

UTILITY TECHNOLOGIES INTERNATIONAL FOREIGN LINE CROSSING TEST STATION (MODEL #2) BOM					DESCRIPTION
ITEM #	QUANTITY	UNIT	SIZE		
801	1	EA	-		Test Station, Mfg. Cast, 9" Terminal, 10R Length, 3"n Diameter, Yellow Post and Cap
802	1	EA	-		Shunt, Mfg. Cast, 0.01 Ohm, Yellow
803	IF REQ'D	EA	-		Test Station Coupon, Mfg. CC Tech
804	1	EA	-		Reference Electrode, ARE-007-02UY, Cu/CuSO4, w/ 200 #14 AWG RH10100 Yellow Wire
805	25	FT	#8		Wire, No. 8 AWG, HMWPE, White Jacket, Stranded Copper
806	25	FT	#12		Wire, No. 12 AWG, THWN, White Jacket, Solid Copper
807	25	FT	#8		Wire, No. 8 AWG, HMWPE, Black Jacket, Stranded Copper
808	25	FT	#12		Wire, No. 12 AWG, THWN, Black Jacket, Solid Copper
809	100	FT	#8		Wire, No. 8 AWG, HMWPE, Red Jacket, Stranded Copper
810	4	EA	-		Cable Lug Kit, Mfg. Solarmark, PIN, Safe #056 CP, Compatible w/ 10mm Lug (SAFE #056), 8mm Braze Pin (SAFE 10051), 8mm Female (SAFE 2003)
811	2	EA	-		Adapter Sleeve, Mfg. Erics, PIN, CAB-133-K
812	4	EA	-		Anode, 17lb, High Potential Magnesium, Prepackaged, w/ 10R No. 12 AWG THWN Red Lead Wire Preattached
813	4	EA	-		Compression Connector, Mfg. Burndy, YC4L12 for No. 8 AWG
814	4	EA	-		Shrinkwrap E80119 Splice Kit, Mfg. 3M, for No. 8 AWG
815	2	EA	-		Insulating Mat, 20x20x2, 1500V Black Vinyl, 60,000 V-M Electric Strength

GENERAL NOTES

TEST STATIONS:

- TEST STATIONS SHALL BE OF POLYCARBONATE MATERIAL.
- TEST STATIONS SHALL BE YELLOW IN COLOR WITH COMPANY DECALS ON TWO SIDES.
- TEST STATIONS SHALL BE 6 FEET IN LENGTH AND 3 INCHES IN DIAMETER. TEST STATIONS SHALL BE COTT BIG FINKS UNLESS OTHERWISE SPECIFIED OR APPROVED.

TEST STATION LOCATIONS:

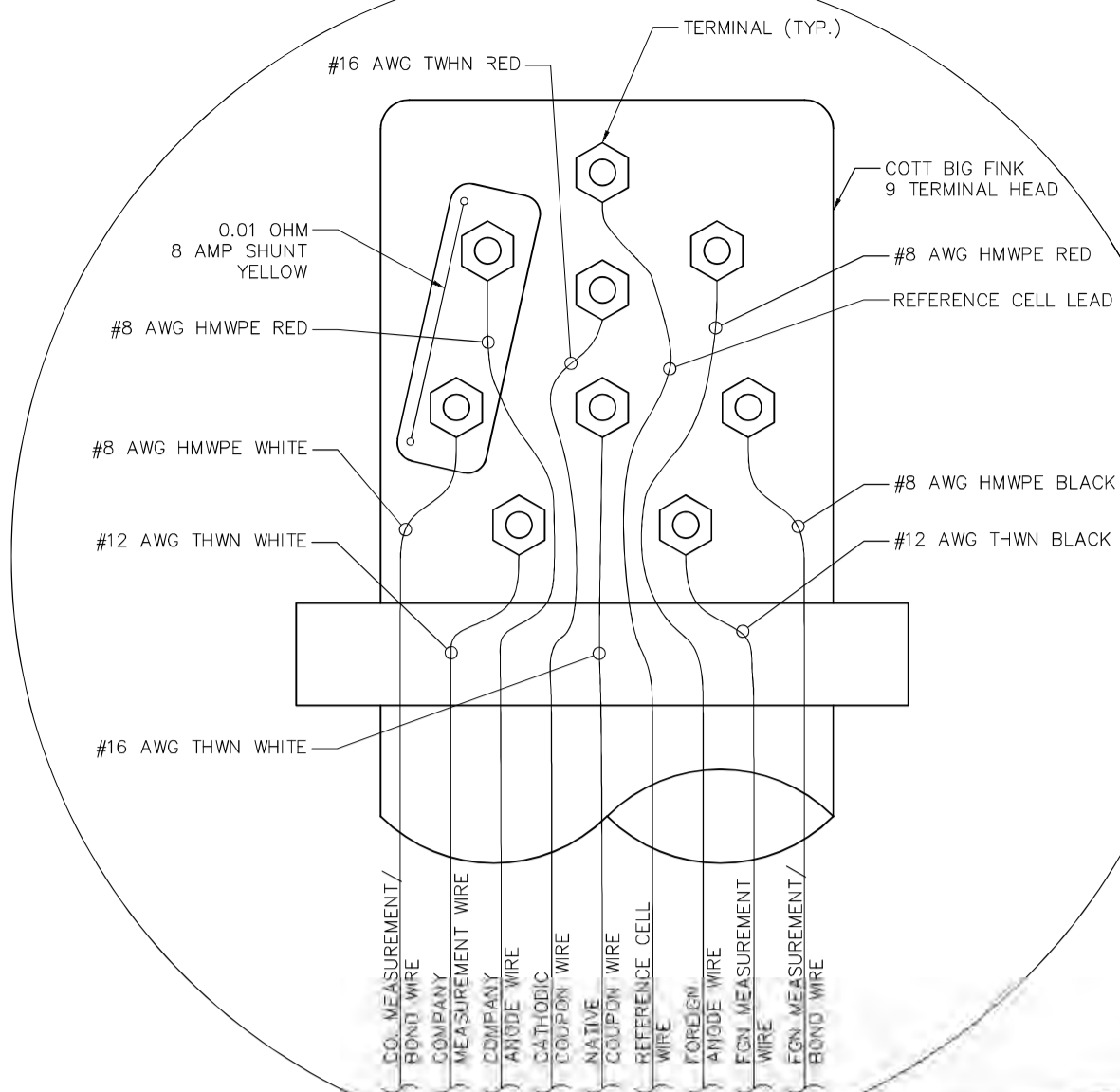
- TEST STATIONS SHALL BE REQUIRED AT LOCATIONS SPECIFIED ON THE CONSTRUCTION PLANS.
- TEST STATIONS SHALL BE PLACED IN LOCATIONS WHERE THEY WILL BE EASILY VISIBLE, WHERE PRACTICAL.
- TEST STATIONS SHALL BE PLACED IN EASILY ACCESSIBLE LOCATIONS, WHERE PRACTICAL.
- TEST STATIONS SHALL BE PLACED IN LOCATIONS WHERE POSSIBILITY OF THIRD PARTY DAMAGE IS MITIGATED (I.E. FENCE LINES, WOOD LINES, INSIDE FENCED AREAS, ETC.)
- IN LOCATIONS PARALLELING OR CROSSING HIGH VOLTAGE POWER LINES COTT ZAP GUARD TEST STATIONS SHALL BE USED.

LEAD WIRE INSTALLATION:

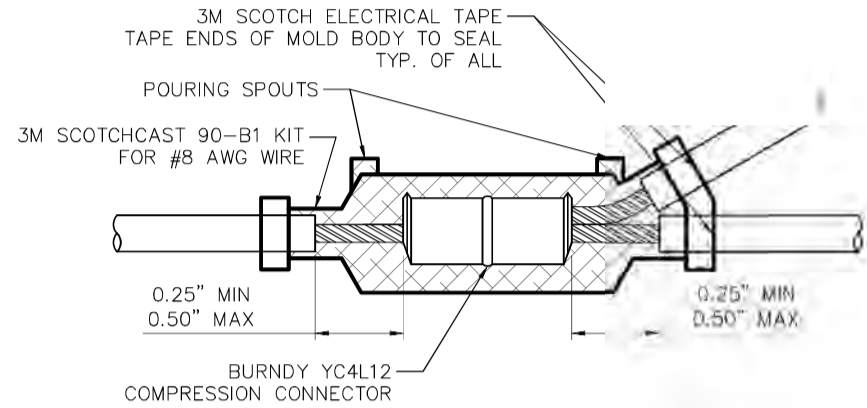
- ALL WIRE SHALL BE THE SIZE, INSULATION, AND COLOR SPECIFIED.
- ALL WIRES SHALL BE COLORED FOR IDENTIFICATION:
 - WHITE = COMPANY PIPELINE
 - BLACK = FOREIGN PIPELINE
 - RED = ANODE
 - BLUE = CASING
- ANY WIRES THAT ARE NOT COLORED OR ARE COLORED INCORRECTLY SHALL BE CLEARLY WRAPPED WITH COLORED TAPE AT THE TEST HEAD TO AID IN IDENTIFICATION.
- WIRE INSULATION SHALL BE PROTECTED AT ALL TIMES DURING THE INSTALLATION PROCESS. ANY DAMAGED WIRE SHALL BE COMPLETELY REPLACED.
- WIRE SHALL BE ATTACHED TO PIPELINE BY THE METHOD SHOWN (E.G. THERMITE WELD OR PIN BRAZE). CONNECTIONS SHALL BE SPACED NO LESS THAN 6" INCHES. ALL CONNECTION MATERIALS AND EQUIPMENT USED SHALL BE SUITABLE FOR CATHODIC PROTECTION OF STEEL PIPE.
- COATING THAT IS REMOVED OR DAMAGED AT CONNECTION LOCATIONS SHALL BE REPAIRED WITH A TWO-PART EPOXY PER COMPANY SPECIFICATIONS.
- WIRE SHALL BE ATTACHED TO PIPELINE IN A MANNER AND LOCATION THAT REDUCES STRESS ON CONNECTION. WIRES ATTACHED TO PIPE SHALL BE WRAPPED AND TIED ONCE AROUND THE CIRCUMFERENCE OF THE PIPE PRIOR TO TERMINATION.
- WIRES SHALL BE CONTINUOUS WHERE PRACTICAL (NO SPICES). ANY SPICES MADE SHALL BE WITH BURNDY COPPER GRIPMIT CONNECTORS AND BE ENCASED WITHIN AN APPROVED RESIN SPLICE KIT.
- ALL LEAD WIRES SHALL BE VERIFIED FOR CONTINUITY PRIOR TO AND AFTER BACKFILL. ANY ISSUES FOUND SHALL BE IMMEDIATELY REPAIRED.

ANODE INSTALLATION:

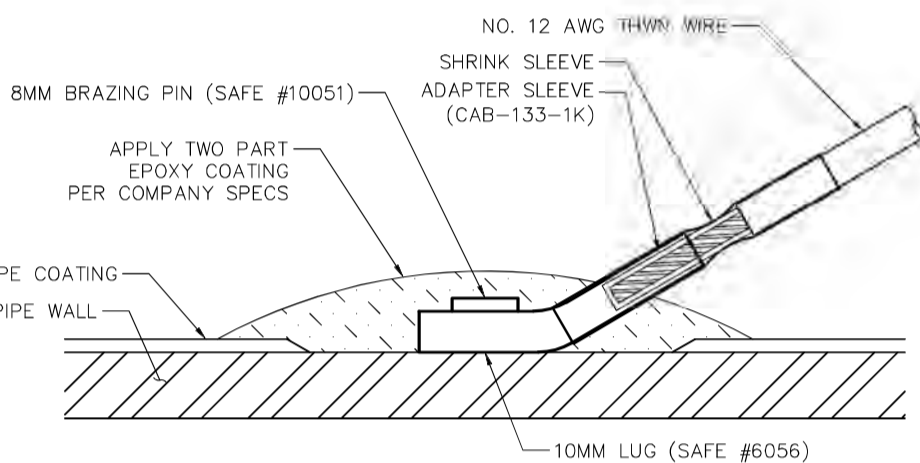
- ANODES SHALL BE 17 LB. HIGH POTENTIAL MAGNESIUM UNLESS OTHERWISE SPECIFIED. ANODES SHALL COME WITH PRE-ATTACHED #12 AWG THWN RED LEAD WIRE.
- ANODES SHALL BE PLACED HALF-WAY BETWEEN COMPANY AND FOREIGN PIPELINES.
- ANODES SHALL BE PLACED A MINIMUM OF 15 FEET FROM UNDERGROUND PIPE OR EQUIPMENT.



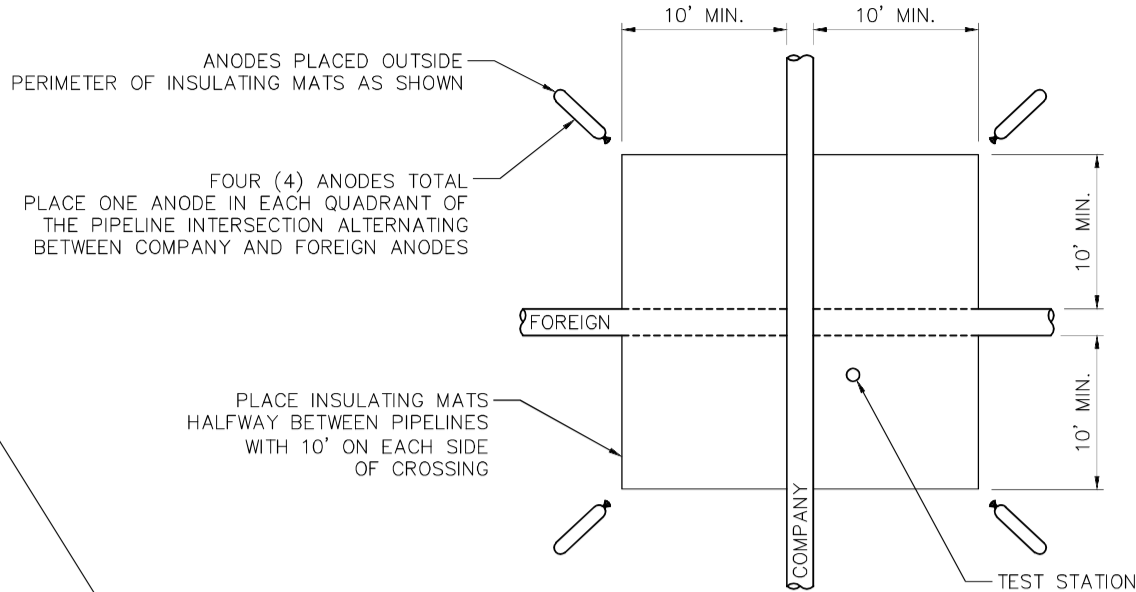
TEST STATION TERMINAL DETAIL



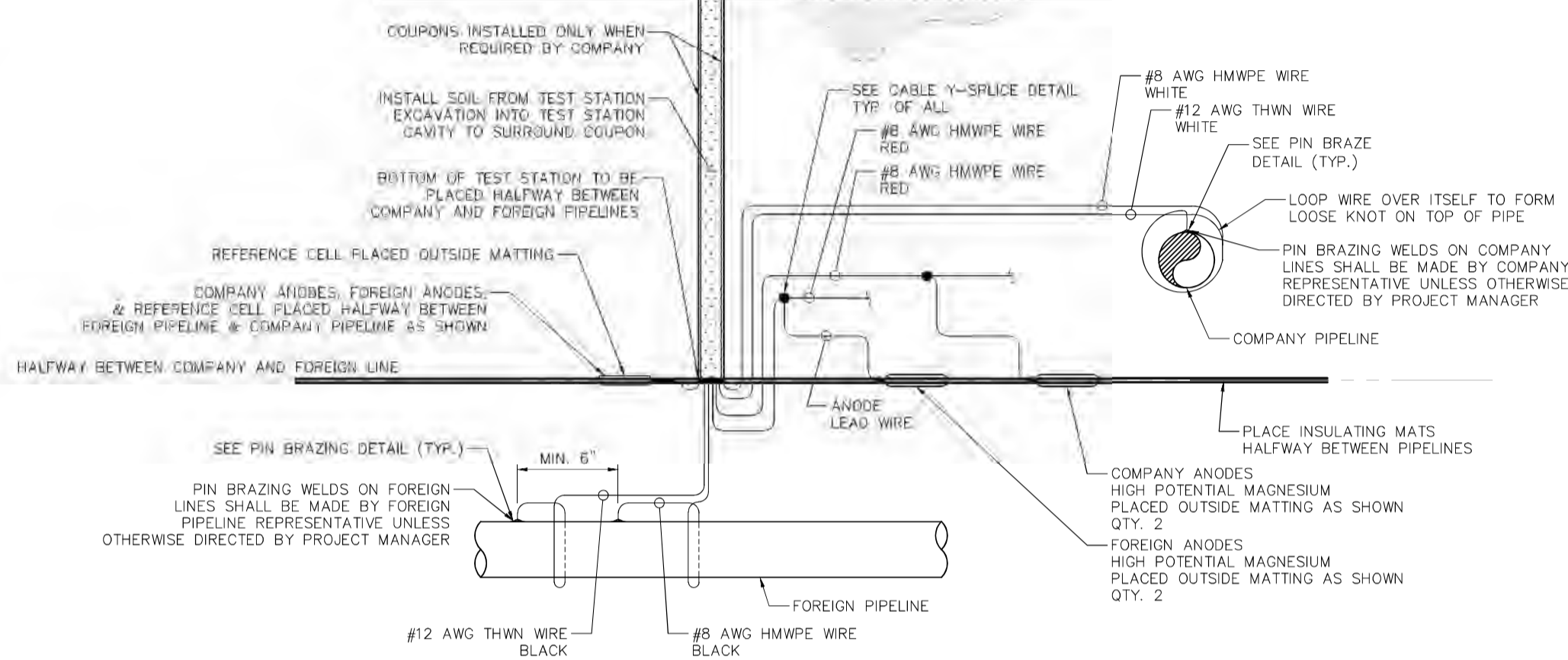
CABLE Y-SPLICE DETAIL



PIN BRAZING COATING DETAIL



ANODE PLACEMENT DETAIL



TEST STATION MODEL 2
FOREIGN PIPELINE CROSSING TEST STATION INSTALLATION

CHANGE ORDER SCHEDULE				
#	DESCRIPTION OF CHANGE	SHEET APPROVALS		
		NO.	BY	DATE
1	REROUTE ON SM/DI PROPERTY	ALL	KDG	8/6
	</			

Utility Technologies Intl. Corporation
Total Capabilities in the Pipeline Industry
4700 Homer Ohio Lane
Groveport, OH 43125
P: 614-482-8080
F: 614-482-8070
www.uti-corp.com

GENERATION PIPELINE, LLC
IRONVILLE LATERAL
LUCAS COUNTY, OH
MODEL 2 TEST STATION DETAILS

IFAA (ISSUED FOR APPROVAL)		
DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG
UTI PROJECT #:	DATE:	
17-031	7/25/2018	
SCALE:		
HORIZONTAL: 1" = N/A		
VERTICAL: 1" = N/A		
DRAWING #:		
17031-200		
SHEET #:		
20/35		

UTILITY TECHNOLOGIES INTERNATIONAL				
GALVANIC ANODE TEST STATION (MODEL #3) ANODE				
ITEM #	QUANTITY	UNIT	SIZE	DESCRIPTION
801	1	EA	-	Test Station Mfg. Cast 5 Terminal, 68 Length, 3in Diameter, Yellow Post and Cap
802	1	EA	-	Shunt Mfg. Cast, 6.01 Ohm, Yellow
803	25	FT	#8	Wire, No. 8 AWG, HWMPE, White Jacket, Stranded Copper
804	25	FT	#12	Wire, No. 12 AWG, THWN, White Jacket, Solid Copper
805	TBD	FT	#8	Wire, No. 8 AWG, HWMPE, Red Jacket, Stranded Copper
806	2	EA	-	Cable Lug Kit, Mfg. Sakmark, PIN: Sakr 6056 CP, Complete w/ 10mm Lug (SAFE 6056), 8mm Brazing Pin (SAFE 10051), 8mm Ferrule (SAFE 2003)
807	1	EA	-	Adapter Sleeve, Mfg. Erics, RV: CAB-133-K
808	TBD	EA	-	Anode, SIZE AND MATERIAL, AS SPECIFIED, w/ 10 feet No. 12 AWG THWN Red Lead Wire Preattached
809	TBD	EA	-	Compression Connector, Mfg. Burndy, YCAL12 for No. 8 AWG
810	TBD	EA	-	Scotchcast 90-91 Epoxy Kit, Mfg. 3M, for No. 8 AWG

GENERAL NOTES

TEST STATIONS:

- TEST STATIONS SHALL BE OF POLYCARBONATE MATERIAL.
- TEST STATIONS SHALL BE YELLOW IN COLOR WITH COMPANY DECALS ON TWO SIDES.
- TEST STATIONS SHALL BE 6 FEET IN LENGTH AND 3 INCHES IN DIAMETER. TEST STATIONS SHALL BE COTT BIG FINKS UNLESS OTHERWISE SPECIFIED OR APPROVED.

TEST STATION LOCATIONS:

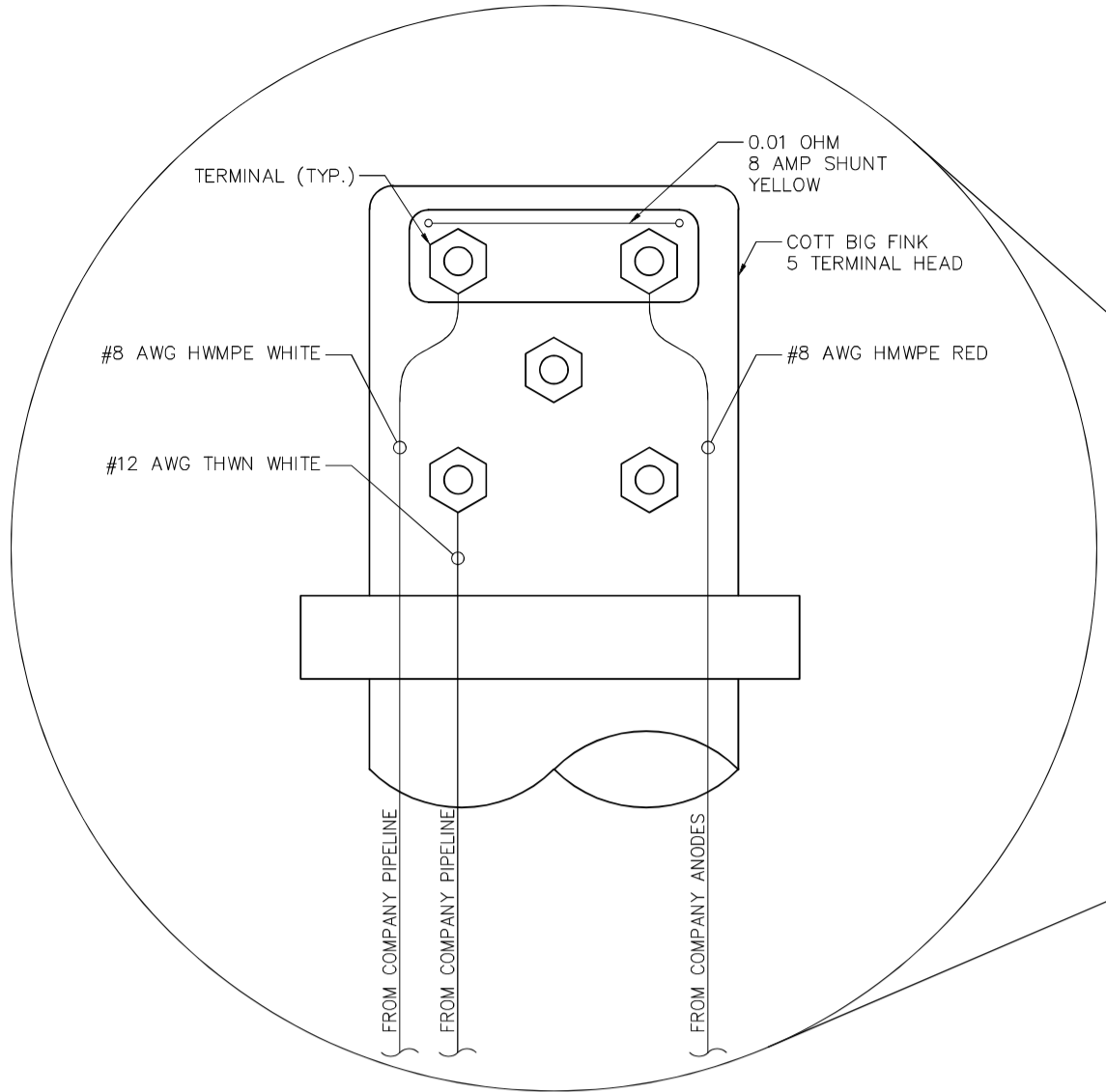
- TEST STATIONS SHALL BE REQUIRED AT LOCATIONS SPECIFIED ON THE CONSTRUCTION PLANS.
- TEST STATIONS SHALL BE PLACED IN LOCATIONS WHERE THEY WILL BE EASILY VISIBLE, WHERE PRACTICAL.
- TEST STATIONS SHALL BE PLACED IN EASILY ACCESSIBLE LOCATIONS, WHERE PRACTICAL.
- TEST STATIONS SHALL BE PLACED IN LOCATIONS WHERE POSSIBILITY OF THIRD PARTY DAMAGE IS MITIGATED (I.E. FENCE LINES, WOOD LINES, INSIDE FENCED AREAS, ETC.)
- IN LOCATIONS PARALLELING OR CROSSING HIGH VOLTAGE POWER LINES COTT ZAP GUARD TEST STATIONS SHALL BE USED.

LEAD WIRE INSTALLATION:

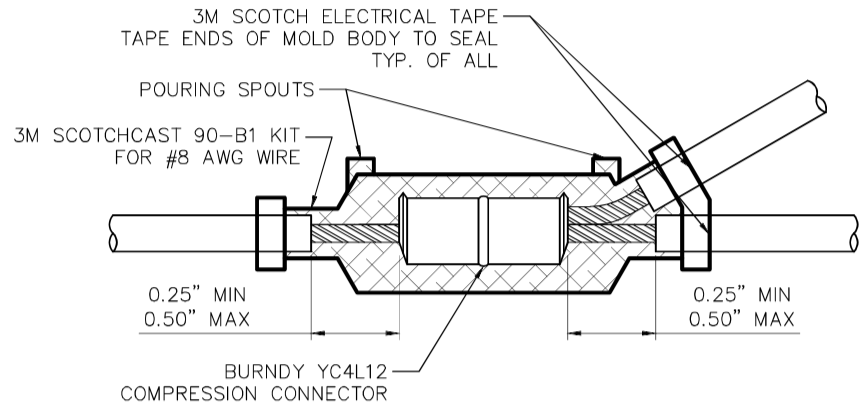
- ALL WIRE SHALL BE THE SIZE, INSULATION, AND COLOR SPECIFIED.
- ALL WIRES SHALL BE COLORED FOR IDENTIFICATION:
 - WHITE = COMPANY PIPELINE
 - BLACK = FOREIGN PIPELINE
 - RED = ANODE
 - BLUE = CASING
- ANY WIRES THAT ARE NOT COLORED OR ARE COLORED INCORRECTLY SHALL BE CLEARLY WRAPPED WITH COLORED TAPE AT THE TEST HEAD TO AID IN IDENTIFICATION.
- WIRE INSULATION SHALL BE PROTECTED AT ALL TIMES DURING THE INSTALLATION PROCESS. ANY DAMAGED WIRE SHALL BE COMPLETELY REPLACED.
- WIRE SHALL BE ATTACHED TO PIPELINE BY THE METHOD SHOWN (E.G. THERMITE WELD OR PIN BRAZE). CONNECTIONS SHALL BE SPACED NO LESS THAN 6 INCHES. ALL CONNECTION MATERIALS AND EQUIPMENT USED SHALL BE SUITABLE FOR CATHODIC PROTECTION OF STEEL PIPE.
- COATING THAT IS REMOVED OR DAMAGED AT CONNECTION LOCATIONS SHALL BE REPAIRED WITH A TWO-PART EPOXY PER COMPANY SPECIFICATIONS.
- WIRE SHALL BE ATTACHED TO PIPELINE IN A MANNER AND LOCATION THAT REDUCES STRESS ON CONNECTION. WIRES ATTACHED TO PIPE SHALL BE WRAPPED AND TIED ONCE AROUND THE CIRCUMFERENCE OF THE PIPE PRIOR TO TERMINATION.
- WIRE SHALL BE CONTINUOUS WHERE PRACTICAL (NO SPLICES). ANY SPLICES MADE SHALL BE WITH BURNDY COPPER GRIMPT CONNECTORS AND BE ENCASED WITHIN AN APPROVED RESIN SPLICE KIT.
- ALL LEAD WIRES SHALL BE VERIFIED FOR CONTINUITY PRIOR TO AND AFTER BACKFILL. ANY ISSUES FOUND SHALL BE IMMEDIATELY REPAIRED.

ANODE INSTALLATION:

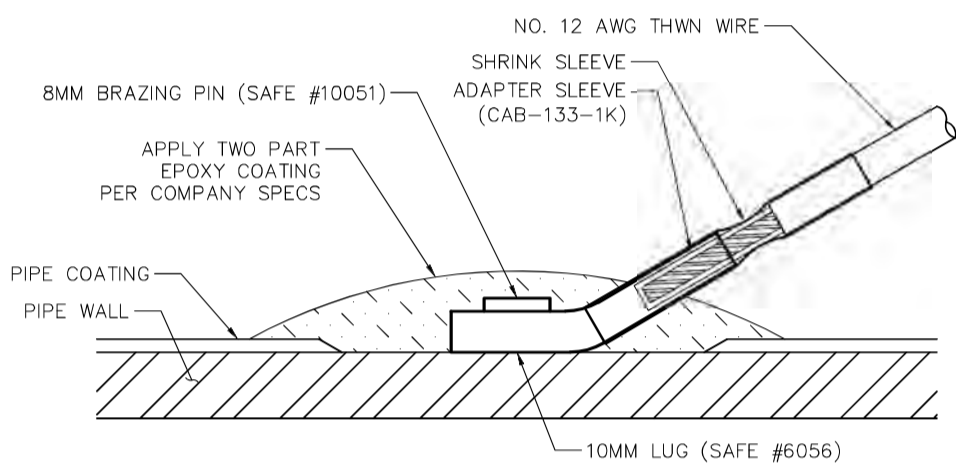
- ANODES SHALL BE SIZE, MATERIAL, AND QTY. SPECIFIED. ANODES SHALL COME WITH PRE-ATTACHED #12 AWG THWN RED LEAD WIRE.
- ANODES SHALL BE PLACED AT A MINIMUM OF 5 FEET DEEP OR 2 FEET DEEPER THAN PIPELINE, UNLESS OTHERWISE SPECIFIED.
- ANODES SHALL BE PLACED A MINIMUM OF 15 FEET FROM UNDERGROUND PIPE OR EQUIPMENT.
- WHEN BANKED, ANODES SHALL BE SPACED AS SPECIFIED.



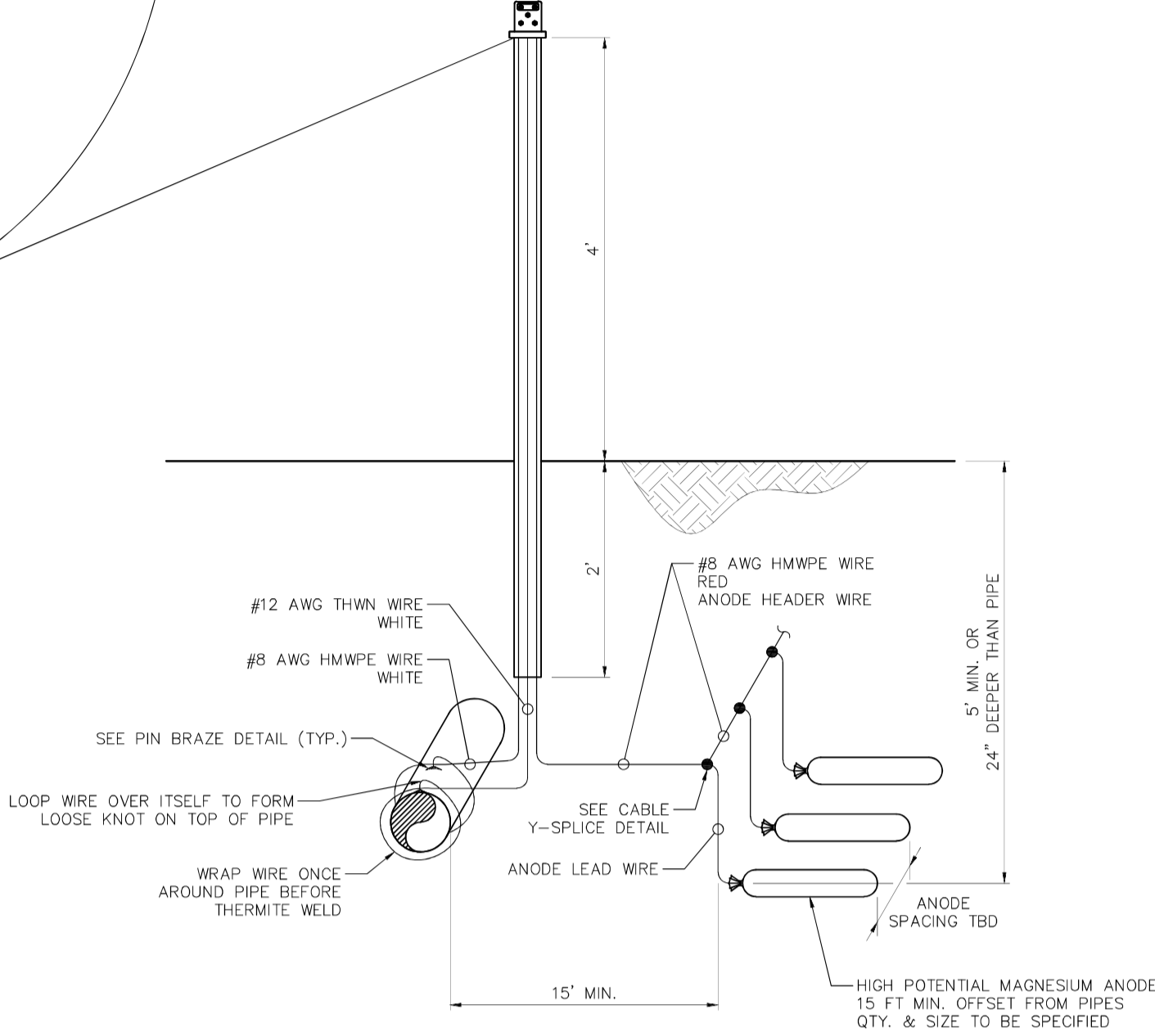
TEST STATION TERMINAL DETAIL



CABLE Y-SPLICE DETAIL



PIN BRAZING COATING DETAIL



TEST STATION MODEL 3
GALVANIC ANODE TEST STATION INSTALLATION

SHEET APPROVALS			
NO.	BY	DATE	
ALL	LOG	S/E	

CHANGE ORDER SCHEDULE	
DESCRIPTION OF CHANGE	REQUIRE ON SMID PROPERTY
1	

Utility Technologies Intl. Corporation
Total Capabilities in the Pipeline Industry
4700 Homer Ohio Lane
Groveport, OH 43125
P: 614-482-8080
F: 614-482-8070
www.uti-corp.com

GENERATION PIPELINE, LLC
IRONVILLE LATERAL

LUCAS COUNTY, OH

MODEL 3 TEST STATION DETAILS

IFA
(ISSUED FOR APPROVAL)

DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

UTI PROJECT #:	DATE:
17-031	7/25/2018

SCALE:	HORIZONTAL: 1" = N/A
	VERTICAL: 1" = N/A

DRAWING #:	17031-200
------------	-----------

SHEET #:	21/35
----------	-------

UTILITY TECHNOLOGIES INTERNATIONAL COUPON TEST STATION (MODEL #4) BOM					DESCRIPTION
ITEM #	QUANTITY	UNIT	SIZE		
801	1	EA	-		Test Station Mfg. Coll. 5 Terminal, 10K Length, 3in Diameter, Yellow Post and Cap, w/ ZapGuard Style Head
802	2	EA	-		Test Station Grounding Mfg. 100' Roll
803	1	EA	-		Reference Electrode, #RE007-001, Cu/CuSO4, w/ 20ft #14 AWG R-14R10 Yellow Wire
804	25	FT	#12		Wire, No. 8 AWG, HMWPE, White Jacket, Stranded Copper
805	25	FT	#12		Wire, No. 12 AWG, THWN, White Jacket, Solid Copper
806	2	EA	-		Cable Lug Kit, Mfg. Sakmark, PIN: Safe 6056 CP, Complete w/ 10mm Lug (SAFE 6056), 8mm Brazing Pin (SAFE 10051), 8mm Ferrule (SAFE 2003)
807	1	EA	-		Adapter Sleeve, Mfg. Micro, PIN: CAB-133-1K

GENERAL NOTES

TEST STATIONS:

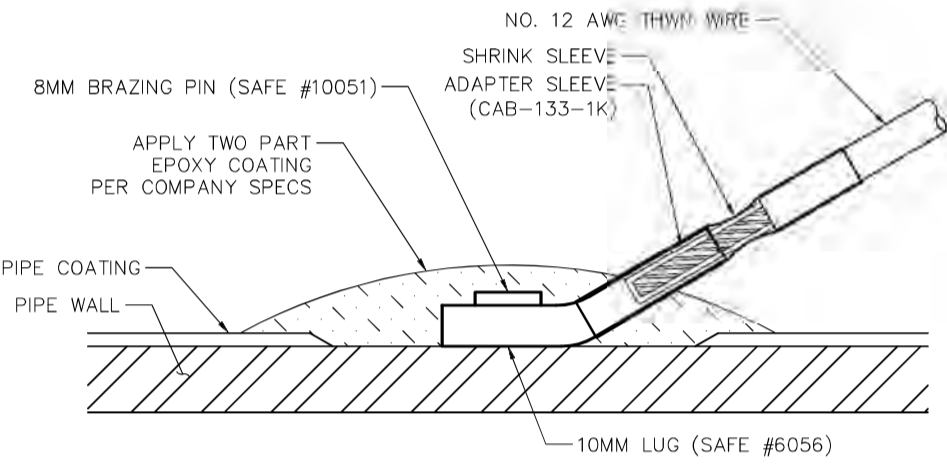
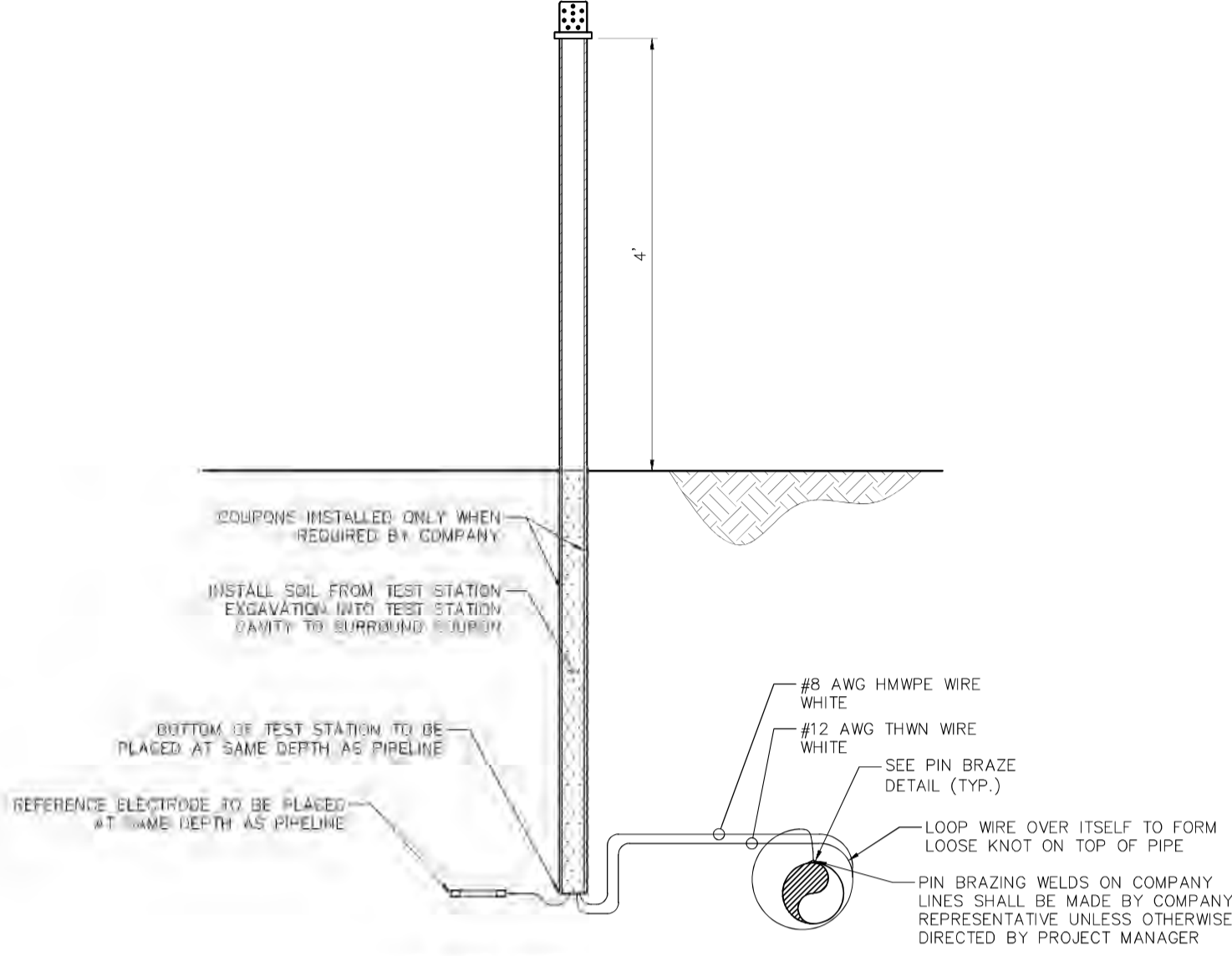
- TEST STATIONS SHALL BE OF POLYCARBONATE MATERIAL.
- TEST STATIONS SHALL BE YELLOW IN COLOR WITH COMPANY DECALS ON TWO SIDES.
- TEST STATIONS SHALL BE 6 FEET IN LENGTH AND 3 INCHES IN DIAMETER. TEST STATIONS SHALL BE COTT BIG FINKS UNLESS OTHERWISE SPECIFIED OR APPROVED.

TEST STATION LOCATIONS:

- TEST STATIONS SHALL BE REQUIRED AT LOCATIONS SPECIFIED ON THE CONSTRUCTION PLANS.
- TEST STATIONS SHALL BE PLACED IN LOCATIONS WHERE THEY WILL BE EASILY VISIBLE, WHERE PRACTICAL.
- TEST STATIONS SHALL BE PLACED IN EASILY ACCESSIBLE LOCATIONS, WHERE PRACTICAL.
- TEST STATIONS SHALL BE PLACED IN LOCATIONS WHERE POSSIBILITY OF THIRD PARTY DAMAGE IS MITIGATED (I.E. FENCE LINES, WOOD LINES, INSIDE FENCED AREAS, ETC.)
- IN LOCATIONS PARALLELING OR CROSSING HIGH VOLTAGE POWER LINES COTT ZAP GUARD TEST STATIONS SHALL BE USED.

LEAD WIRE INSTALLATION:

- ALL WIRE SHALL BE THE SIZE, INSULATION, AND COLOR SPECIFIED.
- ALL WIRES SHALL BE COLORED FOR IDENTIFICATION:
 - WHITE = COMPANY PIPELINE
 - BLACK = FOREIGN PIPELINE
 - RED = ANODE
 - BLUE = CATHOD
- ANY WIRES THAT ARE NOT COLORED OR ARE COLORED INCORRECTLY SHALL BE CLEARLY WRAPPED WITH COLORED TAPE AT THE TEST HEAD TO AID IN IDENTIFICATION.
- WIRE INSULATION SHALL BE PROTECTED AT ALL TIMES DURING THE INSTALLATION PROCESS. ANY DAMAGED WIRE SHALL BE COMPLETELY REPLACED.
- WIRE SHALL BE ATTACHED TO PIPELINE BY THE METHOD SHOWN (E.G. THERMITE WELD OR PIN BRAZE). CONNECTIONS SHALL BE SPACED NO LESS THAN 6-INCHES. ALL CONNECTION MATERIALS AND EQUIPMENT USED SHALL BE SUITABLE FOR CATHODIC PROTECTION OF STEEL PIPE.
- COATING THAT IS REMOVED OR DAMAGED AT CONNECTION LOCATIONS SHALL BE REPAIRED WITH A TWO-PART EPOXY PER COMPANY SPECIFICATIONS.
- WIRE SHALL BE ATTACHED TO PIPELINE IN A MANNER AND LOCATION THAT REDUCES STRESS ON CONNECTION. WIRES ATTACHED TO PIPE SHALL BE WRAPPED AND TIED ONCE AROUND THE CIRCUMFERENCE OF THE PIPE PRIOR TO TERMINATION.
- WIRE SHALL BE CONTINUOUS WHERE PRACTICAL (NO SPLICES). ANY SPLICES MADE SHALL BE WITH BURNDY COPPER CRIMPIT CONNECTORS AND BE ENCASED WITHIN AN APPROVED RESIN SPLICE KIT.
- ALL LEAD WIRES SHALL BE VERIFIED FOR CONTINUITY PRIOR TO AND AFTER BACKFILL. ANY ISSUES FOUND SHALL BE IMMEDIATELY REPAIRED.



Utility Technologies Intl.
Corporation

Total Capabilities in the Pipeline Industry
4700 Homer Ohio Lane
Groveport, OH 43125
P: 614-482-8080
F: 614-482-8070
www.uti-corp.com

GENERATION PIPELINE, LLC
IRONVILLE LATERAL

LUCAS COUNTY, OH

MODEL 4 TEST STATION DETAILS

IFA
(ISSUED FOR APPROVAL)

DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

UTL PROJECT #:

17-031

DATE:

7/25/2018

SCALE:

HORIZONTAL: 1" = N/A

VERTICAL: 1" = N/A

DRAWING #:

17031-200

SHEET #:

22/35

UTILITY TECHNOLOGIES INTERNATIONAL				
PCR INSTALLATION BOM				
ITEM #	QUANTITY	UNIT	SIZE	DESCRIPTION
801	1	EA	-	Test Station, Mfg. Cat. 5 Terminal, 10K Length, 3in Diameter, Yellow Post and Cap, ZapGard Style Head
802	2	EA	-	Test Station Grounds, Mfg. 100' Roll
803	1	EA	-	Reference Electrode, #RE007-001, Cu/CuSO4, w/ 20# #14 AWG R/R/R/W Yellow Wire
804	50	FT	#2	Wire, No. 2 AWG, HMWPE, White Jacket, Stranded Copper
805	50	FT	#2	Wire, No. 8 AWG, HMWPE, Red Jacket, Stranded Copper
806	2	EA	-	Cable Lug Kit, Mfg. Sakuma, P/N: Saku 6081 CP, Complete w/ 50mm Lug (SAFE 6081), 8mm Ferrule (SAFE 2003)
807	2	EA	-	Cable Lug Kit, Mfg. Sakuma, P/N: Saku 6056 CP, Complete w/ 10mm Lug (SAFE 6056), 8mm Ferrule (SAFE 2003)
808	2	EA	-	Compression Connector, Mfg. Burndy, YC2C4 for No. 8 AWG
809	1	EA	-	PCR, Mfg. Dairyland, M/N: PCR004
810	1	EA	-	External Isolation Switch, Mfg. Dairyland, M/N: SWX-100-PE01 for Dairyland PCR to be Mounted to MTP-36 Pedestal
811	1	EA	-	Conductor Kit, Mfg. Dairyland, M/N: MTL-3-35-SW/P for Dairyland PCR and Dairyland Isolation Switch
812	1	EA	-	Recess, Mfg. Dairyland, M/N: MTP-36, 36" Height, Lockable, White Green Color

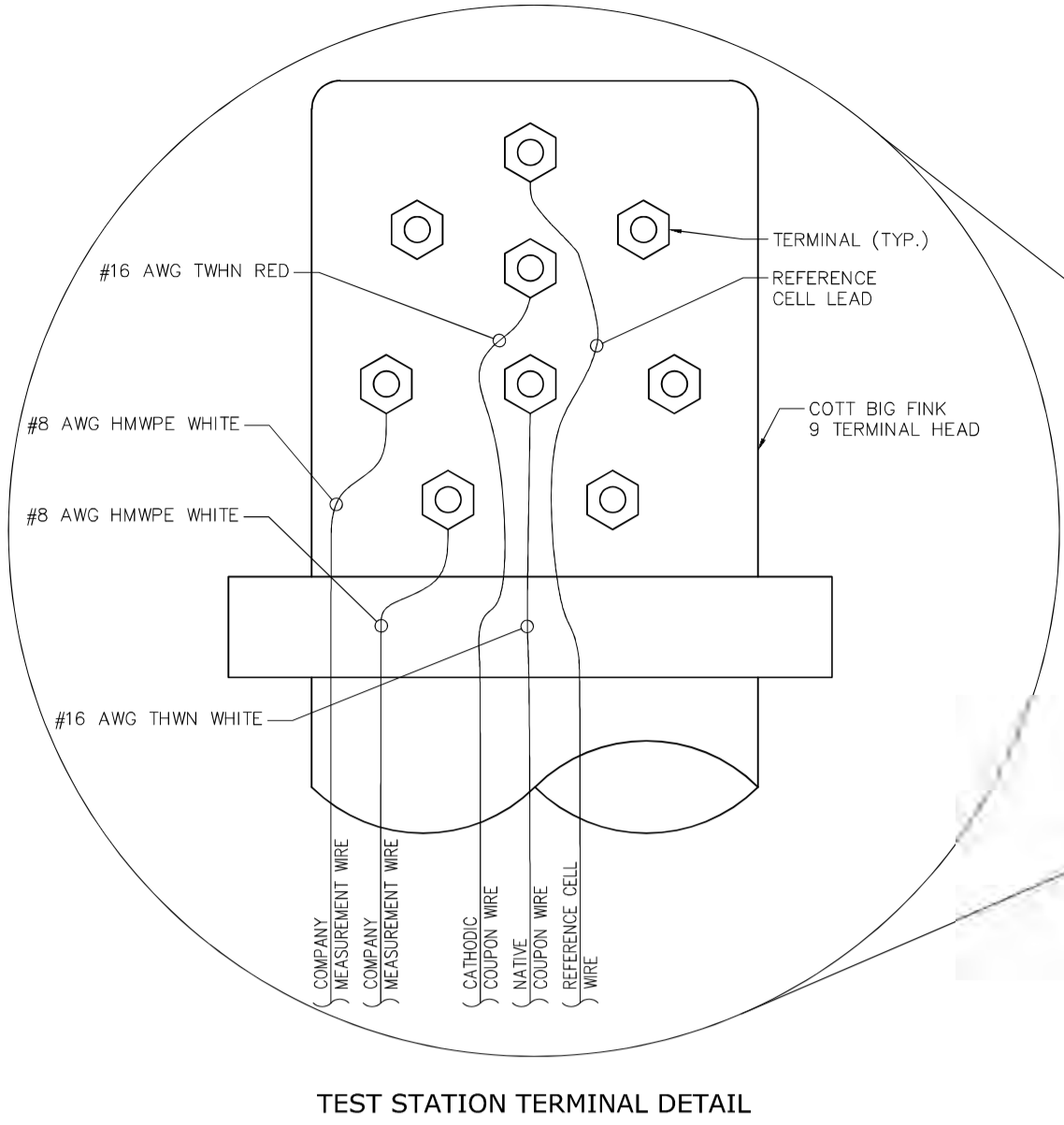
GENERAL NOTES

LOCATION:

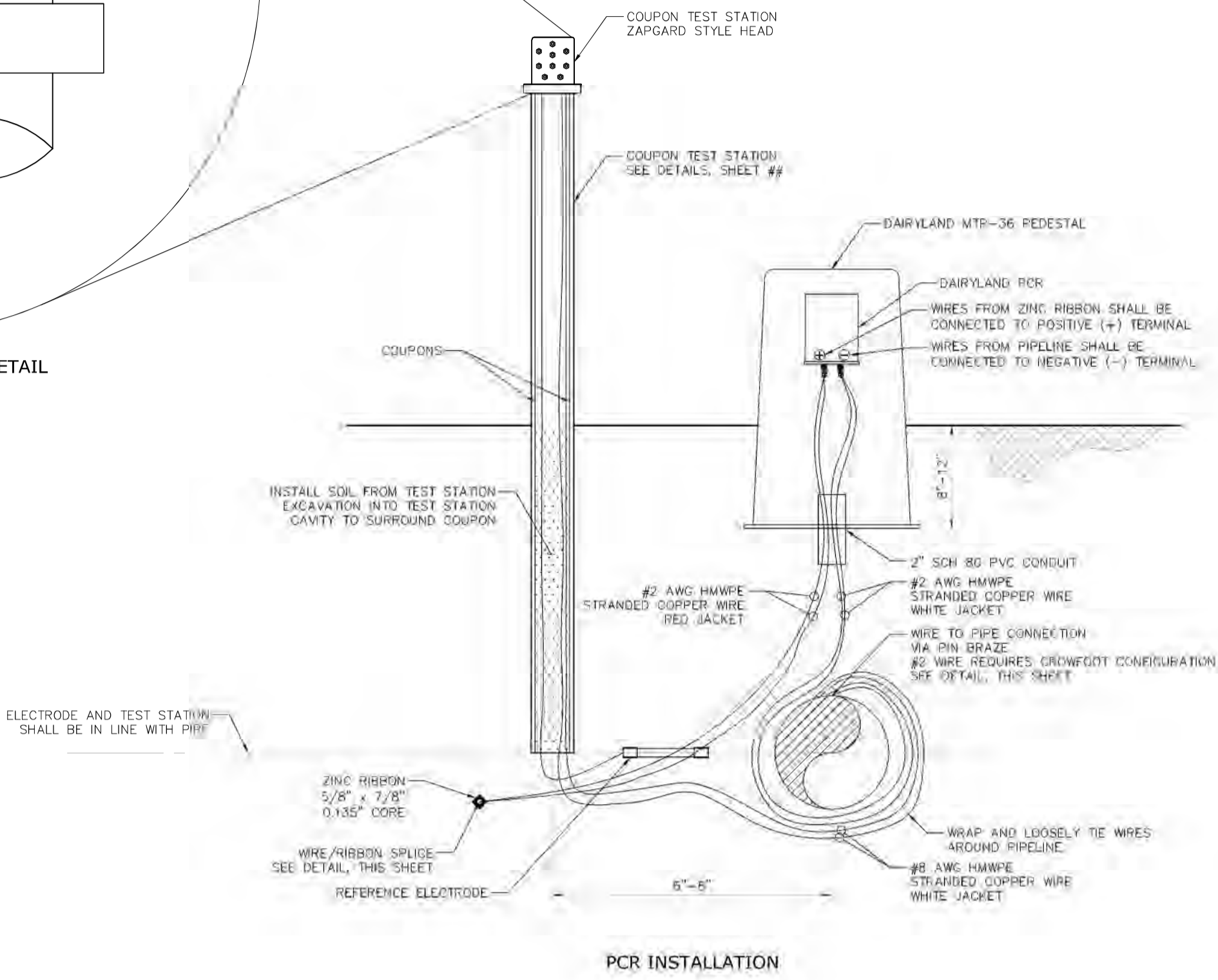
- PCR PEDESTALS AND COUPON TEST STATIONS SHALL BE INSTALLED IN LOCATIONS AS SHOWN ON THE CONSTRUCTION DRAWINGS. EXACT LOCATIONS SHALL BE FIELD FIT BY COMPANY REPRESENTATIVE TO MITIGATE POTENTIAL DAMAGE. LOCATIONS SHOULD BE EASILY VISIBLE AND ACCESSIBLE.
- COUPON TEST STATIONS SHALL BE PLACED BETWEEN THE PIPELINE AND ADJACENT HVAC LINES.
- PCR PEDESTALS AND COUPON TEST STATIONS SHALL BE PLACED WITHIN 2 FEET OF ONE ANOTHER WHERE PRACTICAL.

INSTALLATION:

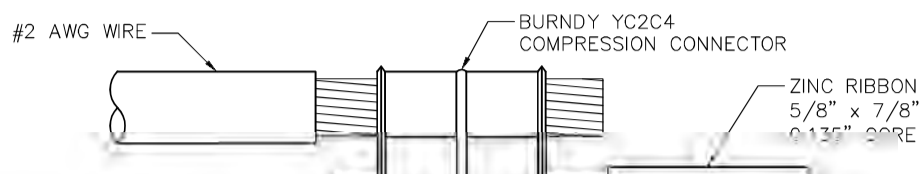
- COUPON TEST STATION AND REFERENCE ELECTRODE SHALL BE PLACED IN LINE WITH PIPE DEPTH.
- BOTTOM OF COUPON TEST STATION SHALL BE FILLED WITH 24" MINIMUM NATIVE SOIL. SOIL SHALL BE TAMPED AND COMPACTED.
- REFERENCE ELECTRODE SHALL BE PLACED BETWEEN COUPON TEST STATION AND PCR PEDESTAL WHERE PRACTICAL.
- REFERENCE ELECTRODE SHALL BE REMOVED FROM PACKAGING, SOAKED IN FRESH WATER FOR 20-30 SECONDS, AND IMMEDIATELY PLACED IN SOIL. SOIL AROUND ELECTRODE SHALL BE BACKFILL FROM NATIVE SOIL AND LIGHTLY TAMPED AND COMPACTED.



TEST STATION TERMINAL DETAIL

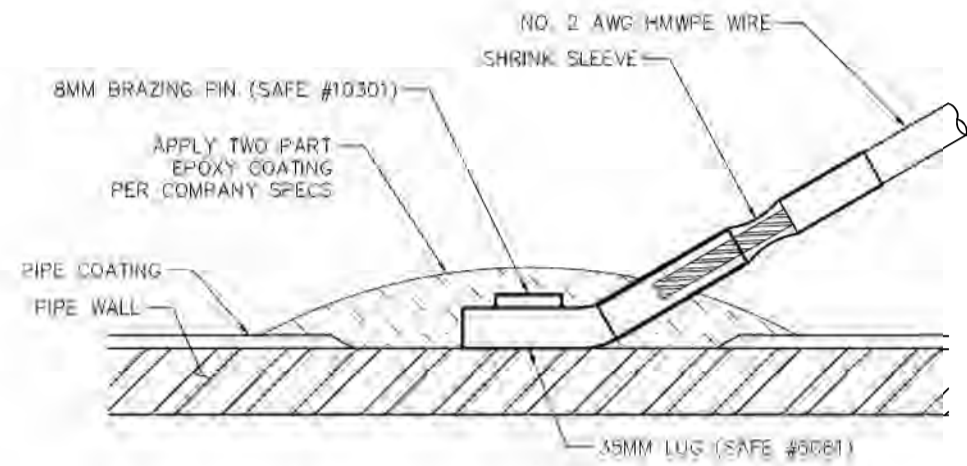


PCR INSTALLATION

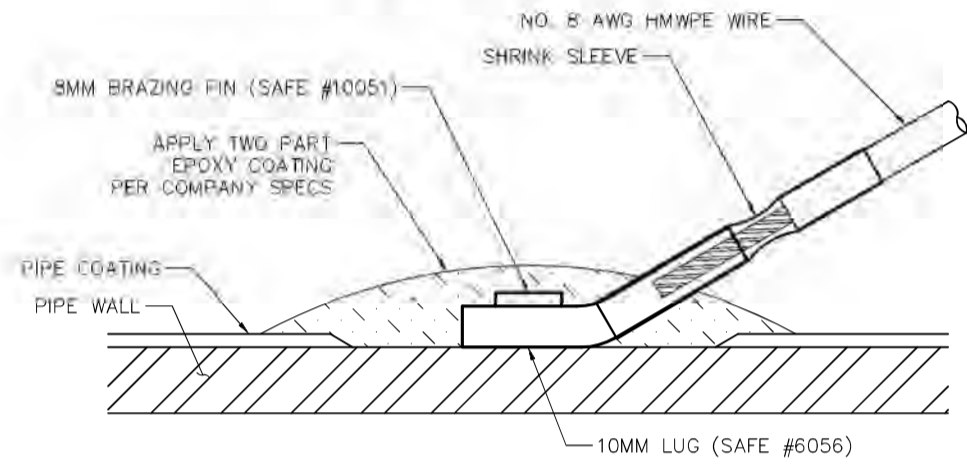


- CONNECTION PROCEDURE:
- REMOVE ±1" OF ZINC FROM STEEL CORE USING 1000°F TORCH TO MELT OFF ZINC MATERIAL.
 - OVERLAP STEEL CORE AND #2 WIRE BY ±1" AND CRIMP W/ BURNDY YC2C4 COMPRESSION CONNECTOR TO SECURE. STEEL CORE SHALL HAVE A BENT HOOK ON END. CRIMPS SHALL BE MADE WITH A APPROPRIATELY SIZED HYDRAULIC CRIMPING TOOL.
 - WRAP EXPOSED STEEL CORE, CONNECTORS, AND A MINIMUM OF 1" OF ZINC RIBBON AND #2 WIRE WITH JW PUTTY TAPE (OR EQ.) AND SHRINK SLEEVE. THE SHRINK SLEEVE SHALL EXTEND PAST THE PUTTY TAPE BY A MINIMUM OF 1".

WIRE/RIBBON SPICE DETAIL



#2 AWG WIRE PIN BRAZING DETAIL



#8 AWG WIRE PIN BRAZING DETAIL

UTILITY TECHNOLOGIES INT'L CORPORATION

Total Capabilities in the Pipeline Industry

4700 Homer Ohio Lane
Groveport, OH 43125
P: 614-482-8080
F: 614-482-8070
www.uti-corp.com

GENERATION PIPELINE, LLC

IRONVILLE LATERAL

LUCAS COUNTY, OH

PCR INSTALLATION DETAILS

IFA

(ISSUED FOR APPROVAL)

DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG
UTL PROJECT #:	DATE:	
17-031	7/25/2018	
SCALE:	HORIZONTAL:	1" = N/A
	VERTICAL:	1" = N/A
DRAWING #:	17031-200	
SHEET #:	23/35	

1. WHEN JUMPER LINES ARE NECESSARY TO TIE IN MULTIPLE TEST SECTIONS, CONTRACTOR SHALL USE THE FOLLOWING MATERIAL SPECIFICATIONS. ANY MATERIALS USED WHICH ARE NOT SPECIFIED BELOW SHALL BE REJECTED FOR APPROVED ENGINEERING.

1.2.	2" PIPE AND WELDED FITTINGS:	PIPE: CP, SMLS, API-5L PSL-1, GRADE B, 0.218" WALL
1.3.	2" VALVES AND THREADED FITTINGS:	CLASS 3000
1.4.	3" PIPE AND WELDED FITTINGS:	PIPE: CP, SMLS, API-5L PSL-1, GRADE B, 0.300" WALL
1.5.	3" VALVES AND FLANGED FITTINGS:	ANSI 600
1.6.	4" PIPE AND WELDED FITTINGS:	PIPE: CP, ERW, API-5L PSL-2, GRADE B, 0.237" WALL
1.7.	4" VALVES AND FLANGED FITTINGS:	ANSI 600
1.8.	NOTE THREADED FITTINGS MAY NOT BE USED ABOVE 2-INCH PIPE SIZE	

GENERATION PIPELINE, LLC				
SUGGESTED TYPICAL 16" TEST HEADER BOM				
MAOP = 1440 PSIG, DF = 0.50				
PIPE				
ITEM #	QUANTITY	UNIT	SIZE	DESCRIPTION
101	7	FT	16"	Pipe, PE, ERW, API-SL, PS-L, Grade X-65, 0.375" Wall
VALVES				
ITEM #	QUANTITY	UNIT	SIZE	DESCRIPTION
201	3	EA	2"	Valve, Ball, Mig, WKM, Full Port, FNPT, 3000 Minimum W.P.
FITTINGS				
ITEM #	QUANTITY	UNIT	SIZE	DESCRIPTION
601	2	EA	10" 12" x 2"	Threaded, Class 3000, SNA105
602	1	EA	Flt x 2"	Threaded, Class 3000, SNA105
603	3	EA	3/4" x 2"	Nipple, Flng, Steel, Grade B, 1/8, TSE
604	3	EA	2"	Pipe, Steel, Threaded, 3000lb. Square Head
605	1	EA	16"	Cap, Steel, Grade WPHY-45, 0.375" Wall, End





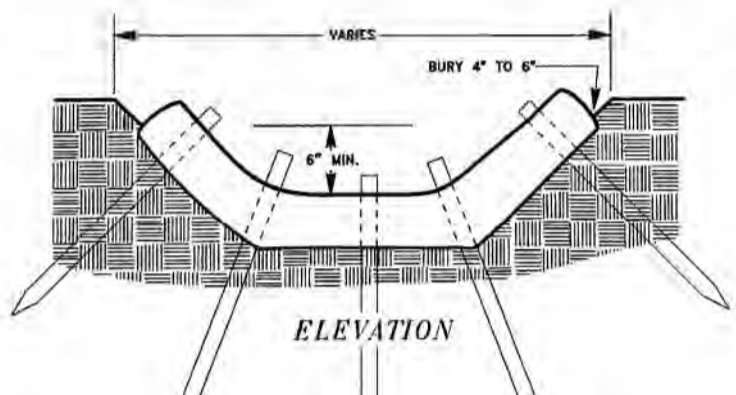
17031-200
SHEET #: 25/35

		Rate (lbs/acre)
fertilizer	10/10/10 (or equivalent)	600
agricultural lime		4,000

Area requiring temporary stabilization	Time frame to apply erosion controls
Any disturbed area within 50 feet of a surface water of the state and not at final grade	Within 2 days of the most recent disturbance if the area will remain idle for more than 14 days.
For all construction activities, any disturbed area that will be dormant for more than 14 days but less than 1 year, and not within 50 feet of a surface water of the state.	Within 7 days of the most recent disturbance within the area.
Disturbed areas that will be idle over winter	Prior to the onset of winter weather

TEMPORARY SEEDING			
SEEDING DATES	SPECIES	SEEDING RATE	
		LBS/1000 S.F.	LBS/ACRE
MARCH 1 TO AUGUST 15	OATS	3.00	128
	TALL FESCUE	1.00	40
	ANNUAL RYEGRASS	1.00	40
	PERENNIAL RYEGRASS	1.00	40
	TALL FESCUE	1.00	40
	ANNUAL RYEGRASS	1.00	40
	ANNUAL RYEGRASS	1.25	55
	PERENNIAL RYEGRASS	3.25	142
	CREEPING RED FESCUE	0.40	17
	KENTUCKY BLUEGRASS	0.40	17
AUGUST 16 TO OCTOBER 31	RYE	3.00	112
	TALL FESCUE	1.00	40
	ANNUAL RYEGRASS	1.00	40
	WHEAT	3.00	120
	TALL FESCUE	1.00	40
	ANNUAL RYEGRASS	1.00	40
	ANNUAL RYEGRASS	1.00	40
	PERENNIAL RYEGRASS	1.25	40
	PERENNIAL RYEGRASS	3.25	40
	CREEPING RED FESCUE	0.40	40
NOVEMBER 1 TO FEBRUARY 29	KENTUCKY BLUEGRASS	0.40	40
USE MULCH ONLY OR DORMANT SEEDING			
NOTE: OTHER APPROVED SPECIES MAY BE SUBSTITUTED.			

STRAW WATTLE DITCH CHECK

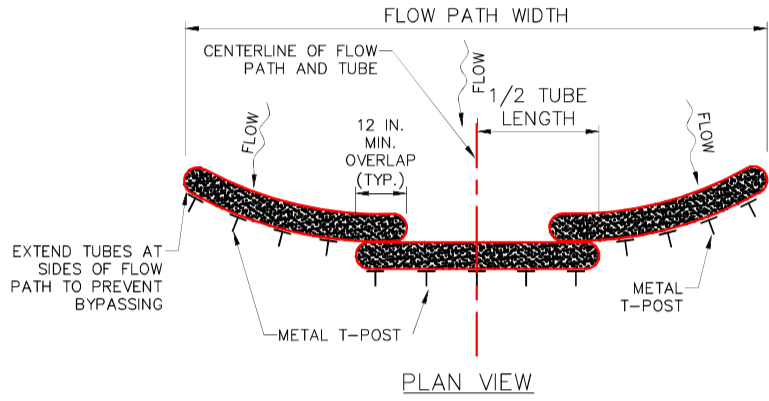


Slope	Basic (H:V)	8"	12"	16"	24"
10% - 2%	1:1	125	250	300	900
10% - 20%	5:3 T - 1:1	100	100	200	250
2% - 10%	1:1 T - 5:1	75	75	150	200
30% - 5%	3:1 T - 1:1	-	75	100	-
5% - 3%	2:1	-	50	75	-

PERMANENT SEEDING			
SEED MIX	SEEDING RATE		NOTES
	LBS/ACRE	LBS/1000 S.F.	
GENERAL USE			
CREEPING RED FESCUE	20-40	0.50-1.00	FOR CLOSE MOWING & FOR WATERWAYS WITH VELOCITY < 2.0 FT/SEC
DOMESTIC RYEGRASS	10-20	0.25-0.50	
KENTUCKY BLUEGRASS	20-40	0.50-1.00	
TALL FESCUE	40-50	1.00-1.25	
TURF-TYPE (DWARF) FESCUE	90	2.25	
STEEP BANKS OR CUT SLOPES			
TALL FESCUE	40-50	1-1.25	
CROWN VETCH	10-20	0.25-0.50	DO NOT SEED LATER THAN AUGUST
TALL FESCUE	20-30	0.50-0.75	
FLAT PEA	20-25	0.50-0.75	DO NOT SEED LATER THAN AUGUST
TALL FESCUE	20-30	0.50-0.75	
ROAD DITCHES AND SWALES			
TALL FESCUE	40-50	1-1.25	
TURF-TYPE (DWARF) FESCUE	90	2.25	
TALL FESCUE	5	0.10	
LAWNS			
KENTUCKY BLUEGRASS	100-120	2.00	FOR SHADED AREAS
PERENNIAL RYEGRASS		2.00	
KENTUCKY BLUEGRASS	100-120	2.00	
CREEPING RED FESCUE		1.50	
UPLAND ROW AND WATERBODY CROSSINGS			
ORCHARD GRASS AND/OR TALL FESCUE	20		
BIRDFOOT-TREFOIL (EMPIRE)	7		
ANNUAL RYE	10		
WETLANDS			
ANNUAL RYE	40		USE AS A TEMPORARY REVEGETATIVE MEASURE UNTIL INDIGENOUS PLANTS REESTABLISH COVER

NOTE: OTHER APPROVED SPECIES MAY BE SUBSTITUTED.

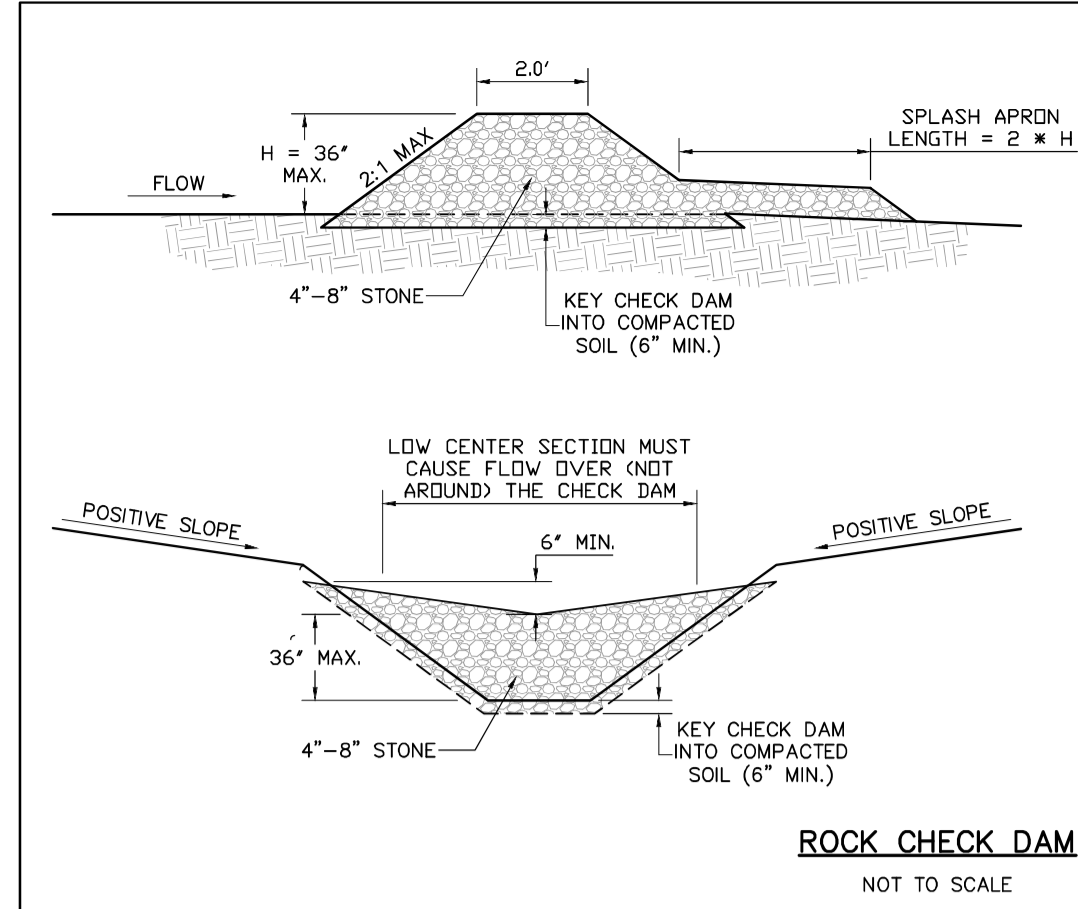
AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR 1 YEAR OR MORE	WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE.
ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE.	WITHIN 2 DAYS OF REACHING FINAL GRADE.
ANY OTHER AREAS AT FINAL GRADE.	WITHIN 7 DAYS OF REACHING FINAL GRADE WITHIN THAT AREA.



NOTES:
METAL T-POSTS SHALL BE INSTALLED AT THE CENTER AND AT EACH END OF THE TUBE.
ADDITIONAL T-POSTS SHALL BE INSTALLED AS NEEDED TO MEET THE MAXIMUM 2-FOOT SPACING. SLIGHTLY ANGLE STAKES WITH TOP FACING TOWARDS DIRECTION OF FLOW.
SEDIMENT TUBES SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT.
ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/3 THE HEIGHT OF THE TUBE AND DISPOSED AS DIRECTED ELSEWHERE IN THE E&S PLAN.
DAMAGED TUBES SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF INSPECTION. A SUPPLY OF TUBES SHALL BE KEPT ON SITE FOR THIS PURPOSE.

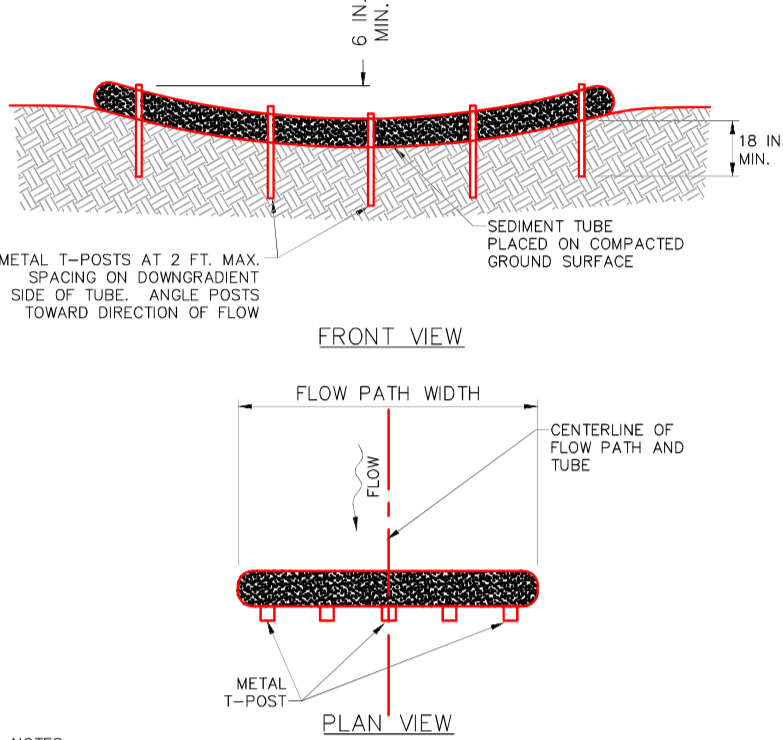
WEIGHTED SEDIMENT FILTER TUBE INSTALLATION ACROSS A WIDE FLOW PATH

NOT TO SCALE



ROCK CHECK DAM SPECIFICATIONS

- THE CHECK DAM SHALL BE CONSTRUCTED OF 4" TO 8" DIAMETER STONE, PLACED SO THAT IT COMPLETELY COVERS THE WIDTH OF THE CHANNEL. ODOT TYPE D STONE IS ACCEPTABLE, BUT SHOULD BE UNDERLAIN WITH A GRAVEL FILTER CONSISTING OF ODOT NO. 3 OR 4 STONE OR SUITABLE FILTER FABRIC.
- MAXIMUM HEIGHT OF CHECK DAM SHALL NOT EXCEED THREE (3) FEET.
- THE MIDPOINT OF THE ROCK CHECK DAM SHALL BE A MINIMUM OF 6 INCHES LOWER THAN THE SIDES IN ORDER TO DIRECT ACROSS THE CENTER AND AWAY FROM THE CHANNEL SIDES.
- THE BASE OF THE CHECK DAM SHALL BE ENTRENCHED APPROXIMATELY SIX (6) INCHES.
- SPACING OF CHECK DAMS SHALL BE IN A MANNER SUCH THAT THE TOP OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.
- A SPLASH APRON SHALL BE CONSTRUCTED IMMEDIATELY DOWNSTREAM OF THE CHECK DAM TO PREVENT FLOWS FROM UNDERCUTTING THE STRUCTURE. THE APRON SHOULD BE SIX (6) INCHES THICK AND ITS LENGTH TWO TIMES THE HEIGHT OF THE DAM.
- STONE PLACEMENT SHALL BE PERFORMED EITHER BY HAND OR MECHANICALLY AS LONG AS THE CENTER OF CHECK DAM IS LOWER THAN THE SIDES AND EXTENDS ACROSS ENTIRE CHANNEL. SIDE SLOPES SHALL BE A MINIMUM OF 2:1.



NOTES:
THIS DETAIL APPLICABLE TO FLOW PATHS WITH WIDTHS LESS THAN OR EQUAL TO ONE TUBE LENGTH.
METAL T-POSTS SHALL BE INSTALLED AT THE CENTER AND AT EACH END OF THE TUBE. ADDITIONAL T-POSTS SHALL BE INSTALLED AS NEEDED TO MEET THE MAXIMUM 2-FOOT SPACING.
SEDIMENT TUBES SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT.
ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE TUBE AND DISPOSED AS DIRECTED ELSEWHERE IN THE E&S PLAN.
DAMAGED TUBES SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF INSPECTION. A SUPPLY OF TUBES SHALL BE KEPT ON SITE FOR THIS PURPOSE.

WEIGHTED SEDIMENT FILTER TUBE INSTALLATION CONCENTRATED FLOW AREA

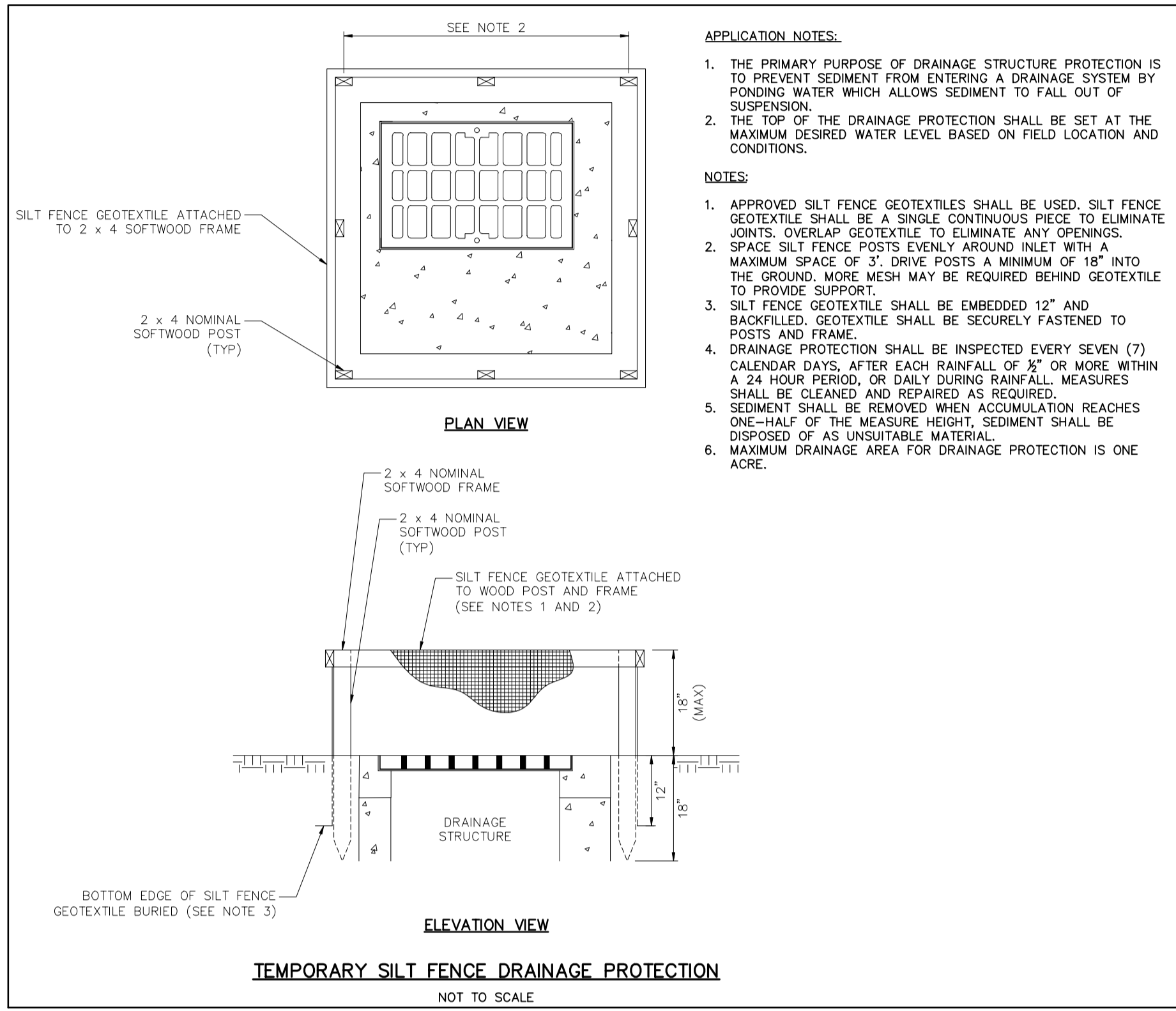
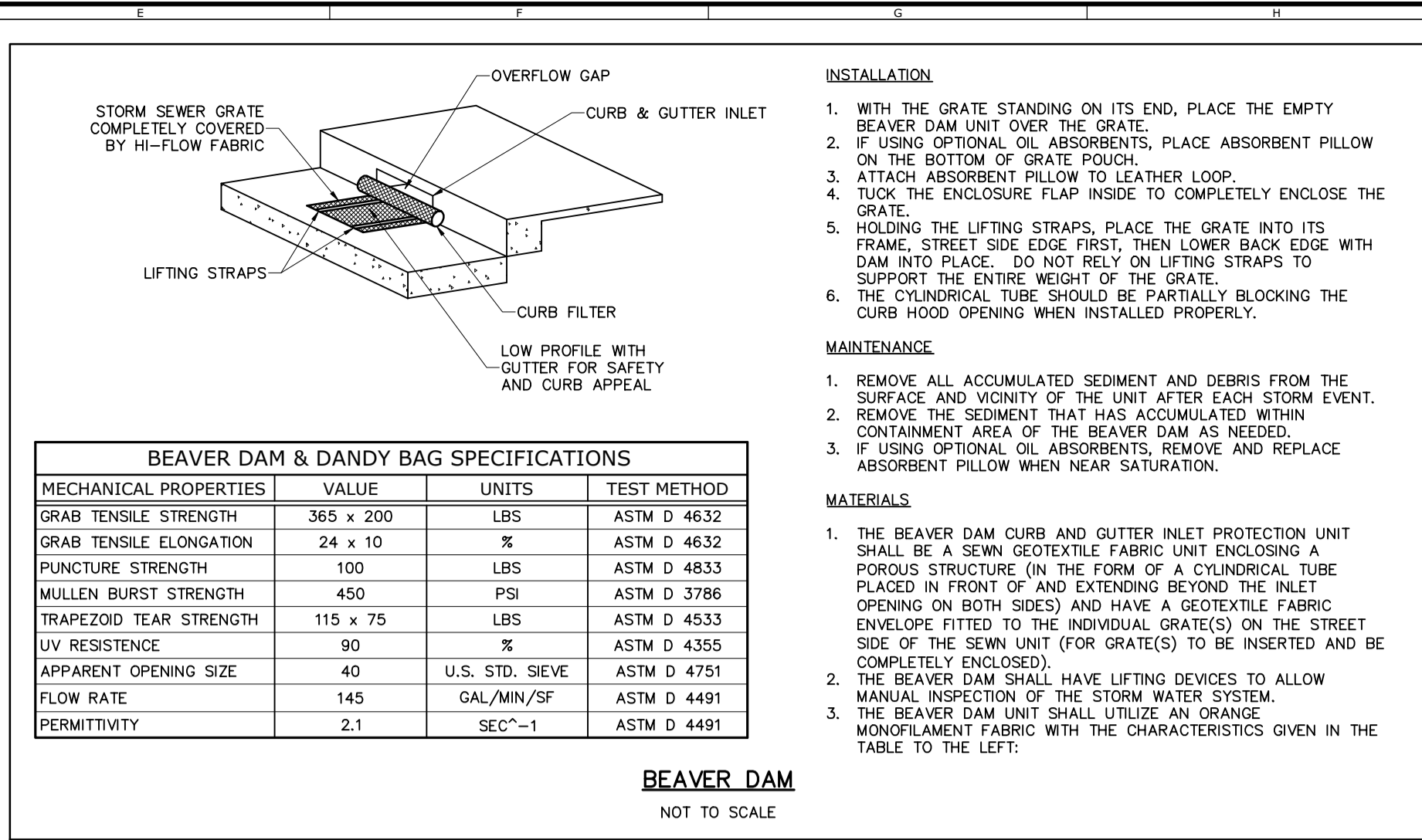
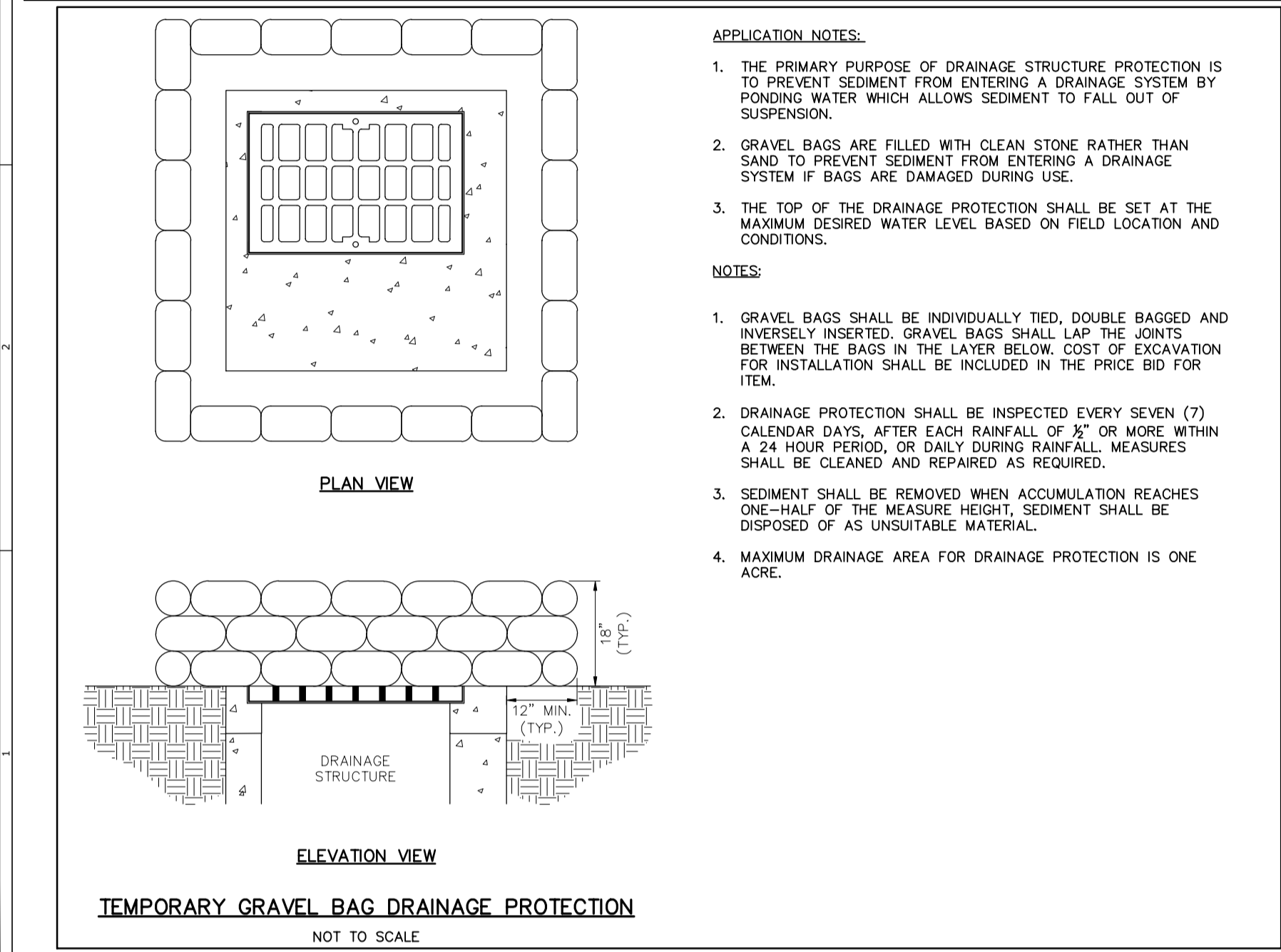
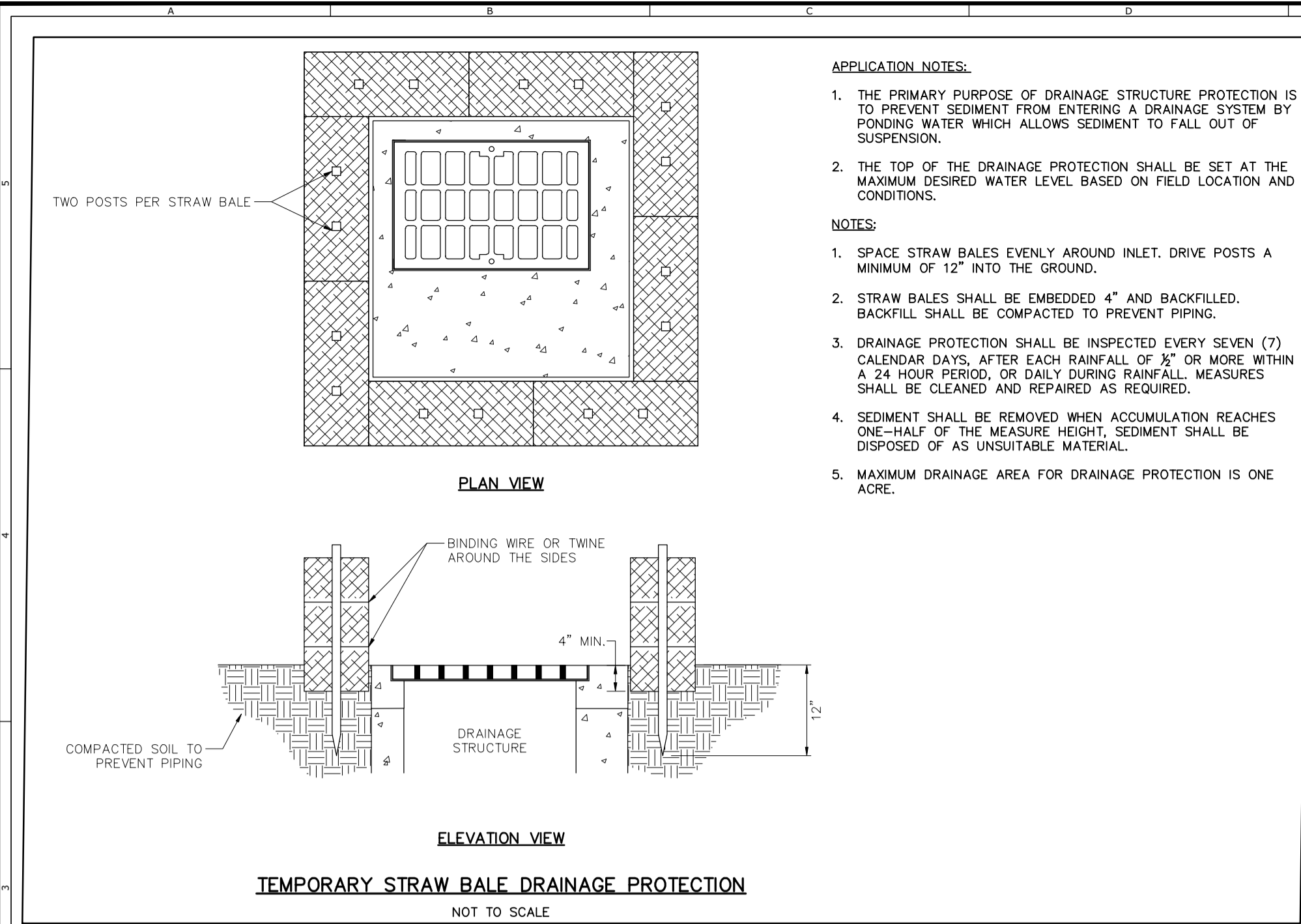
NOT TO SCALE

CHANGE ORDER SCHEDULE			
NO.	DESCRIPTION OF CHANGE	SHEET APPROVALS	
		BY	DATE
1	REQUIRE ON SMID PROPERTY	ALL	LOG

Utility Technologies Intl. Corporation	
Total Capabilities in the Pipeline Industry	
4700 Homer Ohio Lane Groveport, OH 43125 P: 614-482-8080 F: 614-482-8070 www.uta-corp.com	

GENERATION PIPELINE, LLC	IRONVILLE LATERAL
LUCAS COUNTY, OH	EROSION AND SEDIMENT CONTROL DETAILS

IFA (ISSUED FOR APPROVAL)		
DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG
UTI PROJECT #:	DATE:	
17-031	7/25/2018	
SCALE: HORIZONTAL: VERTICAL:		
DRAWING #:		
17031-200		
SHEET #:		
26/35		



CHANGE ORDER SCHEDULE

#	DESCRIPTION OF CHANGE	SHEET APPROVALS			
		NO.	BY	DATE	
1	REQUIRE ON SMD PROPERTY	ALL	LOG	8/6	

Utility Technologies Intl. Corporation

Total Capabilities in the Pipeline Industry

4700 Homer Ohio Lane
Groveport, OH 43125
P: 614-482-8080
F: 614-482-8070
www.uta-corp.com

GENERATION PIPELINE, LLC

IRONVILLE LATERAL

LUCAS COUNTY, OH

EROSION AND SEDIMENT CONTROL DETAILS

IFA
(ISSUED FOR APPROVAL)

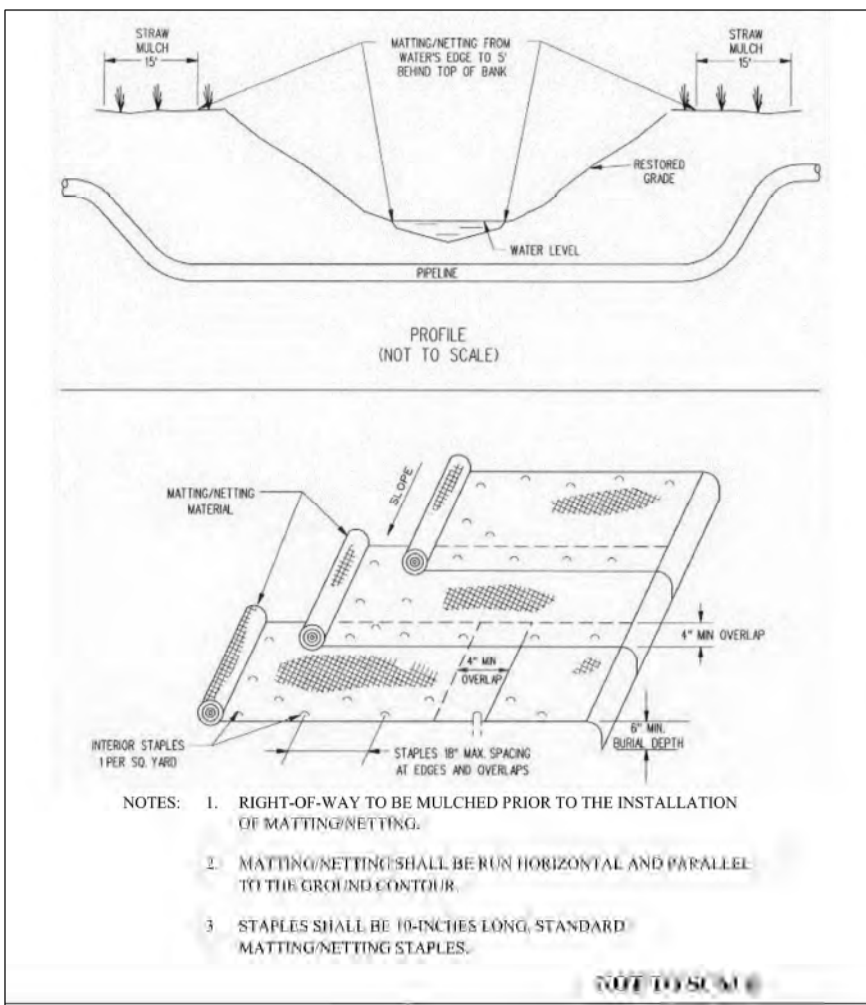
DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

UTL PROJECT #: 17-031 DATE: 7/25/2018

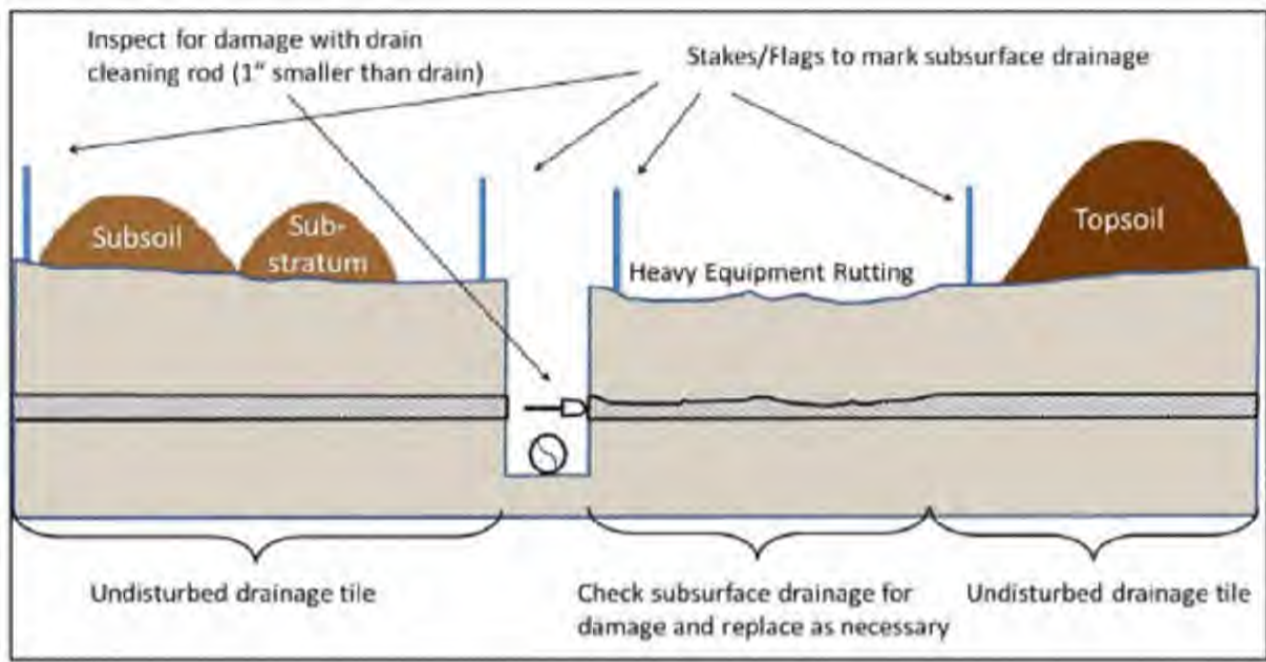
SCALE: HORIZONTAL: VERTICAL:

DRAWING #: 17031-200

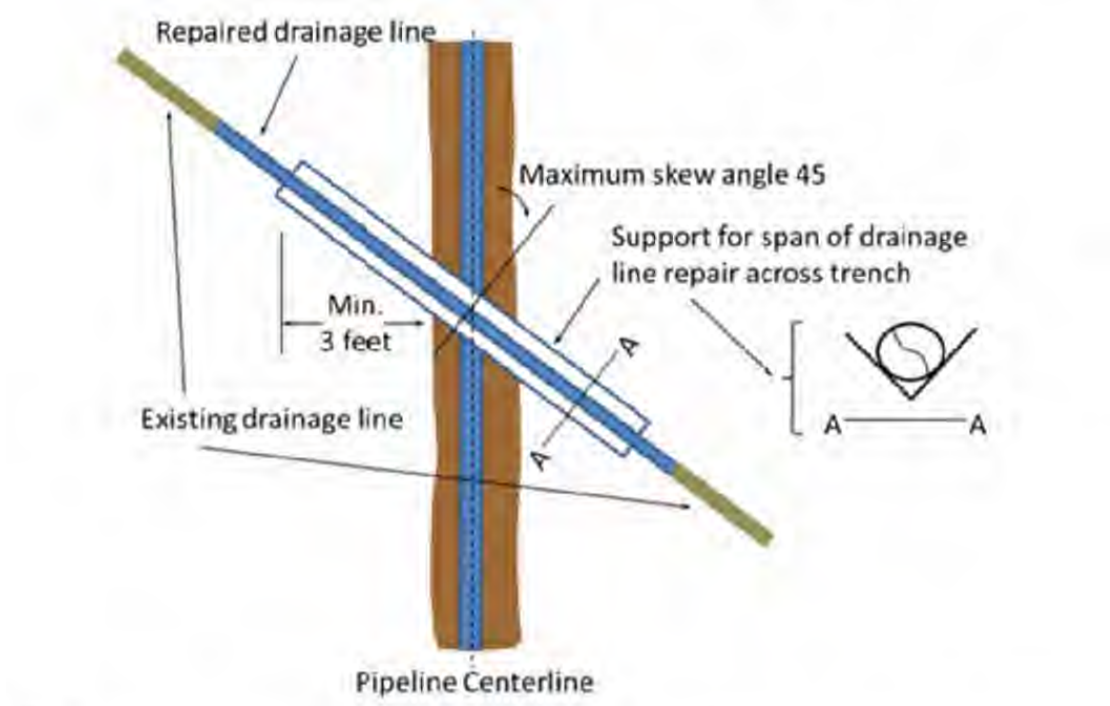
SHEET #: 27/35



EROSION CONTROL FABRIC
NOT TO SCALE

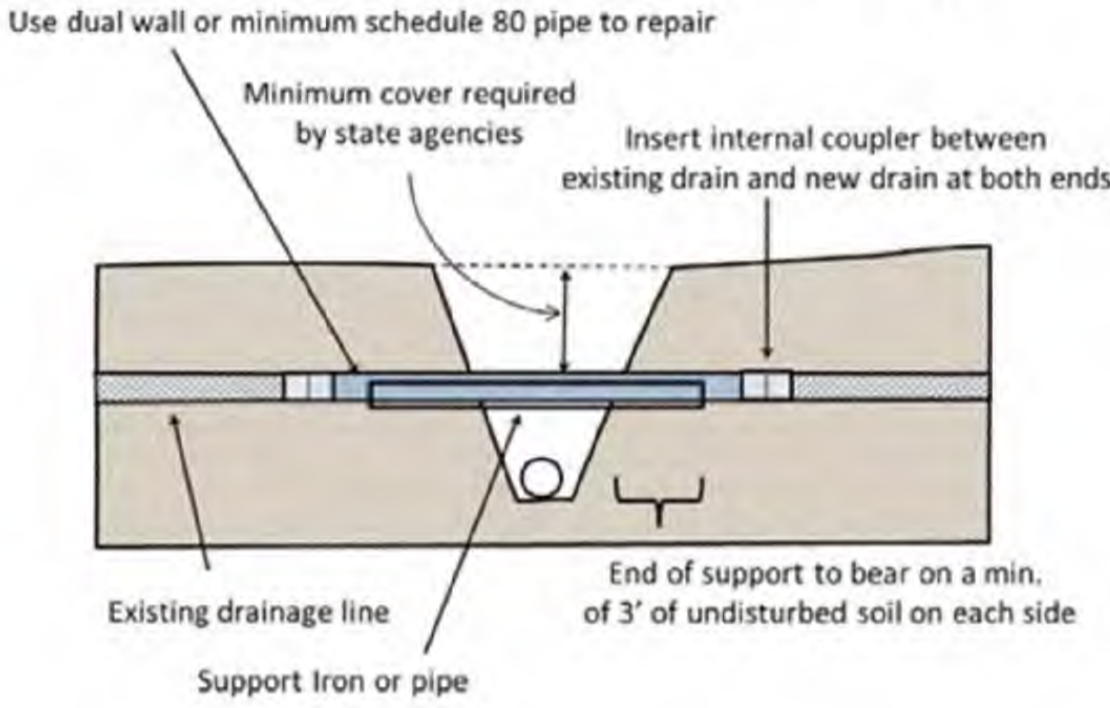


Repair of Severed Drainage Lines



- Notes:
1. Extend support and replacement drainage line a minimum of 3 feet onto undisturbed earth on both sides of trench, measured perpendicular from the wall of the trench.
 2. Provide steel support for drain tile or plastic pipe to maintain function while the ditch is open.
 3. Should a drain cross a ditch at a skew of greater than 45 degrees, the replacement drain is to be relocated into undisturbed soil or out of conflict with the pipeline ditch. The replacement drain pipe is to be installed to match elevation of existing pipes.

Repair of Severed Drainage

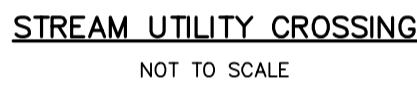
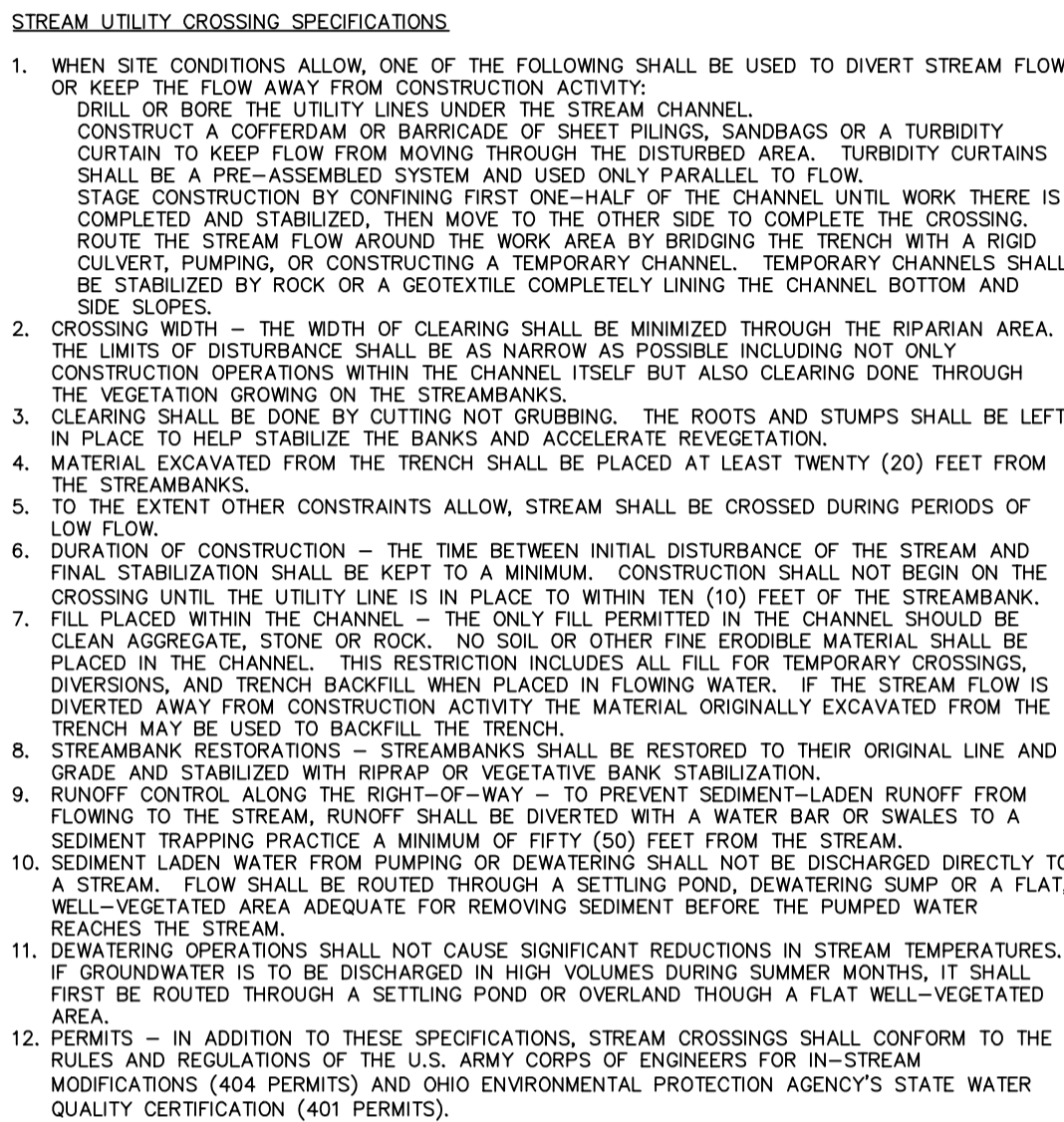
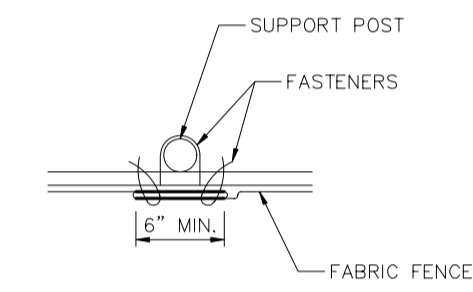
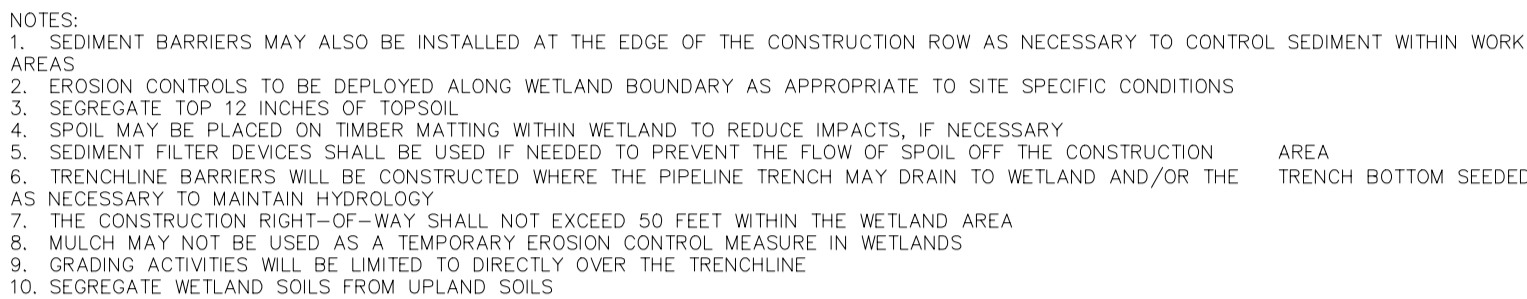
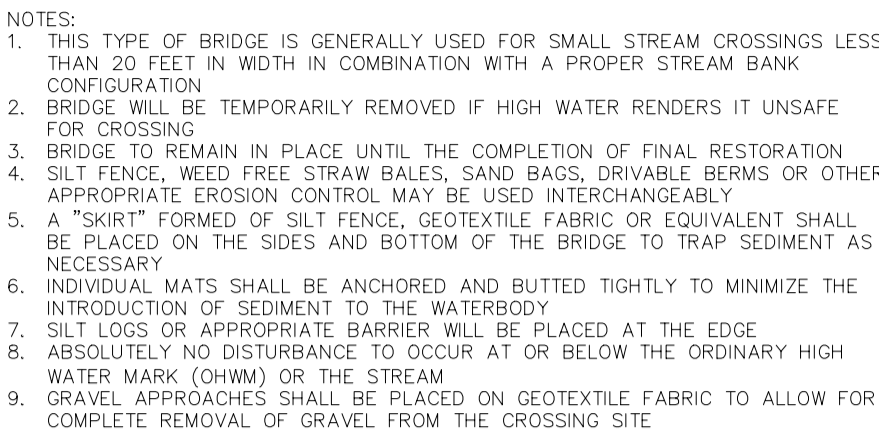
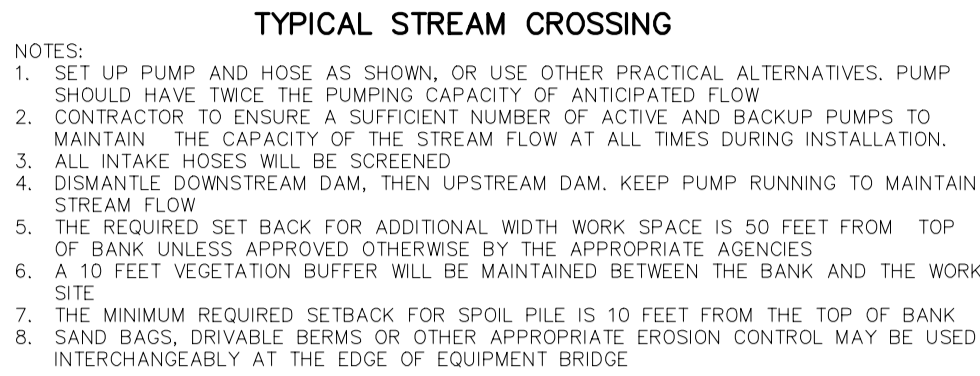


- Notes:
1. Perforated pipe shall be installed so that holes are facing down.
 2. The perforated rigid support pipe is shouldered back into the firm, undisturbed soil profile to ensure consistent gravity flow gradient of the drainage line across the trench as the backfill material gradually settles for up to two years.
 3. Long stretches of the pipe support across the trench may need to be supported by sand bags or other means to prevent sagging.

CHANGE ORDER SCHEDULE					
SHEET APPROVALS		SHEET APPROVALS			
NO.	BY	DATE	NO.	BY	DATE
1	ALL	LOG	1	ALL	LOG
REQUIRE ON SMD PROPERTY					

UTILITY TECHNOLOGIES INTL. CORPORATION	
Total Capabilities in the Pipeline Industry	
4700 Homer Ohio Lane Groveport, OH 43125 P: 614-482-8080 F: 614-482-8070 www.uti-corp.com	
GENERATION PIPELINE, LLC	
IRONVILLE LATERAL	
LUCAS COUNTY, OH	
EROSION AND SEDIMENT CONTROL DETAILS	

IFA (ISSUED FOR APPROVAL)		
DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG
UTI PROJECT #: 17-031	DATE: 7/25/2018	
SCALE: HORIZONTAL: VERTICAL:		
DRAWING #: 17031-200		
SHEET #: 28/35		

[illegible]

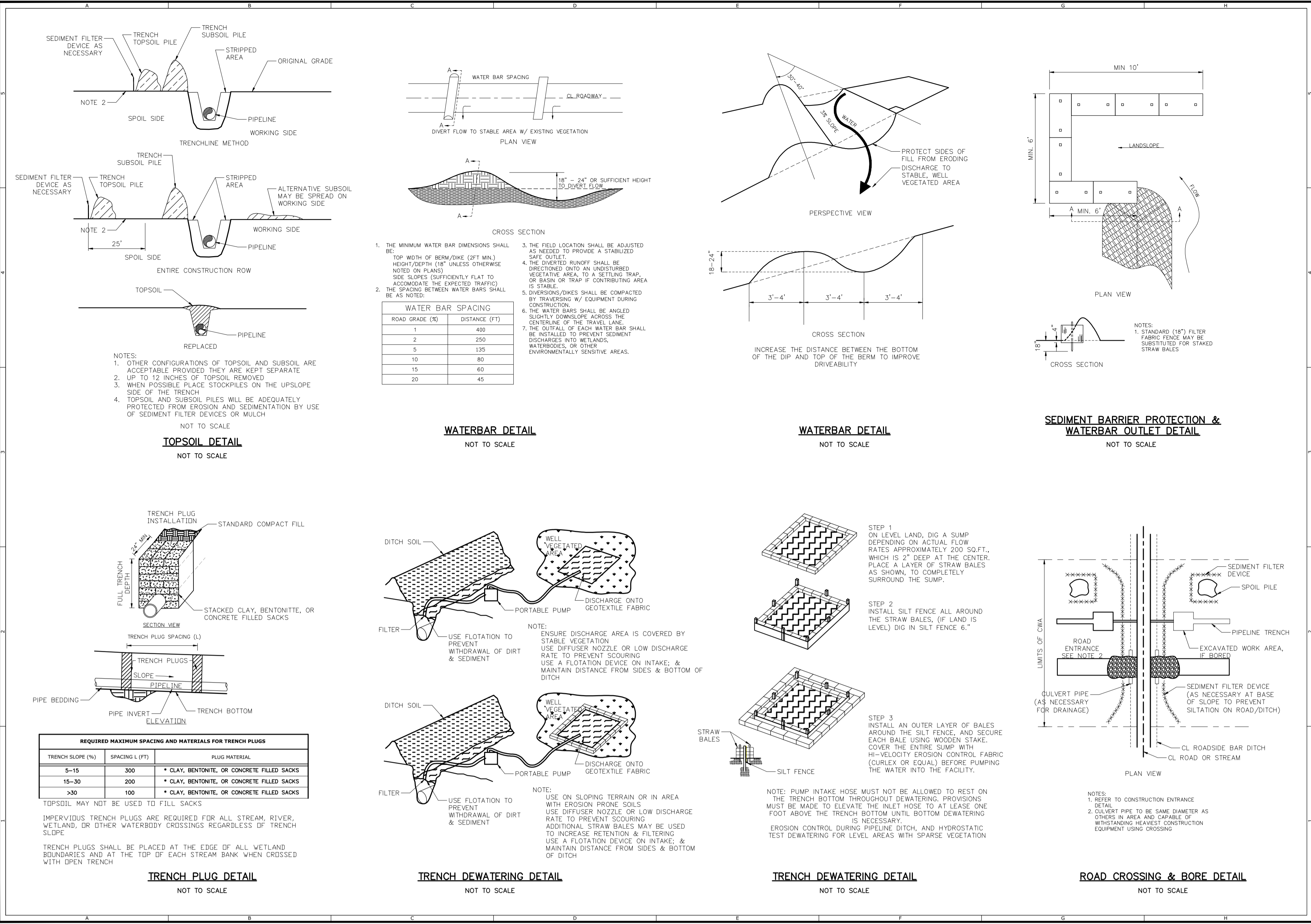
**Utility Technologies Intl.
Corporation**

Total Capabilities in the Pipeline Industry

4700 Homer Ohio Lane
Groveport, OH 43125
P: 614-482-8080
F: 614-482-8070
www.uth-corp.com

GENERATION PIPELINE, LLC
IRONVILLE LATERAL
LUCAS COUNTY, OH

<h1 style="margin: 0;">IFA</h1> <p style="margin: 0;">(ISSUED FOR APPROVAL)</p>		
DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG
UTI PROJECT # : 17-031		DATE: 7/25/2018
SCALE: HORIZONTAL: VERTICAL:		
DRAWING # : 17031-200		
SHEET # : 29/35		



CHANGE ORDER SCHEDULE

#	DESCRIPTION OF CHANGE		SHEET APPROVALS		ALL	LOG	R/S
	NO.	BY DATE	NO.	BY DATE			
1							

Utility Technologies Intl. Corporation

Total Capabilities in the Pipeline Industry

4700 Homer Ohio Lane
Groveport, OH 43125
P: 614-482-8080
F: 614-482-8070
www.utt-corp.com

GENERATION PIPELINE, LLC

IRONVILLE LATERAL

LUCAS COUNTY, OH

EROSION AND SEDIMENT CONTROL DETAILS

IFA

(ISSUED FOR APPROVAL)

DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

UTL PROJECT #:
17-031

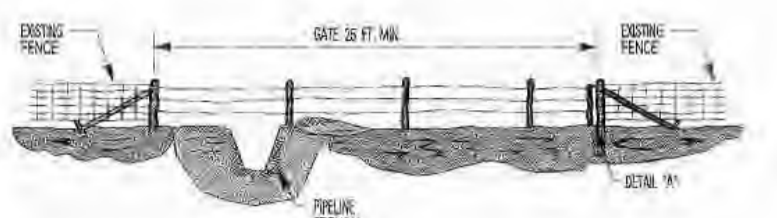
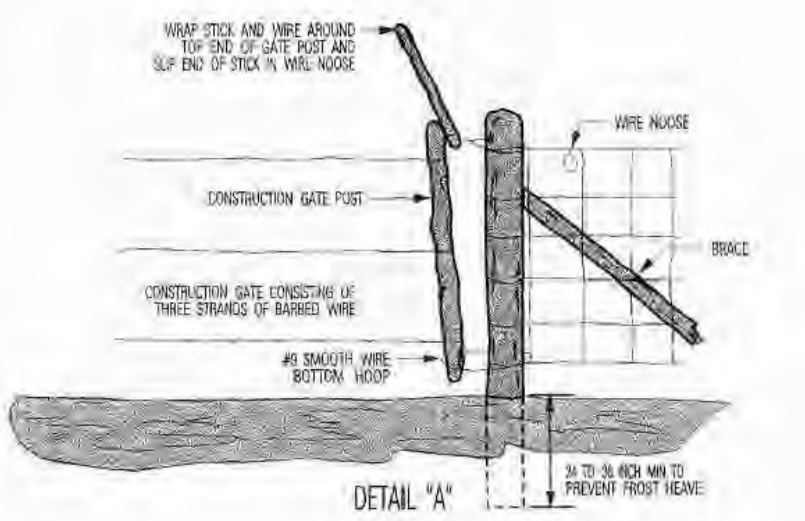
DATE:
7/25/2018

SCALE:
HORIZONTAL:
VERTICAL:

DRAWING #:
17031-200

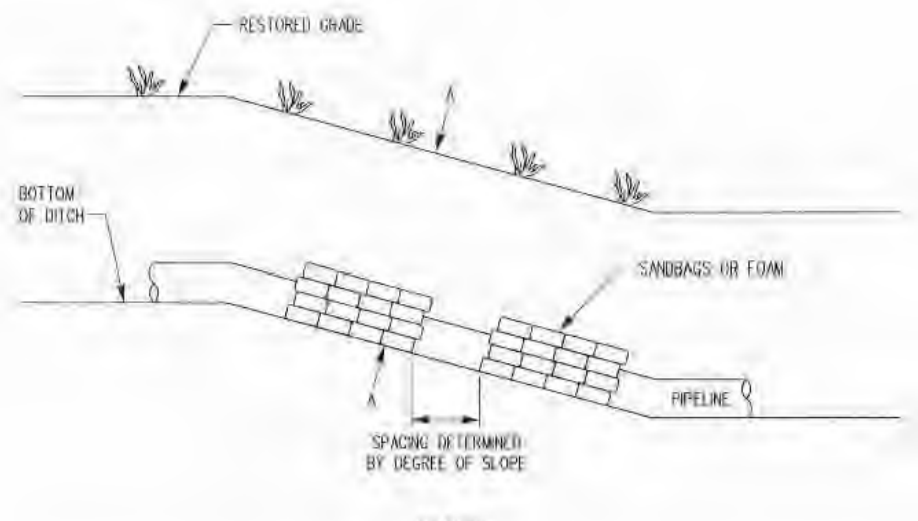
SHEET #:
30/35

\\s001\projects\clients\generation pipeline\17031-001-001-001\17031-001-001-001.dwg (7/25/2018 10:12:24 AM) - E:\Library\Utilities\Generation Pipeline\17031-001-001-001.dwg (7/25/2018 10:12:24 AM) - E:\Library\Utilities\Generation Pipeline\17031-001-001-001.dwg (7/25/2018 10:12:24 AM)



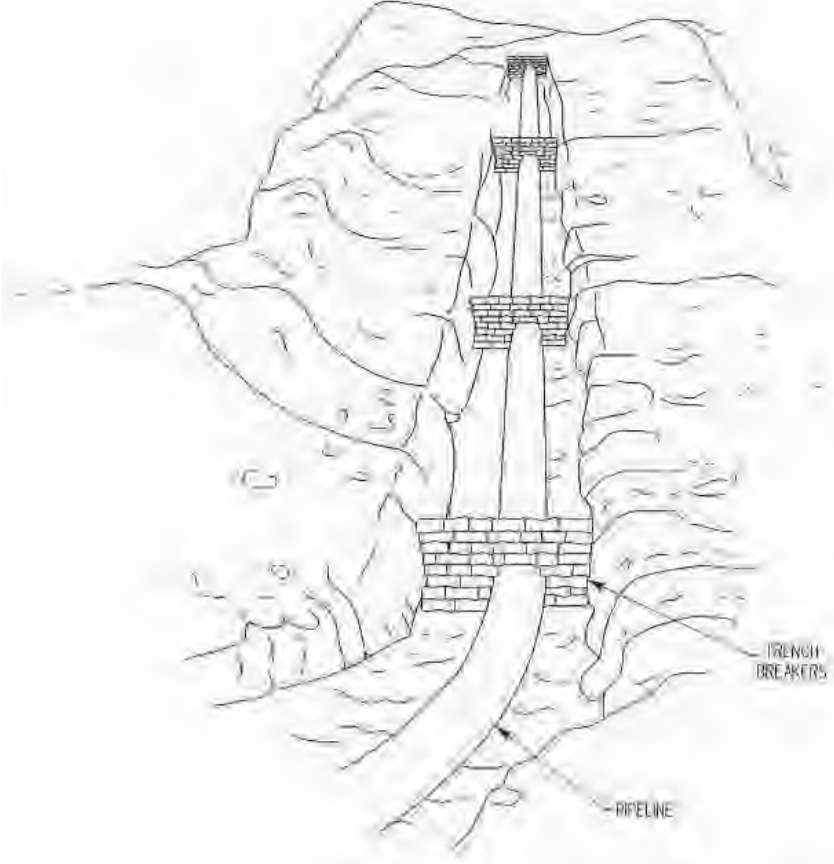
- NOTES:
1. IF EXISTING FENCE POSTS ARE STEEL "T" BAR TYPE, THEN REMOVE THE STEEL "T" BAR POST ON BOTH SIDES OF THE GATE OPENING AND REPLACE WITH TEMPORARY WOODEN POSTS, BRACED AS SHOWN.
 2. SUITABLE SUBSTITUTES FOR THE STOCK AND WIRE GATE FASTENERS ARE PERMISSIBLE.

TEMPORARY CONSTRUCTION GATE
NOT TO SCALE

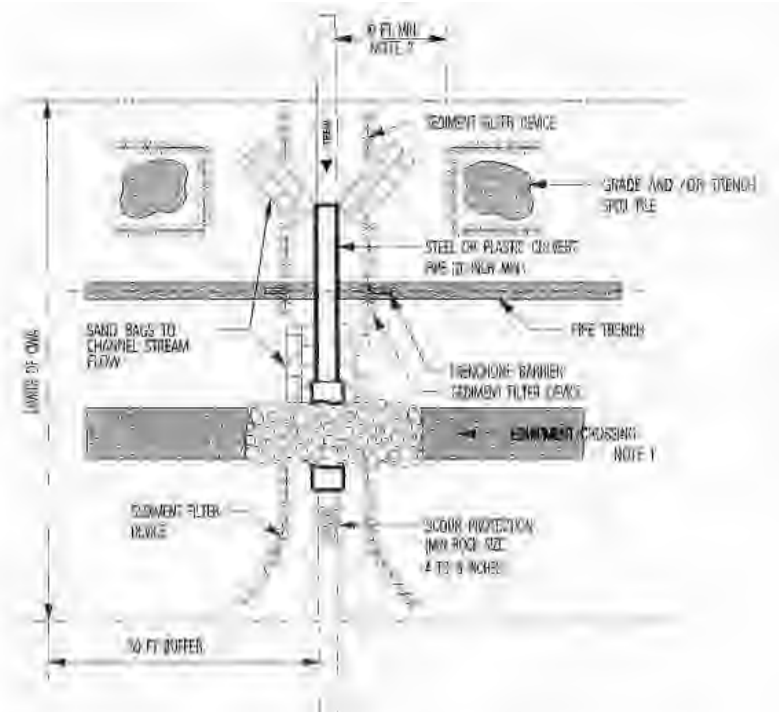


NOTE: PERMANENT DITCH/LEAK BREAKERS SHOULD NOT EXTEND TO WITHIN 12 INCHES OF THE SURFACE IN AGRICULTURAL LANDS.

PERMANENT TRENCH BREAKERS
NOT TO SCALE



TRENCH BARRIERS & BREAKERS
NOT TO SCALE



- NOTES:
1. EQUIPMENT CROSSINGS ARE TO BE PREPARED AS ILLUSTRATED IN FIGURES 12 & 13.
 2. GRADE AND TRENCH SLOPE WILL BE STOCKPILED AT LEAST 10 FEET FROM THE WATER'S EDGE TOPOGRAPHY PERMITTING.
 3. INSTALL ALUMINUM PIPE AFTER BEATING, BUT BEFORE TRENCHING.
 4. USE SAND BAGS OR SAND BAGS AND PLASTIC SHEETING DIVERSION STRUCTURE OR EQUIVALENT.
 5. PREPARE ALUMINUM PIPE.
 6. DO NOT REMOVE PLUMB PIPE DURING TRENCHING PREPARING OR BACKFILLING ACTIVITIES.
 7. REMOVE ALL PLUMB PIPES AND DAMS THAT ARE NOT ALSO PART OF THE EQUIPMENT BRIDGE AFTER FINAL CLEANUP BUT BEFORE PERMANENT SEEDING.

TYPICAL STREAM CROSSING DRY-DITCH
NOT TO SCALE



Horizontal Directional Drilling for Utility Line Installation

Disposal of Horizontal Directional Drilling Wastes and Protection of Water Resources

Horizontal directional drilling (HDD) is a method of trenchless technology commonly used in the installation of various utility pipelines and conduits. It is a common way of getting utility lines from one point to another by directionally boring under obstacles or environmentally sensitive areas. HDD may be used, for example, to getting under rivers, marshes, or fields where typical trenching techniques would not be cost effective, feasible or may be environmentally sensitive. With the increase in natural gas pipelines installation throughout the state, there is increased HDD activity. And while HDD is less invasive to the ground surface, there are some issues that need to be addressed to protect the environment and water resources associated with the activity. Drill cuttings and spent drilling fluids generated from HDD activity need to be properly managed. In addition, site operators need to take measures to prevent storm water erosion and runoff from entering a stream, waterbody or wetland.

Management Options for Drill Cuttings and Spent Drilling Fluids
Most directional boring operations use drilling fluids in the installation of underground pipes and conduits. Drilling fluid is generally a mixture of bentonite clay and water. Commercially produced drilling additives are sometimes mixed with the drilling fluid to improve the drilling performance. Drilling fluids are pumped into the existing hole during drill cuttings back to the surface where they are either allowed to settle out in a pit or recovered mechanically in a recovery system. Drill cuttings are primarily surface material removed from the drilling/boring process. Spent drilling fluids and drilling additives are products that may not be as benign as the drill cuttings. Standard practice in the HDD industry is to recycle or recover as much of the drilling fluid as possible at the location. However, once the project is complete, disposal of these spent drilling fluids is also necessary.

Spent drilling fluids containing only bentonite clay are considered "earthier material" and may be buried or land applied on location within the right-of-way of the drilling operation or at a designated property. Drill cuttings resulting from HDD using sandy bentonite clay and water are also considered "earthier material" and may be managed similarly. This fact sheet provides best management practices that can be employed to ensure burial and land application activities proceed without disruption of material to surface water, or contamination of ground water resources.

Spent drilling fluids containing refined oil-based lubricants or other commercially produced additives are drilled in an installed water and must be disposed at a licensed municipal solid waste landfill or other facilities authorized by Ohio EPA. Prior to landfill disposal, these spent drilling fluids may require stabilization in order to pass the leachate filter test.

OHIO EPA HDD UTILITY LINE INSTALLATION
NOT TO SCALE

FACT SHEET

Division of Surface Water
December 2013



Horizontal Directional Drilling for Utility Line Installation

Siting and Best Management Practices (BMPs) for Burial of "Earthier Material" On-location or at a Designated Property

If these best management practices and siting criteria below are followed for the burial location or any intermediate storage unit (for example, pond, settling basin, etc.), then there will be no permitting requirements through the Ohio EPA. Therefore, the Agency strongly recommends following ALL the BMPs identified below. Also note that if discharges from these operations are severe enough to violate water quality standards, Ohio EPA can then require that a permit be obtained to alleviate the impacts from these wastewater discharges.

- If the drilling project proposes to bury drill cuttings and/or spent drilling fluids defined as "earthier material" on location or at a designated property, use the following best management practices and siting requirements:
 - For on-site location burial options, the site should be fully contained within the right-of-way of the utility or easement, and be fully enclosed.
 - The spent drilling fluids and drill cuttings should be buried in either an excavated pit or covered with top soil removed from the utility right-of-way during utility site construction/development purposes, if appropriate, at a rate of 18 inches.
 - The material should be buried in a manner to prevent ponding or transport of storm water through the installed (for example, control in this rubble and a slope to edge of disposal area).
 - The burial location should not be located in sensitive hydrogeological areas (for example, shallow ground water, shallow sand and gravel lenses or fractured bedrock, etc.).
 - The burial location should be located at least 100 feet from any permanent surface water.
 - The burial location should be located a minimum of 100 feet from any potable water supply well and 200 feet from any large public water supply well.
 - The burial location should be managed and have best management practices applied similarly to any construction site regulated through the construction storm water program which includes erosion, stabilization, and the installation of sediment controls. The main goal of this action is to ensure that sediment laden water is not discharged to a water resource.
- For more information on best management practices guidance, go to:
 - Ohio EPA Best Management Practices for Oil and Gas Well Site Construction at: www.dnr.state.oh.us/Portals/21/ndp/pdf/BMP_OIL_GAS_WELL_SITE_CONST.pdf
 - Ohio EPA Stormwater and Land Development Manual at: www.dnr.state.oh.us/stormwater/landdev/ndp/9186/ndp9186.asp

Siting and Best Management Practices for Land Application of "Earthier Material"

As with the burial of "earthier material" described above, the land application of "earthier materials" (drill cuttings or spent drilling fluids) may be appropriate if proper best management practices are followed to ensure proper protection of surface and/or ground waters. The following best management practices should be used for land application of these "earthier materials".

- The material should not be land applied during a precipitation event or when a significant rain event is forecast within 24 hours.
- The material should not be land applied in a fashion that would result in ponding on the surface of the ground.
- The material should not be land applied on property with a slope greater than three percent.
- The material should not be land applied on frozen or snow covered ground.
- The material should not be land applied within 50 feet of any surface waters of the state (for example, river, stream, ditch, basin, pond, etc.).
- The land application area should not be located in sensitive hydrogeological areas (for example, shallow ground water, shallow sand and gravel lenses or fractured bedrock, etc.).
- The material should not be land applied within 100 feet of any private or public potable water source.

Additional Information or Resources

Ohio EPA does not endorse management alternatives other than those specified above. If an alternative management option is contemplated, a permit issued by Ohio EPA may be necessary.

Contact

For more information, contact Mark Shupat at mark.shupat@epa.ohio.gov or (614) 644-2028.

Page 12

OHIO EPA HDD UTILITY LINE INSTALLATION
NOT TO SCALE

CHANGE ORDER SCHEDULE			
#	DESCRIPTION OF CHANGE	SHEET APPROVALS	
		NO.	BY DATE
1	REROUTE ON SM/DI PROPERTY	ALL	KDG 8/6

Utility Technologies Int'l. Corporation
Total Capabilities in the Pipeline Industry
4700 Homer Ohio Lane
Groveport, OH 43125
P: 614-482-8080
F: 614-482-8070
www.uti-corp.com

GENERATION PIPELINE, LLC
IRONVILLE LATERAL
LUCAS COUNTY, OH

IFA
(ISSUED FOR APPROVAL)

DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

UTI PROJECT #:
17-031

DATE:
7/25/2018

SCALE:
HORIZONTAL:
VERTICAL:

DRAWING #:
17031-200

SHEET #:
31/35

[illegible]

CONSTRUCTION PRACTICES		ACCESS ROADS		ALL ACCESS TO THE CONSTRUCTION ROW WILL BE LIMITED TO APPROVED ACCESS POINTS FROM PUBLIC ROADWAYS.		ACCESS TO THE ROW DURING CONSTRUCTION AND RESTORATION ACTIVITIES IS PERMITTED ONLY BY THE ACCESS POINTS IDENTIFIED ON THE SWP3.		CONTRACTOR SHALL MAINTAIN SAFE CONDITIONS AT ALL ROAD CROSSINGS AND ACCESS POINTS DURING CONSTRUCTION AND RESTORATION. ADDITIONAL REQUIREMENTS PER LOCAL AND STATE PERMITS MAY BE NECESSARY. ALL ACCESS ROADS WILL BE MAINTAINED DURING CONSTRUCTION BY GRADING AND THE ADDITION OF GRAVEL OR STONE WHEN NECESSARY.		CONTRACTOR WILL IMPLEMENT ALL APPROPRIATE EROSION AND SEDIMENTATION CONTROL MEASURES FOR CONSTRUCTION/IMPROVEMENT OF ACCESS ROADS.		CONTRACTOR SHALL ENSURE THAT ALL PAVED ROAD SURFACES UTILIZED DURING CONSTRUCTION ARE KEPT FREE OF MUD AND DEBRIS TO THE EXTENT PRACTICAL.		ALL ACCESS ROADS ACROSS A WATERBODY MUST USE APPROVED CROSSING TECHNIQUE.		THE ONLY ACCESS ROADS, UNLESS OTHERWISE PERMITTED, THAT CAN BE USED IN WETLANDS OTHER THAN THE CONSTRUCTION ROW ARE THOSE EXISTING ROADS REQUIRING NO MODIFICATION AND NO IMPACT ON THE WETLAND.		LIMIT CONSTRUCTION EQUIPMENT OPERATING IN WETLAND AREAS TO THAT NEEDED TO CLEAR THE ROW, DIG THE TRENCH, FABRICATE AND INSTALL THE PIPELINE, BACKFILL THE TRENCH, AND RESTORE THE ROW. ALL OTHER CONSTRUCTION EQUIPMENT SHALL USE ACCESS ROADS LOCATED IN UPLAND AREAS TO MAXIMUM EXTENT PRACTICAL. WHERE ACCESS ROADS IN UPLAND AREAS DO NOT PROVIDE REASONABLE ACCESS, LIMIT ALL OTHER CONSTRUCTION EQUIPMENT TO ONE PASS THROUGH THE WETLAND USING THE ROW, WHENEVER PRACTICAL.		FOR ACCESS THROUGH A WETLAND, USE APPROVED CROSSING TECHNIQUE.																					
CONSTRUCTION ENTRANCE		A CONSTRUCTION ENTRANCE IS A STABILIZED PAD OF STONE UNDERLAIN WITH A GEOTEXTILE FABRIC LOCATED AT POINTS OF INGRESS/EGRESS. THE PRACTICE IS USED TO REDUCE THE AMOUNT OF MUD TRACKED OFF-SITE WITH CONSTRUCTION TRAFFIC.		A CONSTRUCTION ENTRANCE IS APPLICABLE WHERE:		CONSTRUCTION TRAFFIC LEAVES ACTIVE CONSTRUCTION AREAS AND ENTERS PUBLIC ROADWAYS OR AREAS UNCHECKED BY EFFECTIVE SEDIMENT CONTROLS		AREAS WHERE FREQUENT VEHICLE AND EQUIPMENT ACCESS IS EXPECTED AND WHICH CONTRIBUTE SEDIMENT TO RUNOFF, SUCH AS AT THE ENTRANCE TO INDIVIDUAL BUILDING LOTS.		IF A CONSTRUCTION ENTRANCE IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF MUD FROM WHEELS OR THERE IS AN ESPECIALLY SENSITIVE TRAFFIC SITUATION ON ADJACENT ROADS, WHEEL WASH AREAS MAY BE NECESSARY. THIS REQUIRES AN EXTENDED WIDTH PAD TO AVOID CONFLICTS WITH TRAFFIC. A SUPPLY OF WASH WATER AND SUFFICIENT DRAINAGE TO ASSURE RUNOFF IS CAPTURED IN A SEDIMENT POND OR TRAP.		PROPER INSTALLATION OF A CONSTRUCTION ENTRANCE REQUIRES A GEOTEXTILE AND PROPER DRAINAGE TO INSURE CONSTRUCTION SITE RUNOFF DOES NOT LEAVE THE SITE. THE USE OF GEOTEXTILE UNDER THE STONE HELPS TO PREVENT POTHOLES FROM DEVELOPING AND WILL SAVE THE AMOUNT OF STONE NEEDED DURING THE LIFE OF THE PRACTICE. PROPER DRAINAGE MAY INCLUDE CULVERTS TO DIRECT WATER UNDER THE ROADWAY OR WATER BARS TO DIRECT MUDDY WATER OFF THE ROADWAY TOWARD SEDIMENT TRAPS OR PONDS.		THE AREA OF THE ENTRANCE MUST BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL. THE GEOTEXTILE WILL THEN BE PLACED THE FULL WIDTH AND LENGTH OF THE ENTRANCE.		STONE SHALL BE PLACED TO A DEPTH OF AT LEAST SIX (6) INCHES. ROADS SUBJECT TO HEAVY DUTY LOADS SHOULD BE INCREASED TO A MINIMUM OF TEN (10) INCHES. SURFACE WATER SHALL BE CONVEYED UNDER THE ENTRANCE, THROUGH CULVERTS, OR DIVERTED VIA WATER BARS OR MOUNTABLE BERMS (MINIMUM 5:1 SLOPES) SO AS TO CONVEY SEDIMENT LADEN RUNOFF TO SEDIMENT CONTROL PRACTICES OR TO ALLOW CLEAN WATER TO PASS BY THE ENTRANCE.		THE STABILIZED CONSTRUCTION ENTRANCE SHALL MEET THE SPECIFICATIONS INCLUDED IN THE DETAIL ON THESE PLANS.		THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKING OF EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANING OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. THE USE OF WATER TRUCKS TO REMOVE MATERIALS DROPPED, WASHED, OR TRACKED ONTO ROADWAYS WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES.																					
PIPE AND CONTRACTOR LAYDOWN AREAS		PIPE AND CONTRACTOR LAYDOWN AREAS ARE REQUIRED FOR STORING AND STAGING EQUIPMENT, PIPE, FUEL, OIL, PIPE FABRICATION, AND OTHER CONSTRUCTION RELATED MATERIALS. THE CONTRACTOR SHALL PERFORM THE FOLLOWING MEASURES AT PIPE AND CONTRACTOR LAYDOWN AREAS.		STRIP AND SEGREGATE TOPSOIL		INSTALL BMP AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR, OUTLINED IN THIS PLAN, OR IDENTIFIED ON THE CONSTRUCTION DRAWINGS, AND MAINTAIN THEM THROUGHOUT CONSTRUCTION AND RESTORATION ACTIVITIES. IMPLEMENT AND COMPLY WITH THE SWP3.		RESTORE AND REVEGETATE ALL DISTURBED AREAS IN ACCORDANCE WITH THE MEASURES OUTLINED IN THIS PLAN AND AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.		OFF-ROW DISTURBANCE		ALL CONSTRUCTION ACTIVITIES ARE RESTRICTED TO WITHIN THE LIMITS IDENTIFIED ON THE CONSTRUCTION DRAWINGS. HOWEVER, IN THE EVENT THAT OFF-ROW DISTURBANCE OCCURS, THE FOLLOWING MEASURES WILL BE IMPLEMENTED:		THE ENVIRONMENTAL INSPECTOR WILL IMMEDIATELY REPORT THE OCCURRENCE TO THE PROJECT ENGINEER AND ROW AGENT.		THE PROJECT ENGINEER WILL NOTIFY COMPANY AND THE STAFF AT THE OPSB.		THE CONDITIONS THAT CAUSED THE DISTURBANCE WILL BE EVALUATED BY THE PROJECT ENGINEER AND ENVIRONMENTAL INSPECTOR, AND THEY WILL DETERMINE WHETHER WORK AT THE LOCATION CAN PROCEED UNDER THOSE CONDITIONS; AND																							
IF DEEMED NECESSARY BY THE PROJECT ENGINEER AND ENVIRONMENTAL INSPECTOR, ONE OR MORE OF THE FOLLOWING CORRECTIVE ACTIONS WILL BE TAKEN:		IMMEDIATE RESTORATION OF THE ORIGINAL CONTOURS		SEEDING AND MULCHING THE DISTURBED AREA		INSTALLATION OF BMP		CLEARING		CLEARING OPERATIONS WILL INCLUDE THE REMOVAL OF VEGETATION WITHIN THE CONSTRUCTION ROW. VARIOUS CLEARING METHODS WILL BE EMPLOYED DEPENDING ON TREE SIZE, CONTOUR OF THE LAND, AND THE ABILITY OF THE GROUND TO SUPPORT CLEARING EQUIPMENT. VEGETATIVE CLEARING WILL EITHER BE ACCOMPLISHED BY HAND OR BY CUTTING EQUIPMENT. THE FOLLOWING PROCEDURES WILL BE STANDARD PRACTICE DURING CLEARING:		PRIOR TO BEGINNING THE REMOVAL OF VEGETATION, THE LIMITS OF CLEARING WILL BE ESTABLISHED AND IDENTIFIED IN ACCORDANCE WITH CONSTRUCTION DRAWINGS.		ALL CONSTRUCTION ACTIVITIES AND GROUND DISTURBANCE WILL BE CONFINED TO WITHIN THE ROW SHOWN ON THE CONSTRUCTION DRAWINGS. CLEARLY MARK AND PROTECT TREES TO BE SAVED AS PER LANDOWNER REQUESTS OR AS OTHERWISE REQUIRED.		ALL WOOD PRODUCTS (SAWLOGS, PULPWOOD OR CORDWOOD) WILL BE REMOVED AND PROPERLY DISPOSED OF FROM THE PROJECT AREA.		BRUSH AND LIMBS MAY BE DISPOSED OF IN ONE OR MORE OF THE FOLLOWING WAYS:		CHIPPED AND GIVEN AWAY, OR THINLY SPREAD (LESS THAN 2 INCHES THICK) OVER THE CONSTRUCTION WORK AREA, EXCEPT IN AGRICULTURAL LANDS OR WITHIN 50 FEET OF STREAMS, FLOODPLAINS, OR WETLANDS. CHIPPING WILL BE LIMITED TO THOSE AREAS WHERE AGREED TO WITH THE LANDOWNER.		HAULED OFF-SITE. OFF-SITE DISPOSAL IN OTHER THAN COMMERCIALY OPERATED DISPOSAL LOCATIONS IS SUBJECT TO COMPLIANCE WITH ALL APPLICABLE SURVEY, LANDOWNER APPROVAL AND MITIGATION REQUIREMENTS.																			
TRENCHING		IN GENERAL, A TRENCH WILL BE EXCAVATED TO A DEPTH THAT WILL PERMIT BURIAL OF THE PIPE WITH ADEQUATE COVER. OVERLAND TRENCHING MAY BE ACCOMPLISHED USING A CONVENTIONAL BACKHOE OR A ROTARY WHEEL-DITCH MACHINE. IN SHALE OR ROCKY AREAS WHERE THE USE OF THE WHEEL-DITCHING MACHINE IS LIMITED, A TRACTOR-DRAWN RIPPER WILL BE EMPLOYED TO BREAK AND LOOSEN HARD SUBSTRATUM MATERIAL. A BACKHOE MAY THEN BE USED TO REMOVE ROCK AND SOIL FROM THE DITCH.		THE FOLLOWING PROCEDURES WILL BE STANDARD PRACTICE DURING DITCHING:		PLACE SPOIL AT LEAST 10 FEET UP GRADIENT FROM THE EDGE OF WATERBODIES.		SPOIL WILL BE CONTAINED WITH BMP TO PREVENT SPOIL MATERIALS OR HEAVILY SILT-LADEN WATER FROM TRANSFERRING INTO WATERBODIES AND WETLANDS OR OFF THE ROW.		TEMPORARY TRENCH PLUGS		TEMPORARY TRENCH PLUGS ARE BARRIERS WITHIN THE DITCH THAT SEGMENT THE CONTINUOUS OPEN TRENCH. THEY TYPICALLY CONSIST OF COMPACTED SUBSOIL OR SANDBAGS (SOFT) PLACED ACROSS THE DITCH OR COMPOSED OF UNEXCAVATED PORTIONS OF THE DITCH (HARD). ALONG STEEP SLOPES, THEY SERVE TO REDUCE EROSION AND SEDIMENTATION IN THE TRENCH AND MINIMIZE DEWATERING PROBLEMS AS THE BASE OF SLOPES WHERE SENSITIVE ENVIRONMENTS SUCH AS WATERBODIES AND WETLANDS ARE FREQUENTLY LOCATED. IN ADDITION, THEY PROVIDE ACCESS ACROSS THE TRENCH FOR WILDLIFE.		DO NOT USE TOPSOIL FOR INSTALLING TEMPORARY SOFT TRENCH PLUGS.		TEMPORARY TRENCH PLUGS MAY BE USED IN CONJUNCTION WITH WATERBARS TO PREVENT WATER IN THE TRENCH FROM OVERFLOWING INTO SENSITIVE RESOURCE AREAS. ATTEMPT TO DIVERT TRENCH OVERFLOW TO A CONSTRUCTION ENERGY-DISSIPATING DEVICE.		TRENCH DEWATERING		TRENCH DEWATERING WILL BE PERIODICALLY REQUIRED ALONG PORTIONS OF THE PROPOSED PIPELINE PRIOR TO AND/OR SUBSEQUENT TO INSTALLATION OF THE PIPELINE TO REMOVE COLLECTED WATER FROM THE TRENCH.		TRENCH DEWATERING WILL BE CONDUCTED (ON OR OFF THE CONSTRUCTION ROW) IN SUCH A MANNER THAT DOES NOT CAUSE EROSION AND DOES NOT RESULT IN HEAVILY SILT-LADEN WATER FLOWING INTO ANY WATERBODY OR WETLAND.		THE INTAKES OF THE HOSES USED TO WITHDRAW THE WATER FROM THE TRENCH WILL BE ELEVATED AND SCREENED TO MINIMIZE PUMPING OF DEPOSITED SEDIMENTS.		WATER WILL BE PUMPED INTO A FILTER BAG OR THROUGH A STRUCTURE COMPOSED OF BMP PRIOR TO BEING DISCHARGED INTO AREAS WHERE ADEQUATE VEGETATION IS PRESENT ADJACENT TO THE CONSTRUCTION ROW. WHEN USING FILTER BAGS, SECURE THE DISCHARGE HOSE TO THE BAG WITH A CLAMP.		WHERE VEGETATION IS ABSENT OF IN THE VICINITY OF A WATERBODY/WETLAND AREA, ADDITIONAL BMP MAY BE NEEDED.		REMOVE DEWATERING STRUCTURES AS SOON AS POSSIBLE AFTER THE COMPLETION OF DEWATERING ACTIVITIES.											
PIPE INSTALLATION		FOLLOWING TRENCH EXCAVATION, PIPE SECTIONS WILL BE DELIVERED TO THE CONSTRUCTION SITE AND INSTALLED PER COMPANY SPECIFICATIONS.		BACKFILLING		BACKFILLING CONSISTS OF COVERING THE PIPE WITH THE EARTH REMOVED FROM THE TRENCH OR WITH OTHER FILL MATERIAL HAULED TO THE SITE WHEN THE EXISTING TRENCH SPOIL IS NOT ADEQUATE FOR BACKFILL.		UNDER NO CIRCUMSTANCES SHALL TOPSOIL BE USED AS PADDING MATERIAL.		ANY EXCESS MATERIAL WILL BE SPREAD WITHIN THE ROW IN UPLAND AREAS AND LAND CONTOURS WILL BE ROUGHED-IN TO MATCH ADJACENT AREAS.		COMPLETE FINAL GRADING WITHIN 10 CALENDAR DAYS, WEATHER AND SOIL CONDITIONS PERMITTING, OF BACKFILLING.		DAMAGED DRAINAGE TILES		ALL DRAINAGE TILES CROSSED BY CONSTRUCTION ACTIVITIES SHALL BE MARKED AND PROBED TO DETERMINE IF DAMAGE HAS OCCURRED.		DRAINAGE TILE REMOVED, CUT, BROKE, OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY QUALIFIED PERSONNEL.		TEMPORARY MEASURES APPROVED BY THE PROJECT ENGINEER AND ENVIRONMENTAL INSPECTOR SHALL BE TAKEN TO PROVIDE SUITABLE DRAINAGE UNTIL PERMANENT REPAIRS ARE MADE.		BROKEN OR DAMAGED TILE SHALL BE REPLACED WITH THE SAME SIZE AND QUALITY MATERIAL.		FINAL GRADING		THE CONSTRUCTION ROW SHALL BE GRADED TO RESTORE ITS PRE-CONSTRUCTION CONTOURS.		DURING FINAL GRADING, SOIL OVER THE TRENCH MAY BE MOUNDING TO ALLOW FOR FUTURE SETTLING.		ADDITIONAL FILL MAY BE ADDED IN AREAS THAT HAVE SETTLED BELOW GROUND LEVEL.		CONSERVED TOPSOIL SHALL BE RETURNED DURING FINAL GRADING.		EXCESS ROCK SHALL BE REMOVED FROM THE TOP 12 INCHES OF SOIL TO THE EXTENT PRACTICABLE. THE SIZE, DENSITY AND DISTRIBUTION OF ROCK ON THE CONSTRUCTION WORK AREA SHOULD BE SIMILAR TO ADJACENT AREAS NOT DISTURBED BY CONSTRUCTION.		DILIGENT EFFORTS SHALL BE MADE TO REMOVE ROCKS GREATER THAN 4 INCHES.		INSTALL FINAL EROSION CONTROL DEVICES.			
PERMANENT TRENCH PLUGS		PERMANENT TRENCH PLUGS ARE INTENDED TO SLOW SUBSURFACE WATER FLOW AND EROSION ALONG THE TRENCH AND AROUND THE PIPE IN SLOPING TERRAIN. PERMANENT TRENCH PLUGS PER COMPANY SPECIFICATIONS.		TOPSOIL SHALL NOT BE USED TO CONSTRUCT TRENCH PLUGS.		TRENCH PLUGS SHALL BE INSTALLED AT WATER BODIES AND WETLANDS, AND WHERE NEEDED TO AVOID DRAINING OF RESOURCE AS SHOWN ON THE CONSTRUCTION PLAN.		HYDROSTATIC TESTING		ONCE THE PIPELINE IS COMPLETED AND BEFORE IT IS PLACED INTO SERVICE IT WILL BE HYDROSTATICALLY TESTED FOR STRUCTURAL INTEGRITY. HYDROSTATIC TESTING INVOLVES FILLING THE PIPELINE WITH CLEAN WATER AND MAINTAINING A TEST PRESSURE IN EXCESS OF NORMAL OPERATING PRESSURES FOR A SPECIFIED PERIOD OF TIME. THE TESTING PROCEDURE INVOLVES FILLING THE PIPELINE WITH TEST WATER, PERFORMING THE PRESSURE TEST, AND DISCHARGING THE TEST WATER.		DETAILS REGARDING THE HYDROSTATIC TESTING PROCEDURES AND NECESSARY PERMITTING HAVE NOT YET BEEN DETERMINED.		TEST WATER MAY BE WITHDRAWN FROM STREAMS ON THE PROJECT SITE. PERMITS ARE REQUIRED ON PUMPS THAT HAVE THE CAPACITY TO WITHDRAW 100 GPM OR MORE.		TEST WATER MAY ALSO BE PURCHASED FROM LOCAL MUNICIPALITIES VIA WATER HYDRANT METER.		DISCHARGE WATER SHALL BE DISPOSED OF THROUGH AN APPROVED MUNICIPAL SANITARY SEWER.		DISCHARGE WATER IS PROHIBITED FROM BEING DISCHARGED DIRECTLY TO THE GROUND OR INTO ANY STORMWATER SYSTEM.		A HYDROSTATIC DISCHARGE PERMIT IS REQUIRED IF THE TEST WATER IS UNABLE TO BE DISCHARGED INTO A MUNICIPAL SANITARY SEWER SYSTEM.		THE PROJECT ENGINEER AND/OR ENVIRONMENTAL INSPECTOR WILL PERFORM ALL PERMITTING ACTIVITIES ASSOCIATED WITH THE DISCHARGE OF HYDROSTATIC TEST WATER.		PERMANENT EROSION CONTROL		PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES TO MINIMIZE POST-CONSTRUCTION EROSION.		IF FINAL CLEANUP AND SEEDING CANNOT BE COMPLETED AND IS DELAYED UNTIL AFTER THE NEXT RECOMMENDED SEASON, THE WINTER STABILIZATION MEASURES SHALL BE FOLLOWED.		GRADE THE ROW TO PER-CONSTRUCTION CONTOURS.		SPREAD SEGREGATED TOPSOIL BACK ACROSS THE GRADED ROW TO ITS ORIGINAL PROFILE.		A TRAVEL LANE MAY BE LEFT OPEN TEMPORARILY TO ALLOW ACCESS BY CONSTRUCTION TRAFFIC IF TEMPORARY BARS ARE INSTALLED, REGULARLY INSPECTED AND MAINTAINED. WHEN ACCESS IS NO LONGER REQUIRED, THE TRAVEL LANE MUST BE REMOVED AND THE ROW RESTORED.		REMOVE ALL CONSTRUCTION DEBRIS (USED FILTER BAGS, SKIDS, TRASH, ETC.) FROM THE ROW. GRADE OR TILL THE ROW TO LEAVE THE SOIL IN THE PROPER CONDITION FOR PLANTING OR AGRICULTURAL USE.			
PERMANENT WATERBARS		PERMANENT WATERBARS ARE INTENDED TO REDUCE RUNOFF VELOCITY, DIVERT WATER OFF THE CONSTRUCTION ROW, AND PREVENT SEDIMENT DEPOSITION INTO SENSITIVE RESOURCES. PERMANENT WATERBARS WILL BE CONSTRUCTED OF COMPACTED SOIL, SAND BAGS OR SOME FUNCTIONAL EQUIVALENT MAY BE USED WHEN DIRECTED BY THE ENVIRONMENTAL INSPECTOR.		INSTALL PERMANENT WATERBARS, EXCEPT CULTIVATED AREAS AND LAWNS, AT THE LOCATIONS SHOWN ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.		INSTALL PERMANENT WATERBARS ACROSS THE ENTIRE ROW AT ALL WATERBODY CROSSINGS AND AT THE BASES OF SLOPES ADJACENT TO ROADS. WHEN THE ROW PARALLELS AN EXISTING UTILITY ROW, PERMANENT WATERBARS MAY BE INSTALLED TO MATCH EXISTING WATERBARS OF THE ADJACENT UTILITY OR PIPELINE ROW.		CONSTRUCT WATERBARS WITH A 2 TO 8 PERCENT OUT SLOPE TO DIVERT SURFACE FLOW TO A STABLE VEGETATIVE AREA WITHOUT CAUSING WATER TO POOL OR ERODE BEHIND THE WATERBAR. IN THE ABSENCE OF A STABLE VEGETATIVE AREA, INSTALL AN ENERGY DISSIPATING DEVICE AT THE END OF THE WATERBAR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.		EROSION CONTROL FABRIC		INSTALL EROSION CONTROL FABRIC AT WATERBAR OUTLETS AND DRAINAGE SWALES AS NECESSARY OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.		INSTALL EROSION CONTROL FABRIC OR MATING ON SLOPES GREATER THAN 3:1. ANCHOR THE EROSION CONTROL FABRIC OR MATING WITH STAPLES OR OTHER APPROPRIATE DEVICES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.		INSTALL EROSION CONTROL FABRIC ON WATERBODY BANKS AT TIME OF FINAL BANK RE-CONTOURING.		PERMANENT STABILIZATION, REVEGETATION, AND SEEDING		SUCCESSFUL REVEGETATION OF SOILS DISTURBED BY PROJECT RELATED ACTIVITIES IS ESSENTIAL. SEEDING WILL BE CONDUCTED USING THE FOLLOWING REQUIREMENTS:		PERMANENT STABILIZATION AND SEEDING SHALL BE SELECTED AND APPLIED TO REQUIRED AREAS USING THE PERMANENT STABILIZATION DATA TABLE IN THESE DETAILS.		PREPARE SEEDBED IN DISTURBED AREAS TO A DEPTH OF 3 TO 4 INCHES TO PROVIDE A FIRM SEEDBED. WHEN HYDRO SEEDING, SCARIFY THE SEEDBED TO FACILITATE LODGING AND AIR CIRCULATION OF THE SEED.		SEED DISTURBED AREAS IN ACCORDANCE WITH THE SEED MIXES, RATES AND DATES SPECIFIED IN THIS PLAN.		PERFORM SEEDING OF PERMANENT VEGETATION WITHIN THE RECOMMENDED SEEDING DATES AS OUTLINED IN THIS PLAN. IF SEEDING CANNOT BE DONE WITHIN THOSE DATES, USE APPROPRIATE TEMPORARY EROSION CONTROL MEASURES DISCLOSED TO THE ENVIRONMENTAL INSPECTOR. PERMANENT VEGETATION AT THE BEGINNING OF THE NEXT RECOMMENDED SEEDING SEASON. MULCH IN ACCORDANCE WITH SPECIFICATIONS IN THIS PLAN.		UNIFORMLY APPLY AND COVER SEED IN ACCORDANCE WITH PLAN.		PERMANENT STABILIZATION		TIME FRAME TO APPLY EROSION CONTROLS		ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE		ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE WITHIN SEVEN DAYS OF REACHING FINAL GRADE		ANY AREAS AT FINAL GRADE WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA	
DESIGN		DRAFT		CHECK		BIR		KNO		CPW		HCH		DATE		7/25/2018		SCALE:		HORIZONTAL: 1"=40'		VERTICAL: 1"=10'		DRAWING #:		17031-200		SHEET #:		33/35											

DETAILS REGARDING THE HYDROSTATIC TESTING PROCEDURES AND NECESSARY PERMITTING HAVE NOT YET BEEN DETERMINED.

TEST WATER MAY BE WITHDRAWN FROM STREAMS ON THE PROJECT SITE. PERMITS ARE REQUIRED ON PUMPS THAT HAVE THE CAPACITY TO WITHDRAW 70GPM OR MORE.

TEST WATER MAY ALSO BE PURCHASED FROM LOCAL MUNICIPALITIES VIA WATER HYDRANT METER.

DISCHARGE WATER SHALL BE DISPOSED OF THROUGH AN APPROVED MUNICIPAL SANITARY SEWER.

DISCHARGE WATER IS PROHIBITED FROM BEING DISCHARGED DIRECTLY TO THE GROUND OR INTO ANY STORMWATER SYSTEM.

A HYDROSTATIC DISCHARGE PERMIT IS REQUIRED IF THE TEST WATER IS UNABLE TO BE DISCHARGED INTO A MUNICIPAL SANITARY SEWER SYSTEM.

THE PROJECT ENGINEER AND/OR ENVIRONMENTAL INSPECTOR WILL COORDINATE ALL PERMITTING ACTIVITIES ASSOCIATED WITH THE DISCHARGE OF HYDROSTATIC TEST WATER.

PERMANENT EROSION CONTROL

PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES TO MINIMIZE POST-CONSTRUCTION EROSION:

- IF FINAL CLEANUP AND SEEDING CANNOT BE COMPLETED AND IS DELAYED UNTIL THE NEXT RECOMMENDED GROWING SEASON, THE WINTER STABILIZATION MEASURES SHALL BE FOLLOWED.
- GRADE THE ROW TO PER-CONSTRUCTION CONTOURS.
- SPREAD SEGREGATED TOPSOIL BACK ACROSS THE GRADED ROW TO ITS ORIGINAL PROFILE.
- A TRAVEL LANE MAY BE LEFT OPEN TEMPORARILY TO ALLOW ACCESS BY CONSTRUCTION TRAFFIC IF TEMPORARY BMP ARE INSTALLED, REGULARLY INSPECTED AND MAINTAINED. WHEN ACCESS IS NO LONGER REQUIRED, THE TRAVEL LANE MUST BE REMOVED AND THE ROW RESTORED.
- REMOVE ALL CONSTRUCTION DEBRIS (USED FILTER BAGS, SKIDS, TRASH, ETC.) FROM THE ROW, GRADE OR TILL THE ROW TO LEAVE THE SOIL IN THE PROPER CONDITION FOR PLANTING OR AGRICULTURAL USE.

PERMANENT WATERBARS

PERMANENT WATERBARS ARE INTENDED TO REDUCE RUNOFF VELOCITY, DIVERT WATER OFF THE CONSTRUCTION ROW, AND PREVENT SEDIMENT DEPOSITION INTO SENSITIVE RESOURCES. PERMANENT WATERBARS WILL BE CONSTRUCTED OF COMPACTED SOIL, SAND BAGS OR SOME FUNCTIONAL EQUIVALENT MAY BE USED WHEN DIRECTED BY THE ENVIRONMENTAL INSPECTOR.

- INSTALL PERMANENT WATERBARS, EXCEPT CULTIVATED AREAS AND LAWNS, AT THE LOCATIONS SHOWN ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
- INSTALL PERMANENT WATERBARS ACROSS THE ENTIRE ROW AT ALL WATERBODY CROSSINGS, AND AT THE BASE OF SLOPES ADJACENT TO ROADS. WHEN THE ROW PARALLELS AN EXISTING UTILITY ROW, PERMANENT WATERBARS MAY BE INSTALLED TO MATCH EXISTING ROADS.
- CONSTRUCT WATERBARS WITH A 2 TO 8 PERCENT OUT SLOPE TO DIVERT SURFACE FLOW TO A STABLE VEGETATIVE AREA WITHOUT CAUSING WATER TO POOL OR ERODE BEHIND THE WATERBAR. IN THE ABSENCE OF A STABLE VEGETATIVE AREA, INSTALL AN ENERGY DISSIPATING DEVICE AT THE END OF THE WATERBAR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.

EROSION CONTROL FABRIC

- INSTALL EROSION CONTROL FABRIC AT WATERBAR OUTLETS AND DRAINAGE SWALES AS NECESSARY AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
- INSTALL EROSION CONTROL FABRIC OR MATTING ON SLOPES GREATER THAN 5:1. ANCHOR THE EROSION CONTROL FABRIC OR MATTING WITH STAPLES OR OTHER APPROPRIATE DEVICES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- INSTALL EROSION CONTROL FABRIC ON WATERBODY BANKS AT TIME OF FINAL BANK RE-CONTOURING.

PERMANENT STABILIZATION, REVEGETATION, AND SEEDING

SUCCESSFUL REVEGETATION OF SOILS DISTURBED BY PROJECT RELATED ACTIVITIES IS ESSENTIAL. SEEDING WILL BE CONDUCTED USING THE FOLLOWING REQUIREMENTS:

- PERMANENT STABILIZATION AND SEEDING SHALL BE SELECTED AND APPLIED TO REQUIRED AREAS USING THE PERMANENT STABILIZATION DATA TABLE IN THESE DETAILS.
- PREPARE SEEDBED IN DISTURBED AREAS TO A DEPTH OF 3 TO 4 INCHES TO PROVIDE A FIRM SEEDBED. WHEN HYDRO SEEDING, SCARIFY THE SEEDBED TO FACILITATE LODGING AND GERMINATION OF SEED.
- SEED DISTURBED AREAS IN ACCORDANCE WITH THE SEED MIXES, RATES AND DATES SPECIFIED IN THIS PLAN.
- PERFORM SEEDING OF PERMANENT VEGETATION WITHIN THE RECOMMENDED SEEDING DATES AS OUTLINED IN THIS PLAN. IF SEEDING CANNOT BE DONE WITHIN THOSE DATES, USE APPROPRIATE TEMPORARY EROSION CONTROL MEASURES DISCUSSED IN SECTION IV AND PERFORM SEEDING OF PERMANENT VEGETATION AT THE BEGINNING OF THE NEXT RECOMMENDED SEEDING SEASON. MULCH IN ACCORDANCE WITH SPECIFICATIONS IN THIS PLAN.
- UNIFORMLY APPLY AND COVER SEED IN ACCORDANCE WITH PLAN.

PERMANENT STABILIZATION	
AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

CHANGE ORDER SCHEDULE

#	DESCRIPTION OF CHANGE	SHEET APPROVALS				ALL	LOG	R/S
		NO.	BY	DATE				
1	REQUIRE ON SMID PROPERTY							

Utility Technologies Intl. Corporation

Total Capabilities in the Pipeline Industry

4700 Homer Ohio Lane
Groveport, OH 43125
P: 614-482-8080
F: 614-482-8070
www.uta-corp.com

GENERATION PIPELINE, LLC

IRONVILLE LATERAL

LUCAS COUNTY, OH

EROSION AND SEDIMENT CONTROL NOTES

IFA
(ISSUED FOR APPROVAL)

DESIGN	DRAFT	CHECK
BJR	KDG	CPL/HGG

UTI PROJECT #	DATE
17-031	7/25/2018

SCALE:
HORIZONTAL:
VERTICAL:

DRAWING #:
17031-200

SHEET #:
33/35

[illegible]

DUST CONTROL

1. DUST CONTROL INVOLVES PREVENTING OR REDUCING DUST FROM EXPOSED SOILS OR OTHER SOURCES DURING LAND DISTURBING, DEMOLITION AND CONSTRUCTION ACTIVITIES TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS OR HARM ANIMAL OR PLANT LIFE. PLANNING FOR DUST CONTROL INVOLVES LIMITING THE AMOUNT OF SOIL DISTURBANCE AT ANY ONE TIME AS A KEY OBJECTIVE. THEREFORE, PHASED CLEARING AND GRADING OPERATIONS AND THE UTILIZATION OF OTHER STABILIZATION PRACTICES CAN SIGNIFICANTLY REDUCE DUST EMISSIONS. DUST SHALL BE CONTROLLED BY ANY OF THE FOLLOWING:

2. VEGETATIVE COVER – TIMELY APPLICATION OF TEMPORARY AND PERMANENT SEEDINGS MUST BE UTILIZED TO ACCOMPLISH THIS.

3. MULCH – OFFERS A FAST, EFFECTIVE MEANS OF CONTROLLING DUST. MULCHING IS NOT RECOMMENDED FOR AREAS WITHIN HEAVY TRAFFIC PATTERNS. BINDERS OR TACKIFIERS SHOULD BE USED TO TACK ORGANIC MULCHES.

4. ROUGH GRADED SOILS – LEAVING THE SOIL IN A TEMPORARY STATE OF ROUGH GRADE, WHERE CLOSURE RATHER THAN FLATTENED SOILS PREVAIL ON THE SURFACE, CAN REDUCE THE AMOUNT OF DUST GENERATED FROM AREAS DURING PERIODS OF HIGH WINDS. THIS MUST BE BALANCED BY THE NEED TO REACH A STAGE WHERE THE SOIL CAN BE STABILIZED AND MAY BE ONLY NECESSARY WHEN HIGH WINDS ARE PRECITED.

5. WATERING – THIS IS THE MOST COMMONLY USED DUST CONTROL PRACTICE. THE SITE IS SPRINKLED UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND IS REPEATED AS NEEDED. IT OFFERS FAST PROTECTION FOR PAVED ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHOULD BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. CHEMICAL STABILIZERS / WETTING AGENTS MAY BE USED FOR NON-PAVED AREAS. THESE PRODUCTS ARE AVAILABLE AND ARE USUALLY MOST EFFECTIVE ON TYPICAL MINERAL SOILS, BUT MAY NOT BE ON PREDOMINANTLY ORGANIC SOILS SUCH AS MUCK. USERS ARE ADVISED TO PAY ATTENTION TO THE LIMITATIONS AND INSTRUCTIONS REGARDING EACH PRODUCT. THE FOLLOWING TABLE LISTS VARIOUS ADHESIVES AND PROVIDES CORRESPONDING INFORMATION ON MIXING APPLICATIONS:

DUST CONTROL ADHESIVES			
ADHESIVE	WATER DILUTION (ADHESIVE/WATER)	NOZZLE TYPE	APPLICATION RATE (GAL/ACRE)
LATEX EMULSION	12.5:1	FINE	235
RESIN IN WATER	4:1	FINE	300
ACRYLIC EMULSION (NO TRAFFIC)	7:1	COARSE	450
ACRYLIC EMULSION (TRAFFIC)	3.5:1	COARSE	350

6. STONE – USED TO STABILIZE ROADS OR OTHER AREAS DURING CONSTRUCTION USING CRUSHED STONE OR COARSE GRAVEL.

7. CALCIUM CHLORIDE – THIS CHEMICAL MAY BE APPLIED BY MECHANICAL SPREADER AS LOOSE, DRY GRANULES OR FLAKES AT A RATE THAT KEEPS THE SURFACE MOIST BUT NOT SO HIGH AS TO CAUSE WATER POLLUTION OR PLANT DAMAGE.

8. STREET CLEANING – PAVED AREAS THAT HAVE ACCUMULATED SEDIMENT FROM CONSTRUCTION SITES SHOULD BE CLEANED DAILY, OR AS NEEDED, USING A STREET SWEEPER OR BUCKET-TYPE LOADER OR SCRAPER.

MAINTENANCE

CONSTRUCTION MEASURES, SUCH AS APPLICATIONS OF WATER OR ROAD TREATMENTS WILL REQUIRE MONITORING AND REPEAT APPLICATIONS AS NEEDED TO ACCOMPLISH GOOD CONTROL.

SPILL PREVENTION CONTROL

CITY OF OREGON FIRE DEPARTMENT: 419.698.7021

POST CONSTRUCTION ACTIVITIES / POST CONSTRUCTION MONITORING

ALL PROJECT CONDUCTED UNDER THIS PLAN SHALL MEET THE MONITORING REQUIREMENTS SET FORTH IN THIS SECTION. COMPANY PERSONNEL SHALL PERFORM THE FOLLOWING:

1. PLANT GROWTH ON THE ROW WILL BE INSPECTED REGULARLY AND MAINTAINED FOR THE LIFE OF THE FACILITY. FOLLOW-UP INSPECTIONS WILL OCCUR AFTER THE FIRST AND SECOND GROWING SEASON.

2. REVEGETATION EFFORTS WILL CONTINUE UNTIL REVEGETATION IS SUCCESSFUL.

3. PROBLEMS WITH DRAINAGE AND IRRIGATION SYSTEMS RESULTING FROM PIPELINE CONSTRUCTION IN ACTIVE AGRICULTURAL AREAS WILL BE MONITORED AND CORRECTED UNTIL RESTORATION IS SUCCESSFUL.

4. EROSION PROBLEMS ON THE FACILITY ROW AND ACCESS ROADS WILL BE REPORTED TO THE PROJECT ENGINEER. CORRECTIVE MEASURES WILL BE PERFORMED AS NEEDED. EROSION CONTROL DEVICES THAT ARE NO LONGER REQUIRED MUST BE REMOVED. REMOVAL OF THE EROSION CONTROL DEVICES WILL BE AT THE DISCRETION OF THE ENVIRONMENTAL INSPECTOR. SIMILARLY, ADDITIONAL EROSION CONTROL DEVICES WILL BE INSTALLED AS REQUIRED.

5. MAINTAIN ALL TEMPORARY SEDIMENT BARRIERS IN PLACE UNTIL PERMANENT REVEGETATION MEASUREMENTS ARE SUCCESSFUL. OR IF THE AREAS ADJACENT TO WETLANDS, WATERBODIES, OR ROADS ARE STABILIZED, REMOVE TEMPORARY SEDIMENT BARRIERS FROM AN AREA ONCE THAT AREA IS SUCCESSFULLY RESTORED.

6. EFFORTS TO CONTROL UNAUTHORIZED OFF-ROAD VEHICLE USE, IN COOPERATION WITH THE LANDOWNER, SHALL CONTINUE THROUGHOUT THE LIFE OF THE PROJECT. MAINTAIN SIGNS, GATES, AND VEHICLE TRAILS AS NECESSARY.

VEGETATION PRACTICES

PERMANENT STRUCTURAL PRACTICES / PERMANENT SEEDING

PLACE PERMANENT SEEDING ON ALL FINAL GRADED AREAS THAT ARE NOT TO RECEIVE OTHER PERSISTENT COVER (GRAVEL) AND AFTER THE INSTALLATION OF EROSION CONTROL BLANKETS HAVE BEEN PLACED.

SEED MIXTURES

FERTILIZING, SEEDING AND MULCHING WILL BE USED AS BOTH A TEMPORARY AND A FINAL EROSION AND SEDIMENTATION CONTROL MEASURE. GRASS MIXTURES ARE USED ACCORDING TO PERMANENT AND TEMPORARY COVER REQUIREMENTS. THE TEMPORARY SEED MIX SHALL BE USED IN AREAS DISTURBED AREAS THAT WILL NOT BE REWOKE WITHIN 14 DAYS AND DURING PERIODS OF THE YEAR WHEN PERMANENT SEEDING CANNOT BE PLACED. PERMANENT SEED MIX SHALL BE APPLIED WITHIN 6 DAYS AFTER FINAL GRADING HAS BEEN ACCOMPLISHED. APPLY SLOPE SEEDING ON SLOPES GREATER THAN 3%:1V.

BEST MANAGEMENT PRACTICES FOR PIPELINES

WHEN POSSIBLE, BURY THE PIPELINE IN THE EDGE OF THE ACCESS ROAD AND STABILIZE THE BACKFILLED AREA WITH VEGETATION OR CRUSHED ROCK.

LIMIT CLEARING AND GRUBBING TO CUTTING EXISTING VEGETATION RATHER THAN BURN DOZING THE VEGETATION. LIMIT THE TRENCH WIDTH TO WHAT IS NECESSARY TO INSTALL THE PIPE.

THE TRENCH SHALL BE BACKFILLED AS SOON AS POSSIBLE AFTER THE PIPE HAS BEEN LOWERED IN.

WATERBARS OR OTHER APPROPRIATE CONTROLS ARE TO BE INSTALLED AFTER BACKFILL HAS BEEN PLACED. WATERBARS SHOULD BE SPACED APART BASED ON DETAIL.

IF A SUITABLE VEGETATIVE FILTER STRIP DOES NOT EXIST AT THE POINT OF DISCHARGE FOR ANY WATERBAR, A SEDIMENT BARRIER SHOULD BE PROVIDED.

BACKFILL MATERIAL SHOULD BE MOUNDLED OVER THE EXCAVATED AREA TO ALLOW FOR SETTLING, AND SEEDED AND MULCHED.

THE EXCAVATED AREA MUST BE STABILIZED WITHIN 7 DAYS OF BEING BROUGHT TO FINAL GRADE.

STAGING AREA, ASSEMBLY AREAS, TEMPORARY EQUIPMENT AND NON-HAZARDOUS MATERIAL STORAGE AREAS SHOULD BE LOCATED OUTSIDE THE 100 YEAR FLOODWAY. HAZARDOUS OR POLLUTIVE MATERIAL STORAGE AREAS SHOULD BE LOCATED AT LEAST 10 FEET BACK FROM THE TOP OF A STREAM BANK OR WETLAND. REFER TO FLOODPLAIN MAPS, SEVERAL AREAS LONG THE ROUTE ARE LOCATED WITHIN THE 100-YR FLOODPLAIN AND EQUIPMENT ARE NOT TO BE PROHIBITED FROM BEING LOCATED WITHIN THE REGULATED FLOODWAY CHANNEL (DRY CREEK). TEMPORARY BRIDGE STRUCTURE SHALL BE INSTALLED TO NOT WEDE THE FLOW OF WATER IN DRY CREEK OR SHALL BE REMOVED PRIOR TO LARGE RAIN EVENTS.

FILTER FABRIC FENCE BACKED WITH STRAW BALES ARE TO BE INSTALLED AT THE BOTTOM OF STEEP SLOPES BEFORE REACHING A STREAM.

TRENCH PLUGS MUST BE INSTALLED WHEN CROSSING A STREAM, WETLAND OR OTHER WATERBODY. TRENCH PLUG SHOULD BE PLACED ON BOTH SIDES OF THE CROSSING.

MISCELLANEOUS NOTES

1. A COPY OF THE APPROVED DRAWINGS SHALL BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.

2. CONTACT OUPS AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES.

3. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE PROJECT ENGINEER PRIOR TO IMPLEMENTATION.

4. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING SHALL COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMP SPECIFIED BY THE CONSTRUCTION SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS DOCUMENT.

5. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED BEFORE CLEARING AND GRUBBING OPERATION BEGIN.

6. STOPPILE SIZES MUST BE 2H:1V OR FLATTER.

7. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT PROCEDURES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE PROJECT ENGINEER.

8. ALL SANITARY WASTE WILL BE COLLECTED IN PORTABLE UNITS THAT WILL BE LOCATED AT LEAST 25 FEET FROM ANY STORM DRAINAGE DITCH, WATER CONVEYANCE SYSTEM, OR STORM DRAIN INLET SYSTEM AND EMPTIED REGULARLY BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR, AS REQUIRED BY LOCAL REGULATIONS.

9. ALL BUILDING MATERIALS AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

10. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL.

11. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS WHEN POSSIBLE.

12. UNTIL THE SITE IS STABILIZED, ALL E&S BMP MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL E&S BMP AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK INCLUDING CLEAN OUT, REPAIR REPLACEMENT, RESEEDING, RE-MULCHING AND RE-NETTING MUST BE PERFORMED IMMEDIATELY. IF E&S BMP FAIL TO PERFORM AS EXPECTED, REPLACE BMP OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.

13. A LOG SHOWING DATES THAT E&S BMP WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.

14. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEEP INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.

15. ALL SEDIMENT REMOVED FROM BMP SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.

16. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

17. ALL FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.

18. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOO, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.

19. FROZEN MATERIALS OR SOFT, MUCCY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.

20. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.

21. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.

22. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGATED. AGRICULTURAL LAND IS TO BE RETURNED TO ITS PRE-CONSTRUCTION AGRICULTURAL USE.

23. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.

E&S BMP MUST REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE PROJECT ENGINEER.

AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY E&S BMP MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMP. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMP MUST BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL CONVERSIONS SHOULD BE DONE ONLY DURING THE GERMINATING MONTHS.

27. ALL CHANNELS SHALL BE KEPT FREE OF OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO FILL, ROCKS, LEAVES, WOODY DEBRIS, ACCUMULATED SEDIMENT, EXCESS VEGETATION, AND CONSTRUCTION MATERIAL/WASTES.

28. EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3:1V

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

11/14/2018 4:55:04 PM

in

Case No(s). 18-1601-GA-BLN

Summary: Letter of Notification - Attachment E (Part 3 of 3) electronically filed by Mr. Michael J. Settineri on behalf of Generation Pipeline LLC