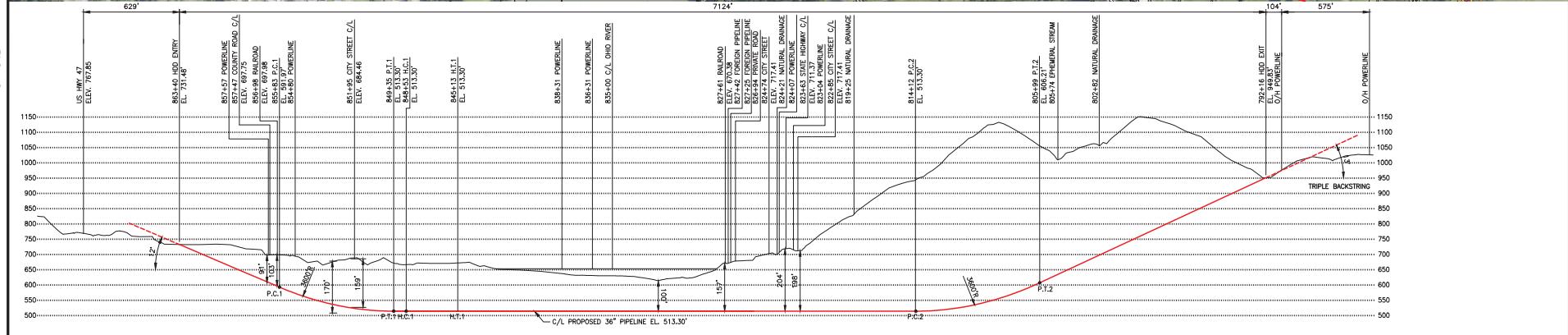
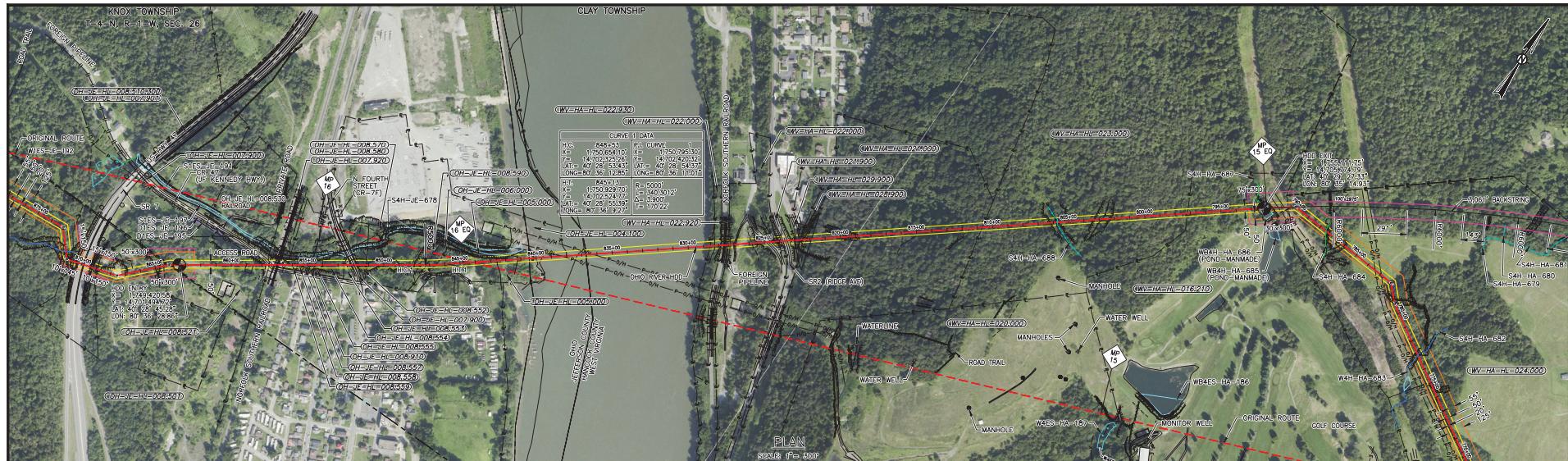


APPENDIX G-2

Horizontal Directional Drill Site-Specific Plan



SPECIFICATIONS:

CURVE PIPE: 36,000" O.D. X 0.750" WT. X-70
API-5L PSL 2, DSAW, W/ 14-16 MILS. FBE AND 40 MILS ARO
HYDROSTATIC PRE-TEST PRESSURE: "TBD" PSIG MIN - "TBD" PSIG MAX
DESIGN PRESSURE: MAOP 1,440 PSIG
DESIGN CLASS: TBD
DESIGN FACTOR: 0.80
TRUE LENGTH: 7,190 FT.

GENERAL NOTES:

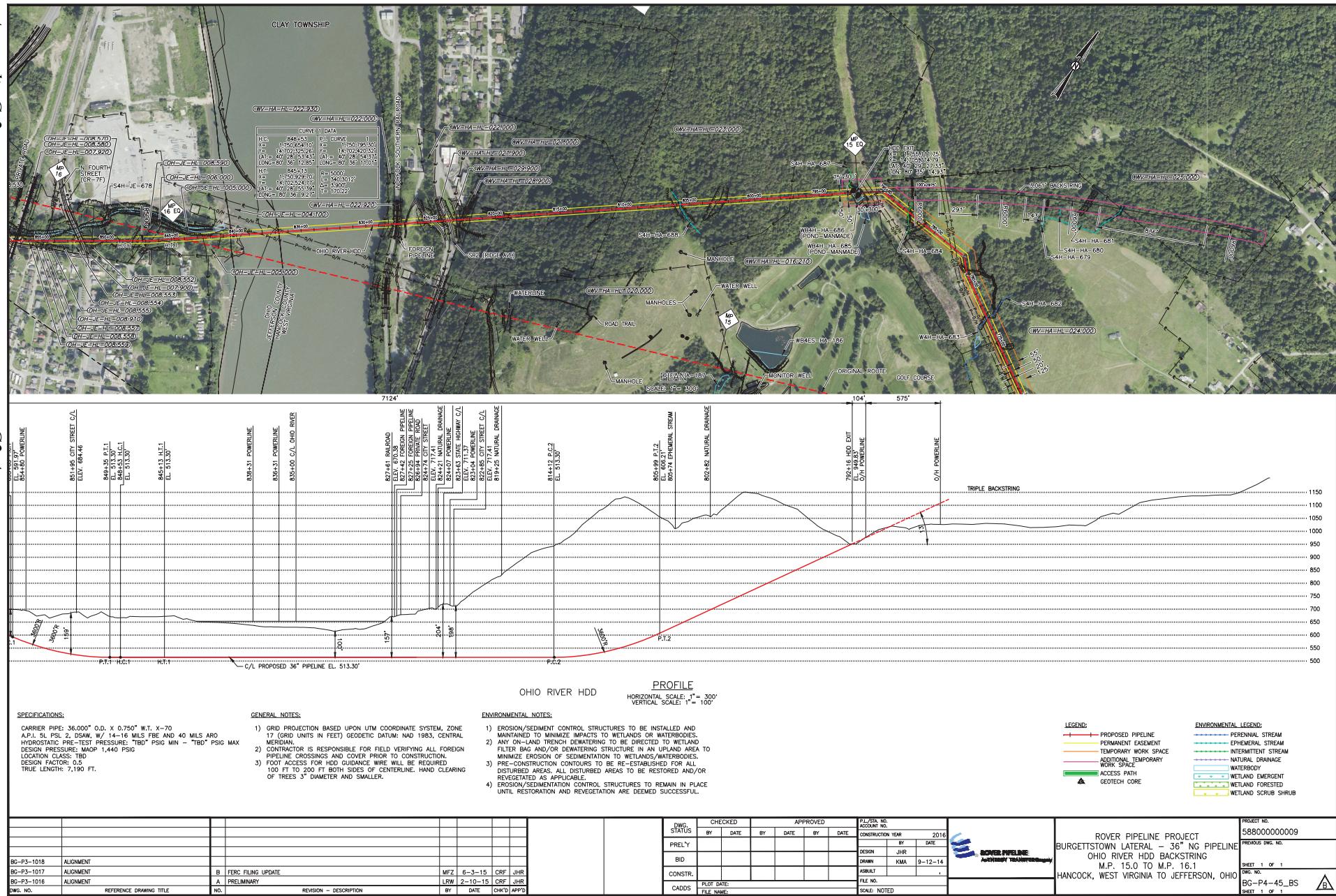
- 1) GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 17 (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN.
- 2) CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN FILTER BAG AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MEET ERICO REQUIREMENTS AND SUBMIT DOCUMENTATION TO ROVER PIPELINE FOR APPROVAL.
- 3) FOOT ACCESS FOR HDD GUIDED WIRE WILL BE REQUIRED 100 FT TO 200 FT BOTH SIDES OF CENTERLINE. HAND CLEARING OF TREES 3" DIAMETER AND SMALLER.
- 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

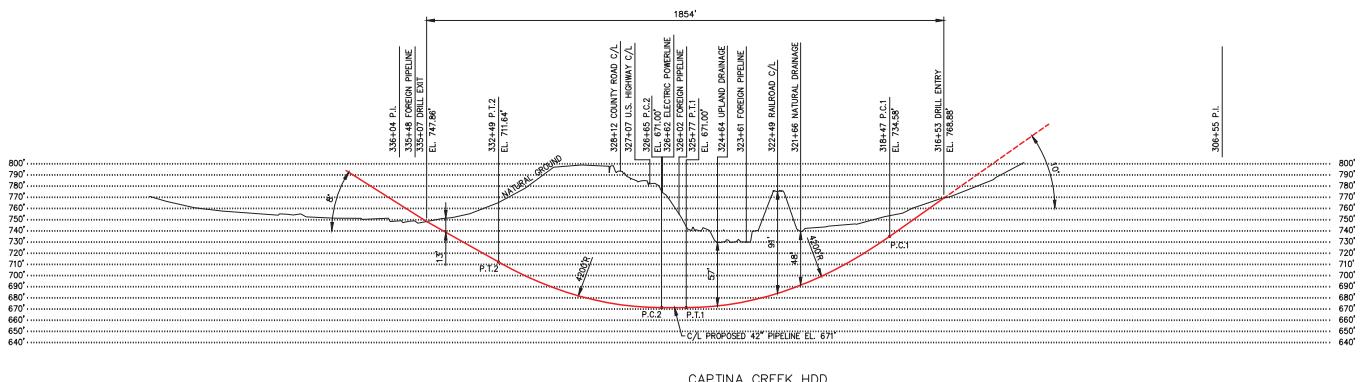
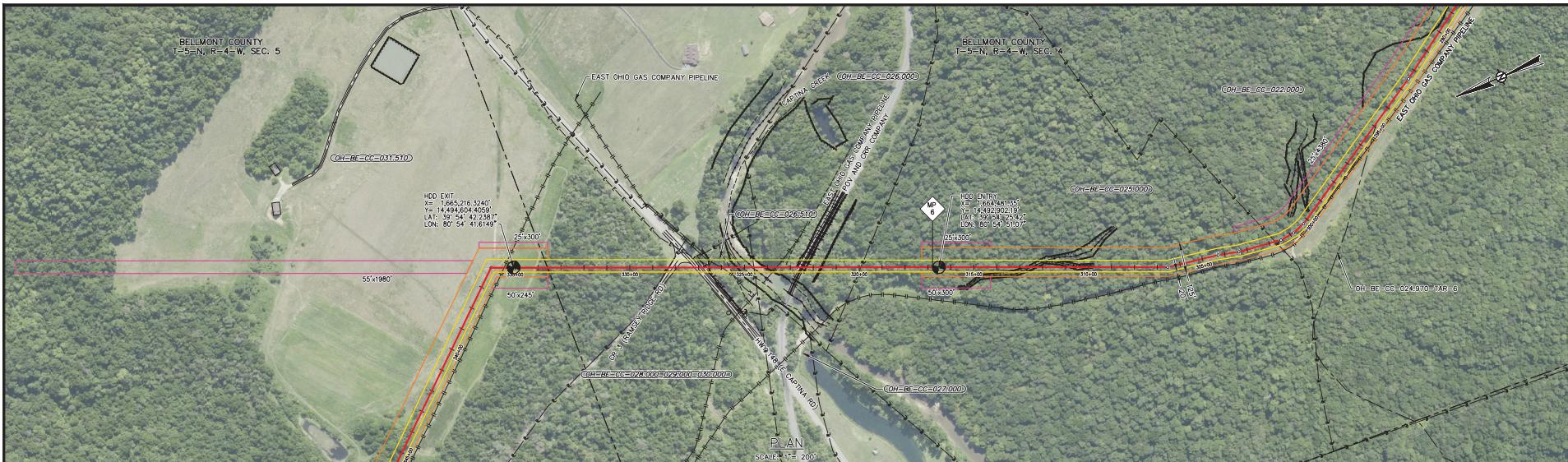
ENVIRONMENTAL NOTES:

- 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
- 2) ANY ON-LAND TRENCH Dewatering TO BE DIRECTED TO WETLAND FILTER BAG AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MEET ERICO REQUIREMENTS AND SUBMIT DOCUMENTATION TO ROVER PIPELINE FOR APPROVAL.
- 3) PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
- 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

CWS NO.	REFERENCE DRAWING TITLE	NO.	REVISION - DESCRIPTION	BY	DATE	CHK'D APP'D	DWG STATUS	CHECKED BY DATE	APPROVED BY DATE	FL/STA. NO. ACCOUNT NO.	CONSTRUCTION YEAR	2016	ROVER PIPELINE	PROJECT NO. 588000000009	PREVIOUS DWG. NO.	
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BS-P3-1018	ALIGNMENT	C	FERC FILING UPDATE	LRW	6-24-15	JHR JHR										
BS-P3-1017	ALIGNMENT	B	FERC FILING UPDATE	MFTZ	6-3-15	CRF JHR										
BS-P3-1016	ALIGNMENT	A	PRELIMINARY	LRW	2-10-15	JHR JHR										

Appendix G-2





SPECIFICATIONS:
CARRIER PIPE: 42,000" O.D. X 0.564" WT. X-70
ADP: 5L PIPE: 42,250W, W/ 14-16 MILS FBE AND 26 MILS ARO
HYDROSTATIC PRE-TEST PRESSURE: "TBD" PSIG MIN - "TBD" PSIG MAX
DESIGN PRESSURE: MAOP 1,440 PSIG
DESIGNATION CLASS: TBD
DESIGN FACTOR: 0.63
TRUE LENGTH: 1,865 FT.

GENERAL NOTES:

- 1) GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 17 (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN.
- 2) CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN FILTER BAG AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MEET ERICO STANDARDS AND CONSTRUCTION CODES AND STANDARDS.
- 3) PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
- 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVETMENT ARE DEEMED SUCCESSFUL.

ENVIRONMENTAL NOTES:

- 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
- 2) ANY ON-LAND TRENCH Dewatering TO BE DIRECTED TO WETLAND FILTER BAG AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MEET ERICO STANDARDS AND CONSTRUCTION CODES AND STANDARDS.
- 3) PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
- 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVETMENT ARE DEEMED SUCCESSFUL.

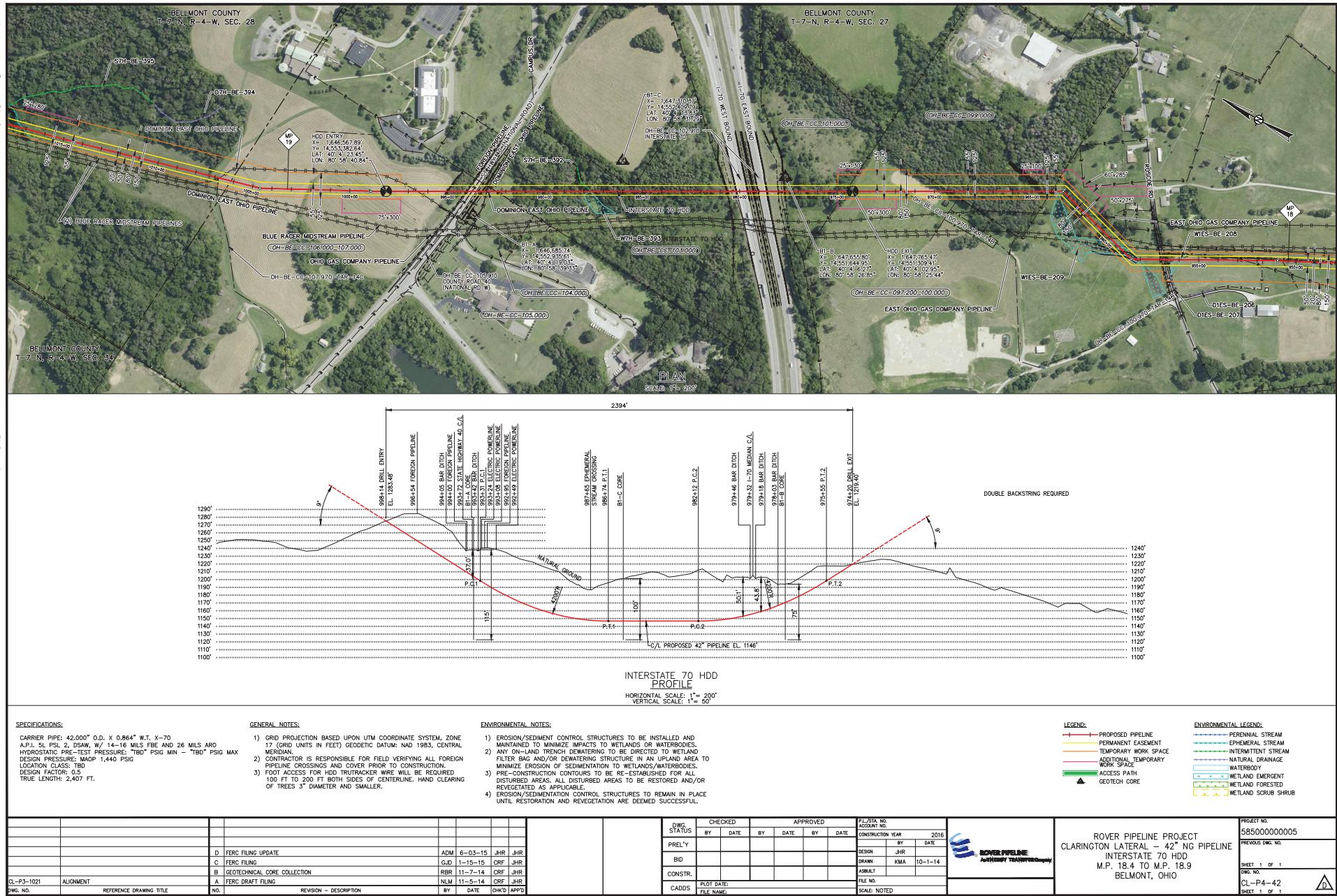
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		B FERC FILINGS		GJD	1-15-15	CRF	JHR						
		A FERC DRAFT FILING		GJD	11-21-14	CRF	JHR						

ROVER PIPELINE
AUTHORITY TRANSPARENCY

PROJECT NO. 585000000005
PREVIOUS E&I NO. 14158
SHEET 1 OF 1
Dwg. No. CL-P4-41
Sheet 1 OF 1
01-05-15 2:55

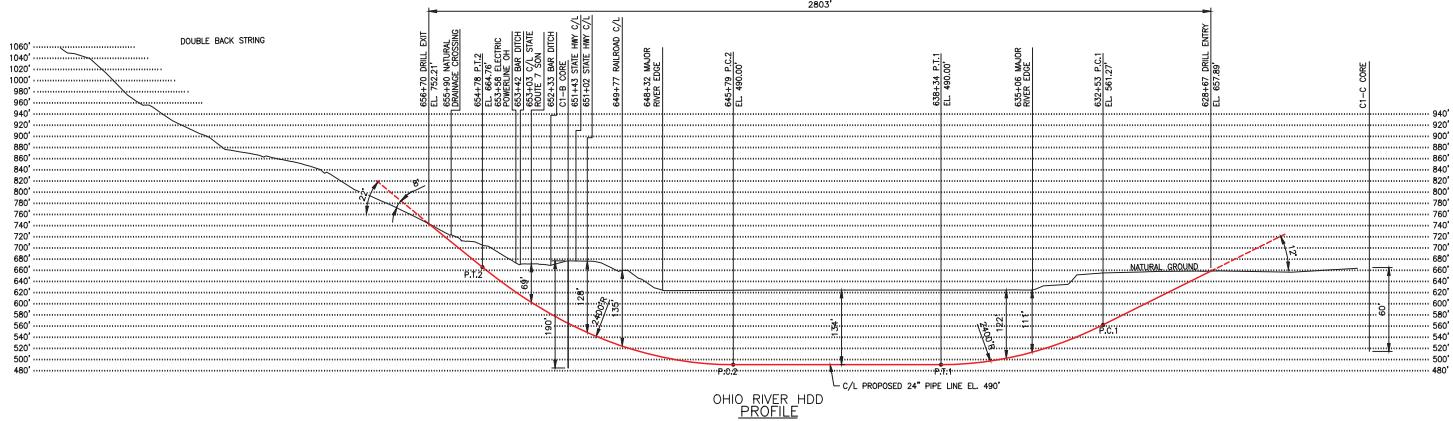
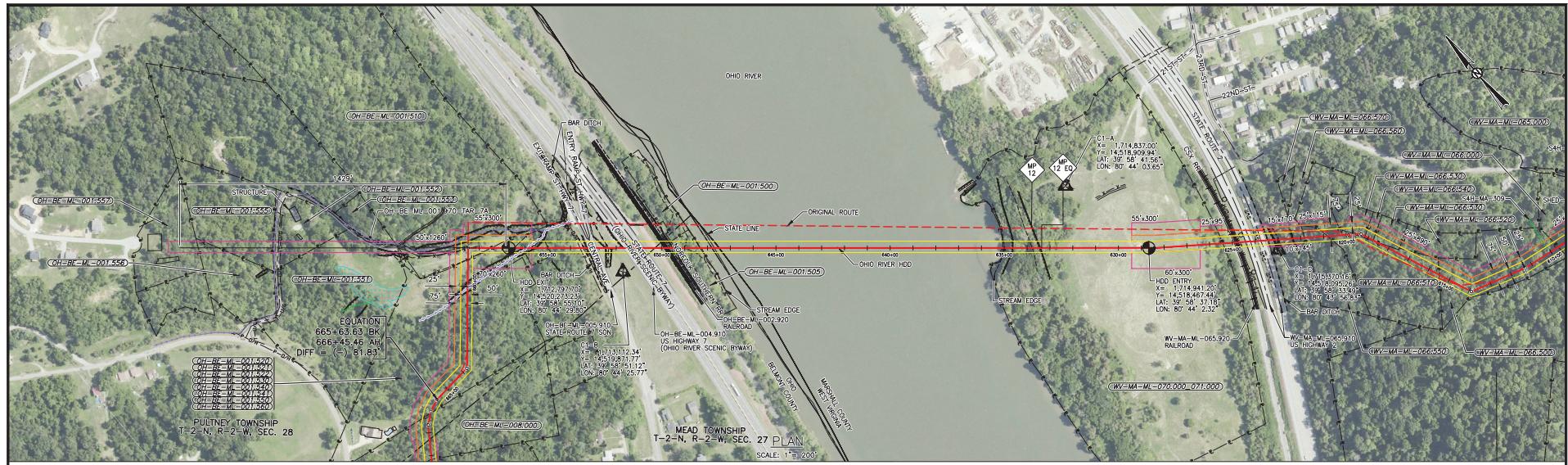
Appendix G-2

G2-6



G2-7

Appendix G-2



SPECIFICATIONS:

GENERAL NOTES:

- GENERAL NOTES:**

 - 1) GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 17 (GRID UNITS IN FEET). GEOGRAPHIC DATUM: NAD 1983, CENTRAL MERIDIAN.
 - 2) CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.
 - 3) FOOT ACCESS FOR HHD GUID WIRE WILL BE REQUIRED 100' ON EACH SIDE OF THE CENTERLINE. HAND CLEARING OF TREES 3' DIAMETER AND SMALLER.

ENVIRONMENTAL NOTES:

 - 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
 - 2) ANY ON-LAND EROSION/DETERIORATION TO BE DIRECTED TO WETLAND OR WATERBODY AREAS. EROSION CONTROL MEASURES TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES.
 - 3) PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL ERODED AREAS. ERODED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
 - 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL EROSION/DETERIORATION HAS BEEN CORRECTED.

ENVIRONMENTAL NOTES:

- 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
 - 2) AN ON-LAND DRYING DEWATERING AREA TO BE DIRECTED TO WETLAND FILTER BAGS AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MINIMIZE IMPACTS OF DEWATERING AND DRYING.
 - 3) PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
 - 4) EROSION/SEDIMENT CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RE-PROTECTION AND REVEGETATION ARE PEFERRED SUCCESSFUL.

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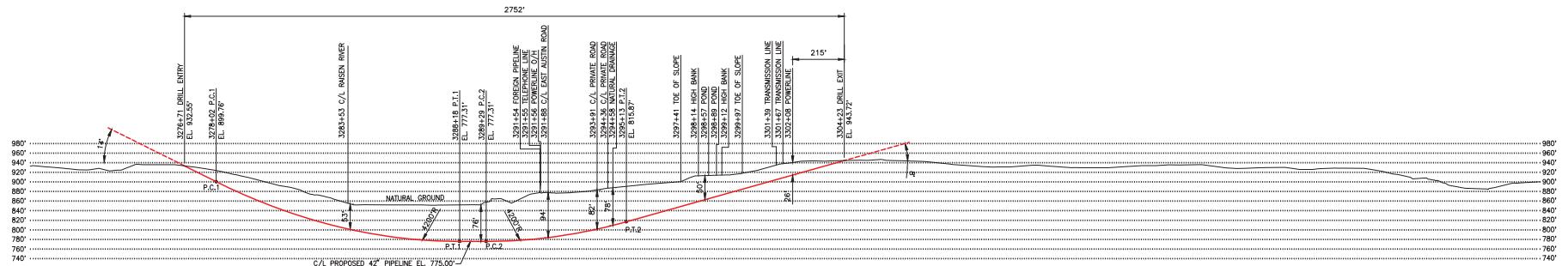
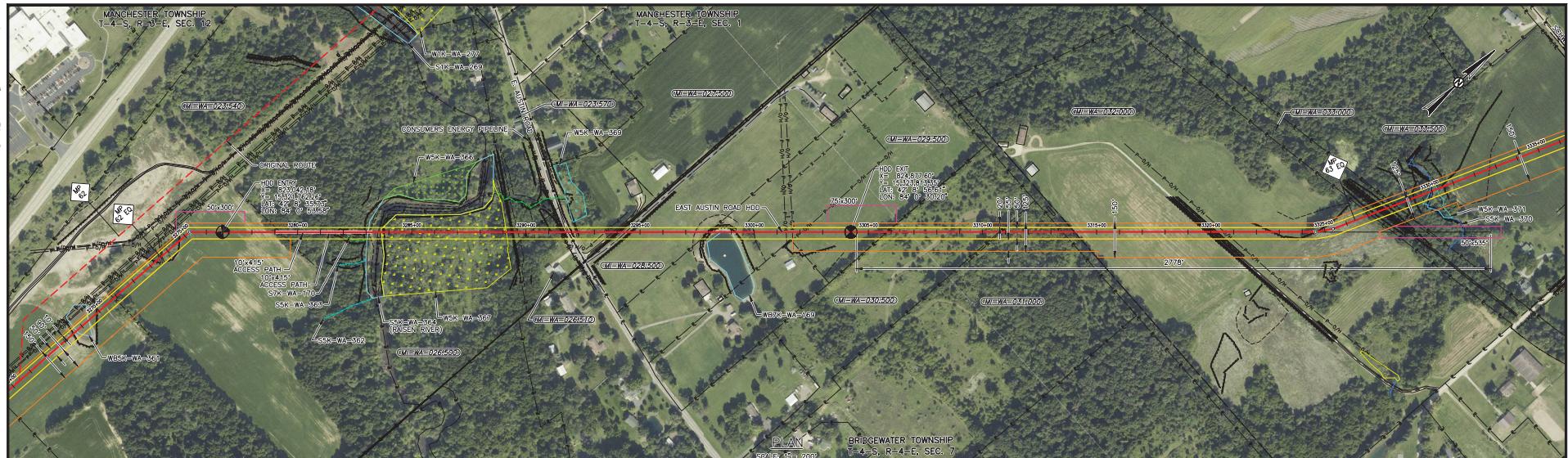
- PROPOSED PIPELINE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE
- ADDITIONAL TEMPORARY WORK SPACE
- ACCESS PATH
- ▲ GEOTECH CORE

ENVIRONMENTAL LEGEND:

- PERENNIAL STREAM
- Ephemeral Stream
- Intermittent Stream
- NATURAL DRAINAGE
- WATERBODY
- ▼ WETLAND EMERGENT
- WETLAND FORESTED
- WETLAND FOREST SHrub

Appendix G-2

G2-8



EAST AUSTIN ROAD HDD PROFILE

HORIZONTAL SCALE: 1" = 200'
VERTICAL SCALE: 1" = 100'

SPECIFICATIONS:

CARRIER PIPE: 42,000" O.D. X 0.964" WT. X-70
API-5L GR. B, CGAW, RV 14-16 MILS FBE AND 40 MILS ARO
HYDROSTATIC PRE-TEST PRESSURE: TBD* PSIG MIN - TBD* PSIG MAX
DESIGN PRESSURE: MAOP 1,440 PSIG
SECTION CLASS: TBD
DESIGN FACTOR: 0.63
TRUE LENGTH: 2,778 FT.

GENERAL NOTES:

- GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 17 (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN.
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN MARKS AND ELEVATIONS ON THE PROPOSED PIPELINE ALIGNMENT.
- FOOT ACCESS FOR HDD GUIDED WIRE WILL BE REQUIRED 100 FT TO 200 FT BOTH SIDES OF CENTERLINE. HAND CLEARING OF TREES 3" DIAMETER AND SMALLER.
- EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

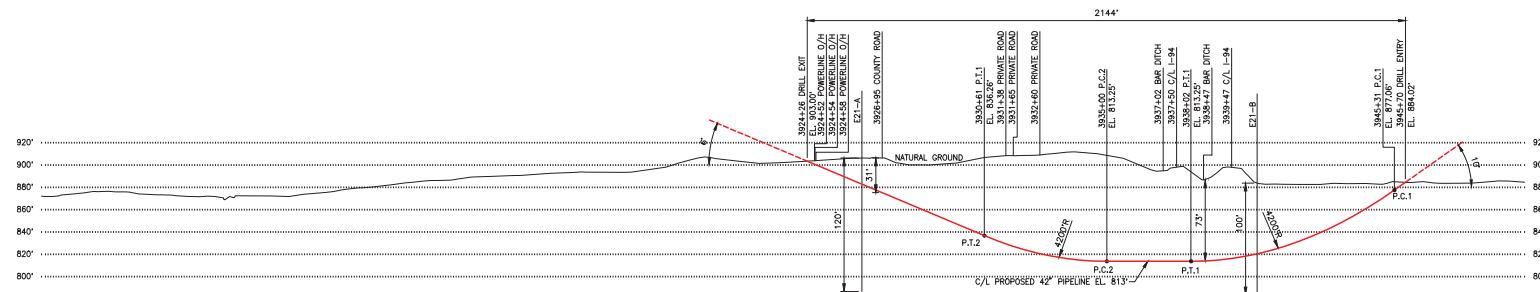
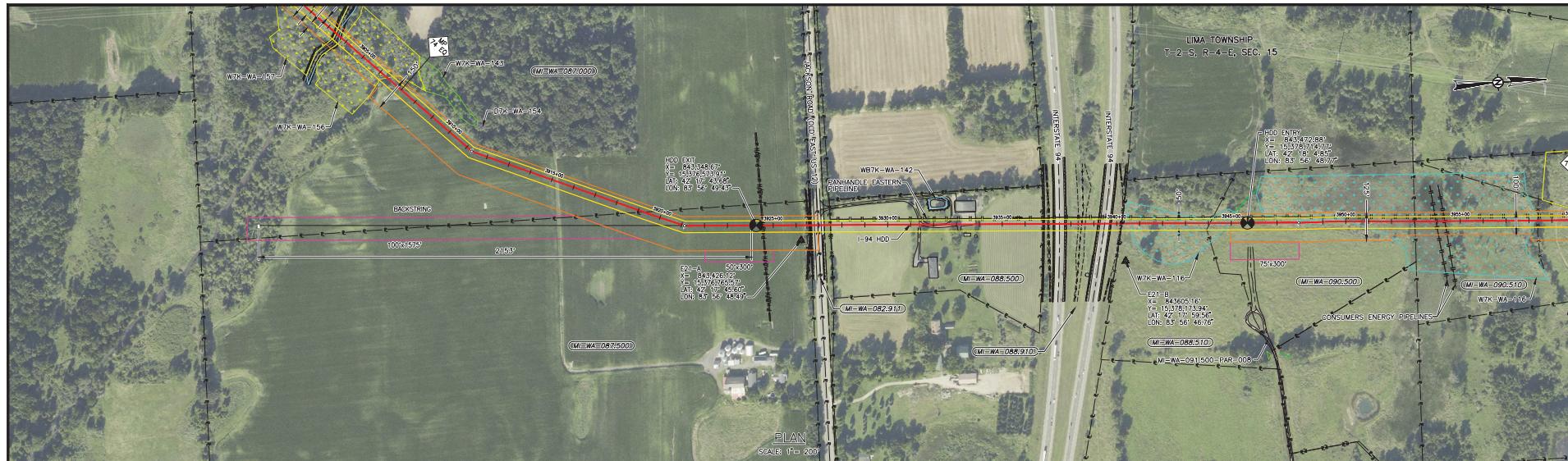
ENVIRONMENTAL NOTES:

- EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
- ANY ON-LAND TRENCH Dewatering TO BE DIRECTED TO WETLAND FILTER BAG AND/OR Dewatering STRUCTURE IN AN UPLAND AREA TO PREVENT EROSION AND SEDIMENTATION INTO WETLANDS OR WATERBODIES.
- PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
- EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

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WEX-P3-8007	ALIGNMENT	C	FERC FILING	GJD	1-15-15	CRF JHR											MKT SEGMENT - 42" NG PIPELINE	
		B	GEOTECHNICAL CORE COLLECTION	GJD	11-7-14	CRF JHR										EAST AUSTIN ROAD HDD		
		A	FERC FILING	NLM	11-5-14	CRF JHR										M.P. 63.1 WASHTENAW, MICHIGAN		

LEGEND:
— PROPOSED PIPELINE
— PERMANENT EASEMENT
— TEMPORARY WORK SPACE
— ADDITIONAL TEMPORARY WORK SPACE
— ACCESS PATH
— GEOTECH CORE

ENVIRONMENTAL LEGEND:
— PERENNIAL STREAM
— Ephemeral stream
— INTERMITTENT STREAM
— NATURAL DRAINAGE
— WATERBODY
— WETLAND EMERGENT
— WETLAND FORESTED
— WETLAND SCRUB SHRUB



I-94 HDD
PROFILE

HORIZONTAL SCALE: 1" = 200'
VERTICAL SCALE: 1" = 50'

SPECIFICATIONS

CARRIER PIPE: 42,000" O.D. X 0.864" W.T. X-70
A.P.I. 5L PLSL 2, DSAW, W/ 14-16 MILS FBE AND 40 MILS ARO
HYDROSTATIC PRE-TEST PRESSURE: "TBD" PSIG MIN - "TBD" PSIG MAX
DESIGN PRESSURE: MAOP 1,440 PSIG
LOCATION CLASS: TBD
DESIGN FACTOR: 0.5
TRUE LENGTH: 2,153'

GENERAL NOTES:

- GENERAL NOTES:**

 - 1) GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 17N (7 GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL ALBERTA.
 - 2) CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.
 - 3) TO ENSURE ADEQUATE CLEARING, A MINIMUM CLEARANCE REQUIRED IS 100 FT TO 200 FT BOTH SIDES OF CENTERLINE; HAND CLEARING OF TREES 3" DIAMETER AND SMALLER.

ENVIRONMENTAL NOTES:

 - 1) EROSION/ SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES. AN APPROVED EROSION CONTROL PLAN, EROSION CONTROL WOOL, FILTER BAG AND/OR Dewatering STRUCTURE IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES.
 - 2) FRESH CUT AREAS TO BE RESTORED AND REVEGETATED AS SOON AS POSSIBLE. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
 - 3) EROSION/ SEDIMENT CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

ENVIRONMENTAL NOTES

- 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
 - 2) ANY ON-LAND TRENCH DEWATERING TO BE DIRECTED TO NELAND FILTER BAG AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES.
 - 3) PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
 - 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

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1-13-15	CRF JHR	CONSTR.						DRAWN	KMA
DATE	CHK'D APP'D	CADD'S	PLOT DATE	FILE NAME				ASBUILT	FILE NO.



ROVER PIPELINE PROJECT
MARKET SEGMENT - 42" NG PIPELINE
I-94 HDD
M.P. 74.3 TO M.P. 74.7

WETLAND SCI

10 of 10

T

PIPELINE

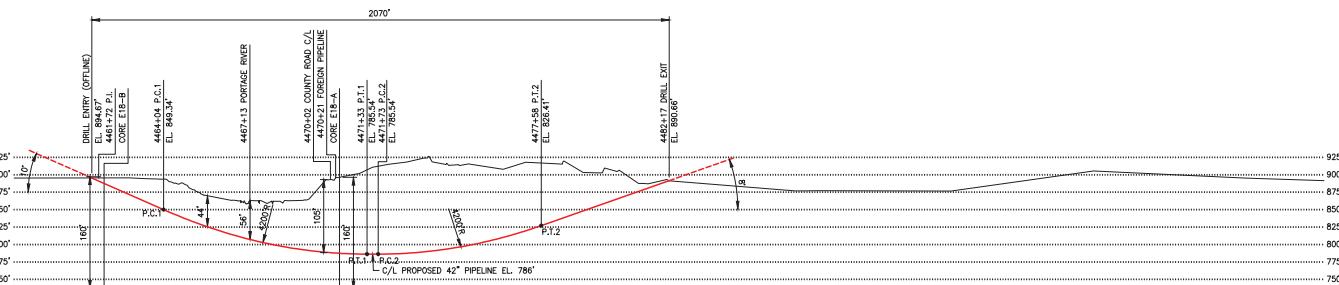
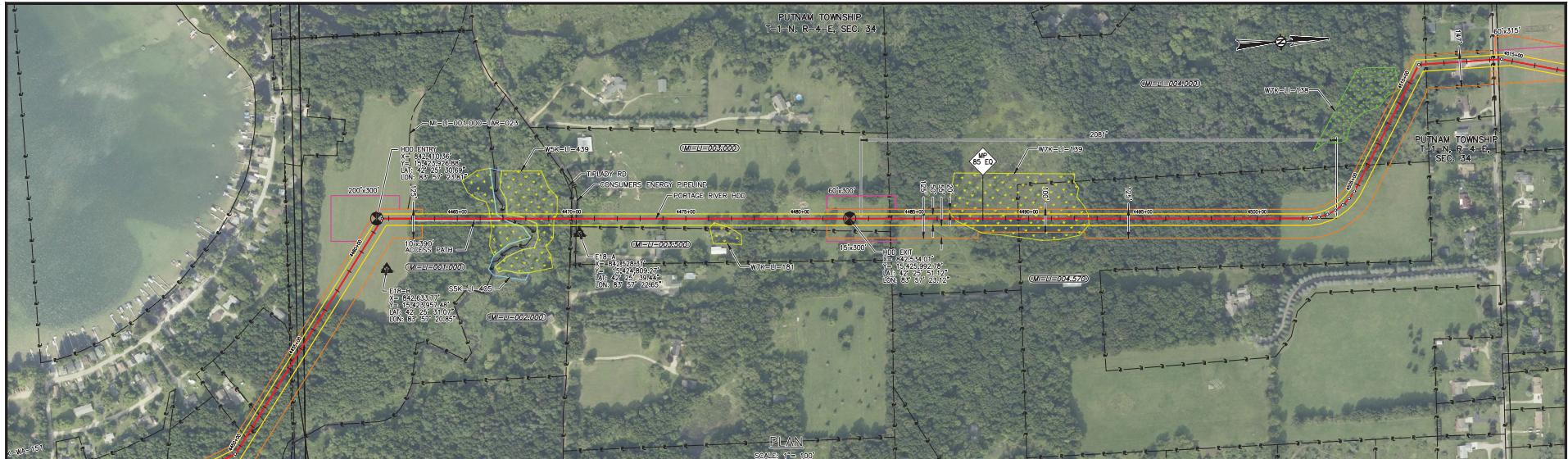
7

10 of 10

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Appendix G-2

G2-10



PORTAGE RIVER HDD

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 40'

SPECIFICATIONS:

CURVE PIPE: 42,000" O.D. X 0.964" WT. X-70
API-5L PSL. DIAW. W/ 14-16 MILS FBE AND 40 MILS ARO
HYDROSTATIC PRE-TEST PRESSURE: "TBD" PSIG MIN - "TBD" PSIG MAX
DESIGN PRESSURE: MAOP 1,440 PSIG
DESIGN EARTHQUAKE: TBD
DESIGN FACTOR: 0.80
TRUE LENGTH: 2,081 FT.

GENERAL NOTES:

- GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 17 (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN.
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPE AS WELL AS THE PROPOSED PIPELINE.
- FOOT ACCESS FOR HOD TRUTRACKER WIRE WILL BE REQUIRED 100 FT TO 200 FT BOTH SIDES OF CENTERLINE. HAND CLEARING OF TREES 3" DIAMETER AND SMALLER.
- EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

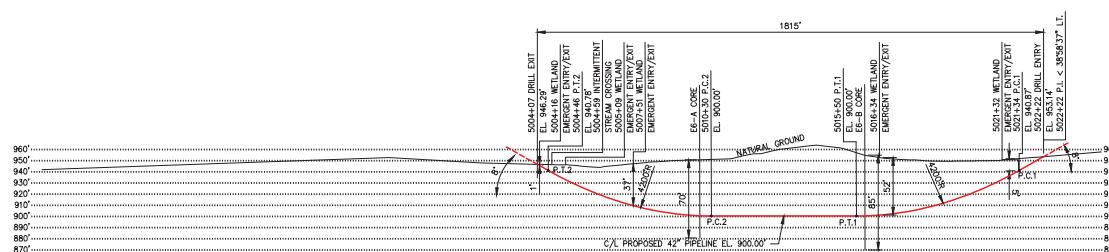
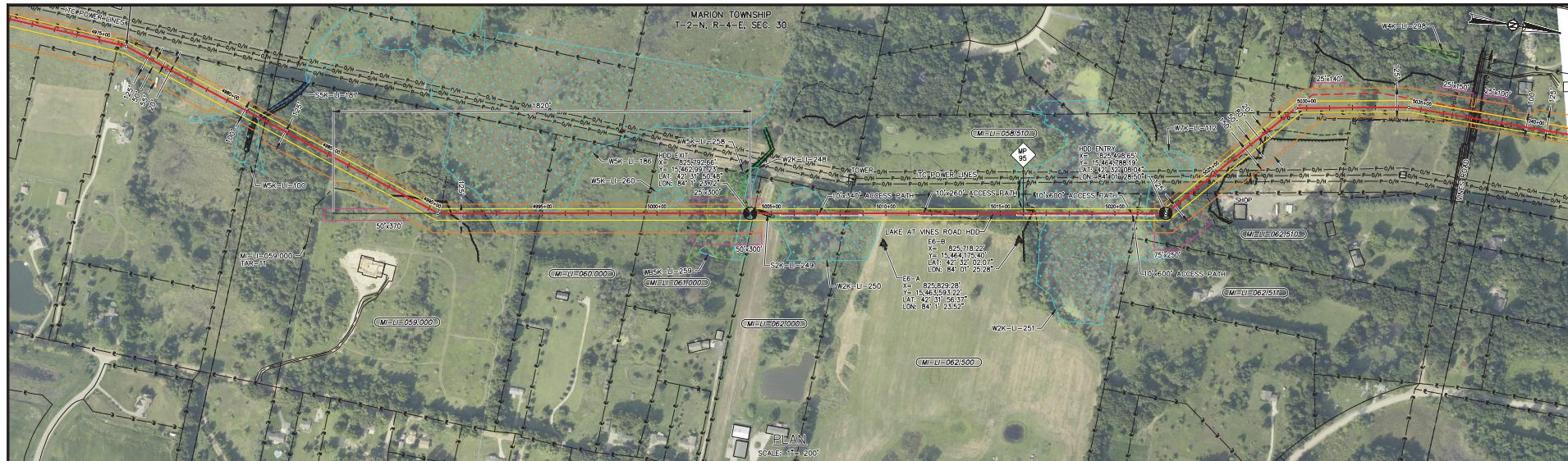
ENVIRONMENTAL NOTES:

- EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
- ANY ON-LAND Dewatering TO BE DIRECTED TO WETLAND FILTER BAG AND/OR Dewatering STRUCTURE IN AN UPLAND AREA TO MINIMIZE IMPACTS TO WETLANDS AND WATERBODIES.
- PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND REVEGETATED AS APPLICABLE.
- EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

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	D	FTRC FILING UPDATE			LRW	6-3-15	CRF JHR						42" MARKET SEGMENT - NG PIPELINE
	C	FOR REVIEW			LRW	3-30-15	CRF JHR						PORTAGE RIVER HDD
	B	FOR REVIEW			NLM	2-23-15	JHR JHR						M.P. 84.5 TO M.P. 84.9
	A	PRELIMINARY			LRW	11-5-14	CRF JHR						LIVINGSTON, MICHIGAN
													MK-P4-23B

LEGEND:
— PROPOSED PIPELINE
— PERMANENT EASEMENT
— TEMPORARY WORK SPACE
— ADDITIONAL TEMPORARY WORK SPACE
— ACCESS PATH
▲ GEOTECH CORE

ENVIRONMENTAL LEGEND:
— PERENNIAL STREAM
— Ephemeral Stream
— INTERMITTENT STREAM
— NATURAL DRAINAGE
— WATERBODY
— WETLAND EMERGENT
— WETLAND FORESTED
— WETLAND SCRUB SHRUB



LAKE AT VINES ROAD HDD
PROFILE

HORIZONTAL SCALE: 1" = 200'
VERTICAL SCALE: 1" = 50'

GENERAL NOTES:

SPECIFICATIONS:

CARRIER PIPE: 42.000" O.D. X 0.864" W.T. X-70
API 5L PS 2, DSAW, W/ 14-16 MILS FBE AND 40 MILS ARO
STRENGTH TEST PRESSURE: "TBD" PSIG MIN - "TBD" PSIG MAX
DESIGN PRESSURE: MACP 1,440 PSIG
LOCATION CLASS: TIBD
DESIGN FACTOR: 0.5
TRUE LENGTH: 1,820 FT.

- 1) GRID PROJECTION BASED UPON DATUM UTM COORDINATE SYSTEM, ZONE 17 (GRID UNITS IN FEET) GEODETIC SURVEY: NAD 1983, CENTRAL MERICAN.

2) CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.

3) FOOT ACCESS FENCE, DUE TO TRUCKER WIRE WILL BE REQUIRED 100' ON EACH SIDE OF CENTERLINE, HAND CLEARING OF TREES 3" DIAMETER AND SMALLER.

ENVIRONMENTAL NOTES:

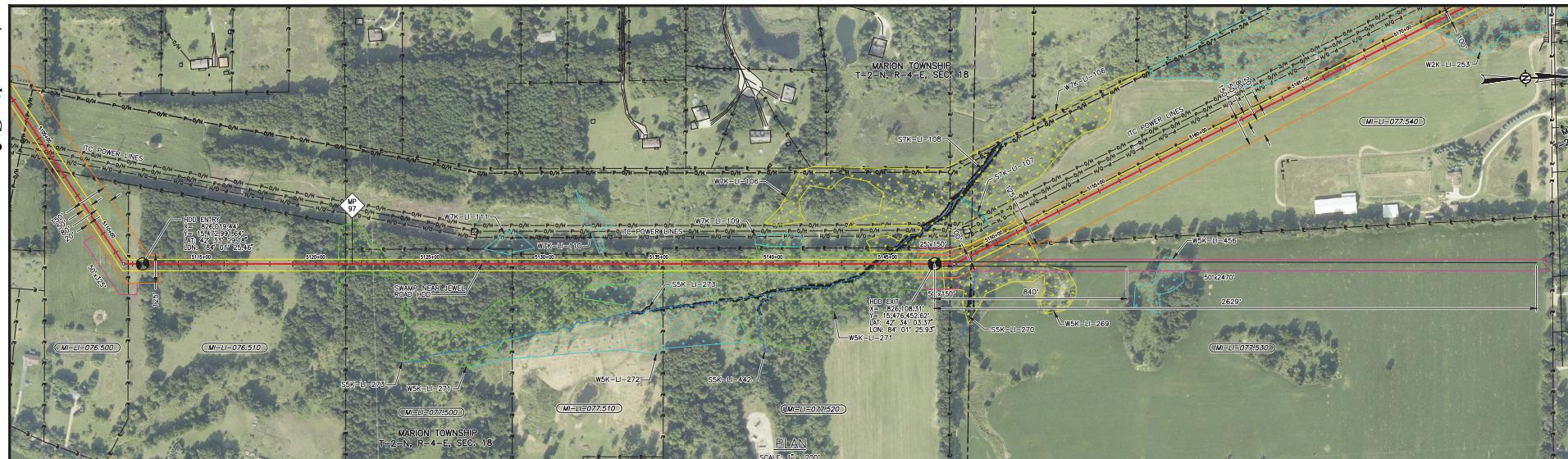
 - 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
 - 2) ANY EROSION/SEDIMENTATION DUE TO CONSTRUCTION, WATERFALLS AND/OR DOWNHILL SLOPES IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES.
 - 3) PRE-CONSTRUCTION COVERS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS AND DISTURBED SOILS TO BE REVEGETATED AS APPLICABLE.
 - 4) EROSION/SEDIMENTATION AND CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL CONSTRUCTION AND REVEGETATION ARE COMPLETE, SUCCESSFUL.

ENVIRONMENTAL NOTES:

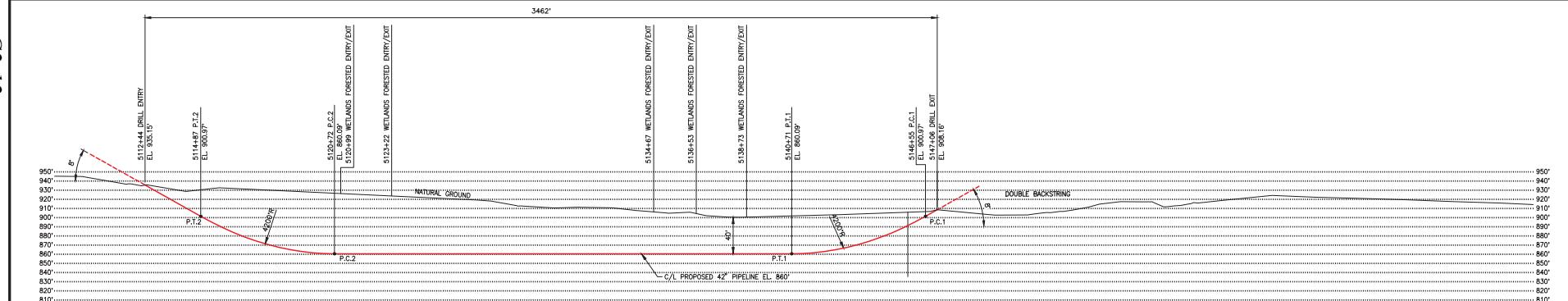
- 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
- 2) AN ON-LAND TRENCH DENTERING TO BE DIRECTED INTO A WETLAND FILTER, AND/OR DENTERING STRUCTURE IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES.
- 3) PRE-CONSTRUCTION CONTROLS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REREGEISTERED AS APPLICABLE.
- 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL REFORESTATION AND REVEGETATION ARE DEFINITELY SUCCESSFUL.

DRAWING NUMBER: MK-33-8042 REFERENCE DRAWING TITLE: ALIGNMENT										PROJECT NO.: 565000000005			
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			BY	DATE			BY	DATE	BY	DATE			
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D	FERC FILING UPDATE		LWR	6-3-15	CRF	JHR					BID		
C	FERC FILING		GJD	1-15-15	CRF	JHR					DESIGN		
B	GEOTECHNICAL CORE COLLECTION		RBR	11-7-14	CRF	JHR					DRAWN	KMA	9-25-14
A	FERC DRAFT FILING		NLM	11-5-14	CRF	JHR					ASB/LST		
			CADOS	PROT. DATE:					FILE NO.				
				TITLE NAME:					SCALE NOTED				

Appendix G-2



G2-12



SPECIFICATIONS:

GENERAL NOTES:

- CARRIER PIPE #2: 42"OD, 0.0 D, X 6484' WT, X-70
 API, 5L PSI, 2, DISW, W-14-16 MILS FBE AND 26 MILS AL
 HYDROSTATIC PRE-TEST PRESSURE: "TBD" PSIG MIN - "TBD" PSIG MAX
 DESIGN PRESSURE: 1,000 FT. OF WATER = 1,440 PSIG
 LOCATION CLASS: TBB
 DESIGN FACTOR: 0.5
 TRUE LENGTH: 6,468.8 FT.

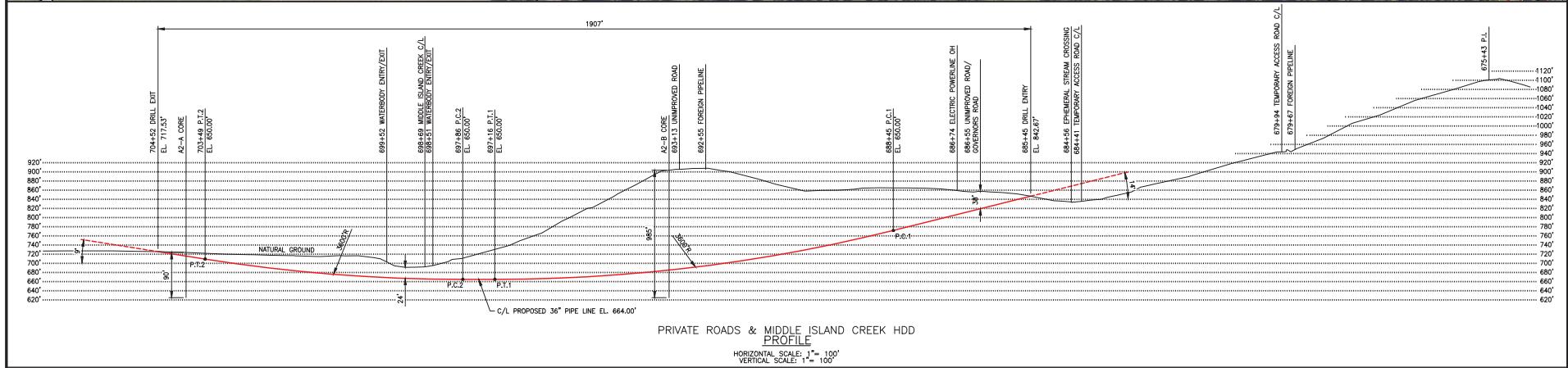
1) GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 17 (47 GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN.
 2) OWNER/OPERATOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.
 3) FOOT ACCESS FOR HHD TRUCKTRAILER CARRIER WILL BE REQUIRED.
 4) CARRIER PIPE IS TO FIT OVER EXISTING CARRIER PIPELINE. HAND CLEARING OF TREES 3" DIAMETER AND SMALLER.

ENVIRONMENTAL NOTES

- 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
 - 2) ANY ON-LAND TRENCH Dewatering TO BE DIRECTED TO WETLAND FILTERS AND/OR REVEGETATING STRUCTURE IN THE DRAINAGE AREA TO MINIMIZE EROSION OF SEDIMENT INTO WETLANDS/WATERBODIES.
 - 3) PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
 - 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

IP NEAR JEWELL ROAD HDD
PROFILE

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 50'



SPECIFICATIONS:
CARRIER PIPE: 36,000" O.D. X 0.750" WT. X-70
SPL: 5L, SCA: 25W, AV: 14-16 MILS, FBE AND 40 MILS ARO
HYDROSTATIC PRE-TEST PRESSURE: TBD* PSIG MIN - TBD PSIG MAX
DESIGN PRESSURE: MAOP: 1,440 PSIG
SECTION CLASS: TBD
DESIGN FACTOR: 0.5
TRUE LENGTH: 1,929 FT.

GENERAL NOTES:

- 1) GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 17 (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN.
- 2) CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN SECTION CLASSES, DESIGN FACTORS, AND TRUE LENGTH.
- 3) FOOT ACCESS FOR HDD GUIDED WIRE WILL BE REQUIRED 100 FT TO 200 FT BOTH SIDES OF CENTERLINE. HAND CLEARING OF TREES 3" DIAMETER AND SMALLER.
- 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVETMENT ARE DEEMED SUCCESSFUL.

ENVIRONMENTAL NOTES:

- 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERSHEDS.
- 2) ANY ON-LAND TRENCH Dewatering TO BE DIRECTED TO WETLAND FILTER BAG AND/OR Dewatering STRUCTURE IN AN UPLAND AREA TO PREVENT CONTAMINATION OF WATERSHEDS AND WETLANDS.
- 3) PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVETTED AS APPLICABLE.
- 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVETMENT ARE DEEMED SUCCESSFUL.

SHEET NO.	REFERENCE DRAWING TITLE	NO.	REVISION - DESCRIPTION	BY	DATE	CHKD APP'D	CHECKED		APPROVED		FILE STA. NO.	ACCOUNT NO.
							BY	DATE	BY	DATE		
D	FERC FILING UPDATE			LRW	6-03-15	ORF	JHR				2016	
C	FERC FILING			KMA	1-15-15	JHR	JHR					
B	GEOTECHNICAL CORE COLLECTION			RBR	11-7-14	ORF	JHR					
A	FERC DRAFT FILING			NLM	11-5-14	ORF	JHR					

PHOTO STATUS	CHECKED		APPROVED		FILE STA. NO.	ACCOUNT NO.
	BY	DATE	BY	DATE		
PREL'						
BID						
CONSTR.						
CADD'S	PLOT DATE:	FILE NAME:				
					SCALE: NOTED	

LEGEND:
— PROPOSED PIPELINE
— PERMANENT EASEMENT
— TEMPORARY WORK SPACE
— ADDITIONAL TEMPORARY WORK SPACE
— ACCESS PATH
▲ GEOTECH CORE

ENVIRONMENTAL LEGEND:
— PERENNIAL STREAM
— Ephemeral Stream
— INTERMITTENT STREAM
— NATURAL DRAINAGE
— WATERBODY
— WETLAND EMERGENT
— WETLAND FORESTED
— WETLAND SCRUB SHRUB

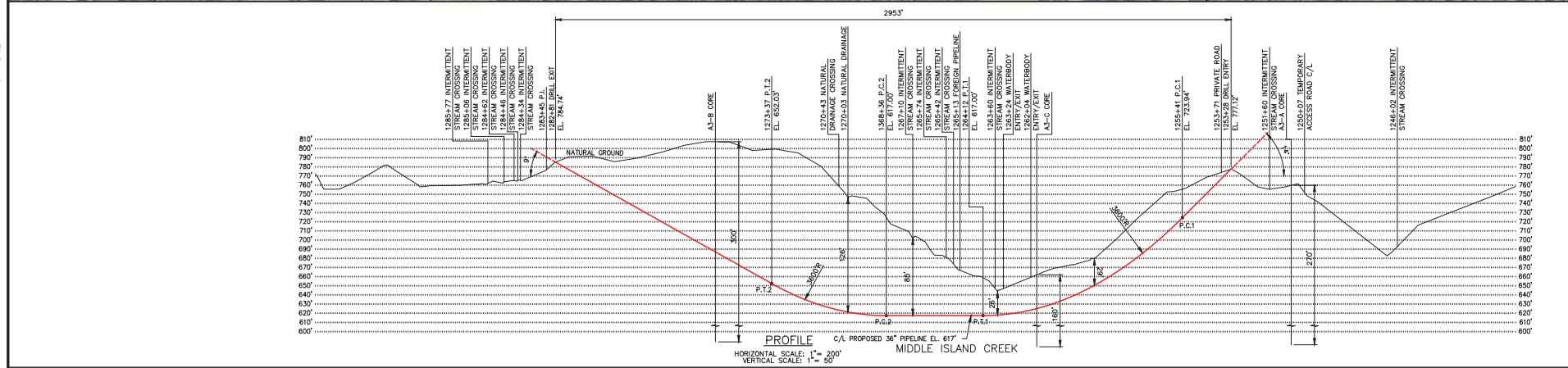
PROJECT NO.
585000000003
PREVIOUS Dwg. NO.

PROJECT NO.
585000000003
PREVIOUS Dwg. NO.

Sheet 1 of 1
Dwg. No. SW-P4-38
Sheet 1 of 1
Dwg. No. SW-P4-38

Appendix G-2

G2-14



SPE

CARRIER PIPE: 36,000" O.D. X 0.750" W.T. X-70
A.P.I. 5L PSL 2, DSAW, W/ 14-16 MILS FBE AND 26 MILS ARO
HYDROSTATIC PRE-TEST PRESSURE: "TBD" PSIG MIN - "TBD" PSIG MAX
DESIGN PRESSURE: MAOP 1,440 PSIG
LOCATION CLASS: BD
DESIGN FACTOR: 0.5
TRUE LENGTH: 2,979 FT.

- GENERAL NOTES:**

 - 1) GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 17 (GRID UNITS IN FEET) GEODETIC DATUM - NAD 1983, CENTRAL MERIDIAN.
 - 2) CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL FOREIGN EQUIPMENT IS REMOVED PRIOR TO CONTROLLING ANY AREA.
 - 3) FOOT ACCESS FOR HDT TRUCKTRAC® WIRE WILL BE REQUIRED 100' FT TO 200' FT BOTH SIDES OF CENTERLINE. HAND CLEARING OF TREES 3" DIAMETER AND SMALLER.

ENVIRONMENTAL NOTES:

 - 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
 - 2) ANY ON-LAND TRENCH Dewatering TO BE DIRECTED TO WETLAND FILTER BAG AND/OR Dewatering STRUCTURE IN AN UPLAND AREA WHICH IS NOT SUBJECT TO INfiltration OR OVERFLOW.
 - 3) PRE-CONSTRUCTION CONCRETE PADS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
 - 4) EROSION/SEDIMENT CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEFINITELY SUCCESSFUL.

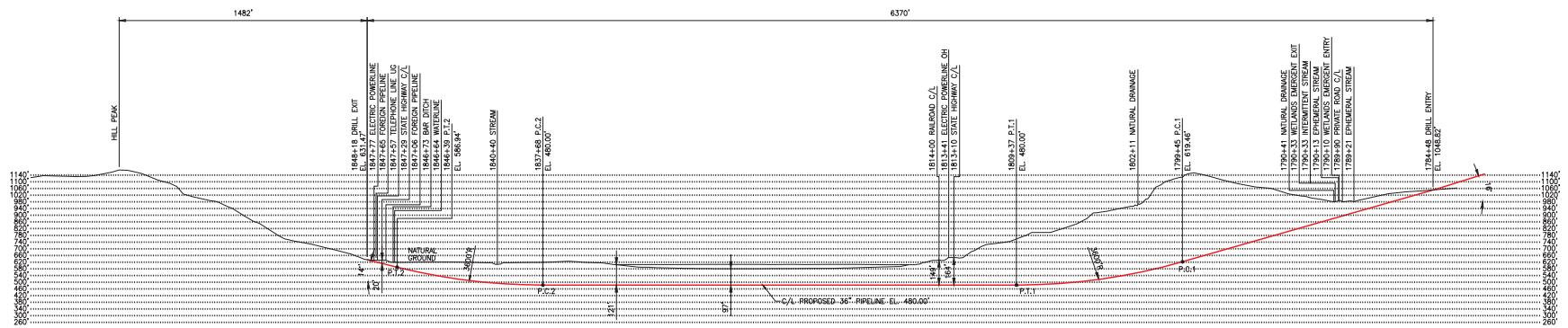
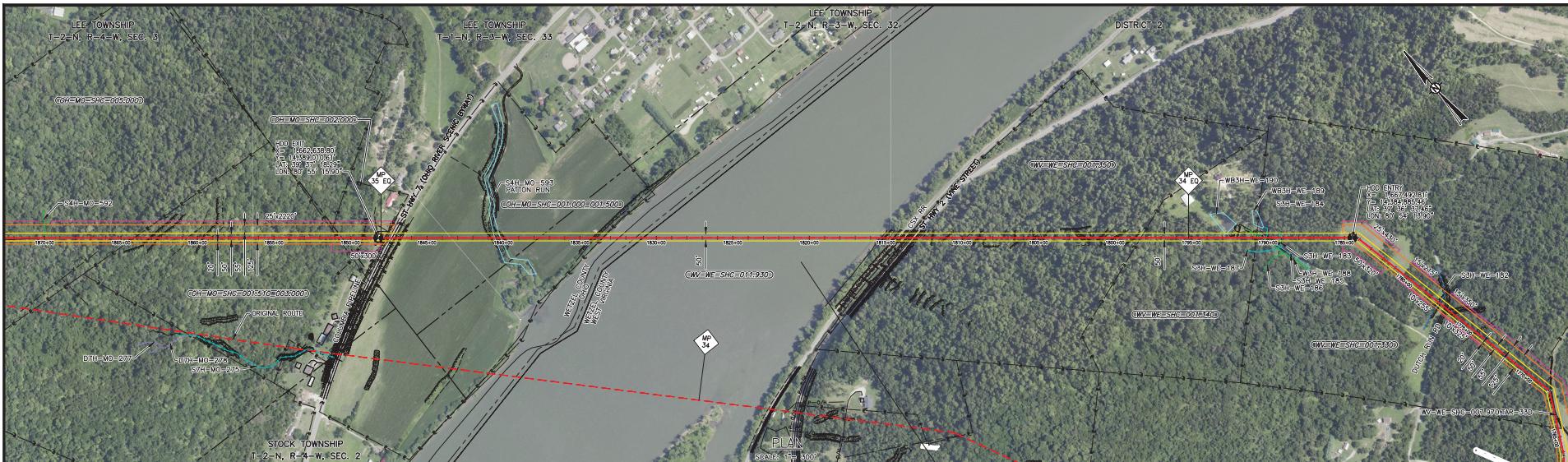
ENVIRONMENTAL NOTES:

- 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
 - 2) ANY ON-LAND TRENCHES DETERMINED TO BE DIRECTED OVER WETLAND FILTERS AND/OR DETERGING STRUCTURE IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES.
 - 3) PRE-CONSTRUCTION CONTROLS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REREGEISTERED AS APPLICABLE.
 - 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL REFORESTATION AND REVEGETATION ARE DEFINITELY SUCCESSFUL.

LEGEND:

- PROPOSED PIPE
- PERMANENT EA
- TEMPORARY WC
- ADDITIONAL TEMP WORK SPACE
- ACCESS PATH
- GEOTECH CORE

The legend consists of eight entries, each with a colored line segment followed by a text label. The colors are: light blue for PERENNIAL STREAM, medium blue for Ephemeral Stream, dark green for INTERMITTENT STREAM, purple for NATURAL DRAINAGE, yellow for WATERBODY, orange for WETLAND EMERGENT, red for WETLAND FORESTED, and brown for WETLAND SCRUB SHRUB.



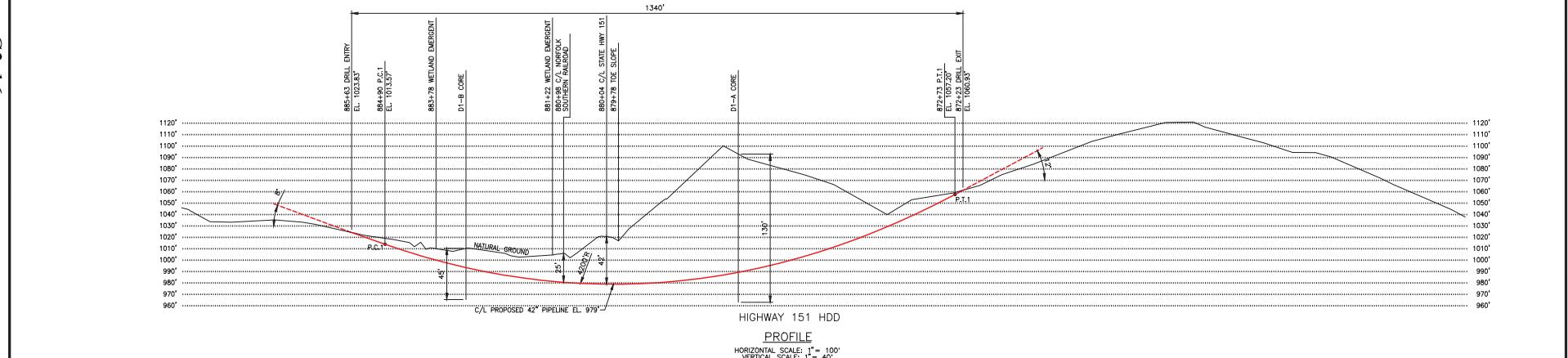
SPECIFICATIONS:
CURRENT PIPE: 36,000" O.D. X 0.25" WT. X-70
API-5L PSL 2, DSAW, W/ 14-16 MILS FBE AND 40 MILS ARO
HYDROSTATIC PRE-TEST PRESSURE: "TBD" PSIG MIN - "TBD" PSIG MAX
DESIGN PRESSURE: MAOP 1,440 PSIG
DESIGN CLASS: TBD
DESIGN FACTOR: 0.75
TRUE LENGTH: 6,780 FT.

GENERAL NOTES:**ENVIRONMENTAL NOTES:**

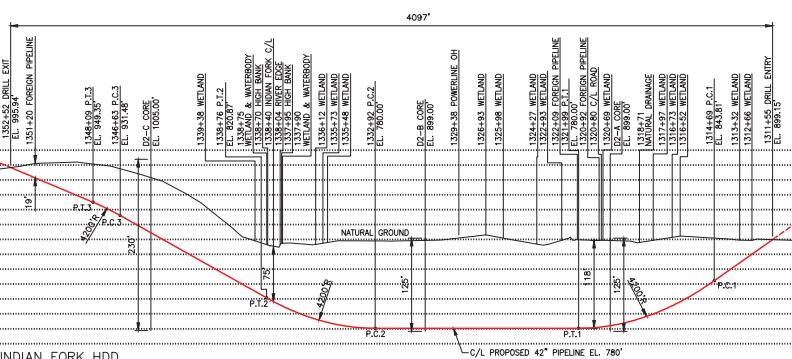
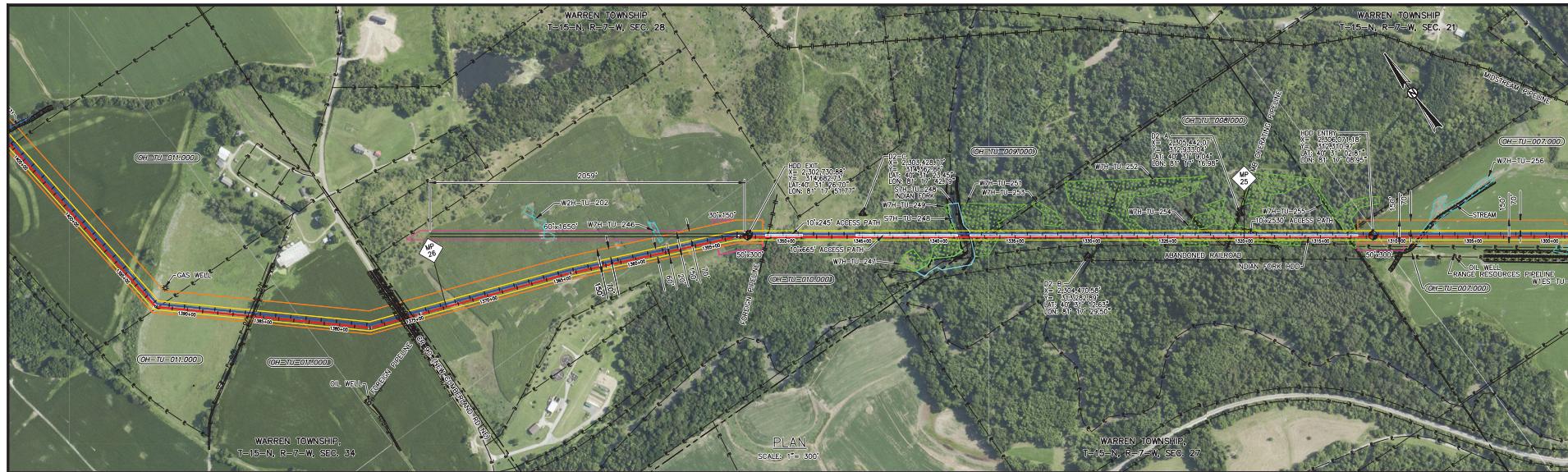
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											DESIGN	JHR	ASBILT	FILE NO.	SCALE NOTED		
SW-P3-1037	ALIGNMENT	B	FERC FILING UPDATE	LRW 6-03-15	CRF JHR	PREL'				2016						FERVER PIPELINE	ROVER PIPELINE PROJECT
SW-P3-1036	ALIGNMENT	A	FERC FILING	KMA 1-15-15	CRF JHR	BID											SHERWOOD LATERAL - 36" NG PIPELINE

Appendix G-2

G2-16



GENERAL NOTES:																																																																																			
SPECIFICATIONS: CARRIER PIPE: 42,000" O.D. X 0.864" W.T. X-70 A.P.I. 5L PSL 2, DSW, W/ 14-16 MILS FBE AND 26 MILS ARO HYDROSTATIC PRE-TEST PRESSURE: "TBD" PSIG MIN - "TBD" PSIG MAX DESIGN FLOW: 100,000 GPM, 1,440 PSIG LOCATION CLASS: T80 DESIGN FACTOR: 0.5 TRUE LENGTH: 7,346 FT.																																																																																			
ENVIRONMENTAL NOTES: 1) GRID PROJECTION BASED UPON OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CLARKE SPHEROID, 1985. 2) CONTRACTOR TO RESTRICT ACCESS FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION. 3) FOOT ACCESS FOR HDD TRAILER TRACKER WIRE WILL BE REQUIRED FOR ALL HORIZONTAL DRILLS. SHIFT CENTERLINE, HAND CLEARING OF TREES 3' DIAMETER AND SMALLER. 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.																																																																																			
LEGEND: PROPOSED PIPELINE PERENNIAL STREAM Ephemeral Stream Temporary Work Space Natural Drainage Additional Temporary Work Space Waterbody Wetland Emergent Wetland Forested Wetland Scrub Shrub Access Path Geotech Core																																																																																			
ENVIRONMENTAL LEGEND: PERENNIAL STREAM Ephemeral Stream Temporary Work Space Natural Drainage Additional Temporary Work Space Waterbody Wetland Emergent Wetland Forested Wetland Scrub Shrub																																																																																			
PROJECT NO.: 585000000001 PREVIOUS DWG. NO.: SHEET 1 OF 1 DWG. NO.: ML-P4-01 SHEET 1 OF 1																																																																																			
ROVER PIPELINE PROJECT SUPPLY CONNECTOR LINE A & B ~ 42" NG PIPELINE HIGHWAY 151 HDP M.P. 16.5 TO M.P. 16.8 SENECA COUNTY, OHIO																																																																																			
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ML-P3-1018	ALIGNMENT		MFZ	11-5-14	CRF JHR	CADDOS	PLOT DATE:	FILE NAME:	SCALE:	NOTED																																																																									



HORIZONTAL SCALE: 1" = 300'
VERTICAL SCALE: 1" = 75'

HORIZONTAL SCALE: 1" = 500'
VERTICAL SCALE: 1" = 75'

GENERAL NOTES:

SPECIFICATIONS:

CARRIER PIPE: 42,000" O.D. X 0.864" W.T. X-70
 A.P.I. 5L PSIG 2, DSAW, W/ 14-16 MILS FBE AND 40 MILS ARO
 HYDROSTATIC PRE-TEST PRESSURE: "TBD" PSIG MIN - "TBD" PSIG MAX
 DESIGN PRESSURE: MAAP, 1,440 PSIG
 DESIGN CLASS: TBA
 DESIGN FACTOR: 0.5
 TRUE LENGTH: 4,118 FT.

- GENERAL NOTES:**

 - 1) GRID PROJECTION BASED UPON OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CLARKE SPHEROID, 1866.
 - 2) CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.
 - 3) FOOT ACCESS FOR HDD GUIDED WIRE WILL BE REQUIRED 100' FT TO 200' FT BOTH SIDES OF CENTERLINE. HAND CLEARING OF TREES 3' DIAMETER AND SMALLER.

ENVIRONMENTAL NOTES:

- 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
 - 2) ANY ON-LAND TRENCH Dewatering TO BE DIRECTED TO WETLAND FILTER BAG AND/OR DEMARSHING STRUCTURE IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES.
 - 3) PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
 - 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.