

**CITY OF PAINESVILLE, OHIO**  
**US 20 ROAD WIDENING**  
**UTILITY RELOCATION**

STAKING SHEET

ISSUED FOR:

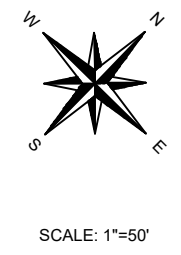
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**FR-07**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS	
21	45'	3				106'	1	C8A-M MS-15U M6	106'	#2/0 #1/0 TPX	1	M27						G11						INSTALL (3)-1Ø HOOKSTICK SWITCHES FROM POLE #20
22	45'	3				130'	1	C1A-M	130'	#2/0 #1/0 TPX	1	M27												TRANSFER EX. AREA LIGHT TO NEW POLE.
23	45'	3				124'	1	C1A-M	124'	#2/0 #1/0 TPX	1	M27	EX		1	M27								TRANSFER EX. AREA LIGHT & SERVICE TPX TO NEW POLE.
24	45'	3				133'	1	C1A-2M	133'	#2/0 #1/0 TPX	1	M27	EX		1	M27								TRANSFER EX. SERVICE TPX TO NEW POLE.
24A	R/M																							REMOVE EX. POLE BUTT.



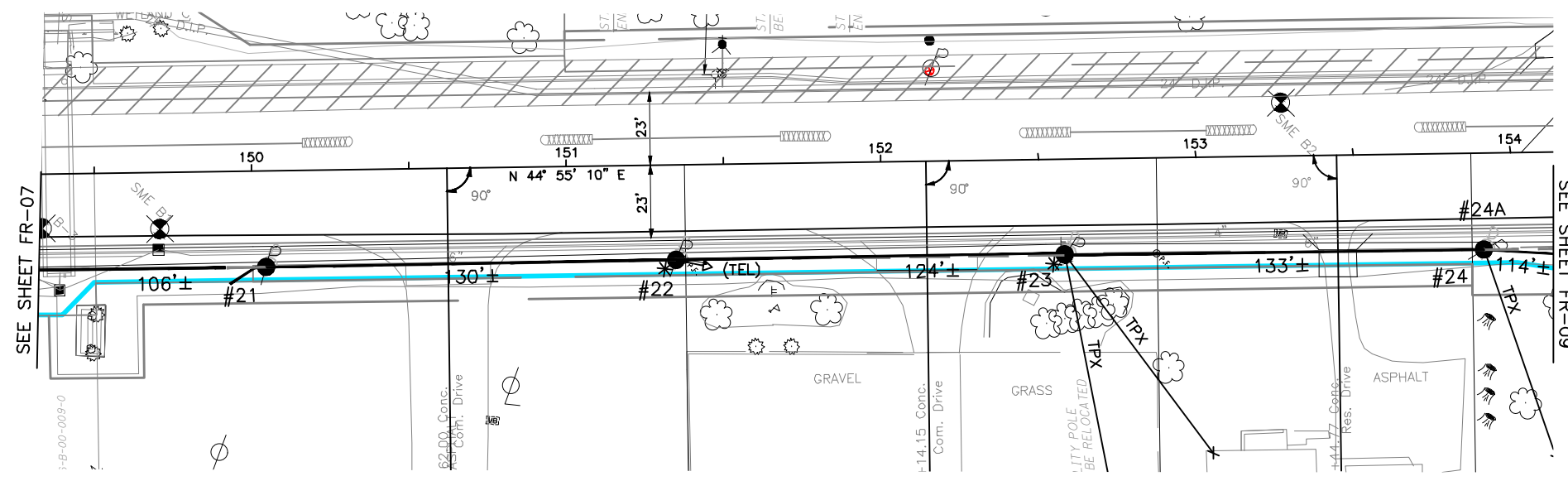
REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

STAKING SHEET

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
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July 26, 2024 3:10 PM - jfraczak

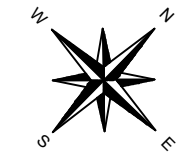
TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	493'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1479'
NEUTRAL	493'	1	#2/0 AWG ACSR 6/1 "QUAIL"	493'
SECONDARY	493'	1	#1/0 AWG 7/W TPX ACSR "NERITINA"	493'
SERVICE				



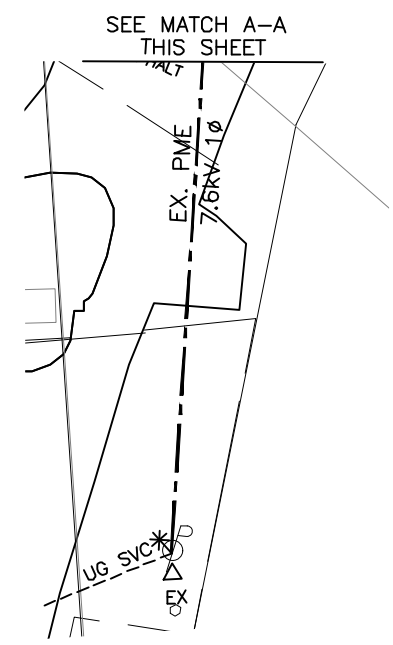
ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**FR-08**

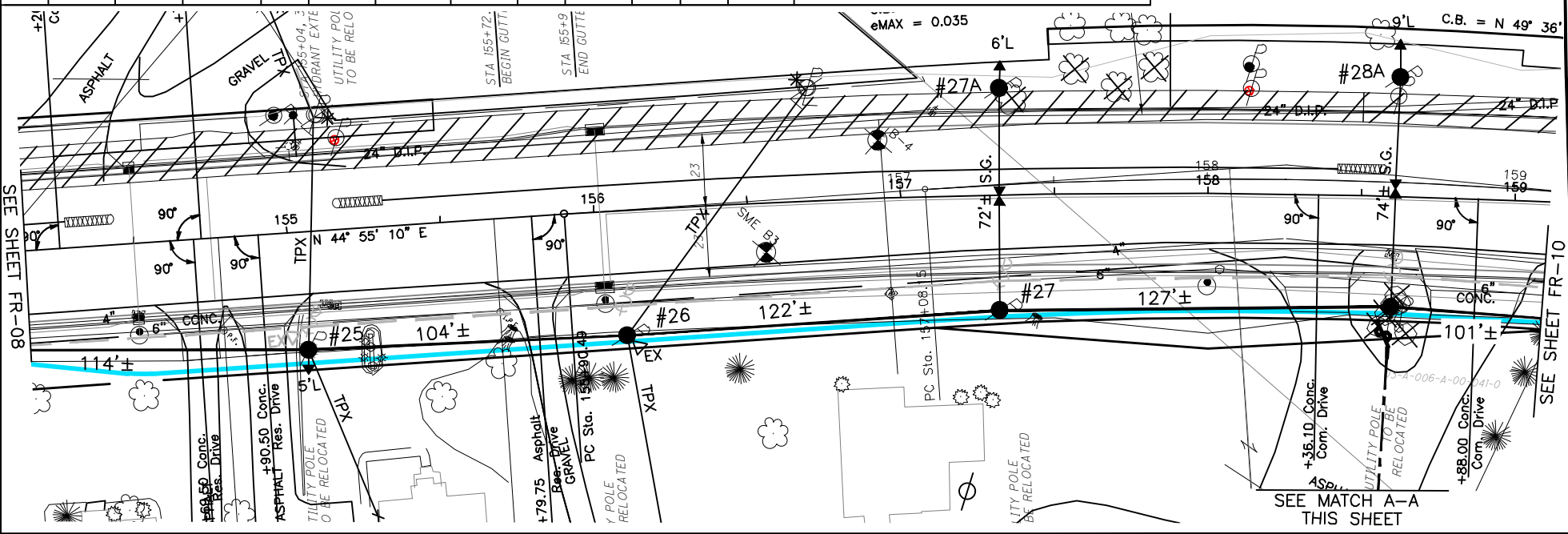


SCALE: 1"=50'



POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS	
25	45'	3				114'	1	C1A-2M	114'	#2/0 #1/0 TPX	1	M27	EX		1	M27	R/M		1	G41A G41 GG	5'	1	G24D	TRANSFER EX. SERVICE TPX TO NEW POLE. TRANSFER EX. XFMR TO POLE #26.
26	45'	3				104'	1	C1A-M	104'	#2/0 #1/0 TPX	1	M27	EX		1	M27	EX	G11						TRANSFER EX. SERVICE TPX TO NEW POLE. TRANSFER EX. XFMR FROM POLE #25 TO NEW POLE.
27	45'	3				122'	1	C1A-2M	122'	#2/0 #1/0 TPX	1	M27							1	G42A G42	72'			
27A	35'	3																	1	G41A G41 GG	6'	1	G24D	
28	45'	3				127'	1	C1A-2M	127'	#2/0 #1/0 TPX	1	M27						G11	1	G42A G42	74'			TRANSFER EX. 1Ø TAP CONDUCTORS TO NEW POLE.
28A	35'	3																	1	G41A G41 GG	9'	1	G24D	

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	467'	3	226.8 kCMIL ACSR 26/7 "WAXWING"	1401'
NEUTRAL	467'	1	#2/0 AWG ACSR 6/1 "QUAIL"	467'
SECONDARY	467'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	467'
SERVICE				



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

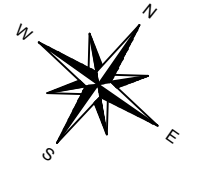
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REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
**FR-09**

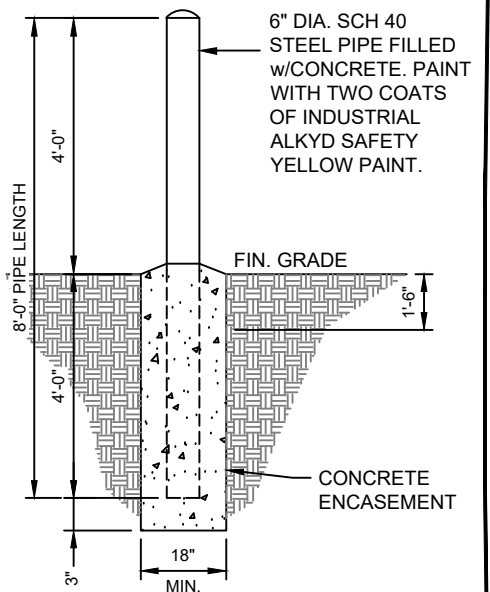
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 Engineering\01\_Construction Design\Poline\_Z\DWGS\Construction Drawings\Construction Set\CONSTRUCTION  
 July 25, 2024 3:10 PM - jfranzak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY		ANCHOR		REMARKS		
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY		UNITS	
29	45'	3				101'	1	C1A-M	101'	#2/0 #1/0 TPX	1	M27	EX		1	M27									TRANSFER EX. SERVICE TPX TO NEW POLE.
30	45'	3				135'	1 6 1	C8A-M M5 T210	135' 135'	#2/0 #1/0 TPX	1	M27	EX		1	M27		G11	1 1	G41A GG	15'	1	G24D		TRANSFER EX. XFMRs & SERVICE TPX TO NEW POLE.
31	45'	3				133'	1 1	C7-M UG3-1B	133' 133'	#2/0 #1/0 TPX	1	M27	EX		1	M27		G11							TRANSFER EX. SERVICE TPX TO NEW POLE. CREATE SEMI-SLACK SPAN TO POLE #30. SEE NOTE 3.
32	35'	5				R/M		R/M	107'	#1/0 TPX	1	M24	EX		1	M27			1 1	G41 GG	10'	1	G24C		REMOVE EX. PRIMARY CONDUCTORS & TRANSFER EX SERVICE TPX TO NEW POLE.
32A	EX					EX		EX	EX	EX		EX	EX			EX		EX	EX	EX					EX. F.E. POLE NO WORK.

- NOTES:**
- POLE LINE FEET DISTANCE IS FROM CENTER OF POLE/EQUIPMENT TO CENTER OF POLE/EQUIPMENT. THIS VALUE DOES NOT ACCOUNT FOR ALL THREE PHASE CONDUCTORS NOR CABLE FOR RISERS, TERMINATIONS, SCRAP, ETC. CONTRACTOR SHALL FIGURE THEIR OWN TOTAL CABLE LENGTH NECESSARY FOR A COMPLETE 3Ø CIRCUIT RUN.
  - INSTALL CABLE IN 5" SCH 80 PVC CONDUIT. INSTALL (1) SPARE CONDUIT. CAP SPARE CONDUIT 12" ABOVE GRADE, BOTH ENDS.
  - INSTALL TWO (2) BOLLARDS AT RISER. COORDINATE BOLLARD LOCATIONS WITH CITY PRIOR TO INSTALLATION. BOLLARD QUANTITY & LOCATIONS SUBJECT TO CHANGE. SEE BOLLARD DETAIL, THIS SHEET.

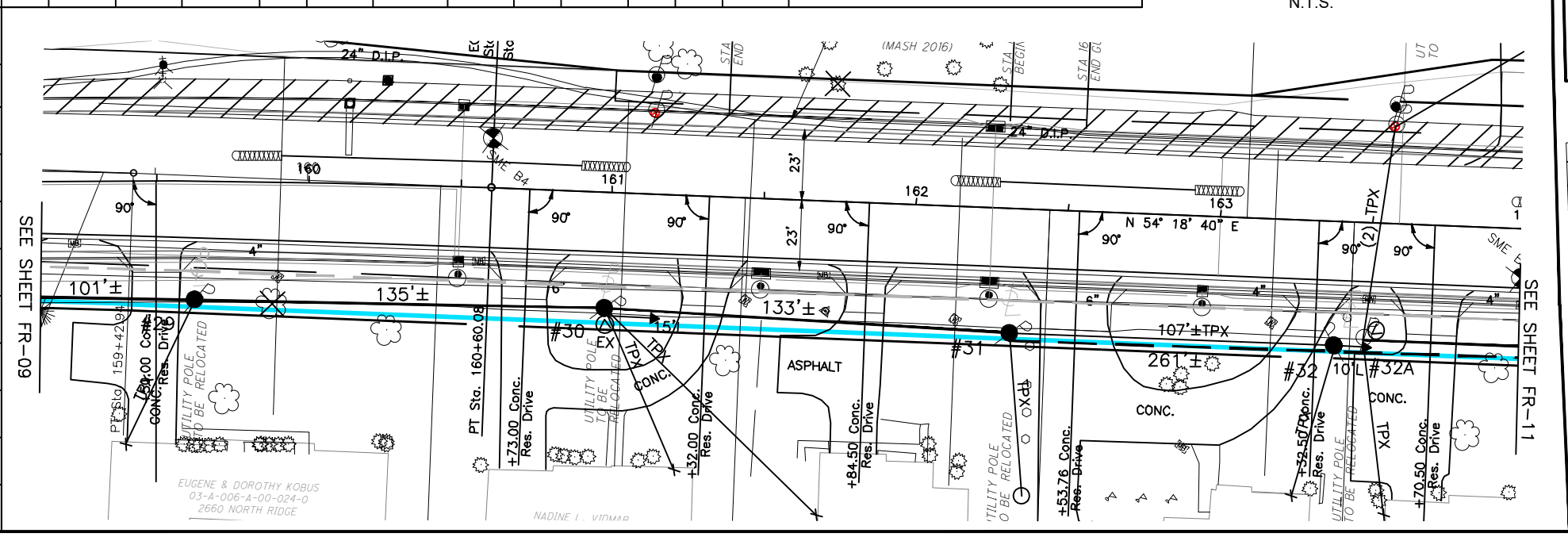


SCALE: 1"=50'



**BOLLARD DETAIL**  
N.T.S.

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	369'	3	226.8 kCMIL ACSR 26/7 "PARTRIDGE"	1107'
NEUTRAL	369'	1	#2/0 AWG ACSR 6/1 "QUAIL"	369'
SECONDARY	476'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	476'
SERVICE				



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

STAKING SHEET

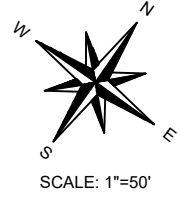
ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWV	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
2022142.01

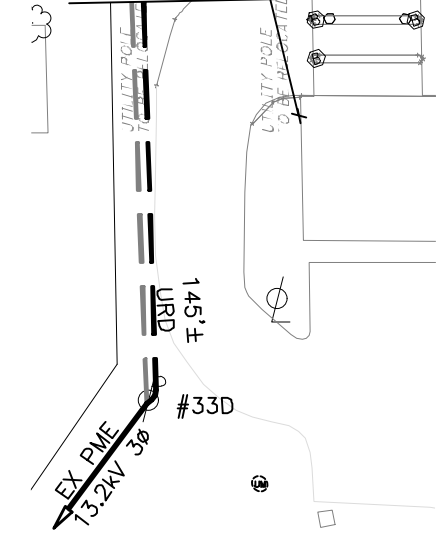
**FR-10**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY		ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY		UNITS
33	R/M					R/M		R/M	R/M															REMOVE EX. POLE, CONDUCTORS, HARDWARE & ALL ASSOCIATED APPURTENANCES.
33A	R/M					R/M		R/M	R/M															REMOVE EX. POLE, CONDUCTORS & ALL ASSOCIATED HARDWARE & APPURTENANCES.
33B	EX					EX		EX	EX			EX					EX	EX						EX. F.E POLE. NO WORK.
33C						217' 500kCMIL URD																		INSTALL NEW PADMOUNT SWITCH & BOX PAD. SEE NOTES 1, 2, & 3.
33D	EX					145' #1/0AWG URD	1	C7-M UG3-1B										G11						REPLACE EX. TANGENT UNIT W/NEW C7-M UNIT. DEADEND EX. CONDUCTORS. JUMPER NEW UG TO EX. OVERHEAD CONDUCTORS. SEE NOTES 1 & 2.
34	R/M					R/M		R/M	R/M															REMOVE EX. POLE, CONDUCTORS, HARDWARE & ALL ASSOCIATED APPURTENANCES.
34A	R/M					186' 500kCMIL URD		R/M	R/M															INSTALL NEW PADMOUNT SWITCH & BOXPAD. R/M POLE. RETRAIN EX. URD FROM #34C INTO NEW SWITCH. SEE NOTES 1, 2, & 3.
34B	EX					EX		EX	EX															EX. F.E POLE. NO WORK.
34C	R/M					R/M		R/M	R/M															REMOVE POLE. INSTALL NEW PADMOUNT SWITCH & BOXPAD. RETRAIN EX. URD FROM RISER INTO NEW PADMOUNT SWITCH BOX PAD. SEE NOTE 3.
35	EX					EX		EX	EX															EX. F.E POLE. NO WORK.
35A	R/M					R/M		R/M	R/M				R/M		R/M	R/M	R/M	R/M						REMOVE EX. POLE, XFMR, CONDUCTORS, HARDWARE & ALL ASSOCIATED APPURTENANCES.
35B	EX									1	M24	EX		EX	EX									

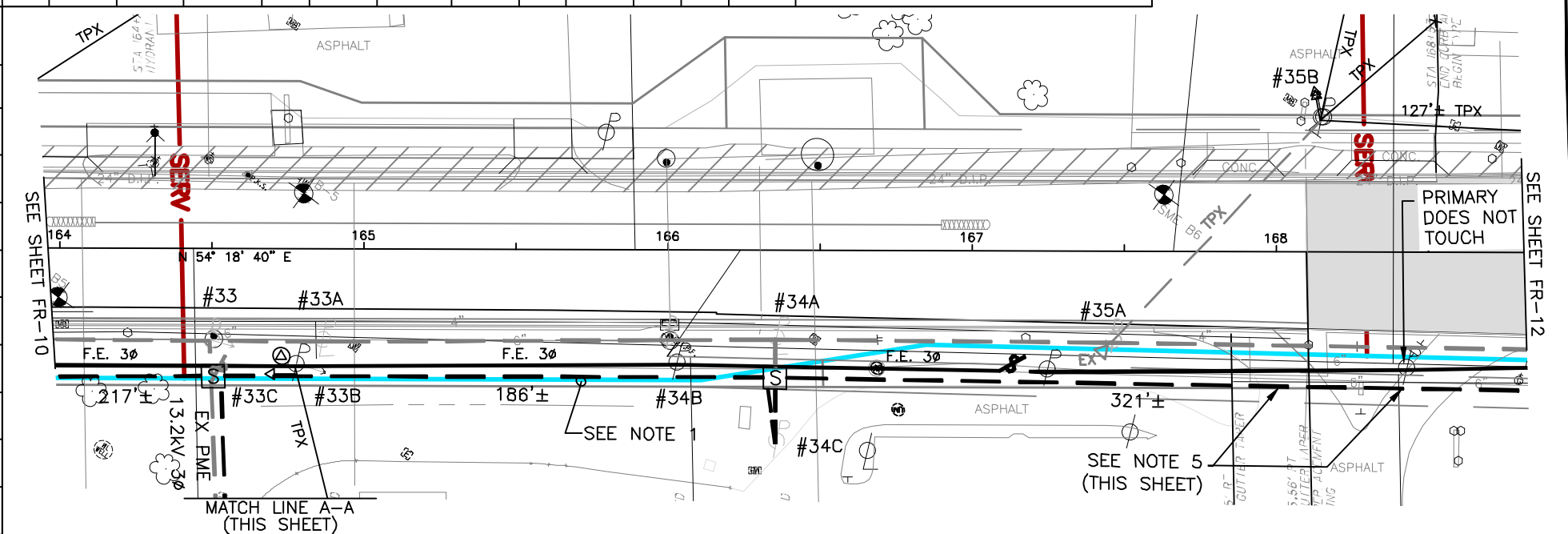
- NOTES:**
- POLE LINE FEET DISTANCE IS FROM CENTER OF POLE/EQUIPMENT TO CENTER OF POLE/EQUIPMENT. THIS VALUE DOES NOT ACCOUNT FOR ALL THREE PHASE CONDUCTORS NOR CABLE FOR RISERS, TERMINATIONS, SCRAP, ETC. CONTRACTOR SHALL FIGURE THEIR OWN TOTAL CABLE LENGTH NECESSARY FOR A COMPLETE 3Ø CIRCUIT RUN.
  - INSTALL CABLE IN 5" SCH 80 PVC CONDUIT. INSTALL (1) SPARE CONDUIT. CAP SPARE CONDUIT 12" ABOVE GRADE, BOTH ENDS.
  - INSTALL EIGHT (8) BOLLARDS AROUND SWITCH. COORDINATE BOLLARD LOCATIONS WITH CITY PRIOR TO INSTALLATION. BOLLARD QUANTITY & LOCATIONS SUBJECT TO CHANGE. SEE SHEET FR-10 FOR BOLLARD DETAIL.
  - INSTALL TWO (2) BOLLARDS AT RISER. COORDINATE BOLLARD LOCATIONS WITH CITY PRIOR TO INSTALLATION. BOLLARD QUANTITY & LOCATIONS SUBJECT TO CHANGE. SEE BOLLARD DETAIL, SHEET FR-10.
  - DRIVE ACCESS CONCERN. TEMP DRIVEWAY REQUIRED TO MAINTAIN ACCESS DURING CONSTRUCTION. DIRECTIONAL BORE IS PREFERRED. NIGHT TIME WORK IS POSSIBLE.



MATCH LINE A-A (THIS SHEET)



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY				
UG PRIMARY	403'	3	500kCMIL 15kV 220 MIL 133% URD EPR 105° JCN	SEE NOTES 1 & 2
UG PRIMARY	145'	3	#1/0 AWG 15kV 220 MIL 133% URD EPR 105° JCN	SEE NOTES 1 & 2
NEUTRAL				
SECONDARY				
SERVICE				



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**FR-11**

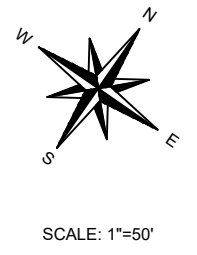
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 SET\_5\2022\_02.dwg  
 July 25, 2024 3:10 PM - jfranzak



POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
36	EX					EX		EX	EX												EX		EX	EX. F.E. POLE. NO WORK	
36A	R/M					R/M		R/M	R/M															REMOVE EX. POLE, CONDUCTORS, HARDWARE & ALL ASSOCIATED APPURTENANCES.	
37	45'	3				321' 500kCMIL URD	1 1	C7-M UG3-1B			1	M24						G11	1 1 1	G41A G41 GG	16'	1	G24D	INSTALL NEW RISER & URD TO PADMOUNT SWITCH AT #34A. RELOCATE EX. UG SERVICE, & METER TO NEW POLE. SEE NOTES 1, 2, & 3.	
37A	R/M					R/M		R/M	R/M													R/M	R/M	REMOVE EX. POLE, CONDUCTORS, HARDWARE & ALL ASSOCIATED APPURTENANCES	
38	45'	3				121'	1 1	C1A-M T1	121' 121'	#2/0 #1/0 TPX	1	M27					37.5	G11						INSTALL NEW TPX TO #38A. CONSTRUCT AS EX. UTILIZING NARROW CONSTRUCTION.	
38A	EX					EX		EX	EX			EX	26'	#1/0 TPX	2	M27								EX. F.E. POLE. COORDINATE W/F.E.	
38B	35'	4										EX	80'	#1/0 TPX	4	M27								TRANSFER EX. TPX IN THE WESTERLY, NORTHEASTERLY & SOUTH WESTERLY DIRECTIONS TO NEW POLE.	
38C	35'	4											127' 130'	#1/0 TPX	2	M27									
39	45'	3				99'	1	C1A-M	99' 99'	#2/0 #1/0 TPX	1	M24							1 1	G41 GG	12'	1	G24C	CONSTRUCT AS EX. UTILIZING NARROW CONSTRUCTION.	
40	45'	3				96'	1	C1A-2M	96'	#2/0															

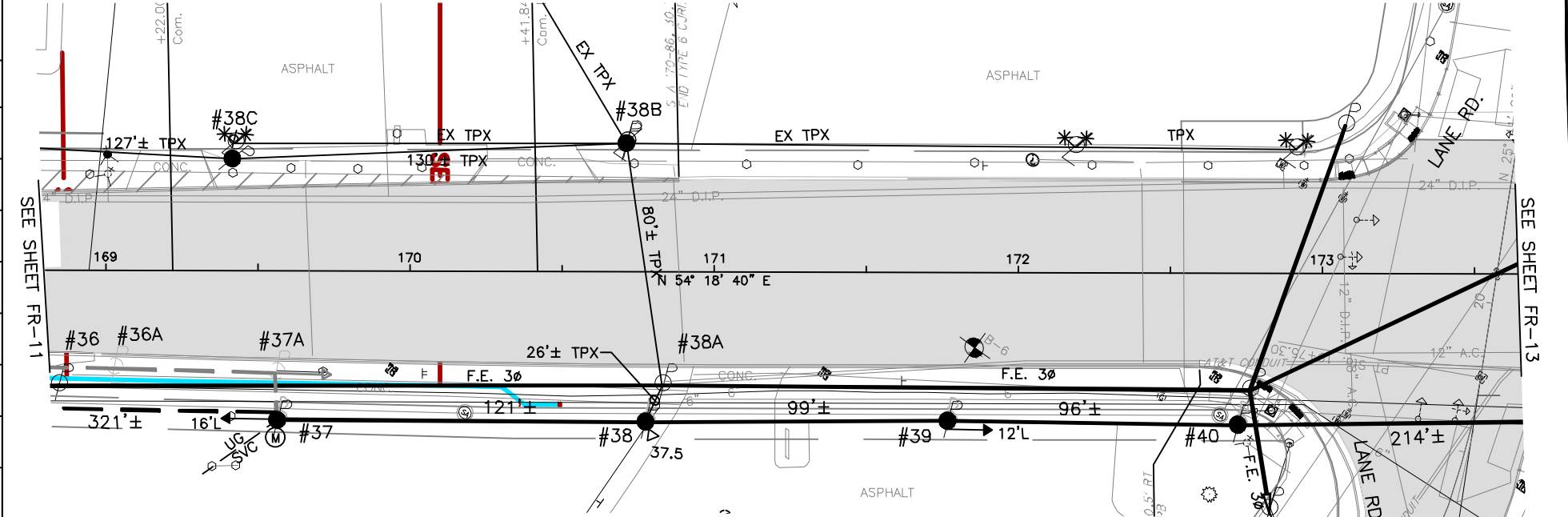
- NOTES:**
- POLE LINE FEET DISTANCE IS FROM CENTER OF POLE/EQUIPMENT TO CENTER OF POLE/EQUIPMENT. THIS VALUE DOES NOT ACCOUNT FOR ALL THREE PHASE CONDUCTORS NOR CABLE FOR RISERS, TERMINATIONS, SCRAP, ETC. CONTRACTOR SHALL FIGURE THEIR OWN TOTAL CABLE LENGTH NECESSARY FOR A COMPLETE 3Ø CIRCUIT RUN.
  - INSTALL CABLE IN 5" SCH 80 PVC CONDUIT. INSTALL (1) SPARE CONDUIT. CAP SPARE CONDUIT 12" ABOVE GRADE, BOTH ENDS.
  - INSTALL TWO (2) BOLLARDS AT RISER. COORDINATE BOLLARD LOCATIONS WITH CITY PRIOR TO INSTALLATION. BOLLARD QUANTITY & LOCATIONS SUBJECT TO CHANGE. SEE SHEET FR-10 FOR BOLLARD DETAIL.

REV.	DATE	DESCRIPTION



Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction Engineering\01\_Construction Design\01eine\_ZDWGS\Construction Drawings\Construction Set\CONSTRUCTION SET\5820\_FR2.dwg  
July 25, 2024 3:10 PM - jfranzak

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	316'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	948'
UG PRIMARY	321'	3	500 kCMIL 15kV 220MIL 133% URD EPR 105" JCN	SEE NOTES 1 & 2
NEUTRAL	316'	1	#2/0 AWG ACSR 6/1 "QUAIL"	316'
SECONDARY	220'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	220'
SERVICE	363'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	363'



CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

STAKING SHEET

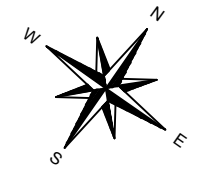
ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**FR-12**

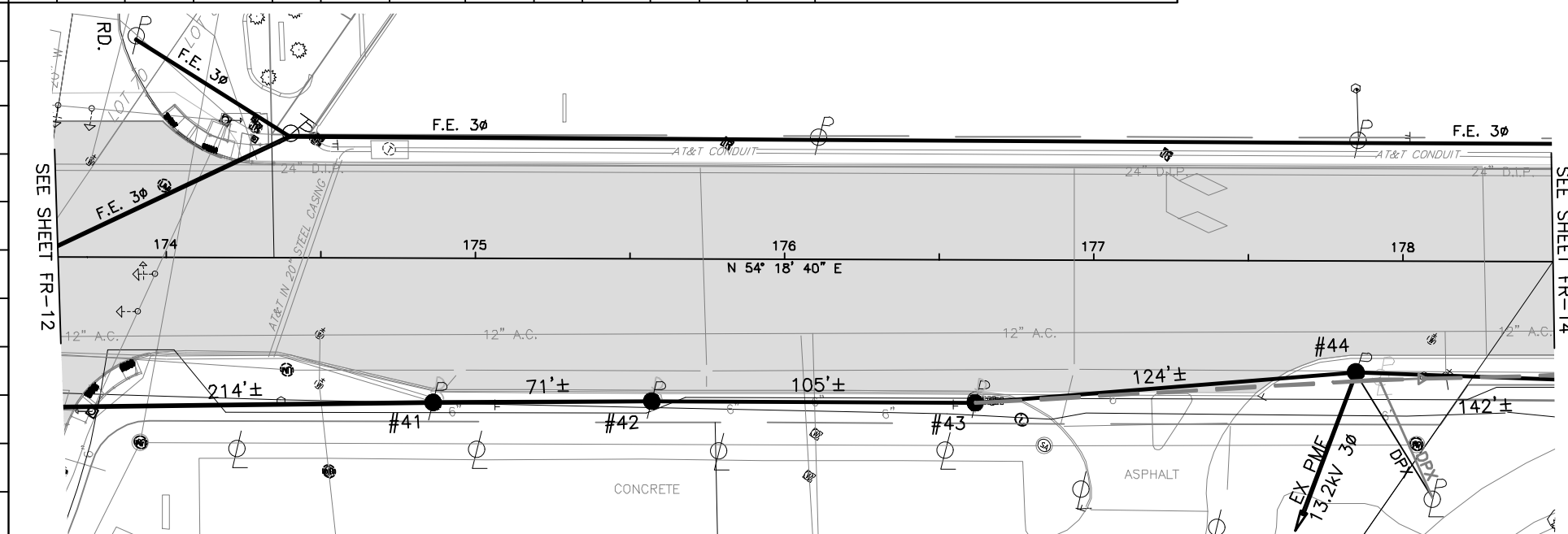
POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL			SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS		
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY		UNITS	
41	45'	3				214'	1	C1A-2M	214'	#2/0															
42	45'	3				71'	1	C1A-M	71'	#2/0															
43	45'	3				105'	1	C1A-M	105'	#2/0															
44	50'	3				124'	1 1 11	C8A-M C7-H M5	124'	#2/0	1	M27	EX		1	M27		G11							TRANSFER EX. 3Ø TAP CONDUCTORS & SERVICE DPX TO NEW POLE

REV.	DATE	DESCRIPTION



SCALE: 1"=50'

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	514'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1542'
NEUTRAL	514'	1	#2/0 AWG ACSR 6/1 "QUAIL"	514'
SECONDARY				
SERVICE				



CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

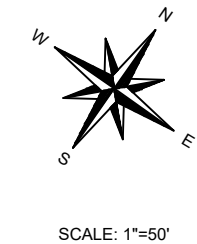
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
2022142.01

FR-13

Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
 Engineering\01\_Construction Design\01line 2\DWG\SCS\Construction Drawings\Construction Set\CONSTRUCTION  
 SET\_SR20\_FR2.dwg  
 July 25, 2024 3:10 PM - franczak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
45	50'	3				142'	1 1 4	C1A-2M B7-M M5	142' 142'	#2/0 #6 DPX	1	M27						G11							TRANSFER EX. STREET LIGHT & 2Ø TAP CONDUCTORS TO NEW POLE.
46	50'	3				122'	1 1 1	C1A-M A5-2 T1	122' 122'	#2/0 #6 DPX	1	M27	EX		1	M27	EX	G11							TRANSFER EX. XFMR, SERVICE TPX & 1Ø TAP CONDUCTORS TO NEW POLE.
47	50'	3				112'	1	C1A-M	112' 112'	#2/0 #6 DPX	1	M27													TRANSFER EX. STREET LIGHT TO NEW POLE.
48	45'	3				114'	1	C1A-2M	114'	#2/0															



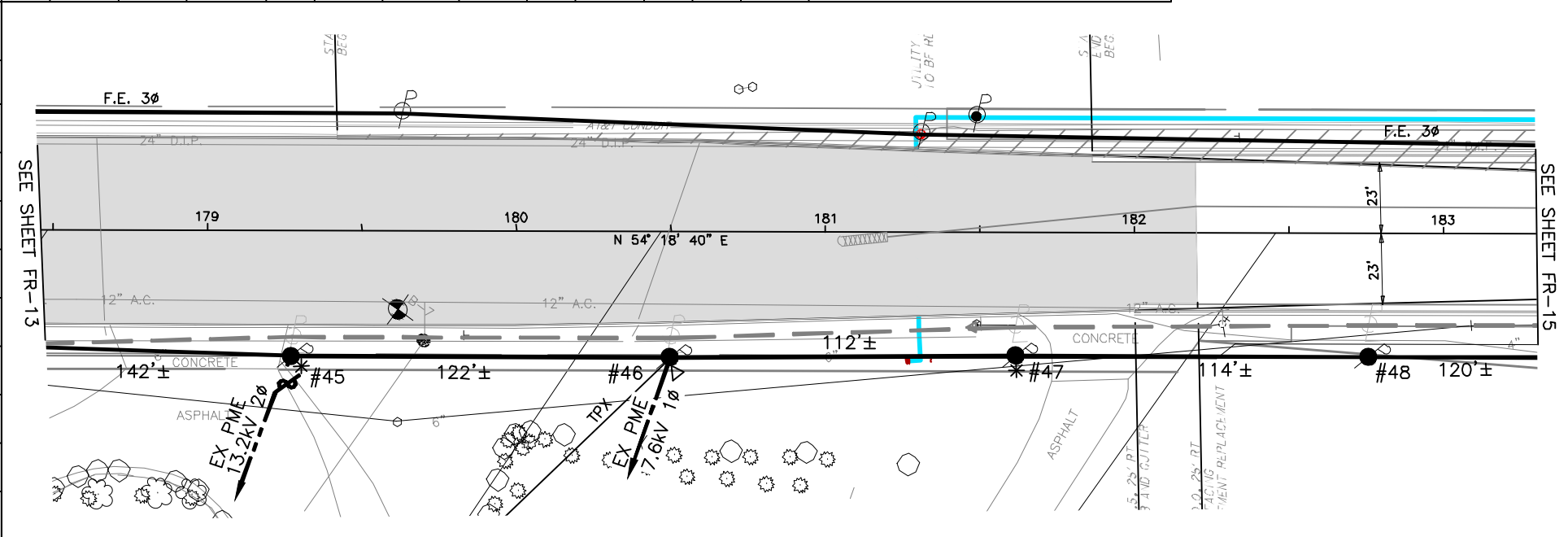
REV.	DATE	DESCRIPTION

**CITY OF PAINESVILLE, OHIO**  
**US 20 ROAD WIDENING**  
**UTILITY RELOCATION**

**STAKING SHEET**

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
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 SET\_S\2022\_02.dwg  
 July 25, 2024 3:11 PM - jfranczak

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	490'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1470'
NEUTRAL	490'	1	#2/0 AWG ACSR 6/1 "QUAIL"	490'
SECONDARY	376'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	376'
SERVICE				

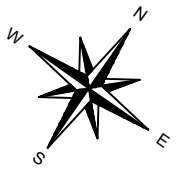


ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**FR-14**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL			SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY		UNITS
49	45'	3				120'	1	C1A-M	120'	#2/0														
50	45'	3				120'	1	C1A-M	120'	#2/0														
51	50'	3				125'	1	C8A-M MS-15U	125'	#2/0								G11						TRANSFER EX. HOOKSTICK SWITCHES TO NEW POLE.
52	50'	3				155'	1	C1A-2M	155'	#2/0	1	M24							1	G41 G41	12'	1	G24C	RELOCATE EX. STREET LIGHT TO NEW POLE.

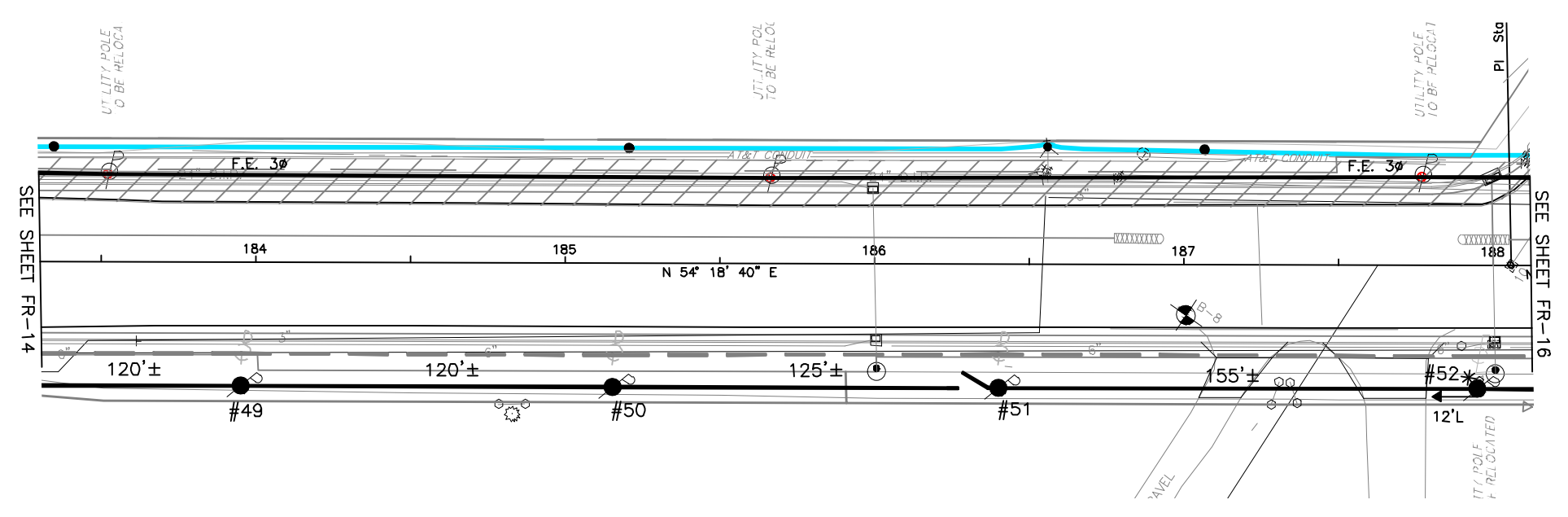


SCALE: 1"=50'

REV	DATE	DESCRIPTION

Drawing Name: D:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
 Engineering\01\_Construction Design\02\DWG\Construction Drawings\Construction Set\CONSTRUCTION  
 SET\_SR20\_FR2.dwg  
 July 25, 2024 3:11 PM - franczak

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	520'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1560'
NEUTRAL	520'	1	#2/0 AWG ACSR 6/1 "QUAIL"	520'
SECONDARY				
SERVICE				



CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

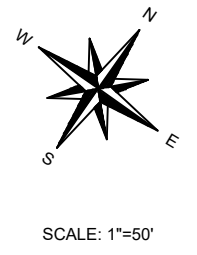
STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

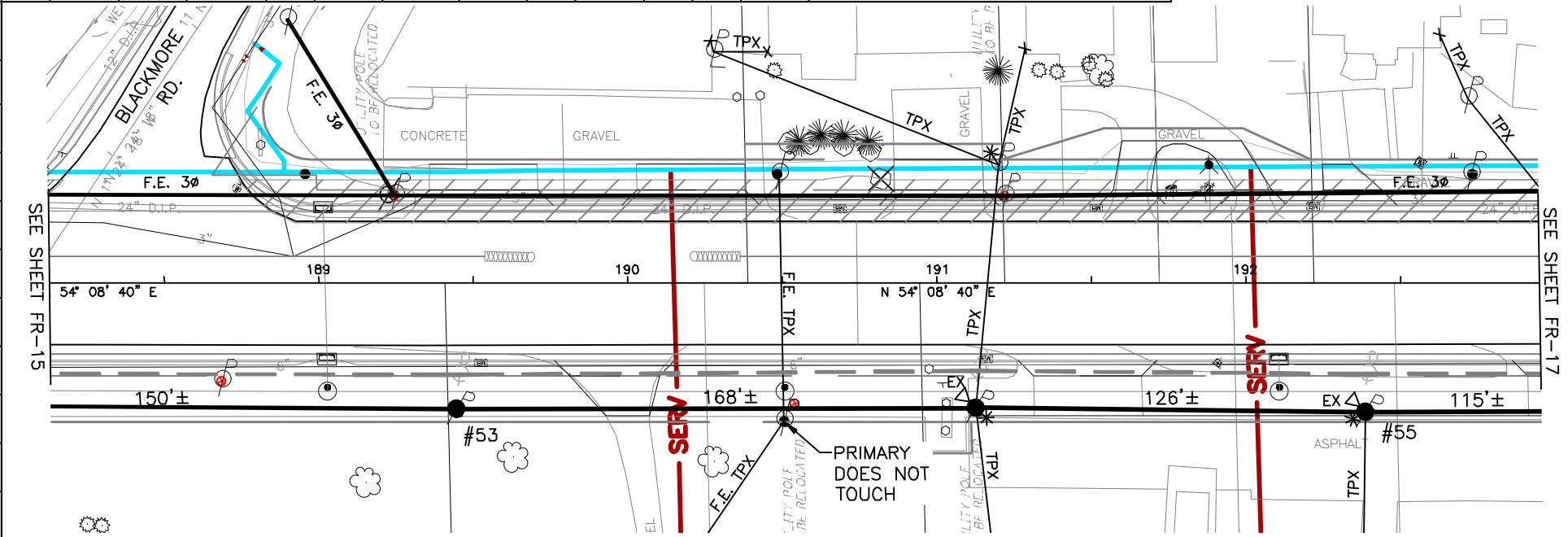
JOB NO.  
**2022142.01**

**FR-15**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
53	45'	3				150'	1	C1A-2M	150'	#2/0 #1/0 TPX	1	M27													
54	45'	3				168'	1	C1A-2M T1	168'	#2/0 #1/0 TPX	1	M27	EX		1	M27	EX	G11						TRANSFER EX. XFMR, AREA LIGHT & SERVICE TPX TO NEW POLE.	
55	45'	3				126'	1	C1A-M T1	126'	#2/0 #1/0 TPX	1	M27	EX		1	M27	EX	G11						TRANSFER EX. XFMR, AREA LIGHT & SERVICE TPX TO NEW POLE.	



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	444'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1332'
NEUTRAL	444'	1	#2/0 AWG ACSR 6/1 "QUAIL"	444'
SECONDARY	444'	1	#1/0 AWG 7/W ASCR TPX "NERITINA"	444'
SERVICE				



REV.	DATE	DESCRIPTION

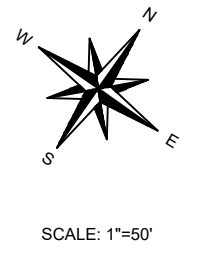
CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	JWF
ENGINEER	PCT
PROJECT MANAGER	DLM
APPROVED BY	JWP

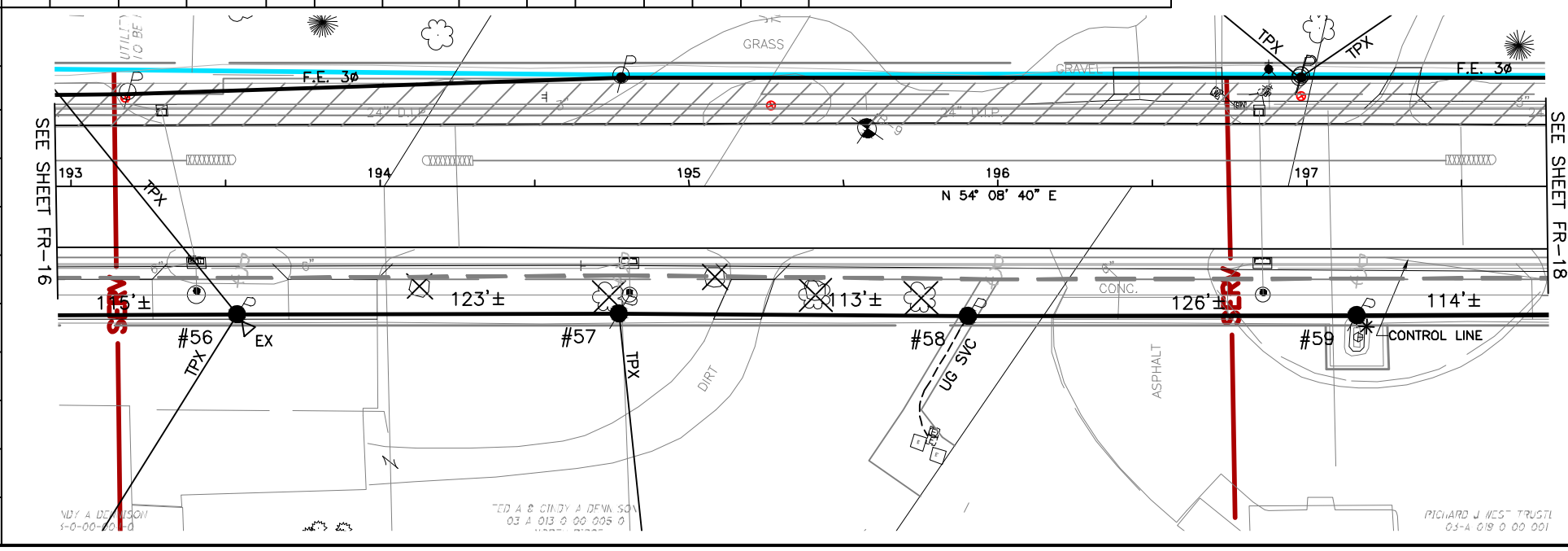
JOB NO.  
**2022142.01**  
**FR-16**

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction Engineering\01\_Construction Design\Poline ZDWGS\Construction Drawings\Construction Set\CONSTRUCTION SET\5020\_02.dwg  
 July 25, 2024 3:11 PM - jfranzak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY		ANCHOR		REMARKS		
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY		UNITS	
56	45'	3				115'	1	C1A-M T1	115'	#2/0 #1/0 TPX	1	M27	EX		1	M27	EX	G11							TRANSFER EX. XFMR & SERVICE TPX TO NEW POLE.
57	45'	3				123'	1	C1A-M	123'	#2/0 #1/0 TPX	1	M27	EX		1	M27									TRANSFER EX. SERVICE TPX TO NEW POLE.
58	45'	3				113'	1	C1A-M	113'	#2/0 #1/0 TPX	1	M27	EX												TRANSFER EX. UG SERVICE TO NEW POLE.
59	45'	3				126'	1	C1A-M	126'	#2/0 #1/0 TPX	1	M27													TRANSFER EX. AREA LIGHT TO NEW POLE.



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	477'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1431'
NEUTRAL	477'	1	#2/0 AWG ACSR 6/1 "QUAIL"	477'
SECONDARY	477'	1	#1/0 AWG 7/W ASCR TPX "NERITINA"	477'
SERVICE				



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

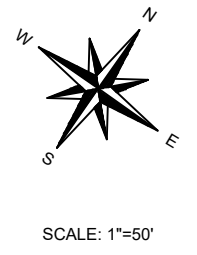
ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWV	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
**FR-17**

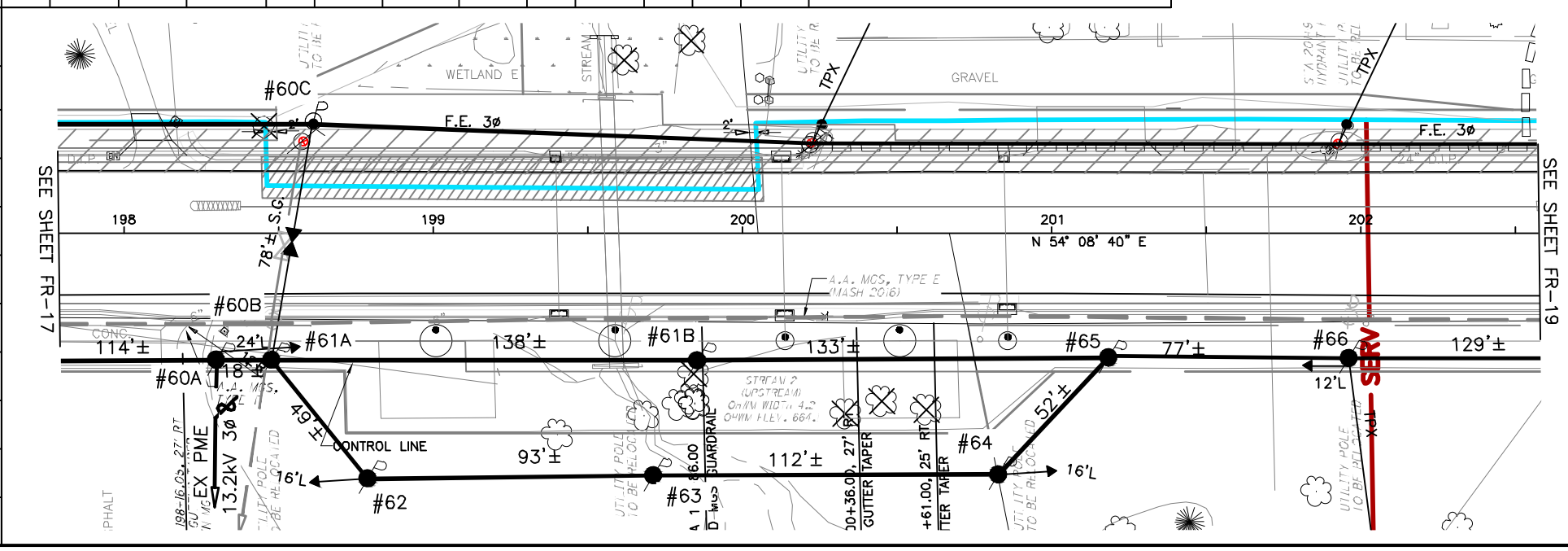
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 July 25, 2024 3:11 PM - jfranzak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY		ANCHOR		REMARKS				
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY		UNITS			
60A	50'	3				114'	1 1 11 3	C8A-M C7-M M5 M10	114'	#2/0 #1/0 TPX	1	M24						G11	1 1 1 1	G41A G41 GG G42A	24'	1	G24C			TRANSFER EX. 3Ø TAP CONDUCTORS & STREET LIGHT TPX TO NEW POLE. CREATE SEMI-SLACK SPAN W/3Ø TAP CONDUCTORS.	
60B	R/M					RM		R/M	R/M									R/M								REMOVE POLE, CROSSARMS, & ALL ASSOCIATED HARDWARE.	
60C	EX					EX		EX	EX								EX	EX								RELOCATED F.E. POLE. COORDINATE W/F.E.	
61A	50'	3				18'	1 1 10	C8A-M C7-M M5	18'	#2/0																SEE NOTE 1.	
61B	60'	3				138'	1 6	C8A-M M5	138'	#2/0																	
62	50'	3				49'	2 5	C7-M M5	49'	#2/0									1 1 1	G41A G41 GG	16'	1	G24C			CREATE SLACK SPAN TO POLE #61A.	
63	60'	3				93'	1 6	C8A-M M5	93'	#2/0																	
64	50'	3				112'	2 5	C7-M M5	112'	#2/0									1 1 1	G41A G41 GG	16'	1	G24C				
65	45'	3				133' 52'	1 1 10	C8A-M C7-M M5	133' 52'	#2/0																SEE NOTE 2.	
66	45'	3				77'	1	C1A-M	77'	#2/0	1	M24	EX		1	M27			1 1	G41 GG	12'	1	G24C			TRANSFER EX. SERVICE TPX TO NEW POLE.	

**NOTES:**  
 1. CREATE TAILS FOR JUMPERS ON EAST SIDE OF C8A-M UNIT. LOOP BACK & SECURE TO SPAN. JUMPER CIRCUIT CONDUCTOR ON WEST SIDE OF C8A-M UNIT TO C7-M UNIT.  
 2. CREATE TAILS FOR JUMPERS ON WEST SIDE OF C8A-M UNIT. LOOP BACK & SECURE TO SPAN. JUMPER CIRCUIT CONDUCTOR ON EAST SIDE OF C8A-M UNIT TO C7-M UNIT.



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	786'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	2358
NEUTRAL	786'	1	#2/0 AWG ACSR 6/1 "QUAIL"	786'
SECONDARY	114'	1	#1/0 AWG 7/W ASCR TPX "NERITINA"	114'
SERVICE				



REV.	DATE	DESCRIPTION

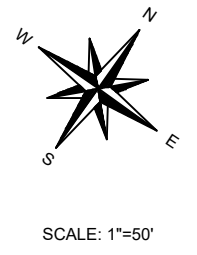
CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
**FR-18**

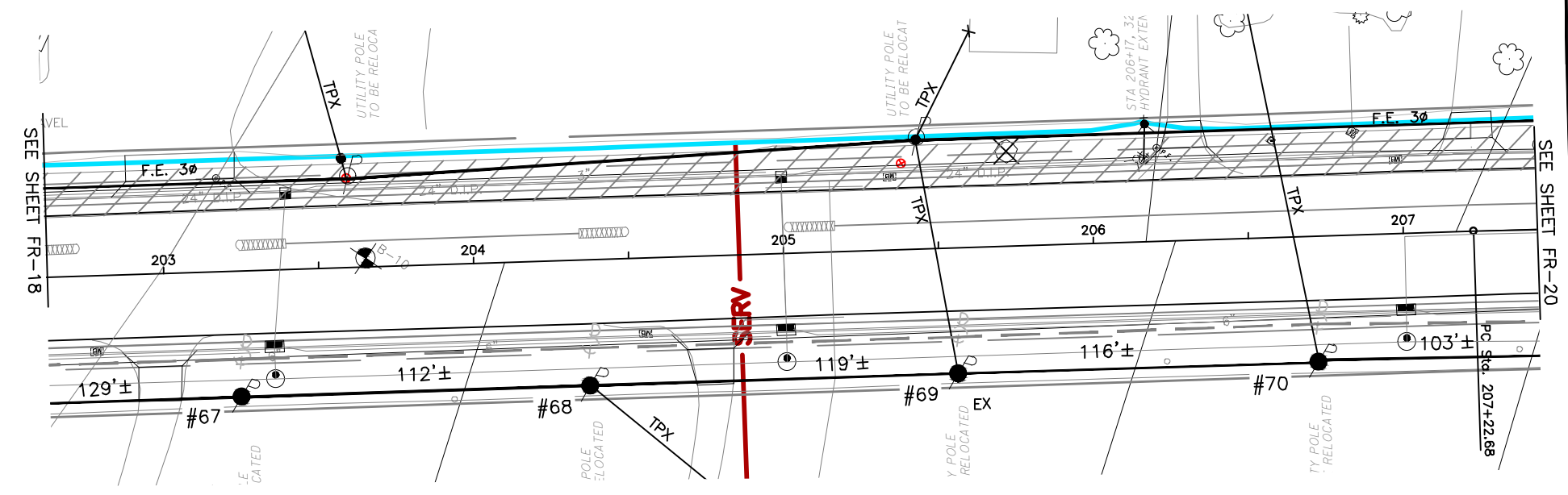
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 July 25, 2024 3:11 PM - jfranzak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY		ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY		UNITS
67	45'	3				129'	1	C1A-M	129'	#2/0 #1/0 TPX	1	M27												
68	45'	3				112'	1	C1A-M	112'	#2/0 #1/0 TPX	1	M27	EX		1	M27								TRANSFER EX. SERVICE TPX TO NEW POLE.
69	45'	3				119'	1	C1A-M T1	119'	#2/0 #1/0 TPX	1	M27	EX				EX	G11						TRANSFER EX. XFMR & SERVICE TPX TO NEW POLE.
70	45'	3				116'	1	C1A-M	116'	#2/0 #1/0 TPX	1	M27												TRANSFER EX. SERVICE TPX TO NEW POLE.



REV.	DATE	DESCRIPTION

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	476'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1428'
NEUTRAL	476'	1	#2/0 AWG ACSR 6/1 "QUAIL"	476'
SECONDARY	476'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	476'
SERVICE				



CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

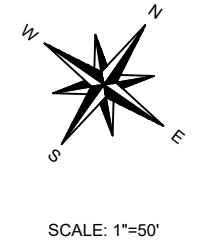
ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
**FR-19**

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 July 25, 2024 3:11 PM - jfranczak



POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
71	45'	3				103'	1	C1A-M	103'	#2/0 #1/0 TPX	1	M24	EX		1	M27			1	1	G41 GG	15'	1	G24C	TRANSFER EX. SERVICE TPX TO NEW POLE.
71A	EX												82'	#2 TPX	1	M27									RELOCATED F.E. POLE. COORDINATE W/F.E.. ATTACH NEW TPX FROM POLE #71. CONNECT EX. SERVICE TPX TO POLE. JUMPER TO NEW TPX BACK SPAN.
72	45'	3				138'	1	C1A-M	138'	#2/0															
73	45'	3				120'	1	C1A-M	120'	#2/0	1	M24							1	1	G41 GG	15'	1	G24C	TRANSFER EX. SERVICE TPX TO NEW POLE.
74	45'	3				124'	1	C1A-2M	124'	#2/0 #1/0 TPX	1	M27													TRANSFER EX. UG SERVICE TO NEW POLE.

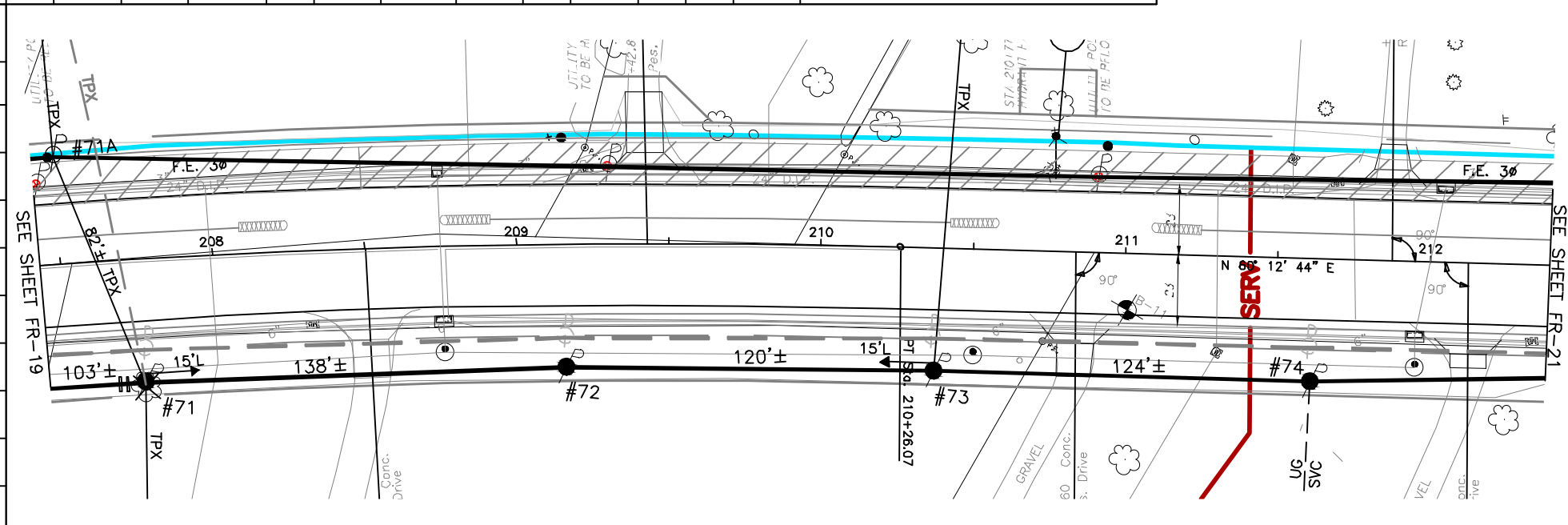


REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

STAKING SHEET

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	485'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1455'
NEUTRAL	485'	1	#2/0 AWG ACSR 6/1 "QUAIL"	485'
SECONDARY	227'	1	#1/0 AWG 7/W ASCR TPX "NERITINA"	227'
SERVICE	82'	1	#2 AWG 7/W ACSR TPX "CONCH"	82'



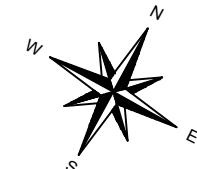
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 July 25, 2024 3:11 PM - jfranzak

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

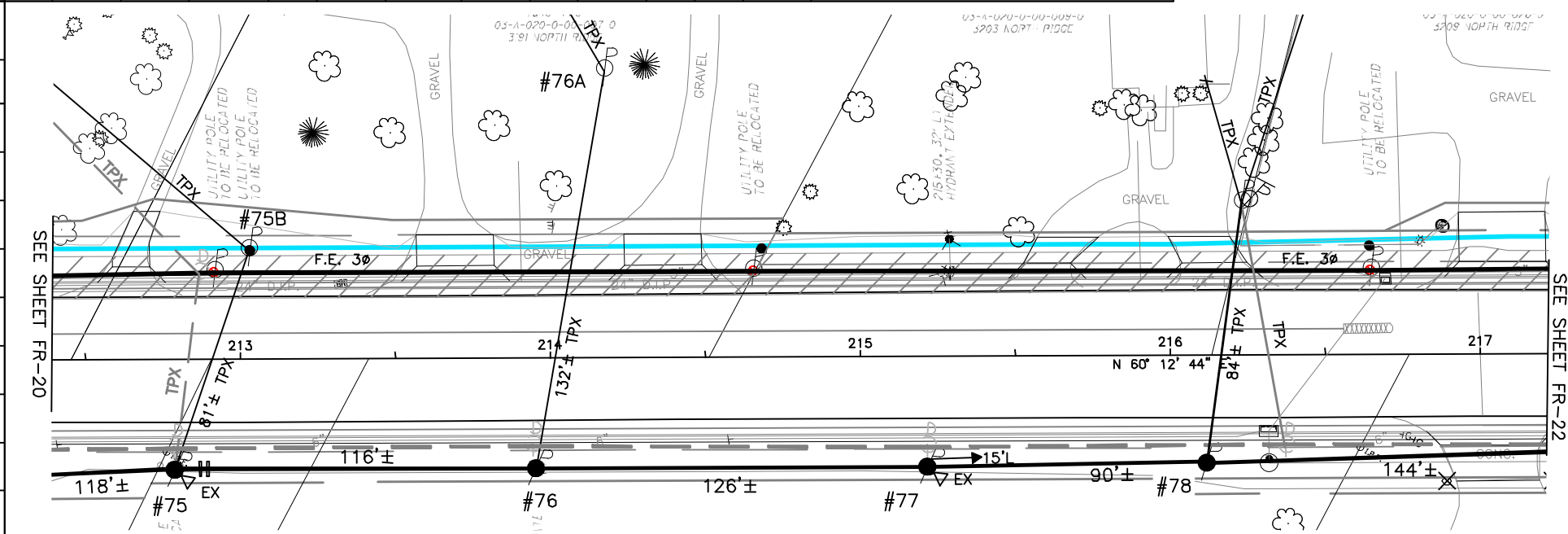
**FR-20**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
75	45'	3				118'	1	1	C1A-2M T1	118'	#2/0 #1/0 TPX	1	M27				EX	G11						TRANSFER EX. XFMR TO NEW POLE. STUB POLE ON NORTH SIDE TO BE REMOVED. INSTALL NEW SERVICE TPX	
																								TO RELOCATED F.E. POLE #75B. COORDINATE W/F.E.	
75A	R/M									R/M			R/M											REMOVE POLE, HARDWARE, & ALL ASSOC. APPURTENANCES. TRANSFER EX. SERVICE TPX TO RELOCATED POLE #75B.	
75B	EX					EX			EX				EX	81'	#2 TPX	2	M27							RELOCATED F.E. POLE. COORDINATE W/F.E. ATTACH NEW TPX FROM POLE #75. TRANSFER EX. SERVICE TPX TO	
																								RELOCATED POLE. JUMPER TO NEW TPX BACK SPAN.	
76	45'	3				116'	1		C1A-M	116'	#2/0 #1/0 TPX	1	M27												
76A	EX													132'	#2 TPX	1	M27								JUMPER TO NEW TPX BACKSPAN.
														EX											
77	45'	3				126'	1	1	C1A-M T1	126'	#2/0 #1/0 TPX	1	M24				EX	G11	1	G41 GG	15'	1	G24C	TRANSFER EX. XFMR TO NEW POLE.	
78	45'	3				90'	1		C1A-M	90'	#2/0 #1/0 TPX	1	M24	84'	#2 TPX										CREATE SECONDARY SLACK SPAN TO POLE #77.



SCALE: 1"=50'

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	450'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1350'
NEUTRAL	450'	1	#2/0 AWG ACSR 6/1 "QUAIL"	450'
SECONDARY	450'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	450'
SERVICE	294'	1	#2 AWG 7/W ACSR TPX "CONCH"	294'



REV.	DATE	DESCRIPTION

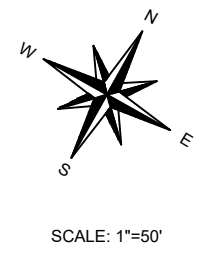
CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

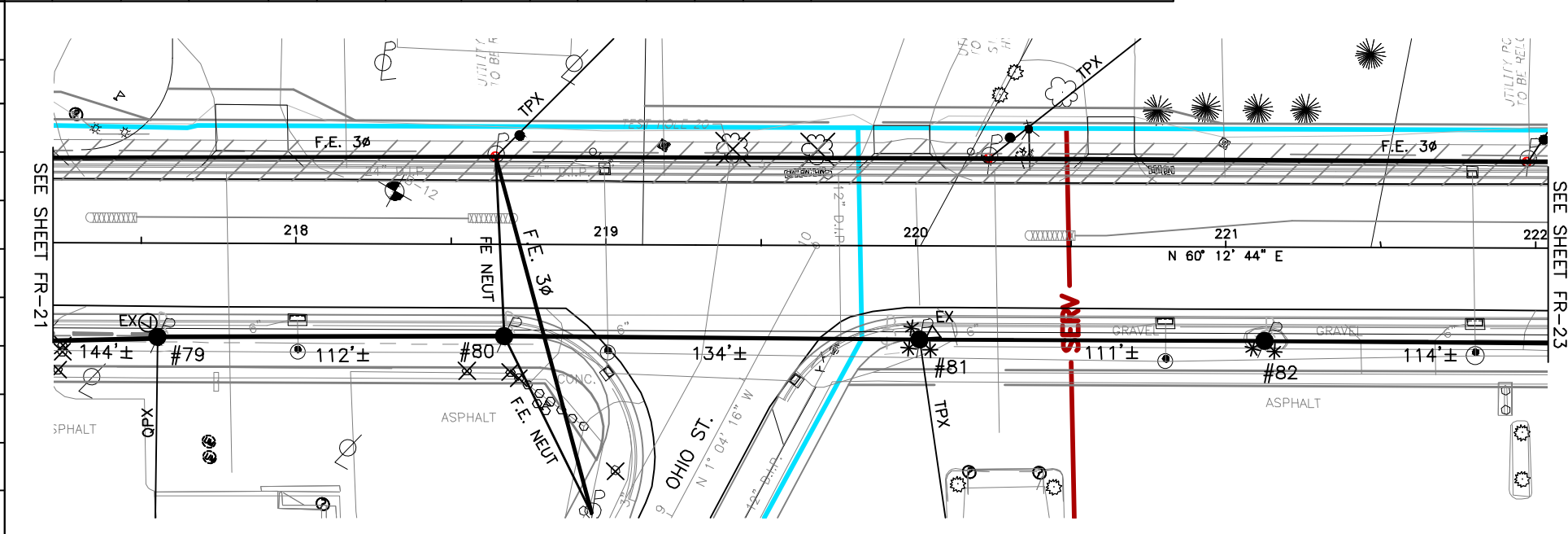
JOB NO.  
 2022142.01

FR-21

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
79	45'	3				144'	1	1	C1A-M T210	144'	#2/0			EX		1	M27	EX	G11						TRANSFER EX. XFMRs & SERVICE QPX TO NEW POLE.
80	45'	3				112'	1		C1A-M	112'	#2/0	1	M27												TRANSFER EX. F.E. NEUTRAL TO NEW POLE.
81	45'	3				134'	1	1	C1A-M T1	134'	#2/0	1	M27	EX		1	M27	EX	G11						TRANSFER EX. XFMR, SERVICE TPX, (2) AREA LIGHTS & STREET LIGHT TO NEW POLE.
82	45'	3				111'	1		C1A-M	111'	#2/0 #6 DPX	1	M27					EX							TRANSFER EX. (2) AREA LIGHTS TO NEW POLE.



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	501'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1503'
NEUTRAL	501'	1	#2/0 AWG ACSR 6/1 "QUAIL"	501'
SECONDARY	111'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	111'
SERVICE				



REV.	DATE	DESCRIPTION

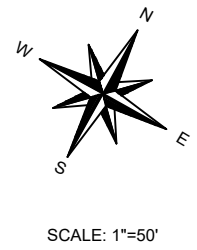
CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

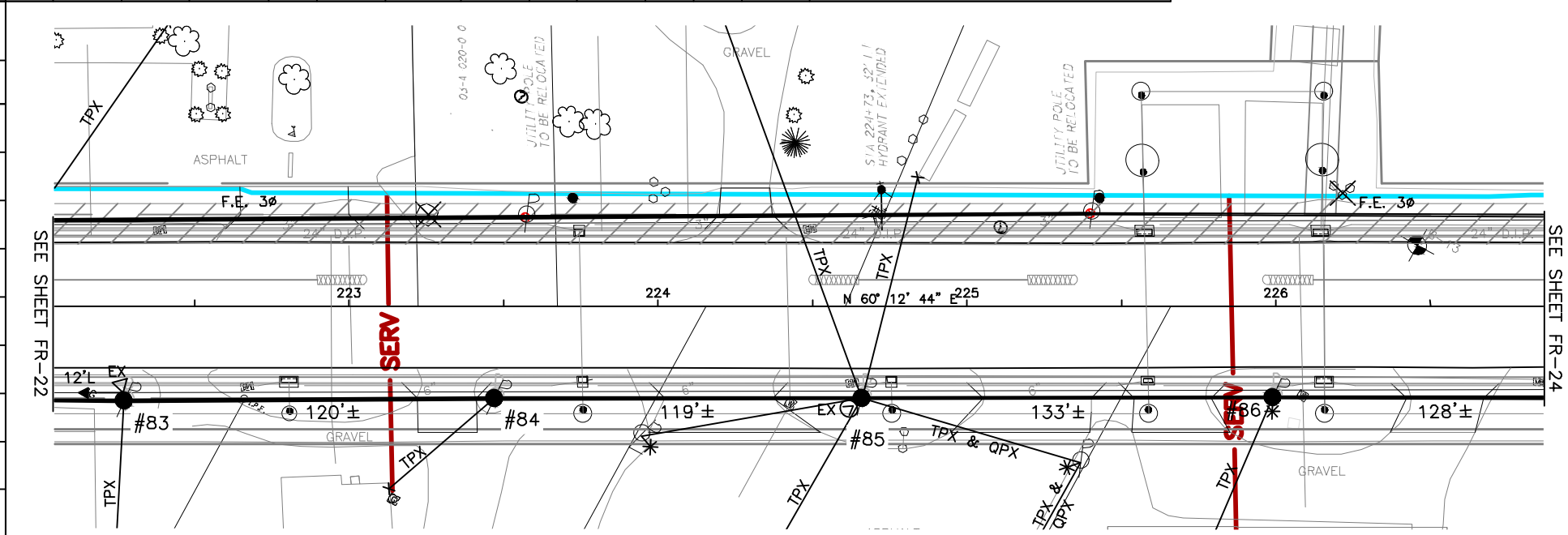
JOB NO.  
**2022142.01**  
**FR-22**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS	
83	45'	3				114'	1	C1A-M T1	114'	#2/0 #6 DPX	1	M27 M24	EX		1	M27	EX	G11	1	G41 GG	12'	1	G24C	TRANSFER EX. XFMR & SERVICE TPX TO NEW POLE
84	45'	3				120'	1	C1A-M	120'	#2/0 #1/0 TPX	1	M27	EX		1	M27								TRANSFER EX. SERVICE TPX TO NEW POLE
85	45'	3				119'	1	C1A-M T210	119'	#2/0 #1/0 TPX	1	M27	EX	4	M27	EX	G11							TRANSFER EX. XFMRs, SERVICE QPX & TPX TO NEW POLE
86	45'	3				133'	1	C1A-M	133'	#2/0 #1/0 TPX	1	M27	EX		1	M27	EX							TRANSFER EX. SERVICE TPX & AREA LIGHT TO NEW POLE

REV.	DATE	DESCRIPTION



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	486'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1458'
NEUTRAL	486'	1	#2/0 AWG ACSR 6/1 "QUAIL"	486'
SECONDARY	372'	1	#1/0 AWG 7W ACSR TPX "NERITINA"	372'
	114'	1	#6 AWG 7W ACSR DPX "SHEPHERD"	114'
SERVICE				



CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

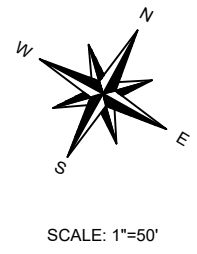
ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

DESIGNER	JWF	ENGINEER	PCT
PROJECT MANAGER	DLM	APPROVED BY	JWP

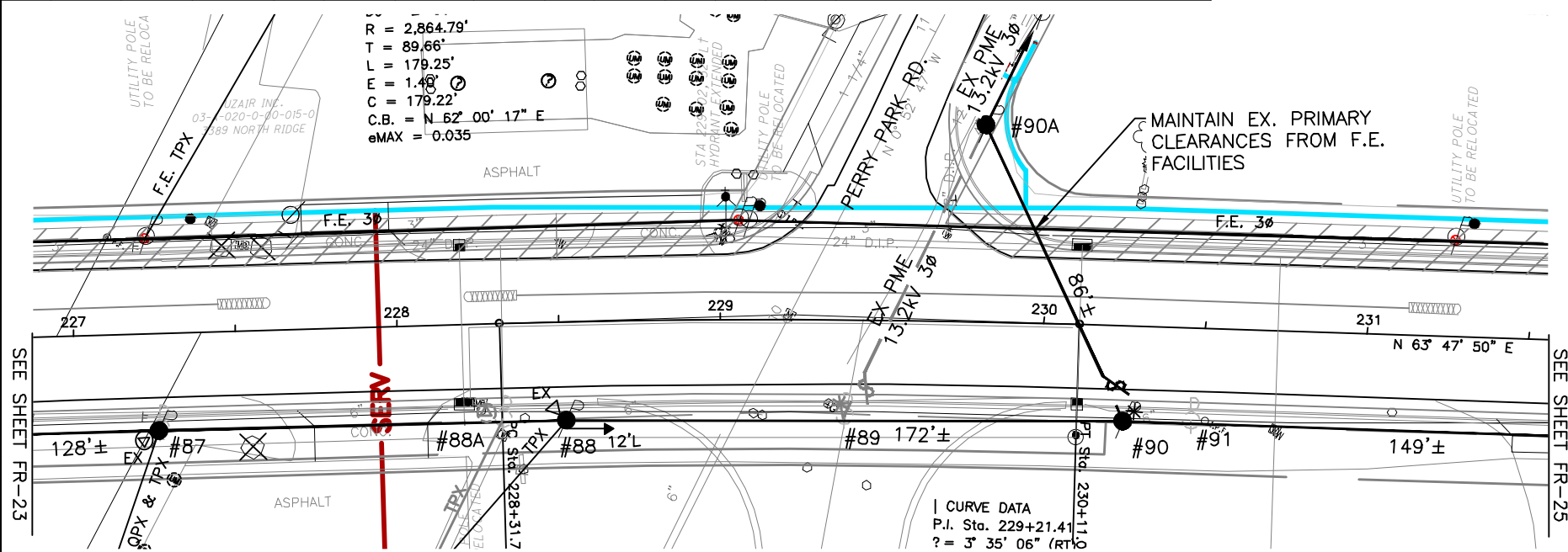
JOB NO.  
 2022142.01  
**FR-23**

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400 - Construction Engineering\2 - Construction Design\PlateLine 2\DWG\SS Construction Drawings\Construction Set\CONSTRUCTION SET.dwg  
 July 26, 2024 3:11 PM - jfranczak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY		ANCHOR		REMARKS		
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY		UNITS	
87	45'	3				128'	1	1	C1A-M T310	128'	#2/0 #1/0 TPX	1	M27	EX		2	M27	EX	G11						TRANSFER EX. SERVICE TPX & QPX TO NEW POLE. TRANSFER EX. XFMR TO NEW POLE #88A. INSTALL 3Ø XFMR BANK FROM POLE #88.
88	45'	3				126'	1	1	C1A-M T1	126'	#2/0 #1/0 TPX	1	M24 M27	EX	1	M27	EX	G11	1	G41 GG	12'	1	G24C		TRANSFER EX. SERVICE TPX FROM POLE #88A. TRANSFER EX. XFMR FROM EX. POLE #87 TO NEW POLE #88.
88A	R/M					R/M			R/M	R/M	R/M		R/M					R/M	R/M					TRANSFER EX. SERVICE TPX TO NEW POLE #88. TRANSFER EX 3Ø XFMR BANK TO NEW POLE #87.	
89	R/M					R/M			R/M	R/M			R/M						R/M				R/M	REMOVE EX. POLE, HARDWARE & ALL ASSOC. APPURTENANCES. TRANSFER EX. STREET LIGHT TO NEW POLE #90. REMOVE EX. 3Ø TAP CONDUCTORS.	
90	45'	3				172'	1	1	C1A-2M C7-M M10	172'	#2/0 #6 DPX	1	M27					G11							TRANSFER EX. STREET LIGHT FROM POLE #89.
90A	45'	3				86'	2	4	C7-M M5	86'	#2/0														TRANSFER EX. 3Ø TAP TO NEW POLE. CREATE SLACK SPAN TO POLE #90.
91	R/M					R/M			R/M	R/M			R/M												REMOVE EX. POLE, HARDWARE & ALL ASSOC. APPURTENANCES.



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	512'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1536'
NEUTRAL	512'	1	#2/0 AWG ACSR 6/1 "QUAIL"	512'
SECONDARY	172'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	172'
	254'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	254'
SERVICE				



REV.	DATE	DESCRIPTION

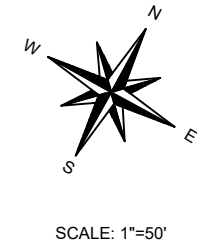
CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
**FR-24**

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
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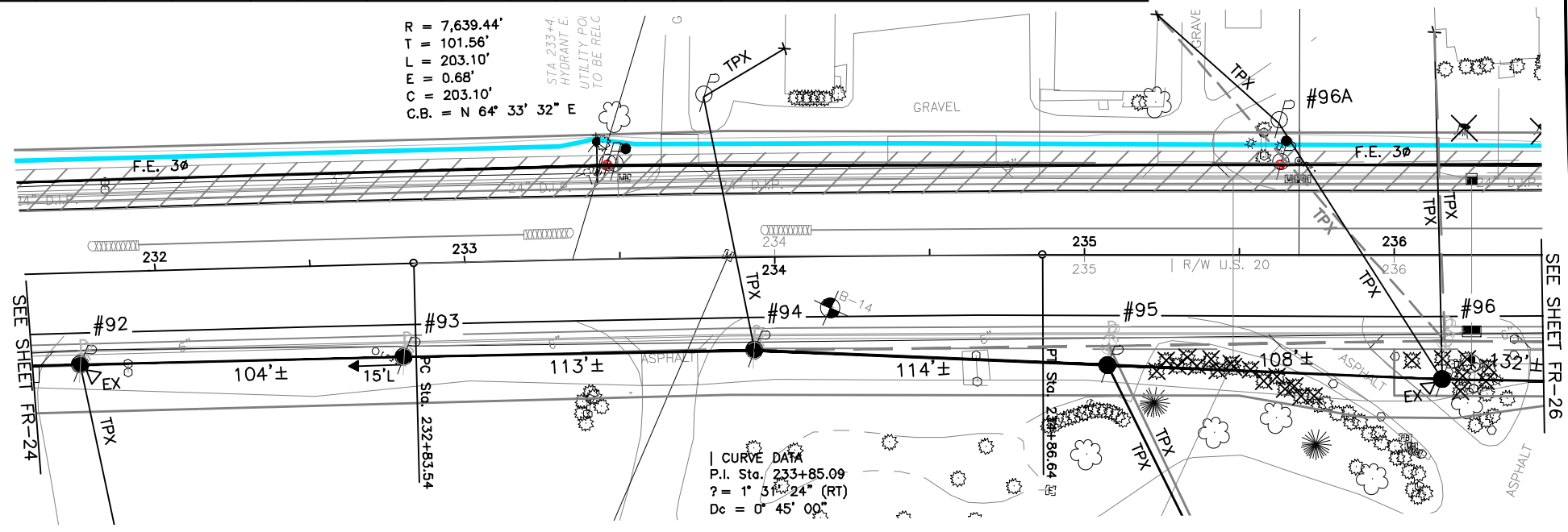
POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
92	45'	3				149'	1	C1A-2M T1	149'	#2/0			EX		1	M27	EX	G11							TRANSFER EX. XFMR & SERVICE TPX TO NEW POLE.
93	45'	3				104'	1	C1A-M	104'	#2/0	1	M24							1	G41 GG	15'	1	G24C		
94	45'	3				113'	1	C1A-M	113'	#2/0 #1/0 TPX	1	M27													TRANSFER EX. SERVICE TPX TO NEW POLE.
95	45'	3				114'	1	C1A-M	114'	#2/0 #1/0 TPX	1	M27	EX		1	M27									TRANSFER EX. SERVICE TPX TO NEW POLE.
96	45'	3				108'	1	C8A-M M5 T1	108'	#2/0 #1/0 TPX	1	M27	EX				EX	G11							TRANSFER EX. XFMR & SERVICE TPX TO NEW POLE.
96A	EX					EX		EX	EX				EX		1	M27									RELOCATED F.E. POLE. TRANSFER EX. SERVICE TPX TO RELOCATED POLE. COORDINATE W/F.E.



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	588'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1764'
NEUTRAL	588'	1	#2/0 AWG ACSR 6/1 "QUAIL"	588'
SECONDARY	335'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	335'
SERVICE				

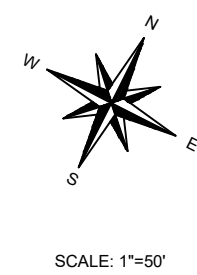


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 July 25, 2024 3:11 PM - jfranzak

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
**FR-25**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
97	45'	3				132'	1 6 2	C8A-M M5 A5-2	132'	#2/0 #1/0 TPX	1	M24			1	M27			G11	1 1	G41 GG	16'	1	G24C	TRANSFER EX. AREA LIGHT TO NEW POLE. TRANSFER & EXTEND EX. 1Ø TAP CONDUCTORS TO NEW POLE. RAKE POLE 12" TOWARD FIELD SIDE.
97A	EX												123'	#2 TPX		EX									
97B	EX								EX			EX	EX			EX									NO WORK.
98	45'	3				120'	1	C1A-M	120'	#2/0															
99	45'	3				117'	1 1	C1A-M T1	117'	#2/0					1	M27	EX	G11							TRANSFER EX. XFMR TO NEW POLE.
99A	EX												112'	#2 TPX		EX									
100	45'	3				124'	1	C1A-M	124'	#2/0															



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

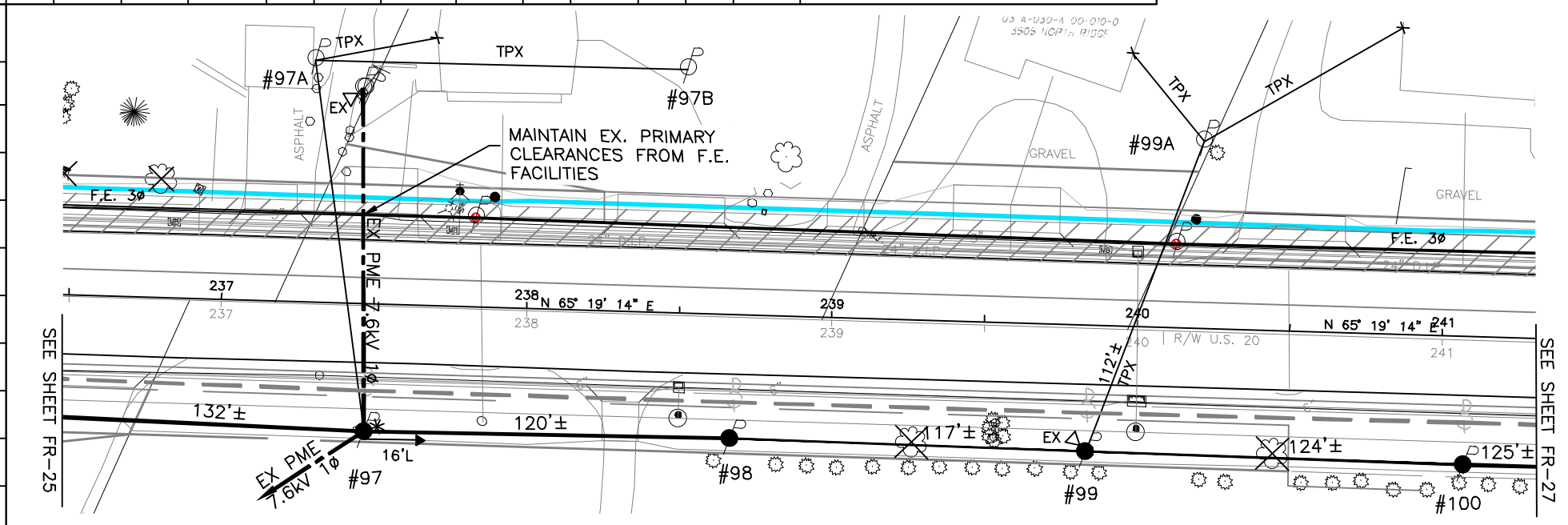
STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

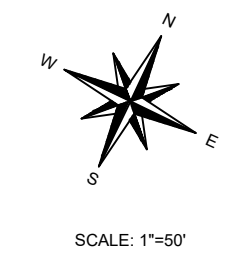
**FR-26**

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	493'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1479'
NEUTRAL	493'	1	#2/0 AWG ACSR 6/1 "QUAIL"	493'
SECONDARY	132'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	132'
SERVICE	235'	1	#2 AWG 7/W ACSR TPX "CONCH"	235'



Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
 Engineering\01\_Construction Design\Poline Z\DWGS\Construction Drawings\Construction Set\CONSTRUCTION  
 SET\_SR20\_R2.dwg  
 July 25, 2024 3:12 PM - jfranzak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
101	45'	3				125'	1	C1A-M	125'	#2/0															
102	45'	3				117'	1	C1A-M	117'	#2/0	1	M24	116'	#2 TPX	1	M27			1	1	G41 GG	16'	1	G24C	TRANSFER EX. SERVICE TPX TO NEW POLE.
													EX		1	M27									
103	45'	3				125'	1	C1A-M	125'	#2/0 #1/0 TPX	1	M27	EX		1	M27									TRANSFER EX. SERVICE TPX TO NEW POLE.
104	45'	3				133'	1	C1A-M T1	133'	#2/0 #1/0 TPX	1	M27	EX		1	M27	EX	G11							TRANSFER EX. XFMR & SERVICE TPX TO NEW POLE.

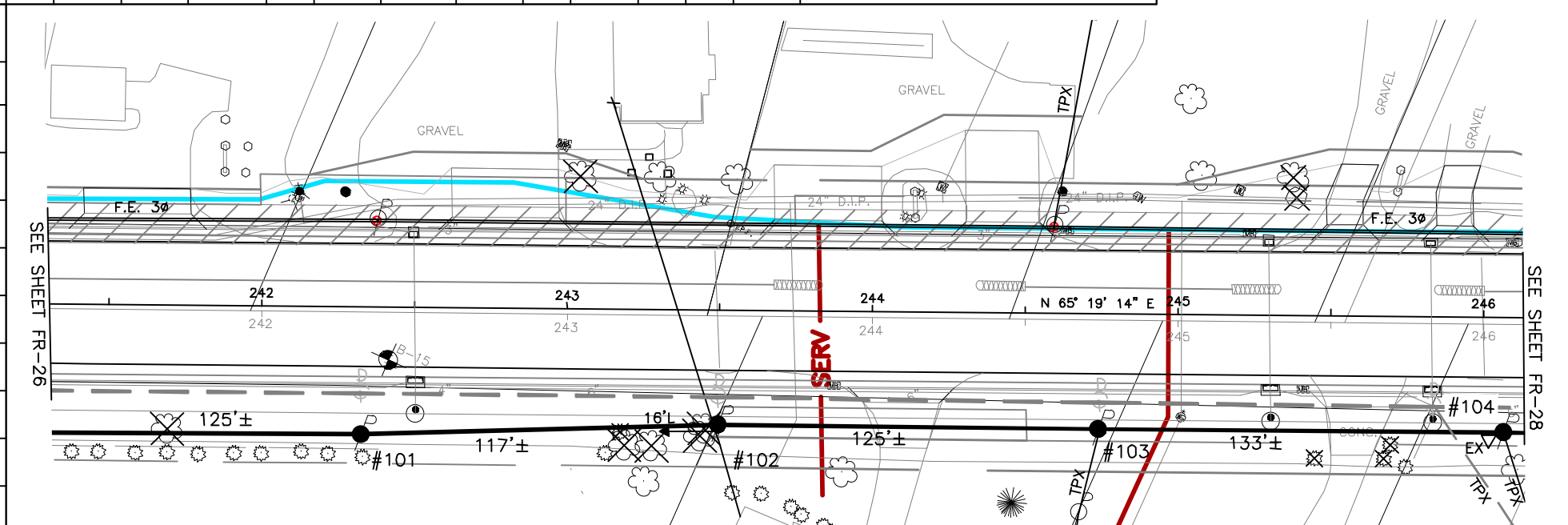


REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

STAKING SHEET

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	500'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1500'
NEUTRAL	500'	1	#2/0 AWG ACSR 6/1 "QUAIL"	500'
SECONDARY	241'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	241'
SERVICE	116'	1	#2 AWG 7/W ACSR TPX "CONCH"	116'



Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400 - Construction Engineering\01 - Construction Design\Poline Z\DWGS\Construction Drawings\Construction Set\CONSTRUCTION SET\_SR20\_R2.dwg  
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ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

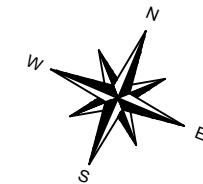
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**FR-27**



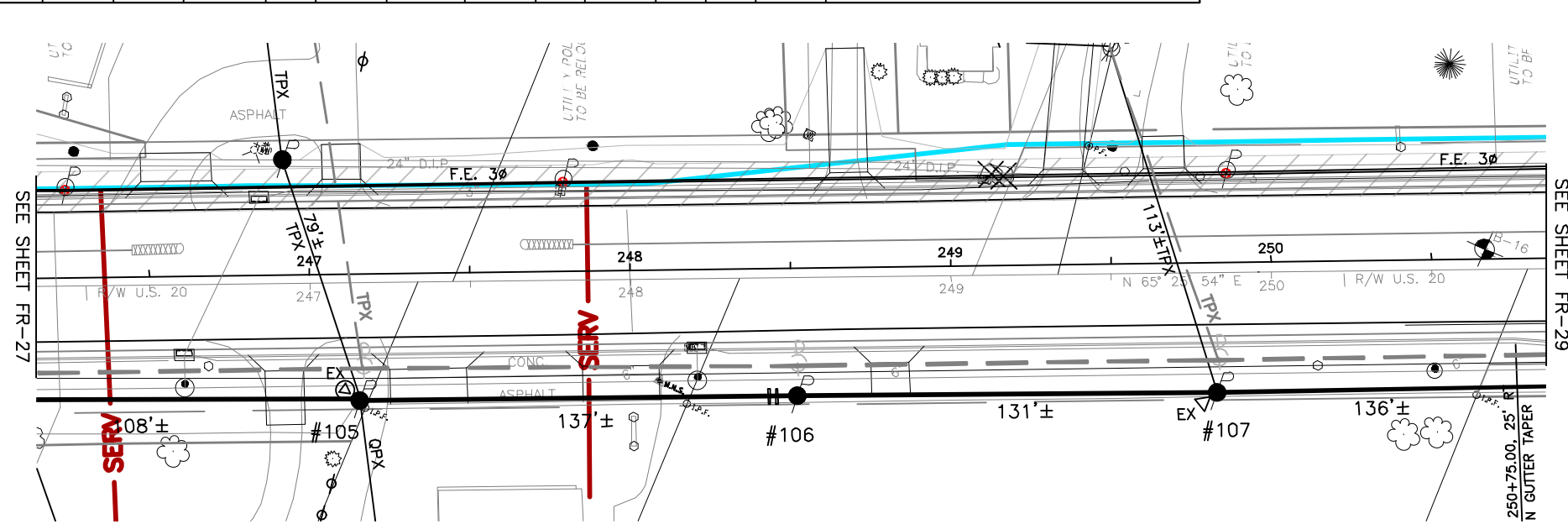
POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
105	45'	3				125'	1	1	C1A-M T312	125'	#2/0 #1/0 TPX	1	M27	EX		1	M27	EX	G11						TRANSFER EX. XFMR & SERVICE QPX TO NEW POLE.
105A	35'	4												79'	#2 TPX	1	M27								TRANSFER EX. SERVICE TPX TO NEW POLE.
106	45'	3				137'	1	1	C1A-M	137'	#2/0 #1/0 TPX	1	M27												
107	45'	3				131'	1	1	C1A-M T1	131'	#2/0 #1/0 TPX	1	M27	113'	#2 TPX			EX	G11						TRANSFER EX. XFMR TO NEW POLE.



SCALE: 1"=50'

Drawing Name: C:\2022\2022142 - Painesville US20 Road Widening Utility Relocation\400\_Construction  
 Engineering\01\_Construction Design\02DWG\Construction Drawings\Construction Set\CONSTRUCTION  
 SET\_S\2022142.dwg  
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TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	393'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1179'
NEUTRAL	393'	1	#2/0 AWG ACSR 6/1 "QUAIL"	393'
SECONDARY	393'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	393'
SERVICE	192'	1	#2 AWG 7/W ACSR TPX "CONCH"	192'



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

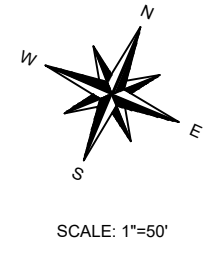
ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

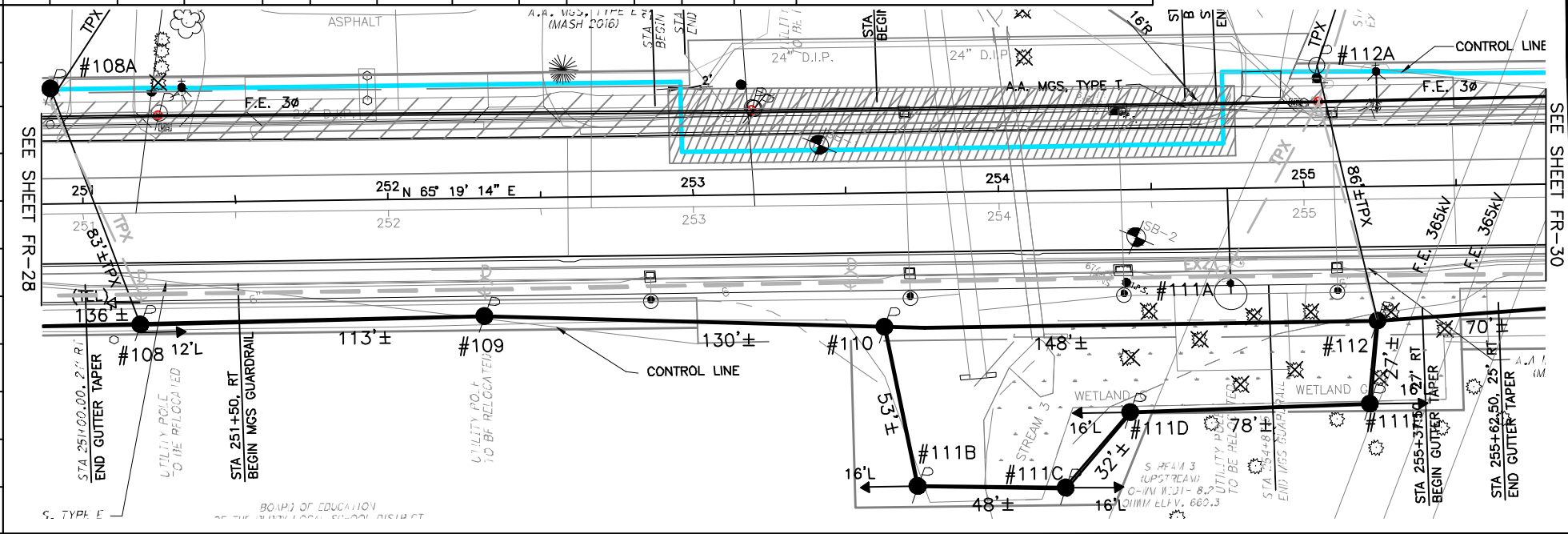
**FR-28**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
108	45'	3				136'	1	C1A-M	136'	#2/0 #1/0 TPX	1	M24			1	M27			1	G41 GG	12'	1	G24C		
108A	35'	4																						TRANSFER EX. SERVICE TPX TO NEW POLE.	
109	45'	3				113'	1	C1A-M	113'	#2/0															
110	45'	3				130'	1	C8A-M C7-M M5	130'	#2/0														SEE NOTE 1.	
111A	R/M					R/M		R/M	R/M			R/M					R/M	R/M						REMOVE EX. POLE, HARDWARE & ALL ASSOCIATED APPURTENANCES. TRANSFER EX. XFMR TO NEW POLE #113.	
111B	50'	3				53'	2	C7-M M5	53'	#2/0									1	G41A G41 GG	16'	1	G24C	CREATE SLACK SPAN TO POLE #110. TRANSFER EX. XFMR FROM EX. POLE #111A TO NEW POLE #113.	
111C	50'	3				48'	2	C7-M M5	48'	#2/0									1	G41A G41 GG	16'	1	G24C		
111D	50'	3				32'	1	C5-M	32'	#2/0									1	G41A G41 GG	16'	1	G24C	CREATE SLACK SPAN TO POLE #111C.	
111E	50'	3				78'	1	C5-M	78'	#2/0									1	G41A G41 GG	16'	1	G24C		
112	45'	3				160' 27'	1	C8A-M C7-M M5	160' 27'	#2/0	1	M24			1	M27									CREATE SLACK SPAN TO POLE #111E. SEE NOTE 2.
112A	EX					EX		EX	EX																RELOCATED F.E. POLE. TRANSFER EX. SERVICE TPX TO POLE. COORDINATE W/F.E.

- NOTES:**
1. CREATE TAILS FOR JUMPERS ON EAST SIDE OF C8A-M UNIT. LOOP BACK & SECURE TO SPAN UTILIZING WEDGE TAP STYLE CONNECTORS. JUMPER CIRCUIT CONDUCTOR ON WEST SIDE OF C8A-M UNIT TO C7-M UNIT.
  2. CREATE TAILS FOR JUMPERS ON WEST SIDE OF C8A-M UNIT. LOOP BACK & SECURE TO SPAN UTILIZING WEDGE TAP STYLE CONNECTORS. JUMPER CIRCUIT CONDUCTOR ON EAST SIDE OF C8A-M UNIT TO C7-M UNIT.



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	777'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	2331'
NEUTRAL	777'	1	#2/0 AWG ACSR 6/1 "QUAIL"	777'
SECONDARY	136'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	136'
SERVICE	169'	1	#2 AWG 7/W ACSR TPX "CONCH"	169'



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:

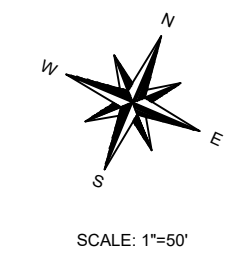
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
**FR-29**

Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
 Engineering\01\_Construction Design\Final\ZDWGS\Construction Drawings\Construction Set\CONSTRUCTION  
 SET\_S\2022142.dwg  
 July 25, 2024 3:12 PM - jfranzak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
113	45'	3				70'	1	C1A-M T1	70'	#2/0 #1/0 TPX	2	M24					EX	G11							CREATE TPX SLACK SPAN TO POLE #112. TRANSFER EXISTING XFMR FROM POLE #111A TO POLE #113.
114	45'	3				126'	1	C1A-M	126'	#2/0															
115	45'	3				125'	1	C1A-M	125'	#2/0															
116	45'	3				94'	1	C1A-M	94'	#2/0															

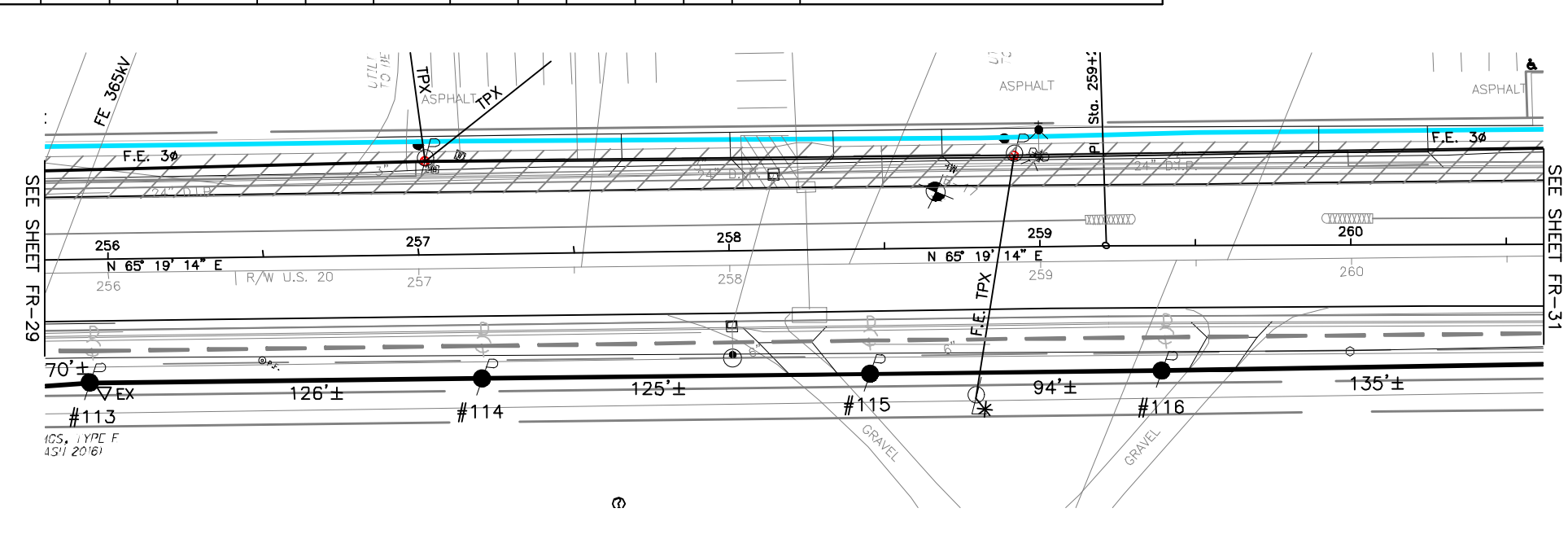


REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

STAKING SHEET

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	415'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1245'
NEUTRAL	415'	1	#2/0 AWG ACSR 6/1 "QUAIL"	415'
SECONDARY	70'	1	#2 AWG 7/W ACSR TPX "CONCH"	70'
SERVICE				



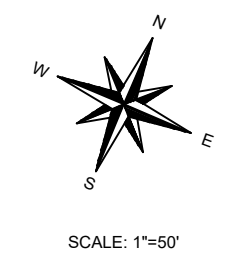
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ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

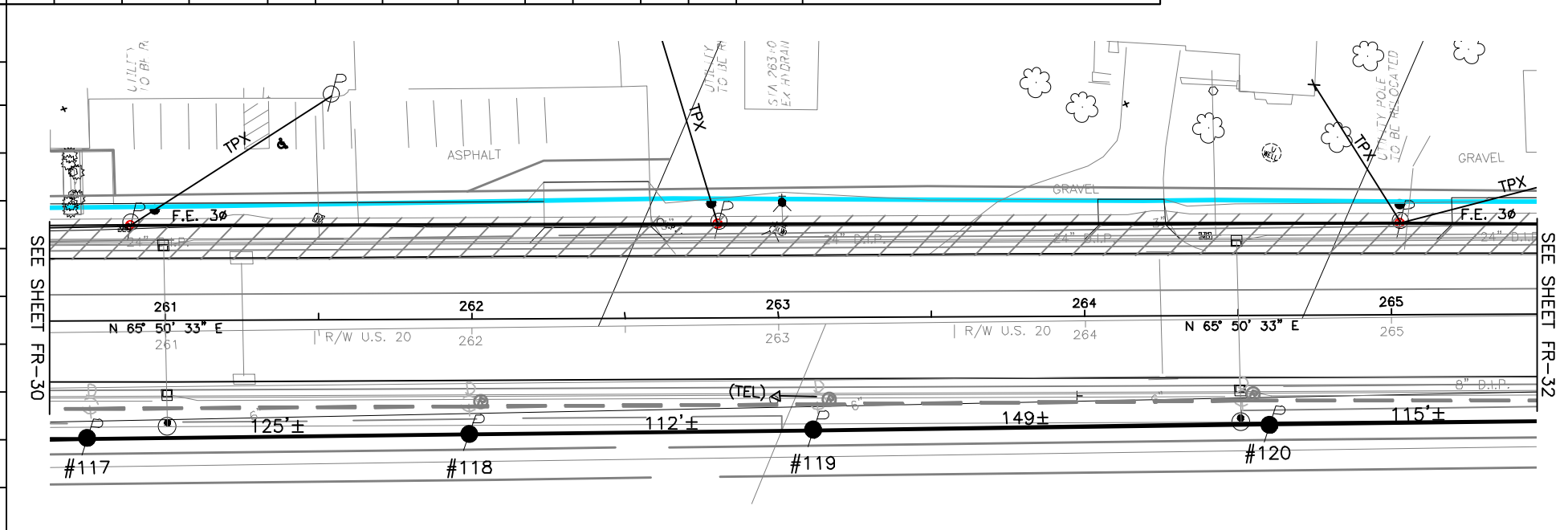
JOB NO.  
**2022142.01**

**FR-30**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS	
117	45'	3				135'	1	C1A-M	135'	#2/0														
118	45'	3				125'	1	C1A-M	125'	#2/0														REMOVE EX. 1Ø VOLTAGE REGULATOR & BYPASS SWITCH
119	45'	3				112'	1	C1A-M	112'	#2/0														REMOVE EX. 1Ø VOLTAGE REGULATOR & BYPASS SWITCH
120	45'	3				149'	1	1-C1A-M	149'	#2/0														REMOVE EX. 1Ø VOLTAGE REGULATOR & BYPASS SWITCH



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	521'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1563'
NEUTRAL	521'	1	#2/0 AWG ACSR 6/1 "QUAIL"	521'
SECONDARY				
SERVICE				



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

STAKING SHEET

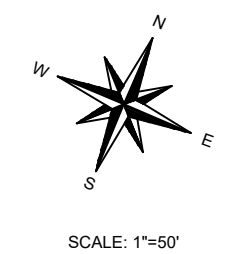
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REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**FR-31**

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
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 User: JWF  
 Date: July 25, 2024 3:12 PM - Jfranczak

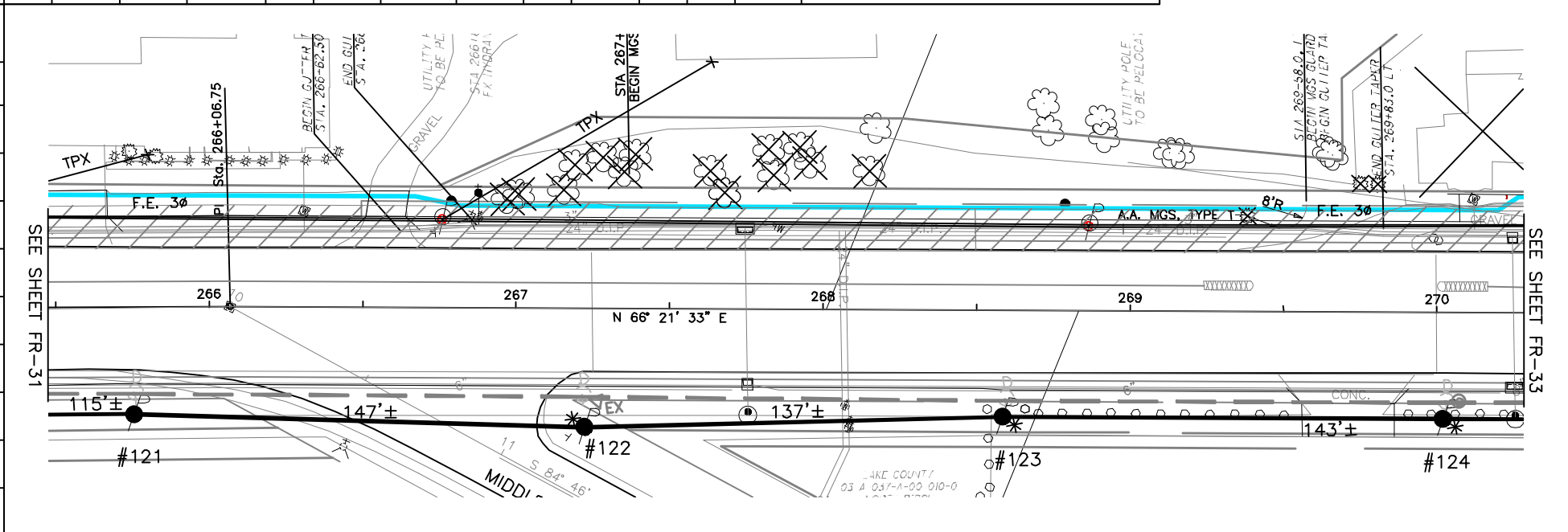
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NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS	
121	45'	3				115'	1	C1A-M	115'	#2/0	1	M27												
122	45'	3				147'	1	C1A-M	147'	#2/0 #6 DPX	1	M27												TRANSFER EX. STREET LIGHT TO NEW POLE. REMOVE EX. XFMR.
123	45'	3				137'	1	C1A-M	137'	#2/0 #6 DPX	1	M27												TRANSFER EX. AREA LIGHT TO NEW POLE.
124	45'	3				143'	1	C1A-M	143'	#2/0 #6 DPX	1	M27												TRANSFER EX. AREA LIGHT TO NEW POLE. REMOVED EX. FUSED CAPACITOR BANK.



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	542'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1626'
NEUTRAL	542'	1	#2/0 AWG ACSR 6/1 "QUAIL"	542'
SECONDARY	427'	1	#6 AWG 7/W ACSR "SHEPHERD"	427'
SERVICE				



ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

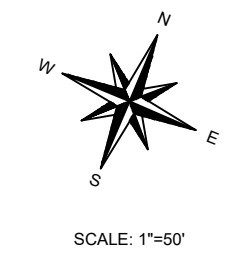
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**FR-32**

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
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 Date: July 25, 2024 3:12 PM - jfranczak

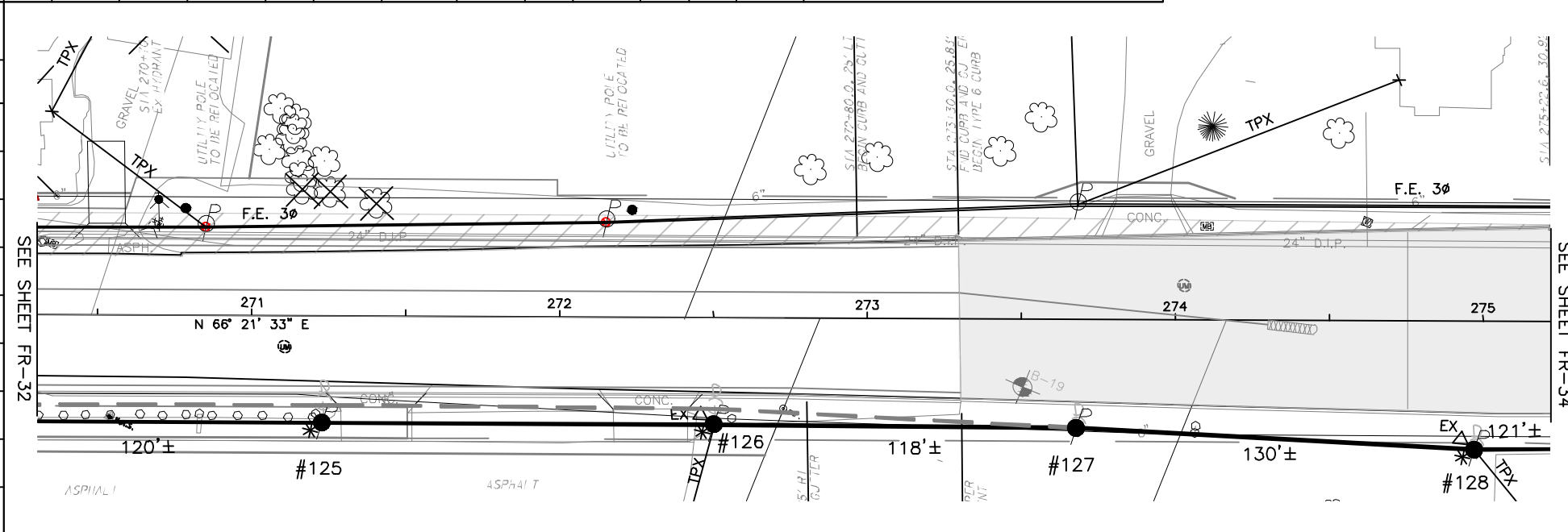
POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
125	45'	3				120'	1	C1A-M	120'	#2/0 #6 DPX	1	M27													TRANSFER EX. AREA LIGHT TO NEW POLE.
126	45'	3				127'	1	C1A-M T1	127'	#2/0 #6 DPX	1	M27	EX		1	M27	EX	G11							TRANSFER EX. AREA LIGHT, XFMR & SERVICE TPX TO NEW POLE.
127	45'	3				118'	1	C1A-2M	118'	#2/0 #6 DPX	1	M27													
128	45'	3				130'	1	C1A-2M T1	130'	#2/0 #6 DPX	1	M27	EX		1	M27	EX	G11							TRANSFER EX. AREA LIGHT, XFMR & SERVICE TPX TO NEW POLE. REPLACE POLE IN PLACE.



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	495'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1485'
NEUTRAL	495'	1	#2/0 AWG ACSR 6/1 "QUAIL"	495'
SECONDARY	495'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	495'
SERVICE				

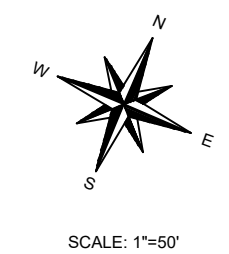


ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

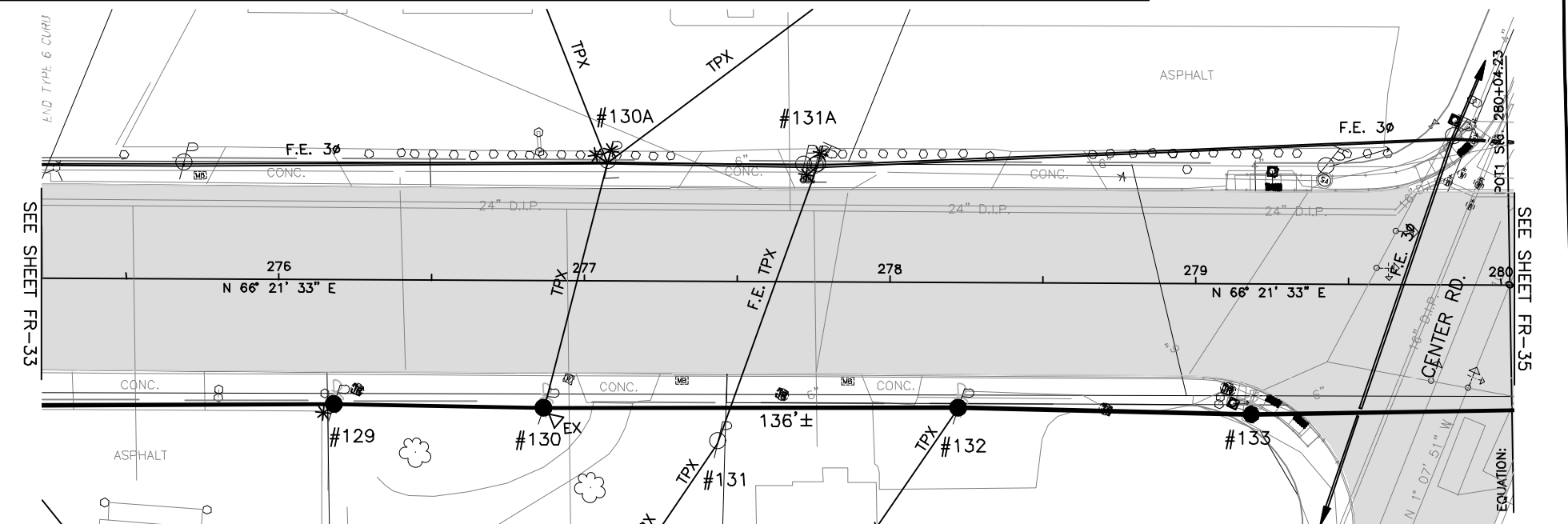
JOB NO.  
**2022142.01**  
**FR-33**

Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400 - Construction Engineering\01 - Construction Design\Pointline 2\DWGS\Construction Drawings\Construction Set\CONSTRUCTION SET\_SRD0\_R2.dwg  
 July 25, 2024 3:12 PM - Jfranzak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
129	45'	3				121'	1	C1A-M	121'	#2/0 #6 DPX	1	M27													TRANSFER EX. AREA LIGHT TO NEW POLE.
130	45'	3				69'	1	C1A-M T1	69'	#2/0	1	M24	EX		1	M27	EX	G11							TRANSFER EX. SERVICE TPX & XFMR TO NEW POLE.
130A	EX												EX			EX									NO WORK.
131	EX												EX			EX									F.E. POLE, NO WORK.
131A	EX					EX		EX	EX				EX	EX		EX									F.E. POLE, NO WORK.
132	45'	3				136'	1	C1A-M	136'	#2/0 #2 TPX	1	M24	EX		1	M27									TRANSFER EX. SERVICE TPX TO NEW POLE.
133	45'	3				96'	1	C8A-M M5	96'	#2/0	6														



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	422'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1266'
NEUTRAL	422'	1	#2/0 AWG ACSR 6/1 "QUAIL"	422'
SECONDARY	136'	1	#2 AWG 7/W ACSR TPX "CONCH"	136'
	121'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	121'
SERVICE				



REV.	DATE	DESCRIPTION

**CITY OF PAINESVILLE, OHIO**  
**US 20 ROAD WIDENING**  
**UTILITY RELOCATION**

**STAKING SHEET**

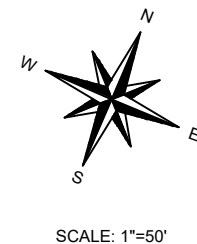
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REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

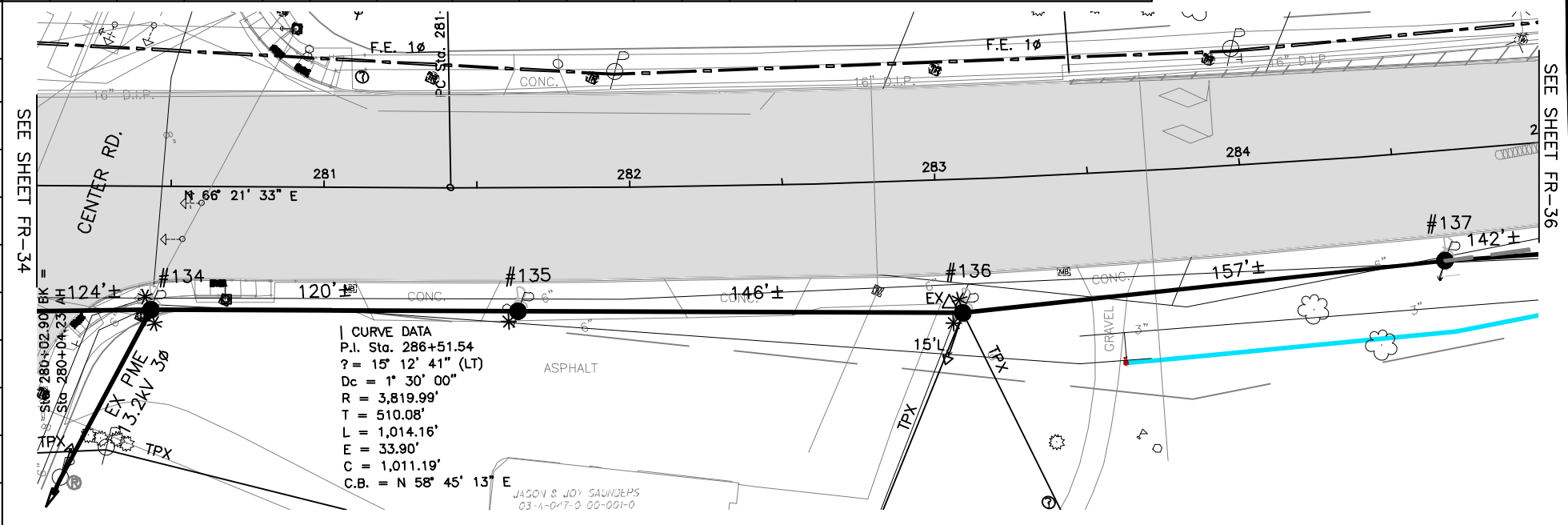
**FR-34**

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction FR-34.dwg  
 User: jfranzak  
 Date: 7/25/2024 3:13 PM  
 Project Manager: jfranzak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
134	50'	3				124'	1	C1A-M C7-M M5	124'	#2/0	1	M27													TRANSFER EX. AREA LIGHT, STREET LIGHT & 3Ø TAP CONDUCTORS TO NEW POLE.
135	45'	3				120'	1	C1A-M	120'	#2/0 #6 DPX	1	M27													TRANSFER EX. AREA LIGHT TO NEW POLE.
136	45'	3				146'	1	C8A-M M5 T1	146'	#2/0 #6 DPX	1	M27	EX		1	M27	EX	G11	1	G41A G41 GG	15'		EX		TRANSFER EX. XFMR, AREA LIGHT, STREET LIGHT & SERVICE TPX TO NEW POLE. REUSE EX. ANCHOR.
137	45'	3				157'	1	C1A-2M	157'	#2/0 #6 DPX	1	M27													



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	547'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1641'
NEUTRAL	547'	1	#2/0 AWG ACSR 6/1 "QUAIL"	547'
SECONDARY	423'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	423'
SERVICE				



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

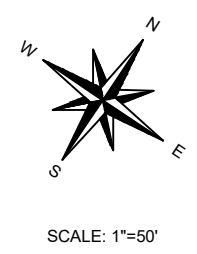
JOB NO.  
 2022142.01

FR-35

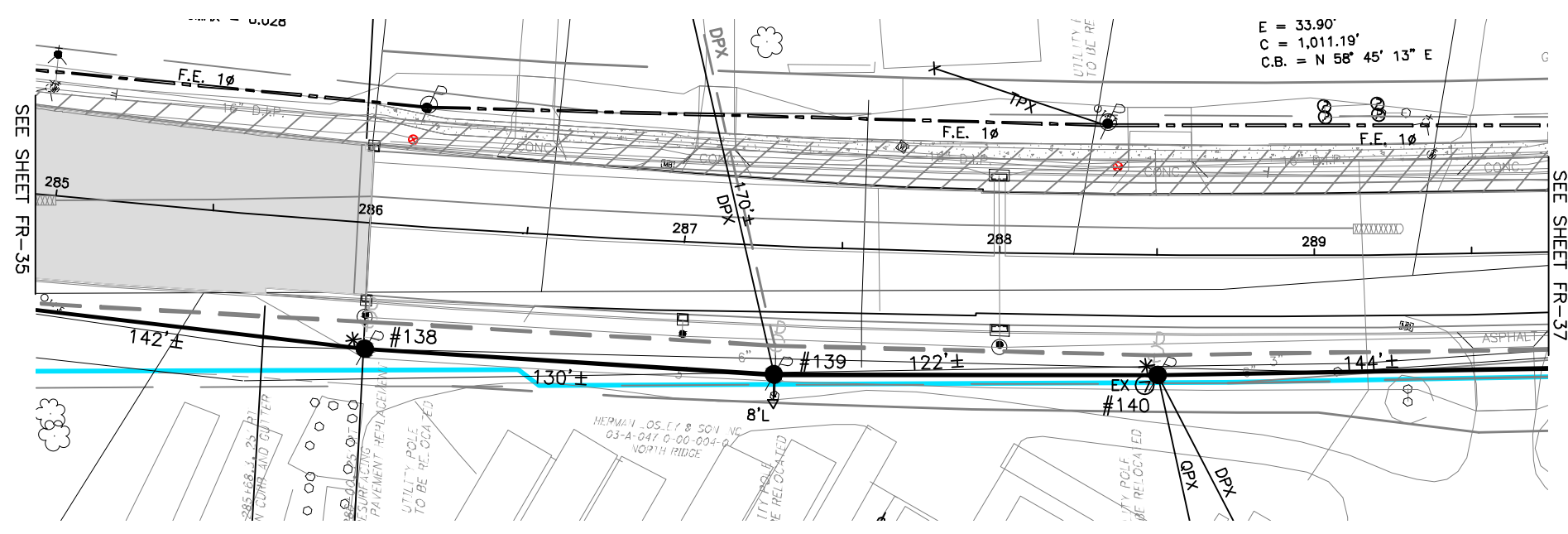
Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
 Engineering\01\_Construction Design\Poline Z\DWG\Construction Drawings\Construction Set\CONSTRUCTION  
 SET\_SFR20\_PZ.dwg  
 July 23, 2024 3:13 PM - jfranzak



POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
138	50'	3				142'	1	C1A-2M	142'	#2/0 #6 DPX	1	M27													TRANSFER EX. STREET LIGHT TO NEW POLE.
139	45'	3				130'	1	C1A-M	130'	#2/0 #6 DPX	1	M27	170'	#6 DPX					1	G41A GG	8'		EX		REUSE EX. ANCHOR.
140	45'	3				122'	1	C1A-M T210	122'	#2/0 #6 DPX	1	M27	EX		1	M27	EX	G11							TRANSFER EX. STREET LIGHT, XFMRs, SERVICE DPX & QPX TO NEW POLE.



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	394'	3	266.8 KCMIL ACSR 26/7 "PARTRIDGE"	1182'
NEUTRAL	394'	1	#2/0 AWG ACSR 6/1 "QUAIL"	394'
SECONDARY	394'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	394'
SERVICE	170'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	170'



REV.	DATE	DESCRIPTION

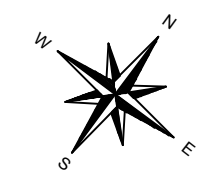
CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
**FR-36**

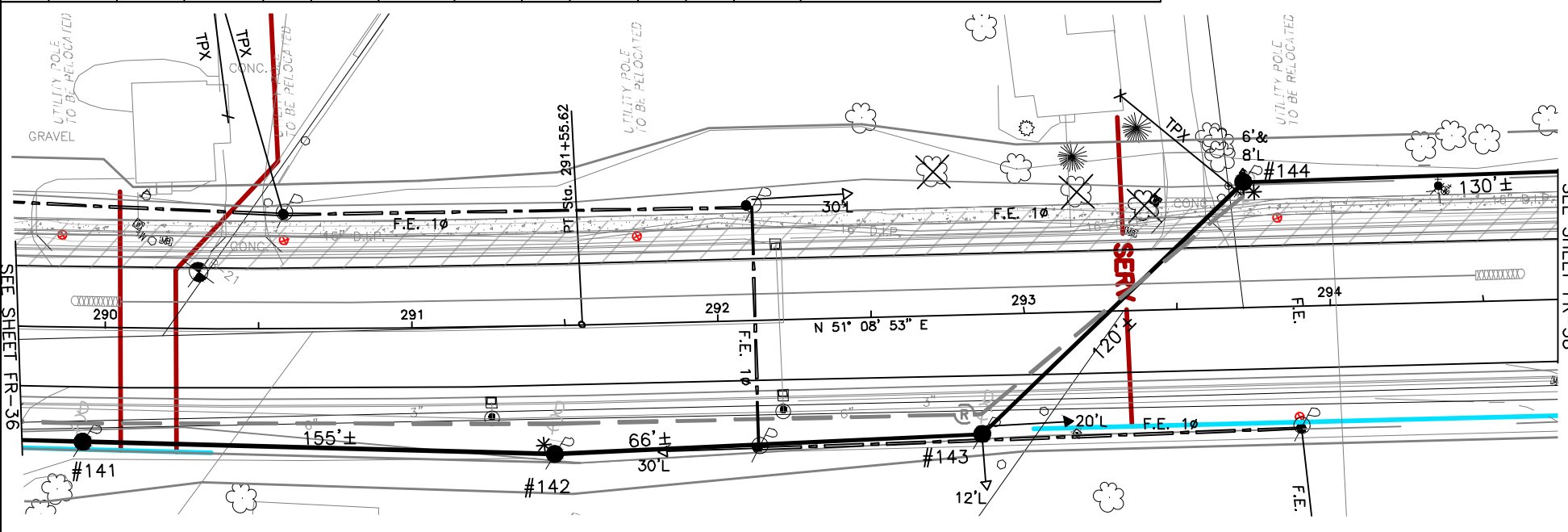
Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction Engineering\01\_Construction Design\Poline\ZLDWGSS\Construction Drawings\Construction Set\CONSTRUCTION SET\_SFR20\_PZ.dwg  
 July 23, 2024 3:13 PM - jfranczak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
141	45'	3				144'	1	C1A-2M	144'	2/0 #6 DPX	1	M27													TRANSFER EX. RADIO EQUIPMENT TO NEW POLE. COORDINATE W/CITY.
142	45'	3				155'	1	C1A-2M	155'	2/0 #6 DPX	1	M27													TRANSFER EX. STREET LIGHT TO NEW POLE.
142A	EX					66'	1	C1A-M	66'																EX F.E. POLE. INSTALL NEW 3Ø UNIT BELOW EX. F.E. 1Ø. COORDINATE WITH F.E. & PME.
143	45'	3				73'	2 5	C7-M M5	73'	#2/0								G11	2 2 2	G41 G41A GG	20' 12'	1	G24C		RELOCATE EX. RECLOSER FROM POLE #143 TO POLE #145. REUSE EX. ANCHOR TO THE SOUTHEAST. COORDINATE F.E. NEUTRAL POSITION WITH F.E. & PME.
144	50'	3				120'	2 5	C7-M M5	120'	#2/0	1	M24	EX		1	M27									TRANSFER EX. STREET LIGHT & SERVICE TPX TO NEW POLE. REPLACE POLE IN PLACE. CREATE SLACK SPAN TO POLE #143.



SCALE: 1"=50'

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	558'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1674'
NEUTRAL	558'	1	#2/0 AWG ACSR 6/1 "QUAIL"	558'
SECONDARY	299'	1	#6 AWG 7/W ACSR DPX "SHEPERD"	299'
SERVICE				



REV.	DATE	DESCRIPTION

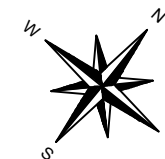
CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
 2022142.01  
**FR-37**

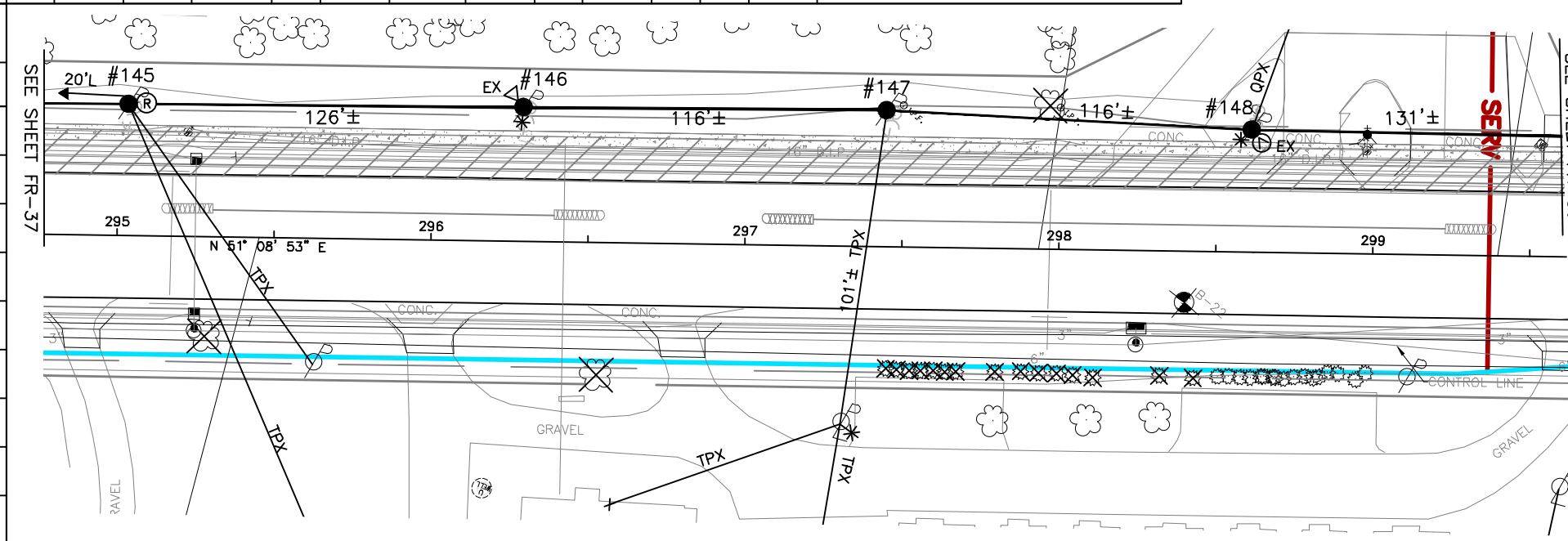
Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction Engineering\01\_Construction Design\Folierne\_ZDWGS\Construction Drawings\Construction Set\CONSTRUCTION SET.dwg  
 Date: 07/25/2024 3:10 PM - jfranzczak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
145	45'	3				130'	1	1	C8A-M MR-15F	130'	#2/0 #1/0 TPX	2	M24	EX				G11	1	G41A G41 GG	20'	1	G24C	TRANSFER EX. SERVICE TPX TO NEW POLE. REPLACE POLE IN PLACE. CREATE SEMI SLACK SPAN TO POLE #144. DOUBLE	
																								DEADEND #1/0 TPX. RELOCATE EX. RECLOSER FROM POLE #143 TO POLE #145 INSTALL NEW RECLOSER BYPASS SWITCHES.	
146	45'	3				126'	1	1	C1A-M T1	126'	#2/0 #1/0 TPX	1	M27				EX	G11						TRANSFER EX. XFMR & STREET LIGHT TO NEW POLE. REPLACE POLE IN PLACE.	
147	45'	3				116'	1	1	C1A-M	116'	#2/0 #1/0 TPX	1	M27	101'	#2 TPX										
148	45'	3				116'	1	1	C1A-M T210	116'	#2/0 #1/0 TPX	1	M27	EX	1	M27	EX	G11							TRANSFER EX. XFMRs, SERVICE QPX, & STREET LIGHT TO NEW POLE. REPLACE POLE IN PLACE.



SCALE: 1"=50'

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	488'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1464'
NEUTRAL	488'	1	#2/0 AWG ACSR 6/1 "QUAIL"	488'
SECONDARY	488'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	488'
SERVICE	101'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	101'



REV.	DATE	DESCRIPTION

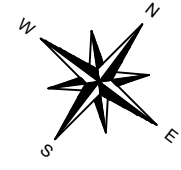
CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
**FR-38**

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
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 SET\FR-38.dwg  
 July 26, 2024 3:13 PM - jfranczak

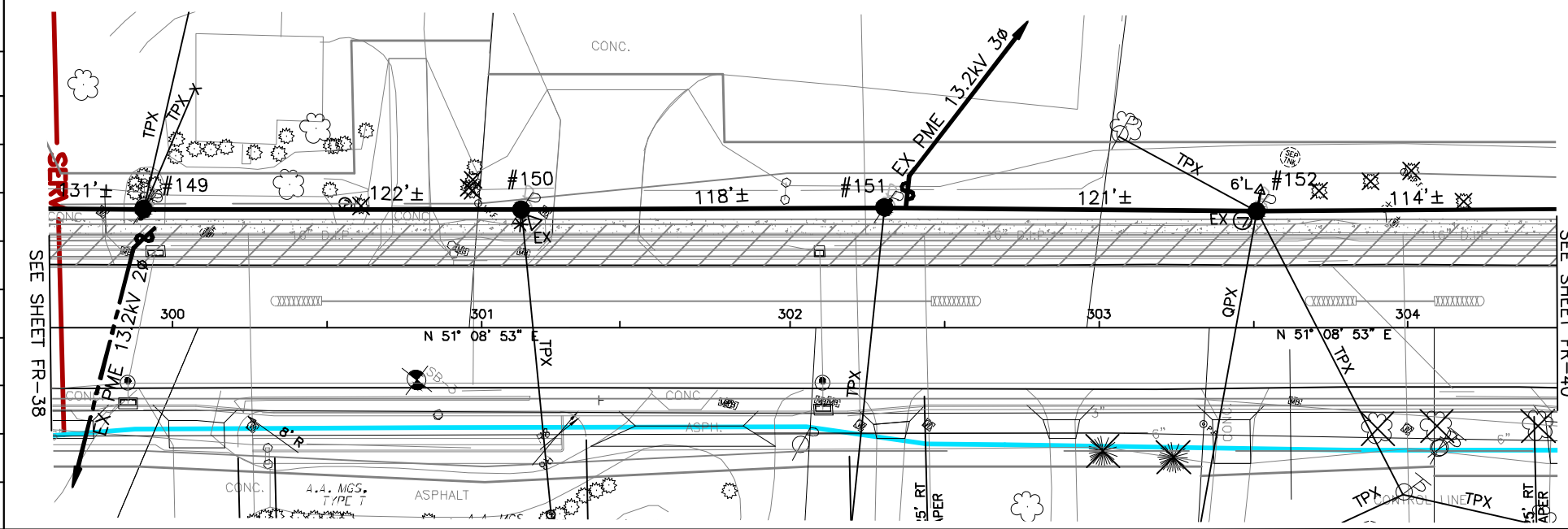
POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
149	45'	3				131'	1 1 2	C1A-M B7-M M10	131' 131'	#2/0 #1/0 TPX	1	M27	EX		1	M27		G11							TRANSFER & EXTEND EX. 2Ø TAP CONDUCTORS. TRANSFER EX. SERVICE TPX TO NEW POLE. REPLACE POLE IN PLACE.
150	45'	3				122'	1 1	C1A-M T1	122' 122'	#2/0 #1/0 TPX	1	M27	EX				EX	G11							TRANSFER EX. STREET LIGHT XFMR, & SERVICE TPX TO NEW POLE
151	45'	3				118'	1 1 3 5	C1A-M C7-M M10 M5	118' 118'	#2/0 #1/0 TPX	1	M27	EX					G11							TRANSFER EX. 3Ø TAP CONDUCTORS & SERVICE TPX TO NEW POLE.
152	45'	3				121'	1 1	C1A-M T210	121' 121'	#2/0 #1/0 TPX	1	M27	EX		2	M27	EX	G11	1 1	G41 GG	6'		EX		TRANSFER EX. STREET LIGHT, XFMR, SERVICE TPX & QPX TO NEW POLE. REUSE EX ANCHOR.



SCALE: 1"=50'

Drawing Name: 0:10222022142 - Painesville US20 Road Widening Utility Relocation/400 Construction  
 Engineering/01\_Construction Design/Pipeline ZLDWGS/Construction Drawings/Construction Set/CONSTRUCTION SET\_SRD0\_R2.dwg  
 July 25, 2024 3:13 PM - jfranczak

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	492'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1476'
NEUTRAL	492'	1	#2/0 AWG ACSR 6/1 "QUAIL"	492'
SECONDARY	492'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	492'
SERVICE				



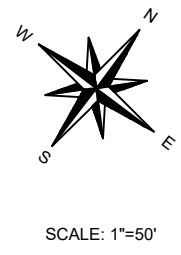
REV.	DATE	DESCRIPTION

**CITY OF PAINESVILLE, OHIO**  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
**FR-39**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
153	45'	3				114'	1 1	C1A-M T1	114' 114'	#2/0 #1/0 TPX	1	M27					EX	G11							TRANSFER EX. XFMR TO NEW POLE
154	45'	3				126'	1	C1A-M	126' 126'	#2/0 #1/0 TPX	1	M27	EX												TRANSFER EX. STREET LIGHT & SERVICE TPX TO NEW POLE.
155	45'	3				122'	1 6 1	C8A-M M5 T1	122' 122'	#2/0 #1/0 TPX	1	M27	EX		1	M27	EX	G11	1 1 1	G41A G41 GG	15'		EX		TRANSFER EX. SERVICE TPX TO NEW POLE. REUSE EX. ANCHOR. TRANSFER EX. XFMR FROM POLE #156.
156	45'	3				125'	1 6	C8A-M M5	125' 125'	#2/0 #1/0 TPX	1	M27	EX		1	M27	R/M		1 1	G42A G42	78'				TRANSFER EX. STREET LIGHT & SERVICE TPX TO NEW POLE. TRANSFER EX. XFMR TO POLE #155.
156A	40'	3																	1 1 1	G41A G41 GG	8'	1	G24D		

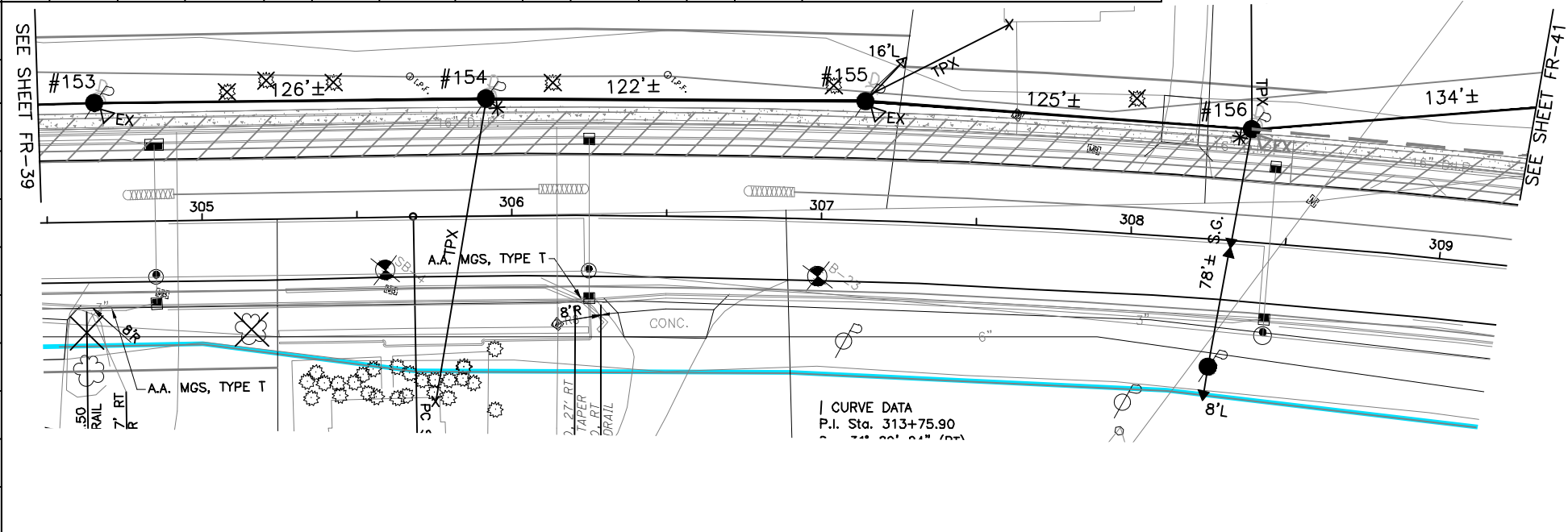


REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
**STAKING SHEET**

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction Engineering\01\_Construction Design\Poline\_ZDWGS\Construction Drawings\Construction Set\CONSTRUCTION SET\_5/20/2024.dwg  
 July 25, 2024 3:13 PM - jfranzak

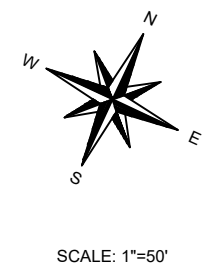
TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	487'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1461'
NEUTRAL	487'	1	#2/0 AWG ACSR 6/1 "QUAIL"	487'
SECONDARY	487'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	487'
SERVICE				



ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
**FR-40**

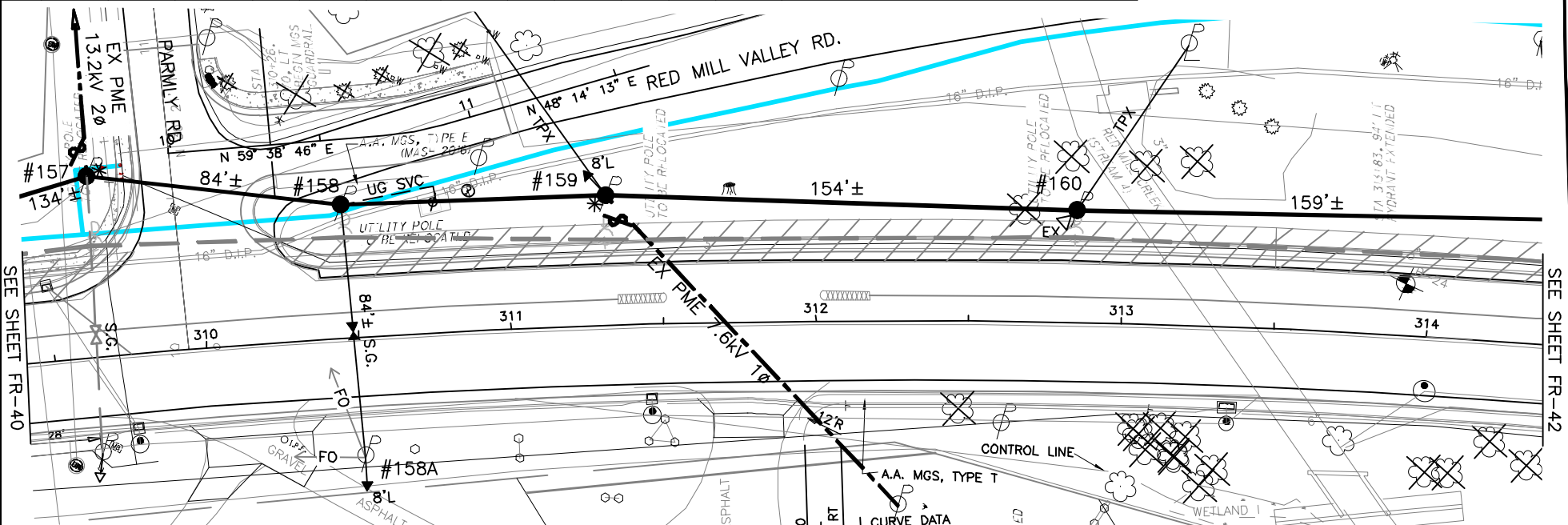
POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
157	50'	3				134'	1 1 2	C8A-M B7-M M10	134' 134'	#2/0 #1/0 TPX	1	M27						G11	1 1 1	G41A G41 GG	20'	1	G24C	TRANSFER EX. STREET LIGHT & 2Ø TAP CONDUCTORS TO NEW POLE.	
158	45'	3				84'	1 6	C8A-M M5	84' 84'	#2/0 #1/0 TPX	1	M27							1 1	G42A G42	84'			TRANSFER EX. UG SERVICE TO NEW POLE.	
158A	EX																		1 1 1	G41A G41 GG	8'	1	G24D	EX. COMMS POLE. INSTALL NEW GUYS ABOVE COMMS.	
159	45'	3				87'	1 1 1	C1A-2M A5-2 M10	87' 87'	#2/0 #1/0 TPX	1	M27	EX		1	M27			G11	1 1 1	G41A G41 GG	8'	1	G24D	TRANSFER & EXTEND EX. 1Ø TAP CONDUCTORS TO NEW POLE. TRANSFER EX. SERVICE TPX & STREET LIGHT TO NEW POLE.
160	50'	3				154'	1 1	C1A-2M T1	154' 154'	#2/0 #1/0 TPX	1	M27	EX		1	M27	EX	G11							TRANSFER EX. XFMR & SERVICE TPX TO NEW POLE.



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	459'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1377'
NEUTRAL	459'	1	#2/0 AWG ACSR 6/1 "QUAIL"	459'
SECONDARY	459'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	459'
SERVICE				

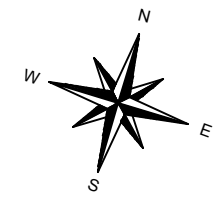


Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400 - Construction Engineering\Construction Design\Profile\2022\2022142\US20 Road Widening Utility Relocation\Construction Set\CONSTRUCTION July 26, 2024 3:13 PM - jfranczak

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
**FR-41**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
161	50'	3				159'	1 6	C8A-M M5	159'	#2/0 #1/0 TPX	1 1	M24 M27	EX		1	M27			1	1	G41 GG	15'	1	G24C	TRANSFER EX. STREET LIGHT & SERVICE TPX TO NEW POLE
162	45'	3				159'	1 1	C1A-2M A5-2	159'	#2/0 #6 DPX	1	M27						G11							TRANSFER EX. 1Ø TAP CONDUCTORS TO NEW POLE.
163	45'	3				159'	1	C1A-2M	159'	#2/0 #6 DPX	1	M27													TRANSFER EX. STREET LIGHT TO NEW POLE
164	45'	3				158'	1 6	C8A-M M5	158'	#2/0 #6 DPX	1	M27							1 1 1	1	G41A G41 GG	15'	1	G24C	



SCALE: 1"=50'

REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

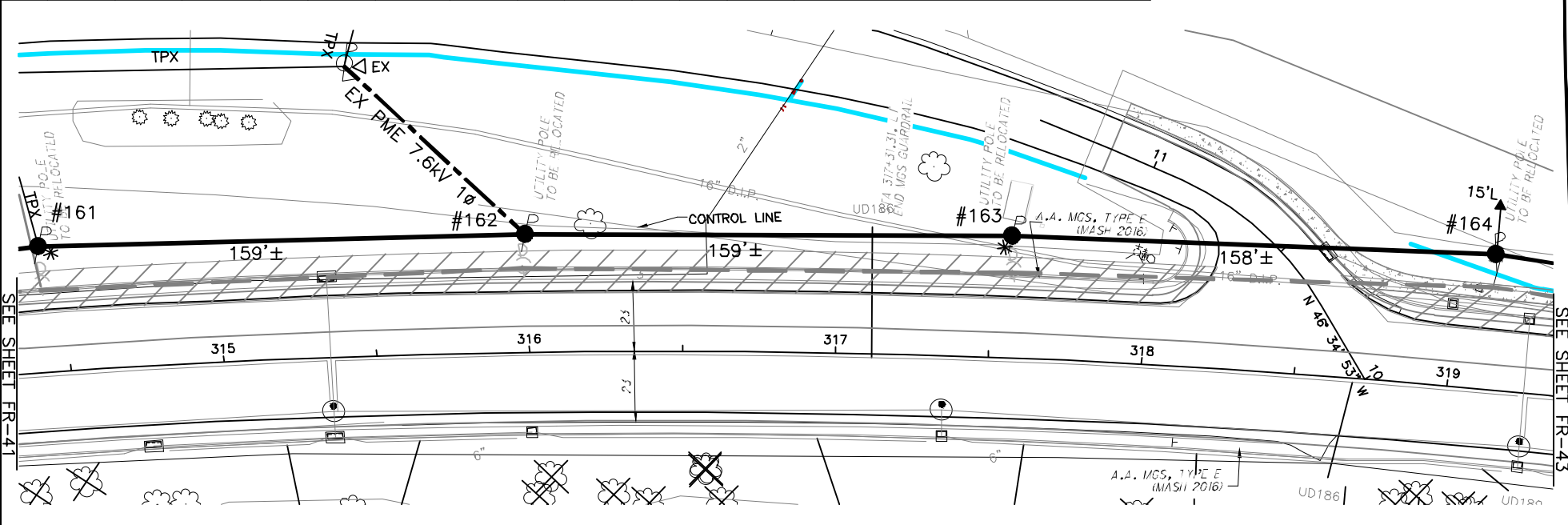
ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
 2022142.01

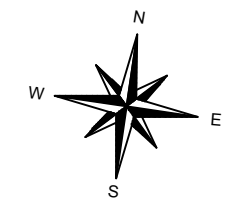
FR-42

Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400 - Construction  
 Engineering - Construction Design\IP\Outline 2\DWGSS\Construction Drawings\Construction Set\CONSTRUCTION  
 July 26, 2024 3:13 PM - jfranczak

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	635'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1905'
NEUTRAL	635'	1	#2/0 AWG ACSR 6/1 "QUAIL"	635'
SECONDARY	476'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	476'
	159'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	159'
SERVICE				

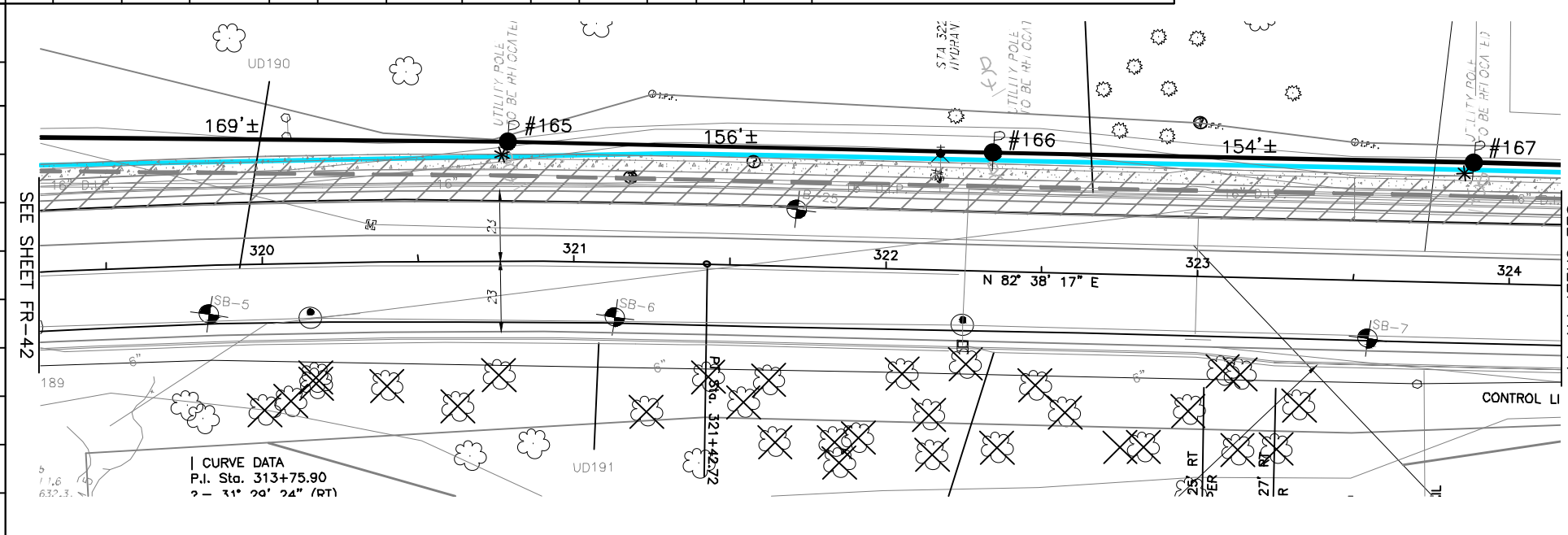


POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
165	45'	3				169'	1	C1A-2M	169'	#2/0 #6 DPX	1	M27													TRANSFER EX. STREET LIGHT TO NEW POLE.
166	45'	3				156'	1	C1A-2M	156'	#2/0 #6 DPX	1	M27													
167	45'	3				154'	1	C1A-2M	154'	#2/0 #6 DPX	1	M27													TRANSFER EX. STREET LIGHT TO NEW POLE.



SCALE: 1"=50'

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	479'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1437'
NEUTRAL	479'	1	#2/0 AWG ACSR 6/1 "QUAIL"	479'
SECONDARY	479'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	479'
SERVICE				



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

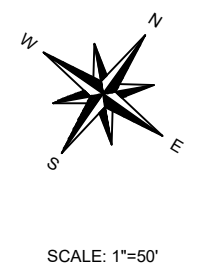
JOB NO.  
2022142.01

FR-43

Drawing Name: 0:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction Engineering\01\_Construction Design\Poline 2\DWG\Construction Drawings\Construction Set\CONSTRUCTION SET\_SR20\_R2.dwg  
July 25, 2024 3:14 PM - jfranczak



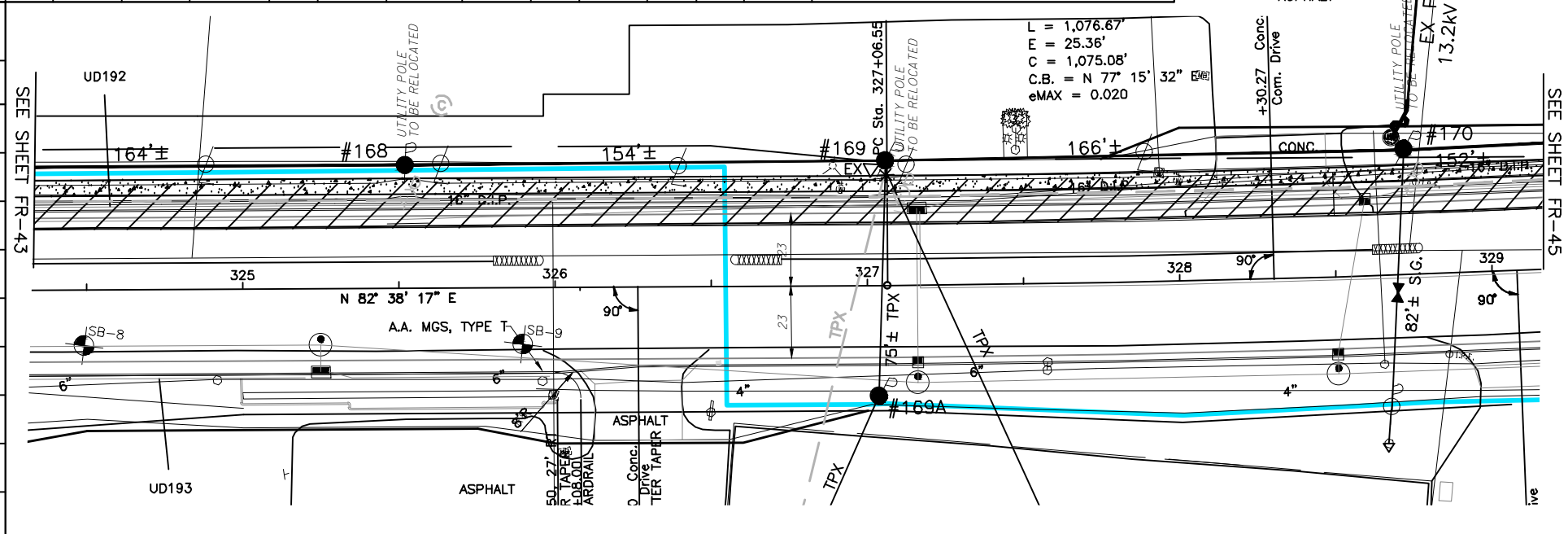
POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
168	45'	3				164'	1	C1A-2M	164'	#2/0 #6 DPX	1	M27													REMOVE EX. 3Ø FUSED CAP BANK.
169	45'	3				154'	1	C1A-2M T1	154'	#2/0 #6 DPX	1	M27	EX				EX	G11							TRANSFER EX. XFMR, SECONDARY TPX, & STREET LIGHT TO NEW POLE.
169A	35'	4											75'	#2 TPX	2	M27									TRANSFER EX. SERVICE TPX SPAN FROM POLE #169 TO NEW POLE #169A.
170	45'	3				166'	1	C1A-2M	166'	#2/0 #6 DPX	1	M27						G11	1	G42A G42	82'				TRANSFER EX. 3Ø TAP CONDUCTORS TO NEW POLE.
170A	EX																			EX		EX			EX. GUY STUB POLE.



REV.	DATE	DESCRIPTION

Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction Engineering\01\_Construction Design\POline 2\DWGS\Construction Drawings\Construction Set\CONSTRUCTION SET\_SR20\_R2.dwg  
 July 25, 2024 3:14 PM - jfranczak

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	484'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1452'
NEUTRAL	484'	1	#2/0 AWG ACSR 6/1 "QUAIL"	484'
SECONDARY	484'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	484'
SERVICE	75'	1	#2 AWG 7/W ACSR TPX "CONCH"	75'

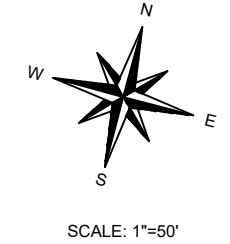


**CITY OF PAINESVILLE, OHIO**  
**US 20 ROAD WIDENING**  
**UTILITY RELOCATION**  
  
**STAKING SHEET**

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
  
**FR-44**

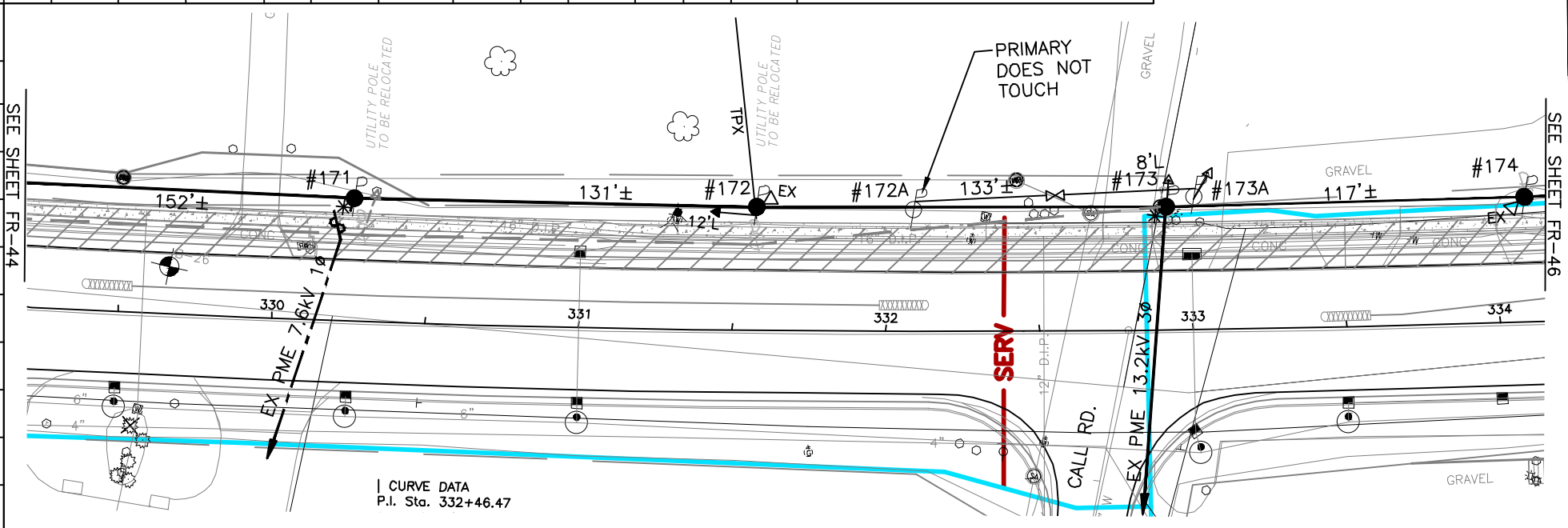
POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
171	50'	3				152'	1	C1A-2M C7-M M10	152'	#2/0 #6 DPX	1	M27						G11							TRANSFER EX. 3Ø TAP CONDUCTORS & STREET LIGHT TO NEW POLE.
172	45'	3				131'	1	C8A-M M5 T1	131'	#2/0 #6 DPX	1	M27 M24	EX		1	M27	EX	G11	1	G41 GG	12'	1	G24C		TRANSFER EX. XFMR & SERVICE TPX TO NEW POLE.
172A	EX																								EX. COMMS GUY STUB POLE. NO WORK.
173	50'	3				133'	1	C1A-M C7-M M5	133'	#2/0 #1/0 TPX	1	M27						G11	1	G41A G41 GG	8'		EX		TRANSFER EX. 3Ø TAP CONDUCTORS & STREET LIGHT TO NEW POLE. REUSE EX. ANCHOR.
173A	EX																			EX			EX		EX. COMMS POLE. NO WORK.



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	416'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1248'
NEUTRAL	416'	1	#2/0 AWG ACSR 6/1 "QUAIL"	416'
SECONDARY	133'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	133'
	283'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	283'
SERVICE				



Drawing Name: O:\2022\202142 - Painesville\US20 Road Widening - Utility Relocation\400\_Construction Engineering\01\_Construction Design\Poline 2\DWGS\Construction Drawings\Construction Set\CONSTRUCTION SET\_SR20\_FR2.dwg  
 July 25, 2024 3:14 PM - jfranzak

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
 2022142.01  
**FR-45**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS	
174	45'	3				117'	1	C1A-2M T1	117'	#2/0 #1/0 TPX	1	M27					EX	G11						TRANSFER EX. XFMR TO NEW POLE.
175	45'	3				152'	1	C1A-2M T1	152'	#2/0 #1/0 TPX	1	M27	EX		2	M27	EX	G11						TRANSFER EX. STREET LIGHT, XFMR & SERVICE TPX TO NEW POLE.
175A	EX								EX			EX	EX											EX. POLE. NO WORK.
176	45'	3				170'	1	C1A-2M A5-2 M10	170'	#2/0 #1/0 TPX	1	M27	EX		1	M27		G11						TRANSFER EX. 1Ø TAP CONDUCTORS & SERVICE TPX TO NEW POLE.

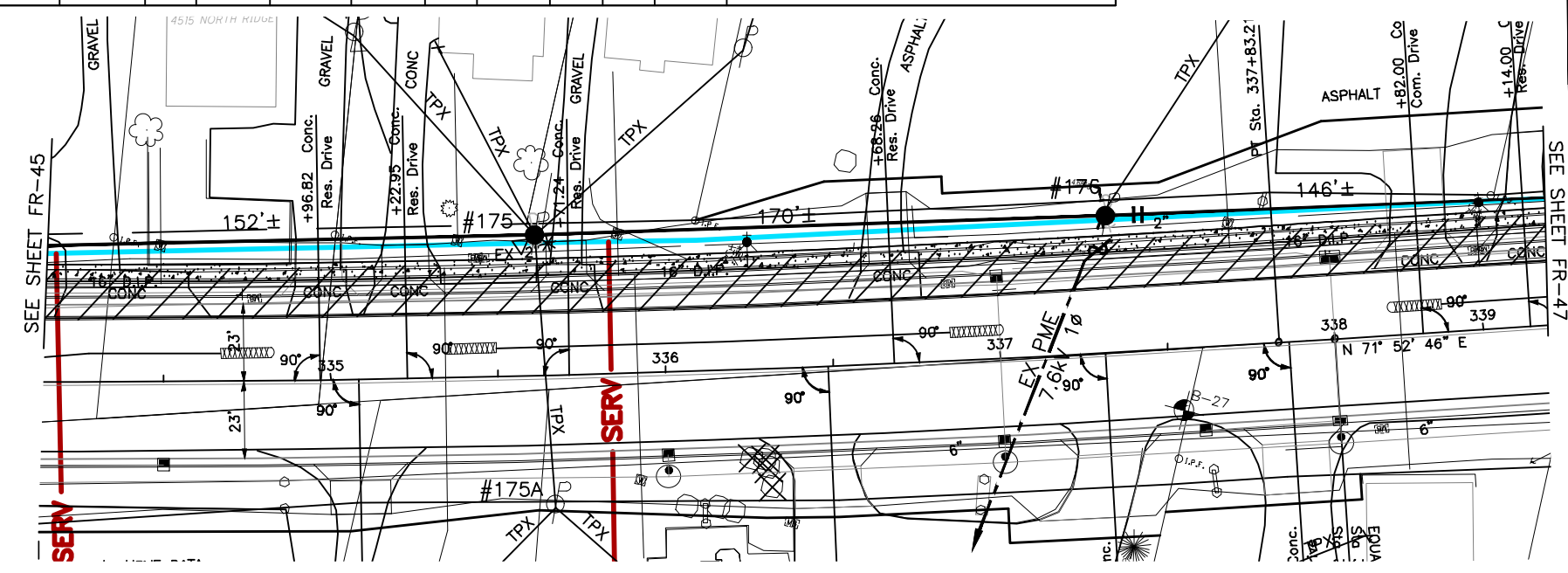
REV.	DATE	DESCRIPTION



CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

STAKING SHEET

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	439'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1317'
NEUTRAL	439'	1	#2/0 AWG ACSR 6/1 "QUAIL"	439'
SECONDARY	439'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	439'
SERVICE				



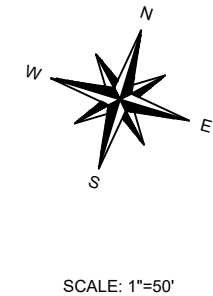
ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
2022142.01

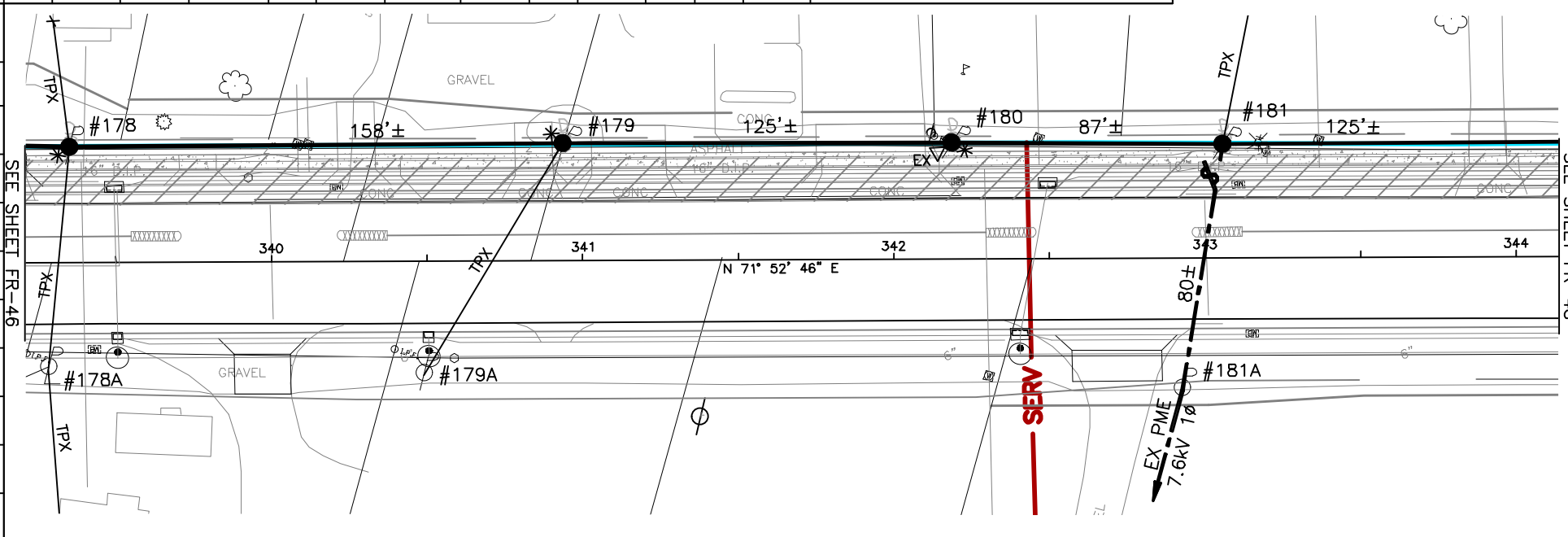
FR-46

Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction Engineering\01\_Construction Design\Poleline ZDWGS\Construction Drawings\Construction Set\CONSTRUCTION SET\_SR20\_FR2.dwg  
 July 25, 2024 3:14 PM - jfranzak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS	
178	45'	3				146'	1	C1A-2M	146'	#2/0 #1/0 TPX	1	M27	EX		1	M27								TRANSFER EX. STREET LIGHT & SERVICE TPX TO NEW POLE. REPLACE POLE IN PLACE.
178A	EX												EX			EX								EX. POLE. NO WORK.
179	45'	3				158'	1	C1A-2M	158'	#2/0 #1/0 TPX	1	M27	EX											TRANSFER EX. SERVICE TPX & AREA LIGHT TO NEW POLE. REPLACE POLE IN PLACE.
179A	EX												EX			EX								EX. POLE. NO WORK.
180	45'	3				125'	1	C1A-M T1	125'	#2/0 #1/0 TPX	1	M27					EX	G11						TRANSFER EX. XFMR & STREET LIGHT TO NEW POLE. REPLACE POLE IN PLACE.
181	45'	3				87'	1	C1A-M A5-2 M10	87'	#2/0 #1/0 TPX	1	M27	EX		1	M27								TRANSFER EX. 1Ø TAP CONDUCTORS & SERVICE TPX TO NEW POLE. REPLACE POLE IN PLACE.
181A	EX					EX		EX	EX				EX											EX. POLE. NO WORK.



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	516'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1548'
NEUTRAL	516'	1	#2/0 AWG ACSR 6/1 "QUAIL"	516'
SECONDARY	516'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	516'
SERVICE				



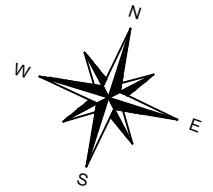
REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

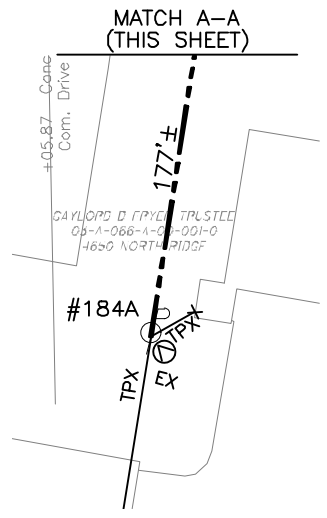
JOB NO.  
**2022142.01**  
**FR-47**

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 July 25, 2024 3:14 PM - jfranzak

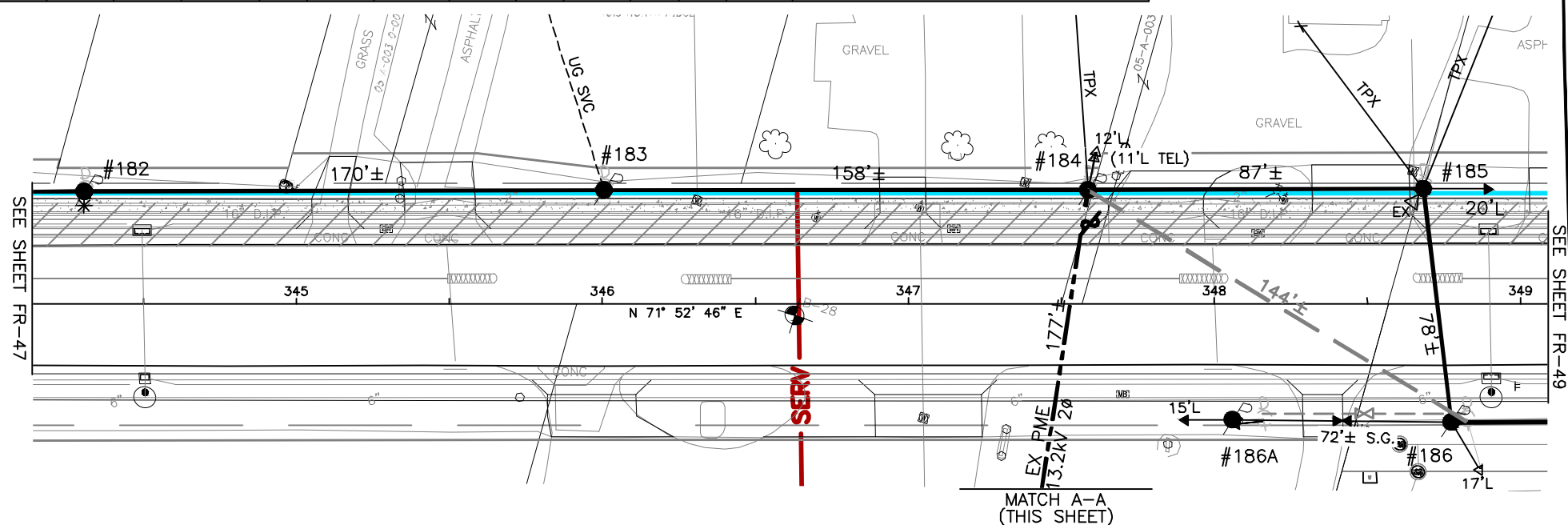


SCALE: 1"=50'

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
182	45'	3				125'	1	C1A-2M	125'	#2/0 #1/0 TPX	1	M27													TRANSFER EX. STREET LIGHT TO NEW POLE.
183	45'	3				170'	1	C1A-2M	170'	#2/0 #1/0 TPX	1	M27													TRANSFER EX. UG SERVICE TO NEW POLE. REPLACE POLE IN PLACE.
184	45'	3				158'	1	C1A-2M	158'	#2/0 #1/0 TPX	1	M27	EX		1	M27			1	G41A		12'		EX	TRANSFER EX. SERVICE TPX & 2Ø TAP CONDUCTORS TO NEW POLE. REPLACE POLE IN PLACE. REUSE EX. ANCHOR.
184A	EX					EX		EX	EX			EX													NO WORK.
185	50'	3				87'	2	C7-M M5 T1	87'	#2/0 #1/0 TPX	2	M24	EX		1	M27	EX	G11	1	G41A		20'	1	G24C	TRANSFER EX. XFMR & SERVICE TPX TO NEW POLE. REPLACE POLE IN PLACE.
186	50'	3				78'	2	C7-M M5	78'	#2/0 #1/0 TPX	2	M24							1	G41A		17'		EX	CREATE SEMI SLACK SPAN TO POLE #185. REUSE EX. ANCHOR TO THE EAST.
186A	40'	3																	1	G41A		15'	1	G24D	



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	618'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1854'
NEUTRAL	618'	1	#2/0 AWG ACSR 6/1 "QUAIL"	618'
SECONDARY	618'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	618'
SERVICE				



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
**FR-48**

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400 - Construction Staking\Sheet\FR-48.dwg  
 User: jfranzak  
 Date: 7/26/2024 3:14 PM



**GPD GROUP**  
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Akron, OH 44311  
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REV.	DATE	DESCRIPTION

REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

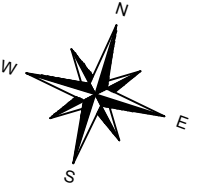
STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

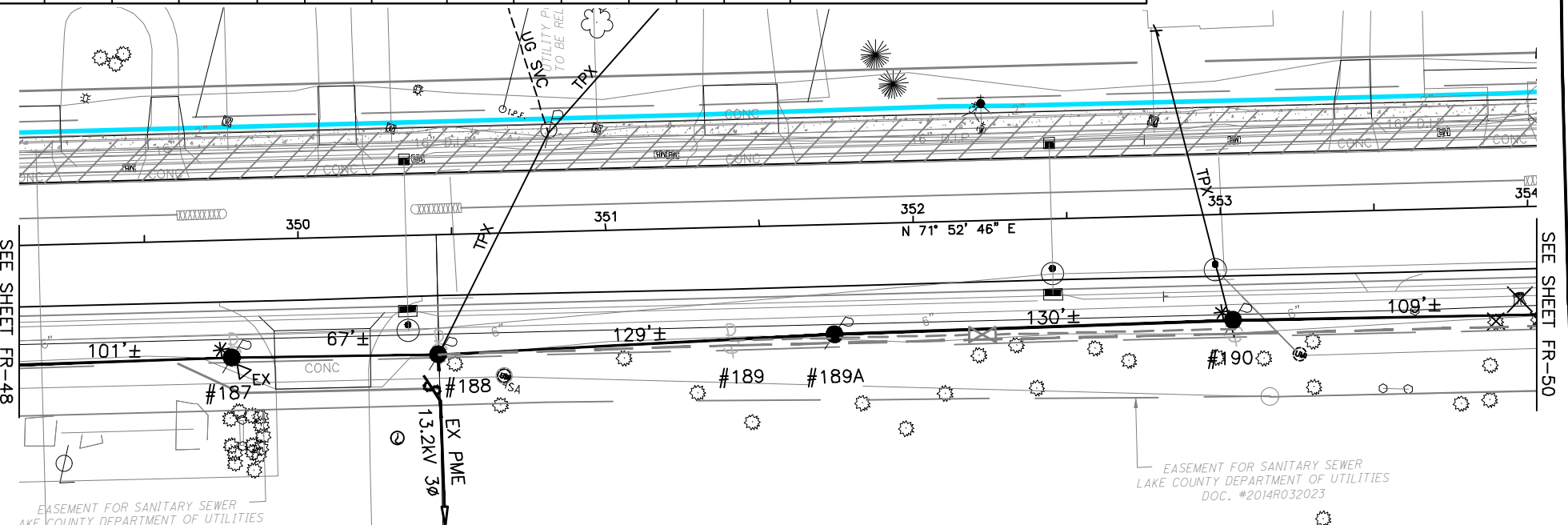
JOB NO.  
**2022142.01**

**FR-49**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR			REMARKS
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
187	45'	3				101'	1	1	C1A-M T1	101'	#2/0 #1/0 TPX	1	M27				EX	G11						TRANSFER EX. STREET LIGHT & XFMR TO NEW POLE.	
188	45'	3				67'	1	1	C1A-M C7-M M5	67'	#2/0 #1/0 TPX	1	M27	EX				G11						TRANSFER EX. 3Ø TAP CONDUCTORS & SERVICE TPX TO NEW POLE.	
189	R/M					R/M			R/M	R/M			R/M									R/M		REMOVE POLE, CONDUCTORS, HARDWARE, & ALL ASSOC. APPURTENANCES.	
189A	45'	3				129'	1	1	C1A-M	129'	#2/0 #1/0 TPX	1	M27												
190	45'	3				130'	1	1	C1A-M	130'	#2/0 #1/0 TPX	1	M27	EX										TRANSFER EX. STREET LIGHT & SERVICE TPX TO NEW POLE.	



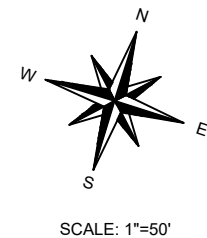
SCALE: 1"=50'



SEE SHEET FR-48

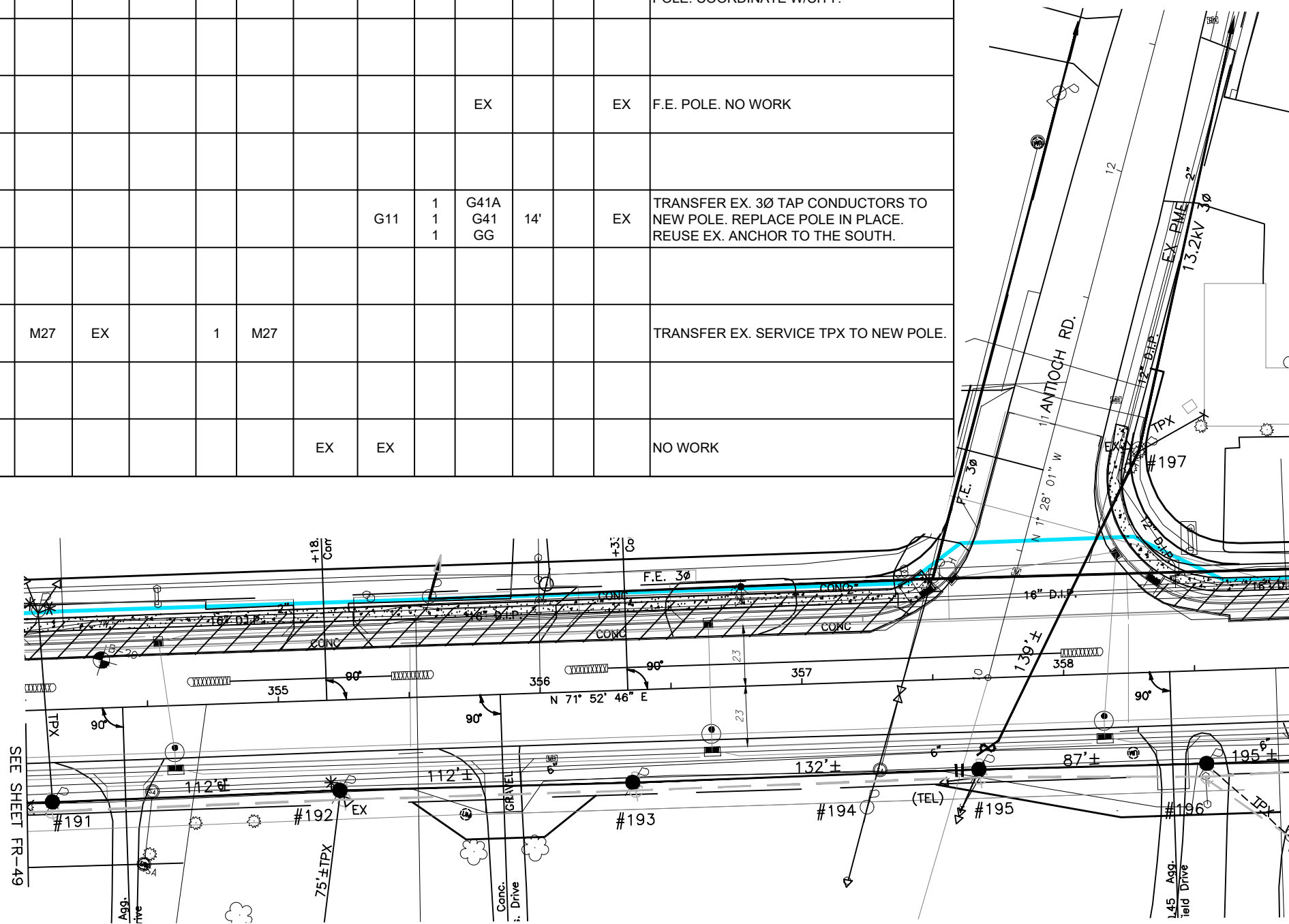
SEE SHEET FR-50

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400 - Construction Engineering\01 - Construction Design\Publicline 2\DWG\Construction Drawings\Construction Set\CONSTRUCTION SET\_SR20\_FR20.dwg  
July 25, 2024 3:14 PM - jfranzzak



POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
191	45'	3				109'	1	C1A-M	109'	#2/0 #1/0 TPX	1	M27	EX											TRANSFER EX. SERVICE TPX TO NEW POLE.	
192	45'	3				112'	1	C1A-M T1	112'	#2/0 #1/0 TPX	1	M27			1	M27	EX	G11						TRANSFER EX. XFMR & STREET LIGHT TO NEW POLE.	
192A	EX													75'	#2 TPX									RECONNECT EX. UG SERVICE.	
193	45'	3				112'	1	C1A-M	112'	#2/0 #1/0 TPX	1	M27												TRANSFER EX. RADIO EQUIPMENT TO NEW POLE. COORDINATE W/CITY.	
194	EX																							F.E. POLE. NO WORK	
195	50'	3				132'	1	C1A-M	132'	#2/0 #1/0 TPX								G11	1	G41A	14'		EX	TRANSFER EX. 3Ø TAP CONDUCTORS TO NEW POLE. REPLACE POLE IN PLACE. REUSE EX. ANCHOR TO THE SOUTH.	
							5	C7-M	132'	#1/0 TPX									1	G41					
							3	M5											1	GG					
								M10																	
196	45'	3				87'	1	C1A-2M	87'	#2/0 #1/0 TPX	1	M27	EX		1	M27								TRANSFER EX. SERVICE TPX TO NEW POLE.	
197	EX					EX		EX	EX									EX	EX					NO WORK	

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	552'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1656'
NEUTRAL	552'	1	#2/0 AWG ACSR 6/1 "QUAIL"	552'
SECONDARY	552'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	552'
SERVICE	75'	1	#2 AWG 7/W ACSR TPX "CONCH"	75'



REV.	DATE	DESCRIPTION

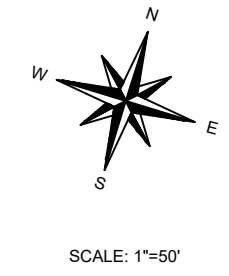
CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

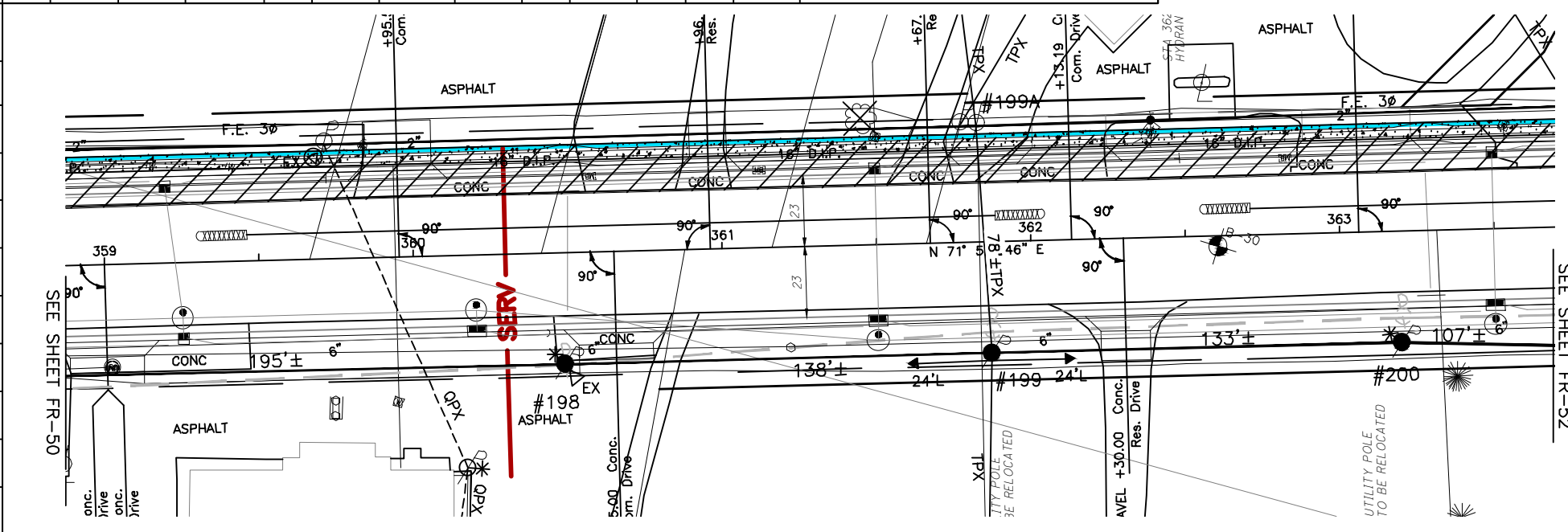
JOB NO.  
**2022142.01**  
**FR-50**

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
 File: FR-50.dwg  
 User: JWP  
 Date: 7/25/2024 3:14 PM  
 Plot: FR-50.dwg  
 July 25, 2024 3:14 PM - JWP

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY		ANCHOR		REMARKS		
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY		UNITS	
198	45'	3				195'	1	C1A-2M T1	195'	#2/0 #1/0 TPX	1	M27					EX	G11						TRANSFER EX. XFMR & STREET LIGHT TO NEW POLE. REPLACE POLE IN PLACE. TRANSFER PROPERTY OWNER'S MAIL BOXES TO NEW POLE.	
199	45'	3				138'	1	C8A-M M5	138'	#2/0 #1/0 TPX	1	M24 M27	EX		1	M27			2 2 2	G41A G41 GG	24'	2	G24C	TRANSFER EX. SERVICE TPX TO NEW POLE.	
199A	EX													78'	#2 TPX										
200	45'	3				133'	1	C1A-M	133'	#2/0 #6 DPX	1	M27												TRANSFER EX. STREET LIGHT TO NEW POLE.	



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	466'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1398'
NEUTRAL	466'	1	#2/0 AWG ACSR 6/1 "QUAIL"	466'
SECONDARY	333'	1	#1/0 AWG 7/0 ACSR TPX "NERITINA"	333'
	133'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	133'
SERVICE	78'	1	#2 AWG 7/W ACSR TPX "CONCH"	78'



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

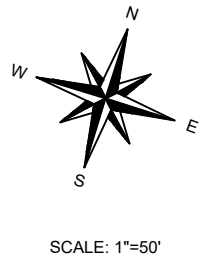
JOB NO.  
**2022142.01**

**FR-51**

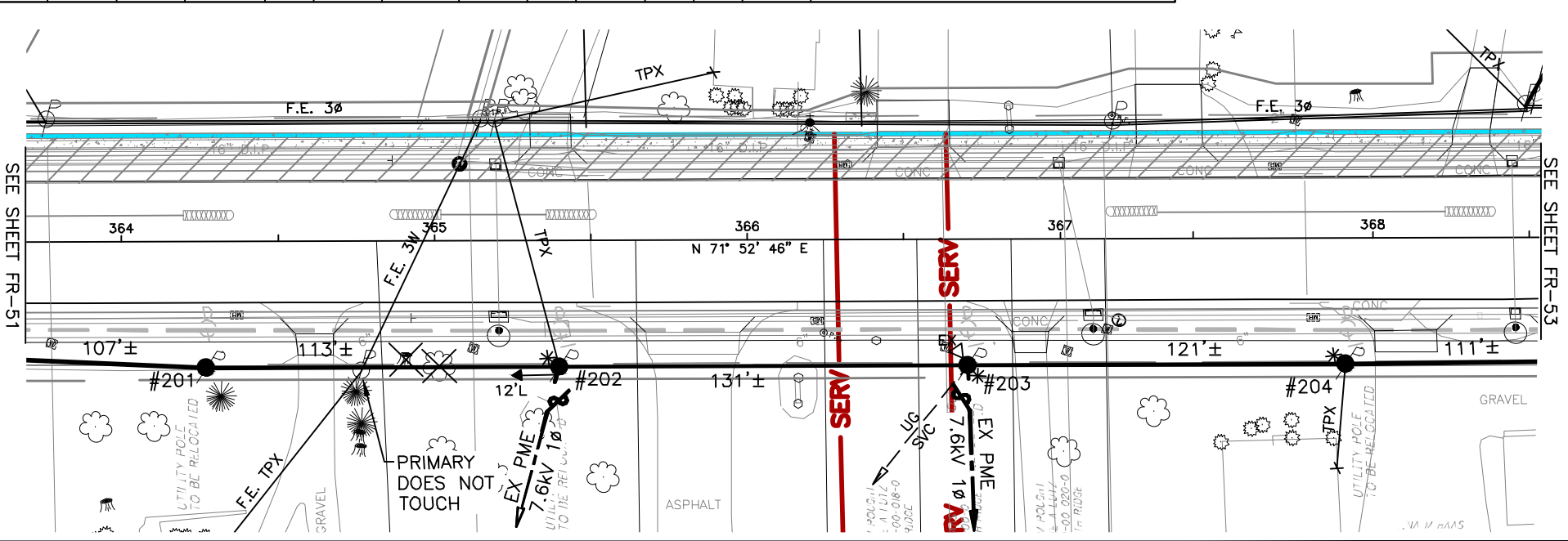
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 Engineering\01\_Construction Design\Polina ZDWGS\Construction Drawings\Construction Set\CONSTRUCTION  
 SET\_SR20\_R2.dwg  
 July 25, 2024 3:14 PM - jfranzak



POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS	
201	45'	3				107'	1	C1A-M	107'	#2/0														
202	45'	3				113'	1 1 1	C1A-M A5-2 M10	113'	#2/0	1	M24						G11	1 1	G41 GG	12'	1	G24C	TRANSFER EX. STREET LIGHT, SERVICE TPX & 1Ø TAP CONDUCTORS TO NEW POLE.
203	45'	3				131'	1 1 1 1	C1A-M A5-2 T1 M10	131' 131'	#2/0 #1/0 TPX	1	M27					EX	G11						TRANSFER EX. AREA LIGHT, UG SERVICE, XFMR & 1Ø TAP CONDUCTORS TO NEW POLE.
204	45'	3				121'	1	C1A-M	121' 121'	#2/0 #1/0 TPX	1	M27	EX		1	M27								TRANSFER EX. STREET LIGHT & SERVICE TPX TO NEW POLE.



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	472'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1416'
NEUTRAL	472'	1	#2/0 AWG ACSR 6/1 "QUAIL"	472'
SECONDARY	252'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	252'
SERVICE				



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

STAKING SHEET

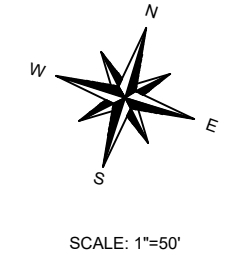
ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

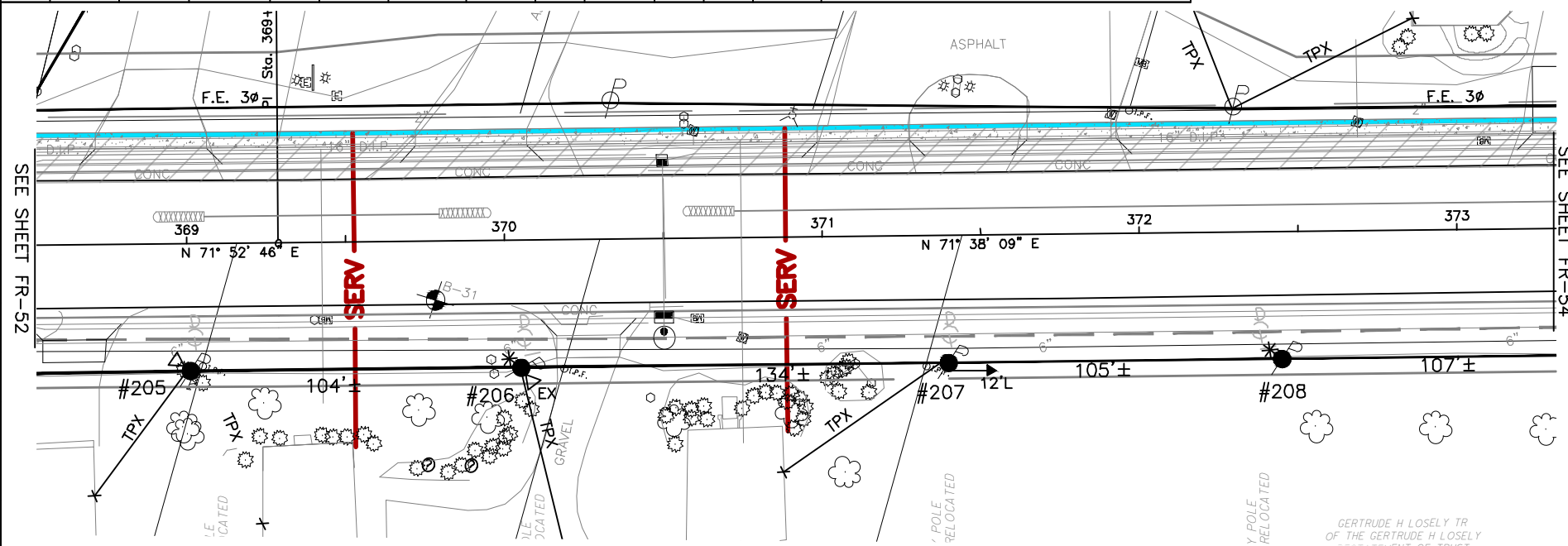
**FR-52**

Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400 - Construction  
 Engineering\01 - Construction Design\Poline Z\DWGS\Construction Drawings\Construction Set\CONSTRUCTION  
 SET\_SR20\_R2.dwg  
 July 25, 2024 3:14 PM - jfrancaak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
205	45'	3				111'	1	C1A-M T1	111'	#2/0 #1/0 TPX	1	M27	EX		1	M27	EX	G11							TRANSFER EX. XFMR & SERVICE TPX TO NEW POLE.
206	45'	3				104'	1	C1A-M T1	104'	#2/0 #1/0 TPX	1	M27	EX		1	M27	EX	G11							TRANSFER EX. XFMR, STREET LIGHT & SERVICE TPX TO NEW POLE.
207	45'	3				134'	1	C1A-M	134'	#2/0 #1/0 TPX	1	M24 M27	EX		1	M27			1	G41 GG	12'	1	G24C		TRANSFER EX. SERVICE TPX TO NEW POLE.
208	45'	3				105'	1	C1A-2M	105'	#2/0 #6 DPX	1	M27													TRANSFER EX. STREET LIGHT TO NEW POLE.



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	454'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1362'
NEUTRAL	454'	1	#2/0 AWG ACSR 6/1 "QUAIL"	454'
SECONDARY	349'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	349'
	105'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	105'
SERVICE				



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**  
**FR-53**

Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction Engineering\_Construction Design\Poleline Z\DWGS\Construction Drawings\Construction Set\CONSTRUCTION July 25, 2024 3:14 PM - jfranczak

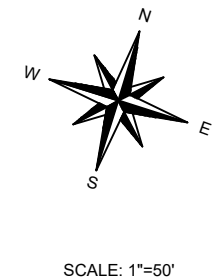
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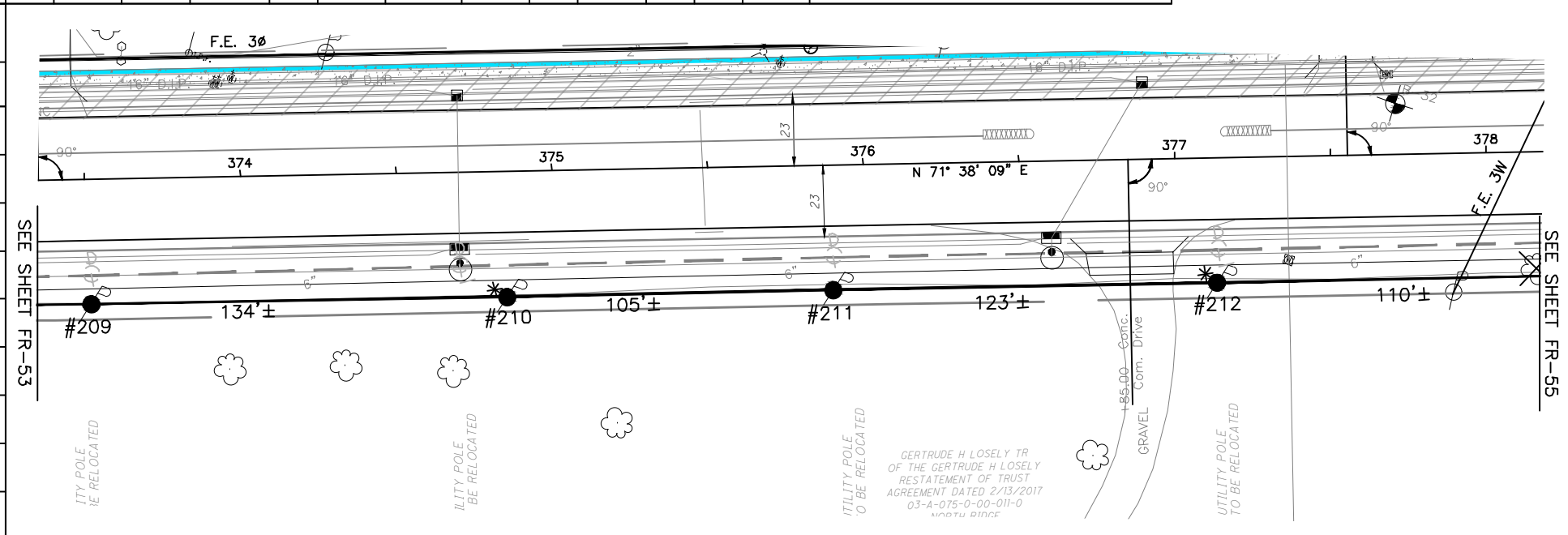
**GPD GROUP**  
 Globus, Pyle, Schomer, Burns & DeHaven, Inc.  
 520 South Main Street, Suite 2531  
 Akron, OH 44311  
 330.572.2100 Fax 330.572.2101  
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POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY		ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY		UNITS
209	45'	3				107'	1	C1A-M	107'	#2/0 #6 DPX	1	M27												
210	45'	3				134'	1	C1A-M	134'	#2/0 #6 DPX	1	M27												TRANSFER EX. STREET LIGHT TO NEW POLE.
211	45'	3				105'	1	C1A-M	105'	#2/0 #6 DPX	1	M27												
212	45'	3				123'	1	C1A-M	123'	#2/0 #6 DPX	1	M27												TRANSFER EX. STREET LIGHT TO NEW POLE.

REV.	DATE	DESCRIPTION



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	469'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1407'
NEUTRAL	469'	1	#2/0 AWG ACSR 6/1 "QUAIL"	469'
SECONDARY	469'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	469'
SERVICE				



**CITY OF PAINESVILLE, OHIO**  
**US 20 ROAD WIDENING**  
**UTILITY RELOCATION**  
**STAKING SHEET**

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

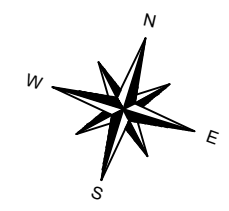
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

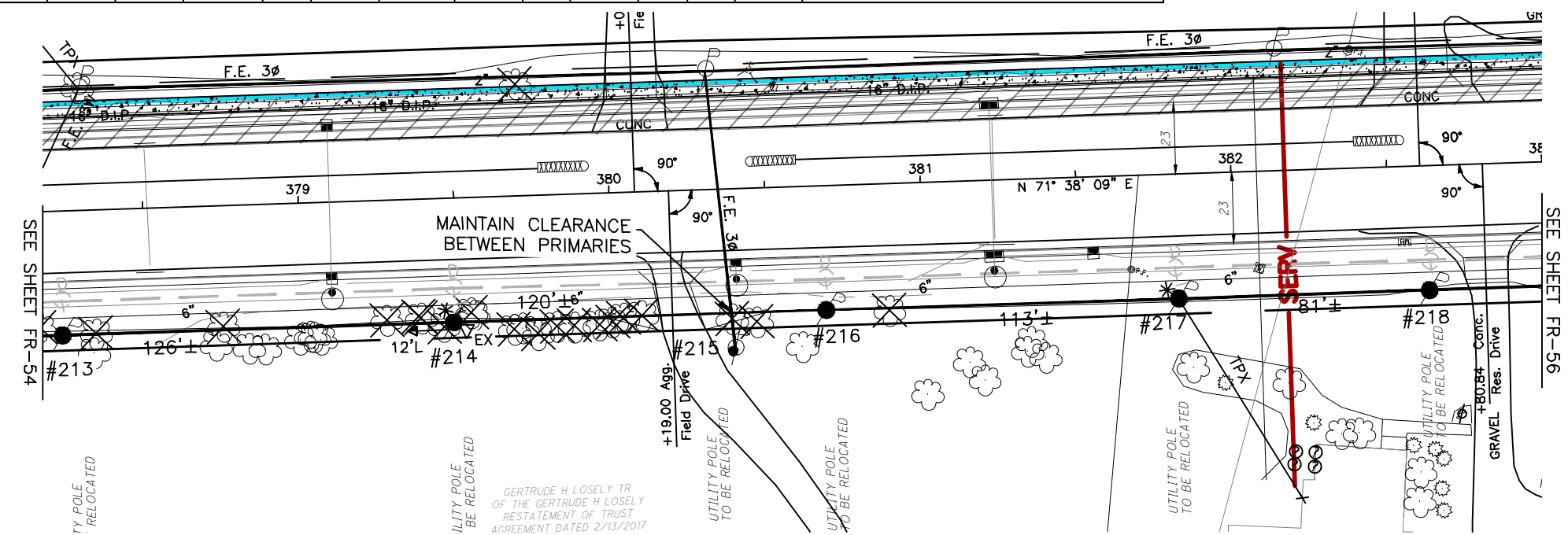
**FR-54**

Drawing Name: O:\2022\2022142 - Painesville US20 Road Widening Utility Relocation\400\_Construction Engineering\_Construction Design\Poliline Z\DWGS Construction Drawings\Construction Set\CONSTRUCTION July 25, 2024 3:15 PM - jfranczak

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL			SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS		
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY		UNITS	
213	45'	3				110'	1	C1A-M	110'	#2/0 #6 DPX	1	M27													
214	45'	3				126'	1	C1A-M T1	126'	#2/0 #6 DPX	1	M27 M24					EX	G11	1	G41 GG	12'	1	G24C	TRANSFER EX. XFMR & STREET LIGHT TO NEW POLE.	
215	EX					EX		EX	EX															F.E. POLE. NO WORK.	
216	45'	3				120'	1	C1A-M	120'	#2/0 #1/0 TPX	1	M27													
217	45'	3				113'	1	C1A-M	113'	#2/0 #1/0 TPX	1	M27	EX		1	M27									TRANSFER EX. STREET LIGHT & SERVICE TPX TO NEW POLE.
218	45'	3				81'	1	C1A-M	81'	#2/0 #1/0 TPX	1	M27													



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	550'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1650'
NEUTRAL	550'	1	#2/0 AWG ACSR 6/1 "QUAIL"	550'
SECONDARY	314'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	314'
	236'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	236'
SERVICE				



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

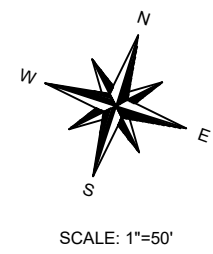
JOB NO.  
 2022142.01

FR-55

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400 - Construction Engineering\01 - Construction Design\Poline ZDWGS\Construction Drawings\Construction Set\CONSTRUCTION SET\_SR20\_R2.dwg  
 July 25, 2024 3:15 PM - jfranzak

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 RESTATEMENT OF TRUST  
 AGREEMENT DATED 2/13/2017

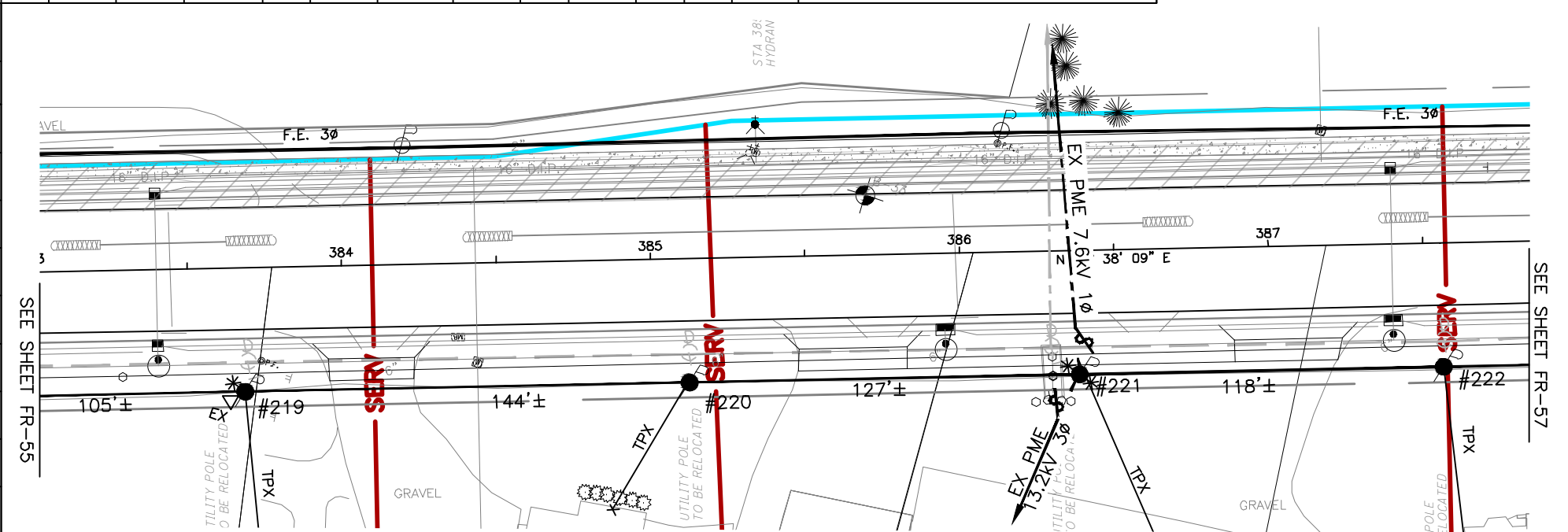
POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS	
219	45'	3				105'	1	C1A-M T1	105'	#2/0 #1/0 TPX	1	M27	EX		1	M27	EX	G11						TRANSFER EX. STREET LIGHT, XFMR & SERVICE TPX TO NEW POLE.
220	45'	3				143'	1	C1A-M	143'	#2/0 #1/0 TPX	1	M27	EX		1	M27								TRANSFER EX. SERVICE TPX TO NEW POLE.
221	50'	3				127'	1	C1A-M A5-2 C7-M	127'	#2/0 #1/0 TPX	1	M27	EX		1	M27		G11						TRANSFER EX. 1Ø & 3Ø TAP CONDUCTORS, STREET LIGHT, AREA LIGHT & SERVICE TPX TO NEW POLE.
222	45'	3				118'	1	C1A-M	118'	#2/0 #1/0 TPX	1	M27	EX		1	M27								TRANSFER EX. SERVICE TPX TO NEW POLE.



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	493'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1479'
NEUTRAL	493'	1	#2/0 AWG ACSR 6/1 "QUAIL"	493'
SECONDARY	493'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	493'
SERVICE				



ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

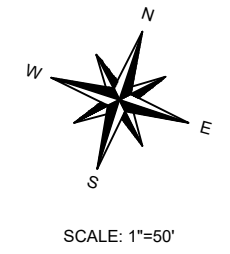
JOB NO.  
 2022142.01

**FR-56**

Drawing Name: C:\022022\02142 - Painesville\US20 Road Widening Utility Relocation\00\_Construction Engineering\01\_Construction Design\Poleline ZDWGS\Construction Drawings\Construction Set\CONSTRUCTION SET\_1520\_FR.dwg  
 July 25, 2024 3:19 PM - jfranzak

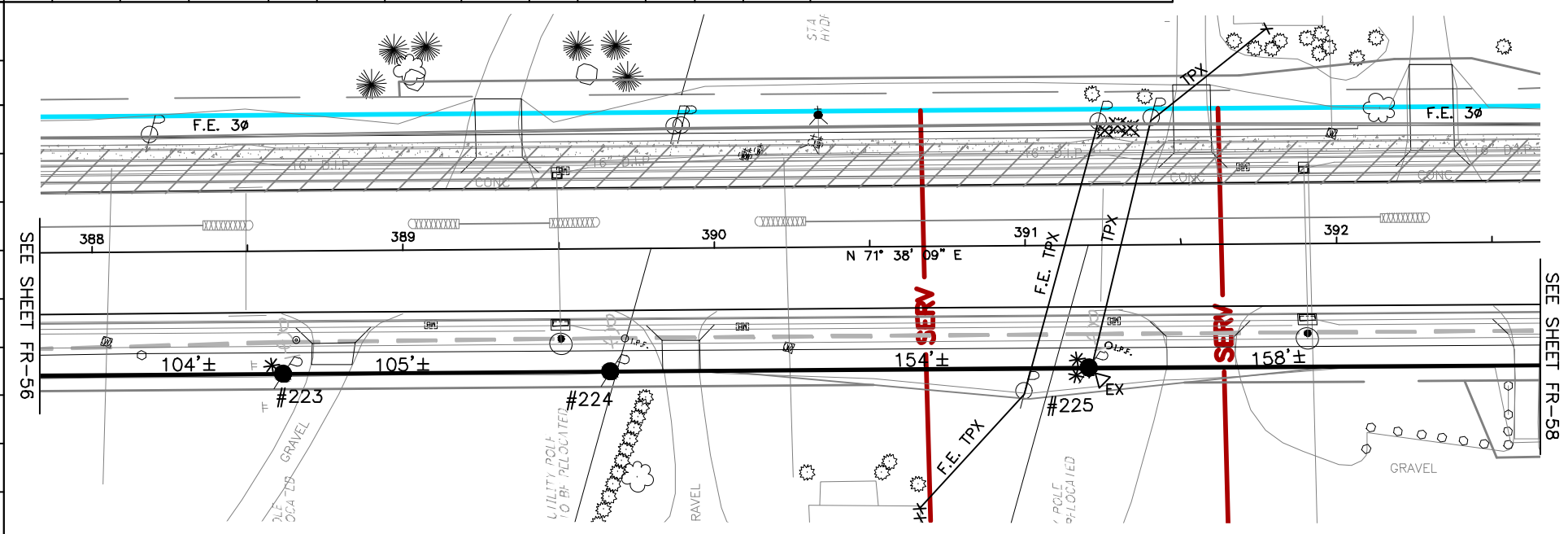
POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS	
223	45'	3				104'	1	C1A-M	104'	#2/0 #1/0 TPX	1	M27												TRANSFER EX. STREET LIGHT TO NEW POLE.
224	45'	3				105'	1	C1A-2M	105'	#2/0 #1/0 TPX	1	M27												
225	45'	3				154'	1	C1A-2M T1	154'	#2/0 #1/0 TPX	1	M27	EX				EX	G11						TRANSFER EX. STREET LIGHT, XFMR, AREA LIGHT & SERVICE TPX TO NEW POLE.

REV.	DATE	DESCRIPTION



Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction Engineering\01\_Construction Design\Planline\DWG\Construction Drawings\Construction Set\CONSTRUCTION SET\_SRD0\_R2.dwg  
 July 25, 2024 3:15 PM - jfranczak

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	363'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1089'
NEUTRAL	363'	1	#2/0 AWG ACSR 6/1 "QUAIL"	363'
SECONDARY	363'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	363'
SERVICE				



**CITY OF PAINESVILLE, OHIO**  
**US 20 ROAD WIDENING**  
**UTILITY RELOCATION**

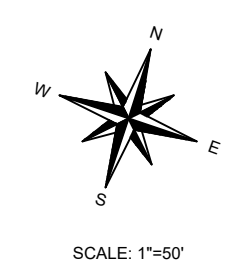
STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

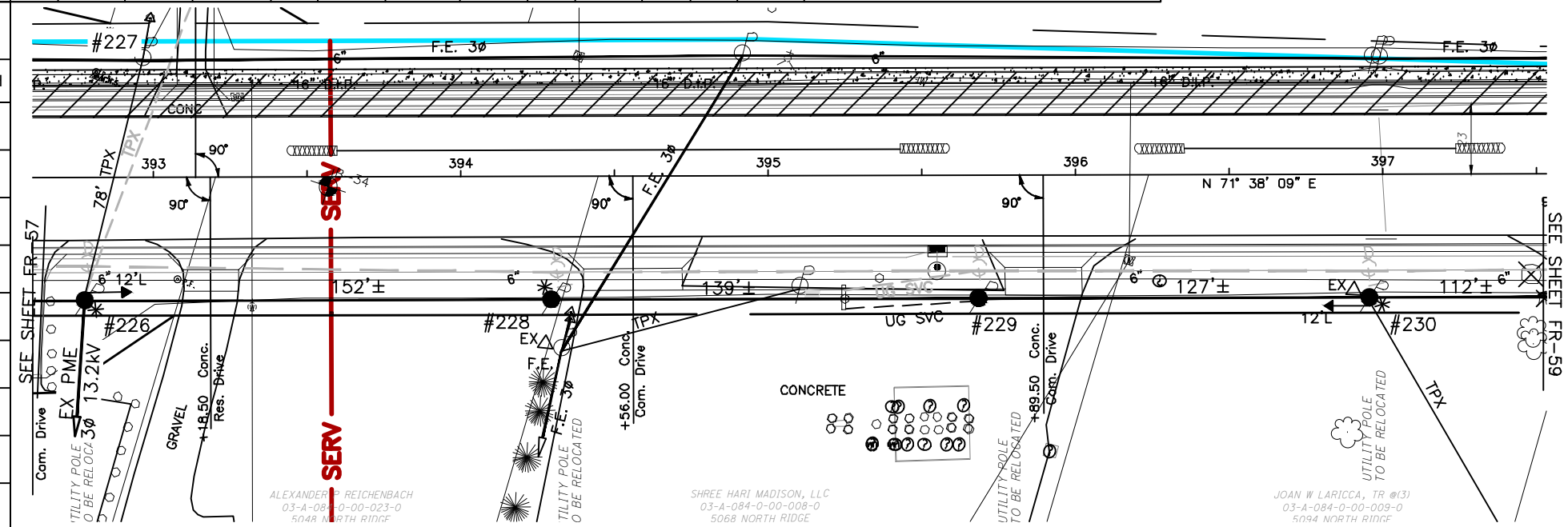
JOB NO.  
**2022142.01**

**FR-57**

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS	
226	50'	3				158'	1	C1A-2M C7-M M5	158'	#2/0 #1/0 TPX	1	M24 M27	EX						1	G41 GG	12'	1	G24C	TRANSFER EX. SERVICE TPX TO EX. F.E. POLE #227. COORDINATE W/F.E.
227	EX					EX		EX	EX				78'	#2 TPX	2	M27	EX	EX						EX. F.E. POLE. COORDINATE W/F.E. ATTACH NEW TPX FROM POLE #226. TRANSFER EX. SERVICE TPX TO RELOCATED POLE. JUMPER TO NEW TPX BACKSPAN.
228	50'	3				152'	1	C1A-2M	152'	#2/0 #6 DPX	1	M27												
229	50'	3				139'	1	C1A-M	139'	#2/0 #6 DPX	1	M27												TRANSFER EX. UG SERVICE TO NEW POLE.
230	45'	3				127'	1	C1A-M T1	127'	#2/0	1	M24	EX		1	M27	EX	G11	1	G41 GG	12'	1	G24C	TRANSFER EX. XFMR & SERVICE TPX TO NEW POLE.



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	576'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1728'
NEUTRAL	576'	1	#2/0 AWG ACSR 6/1 "QUAIL"	576'
SECONDARY	158'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	158'
	291'	1	#6 AWG 7/W ACSR DPX "SHEPERD"	291'
SERVICE	78'	1	#2 AWG 7/W ACSR TPX "CONCH"	78'



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**FR-58**

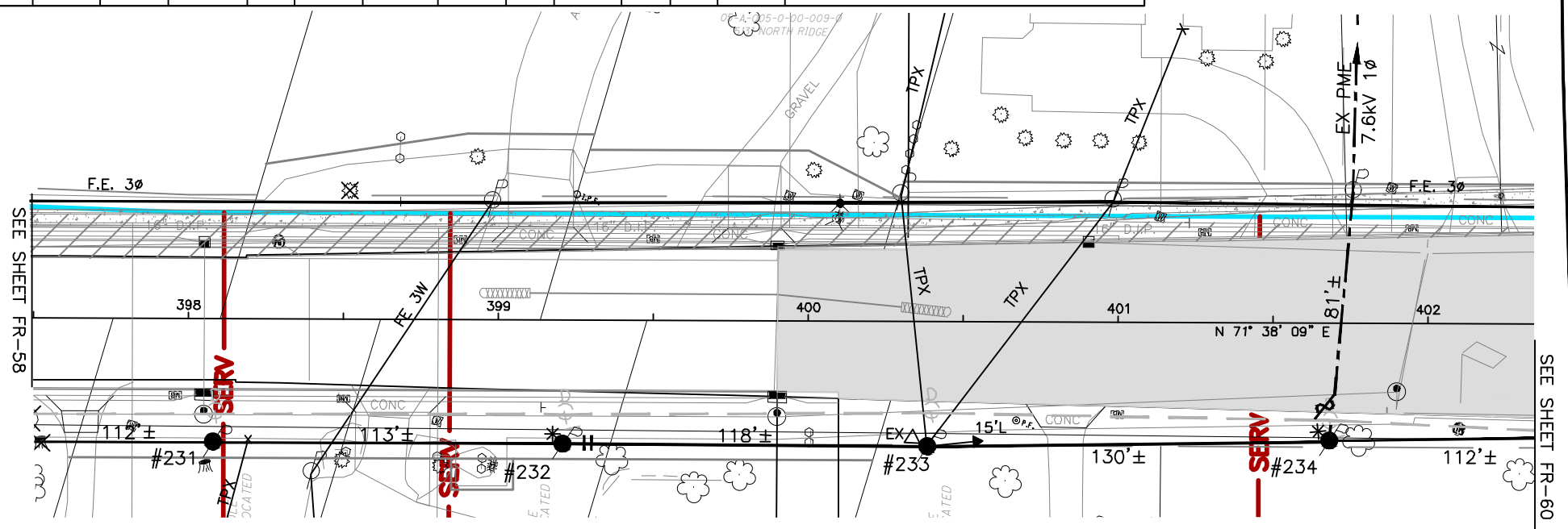
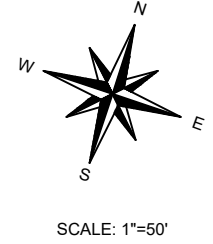
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 File Path: 01\_Construction Design\DWG\Construction Drawings\Construction Set\CONSTRUCTION SET\_SR20\_FR.dwg  
 Date: July 25, 2024 3:15 PM - jfranzak

ALEXANDER P. REICHENBACH  
 03-A-084-0-00-023-0  
 5048 NORTH RIDGE

SHREE HARI MADISON, LLC  
 03-A-084-0-00-008-0  
 5068 NORTH RIDGE

JOAN W LARICCA, TR #131  
 03-A-084-0-00-009-0  
 5094 NORTH RIDGE

POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY		ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY		UNITS
231	45'	3				112'	1	C1A-M	112'	#2/0 #1/0 TPX	1	M27												
232	45'	3				113'	1	C1A-2M	113'	#2/0 #1/0 TPX	1	M27												TRANSFER EX. STREET LIGHT TO NEW POLE. TRANSFER EX. MIDSPAN TAP TO NEW SECONDARY.
233	45'	3				118'	1 6 1	C8A-M M5 T1	118' 118'	#2/0 #1/0 TPX	1 1	M24 M27	EX				EX	G11	1 1	G41 GG	15'	1	G24C	TRANSFER EX. SERVICE TPX & XFMR TO NEW POLE.
234	45'	3				130'	1 1 1	C1A-M A5-2 M10	130' 130'	#2/0 #6 DPX	1	M27						G11						TRANSFER EX. STREET LIGHT, & 1Ø TAP CONDUCTORS TO NEW POLE.



TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	473'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	1419'
NEUTRAL	473'	1	#2/0 AWG ACSR 6/1 "QUAIL"	473'
SECONDARY	343'	1	#1/0 AWG 7/W ACSR TPX "NERITINA"	343'
	130'	1	#6 AWG 7/W ACSR DPX "SHEPHERD"	130'
SERVICE				

REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

STAKING SHEET

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

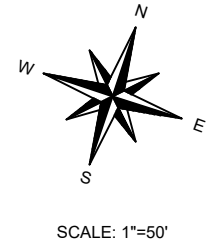
JOB NO.  
**2022142.01**

**FR-59**

Drawing Name: C:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction\Sheet\01\_Construction\DWG\Sheet FR-59.dwg  
 SET: SET\_02.dwg  
 July 25, 2024 3:15 PM - jfranzak



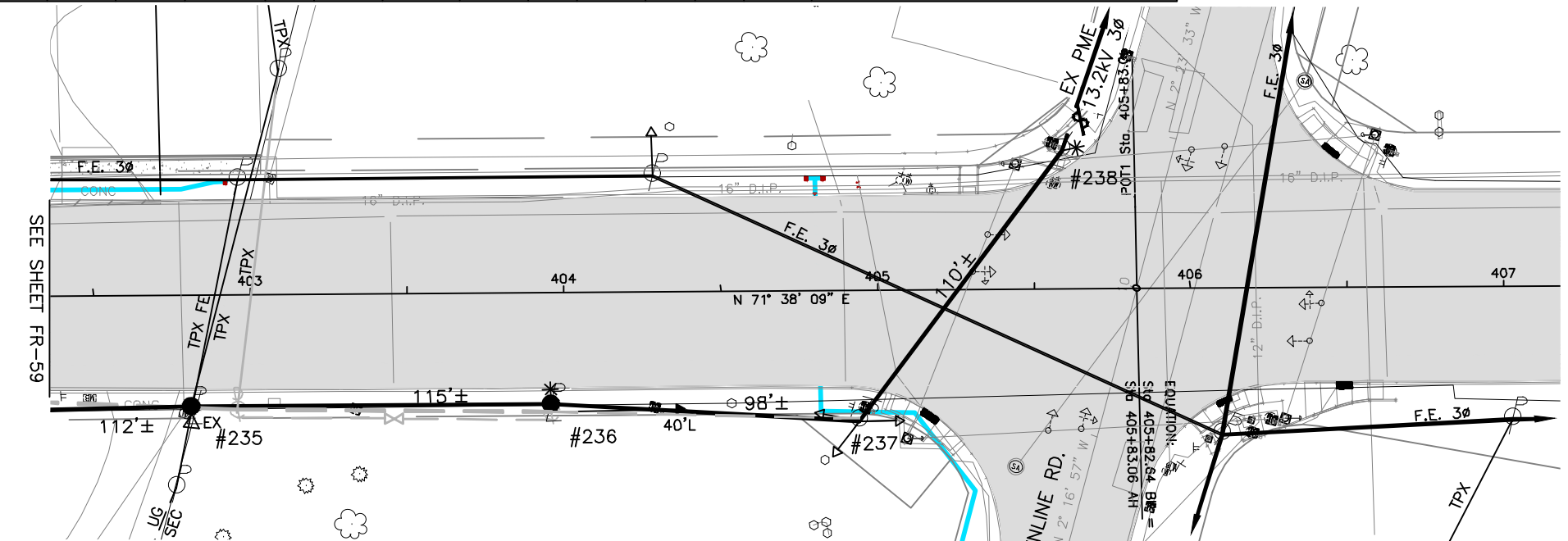
POLES			TRANSMISSION			DISTRIBUTION PRIMARY			SECONDARY/NEUTRAL				SERVICE				XFMR	GRD	GUY			ANCHOR		REMARKS	
NO.	HGT	CL	BACK SPAN	QTY	UNITS	BACK SPAN	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	BACK SPAN	SIZE	QTY	UNITS	SIZE	TYPE	QTY	UNITS	LEAD	QTY	UNITS		
235	45'	3				112'	1	C1A-M T1	112'	#2/0	1	M27	EX		1	M27	EX	G11							TRANSFER EX. XFMR & SERVICE TPX TO NEW POLE.
236	45'	3				115'	6	C8A-M M5	115'	#2/0 #6 DPX	1	M27							1 1 1	G41A G41 GG	40'	1	G24C		TRANSFER EX. STREET LIGHT TO NEW POLE.
237	EX					98'		EX	98'	#2/0										EX			EX		CREATE SLACK-SPAN TO NEW POLE #236.
238	EX					EX		EX	EX			EX													NO WORK



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 STAKING SHEET

TYPE OF CONDUCTOR	POLE LINE FEET	NO. OF WIRES	CONDUCTOR	
			SIZE	LENGTH
STATIC				
TRANSMISSION				
DISTRIBUTION PRIMARY	325'	3	266.8 kCMIL ACSR 26/7 "PARTRIDGE"	975'
NEUTRAL	325'	1	#2/0 AWG ACSR 6/1 "QUAIL"	325'
SECONDARY	115'	1	#6AWG 7W ACSR DPX "SHEPHERD"	115'
SERVICE				



ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO. <b>2022142.01</b>
<b>FR-60</b>

Drawing Name: O:\2022\2022142 - Painesville US20 Road Widening Utility Relocation\400\_Construction  
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 Date: 2024.07.26 3:15 PM - jfranzak

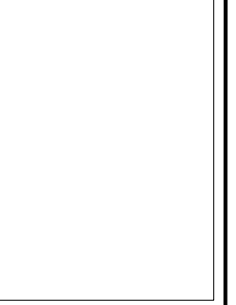
# CONDUCTOR - TENSION CHART



**GPD GROUP**  
Glaus, Pyle, Schamer, Burns & DeHevey, Inc.

520 South Main Street, Suite 2531  
Akron, OH 44311  
330.572.2100 Fax 330.572.2101

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REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

STRINGING AND SAGGING

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

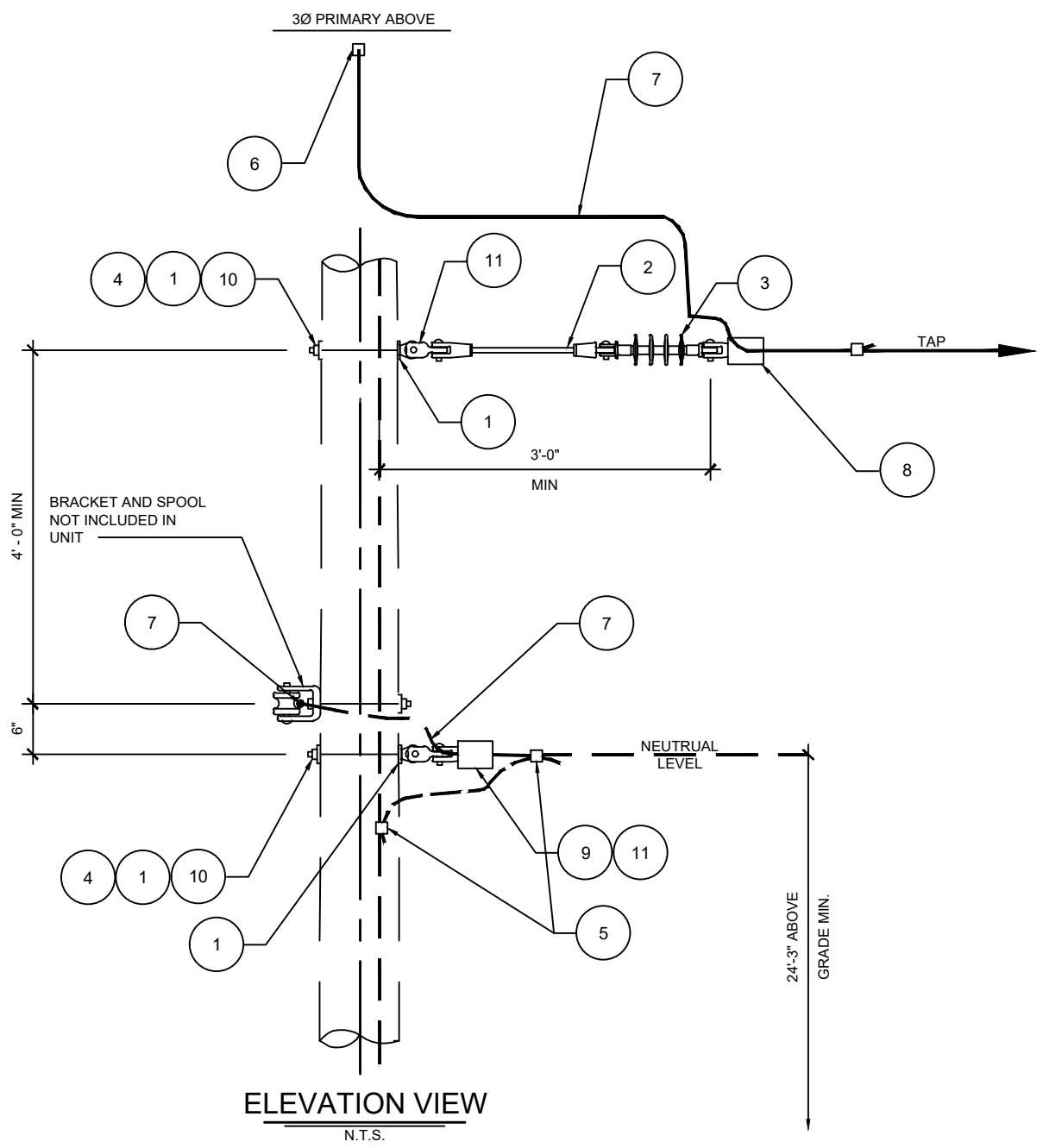
JOB NO.  
2022142.01

SS-01

**BILL OF MATERIAL**

DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	4	WASHER, 2-1/4" SQ. X 3/16", 13/16" HOLE	d
2	1	LINK, EXTENSION, INSULATED, 12"	eu
3	1	INSULATOR, SUSPENSION ( SEE NOTE 2)	k
4	2	BOLT, 5/8" X REQUIRED LENGTH EYE	o
5	AS REQ'D	*CONNECTOR	fi
6	1	*CLAMP, HOT LINE	ap
7		LINE/NEUTRAL CONDUCTOR	aq-p
8	1	*DEADEND ASSEMBLY, PRIMARY	ca
9	1	*DEADEND ASSEMBLY, SECONDARY	cc
10	AS REQ'D	NUT AND LOCKNUT, 5/8"	ek
11	AS REQ'D	CLEVIS EYE	ce

- NOTES:**
- \* = SIZE PER CONDUCTOR REQUIREMENTS
  - 1. SEE POLE LINE DESIGN FOR GUYING AND POLE HEIGHT AND CLASS.
  - 2. MINIMUM INSULATION REQUIREMENTS
    - VOLTAGE CLASS 15kV
    - LEAKAGE DISTANCE 15.1 INCHES
    - 60 HZ FLASHOVER (DRY) 90kV
    - 60 HZ FLASHOVER (WET) 65kV
    - CRITICAL IMPULSE FLASHOVER (+) 140kV
    - CANTILEVER STRENGTH 15,000 LBS



**ELEVATION VIEW**  
N.T.S.

REV.	DATE	DESCRIPTION

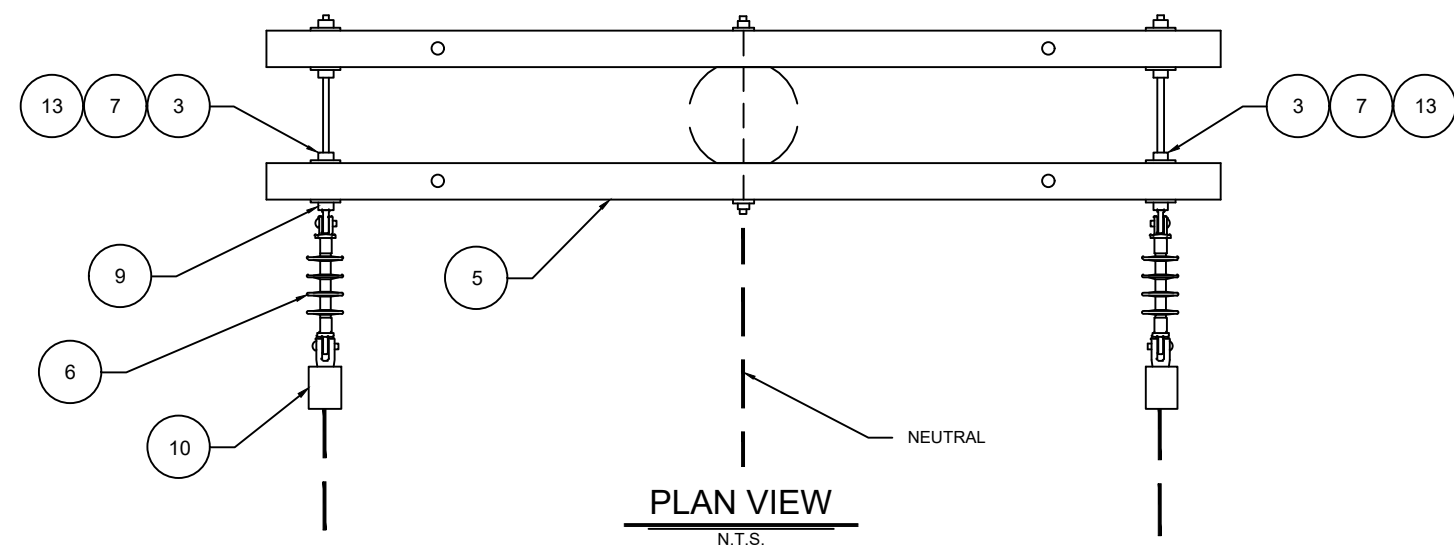
CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 CONSTRUCTION UNITS

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
2022142.01

**CU-01**

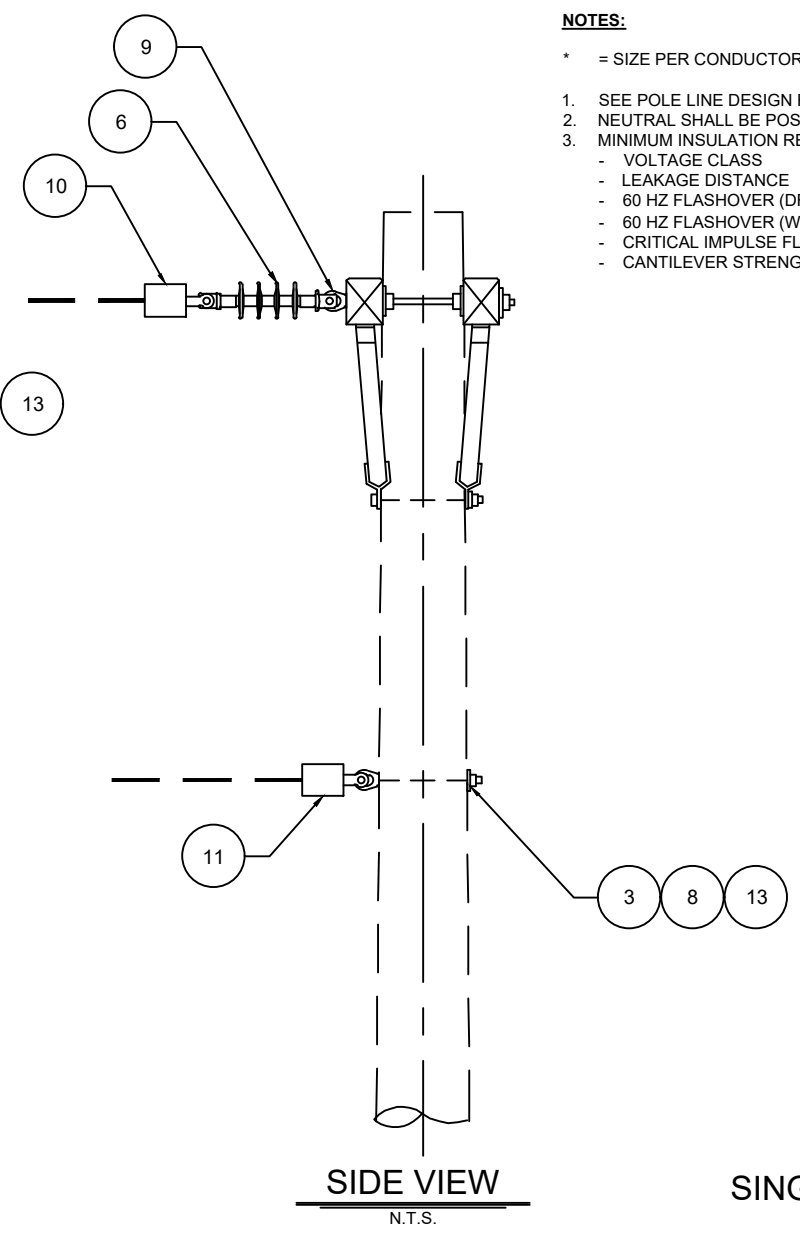
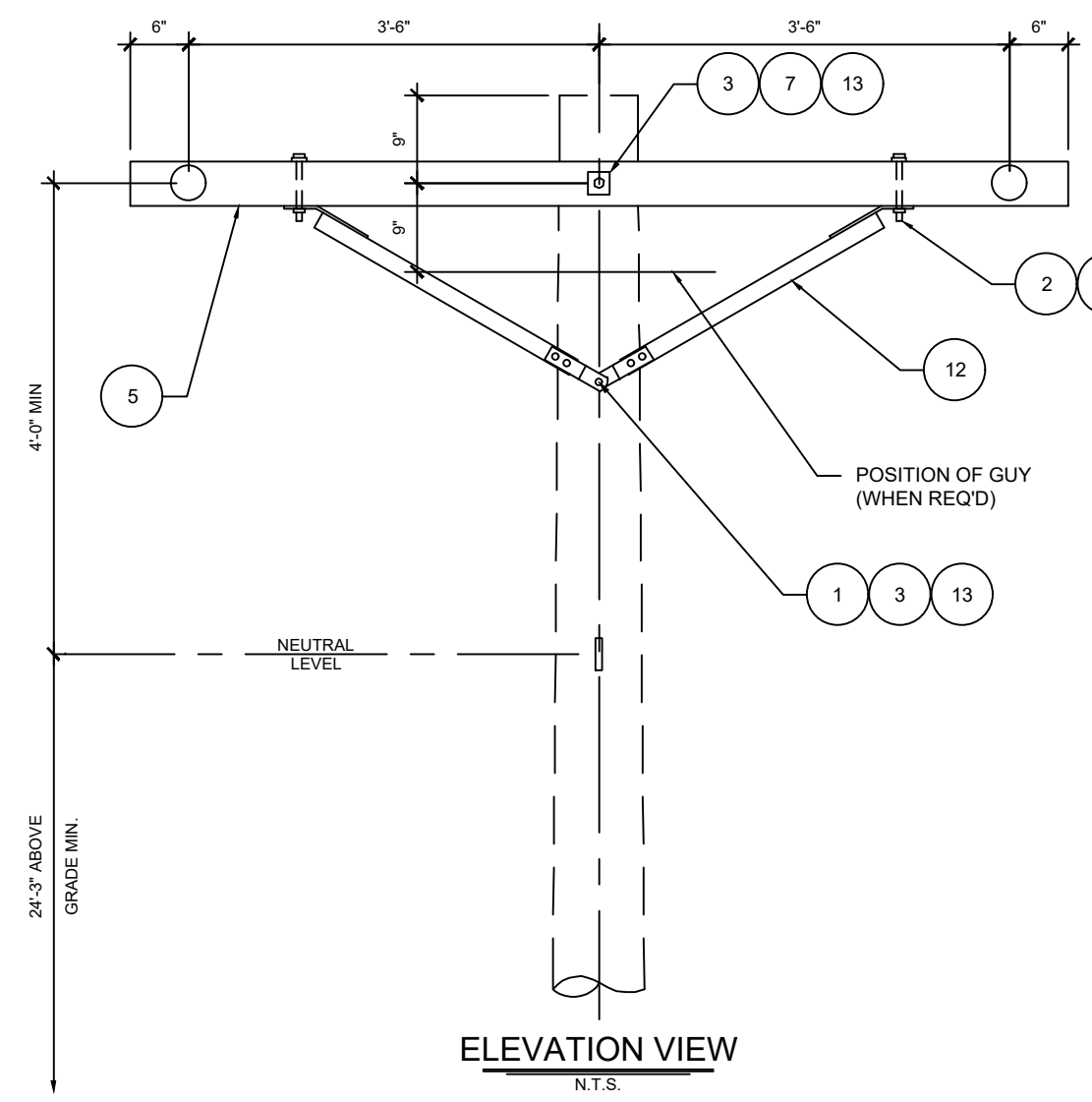
**A5-2**  
 SINGLE PHASE 15KV CLASS PRIMARY  
 TAP TO EXISTING THREE PHASE CIRCUIT



BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	1	BOLT, MACHINE, 5/8" X REQUIRED LENGTH	c
2	4	BOLT, MACHINE, 1/2" X REQUIRED LENGTH	c
3	12	WASHER, 2-1/4" SQ. X 3/16", 13/16" HOLE	d
4	4	WASHER, ROUND, 1-3/8" DIAMETER	d
5	2	CROSSARM, 3-5/8" X 4-5/8" X 8'-0"	g
6	2	INSULATOR, SUSPENSION (95KV BIL.) (SEE NOTE 3)	k
7	3	BOLT, DOUBLE ARMING, 5/8" X REQUIRED LENGTH	n
8	1	BOLT, EYE, 5/8" X REQUIRED LENGTH	o
9	2	NUT, EYE, 5/8"	aa
10	2	DEADEND ASSEMBLY, PRIMARY*	ca
11	1	DEADEND ASSEMBLY, NEUTRAL*	cc
12	4	BRACE SET, WOOD, 60" X 18"	cu
13	AS REQ'D	NUT WITH LOCKNUT, 1/2" & 5/8"	ek

- NOTES:**
- \* = SIZE PER CONDUCTOR REQUIREMENTS
  - 1. SEE POLE LINE DESIGN FOR GUYING AND POLE HEIGHT AND CLASS.
  - 2. NEUTRAL SHALL BE POSITIONED A MINIMUM OF 4'-0" BELOW THE CROSSARM.
  - 3. MINIMUM INSULATION REQUIREMENTS
 

- VOLTAGE CLASS	15kV
- LEAKAGE DISTANCE	15.1 INCHES
- 60 HZ FLASHOVER (DRY)	90kV
- 60 HZ FLASHOVER (WET)	65kV
- CRITICAL IMPULSE FLASHOVER (+)	140kV
- CANTILEVER STRENGTH	15,000 LBS



REV.	DATE	DESCRIPTION

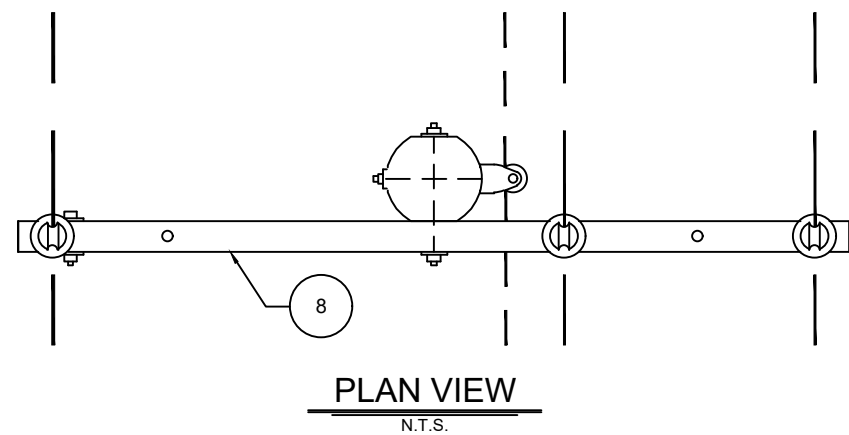
CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION  
CONSTRUCTION UNITS

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
2022142.01

CU-02

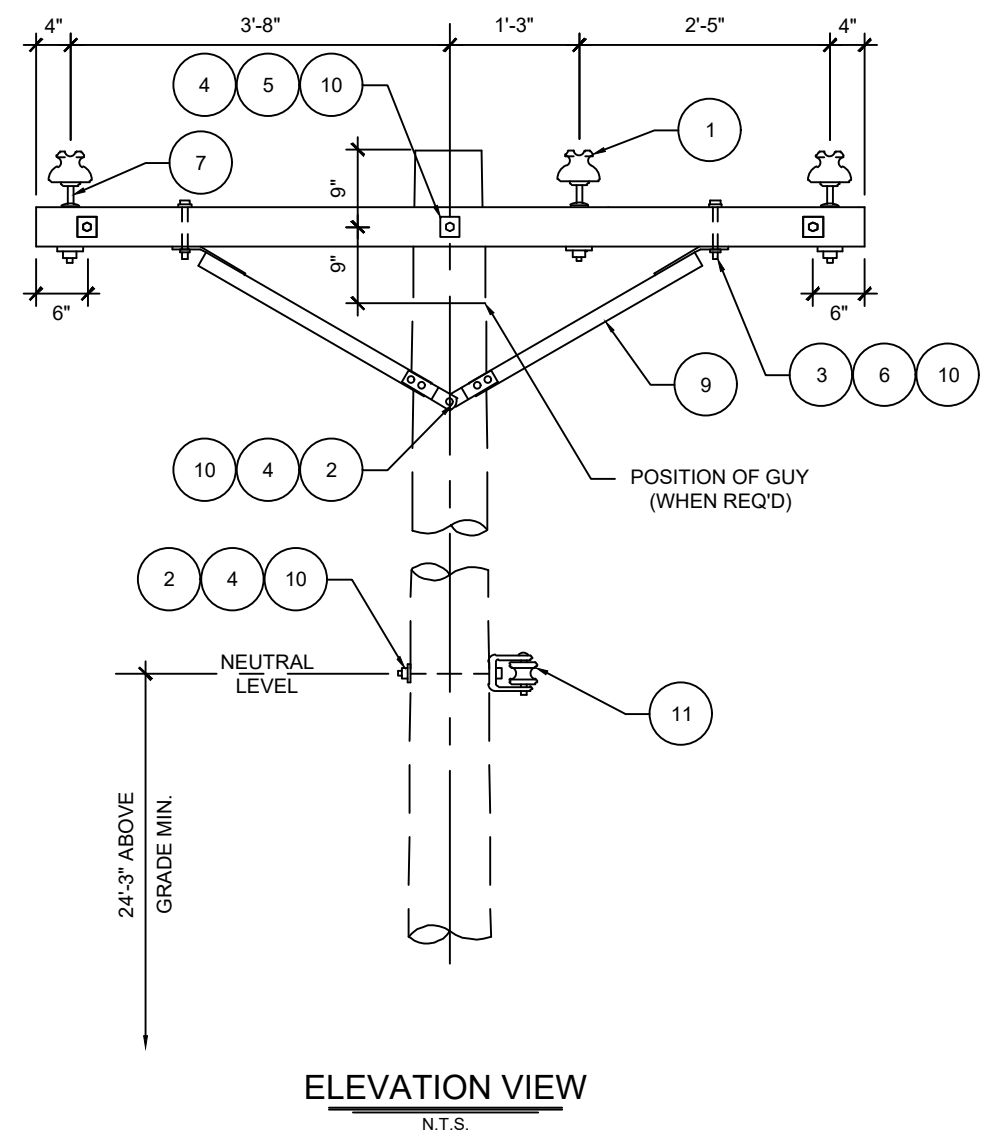
**B7-M**  
TWO PHASE 15KV CLASS PRIMARY  
SINGLE DEADEND ON 8FT. CROSSARMS  
MEDIUM DUTY



BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	3	INSULATOR, PIN TYPE (SEE NOTE 3)	a
2	2	BOLT, MACHINE, 5/8" x REQUIRED LENGTH	c
3	2	BOLT, MACHINE, 1/2" x REQUIRED LENGTH	c
4	6	WASHER, 2-1/4" SQ. X 13/16" HOLE	d
5	1	BOLT, DOUBLE ARMING, 5/8" x REQUIRED LENGTH	n
6	2	WASHER, ROUND, 1-3/8" DIAMETER	d
7	3	PIN, CROSSARM, STEEL, 4-5/8" X 10-3/4"	f
8	1	CROSSARM, 3-5/8" X 4-5/8" X 8'-0"	g
9	2	BRACE, WOOD, 60" X 18"	cu
10	AS REQ'D	NUT WITH LOCKNUT, 1/2" & 5/8"	ek
11	1	BRACKET, INSULATED	da

**NOTES:**

- \* = SIZE PER CONDUCTOR REQUIREMENTS
- 1. SEE POLE LINE DESIGN FOR GUYING AND POLE HEIGHT AND CLASS.
- 2. NEUTRAL SHALL BE POSITIONED A MINIMUM OF 4'-0" BELOW THE CROSSARM.
- 3. MINIMUM INSULATION REQUIREMENTS
  - ANSI CLASS 55-4
  - VOLTAGE CLASS 15kV
  - LEAKAGE DISTANCE 9 INCHES
  - 60 HZ FLASHOVER (DRY) 65kV
  - 60 HZ FLASHOVER (WET) 35kV
  - CRITICAL IMPULSE FLASHOVER (+) 105kV
  - CANTILEVER STRENGTH 3,000 LBS
- 4. MAXIMUM LINE ANGLE SHALL BE 5°



DESCRIPTION	DATE	REV.

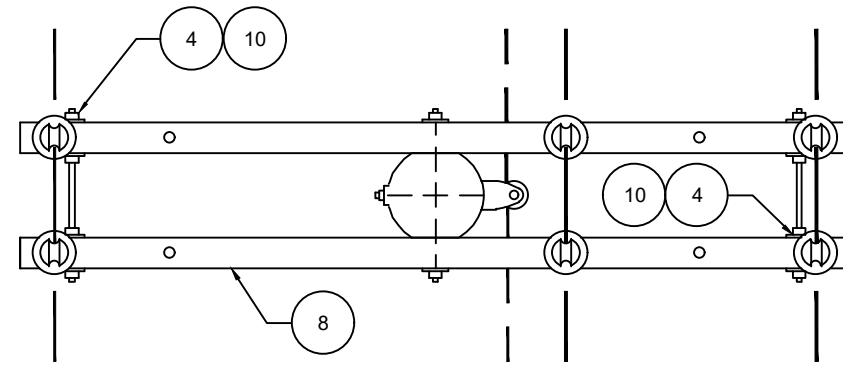
CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION  
  
CONSTRUCTION UNITS

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

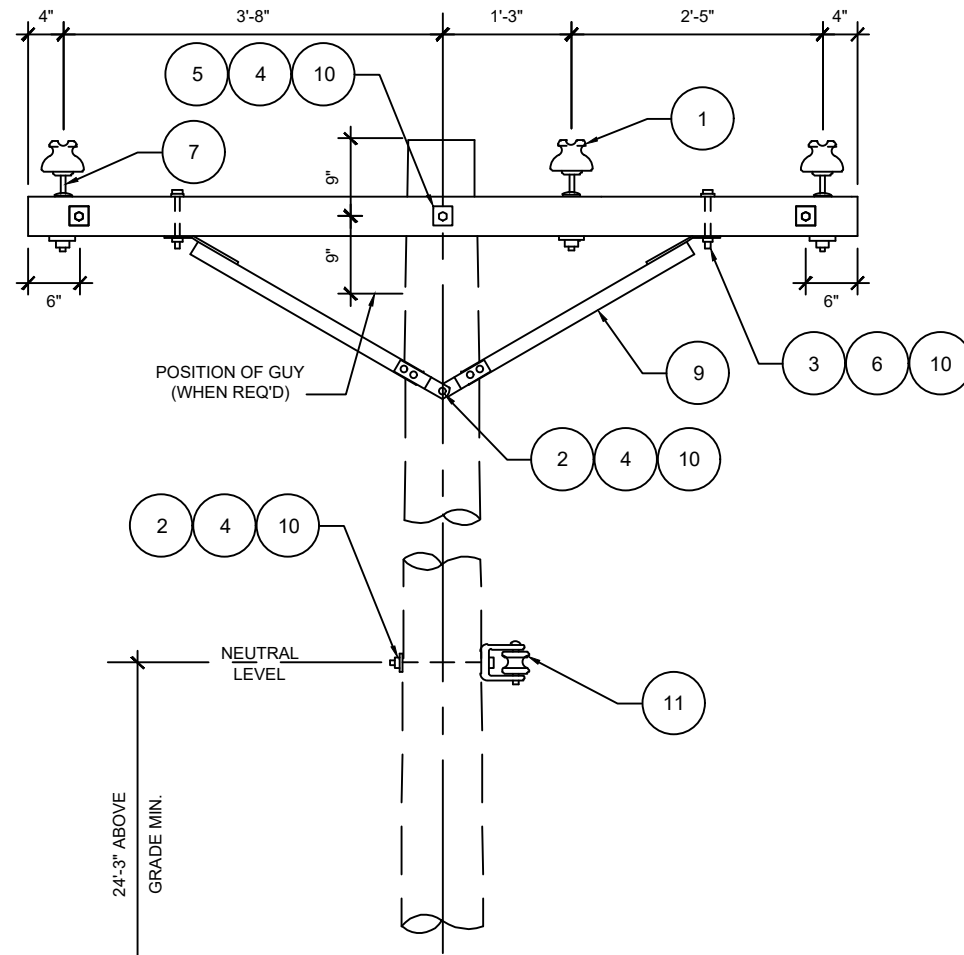
**CU-03**

**C1A-M**  
THREE PHASE 15kV CLASS PRIMARY  
SINGLE 8 FT. CROSSARMS,  
MEDIUM DUTY



**PLAN VIEW**

N.T.S.



**ELEVATION VIEW**

N.T.S.

BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	6	INSULATOR, PIN TYPE (SEE NOTE 3)	a
2	2	BOLT, MACHINE, 5/8" x REQUIRED LENGTH	c
3	4	BOLT, MACHINE, 1/2" x REQUIRED LENGTH	c
4	12	WASHER, 2-1/4" SQ. X 13/16" HOLE	d
5	3	BOLT, DOUBLE ARMING, 5/8" x REQUIRED LENGTH	n
6	4	WASHER, ROUND, 1-3/8" DIAMETER	d
7	6	PIN, CROSSARM, STEEL, 4-5/8" X 10-3/4"	f
8	2	CROSSARM, 3-5/8" X 4-5/8" X 8'-0"	g
9	4	BRACE, WOOD, 60" X 18"	cu
10	AS REQ'D	NUT WITH LOCKNUT, 1/2" & 5/8"	ek
11	1	BRACKET, INSULATED	da

**NOTES:**

\* = SIZE PER CONDUCTOR REQUIREMENTS

- SEE POLE LINE DESIGN FOR GUYING AND POLE HEIGHT AND CLASS.
- NEUTRAL SHALL BE POSITIONED A MINIMUM OF 4'-0" BELOW THE CROSSARM.
- MINIMUM INSULATION REQUIREMENTS
 

- ANSI CLASS	55-4
- VOLTAGE CLASS	15kV
- LEAKAGE DISTANCE	9 INCHES
- 60 HZ FLASHOVER (DRY)	65kV
- 60 HZ FLASHOVER (WET)	35kV
- CRITICAL IMPULSE FLASHOVER (+)	105kV
- CANTILEVER STRENGTH	3,000 LBS
- MAXIMUM LINE ANGLE SHALL BE 5°

REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

CONSTRUCTION UNITS

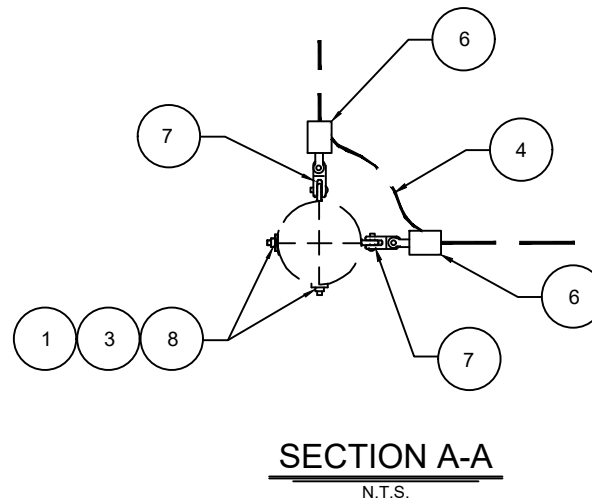
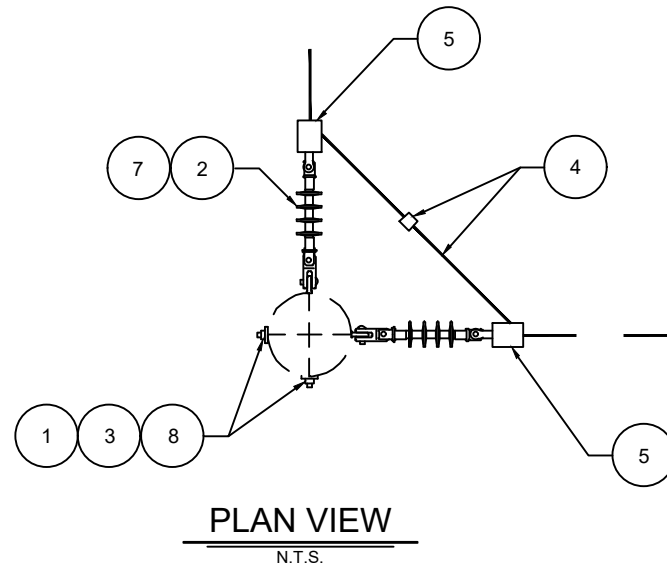
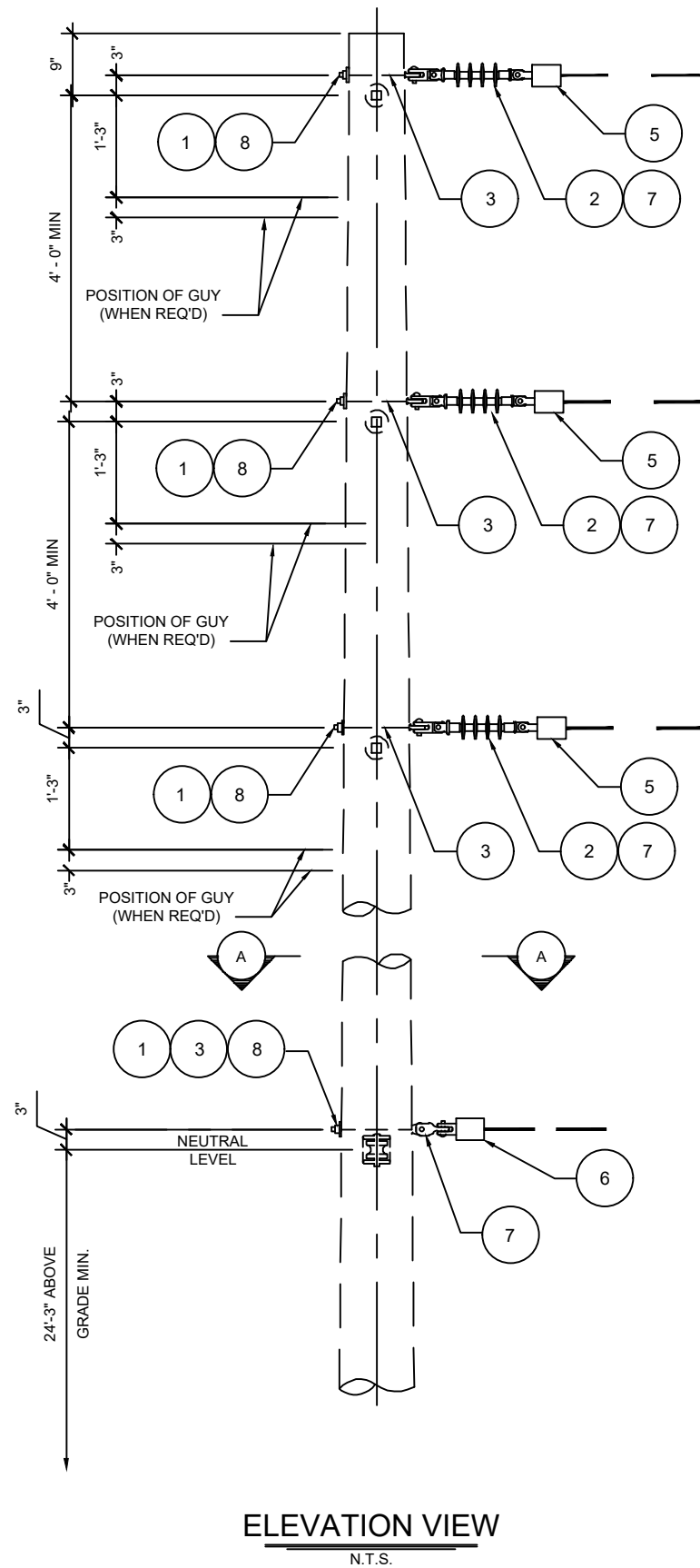
ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
 2022142.01

CU-04

**C1A-2M**  
 THREE PHASE 15kV CLASS PRIMARY  
 DOUBLE 8 FT. CROSSARMS,  
 MEDIUM DUTY

Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
 Engineering\01\_Construction Design\Poleline ZLDWGS\Construction Drawings\Construction Set\CONSTRUCTION  
 SET\_SR20\_RZ.dwg  
 July 25, 2024 3:16 PM - jfranczak



### BILL OF MATERIAL

DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	8	WASHER, 2-1/4" SQ. X 3/16", 13/16" HOLE	d
2	6	INSULATOR, SUSPENSION (SEE NOTE 3)	k
3	8	BOLT, EYE, 5/8" x REQUIRED LENGTH	o
4	AS REQ'D	*JUMPERS, CONNECTORS AND LEADS	aq-p
5	6	*DEADEND ASSEMBLY, PRIMARY	ca
6	2	*DEADEND ASSEMBLY, NEUTRAL	cc
7	AS REQ'D	*CLEVIS EYES	ce
8	AS REQ'D	NUT WITH LOCKNUT, 5/8"	ek

**NOTES:**

\* = SIZE PER CONDUCTOR REQUIREMENTS

- SEE POLE LINE DESIGN FOR GUYING AND POLE HEIGHT AND CLASS.
- NEUTRAL SHALL BE POSITIONED A MINIMUM OF 4'-0" BELOW THE BOTTOM PHASE.
- MINIMUM INSULATION REQUIREMENTS
  - VOLTAGE CLASS 15kV
  - LEAKAGE DISTANCE 15.1 INCHES
  - 60 HZ FLASHOVER (DRY) 90kV
  - 60 HZ FLASHOVER (WET) 65kV
  - CRITICAL IMPULSE FLASHOVER (+) 140kV
  - SPECIFIED MECHANICAL LOAD 15,000 LBS
- EACH DEADEND ASSEMBLY SHALL BE ORIENTED WITH RESPECT TO THE OTHER IN ORDER TO MEET FIELD CONDITIONS.

REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

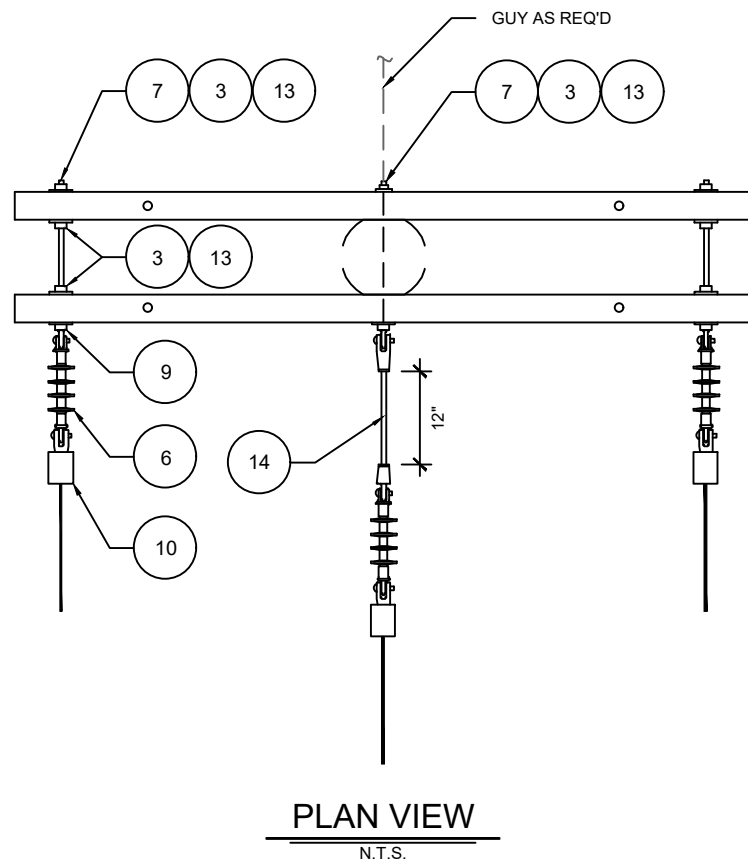
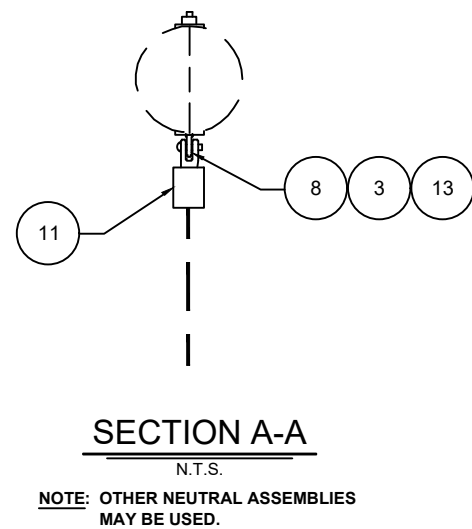
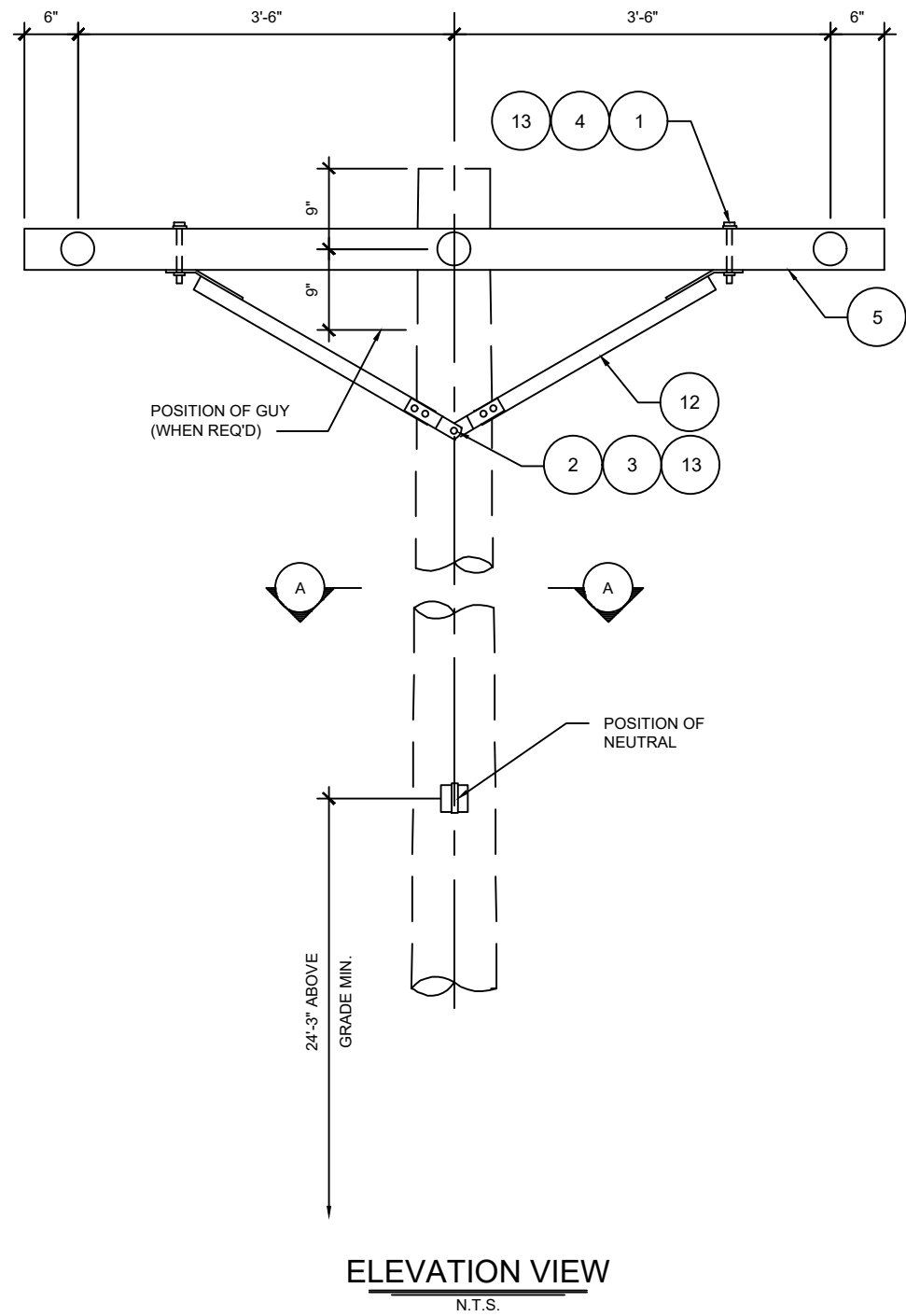
CONSTRUCTION UNITS

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
2022142.01

CU-05

**C5-M**  
 THREE PHASE 15kV CLASS PRIMARY  
 VERTICAL CORNER DEADEND,  
 MEDIUM DUTY



BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	4	BOLT, MACHINE, 1/2" X REQUIRED LENGTH	c
2	1	BOLT, MACHINE, 5/8" X REQUIRED LENGTH	c
3	13	WASHER, 2-1/4" SQ. X 3/16", 13/16" HOLE	d
4	4	WASHER, ROUND, 1-3/8" DIAMETER, 9/16" HOLE	d
5	2	CROSSARM, 3-5/8" X 4-5/8" X 8'-0"	g
6	3	INSULATOR, SUSPENSION (SEE NOTE 3)	k
7	3	BOLT, DOUBLE ARMING, 5/8" X REQUIRED LENGTH	n
8	1	BOLT, EYE, 5/8" X REQUIRED LENGTH	o
9	3	NUT, EYE, 5/8"	aa
10	3	*DEADEND ASSEMBLY, PRIMARY	ca
11	1	*DEADEND ASSEMBLY, NEUTRAL	cc
12	2	BRACE SET, WOOD, 60" X 18"	cu
13	AS REQ'D	NUT WITH LOCKNUT, 1/2" & 5/8"	ek
14	1	LINK, EXTENSION, INSULATED 12"	eu

**NOTES:**

- \* = SIZE PER CONDUCTOR REQUIREMENTS
- 1. SEE POLE LINE DESIGN FOR GUYING AND POLE HEIGHT AND CLASS.
- 2. NEUTRAL SHALL BE POSITIONED A MINIMUM OF 4'-0" BELOW THE CROSSARM.
- 3. MINIMUM INSULATION REQUIREMENTS
  - VOLTAGE CLASS 15kV
  - LEAKAGE DISTANCE 15.1 INCHES
  - 60 HZ FLASHOVER (DRY) 90kV
  - 60 HZ FLASHOVER (WET) 65kV
  - CRITICAL IMPULSE FLASHOVER (+) 140kV
  - SPECIFIED MECHANICAL LOAD 15,000 LBS

REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

CONSTRUCTION UNITS

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
2022142.01

CU-06

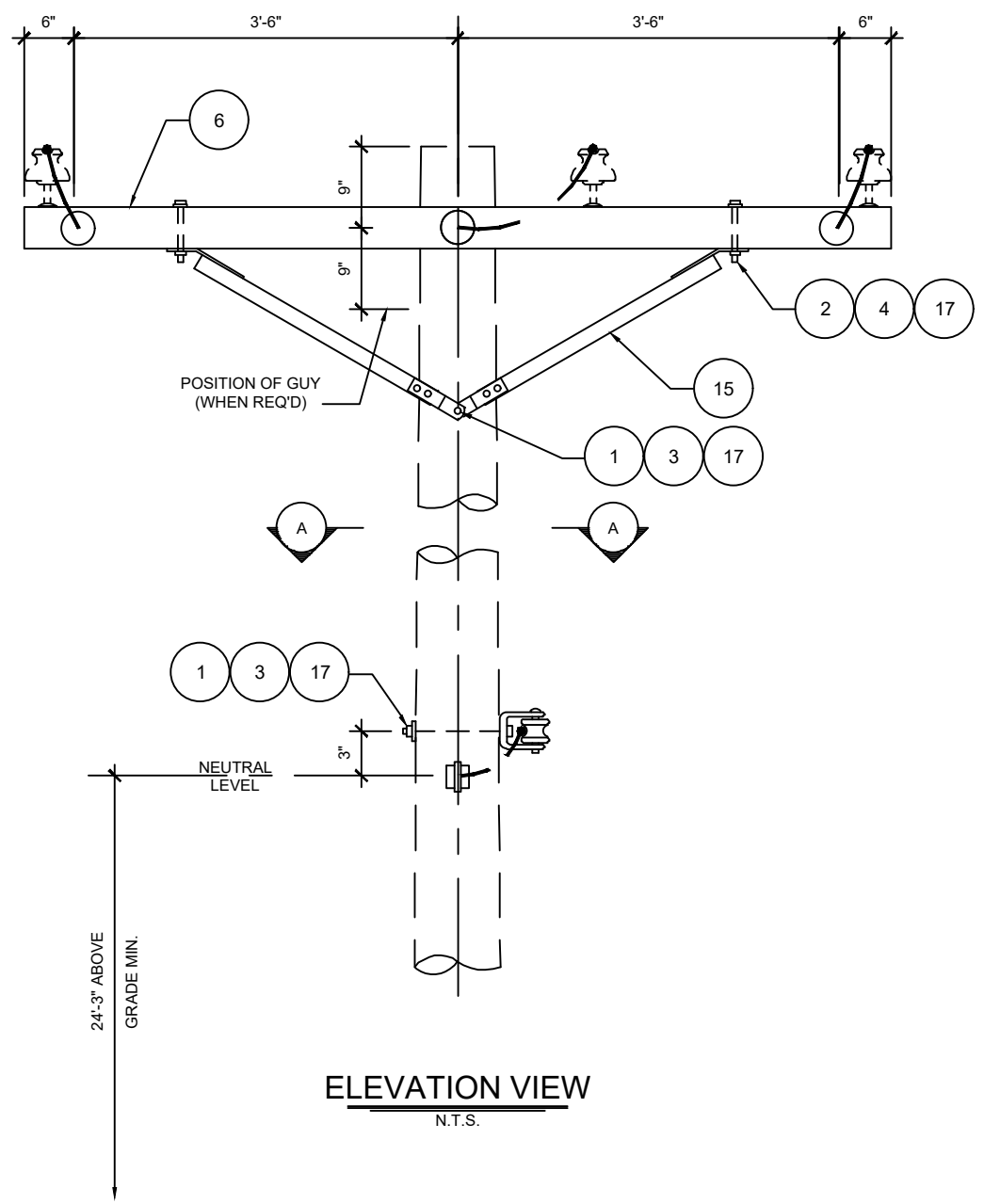
**C7-M**  
THREE PHASE 15kV CLASS PRIMARY SINGLE  
DEADEND ON 8 FT. CROSSARMS,  
MEDIUM DUTY



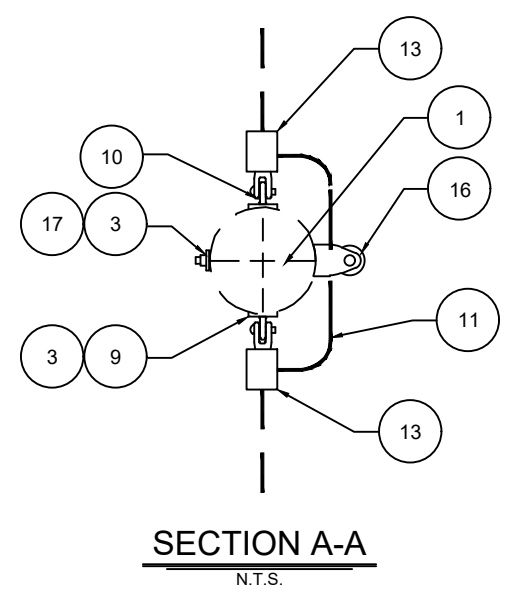
**BILL OF MATERIAL**

DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	2	BOLT, MACHINE, 5/8" x REQUIRED LENGTH	c
2	4	BOLT, MACHINE, 1/2" x REQUIRED LENGTH	c
3	14	WASHER, 2-1/4" SQ. X 3/16", 13/16" HOLE	d
4	4	WASHER, ROUND, 1-3/8" DIAMETER, 9/16" HOLE	d
5	2	LINK, EXTENSION, INSULATED 12"	eu
6	2	CROSSARM, 3-5/8" X 4-5/8" X 8'-0"	g
7	6	INSULATOR, SUSPENSION (SEE NOTE 3)	k
8	3	BOLT, DOUBLE ARMING, 5/8" x REQUIRED LENGTH	n
9	1	BOLT, EYE, 5/8" x REQUIRED LENGTH	o
10	7	NUT, EYE, 5/8"	aa
11	AS REQ'D	*JUMPERS, CONNECTORS AND LEADS	aq-p
12	6	*DEADEND ASSEMBLY, PRIMARY	ca
13	2	*DEADEND ASSEMBLY, NEUTRAL	cc
14	AS REQ'D	*CLEVIS EYES	ce
15	2	BRACE SET, WOOD, 60" X 18"	cu
16	1	BRACKET WITH SPOOL INSULATOR	da
17	AS REQ'D	NUT WITH LOCKNUT, 1/2" & 5/8"	ek

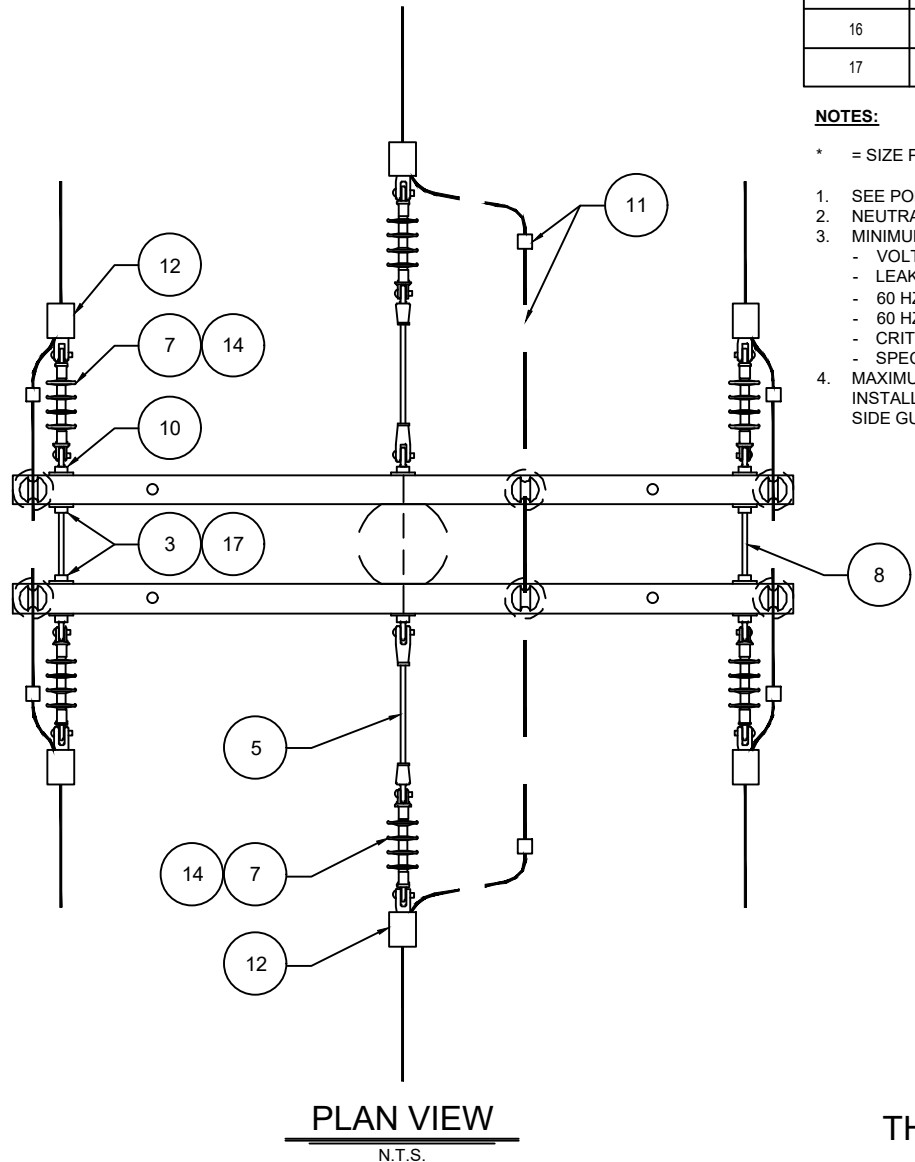
- NOTES:**
- \* = SIZE PER CONDUCTOR REQUIREMENTS
  - 1. SEE POLE LINE DESIGN FOR GUYING AND POLE HEIGHT AND CLASS.
  - 2. NEUTRAL SHALL BE POSITIONED A MINIMUM OF 4'-0" BELOW THE CROSSARM.
  - 3. MINIMUM INSULATION REQUIREMENTS
    - VOLTAGE CLASS 15kV
    - LEAKAGE DISTANCE 15.1 INCHES
    - 60 HZ FLASHOVER (DRY) 90kV
    - 60 HZ FLASHOVER (WET) 65kV
    - CRITICAL IMPULSE FLASHOVER (+) 140kV
    - SPECIFIED MECHANICAL LOAD 15,000 LBS
  - 4. MAXIMUM LINE ANGLE SHALL BE 5°. MAXIMUM LINE ANGLE MAY BE INCREASE TO 15° BY INSTALLING ANCHOR SHACKLES, ITEM "bo", TO HORIZONTAL EYE NUYS AND INSTALLING SIDE GUYS AS REQUIRED.



**ELEVATION VIEW**  
N.T.S.



**SECTION A-A**  
N.T.S.



**PLAN VIEW**  
N.T.S.

**C8A-M**  
 THREE PHASE 15kV CLASS PRIMARY SINGLE  
 DEADEND ON 8 FT. CROSSARMS,  
 MEDIUM DUTY

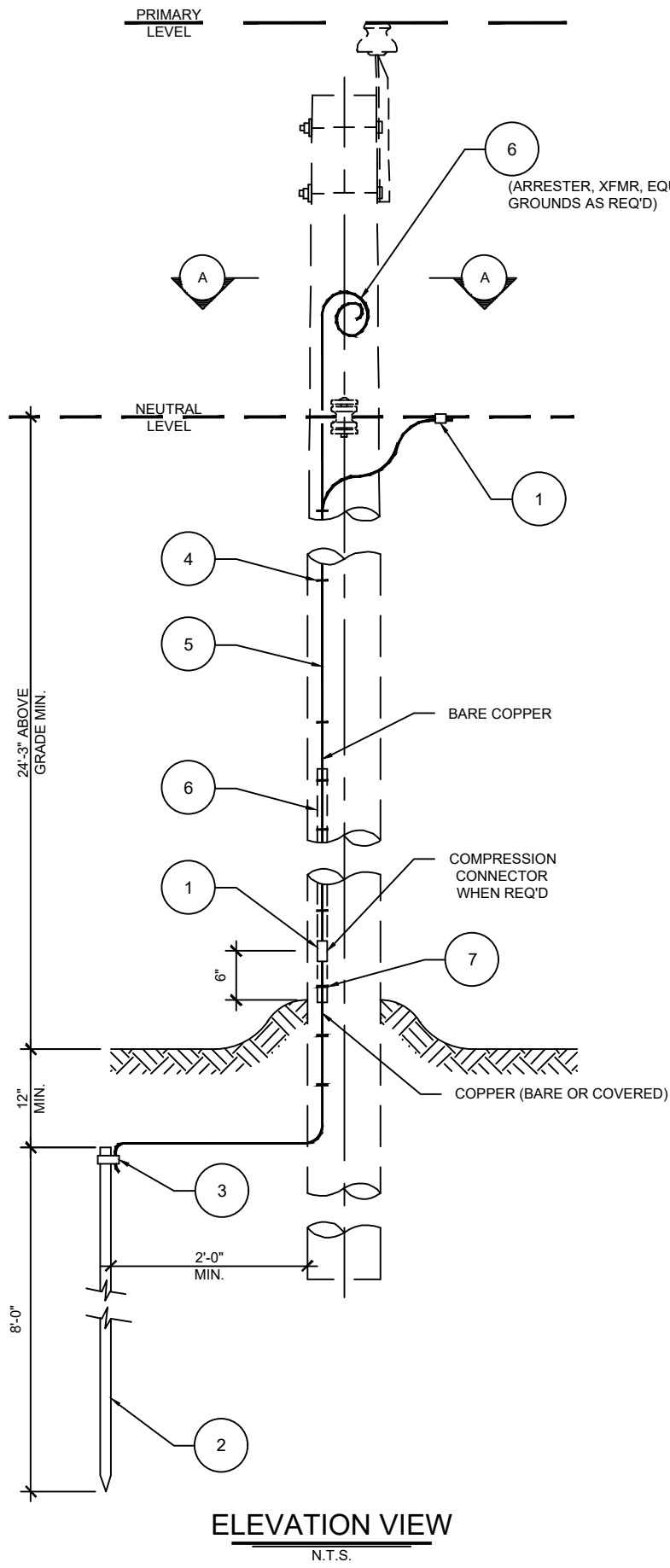
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 US 20 ROAD WIDENING  
 UTILITY RELOCATION  
 CONSTRUCTION UNITS

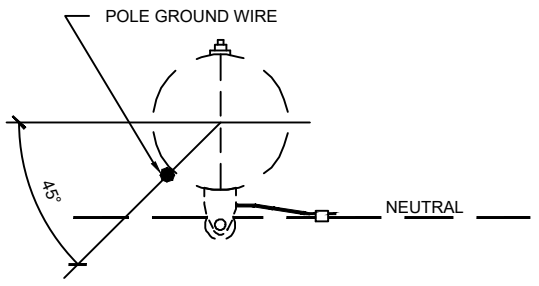
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**CU-07**



6  
 (ARRESTER, XFMR, EQUIPMENT  
 GROUNDS AS REQ'D)



**SECTION A-A**  
 N.T.S.

BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	AS REQ'D	CONNECTORS, COMPRESSION	p
2	1	ROD, GROUND, COPPER CLAD, 5/8" DIA. MIN.	ai
3	1	CLAMP, GROUND ROD	aj
4	AS REQ'D	STAPLES, GROUND WIRE	al
5	AS REQ'D	GROUND WIRE, NO. 4 COPPER	cj
6	1	8' GROUND WIRE MOULDING, PVC TYPE	ar
7	9	STAPLES, GROUND WIRE MOULDING	al

**NOTES:**

- 1. GROUND WIRE TO BE LOCATED ON SAME SIDE AS NEUTRAL CONDUCTOR AND IN QUADRANT OPPOSITE CLIMBING SPACE OR POLE TOP PIN.
- 2. STAPLES ON GROUND WIRE SHALL BE 2'-0" APART EXCEPT FOR A DISTANCE OF 8'-0" ABOVE GROUND AND 8'-0" FROM TOP OF POLE WHERE THEY SHALL BE 6" APART.

DESCRIPTION

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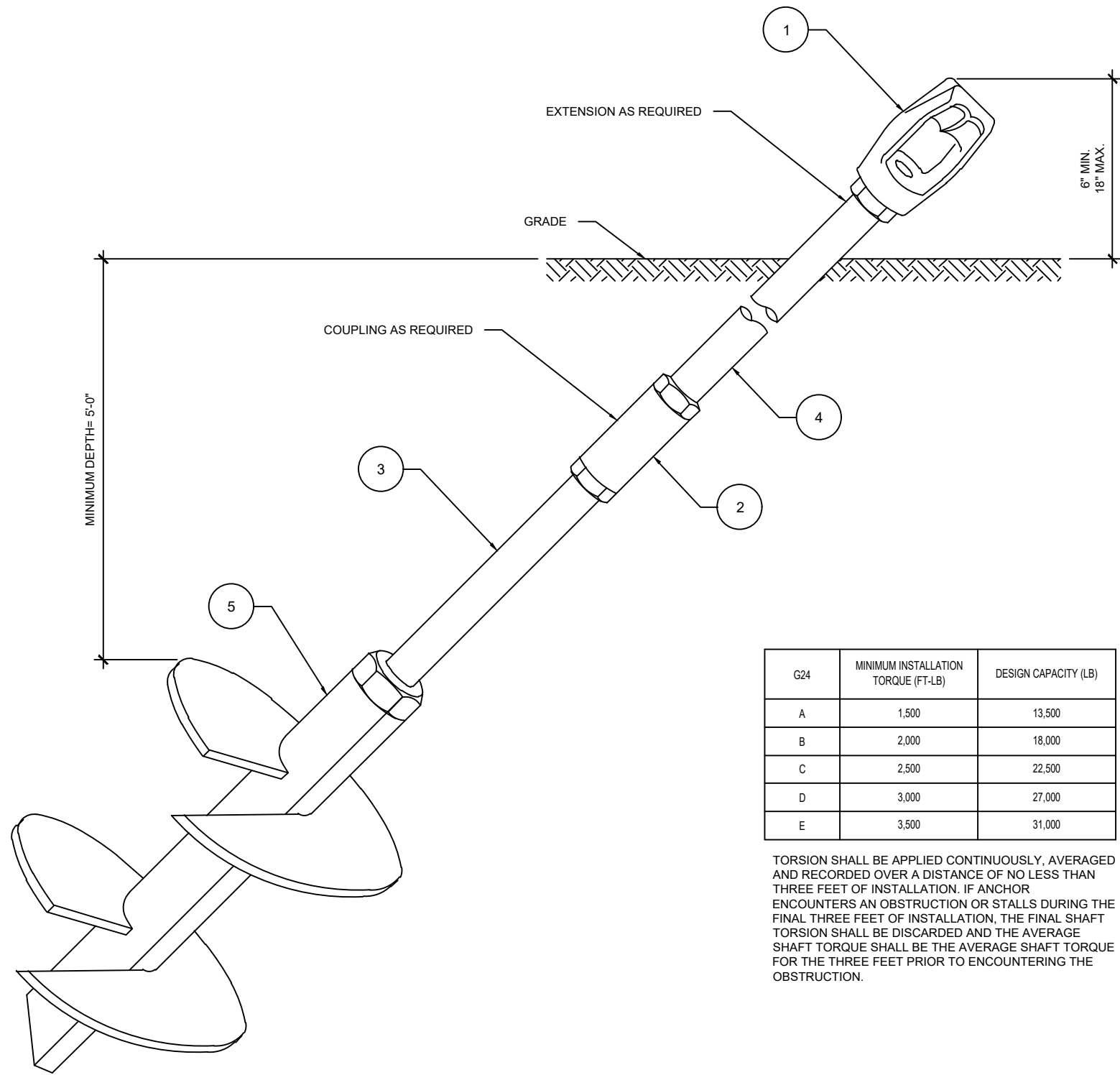
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CU-08

G11  
 EQUIPMENT GROUNDING GROUND ROD TYPE

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**ELEVATION VIEW**

N.T.S.

G24	MINIMUM INSTALLATION TORQUE (FT-LB)	DESIGN CAPACITY (LB)
A	1,500	13,500
B	2,000	18,000
C	2,500	22,500
D	3,000	27,000
E	3,500	31,000

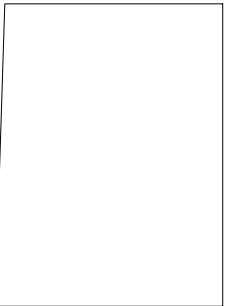
TORSION SHALL BE APPLIED CONTINUOUSLY, AVERAGED AND RECORDED OVER A DISTANCE OF NO LESS THAN THREE FEET OF INSTALLATION. IF ANCHOR ENCOUNTERS AN OBSTRUCTION OR STALLS DURING THE FINAL THREE FEET OF INSTALLATION, THE FINAL SHAFT TORSION SHALL BE DISCARDED AND THE AVERAGE SHAFT TORQUE SHALL BE THE AVERAGE SHAFT TORQUE FOR THE THREE FEET PRIOR TO ENCOUNTERING THE OBSTRUCTION.

**BILL OF MATERIAL**

DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	1	1" TWIN EYE NUT	X
2	AS REQ'D	1" COUPLING, AS REQ'D	X
3	1	ROD, 7'-0" LENGTH, 1" DIAMETER	X
4	AS REQ'D	ROD, 3'-6" LENGTH, 1" DIAMETER, AS REQ'D	X
5	1	DOUBLE 10" HELIX UNIT	Z

**NOTES:**

1. SEE POLE LINE DESIGN FOR GUYING AND POLE HEIGHT AND CLASS.
2. INSTALL ANCHOR UNIT TO INSTALLATION TORQUE AS SPECIFIED ON DRAWINGS.
3. THE ENTIRE ANCHOR ASSEMBLY SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM STANDARD A123.
4. CONTRACTORS SHALL INSTALL SCREW ANCHORS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
5. ANCHORS SHALL BE INSTALLED IN LINE WITH THE GUYS. PROPER ALIGNMENT SHALL BE MAINTAINED BETWEEN THE TORQUE MOTOR SHAFT, DRIVE TOOL ASSEMBLY AND THE ANCHOR SHAFT DURING INSTALLATION.



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
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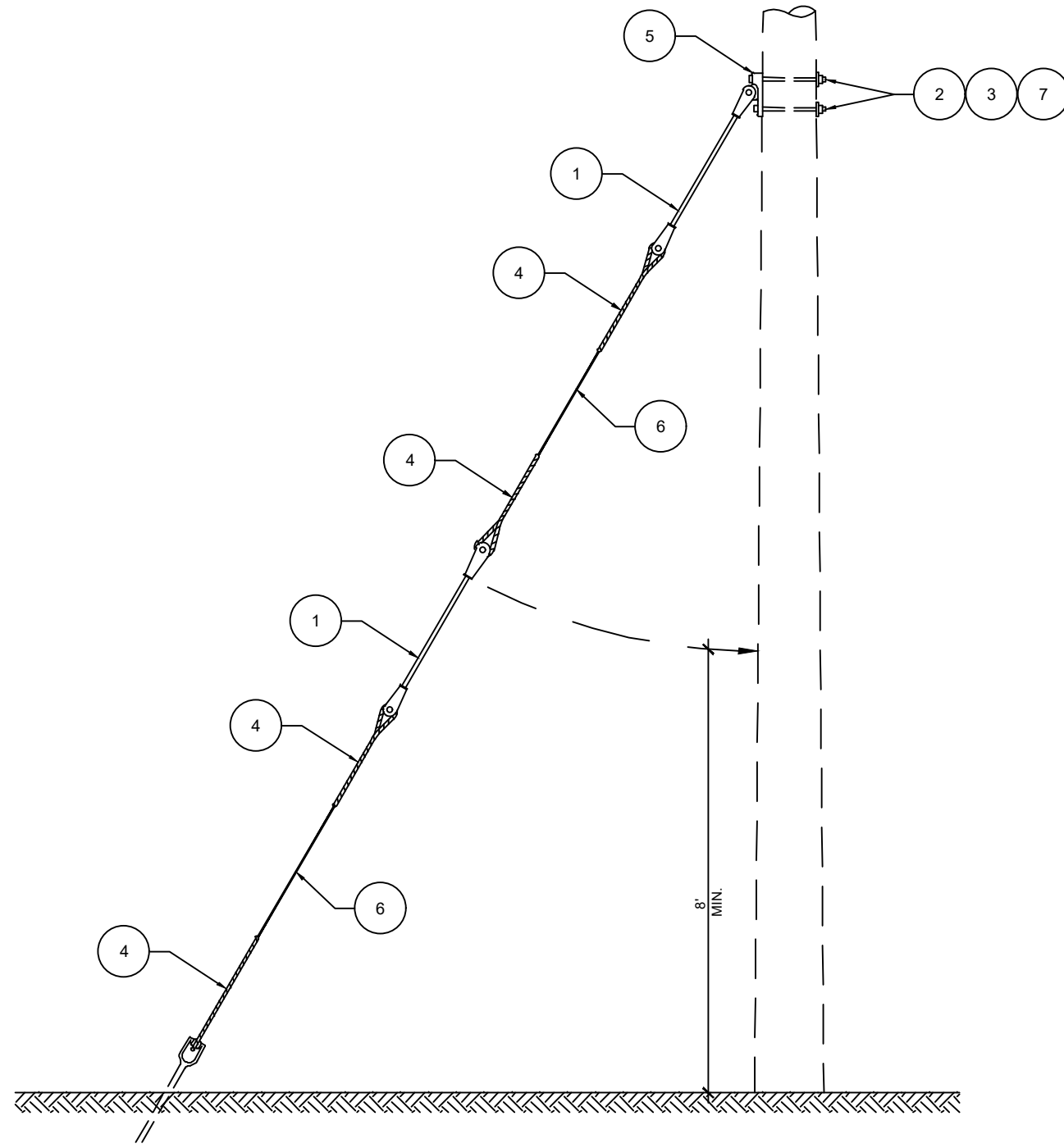
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**CU-09**

**G24 A/E**  
 POWER INSTALLED ANCHOR

BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	2	36" FIBERGLASS STRAIN INSULATOR WITH ROLLERS (30,000 LB)	w
2	2	BOLT, MACHINE, 3/4" X REQUIRED LENGTH	c
3	2	WASHER, CURVED, 4" SQ x 1/4", 15/16" HOLE	d
4	4	DEADEND, GUY GRIP, 1/2" STRAND	u
5	1	POLE EYE PLATE, MEDIUM DUTY (35,400 LBS)	fv
6	AS REQ'D	GUY WIRE, 1/2" STRAND	y
7	2	3/4" GALVANIZED LOCKNUT	ek



**ELEVATION VIEW**  
 N.T.S.

**G-41A**

**1/2" STRAND PRIMARY DOWN GUY**

REV.	DATE	DESCRIPTION

**CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION**

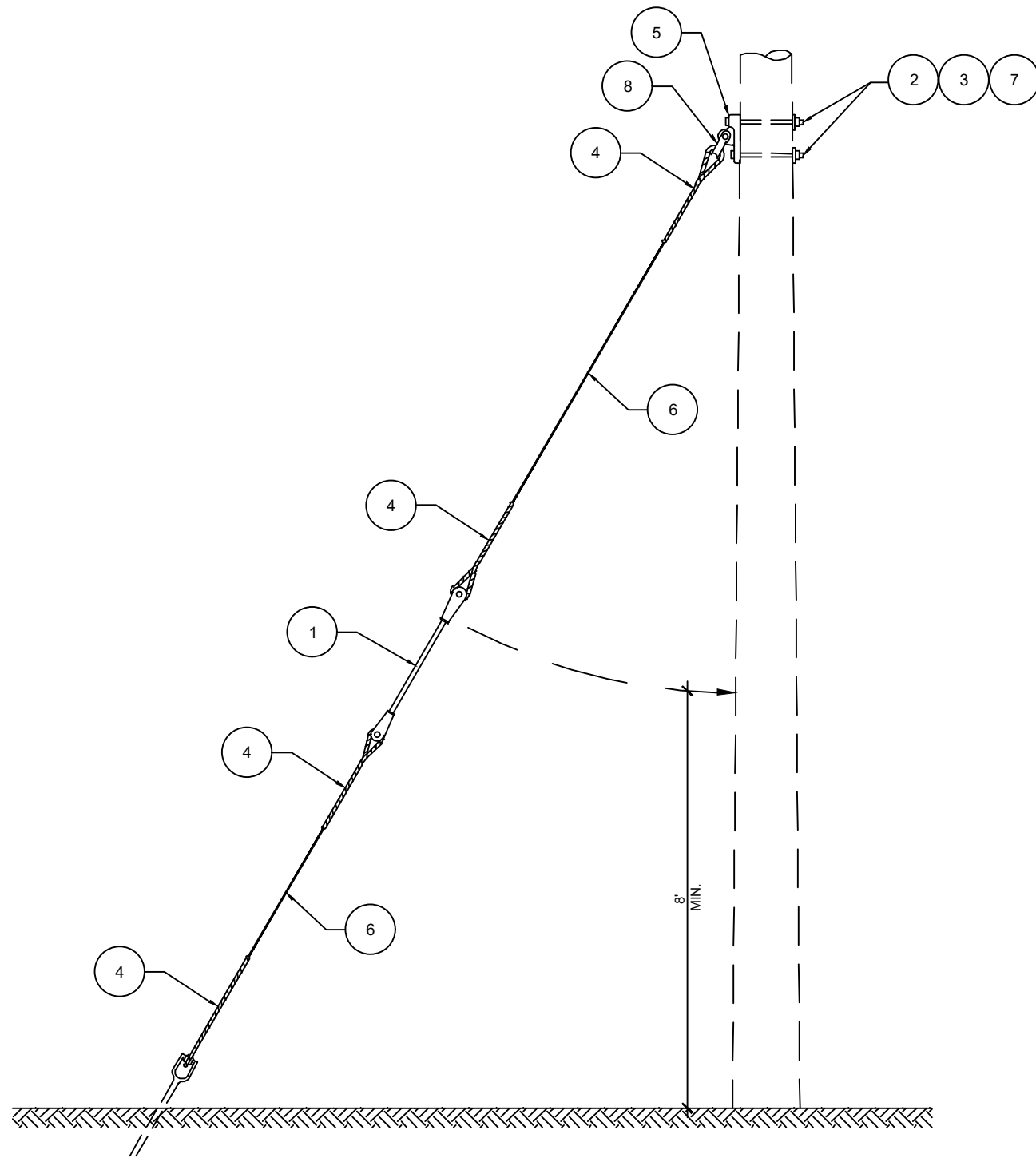
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CONSTRUCTION	01/31/2024
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**CU-10**

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**ELEVATION VIEW**  
N.T.S.

BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	1	36" FIBERGLASS STRAIN INSULATOR WITH ROLLERS (30,000 LBS)	w
2	2	BOLT , MACHINE, 3/4" X REQUIRED LENGTH	c
3	2	WASHER, CURVED, 4" SQ x 1/4", 15/16" HOLE	d
4	4	DEADEND, GUY GRIP, 1/2" STRAND	u
5	1	POLE EYE PLATE, MEDIUM DUTY (35,400 LBS)	fv
6	AS REQ'D	GUY WIRE, 1/2" STRAND	y
7	2	3/4" GALVANIZED LOCKNUT	ek
8	1	THIMBLE CLEVIS, 40,000 LBS, 3/4" PIN	ci

REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
 UTILITY RELOCATION

CONSTRUCTION UNITS

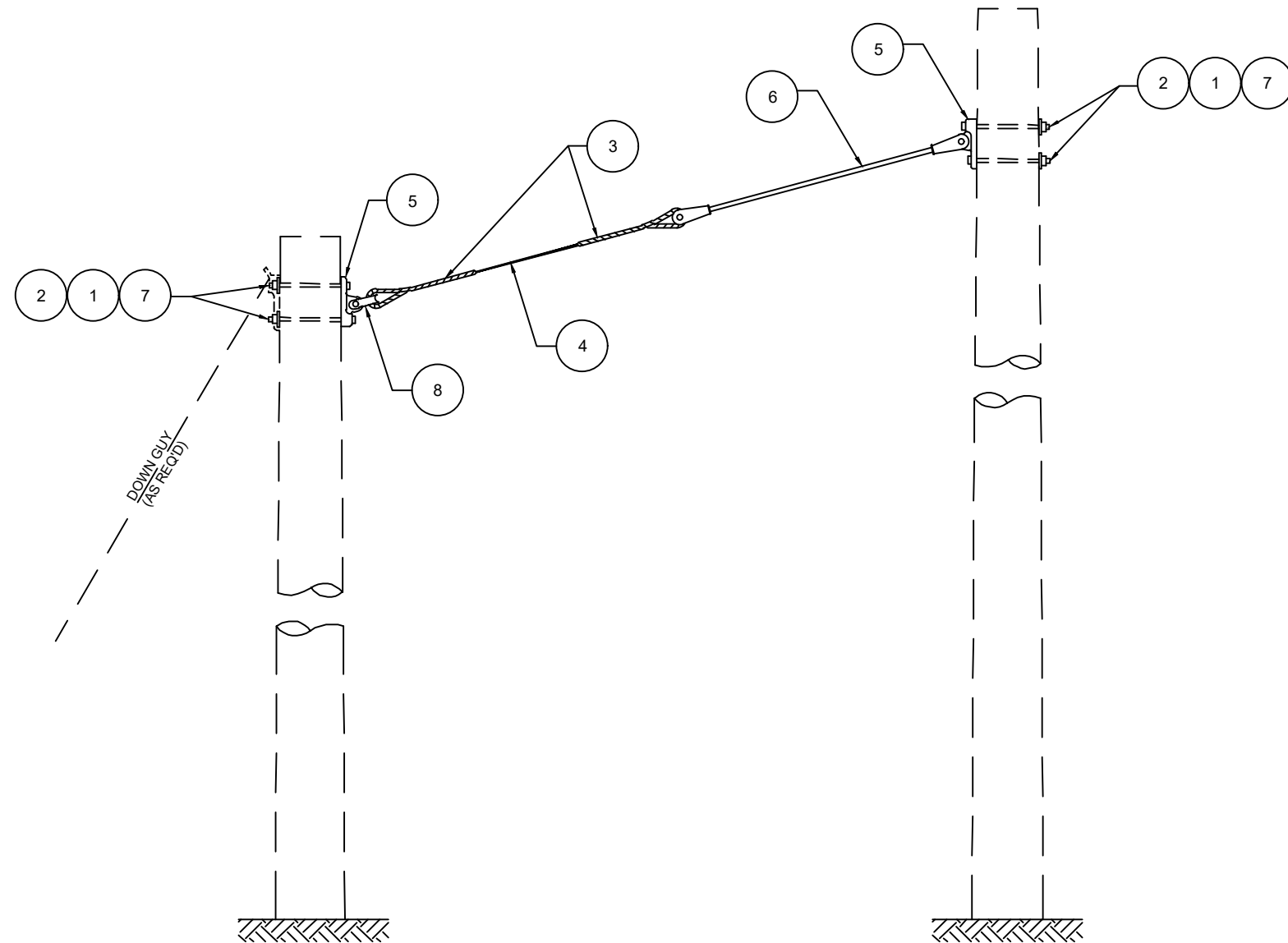
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RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**CU-11**

**G-41**  
1/2" STRAND NEUTRAL/STATIC WIRE DOWN GUY

BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	4	WASHER, CURVED, 4" SQ. x 1/4", 15/16" HOLE	d
2	4	BOLT, MACHINE, 3/4" X REQUIRED LENGTH	c
3	2	DEADEND , GUY GRIP, 1/2" STRAND	u
4	AS REQ'D	GUY WIRE, 1/2" STRAND	y
5	2	PLATE POLE EYE, MEDIUM DUTY (35,400 LBS)	fv
6	1	36" FIBERGLASS STRAIN INSULATOR WITH ROLLERS (30,000 LB)	w
7	4	3/4" GALVANIZED LOCKNUT	ek
8	1	THIMBLE CLEVIS, 40,000 LBS, 3/4" PIN	ci



ELEVATION VIEW  
 N.T.S.

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DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
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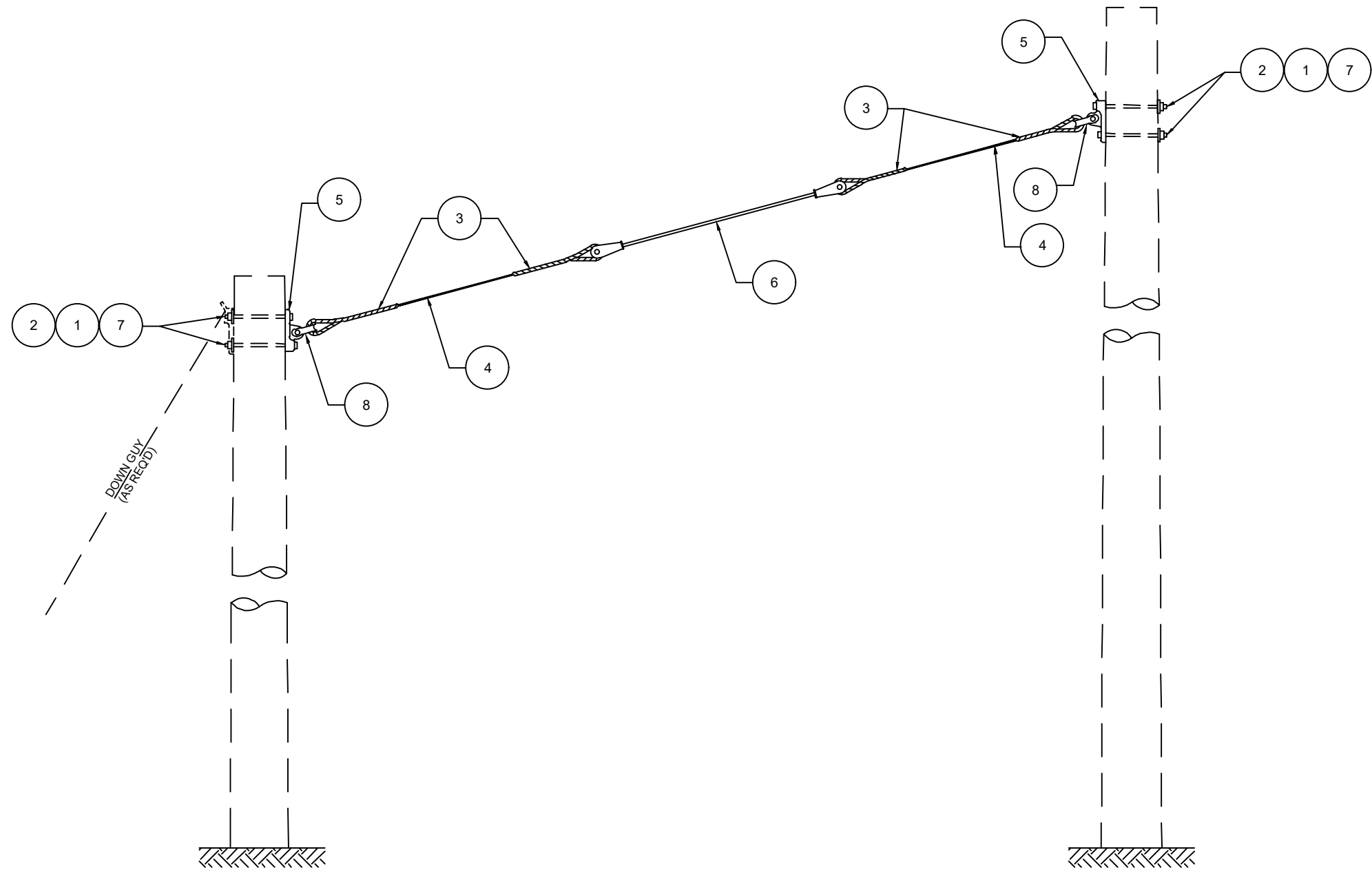
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CU-12

**G-42A**  
 1/2" STRAND PRIMARY SPAN GUY

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BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	4	WASHER, CURVED, 4" SQ. x 1/4", 15/16" HOLE	d
2	4	BOLT, MACHINE, 3/4" X REQUIRED LENGTH	c
3	4	DEADEND , GUY GRIP, 1/2" STRAND	u
4	AS REQ'D	GUY WIRE, 1/2" STRAND	y
5	2	PLATE POLE EYE, MEDIUM DUTY (35,400 LBS)	fv
6	1	36" FIBERGLASS STRAIN INSULATOR WITH ROLLERS (30,000 LB)	w
7	4	3/4" GALVANIZED LOCKNUT	ek
8	2	THIMBLE CLEVIS, 40,000 LBS, 3/4" PIN	ci



**ELEVATION VIEW**  
N.T.S.

**G-42**  
1/2" STRAND SECONDARY/NEUTRAL SPAN GUY

REV.	DATE	DESCRIPTION

**CITY OF PAINESVILLE, OHIO**  
US 20 ROAD WIDENING  
UTILITY RELOCATION

**CONSTRUCTION UNITS**

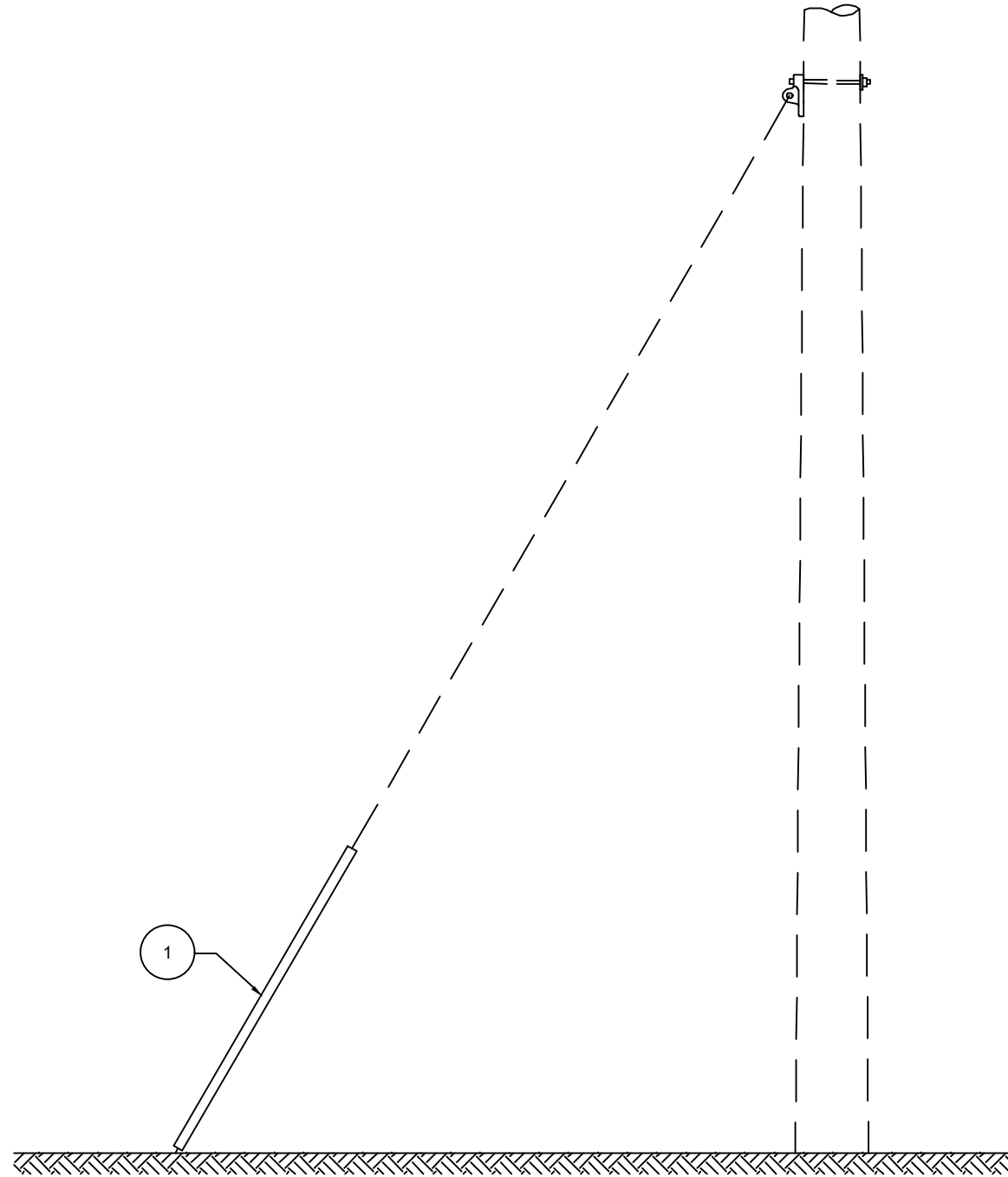
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DESIGNER	ENGINEER
JWF	PCT
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**CU-13**

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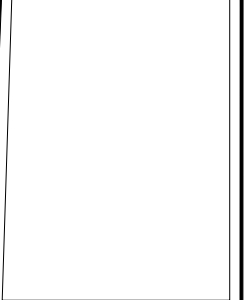
**ELEVATION VIEW**  
 N.T.S.

**GG**  
 GUY GUARD

BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	1	GUY GUARD, 8' MINIMUM LENGTH	at

**NOTES:**

- GUY GUARD TO BE ON OUTSIDE DOWN GUY OF FARTHEST ANCHOR POSITION IN ANY ONE DIRECTION.



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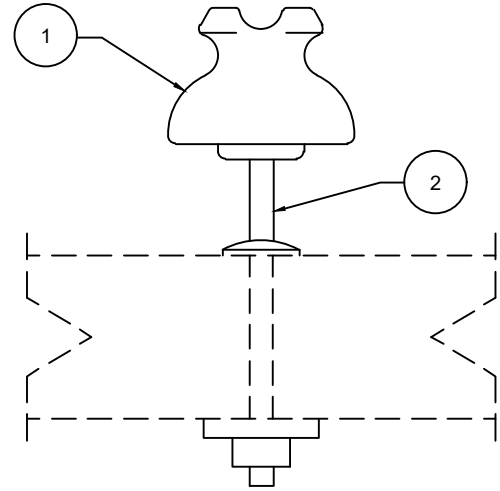
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 N.T.S.

BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	1	INSULATOR, PIN TYPE (SEE NOTE 1)	a
2	1	PIN, CROSSARM, STEEL, 5/8" X 10-3/4, NYLON BUSHING	f

**NOTES:**

1. MINIMUM INSULATION REQUIREMENTS
  - ANSI CLASS 55-4
  - VOLTAGE CLASS 15kV
  - LEAKAGE DISTANCE 9 INCHES
  - 60 HZ FLASHOVER (DRY) 65kV
  - 60 HZ FLASHOVER (WET) 35kV
  - CRITICAL IMPULSE FLASHOVER (+) 105kV
  - CANTILEVER STRENGTH 3,000 LBS

REV.	DATE	DESCRIPTION

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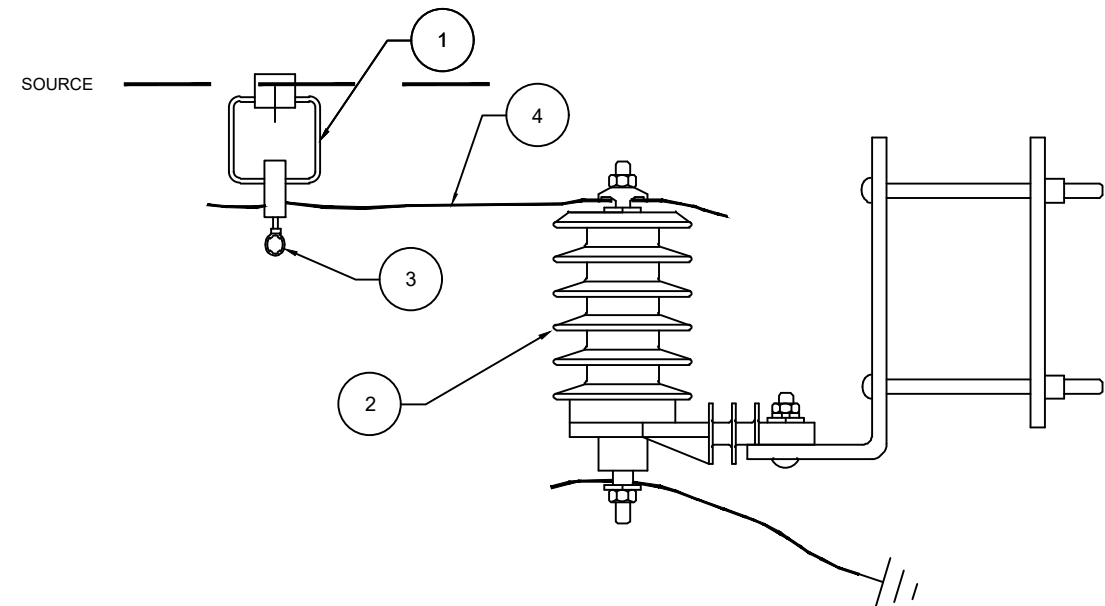
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**M5**  
 15kV CLASS PRIMARY INSULATOR AND PIN

CU-15

BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	1	CONNECTOR, AND/OR STIRRUP	p
2	1	LIGHTNING ARRESTER	ae
3	1	CLAMP, HOT LINE	ap
4	AS REQ'D	JUMPER	av



**ELEVATION VIEW**  
 N.T.S.



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
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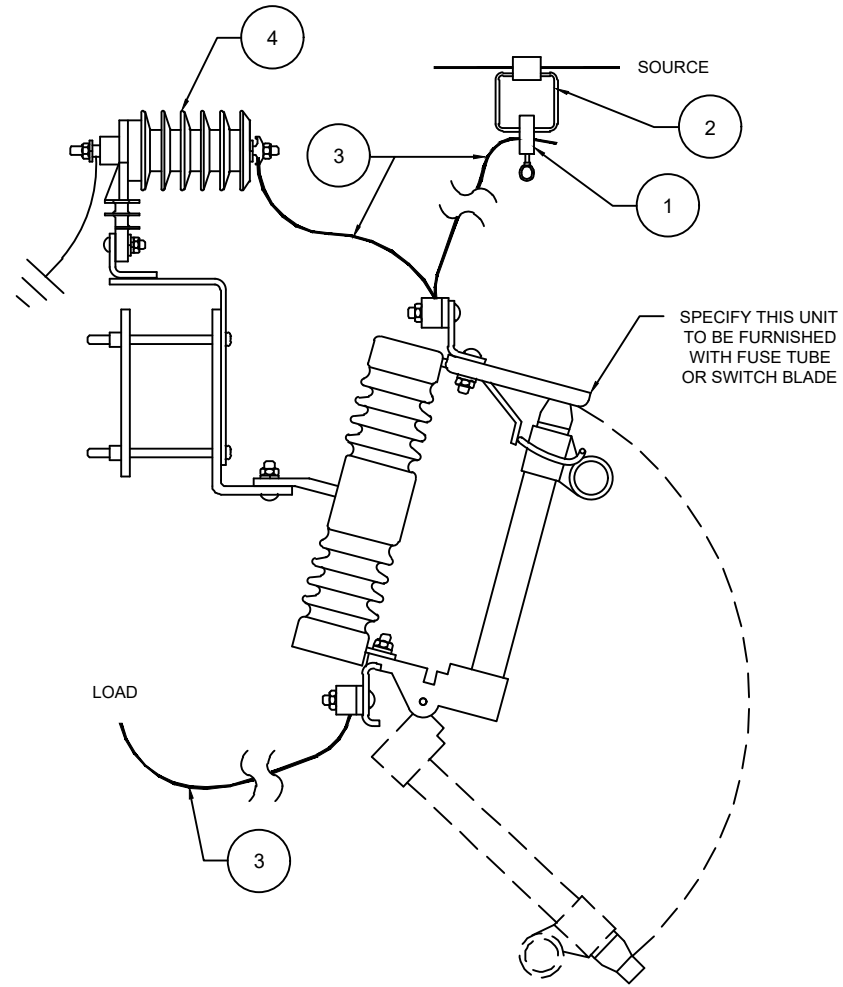
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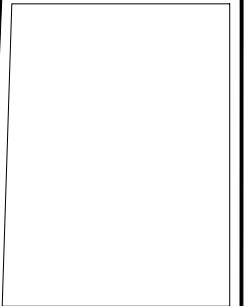
CU-16

**M6**  
 15KV CLASS ARRESTER

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BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	1	CLAMP, HOT LINE	ap
2	1	CONNECTOR, STIRRUP	p
3	AS REQ'D	JUMPERS	aq
4	1	CUTOUT AND ARRESTER COMBINATION (15KV/9KV)	ax



REV.	DATE	DESCRIPTION

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**US 20 ROAD WIDENING**  
**UTILITY RELOCATION**  
**CONSTRUCTION UNITS**

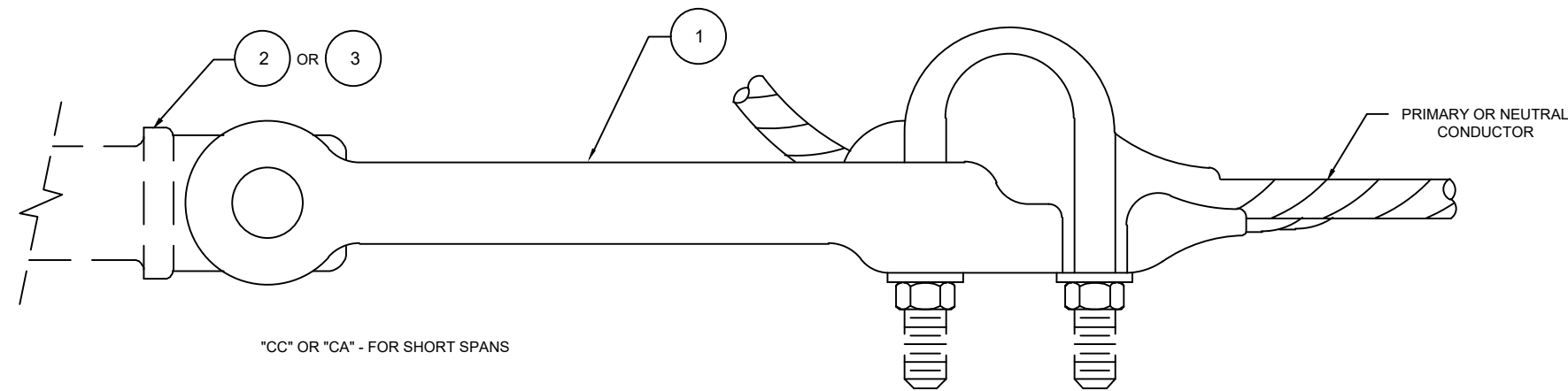
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**CU-17**

**M10**  
**15KV CLASS CUTOUT AND ARRESTER**

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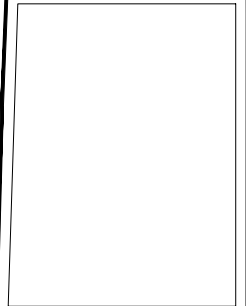


**ELEVATION VIEW**  
N.T.S.

BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	1	STRAIGHT LINE CLAMP (SEE NOTE 1)	l
2	1	INSULATOR, SUSPENSION	k
3	1	BOLT, EYE, OVAL	o

**NOTES:**

1. POSITION CLAMP TO TRAIN CONDUCTOR IN CORRECT DIRECTION FOR INDIVIDUAL APPLICATION
2. SIZE CLAMP PER CONDUCTOR REQUIREMENTS



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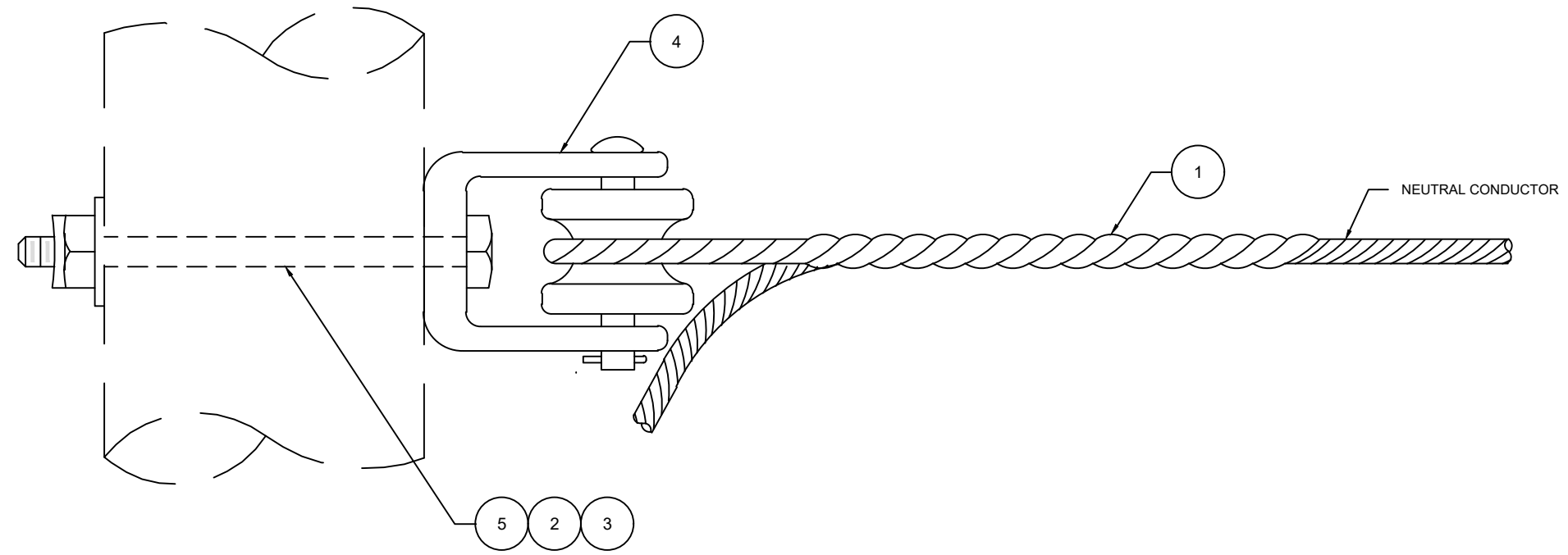
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**M24**  
 STRAIGHT LINE CONDUCTOR CLAMP

CU-18

BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	1	*DEADEND CONDUCTOR PREFORMED GRIP	u
2	1	WASHER 2-1/4" SQUARE X 3/16", 13/16" HOLE	d
3	1	NUT WITH LOCKNUT, 5/8"	ek
4	1	BRACKET, INSULATED	da
5	1	BOLT, MACHINE, 5/8" X REQUIRED LENGTH	c

- NOTES:**
- \* = SIZE PER CONDUCTOR REQUIREMENTS
  - 1. SEE POLE LINE DESIGN FOR GUYING AND POLE HEIGHT AND CLASS.



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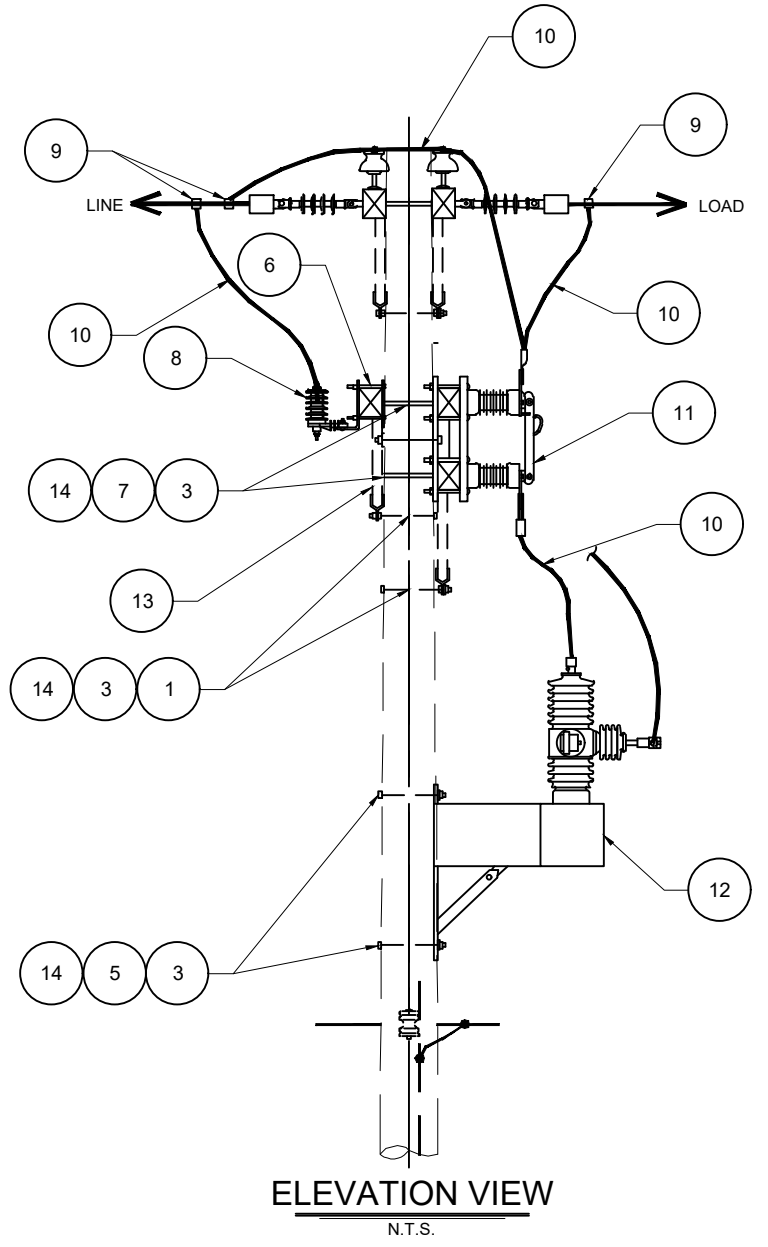
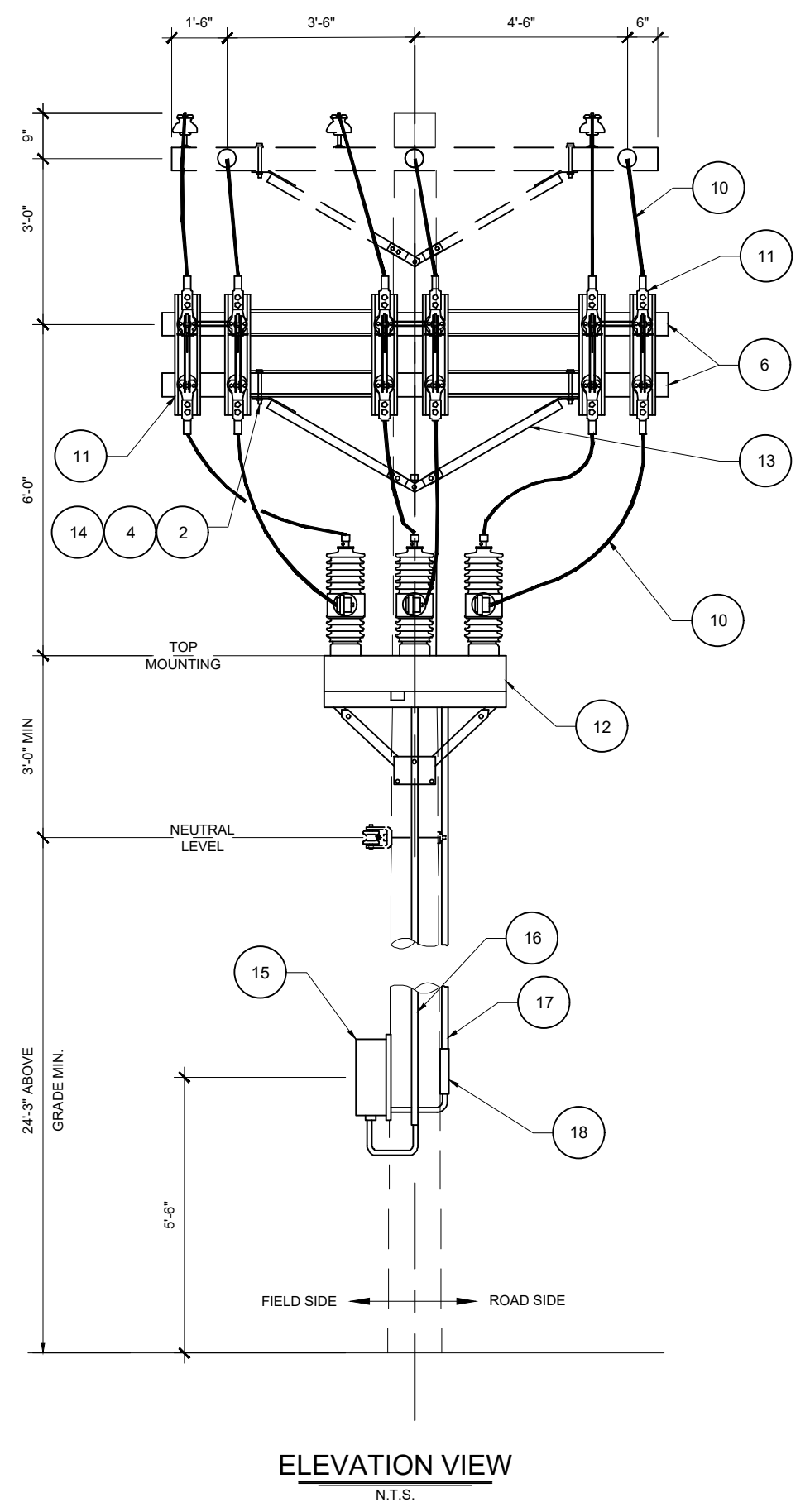
CU-19

**M27**  
 DEADEND ASSEMBLY  
 PREFORMED GRIP AND INSULATED BRACKET

BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	2	BOLT, MACHINE, 5/8" X REQUIRED LENGTH	c
2	4	BOLT, MACHINE 1/2" X REQUIRED LENGTH	c
3	AS REQ'D	WASHERS, 2 1/4" SQ X 3/16", 13/16" HOLE	d
4	6	WASHER, ROUND, 1-3/8" DIAMETER, 9/16" HOLE	d
5	2	BOLT, MACHINE, 3/4" X REQUIRED LENGTH	f
6	3	CROSSARM, 3/8" X 4 5/8" X 10'-0"	g
7	2	BOLT, DOUBLE ARMING, 5/8" X REQUIRED LENGTH	n
8	3	ARRESTER, 8.4KV MCOV	ae
9	9	CLAMP, HOT LINE	ap
10	AS REQ'D	JUMPERS	aq
11	3	600A BY-PASS SWITCHES	ax
12	1	VACUUM/ELECTRONIC RECLOSER W/ MNTG BRACKET	be
13	2	BRACE SET, WOOD, 60" X 18"	cu
14	AS REQ'D	NUT WITH LOCKNUT, 1/2", 5/8", & 3/4"	ek
15	1	RECLOSER CONTROL BOX	
16	1	CONTROL CABLE	
17	1	2 #12/GND 120V SUPPLY CABLE	
18	1	NEMA 3R FUSED DISCONNECT	
19	12	2-HOLE COMPRESSION PADS	

**NOTES:**

- \* = SIZE PER CONDUCTOR REQUIREMENTS
- 1. SEE POLE LINE DESIGN FOR GUYING AND POLE HEIGHT AND CLASS.
- 2. MINIMUM INSULATION REQUIREMENTS
  - ANSI CLASS 55-4
  - VOLTAGE CLASS 15kV
  - LEAKAGE DISTANCE 9 INCHES
  - 60 HZ FLASHOVER (DRY) 65kV
  - 60 HZ FLASHOVER (WET) 35kV
  - CRITICAL IMPULSE FLASHOVER (+) 105kV
  - CANTILEVER STRENGTH 3,000 LBS
- 3. MAXIMUM LINE ANGLE SHALL BE 5°



REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION  
CONSTRUCTION UNITS

ISSUED FOR:	
REVIEW	03/03/2023
BID	-
CONSTRUCTION	01/31/2024
RECORD	-

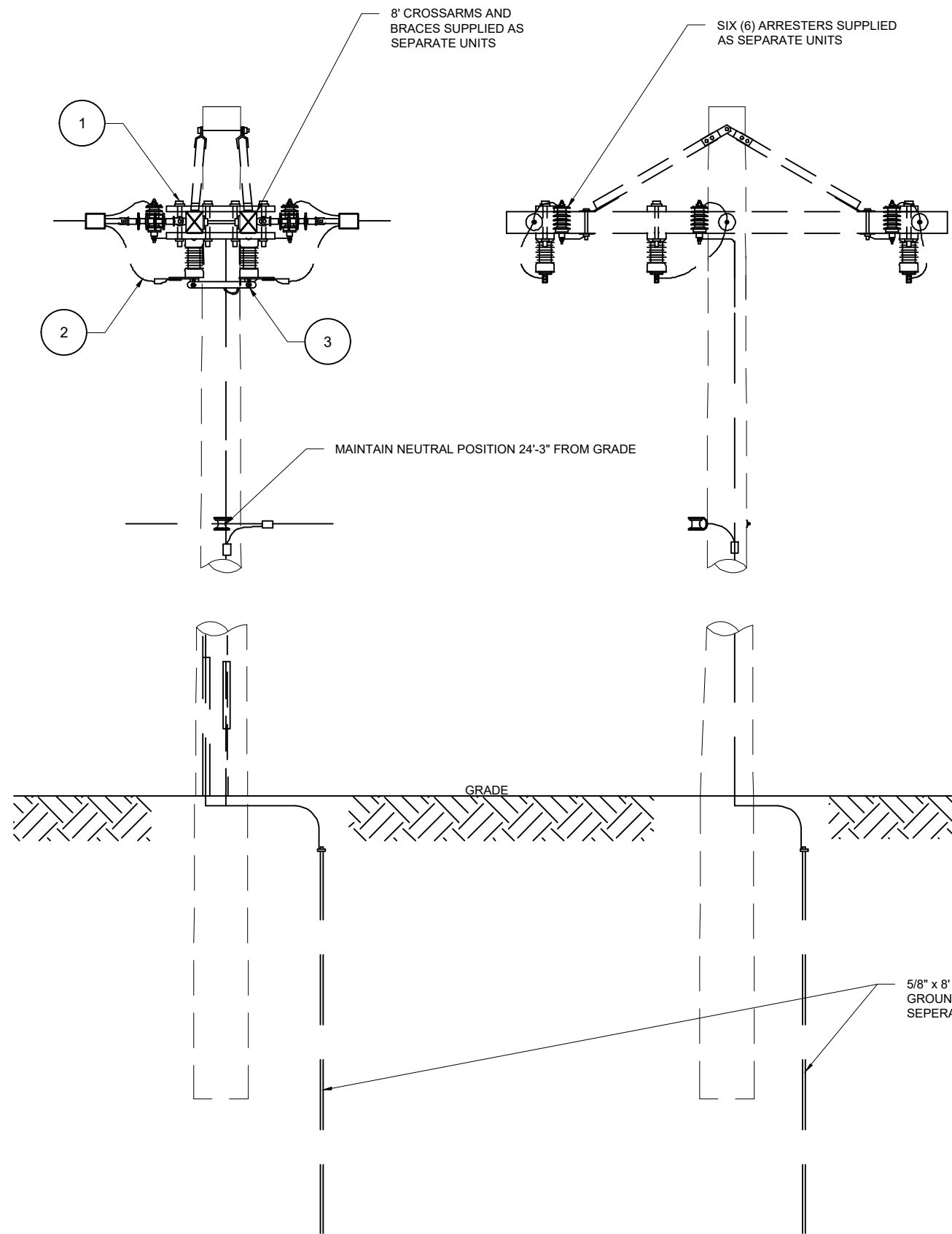
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
2022142.01

CU-20

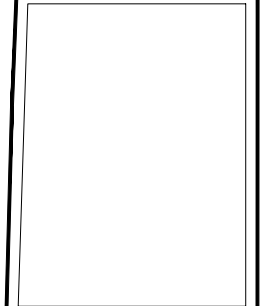
**MR-15F**  
15KV CLASS CONSTRUCTION  
THREE PHASE RECLOSER INSTALLATION  
USING 1-3Ø VACUUM/ELECTRONIC UNIT

Drawing Name: O:\2022\2022142 - Painesville\US20 Road Widening Utility Relocation\400\_Construction  
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 SET\_SR20\_RZ.dwg  
 July 25, 2024 3:17 PM - jfranczak



BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	AS REQ'D	BOLT, MACHINE, WITH HARDWARE, AS PROVIDED BY MANUFACTURER	c
2	AS REQ'D	JUMPERS	aq
3	3	600 AMP 15kV 1 POLE SWITCHES	

**MS-15U**  
 THREE PHASE UNDERSLUNG DISCONNECT DETAIL  
 WITH 600 AMP SINGLE POLE SWITCHES



REV.	DATE	DESCRIPTION

**CITY OF PAINESVILLE, OHIO**  
**US 20 ROAD WIDENING**  
**UTILITY RELOCATION**

**CONSTRUCTION UNITS**

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CONSTRUCTION	01/31/2024
RECORD	-

DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

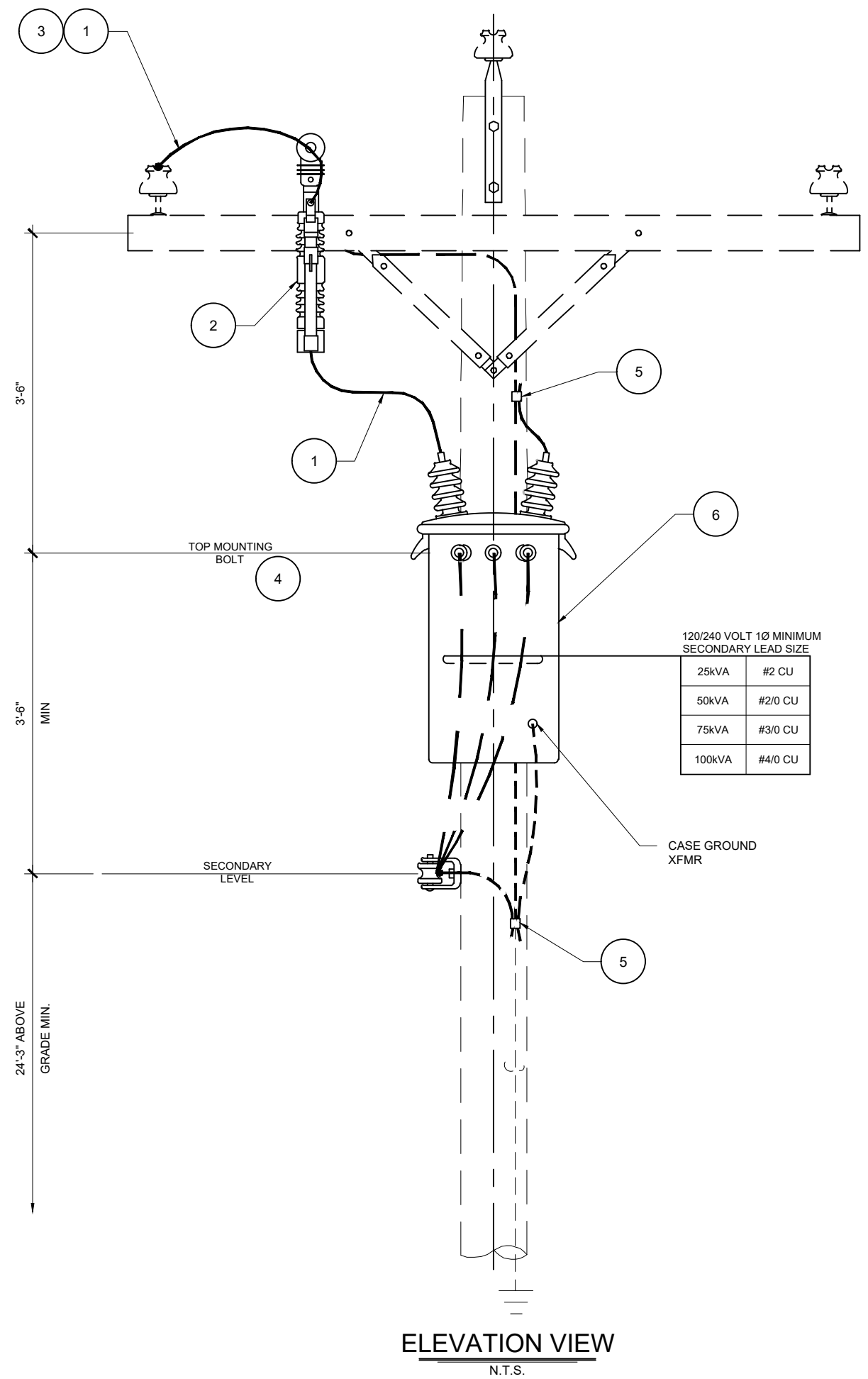
JOB NO.  
**2022142.01**

**CU-21**

**BILL OF MATERIAL**

DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	AS REQ'D	JUMPER	aq
2	1	CUTOUT (15kV) AND ARRESTER COMBINATION (SEE NOTE 1)	ax
3	1	CLAMP, HOT LINE	ap
4	AS REQ'D	BOLT, MACHINE	c
5	AS REQ'D	CONNECTORS	p
6	1	TRANSFORMER, COVENTIONAL, 2 BRUSH	an

- NOTES:**
- \* = SIZE PER CONDUCTOR REQUIREMENTS
  - 1. ARRESTERS 9KV OR 10KV MCOV. SEE SPECIFICATION OR CONTACT A/E FOR MORE INFORMATION



**ELEVATION VIEW**  
N.T.S.

**T-1**  
**15KV CLASS**  
**SINGLE PHASE (STD) TRANSFORMER**  
**120/240 VOLT 3 WIRE SERVICE**

REV.	DATE	DESCRIPTION

**CITY OF PAINESVILLE, OHIO**  
**US 20 ROAD WIDENING**  
**UTILITY RELOCATION**

**CONSTRUCTION UNITS**

ISSUED FOR:	
REVIEW	03/03/2023
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CONSTRUCTION	01/31/2024
RECORD	-
DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**CU-22**

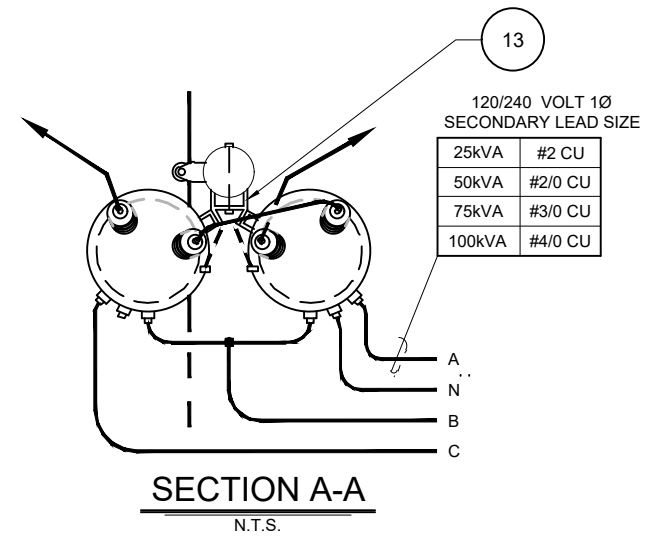
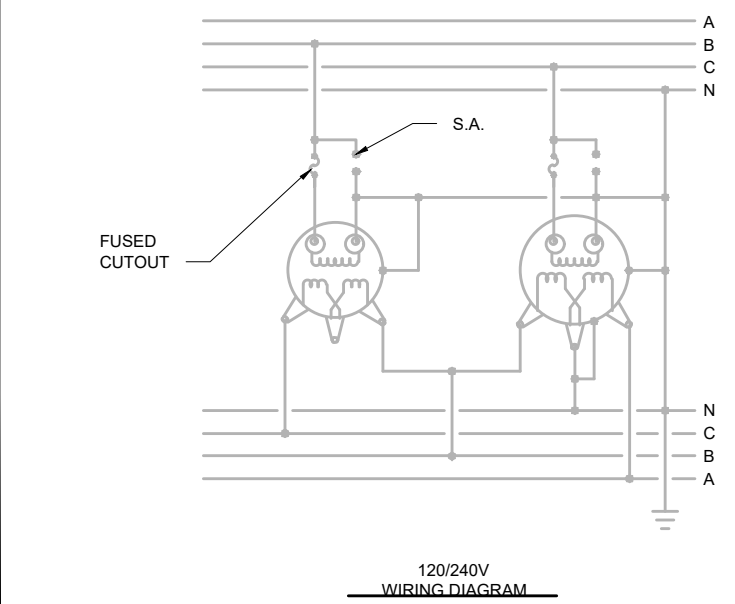
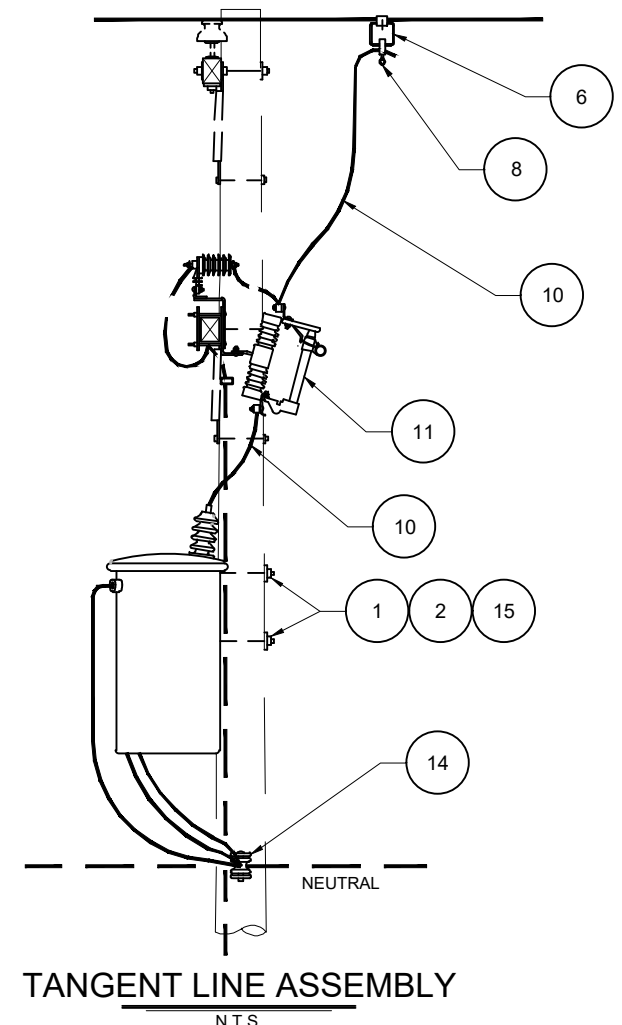
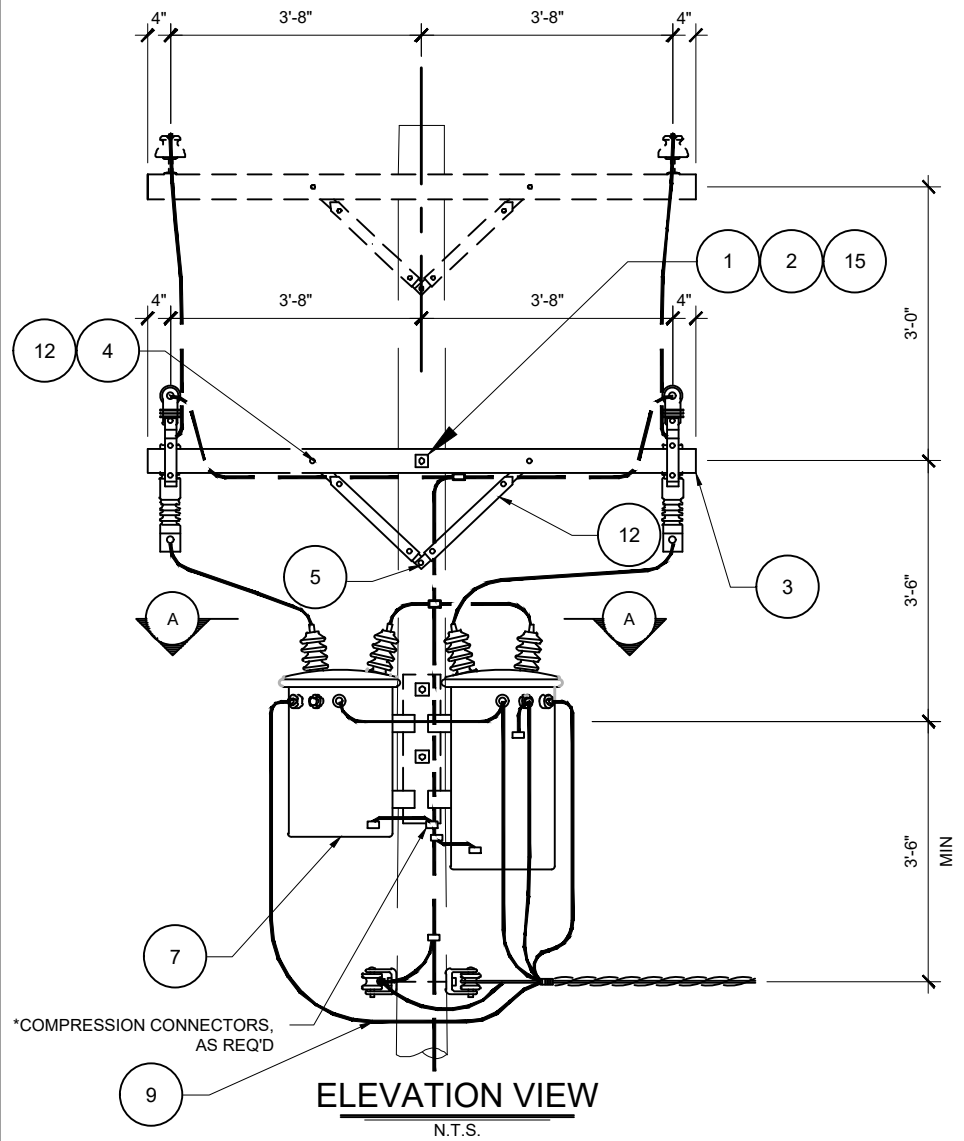


**BILL OF MATERIAL**

DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	3	BOLT, MACHINE, 5/8" X REQ'D LENGTH	c
2	3	WASHER, 2 1/4" SQ X 3/16", 13/16" HOLE	d
3	1	CROSSARM, 3 5/8" X 4 5/8" X 8'-0"	g
4	2	BOLT, CARRIAGE, 3/8" X 4 1/2"	i
5	1	SCREW, LAG, 1/2" X 4"	j
6	AS REQ'D	*CONNECTORS, STIRRUPS	fi
7	2	TRANSFORMER, CONVENTIONAL 2 BUSHING	an
8	2	*CLAMP, HOT LINE	ap
9	AS REQ'D	SECONDARY, CONDUCTORS, INSULATED	av
10	AS REQ'D	CU JUMPER, PRIMARY, BARE, STRANDED	aq
11	2	CUTOUT (15KV) AND ARRESTER COMBINATION (SEE NOTE 4)	ax
12	1	BRACE SET, WOOD, 38" X 18"	cu
13	1	BRACKET, TRANSFORMER, CLUSTER	dm
14	1	SERVICE ASSEMBLY	M27
15	AS REQ'D	NUT AND LOCKNUT	ek
16	2	TRANSFORMER TANK GROUND CONNECTOR	

**NOTES:**

- \* = SIZE PER CONDUCTOR REQUIREMENTS
- 1. SEE POLE LINE DESIGN FOR GUYING AND POLE HEIGHT AND CLASS.
- 2. ALL TANKS TO BE GROUNDED.
- 3. SECONDARY NEUTRALS OF ALL TRANSFORMER EXCEPT ONE SHALL BE DISCONNECTED FROM TANKS AND NOT GROUNDED.
- 4. ARRESTER 9KV OR 10KV MCOV. SEE SPECIFICATION OR CONTACT A/E FOR MORE INFORMATION



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CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
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DESIGNER	ENGINEER
JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**CU-23**

**T210**  
15KV CLASS - 2 TRANSFORMERS, CLUSTER MTD  
OPEN WYE - OPEN DELTA  
120/240 VOLT 4 WIRE POWER AND LTG. SERVICE

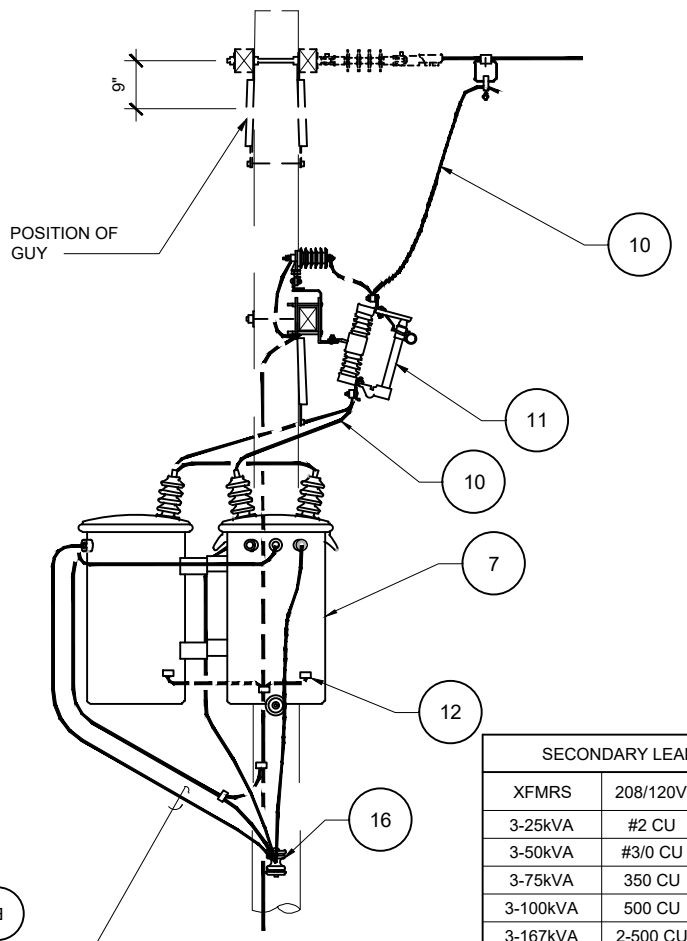
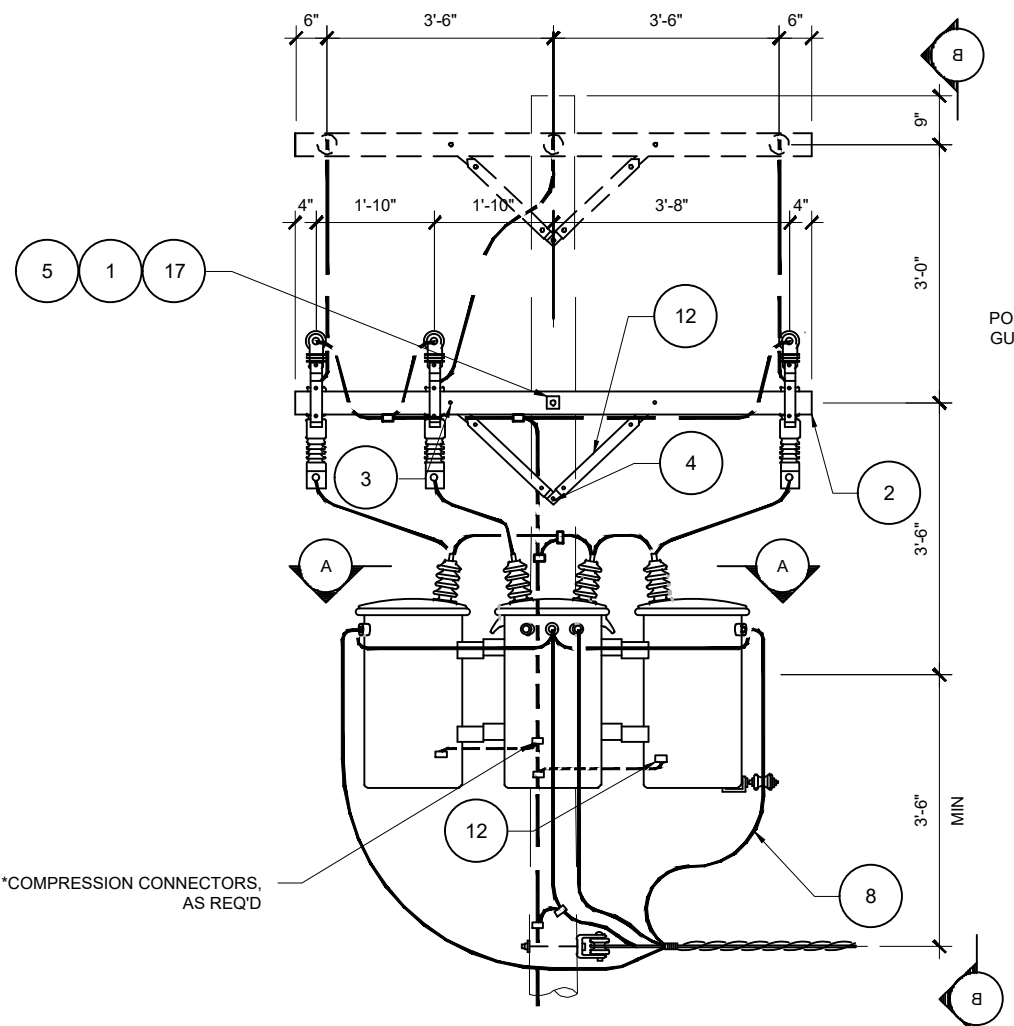
**BILL OF MATERIAL**

DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	3	WASHER, 2-1/4" SQ. X 3/16", 13/16" HOLE	d
2	1	CROSSARM, 3-5/8" X 4-5/8" X 8'-0"	g
3	2	BOLT, CARRIAGE, 3/8" X 4-1/2"	i
4	3	SCREW, LAG, 1/2" X 4"	j
5	1	BOLT, MACHINE, 5/8" X REQUIRED LENGTH	c
6	AS REQ'D	*CONNECTORS, STIRRUPS	fi
7	3	TRANSFORMER, CONVENTIONAL 2 BUSHING	an
8	AS REQ'D	SECONDARY CONDUCTOR, INSULATED	av
9	3	*CLAMP, HOT LINE	ap
10	AS REQ'D	CU JUMPER, PRIMARY, BARE, STRANDED	aq
11	3	CUTOUT (15KV) AND ARRESTER COMBINATION (SEE NOTE 3)	ax
12	3	CONNECTOR, TRANSFORMER GROUNDING	bu
13	1	BRACE SET, WOOD, 38" X 18"	cu
14	1	BRACKET, TRANSFORMER, CLUSTER & ADAPTER	dm
15	AS REQ'D	CHUB PIN	M4
16	1	SERVICE ASSEMBLY	M27
17	AS REQ'D	NUT WITH LOCKNUT	ek
18	AS REQ'D	TRANSFORMER TANK GROUNDING CONNECTOR	

- NOTES:**
- \* = SIZE PER CONDUCTOR REQUIREMENTS
  - 1. ALL TANKS TO BE GROUNDED
  - 2. RE-CONNECT INTERNAL WINDINGS FOR SECONDARY AS SHOWN
  - 3. ARRESTER 9KV OR 10KV MCOV. SEE SPECIFICATION OR CONTACT A/E FOR MORE INFORMATION

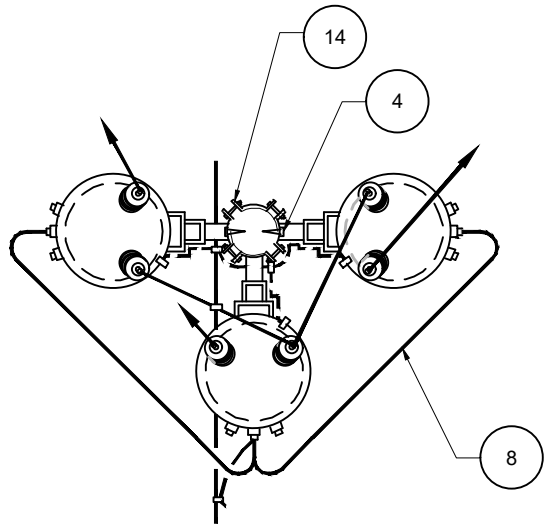
**SECONDARY LEAD SIZE**

XFMRS	208/120V	480/277V
3-25kVA	#2 CU	#2 CU
3-50kVA	#3/0 CU	#1/0 CU
3-75kVA	350 CU	#2/0 CU
3-100kVA	500 CU	#4/0 CU
3-167kVA	2-500 CU	500 CU

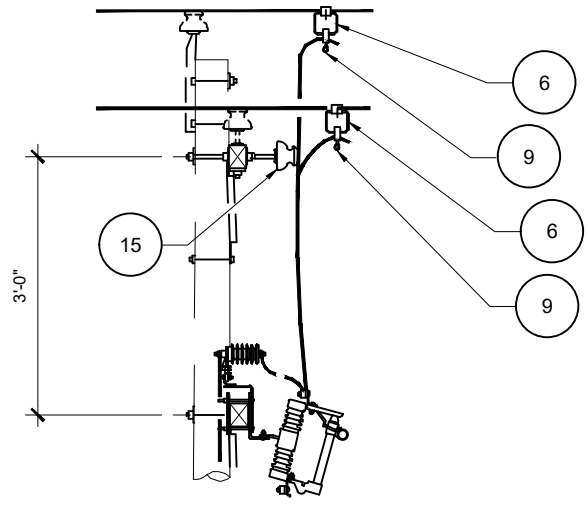


**SECTION B-B**  
N.T.S.

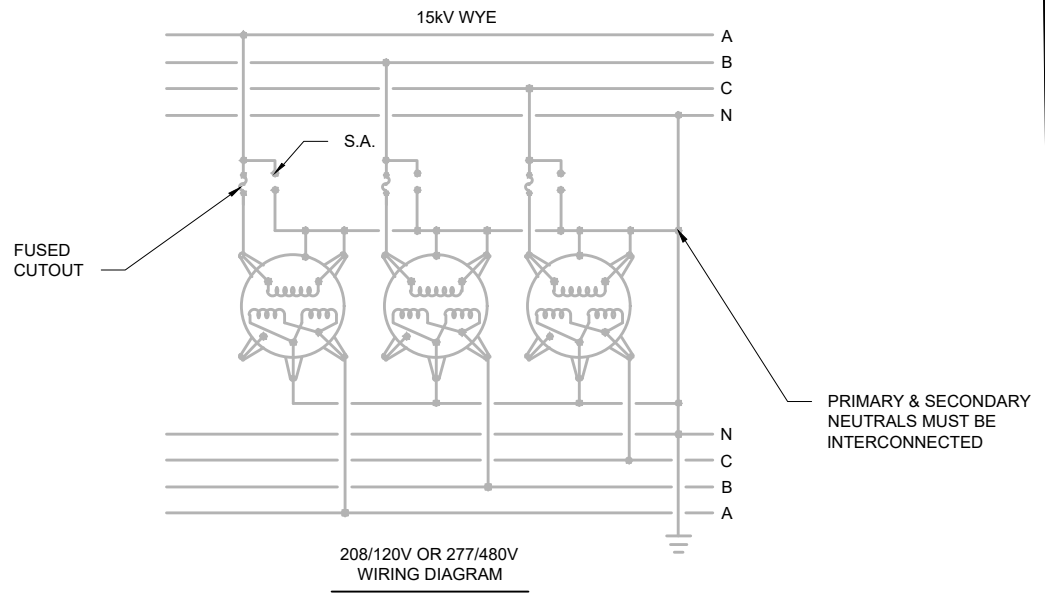
\*COMPRESSION CONNECTORS, AS REQ'D



**SECTION A-A**  
N.T.S.



**TANGENT LINE ASSEMBLY**  
N.T.S.



**T312**  
15KV CLASS - 3 TRANSFORMER CLUSTER MTD  
UNGROUND WYE- GROUNDED WYE  
208/120 OR 480/277 VOLT RWR. & LTG. SERVICE

REV.	DATE	DESCRIPTION

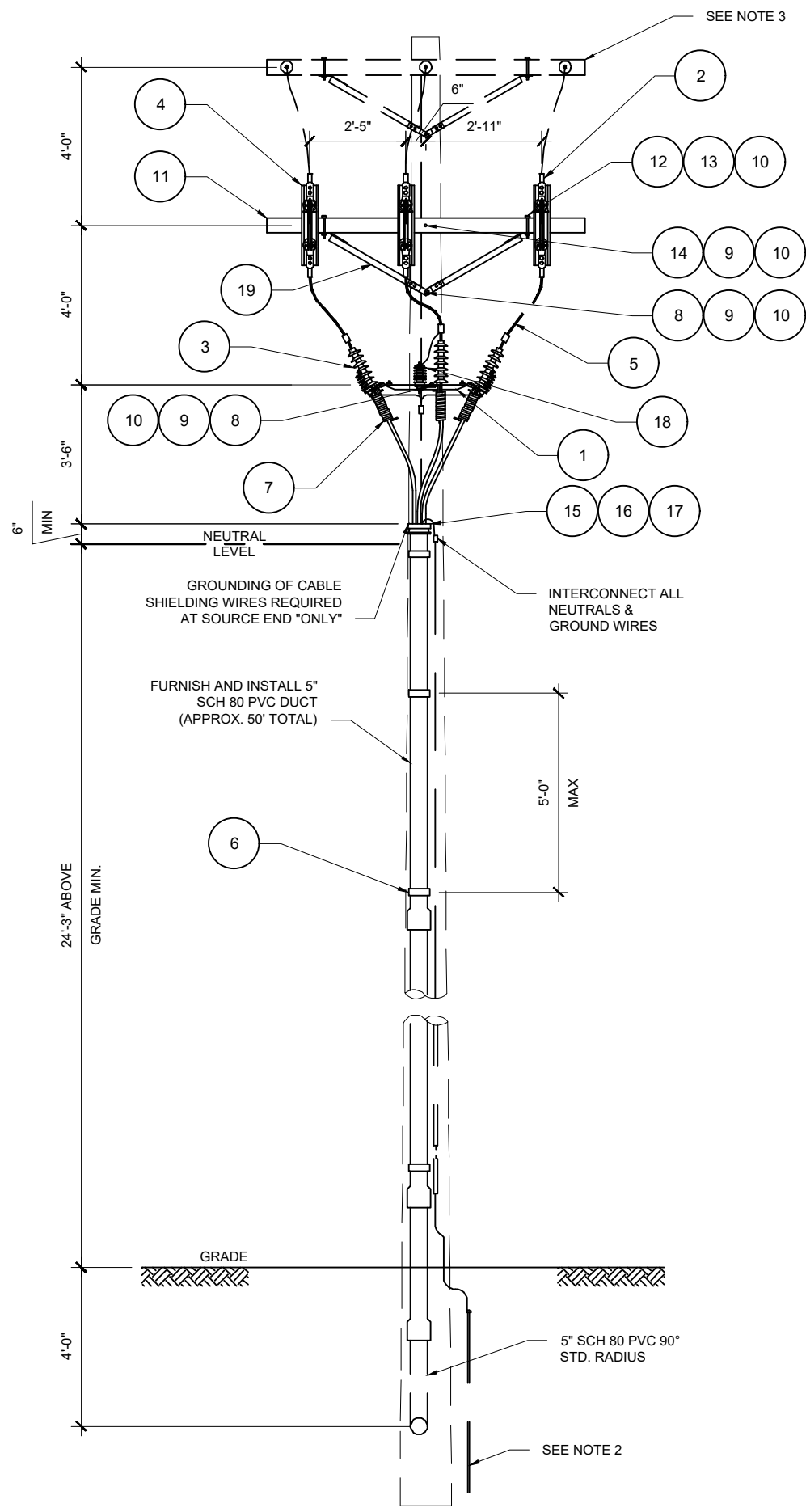
CITY OF PAINESVILLE, OHIO  
US 20 ROAD WIDENING  
UTILITY RELOCATION

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JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
**2022142.01**

**CU-24**



BILL OF MATERIAL			
DWG. REF.	QTY	DESCRIPTION	RUS ITEM
1	1	EQUIPMENT MOUNTING BRACKET, THREE PHASE	fm
2	6	*2-HOLE COMPRESSION PAD	-
3	3	*CABLE TERMINATION	U gk
4	3	600 AMP 15kV 1-POLE SWITCH	sb
5	AS REQ'D	JUMPER, AS REQUIRED (SEE NOTE 1)	av
6	AS REQ'D	CONDUIT CLAMP	-
7	3	CABLE POSITIONER BRACKET	-
8	2	BOLT, MACHINE, 5/8" x AS REQUIRED	c
9	2	WASHER, 2-1/4" SQ. x 3/16", 13/16" HOLE	d
10	AS REQ'D	NUT WITH LOCK NUT, 1/2" & 5/8"	ek
11	1	CROSSARM, 3-5/8" x 4-5/8" x 8'-0"	g
12	2	BOLT, MACHINE, 1/2" x REQUIRED LENGTH	c
13	3	WASHER, ROUND, 1-3/8" DIAMETER, 9/16" HOLE	d
14	1	BOLT, DOUBLE ARMING, 5/8" x REQUIRED LENGTH	n
15	1	EYE SCREW, ELLIPTICAL OR DRIVE HOOK	dq
16	1	ANCHOR SHACKLE	bo
17	6	*GRIP, CABLE SUPPORT	U hc
18	3	15kV RISER CLASS ARRESTER, 8.4kV MCOV	ae
19	1	BRACE SET, WOOD, 60" x 18"	cu
-	AS REQ'D	CABLE RISER SHIELD. LENGTH AS REQUIRED	U gc

- NOTES:**
- \* = SIZE AS PER CONDUCTOR REQUIREMENTS
  - 1. JUMPER SIZE TO MEET OR EXCEED AMPACITY OF UNDERGROUND CABLE.
  - 2. SEE POLE LINE DESIGN FOR GROUNDING STANDARDS.
  - 3. PRIMARY UNIT NOT INCLUDED IN BILL OF MATERIAL. SEE POLE LINE DESIGN FOR ADDITIONAL DETAILS.

REV.	DATE	DESCRIPTION

CITY OF PAINESVILLE, OHIO  
 US 20 ROAD WIDENING  
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JWF	PCT
PROJECT MANAGER	APPROVED BY
DLM	JWP

JOB NO.  
 2022142.01

CU-25

**UG3-1B**  
 15kV CLASS PRIMARY DISTRIBUTION CONSTRUCTION  
 THREE PHASE URD RISER POLE DETAIL  
 SINGLE CONDUIT WITH 600 AMP SINGLE POLE SWITCHES