Attachment B **Construction Plans**

Columbia Gas®
A NiSource Company

INSTALLATION ORDER NUMBER 19-0119235-00
ABANDONMENT ORDER NUMBER N/A
PROJECT ID 18-51682
FORD STREET PIPELINE PROJECT
JOB TYPE: BETTERMENT

PROPOSED FACILITIES - SYSTEM MOP AND PRESSURE TEST DATA	
SYSTEM NUMBER	34002116
SYSTEM NAME	TOLEDO-BELT SYSTEM HP
SYSTEM MOP (PSIG)	145
SEGMENT MAOP (PSIG)	145
MINIMUM TEST PRESSURE (PSIG)	220
MAXIMUM TEST PRESSURE (PSIG)	250

SYSTEM DATA			
	MINIMUM (PSIG/MCFH)	MAXIMUM (PSIG/MCFH)	MAOP
DESIGN PRESSURE	145_PSIG	145_PSIG	145_PSIG
DESIGN FLOW	NA	NA	

DESIGN DATA		
DESIGN FACTOR	0.4	REF. CFR 192.111
DESIGN PRESSURE	145_PSIG	>= INLET MAOP
% SMYS AT DESIGN PRESSURE	11.15%	% SMYS BASED ON: 30"-0.375"WT-X52
MIN. TEST PRESSURE	220_PSIG	(1.5 X DESIGN PRESSURE)
MAX. TEST PRESSURE	250_PSIG	(PER ANSI B16.5)
MIN. TEST DURATION	16_HRS	(PER GS 1500.010)
% SMYS AT MIN. PRESSURE TEST	16.92%	% SMYS BASED ON: 30"-0.375"WT-X52
% SMYS AT MAX. PRESSURE TEST	19.23%	% SMYS BASED ON: 30"-0.375"WT-X52
% SMYS AT MAOP	11.15%	% SMYS BASED ON: 30"-0.375"WT-X52
MAOP LIMITING ELEMENT	PRESSURE_TEST	
TEST MEDIUM	AIR/INERT_GAS	
% X-RAY	PER_GS	

PROJECT INFORMATION

DESIGN ENGINEER:	JAMES CULBERTSON
PROJECT MANAGER:	DOUG TOMSIC
PERMITS:	CITY OF MAUMEE STATE PERMITS ENVIRONMENTAL PERMITS OPSB LON
TCC:	1121
COUNTY:	LUCAS
TAX DISTRICT/TOWNSHIP ID:	0480240/0480250
MAP NUMBER:	7276604M 7276604N 7276604I 7276604E 7276604F
SYSTEM NUMBER(S):	34002116
24 HR. EMERGENCY LINE:	COLUMBIA GAS OF OHIO 1-800-344-4077

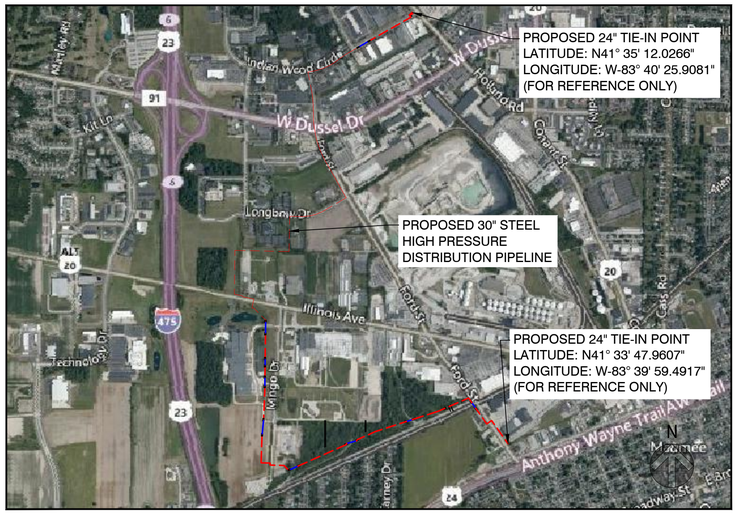
VALVES PLANNED FOR ABANDONMENT

VALVE NO.	FACILITY ID	LOCATION DESCRIPTION	ABANDONED VALVE INSERTED?		DISPOSITION			
			YES*	NO	VALVE REMOVED (NO BOX, ABOVE GROUND VALVE)	VALVE, VALVE BOX & LID REMOVED	VALVE REMAINS IN PLACE; BOX & LID REMOVED	VALVE REMAINS IN PLACE; BOX FILLED W/ CONCRETE
#								
#								
#								
#								
#								

* - IF "YES," APPROVAL AND REASON ARE REQUIRED AND SHALL BE DOCUMENTED.
NOTE: IF VALVE COULD NOT BE LOCATED, MAKE APPLICABLE COMMENT IN ABOVE TABLE.

VICINITY MAP

SCALE: 1"=1500'-0"



PROJECT DESCRIPTION

PROJECT GOAL IS TO INSTALL A REDUNDANT HP FEED THAT CONNECTS TO THE FORD ROAD, ANR, AND PANHANDLE STATIONS THAT FEEDS THE TOLEDO MARKET

SHEET INDEX

PROJECT SUMMARY TABLE

PROPOSED INSTALLATION			PROPOSED ABANDONMENT		
LENGTH (FT)	SIZE (IN)	TYPE	LENGTH (FT)	SIZE (IN)	TYPE
19,125	30	CS - HP	0		
190	24	CS - HP	0		
14	20	CS - HP	0		
57	6	CS - HP			
19,386	TOTAL INSTALLATION (FEET)		0	TOTAL ABANDONMENT (FEET)	

GENERAL NOTES

1. THE PROPOSED GAS FACILITY LOCATIONS SHOWN ARE APPROXIMATE AND IS SUBJECT TO CHANGE.
2. OWNERSHIP, SHOWN FEATURES AND PROPERTY INFORMATION SHOWN HEREON IS BASED ON A COMPILATION OF INFORMATION FROM PLANS, COUNTY TAX MAPS, LANDOWNER TESTIMONY AND LIMITED SURVEY COLLECTION ON THE GROUND, AND IS FOR INFORMATIONAL PURPOSES ONLY. THESE PLANS IN NO WAY REFLECT A BOUNDARY SURVEY MADE IN ACCORDANCE WITH THE MINIMUM TECHNICAL STANDARDS FOR BOUNDARY SURVEYS UNDER THE RULES AND REGULATIONS OF THE STATE OF OHIO.
3. EXISTING UTILITIES WHERE SHOWN, HAVE BEEN COMPILED FROM ABOVE GROUND EVIDENCE ONLY AND ARE TO BE CONSIDERED APPROXIMATE. COLUMBIA GAS DOES NOT GUARANTEE THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN OR THAT ALL EXISTING UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES IN THE AREA OF WORK PRIOR TO CONSTRUCTION BY UTILIZING THE STATES ONE CALL SYSTEM AND OTHER NECESSARY METHODS.
4. FOR ENVIRONMENTAL CONTROLS, PLEASE REFERENCE THE STORM WATER POLLUTION PREVENTION PLAN.
5. FOR CORROSION CONTROLS, PLEASE SEE _____.

NiSource

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

NOT FOR CONSTRUCTION
PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:
INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682
FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:
TITLE SHEET

DRAWING NO:
T-1

1/29/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-T1.DWG 8/15/2022 11:43 AM JRCULBERTSON

General Notes

1. Deviation from NiSource CAD Standards is at discretion of reviewing Professional Engineer.
2. Refer to project documentation for the associated Environmental Compliance Plan (ECP) and any project-specific documentation.
3. The proposed gas facility locations shown are approximate and is subject to change.
4. Property lines, structures, street lines, etc. were compiled using the NiSource GIS and are to be considered approximate and not to scale.
5. Existing utilities, where shown, have been compiled from above ground evidence only and are to be considered approximate. NiSource does not guarantee the location of the underground utilities shown or that all existing utilities and/or subsurface structures are shown.
6. This project will adhere to all applicable federal, state or local permitting requirements for abandonment and installation of natural gas pipelines. All Federal, State, and Local codes and standards will be adhered including, but not limited to, the following:
   - **Code of Federal Regulations (CFR)**
     - 49 CFR 192 Pipeline Safety Regulations
     - 29 CFR 1910 Occupational Safety and Health Administration (OSHA)
   - **American Society of Mechanical Engineers (ASME)**
     - ASME B31.8 Gas Transmission and Distribution Piping Systems

All NiSource design codes and standards will be adhered to as applicable. These standards include but are not limited to the following (note state-specific designations where applicable):

GS 1100.010(IN, KY, MA, MD, OH, PA, VA) Locating Gas Facilities
GS 1100.040(MA and VA only) Damage Prevention When Using Conventional Excavation Technologies
GS 1100.050(IN, OH, VA) Damage Prevention - Using Trenchless Technology
GS 1170.010(IN) Gas Control Room Management
GS 1210.010(MA) Nondestructive Testing And Visual Inspection
GS 1300.010 Fusion And Mechanical Joining
GS 1301.010 Plastic Pipe Fusion And Mechanical Joining Qualification Of Personnel
GS 1302.010(VA) Butt Fusion Joining
GS 1304.010 Electrofusion Joining
GS 1320.010 Mechanical Coupling Connections
GS 1323.010 Flange Connections
GS 1400.010 Corrosion Control - General
GS 1410.010(VA) Metallic Pipeline Exposures
GS 1420.035 Coating Repair Methods For Mill Applied Coatings
GS 1420.040 Coating Methods For Girth Welds, Fittings, Risers & Other Below Grade Appurtenances
GS 1420.410 Corrosion Control - Inspection Of Steel Pipe Coating
GS 1420.510 Installation Of Galvanic Anodes
GS 1420.520 Installation Of Test Stations
GS 1430.320 Ultrasonic Thickness Gauge
GS 1500.010(MA, OH) Pressure Testing
GS 1670.020(IN, KY, MA, MD) Odor Level Monitoring
GS 1670.040 Pipeline Conditioning New Pipelines
GS 1680.010 Tie-Ins And Tapping Pressurized Pipelines
GS 1680.020 Plastic To Steel Transition Connections
GS 1680.040 Squeeze Off Procedure For Plastic Pipe
GS 1680.050 Squeeze Off Guidelines For Steel Pipe
GS 1690.010 Purging
GS 1708.020(IN, KY, MA, MD, PA) Leakage Surveys
GS 1740.010(MA, OH, PA, VA) Abandonment Of Facilities
GS 1740.012(MA, PA) Abandoning Facilities - Service Tee Removal
GS 1742.010(VA) Discontinuing Gas Service
GS 1754.010(KY, OH) Operation And Maintenance Of Pressure Gauges
GS 1770.010 Prevention Of Accidental Ignition
GS 1782.010(MA) Protecting Cast Iron Pipelines
GS 2100.010 Design - General
GS 3000.020(VA) Inspection Of Materials
GS 3000.900 Work Site Restoration
GS 3010.030 Bends And Elbows
GS 3010.050(IN, MA) Installation Of Pipe In A Ditch
GS 3010.060(IN) Installation Of Plastic Pipe
GS 3010.080(MA, OH, VA) Underground Clearance
GS 3010.090(IN, MA, PA, VA) Transmission Lines And Distribution Mains - Cover
GS 3010.100(VA) Transmission Lines And Distribution Mains - Trenchless Technology
GS 3010.102(VA) Directional Boring
GS 3010.210(MA only) Use Of End Caps On Steel Pipe
GS 3020.030 Service Line Connections To Main Piping
HSE 4440.020 Environmental Construction Standards

7. Prior to beginning any excavation on site, the person responsible for earth moving shall notify utility owners of their intent to excavate and to have the exact locations of the utility lines marked by contacting the one call center in their state subject to any applicable state advance notification requirements.
8. Proposed or completed gas facility installation location references may be indicated by a combination of the following codes:

F - FRONT	CLP - CENTER OF PAVEMENT	D - DRIVEWAY EDGE
BK - BACK	CLR - CENTER OF RIGHT-OF-WAY	EP - EDGE OF PAVEMENT
L - LEFT	CEL - CENTER OF EASTBOUND LANE	ES - EDGE OF SIDEWALK
R - RIGHT	CWL - CENTER OF WESTBOUND LANE	PL - PROPERTY LINE
B - BUILDING EDGE	CNL - CENTER OF NORTHBOUND LANE	
CU - CURB	CSL - CENTER OF SOUTHBOUND LANE	

DRAWING LEGEND

Gas Main Symbology
- Existing Gas Main
- Existing Gas Transmission
- Existing Gas Main to Be Abandoned
- Proposed Gas Main
- Proposed Gas Main (Bore)

Gas Main Material/Pressure Label References

MATERIAL CODES
- CS* Coated Steel Gas Main
- CI* Cast Iron Gas Main
- BS* Bare Steel Gas Main
- WI* Wrought Iron Gas Main
- PH* High Density Polyethylene Gas Main
- PM* Medium Density Polyethylene Gas Main

PRESSURE CODES
- *LP Low Pressure
- *IP Intermediate Pressure
- *MP Medium Pressure
- *HP High Pressure

MISCELLANEOUS CODES
- *-SER Service
- *-R Riser
- (TC) Transmission Class

Gas Main Installation Method Label References
- AT Attached
- BH Bridge Hanger
- BLGH Building Hanger
- DB Directional Bore
- IS Inserted
- OC Open Cut
- PB Pneumatic Bore
- PL Plowed
- RT Roof Top
- (E) Existing
- (P) Proposed

- W1 Weld Location
- T1 Gas Main Tie-in Location
- A1 Gas Main Abandonment Location

Erosion Control Symbology
- Ditch
- Stream
- Wetland
- Wetland Crossing/Open Cut BMPs
- Construction Matting
- Tracking Control
- Perimeter Sediment Controls
- Dewatering Area
- Rock Ditch Check
- SCE Construction Entrance
- Buoyancy Control

Gas Facility Symbology
- x"GV Gas Valve (Gate - GV, Plug - PV, PE Ball - BP, ST Ball - BV)
- x"PV Critical Gas Valve
- x"HVTT High Volume Tapping Tee
- x"SST Pressure Control Fitting - ShortStopp Tee
- x"SPH Pressure Control Fitting - Spherical Tee
- x"MF-BO Pressure Control Fitting - Mueller Bottom-out
- x"MF-SO Pressure Control Fitting - Mueller Side-out
- x"MF-FT Pressure Control Fitting - Mueller Flange Tee
- x"SS Pressure Control Fitting - ShortStopp
- x"MF Pressure Control Fitting - Mueller Stopper
- Polytapp Side Saddle Fitting
- Transition
- End Cap
- Riser
- Reducer
- EM Electronic Marker
- TWS Flush-mounted Tracer Wire Station
- Post Pipeline Marker with Tracer Wire
- MM Gas Main Marker without Tracer Wire
- W Test Well
- R Regulator Station
- R Single Customer Regulator
- M Meter
- MR Meter with Regulator
- Test Point (Station)
- T Gas Service Tie-over
- R Gas Service Replacement
- MMO Meter Move Out

Swing Tie Symbology
- T Telephone Manhole
- D Drain Manhole
- E Electric Manhole
- Catch Basin
- S Sewer Manhole
- Fire Hydrant
- Utility Pole
- Property Marker
- T Telephone Pedestal
- C Television Pedestal
- U Unknown Manhole
- WB Water Box
- WG Water Gate
- E Electric Pedestal
- IP Iron Pin
- Light Pole

NiSource

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REVISIONS		
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REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
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FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:
GENERAL NOTES

DRAWING NO:
GN-1

1/29/2020 - 22x34

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Know what's **below.**
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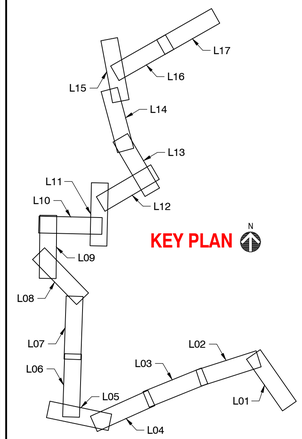

KEY PLAN

NOT FOR CONSTRUCTION

0 500 1000
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	**DATE**	**DESCRIPTION**

DESIGNED BY	J. CULBERTSON	04/08/2020	X
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	X
AS-BUILT BY	TBD	TBD	X
	NAME	**DATE**	**PHONE #**

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

OVERVIEW SHEET

DRAWING NO:

O-1

1/28/2020 - 22x34

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BILL OF MATERIALS

STOCK NO.	ITEM	QTY.	SIZE	DESCRIPTION	CATEGORY	MAXIMUM ALLOWED PRESSURE (PSIG)
SPECIAL ORDER	1	17,605'	30"	PIPE, B.E., 0.375" STD WALL, GRADE X-52, FBE COATING PER CORROSION RECOMMENDATIONS, C.S., SAWL, API-5L, DRL	PIPE	260*
SPECIAL ORDER	2	1,520'	30"	PIPE, B.E., 0.375" STD WALL, GRADE X-52, FBE W/ PC COATING PER CORROSION RECOMMENDATIONS, C.S., SAWL, API-5L, DRL	PIPE	260*
SPECIAL ORDER	3	190'	24"	PIPE, B.E., 0.375" STD WALL, GRADE X-52, FBE COATING, PER CORROSION RECOMMENDATIONS, C.S., ERW, API-5L, DRL	PIPE	325*
07-52-2000	4	14'	20"	PIPE, B.E., 0.375" STD WALL, GRADE X-52, BARE, C.S., ERW, API-5L, DRL	PIPE	390*
07-52-060	5	57'	6"	PIPE, P.E., 0.432" XS WALL, GRADE X-52, BARE, C.S., ERW, API-5L, DRL	PIPE	1357*
SPECIAL ORDER	6	2	30"	VALVE, BALL, CAMERON T-31, 30", ANSI 150, FULL PORT, WELD END, API 6D, W/ 24" PUPS TO MATCH 30" 0.375" X-52	VALVE	275
SPECIAL ORDER	7	2	30"	VALVE, BALL, CAMERON T-31, 30", ANSI 150, FULL PORT, WELD END, API 6D, W/ 24" PUPS TO MATCH 30" 0.375" X-52, W/ 8.5 FT STEM EXTENSIONS	VALVE	275
SPECIAL ORDER	8	2	24"	VALVE, BALL, CAMERON T-31, 24", ANSI 150, FULL PORT, WELD END, API 6D, W/ 24" PUPS TO MATCH 30" 0.375" X-52	VALVE	275
SPECIAL ORDER	9	5	24"	VALVE, BALL, CAMERON T-31, 24", ANSI 150, FULL PORT, WELD END, API 6D, W/ 24" PUPS TO MATCH 30" 0.375" X-52, W/ 8.5 FT STEM EXTENSIONS	VALVE	275
SPECIAL ORDER	10	2	20"	VALVE, BALL, CAMERON T-31, 20", ANSI 150, FULL PORT, WELD END, API 6D, W/ 24" PUPS TO MATCH 30" 0.375" X-52	VALVE	275
SPECIAL ORDER	11	6	6"	VALVE, PLUG, NORDSTROM, 6", ANSI 600, WELD END BY FLANGE END, API 6D, CS BODY, SCHEDULE 80, WELD END TO MATCH 0.432" XS WALL GRADE X-52 PIPE	VALVE	275
SPECIAL ORDER	12	23	30"	ELBOW, WELDING, 90 DEG., L.R., Y-52, 0.375" STD WALL, FULLY SEGMENTABLE, MSS SP-75, ENDS BEVELED PER ASME B31.8	FITTING	260*
SPECIAL ORDER	13	118	30"	ELBOW, WELDING, 45 DEG., L.R., Y-52, 0.375" STD WALL, FULLY SEGMENTABLE, MSS SP-75, ENDS BEVELED PER ASME B31.8	FITTING	260*
SPECIAL ORDER	14	2	30" X 24"	REDUCER, WELDING, CONCENTRIC, Y-52, 0.375" STD WALL BOTH ENDS, MSS SP-75, ENDS BEVELED PER ASME B31.8	FITTING	260*
SPECIAL ORDER	15	4	30" X 24"	TEE, REDUCING, Y-52, 30" RUN BY 24" BRANCH, 0.375" STD WALL BOTH ENDS, MSS SP-75, ENDS BEVELED PER ASME B31.8	FITTING	260*
SPECIAL ORDER	16	2	30" X 20"	TEE, REDUCING, Y-52, 30" RUN BY 20" BRANCH, 0.375" STD WALL BOTH ENDS, MSS SP-75, ENDS BEVELED PER ASME B31.8	FITTING	260*
SPECIAL ORDER	17	6	30" X 16"	TEE, REDUCING, Y-52, 30" RUN BY 16" BRANCH, 0.375" STD WALL RUN BY 0.500" XS WALL BRANCH , MSS SP-75, ENDS BEVELED PER ASME B31.8	FITTING	260*
SPECIAL ORDER	18	3	24"	SPHERICAL, 3 WAY TEE, 24", ANSI 150, 275 PSIG @ 0.4 DESIGN FACTOR, ORDER TO INCLUDE COMPLETION PLUG AND BLIND FLANGE KIT, MANUFACTURER TO BE DETERMINED	FITTING	275
SPECIAL ORDER	19	3	24"	INSULATOR, WELD END, GPT ELECTROSTOP, 0.375" WALL, ANSI 150, 275# W.P.	FITTING	275
SPECIAL ORDER	20	4	24"	ELBOW, WELDING, 90 DEG., L.R., Y-52, 0.375" STD WALL, FULLY SEGMENTABLE, MSS SP-75, ENDS BEVELED PER ASME B31.8	FITTING	325*
SPECIAL ORDER	21	2	24"	TEE, Y-52, 0.375" STD WALL, MSS SP-75, ENDS BEVELED PER ASME B31.8	FITTING	325*
SPECIAL ORDER	22	3	24"	CAP, WELDING, Y-52, 0.375" STD WALL, MSS SP-75, ENDS BEVELED PER ASME B31.8	FITTING	325*
SPECIAL ORDER	23	6	16" X 6"	REDUCER, WELDING, CONCENTRIC, Y-52, 0.375" STD WALL BY 0.432" XS WALL, MSS SP-75, ENDS BEVELED PER ASME B31.8	FITTING	488*
SPECIAL ORDER	24	2	24"	FLANGE, WELD NECK, FF, ANSI 150, STD BORE, A694, MSS SP-44, GRADE F52, 20 BOLTS PER FLANGE	FLANGE	275
SPECIAL ORDER		40	1-1/4" X 7"	STUD BOLT, ASTM A-193-B7, W/ 2 HEX NUTS ASTM A-194-2H	BOLTS	N/A
SPECIAL ORDER		2	24"	GASKET, FLAT RING, ANSI 150, 1/16" THICK, GARLOK3000	GASKET	275
19-65-434	25	2	20"	FLANGE, WELD NECK, FF, ANSI 150, STD BORE, A694, MSS SP-44, GRADE F52, 20 BOLTS PER FLANGE	FLANGE	275
28-46-653		40	1-1/8" X 6.5"	STUD BOLT, ASTM A-193-B7, W/ 2 HEX NUTS ASTM A-194-2H	BOLTS	N/A
SPECIAL ORDER		2	20"	GASKET, FLAT RING, ANSI 150, 1/16" THICK, GARLOK3000	GASKET	275
19-65-278	26	6	6"	FLANGE, WELD NECK, RF, ANSI 600, BORED TO 0.432" XS WALL, A694, MSS SP-44, GRADE F52, 8 BOLTS PER FLANGE	FLANGE	1440
28-46-601		72	1" X 7"	STUD BOLT, ASTM A-193-B7, W/ 2 HEX NUTS ASTM A-194-2H	BOLTS	N/A
40-73-0871		6	6"	GASKET, FLAT RING, ANSI 600, 1/16" THICK, GARLOK3000	GASKET	1440
17-52-0620	27	6	6"	TEE, Y-52, 0.432" XS WALL, MSS SP-75, ENDS BEVELED PER ASME B31.8	FITTING	1357*
17-52-0615	28	6	6"	ELBOW, WELDING, 45 DEG., L.R., Y-52, 0.432" XS WALL, FULLY SEGMENTABLE, MSS SP-75, ENDS BEVELED PER ASME B31.8	FITTING	1357*
SPECIAL ORDER	29	6	6"	CLOSURE, WELD ON ASSEMBLY, ANSI 150, YALE FIGURE 500, W/ PRESSURE ALERT VALVE, 275# W.P. @ 0.4 DESIGN FACTOR, ENDS TO MATCH 6" 0.432" XS WALL GRADE X-52 PIPE	FITTING	275
SPECIAL ORDER	30	21	2"	PURGE FITTING, TD WILLIAMSON, TOR, ASTM A-333 GR 6, 6" OR LARGER PIPE, TR-000-0001-00	PURGE FITTING	3600
SPECIAL ORDER	31	4	30"	SUPPORT, EZ-LINE, TYPE WSBC-01, ADJUSTABLE SUPPORT SHIM BLOCK WITH CLAMP FOR 30" PIPE, 1/8" THICK PVC LINING, STEEL BASE PLATE WITH 4 SLOTTED HOLES, GALVANIZED COATED	SUPPORT	N/A
SPECIAL ORDER	32	2	24"	SUPPORT, EZ-LINE, TYPE WSBC-01, ADJUSTABLE SUPPORT SHIM BLOCK WITH CLAMP FOR 24" PIPE, 1/8" THICK PVC LINING, STEEL BASE PLATE WITH 4 SLOTTED HOLES, GALVANIZED COATED	SUPPORT	N/A
SPECIAL ORDER	33	2	20"	SUPPORT, EZ-LINE, TYPE WSBC-01, ADJUSTABLE SUPPORT SHIM BLOCK WITH CLAMP FOR 20" PIPE, 1/8" THICK PVC LINING, STEEL BASE PLATE WITH 4 SLOTTED HOLES, GALVANIZED COATED	SUPPORT	N/A
SPECIAL ORDER	34	2	24"	FLANGE, BLIND, RF, ANSI 150, A105		275
SPECIAL ORDER	35	2	20"	FLANGE, BLIND, RF, ANSI 150, A105		275
SPECIAL ORDER	36	4	2"	VALVE,PLUG, 2" NPS, ANSI 150, FNPT, CS BODY, ANSI B16.34, LEVER, REGULAR PATTERN, PRESSURE BALANCED		275
24-07-058	37	6	2" X 6"	NIPPLE, PIPE, 2" DIA X 6" LONG, XH, BLK CS, SMLS, TBE, A106, GR B		1286*
26-73-024	38	2	2"	TEE, THREADED, 2" FNPT, 3000#, BLK CS, SA105		3000
26-58-445	39	4	2"	PLUG, HEX HEAD, 2", 6000#, BLK CS, THD, SA105		6000
26-58-430	40	14	1"	PLUG, HEX HEAD, 1", 6000#, BLK CS, THD, SA105		6000
24-21-1202	41	14	1" X 3"	NIPPLE, PIPE, 1" DIA X 3" LONG, XH, BLK CS, SMLS, TBE, A106, GR B		1906*
16-05-132	42	14	1"	VALVE, BALL, KF CONTROMATICS, S8000-M3, 2000WOG, 316SS, FP, 2PC, THD		2000
SPECIAL ORDER	43	8	1"	THREADOLET, 36-12" RUN, 1" BRANCH, THD, CS, 3000#, ATSM A-694, GRADE X52		260*
SPECIAL ORDER	44	6	1"	THREADOLET, 10-6" RUN, 1" BRANCH, THD, CS, 3000#, ATSM A-694, GRADE X52		1357*

NOTES:
1) MATERIAL LIST IS PRELIMINARY AND SUBJECT TO CHANGE PRIOR TO ISSUING IFC DESIGN
2) MAXIMUM ALLOWED PRESSURE LISTED WITH AN ASTERISK (*) INDICATES THE PRESSURE AT 20% SMYS

NiSource

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

NOT FOR CONSTRUCTION

PROPOSED

REVISIONS

REV. #	DATE	DESCRIPTION
H	08/17/2022	REISSUED FOR BID

	NAME	DATE	PHONE #
DESIGNED BY	J. CULBERTSON	08/10/2020	614-453-7832
DRAWN BY	J. MCKOWN	07/24/2020	X
CHECKED BY	C. SIOK	08/10/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

BILL OF MATERIALS

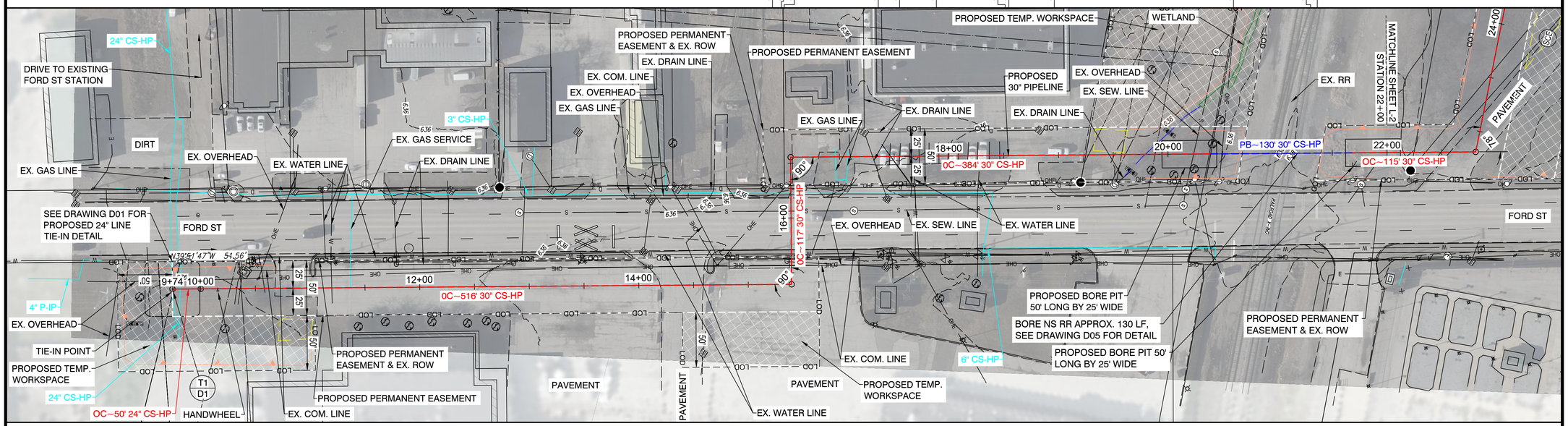
DRAWING NO:

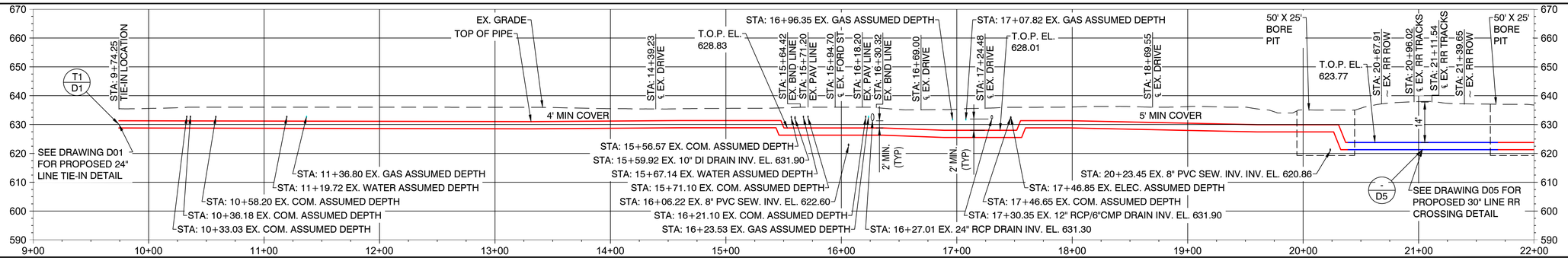
M-1

1:(36/2020) - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-M1.DWG 8/15/2022 11:55 AM JRCULBERTSON

INSTALL NOTE:
1°-9°-FIELD BEND
10" & UP-FITTING





1:20/2020 - 20x34

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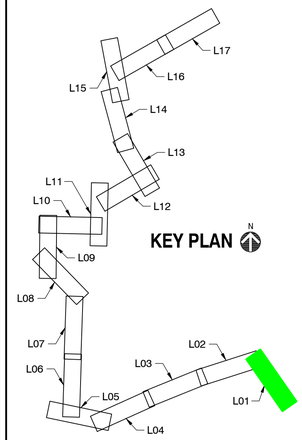
NiSource

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



NOT FOR CONSTRUCTION

N

0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

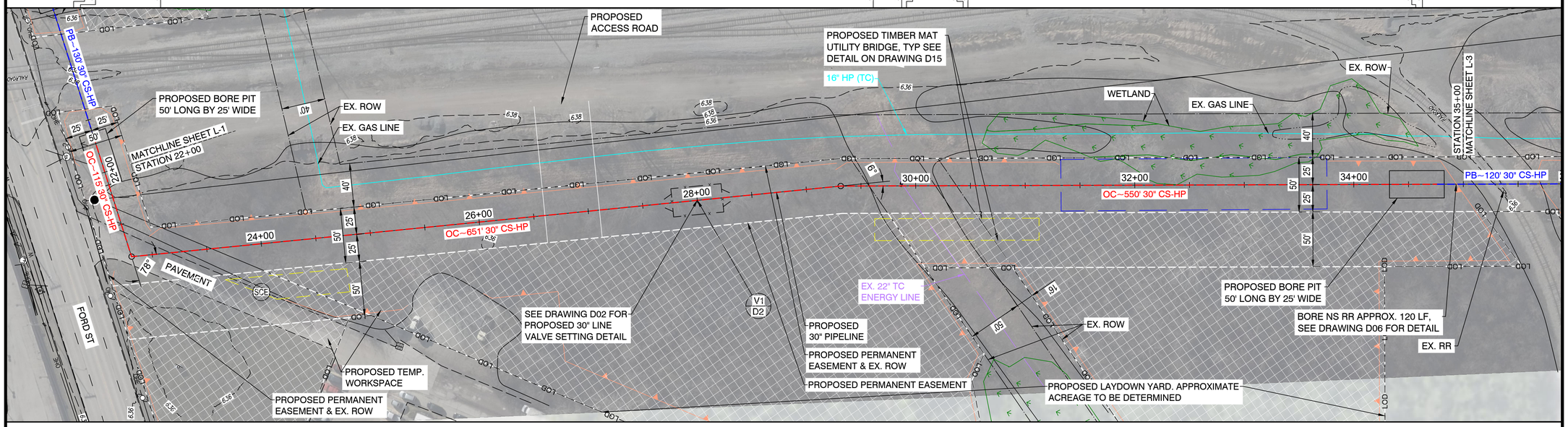
DRAWING TITLE:

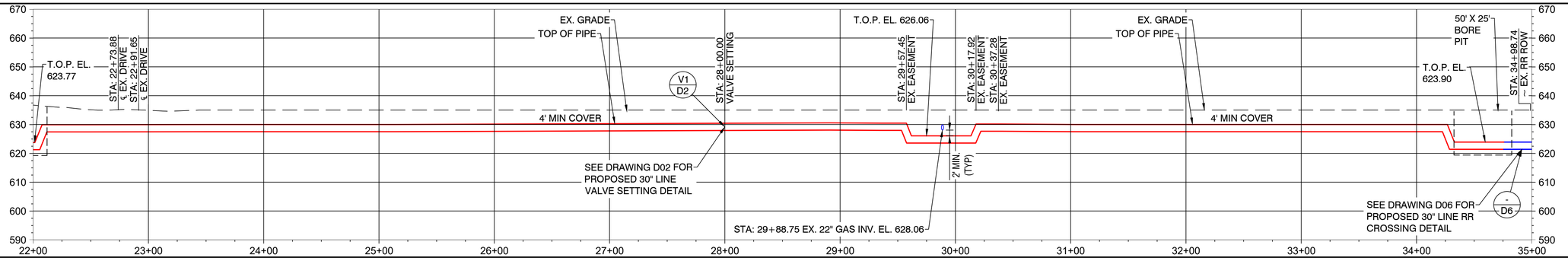
LAYOUT SHEET

DRAWING NO:

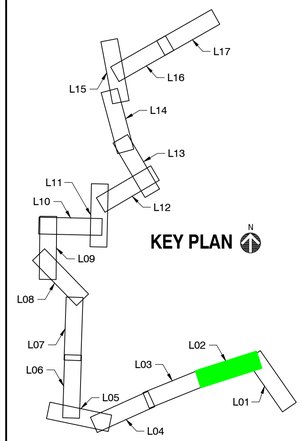
L01

INSTALL NOTE:
1"-9"-FIELD BEND
10" & UP-FITTING





Know what's below.
Call before you dig.



NOT FOR CONSTRUCTION

N
0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

DRAWING NO:

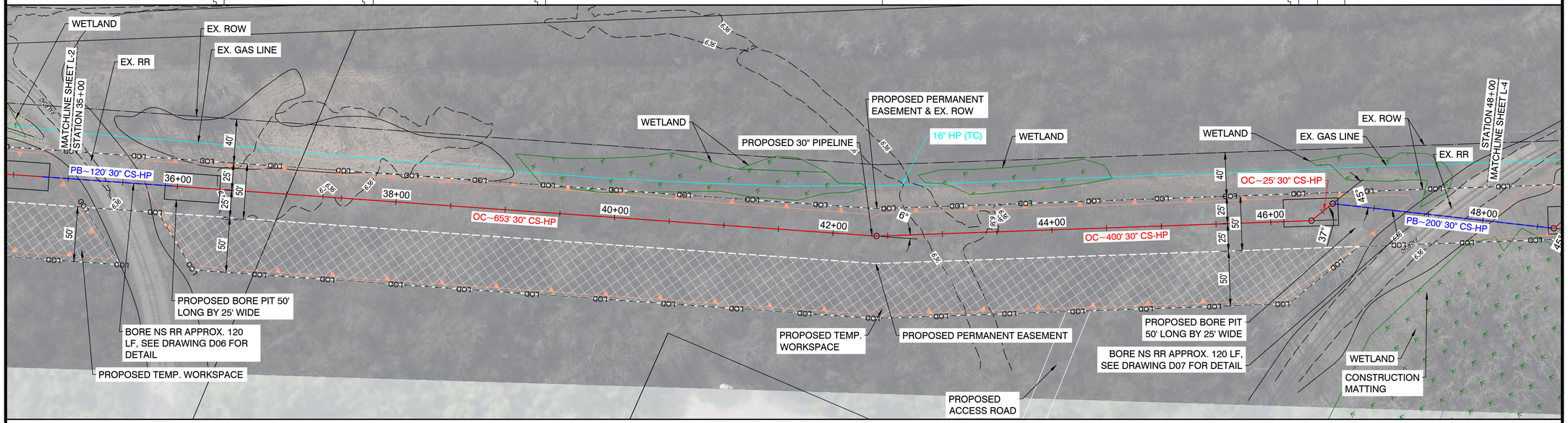
L02

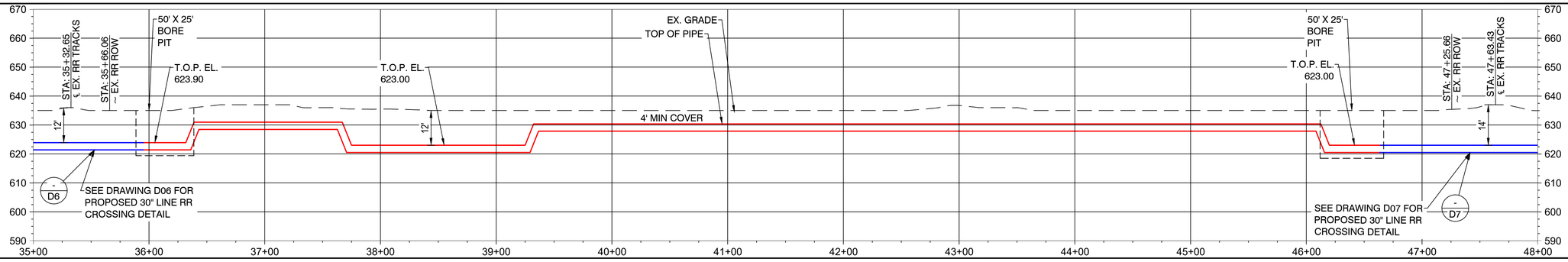
1:/09/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

INSTALL NOTE:
1°-9°-FIELD BEND
10° & UP-FITTING

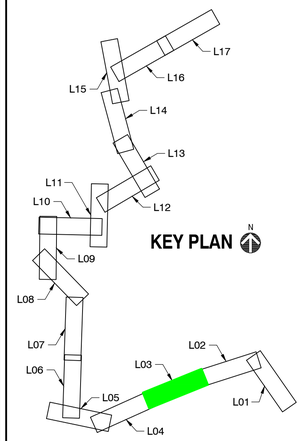
STA: 36+31.88 45° FTG
STA: 36+38.95 45° FTG
STA: 37+67.02 45° FTG
STA: 37+75.00 45° FTG
STA: 39+25.00 45° FTG
STA: 39+32.37 45° FTG
STA: 42+39.78 6° TURN
STA: 46+12.54 45° FTG
STA: 46+19.91 45° FTG
STA: 46+37.08 37° TURN
STA: 46+61.89 45° TURN





NiSource

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



NOT FOR CONSTRUCTION

N
0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

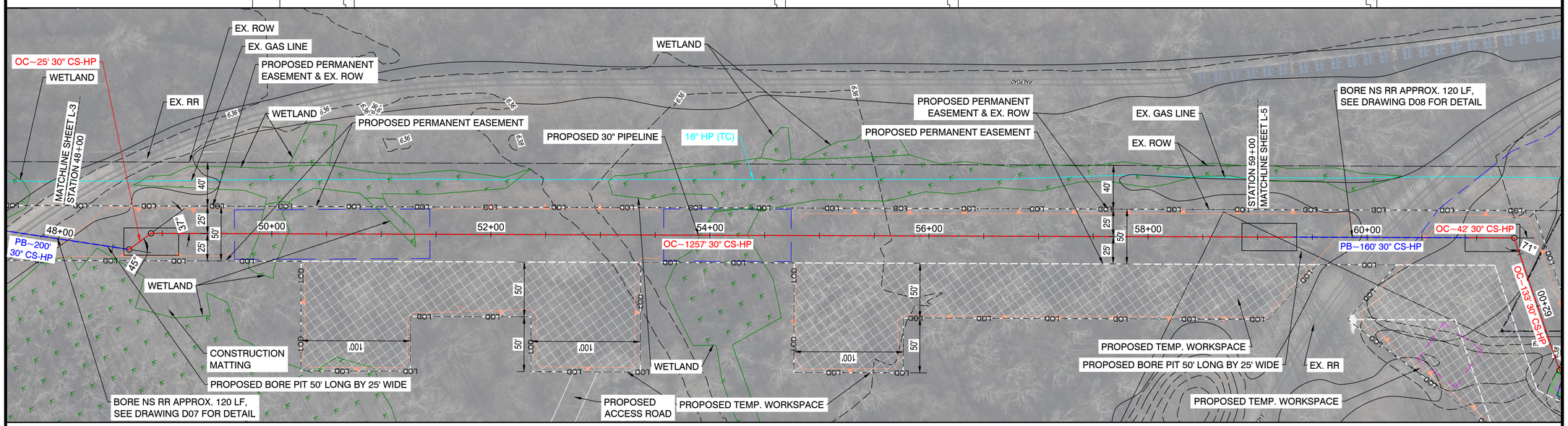
DRAWING NO:

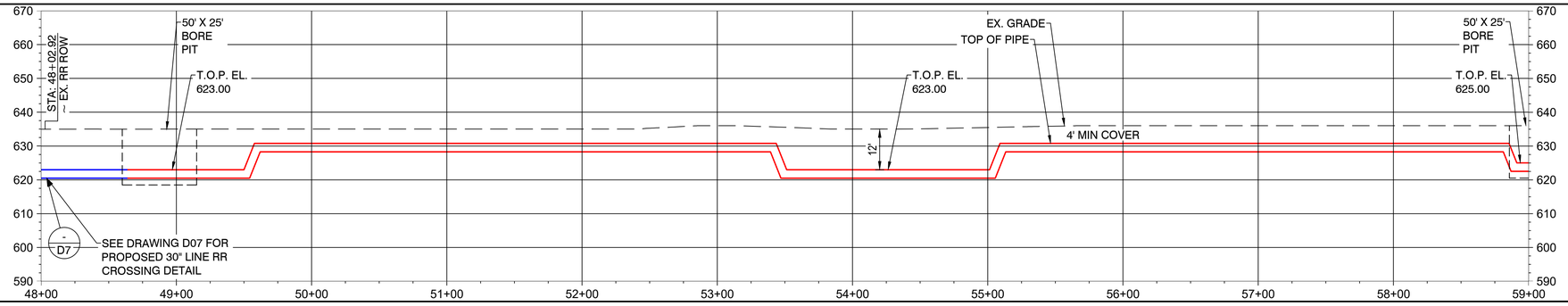
L03

1/29/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

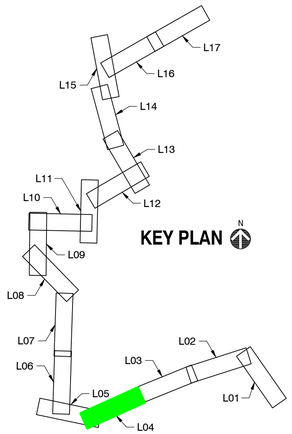
INSTALL NOTE:
1°-9°-FIELD BEND
10" & UP-FITTING





NiSource

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



NOT FOR CONSTRUCTION

N

0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	**DATE**	**DESCRIPTION**

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	**DATE**	**PHONE #**

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

DRAWING NO:

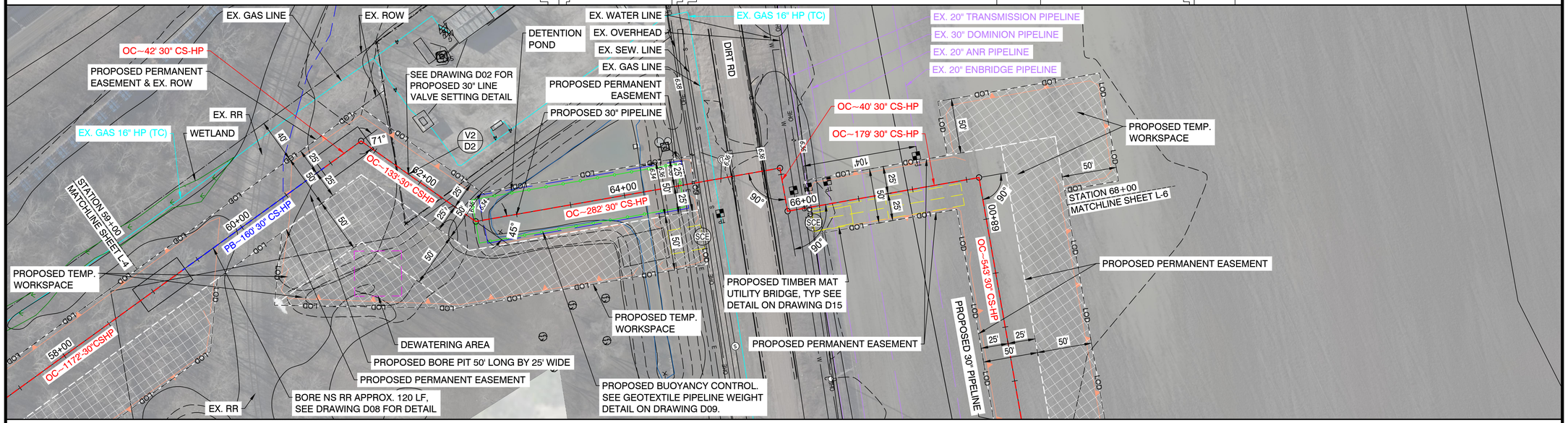
L04

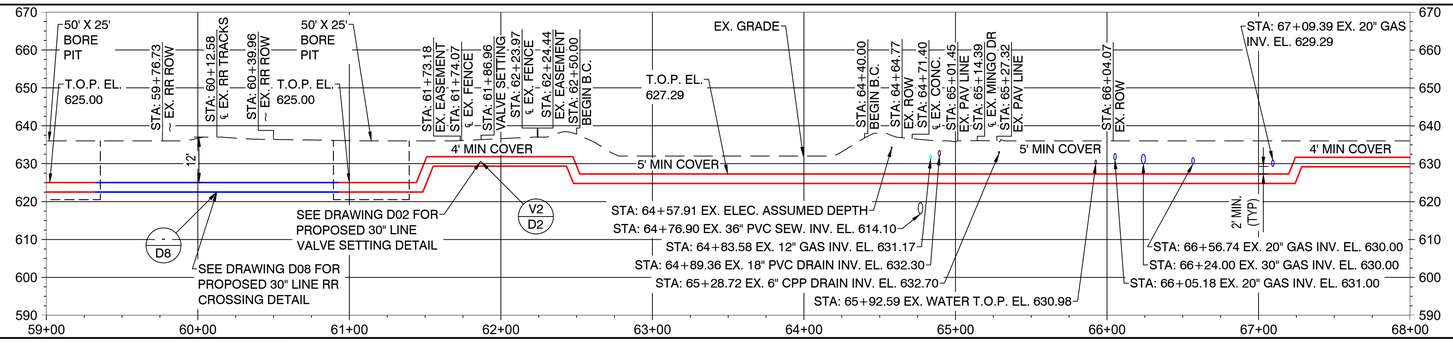
1:/09/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

INSTALL NOTE:
1°-9°-FIELD BEND
10" & UP-FITTING

STA: 61+34.25 71° TURN
STA: 61+44.25 45° FTG
STA: 61+51.12 45° FTG
STA: 62+47.55 45° FTG
STA: 62+52.12 45° FTG
STA: 62+62.11 45° TURN
STA: 65+44.07 90° TURN
STA: 65+84.07 90° TURN
STA: 67+19.87 45° FTG
STA: 67+24.27 45° FTG
STA: 67+61.54 90° TURN





NOTES:

1. COLUMBIA GAS MUST NOTIFY GPLLC SEVENTY-TWO (72) HOURS PRIOR TO MOBILIZING AND ENTERING UPON GPLLC RIGHT-OF-WAY TO PERFORM CONSTRUCTION OF THE PERMITTED ACTIVITIES. SUCH NOTIFICATION SHALL BE MADE TO AREA SUPERVISOR ROY GLASGOW BY CALLING (337) 288-0722.

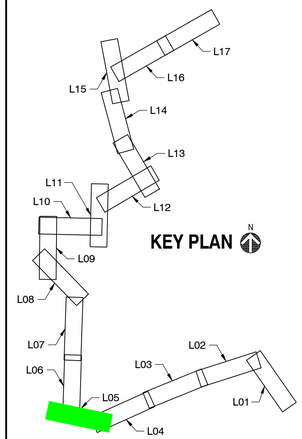
2. COLUMBIA GAS MUST NOTIFY GPLLC OF ANY PLANS TO DEMOBILIZE PRIOR TO COMPLETION OF CONSTRUCTION OF THE PERMITTED ACTIVITIES. COLUMBIA GAS MUST NOTIFY GPLLC SEVENTY-TWO (72) HOURS PRIOR TO RE-MOBILIZING AND ENTERING UPON GPLLC RIGHT-OF-WAY TO COMPLETE CONSTRUCTION OF THE PERMITTED ACTIVITIES.

3. COLUMBIA GAS ACKNOWLEDGES THAT NO HEAVY EQUIPMENT, SUCH AS DRILLING EQUIPMENT AND SUPPORT VEHICLES, CONTAINER TRUCKS, FORKLIFTS, BACKHOES, BULLDOZERS, ETC. SHALL PARK ON THE GPLLC PIPELINE RIGHT-OF-WAY.

4. COLUMBIA GAS ACKNOWLEDGES THAT NO HEAVY EQUIPMENT, SUCH AS DRILLING EQUIPMENT AND SUPPORT VEHICLES, CONTAINER TRUCKS, FORKLIFTS, BACKHOES, BULLDOZERS, ETC. SHALL CROSS THE GPLLC PIPELINE RIGHT-OF-WAY WITHOUT WRITTEN PERMISSION FROM GPLLC. PLEASE COORDINATE EQUIPMENT CROSSING WITH THE FIELD OR WITH SARAH DILLON (sarah.dillon@enbridge.com).

NiSource

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



NOT FOR CONSTRUCTION

N
0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

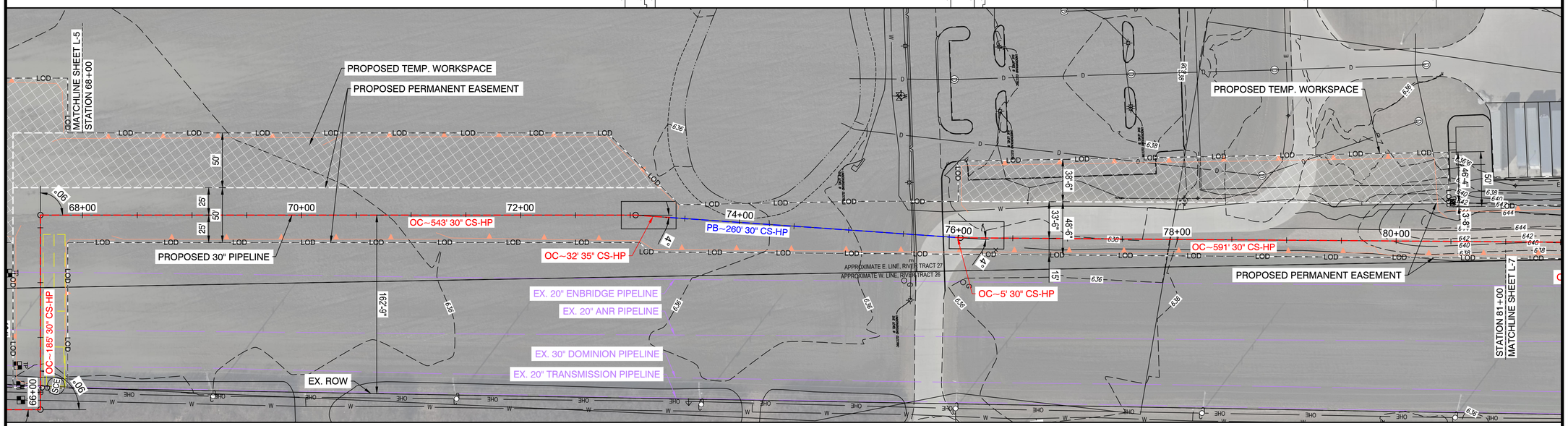
DRAWING NO:

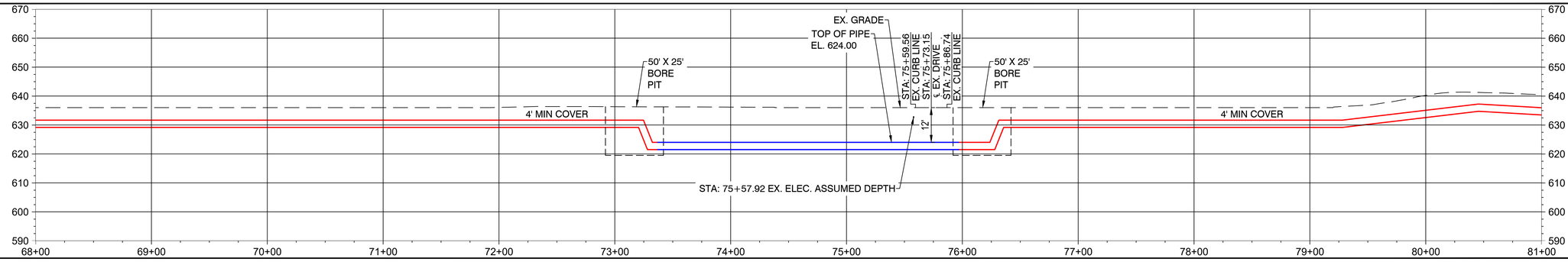
L05

1:09/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

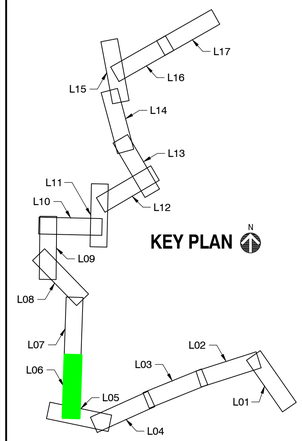
INSTALL NOTE:
1°-9°-FIELD BEND
10" & UP-FITTING





1:09/2020 - 20x34

Know what's below.
Call before you dig.



NOT FOR CONSTRUCTION

N

0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

DRAWING NO:

L06

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

INSTALL NOTE:
1°-9°-FIELD BEND
10° & UP-FITTING

STA: 81+62.93 1.3° SAG
STA: 81+89.67 1.5° TURN
STA: 82+44.47 45° FTG
STA: 82+55.03 45° FTG
STA: 84+78.06 45° FTG
STA: 84+85.43 45° FTG
STA: 86+55.13 45° FTG
STA: 86+62.85 45° FTG
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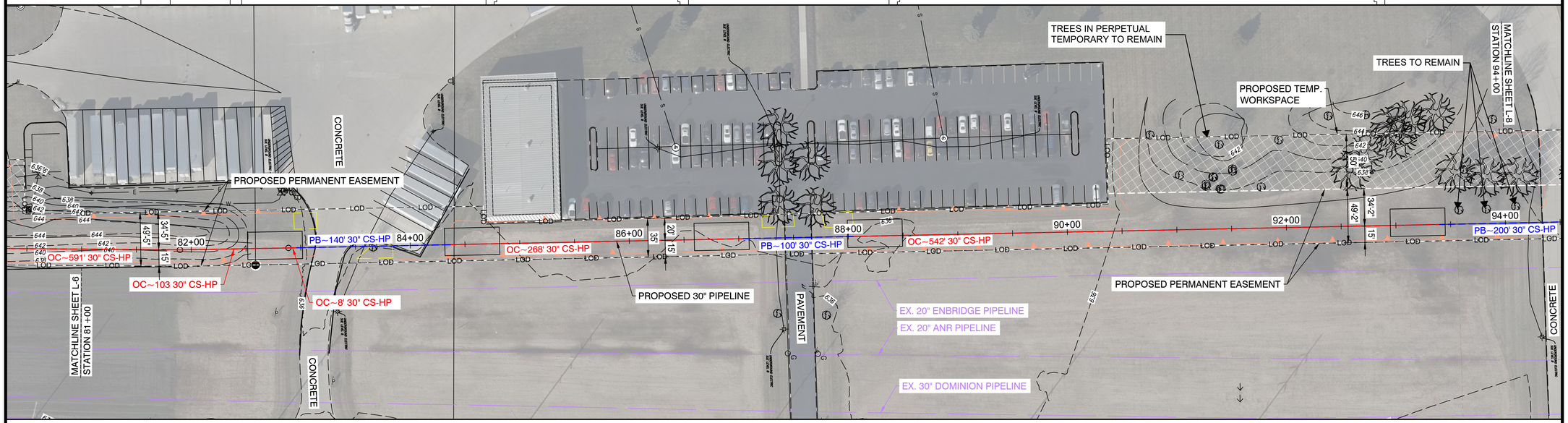
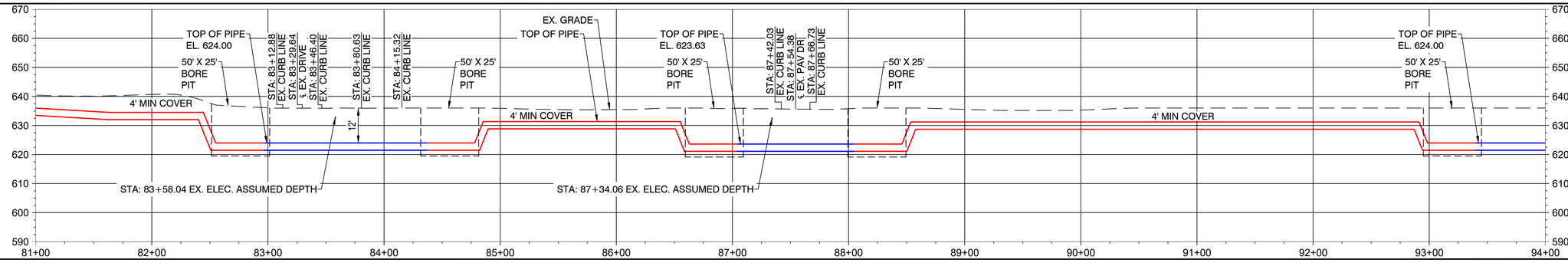
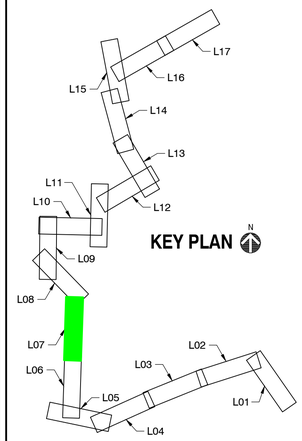
STA: 88+53.48 45° FTG
STA: 92+91.23 45° FTG
STA: 92+98.46 45° FTG





1:09/2020 - 22x34

Know what's below. Call before you dig.



NOT FOR CONSTRUCTION

N

0 50 100
Feet

PROPOSED

REVISIONS		
REV. #	DATE	DESCRIPTION
H	08/17/2022	REISSUED FOR BID

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

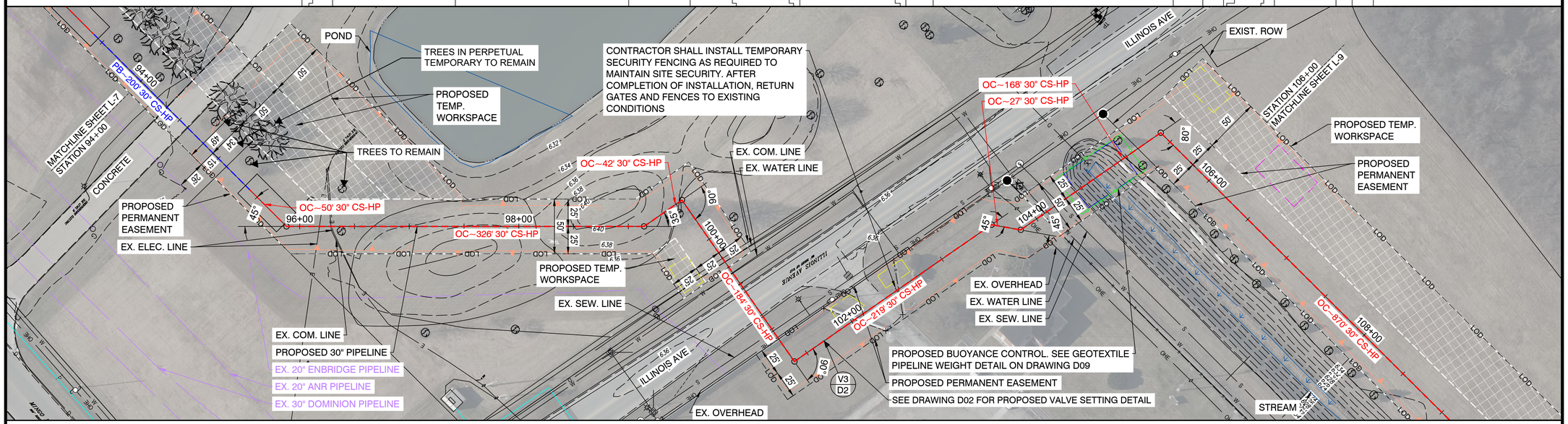
DRAWING NO:

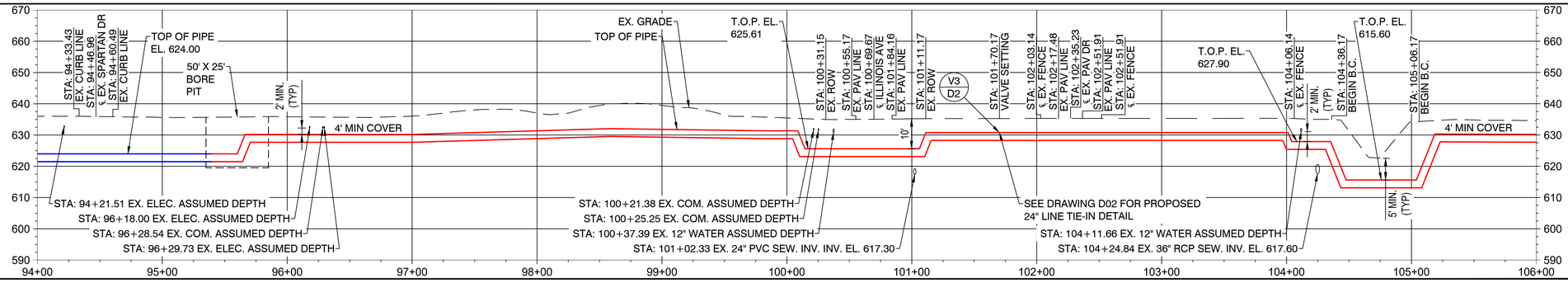
L07

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

INSTALL NOTE:
1°-9°-FIELD BEND
10° & UP-FITTING

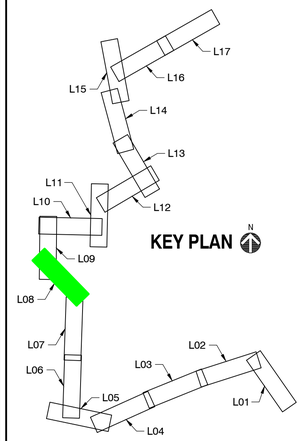
STA: 95+60.04 45° FTG
STA: 95+66.26 45° FTG
STA: 96+87.91 45° TURN
STA: 97+00.00 1° SAG
STA: 98+58.22 1° OVER
STA: 99+14.31 35° TURN
STA: 99+56.47 90° TURN
STA: 100+08.78 45° FTG
STA: 100+14.50 45° FTG
STA: 101+06.06 45° FTG
STA: 101+11.23 45° FTG
STA: 101+36.16 90° TURN
STA: 103+55.33 45° TURN
STA: 103+82.33 45° TURN
STA: 104+01.23 45° FTG
STA: 104+04.12 45° FTG
STA: 104+35.34 45° FTG
STA: 104+47.64 45° FTG
STA: 105+03.91 45° FTG
STA: 105+18.62 45° FTG
STA: 105+37.97 80° TURN





NiSource

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



NOT FOR CONSTRUCTION

N

0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

	NAME	DATE	PHONE #
DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

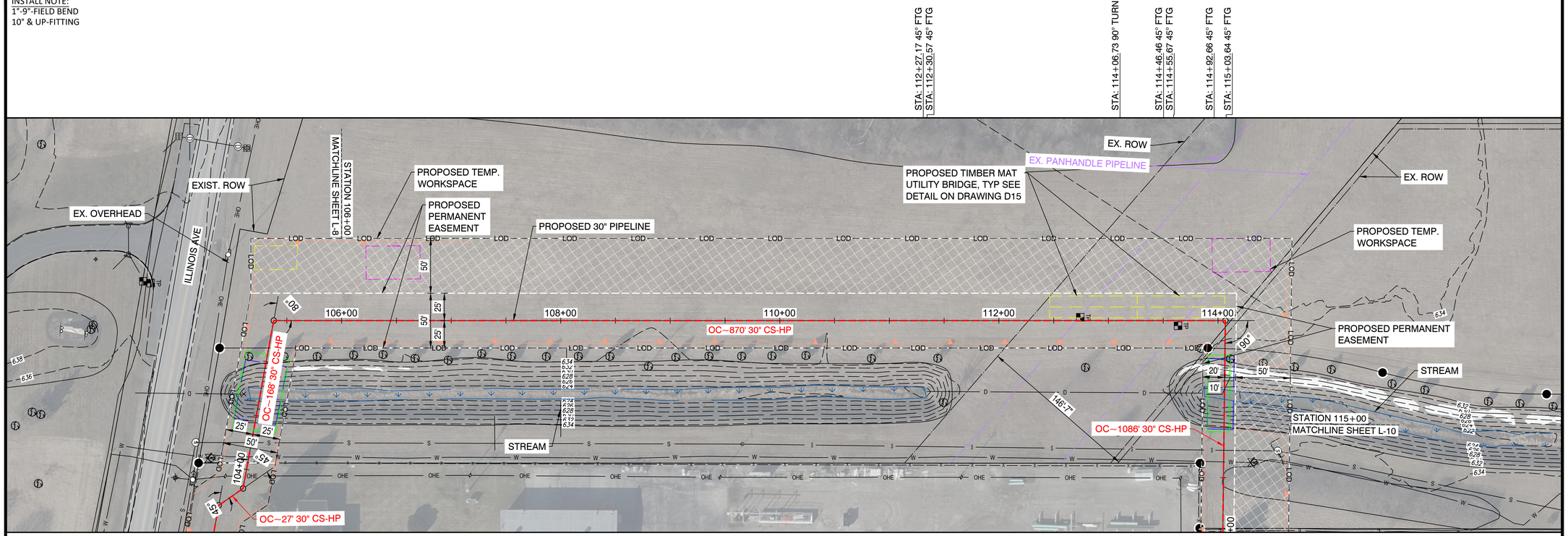
DRAWING NO:

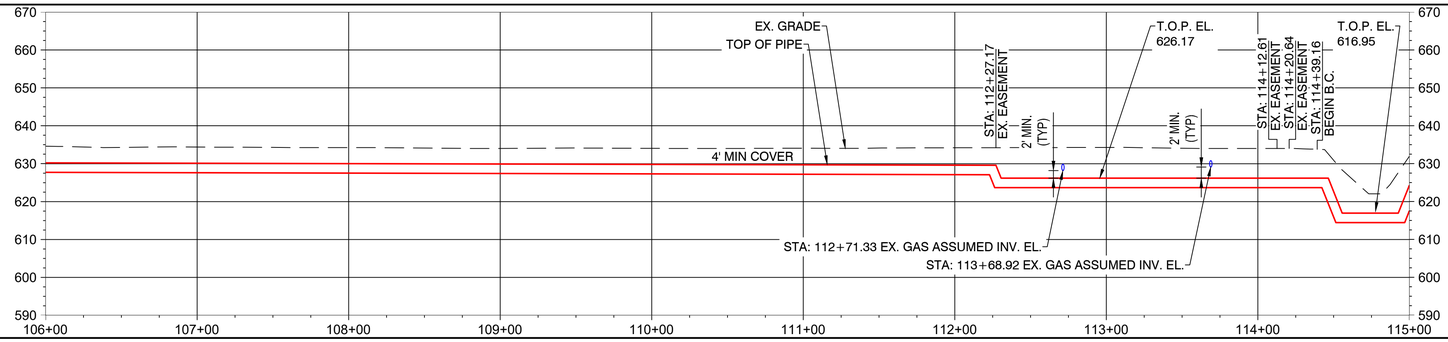
L08

1:/09/2020 - 20x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

INSTALL NOTE:
1°-9°-FIELD BEND
10" & UP-FITTING

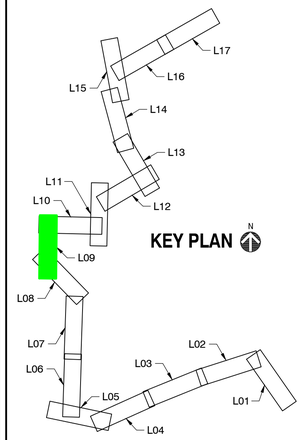




1/29/2020 - 22x34

NiSource

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



NOT FOR CONSTRUCTION

N

0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

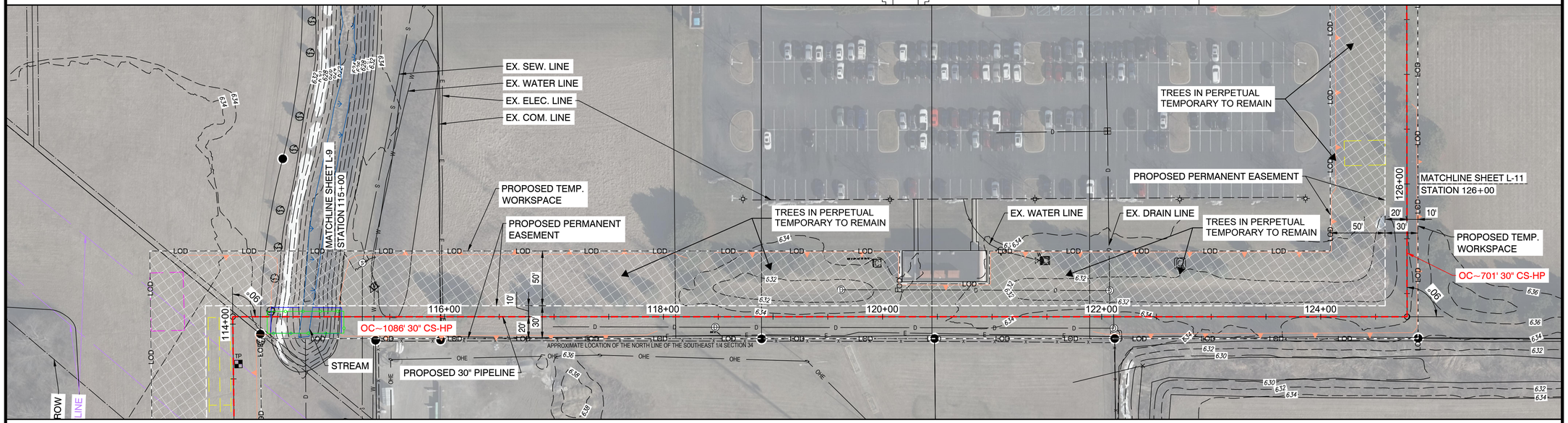
DRAWING NO:

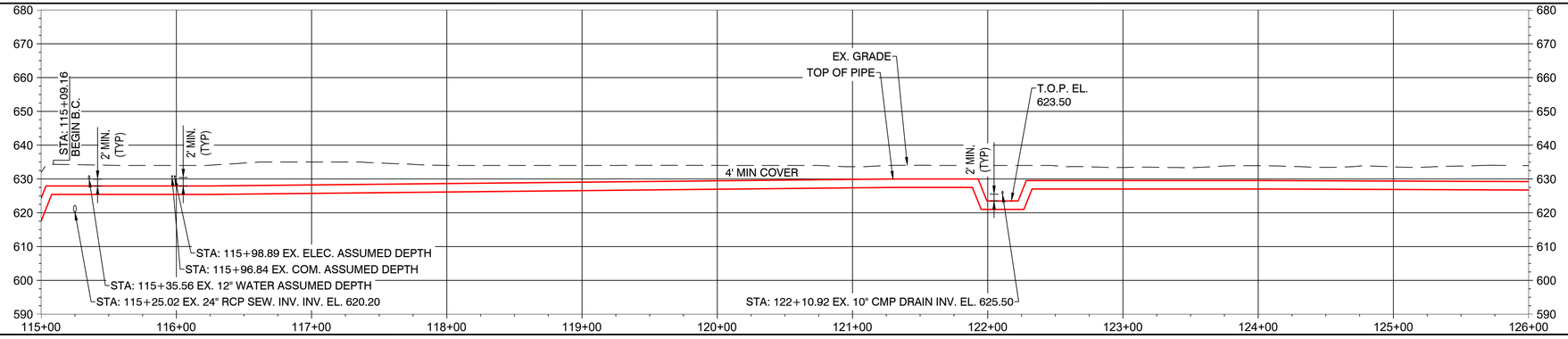
L09

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

INSTALL NOTE:
1°-9°-FIELD BEND
10° & UP-FITTING

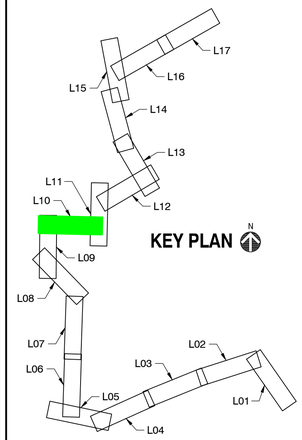
STA: 121+92.89 45° FTG
STA: 121+98.39 45° FTG
STA: 122+22.47 45° FTG
STA: 122+28.52 45° FTG
STA: 124+78.80 90° TURN





NiSource

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



NOT FOR CONSTRUCTION

N

0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

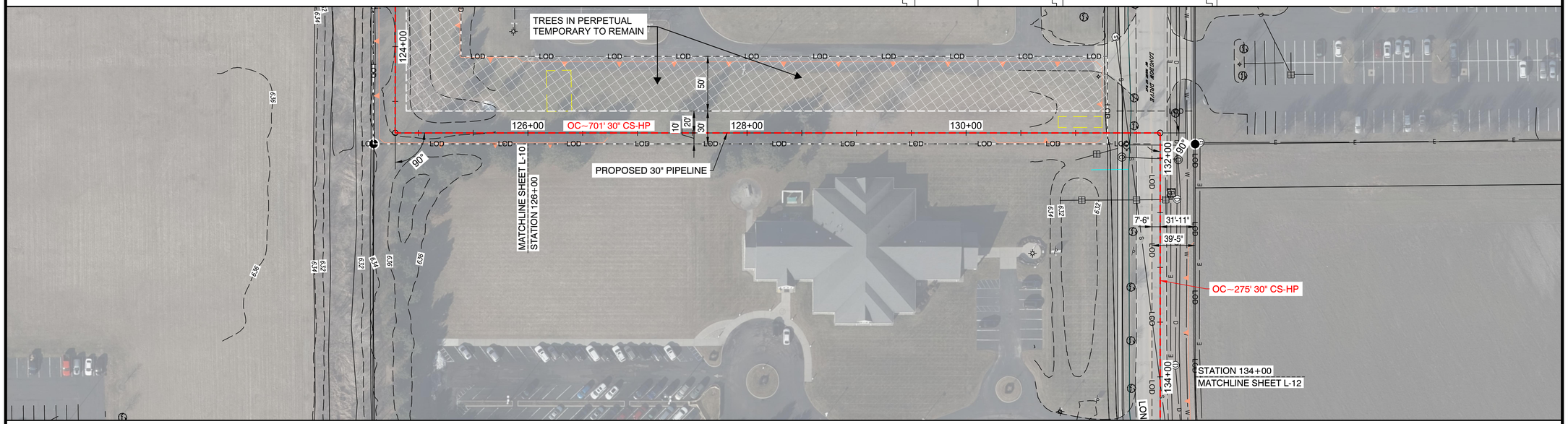
DRAWING NO:

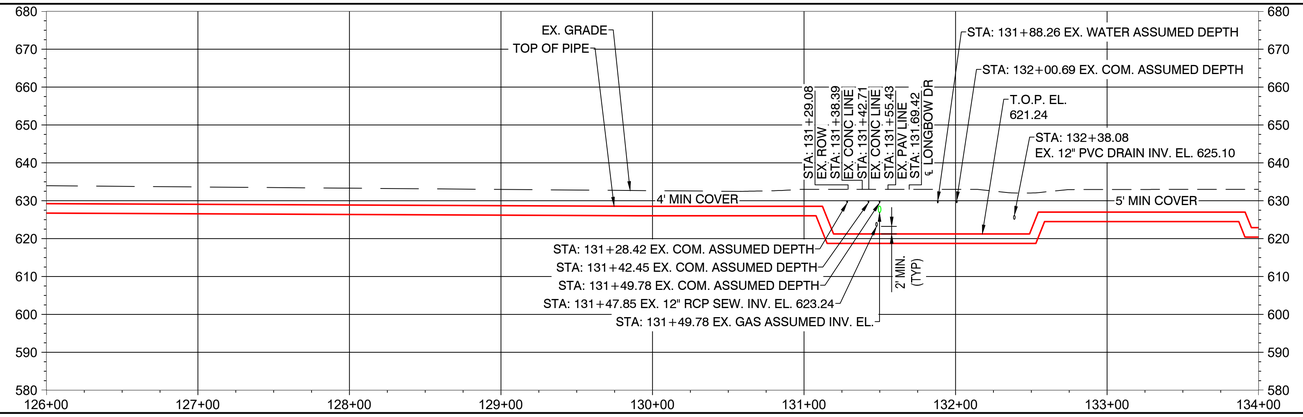
L10

1:/09/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

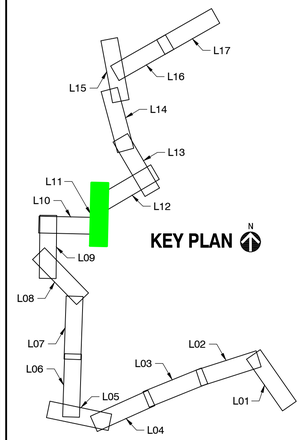
INSTALL NOTE:
1°-9°-FIELD BEND
10° & UP-FITTING





NiSource

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



NOT FOR CONSTRUCTION

N

0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

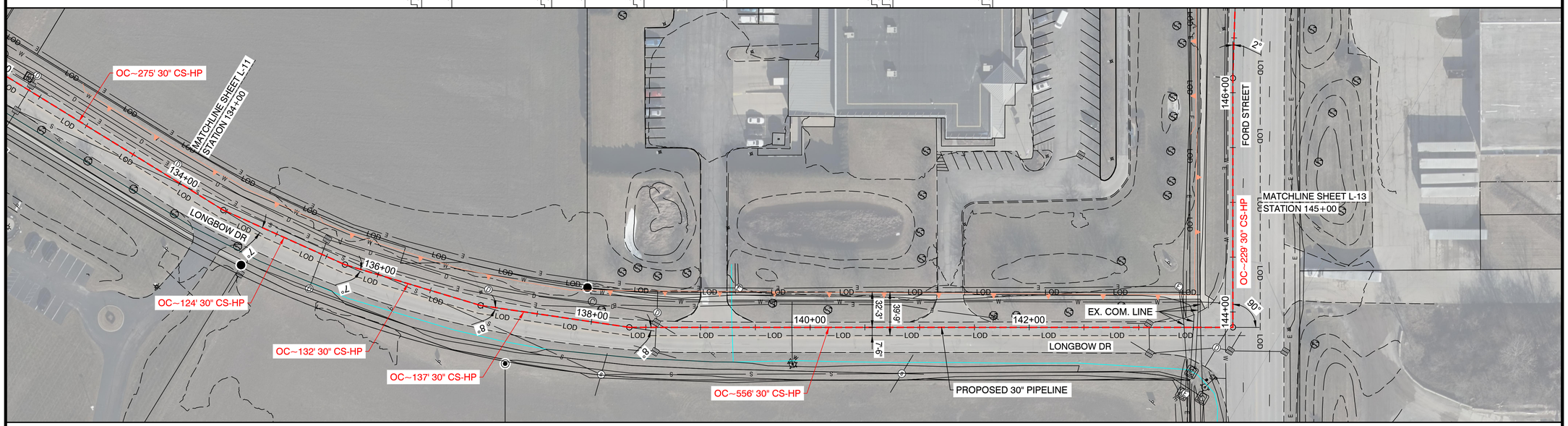
DRAWING NO:

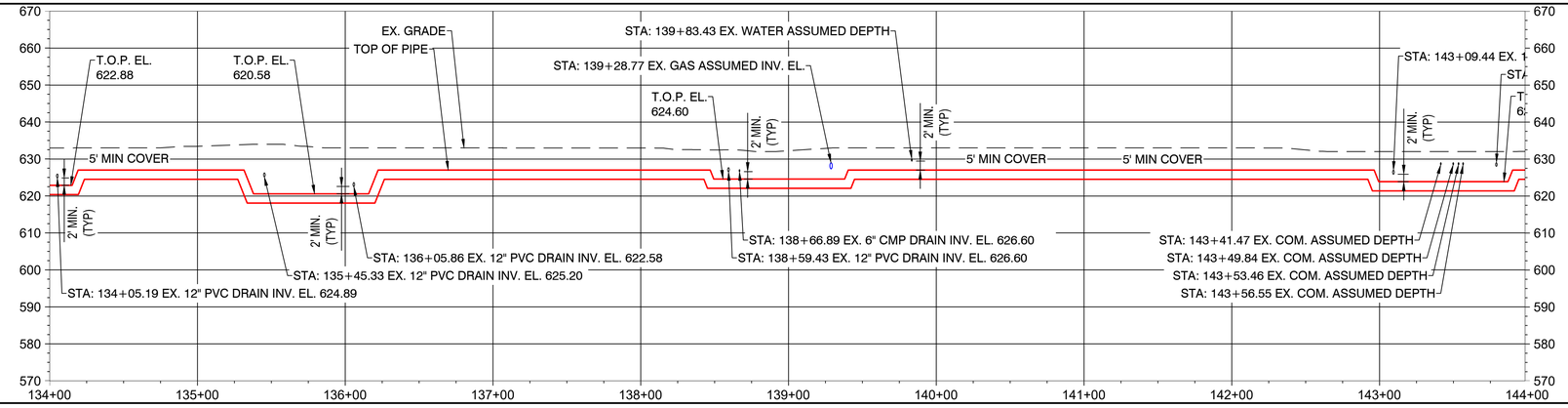
L11

1:/09/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

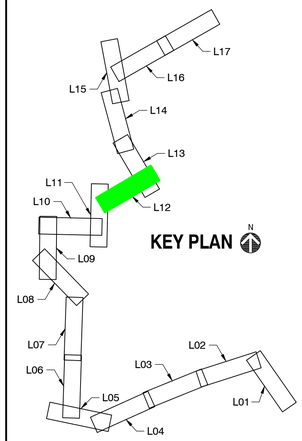
INSTALL NOTE:
1°-9°-FIELD BEND
10" & UP-FITTING





NiSource

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



NOT FOR CONSTRUCTION

N

0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	**DATE**	**DESCRIPTION**

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	**DATE**	**PHONE #**

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682
FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

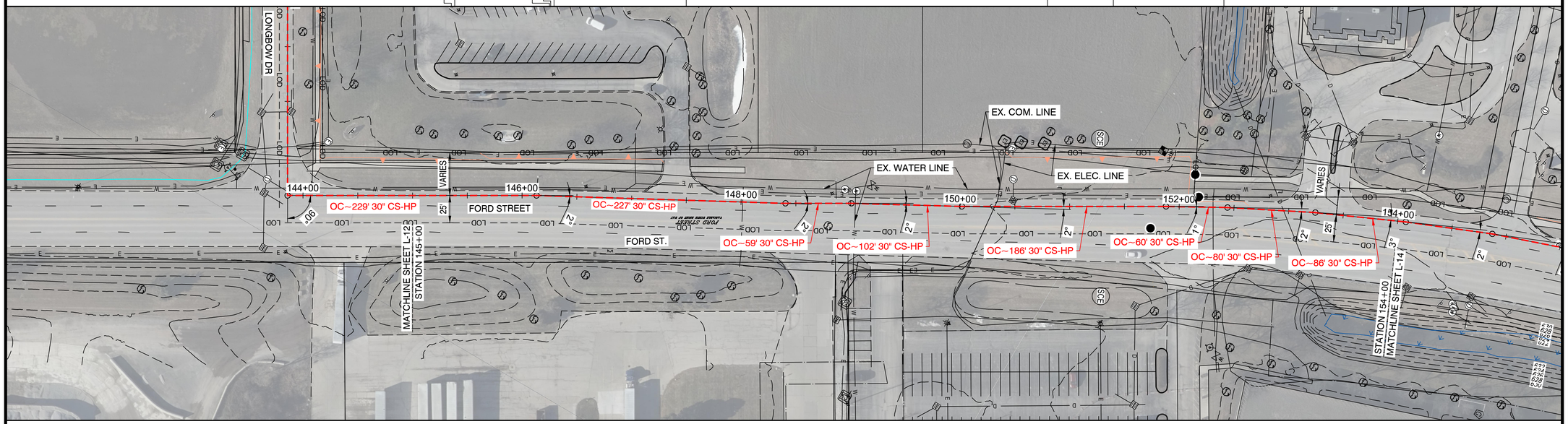
DRAWING NO:

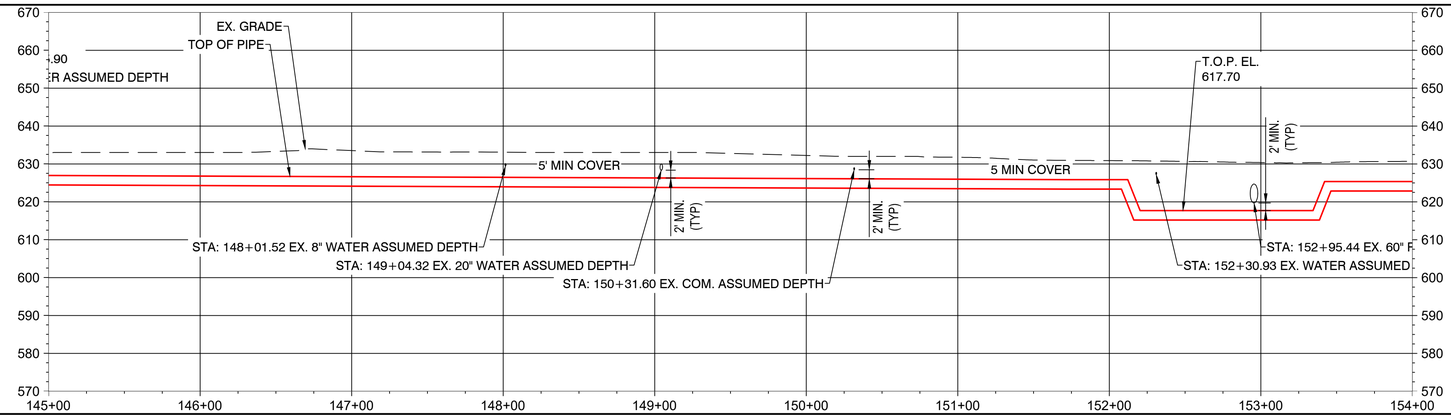
L12

1:/09/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

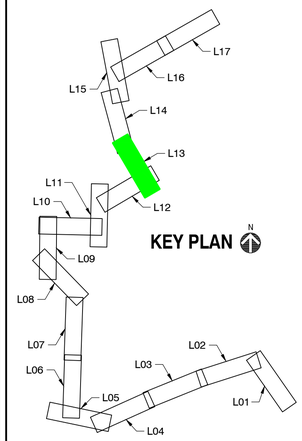
INSTALL NOTE:
1°-9°-FIELD BEND
10" & UP-FITTING





NiSource

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



NOT FOR CONSTRUCTION

N

0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

DRAWING NO:

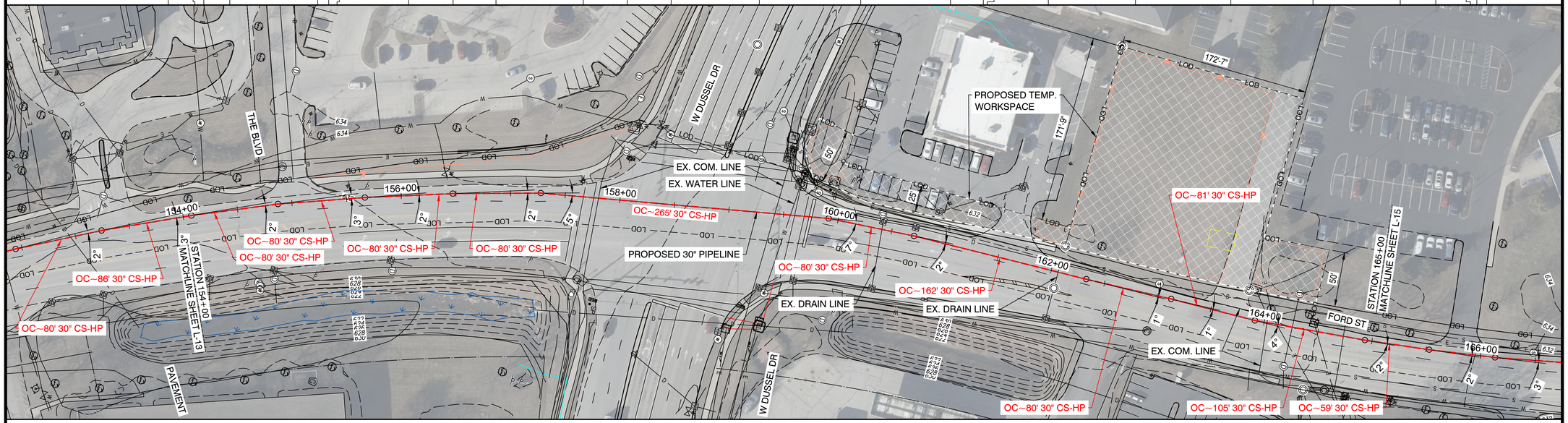
L13

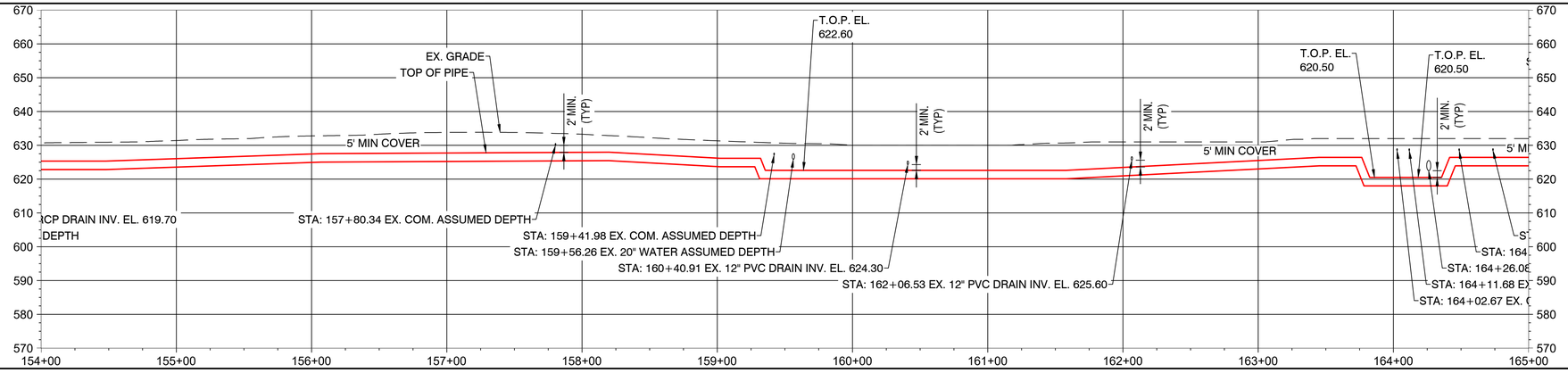
1:/09/2020 - 20x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

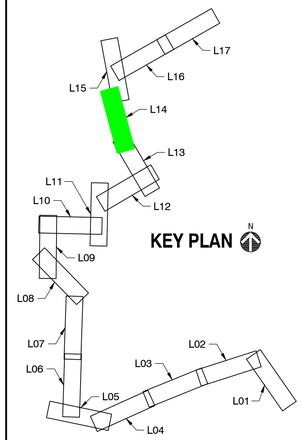
INSTALL NOTE:
1°-9°-FIELD BEND
10" & UP-FITTING

STA: 151+87.93 1° TURN
STA: 152+12.18 45° FTG
STA: 152+20.34 45° FTG
STA: 152+44.11 2° TURN
STA: 153+24.39 3° TURN
STA: 153+34.39 45° FTG
STA: 153+42.02 45° FTG
STA: 154+07.44 2° TURN
STA: 154+47.97 1° SAG
STA: 154+87.14 3° TURN
STA: 155+66.75 2° TURN
STA: 156+06.90 1° OVER
STA: 156+47.04 2° TURN
STA: 157+27.47 5° TURN
STA: 158+20.03 1° OVER
STA: 159+01.98 1° SAG
STA: 159+31.98 45° FTG
STA: 159+35.54 45° FTG
STA: 159+91.29 7° TURN
STA: 160+70.83 2° TURN
STA: 161+57.87 1° SAG
STA: 162+32.89 1° TURN
STA: 163+12.55 1° TURN
STA: 163+45.00 1° OVER
STA: 163+76.54 45° FTG
STA: 163+82.48 45° FTG
STA: 163+91.40 4° TURN





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



NOT FOR CONSTRUCTION

N

0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:
INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682
FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:
LAYOUT SHEET

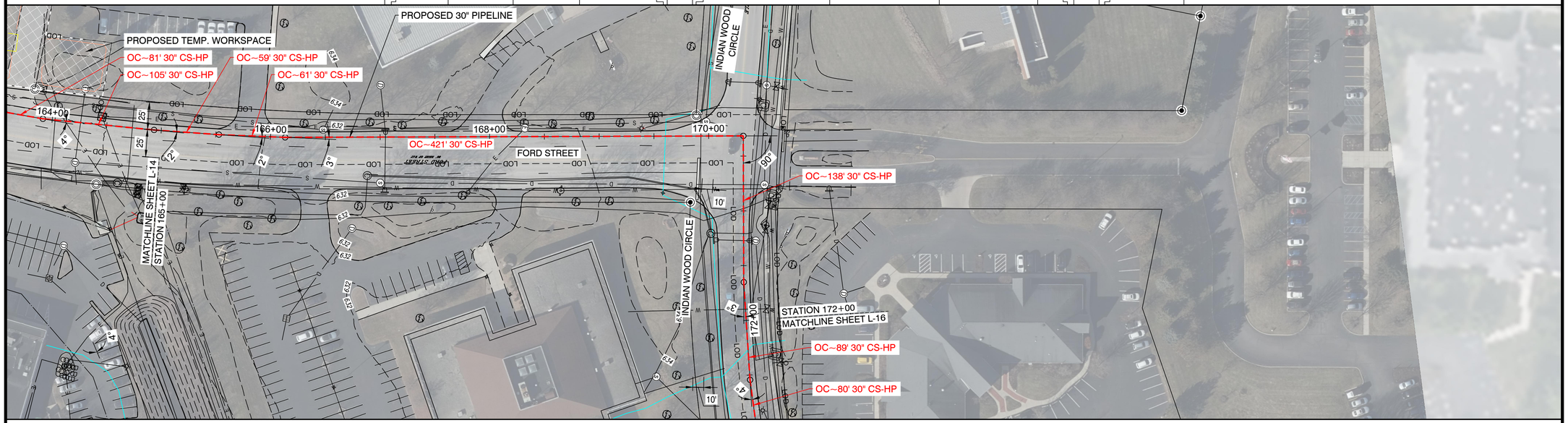
DRAWING NO:
L14

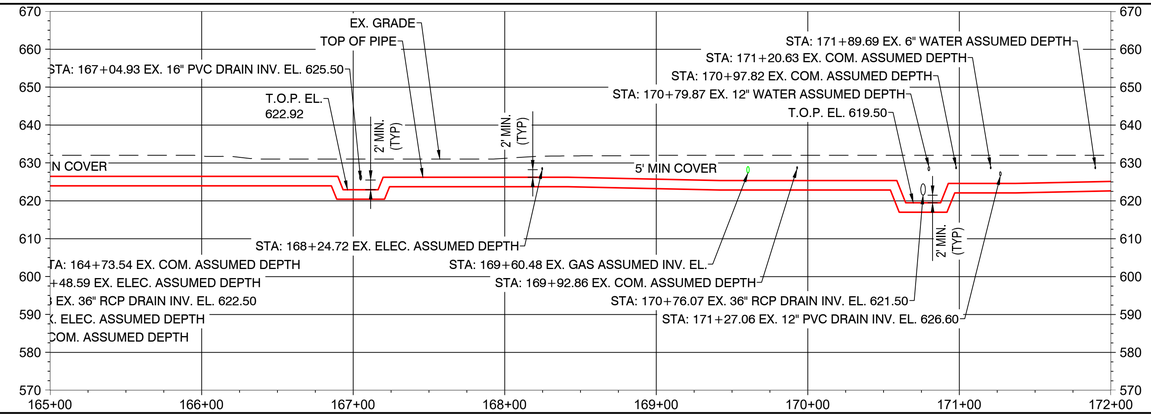
1:/09/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

INSTALL NOTE:
1°-9°-FIELD BEND
10° & UP-FITTING

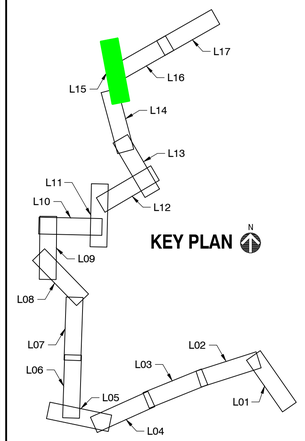
STA: 164+35.57 45° FTG
STA: 164+41.51 45° FTG
STA: 164+93.45 2° TURN
STA: 165+52.75 2° TURN
STA: 166+13.32 3° TURN
STA: 166+89.87 45° FTG
STA: 166+93.39 45° FTG
STA: 167+16.47 45° FTG
STA: 167+19.74 45° FTG
STA: 168+41.70 1° OVER
STA: 169+41.70 1° SAG
STA: 170+31.55 90° TURN
STA: 170+58.69 45° FTG
STA: 170+64.53 45° FTG
STA: 170+87.61 45° FTG
STA: 170+92.71 45° FTG
STA: 171+65.07 3° TURN





NiSource

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



NOT FOR CONSTRUCTION

N

0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

DRAWING NO:

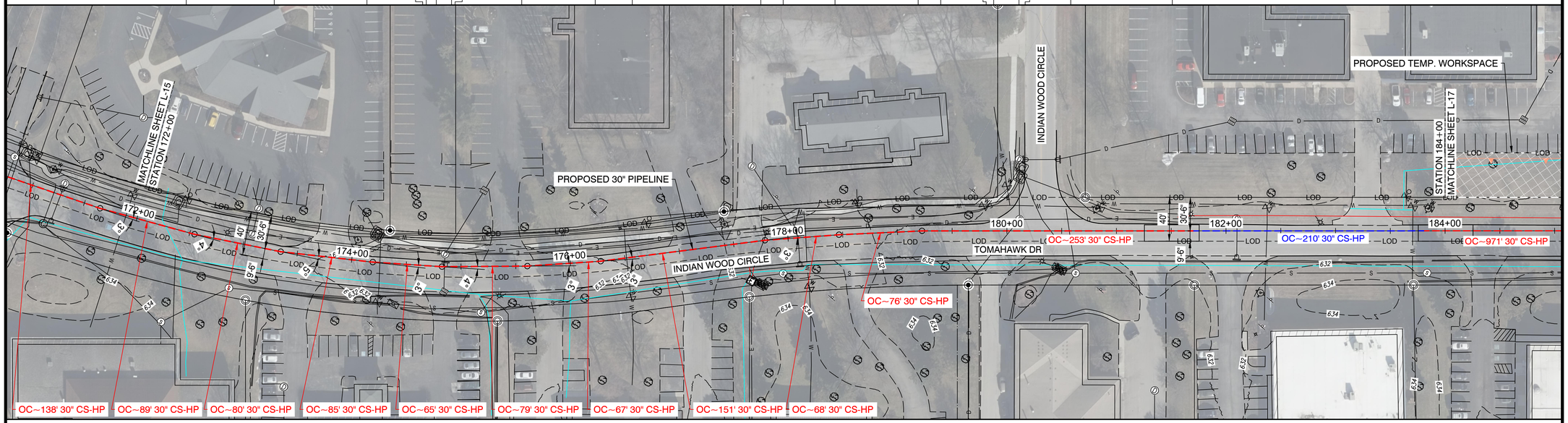
L15

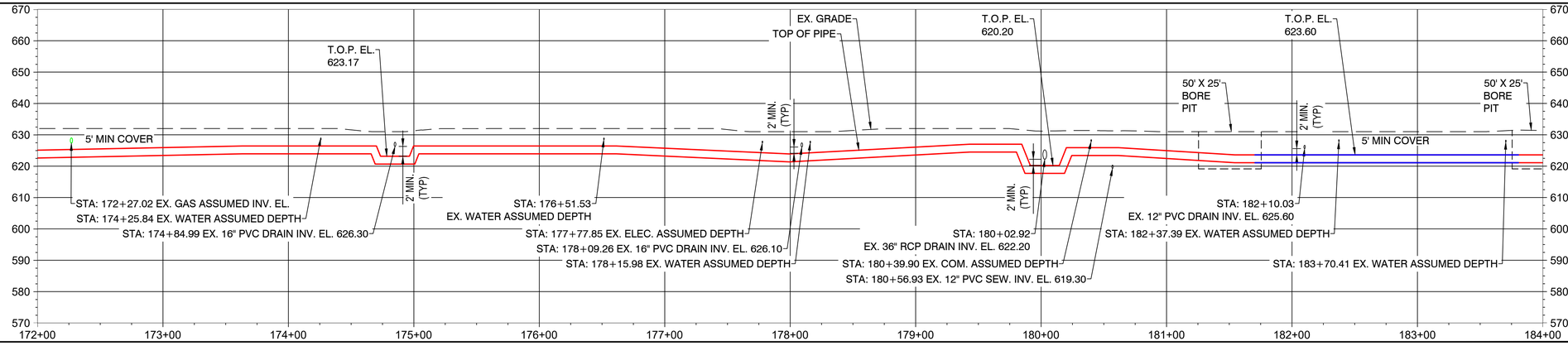
1/29/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

INSTALL NOTE:
1°-9°-FIELD BEND
10° & UP-FITTING

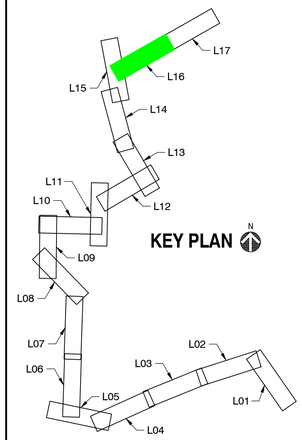
STA: 172+54.40 4° TURN
STA: 173+34.69 5° TURN
STA: 174+19.29 3° TURN
STA: 174+70.18 45° FTG
STA: 174+73.45 45° FTG
STA: 174+82.63 4° TURN
STA: 174+96.53 45° FTG
STA: 174+99.80 45° FTG
STA: 175+60.56 3° TURN
STA: 176+27.70 3° TURN
STA: 176+61.53 1° OVER
STA: 177+78.81 3° TURN
STA: 177+99.26 2° SAG
STA: 178+46.59 2° TURN
STA: 179+22.50 3° TURN
STA: 179+43.04 1° OVER
STA: 179+84.58 45° FTG
STA: 179+91.38 45° FTG
STA: 180+14.46 45° FTG
STA: 180+20.15 45° FTG
STA: 180+61.70 1° OVER
STA: 181+54.49 1° SAG





NiSource

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



NOT FOR CONSTRUCTION

N

0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

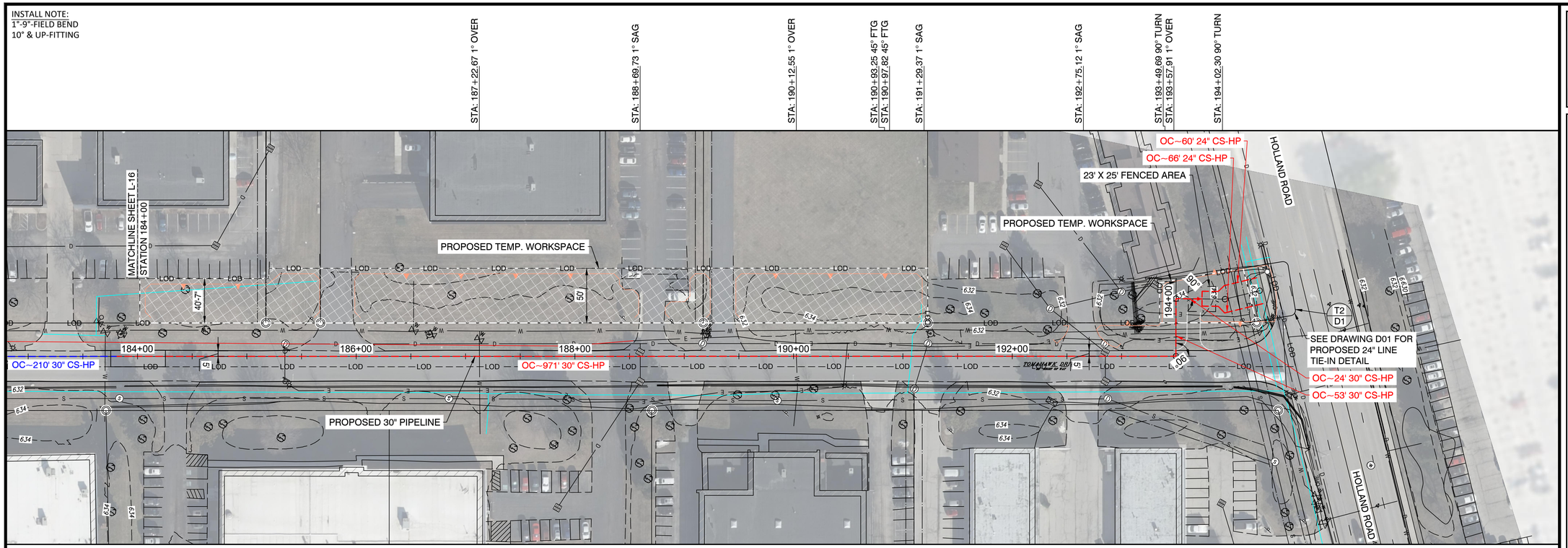
DRAWING NO:

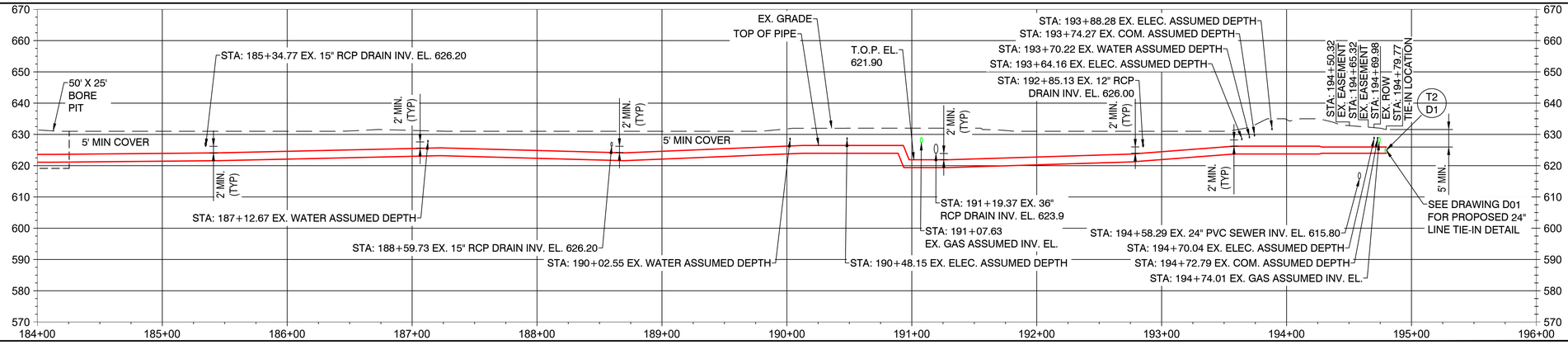
L16

1:09/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

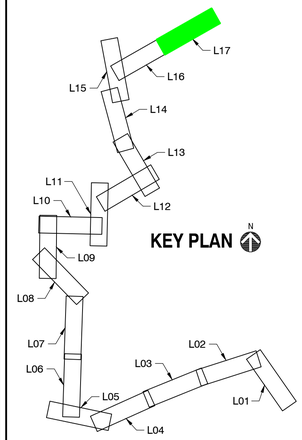
INSTALL NOTE:
1°-9°-FIELD BEND
10" & UP-FITTING





NiSource

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



NOT FOR CONSTRUCTION

N

0 50 100
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	04/08/2020	614-453-7832
DRAWN BY	J. MCKOWN	04/21/2020	X
CHECKED BY	C. SIOK	04/27/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

LAYOUT SHEET

DRAWING NO:

L17

1:09/2020 - 20x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\121558-0001000-L1.DWG 8/17/2022 3:49 PM CKUNTZ

LEGEND:

PROPOSED GAS PIPELINE
PROPOSED GAS EASEMENT
PROPOSED TEMPORARY LAYDOWN YARD

0 40' 80'
SCALE IN FEET

N

BURNS McDONNELL

date 07/26/2022
designed J. CULBERTSON

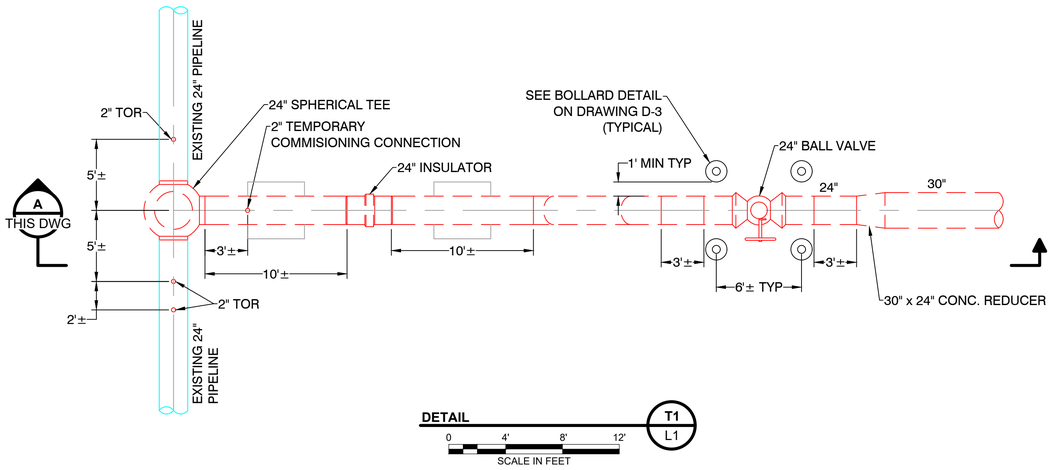
COLUMBIA GAS OF OHIO

TEMPORARY LAYDOWN EXHIBIT
MAUMEE, OHIO

project FORD ST PIPELINE
contract -

SK - 01

CONSTRUCTION DETAILS

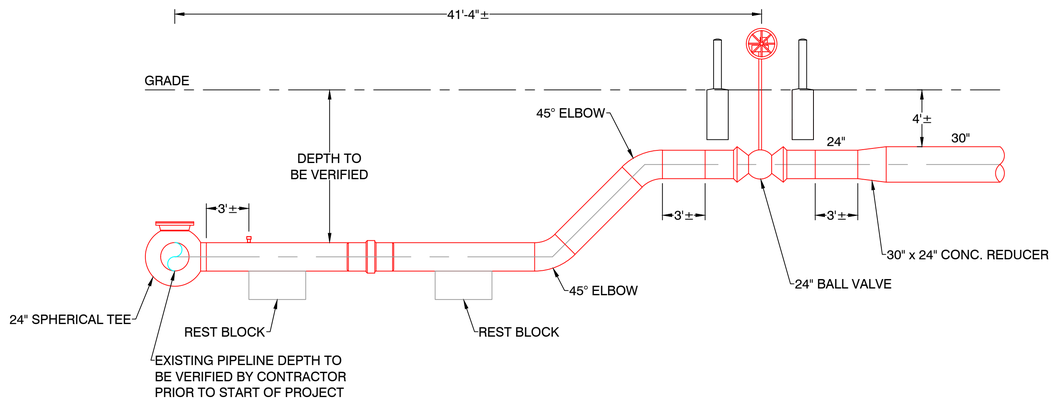


DETAIL T1 / L1

0 4' 8' 12'

SCALE IN FEET

NOTE: SPHERICAL TEE ENDS MUST BE CONFIGURED PER NISOURCE WELDING MANUAL.
SEE SHEETS D-3 & D-4 FOR FOUNDATION DETAILS

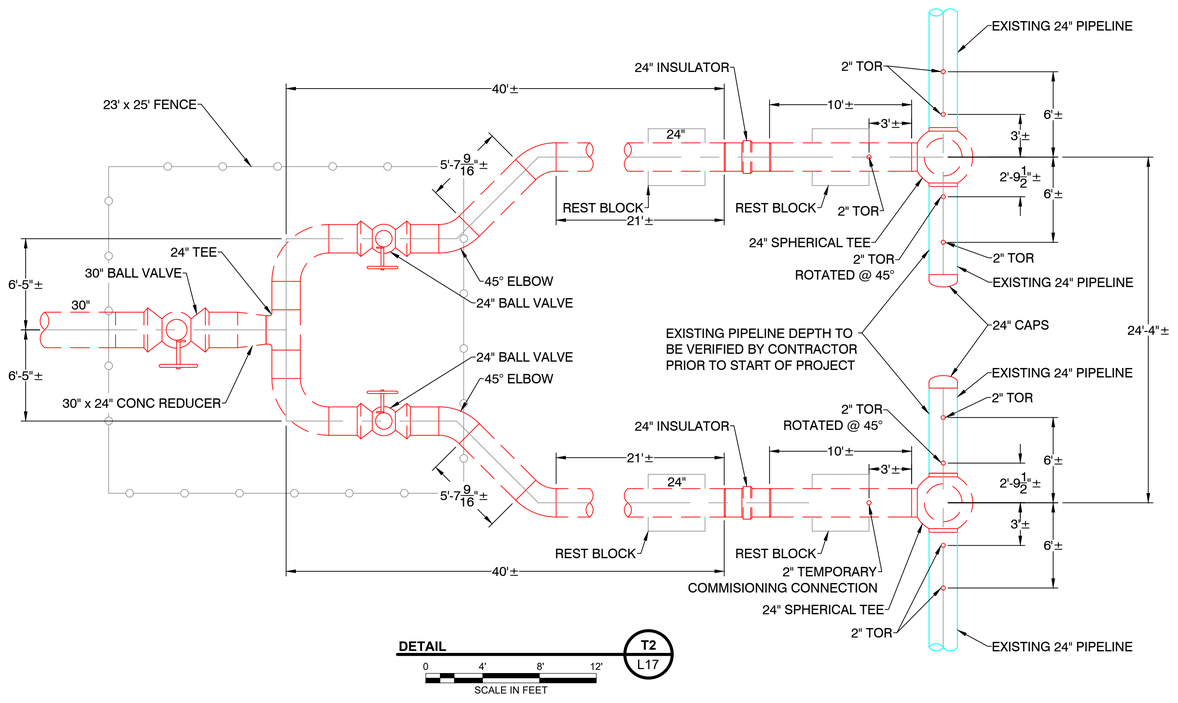


SECTION A / THIS DWG

0 4' 8' 12'

SCALE IN FEET

NOTE: SPHERICAL TEE ENDS MUST BE CONFIGURED PER NISOURCE WELDING MANUAL.
SEE SHEETS D-3 & D-4 FOR FOUNDATION DETAILS

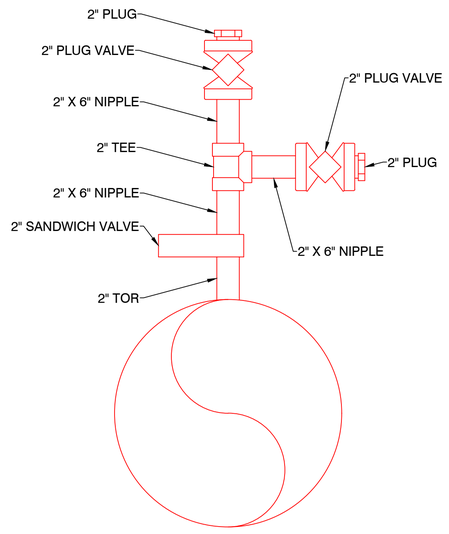


DETAIL T2 / L17

0 4' 8' 12'

SCALE IN FEET

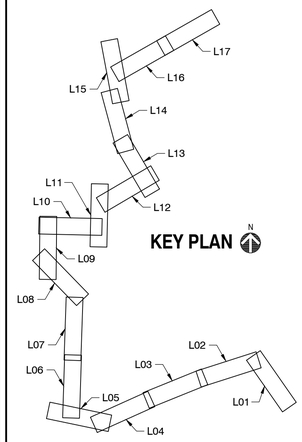
NOTE: SPHERICAL TEE ENDS MUST BE CONFIGURED PER NISOURCE WELDING MANUAL.
SEE SHEETS D-3 & D-4 FOR FOUNDATION DETAILS



TEMPORARY COMMISIONING CONNECTION DETAIL

NiSource

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



KEY PLAN

NOT FOR CONSTRUCTION

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	06/09/2020	614-453-7382
DRAWN BY	L. ROBERTS	06/10/2020	X
CHECKED BY	C. SIOK	06/10/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

CONSTRUCTION DETAILS

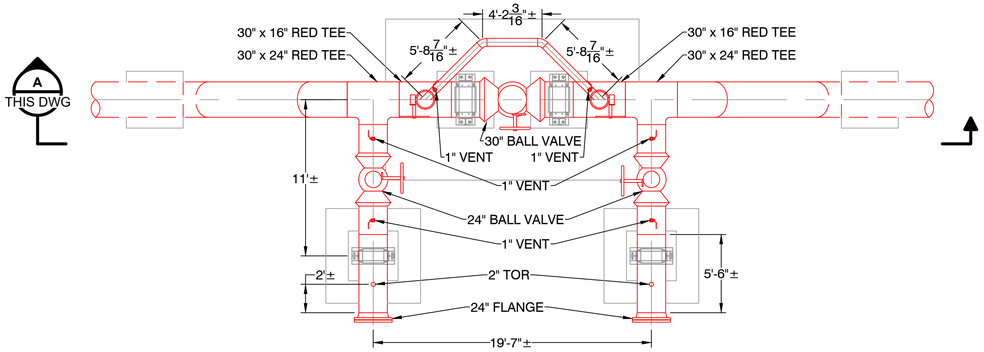
DRAWING NO:

D-1

1:09/2020 - 20x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\MECHANICAL\121558-0001000-D1.DWG 1/4/2022 11:07 AM JJMCKOWN

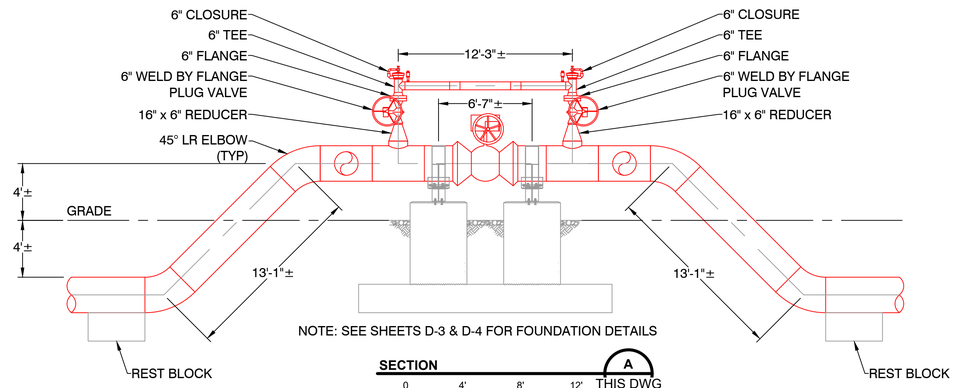
CONSTRUCTION DETAILS



DETAIL V1 / L2

0 4' 8' 12'

SCALE IN FEET

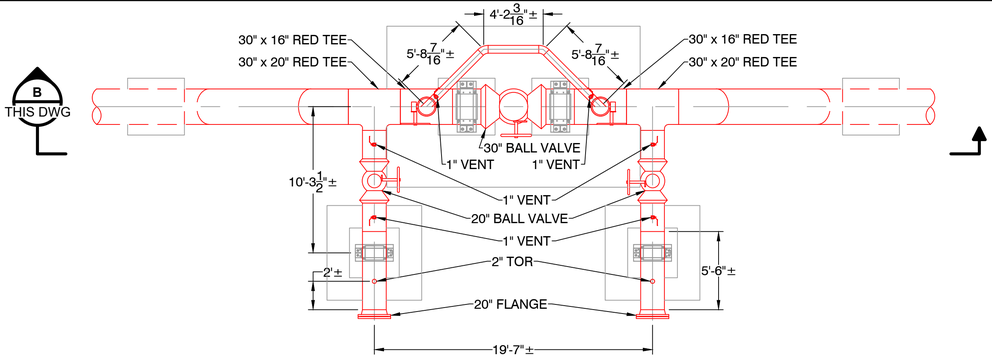


NOTE: SEE SHEETS D-3 & D-4 FOR FOUNDATION DETAILS

SECTION A / THIS DWG

0 4' 8' 12'

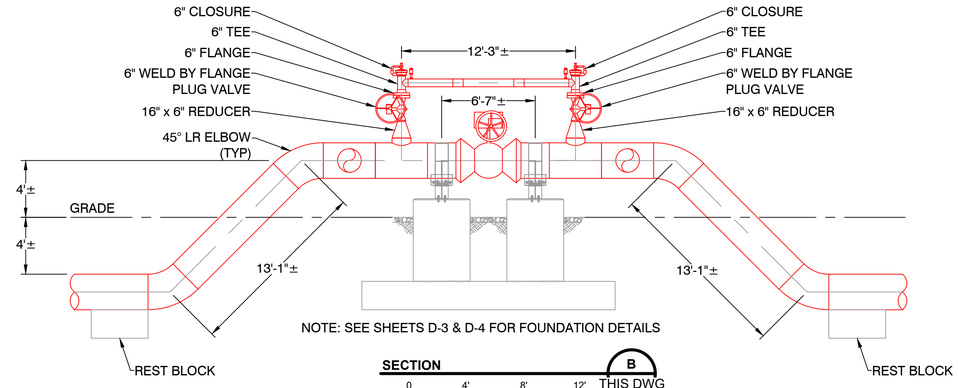
SCALE IN FEET



DETAIL V2 / L5

0 4' 8' 12'

SCALE IN FEET

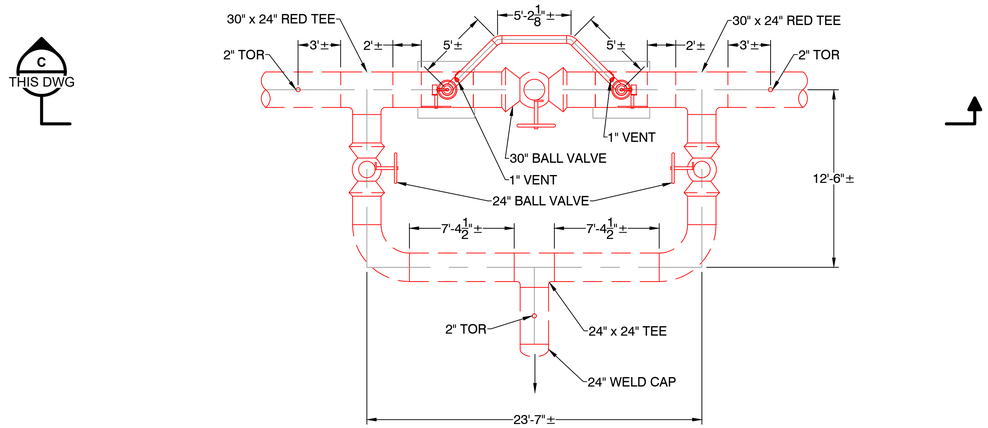


NOTE: SEE SHEETS D-3 & D-4 FOR FOUNDATION DETAILS

SECTION B / THIS DWG

0 4' 8' 12'

SCALE IN FEET



DETAIL V3 / L8

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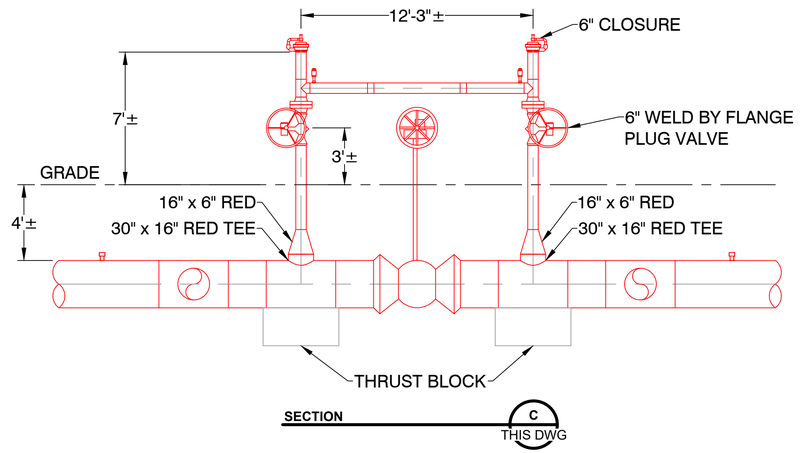


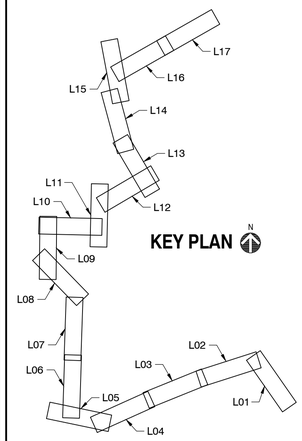
SECTION C / THIS DWG

0 4' 8' 12'

SCALE IN FEET

NiSource

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



NOT FOR CONSTRUCTION

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	06/09/2020	614-453-7382
DRAWN BY	L. ROBERTS	06/10/2020	X
CHECKED BY	C. SIOK	06/10/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

CONSTRUCTION DETAILS

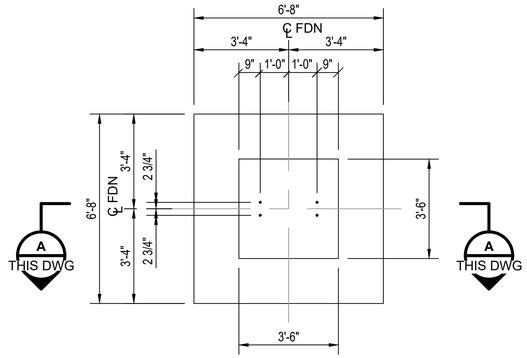
DRAWING NO:

D-2

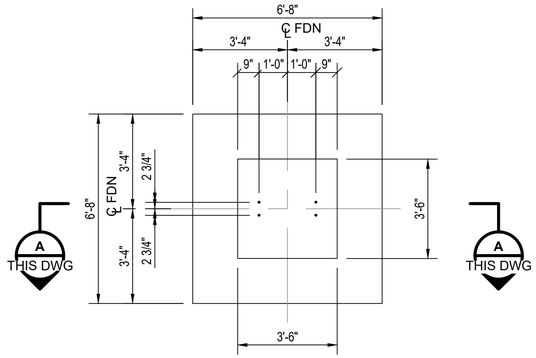
1:09/2020 - 20x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\MECHANICAL\121558-0001000-D2.DWG 12/22/2021 6:54 AM JJMCKOWN

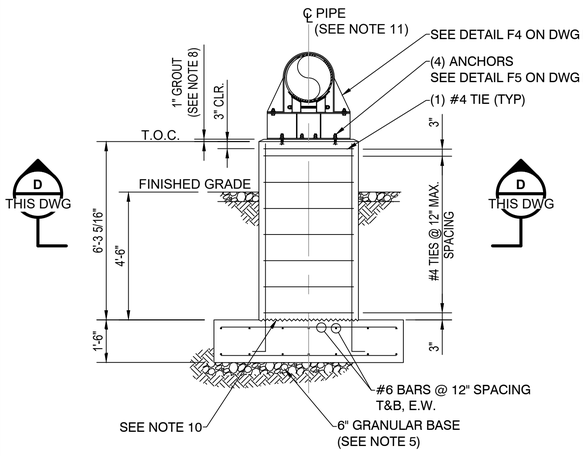
FOUNDATION DETAILS



20" PIPE SUPPORT



24" PIPE SUPPORT



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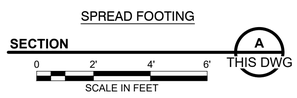
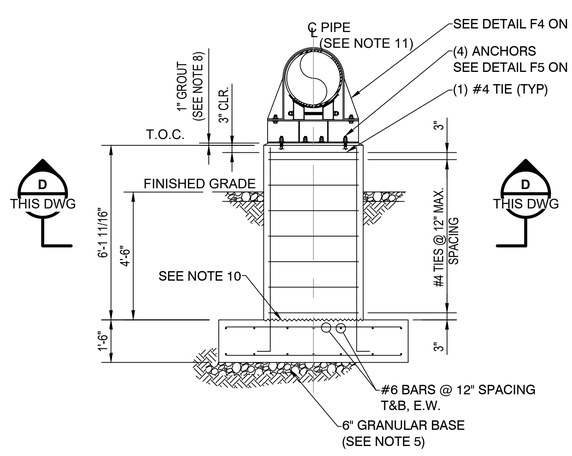
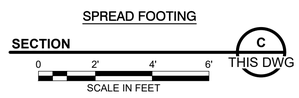
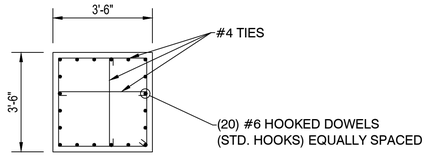


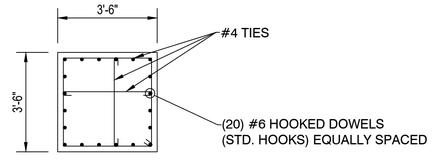


SPREAD FOOTING

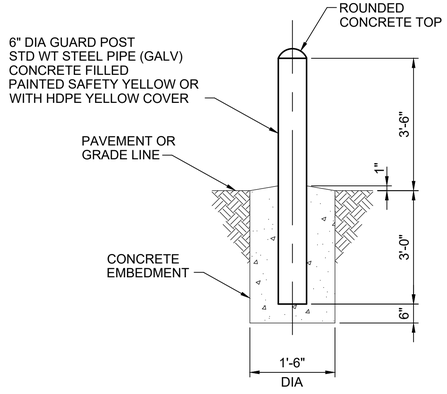




PS20



PS24



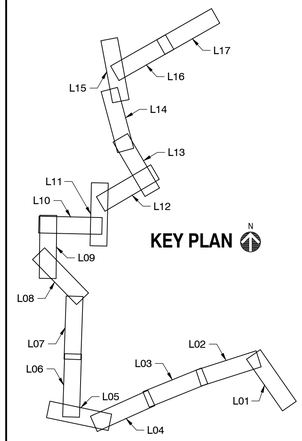
GUARD POST (BOLLARD) DETAIL

NOTES:

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000PSI AT 28 DAYS.
2. REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60.
3. EXPOSED FOUNDATION EDGES SHALL HAVE 1" CHAMFER.
4. ALL BOLTS, NUTS, AND WASHERS SHALL BE HOT-DIP GALVANIZED PER ASTM A-153, UNLESS OTHERWISE NOTED.
5. GRANULAR FILL SHALL CONSIST OF ODOT 304 COMPACTED TO A MINIMUM OF 98% MAXIMUM DRY DENSITY. STRUCTURAL FILL TO BE COMPACTED IN 6" MAXIMUM LIFTS WITH HAND-GUIDED COMPACTION EQUIPMENT OR HEAVY, SELF-PROPELLED COMPACTION EQUIPMENT. APPROVED CONTROLLED LOW-STRENGTH MATERIAL CAN BE USED IN PLACE OF GRANULAR FILL.
6. DEVIATIONS FROM THE DESIGN DRAWINGS SHALL NOT BE PERMITTED WITHOUT PRIOR APPROVAL FROM ENGINEER.
7. ALL REINFORCING AND ANCHOR BOLTS SHALL BE RIGIDLY SECURED PRIOR TO THE PLACING OF CONCRETE.
8. ALL GROUT SHALL BE NON-SHRINK, 2500 PSI MINIMUM. GROUT SHALL ONLY BE INSTALLED UNDERNEATH THE BASE PLATE, EXTENDING AT A 45 DEGREE ANGLE IN ALL DIRECTIONS.
9. CONTRACTOR TO VERIFY BASE PLATE SIZES AND BOLT HOLE SIZES & SPACING PRIOR TO CONSTRUCTING FOUNDATIONS.
10. ROUGHEN TO ±1/4" AMPLITUDE, CLEAN EXPOSED AGGREGATE PRIOR TO PEDESTAL POUR.
11. REFER TO MECHANICAL DRAWINGS FOR PIPE DIAMETER.

NiSource

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



NOT FOR CONSTRUCTION

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	E. BOWIE	08/21/2020	X
DRAWN BY	D. SANCHEZ	08/21/2020	X
CHECKED BY	J. CULBERTSON	08/21/2020	614-453-7382
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

FOUNDATION DETAILS

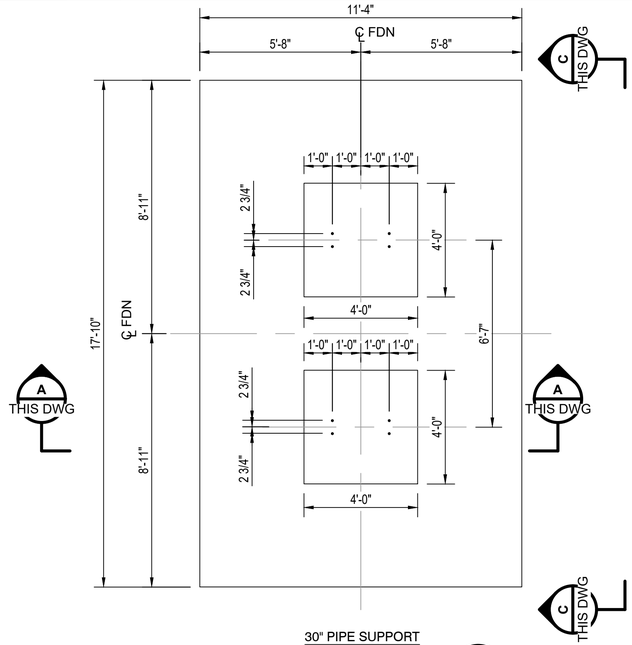
DRAWING NO:

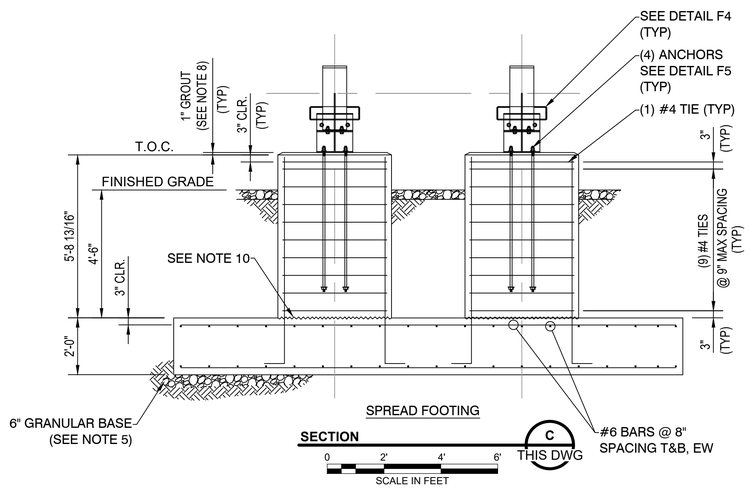
D-3

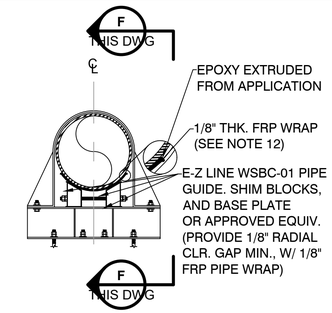
1/29/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\STRUCTURAL\121558-0001000-D3.DWG 12/29/2021 5:02 PM JRCULBERTSON

FOUNDATION DETAILS







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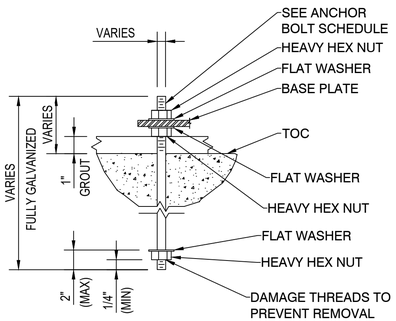
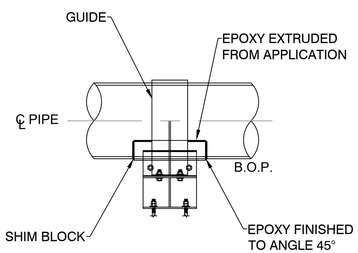
9. CONTRACTOR TO VERIFY BASE PLATE SIZES AND BOLT HOLE SIZES & SPACING PRIOR TO CONSTRUCTING FOUNDATIONS.
10. ROUGHEN TO ±1/4" AMPLITUDE, CLEAN EXPOSED AGGREGATE PRIOR TO PEDESTAL POUR.
11. REFER TO MECHANICAL DRAWINGS FOR PIPE DIAMETER.
12. INSTALL AND SIZE PIPE WRAP SUCH THAT IT EXTENDS 2 INCHES PAST THE EDGE OF THE FOUNDATION.

DETAIL F4 THIS DWG
N.T.S.



TYPICAL ANCHOR BOLT
DETAIL F5 THIS DWG
N.T.S.



SECTION F THIS DWG
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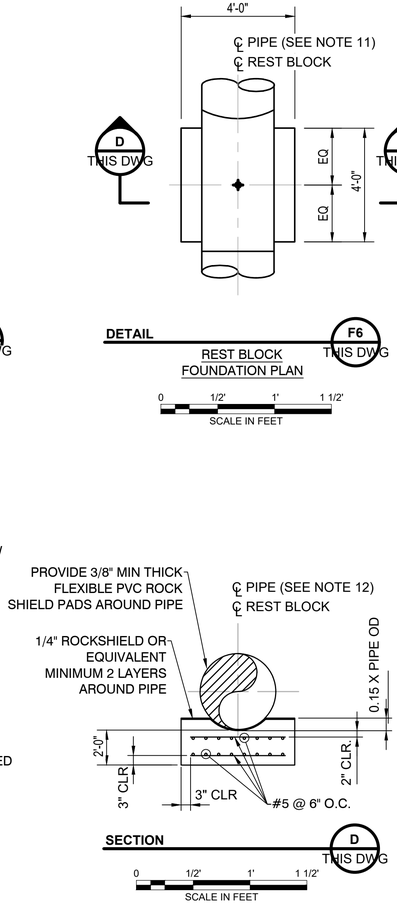
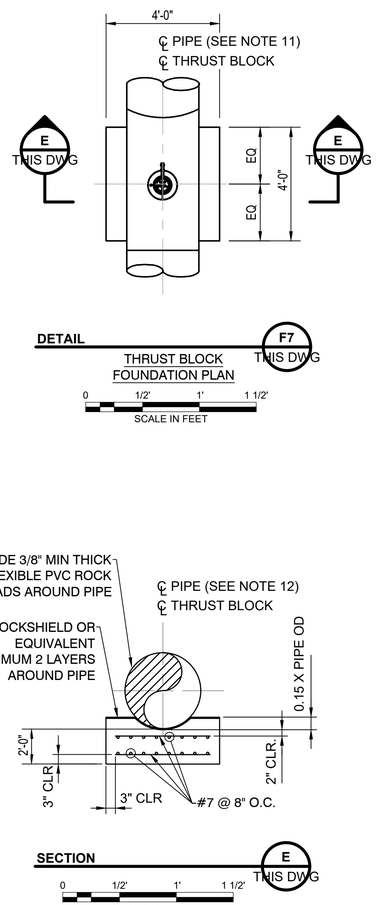
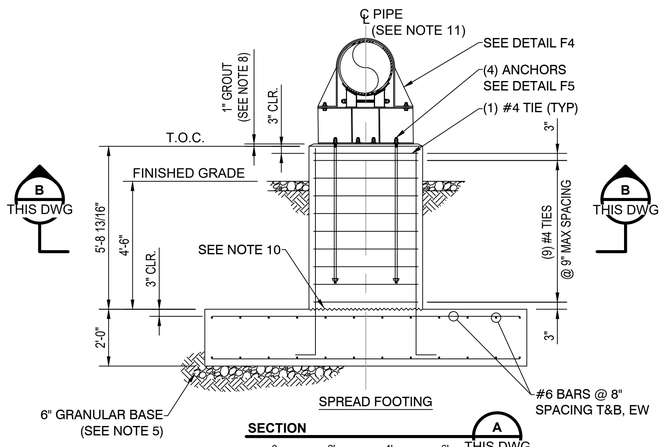
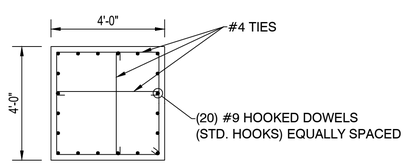


DETAIL F6 THIS DWG
REST BLOCK FOUNDATION PLAN
0 1/2' 1' 1 1/2'
SCALE IN FEET



DETAIL F7 THIS DWG
THRUST BLOCK FOUNDATION PLAN
0 1/2' 1' 1 1/2'
SCALE IN FEET

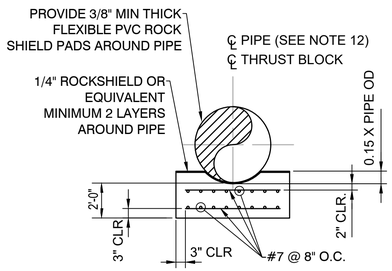




PS30

SECTION B THIS DWG
0 2' 4' 6'
SCALE IN FEET

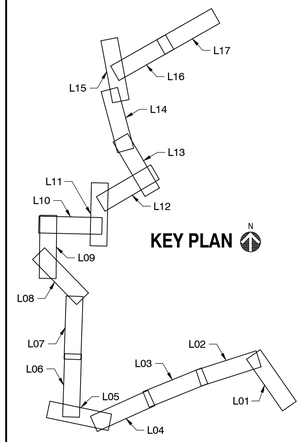
SECTION D THIS DWG
0 1/2' 1' 1 1/2'
SCALE IN FEET



SECTION E THIS DWG
0 1/2' 1' 1 1/2'
SCALE IN FEET

NiSource

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



NOT FOR CONSTRUCTION

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	E. BOWIE	08/21/2020	X
DRAWN BY	D. SANCHEZ	08/21/2020	X
CHECKED BY	J. CULBERTSON	08/21/2020	614-453-7382
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

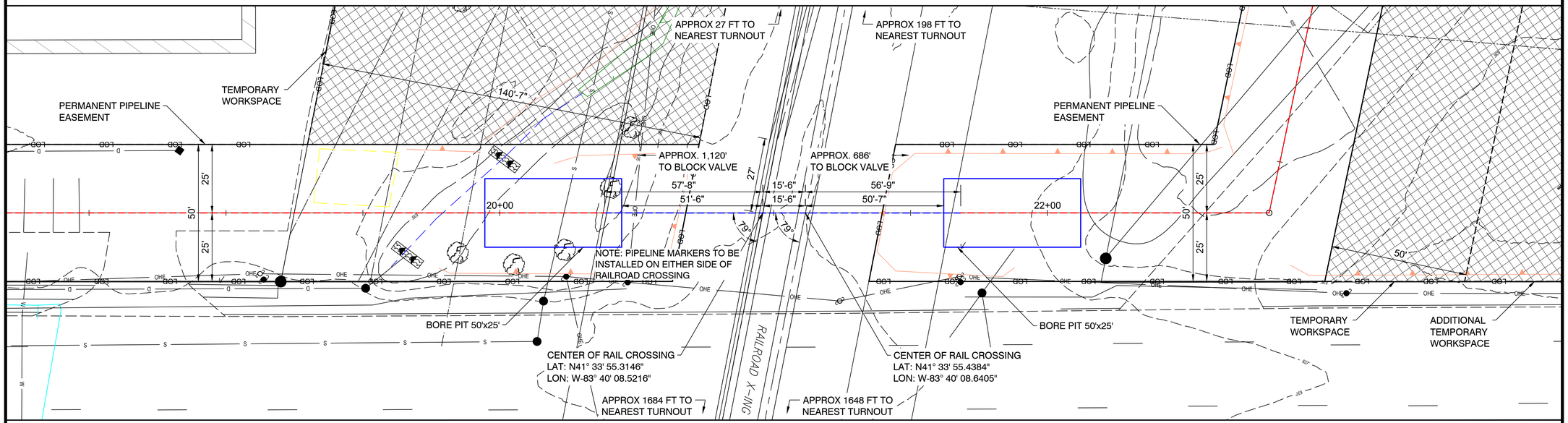
FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

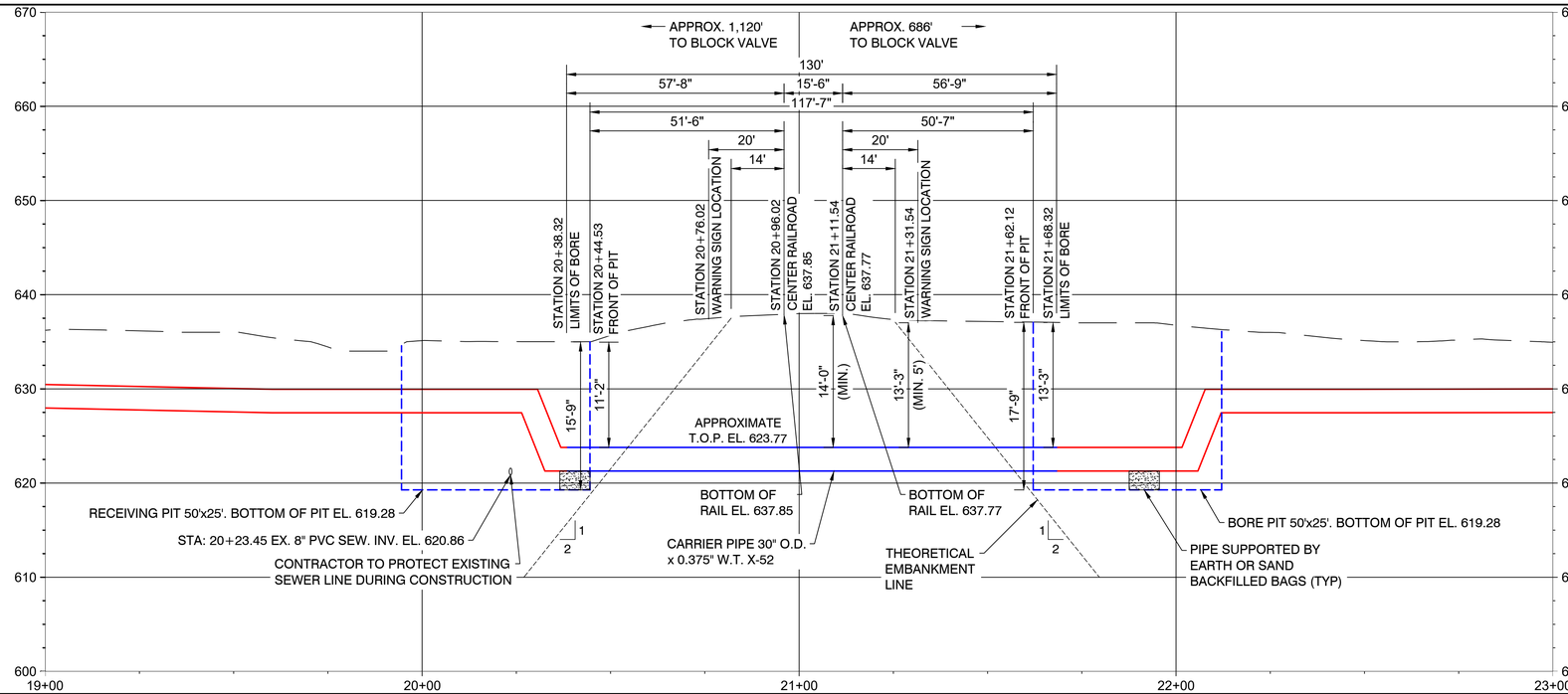
DRAWING TITLE:
FOUNDATION DETAILS

DRAWING NO:
D-4

1:09/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\STRUCTURAL\121558-0001000-D4.DWG 1/4/2022 11:12 AM JJMCKOWN





NOTES:

1. ALL WORK ON NORFOLK SOUTHERN RIGHT OF WAY TO BE PERFORMED IN ACCORDANCE WITH NSCE-8 "SPECIFICATIONS FOR PIPELINE OCCUPANCY OF NORFOLK SOUTHERN CORPORATION PROPERTY" (CURRENT VERSION) DEPTH OF BORE SUBJECT TO CHANGE BASED ON GEOTECHNICAL REPORT

2. PIPELINE MARKERS TO BE INSTALLED ON EITHER SIDE OF RAILROAD CROSSING

3. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS FOR PIPELINE OCCUPANCY OF NORFOLK SOUTHERN RAILWAY CORPORATION SPECIFICATIONS

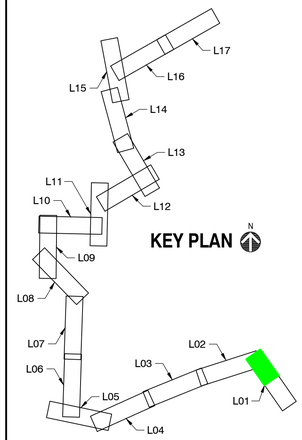
4. PIPELINE AND CROSSING TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH LATEST APPROVED AMERICAN RAILWAY ENGINEERING AND APPROVED AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION SPECIFICATIONS FOR PIPELINES CONVEYING FLAMMABLE AND NON-FLAMMABLE SUBSTANCES

5. BLASTING NOT PERMITTED

6. TRACK MONITORING WILL BE REQUIRED FOR PROPOSED INSTALLATION AND IF SETTLEMENT OCCURS DURING INSTALLATION, NS MAY EXERCISE THEIR RIGHTS TO REQUIRE ADDITIONAL MONITORING POST CONSTRUCTION UP TO 30 DAY FOR PROTECTION OF THE RAILROAD

NiSource

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



NOT FOR CONSTRUCTION

N

0 20 40
Feet

PROPOSED

REVISIONS		
REV. #	DATE	DESCRIPTION
H	08/17/2022	REISSUED FOR BID

	NAME	DATE	PHONE #
DESIGNED BY	J. CULBERTSON	07/31/2020	614-453-7832
DRAWN BY	J. MCKOWN	07/24/2020	X
CHECKED BY	C. SIOK	07/31/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

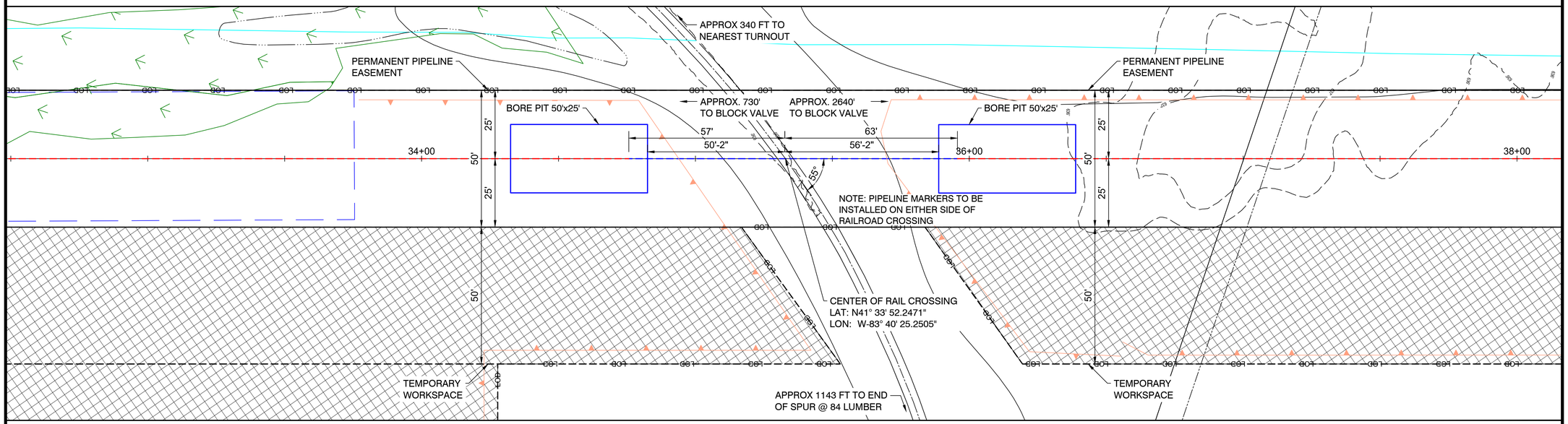
CONSTRUCTION DETAILS

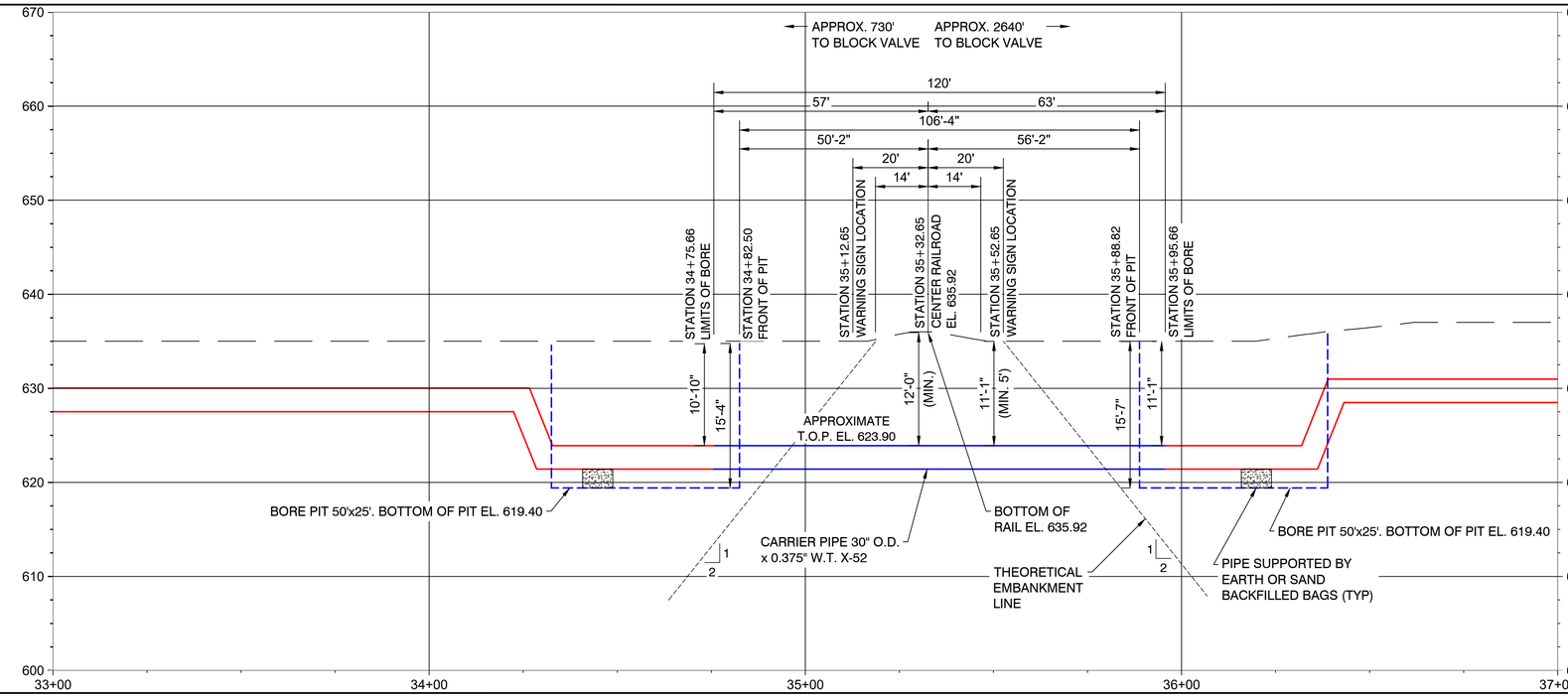
DRAWING NO:

D-5

1/29/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\MECHANICAL\121558-0001000-D5 - D8.DWG 7/22/2022 9:17 AM JJMCKOWN





NOTES:

1. ALL WORK ON NORFOLK SOUTHERN RIGHT OF WAY TO BE PERFORMED IN ACCORDANCE WITH NSCE-8 "SPECIFICATIONS FOR PIPELINE OCCUPANCY OF NORFOLK SOUTHERN CORPORATION PROPERTY" (CURRENT VERSION) DEPTH OF BORE SUBJECT TO CHANGE BASED ON GEOTECHNICAL REPORT

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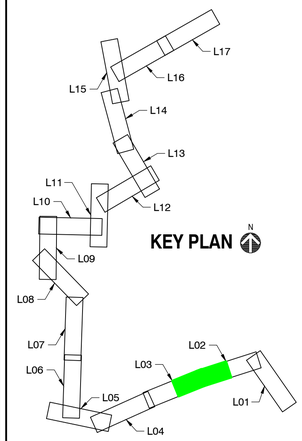
7. SHORING PLANS WILL NEED TO BE PROVIDED DURING WORKPLAN REVIEW

NiSource

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



NOT FOR CONSTRUCTION

N

0 20 40

Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	07/31/2020	614-453-7832
DRAWN BY	J. MCKOWN	07/24/2020	X
CHECKED BY	C. SIOK	07/31/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

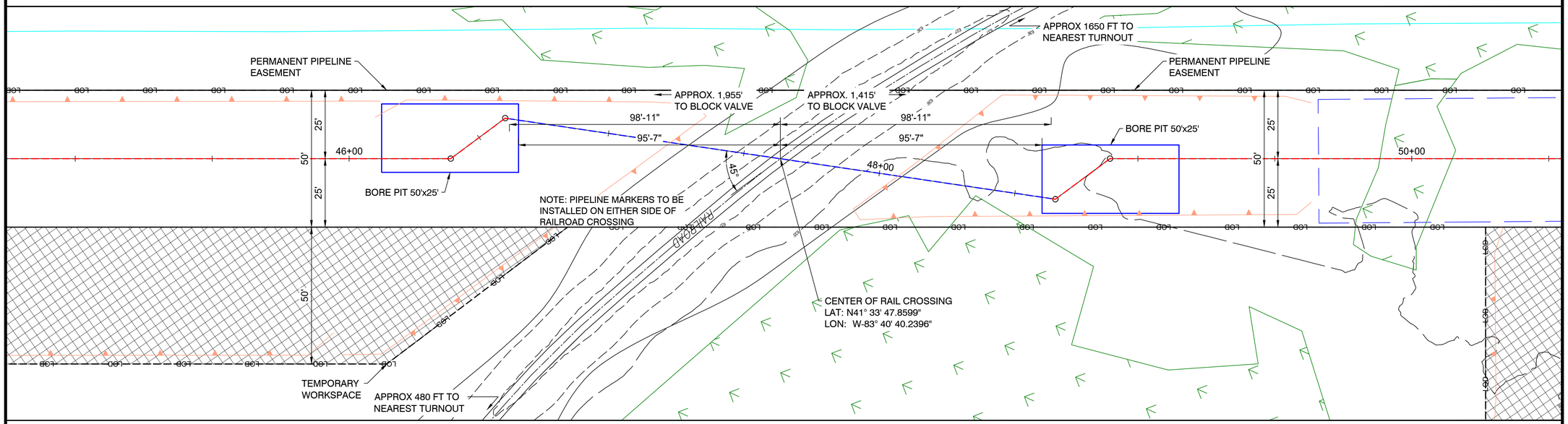
CONSTRUCTION DETAILS

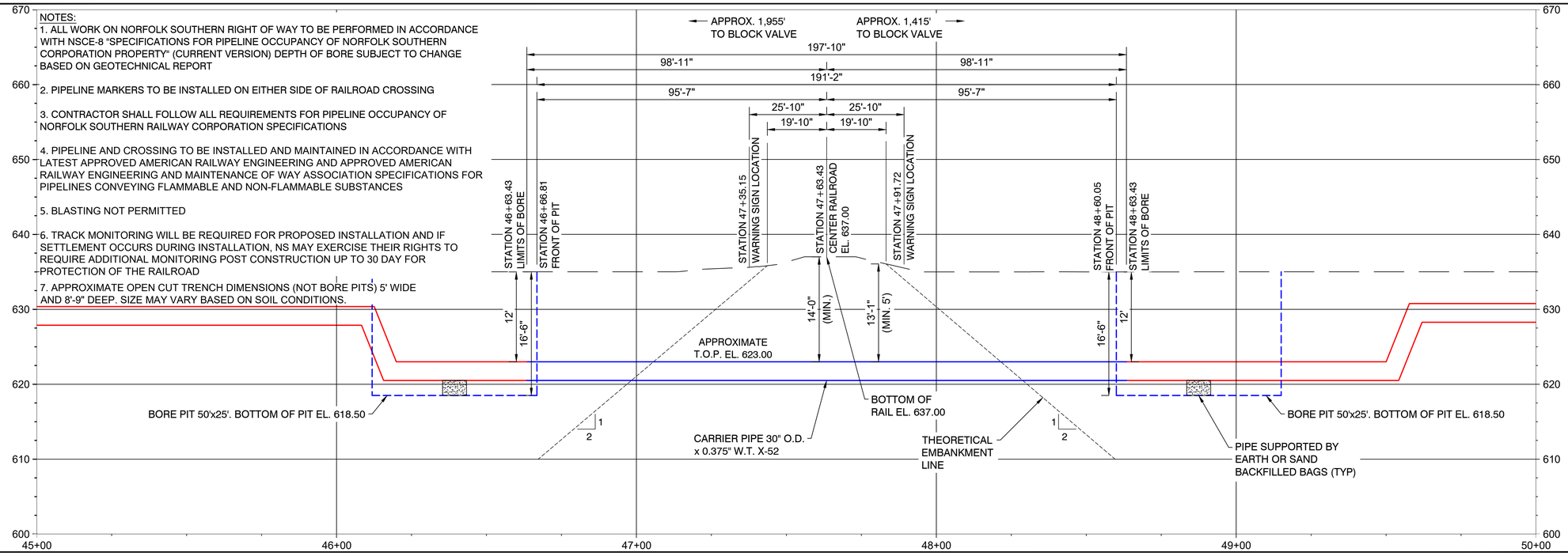
DRAWING NO:

D-6

1:09/2020 - 22x34

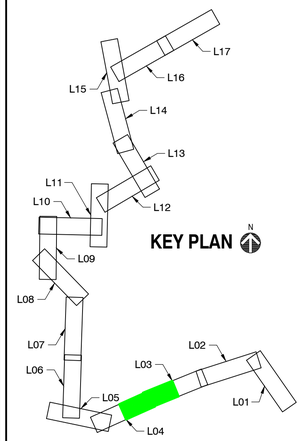
Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\MECHANICAL\121558-0001000-D5 - D8.DWG 7/22/2022 9:17 AM JJMCKOWN





NiSource

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



NOT FOR CONSTRUCTION

N
0 20 40
Feet

PROPOSED

REVISIONS		
REV. #	DATE	DESCRIPTION
H	08/17/2022	REISSUED FOR BID

DESIGNED BY	J. CULBERTSON	07/31/2020	614-453-7832
DRAWN BY	J. MCKOWN	07/24/2020	X
CHECKED BY	C. SIOK	07/31/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

CONSTRUCTION DETAILS

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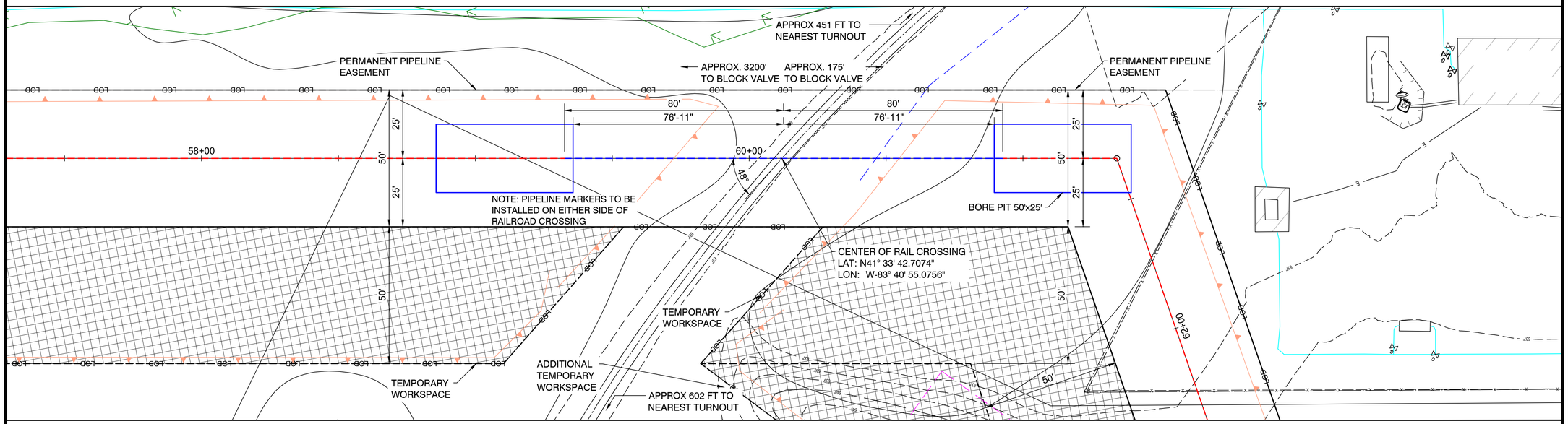
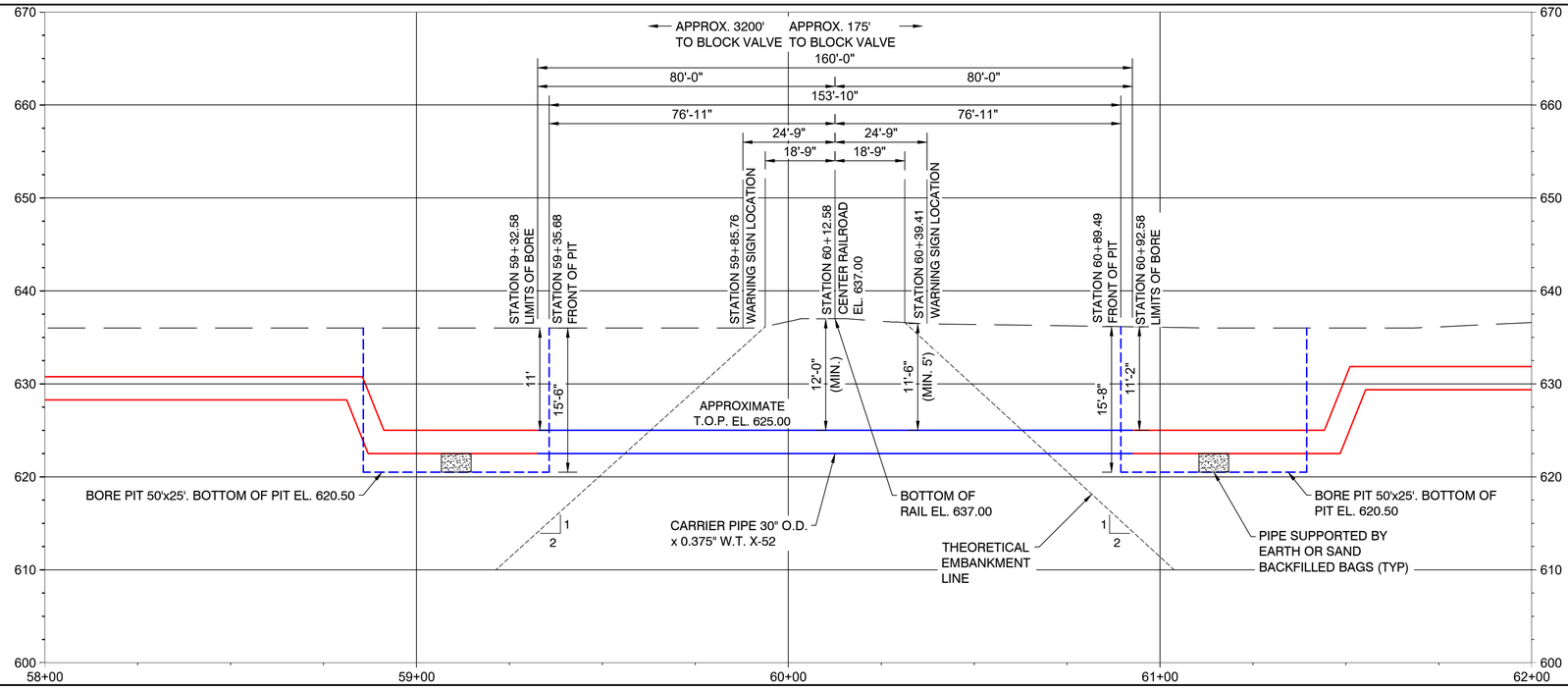
D-7

1:09/2020 - 20x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\MECHANICAL\121558-0001000-D5 - D8.DWG 7/22/2022 9:17 AM JJMCKOWN





NOTES:

1. ALL WORK ON NORFOLK SOUTHERN RIGHT OF WAY TO BE PERFORMED IN ACCORDANCE WITH NSCE-8 "SPECIFICATIONS FOR PIPELINE OCCUPANCY OF NORFOLK SOUTHERN CORPORATION PROPERTY" (CURRENT VERSION) DEPTH OF BORE SUBJECT TO CHANGE BASED ON GEOTECHNICAL REPORT

2. PIPELINE MARKERS TO BE INSTALLED ON EITHER SIDE OF RAILROAD CROSSING

3. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS FOR PIPELINE OCCUPANCY OF NORFOLK SOUTHERN RAILWAY CORPORATION SPECIFICATIONS

4. PIPELINE AND CROSSING TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH LATEST APPROVED AMERICAN RAILWAY ENGINEERING AND APPROVED AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION SPECIFICATIONS FOR PIPELINES CONVEYING FLAMMABLE AND NON-FLAMMABLE SUBSTANCES

5. BLASTING NOT PERMITTED

6. TRACK MONITORING WILL BE REQUIRED FOR PROPOSED INSTALLATION AND IF SETTLEMENT OCCURS DURING INSTALLATION, NS MAY EXERCISE THEIR RIGHTS TO REQUIRE ADDITIONAL MONITORING POST CONSTRUCTION UP TO 30 DAY FOR PROTECTION OF THE RAILROAD

7. APPROXIMATE OPEN CUT TRENCH DIMENSIONS (NOT BORE PITS) 5' WIDE AND 8'-9" DEEP. SIZE MAY VARY BASED ON SOIL CONDITIONS.

NiSource

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NOT FOR CONSTRUCTION

N

0 20 40

Feet

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	NAME	DATE	PHONE #

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ABAN# N/A
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FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OHIO

DRAWING TITLE:

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1:/09/2020 - 20x34

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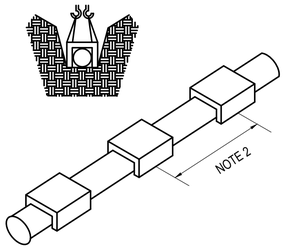
CONSTRUCTION DETAILS

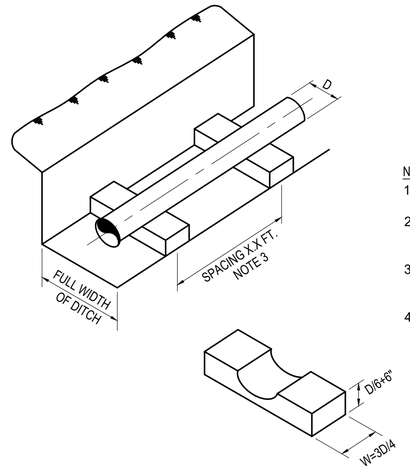


NOTES:

1. GEOTEXTILE PIPELINE WEIGHT TO BE 7,000 POUNDS FOR 30" PIPE.
2. GEOTEXTILE PIPELINE WEIGHT TO BE SPACED EVERY 10 FEET FOR 30" PIPE.
3. GEOTEXTILE PIPELINE WEIGHT TO BE FILLED WITH SAND OR GRAVEL.
4. GEOTEXTILE PIPELINE WEIGHT VENDORS TO BE PIPESAK OR ECOBAG OR APPROVED BY OWNER.

GEOTEXTILE PIPELINE WEIGHT

SCALE: N.T.S.

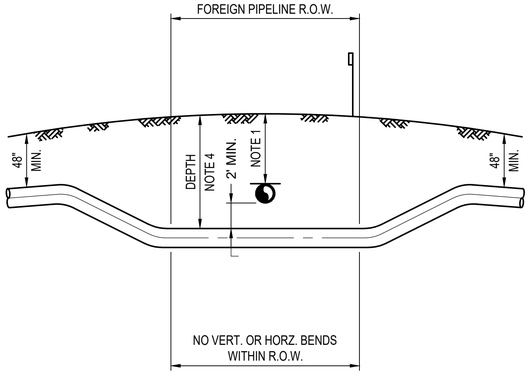


NOTES:

1. ALL MATERIALS SHALL BE SUPPLIED BY CONTRACTOR.
2. WIDTH SHALL BE INCREASED PROPORTIONAL TO SPACING INCREASE IF REQUIRED.
3. SPACING TO BE 25' FOR 30" PIPE OR PER NISOURCE CONSTRUCTION MANUAL.
4. PIPELINE SUPPORT PILLOWS SHALL BE USED WHEN ROCK IS ENCOUNTERED AT BOTTOM OF TRENCH.

TYPICAL PIPELINE SUPPORT PILLOWS

SCALE: N.T.S.



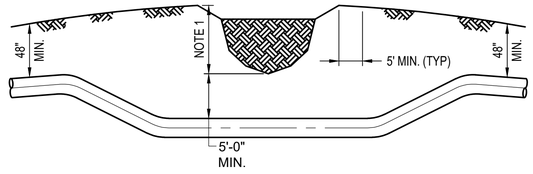
CROSS SECTION OF FOREIGN P/L R.O.W.

NOTES:

1. FOREIGN PIPELINE LOCATIONS & DEPTHS TO BE DETERMINED BY ELECTRONIC MEANS IN ADVANCE OF PIPELINE CONSTRUCTION AND CONFIRMED BY CAREFULLY EXPOSING BY HAND DIGGING. WHERE WITHIN 24" IN ANY DIRECTION FROM THE PIPELINE.
2. OWNER OF FOREIGN PIPELINE(S) SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF EXCAVATION OF CROSSING.
3. IF REQUIRED, TEST LEAD STATION TO BE INSTALLED WHERE PRACTICAL AT THE NEAREST FENCE, HEDGE ROW OR FIELD EDGE, AND WHERE READILY ACCESSIBLE. INSTALL COMPANY-SUPPLIED PERMANENT REFERENCE CELL AND EXTEND CELL LEAD TO TEST LEAD STATION.
4. DEPTH OF PIPELINE INCLUDING 2'-0" MIN. CLEARANCE SHALL BE MAINTAINED FOR FULL ANGULAR WIDTH OF FOREIGN PIPELINE R.O.W.
5. PROPOSED PIPELINE MAY ONLY CROSS ABOVE THE FOREIGN PIPELINE(S) WHERE REQUESTED BY OR APPROVED BY FOREIGN OWNER IN WRITING.

CROSSING FOREIGN PIPELINE

SCALE: N.T.S.



TYPICAL OPEN CUT STREAM CROSSING

SCALE: N.T.S.

NOTE:

1. PIPELINE WEIGHTS OR ANCHORS TO BE INSTALLED PER PLANS OR AS DIRECTED BY COMPANY.

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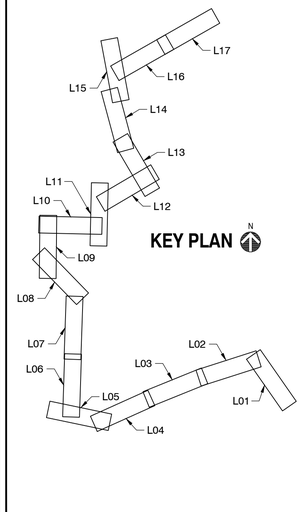

NOT FOR CONSTRUCTION

PROPOSED

REVISIONS		
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DRAWN BY	L. ROBERTS	06/10/2020	X
CHECKED BY	C. SIOK	06/10/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	**DATE**	**PHONE #**

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

CONSTRUCTION DETAILS

DRAWING NO:

D-9

1/29/2020 - 22x34

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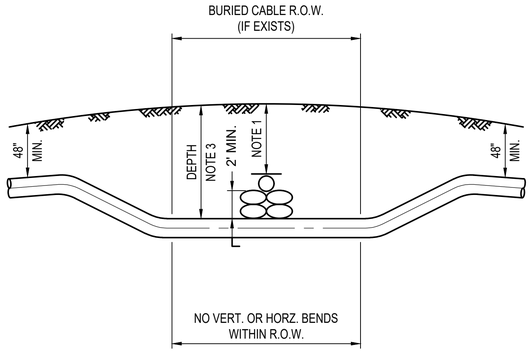
CONSTRUCTION DETAILS



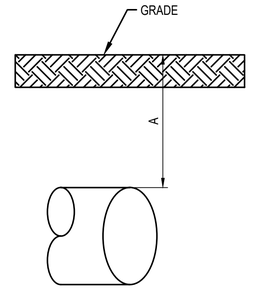
NOTES:

1. BURIED CABLE LOCATIONS & PIPE DEPTHS TO BE DETERMINED BY ELECTRONIC MEANS IN ADVANCE OF PIPELINE CONSTRUCTION AND CONFIRMED BY CAREFULLY EXPOSING BY HAND DIGGING. WHEN WITHIN 24" IN ANY DIRECTION FROM THE PIPELINE.
2. OWNER OF BURIED CABLE(S) SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF EXCAVATION OF CROSSING.
3. DEPTH OF PIPELINE INCLUDING 2'-0" MIN. CLEARANCE SHALL BE MAINTAINED FOR THE FULL ANGULAR WIDTH OF BURIED CABLE R.O.W.
4. CONTRACTOR TO SUPPORT EXPOSED CABLE WITH WOOD PLANK OR STRUCTURAL STEEL DURING CONSTRUCTION.
5. CONTRACTOR TO UTILIZE CAUTION WITH PLACEMENT OF BACKFILL TO MINIMIZE POSSIBLE DAMAGE TO THE CABLE.

CROSS SECTION OF BURIED CABLE R.O.W.

SCALE: N.T.S.

PIPE LOCATION	MIN. DEPTH OF COVER (A)
NORMAL	4'-0"
STREAM/WETLAND CROSSING	5'-0"
ROAD CROSSING	5'-0"
RAILROAD CROSSING	SEE CROSSING DETAILS



PIPELINE DEPTH OF COVER

SCALE: N.T.S.

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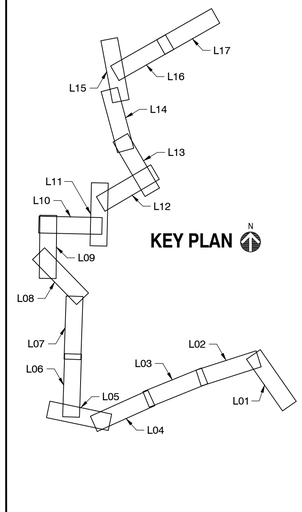

NOT FOR CONSTRUCTION

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DRAWN BY	L. ROBERTS	06/10/2020	X
CHECKED BY	C. SIOK	06/10/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

CONSTRUCTION DETAILS

DRAWING NO:

D-10

1/29/2020 - 22x34

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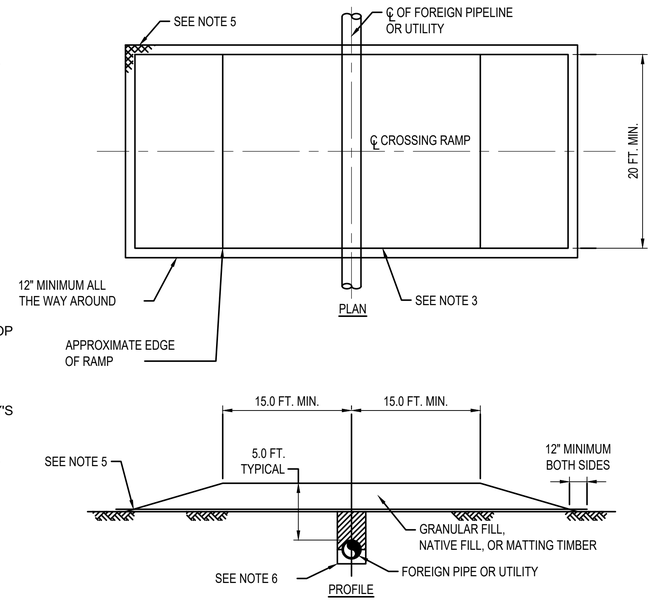
CONSTRUCTION DETAILS

NOTES:

1. CONTRACTOR TO NOTIFY EXISTING PIPELINE/UTILITY COMPANY PRIOR TO INSTALLATION OF CROSSING RAMP.
2. LENGTH OF RAMP TO VARY IN ACCORDANCE WITH CROSSING ANGLE MINIMUM CROSSING ANGLE TO BE 45 DEGREES.
3. VEHICLES OR EQUIPMENT USING CROSSINGS SHALL PROCEED SLOWLY AND WITH CAUTION TO MINIMIZE IMPACT LOADING AND REDUCTION ON DEPTH OF COVER OVER PIPE/UTILITY.
4. ON COMPLETION OF CONSTRUCTION, CONTRACTOR TO REMOVE COMPLETE RAMP AND RESTORE AREA TO THE SATISFACTION OF THE EXISTING PIPELINE/UTILITY COMPANY AND THE COMPANY'S INSPECTOR.
5. GEOTEXTILE FABRIC (AND GEOTEXTILE GRID WHERE REQUIRED) SHALL BE INSTALLED TO PROTECT NATIVE TOP SOIL AS DIRECTED BY COMPANY'S INSPECTOR WHEN IMPORTED GRANULAR FILL OR NATIVE SUBSOIL FILL MATERIAL IS UTILIZED. IMPORTED GRANULAR FILL MATERIAL OR NATIVE SUBSOIL FILL MATERIAL TO BE REMOVED AND DISPOSED OF AS DIRECTED BY COMPANY'S REPRESENTATIVE.
6. IN ROCK TERRAIN THE CONTRACTOR SHALL, UNDER THE EXISTING PIPELINE COMPANY'S SUPERVISION, EXPOSE THE TOP HALF OF THE PIPE AND BACKFILL WITH COMPACTED SAND OR APPROVED SOIL.

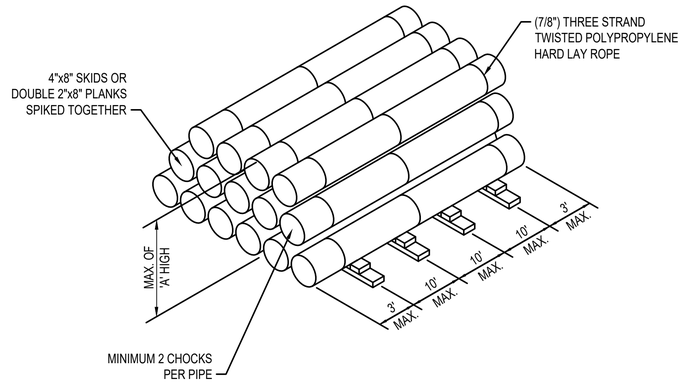


TEMPORARY RAMP CROSSING

SCALE: N.T.S.

SIZE	'A' (NO. OF ROWS)	CIRCUMFERENCE OF FINISHED LOOPS	SIZE	'A' (NO. OF ROWS)	CIRCUMFERENCE OF FINISHED LOOPS
4"	12	16"	18"	5	60"
6"	10	24"	20"	4 *	66"
8"	8	30"	24"	4	72"
10"	6	37"	32"	4	80"
12"	6	43"	36"	4	92"
16"	5	54"	42"	4	98"

* PIPE GREATER THAN 20" WILL BE 4 ROWS.



NOTES:

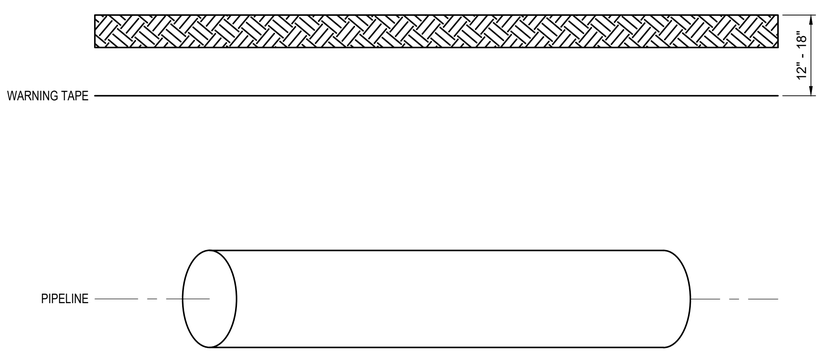
1. ALL PIPE THAT IS SURPLUS AFTER A CONSTRUCTION PROJECT MUST BE PERMANENTLY STOCKPILED.
2. THE USE OF ALTERNATE METHODS FOR STOCKPILING PIPE AND/OR THE USE OF ALTERNATE MATERIALS FOR PREVENTING PIPE TO PIPE CONTACT SHALL REQUIRE THE APPROVAL OF THE COMPANY REPRESENTATIVE.
3. NUMBER OF ROWS TO BE SPECIFIED BY COMPANY.
4. ALL MATERIALS SHALL BE FURNISHED BY CONTRACTOR.
5. EARTH AND BERMS WILL BE ACCEPTABLE ALTERNATIVES AS APPROVED BY COMPANY REPRESENTATIVE.

ROPE INSTALLATION

ROPE SPACING SHOULD BE A MAXIMUM OF 6.0 FEET FROM THE PIPE ENDS AND A MAXIMUM OF 6.0 FEET FROM GIRTH WELDS. THE INTERVALS BETWEEN RINGS SHOULD BE BETWEEN 10.0 FEET AND 25.0 FEET WITH A MINIMUM OF FOUR LOOPS SPACED OVER A STANDARD DOUBLE JOINT LENGTH (80 FEET). THE INTERVALS MUST BE ADJUSTED TO INSURE THERE IS NO PIPE TO PIPE CONTACT. ROPE ENDS SHALL BE FUSED WITH A BLOW TORCH PRIOR TO SLIPPING THE LOOP OVER THE PIPE.

TYPICAL TEMPORARY PIPE STOCKPILE

SCALE: N.T.S.



UNDERGROUND WARNING TAPE INSTALLATION DETAIL

SCALE: N.T.S.

NOTES:

1. LOCATION OF WARNING TAPE MAY VARY PER LOCATION AS DIRECTED BY COLUMBIA GAS OF OHIO.
2. WARNING TAPE SHALL BE INSTALLED IN ALL OPEN CUT SECTIONS UNLESS DIRECTED OTHERWISE BY COLUMBIA GAS OF OHIO.

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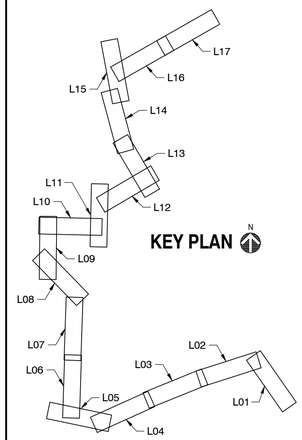

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FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

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D-11

1/28/2020 - 22x34

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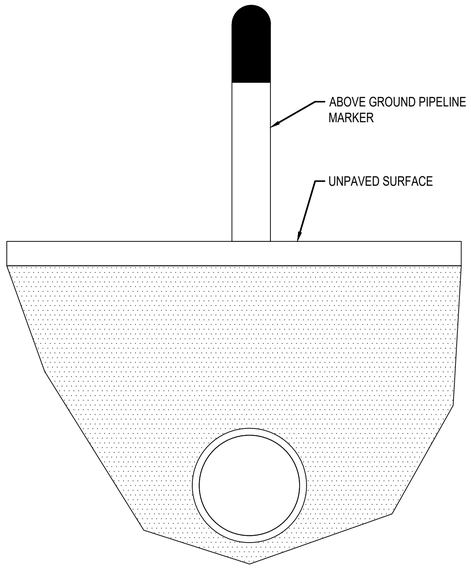
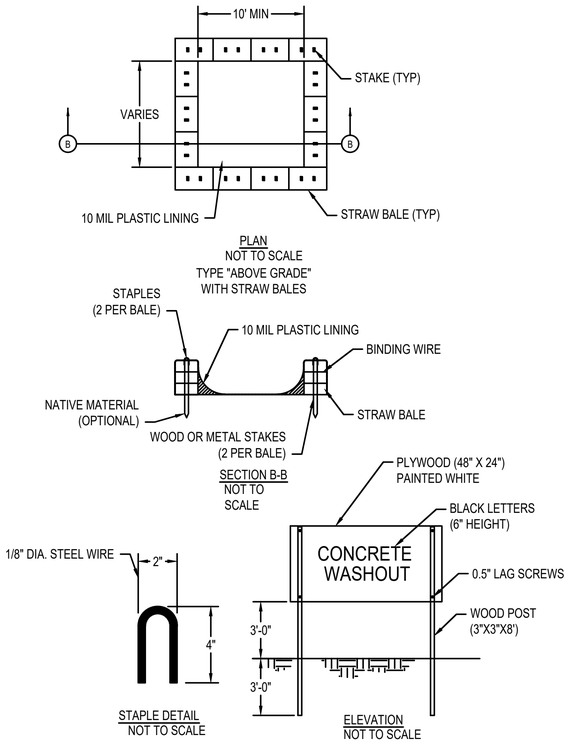


ABOVE GRADE PIPELINE MARKER

SCALE: N.T.S.

NOTE:

1. ABOVE GRADE PIPELINE MARKERS TO BE INSTALLED IN GRASS OR UNPAVED AREAS WHEN PIPELINE MARKER IS REQUIRED.
2. LOCATIONS TO BE AS DESIGNATED IN THE CONSTRUCTION PLANS OR AS DESIGNATED BY THE COMPANY DURING CLEAN UP OPERATIONS.

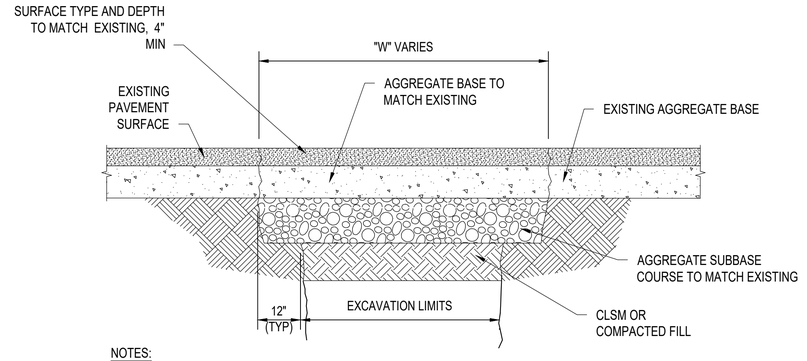


CONCRETE WASHOUT AREAS

SCALE: N.T.S.

NOTES:

1. CONCRETE WASHOUT WATER SHALL NOT BE ALLOWED TO FLOW TO STREAMS, DITCHES, STORM DRAINS, OR ANY OTHER WASHOUT CONVEYANCE.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED ADJACENT TO THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. WASHOUT PIT MUST BE INSPECTED FREQUENTLY TO ENSURE LINER IS INTACT.
4. ONCE 75% OF ORIGINAL PIT VOLUME IS FILLED OR LINER IS TORN, MATERIAL MUST BE REMOVED AND PROPERLY DISPOSED OF ONCE HARDENED. LINER SHALL BE REPLACED IF TORN.



NOTES:

1. FOR TRENCHES OVER 4' WIDE THE SUBBASE, BASE, AND PAVING SHALL BE REPLACED IN KIND USING CONSTRUCTION PROCEDURES IN ACCORDANCE WITH THE CURRENT OHIO DOT STANDARD SPECIFICATIONS.
2. CONSTRUCT PAVEMENT RESTORATION IN ACCORDANCE WITH ALL ODOT CONSTRUCTION AND DESIGN SPECIFICATIONS.
3. PAVEMENT RESTORATION DESIGN IN ACCORDANCE WITH ALL ODOT CONSTRUCTION AND DESIGN SPECIFICATIONS.
4. ALL PAVEMENT MARKINGS SHALL BE REPLACED IN KIND SEE ODOT CONSTRUCTION AND DESIGN SPECIFICATIONS.

TYPICAL SURFACE PAVEMENT REMOVAL AND RESTORATION

SCALE: N.T.S.

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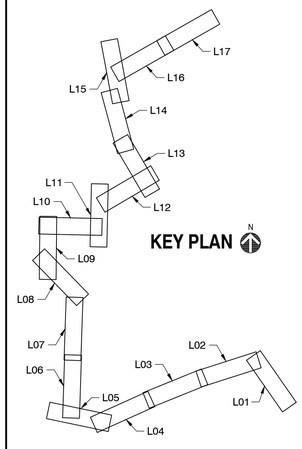

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FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

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1:09/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\MECHANICAL\121558-0001000-D12.DWG 12/22/2021 7:50 AM JJMCKOWN

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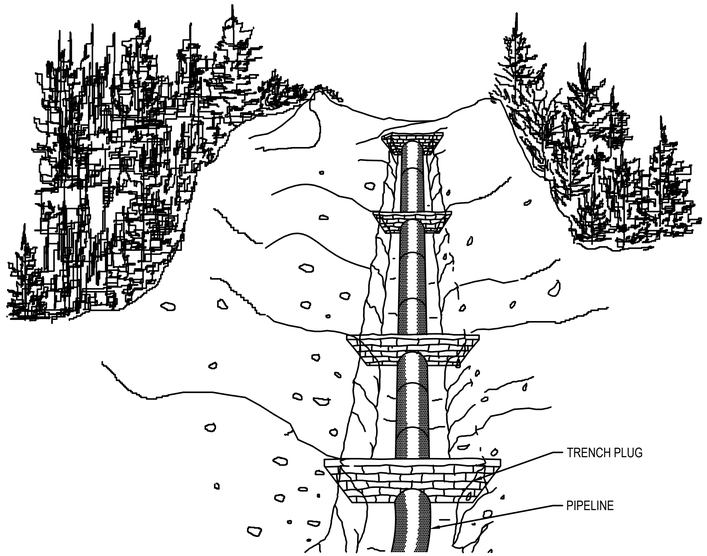
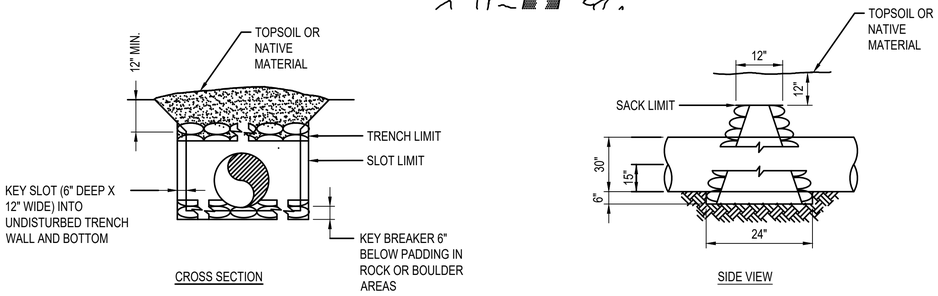


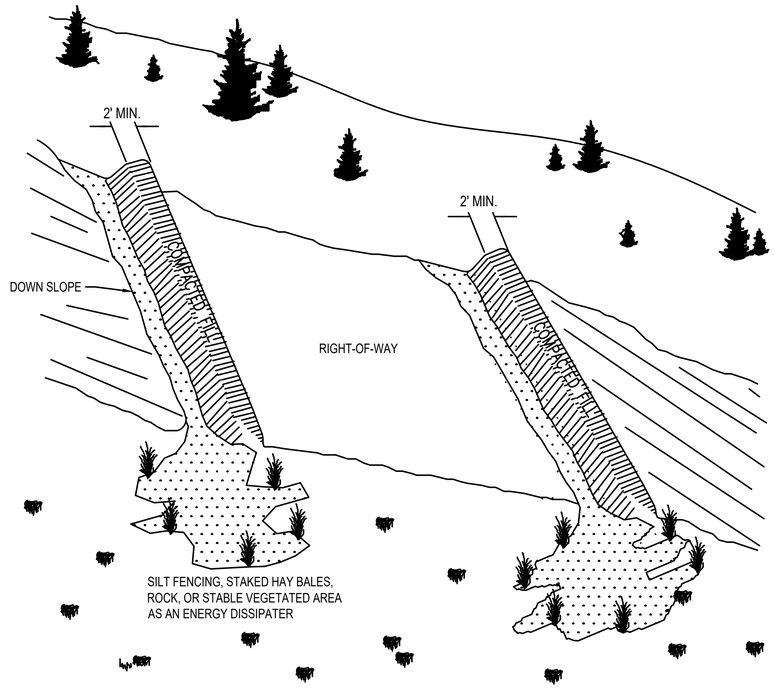


NOTES:

1. TRENCH PLUGS SHALL BE INSTALLED:
   - ON SLOPES ALONG THE TRENCH LINE WHERE THE NATURAL DRAINAGE PATTERN, PROFILE, AND TYPE OF BACKFILL MATERIAL MAY RESULT IN LOSS OF BACKFILL MATERIAL OR ALTERATION OF THE NATURAL PATTERN;
   - AT THE BASE OF SLOPES ADJACENT TO WATERBODIES AND WETLANDS;
   - WHERE NEEDED TO AVOID DRAINING A WETLAND;
   - ON UPLAND SLOPES, AT THE SAME SPACING AS SLOPE BREAKERS AND UP SLOPE OF SLOPE BREAKERS;
   - IN CULTIVATED LAND AND RESIDENTIAL AREAS WHERE PERMANENT SLOPE BREAKERS ARE NOT TYPICALLY INSTALLED, AT THE SAME SPACING AS IF PERMANENT SLOPE BREAKERS WERE REQUIRED
2. PLUGS SHALL BE INSTALLED IN ACCORDANCE WITH TPC SECTION 13 AND AS DIRECTED BY COMPANY'S INSPECTOR.
   - SACK BREAKS SHALL UTILIZE OPEN WEAVE HEMP OR JUTE SACKS FILLED WITH MINIMUM OF 55LBS OF SUBSOIL, SAND OR A MIXTURE OF 1 PART CEMENT TO 6 PARTS SAND OR SUBSOIL AS DETERMINED BY COMPANY'S INSPECTOR
   - POLYURETHANE FOAM BREAKERS MAY BE USED IN-LIEU-OF SACK BREAKERS, WHEN APPROVED BY COMPANY'S REPRESENTATIVE.
3. PLUG SPACING AND CONFIGURATION MAY BE CHANGED AS DIRECTED BY COMPANY. DEPTH OF DITCH MAY VARY WITH SITE CONDITIONS.
4. ALL MATERIALS SHALL BE SUPPLIED BY CONTRACTOR.

TYPICAL TRENCH PLUG

SCALE: N.T.S.



NOTES:

1. SLOPE BREAKERS SHALL BE CONSTRUCTED OF COMPACTED NATIVE SOIL AND INSTALLED AT LOCATIONS AS REQUIRED BY TPC SECTION 4 OR AS DIRECTED BY THE COMPANY'S REPRESENTATIVE.
2. SLOPE BREAKERS SHALL BE ORIENTED AS SHOWN OR OTHER PATTERN AS DIRECTED BY THE COMPANY'S REPRESENTATIVE TO DIRECT THE WATER OFF THE RIGHT-OF-WAY.
3. SLOPE BREAKERS SHALL BE CONSTRUCTED AT 2-8% GRADIENT ACROSS THE SLOPE.
4. THE SLOPE BREAKERS SHALL BE 18" DEEP (AS MEASURED FROM THE TROUGH TO THE TOP OF THE SLOPE BREAKER). THE THROUGH WILL BE A MINIMUM OF 5' WIDE ACROSS THE WIDTH OF THE RIGHT-OF-WAY.
5. THE OUTLET OF THE SLOPE BREAKER MUST FREELY DISCHARGE ALL RUNOFF OFF THE DISTURBED RIGHT-OF-WAY INTO A STABLE, WELL VEGETATED AREA OR INTO AN ENERGY DISSIPATER.
6. WHERE SLOPE BREAKERS EXTEND BEYOND THE EDGE OF THE CONSTRUCTION RIGHT-OF-WAY TO DIRECT RUNOFF INTO STABLE, WELL VEGETATED AREAS, THESE LOCATIONS MUST BE APPROVED BY THE COMPANY'S REPRESENTATIVE.

FLOW ENERGY DISSIPATER NOTES:

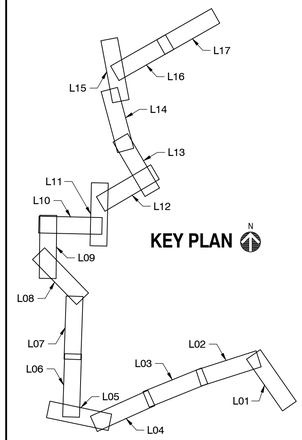
1. THE OUTLET SHALL CONTAIN AN ENERGY DISSIPATER IF THE COMPANY'S INSPECTOR DETERMINES EXISTING VEGETATION IS NOT SUFFICIENTLY STABLE TO PREVENT EROSION. THE ENERGY DISSIPATER SHALL BE CONSTRUCTED AS FOLLOWS:
   - OUTFALL END OF DISSIPATER SHOULD BE LOWER THAN SLOPE BREAKER END.
   - SILT FENCE, STRAW BALE OR ROCK DISSIPATERS SHOULD BE KEYED INTO THE END OF THE SLOPE BREAKER.
   - PROVIDE ENOUGH AREA INSIDE "L" TO CAPTURE AND HOLD SEDIMENT.

TYPICAL SLOPE BREAKER

SCALE: N.T.S.

NiSource

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



NOT FOR CONSTRUCTION

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	06/09/2020	614-453-7382
DRAWN BY	L. ROBERTS	06/10/2020	X
CHECKED BY	C. SIOK	06/10/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

CONSTRUCTION DETAILS

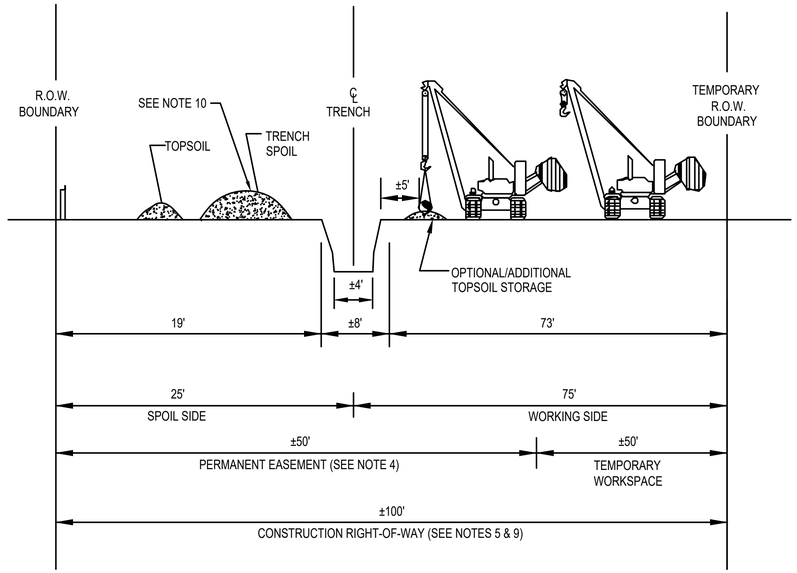
DRAWING NO:

D-13

1/29/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\MECHANICAL\121558-0001000-D13.DWG 12/22/2021 7:53 AM JJMCKOWN

CONSTRUCTION DETAILS

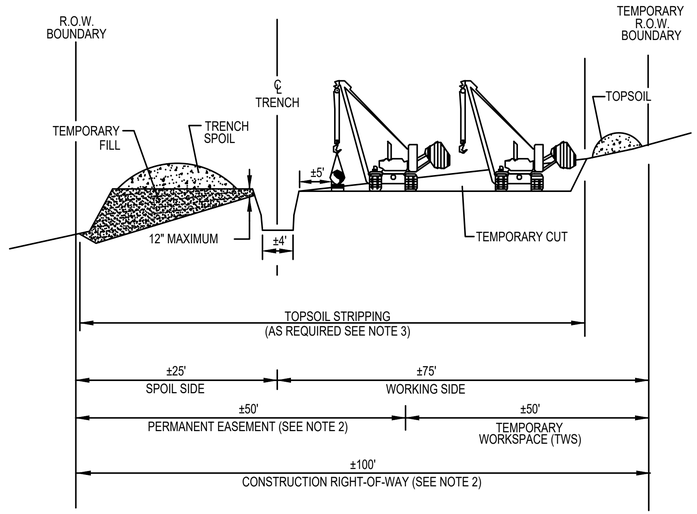


NOTES:

1. UTILIZE THE "TRENCH ONLY" TOPSOIL SALVAGE METHOD AT LOCATIONS SUCH AS RIPARIAN AREAS OR UNMANAGED WOODLAND, WHERE IDENTIFIED ON THE CONSTRUCTION DRAWINGS, OR AS DIRECTED BY THE COMPANY'S REPRESENTATIVE.
2. THE TRENCH ONLY METHOD IS NOT TO BE USED ON AGRICULTURAL LAND EXCEPT AS DIRECTED BY THE COMPANY INSPECTOR (PER LANDOWNER REQUEST).
3. FOR TRENCH ONLY STRIPPING, THE STRIPPED AREA SHALL BE WIDE ENOUGH TO ACCOMMODATE TRENCHING EQUIPMENT
4. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 50 FEET OF TEMPORARY WORKSPACE. EXTRA TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
5. STOCKPILE TOPSOIL AS SHOWN OR IN ANY CONFIGURATION APPROVED BY THE COMPANY'S INSPECTOR. KEEP TOPSOIL CLEAN OF ALL CONSTRUCTION DEBRIS
6. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH TOPSOIL INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING.
7. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING SPOIL AND TOPSOIL PILES.
8. SAME LAYOUT APPLIES WHERE CONSTRUCTION R.O.W. DOES NOT ABUT EXISTING R.O.W.
9. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.
10. TOPSOIL AND TRENCH SPOIL RELATIVE POSITIONS CAN, AS DIRECTED BY THE COMPANY'S INSPECTOR, BE REVERSED.

TYPICAL 100' WORKSPACE TOPSOIL SEPARATION

SCALE: N.T.S.



NOTES:

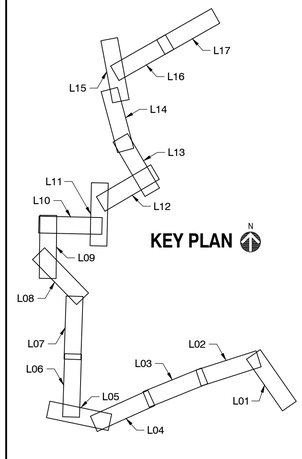
1. SIDE HILL CONSTRUCTION CUT AND FILL SHALL BE ALLOWED WHENEVER, IN THE OPINION OF THE CONTRACTOR, STEEP SIDE HILL CONSTRUCTION IS WARRANTED FOR PERSONNEL AND/OR EQUIPMENT SAFETY CONSIDERATIONS.
2. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 50 FEET OF TEMPORARY WORKSPACE. EXTRA TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
3. THIS DRAWING REFLECTS "TRENCH, SPOIL, AND WORKING SIDE" TOPSOIL STRIPPING PROCEDURE AS NEEDED FOR HILL SIDE LEVELING. SALVAGE TOPSOIL OVER TRENCH UNDER THE SPOIL PILE AND FROM TEMPORARY CUT AND FILL AREAS AT LOCATIONS IDENTIFIED OF THE CONSTRUCTION ALIGNMENT SHEETS OR AS DIRECTED BY THE COMPANY'S REPRESENTATIVE.
4. STOCKPILE TOPSOIL AS SHOWN OR IN ANY CONFIGURATION APPROVED BY THE COMPANY'S REPRESENTATIVE. KEEP TOPSOIL CLEAN OF ALL CONSTRUCTION DEBRIS.
5. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH TOPSOIL INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL PILE.

TYPICAL SIDE HILL CONSTRUCTION

SCALE: N.T.S.

NiSource

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



NOT FOR CONSTRUCTION

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	06/09/2020	614-453-7382
DRAWN BY	L. ROBERTS	06/10/2020	X
CHECKED BY	C. SIOK	06/10/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

CONSTRUCTION DETAILS

DRAWING NO:

D-14

1/29/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\MECHANICAL\121558-0001000-D14.DWG 12/22/2021 7:57 AM JJMCKOWN

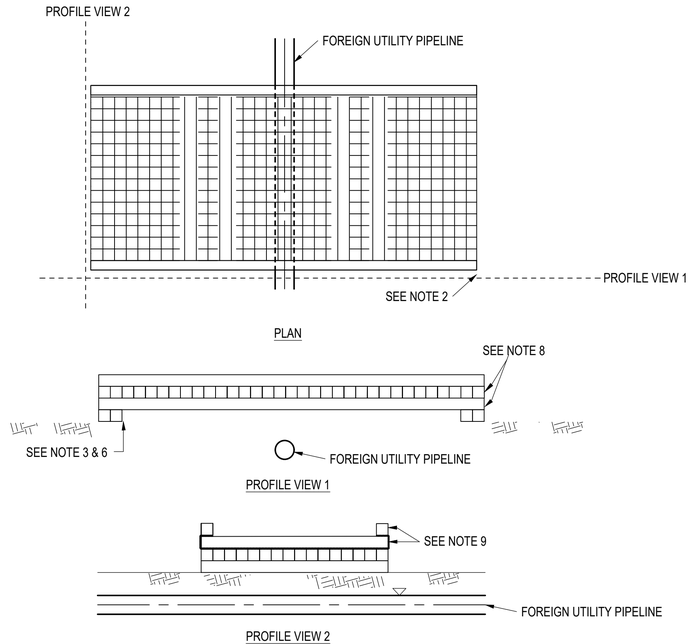
CONSTRUCTION DETAILS

NOTES

1. EXCAVATION REQUIREMENTS SHALL MEET MINIMUM REQUIREMENTS SET FORTH IN OSHA 1926 SUBPART P, APPENDIX B - SLOPING AND BENCHING.
2. ADDITIONAL EXCAVATION SAFETY AND PERFORMANCE REQUIREMENTS MAY BE REQUIRED BASED ON COMPANY DIRECTION AND SPECIFICATIONS.
3. SIMPLE SLOPE SHORT TERM TRENCH SHOWN FOR DEMONSTRATION PURPOSES ONLY. BENCHING, TONING (LAYERED SOILS), SHIELDED OR SUPPORTED, LONG TERM, AND OTHER EXCAVATION CONFIGURATIONS NOT SHOWN FOR BREVITY. ALL CONFIGURATIONS SHALL MEET REQUIREMENTS OF NOTE 1 AND 2 ABOVE.

TYPICAL TRENCH

SCALE: N.T.S.



NOTES

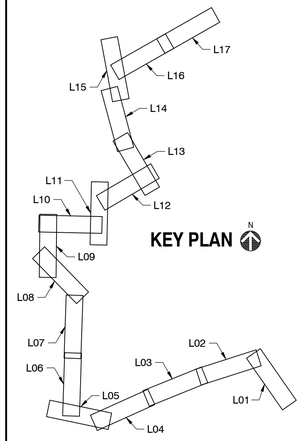
1. ONTRACTOR TO NOTIFY EXISTING PIPELINE/UTILITY COMPANY PRIOR TO INSTALLATION OF CROSSING RAMP.
2. THIS TYPE OF BRIDGE IS GENERALLY USED ON NARROW CROSSINGS, LESS THAN 20 FEET WIDE WITH APPROPRIATE CONFIGURATION. MULTIPLE MATS MAY BE LAYERED FOR HEAVIER EQUIPMENT CROSSINGS.
3. BRIDGE IS ANCHORED AND/OR TIED OFF TO ANCHOR BLOCKS FOR STABILITY. BRIDGE SHOULD BE TEMPORARILY REMOVED IF UNSAFE TO USE.
4. IF REQUIRED, UTILIZE APPROACH FILLS OF CLEAN GRANULAR MATERIAL, SWAMP MATS, SKIDS OR OTHER SUITABLE MATERIALS WHEREVER FEASIBLE. ENSURE ADEQUATE FREEBOARD.
5. REMOVE BRIDGES AS SOON AS POSSIBLE AFTER PERMANENT SEEDING UNLESS OTHERWISE DIRECTED BY COMPANY REPRESENTATIVE. THE STRUCTURE IS TO BE REMOVED IF THERE IS MORE THAN ONE MONTH BETWEEN FINAL GRADING AND SEEDING, AND ALTERNATIVE ACCESS TO THE CONSTRUCTION R.O.W. IS AVAILABLE.
6. DISPOSE OF ANY ROCK AS DIRECTED BY COMPANY REPRESENTATIVE.
7. RESTORE AND STABILIZE TO APPROXIMATE PRE-CONSTRUCTION CONDITIONS.
8. TIMBER MATTING BOARDS SHALL BE PLACED IN TWO LAYERS, ONE AFTER ANOTHER ALONG THE ENTIRE LENGTH OF BRIDGE SUCH THAT THE TWO LAYERS ARE PERPENDICULAR TO EACH OTHER
9. GEOSYNTHETIC FABRIC SHALL BE PLACED BETWEEN THE TWO PERPENDICULAR LAYERS OF MATS AND WRAPPED UP THE SIDES OF THE TOP MAT. RUNNING BOARDS SHALL BE INSTALLED ALONG THE LENGTH OF BRIDGE.

TYPICAL TIMBER MAT UTILITY BRIDGE

SCALE: N.T.S.

NiSource

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



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PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	06/09/2020	614-453-7382
DRAWN BY	L. ROBERTS	06/10/2020	X
CHECKED BY	C. SIOK	06/10/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

CONSTRUCTION DETAILS

DRAWING NO:

D-15

1:1/26/2020 - 22x34

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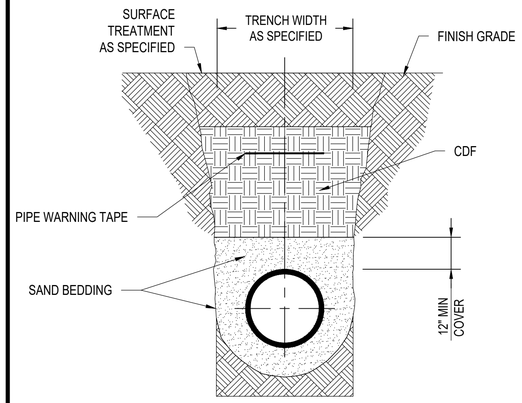
CONSTRUCTION DETAILS

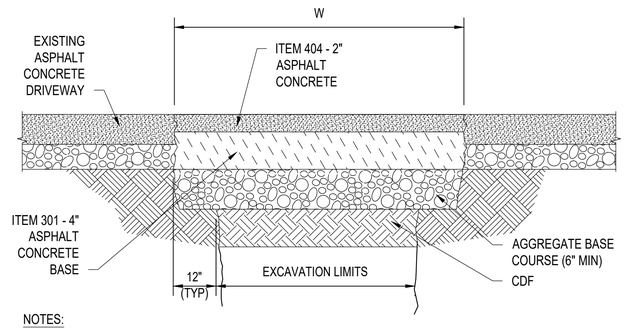


NOTES:

1. PIPE BEDDING SHALL BE CLEAN, GRADED SAND COMPACTED TO PROVIDE EVEN SUPPORT FOR PIPE. APPROVED MATERIALS INCLUDE M10 "STONE DUST" OR SIMILAR. BEDDING MATERIAL SHALL FULLY ENCIRCLE PIPE. CONTROLLED DENSITY FILL (CDF) SHALL BE INSTALLED IN SUCH A MANNER THAT MINIMIZES VOIDS AND DOES NOT DISTURB BEDDING OR PIPE.
2. PIPE WARNING TAPE SHALL BE INSTALLED APPROXIMATELY 24"-36" ABOVE PIPELINE, OR AS OTHERWISE RECOMMENDED BY MANUFACTURER. MATERIALS SHALL BE SIGNALTAPE® OR APPROVED EQUIVALENT AND SHALL BE NON-TRACEABLE VARIETY.

TYPICAL UTILITY TRENCH

SCALE: N.T.S.

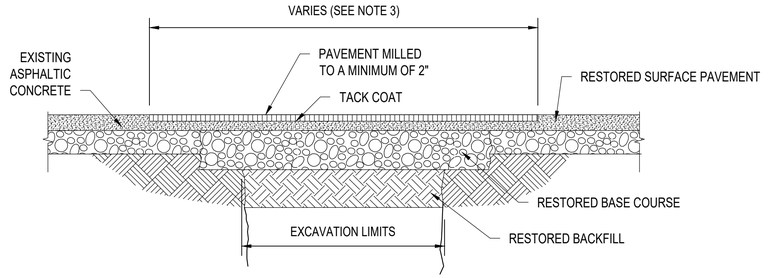


NOTES:

1. SEE MILL AND PAVE DETAIL ON THIS DRAWING. WIDTH SHALL BE 12'.
2. WHERE ASPHALT CONCRETE PAVEMENT IS REQUIRED, THE EDGES ARE TO BE CUT WITH A SAW IN A NEAT STRAIGHT LINE. ALL EDGES ARE TO BE SWEPT AND TACKED; AND ALL JOINTS, AFTER THE SURFACE HAS BEEN PLACED, ARE TO BE SEALED WITH AC-20 IN A MANNER TO AVOID TRACKING.

SURFACE TYPE 1 RESTORATION STANDARD: ASPHALT CONC. DRIVEWAY

SCALE: N.T.S.



NOTES:

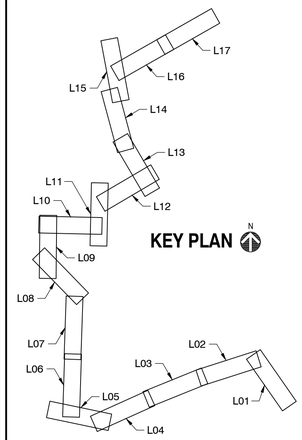
1. THICKNESS OF ALL REPLACEMENT COURSES SHALL NOT BE LESS THAN THAT OF EXISTING COURSE.
2. OVERLAY MATERIAL USED TO REPLACE MILLED SURFACE SHALL MATCH MATERIAL USED DURING RESTORATION.
3. MILLING WIDTHS VARY BASED ON LOCATION/MUNICIPALITY. SEE THE SELECTED RESTORATION TYPE FOR SPECIFIED WIDTHS.

MILL AND PAVE

SCALE: N.T.S.

NiSource

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



NOT FOR CONSTRUCTION

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	**DATE**	**DESCRIPTION**

DESIGNED BY	J. CULBERTSON	09/10/2020	614-453-7382
DRAWN BY	J. McKOWN	09/10/2020	X
CHECKED BY	C. SIOK	06/10/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	**DATE**	**PHONE #**

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

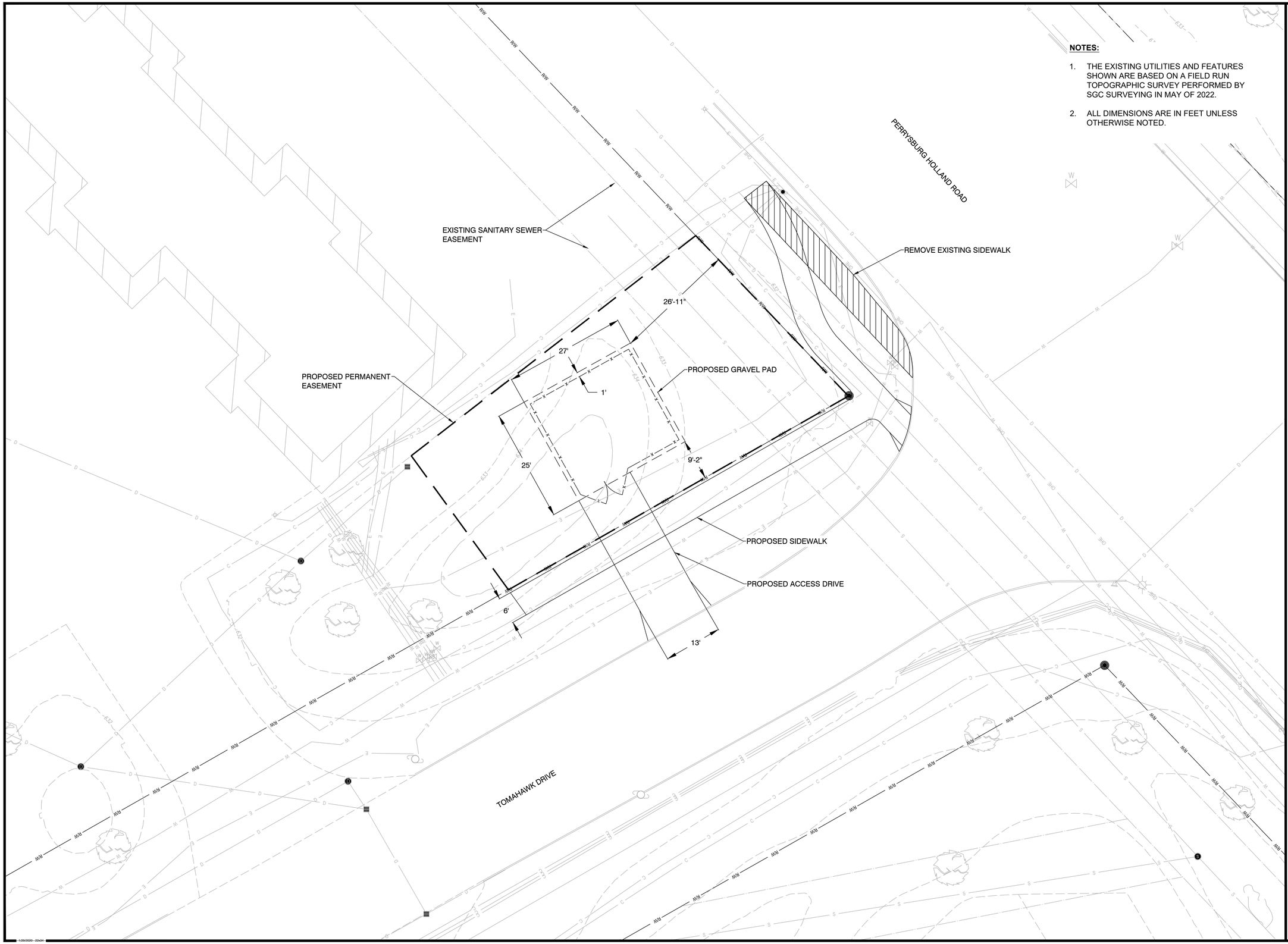
CONSTRUCTION DETAILS

DRAWING NO:

D-16

1/29/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\MECHANICAL\121558-0001000-D16.DWG 12/22/2021 8:04 AM JJMCKOWN

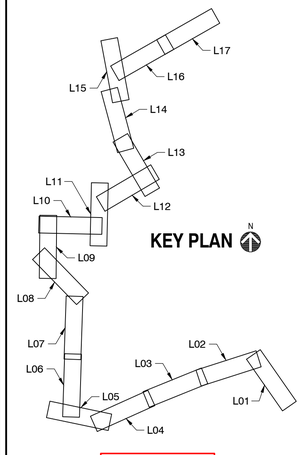


NOTES:

1. THE EXISTING UTILITIES AND FEATURES SHOWN ARE BASED ON A FIELD RUN TOPOGRAPHIC SURVEY PERFORMED BY SGC SURVEYING IN MAY OF 2022.
2. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.

NiSource

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



NOT FOR CONSTRUCTION

N

0 10 20 Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	**DATE**	**DESCRIPTION**

DESIGNED BY	S. SAMPLE	05/09/22	314-336-6332
DRAWN BY	S. SAMPLE	06/10/22	314-336-6332
CHECKED BY	C. WILSON	07/19/22	816-844-4404
AS-BUILT BY	TBD	TBD	X
	NAME	**DATE**	**PHONE #**

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

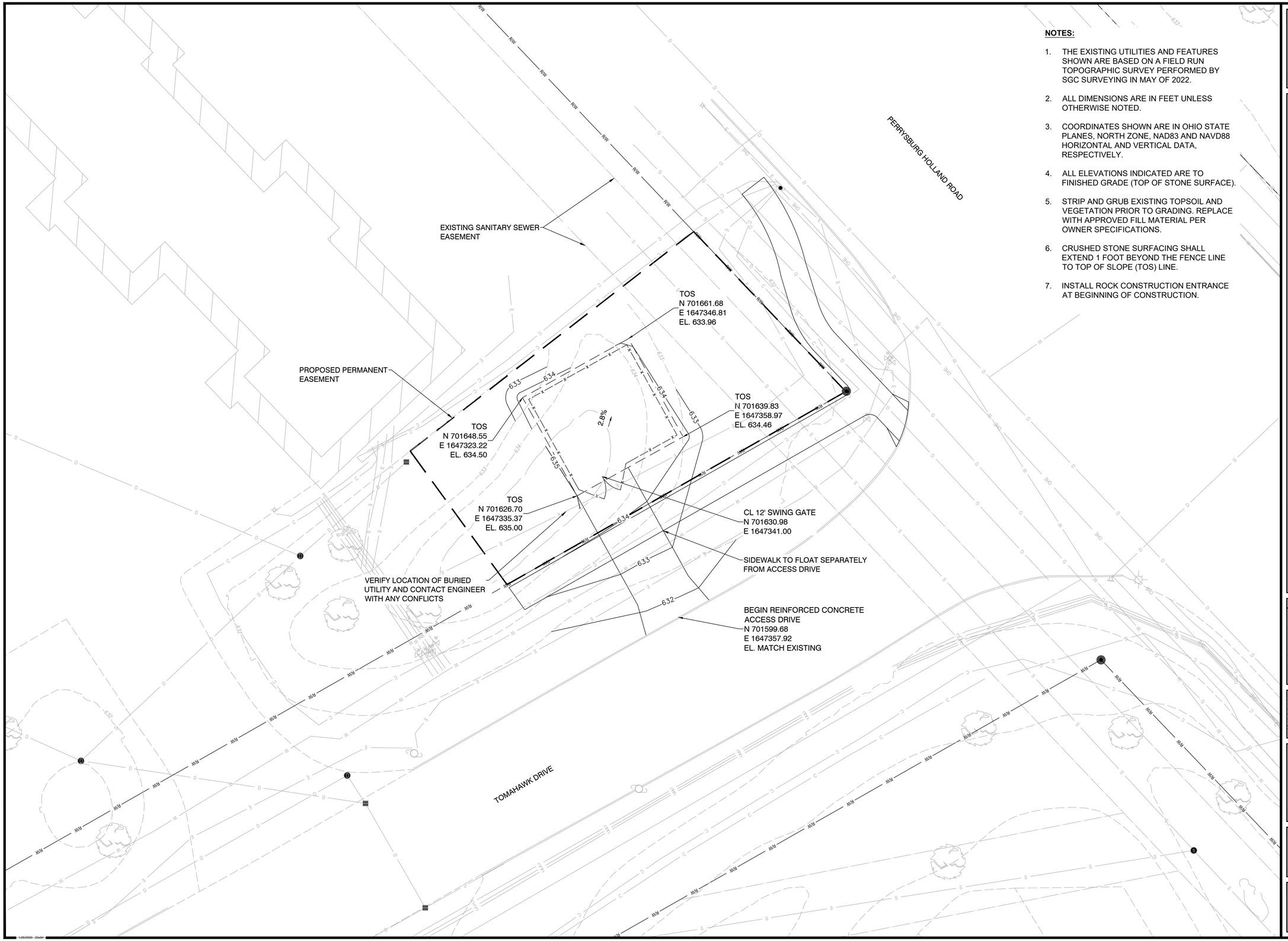
DRAWING TITLE:

SITE AND REMOVAL PLAN

DRAWING NO:

C-1

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\VALVE SITE\C-1 SITE AND REMOVAL PLAN.DWG 8/15/2022 4:54 PM JRCULBERTSON

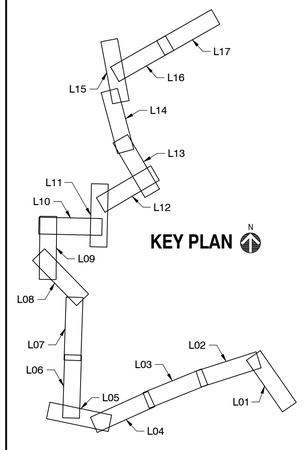


NOTES:

1. THE EXISTING UTILITIES AND FEATURES SHOWN ARE BASED ON A FIELD RUN TOPOGRAPHIC SURVEY PERFORMED BY SGC SURVEYING IN MAY OF 2022.
2. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.
3. COORDINATES SHOWN ARE IN OHIO STATE PLANES, NORTH ZONE, NAD83 AND NAVD88 HORIZONTAL AND VERTICAL DATA, RESPECTIVELY.
4. ALL ELEVATIONS INDICATED ARE TO FINISHED GRADE (TOP OF STONE SURFACE).
5. STRIP AND GRUB EXISTING TOPSOIL AND VEGETATION PRIOR TO GRADING. REPLACE WITH APPROVED FILL MATERIAL PER OWNER SPECIFICATIONS.
6. CRUSHED STONE SURFACING SHALL EXTEND 1 FOOT BEYOND THE FENCE LINE TO TOP OF SLOPE (TOS) LINE.
7. INSTALL ROCK CONSTRUCTION ENTRANCE AT BEGINNING OF CONSTRUCTION.

NiSource

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



NOT FOR CONSTRUCTION

N

0 10 20 Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	S. SAMPLE	05/09/22	314-336-6332
DRAWN BY	S. SAMPLE	06/10/22	314-336-6332
CHECKED BY	C. WILSON	07/19/22	816-844-4404
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

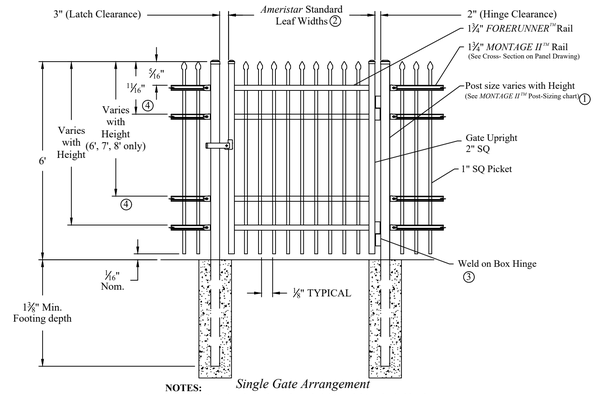
GRADING PLAN

DRAWING NO:

C-2

1:09/2020 - 20x34

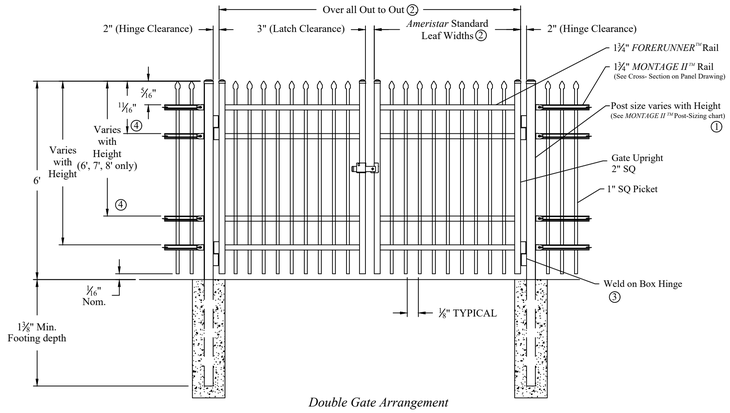
Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\VALVE SITE\C-2 GRADING PLAN.DWG 8/15/2022 4:59 PM JRCULBERTSON



Single Gate Arrangement

NOTES:

1.) Post size depends on fence height, weight and wind loads. See *MONTAGE II* ™ specifications for post sizing chart.
2.) See *Ameristar* gate table for standard out to outs. Custom gate openings available for special out to out/leaf widths.
3.) Additional styles of gate hardware are available on request This could change the Latch & Hinge Clearance.
4.) Third & Forth rail optional.

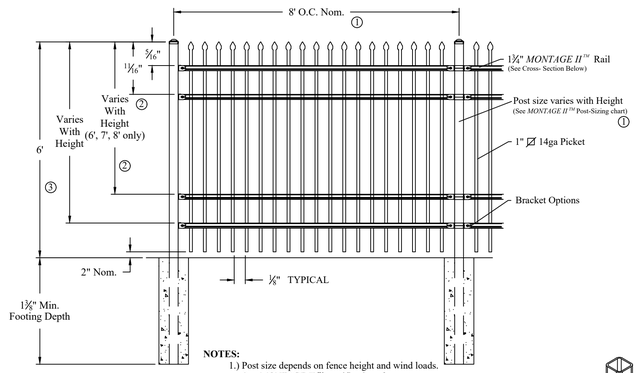


Double Gate Arrangement

Values shown are nominal and not to be used for installation purposes. See product specification for installation requirements.

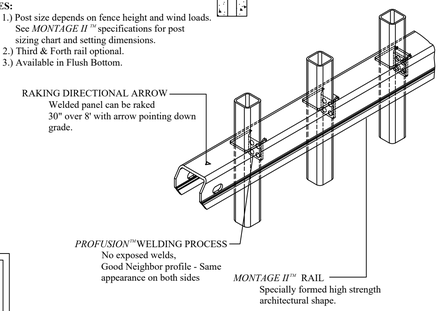
FENCE GATE

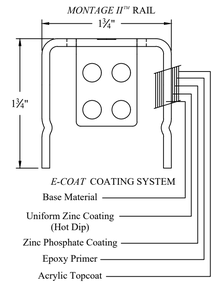
SCALE:N.T.S.

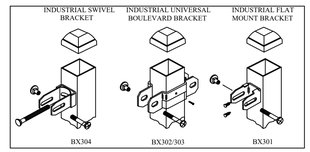


NOTES:

1.) Post size depends on fence height and wind loads. See *MONTAGE II* ™ specifications for post sizing chart and setting dimensions.
2.) Third & Forth rail optional.
3.) Available in Flush Bottom.



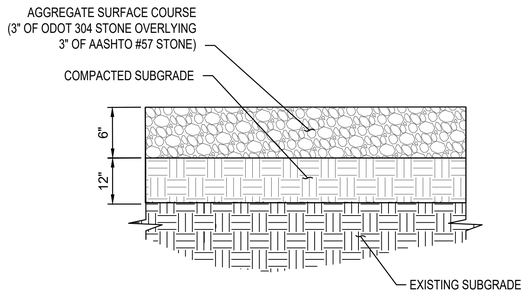




Values shown are nominal and not to be used for installation purposes. See product specification for installation requirements.

FENCE

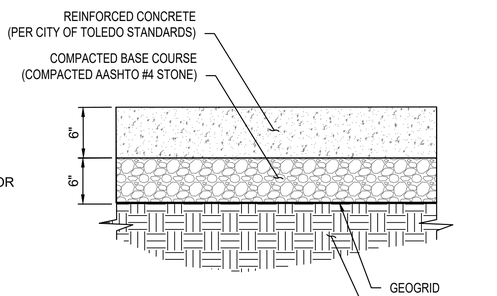
SCALE:N.T.S.



GRAVEL SURFACE COURSE

SURFACE COURSE MATERIAL NOTES:

1. GEOGRID SHALL BE TENSAR FG30 OR ENGINEER APPROVED EQUAL.



ACCESS DRIVE SURFACE COURSE

SURFACE COURSE MATERIAL

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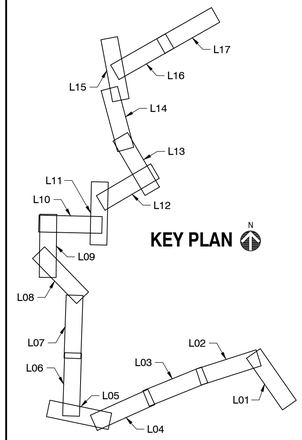
811 Know what's below. Call before you dig.



NOT FOR CONSTRUCTION

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	**DATE**	**DESCRIPTION**

DESIGNED BY	S. SAMPLE	05/09/22	314-336-6332
DRAWN BY	S. SAMPLE	06/10/22	314-336-6332
CHECKED BY	C. WILSON	07/19/22	816-844-4404
AS-BUILT BY	TBD	TBD	X
	NAME	**DATE**	**PHONE #**

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

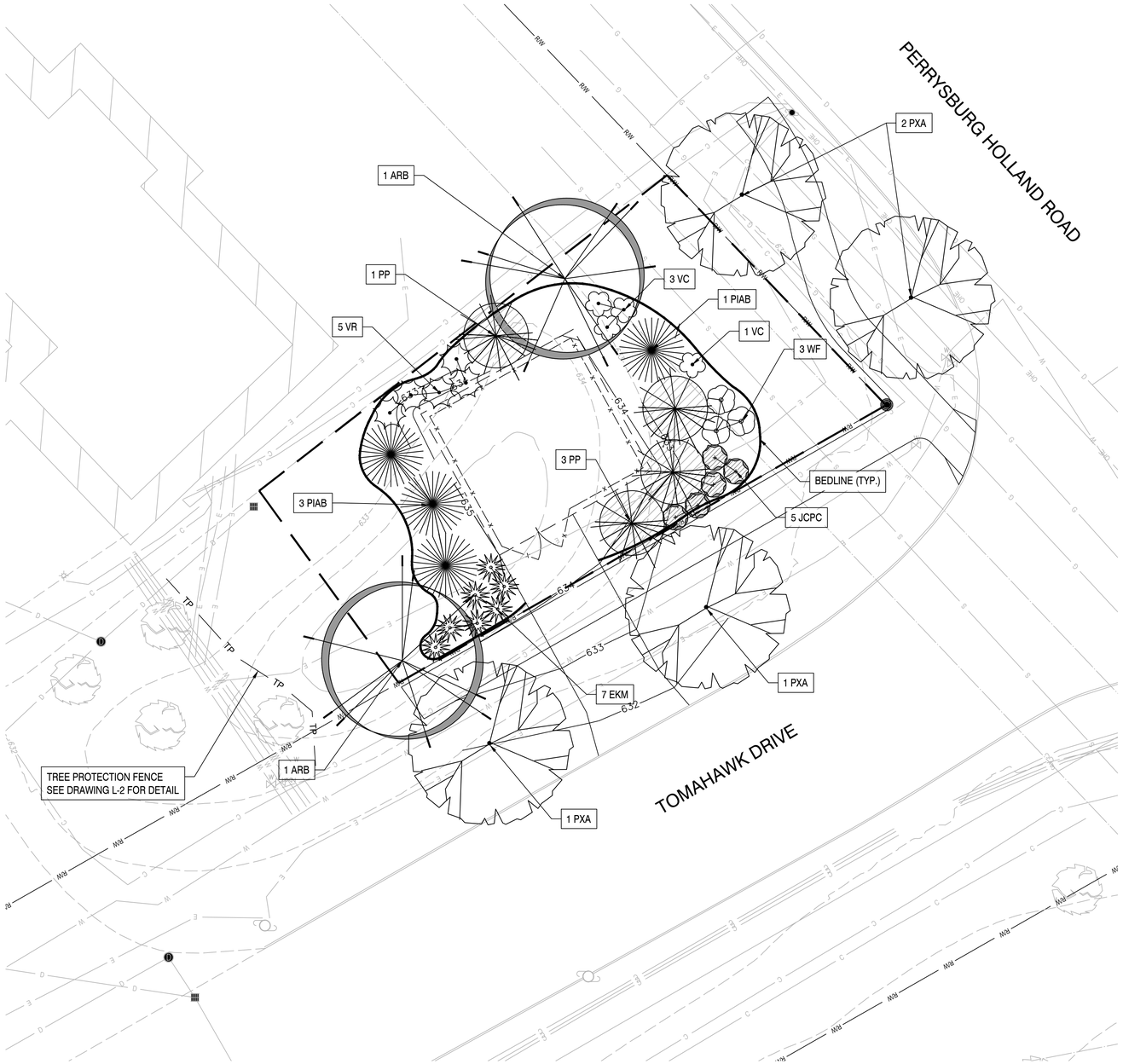
SURFACING AND FENCE DETAILS

DRAWING NO:

C-3

1/28/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\VALVE SITE\C-3 SURFACING AND FENCE DETAILS.DWG 8/15/2022 5:02 PM JRCULBERTSON



LANDSCAPE SCHEDULE					
SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT
SHADE TREES					
ARB	2	ACER RUBRUM 'BOWHALL'	BOWHALL RED MAPLE	2 1/2" - 3" CAL.	B & B
PXA	4	PLATANUS X ACEFOLIA	LONDON PLANETREE	2 1/2" - 3" CAL.	B & B
EVERGREEN TREES					
PIAB	4	PICEA ABIES	NORWAY SPRUCE	7' -8'	B & B
PP	4	PICEA PUNGENS	COLORADO SPRUCE	7' - 8'	B & B
EVERGREEN SHRUBS					
JCPC	5	JUNIPERUS CHINENSIS PFTIZERIANA 'AUREA'	GOLDTIP PFITZER JUNIPER	24" - 30" SPRD.	#7 CONT. (MIN.)
EKM	7	EUONYMUS KIAUTSCHOVICUS 'MANHATTAN'	MANHATTAN SPREADING EUONYMUS	24" - 30" SPRD.	#7 CONT. (MIN.)
VR	5	VIBURNUM RHYTIDOPHYLUM	LEATHERLEAF VIBURNUM	3' - 4' HT.	B & B
DECIDUOUS SHRUB					
VC	4	VIBURNUM CARLESI	KOREAN SPICE VIBURNUM	24" - 30" HT.	B & B
WF	3	WEIGELA FLORIDA	FLOWERING WIGELA	3' - 4' HT.	B & B
TOTAL	38				
ANY DISCREPANCIES BETWEEN QUANTITIES ON THE PLAN AND SCHEDULE, THE PLAN SHALL DICTATE.					

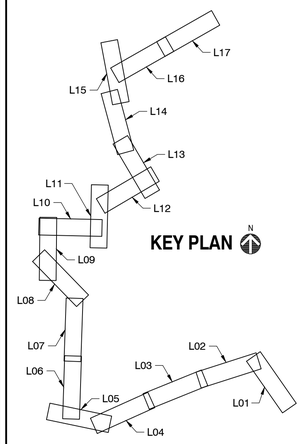
COMPLIANCE CHART		
INDUSTRIAL DISTRICT OR USE ADJACENT TO ANY COMMERCIAL DISTRICT OR USE BETWEEN PRINCIPAL STRUCTURE AND PROPERTY BOUNDARY		
REQUIRED:		
DIMENSION (MIN.)	LANDSCAPE QUANTITY (TREES MIN.)	LANDSCAPE QUANTITY (SHRUBS MIN.)
2.5 'CAL. OR 7'-8' SPRUCE	1 CANOPY TREE OR EVERGREEN TREE PER 20 LINEAR FEET	4 SHRUBS PER 20 LINEAR FEET
CALCULATIONS:		
NORTH - 48' FRONTAGE	3 CANOPY TREES OR 3 EVERGREEN TREES	10 SHRUBS
EAST - 75' FRONTAGE	4 CANOPY TREES OR 4 EVERGREEN TREES	16 SHRUBS
PROPOSED:		
NORTH FRONTAGE	1 CANOPY TREE / 2 EVERGREEN TREES	7 SHRUBS
EAST FRONTAGE	1 CANOPY TREE / 3 EVERGREEN TREES	12 SHRUBS

NOTE:

1. SEE DRAWING L-2 FOR PLANTING DETAILS.
2. SEE DRAWING L-3 FOR PLANTING NOTES AND SEEDING SPECS.
3. SEED ALL DISTURBED AREAS WITH A TURF-TYPE TALL FESCUE GRASS SEED MIX AS SPECIFIED ON SHEET L-3.

NiSource

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



NOT FOR CONSTRUCTION

N

0 10 20 Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

	NAME	DATE	PHONE #
DESIGNED BY	T. VOORHEES	06/13/22	973-407-9548
DRAWN BY	F. PASCERI	06/14/22	973-318-4330
CHECKED BY	T. VOORHEES	07/16/22	973-407-9548
AS-BUILT BY	TBD	TBD	X

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

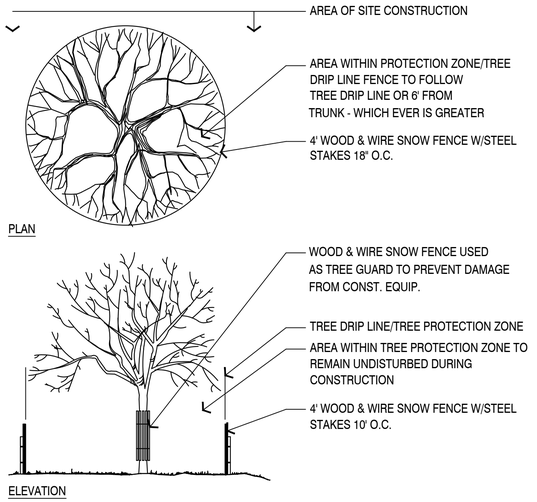
LANDSCAPE PLAN

DRAWING NO:

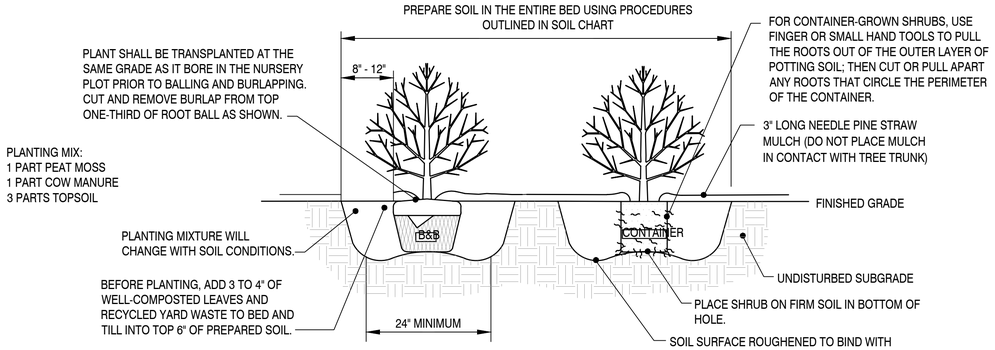
L-1

1/29/2020 - 22x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\VALVE SITE\L-1 LANDSCAPING PLAN.DWG 7/14/2022 2:21 PM FPASCERI



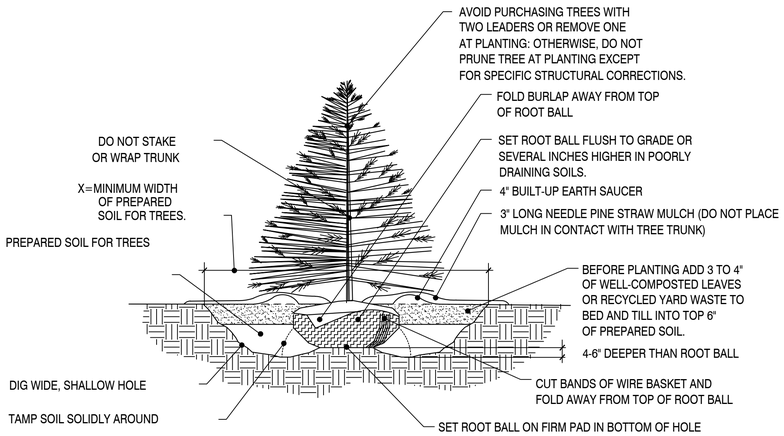
TREE PROTECTION 1
NOT TO SCALE -



SHRUB PLANTING DETAIL 2
NOT TO SCALE -

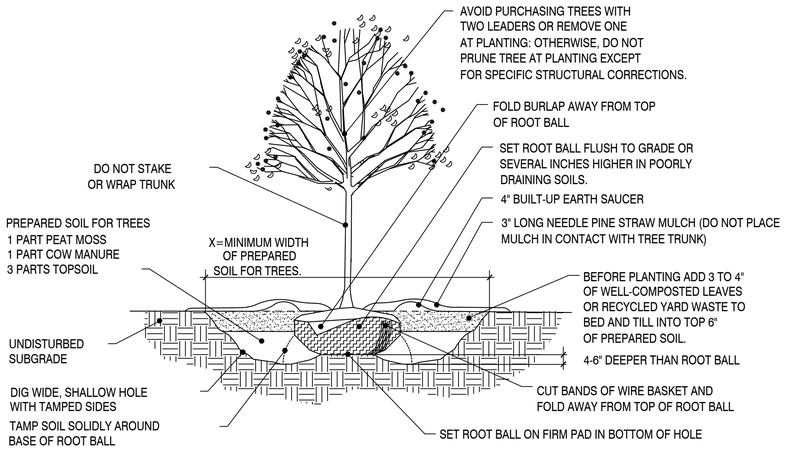
GENERAL RANGE OF SOIL MODIFICATIONS & VOLUMES FOR VARIOUS SOIL CONDITIONS		
POST-CONSTRUCTION SOIL CONDITION	MIN./ WIDTH PREPARED SOIL FOR TREES (X)	TYPE OF PREPARATION
GOOD SOIL (NOT PREVIOUSLY GRADED OR COMPACTED, TOPSOIL LAYER INTACT)	6 FT. OR TWICE THE WIDTH OF THE ROOT BALL, WHICHEVER IS GREATER	GENERAL RANGE OF SOIL MODIFICATIONS & VOLUMES FOR VARIOUS SOIL CONDITIONS
COMPACTED SOIL (NOT PREVIOUSLY GRADED, TOPSOIL LAYER DISTURBED BUT NOT ELIMINATED)	15 Ft	LOOSEN THE EXISTING SOILS TO THE WIDTHS AND DEPTHS SHOWN IN DETAILS ABOVE; ADD COMPOSTED ORGANIC CONTENT UP TO 5% DRY WEIGHT.
GRADED SUBSOILS AND CLEAN FILLS WITH CLAY CONTENT BETWEEN 5 & 35%	20 Ft	MINIMUM TREATMENT: LOOSEN EXISTING SOIL TO WIDTHS AND DEPTHS SHOWN, ADD COMPOSTED ORGANIC MATTER TO BRING ORGANIC CONTENT UP TO 5% DRY WEIGHT. OPTIMUM TREATMENT : REMOVE TOP 8-10 IN. OR THE EXISTING SOILS TO THE WIDTHS AND DEPTHS SHOWN, ADD 8-10 IN. OF LOAM TOPSOIL.
POOR QUALITY FILLS, HEAVY CLAY SOILS, SOILS CONTAMINATED WITH RUBBLE OR TOXIC MATERIAL	20 Ft	REMOVE EXISTING SOILS TO THE WIDTHS AND DEPTHS CONTAMINATED WITH RUBBLE OR TOXIC MATERIAL

1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. REMOVE ALL ROPE FROM TRUNK & TOP OF ROOT BALL. FOLD BURLAP BACK 1/3 FROM TOP OF ROOT BALL
3. PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY.
4. THOUROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
5. THE BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE ROUGH TO AVOID MATTING OF SOIL LAYERS AS NEW SOIL IS ADDED. IT IS PREFERABLE TO TILL THE FIRST LIFT (2 TO 3 IN.) OF PLANTING SOIL INTO THE SUBSOIL.



REFERENCE: ARCHITECTURAL GRAPHIC STANDARDS 1998 CUMULATIVE SUPPLEMENT.

EVERGREEN PLANTING DETAIL 3
NOT TO SCALE -

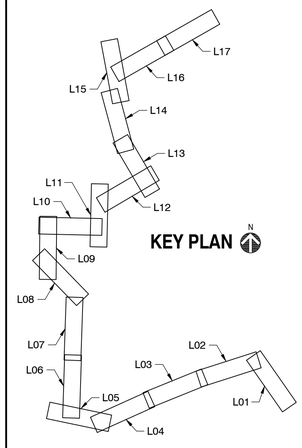


REFERENCE: ARCHITECTURAL GRAPHIC STANDARDS 1998 CUMULATIVE SUPPLEMENT.

DECIDUOUS PLANTING DETAIL 4
NOT TO SCALE -

NiSource

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



NOT FOR CONSTRUCTION

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H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

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DRAWN BY	F. PASCERI	06/14/22	973-318-4330
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AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

LANDSCAPE DETAILS

DRAWING NO:

L-2

1/29/2020 - 22x34

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PLANTING NOTES:

1. PLANT MATERIAL SHALL BE FURNISHED AND INSTALLED AS INDICATED; INCLUDING ALL LABOR, MATERIALS, PLANTS, EQUIPMENT, INCIDENTALS, AND CLEAN-UP.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT CORRECT GRADES AND ALIGNMENT. LAYOUT TO BE APPROVED BY OWNERS REPRESENTATIVE PRIOR TO INSTALLATION.
3. PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY; HAVE NORMAL GROWTH HABITS; WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE FROM DEFECTS AND INJURIES.
4. CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL.
5. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN VIGOROUS GROWING CONDITION. PROVISION SHALL BE MADE FOR A GROWTH GUARANTEE OF AT LEAST ONE YEAR FROM THE DATE OF ACCEPTANCE FOR TREES, SHRUBS AND GROUND COVERS. REPLACEMENTS SHALL BE MADE AT THE BEGINNING OF THE FIRST SUCCEEDING PLANTING SEASON. ALL REPLACEMENTS SHALL HAVE A GUARANTEE EQUAL TO THAT STATED ABOVE.
6. INSOFAR AS IT IS PRACTICABLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT STOCK NOT PLANTED. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. ANY PLANTS NOT INSTALLED DURING THIS PERIOD WILL BE REJECTED.
7. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS, AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH ANSI Z60.1 (REV. 2001) "AMERICAN STANDARD FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
8. ALL PLANTS SHALL BE PLANTED IN AMENDED TOP SOIL THAT IS THOROUGHLY WATERED AND TAMPED AS BACK FILLING PROGRESSES. PLANTING MIX TO BE AS SHOWN ON PLANTING DETAILS. LARGE PLANTING AREAS TO INCORPORATE FERTILIZER AND SOIL CONDITIONERS AS STATED IN PLANTING SPECIFICATIONS.
9. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES. PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE BALL ONLY.
10. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION. ALL PLANT MATERIAL SHALL BE SPRAYED WITH 'WILT-PRUF' OR EQUAL AS PER MANUFACTURER'S INSTRUCTIONS FOR LATE FALL PLANTING.
11. NO PLANT, EXCEPT GROUND COVERS, SHALL BE PLANTED LESS THAN TWO FEET FROM EXISTING STRUCTURES AND SIDEWALKS.
12. SET ALL PLANTS PLUMB AND STRAIGHT. SET AT SUCH LEVEL THAT, A NORMAL OR NATURAL RELATIONSHIP TO THE CROWN OF THE PLANT WITH THE GROUND SURFACE WILL BE ESTABLISHED. LOCATE PLANT IN THE CENTER OF THE PIT.
13. ALL INJURED ROOTS SHALL BE PRUNED TO MAKE CLEAN ENDS BEFORE PLANTING UTILIZING CLEAN, SHARP TOOLS. IT IS ADVISABLE TO PRUNE APPROXIMATELY 1/3 OF THE GROWTH OF LARGE TREES (2" CALIPER AND OVER) BY THE REMOVAL OF SUPERFLUOUS BRANCHES, THOSE WHICH CROSS, THOSE WHICH RUN PARALLEL, ETC. MAIN LEADER OF TREES WILL NOT BE CUT BACK. LONG SIDE BRANCHES, HOWEVER, MUST BE SHORTENED.
14. EACH TREE AND SHRUB SHALL BE PRUNED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICE TO PRESERVE NATURAL CHARACTER OF PLANT. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.
15. ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES AS A RESULT OF CONSTRUCTION OPERATIONS. ALL EXISTING TREES SHALL BE FERTILIZED WITH A REGULAR GARDEN FERTILIZER (5-10-5) UPON COMPLETION OF WORK. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT OFF AT THE TRUNK. CONTRACTOR TO ENSURE THAT CUTS ARE SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH SHARP TOOLS AND FILLED AROUND WITH TOPSOIL. COMPLETELY SATURATE THESE AREAS WITH WATER. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR IS TO PROTECT ALL EXISTING TREES TO REMAIN BY ERECTING TREE PROTECTION FENCE AT THE DRIP LINE. THIS WILL ENSURE NO COMPACTION OF THE ROOT MASS.
16. ALL PLANTING BEDS SHALL BE MULCHED WITH 3" LAYER OF LONG NEEDLE PINE STRAW MULCH.
17. NEW PLANTING AREAS AND SEED SHALL BE ADEQUATELY IRRIGATED OR WATERED TO ESTABLISH THE PROPOSED PLANTS AND LAWN.
18. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE AS SHOWN ON THE APPROVED LANDSCAPE PLAN MUST BE INSTALLED, INSPECTED AND APPROVED BY THE FACILITIES GROUNDS SUPERINTENDENT OR THEIR REPRESENTATIVE. THE GROUNDS SUPERINTENDENT SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS. THE PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER AS REQUIRED BY AND APPROVAL BY THE STATE CONSTRUCTION OFFICE (SCO) SHALL BE INSTALLED DURING THE FOLLOWING PLANTING SEASONS:

TYPE	DATES
PLANTS	3/15 TO 12/15
LAWN	3/15 TO 6/15
	9/15 TO 11/01

FURTHERMORE, THE FOLLOWING TREE VARIETIES SHALL NOT BE PLANTED DURING THE FALL PLANTING SEASON DUE TO THE HAZARDS ASSOCIATED WITH PLANTING THESE TREES IN THIS SEASON.

ACER RUBRUM	POPULUS VARIETIES
BETULA VARIETIES	PRUNUS VARIETIES
CARPINUS VARIETIES	PYRUS VARIETIES
CRATEGUS VARIETIES	QUERCUS VARIETIES
KOELREUTERIA	SALIX WEEPING VARIETIES
LIQUID AMBER STYRACIFLUA	TILIA TOMENTOSA
LIRODENDRON TULIPIFERA	ZELKOVA VARIETIES
PLATANUS ACERFOLIA	

ANY PLANTINGS INSTALLED IN CONFLICT WITH THIS REQUIREMENT MUST RECEIVE THE WRITTEN APPROVAL OF THE GROUNDS SUPERINTENDENT OR THEIR REPRESENTATIVE, PRIOR TO PLANTING. FAILURE TO COMPLY WITH THESE REQUIREMENTS WILL REQUIRE THE REMOVAL OF THE PLANTING IN QUESTION. THIS REQUIREMENT DOES NOT APPLY TO SEEDING OR PLANTINGS SPECIFICALLY FOR SOIL STABILIZATION PURPOSES.

19. ALL DISTURBED AREAS TO BE TREATED WITH 4" TOP SOIL & SEEDED IN ACCORDANCE WITH PERMANENT STABILIZATION METHODS SPECIFIED ON THIS SHEET.

PLANTING SPECIFICATIONS:

1. SCOPE OF WORK
   A. THIS WORK SHALL CONSIST OF PERFORMING, CLEARING AND SOIL PREPARATION, FINISH GRADING, PLANTING AND DRAINAGE, INCLUDING ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT.

2. MATERIALS
   A. GENERAL - ALL MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE ANSI Z60.1, AMERICAN STANDARDS FOR NURSERY STOCK OR APPROVED EQUAL.
   B. PLANTS - ALL PLANTS SHALL BE HEALTHY OR NORMAL GROWTH, WELL ROOTED, FREE FROM DISEASE AND INSECTS.
   C. TOPSOIL - LOAMY SILT, HAVING AN ORGANIC CONTENT NOT LESS THAN 5%, pH RANGE BETWEEN 4.5 - 7, BE FREE OF DEBRIS, ROCKS LARGER THAN TWO INCHES (2"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLODS.
   D. MULCH - LONG NEEDLE PINE STRAW MULCH.

3. FERTILIZER AND SOIL CONDITIONER - PLANTED AREAS
   A. ORGANIC FERTILIZER - SHALL BE PROCESSED SEWER SLUDGE WITH MINIMAL CONTENT OF 1% NITROGEN AND 2% PHOSPHORIC ACID, EQUAL TO 'NITROHUMIS'.
   B. ORGANIC FERTILIZER AND SOIL CONDITIONER - SHALL BE 'GRO-POWER' AND ORGANIC BASE MATERIALS COMPRISED OF DECOMPOSED ANIMAL AND VEGETABLE MATTER AND COMPOSTED TO SUPPORT BACTERIAL CULTURES, CONTAINING NO POULTRY OR HUMAN WASTE. GUARANTEED ANALYSIS (5-3-1): NITROGEN 5%. PHOSPHATE 3%, POTASH 1%. 50% HUMUS AND 15% HUMIC ACIDS.

4. GENERAL WORK PROCEDURES
   A. LANDSCAPE WORK SHALL COMMENCE AS SOON AS THOSE PORTIONS OF THE SITE ARE AVAILABLE. CONTRACTOR TO UTILIZE WORKMANLIKE STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH DAYS WORK. ALL DEBRIS, MATERIALS, AND TOOLS SHALL BE PROPERLY STOCKPILED OR DISPOSED OF. ALL PAVED SURFACES SHALL BE SWEPT CLEAN AT THE END OF EACH DAYS WORK.

5. WEEDING
   A. BEFORE AND DURING PRELIMINARY GRADING AND FINISH GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

6. TOPSOILING
   A. CONTRACTOR TO PROVIDE FOUR INCHES (4") MINIMUM THICK TOPSOIL LAYER IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO PRODUCE A FOUR INCH (4") COMPACTED THICKNESS. TOPSOIL PRESENT AT THE SITE, IF ANY, MAY BE USED TO SUPPLEMENT TOTAL AMOUNT REQUIRED. CONTRACTOR TO FURNISH AN ANALYSIS OF ON-SITE TOPSOIL UTILIZED IN ALL PLANTING AREAS. ADJUST pH AND NUTRIENT LEVELS AS REQUIRED TO ENSURE AN ACCEPTABLE GROWING MEDIUM.

7. SOIL CONDITIONING
   A. CULTIVATE ALL AREAS TO BE PLANTED TO A DEPTH OF 6". ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE. SPREAD EVENLY IN ALL PLANTING AREAS AND TILL (2 DIRECTIONS) INTO TOP 4" WITH THE FOLLOWING PER 1,000 S.FT.:

      20 POUNDS 'GRO-POWER'
      100 POUNDS AGRICULTURAL GYPSUM
      20 POUNDS NITROFORM (COURSE) 38-0-0 BLUE CHIP

   SOIL MODIFICATIONS:
   THOROUGHLY TILL ORGANIC MATTER INTO THE TOP 6 TO 12 OF MOST PLANTING SOILS TO IMPROVE THE SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS. USE COMPOSTED BARK, RECYCLED YARD WASTE OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A pH HIGHER THAN 7.5.

   MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. IMPROVE DRAINAGE IN HEAVY SOILS BY PLANTING ON RAISED MOUNDS OR BEDS AND INCLUDING SUBSURFACE DRAINAGE LINES.

   MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.

SEED SPECIFICATIONS:

1. PRIOR TO SEEDING, AREA IS TO BE TOPSOILED, FINE GRADED, AND RAKED OF ALL DEBRIS LARGER THAN 2" DIAMETER.

2. PRIOR TO SEEDING, CONSULT MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.

3. SEEDING RATES:

	SOW AT RATE OF:
TURF TYPE TALL FESCUE SEED MIX - OR APPROVED EQUAL	5 LBS/ 1000 SF OR 200 LBS/ ACRE

4. GERMINATION RATES WILL VARY AS TO TIME OF YEAR FOR SOWING. CONTRACTOR TO IRRIGATE SEEDED AREA UNTIL AN ACCEPTABLE STAND OF COVER IS ESTABLISHED BY OWNER.

5. SHOULD LATE FALL PLANTING OCCUR, THE CONTRACTOR SHALL COORDINATE WITH THE UNIVERSITY GROUNDS SUPERINTENDENT AND STABILIZE DISTURBED LAWN AREAS WITH A TURF-TYPE TALL FESCUE BLEND SOD.

8. PLANTING POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE DESIGN PROFESSIONAL BEFORE EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.
   A. PLANTING PITS SHALL BE DUG WITH LEVEL BOTTOMS, WITH THE WIDTH TWICE THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACK FILLED WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY:

      1 PART PEAT MOSS
      1 PART COW MANURE BY VOLUME
      3 PARTS TOPSOIL BY VOLUME

      21 GRAM 'AGRIFORM' PLANTING TABLETS AS FOLLOWS:
      2 TABLETS PER 1 GAL. PLANT
      3 TABLETS PER 5 GAL. PLANT
      4 TABLETS PER 15 GAL. PLANT LARGER PLANTS
      2 TABLETS PER 1/2" DIAM. OF TRUNK CALIPER

   B. PREPARED SOIL SHALL BE TAMPED FIRMLY AT BOTTOM OF PIT. FILL PREPARED SOIL AROUND BALL OF PLANT 1/2 WAY, AND INSERT PLANT TABLETS. COMPLETE BACK FILL AND WATER THOROUGHLY.
   C. ALL PLANTS SHALL BE SET SO THAT, THEY BEAR THE SAME RELATION TO THE REQUIRED GRADE AS THEY BORE TO THE NATURAL GRADE BEFORE BEING TRANSPLANTED.
   D. PREPARE RAISED EARTH BASIN AS WIDE AS PLANTING HOLE OF EACH TREE.
   E. WATER IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACK FILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED.
   F. PRUNE ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS TO A MIN. OF 7' BRANCHING HEIGHT.

9. GROUND COVER
   A. ALL GROUND COVER AREAS SHALL RECEIVE A 1/4" LAYER OF HUMUS RAKED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO PLANTING GROUND COVER.
   B. SPACING AND VARIETY OF GROUND COVER SHALL BE AS SHOWN ON DRAWINGS.
   C. IMMEDIATELY AFTER PLANTING GROUND COVER, CONTRACTOR SHALL THOROUGHLY WATER GROUND COVER.
   D. ALL GROUND COVER AREAS SHALL BE TREATED WITH A PRE-EMERGENT BEFORE FINAL LANDSCAPE INSPECTION. GROUND COVER AREAS SHALL BE WEEDED PRIOR TO APPLYING PRE-EMERGENT. PRE-EMERGENT TO BE APPLIED AS PER MANUFACTURER'S RECOMMENDATION.

10. FINISH GRADING
    A. ALL AREAS WILL BE RECEIVED BY THE CONTRACTOR AT SUBSTANTIALLY PLUS/MINUS .1 FOOT OF FINISH GRADE.
    B. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE, UNLESS OTHERWISE DIRECTED BY GROUNDS SUPERINTENDENT. SOIL AREAS ADJACENT TO THE BUILDINGS SHALL SLOPE AWAY.
    C. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER.

11. GUARANTEE
    A. CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF ONE (1) YEAR FROM ACCEPTANCE OF JOB. OWNER TO SECURE A MAINTENANCE BOND FROM THE CONTRACTOR FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE COMMENCEMENT OF THE GUARANTEE PERIOD AND PASSES A FINAL INSPECTION BY THE OWNER OR OWNERS REPRESENTATIVE.

12. CLEANUP
    A. UPON THE COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

       MAINTAIN TREES, SHRUBS AND OTHER PLANTS BY PRUNING, CULTIVATING AND WEEDING AS REQUIRED FOR HEALTHY GROWTH. RESTORE PLANTING SAUCERS. TIGHTEN AND REPAIR STAKE AND GUY SUPPORTS AND RESET TREES AND SHRUBS TO PROPER GRADES OR VERTICAL POSITION AS REQUIRED. RESTORE OR REPLACE DAMAGED WRAPPINGS. SPRAY WITH HERBICIDE AS REQUIRED TO KEEP TREES AND SHRUBS FREE OF INSECTS AND DISEASE.

       MAINTAIN LAWNS BY WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING, AND OTHER OPERATIONS SUCH AS ROLLING, REGRADING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.

13. MAINTENANCE (ALTERNATE BID) COST PER MONTH AFTER INITIAL 90-DAY MAINTENANCE PERIOD.

NiSource

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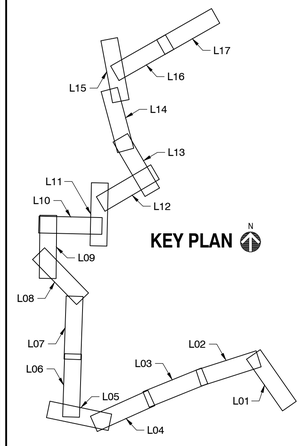


NOT FOR CONSTRUCTION

N

0 10 20 Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	T. VOORHEES	06/13/22	973-407-9548
DRAWN BY	F. PASCERI	06/14/22	973-318-4330
CHECKED BY	T. VOORHEES	07/16/22	973-407-9548
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

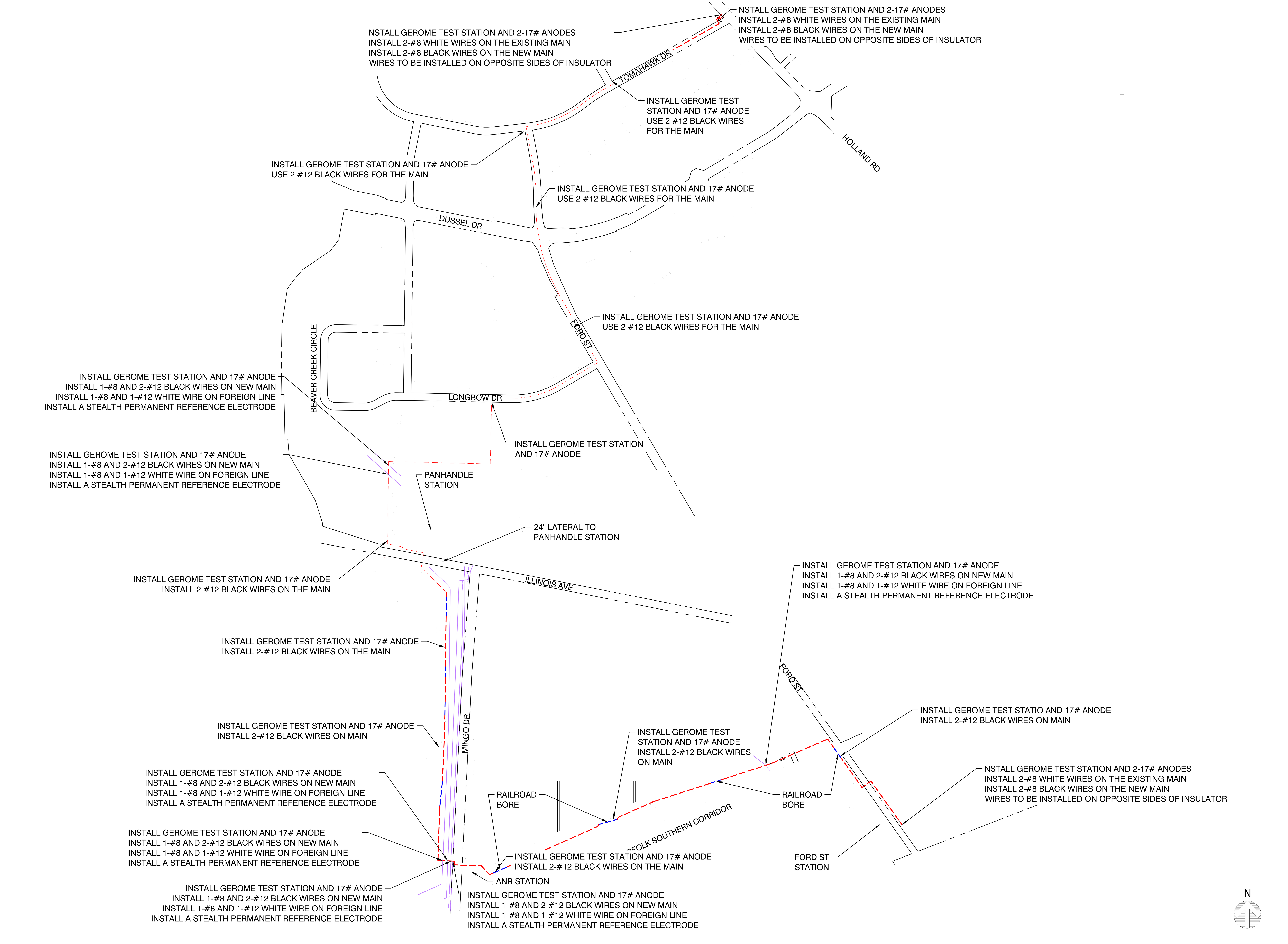
LANDSCAPE NOTES

DRAWING NO:

L-3

1:09/2020 - 20x34

Z:\CLIENTS\TND\NISOURCE\121558_TOLEDOHPREDUND\DESIGN\PIPELINE\CADD\WORKING\CIVIL\VALVE SITE\L-1 LANDSCAPING PLAN.DWG 7/14/2022 2:21 PM FPASCERI



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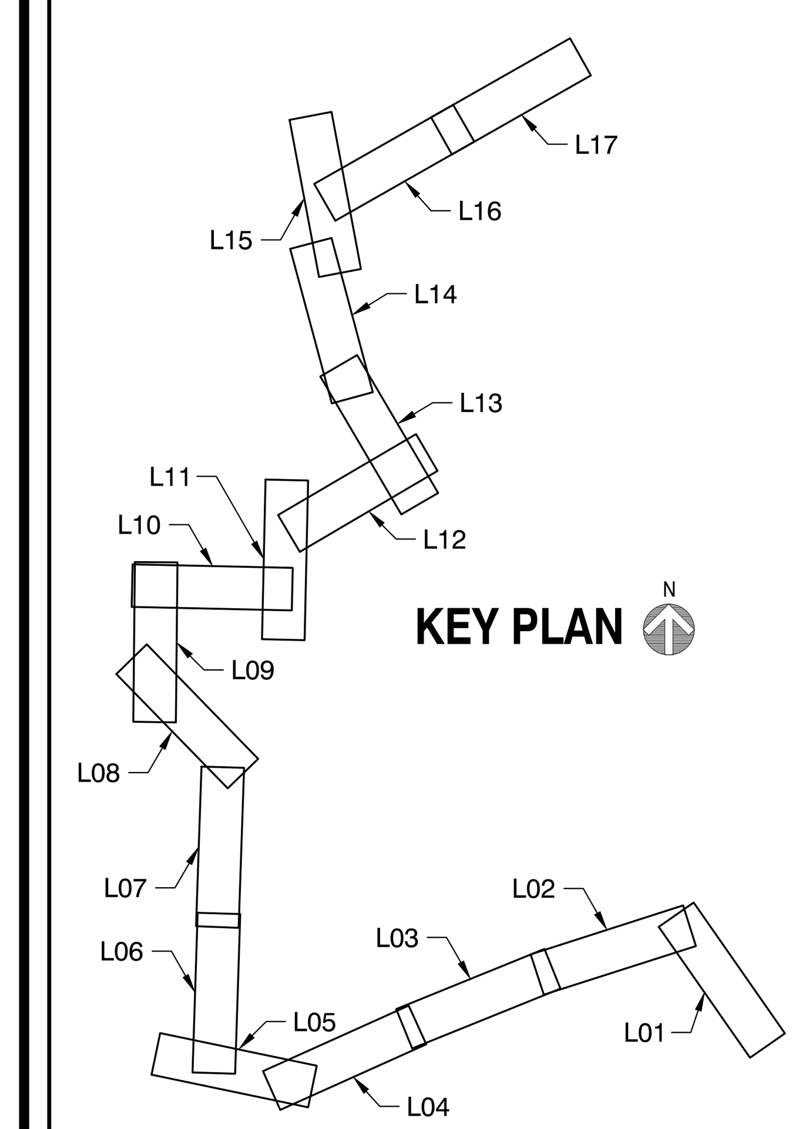

KEY PLAN

NOT FOR CONSTRUCTION

0 500 1000
Feet

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	**DATE**	**DESCRIPTION**

DESIGNED BY	K. HAMILTON	02/02/2021	X
DRAWN BY	J. MCKOWN	06/15/2022	X
CHECKED BY	X	X	X
AS-BUILT BY	TBD	TBD	X
	NAME	**DATE**	**PHONE #**

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

TOLEDO HP REDUNDANCY
LUCAS COUNTY, OH

DRAWING TITLE:

CORROSION SHEET

DRAWING NO:

CP-1

1/29/2020 - 22x34

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CONSTRUCTION DETAILS

INSTALLATION:

1. AASHTO #1 (1.5-3.5 INCH) STONE OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT A MINIMUM 6-INCH THICKNESS FOR LIGHT DUTY USE OR AT LEAST 10-INCH THICKNESS FOR HEAVY-DUTY USE.
2. THE ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS (30-FT MINIMUM ON A SINGLE RESIDENTIAL LOT; 70-FT MINIMUM ELSEWHERE).
3. A GEOTEXTILE SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:

MINIMUM TENSILE STRENGTH	200 lbs.
MINIMUM PUNCTURE STRENGTH	80 psi.
MINIMUM TEAR STRENGTH	50 lbs.
MINIMUM BURST STRENGTH	320 psi.
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS < 0.6 mm
PERMEABILITY	1X10-3 cm/sec

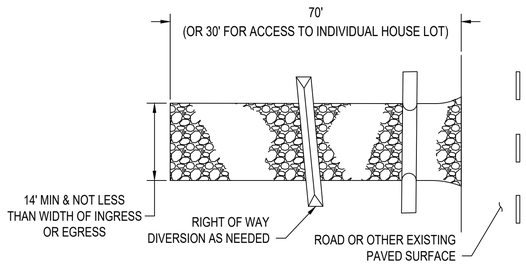
4. IF NEEDED, A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OUT ONTO PAVED SURFACES.
5. IF NEEDED, A WATER BAR SHALL BE CONSTRUCTED TO PREVENT SURFACE WATER FROM FLOWING ALONG THE LENGTH OF THE ENTRANCE UT ONTO PAVED SURFACE.

MAINTENANCE:

1. TOP DRESS WITH ADDITIONAL STONE AS SITE CONDITIONS DEMAND.
2. REMOVE MUD TRACKED ONTO PUBLIC STREETS IMMEDIATELY VIA SCRAPING OR SWEEPING.
3. ENSURE THE ENDS OF A TEMPORARY CULVERT PIPE (IF UTILIZED) ARE NOT BLOCKED AND THAT THE PIPE IS FREE OF DEBRIS THROUGHOUT.

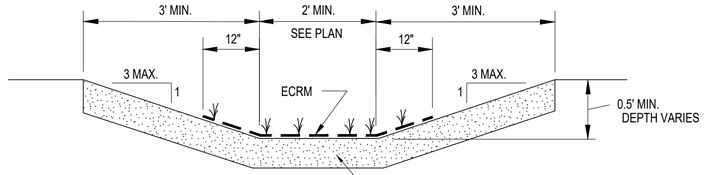
REMOVAL:

1. THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.
2. PULL OUT ALL CONSTRUCTION ENTRANCE MATERIAL AND PROPERLY DISPOSE OF OFF-SITE. STONE CAN BE BLENDED INTO THE SURROUNDING LANDSCAPE AS SITE CONDITIONS ALLOW.
3. RE-GRADE THE AREA AS NECESSARY AND ESTABLISH VEGETATION ON ANY RESULTING DISTURBED AREAS.



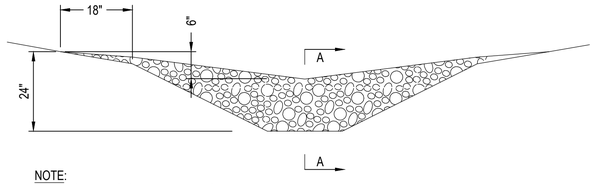
STABILIZING CONSTRUCTION ENTRANCE

SCALE:N.T.S.



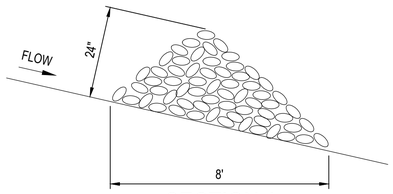
SWALE CROSS SECTION

SCALE: N.T.S.

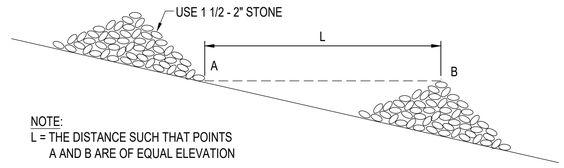


NOTE:
KEY STONE INTO CHANNEL BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 18" TO PREVENT FLOW AROUND THE DAM.

VIEW LOOKING UPSTREAM



SECTION A



NOTE:
L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION

SIDE VIEW

ROCK DITCH CHECK

SCALE: N.T.S.

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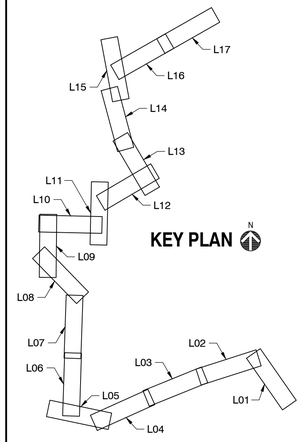

NOT FOR CONSTRUCTION

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	**DATE**	**DESCRIPTION**

DESIGNED BY	J. CULBERTSON	06/09/2020	614-453-7382
DRAWN BY	L. ROBERTS	06/10/2020	X
CHECKED BY	C. SIOK	06/10/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	**DATE**	**PHONE #**

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

CONSTRUCTION DETAILS

DRAWING NO:

ESC-1

1/29/2020 - 22x34

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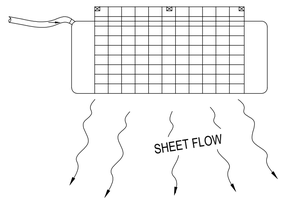
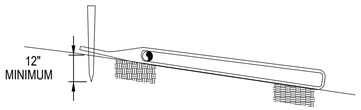
CONSTRUCTION DETAILS



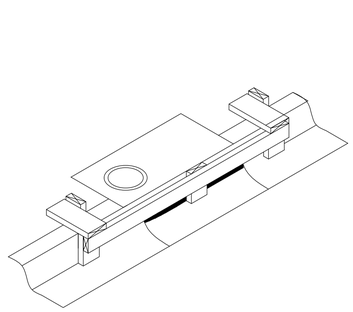


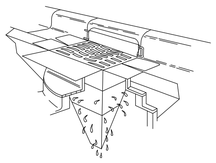
NOTES:

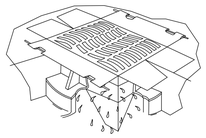
1. INSTALL A DEWATERING GEOTEXTILE FILTER BAG AS DIRECTED BY THE COMPANY'S INSPECTOR TO PREVENT THE FLOW OF HEAVILY SILT LADEN WATER INTO WATERBODIES OR WETLANDS.
2. DISCHARGE SITE SHALL BE WELL VEGETATED AND THE TOPOGRAPHY OF THE SITE SUCH THAT WATER WILL FLOW AWAY FROM ANY WORK AREAS. THE AREA DOWN SLOPE FROM THE DEWATERING SITE MUST BE REASONABLY PLANE OR STABILIZED BY VEGETATION OR OTHER MEANS TO ALLOW THE FILTERED WATER TO CONTINUE AS SHEET FLOW.
3. TO ATTACH THE DISCHARGE HOSE, CUT A CORNER OF THE BAG, INSERT DISCHARGE HOSE, AND SECURE THE HOSE TO THE BAG.
4. A SINGLE FILTER BAG SHOULD NOT BE USED FOR FLOWS GREATER THAN 600 GALLONS PER MINUTE.
5. REPLACE FILTER BAG BEFORE IT IS COMPLETELY FILLED WITH SEDIMENT. MONITOR DISCHARGE TO AVOID OVER PRESSURING DUE TO PLUGGING, WHICH MAY RESULT IN RUPTURE.
6. DISPOSE OF USED FILTER BAG AND SEDIMENT AT A SITE APPROVED BY THE COMPANY'S INSPECTOR.

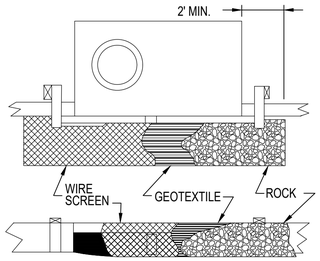
TYPICAL GEOTEXTILE FILTER BAG FOR DEWATERING

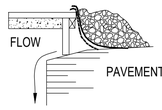
SCALE:N.T.S.



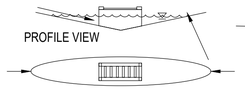




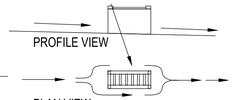




CORRECT APPLICATION-
RUNOFF PONDS AROUND INLET



INCORRECT APPLICATION-
RUNOFF PONDS AROUND INLET



PLAN VIEW

INLET PROTECTION FOR CURB DRAINS & YARD DRAINS SITUATED ON A SLOPE:

INSTALLATION:

1. REMOVE THE GRATE FROM THE CATCH BASIN.
2. INSERT THE FILTRATION SACK INTO OPENING OF CATCH BASIN. SOME PRODUCTS REQUIRE THE FILTRATION SACK BE SLIPPED OVER THE CATCH BASIN GRATE FIRST.
3. REINSERT GRATE INTO CATCH BASIN WHILE ENSURING ALL NECESSARY SUPPORT STRAPS TO PROVIDE SUPPORT AND ENSURE THE FILTRATION SACK DOES NOT FALL INTO CATCH BASIN AS IT FILLS WITH SEDIMENT.

MAINTENANCE:

1. THE FILTRATION SACK MUST BE EMPTIED WHEN IT IS 1/3RD FULL OF SEDIMENT AND DEBRIS. SACKS ARE TYPICAL MANUFACTURED WITH LIFTING STRAPS AND DUMPING STRAPS.
2. TO EMPTY THE SACK, REMOVE THE GRADE, LIFT THE SACK OUT OF THE CATCH BASIN VIA THE LIFTING STRAPS AND HAUL IT TO AN APPROPRIATE AREA. TURN IT INSIDE OUT WITH THE DUMPING STRAPS PROVIDED.
3. THE FILTRATION SACK MUST BE REPLACED IF IT IS TORN, OTHERWISE THE SAME SACK CAN BE USED MULTIPLE TIMES.
4. THE CONTRACTOR IS REQUIRED TO HAVE STAGED REDUNDANT CONTROLS ONSITE IN THE EVENT REPLACEMENTS ARE NEEDED.

INSPECTION:

1. INLET PROTECTION MEASURES MUST BE INSPECTED AT LEAST 12-HOURS PRIOR TO RAIN EVENTS, IN ADDITION TO THE WEEKLY AND POST-RAIN EVENT INSPECTIONS. NON-FUNCTIONAL DEVICES MUST BE REPLACED.

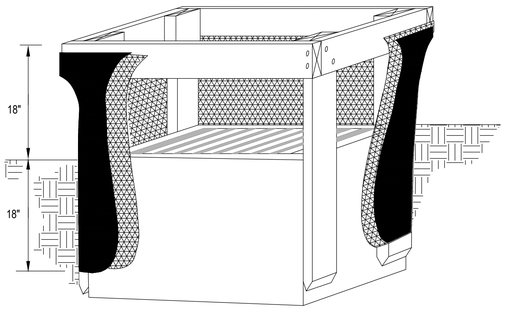
REMOVAL:

1. PULL OUT ALL INLET PROTECTION MATERIAL AND PROPERLY DISPOSE OF OFF-SITE.
2. RE-GRADE AREA WHERE ACCUMULATED SEDIMENT HAS BEEN PLACED AS NECESSARY AND ESTABLISH VEGETATION ON ANY RESULTING DISTURBED AREAS.

THE FOLLOWING DIAGRAMS PROVIDE A GENERAL IDEA OF HOW TO INSTALL AND MAINTAIN A VARIETY OF MANUFACTURED STORM DRAIN INLET PROTECTION PRACTICES. BE SURE TO IMPLEMENT FILTRATION SACKS THAT ARE APPROPRIATE FOR EITHER CURB INLETS OR FOR YARD DRAIN INLETS. MANUFACTURER'S SPECIFICATIONS FOR THE PRODUCT OF CHOICE SHOULD BE FOLLOWED.

CURB INLET PROTECTION

SCALE:N.T.S.



INSTALLATION:

1. CONSTRUCT PRIOR TO UPSLOPE LAND DISTURBANCE.
2. CONSTRUCT WOODEN FRAME FROM 2"X4" LUMBER. DRIVE POSTS 1' INTO THE GROUND AT EACH CORNER DIRECTLY AGAINST THE CONCRETE BOX AND ASSEMBLE THE TOP FRAME WITH AN OVERLAP JOINT SHOWN BELOW. THE TOP FRAME SHALL BE SET AT AN ELEVATION THAT DOES NOT CAUSE PONDED WATER TO BACKUP INTO UNWANTED AREAS.
3. THE WIRE MESH AND GEOTEXTILE SHALL BE TIGHTLY STRETCHED AND FASTENED TO THE FRAME.
4. THE GEOTEXTILE SHALL OVERLAP ACROSS ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
5. BACKFILL SHALL BE PLACED IN THE 18" TRENCH AROUND THE INLET IN COMPACTED 6" LAYERS UNTIL THE ELEVATION OF THE TOP OF THE GRATE IS REACHED.

MAINTENANCE:

1. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE-HALF THE HEIGHT OF THE PRACTICE. THE REMOVED SEDIMENT MUST BE STABILIZED AND SHOULD NOT BE PLACED WHERE IT COULD EVENTUALLY BE CONVEYED BACK TO THE INLET VIA SURFACE RUNOFF.
2. REPLACE AND PROPERLY DISPOSE OF DAMAGED SILT FENCE MATERIAL.
3. AREA WHERE SURFACE FLOW HAS CUT UNDER THE SILT FENCE MATERIAL WITHIN THE TRENCH SHALL BE RE-COMPACTED WITH APPROPRIATE MATERIAL (I.E. HIGH CLAY CONTENT)

REMOVAL:

1. PULL OUT ALL SILT FENCE MATERIAL AND STAKES AND PROPERLY DISPOSE OF OFF-SITE.
2. RE-GRADE AREA SEDIMENT HAS ACCUMULATED AS NECESSARY AND ESTABLISH VEGETATION ON ANY RESULTING DISTURBED AREAS.

ALTERNATIVE MANUFACTURED YARD DRAIN INLET PROTECTION PRODUCTS ARE AVAILABLE AND CAN BE USED, SUBJECT TO PRIOR APPROVED BY THE COMMUNITY ENGINEER.

DROP INLET PROTECTION

SCALE:N.T.S.

1/29/2020 - 22x34

NiSource

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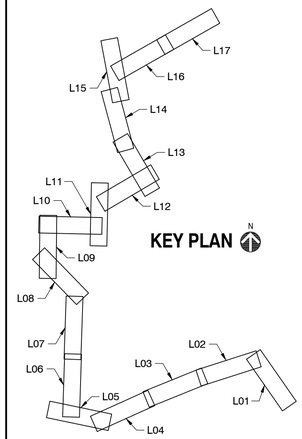

NOT FOR CONSTRUCTION

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	**DATE**	**DESCRIPTION**

DESIGNED BY	J. CULBERTSON	06/09/2020	614-453-7382
DRAWN BY	L. ROBERTS	06/10/2020	X
CHECKED BY	C. SIOK	06/10/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	**DATE**	**PHONE #**

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

CONSTRUCTION DETAILS

DRAWING NO:

ESC-2

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CONSTRUCTION DETAILS

INSTALLATION:

1. CONSTRUCT PRIOR TO UPSLOPE LAND DISTURBANCE.
2. PLACE CONTINUOUS LENGTHS OF SILT FENCE ALONG A CONSISTENT CONTOUR SO AS TO PREVENT THE CONCENTRATION OF RUNOFF AT LOW POINTS IN THE FENCE.
3. TO PREVENT FLOW AROUND ENDS, EXTEND EACH OF A CONTINUOUS LENGTH OF SILT FENCE UPSLOPE (90° TO THE CONTOUR) SO THE ENDS ARE AT A HIGHER ELEVATION OR 20-FEET IN HORIZONTAL DISTANCE, WHICHEVER IS ACHIEVED FIRST.
4. AT A MINIMUM, THE BOTTOM 8-INCHES OF THE SILT FENCE MATERIAL MUST BE PLACED IN A TRENCH (MINIMUM 6-INCH DEPTH) THAT IS CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE. THE TRENCH SHALL NOT BE CONSTRUCTED WITH THE TILT BLADE OF A BULLDOZER.
5. THE TRENCH MUST BE BACKFILLED WITH SOIL AND PROPERLY COMPACTED. WHEN AGGRESSIVELY PULLED UPWARD BETWEEN TWO CONSECUTIVE STAKES, THE MATERIAL SHOULD NOT PULL OUT OF THE GROUND.
6. STAKES (MIN. 32-INCH LENGTH, 2"X2" HARDWOOD OF GOOD QUALITY) MUST BE PALCED ON THE DOWNSLOPE SIDE OF THE SILT FENCE MATERIAL.
7. SILT FENCE MATERIAL MUST BE PULLED TIGHT BETWEEN CONSECUTIVE STAKES TO ENSURE THE FENCE DOES NOT SAG.
8. WHEN IT IS NECESSARY TO JOIN TWO SEPARATE LENGTHS OF SILT FENCE TO FORM A CONTINUOUS RUN, THE END OF TWO SEPARATE LENGTHS MUST BE JOINED TOGETHER BY FIRST OVERLAPPING THEM AND THEN TWISTING THEM TOGETHER AT LEAST 180° PRIOR TO DRIVING THE STAKES INTO THE GROUND.
9. GRADES IN EXCESS OF 10% REQUIRE SILT FENCE TO BE "J-HOOKED" AS DESCRIBED IN THE SWPPP DOCUMENT.

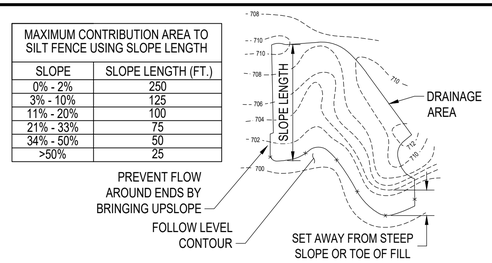
MAINTENANCE:

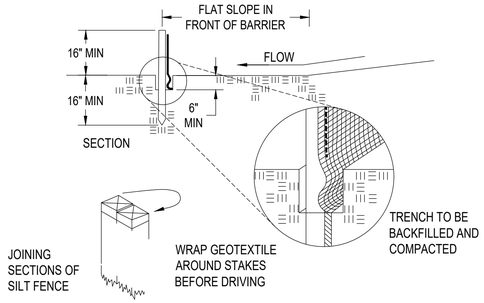
1. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 1/3RD THE HEIGHT OF THE SILT FENCE. THE REMOVED SEDIMENT MUST BE STABILIZED AND SHOULD NOT BE PLACED WHERE IT COULD EVENTUALLY BE CONVEYED BACK TO THE SILT FENCE VIA SURFACE RUNOFF.
2. REPLACE AND PROPERLY DISPOSE OF DAMAGED SILT FENCE MATERIAL.
3. AREAS WHERE SURFACE FLOW HAS CUT UNDER THE SILT FENCE MATERIAL WITHIN THE TRENCH SHALL BE RE-COMPACTED WITH APPROPRIATE MATERIAL (I.E. HIGH CLAY CONTENT).

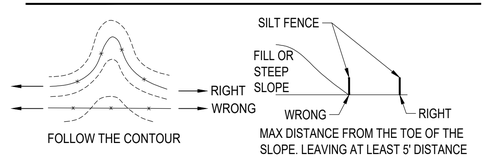
REMOVAL:

1. PULL OUT ALL SILT FENCE MATERIAL AND STAKES AND PROPERLY DISPOSE OF OFF-SITE.
2. RE-GRADE AREA WHERE SEDIMENT HAS ACCUMULATED AS NECESSARY AND ESTABLISH VEGETATION IN ANY RESULTING DISTURBED AREAS.

MAXIMUM CONTRIBUTION AREA TO SILT FENCE USING SLOPE LENGTH	
SLOPE	SLOPE LENGTH (FT.)
0% - 2%	250
3% - 10%	125
11% - 20%	100
21% - 33%	75
34% - 50%	50
>50%	25

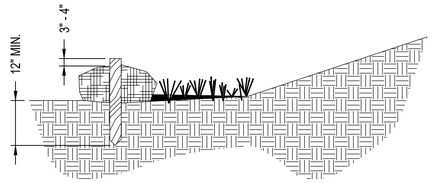






SILT FENCE

SCALE: N.T.S.



NOTES:

1. ALL FILTER SOCK MUST BE 12-INCH COMPOST FILTER SOCK OR THE ENGINEERED EQUIVALENT.
2. MATERIALS - COMPOST USED FOR FILTER SOCKS SHALL BE WEED, PATHOGEN AND INSECT FREE AND FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH. THEY SHALL BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER AND CONSIST OF A PARTICLES RANGING FROM 3/8" TO 2".
3. FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" KNITTED MESH NETTING MATERIAL, FILLED WITH COMPOST PASSING THE ABOVE SPECIFICATIONS FOR COMPOST PRODUCTS.

INSTALLATION:

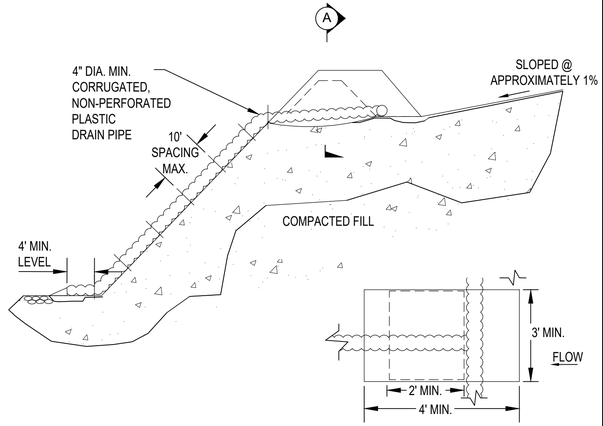
1. FILTER SOCKS WILL BE PLACED ON A LEVEL LINE ACROSS SLOPES, GENERALLY PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREA. ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND AS NEEDED MID-SLOPE.
2. FILTER SOCKS INTENDED TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE, SHALL BE SEEDED AT THE TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.
3. FILTER SOCKS ARE NOT TO BE USED IN CONCENTRATED FLOW SITUATIONS OR IN RUNOFF CHANNELS.

MAINTENANCE:

1. ROUTINELY INSPECT FILTER SOCKS AFTER EACH SIGNIFICANT RAIN, MAINTAINING FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.
2. REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER SOCKS WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE PRACTICE.
3. WHERE THE FILTER SOCK DETERIORATES OR FAILS, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.
4. REMOVAL - FILTER SOCKS WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED IN SUCH AS WAY AS TO FACILITATE AND NOT OBSTRUCT SEEDINGS.

FILTER SOCK

SCALE: N.T.S.

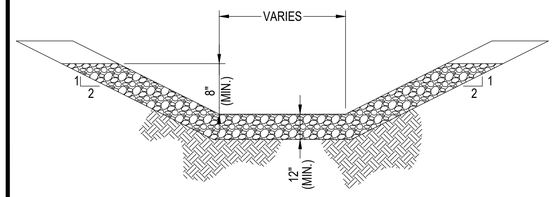


NOTES:

1. THE SLOPE DRAIN SHALL BE CONSTRUCTED/LENGTHENED WITH THE CONSTRUCTION OF THE FILL SLOPE. AS A RESULT, INLET ELEVATIONS WILL VARY ACCORDING TO GRADE ELEVATIONS AT THE TIME OF CONSTRUCTION.
2. INSPECT SLOPE DRAIN AND SUPPORTING DIVERSIONS AFTER EVERY RAINFALL EVENT AND MAKE NECESSARY REPAIRS FOR PROPER OPERATION OF THE SYSTEM.
3. UPON PROJECT COMPLETION, REMOVE THE SLOPE DRAIN AND PROPERLY STABILIZE ALL DISTURBED AREAS.

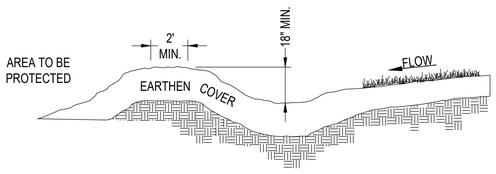
TEMPORARY SLOPE DRAIN

SCALE: N.T.S.



RIPRAPPED CHANNEL

SCALE: N.T.S.

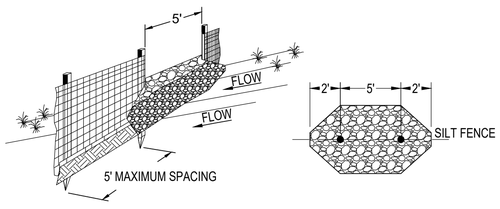


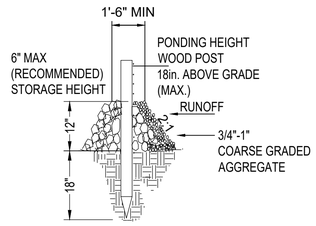
NOTE:

1. SWALE SHALL BE CONSTRUCTED WITH POSITIVE SLOPE ≤ 1% AND OUTLET TO A STABLE VEGETATED AREA OR SEDIMENT TRAP OR BASIN.

DIVERSION SWALE

N.T.S.





NOTES:

1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN IT REACHES ONE-HALF HEIGHT OF FENCE OR FABRIC STARTS TO BULGE.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
4. TURN END OF SILT FENCE UP SLOPE TO PREVENT BYPASS FLOW AND ALLOW FOR PONDING.
5. SEE TYPICAL SILT FENCE DETAIL FOR ADDITIONAL INFORMATION.

SILT FENCE ROCK OUTLET

SCALE: N.T.S.

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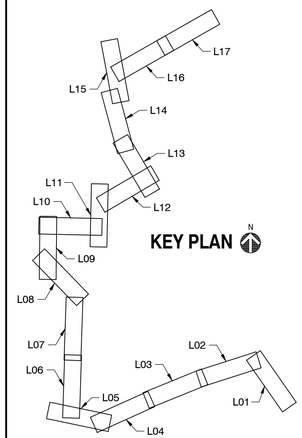

NOT FOR CONSTRUCTION

PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	DATE	DESCRIPTION

DESIGNED BY	J. CULBERTSON	06/09/2020	614-453-7382
DRAWN BY	L. ROBERTS	06/10/2020	X
CHECKED BY	C. SIOK	06/10/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	DATE	PHONE #

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

CONSTRUCTION DETAILS

DRAWING NO:

ESC-3

1:1/26/2020 - 22x34

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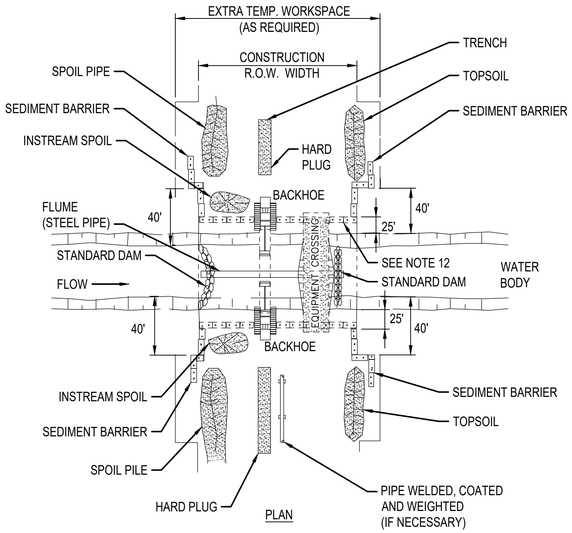
CONSTRUCTION DETAILS

NOTES:

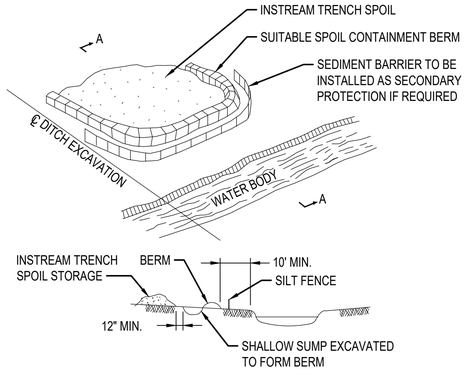
1. METHOD APPLIES TO WATERBODIES WHERE DOWNSTREAM SILTATION MUST BE AVOIDED. FLUMES ARE GENERALLY NOT RECOMMENDED FOR USE ON WATERBODIES WITH A BROAD UNCONFINED CHANNEL, PERMEABLE SUBSTRATE, EXCESSIVE DISCHARGE, OR WHERE A SIGNIFICANT AMOUNT OF BED OR BANK ALTERATION IS REQUIRED TO INSTALL FLUMES OR DAMS.
2. SCHEDULE CROSSING DURING LOW FLOW PERIOD IF POSSIBLE.
3. COMPLETE ALL WATERCOURSE ACTIVITIES AS EXPEDIENTLY AS POSSIBLE.
4. NO REFUELING OF MOBILE EQUIPMENT WITHIN 100 FEET OF WATERBODY. REFUEL STATIONARY EQUIPMENT AS PER SPCC PLAN.
5. INSTALL TEMPORARY EQUIPMENT CROSSING.
6. IN AGRICULTURAL LAND, STRIP TOPSOIL FROM SPOIL STORAGE AREA.
7. IN-STREAM SPOIL TO BE STORED ON BANKS A MINIMUM OF 10 FEET FROM TOP OF THE BANK.
8. LEAVE HARD PLUGS AT THE STREAM BANK EDGE UNTIL JUST PRIOR TO PIPE INSTALLATION.
9. SIZE FLUME TO HANDLE 150% ANTICIPATED FLOWS. INSTALL FLUME IN WATERCOURSE AND MAINTAIN CORRECT ALIGNMENT UNTIL REMOVED.
10. CONSTRUCT UPSTREAM DAM FOLLOWED BY DOWNSTREAM DAM. INSTALL A FLANGE ON UPSTREAM END OF FLUME AND SEAL TO SUBSTRATE WITH SANDBAGS AND POLYETHYLENE LINER WHERE NECESSARY TO ENSURE A WATER TIGHT BARRIER. "KEY" DAMS INTO BANKS OR CONSTRUCT SECONDARY DAM, IF NECESSARY.
11. PUMP STREAM CHANNEL BETWEEN DAMS, IF NECESSARY. DISCHARGE WATER THROUGH A DEWATERING STRUCTURE AND ONTO A STABLE WELL VEGETATED AREA TO PREVENT EROSION AND SEDIMENTATION. NO HEAVILY SILT-LADEN WATER MAY BE DISCHARGED IN THE STREAM.
12. CONSTRUCT SEDIMENT BARRIERS (FILTER SOCK AND/ OR SILT FENCE) TO PREVENT SILT LADEN WATER AND SPOIL FROM FLOWING BACK INTO WATERCOURSE. CONSTRUCTED SEDIMENT BARRIERS SHALL EXTEND ALONG THE SIDES OF THE STOCKPILES AND THE ENDS OF DAMS. BARRIERS MAY BE TEMPORARILY REMOVED TO ALLOW CONSTRUCTION ACTIVITIES BUT MUST BE REPLACED BY THE END OF EACH WORK DAY.
13. COMPLETE PREFABRICATION OF IN-STREAM PIPE SECTION AND WEIGHT PIPE AS NECESSARY PRIOR TO COMMENCEMENT OF IN-STREAM ACTIVITY.
14. TRENCH THROUGH WATERCOURSE. INSTALL TEMPORARY (SOFT) PLUGS, IF NECESSARY, TO CONTROL WATER FLOW AND TRENCH SLOUGHING.
15. MAINTAIN STREAM FLOW, IF PRESENT, THROUGH FLUME THROUGHOUT CROSSING CONSTRUCTION.
16. LOWER-IN PIPE, INSTALL TRENCH PLUG AND BACKFILL IMMEDIATELY.
17. BACKFILL WITH NATIVE MATERIAL.
18. RESTORE WATERCOURSE CHANNEL TO APPROXIMATE PRE-CONSTRUCTION PROFILE AND SUBSTRATE.
19. RESTORE STREAM BANKS TO APPROXIMATE ORIGINAL CONDITION AND STABILIZE, AS REQUIRED.



PLAN

OPEN CUT DRY FLUME

SCALE: N.T.S.



SECTION A-A

NOTES:

1. SOIL CONTAINMENT BERMS ARE TO BE USED WHERE INSTREAM TRENCH SPOIL COULD REENTER THE WATERCOURSE DIRECTLY OR INDIRECTLY AND WITH SIMULTANEOUS UTILIZATION OF SEDIMENT BARRIERS IF REQUIRED.
2. MATERIAL USED FOR THE CONTAINMENT BERM SHOULD BE A MINIMUM OF 10 FT. FROM THE WATERS EDGE. IT SHOULD BE KEPT TO A HEIGHT WHICH REMAINS STABLE DURING THE CONSTRUCTION PERIOD.
3. CARE SHOULD BE TAKEN THAT THE SPOIL PILE DOES NOT OVERTOP THE CONTAINMENT BERM.
4. THE CONTAINMENT BERM SHOULD BE DISMANTLED AND THE SITE RESTORED TO THE ORIGINAL CONDITION UPON COMPLETION OF THE WATER CROSSING.
5. WHERE POSSIBLE, RIPARIAN VEGETATION SHALL BE LEFT IN PLACE.
6. STAGED MOVEMENT OF INSTREAM SPOIL MAY BE REQUIRED IF QUANTITIES ARE EXCESSIVE.
7. CARE AND ATTENTION MUST BE TAKEN TO ENSURE SPOIL CONTAINMENT BERMS ARE MAINTAINED.
8. FULL CONSIDERATION FOR OVERALL SLOPE STABILITY IS REQUIRED WHEN SELECTING A SPOIL CONTAINMENT LOCATION.

TYPICAL TEMPORARY SOIL CONTAINMENT BERM FOR WATERBODY TRENCH SPOILS

SCALE: N.T.S.

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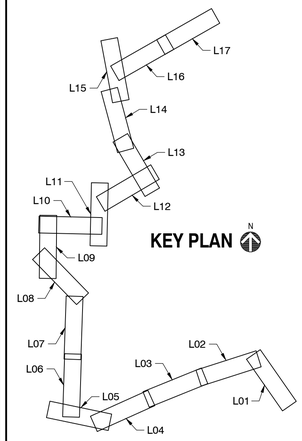

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PROPOSED

REVISIONS		
H	08/17/2022	REISSUED FOR BID
REV. #	**DATE**	**DESCRIPTION**

DESIGNED BY	J. CULBERTSON	06/09/2020	614-453-7382
DRAWN BY	L. ROBERTS	06/10/2020	X
CHECKED BY	C. SIOK	06/10/2020	816-823-7522
AS-BUILT BY	TBD	TBD	X
	NAME	**DATE**	**PHONE #**

SITE NAME:

INST# 19-0119235-00
ABAN# N/A
PROJECT ID# 18-51682

FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

CONSTRUCTION DETAILS

DRAWING NO:

ESC-4

1/28/2020 - 22x34

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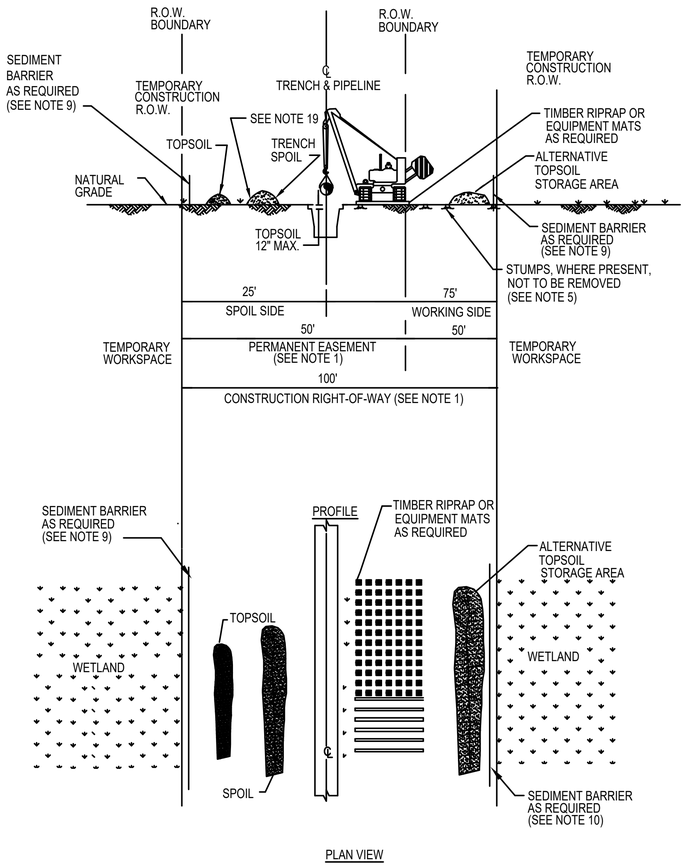
CONSTRUCTION DETAILS



PLAN VIEW

NOTE:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND UP TO 50 FEET OF TEMPORARY WORKSPACE.
2. THE SAME LAYOUT APPLIES WHETHER CONSTRUCTION R.O.W. DOES OR DOES NOT ABUT A FOREIGN R.O.W.
3. LOCATE ANY EXTRA TEMPORARY WORK SPACE AREAS AT LEAST 25 FEET FROM EDGE OF WETLAND AND WITHIN THE APPLICABLE FULL WIDTH CONSTRUCTION R.O.W.
4. CLEARING OF VEGETATION AND TREES IS PROHIBITED BETWEEN TEMPORARY EXTRA WORK SPACE AND THE EDGE OF THE WETLAND
5. CUT VEGETATION AND TREES OFF AT GROUND LEVEL, LEAVING EXISTING ROOT SYSTEMS IN PLACE WHEREVER PRACTICABLE, AND REMOVE CUTTINGS FROM THE WETLAND FOR DISPOSAL.
6. LIMIT CONSTRUCTION EQUIPMENT TO ONE PASS THROUGH WETLANDS TO THE EXTENT PRACTICABLE.
7. NO REFUELING OF EQUIPMENT WITHIN 100 FEET OF WETLAND EXCEPT IN ACCORDANCE WITH THE SPCC PLAN.
8. IF SATURATED AT TIME OF CONSTRUCTION, REDUCE SOIL COMPACTION BY UTILIZING WIDE-TRACK OR BALLOON TIRE CONSTRUCTION EQUIPMENT OR NORMAL EQUIPMENT OPERATED ON TIMBER RIPRAP OR EQUIPMENT MATS.
9. AVOID ADJACENT WETLANDS. INSTALL SEDIMENT BARRIERS IMMEDIATELY AFTER INITIAL GROUND DISTURBANCE AND AT THE EDGE OF THE CONSTRUCTION R.O.W. ALONG THE WETLAND AS DIRECTED BY THE COMPANY'S INSPECTOR.
10. WETLAND AREAS SHALL HAVE SILT FENCING AND ONE LAYER OF FILTER SOCK INSTALLED NO CLOSER THAN 25 FEET FROM POINT OF WETLAND DELINEATION.
11. THIS DRAWING REFLECTS "TRENCH ONLY" TOPSOIL STRIPPING PROCEDURE FOR AREAS WHERE STANDING WATER OR SATURATED SOIL ARE NOT PRESENT.
12. SALVAGE UP TO 12" OF TOPSOIL OVER TRENCH AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE COMPANY'S INSPECTOR. MAINTAIN SEPARATION BETWEEN TOPSOIL AND TRENCH SPOIL.
13. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT USE TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING SPOIL PILE.
14. IN UNSATURATED CONDITIONS, SPOIL MAY BE USED TO STABILIZE THE WORKING SIDE.
15. IF SATURATED AT TIME OF CONSTRUCTION, LEAVE HARD PLUGS AT THE EDGE OF WETLAND UNTIL JUST PRIOR TO TRENCHING.
16. TRENCH THROUGH WETLANDS.
17. LOWER-IN PIPE, INSTALL TRENCH BREAKERS AT WETLAND EDGES AS DIRECTED BY THE COMPANY'S INSPECTOR TO PREVENT DRAINAGE. BACKFILL UPON COMPLETION OF CONSTRUCTION.
18. REMOVE ALL TIMBER, RIPRAP OR EQUIPMENT MATS FROM WETLANDS UPON COMPLETION OF CONSTRUCTION.
19. RESTORE GRADE TO NEAR PRE-CONSTRUCTION TOPOGRAPHY AND REPLACE TOPSOIL, WHERE SALVAGED, WITHOUT A CROWN OVER THE TRENCH.
20. IF STANDING WATER IS NOT PRESENT, SEED AS SPECIFIED.
21. TOPSOIL AND TRENCH SPOIL RELATIVE POSITIONS CAN, AS DIRECTED BY THE COMPANY'S INSPECTOR, BE REVERSED.

TYPICAL WETLAND CROSSING

SCALE: N.T.S.

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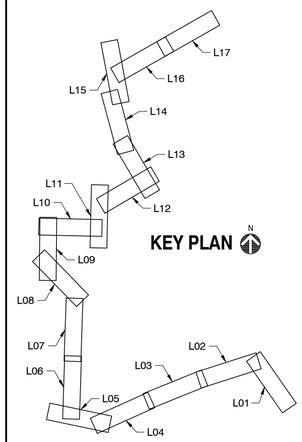

KEY PLAN

NOT FOR CONSTRUCTION

PROPOSED

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REV. #	DATE	DESCRIPTION

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FORD STREET PIPELINE PROJECT
LUCAS COUNTY, OH

DRAWING TITLE:

CONSTRUCTION DETAILS

DRAWING NO:

ESC-5

1/29/2020 - 22x34

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