JPA Section H-2 - Luzerne County

Site-Specific Wetland and Watercourse Crossing Plans

PENNEAST PIPELINE COMPANY, LLC

PENNEAST PIPELINE PROJECT - PHASE 1

WATER OBSTRUCTION AND ENCROACHMENT PERMIT APPLICATION

SITE-SPECIFIC DRAWINGS

PROPOSED 36" PENNEAST PIPELINE

PROPOSED 4" BLUE MOUNTAIN LATERAL

MOTT MACDONALD
111 WOOD AVENUE SOUTH
ISELIN, NJ 08830-4112
(973) 379-3400

MICHAEL DENICHILO
PA PE NO. PE086513

REVISED FOR PERMITTING - PHASE 1

LEGEND

PROPOSED

PROJECT COMPONENTS

- PROPOSED PIPELINE
- LIMITS OF DISTURBANCE — LOD
- PROPOSED PERMANENT EASEMENT
- ACCESS ROAD
- FACILITY LOCATION
- APPROXIMATE LOCATION OF BORE PIT

EROSION & SEDIMENT CONTROL DEVICES

- PERMANENT WATERBAR (WITH SUMP AND COMPOST FILTER SOCK END TREATMENT)
- TEMPORARY WATERBAR (WITH SUMP AND COMPOST FILTER SOCK END TREATMENT)
- DIVERSION SOCK
- TEMPORARY CLEAN WATER SLOPE PIPE
- 12" COMPOST FILTER SOCK
- 18" COMPOST FILTER SOCK
- 24" COMPOST FILTER SOCK
- 32" COMPOST FILTER SOCK
- 32" COMPOST FILTER SOCK (DURASOXX)
- TRENCH PLUG
- TEMPORARY EQUIPMENT BRIDGE
- ROCK CONSTRUCTION ENTRANCE
- TIMBER MAT
- EROSION CONTROL MATTING
- ROCK FILTER OUTLET
- SAFETY FENCE
- HABITAT EXCLUSION FENCING

IMPACTS

- PROPOSED PEM WETLAND IMPACT
- PROPOSED PSS WETLAND IMPACT
- PROPOSED PFO WETLAND IMPACT
- PROPOSED PUB WETLAND IMPACT
- PROPOSED VERNAL POOL IMPACT
- PROPOSED STREAM IMPACT (TOB TO TOB)

EXISTING

ENVIRONMENTAL FEATURES

- EXISTING PEM WETLAND
- EXISTING PSS WETLAND
- EXISTING PFO WETLAND
- EXISTING PUB WETLAND
- EXISTING VERNAL POOL
- WATERCOURSE THROUGH EXISTING CULVERT
- EXISTING STREAM TOP OF BANK
- APPROXIMATE 100 YEAR FLOODWAY

OTHER

- PROPERTY LINE
- EXISTING ROAD CENTERLINE
- EXISTING MAJOR CONTOUR — 1230'
- EXISTING MINOR CONTOUR

IN INSTANCES WHERE A WATERCOURSE OR WETLAND IS CROSSED BY THE PROPOSED PIPELINE OR WORKSPACE MULTIPLE TIMES, CROSSING NUMBER (E.G. "-1", "-2") HAVE BEEN ADDED TO THE WATERCOURSE OR WETLAND ID. THE PURPOSE OF SHOWING THESE CALLOUTS IS TO BETTER REPRESENT IMPACTS SHOWN ON THE WATER OBSTRUCTION AND ENCROACHMENT PERMIT APPLICATION SITE-SPECIFIC DRAWINGS.

STREAM 042415_JC_1002_P_IN - 1

NOTES EXPLAINING IMPACTS:

1. FOR THE IMPACT TABLE SHOWN IN EACH DRAWING VALUES HAVE BEEN ROUNDED TO 3 DECIMAL PLACES. ANY IMPACTS LESS THAN 0.0005 ARE ROUNDED TO 0.001. A "-" DENOTES NO IMPACTS TO THE WETLAND, WATERCOURSE CHANNEL, OR FLOODWAY, AS APPLICABLE.

PADEP IMPACTS:

1. TEMPORARY IMPACT ACRES ARE MEASURED WITHIN THE TEMPORARY WORKSPACE AND ADDITIONAL TEMPORARY WORKSPACE; THE MEASUREMENT DOES NOT INCLUDE ACREAGES IMPACTED WITHIN THE 30' OPERATIONAL ROW.
2. PERMANENT IMPACT ACRES ARE MEASURED WITHIN THE 30' OPERATIONAL ROW, WITHIN AN ABOVEGROUND FACILITY FOOTPRINT, OR REPRESENTS A CULVERT INSTALLATION OR REPLACEMENT. FOR HDDs OR BORES, THE PERMANENT IMPACT IS CALCULATED AS THE LENGTH OF THE CROSSING TIMES THE PIPE DIAMETER.
3. STREAM IMPACTS TITLED "CROSSING WIDTH" WERE MEASURED ALONG THE PIPELINE CENTERLINE, AS APPLICABLE. IN INSTANCES WHERE THE PIPELINE WILL NOT CROSS A WATERCOURSE, THE CROSSING WIDTH WAS MEASURED PARALLEL TO THE PIPELINE OR ALONG THE ACCESS ROAD CENTERLINE. STREAM IMPACTS TITLED "WATERCOURSE CENTERLINE" WERE MEASURED ALONG THE STREAM CENTERLINE WITHIN THE WORKSPACE. FLOODWAY CROSSING LENGTHS ARE NOT INCLUDED ON THE SITE-SPECIFIC DRAWINGS BUT CAN BE FOUND ON THE ARIT IN JPA SECTION A-1.

USACE IMPACTS:

1. USACE TEMPORARY IMPACT ACRES ARE MEASURED WITHIN THE 50-FOOT WIDE PERMANENT EASEMENT, TEMPORARY WORKSPACE, AND ADDITIONAL TEMPORARY WORKSPACE. THIS CALCULATION EXCLUDES ACREAGES OF PFO AND PSS WETLANDS THAT WILL BE MAINTAINED AS PEM WETLANDS WITHIN THE 30-FOOT WIDE OPERATIONAL ROW, WETLANDS THAT WILL BE FILLED, PERMANENT CULVERTS WITHIN WATERCOURSES, AND WETLANDS AND WATERCOURSES THAT WILL BE CROSSED UNDER USING BORES OR HDD TECHNOLOGY.
2. USACE PERMANENT IMPACTS ACRES INCLUDE WETLAND COVER TYPE CONVERSION, PERMANENT CULVERT INSTALLATION, AND WETLAND FILL.
3. STREAM IMPACTS TITLED "CROSSING WIDTH" WERE MEASURED ALONG THE PIPELINE CENTERLINE, AS APPLICABLE. IN INSTANCES WHERE THE PIPELINE WILL NOT CROSS A WATERCOURSE, THE CROSSING WIDTH WAS MEASURED PARALLEL TO THE PIPELINE OR ALONG THE ACCESS ROAD CENTERLINE. STREAM IMPACTS TITLED "WATERCOURSE CENTERLINE" WERE MEASURED ALONG THE STREAM CENTERLINE WITHIN THE WORKSPACE.

GENERAL NOTES:

1. ALTERNATIVE CROSSING METHODS SHOWN ON THE APPROVED E&S PLAN MAY BE IMPLEMENTED, AS NECESSARY, TO ADDRESS FIELD CONDITIONS DURING CONSTRUCTION.
2. IN INSTANCES WHERE THE PROJECT WORKSPACE CROSSES A WETLAND/WATERCOURSE MORE THAN ONCE, THE CROSSING NUMBER (I.E. -1, -2, -3) HAS BEEN ADDED AS A SUFFIX TO THE WETLAND/WATERCOURSE NAME.
3. PROFILES ARE ONLY SHOWN ON THE DRAWINGS WHERE THE PROPOSED PIPELINE CROSSES A WETLAND OR WATERCOURSE.
4. THE PROPOSED PIPELINE IS TO BE INSTALLED WITH 3-FEET MINIMUM COVER THROUGH WETLANDS AND 5-FEET MINIMUM COVER THROUGH WATERCOURSE CHANNELS.
5. BORE PIT LOCATIONS SHOWN IN PLAN VIEW ARE APPROXIMATE. DEPTH OF PIPE AT CONVENTIONAL BORED LOCATIONS IS APPROXIMATE AND WILL BE AT A MINIMUM OF 5-FEET COVER BELOW WATERCOURSE CHANNELS.
6. WETLAND AND WATERCOURSE DELINEATIONS AND RESOURCE IMPACT CALCULATIONS COMPLETED BY AECOM.
7. DURING THE CONSTRUCTION PHASE, IF SHALLOW BEDROCK IS PRESENT, THE PIPELINE WILL BE INSTALLED THROUGH THE WATERCOURSE CHANNEL WITH A MINIMUM OF 2 FEET OF COVER, AS THE REQUIRED 5 FEET OF MINIMUM COVER WILL NOT BE FEASIBLE.
8. TOWNSHIP/ COUNTY LINE SOURCE: PENNDOT
9. PENNSYLVANIA MUNICIPALITY BOUNDARIES, DATED 01/2017 AND PENNDOT PENNSYLVANIA COUNTY BOUNDARIES, DATED 07/2018. AVAILABLE AT WWW.PASDA.PSU.EDU
10. FLOODWAYS CROSSED ON EXISTING ACCESS ROADS WHERE IMPROVEMENTS ARE NOT REQUIRED ARE NOT SHOWN AS IMPACTS.
11. PENNEAST WILL NOT STOCKPILE SOIL OR SUBSOIL WITHIN WETLANDS.

CROSSING METHOD KEY FOR WATERCOURSE CHANNELS:

BX = CONVENTIONAL BORE CROSSING
CD = COFFERDAM CROSSING
DPX = DAM-AND-PUMP CROSSING
DX-NF = DRY CROSSING IF NO FLOW
FX = FLUME CROSSING
HDD = HORIZONTAL DIRECTIONAL DRILL CROSSING
N/A = NOT APPLICABLE

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR PADEP	HM	JB/KEK	MJD
3	06/2020	REVISED FOR PERMITTING	DW	JB/KEK	MJD
4	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS

DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR: PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
PROPOSED 4" BLUE MOUNTAIN LATERAL
LEGEND SHEET

SCALE	DRAWING NO.	REVISION
N/A	LEGEND	4

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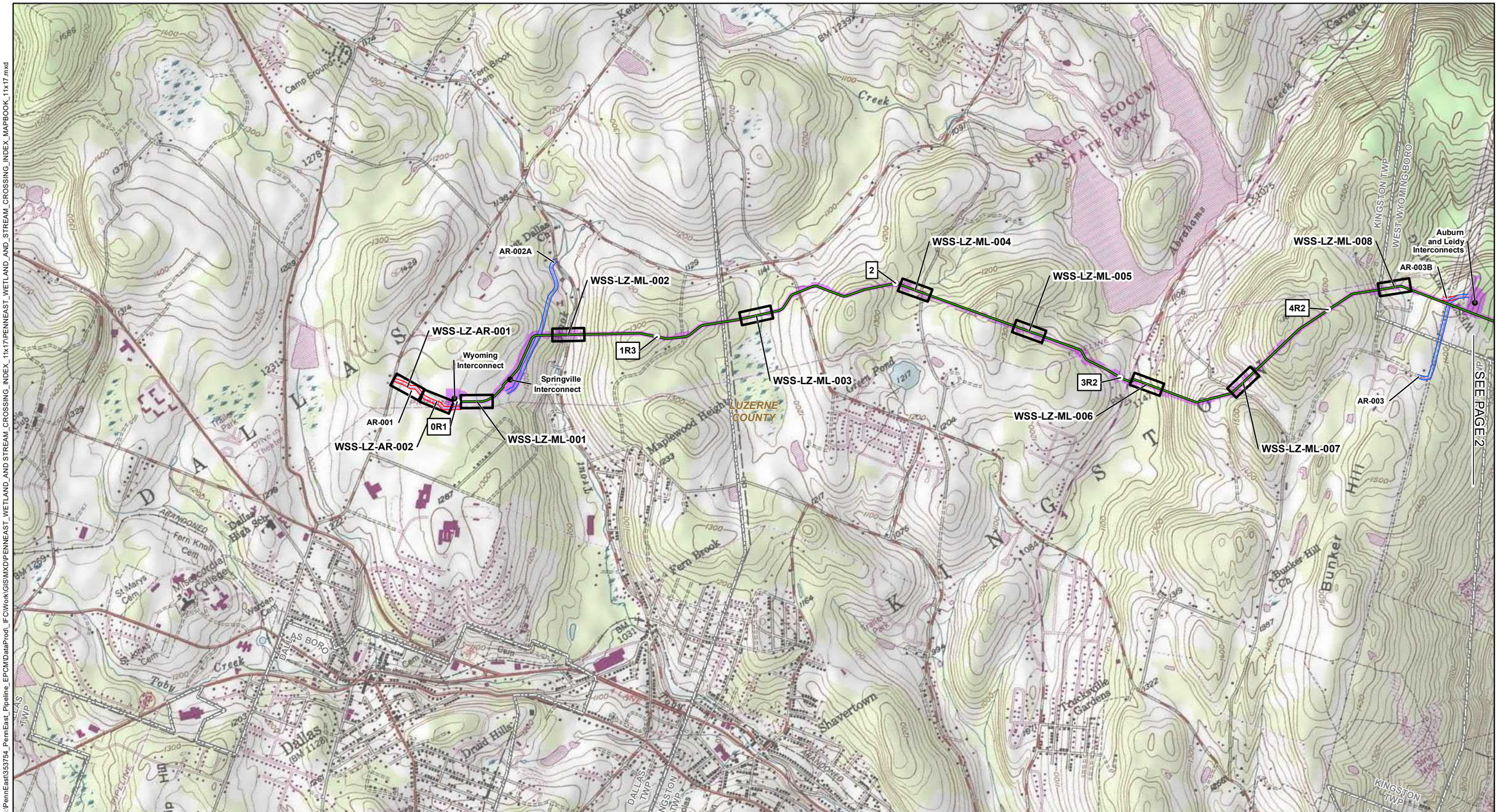

1 MILEPOST STATION EQUATION
PROPOSED PENNEAST PIPELINE - PHASE 1
PROPOSED PENNEAST PIPELINE - PHASE 2
PROPOSED BLUE MOUNTAIN LATERAL - PHASE 1
PROPOSED HELLERTOWN LATERAL - PHASE 2
PROPOSED PERMANENT ACCESS ROAD
PROPOSED TEMPORARY ACCESS ROAD
PROPOSED TEMPORARY / PERMANENT ACCESS ROAD
PROPOSED CONTRACTOR YARD
PROPOSED LIMITS OF DISTURBANCE
SHEET INDEX
MUNICIPAL BOUNDARY
COUNTY BOUNDARY
STATE BOUNDARY

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING INDEX

LUZERNE COUNTY
PENNSYLVANIA

2,000 1,000 0 2,000 4,000 FEET

N E S W

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 IN = 2,000 FT

PennEast PIPELINE

MOTT MACDONALD

DRAWN BY:	SNP 10/2018
CHECKED BY:	KEK 09/2020
APPROVED BY:	MJD 09/2020
REV. DATE:	09/2020
REVISION:	C
DESC:	REVISED FOR PADEP - PHASE 1
PAGE:	1 OF 11

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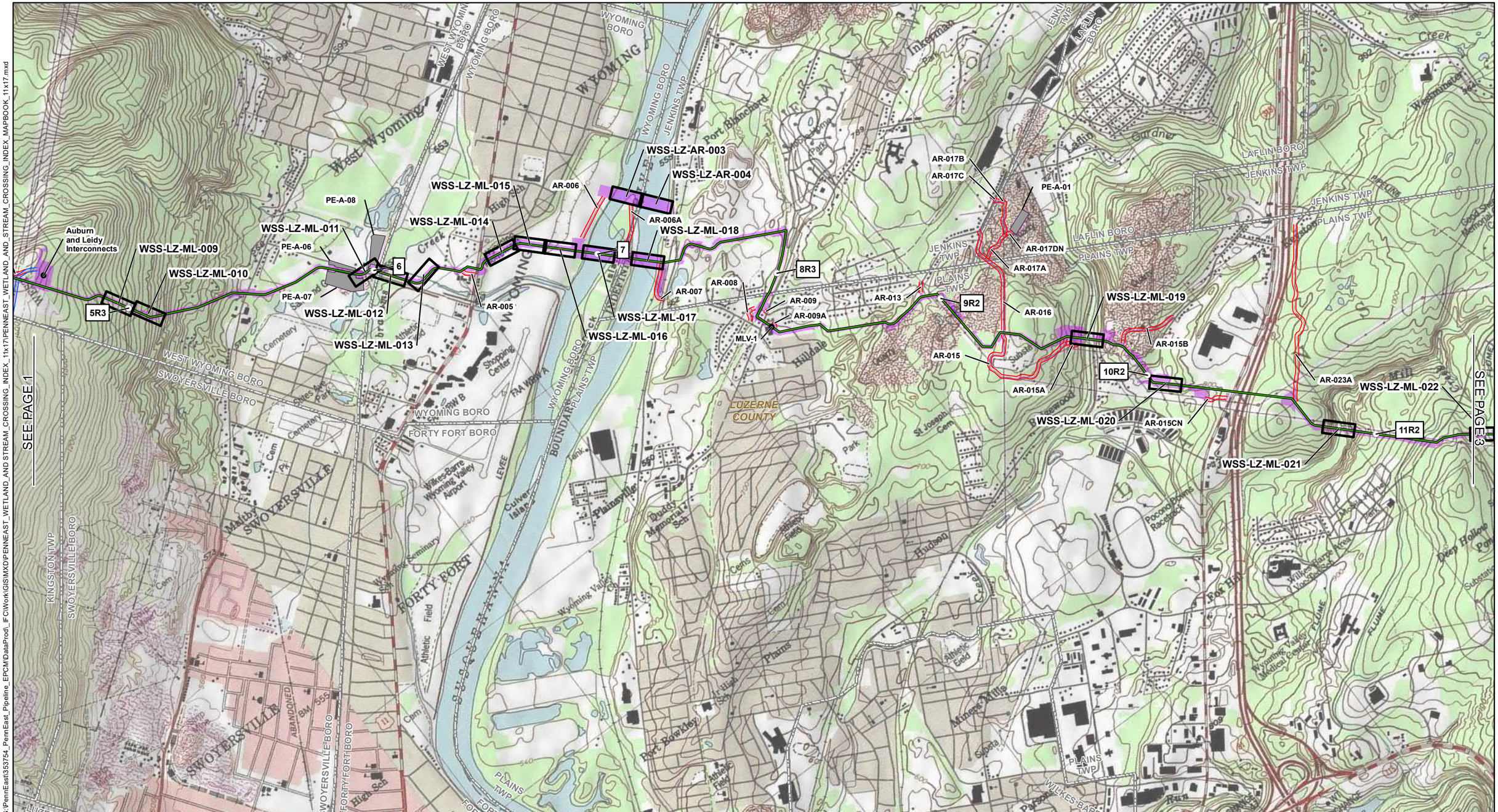

- 1 MILEPOST STATION EQUATION
- PROPOSED PENNEAST PIPELINE - PHASE 1
- PROPOSED PENNEAST PIPELINE - PHASE 2
- PROPOSED BLUE MOUNTAIN LATERAL - PHASE 1
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- MUNICIPAL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING INDEX

LUZERNE COUNTY
PENNSYLVANIA

2,000 1,000 0 2,000 4,000 FEET

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 IN = 2,000 FT

PennEast PIPELINE

MOTT MACDONALD

DRAWN BY:	SNP 10/2018
CHECKED BY:	KEK 09/2020
APPROVED BY:	MJD 09/2020
REV. DATE:	09/2020
REVISION:	C
DESC:	REVISED FOR PADEP - PHASE 1
PAGE:	2 OF 11

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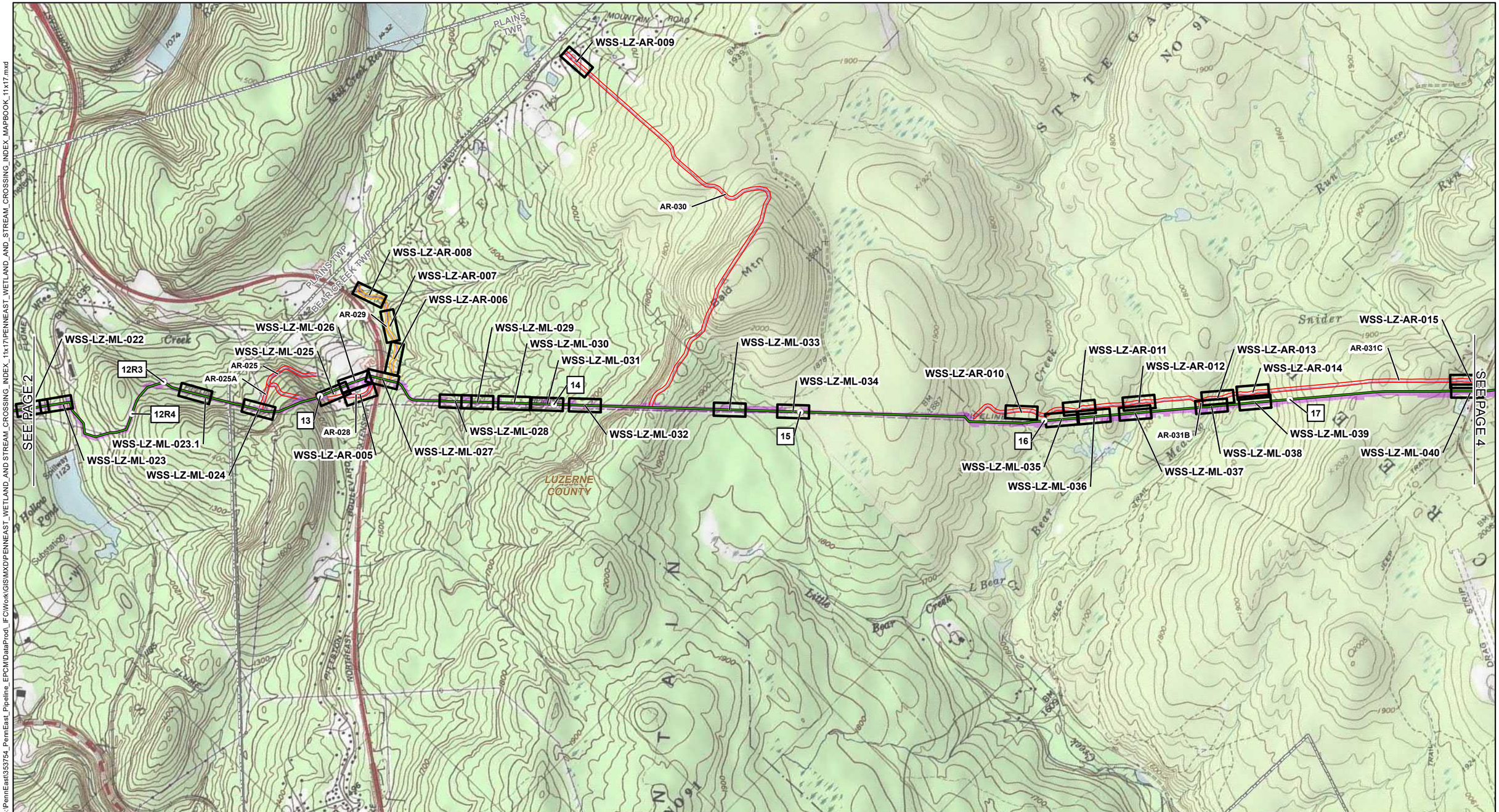

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PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING INDEX

LUZERNE COUNTY
PENNSYLVANIA

2,000 1,000 0 2,000 4,000 FEET

ABSOLUTE SCALE: 1:24,000

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PennEast PIPELINE

MOTT MACDONALD

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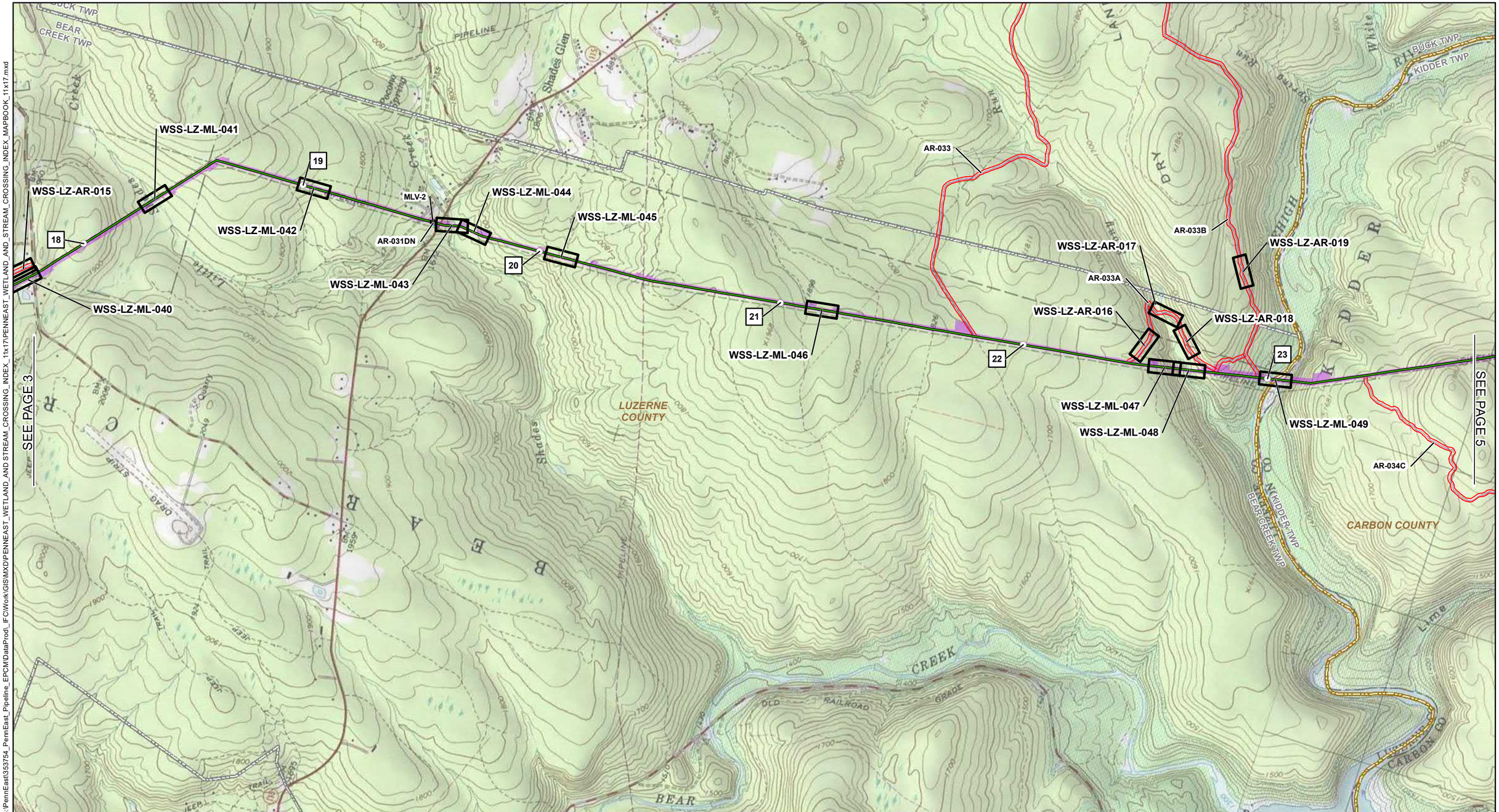

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- PROPOSED CONTRACTOR YARD
- PROPOSED LIMITS OF DISTURBANCE
- SHEET INDEX
- MUNICIPAL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING INDEX

LUZERNE & CARBON COUNTIES
PENNSYLVANIA

2,000 1,000 0 2,000 4,000 FEET

ABSOLUTE SCALE: 1:24,000

REFERENCE SCALE: 1 IN = 2,000 FT

PennEast PIPELINE

MOTT MACDONALD

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CHECKED BY:	KEK 09/2020
APPROVED BY:	MJD 09/2020
REV. DATE:	09/2020
REVISION:	C
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PAGE:	4 OF 11

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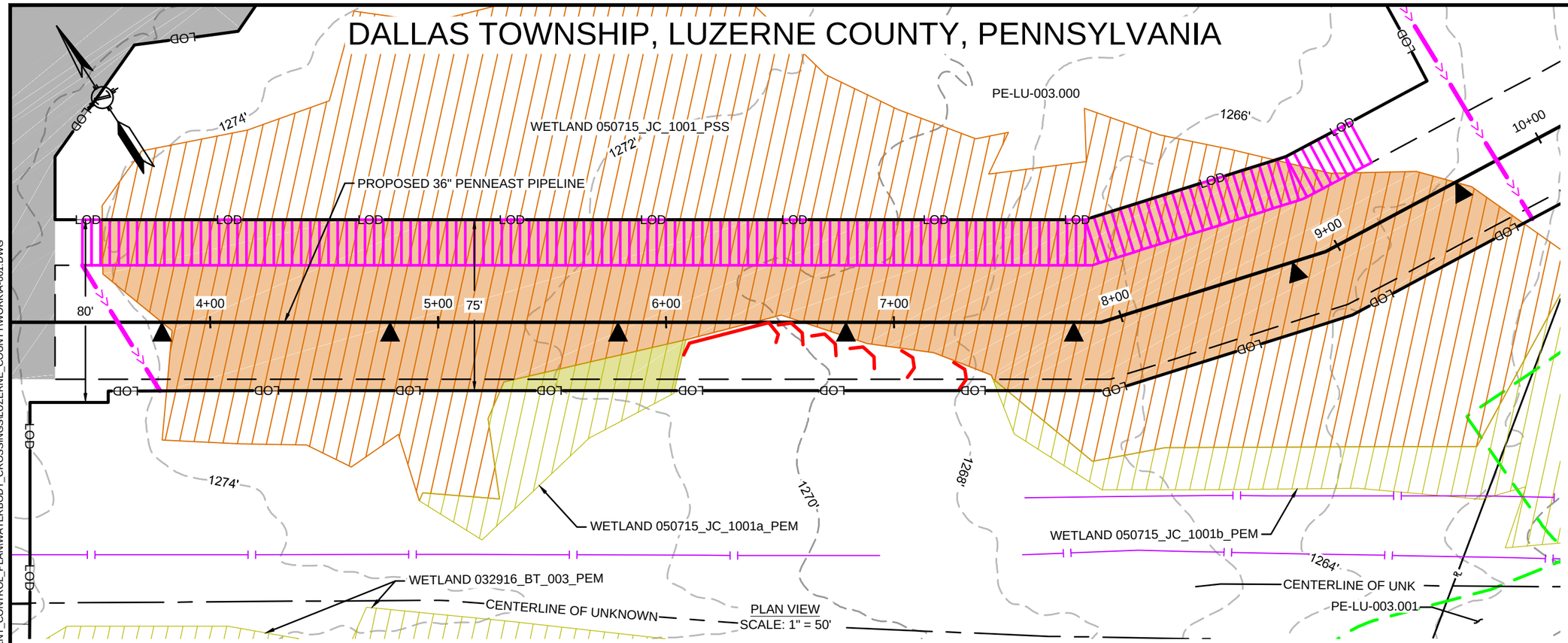
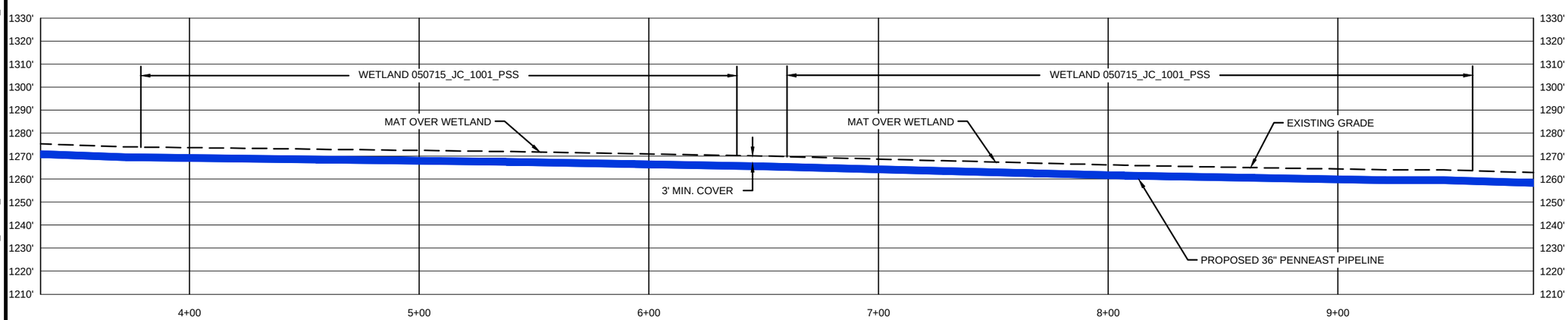
DALLAS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)		PERMANENT DISTURBANCE (ACRES)		STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
050715_JC_1001_PSS	WETLAND	PADEP	0.517	-	0.373	-	-	-	-	CL - OPEN CUT	-	-	MATTED
		USACE	*0.517*	-	*0.373*	-	-	-	-	*CL - OPEN CUT*	-	-	*MATTED*
050715_JC_1001b_PEM	WETLAND	PADEP	0.001	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	*0.001*	-	-	-	-	-	-	*N/A - WORKSPACE*	-	-	*MATTED*
050715_JC_1001a_PEM	WETLAND	PADEP	0.021	-	0.002	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	*0.021*	-	-	-	-	-	-	*N/A - WORKSPACE*	-	-	*MATTED*

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
DALLAS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 0.1

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-001	3

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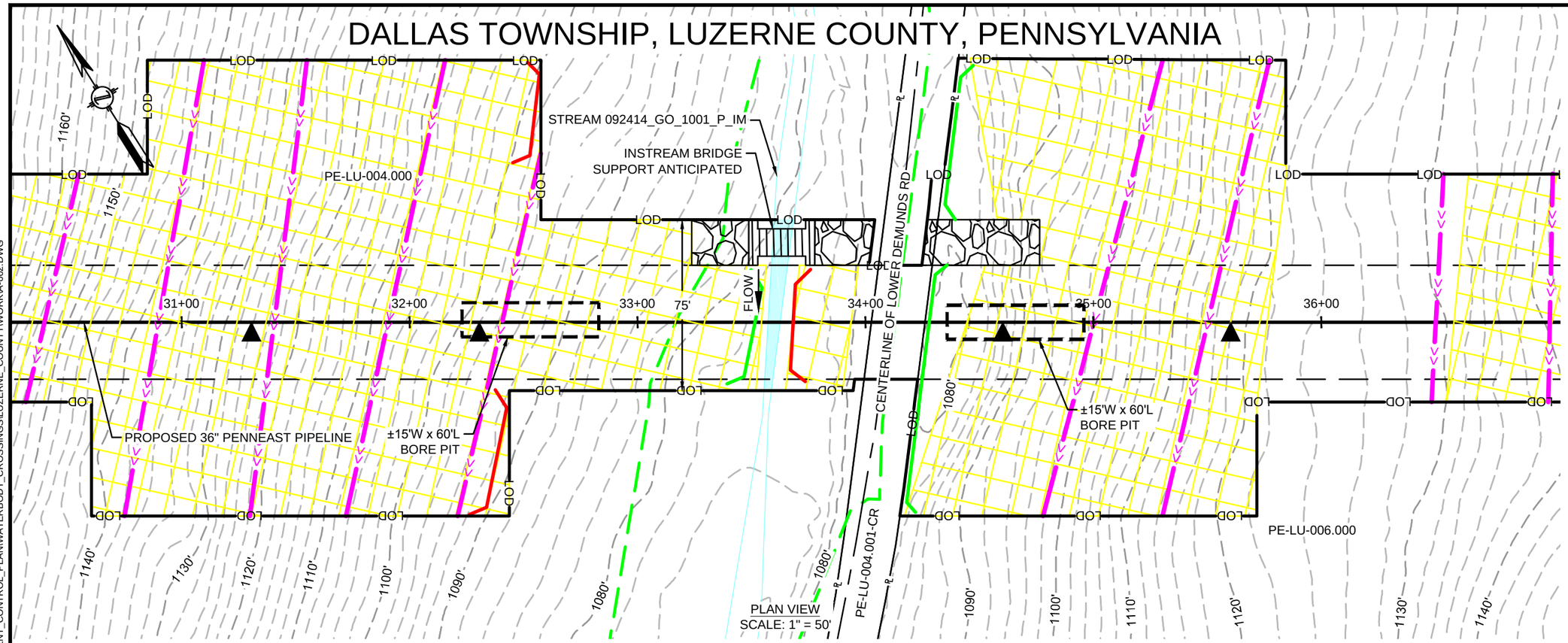
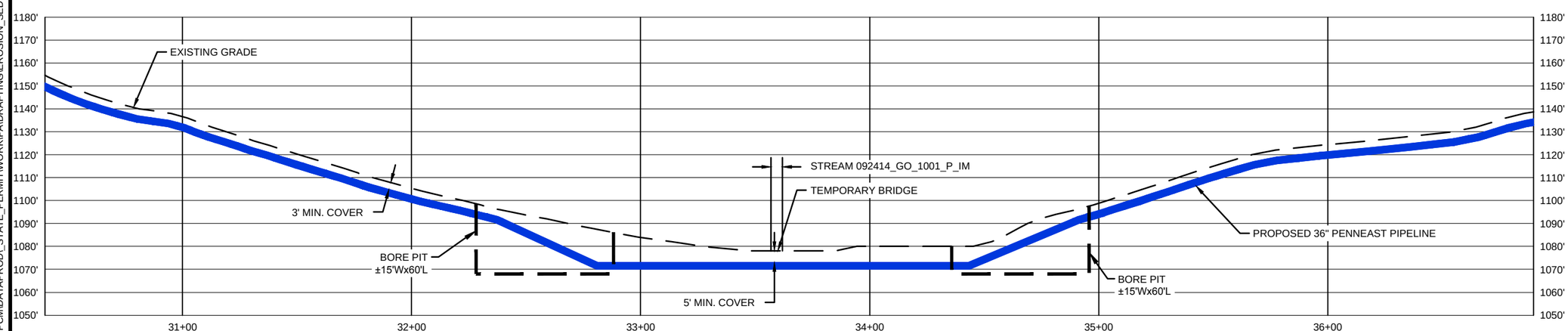
DALLAS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)		STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
092414_GO_1001_P_IM	WATERBODY	PADEP	-	0.006	0.079	-	0.004	6	45	BX	BX	BX	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.006	-	-	-	6	45	BX	BX	BX	MAT BRIDGE OR EQUIVALENT

REVISIONS

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0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
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APPROVALS	
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HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR: PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
DALLAS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 0.6

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-002	3

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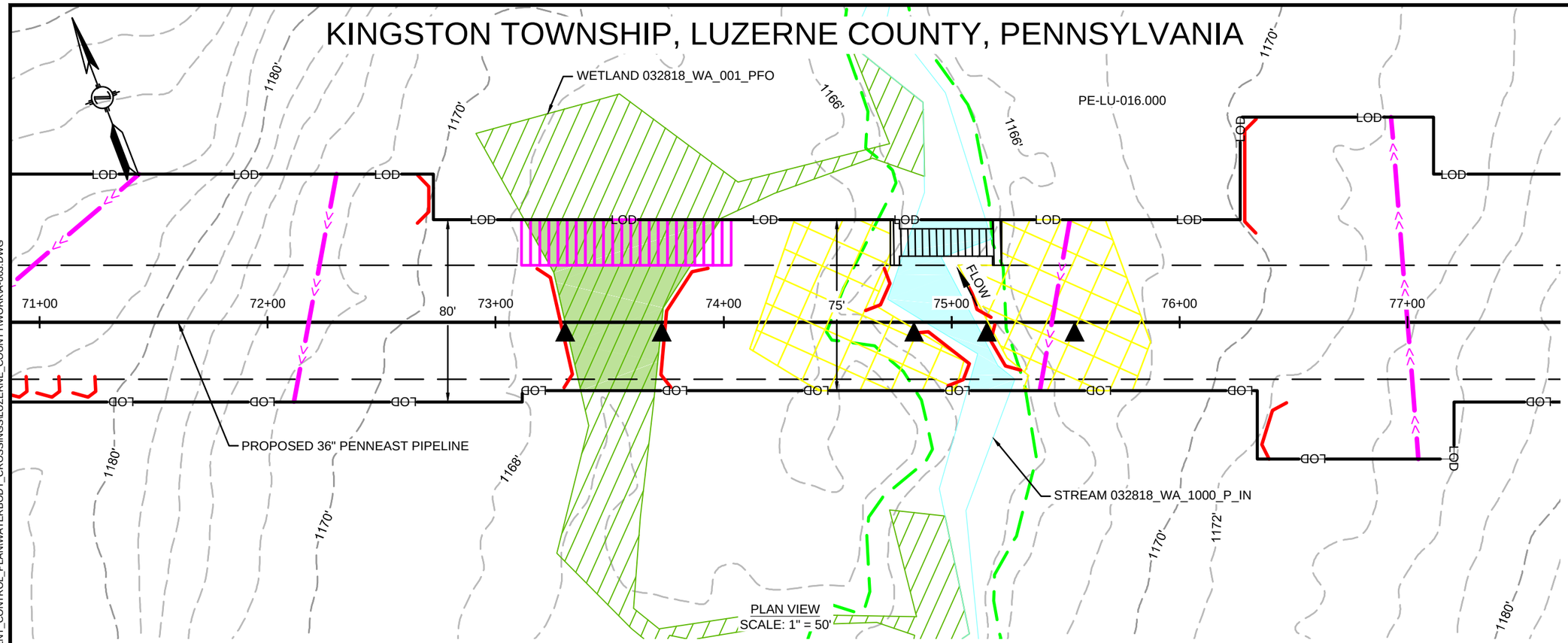
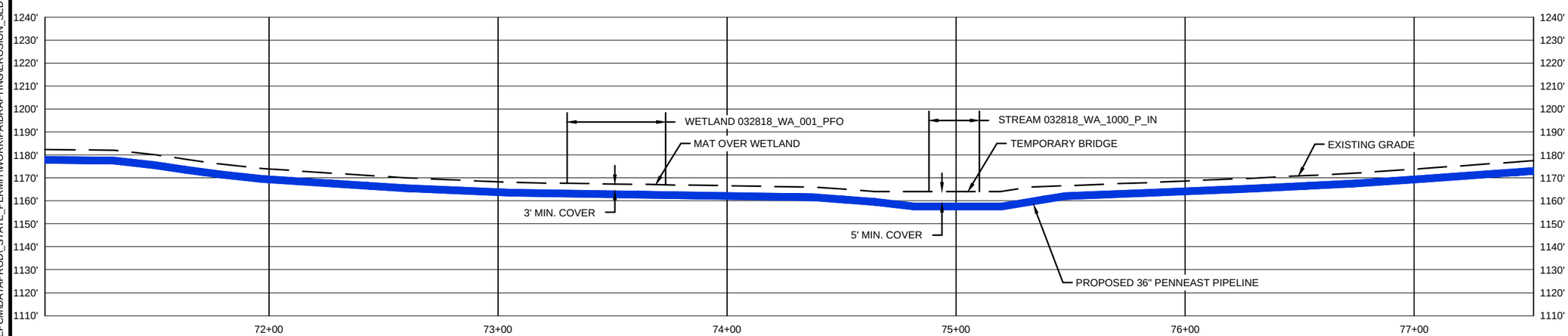
KINGSTON TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)				PERMANENT DISTURBANCE (ACRES)				STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
032818_WA_001_PFO	WETLAND	PADEP	0.059	-	-		0.030	-	-		-	-	CL - OPEN CUT	-	-	MATTED
		USACE	0.059	-	-		0.030	-	-		-	-	CL - OPEN CUT	-	-	MATTED
032818_WA_1000_P_IN	WATERBODY	PADEP	-	0.023	0.036		-	0.015	0.035		22	57	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.023	-		-	-	-		22	57	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

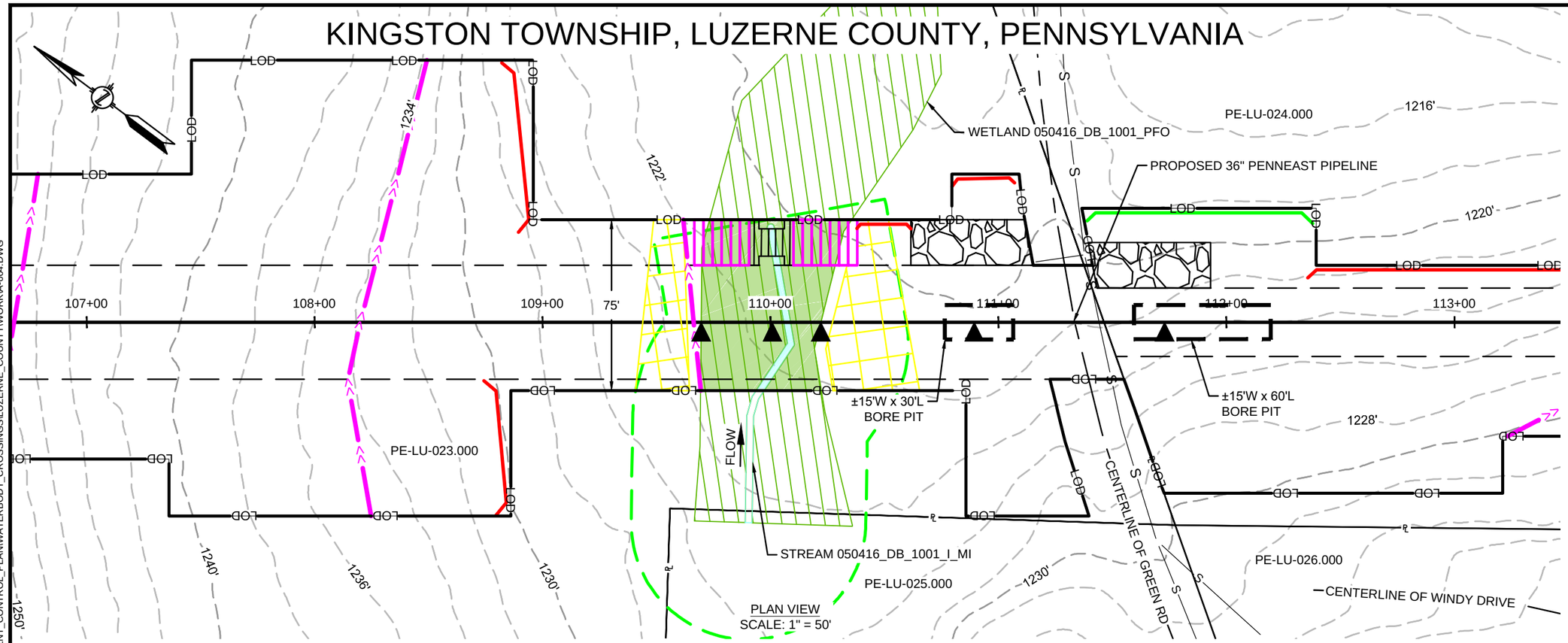
PENNEAST PIPELINE PROJECT

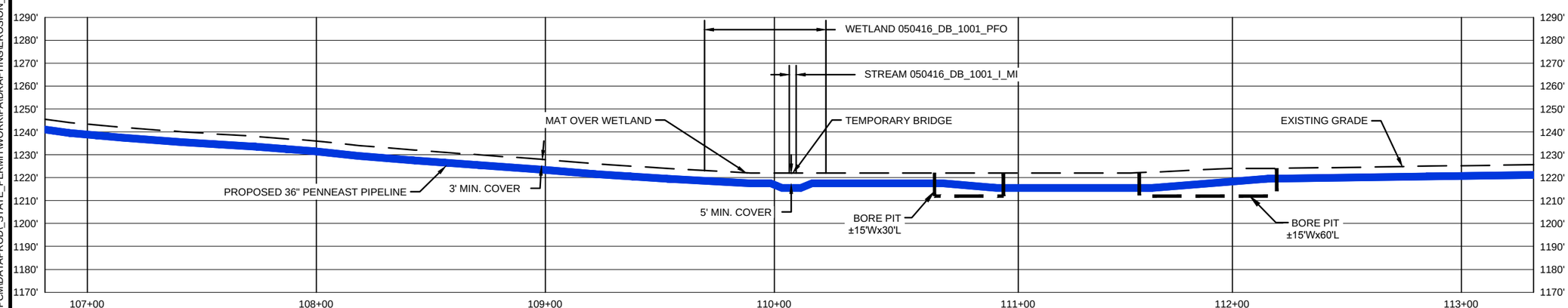
WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
KINGSTON TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 1.4

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-003	3

10/25/2019 3:33 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPCM\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-003.DWG

KINGSTON TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA





PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)				PERMANENT DISTURBANCE (ACRES)				STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
050416_DB_1001_PFO	WETLAND	PADEP	0.055	-	-		0.034	-	-		-	-	CL - OPEN CUT	-	-	MATTED
		USACE	0.055	-	-		0.034	-	-		-	-	CL - OPEN CUT	-	-	MATTED
050416_DB_1001_I_MI	WATERBODY	PADEP	-	0.003	0.050		-	0.002	0.038		4	47	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.003	-		-	-	-		4	47	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

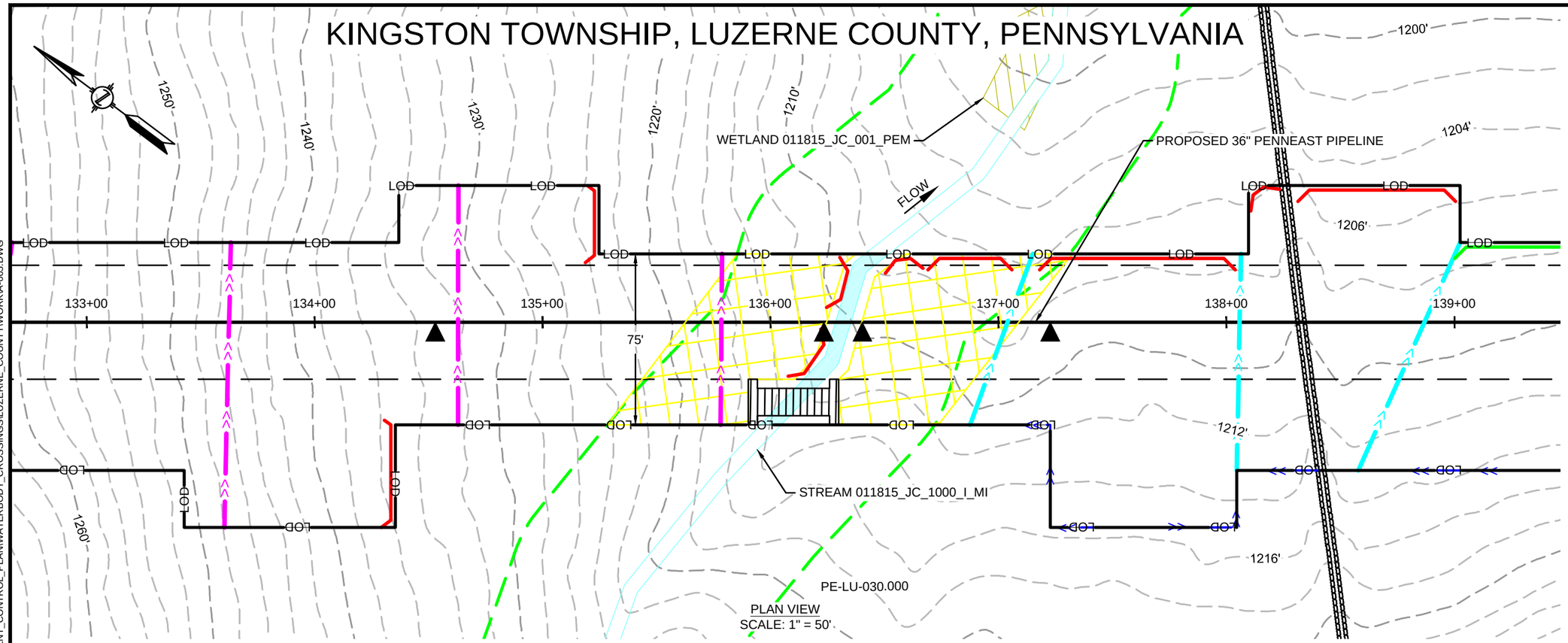
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
KINGSTON TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 2.1

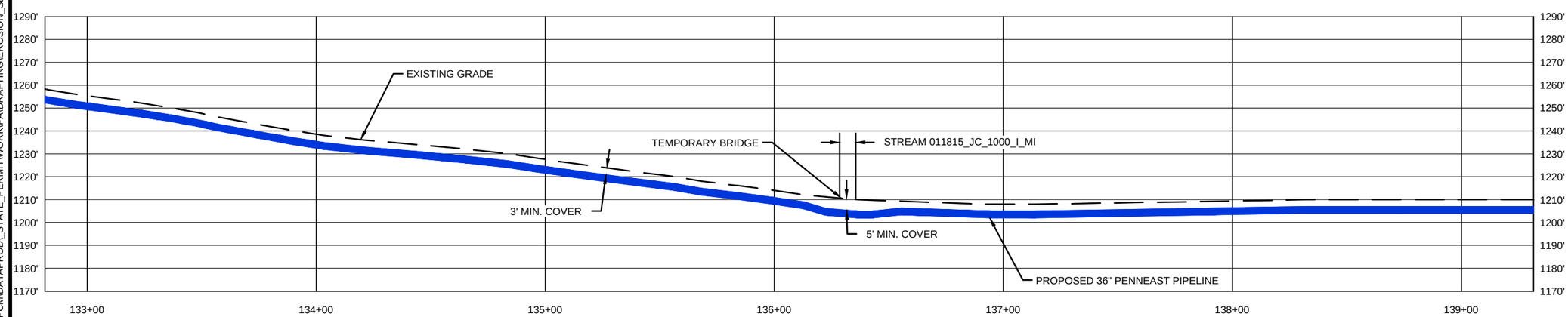
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-004	3

10/25/2019 3:37 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-004.DWG

KINGSTON TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
011815_JC_1000_I_MI	WATERBODY	PADEP	-	0.009	0.134	-	0.005	0.082	7	60	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.009	-	-	-	-	7	60	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

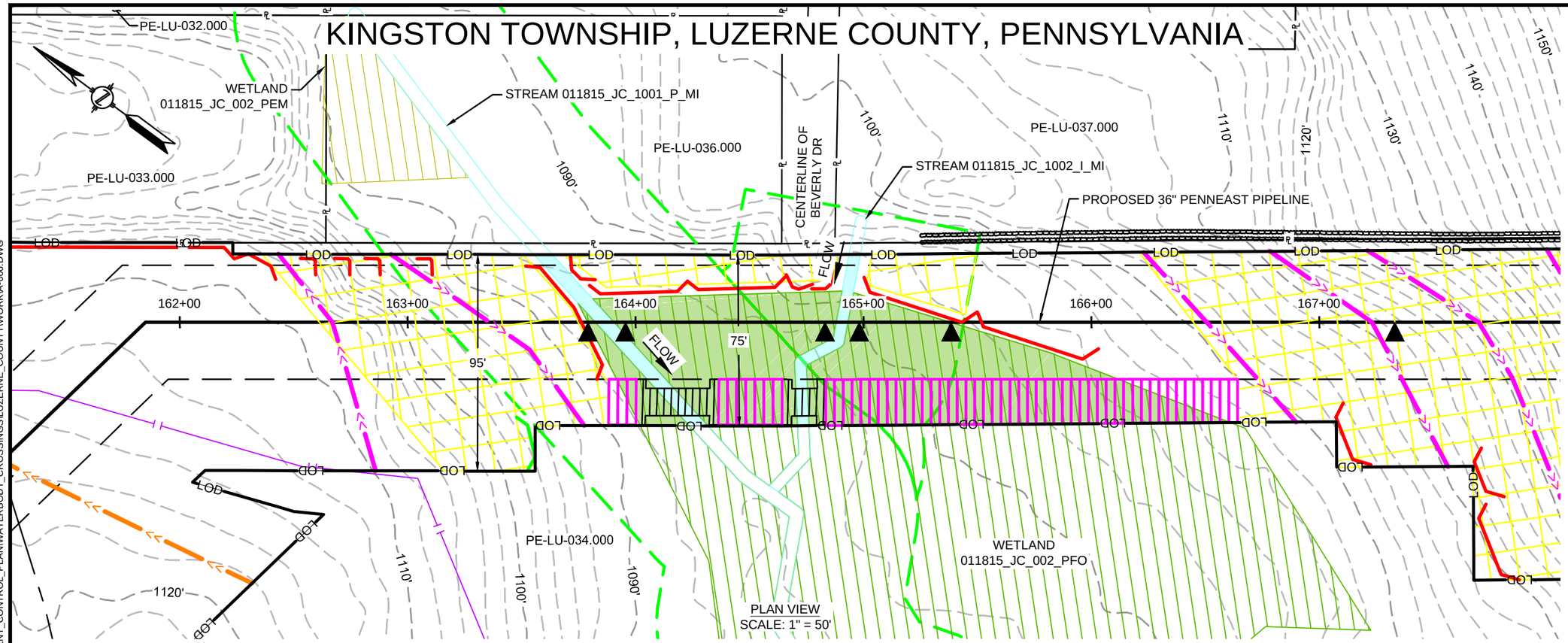
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
KINGSTON TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 2.6

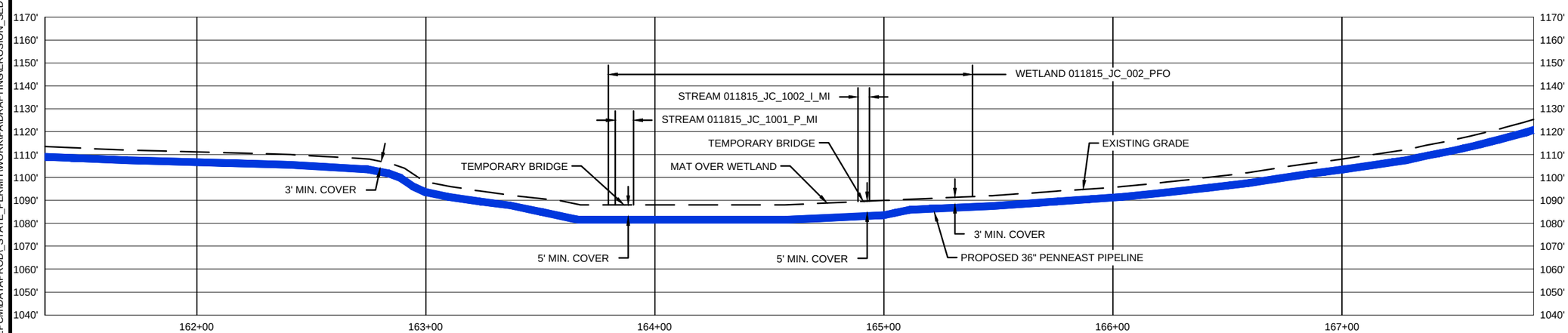
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-005	3

10/25/2019 3:40 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPCM\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-005.DWG

KINGSTON TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)		PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
011815_JC_002_PFO	WETLAND	PADEP	0.148	-	0.093	-	-	-	-	CL - OPEN CUT	-	-	MATTED
		USACE	*0.148*	-	*0.093*	-	-	-	-	*CL - OPEN CUT*	-	-	*MATTED*
011815_JC_1001_P_MI	WATERBODY	PADEP	-	0.008	-	0.006	0.050	8	61	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.008*	-	-	-	*8*	*61*	*DPX*	*FX*	*CD*	*MAT BRIDGE OR EQUIVALENT*
011815_JC_1002_I_MI	WATERBODY	PADEP	-	0.006	-	0.004	0.013	6	48	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.006*	-	-	-	*6*	*48*	*DPX*	*FX*	*DX-NF*	*MAT BRIDGE OR EQUIVALENT*

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

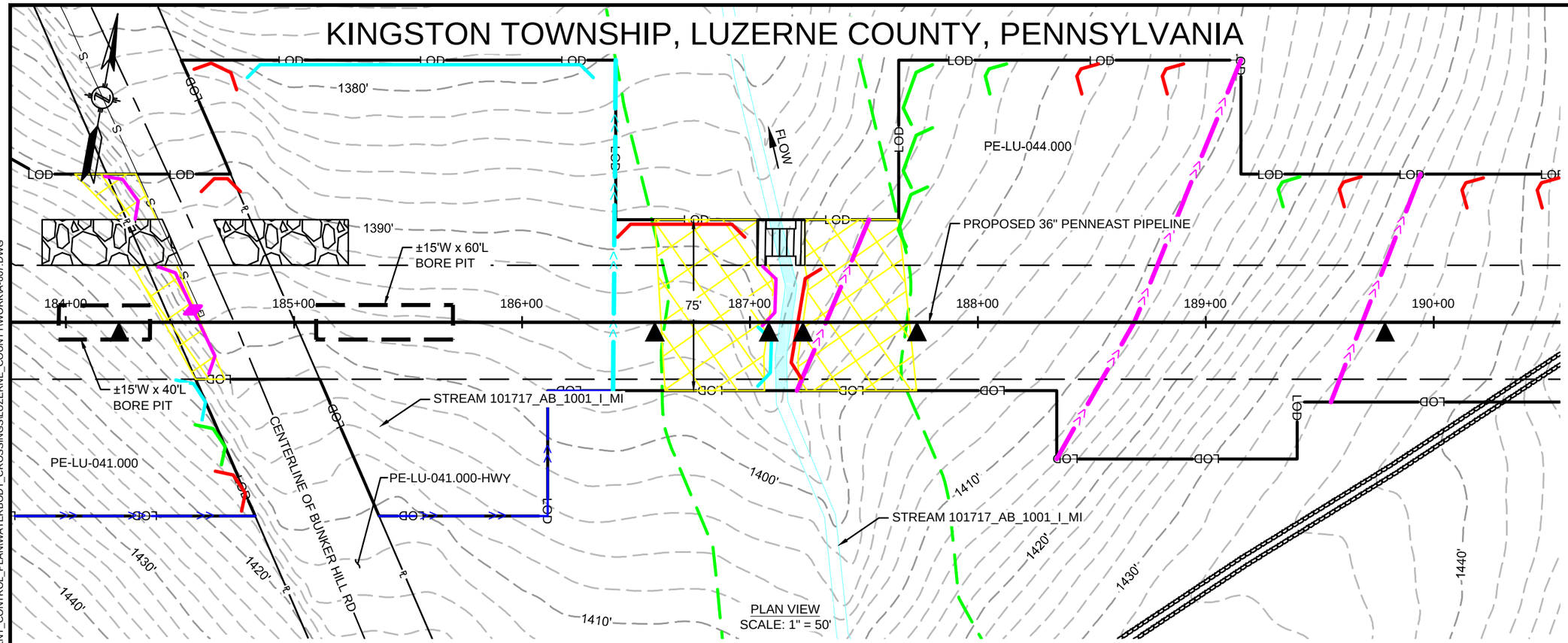
PENNEAST PIPELINE PROJECT

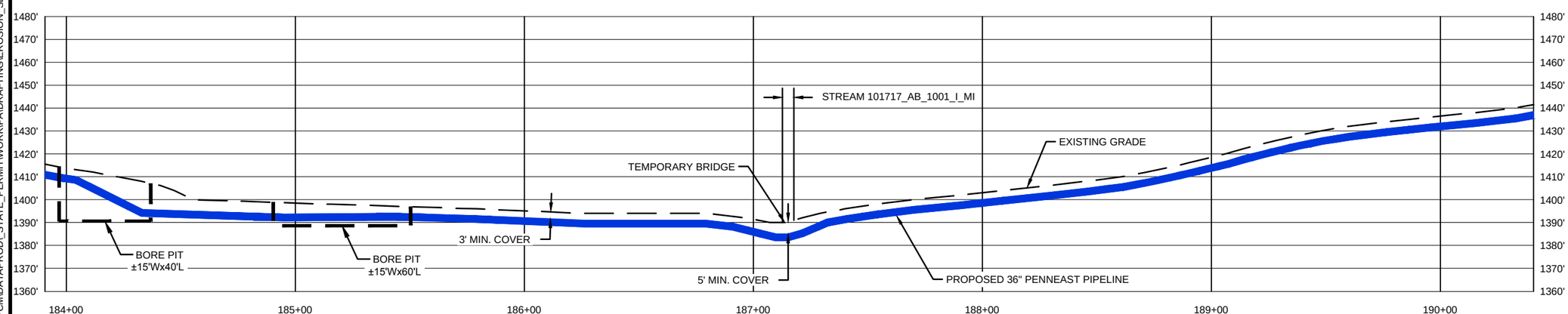
WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
KINGSTON TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 3.1

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-006	3

10/25/2019 3:44 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-006.DWG

KINGSTON TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA





PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)		STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
101717_AB_1001_I_MI	WATERBODY	PADEP	-	0.006	0.105	-	0.003	0.070	6	46	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.006	-	-	-	-	6	46	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
KINGSTON TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 3.5

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-007	3

10/28/2019 7:41 PM, MORALES, HECTOR
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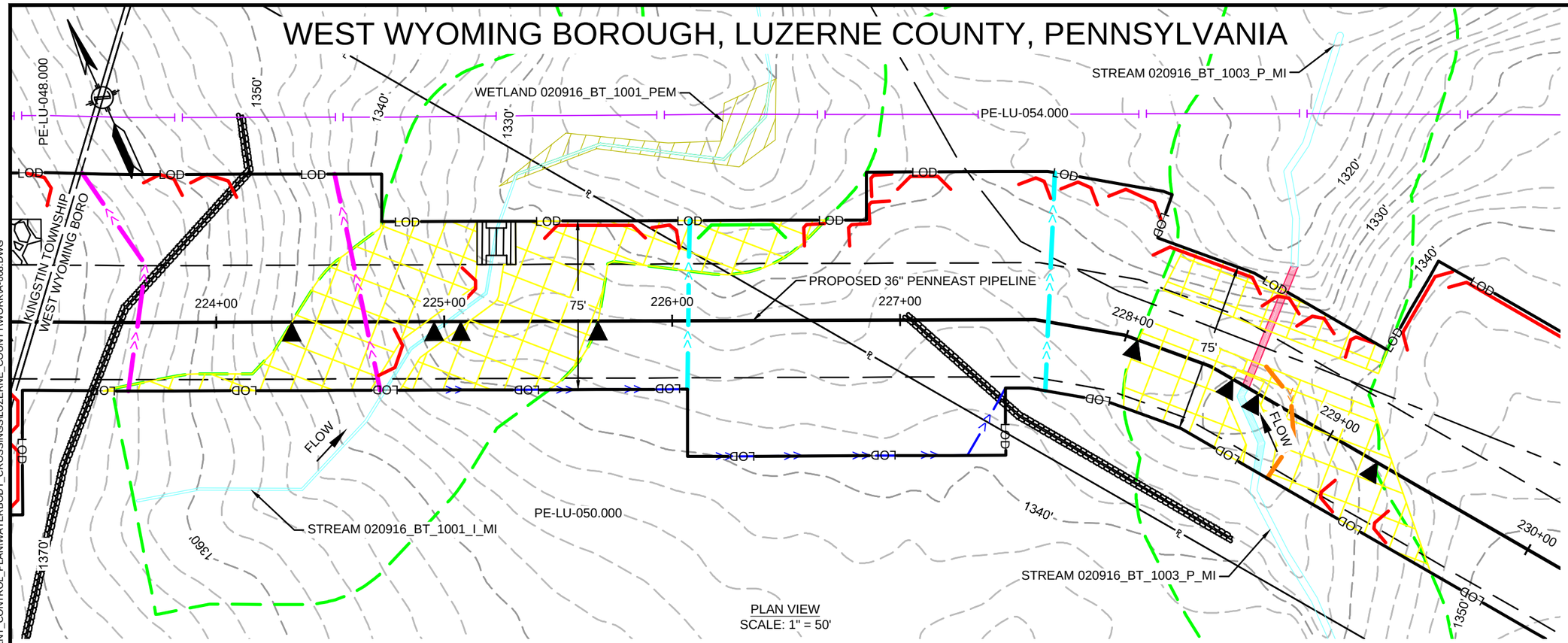
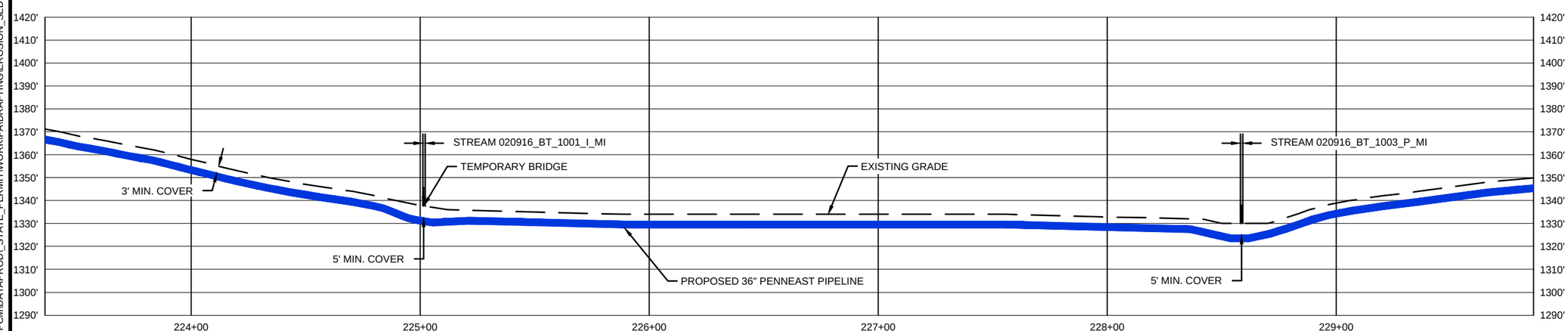
WEST WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
020916_BT_1001_I_MI	WATERBODY	PADEP	-	0.001	0.171	-	0.001	0.091	2	47	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.001*	-	-	-	-	2	47	*DPX*	*FX*	*DX-NF*	*MAT BRIDGE OR EQUIVALENT*
020916_BT_1003_P_MI	WATERBODY	PADEP	-	0.001	0.121	-	0.002	0.082	4	18	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.001*	-	-	-	-	4	18	*DPX*	*FX*	*CD*	*MAT BRIDGE OR EQUIVALENT*

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
WEST WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA
M.P. 4.3R2

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-008	3

10/25/2019 3:51 AM, MORALES, HECTOR
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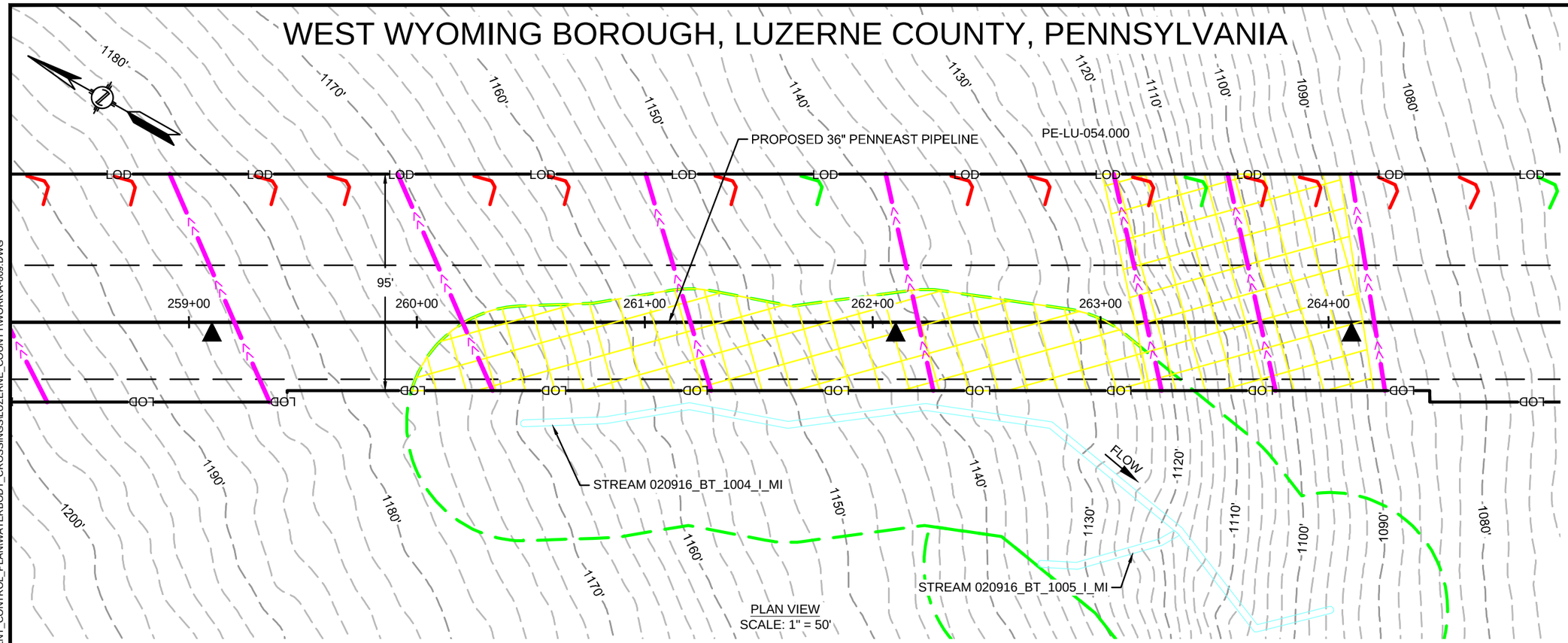
WEST WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)				PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
020916_BT_1004_I_MI	WATERBODY	PADEP	-	-	0.114		-	-	0.166	-	-	N/A	N/A	N/A	N/A - WORKSPACE
		USACE	-	-	-		-	-	-	-	-	-	-	-	-

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
WEST WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA
M.P. 4.9R3

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-009	3

10/25/2019 3:54 AM, MORALES, HECTOR
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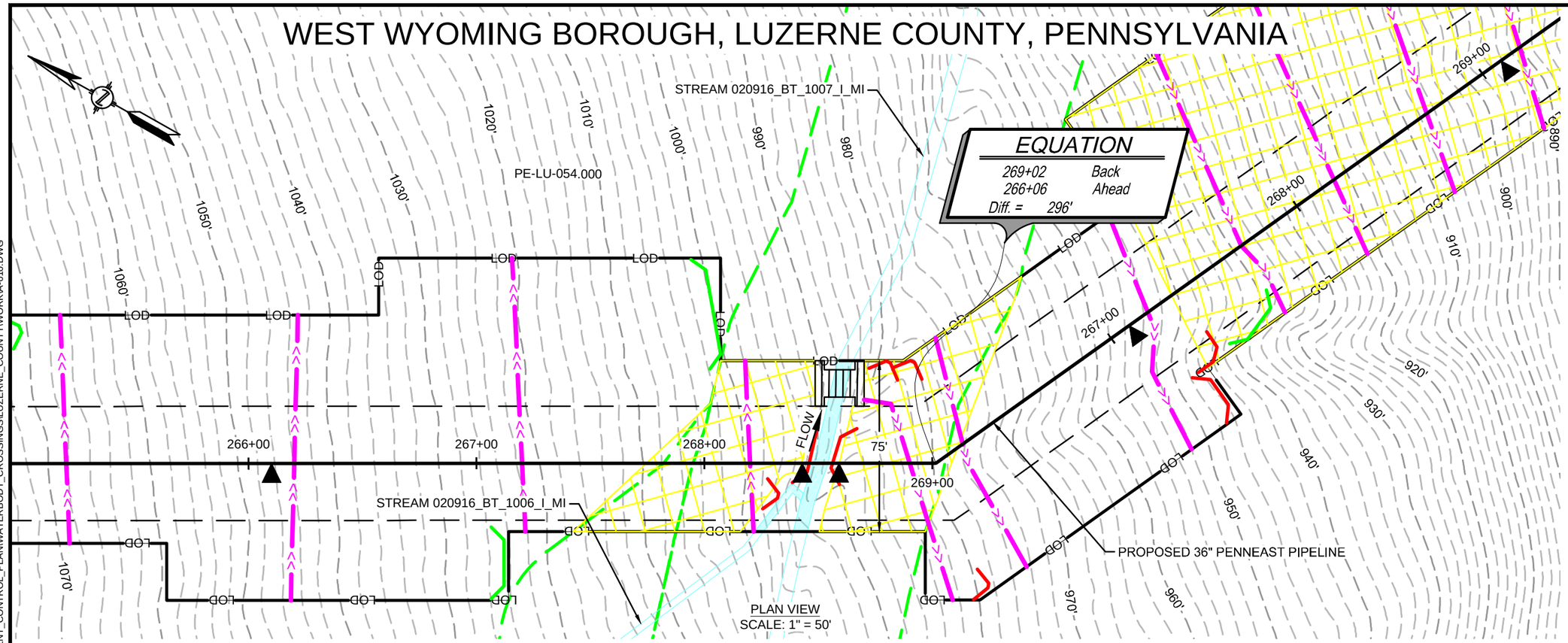
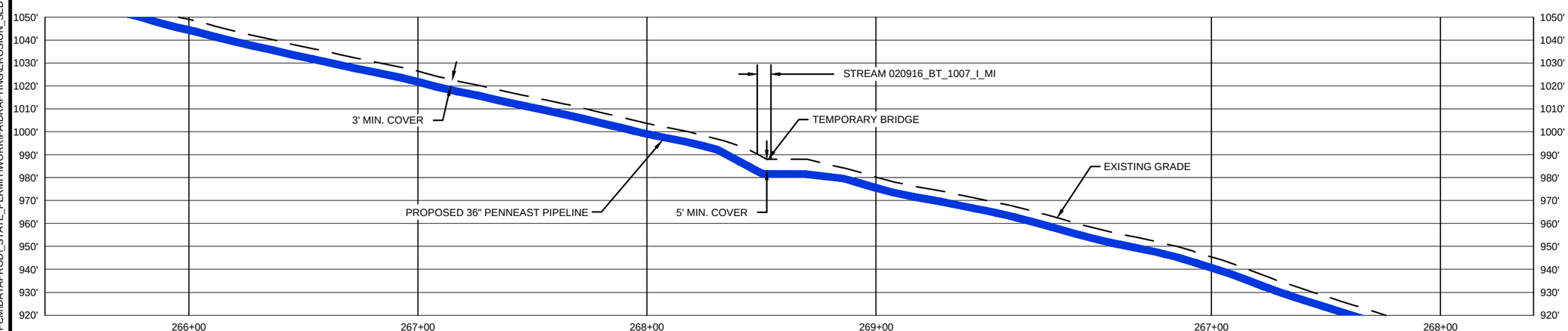
WEST WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
020916_BT_1006_I_MI	WATERBODY	PADEP	-	0.001	0.013	-	0.001	0.011	4	21	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.001*	-	-	-	-	*4*	*21*	*N/A*	*N/A*	*N/A*	*MAT BRIDGE OR EQUIVALENT*
020916_BT_1007_I_MI	WATERBODY	PADEP	-	0.007	0.120	-	0.004	0.072	7	46	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.007*	-	-	-	-	*7*	*46*	*DPX*	*FX*	*DX-NF*	*MAT BRIDGE OR EQUIVALENT*

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

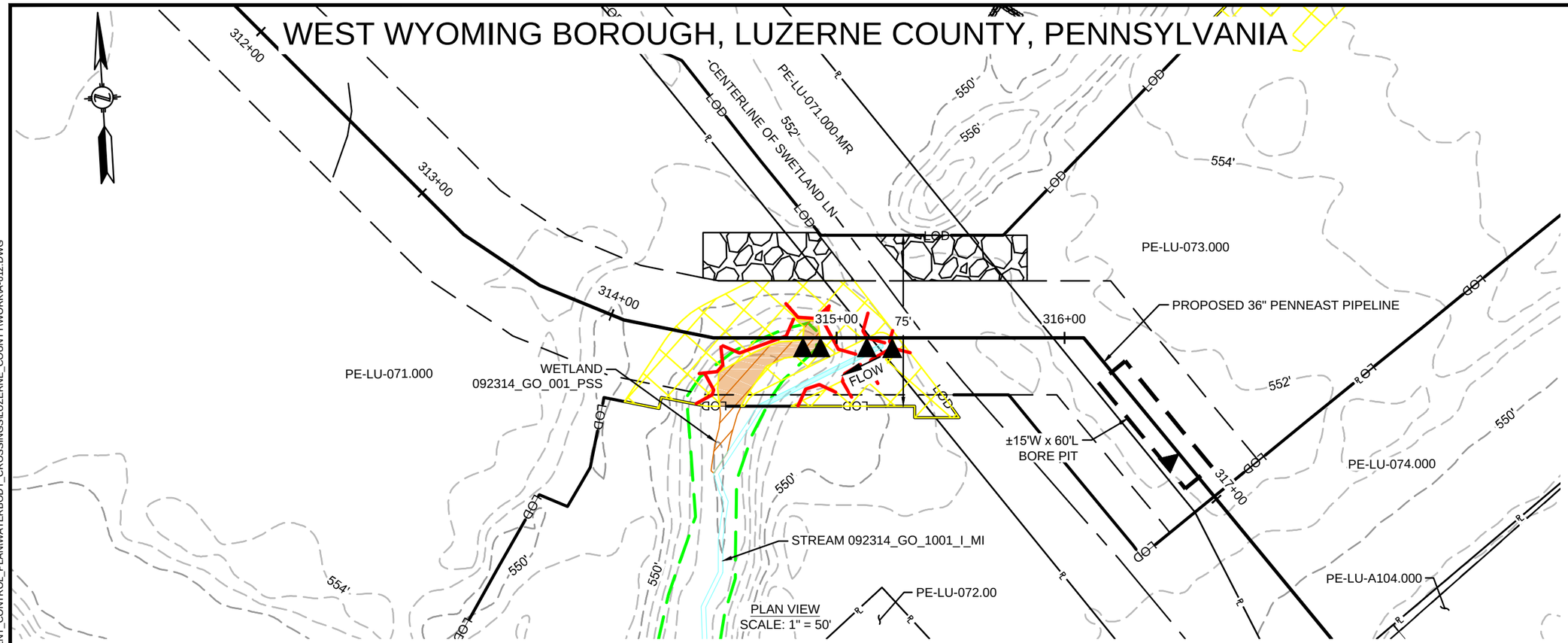
PENNEAST PIPELINE PROJECT

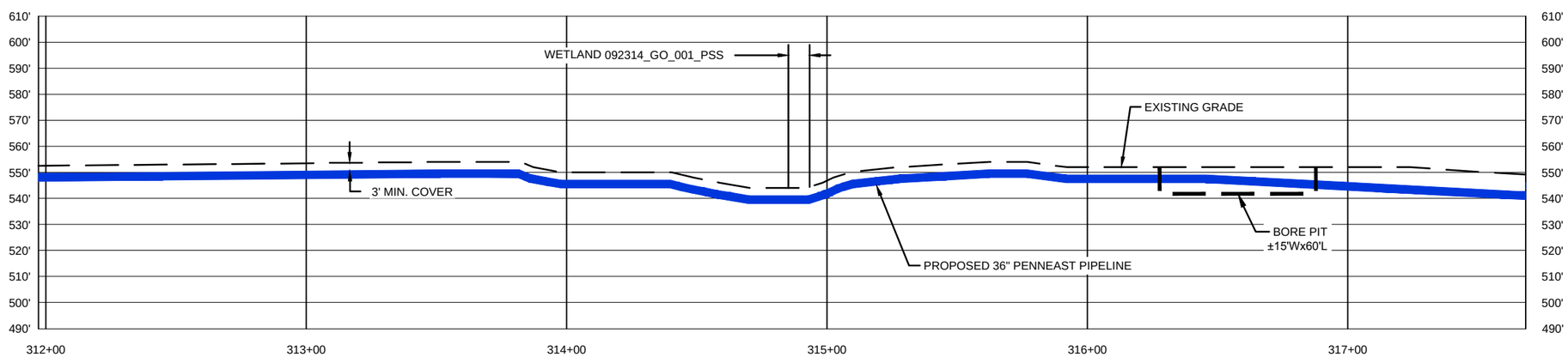
WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
WEST WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA
M.P. 5.1

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-010	3

10/28/2019 8:08 PM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMITWORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-010.DWG

WEST WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA





PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
092314_GO_001_PSS	WETLAND	PADEP	0.005	-	-	0.008	-	-	-	-	CL - OPEN CUT	-	-	MATTED
		USACE	*0.005*	-	-	*0.008*	-	-	-	-	*CL - OPEN CUT*	-	-	*MATTED*
092314_GO_1001_I_MI	WATERBODY	PADEP	-	0.002	0.007	-	0.001	0.007	5	33	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.002*	-	-	-	-	*5*	*33*	*DPX*	*FX*	*DX-NF*	*MAT BRIDGE OR EQUIVALENT*

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
WEST WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA
M.P. 6.0

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-011	3

10/28/2019 8:03 PM, MORALES, HECTOR
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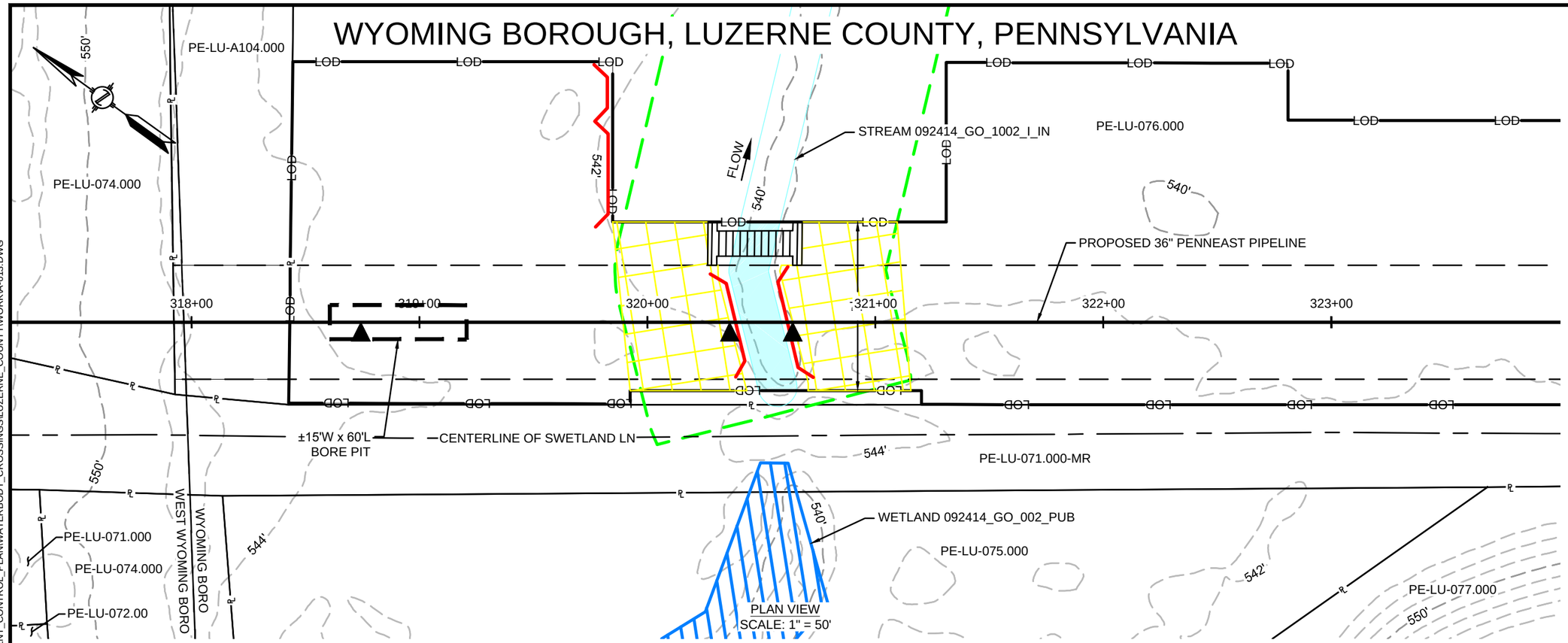
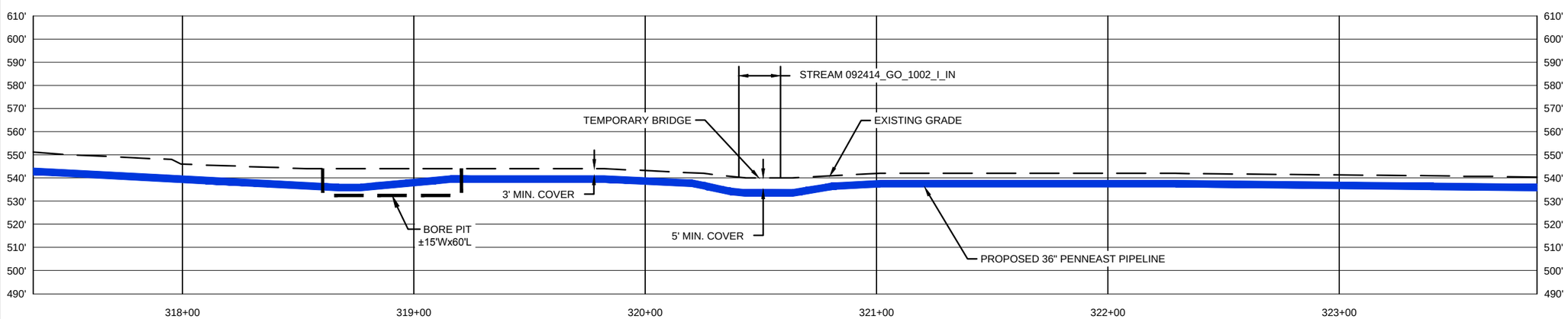
WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA





PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)				PERMANENT DISTURBANCE (ACRES)				STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
092414_GO_1002_I_IN	WATERBODY	PADEP	-	0.018	0.102	-	-	-	0.012	0.071	19	45	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.018	-		-	-	-	-	19	45	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA
M.P. 6.1

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-012	3

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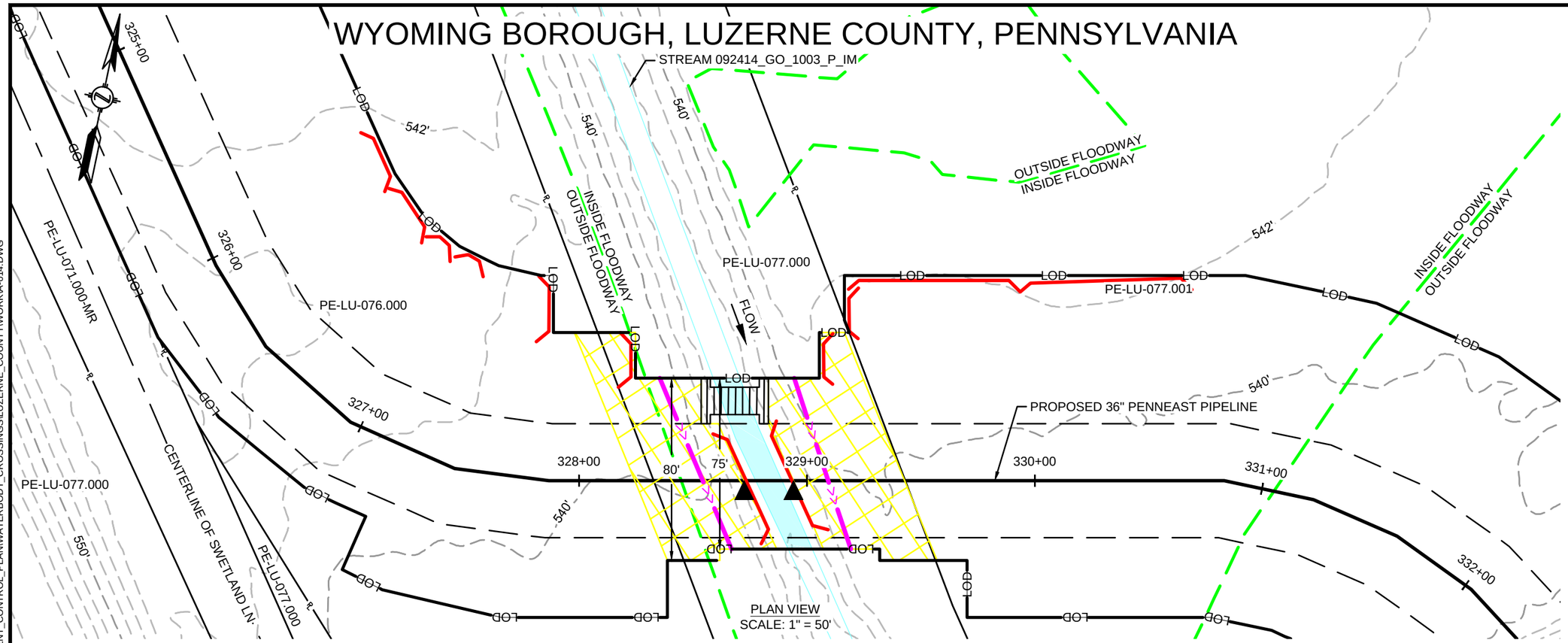
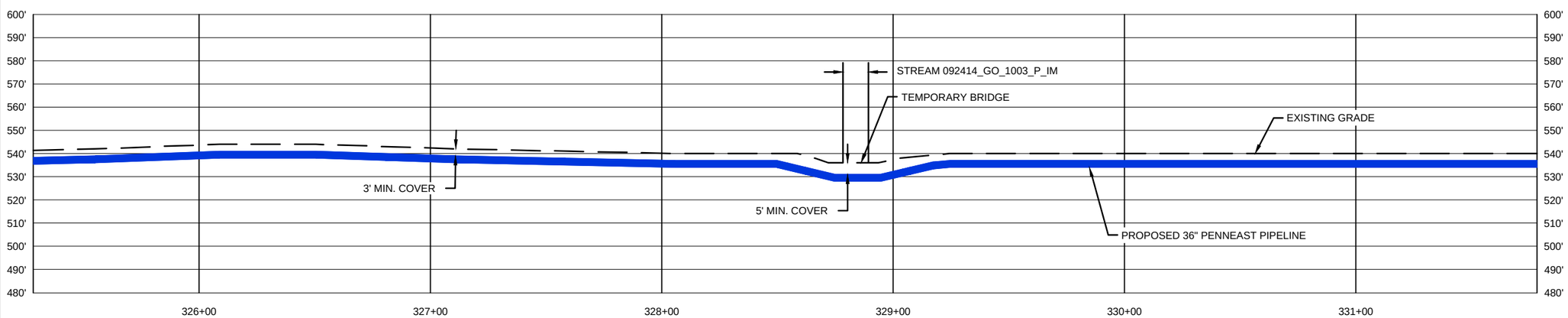
WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
092414_GO_1003_P_IM	WATERBODY	PADEP	-	0.012	0.595	-	0.008	0.171	13	49	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.012	-	-	-	-	13	49	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR: PennEast PIPELINE

PREPARED BY:

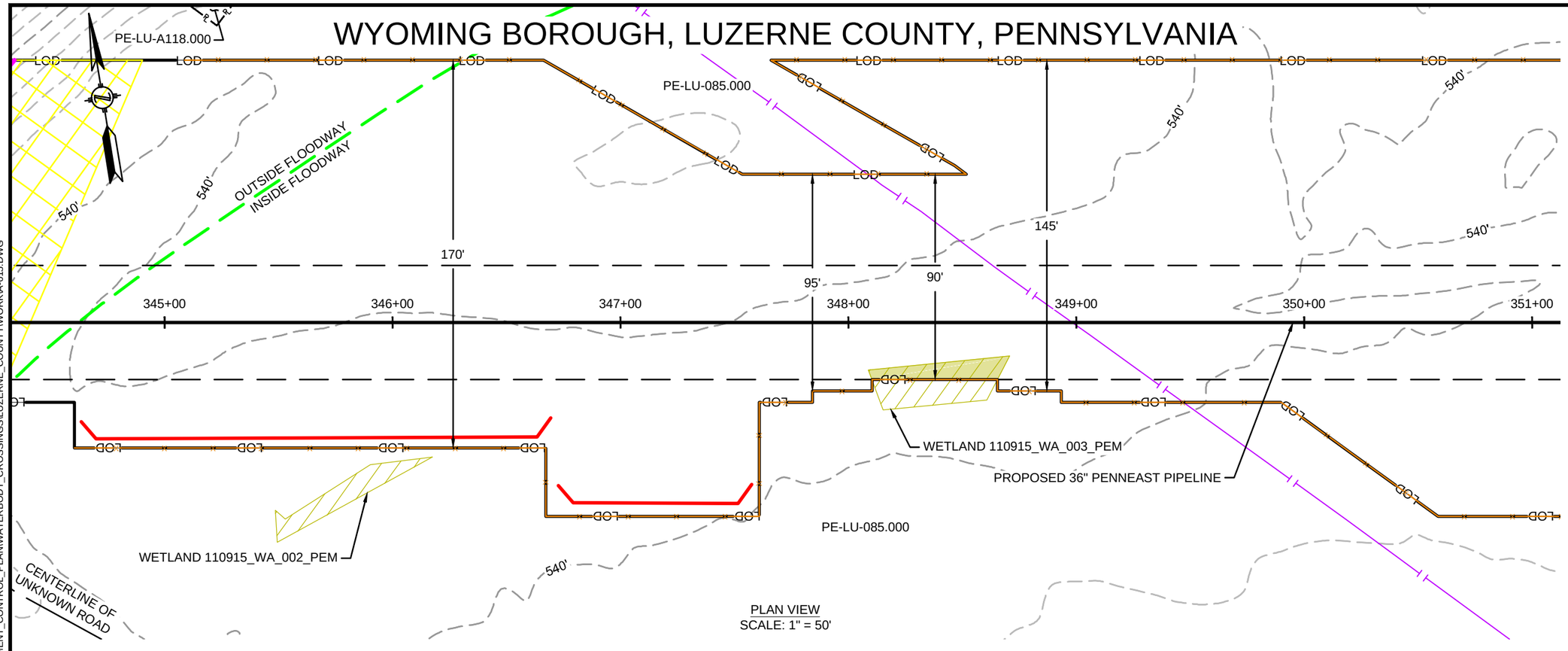
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA
M.P. 6.2R2

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-013	3

10/25/2019 4:08 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-014.DWG

WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
110915_WA_003_PEM	WETLAND	PADEP	0.010	-	-	0.001	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	*0.010*	-	-	-	-	-	-	-	*N/A - WORKSPACE*	-	-	*MATTED*

REFER TO DWG WSS-LZ-ML-017 FOR IMPACT ACREAGES

102315_WA_1001_P_MA (1) - 1

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA
M.P. 6.6R2

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-014	3

10/28/2019 8:35 PM, MORALES, HECTOR
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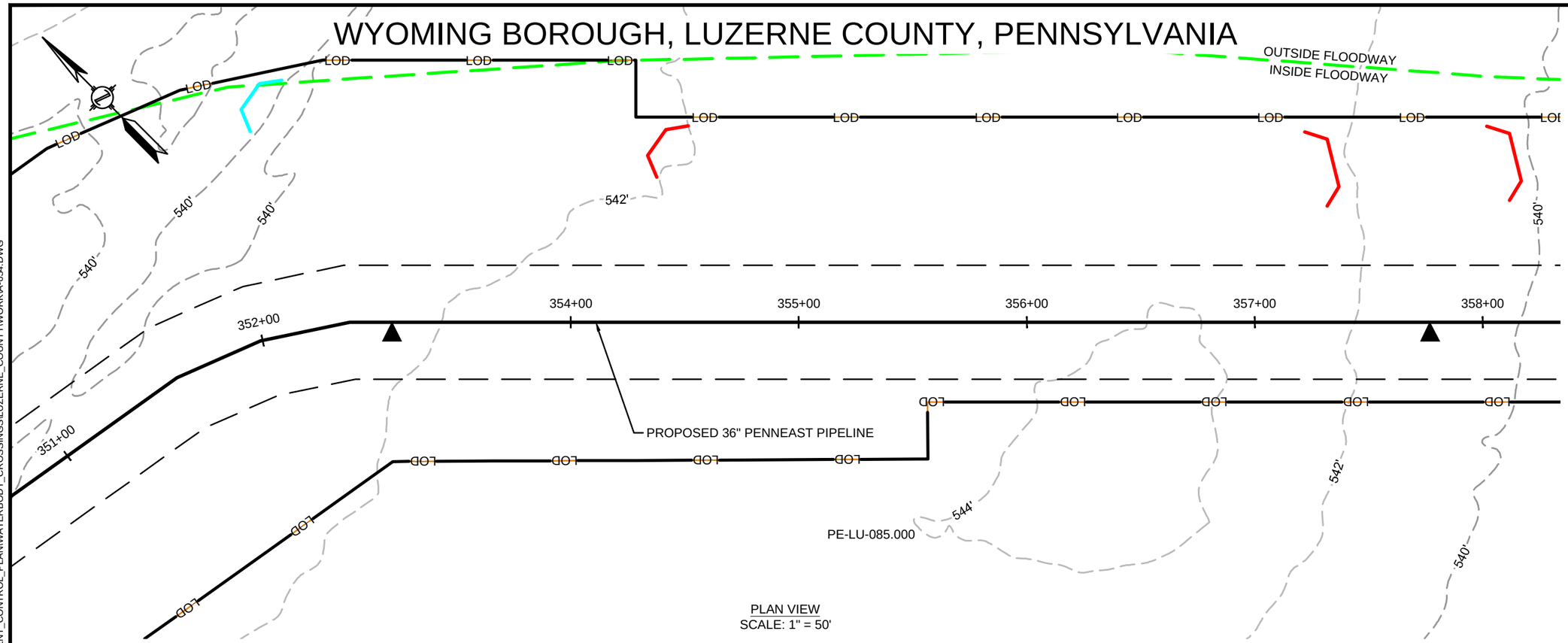
WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

REFER TO DWG WSS-LZ-ML-017 FOR IMPACT ACREAGES

102315_WA_1001_P_MA (1) - 1

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REVISIONS					
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1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

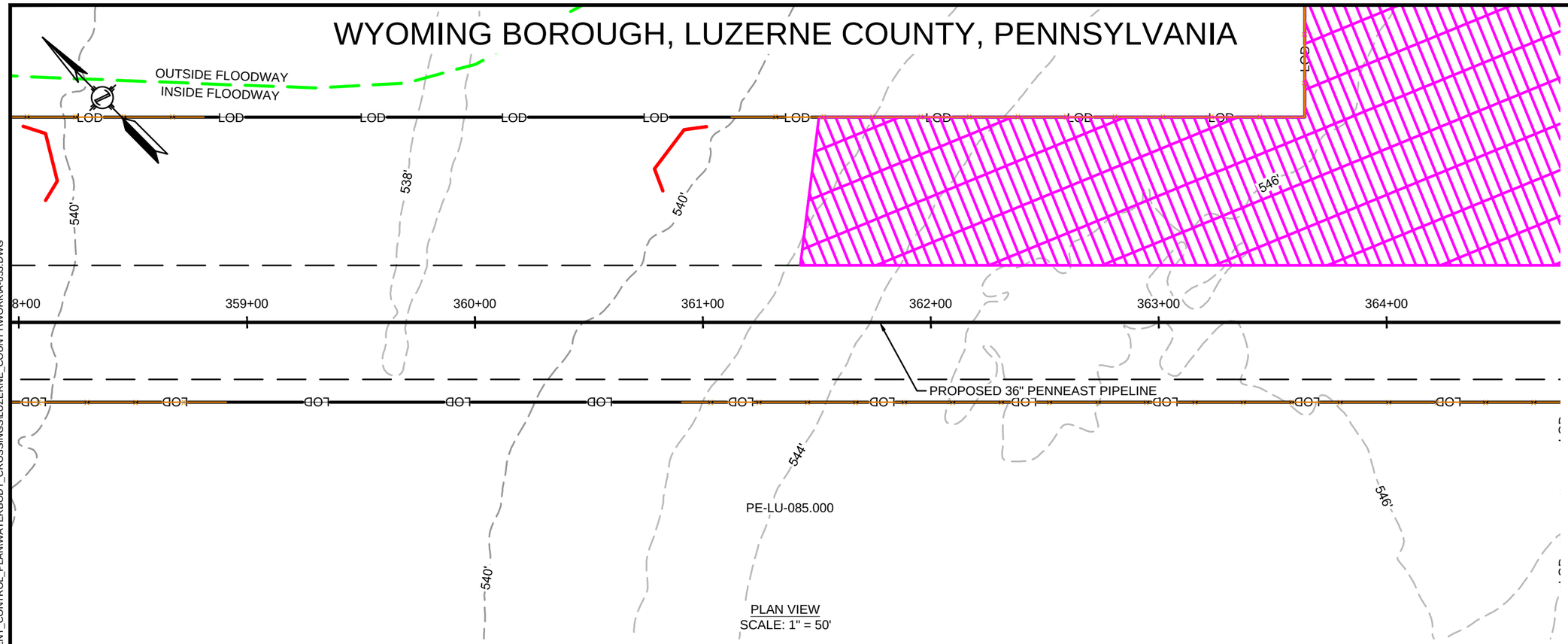
PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA
M.P. 6.7

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-015	3

WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

REFER TO DWG WSS-LZ-ML-017 FOR IMPACT ACREAGES

102315_WA_1001_P_MA (1) - 1

10/28/2019 8:31 PM, MORALES, HECTOR
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REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
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1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

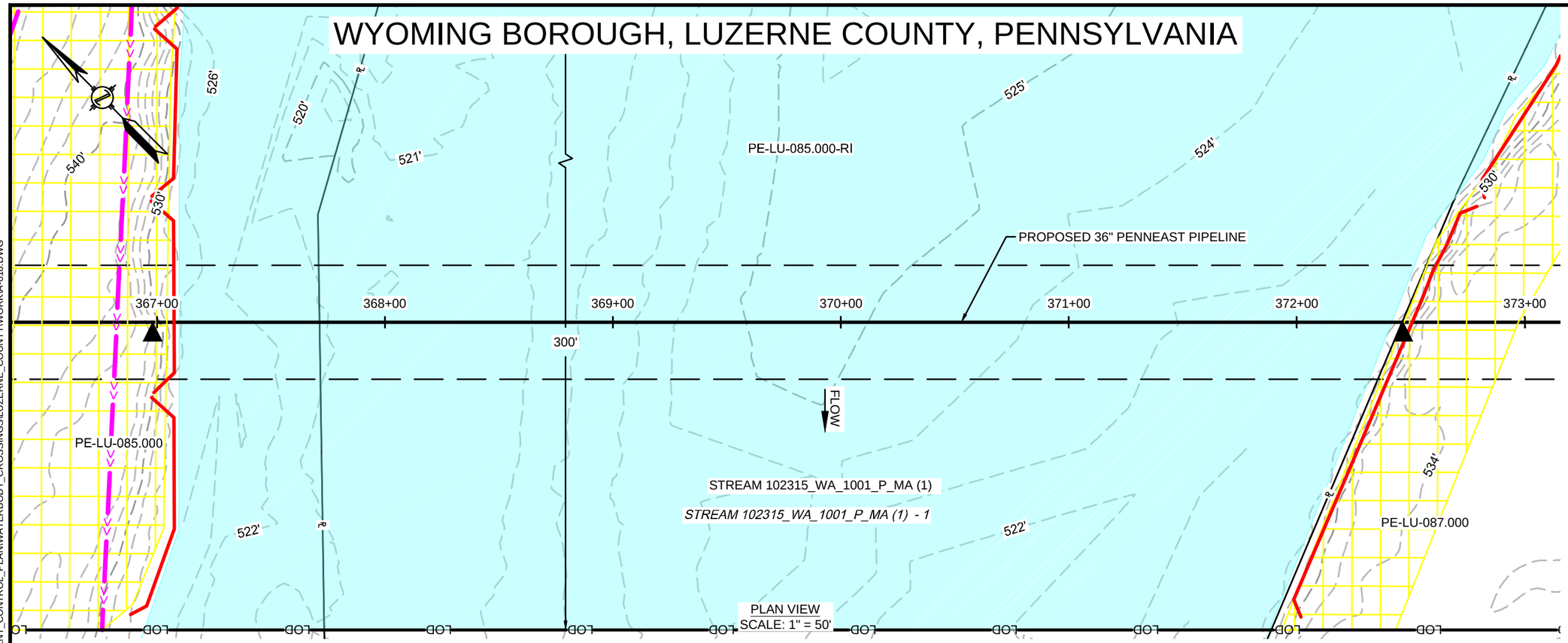
PREPARED BY:

PENNEAST PIPELINE PROJECT

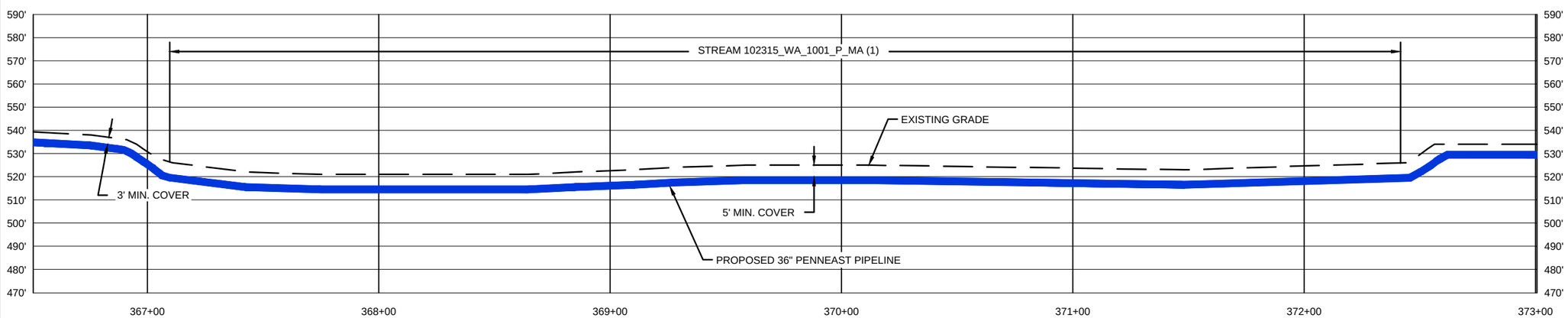
WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA
M.P. 6.8

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-016	3

WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
102315_WA_1001_P_MA (1) - 1	WATERBODY	PADEP	-	3.392	17.432	-	0.366	1.945	534	288	CD	CD	CD	N/A
		USACE	-	3.392	-	-	-	-	534	288	CD	CD	CD	N/A

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
WYOMING BOROUGH, LUZERNE COUNTY, PENNSYLVANIA
M.P. 6.9

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-017	3

10/25/2019 4:15 AM, MORALES, HECTOR
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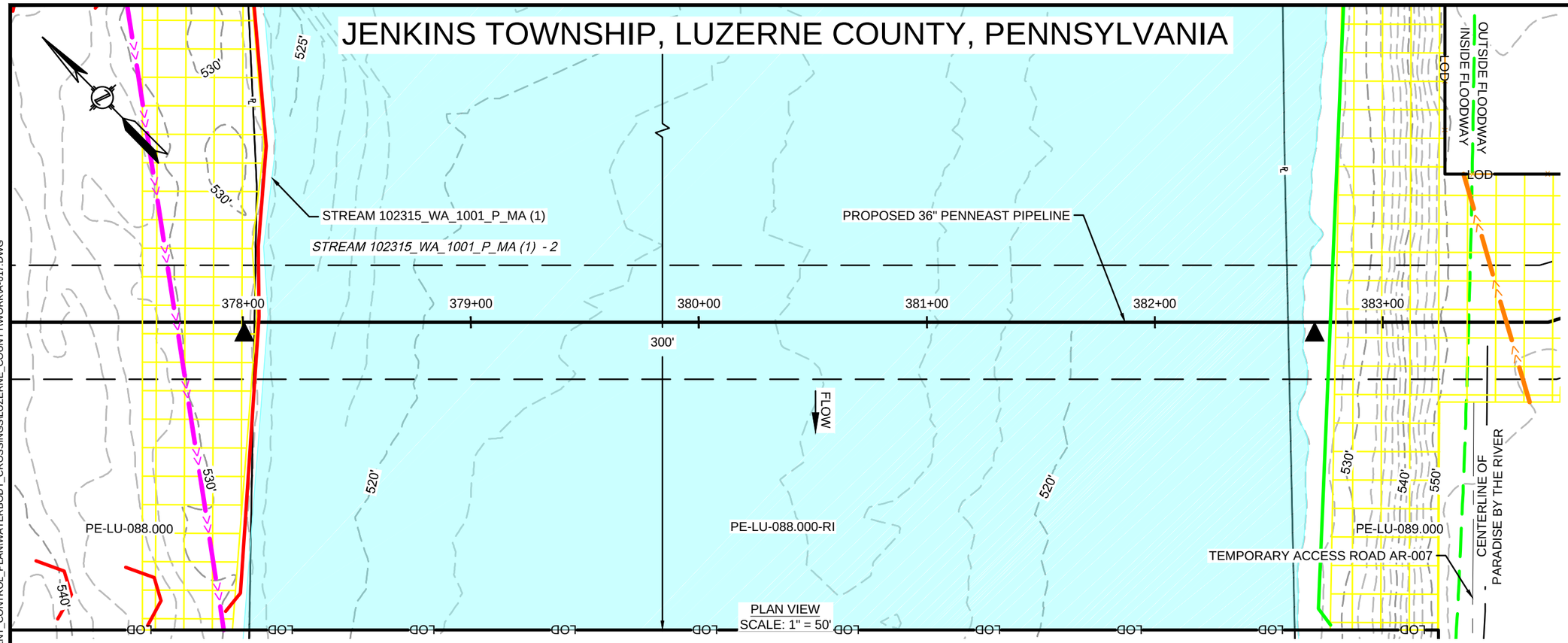
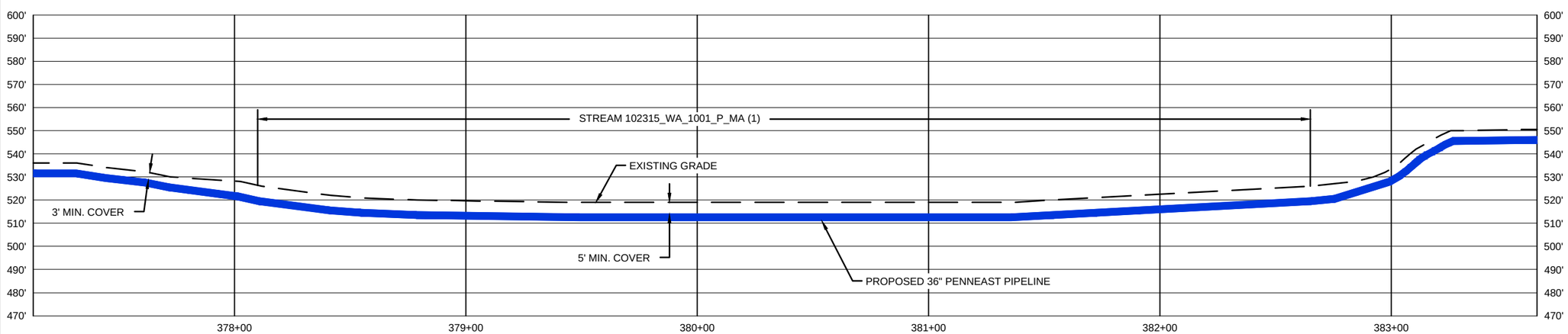
JENKINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
102315_WA_1001_P_MA (1) - 2	WATERBODY	PADEP	-	2.856	-	-	0.313	-	457	274	CD	CD	CD	N/A
		USACE	-	2.856	-	-	-	-	457	274	CD	CD	CD	N/A

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
JENKINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 7.2

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-018	3

10/25/2019 4:19 AM, MORALES, HECTOR
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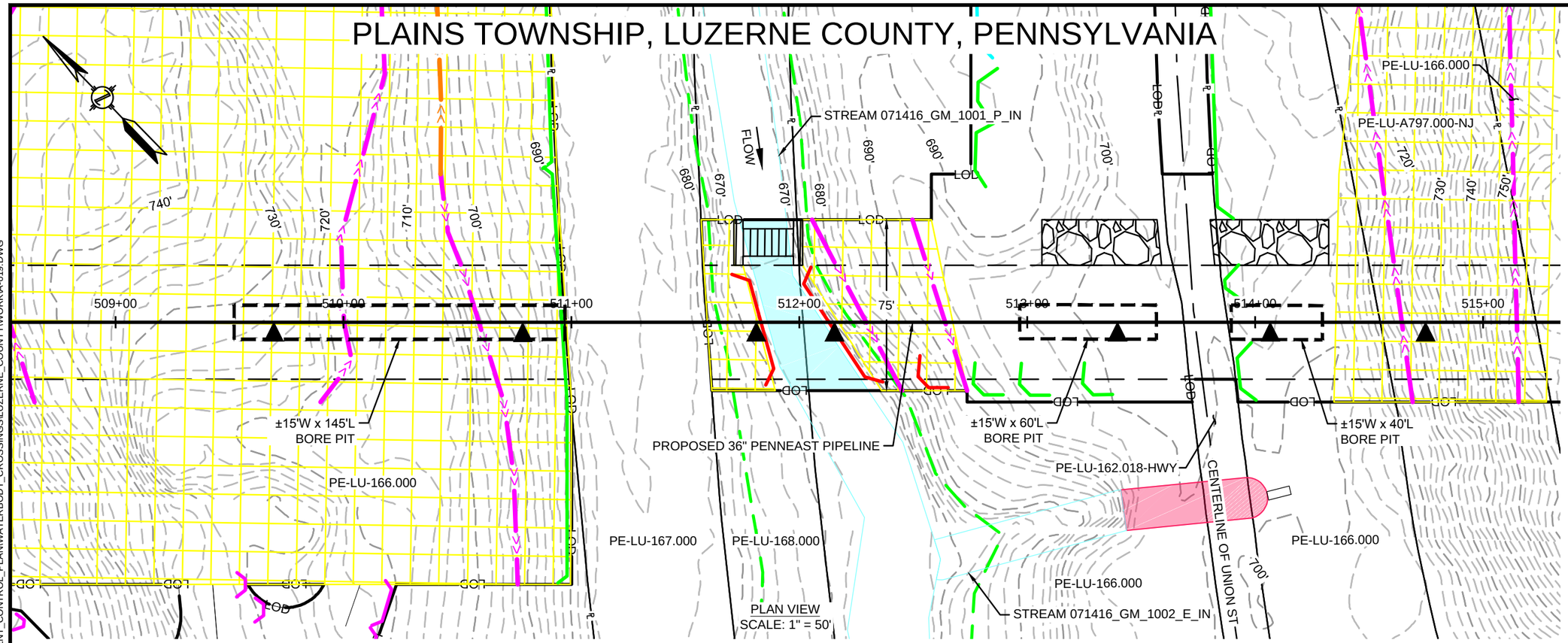
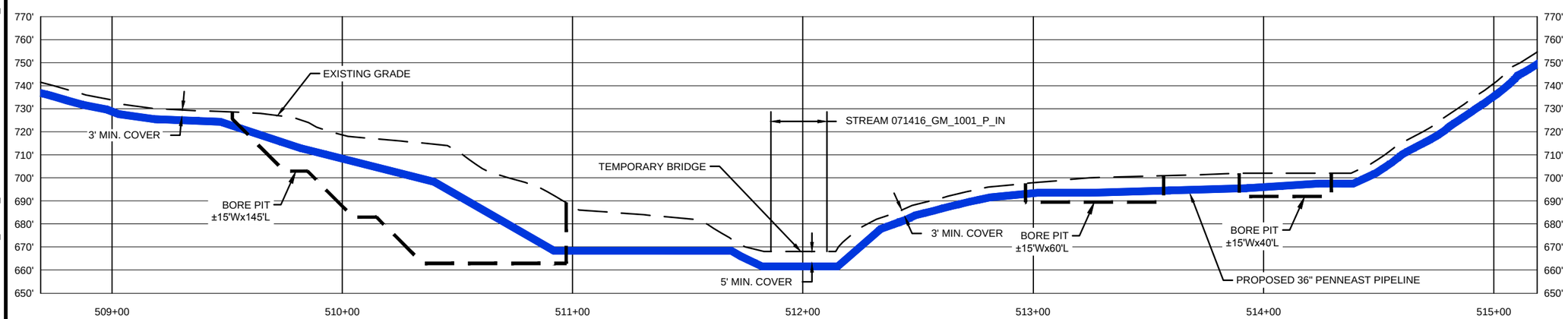
PLAINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA





PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)		STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
071416_GM_1001_P_IN	WATERBODY	PADEP	-	0.023	0.032	-	0.017	27	49	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.023	-	-	-	27	49	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

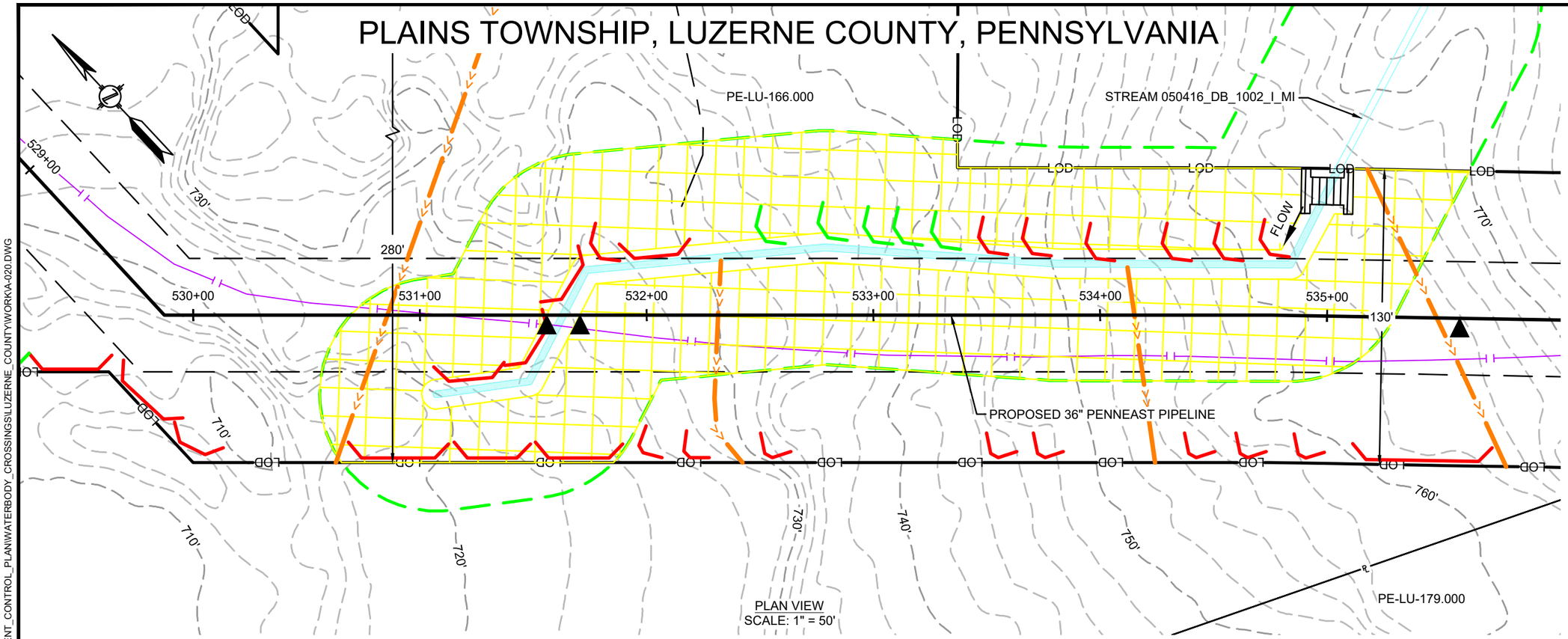
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
PLAINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 9.7R2

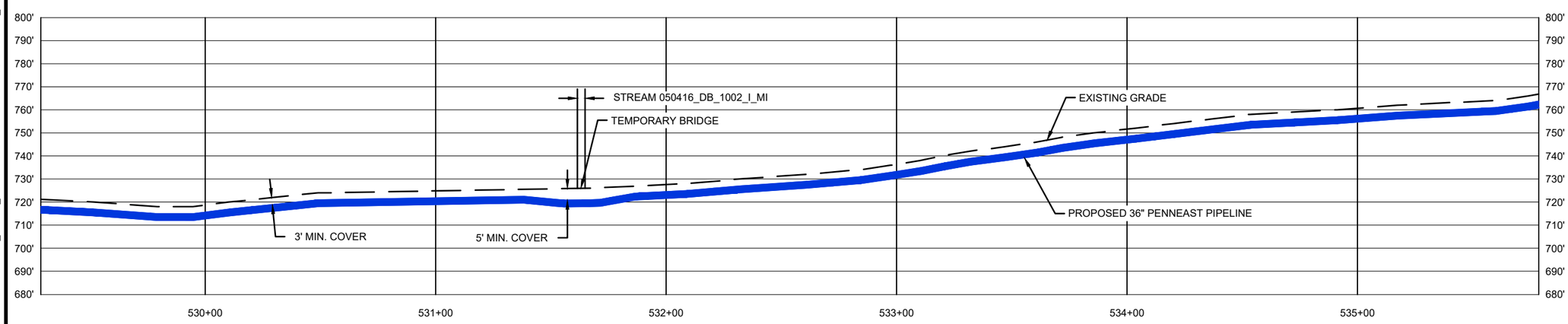
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-019	3

10/28/2019 11:04 PM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMITWORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-019.DWG

PLAINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)				PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
050416_DB_1002_I_MI	WATERBODY	PADEP	-	0.029	0.751	-	-	-	0.313	4	423	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.029	-		-	-	-	4	423	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR PADEP	HM	JB/KEK	MJD
3	06/2020	REVISED FOR PERMITTING	AJD	JMF	MJD
4	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

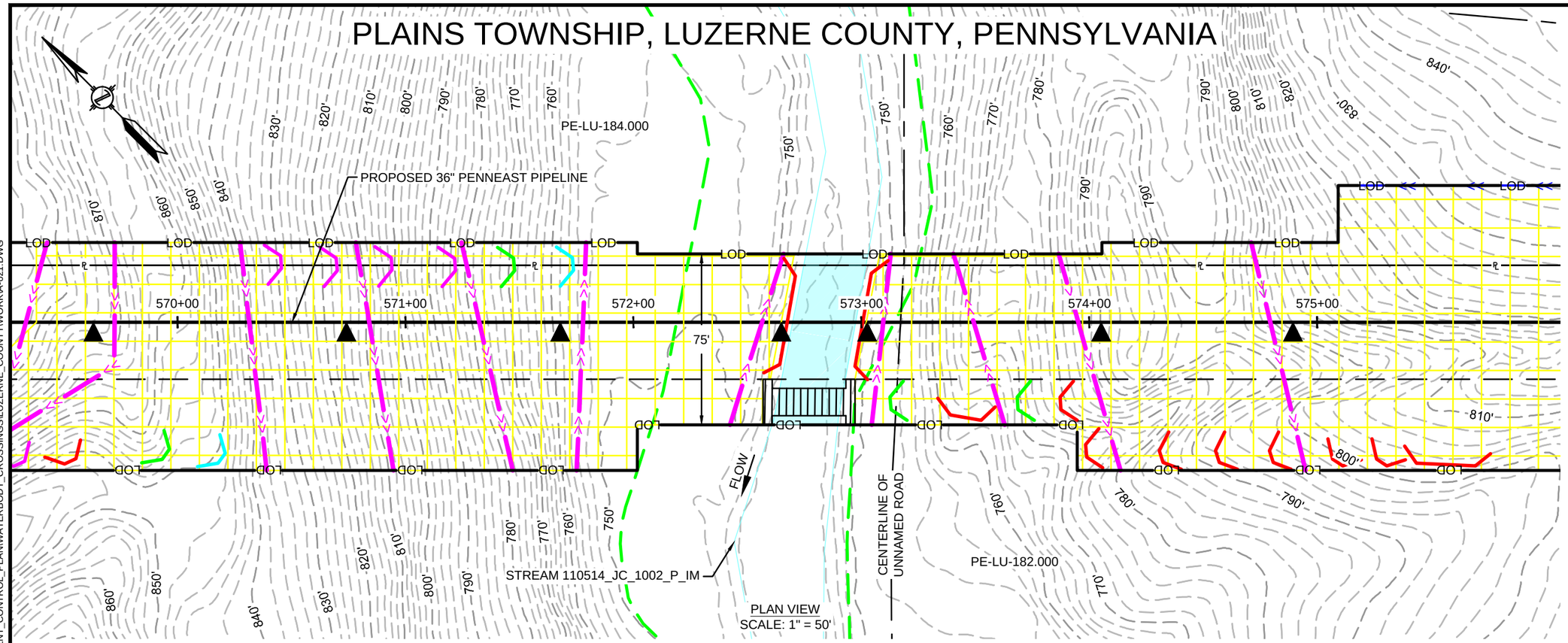
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
PLAINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 10.1R2

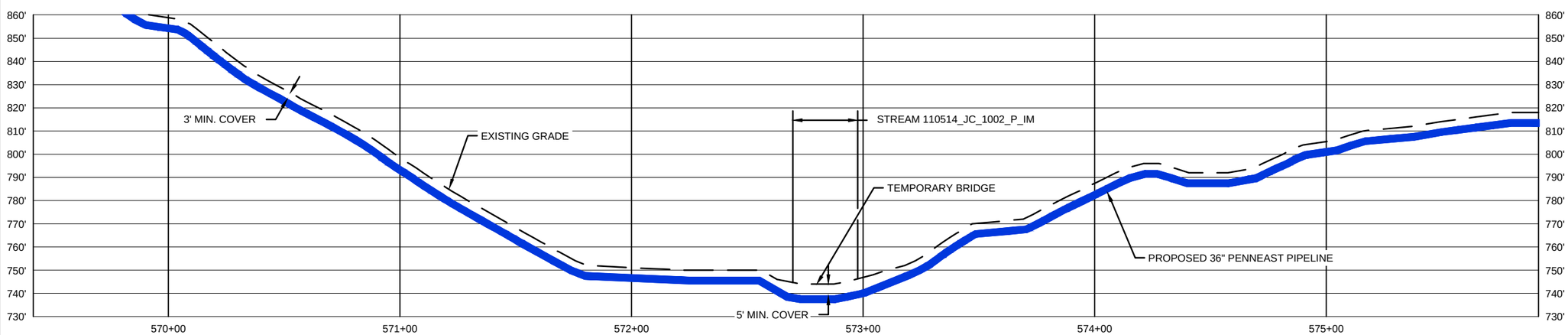
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-020	4

6/25/2020 9:26 AM, DUMAIS, ALEXANDER
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\MDATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-020.DWG

PLAINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)				PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
110514_JC_1002_P_IM	WATERBODY	PADEP	-	0.029	0.066	-	-	0.019	0.047	28	46	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.029	-	-	-	-	-	28	46	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

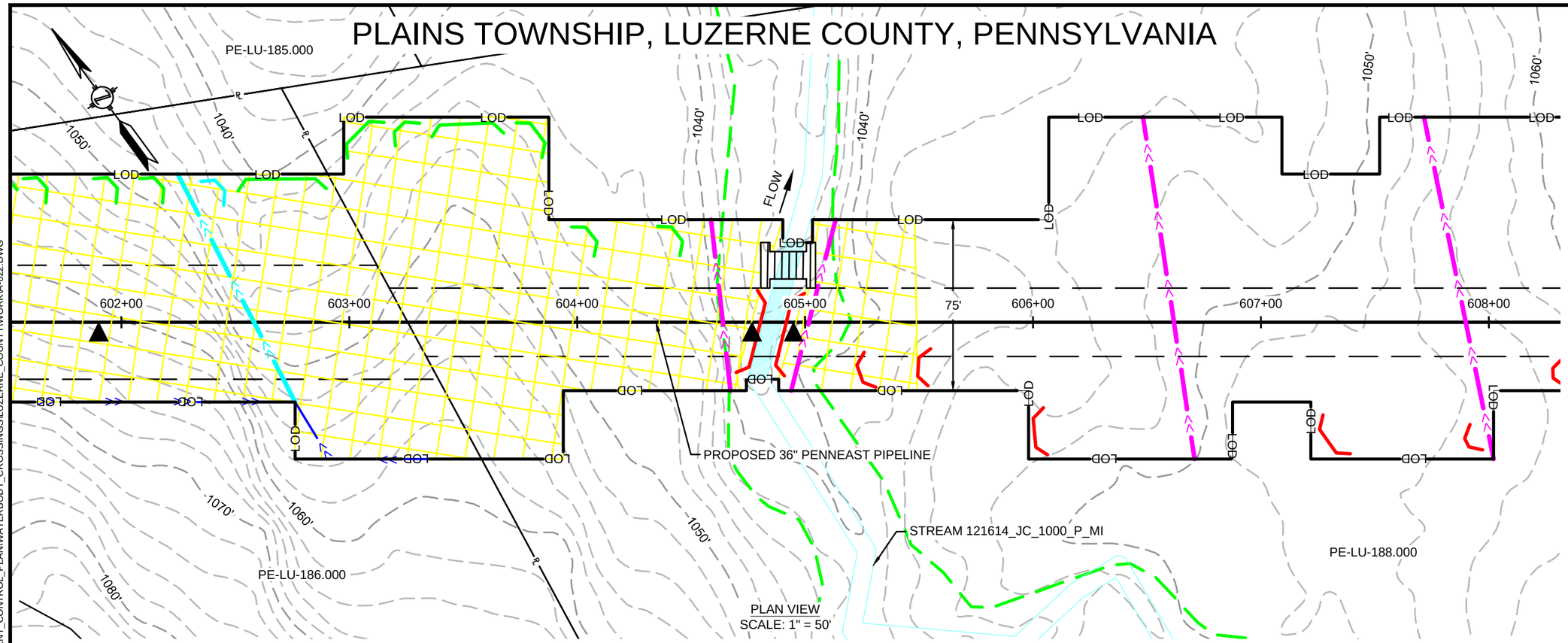
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
PLAINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 10.8R2

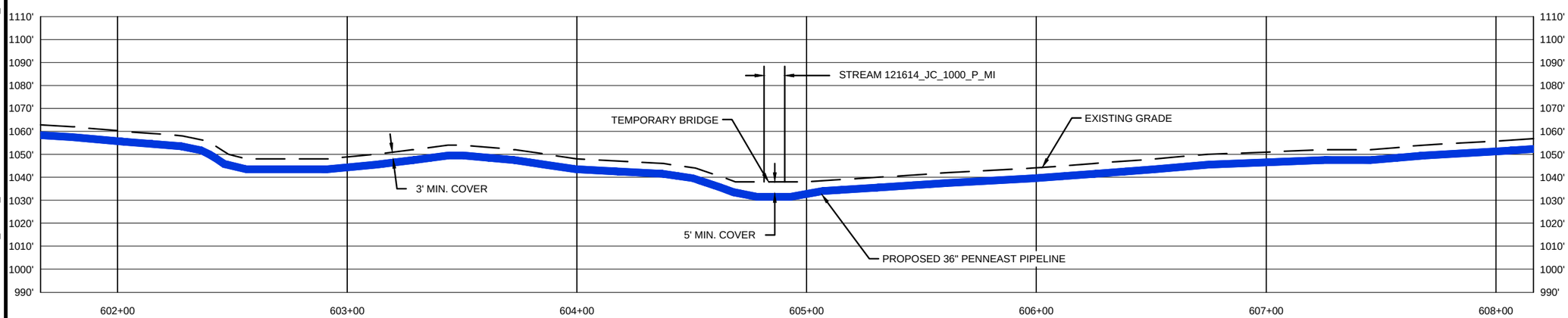
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-021	3

10/25/2019 4:29 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-021.DWG

PLAINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
121614_JC_1000_P_MI	WATERBODY	PADEP	-	0.005	0.037	-	0.006	0.031	9	31	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.005	-	-	-	-	9	31	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

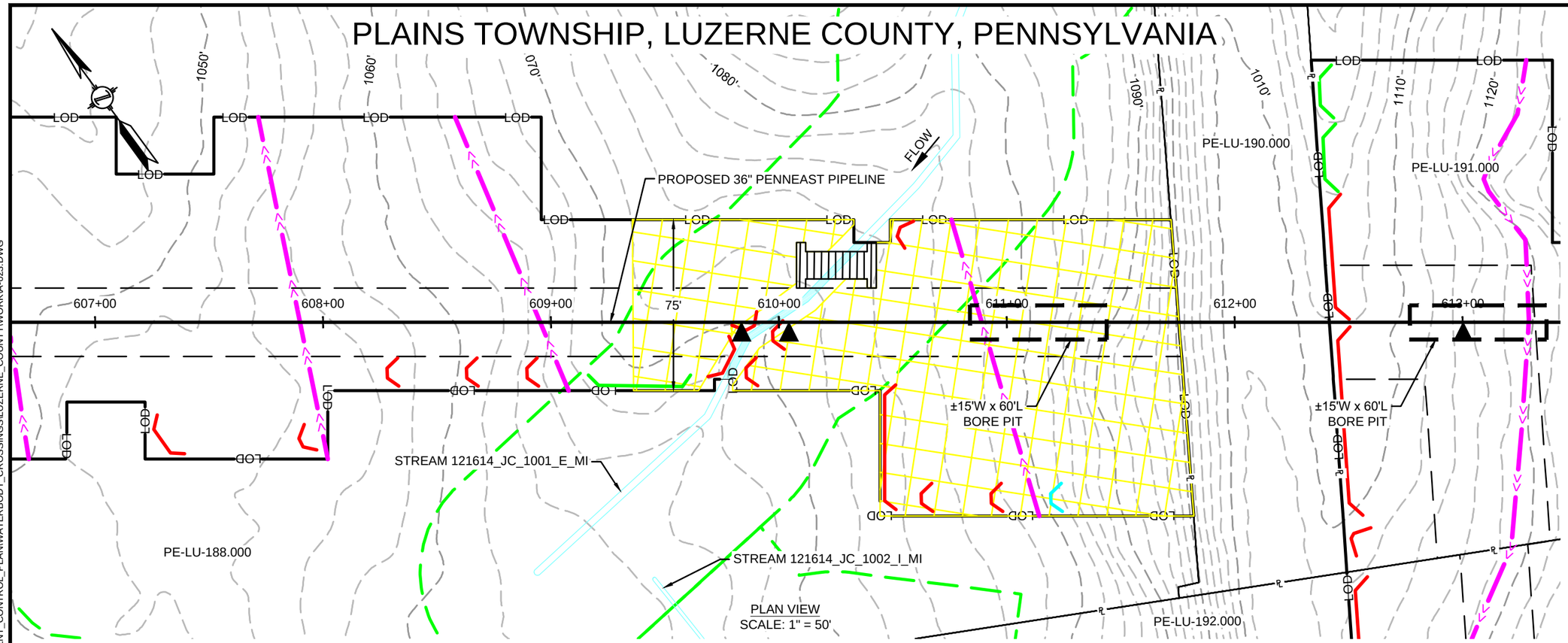
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
PLAINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 11.5R2

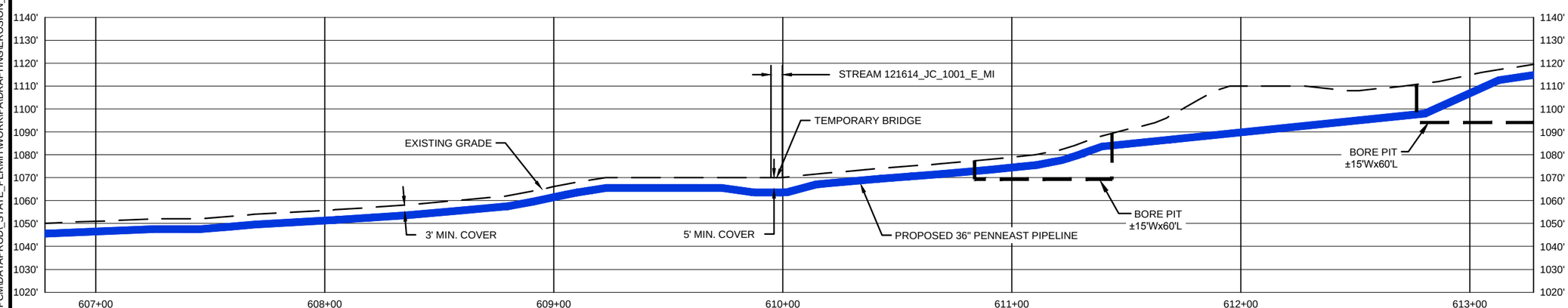
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-022	3

10/25/2019 4:32 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPCM\DATAPROD_STATE_PERMITWORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-022.DWG

PLAINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)				PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
121614_JC_1001_E_MI	WATERBODY	PADEP	-	0.003	0.143		-	0.003	0.095	6	39	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.003	-		-	-	-	6	39	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

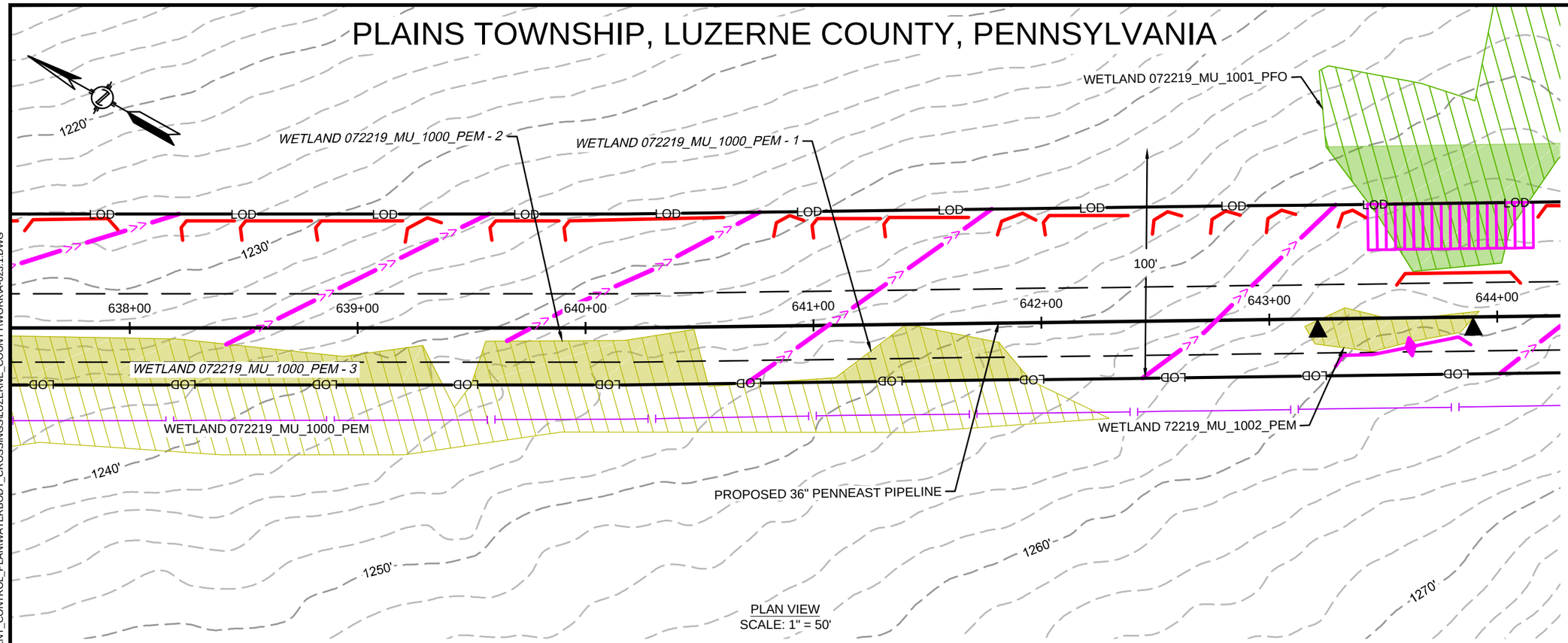
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
PLAINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 11.5R2

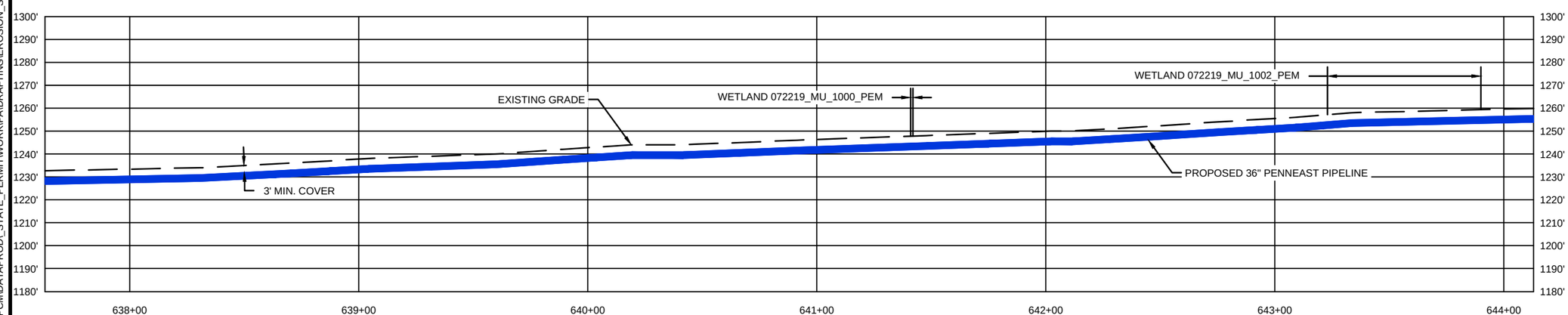
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-023	3

10/28/2019 10:38 PM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPCM\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-023.DWG

PLAINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)				STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE		PRIMARY	SECONDARY	TERTIARY	
072219_MU_1000_PEM - 1	WETLAND	PADEP	0.018	-	-	0.014	-	-	-	-		CL - OPEN CUT	-	-	MATTED
		USACE	0.018	-	-	-	-	-	-	-		CL - OPEN CUT	-	-	MATTED
072219_MU_1000_PEM - 2	WETLAND	PADEP	0.023	-	-	0.022	-	-	-	-		CL - OPEN CUT	-	-	MATTED
		USACE	0.023	-	-	-	-	-	-	-		CL - OPEN CUT	-	-	MATTED
072219_MU_1000_PEM - 3	WETLAND	PADEP	0.066	-	-	0.052	-	-	-	-		CL - OPEN CUT	-	-	MATTED
		USACE	0.066	-	-	-	-	-	-	-		CL - OPEN CUT	-	-	MATTED
072219_MU_1002_PEM	WETLAND	PADEP	-	-	-	0.020	-	-	-	-		CL - OPEN CUT	-	-	MATTED
		USACE	-	-	-	-	-	-	-	-		CL - OPEN CUT	-	-	MATTED
072219_MU_1001_PFO	WETLAND	PADEP	0.034	-	-	-	-	-	-	-		N/A - WORKSPACE	-	-	MATTED
		USACE	0.034	-	-	-	-	-	-	-		N/A - WORKSPACE	-	-	MATTED

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	06/2020	REVISED FOR PERMITTING	AJD	JF/KEK	MJD
4	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
PLAINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 12.1R3

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-023.1	4

10/28/2019 4:32 PM, MORALES, HECTOR
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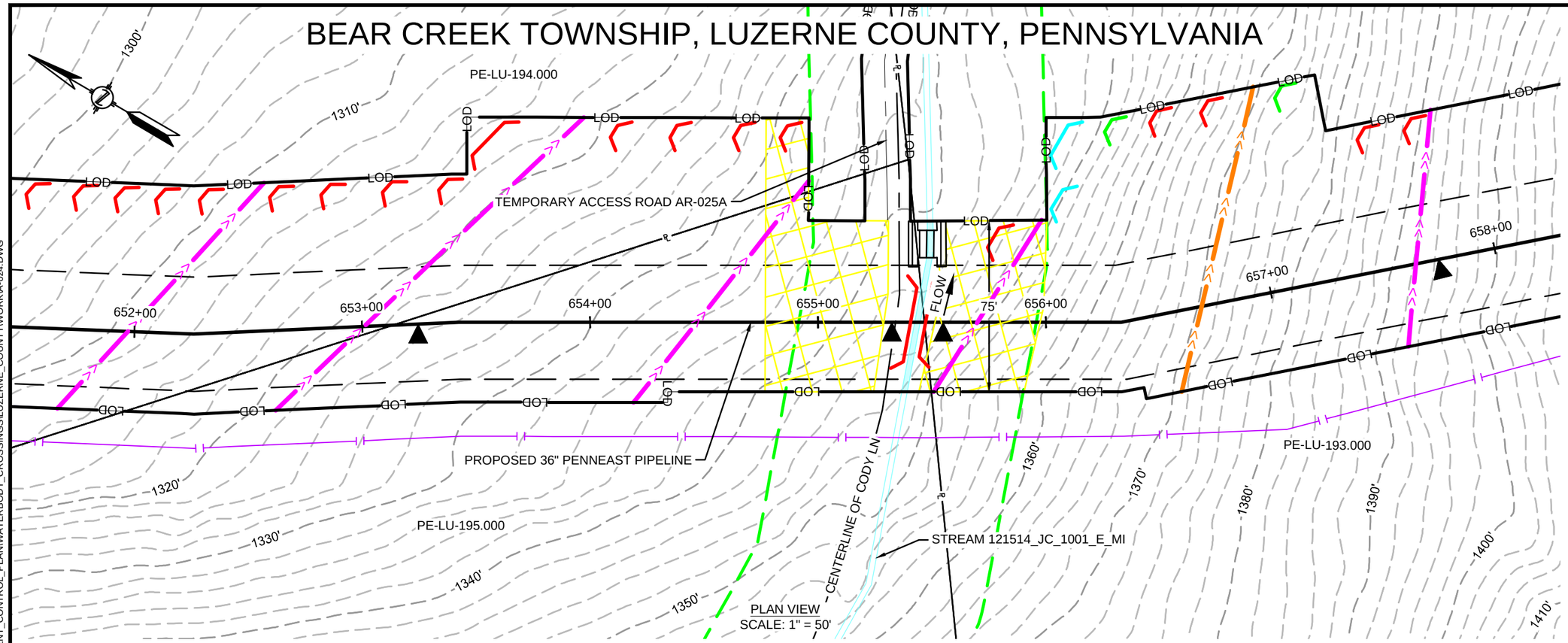
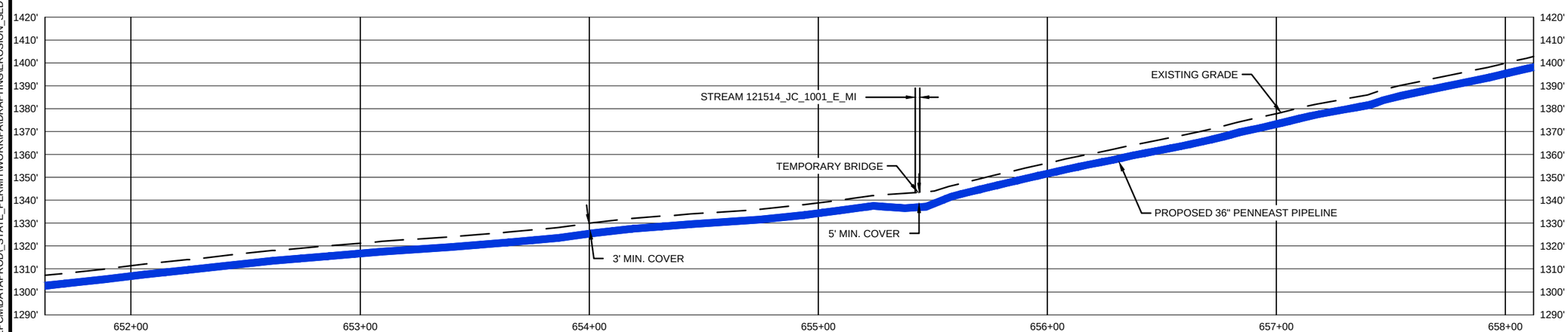
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
121514_JC_1001_E_MI	WATERBODY	PADEP	-	0.002	0.105	-	0.002	-	3	47	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.002	-	-	-	-	3	47	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 12.4R2

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-024	3

10/25/2019 4:43 AM, MORALES, HECTOR
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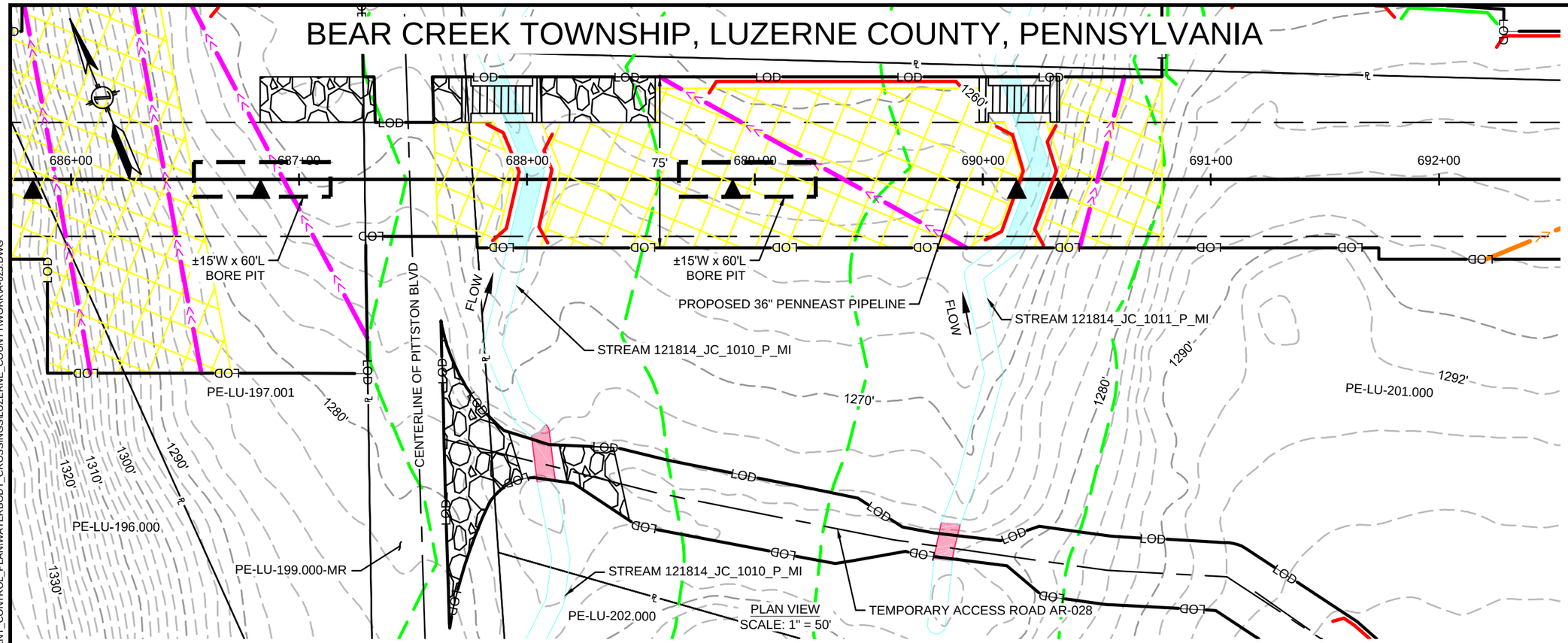
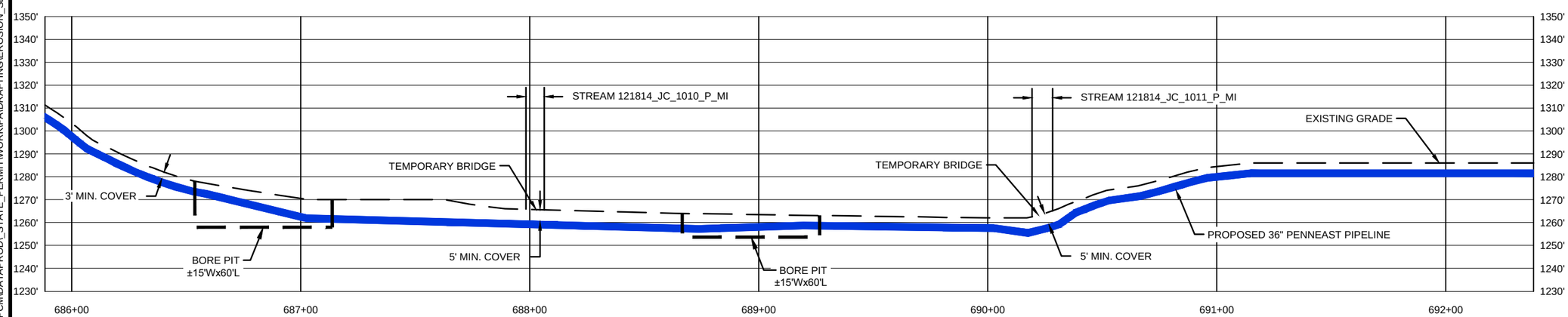
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
121814_JC_1011_P_MI	WATERBODY	PADEP	-	0.009	0.114	-	0.006	0.076	10	49	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.009*	-	-	-	-	*10*	*49*	*DPX*	*FX*	*CD*	*MAT BRIDGE OR EQUIVALENT*
121814_JC_1010_P_MI	WATERBODY	PADEP	-	0.009	0.093	-	0.006	0.072	10	48	BX	BX	BX	MAT BRIDGE OR EQUIVALENT
		USACE	-	-	-	-	-	-	-	-	*BX*	*BX*	*BX*	*MAT BRIDGE OR EQUIVALENT*

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

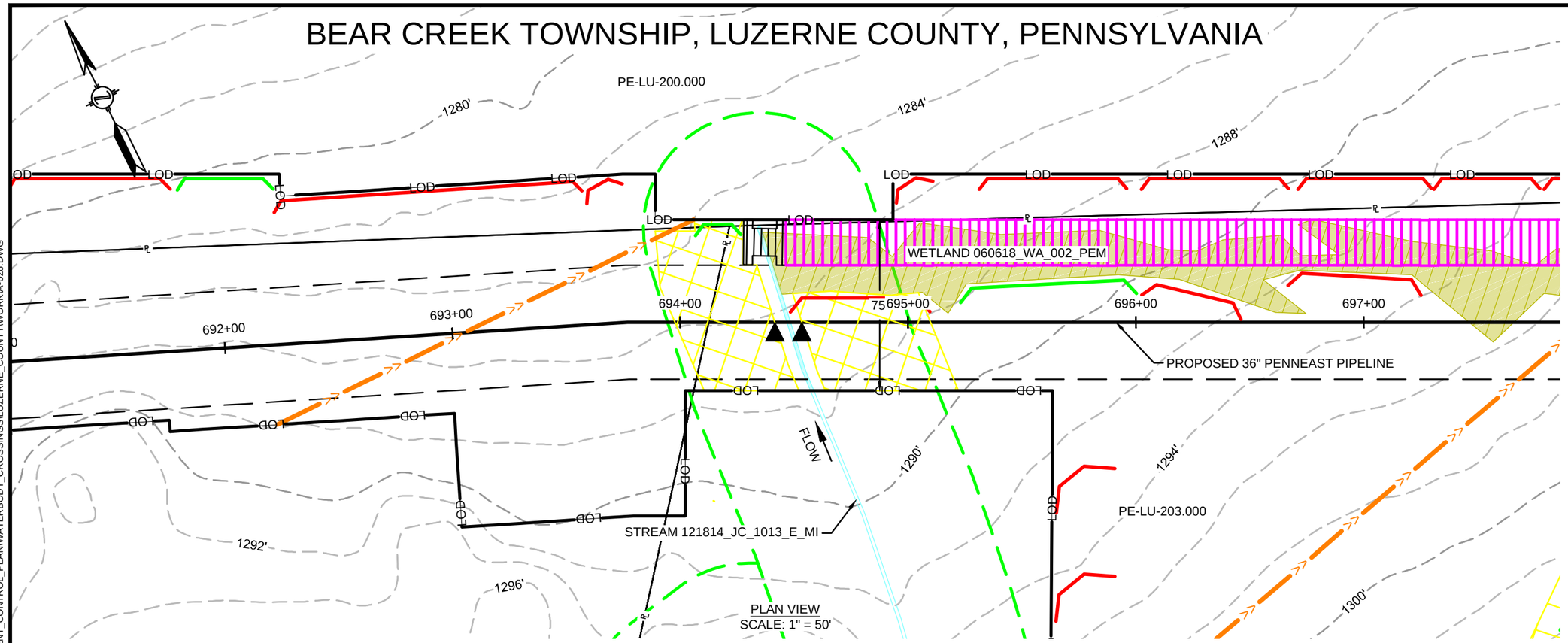
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 13.1

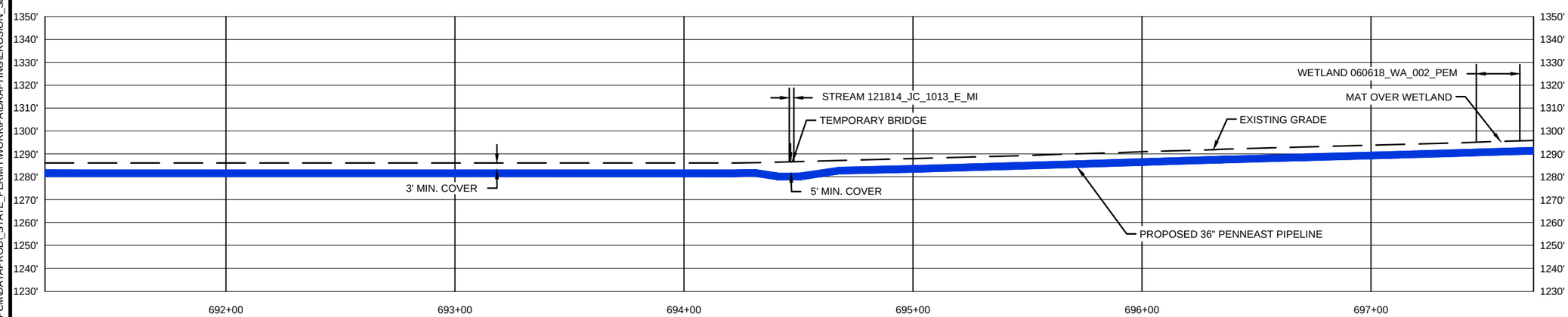
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-025	3

10/25/2019 4:46 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-025.DWG

BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES) WETLAND	TEMPORARY DISTURBANCE (ACRES) WATERCOURSE CHANNEL	TEMPORARY DISTURBANCE (ACRES) WATERCOURSE FLOODWAY	PERMANENT DISTURBANCE (ACRES) WETLAND	PERMANENT DISTURBANCE (ACRES) WATERCOURSE CHANNEL	PERMANENT DISTURBANCE (ACRES) WATERCOURSE FLOODWAY	STREAM IMPACT (FT) CROSSING WIDTH	STREAM IMPACT (FT) WATERCOURSE CENTERLINE	CROSSING METHOD PRIMARY	CROSSING METHOD SECONDARY	CROSSING METHOD TERTIARY	EQUIPMENT CROSSING
121814_JC_1013_E_MI	WATERBODY	PADEP	-	-	0.082	-	0.001	0.070	2	45	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.002	-	-	-	-	2	45	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
060618_WA_002_PEM	WETLAND	PADEP	0.165	-	-	0.028	-	-	-	-	CL - OPEN CUT	-	-	MATTED
		USACE	0.165	-	-	-	-	-	-	-	CL - OPEN CUT	-	-	MATTED

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR: PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 13.2

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-026	3

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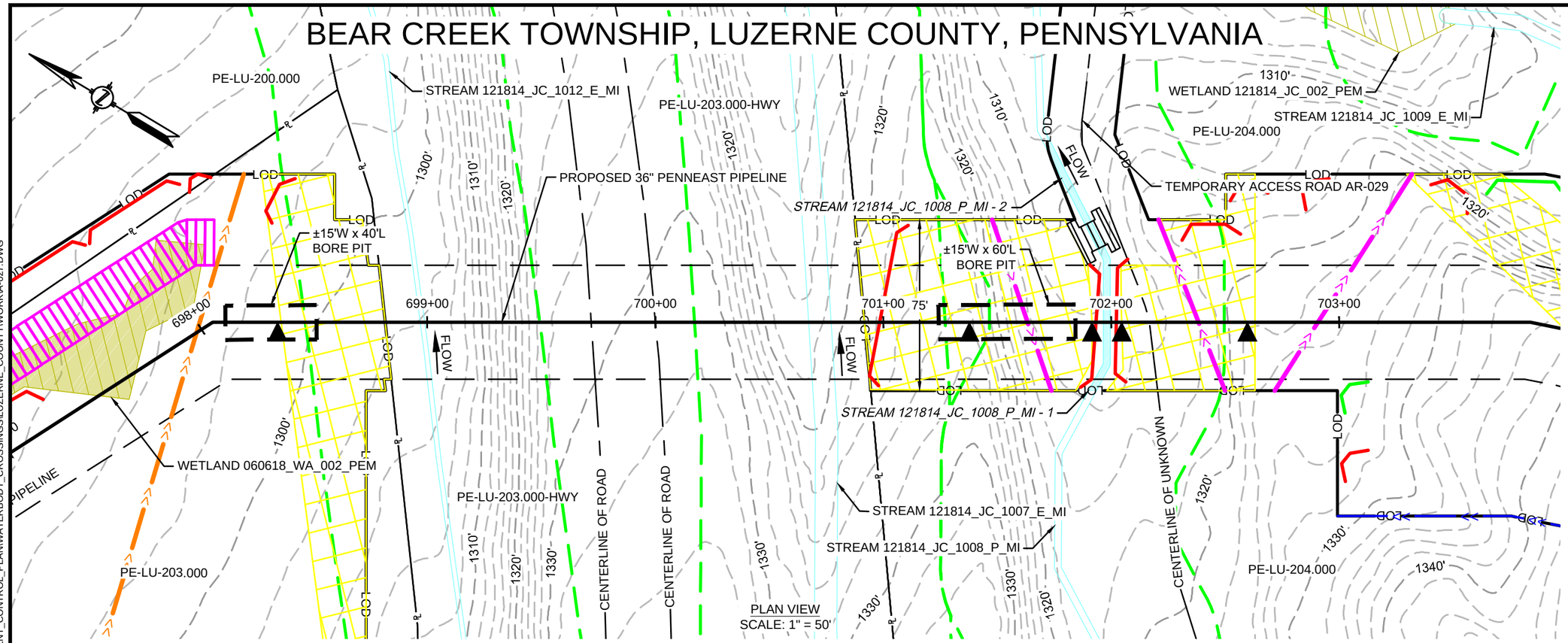
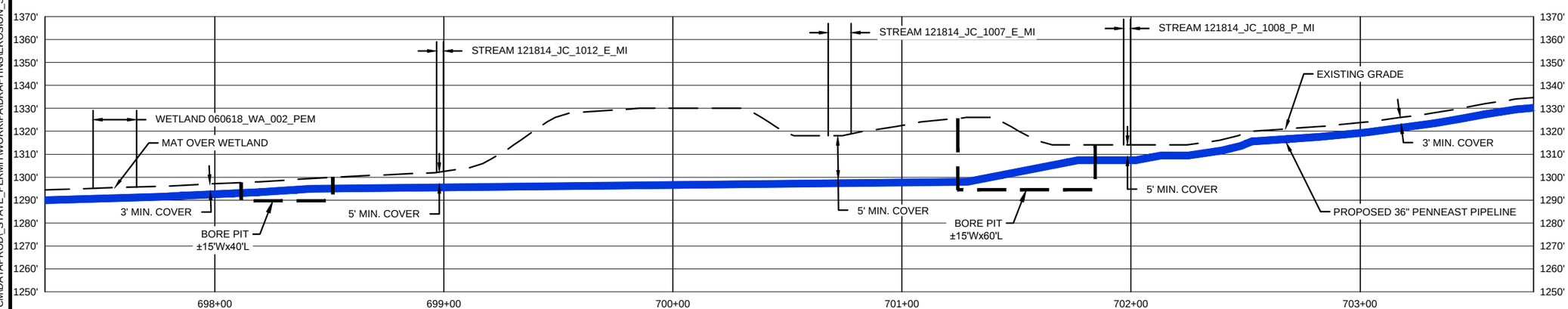
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES) WETLAND	TEMPORARY DISTURBANCE (ACRES) WATERCOURSE CHANNEL	TEMPORARY DISTURBANCE (ACRES) WATERCOURSE FLOODWAY	PERMANENT DISTURBANCE (ACRES) WETLAND	PERMANENT DISTURBANCE (ACRES) WATERCOURSE CHANNEL	PERMANENT DISTURBANCE (ACRES) WATERCOURSE FLOODWAY	STREAM IMPACT (FT) CROSSING WIDTH	STREAM IMPACT (FT) WATERCOURSE CENTERLINE	CROSSING METHOD PRIMARY	CROSSING METHOD SECONDARY	CROSSING METHOD TERTIARY	EQUIPMENT CROSSING
060618_WA_002_PEM	REFER TO DWG WSS-LZ-ML-026 FOR IMPACT ACREAGES													
121814_JC_1012_E_MI	WATERBODY	PADEP	-	-	-	-	0.001	0.007	2	3	BX	BX	BX	N/A
		USACE	-	-	-	-	-	-	-	-	BX	BX	BX	N/A
121814_JC_1007_E_MI	WATERBODY	PADEP	-	-	-	-	0.001	0.007	10	3	BX	BX	BX	N/A
		USACE	-	-	-	-	-	-	-	-	BX	BX	BX	N/A
121814_JC_1008_P_MI - 1	WATERBODY	PADEP	-	0.002	0.098	-	0.002	0.069	4	28	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.002	-	-	-	-	4	28	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
121814_JC_1008_P_MI - 2	WATERBODY	PADEP	-	0.004	0.110	-	-	-	3	60	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	-	-	-	-	-	-	-	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 13.2

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-027	3

10/28/2019 10:39 PM, MORALES, HECTOR
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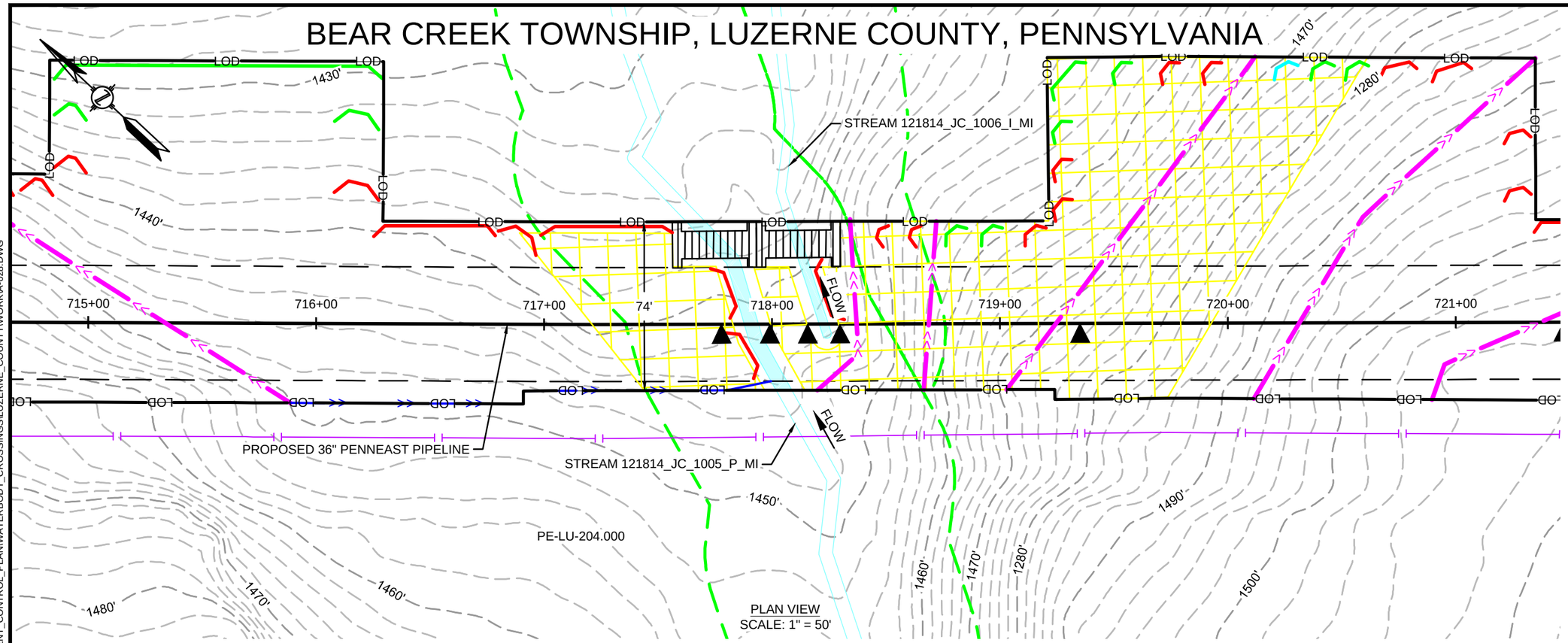
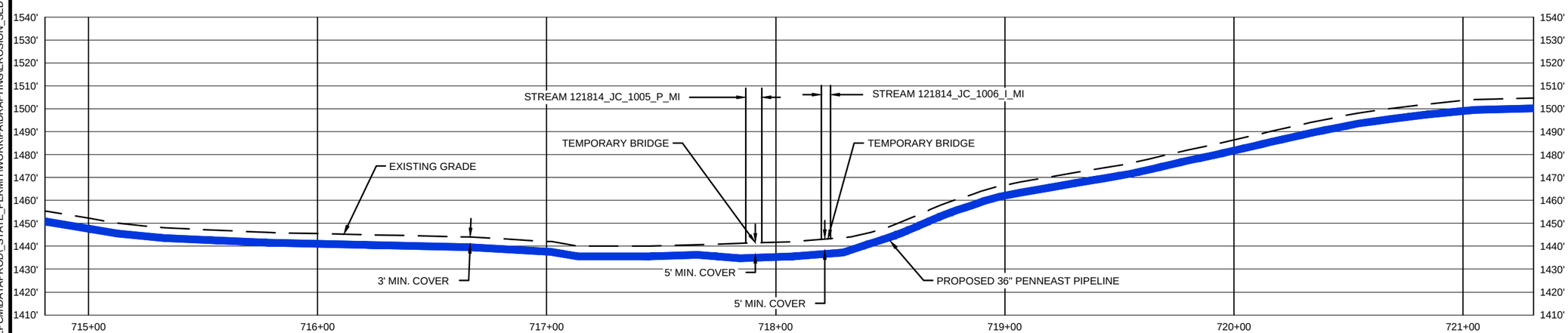
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
121814_JC_1005_P_MI	WATERBODY	PADEP	-	0.008	0.117	-	0.004	0.074	7	53	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.008	-	-	-	-	7	53	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
121814_JC_1006_I_MI	WATERBODY	PADEP	-	0.003	0.024	-	0.002	0.018	5	32	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.003	-	-	-	-	5	32	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 13.6

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-028	3

10/25/2019 4:56 AM, MORALES, HECTOR
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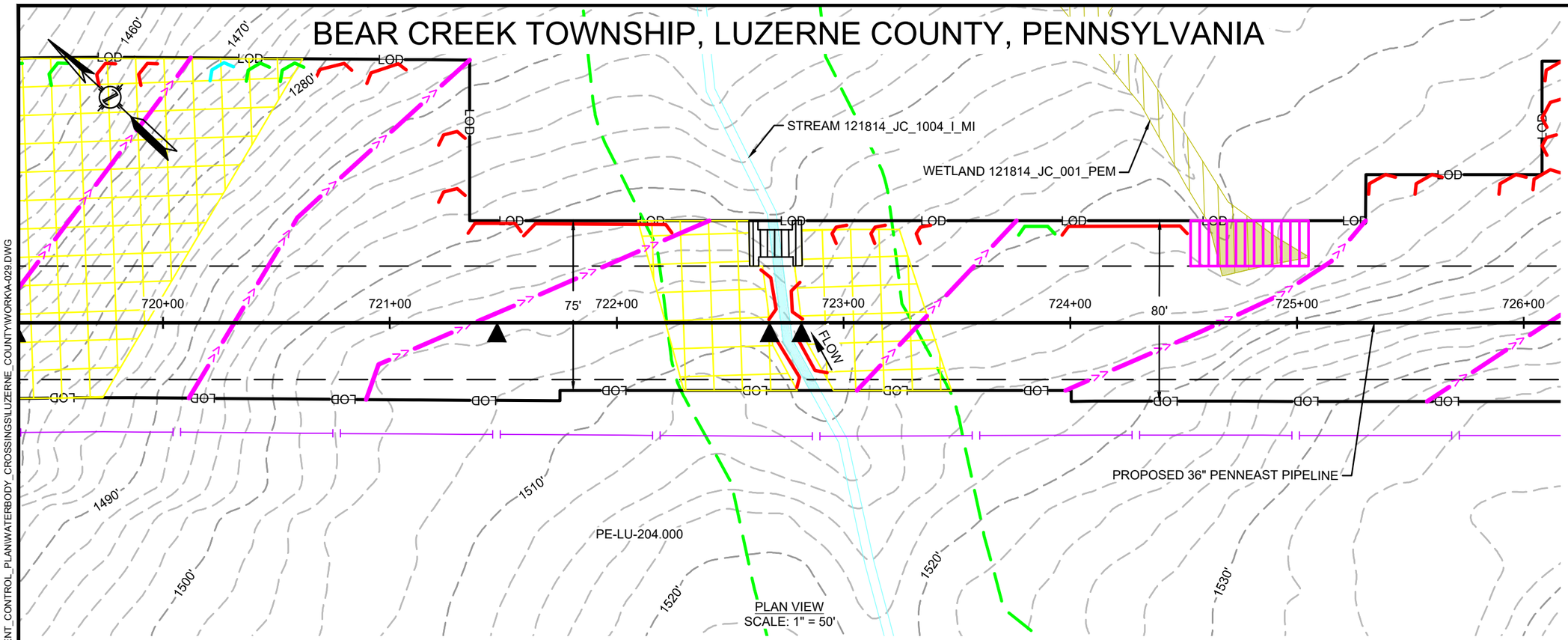
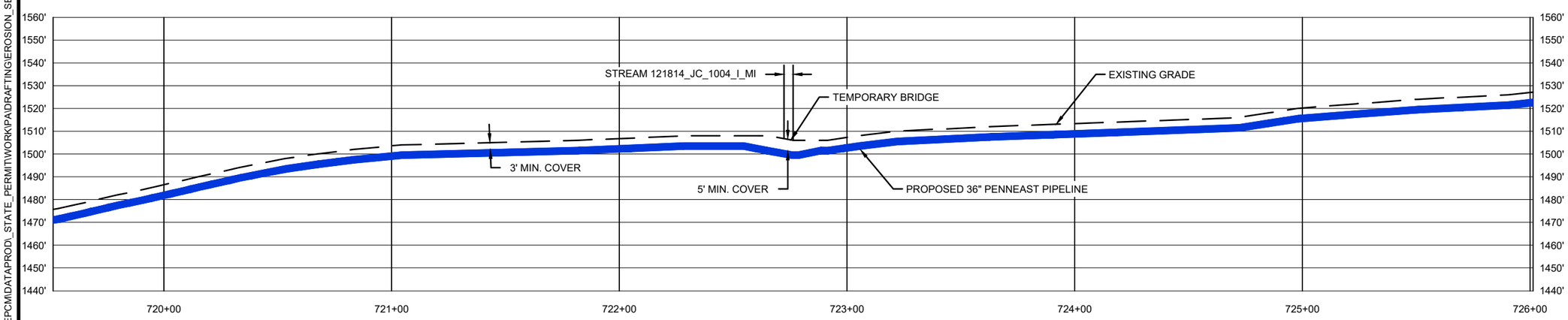
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES) WETLAND	TEMPORARY DISTURBANCE (ACRES) WATERCOURSE CHANNEL	TEMPORARY DISTURBANCE (ACRES) WATERCOURSE FLOODWAY	PERMANENT DISTURBANCE (ACRES) WETLAND	PERMANENT DISTURBANCE (ACRES) WATERCOURSE CHANNEL	PERMANENT DISTURBANCE (ACRES) WATERCOURSE FLOODWAY	STREAM IMPACT (FT) CROSSING WIDTH	STREAM IMPACT (FT) WATERCOURSE CENTERLINE	CROSSING METHOD PRIMARY	CROSSING METHOD SECONDARY	CROSSING METHOD TERTIARY	EQUIPMENT CROSSING
121814_JC_001_PEM	WETLAND	PADEP	0.015	-	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	0.015	-	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
121814_JC_1004_I_MI	WATERBODY	PADEP	-	0.004	0.108	-	0.003	0.072	4	47	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.004	-	-	-	-	4	47	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR PADEP	HM	JB/KEK	MJD
3	06/2020	REVISED FOR PERMITTING	AJD	JMF	MJD
4	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS

DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 13.7

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-029	4

6/25/2020 9:49 AM, DUMAIS, ALEXANDER
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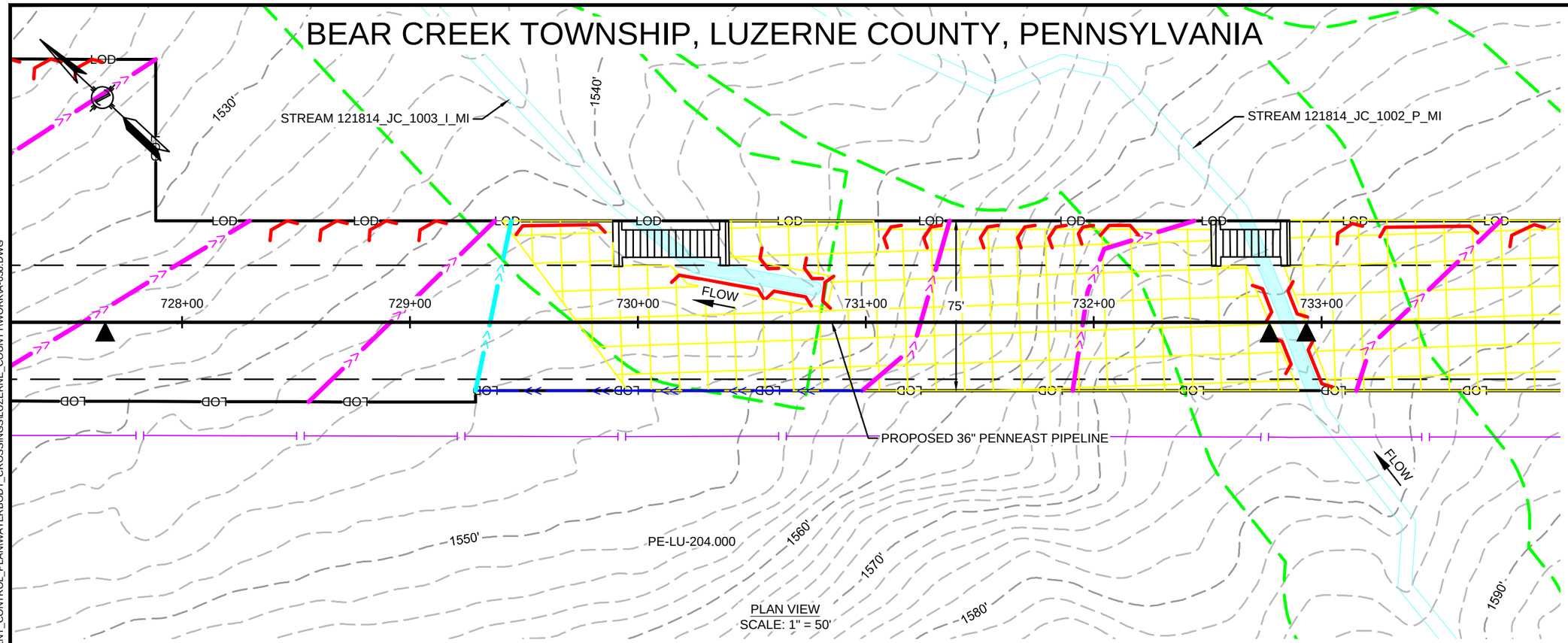
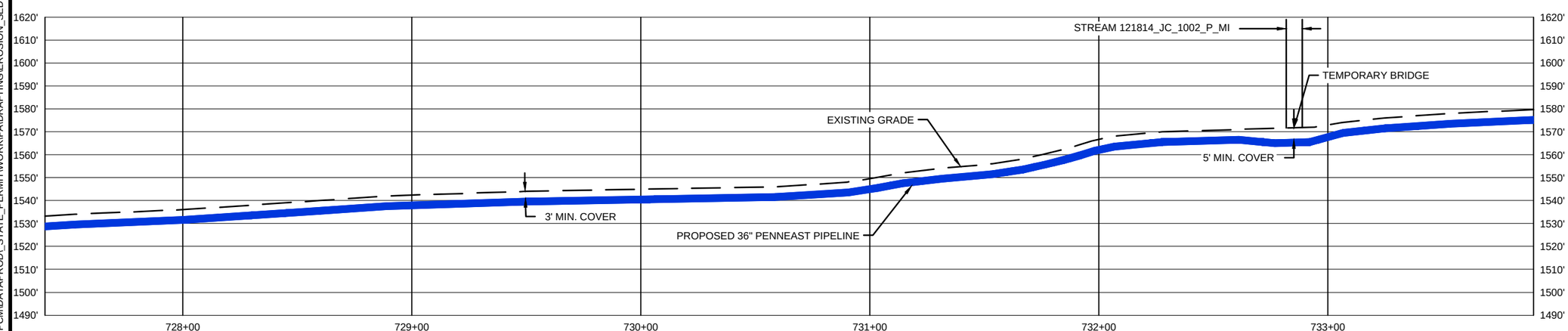
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
121814_JC_1002_P_MI	WATERBODY	PADEP	-	0.007	0.115	-	0.004	0.074	7	48	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.007*	-	-	-	-	*7*	*48*	*DPX*	*FX*	*CD*	*MAT BRIDGE OR EQUIVALENT*
121814_JC_1003_I_MI	WATERBODY	PADEP	-	0.011	0.113	-	0.001	0.073	6	78	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.011*	-	-	-	-	*6*	*78*	*N/A*	*N/A*	*N/A*	*MAT BRIDGE OR EQUIVALENT*

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 13.9

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-030	3

10/28/2019 10:42 PM, MORALES, HECTOR
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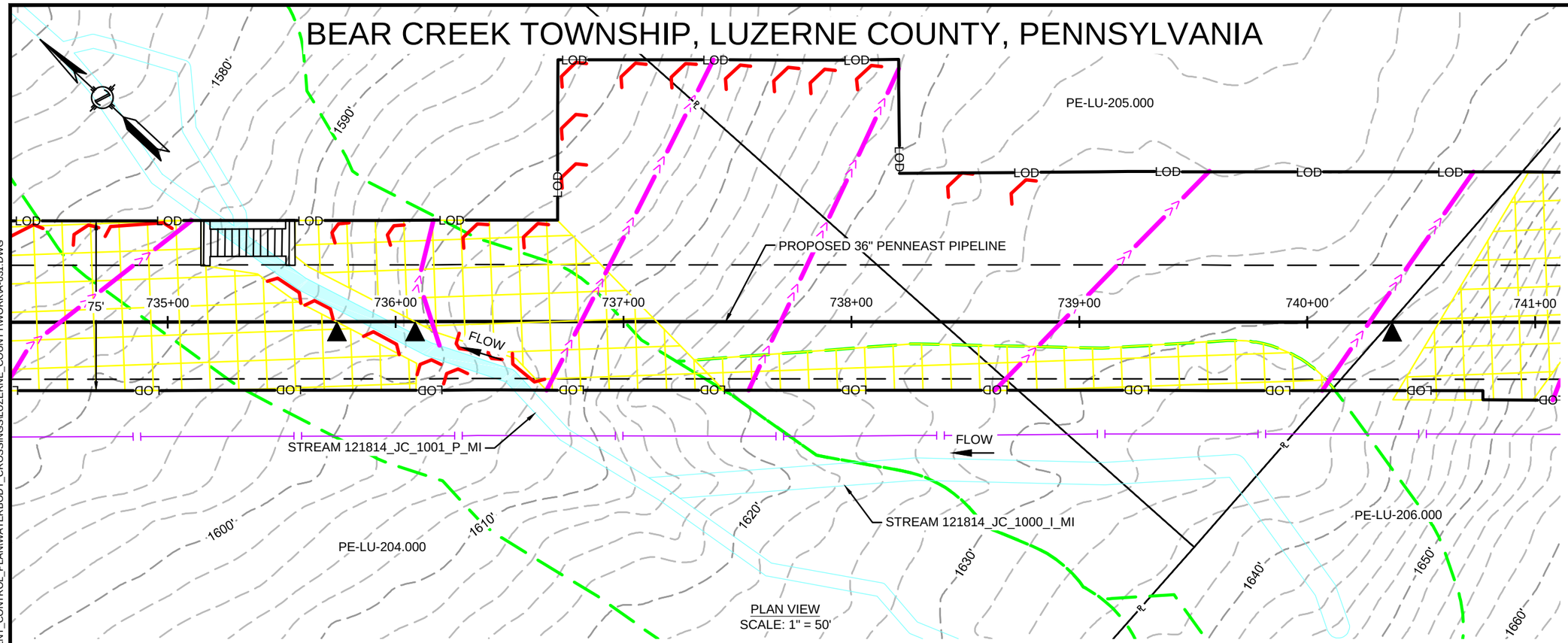
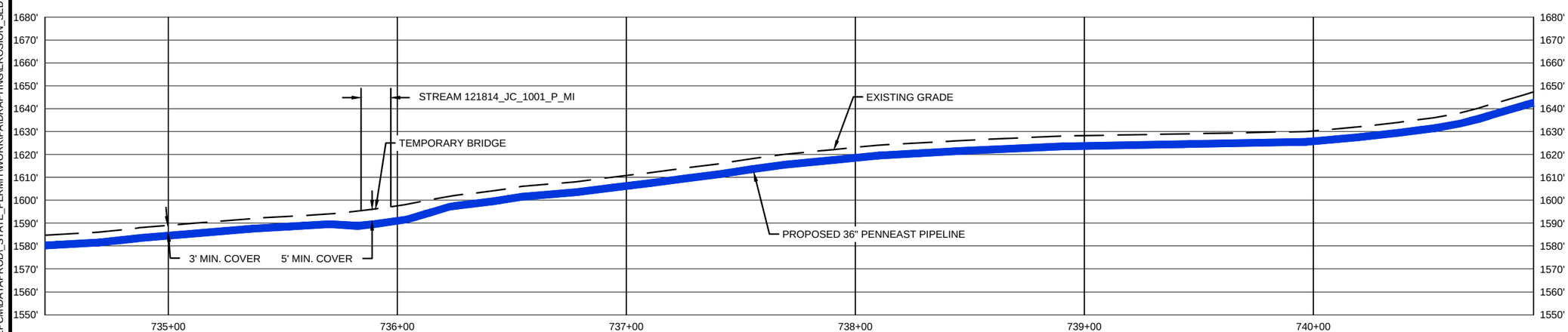
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
121814_JC_1000_I_MI	WATERBODY	PADEP	-	-	0.093	-	-	0.023	-	-	N/A	N/A	N/A	N/A - WORKSPACE
		USACE	-	-	-	-	-	-	-	-	-	-	-	-
121814_JC_1001_P_MI	WATERBODY	PADEP	-	0.013	0.195	-	0.009	0.135	13	89	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.013*	-	-	-	-	*13*	*89*	*DPX*	*FX*	*CD*	*MAT BRIDGE OR EQUIVALENT*

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 13.9

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-031	3

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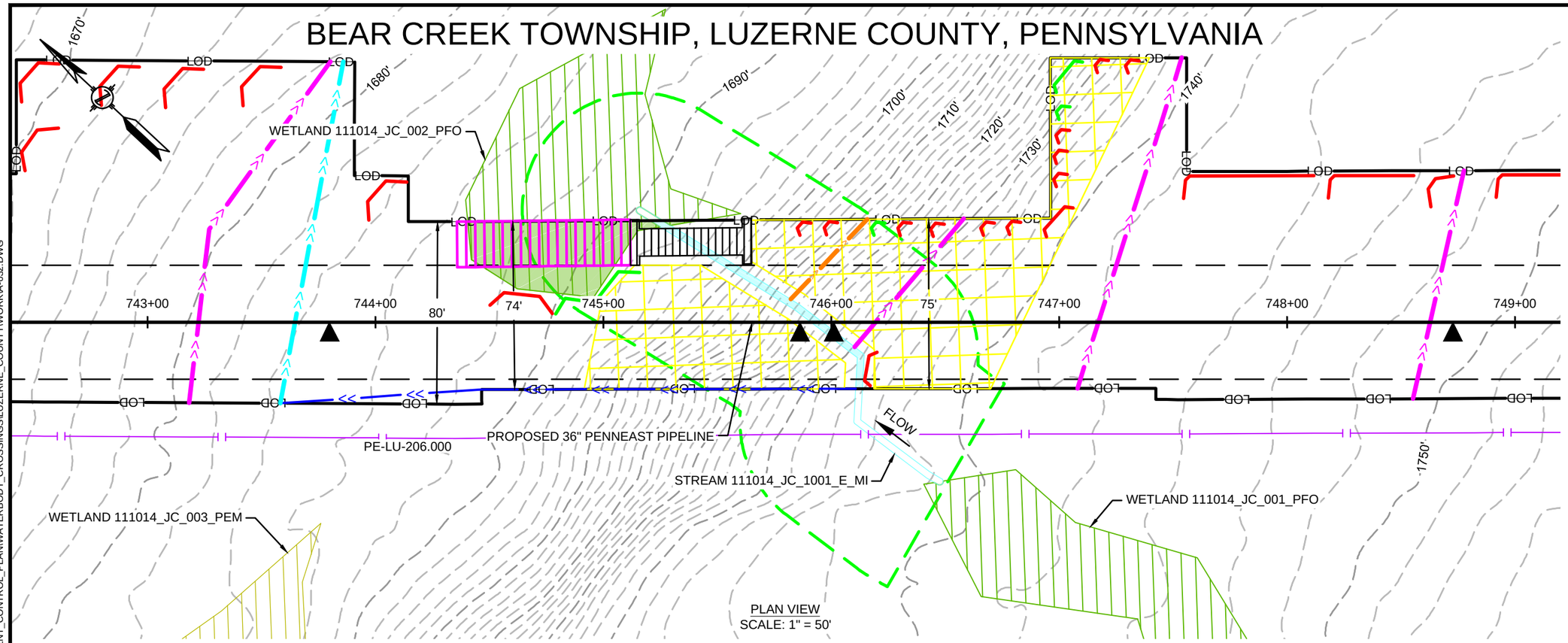
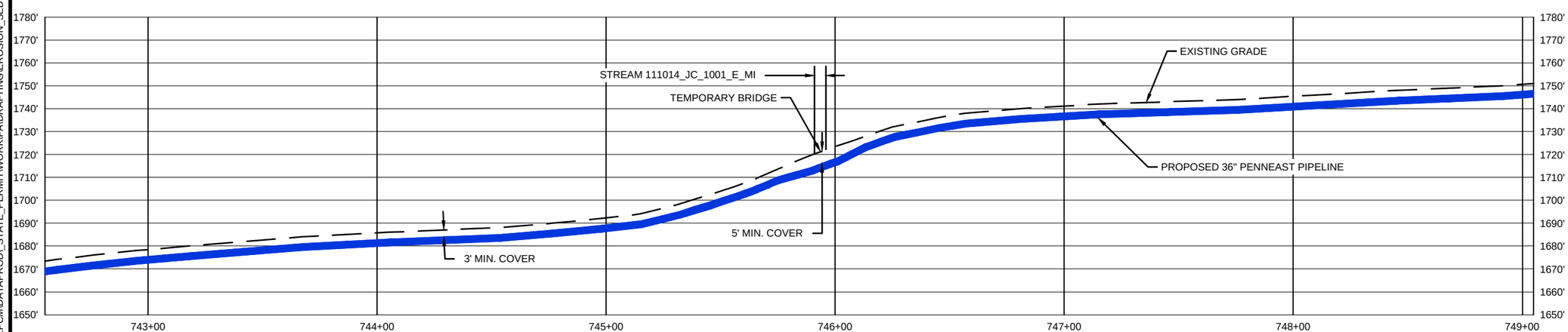
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)				PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
111014_JC_002_PFO	WETLAND	PADEP	0.042	-	-		0.002	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	0.042	-	-		0.002	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
111014_JC_1001_E_MI	WATERBODY	PADEP	-	0.004	0.128		-	0.004	0.108	3	71	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.004	-		-	-	-	3	71	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

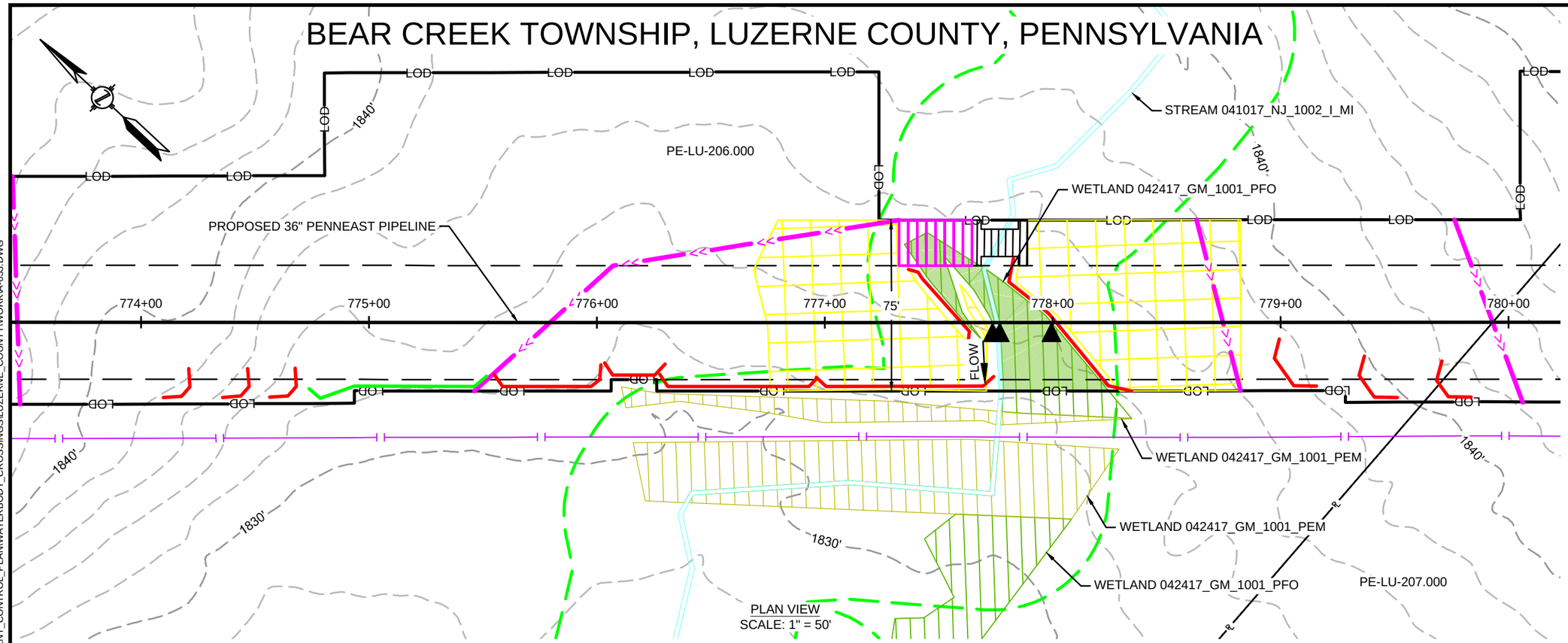
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 14.1

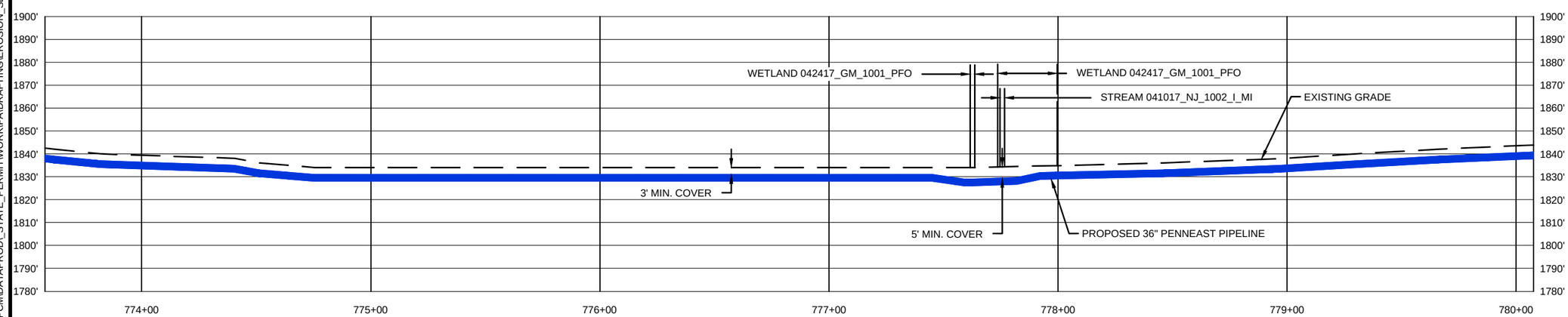
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-032	3

10/28/2019 10:53 PM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-032.DWG

BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
042417_GM_1001_PFO	WETLAND	PADEP	0.025	-	-	0.018	-	-	-	-	CL - OPEN CUT	-	-	MATTED
		USACE	0.025	-	-	0.018	-	-	-	-	CL - OPEN CUT	-	-	MATTED
041017_NJ_1002_I_MI	WATERBODY	PADEP	-	0.003	0.106	-	0.001	0.052	2	48	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.003	-	-	-	-	2	48	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

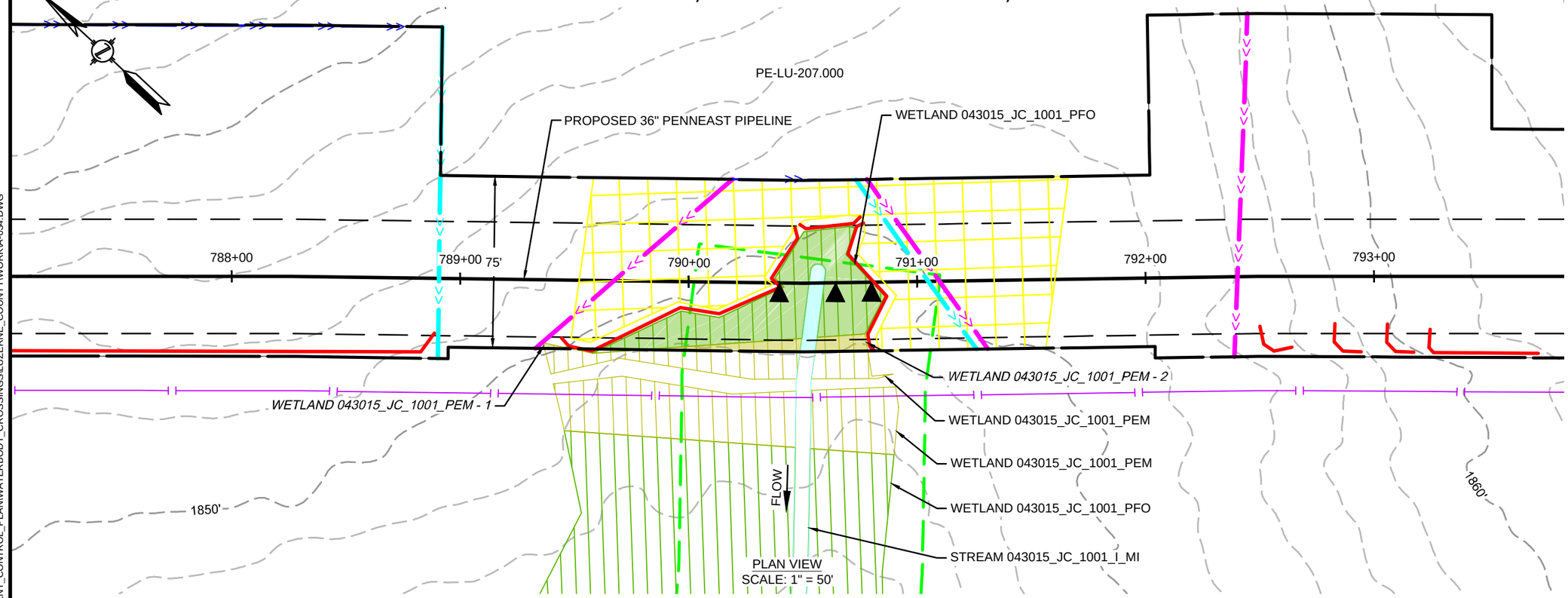
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 14.7

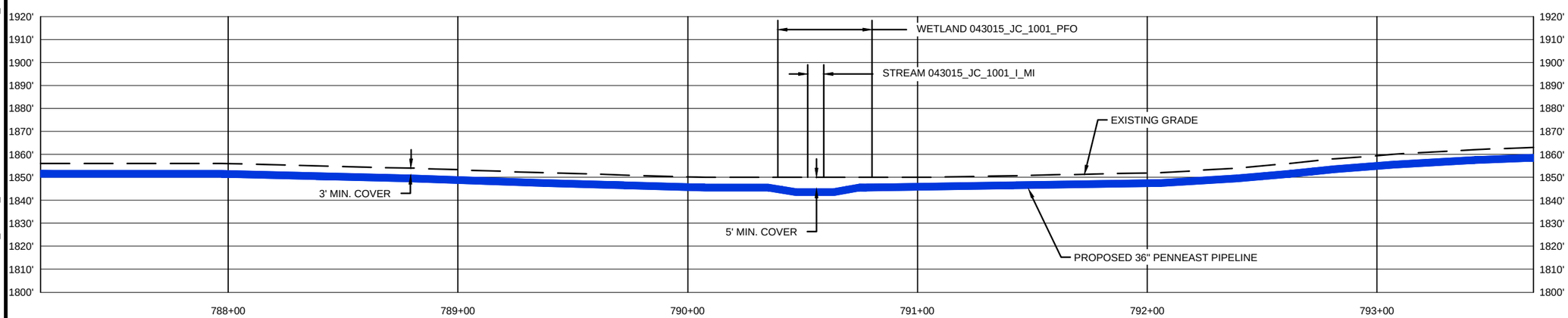
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-033	3

10/28/2019 10:57 PM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-033.DWG

BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)		PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
043015_JC_1001_PFO	WETLAND	PADEP	0.029	-	0.027	-	-	-	-	CL - OPEN CUT	-	-	MATTED
		USACE	0.029	-	0.027	-	-	-	-	CL - OPEN CUT	-	-	MATTED
043015_JC_1001_PEM - 1	WETLAND	PADEP	0.001	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	0.001	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
043015_JC_1001_PEM - 2	WETLAND	PADEP	0.008	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	0.008	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
043015_JC_1001_I_MI	WATERBODY	PADEP	-	0.003	-	0.003	-	7	15	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.003	-	-	-	7	15	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 15.0

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-034	3

10/25/2019 5:17 AM, MORALES, HECTOR
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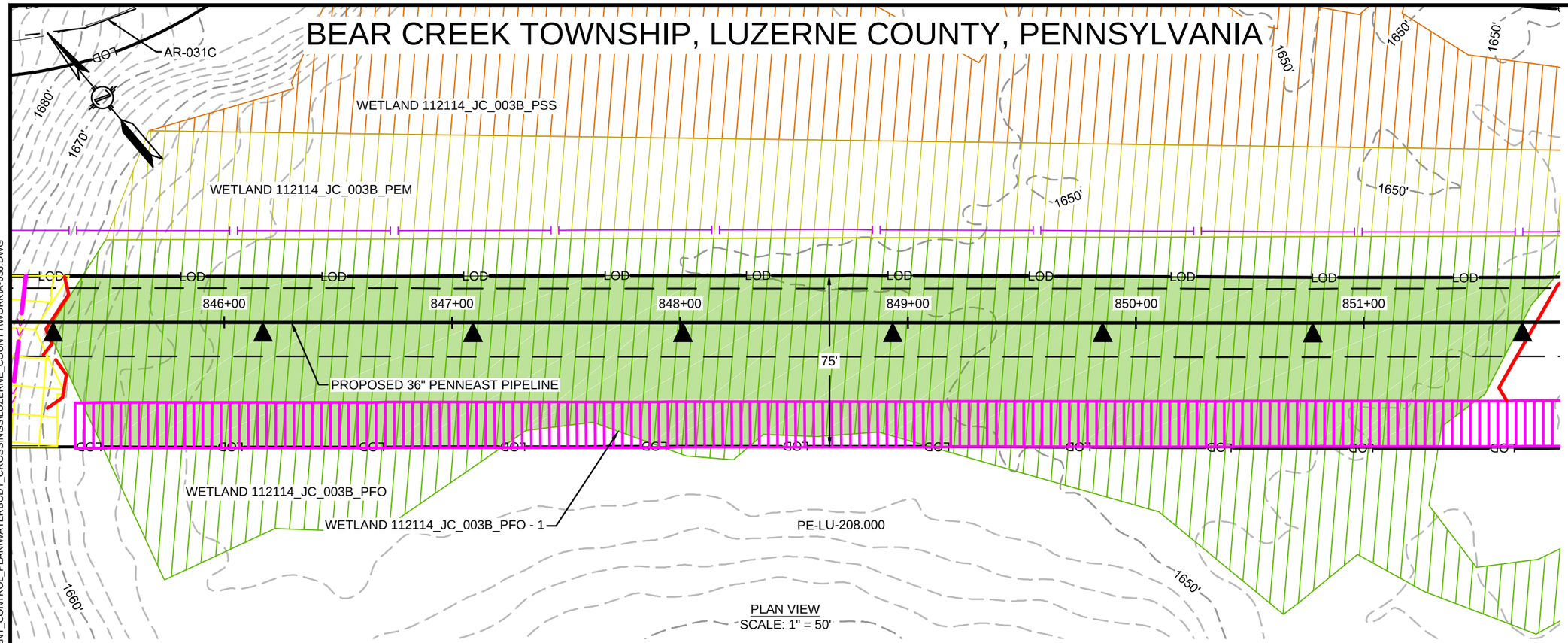
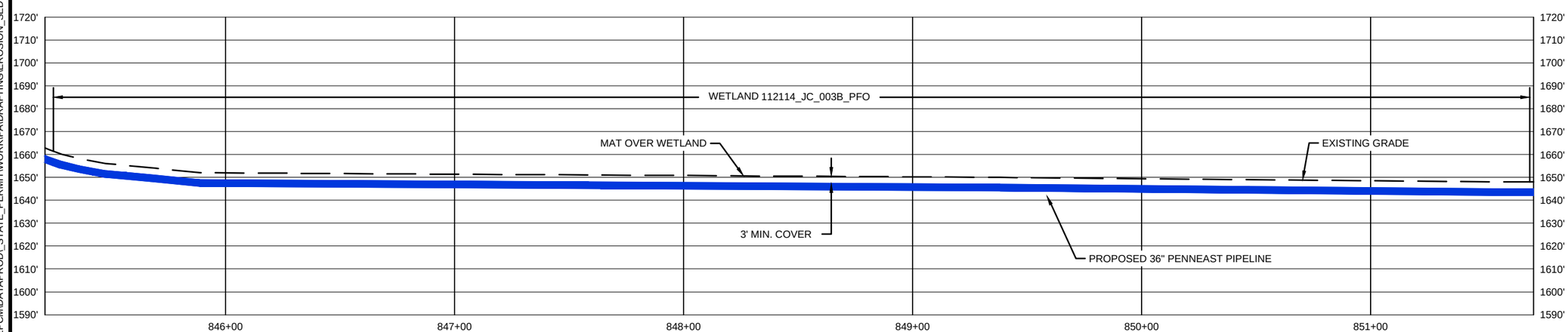
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)				PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
112114_JC_003B_PFO - 1	WETLAND	PADEP	0.616	-	-		0.442	-	-	-	-	CL - OPEN CUT	-	-	MATTED
		USACE	*0.616*	-	-		*0.442*	-	-	-	-	*CL - OPEN CUT*	-	-	*MATTED*

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 16.0

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-035	3

10/28/2019 11:00 PM, MORALES, HECTOR
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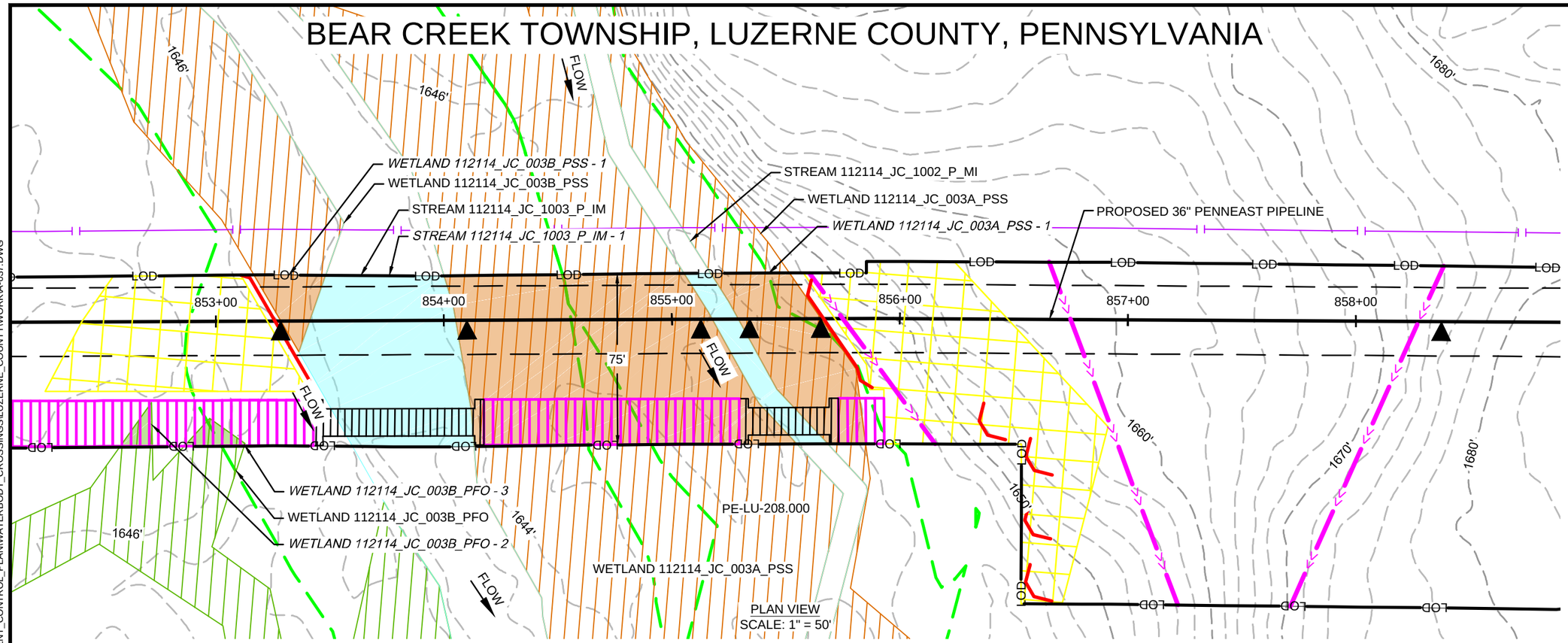
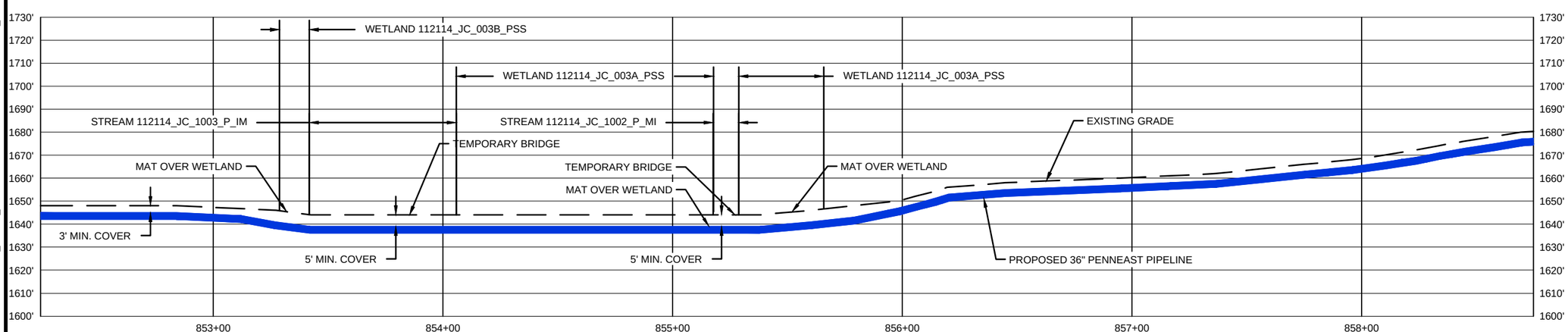
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES) WETLAND	TEMPORARY DISTURBANCE (ACRES) WATERCOURSE CHANNEL	TEMPORARY DISTURBANCE (ACRES) WATERCOURSE FLOODWAY	PERMANENT DISTURBANCE (ACRES) WETLAND	PERMANENT DISTURBANCE (ACRES) WATERCOURSE CHANNEL	PERMANENT DISTURBANCE (ACRES) WATERCOURSE FLOODWAY	STREAM IMPACT (FT) CROSSING WIDTH	STREAM IMPACT (FT) WATERCOURSE CENTERLINE	CROSSING METHOD PRIMARY	CROSSING METHOD SECONDARY	CROSSING METHOD TERTIARY	EQUIPMENT CROSSING
112114_JC_003B_PFO - 2	WETLAND	PADEP	0.003	-	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	0.003	-	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
112114_JC_003B_PFO - 3	WETLAND	PADEP	0.004	-	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	0.004	-	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
112114_JC_1002_P_MI	WATERBODY	PADEP	-	0.013	-	-	0.008	0.002	12	56	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.013	-	-	-	-	12	56	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
112114_JC_003A_PSS - 1	WETLAND	PADEP	0.161	-	-	0.103	-	-	-	-	CL - OPEN CUT	-	-	MATTED
		USACE	0.161	-	-	0.103	-	-	-	-	CL - OPEN CUT	-	-	MATTED
112114_JC_003B_PSS - 1	WETLAND	PADEP	0.003	-	-	0.009	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	0.003	-	-	0.009	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
112114_JC_1003_P_IM - 1	WATERBODY	PADEP	-	0.064	0.053	-	0.044	0.027	65	48	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.064	-	-	-	-	65	48	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR: PennEast PIPELINE

PREPARED BY:

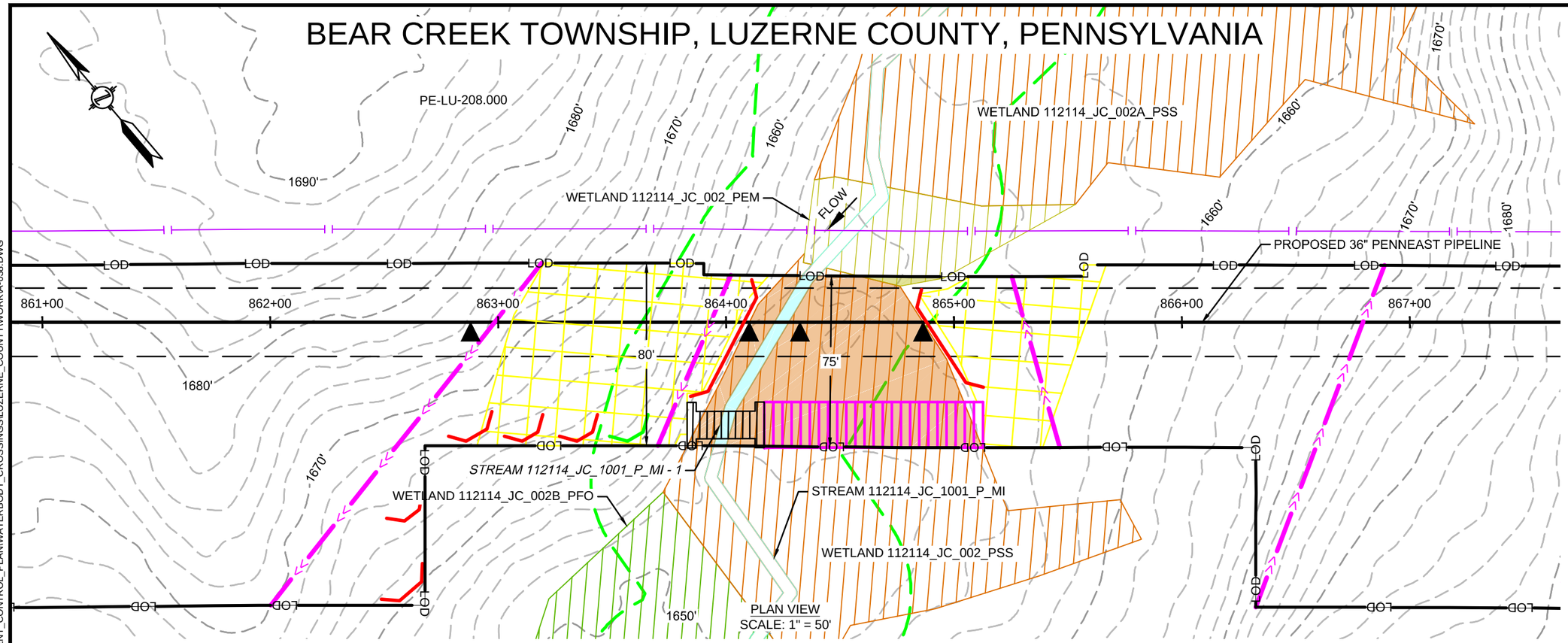
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 16.1

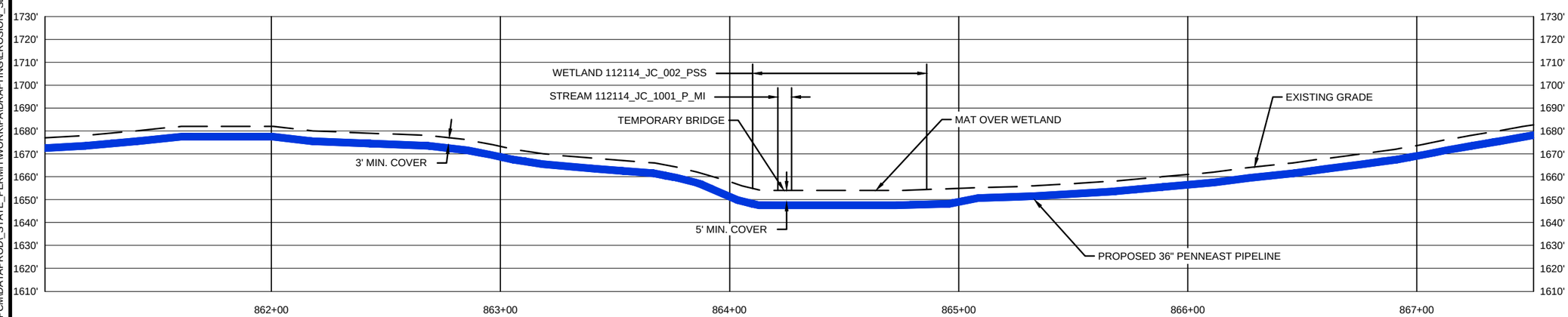
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-036	3

10/25/2019 5:24 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-037.DWG

BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)		PERMANENT DISTURBANCE (ACRES)		STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
112114_JC_002_PSS	WETLAND	PADEP	0.100	-	0.048	-	-	-	-	CL - OPEN CUT	-	-	MATTED
		USACE	0.100	-	0.048	-	-	-	-	CL - OPEN CUT	-	-	MATTED
112114_JC_002_PEM	WETLAND	PADEP	0.002	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	0.002	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
112114_JC_1001_P_MI - 1	WATERBODY	PADEP	-	0.007	-	0.004	0.038	7	50	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.007	-	-	-	7	50	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 16.4

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-037	3

10/25/2019 5:28 AM, MORALES, HECTOR
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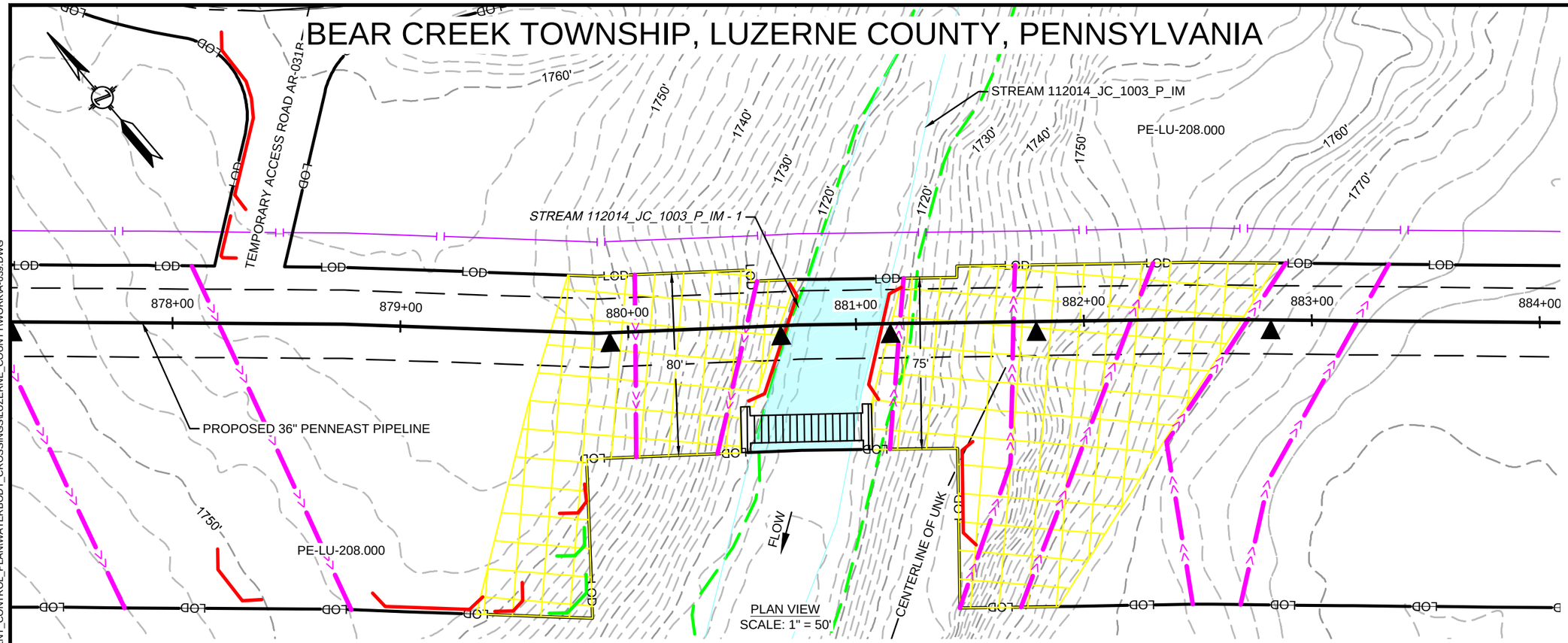
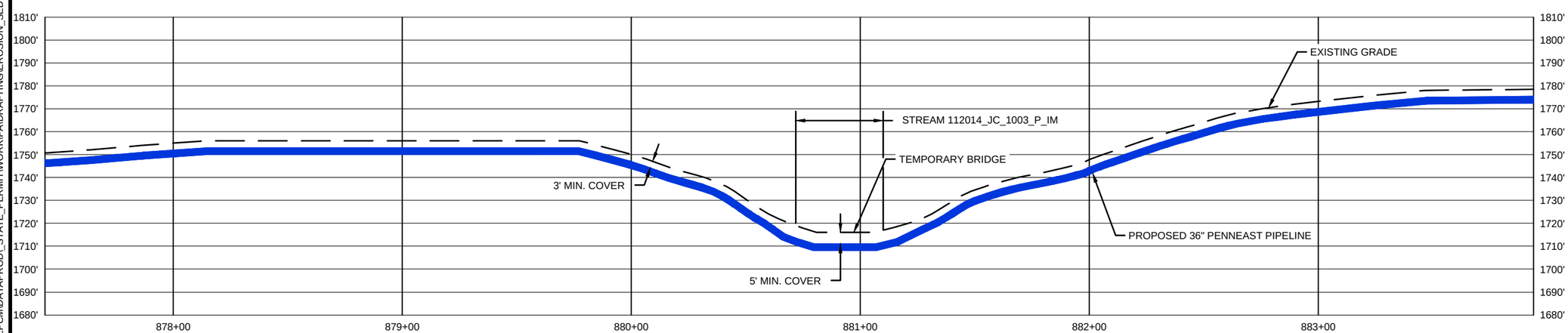
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)				PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
112014_JC_1003_P_IM - 1	WATERBODY	PADEP	-	0.042	0.015	-	-	-	-	38	47	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.042	-	-	-	-	-	38	47	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

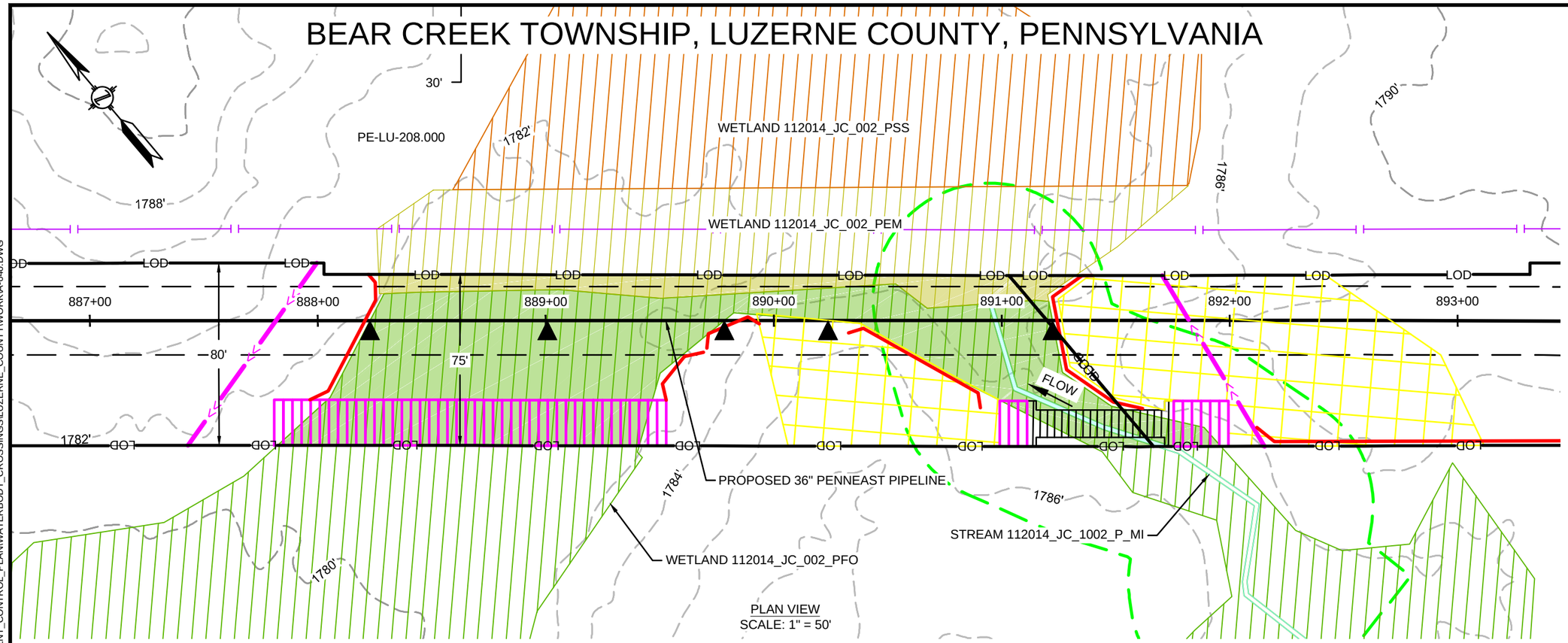
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 16.7

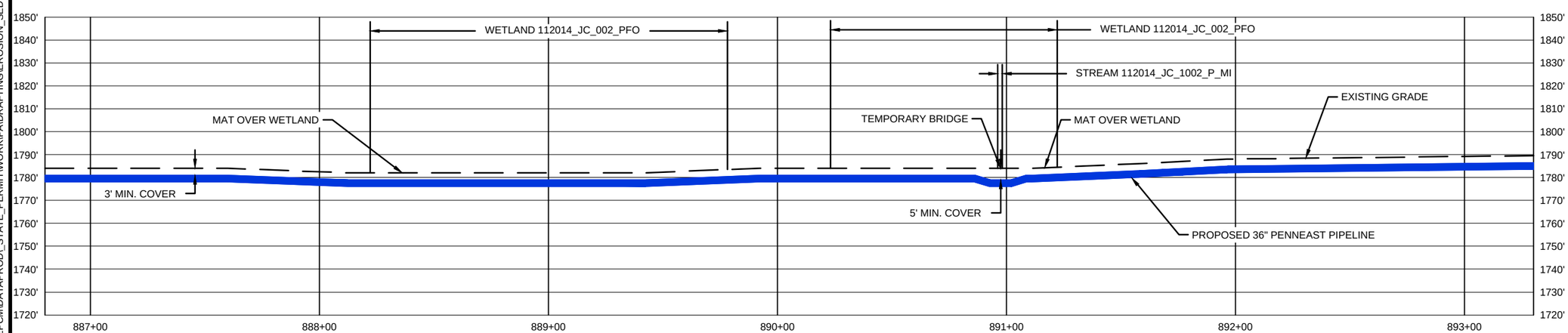
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-038	3

10/28/2019 8:52 PM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-039.DWG

BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES) WETLAND	TEMPORARY DISTURBANCE (ACRES) WATERCOURSE CHANNEL	TEMPORARY DISTURBANCE (ACRES) WATERCOURSE FLOODWAY	PERMANENT DISTURBANCE (ACRES) WETLAND	PERMANENT DISTURBANCE (ACRES) WATERCOURSE CHANNEL	PERMANENT DISTURBANCE (ACRES) WATERCOURSE FLOODWAY	STREAM IMPACT (FT) CROSSING WIDTH	STREAM IMPACT (FT) WATERCOURSE CENTERLINE	CROSSING METHOD PRIMARY	CROSSING METHOD SECONDARY	CROSSING METHOD TERTIARY	EQUIPMENT CROSSING
112014_JC_002_PFO	WETLAND	PADEP	0.179	-	-	0.154	-	-	-	-	CL - OPEN CUT	-	-	MATTED
		USACE	0.179	-	-	0.154	-	-	-	-	CL - OPEN CUT	-	-	MATTED
112014_JC_002_PEM	WETLAND	PADEP	0.035	-	-	0.023	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	0.035	-	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
112014_JC_1002_P_MI	WATERBODY	PADEP	-	0.004	0.118	-	0.001	0.034	2	86	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.004	-	-	-	-	2	86	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

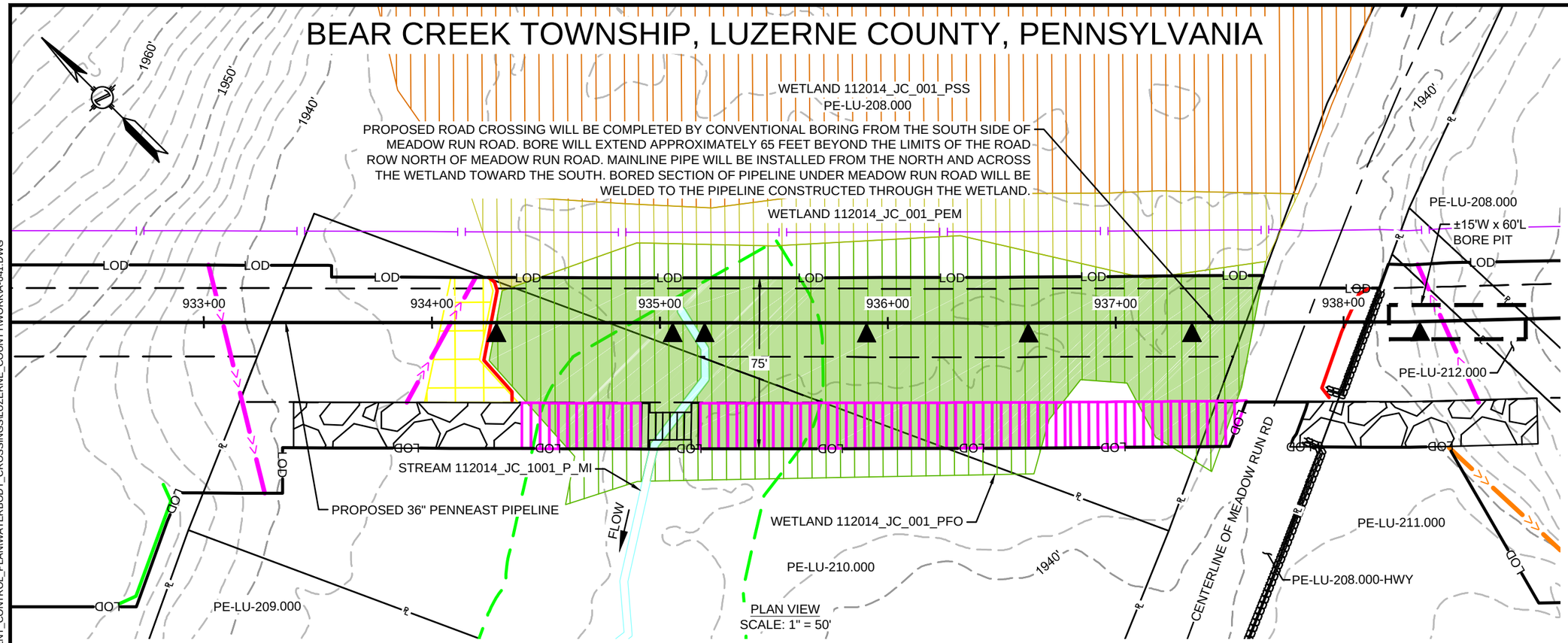
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 16.8

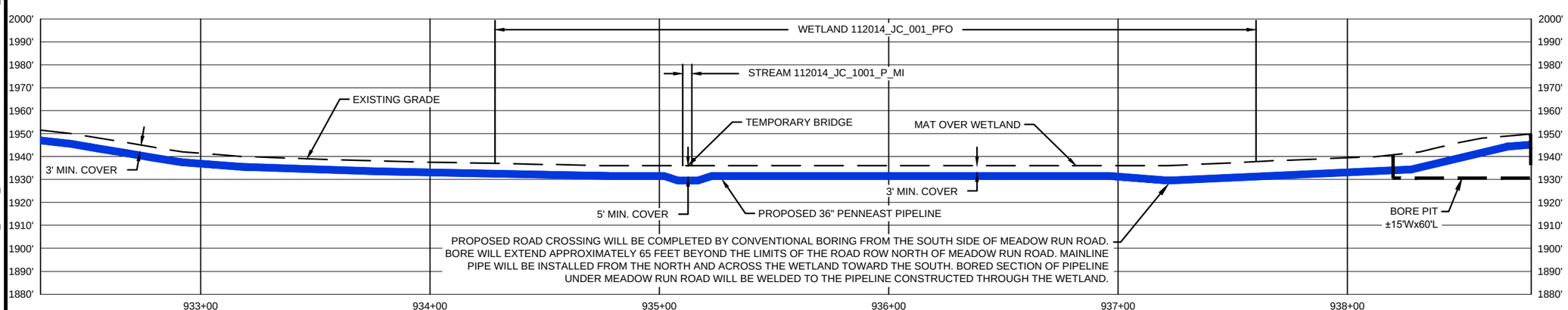
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-039	3

10/25/2019 5:35 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-040.DWG

BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)		PERMANENT DISTURBANCE (ACRES)		STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WETLAND	WATERCOURSE CHANNEL	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
112014_JC_001_PFO	WETLAND	PADEP	0.293	-	0.227	-	-	-	CL - OPEN CUT	-	-	MATTED
		USACE	0.293	-	0.227	-	-	-	CL - OPEN CUT	-	-	MATTED
112014_JC_001_PEM	WETLAND	PADEP	0.001	-	0.001	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	0.001	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
112014_JC_1001_P_MI	WATERBODY	PADEP	-	0.004	-	0.002	4	48	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.004	-	-	4	48	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	06/2020	REVISED FOR PERMITTING	AJD	JF/KEK	MJD
4	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS

DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 17.7

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-040	4

6/16/2020 3:16 PM, DUMAIS, ALEXANDER
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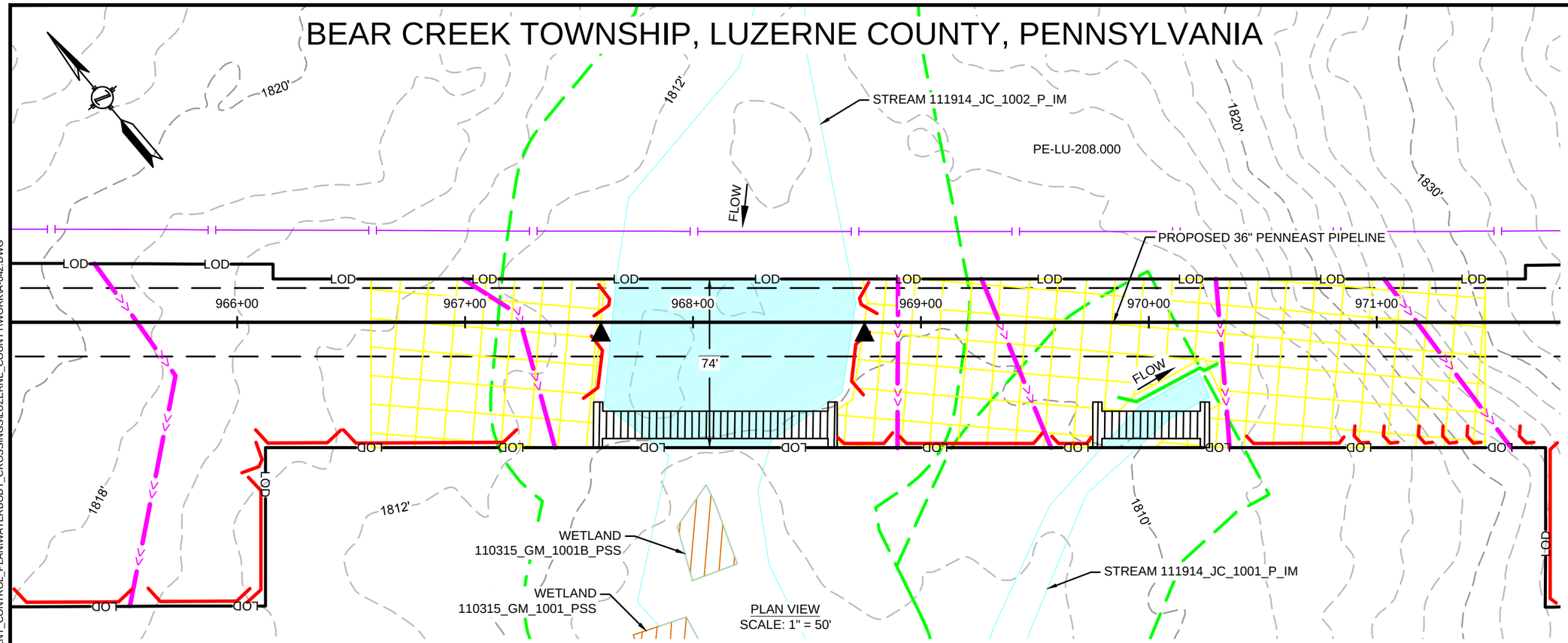
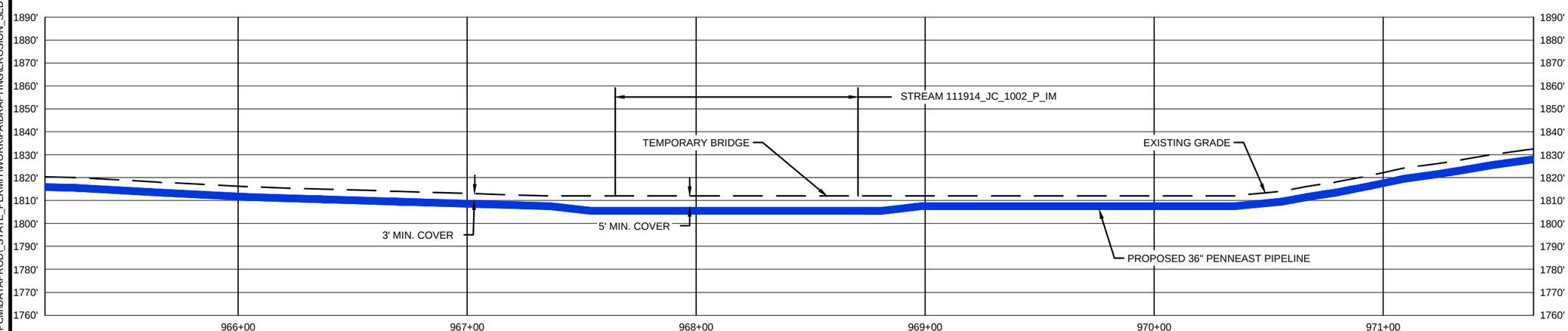
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
111914_JC_1001_P_IM	WATERBODY	PADEP	-	0.013	0.080	-	-	0.033	13	52	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.013	-	-	-	-	13	52	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
111914_JC_1002_P_IM	WATERBODY	PADEP	-	0.090	0.115	-	0.073	0.069	106	58	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.090	-	-	-	-	106	58	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 18.3

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-041	3

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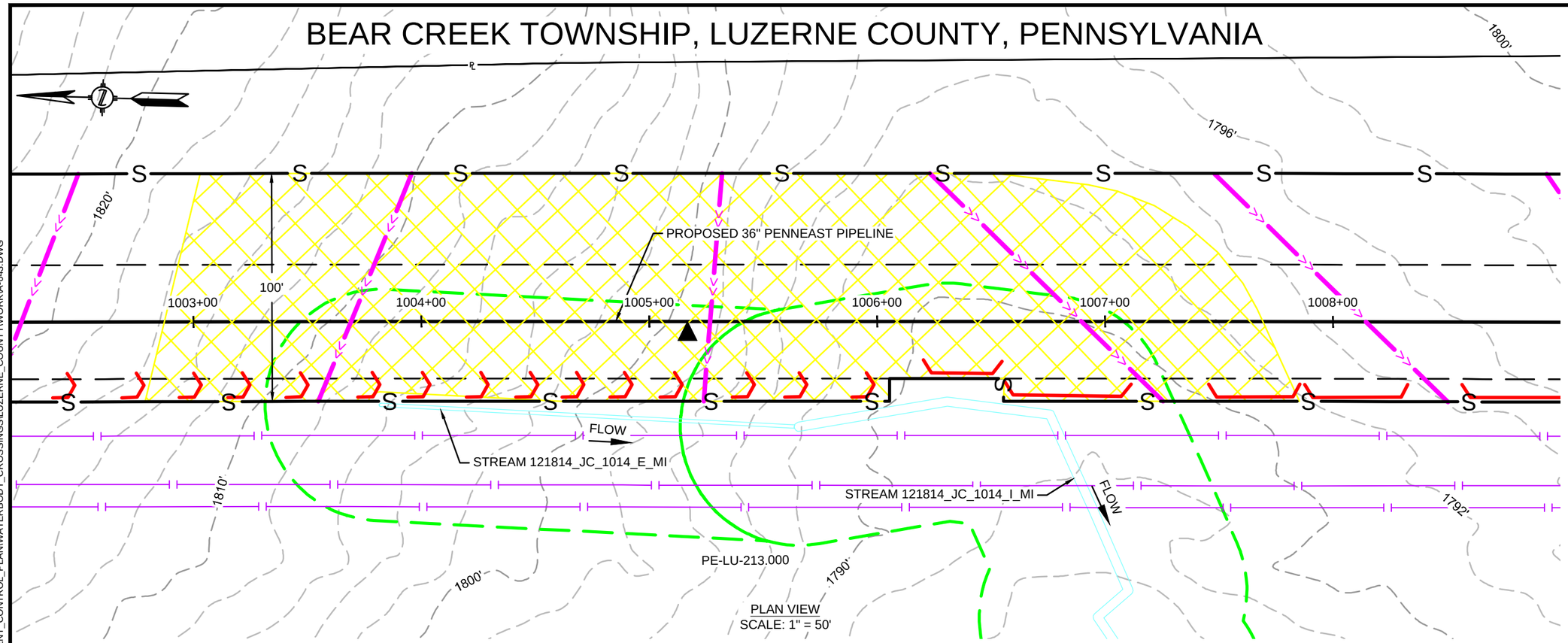
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)				PERMANENT DISTURBANCE (ACRES)				STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
121814_JC_1014_I_MI	WATERBODY	PADEP	-	-	0.085		-	-	0.103		-	-	N/A	N/A	N/A	N/A - WORKSPACE
		USACE	-	-	-		-	-	-		-	-	-	-	-	-
121814_JC_1014_E_MI	WATERBODY	PADEP	-	-	0.085		-	-	0.111		-	-	N/A	N/A	N/A	N/A - WORKSPACE
		USACE	-	-	-		-	-	-		-	-	-	-	-	-

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 19.0

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-042	3

10/25/2019 5:45 AM, MORALES, HECTOR
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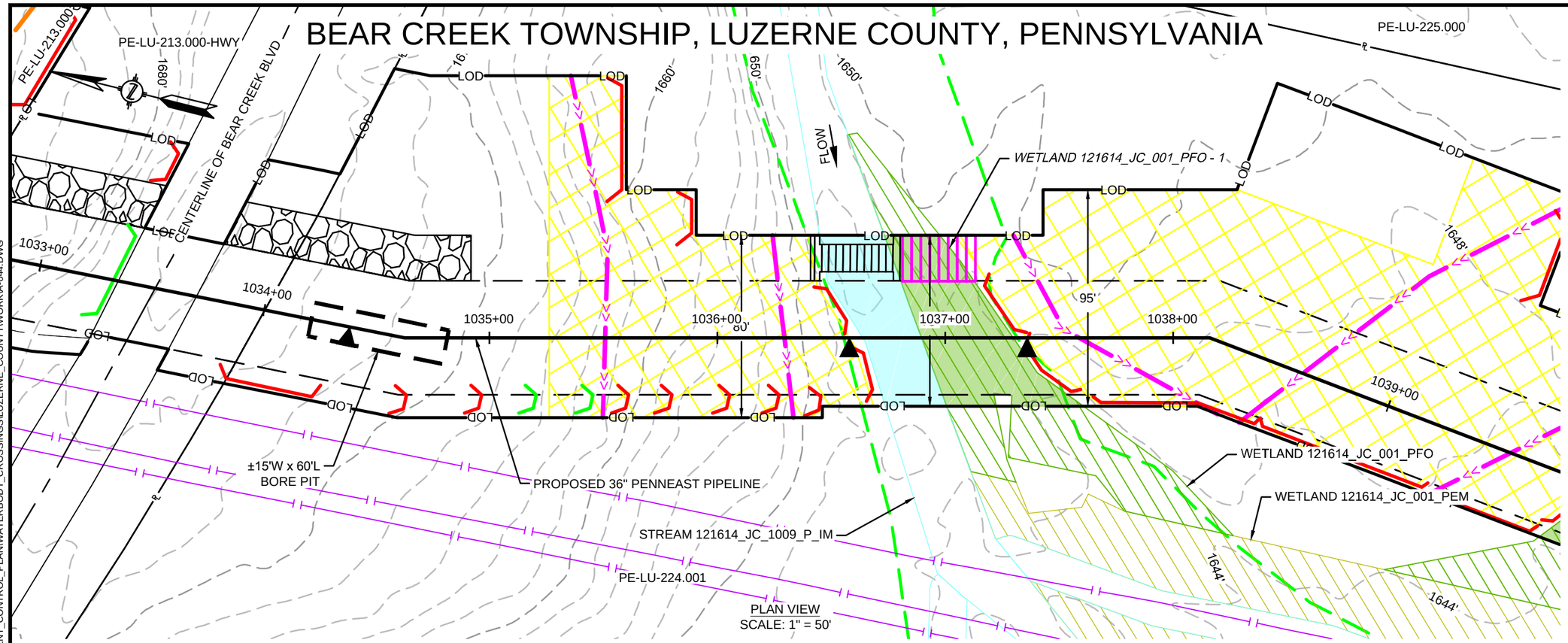
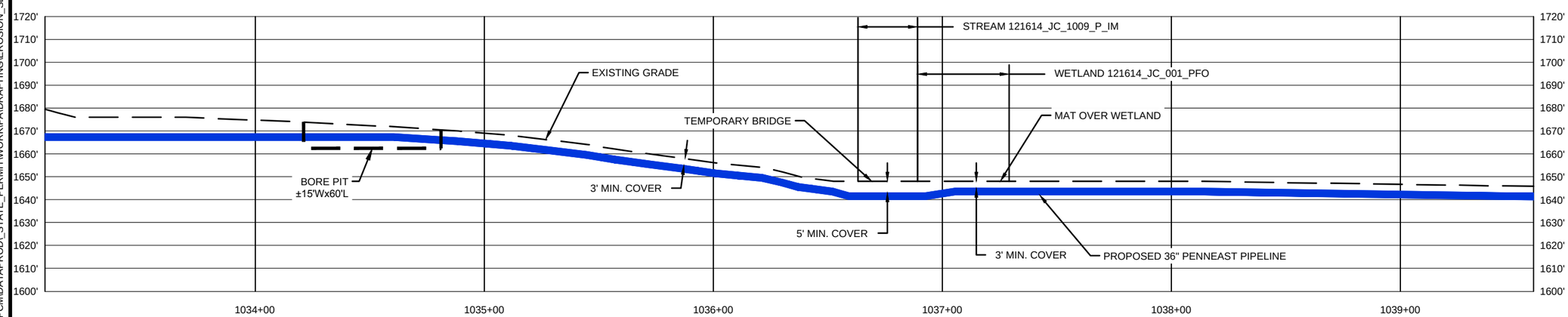
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
121614_JC_1009_P_IM	WATERBODY	PADEP	-	0.030	0.016	-	0.018	0.007	26	48	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.030	-	-	-	-	26	48	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
121614_JC_001_PFO - 1	WETLAND	PADEP	0.038	-	-	0.028	-	-	-	-	CL - OPEN CUT	-	-	MATTED
		USACE	0.038	-	-	0.028	-	-	-	-	CL - OPEN CUT	-	-	MATTED

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 19.6

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-043	3

10/28/2019 8:23 PM, MORALES, HECTOR
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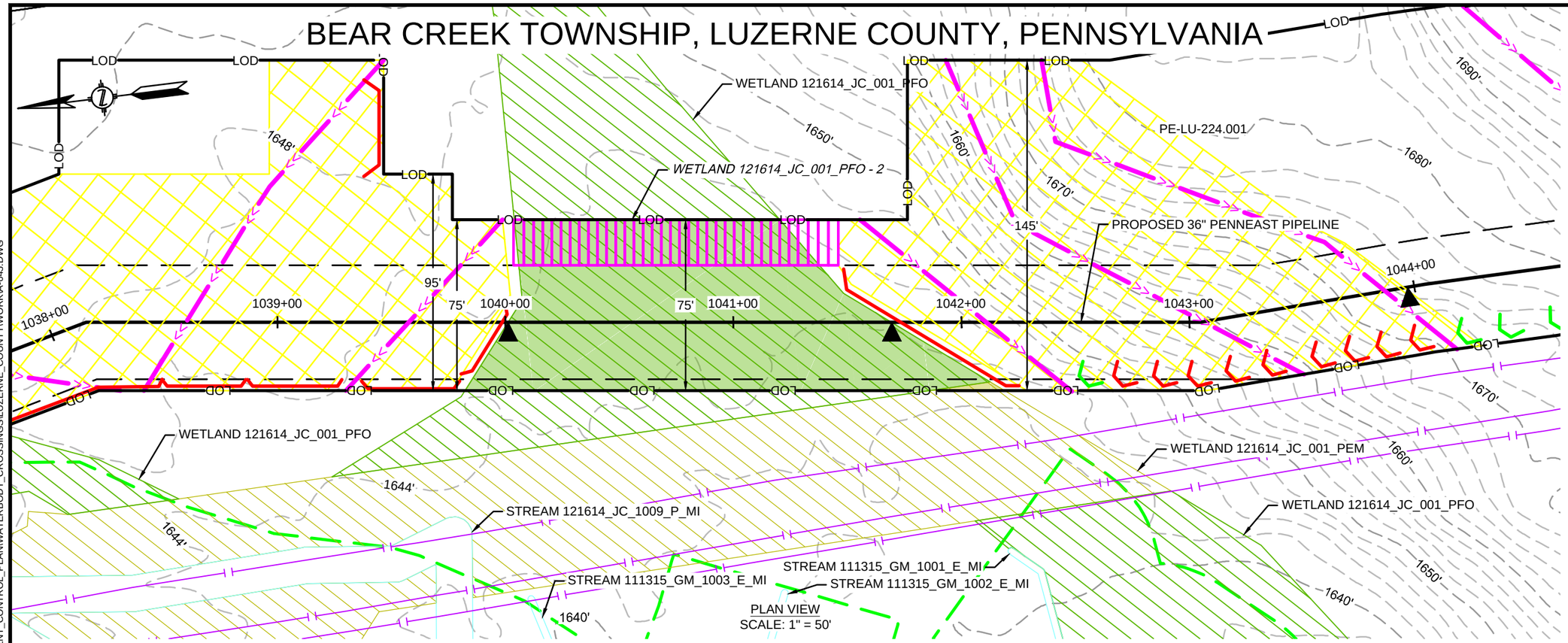
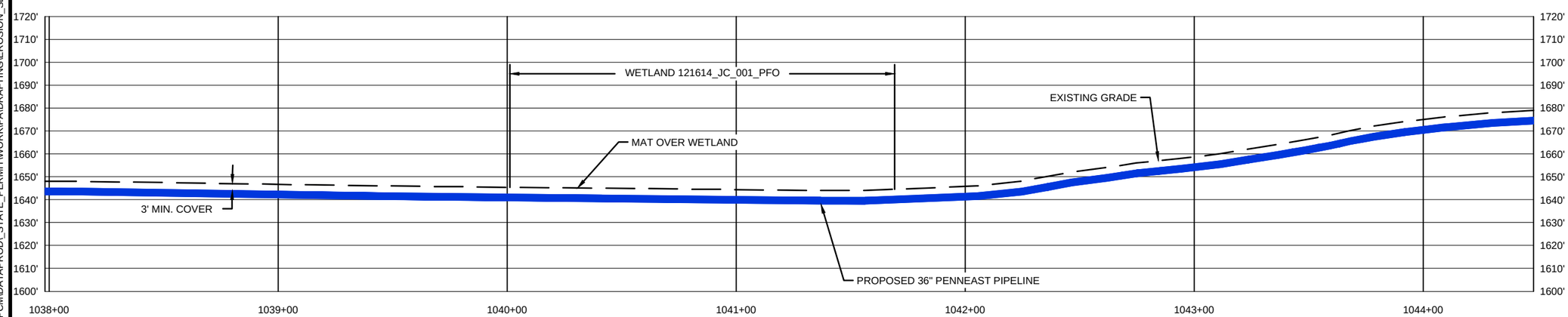
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
121614_JC_001_PEM	WETLAND	PADEP	0.001	-	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	0.001	-	-	-	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
121614_JC_001_PFO - 2	WETLAND	PADEP	0.163	-	-	0.116	-	-	-	-	CL - OPEN CUT	-	-	MATTED
		USACE	0.163	-	-	0.116	-	-	-	-	CL - OPEN CUT	-	-	MATTED

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

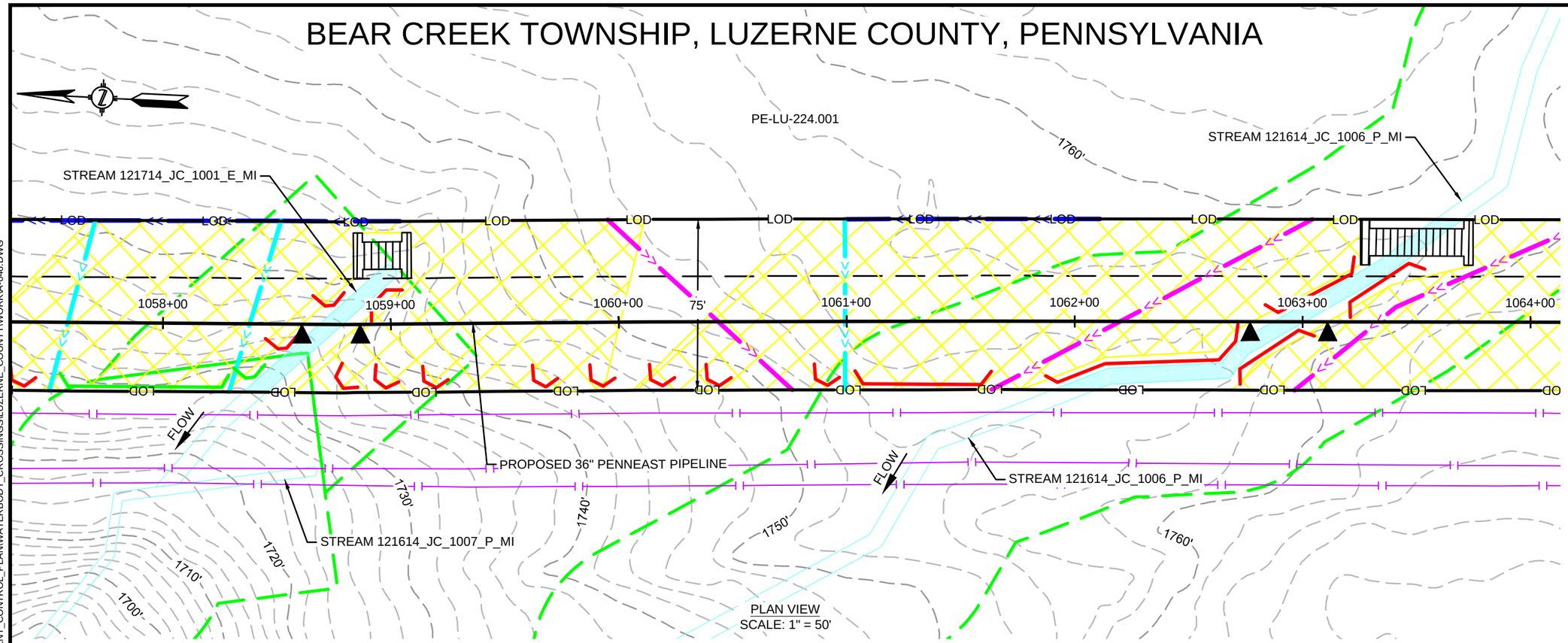
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 19.7

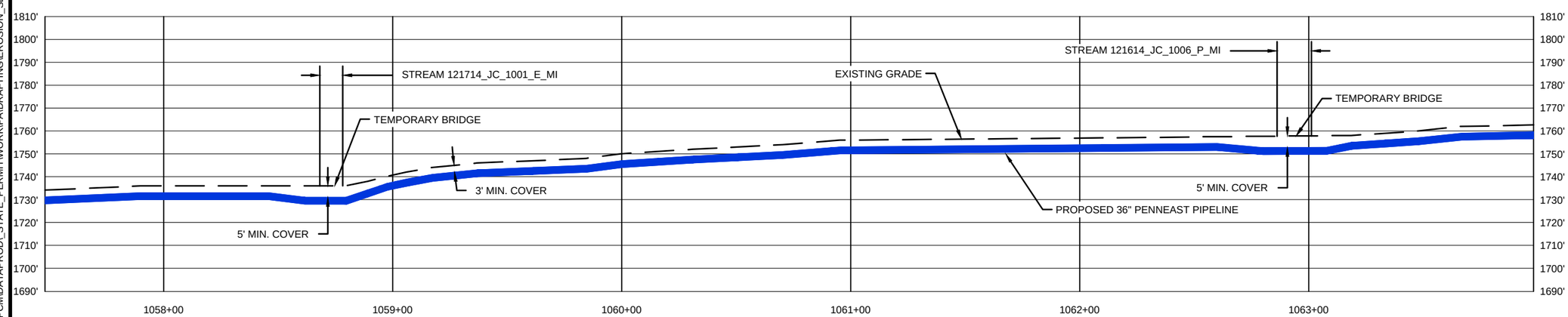
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-044	3

10/25/2019 5:52 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMITWORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-045.DWG

BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
121614_JC_1007_P_MI	WATERBODY	PADEP	-	-	0.021	-	-	0.001	-	-	N/A	N/A	N/A	N/A - WORKSPACE
		USACE	-	-	-	-	-	-	-	-	-	-	-	-
121614_JC_1006_P_MI	WATERBODY	PADEP	-	0.021	0.215	-	0.009	0.172	14	129	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.021*	-	-	-	-	*14*	*129*	*DPX*	*FX*	*CD*	*MAT BRIDGE OR EQUIVALENT*
121714_JC_1001_E_MI	WATERBODY	PADEP	-	0.006	0.076	-	0.007	0.083	9	39	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.006*	-	-	-	-	*9*	*39*	*DPX*	*FX*	*DX-NF*	*MAT BRIDGE OR EQUIVALENT*

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

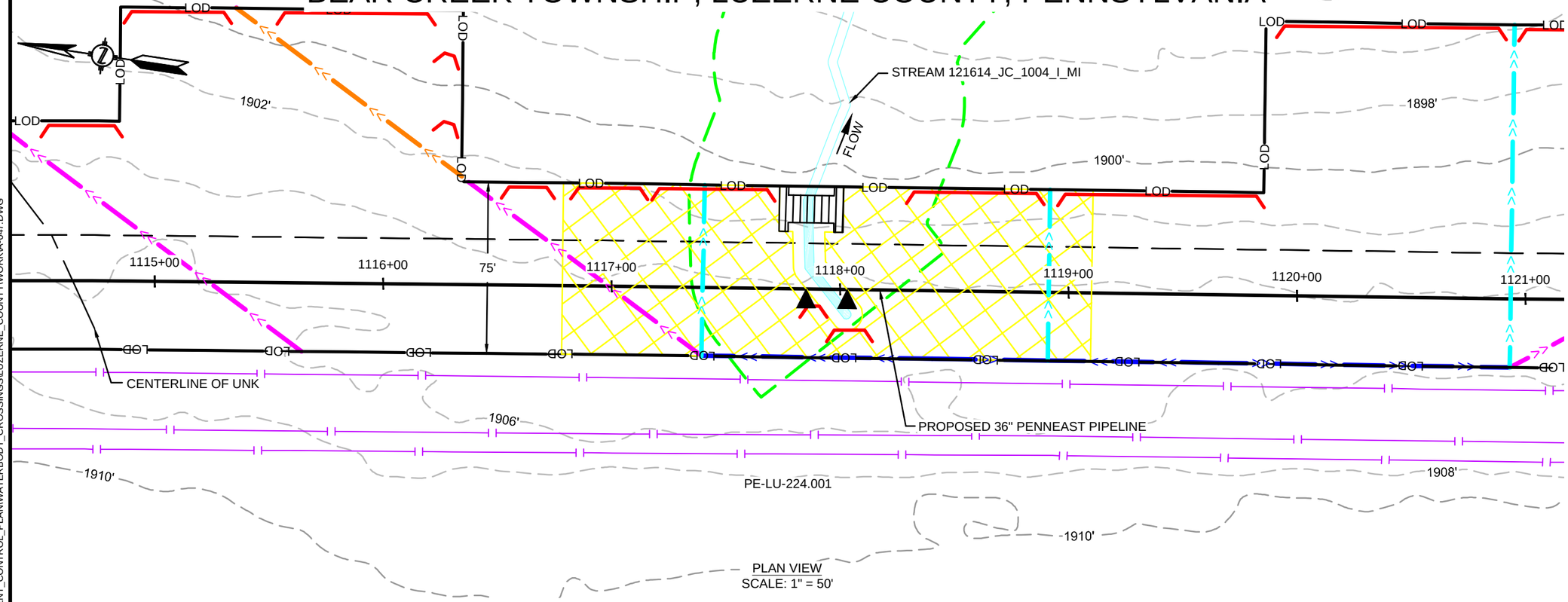
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 20.1

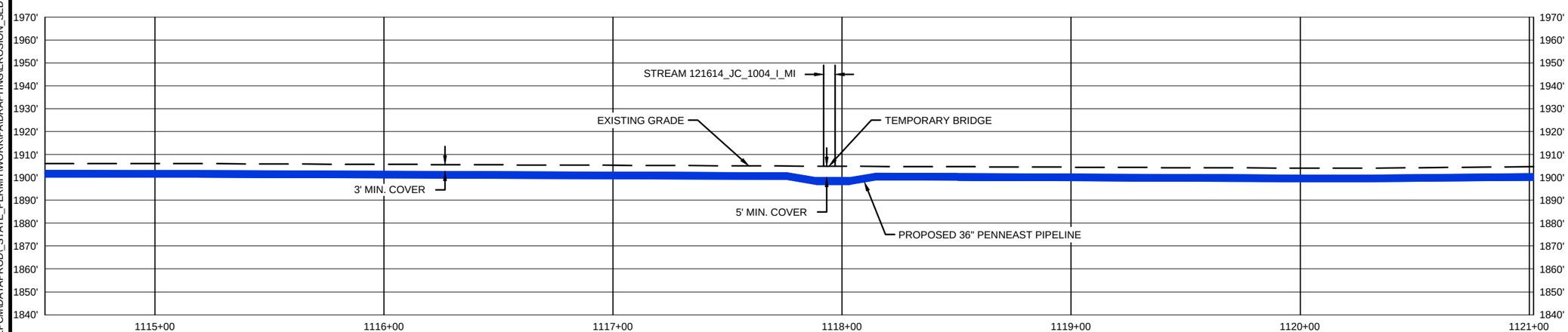
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-045	3

10/28/2019 8:27 PM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPCM\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-046.DWG

BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
121614_JC_1004_I_MI	WATERBODY	PADEP	-	0.003	0.089	-	0.003	0.058	5	30	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.003	-	-	-	-	5	30	DPX	FX	DX-NF	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

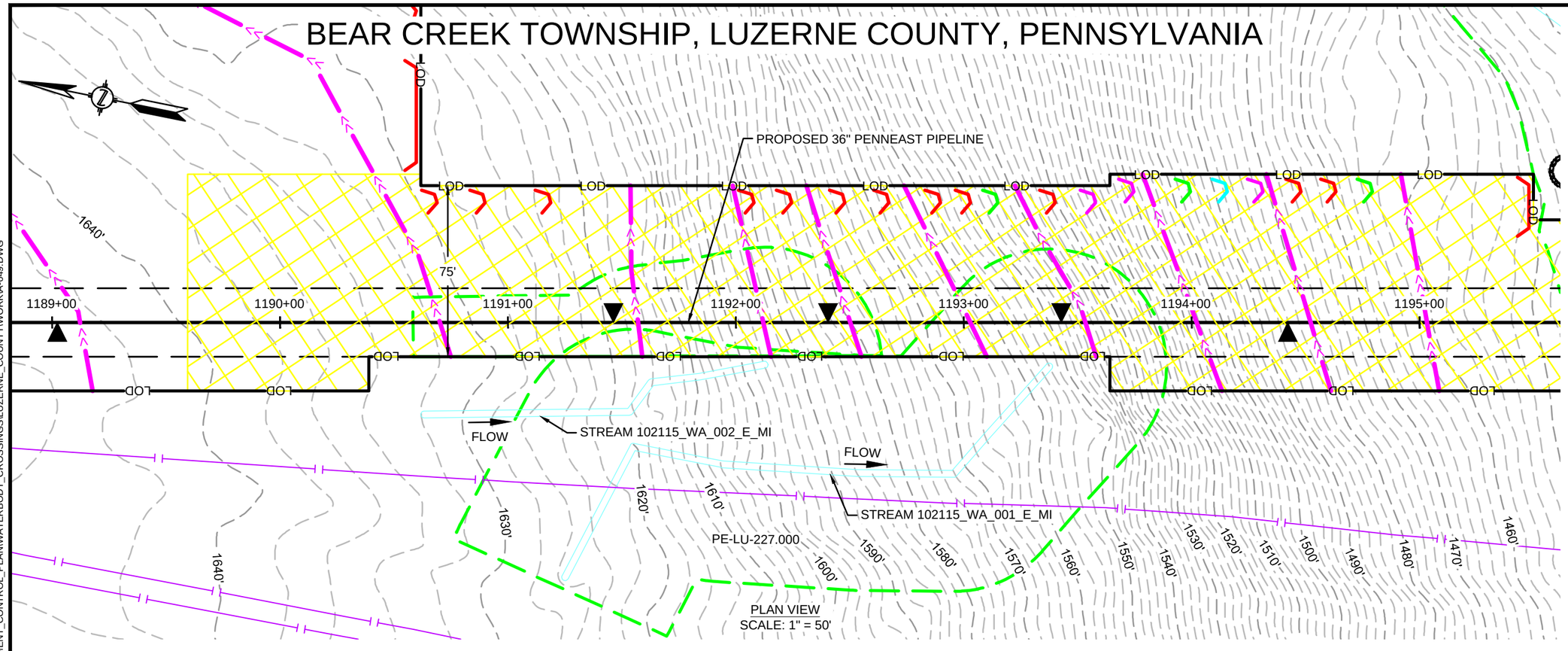
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 21.2

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-046	3

10/25/2019 5:59 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-047.DWG

BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
102115_WA_002_E_MI	WATERBODY	PADEP	-	-	0.032	-	-	0.115	-	-	N/A	N/A	N/A	N/A - WORKSPACE
		USACE	-	-	-	-	-	-	-	-	-	-	-	-
102115_WA_001_E_MI	WATERBODY	PADEP	-	-	0.030	-	-	0.086	-	-	N/A	N/A	N/A	N/A - WORKSPACE
		USACE	-	-	-	-	-	-	-	-	-	-	-	-

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

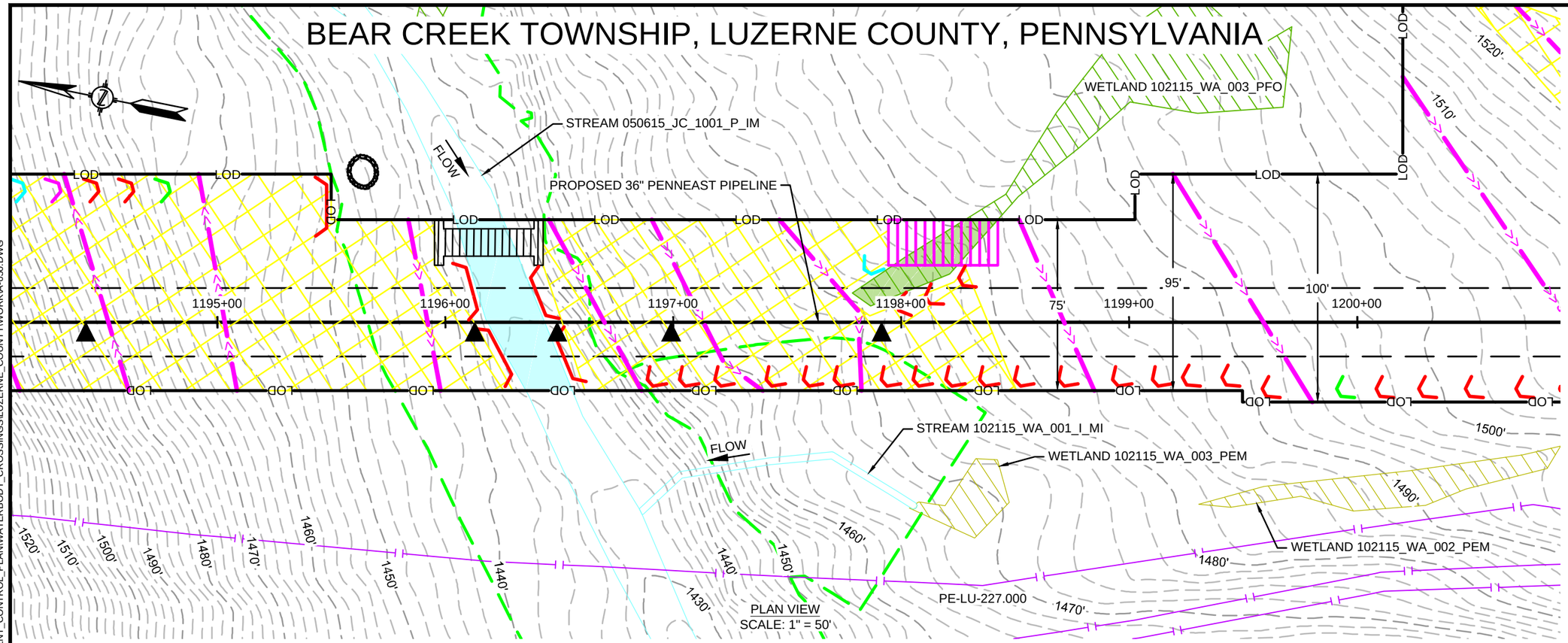
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 22.5

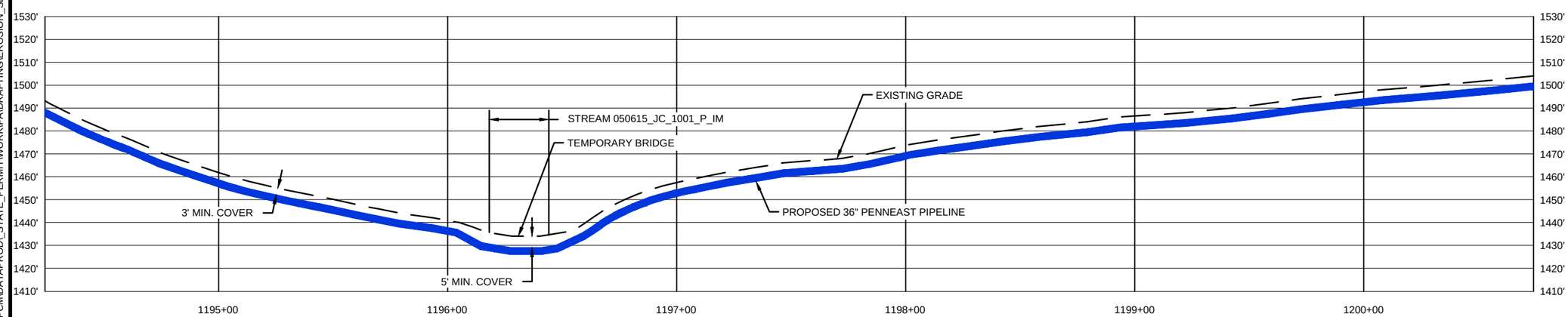
SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-047	3

10/25/2019 6:03 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMITWORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-049.DWG

BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
102115_WA_003_PFO	WETLAND	PADEP	0.016	-	-	0.003	-	-	-	-	N/A - WORKSPACE	-	-	MATTED
		USACE	*0.016*	-	-	*0.003*	-	-	-	-	*N/A - WORKSPACE*	-	-	*MATTED*
050615_JC_1001_P_IM	WATERBODY	PADEP	-	0.023	0.080	-	0.017	0.051	26	49	DPX	FX	CD	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.023*	-	-	-	-	*26*	*49*	*DPX*	*FX*	*CD*	*MAT BRIDGE OR EQUIVALENT*
102115_WA_001_I_MI	WATERBODY	PADEP	-	-	0.043	-	-	0.011	-	-	N/A	N/A	N/A	N/A - WORKSPACE
		USACE	-	-	-	-	-	-	-	-	-	-	-	-

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 22.7

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-048	3

10/25/2019 6:06 AM, MORALES, HECTOR
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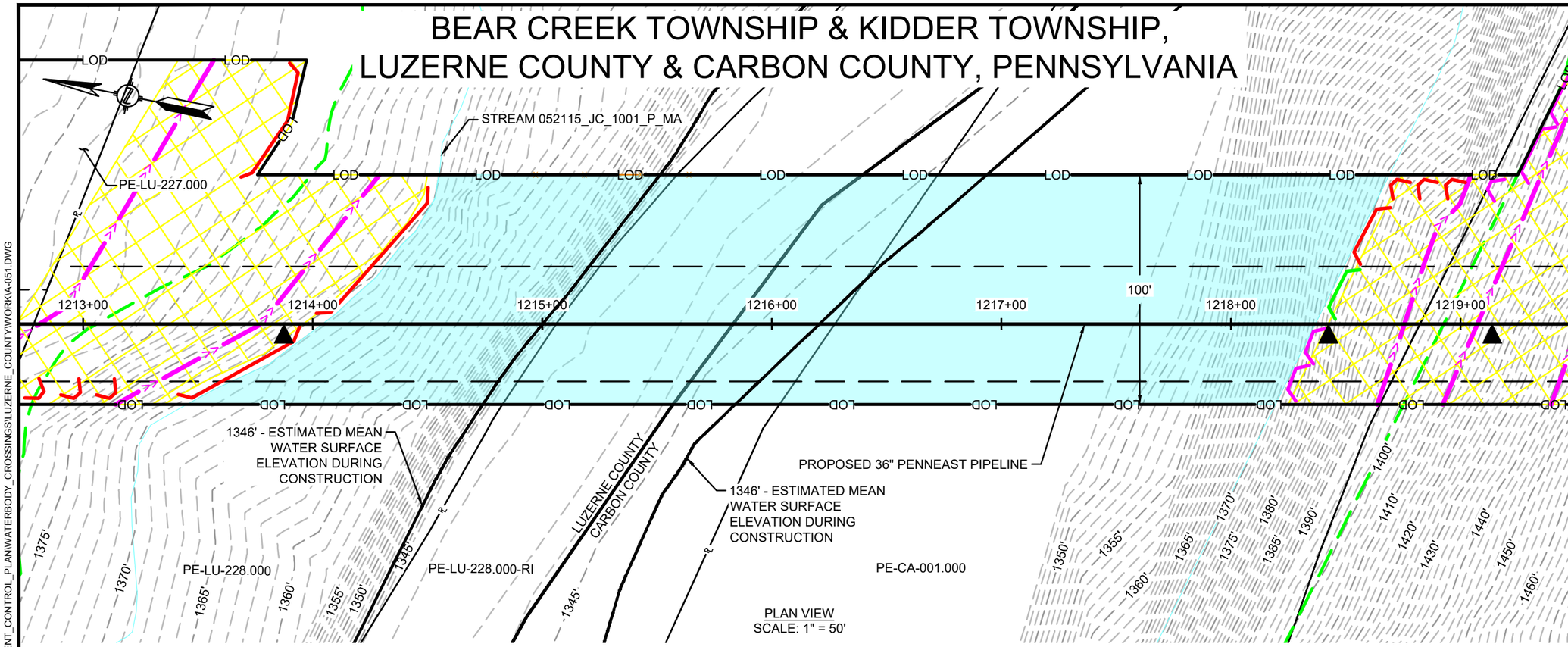
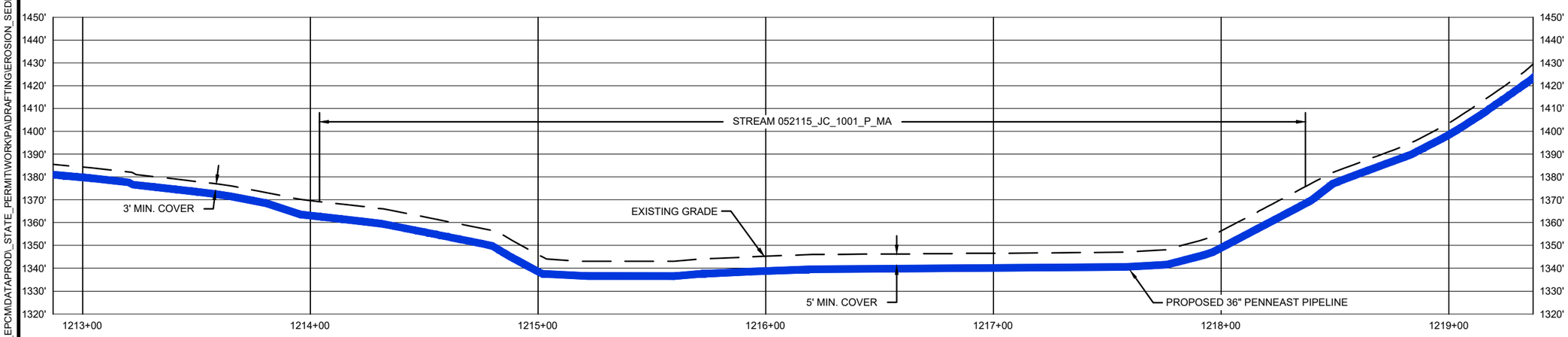
BEAR CREEK TOWNSHIP & KIDDER TOWNSHIP, LUZERNE COUNTY & CARBON COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'



PROFILE VIEW
SCALE: 1" = 50' HORIZONTAL
1" = 50' VERTICAL

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
052115_JC_1001_P_MA (LUZERNE COUNTY)	WATERBODY	PADEP	-	0.289	0.119	-	0.124	0.066	179	92	DPX	DPX	DPX	N/A
		USACE	-	-	-	-	-	-	179	92	DPX	DPX	DPX	N/A
052115_JC_1001_P_MA (CARBON COUNTY)	WATERBODY	PADEP	-	0.398	0.090	-	0.175	0.038	254	92	DPX	DPX	DPX	N/A
		USACE	-	-	-	-	-	-	254	92	DPX	DPX	DPX	N/A

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR PADEP	HM	JB/KEK	MJD
3	06/2020	REVISED FOR PERMITTING	AJD	JMF	MJD
4	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR: PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP & KIDDER TOWNSHIP, LUZERNE COUNTY & CARBON COUNTY, PENNSYLVANIA
M.P. 23.0

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-ML-049	4

6/25/2020 10:48 AM, DUMAIS, ALEXANDER
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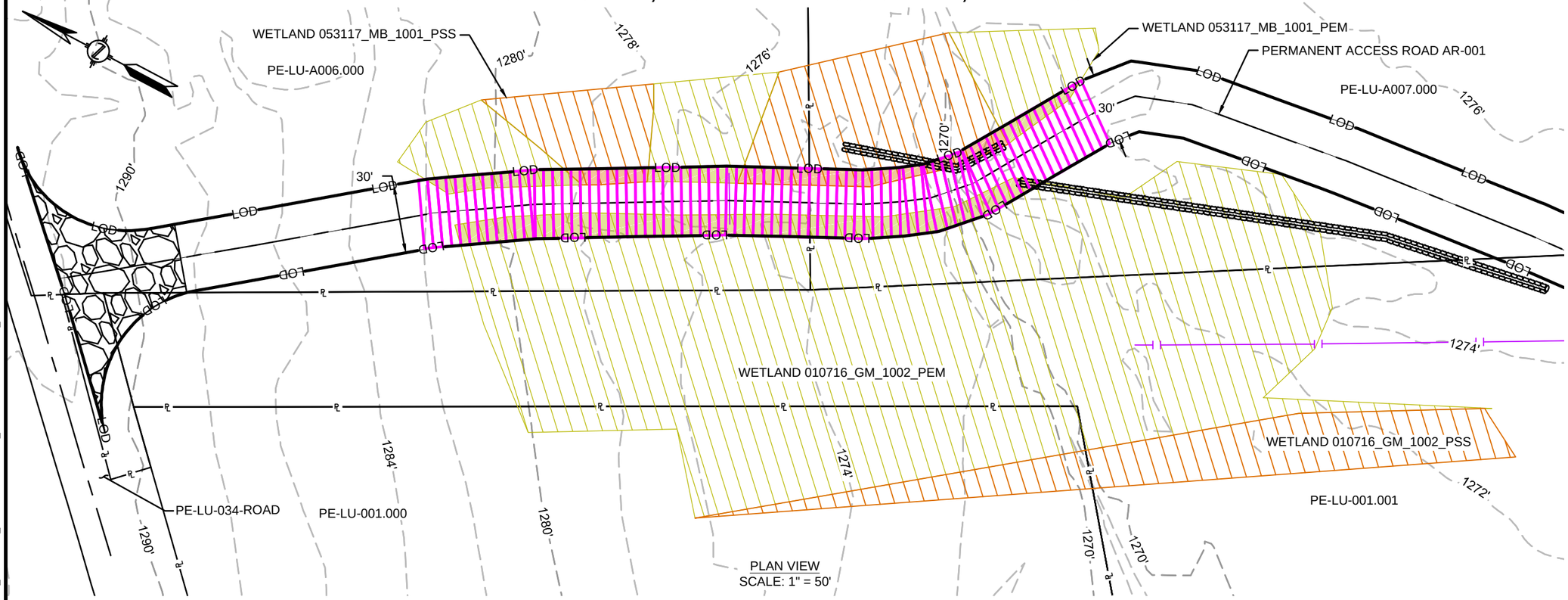
DALLAS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

NOTE:
DURING CONSTRUCTION A 30-FOOT WIDE LIMITS OF DISTURBANCE (LOD) WILL BE REQUIRED. NO PERMANENT IMPROVEMENTS WILL BE REQUIRED FOR THE ACCESS ROAD & THE EXISTING ROAD WIDTH WILL BE UTILIZED DURING OPERATION.

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)		PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
010716_GM_1002_PEM	WETLAND	PADEP	0.056	-	-	-	-	-	-	-	-	-	MATTED
		USACE	0.056	-	-	-	-	-	-	-	-	-	MATTED
053117_MB_1001_PSS	WETLAND	PADEP	0.023	-	-	-	-	-	-	-	-	-	MATTED
		USACE	0.023	-	-	-	-	-	-	-	-	-	MATTED
053117_MB_1001_PEM	WETLAND	PADEP	0.020	-	-	-	-	-	-	-	-	-	MATTED
		USACE	0.020	-	-	-	-	-	-	-	-	-	MATTED

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
DALLAS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 0.0R1

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-001	3

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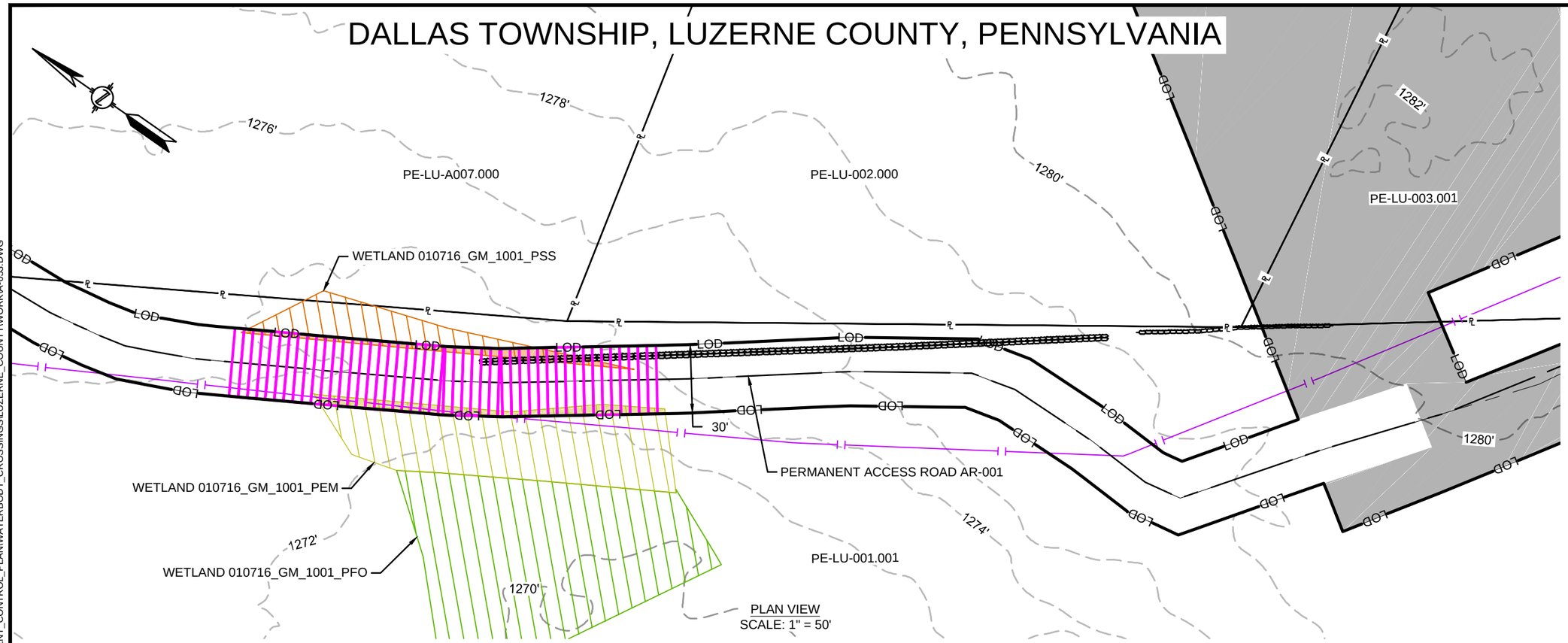
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPCM\DATAPROD_STATE_PERMITWORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-052.DWG

DALLAS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



NOTE:
DURING CONSTRUCTION A 30-FOOT WIDE LIMITS OF DISTURBANCE (LOD) WILL BE REQUIRED. NO PERMANENT IMPROVEMENTS WILL BE REQUIRED FOR THE ACCESS ROAD & THE EXISTING ROAD WIDTH WILL BE UTILIZED DURING OPERATION.

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
010716_GM_1001_PEM	WETLAND	PADEP	0.013	-	-	-	-	-	-	-	-	-	-	MATTED
		USACE	0.013	-	-	-	-	-	-	-	-	-	-	MATTED
010716_GM_1001_PSS	WETLAND	PADEP	0.010	-	-	-	-	-	-	-	-	-	-	MATTED
		USACE	0.010	-	-	-	-	-	-	-	-	-	-	MATTED

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
DALLAS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 0.0R1

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-002	3

10/25/2019 6:16 AM, MORALES, HECTOR
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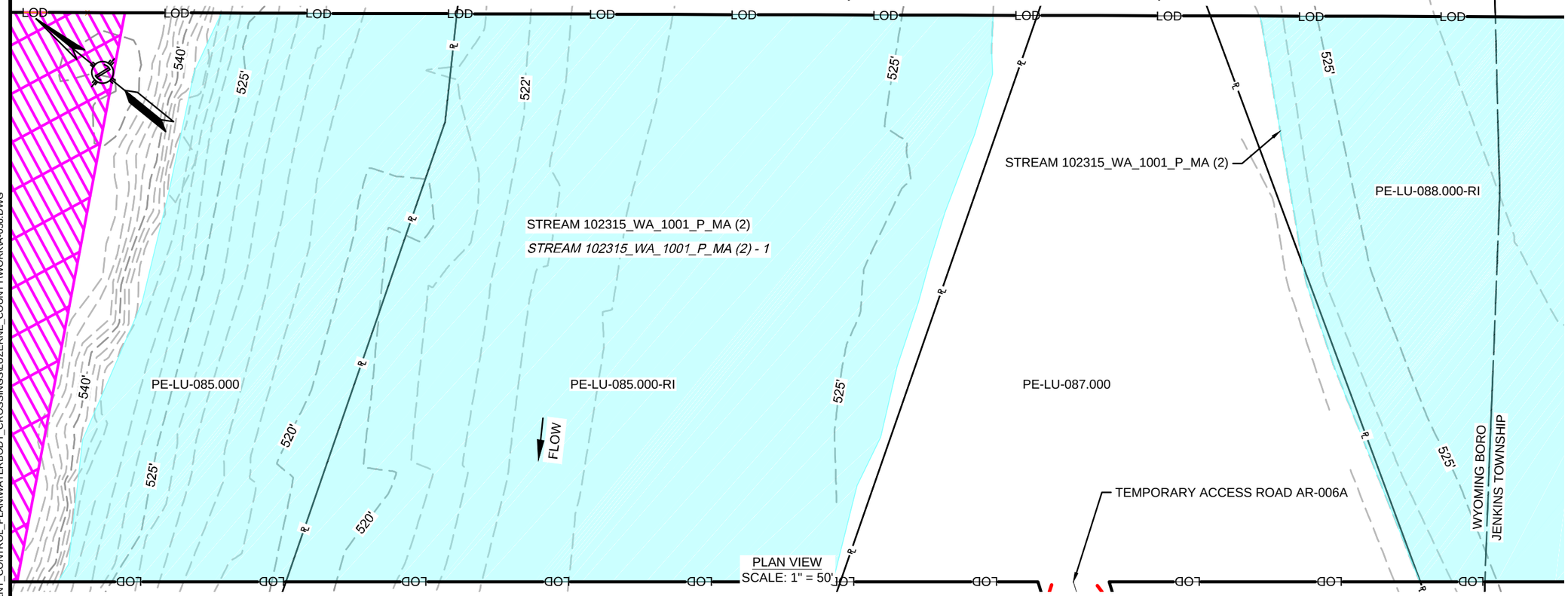
WYOMING BOROUGH & JENKINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
102315_WA_1001_P_MA (2) - 1	WATERBODY	PADEP	-	1.957	-	-	-	-	349	260	N/A	N/A	N/A	N/A
		USACE	-	1.957	-	-	-	-	349	260	N/A	N/A	N/A	N/A

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

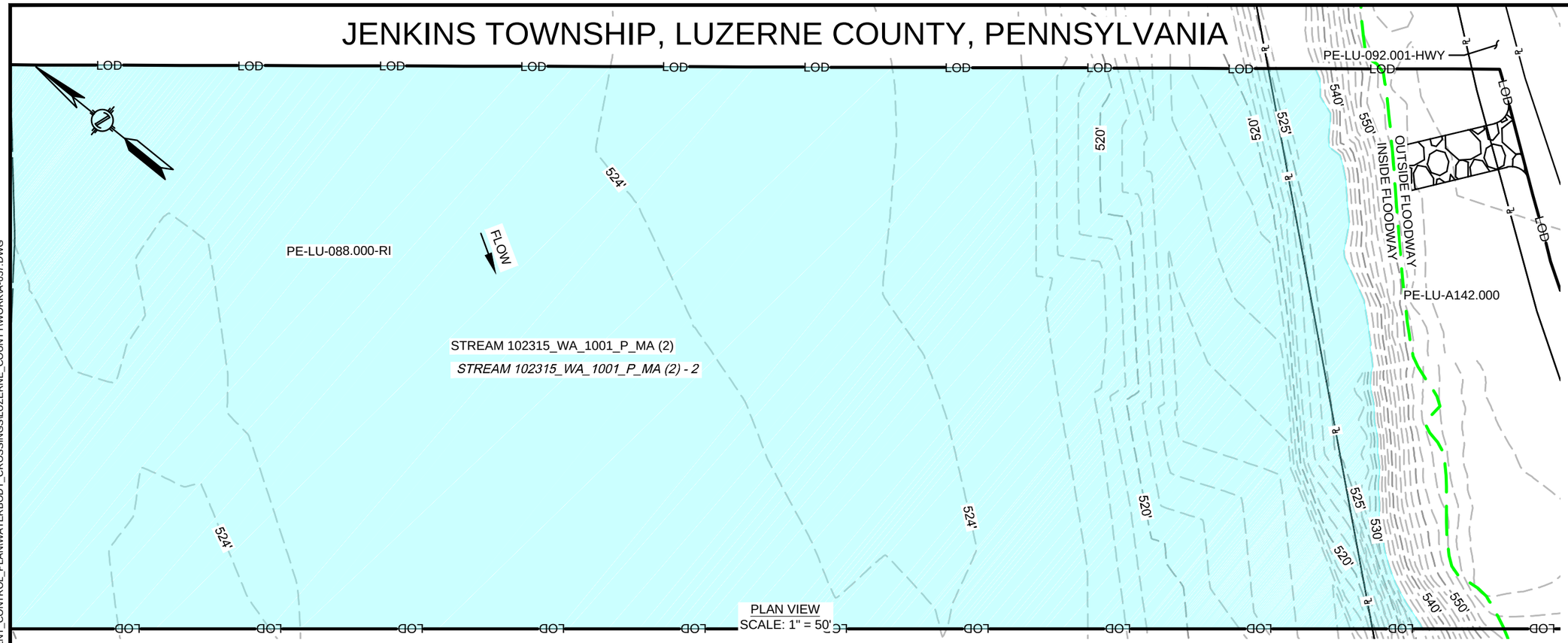
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
WYOMING BOROUGH & JENKINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 7.0

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-003	3

10/25/2019 6:26 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMITWORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-056.DWG

JENKINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
102315_WA_1001_P_MA (2) - 2	WATERBODY	PADEP	-	3.786	-	-	-	-	679	258	N/A	N/A	N/A	N/A
		USACE	-	3.786	-	-	-	-	679	258	N/A	N/A	N/A	N/A

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

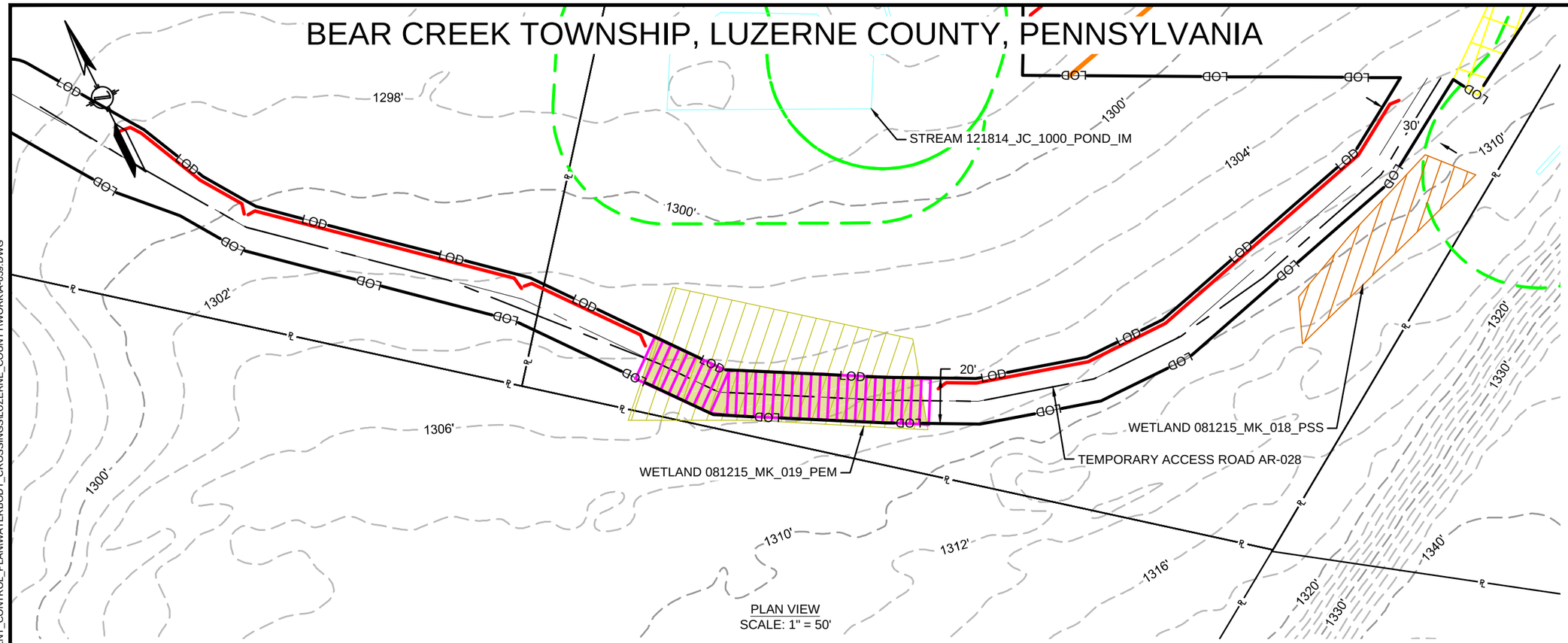
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
JENKINS TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 7.1

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-004	3

10/25/2019 6:29 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMITWORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-057.DWG

BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
081215_MK_019_PEM	WETLAND	PADEP	0.057	-	-	-	-	-	-	-	-	-	-	MATTED
		USACE	*0.057*	-	-	-	-	-	-	-	-	-	-	*MATTED*

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 13.1

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-005	3

10/25/2019 6:32 AM, MORALES, HECTOR
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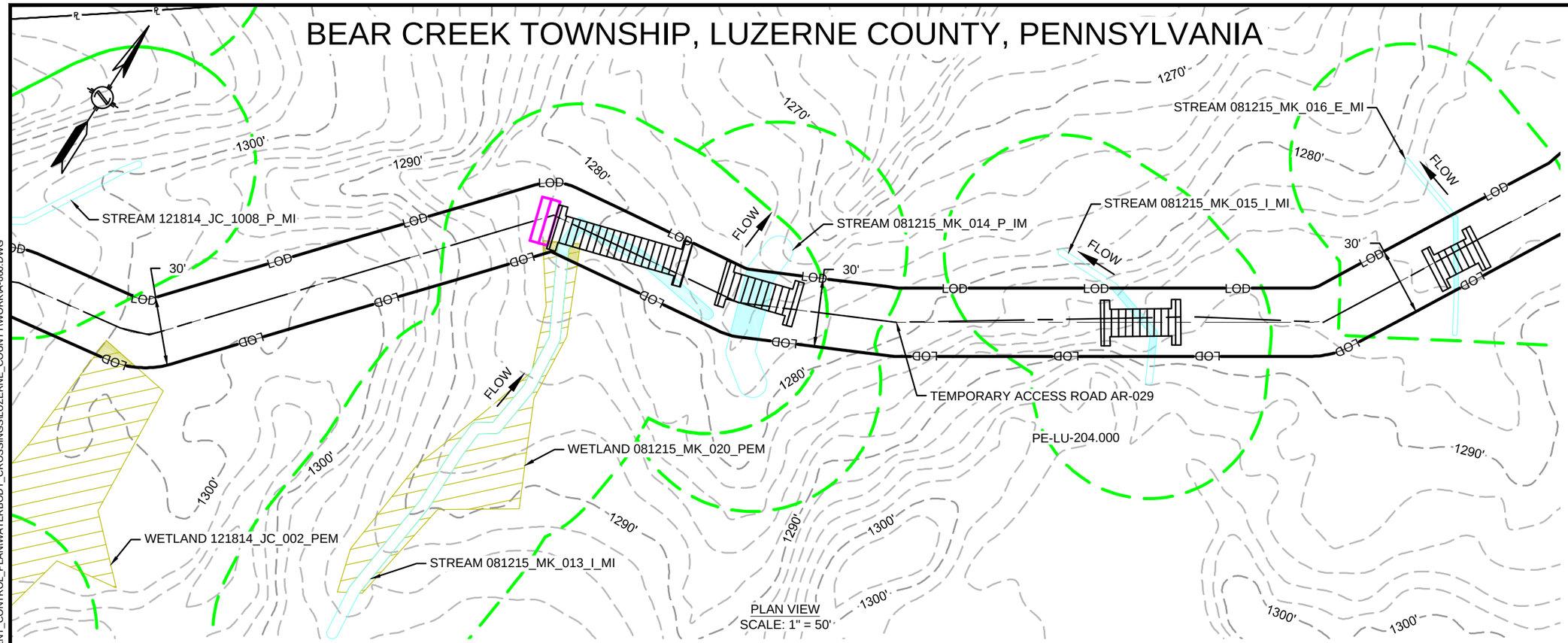
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)		PERMANENT DISTURBANCE (ACRES)		STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
121814_JC_002_PEM	WETLAND	PADEP	0.002	-	-	-	-	-	-	-	-	-	MATTED
		USACE	0.002	-	-	-	-	-	-	-	-	-	MATTED
081215_MK_020_PEM	WETLAND	PADEP	0.002	-	-	-	-	-	-	-	-	-	MATTED
		USACE	0.002	-	-	-	-	-	-	-	-	-	MATTED
081215_MK_013_I_MI	WATERBODY	PADEP	-	0.010	-	-	-	41	90	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.01	-	-	-	41	90	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
081215_MK_015_I_MI	WATERBODY	PADEP	-	0.002	-	-	0.088	4	36	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	-	-	-	-	-	-	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
081215_MK_014_P_IM	WATERBODY	PADEP	-	0.009	-	-	0.018	12	30	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.009	-	-	-	12	30	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
081215_MK_016_E_MI	WATERBODY	PADEP	-	0.002	-	-	0.075	2	34	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	-	-	-	-	-	-	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

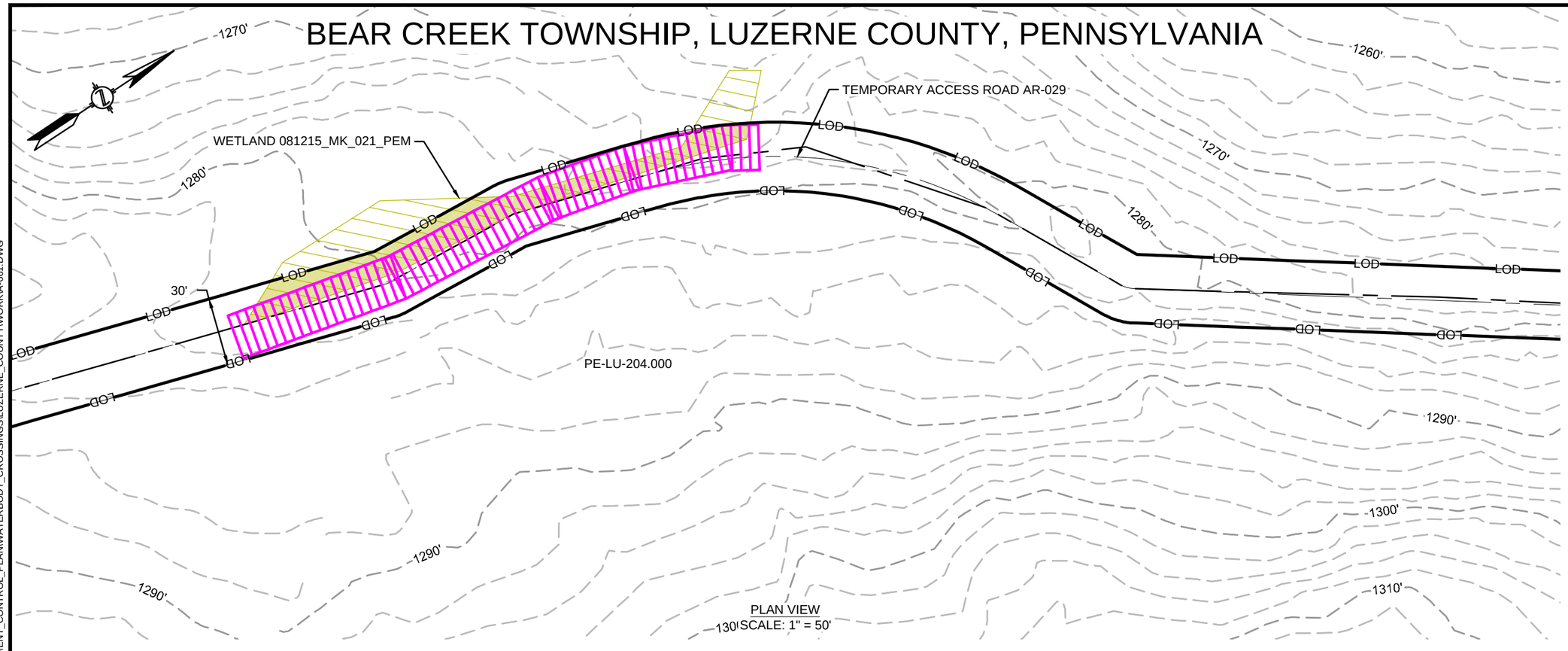
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 13.3

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-006	3

10/25/2019 6:35 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMIT\WORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-060.DWG

BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



GRAPHIC SCALE

50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
081215_MK_021_PEM	WETLAND	PADEP	0.054	-	-	-	-	-	-	-	-	-	-	MATTED
		USACE	*0.054*	-	-	-	-	-	-	-	-	-	-	*MATTED*

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

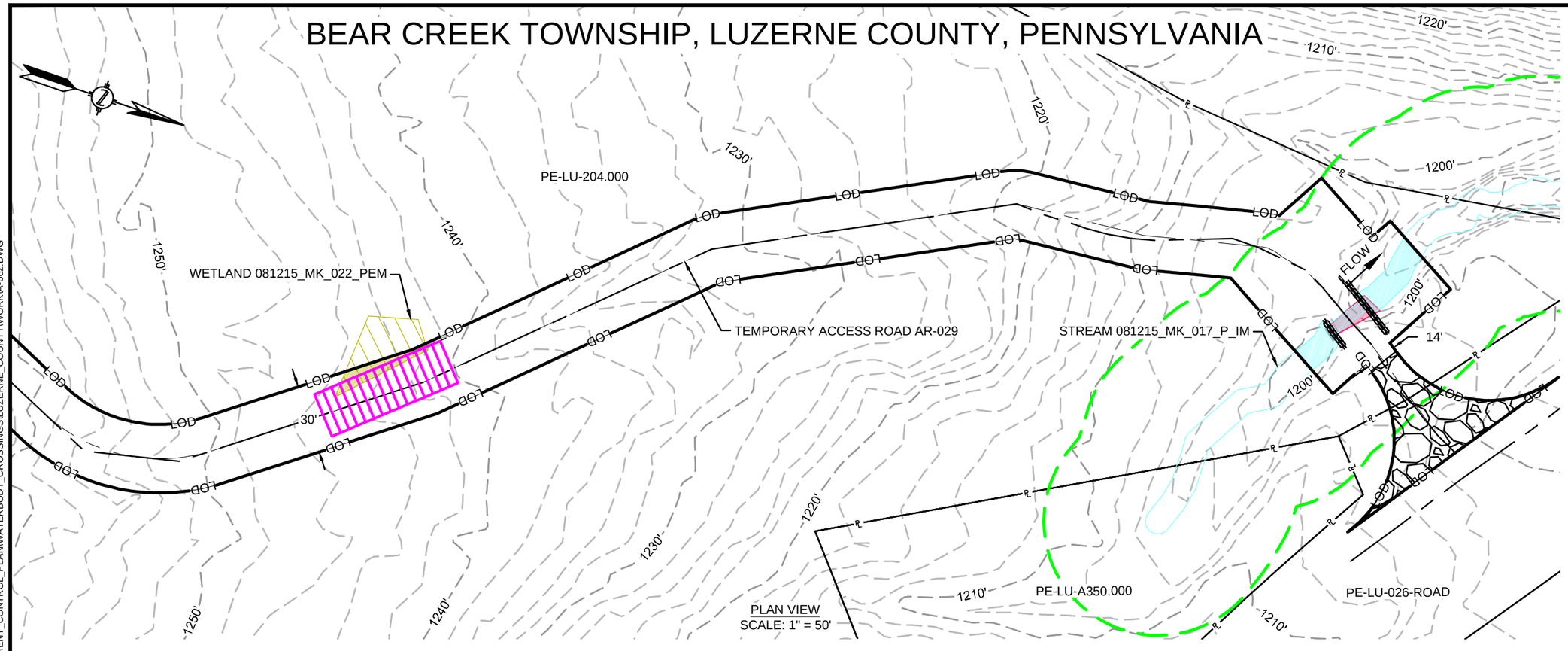
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 13.3

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-007	3

10/25/2019 6:38 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMITWORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-061.DWG

BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
081215_MK_022_PEM	WETLAND	PADEP	0.005	-	-	-	-	-	-	-	-	-	-	MATTED
		USACE	0.005	-	-	-	-	-	-	-	-	-	-	MATTED
081215_MK_017_P_IM	WATERBODY	PADEP	-	-	-	-	0.015	0.040	12	77	N/A	N/A	N/A	CULVERT REPLACEMENT IN KIND
		USACE	-	-	-	-	0.015	-	12	77	N/A	N/A	N/A	CULVERT REPLACEMENT IN KIND

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 13.3

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-008	3

10/25/2019 6:41 AM, MORALES, HECTOR
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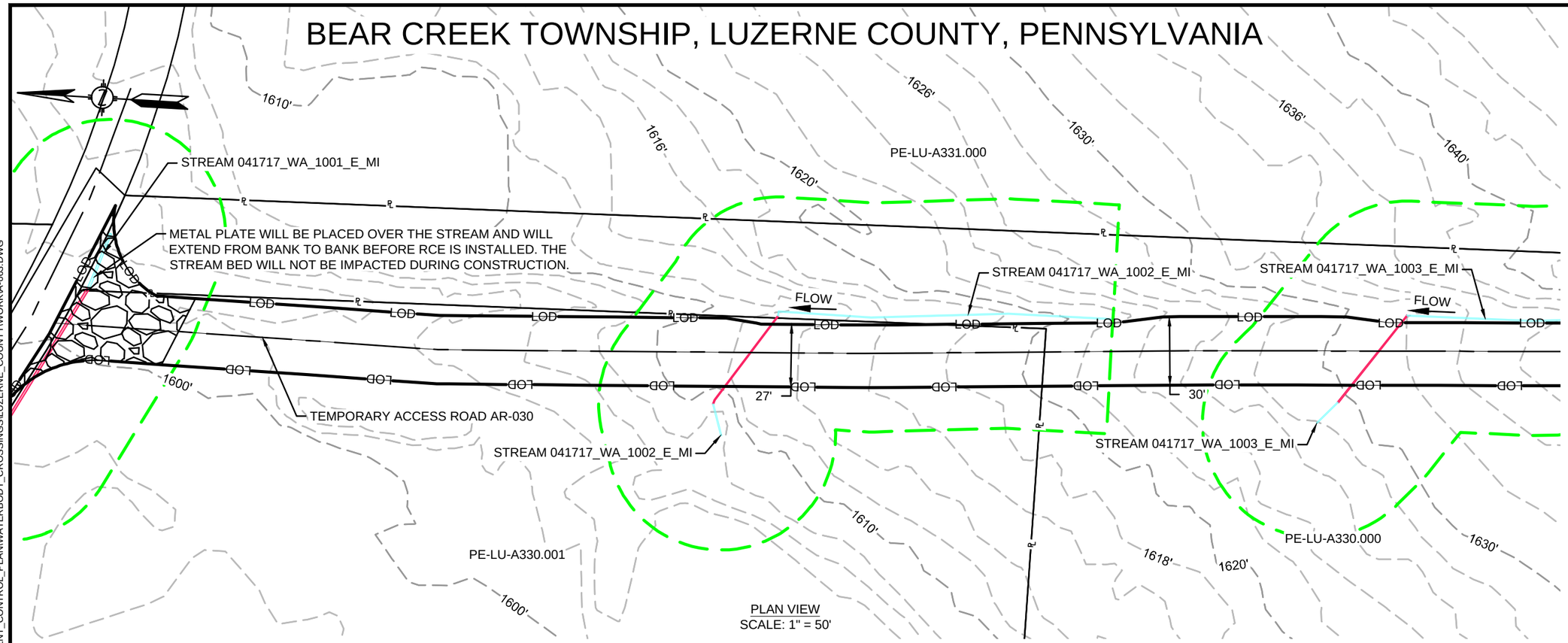
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)				PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
041717_WA_1001_E_MI	WATERBODY	PADEP	-	0.001	0.056	-	-	-	-	1	27	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	-	-	-	-	-	-	-	-	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 14.0

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-009	3

10/25/2019 6:44 AM, MORALES, HECTOR
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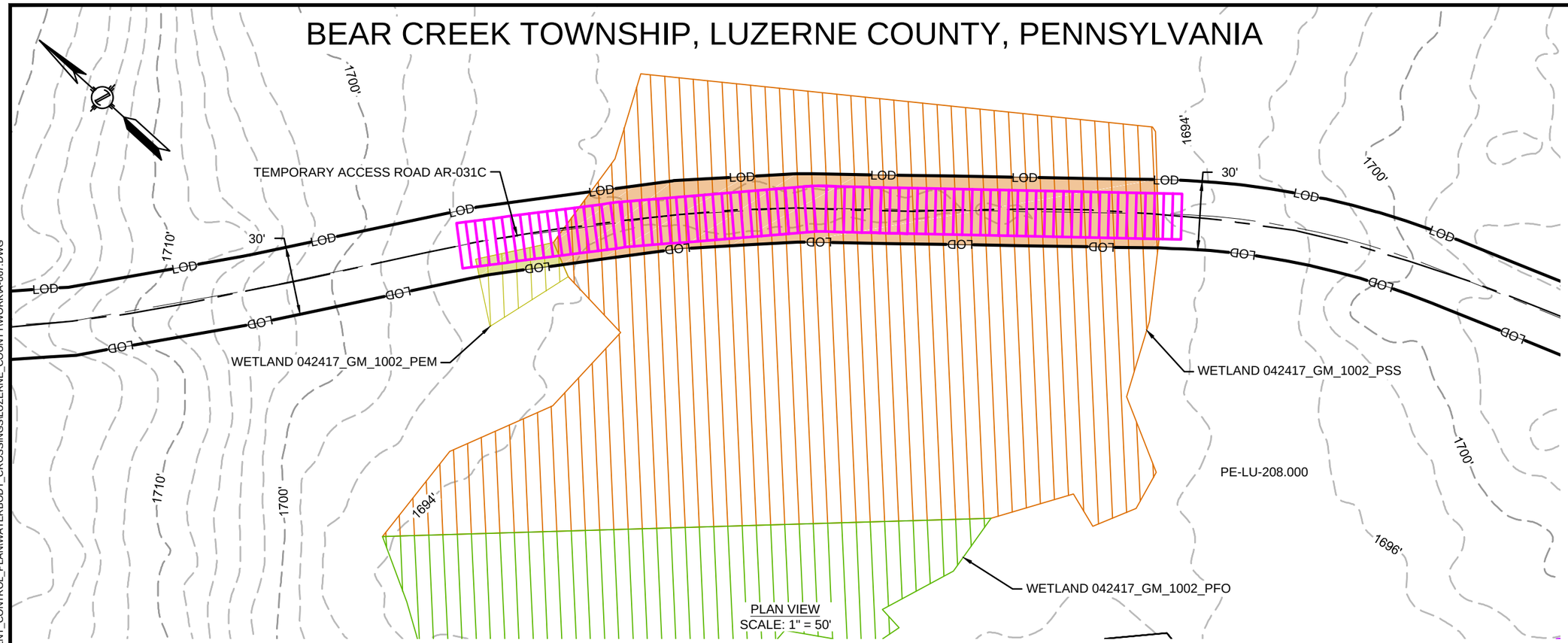
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



GRAPHIC SCALE

50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)		PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
042417_GM_1002_PSS	WETLAND	PADEP	0.179	-	-	-	-	-	-	-	-	-	MATTED
		USACE	*0.179*	-	-	-	-	-	-	-	-	-	*MATTED*
042417_GM_1002_PEM	WETLAND	PADEP	0.007	-	-	-	-	-	-	-	-	-	MATTED
		USACE	*0.007*	-	-	-	-	-	-	-	-	-	*MATTED*

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 15.9

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-010	3

10/25/2019 6:47 AM, MORALES, HECTOR
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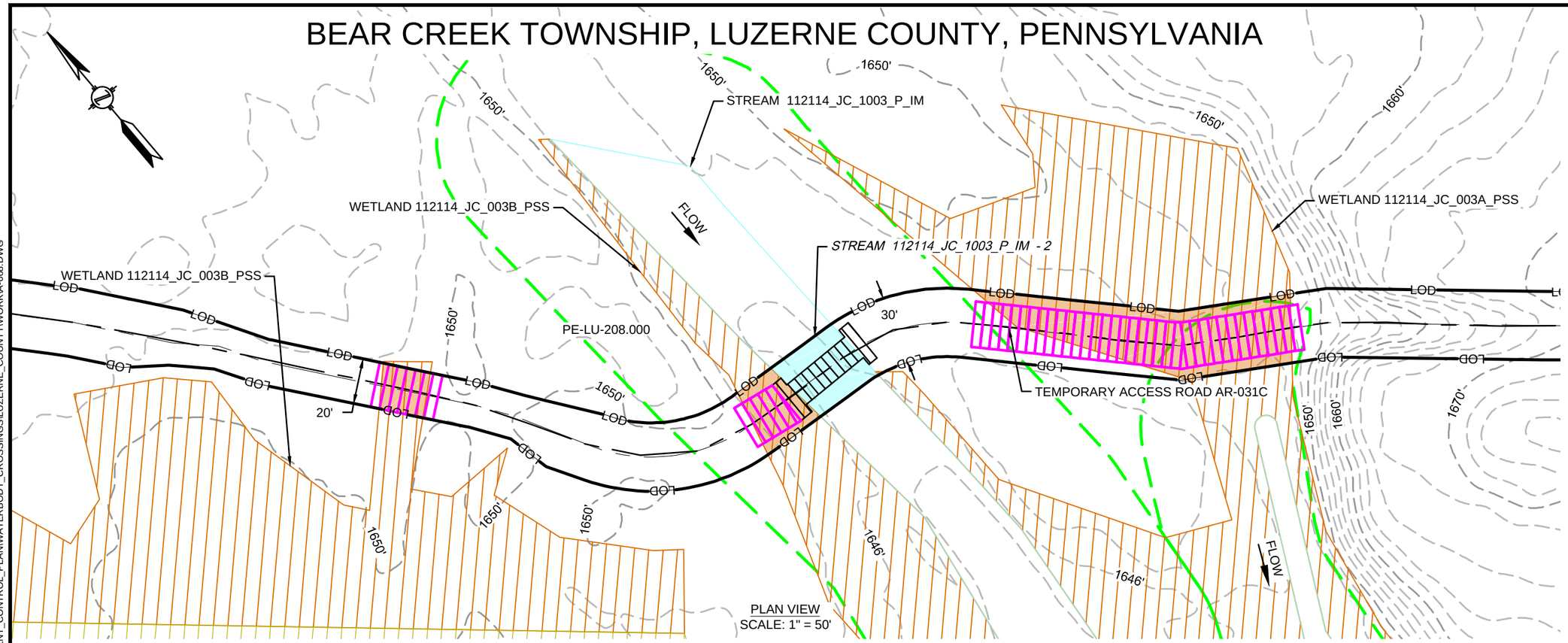
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)		PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
112114_JC_003A_PSS - 2	WETLAND	PADEP	0.073	-	-	-	-	-	-	-	-	-	MATTED
		USACE	0.073	-	-	-	-	-	-	-	-	-	MATTED
112114_JC_003B_PSS - 2	WETLAND	PADEP	0.009	-	-	-	-	-	-	-	-	-	MATTED
		USACE	0.009	-	-	-	-	-	-	-	-	-	MATTED
112114_JC_003B_PSS - 3	WETLAND	PADEP	0.016	-	-	-	-	-	-	-	-	-	MATTED
		USACE	0.016	-	-	-	-	-	-	-	-	-	MATTED
112114_JC_1003_P_IM - 2	WATERBODY	PADEP	-	0.022	0.062	-	-	32	30	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.022	-	-	-	32	30	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

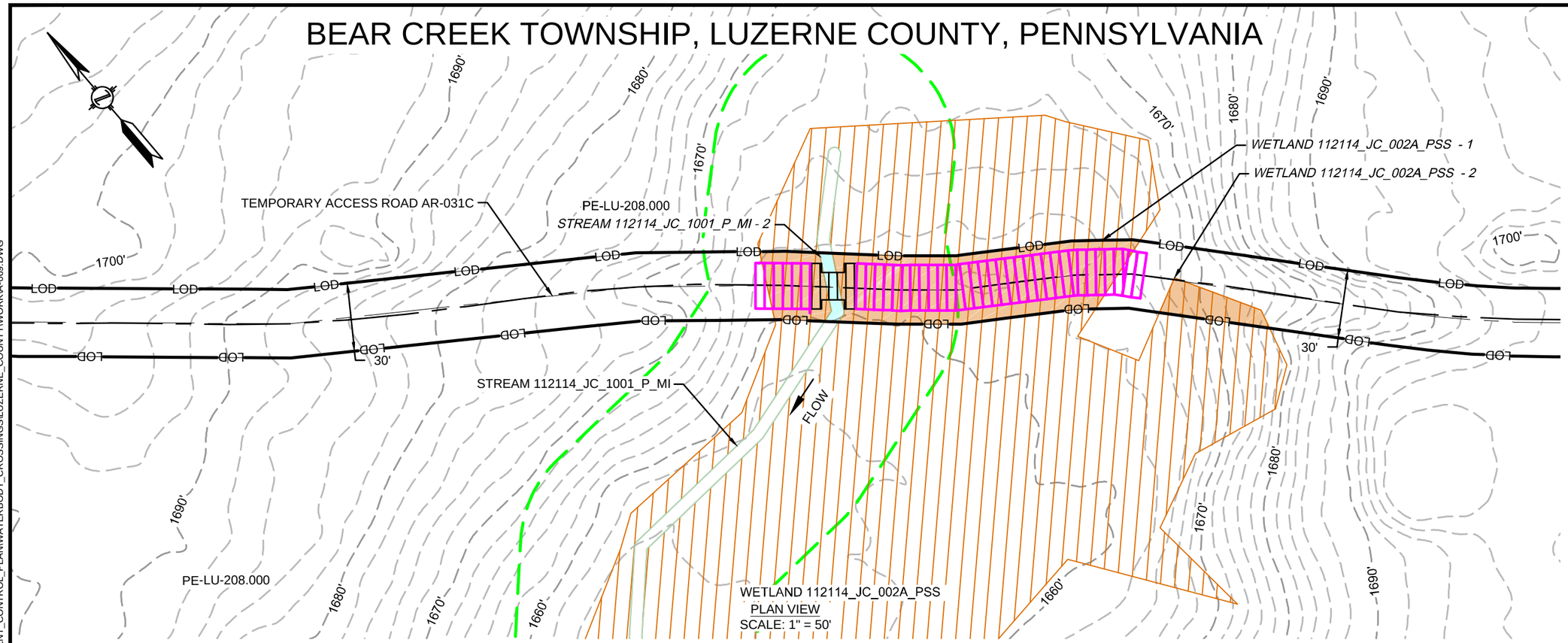
PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 16.2

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-011	3

10/25/2019 6:50 AM, MORALES, HECTOR
G:\PENNEAST\353754_PENNEAST_PIPELINE_EPC\DATAPROD_STATE_PERMITWORK\PA\DRAFTING\EROSION_SEDIMENT_CONTROL_PLAN\WATERBODY_CROSSINGS\LUZERNE_COUNTY\WORK\A-068.DWG

BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



GRAPHIC SCALE

50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)		PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
112114_JC_002A_PSS - 1	WETLAND	PADEP	0.103	-	-	-	-	-	-	-	-	-	MATTED
		USACE	*0.103*	-	-	-	-	-	-	-	-	-	*MATTED*
112114_JC_002A_PSS - 2	WETLAND	PADEP	0.012	-	-	-	-	-	-	-	-	-	MATTED
		USACE	*0.012*	-	-	-	-	-	-	-	-	-	*MATTED*
112114_JC_1001_P_MI - 2	WATERBODY	PADEP	-	0.004	-	-	-	6	31	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	0.019	-	-	-	-	-	*N/A*	*N/A*	*N/A*	*MAT BRIDGE OR EQUIVALENT*

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 16.4

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-012	3

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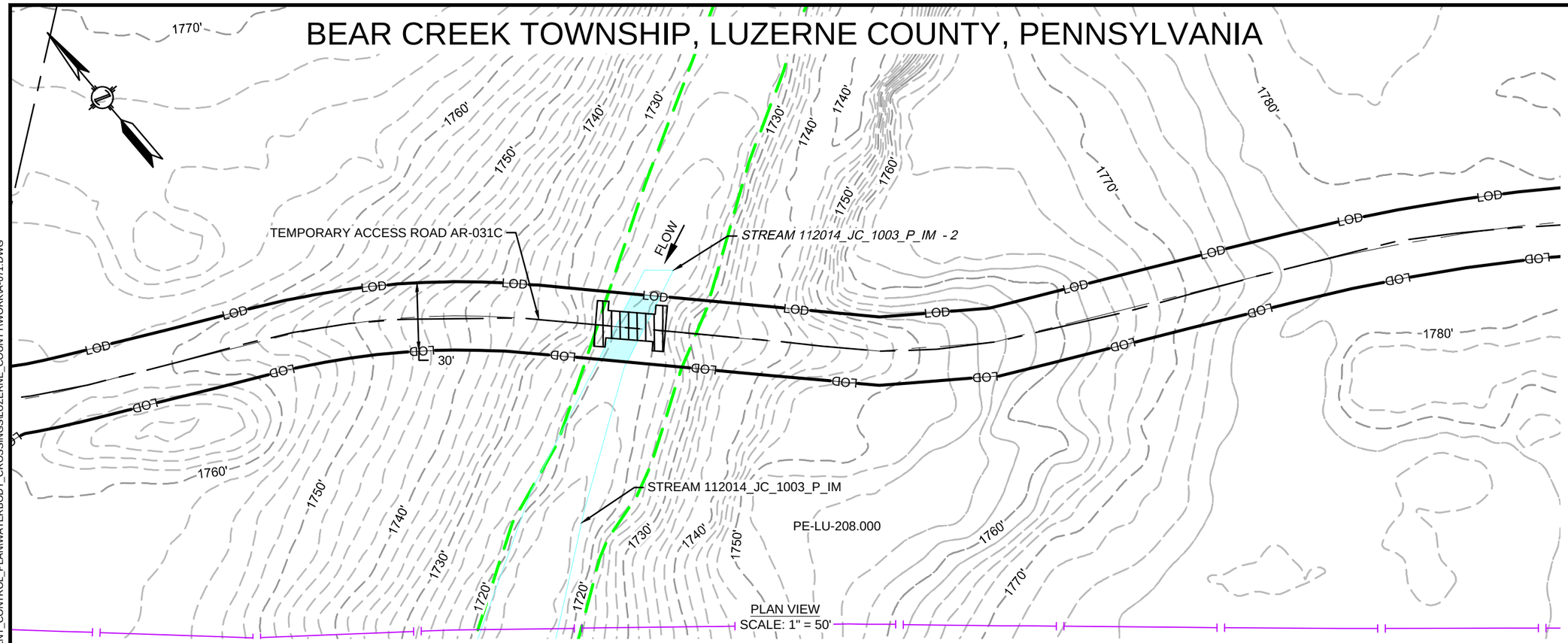
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
112014_JC_1003_P_IM - 2	WATERBODY	PADEP	-	0.009	0.021	-	-	-	13	32	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.009*	-	-	-	-	*13*	*32*	*N/A*	*N/A*	*N/A*	*MAT BRIDGE OR EQUIVALENT*

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 16.7

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-013	3

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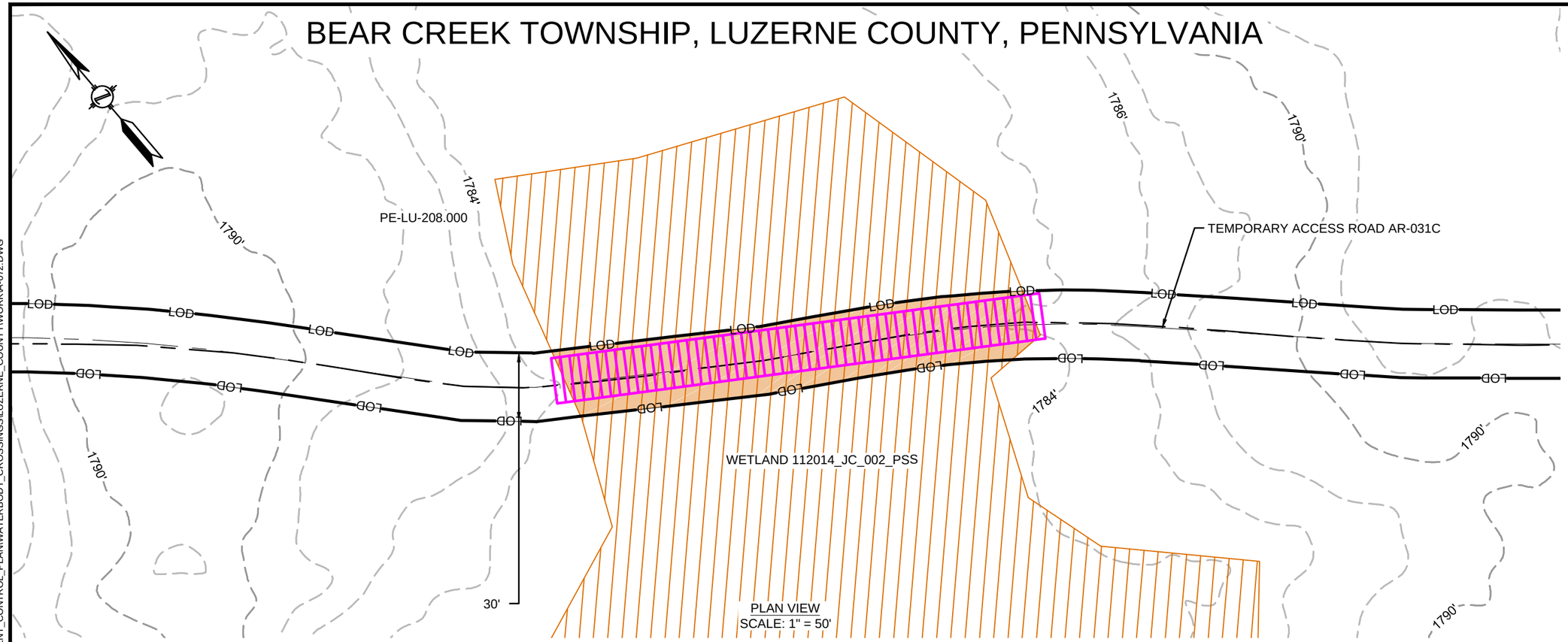
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
112014_JC_002_PSS	WETLAND	PADEP	0.141	-	-	-	-	-	-	-	-	-	-	MATTED
		USACE	*0.141*	-	-	-	-	-	-	-	-	-	-	*MATTED*

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
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1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 16.8

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-014	3

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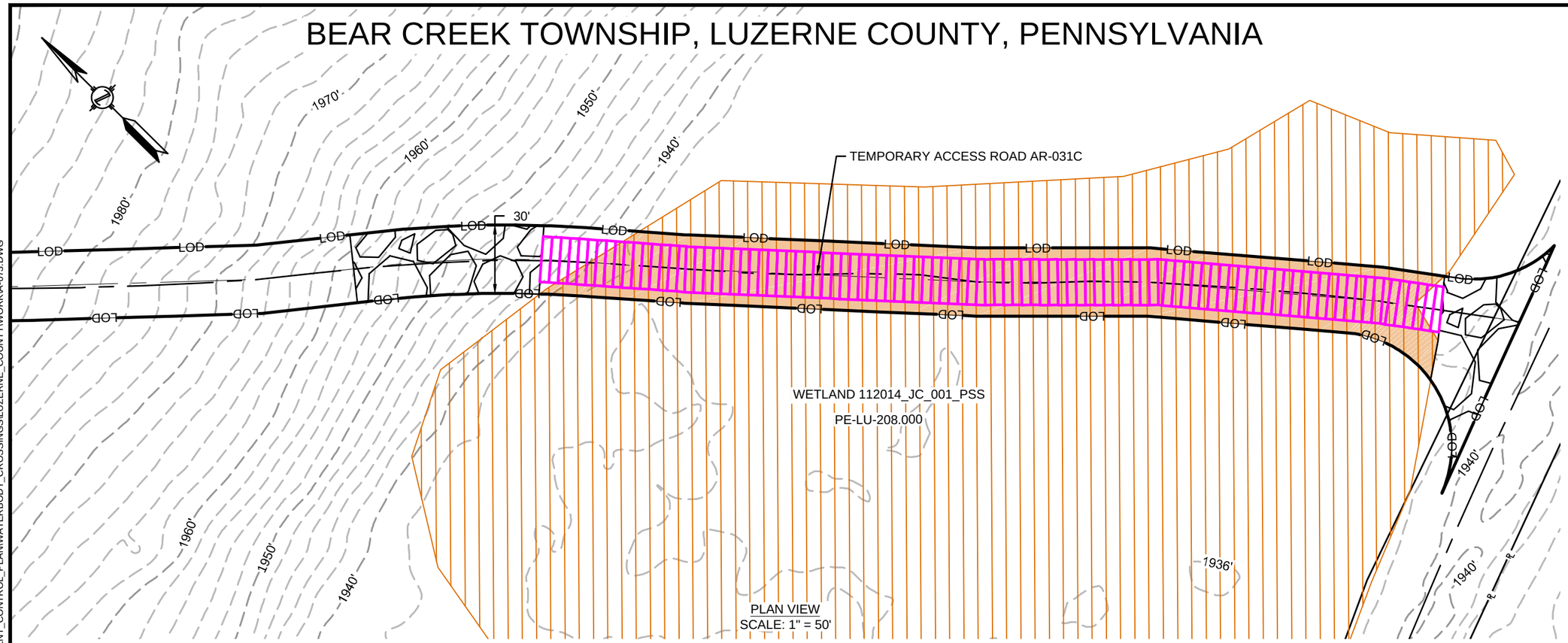
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



GRAPHIC SCALE

50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
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		USACE	*0.259*	-	-	-	-	-	-	-	-	-	-	*MATTED*

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
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1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 17.7

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-015	3

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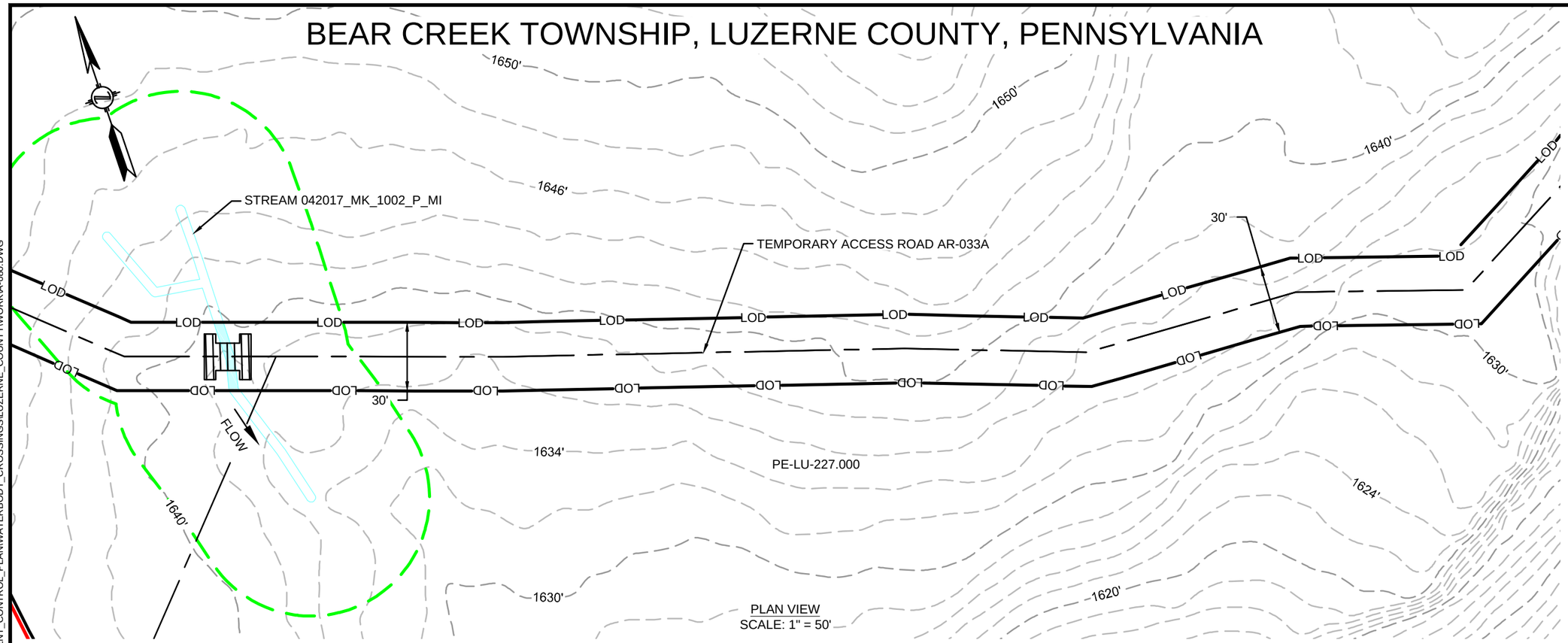
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)				PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
042017_MK_1002_P_MI	WATERBODY	PADEP	-	0.003	0.103	-	-	-	-	6	31	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	-	-	-	-	-	-	-	-	*N/A*	*N/A*	*N/A*	*MAT BRIDGE OR EQUIVALENT*

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
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1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 22.5

SCALE	DRAWING NO.	REVISION
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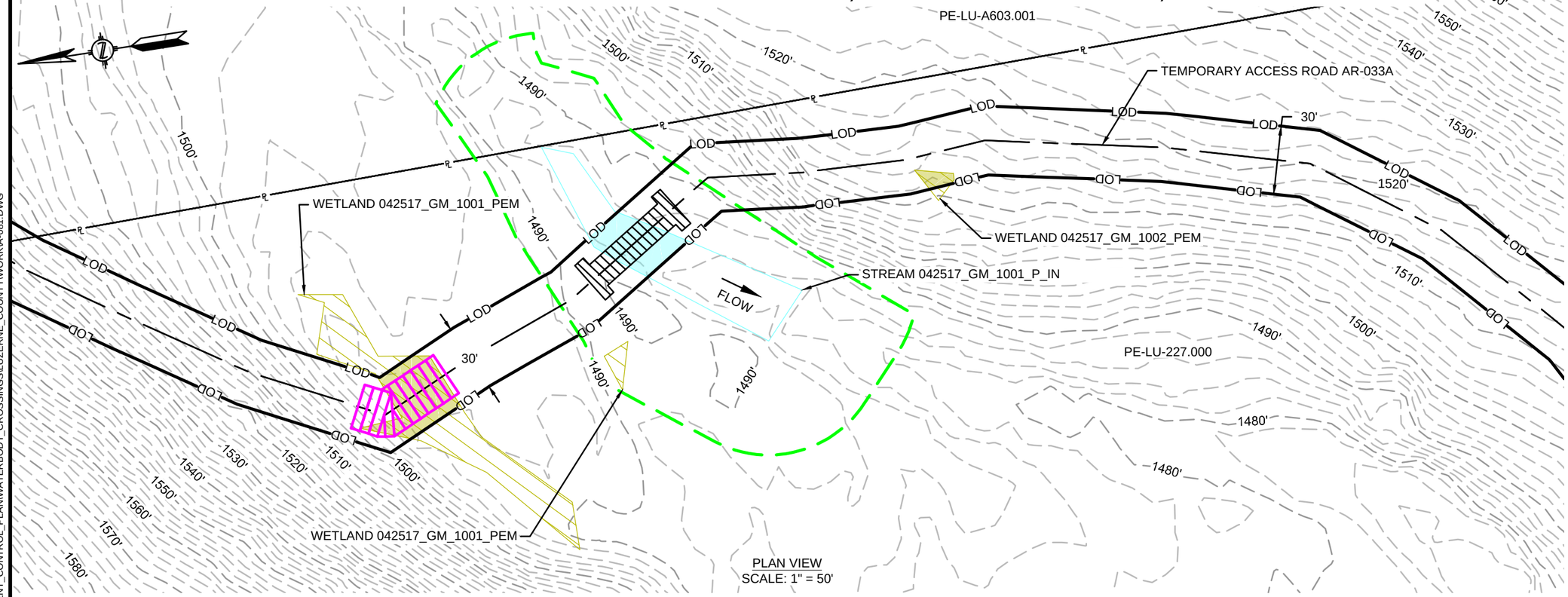
BEAR CREEK TOWNSHIP & BUCK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



PLAN VIEW
SCALE: 1" = 50'

GRAPHIC SCALE
50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)		PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
042517_GM_1001_PEM	WETLAND	PADEP	0.019	-	-	-	-	-	-	-	-	-	MATTED
		USACE	*0.019*	-	-	-	-	-	-	-	-	-	*MATTED*
042517_GM_1002_PEM	WETLAND	PADEP	0.002	-	-	-	-	-	-	-	-	-	MATTED
		USACE	*0.002*	-	-	-	-	-	-	-	-	-	*MATTED*
042517_GM_1001_P_IN	WATERBODY	PADEP	-	0.015	-	-	-	21	33	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	*0.015*	-	-	-	*21*	*33*	*N/A*	*N/A*	*N/A*	*MAT BRIDGE OR EQUIVALENT*

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
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1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 22.6

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-017	3

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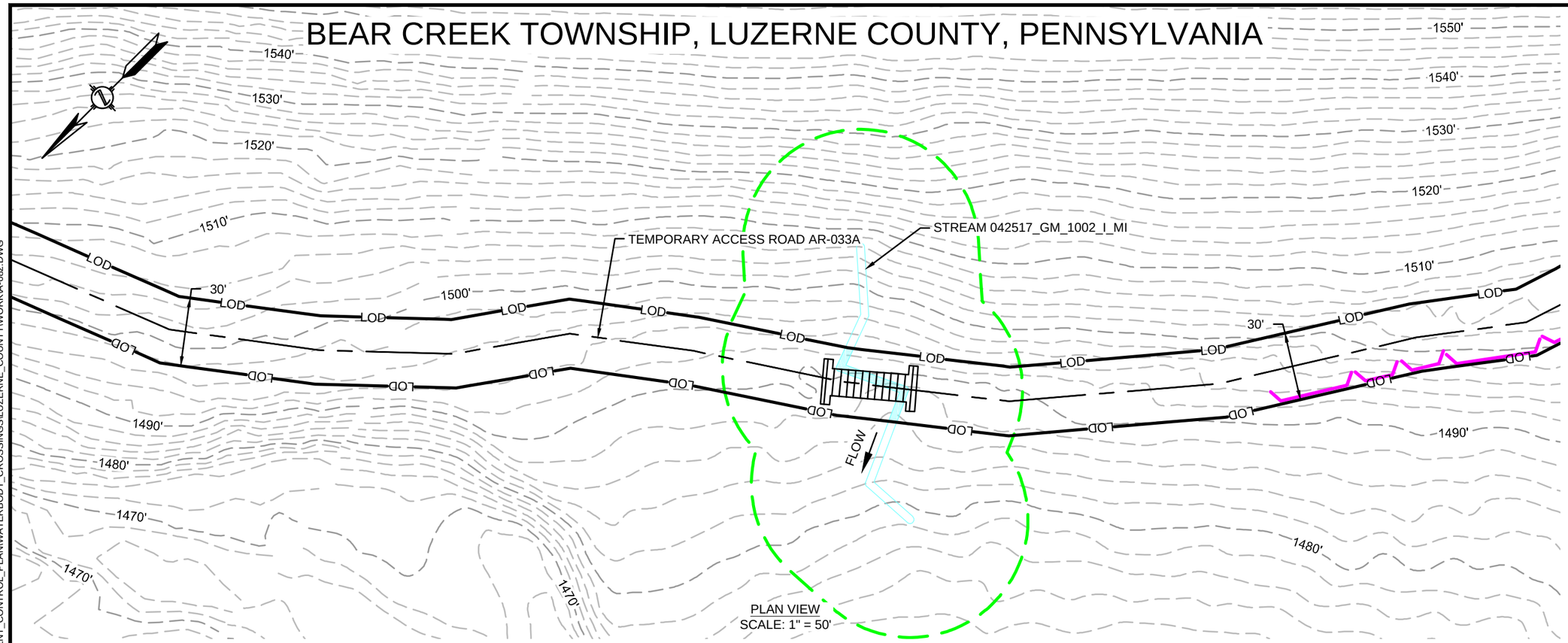
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



GRAPHIC SCALE

50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)				PERMANENT DISTURBANCE (ACRES)				STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY		CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
042517_GM_1002_I_MI	WATERBODY	PADEP	-	0.004	0.086	-	-	-	-	-	4	54	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	-	-	-	-	-	-	-	-	-	*N/A*	*N/A*	*N/A*	*MAT BRIDGE OR EQUIVALENT*

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
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2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BEAR CREEK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 22.7

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-018	3

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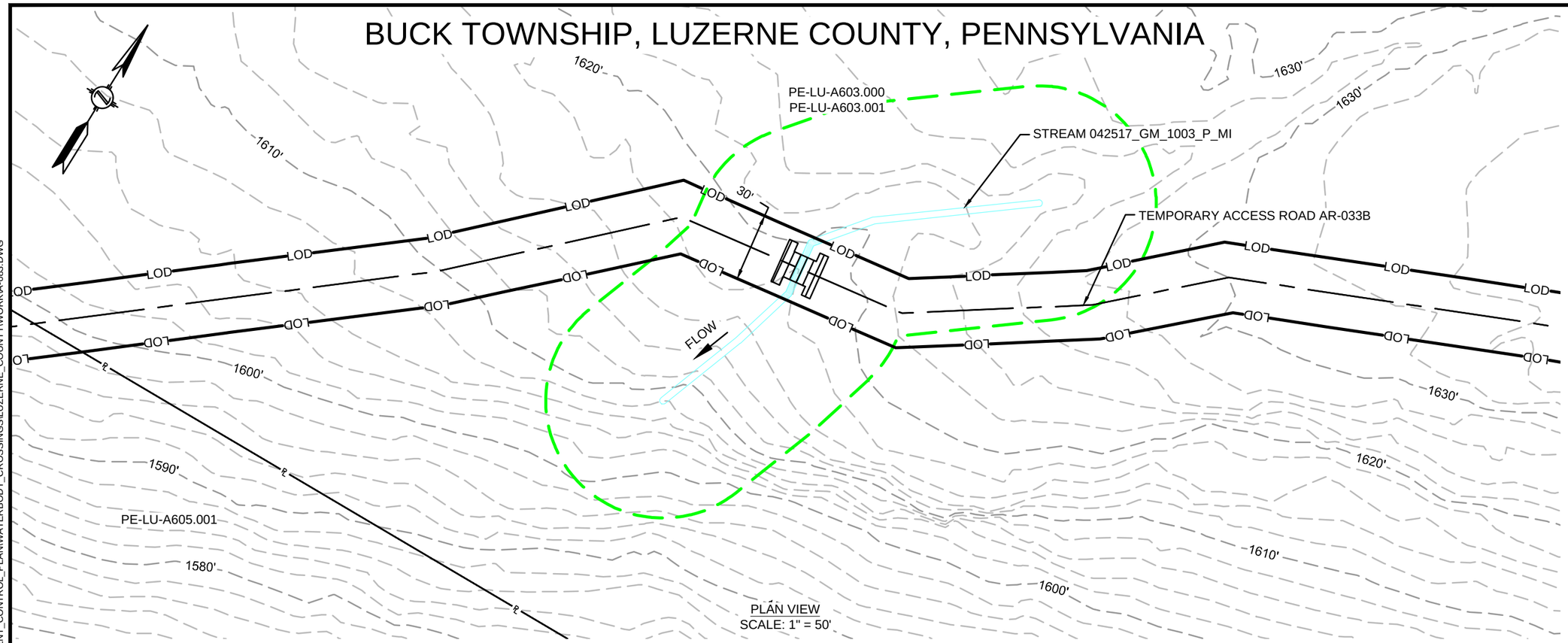
BUCK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA



GRAPHIC SCALE

50' 25' 0' 50'

FEATURE ID	RESOURCE TYPE	REGULATORY IMPACT	TEMPORARY DISTURBANCE (ACRES)			PERMANENT DISTURBANCE (ACRES)			STREAM IMPACT (FT)		CROSSING METHOD			EQUIPMENT CROSSING
			WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	WETLAND	WATERCOURSE CHANNEL	WATERCOURSE FLOODWAY	CROSSING WIDTH	WATERCOURSE CENTERLINE	PRIMARY	SECONDARY	TERTIARY	
042517_GM_1003_P_MI	WATERBODY	PADEP	-	0.002	0.116	-	-	-	3	32	N/A	N/A	N/A	MAT BRIDGE OR EQUIVALENT
		USACE	-	-	-	-	-	-	-	-	*N/A*	*N/A*	*N/A*	*MAT BRIDGE OR EQUIVALENT*

REVISIONS					
NO.	DATE	DESCRIPTION	DRAWN	CHECK	APPROVAL
0	10/2018	ISSUED FOR PADEP 105 PERMIT	HM	JB/KEK	MJD
1	04/2019	REVISED FOR USACE	HM	JB/KEK	MJD
2	10/2019	REVISED FOR USACE	HM	JB/KEK	MJD
3	09/2020	REVISED FOR PERMITTING - PHASE 1	HM	JF/KEK	MJD

APPROVALS	
DRAWN BY	DATE
HM (MM)	10/2018
CHECKED BY	DATE
JB/KEK (MM)	10/2018
ENG. APPROVAL	DATE
MJD (MM)	10/2018
P.M. APPROVAL	DATE

PREPARED FOR:

PennEast PIPELINE

PREPARED BY:

PENNEAST PIPELINE PROJECT

WETLAND & STREAM CROSSING PLAN
PROPOSED 36" PENNEAST PIPELINE
BUCK TOWNSHIP, LUZERNE COUNTY, PENNSYLVANIA
M.P. 22.8

SCALE	DRAWING NO.	REVISION
1"=50'	WSS-LZ-AR-019	3

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JPA Section I - Luzerne County

Project Location Map

Center Moreland
Kingston
PA AMER WATER CO
SPRINGBROOK DIST
Frances
Slocum
PENNEAST
AR-002A
AR-001
AR-003
AR-003B
Wyoming
Interconnect
Springville
Interconnect
Auburn
and Leidy
Interconnects
AQUA PA
MIDWAY
SUEZ WATER
PA BROWN
MANOR
COUNTRY
CLUB APTS
DALLAS MHP
SUEZ
WATER PA
SHAVERTOWN
SUEZ WATER
PA DALLAS
PA AMER WATER
CO SPRINGBROOK
DIST
Kingston
Swoyerville

Legend

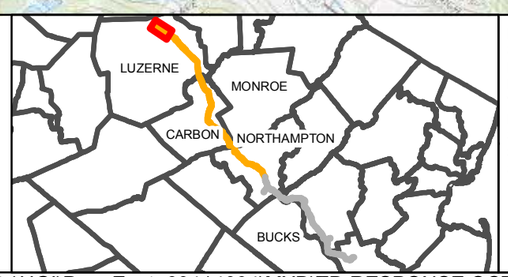
- Milepost
- Above Ground Facility

Phase 1

- Phase 1 Centerline
- Phase 1 Access Road
- Phase 1 Construction Limits (CL)

Phase 2

- Phase 2 Centerline
- Phase 2 Access Road
- Phase 2 Construction Limits
- 1-mile CL Buffer
- Delineated Wetland
- Delineated Waterbody
- Public Water Supply Service Area
- National Historic Landmark
- Wild and Natural Area - none within extents
- Natural Landmark
- State Forest
- State Gameland
- State Park
- Prime Farmland
- USGS Topographic Quadrangle
- State Boundary
- County Boundary



References:
Soil Survey Geographic (SSURGO) Database for Luzerne County, PA, USDA/NRCS, 2016.
Public Water Supply, PADEP, 2018.
National Historic Landmark, PA Historical and Museum Commission, 2015.
Wild and Natural Areas, PADCNR, 2017
Natural Landmark, PADEP, 1996.
State Gamelands, PGC, 2017.
State Forests, PA DCNR, 2017.
State Parks, PA DCNR, 2017.

0 1,000 2,000 4,000 Feet

PennEast PIPELINE

Location Map

Luzerne County, PA

Date: 9/24/2020

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Legend

- Milepost
- Above Ground Facility

Phase 1

- Phase 1 Centerline
- Phase 1 Access Road
- Phase 1 Construction Limits (CL)

Phase 2

- Phase 2 Centerline
- Phase 2 Access Road
- Phase 2 Construction Limits
- 1-mile CL Buffer
- Delineated Wetland
- Delineated Waterbody
- Public Water Supply Service Area
- National Historic Landmark
- Wild and Natural Area - none within extents
- Natural Landmark
- State Forest
- State Gameland
- State Park
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- USGS Topographic Quadrangle
- State Boundary
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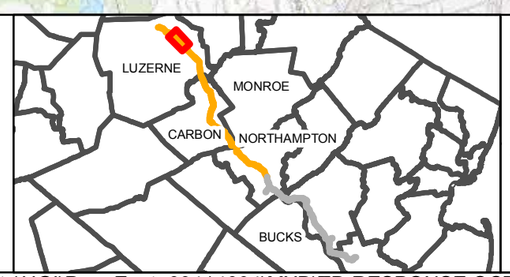

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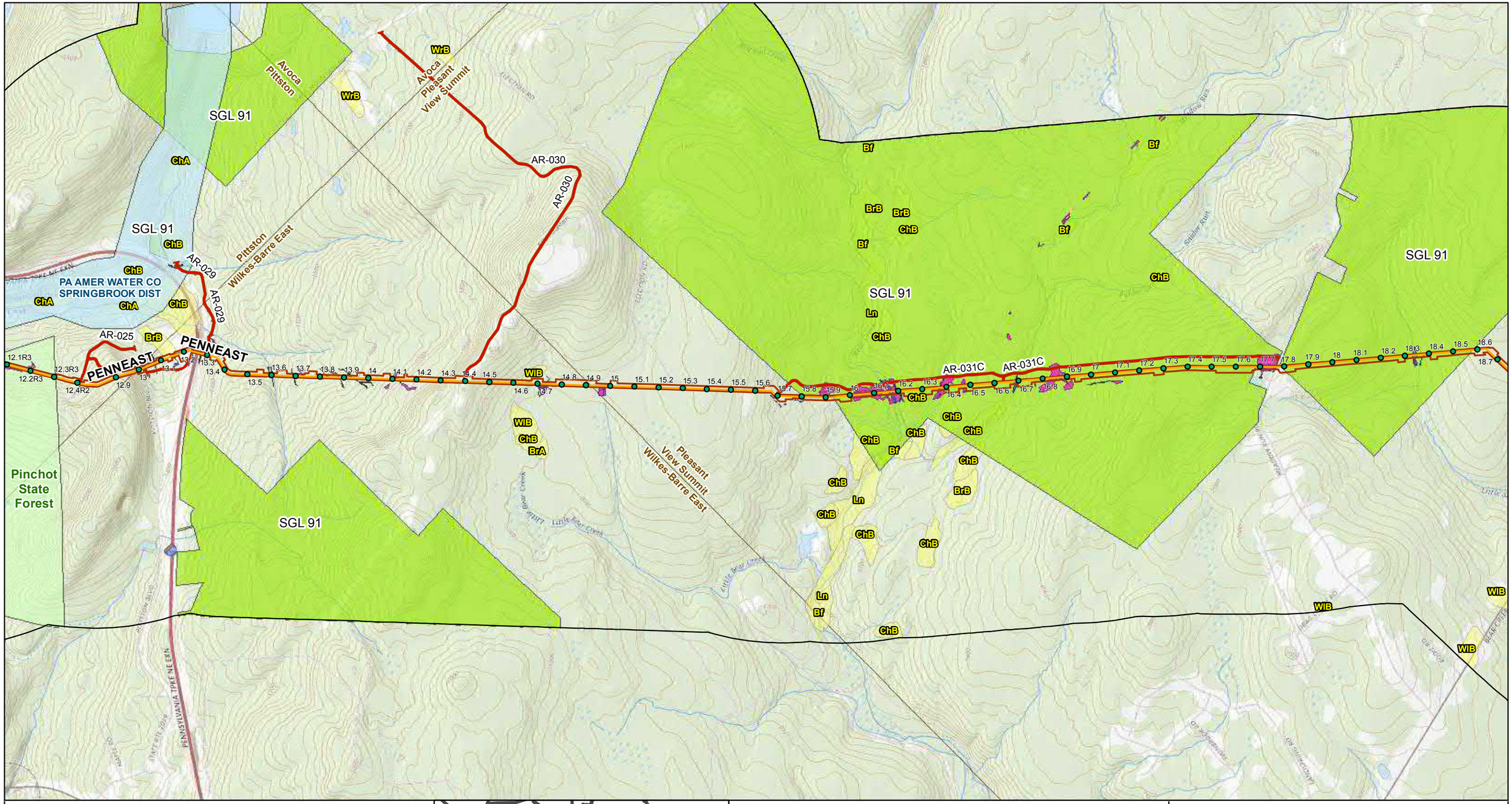

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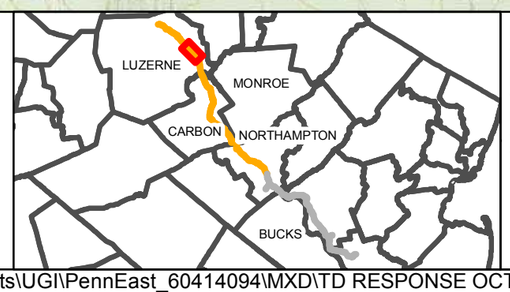

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PennEast PIPELINE

Location Map

Luzerne County, PA

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SGL 91
Avoca Pittston
Avoca Pleasant View Summit
Pittston Wilkes-Barre East
Pleasant View Summit Wilkes-Barre East
PA AMER WATER CO SPRINGBROOK DIST
Pinchot State Forest
PENNEAST
AR-025
AR-029
AR-030
AR-031C
LaB
WrB
ChA
ChB
BrB
Bf
Ln
WlB
BrA

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LUZERNE
MONROE
CARBON
NORTHAMPTON
BUCKS

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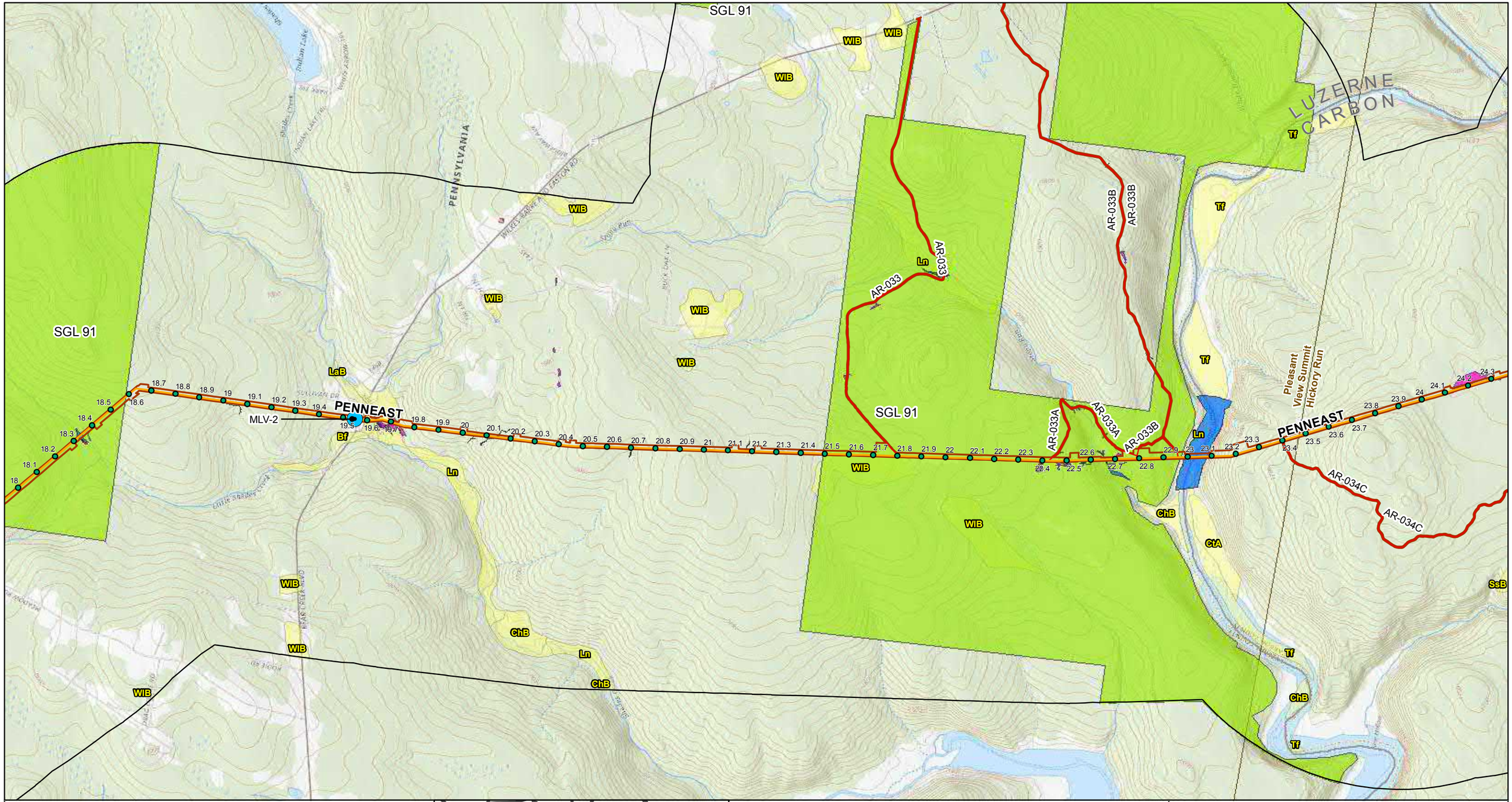

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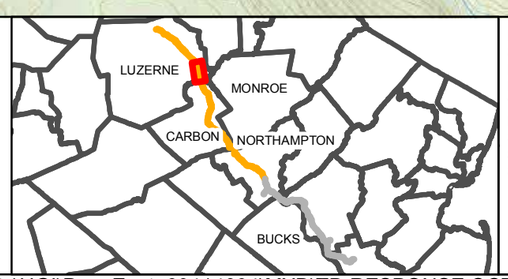

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PennEast PIPELINE

Location Map

Luzerne and Carbon County, PA

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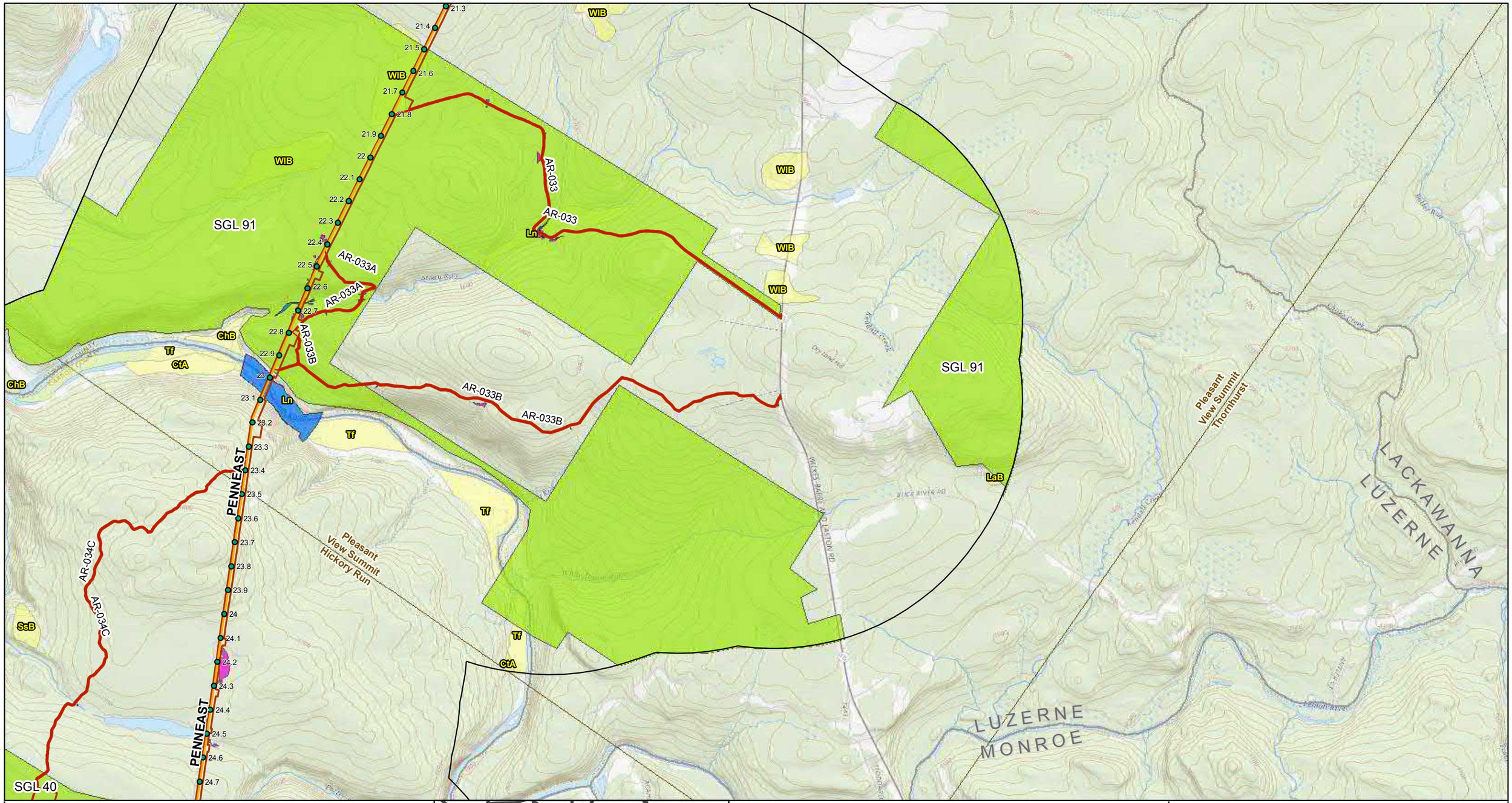

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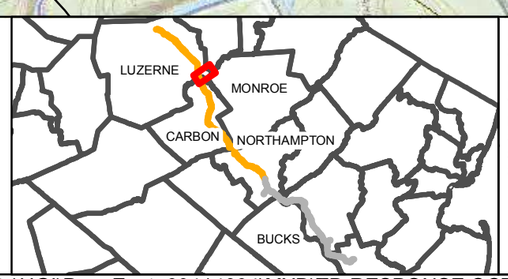

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PennEast PIPELINE

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JPA Section J - Luzerne County

Project Description Narrative

PennEast Pipeline Company, LLC

PHASE 1 OF THE PENNEAST PIPELINE PROJECT

Project Description

Revised September 2020

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Acronym List

ac	acres
Adelphia	Adelphia Gateway, LLC
ANSI	American National Standards Institute
API	American Petroleum Institute
ASME	American Society of Mechanical Engineers
ATWS	additional temporary workspace
Blue Mountain	UGI Central Penn Gas, Inc.
BMP	best management practice
BO	Biological Opinion
CFR	Code of Federal Regulations
CWA	Clean Water Act
CWS	construction workspace
dbh	diameter-at-breast-height
Dth/Day	dekatherms per day
E&SCP	Erosion and Sediment Control Plan
ESCGP	Erosion and Sediment Control General Permit
FERC	Federal Energy Regulatory Commission
HDD	horizontal directional drill
hp	horsepower
ISO	International Standards Organization
JPA	Joint Permit Application
mi	miles
MLV	mainline valve
MP	milepost
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
O&M	operation and maintenance
PADEP	Pennsylvania Department of Environmental Protection
PADCNR	Pennsylvania Department of Conservation and Natural Resources
PAR	permanent access road
PPC	Preparedness, Prevention, and Contingency
PennEast	PennEast Pipeline Company, LLC
PCSM	post-construction stormwater management
PFBC	Pennsylvania Fish and Boat Commission
PGC	Pennsylvania Game Commission
PHMC	Pennsylvania Historical and Museum Commission
PNDI	Pennsylvania Natural Diversity Inventory
Project	Phase 1 of the PennEast Pipeline Project
ROW	right-of-way
RQBTS	Recognized Qualified Bog Turtle Surveyor
SCADA	Supervisory Control and Data Acquisition
T&E	threatened and endangered
TAR	temporary access road
Tcf	trillion cubic feet
TCO	Columbia Gas Transmission

Transco	Transcontinental Gas Pipe Line Company, LLC
TWS	temporary workspace
UGIES	UGI Energy Services, Inc.
USACE	U.S. Army Corps of Engineers
USEIA	U.S. Energy Information Administration
USDOT	U.S. Department of Transportation
WQC	Water Quality Certification

1.0 GENERAL PROJECT DESCRIPTION

PennEast Pipeline Company, LLC (PennEast) is proposing Phase 1 of the PennEast Pipeline Project (Project) in Luzerne, Carbon, Monroe, and Northampton counties, Pennsylvania. The Project will entail the construction of approximately 68 miles of 36-inch diameter pipeline from Dallas Township in Luzerne County to Bethlehem Township in Northampton County. The Blue Mountain Lateral, an approximately 0.5-mile lateral of 4-inch diameter pipe, will be constructed in Carbon County. This lateral will serve as an interconnect with UGI Central Penn Gas, Inc. (Blue Mountain). The Project will terminate at the Church Road Interconnects, which will be installed on the PennEast Mainline Pipeline in Bethlehem Township, Northampton County. These interconnects will provide service to Columbia Gas Transmission (TCO) and Adelphia Gateway, LLC (Adelphia). Other associated aboveground infrastructure for the Project will consist of interconnect meter stations, mainline valves (MLVs), a single compressor station, and their appurtenant facilities and equipment (e.g., pig launchers/receivers, milepost markers, cathodic protection test posts, etc.).

The Federal Energy Regulatory Commission (FERC) is the designated lead agency for the Project. On September 24, 2015, PennEast filed an application with the FERC for a Certificate of Public Convenience and Necessity for the Project. FERC, through its National Environmental Policy Act (NEPA) guidelines, has consulted with appropriate agencies on endangered species, historic properties, essential fish habitat, and migratory birds. FERC also evaluated alternatives for the Project, including the No Action alternative, system alternatives, and route alternatives. An Order Issuing Certificate was issued by FERC on January 19, 2018, granting the requested authorizations based on their determination that the project defined in the September 24, 2015 application and subsequent revisions meets the requirements of their guidelines. PennEast filed an Amendment Application in February 2019 that included route and workspace changes, which were included in PennEast's December 2018 Chapter 105 Water and Obstruction Encroachment Permit [Joint Permit Applications (JPAs)] and Erosion and Sediment Control General Permit (ESCGP) Application. FERC issued a Certificate Order for the 2019 Amendment Application on March 19, 2020. PennEast filed an additional Amendment Application in January 2020 for a new aboveground facility and staging Project construction in two phases. FERC issued an Environmental Assessment for the phased construction on August 3, 2020. As of September 2020, this application is still under FERC's review.

On February 5, 2016, PennEast submitted JPAs to the Pennsylvania Department of Environmental Protection (PADEP) for review and coordination of the Title 25 Chapter 105 Dam Safety and Waterway Management and to the U.S. Army Corps of Engineers (USACE) Philadelphia and Baltimore Districts for compliance with the Section 404 of the Clean Water Act (CWA). Since February 2016, the Project design has evolved to further avoid and minimize impacts to sensitive resources, to address stakeholder requests, and to stage construction in two phases. An October 2019 revision to the Project Description, previously provided to the PADEP and USACE as part of the JPAs, included details regarding the components of the Project located within the state of Pennsylvania. A March 2020 revision provided details on the proposed staging of Project construction and addition of the Church Road Interconnects. This September 2020 revision presents only the components and impacts associated with Phase 1. Phase 2 components and impacts will be presented in a future permit modification.

1.1 PROPOSED FACILITIES

1.1.1 Purpose and Need

PennEast proposes to construct, install, and operate the Project facilities to provide approximately 650,000 dekatherms per day (Dth/Day) of year-round transportation service from northern Pennsylvania to markets directly in eastern and southeastern Pennsylvania and indirectly in surrounding states via existing downstream pipeline networks.

The Project facilities include a 36-inch diameter, 68-mile mainline pipeline, extending from Luzerne County to Northampton County, Pennsylvania. The Project will extend from various receipt point interconnections in the eastern Marcellus region including interconnections with: Transcontinental Gas Pipe Line Company, LLC (Transco) and gathering systems operated by Williams Partners L.P., Energy Transfer Partners, L.P. (formerly Regency Energy Partners, LP), and UGI Energy Services, LLC (UGIES), all in Luzerne County, Pennsylvania, to various delivery point interconnections in the heart of major northeastern natural gas-consuming markets, including interconnections with UGI Central Penn Gas, Inc. in Carbon County, Pennsylvania and TCO and Adelphia in Northampton County, Pennsylvania.

The Project was developed in response to market demands in New Jersey and Pennsylvania, and interest from shippers that require transportation capacity to accommodate increased demand and greater reliability of natural gas in the region. The Project will include a new pipeline and aboveground facilities that will provide a new source of natural gas supply from the Marcellus Shale producing region to Pennsylvania and surrounding states, enhancing the region's supply diversity. The Project is designed to serve markets in the region with firm, reliable access to the Marcellus supplies versus the traditional, more costly Gulf Coast regional supplies and pipeline pathways. An additional supply of natural gas to the region will provide a benefit to consumers, utilities, and electric generators by providing enhanced competition among suppliers and pipeline transportation providers. The Project will satisfy the needs of shippers seeking (i) additional supply flexibility, diversity and reliability; (ii) liquid points for trading in locally produced gas from the Marcellus Shale and the Utica Shale; (iii) direct access to premium markets in the northeast and mid-Atlantic regions; (iv) the ability to capture pricing differentials between the various interconnected market pipelines; (iv) enhanced natural gas transportation system reliability to the region with modern, state-of-the art facilities and (v) firm access to currently the most affordable long-lived dry gas reserves. The Project will provide shippers additional opportunities to buy and sell supplies and to transport natural gas to where it is needed and valued most. The Project also offers shippers a reliable, short-haul transportation option for direct access to Marcellus Shale natural gas supplies absent several risks associated with long-haul pipelines originating and traversing other regions of the country.

1.1.2 Location and Description of Facilities

1.1.2.1 Pipeline Facilities

Approximately 68 miles of 36-inch diameter new pipeline Mainline and the 4-inch diameter Blue Mountain Lateral are associated with the Project. These pipeline facilities are summarized in Table 1.1-1, which provides the proposed Project's pipeline installations, pipeline diameter, approximate length, milepost (MP), and county. Table 1.1-2 provides the proposed Project's mainline installations by municipality and

county. Table 1.1-3 identifies the latitude / longitude at each point where the pipeline crosses a county boundary. The Project location map in Section I of the JPA shows the regional location of the Project.

- Phase 1 of the PennEast mainline route pipeline will be an approximately 68-mile long new pipeline starting in Luzerne County and extending to Northampton County, Pennsylvania. Pennsylvania counties traversed include Luzerne, Carbon, Monroe, and Northampton.
- The 4-inch diameter Blue Mountain Lateral will be an approximately 0.5-mile new pipeline in Carbon County, Pennsylvania.

Table 1.1-1
Pipeline Facilities

Facility	Pipeline Diameter and Type	Approx. Length* (miles)	Begin MP	End MP[1]	County
PennEast Mainline Route	36-inch new pipeline	67.7	0.0	68.2R3	Luzerne, Carbon, Monroe, and Northampton
Blue Mountain Lateral	4-inch new pipeline	0.5	0.0	BL-0.51R3	Carbon

[1]MP = milepost; MPs shown are based on alignment sheet information. Approximate mileage may be slightly off due to rounding and station equations.

Table 1.1-2
Mainline Pipeline by Municipality

Township	Approximate Mileage[1]	County
PennEast Mainline		
Dallas Twp	1.2	Luzerne
Kingston Twp	3.0	Luzerne
West Wyoming Boro	1.9	Luzerne
Wyoming Boro	1.1	Luzerne
Jenkins Twp	1.0	Luzerne
Plains Twp	4.5	Luzerne
Bear Creek Twp	10.4	Luzerne
Kidder Twp	10.2	Carbon
Penn Forest Twp	7.7	Carbon
Towamensing Twp	6.4	Carbon
Lower Towamensing Twp	3.7	Carbon
Eldred Twp	1.0	Monroe
Moore Twp	7.6	Northampton

Township	Approximate Mileage[1]	County
East Allen Twp	0.8	Northampton
Upper Nazareth Twp	3.0	Northampton
Lower Nazareth Twp	3.2	Northampton
Bethlehem Twp	1.2	Northampton

[1] MPs are shown are based on alignment sheet information. Approximate mileage may be slightly off due to rounding and station equations.

Table 1.1-3
Mainline Pipeline Latitude/Longitude County Crossings

County Crossings	Approximate Coordinates Associated with the County Crossings	Approximate MP Range within each County[1]
Exit Luzerne / Enter Carbon	41°07'53.09"N 75°41'17.67"W	Luzerne 0.0R1-23.0
Exit Carbon / Enter Monroe	40°49'18.92"N 75°28'41.26"W	Carbon 23.0-50.7R3
Exit Monroe / Enter Northampton	40°48'54.81"N 75°28'17.91"W	Monroe 50.7R3-51.7R3

[1] MPs are shown are based on alignment sheet information. Approximate mileage may be slightly off due to rounding and station equations.

1.1.2.2 Aboveground Facilities

The Project will make use of a single compressor station that will serve the entire line, providing sufficient throughput with an aggregate of approximately 31,800 International Organization for Standardization (ISO) horsepower (hp) of compression. PennEast has identified a proposed compressor station site at approximate milepost 26.8R2 in Kidder Township, Carbon County, Pennsylvania. Additional aboveground facilities include meter stations, MLVs, and pig launcher/receivers. The latitude/longitude location coordinates for the facility locations are listed in Table 1.1-4 below.

1.1.2.3 Compressor Station

The Kidder Compressor Station will be a new facility. PennEast has identified a proposed location on an approximately 74-acre undeveloped, forested parcel in Carbon County, Pennsylvania. Approximately 19.3 acres of the parcel will be developed; the remaining acreage will remain undisturbed. The proposed facility components include two gas turbine-driven Solar Mars 100 units, a natural gas-fired auxiliary power unit, and ancillary heating equipment.

1.1.2.4 Other Facilities

Various associated aboveground facilities including interconnects, launchers, receivers, and MLVs will be constructed to support the pipeline system. Table 1.1-4 provides a list of the associated facilities.

1.1.2.5 Shut-off Provisions

The proposed facilities will be designed and constructed to meet or exceed the safety standards established by the U.S. Department of Transportation (USDOT) Title 49 Code of Federal Regulations (CFR) Part 192. As required by USDOT Title 49 CFR Part 192, valves must be installed along the pipeline at specified intervals to sectionalize the pipeline. The class location of the pipeline, which is based on the population density near the pipeline, determines the maximum MLV spacing along the pipeline. These valves can be used to shut off the flow of natural gas in the event of an emergency or for planned maintenance and repairs.

In addition to meeting or exceeding the minimum requirements of MLV spacing specified in USDOT Title 49 CFR 192, PennEast will install remotely operated valves at each new MLV site. The MLV sites will be monitored and controlled by Gas Control through PennEast's Supervisory Control and Data Acquisition (SCADA) system. Pipeline pressure and valve status will be transmitted from each MLV site to PennEast Gas Control in regular intervals to monitor the overall condition of the pipelines. In the event of an upset condition, Gas Control will have the ability to isolate a segment by sending commands to close the remotely-operated MLVs.

Table 1.1-4
Aboveground Facilities

Facility Location	Type[1]	New/ Modified	MP[2]	Municipality	County	Coordinates
PennEast Mainline Pipeline	Wyoming Interconnect (Energy Transfer Partners, LP)	New	0R1	Dallas Twp	Luzerne	41° 20' 49.075" N, 75° 56' 43.511" W
	Springville Interconnect (Williams Partners, LP)	New	0.3R3	Dallas Twp	Luzerne	41° 20' 45.784" N, 75° 56' 27.339" W
	Auburn (UGI Energy Services, LLC) and Leidy Interconnects (Transcontinental Gas Pipe Line Company, LLC)	New	4.6R3	West Wyoming Boro	Luzerne	41° 19' 9.493" N, 75° 52' 27.598" W
	MLV-1	New	8.3R3	Plains Twp	Luzerne	41° 17' 29.002" N, 75° 49' 51.700" W
	MLV-2	New	19.5	Bear Creek Twp	Luzerne	41° 10' 50.892" N, 75° 41' 48.652" W
	Kidder Compressor Station	New	26.7	Kidder Twp	Carbon	41° 4' 52.248" N, 75° 39' 45.597" W
	MLV-3	New	32.3R2	Kidder Twp	Carbon	41° 0' 56.261" N, 75° 37' 2.993" W
	MLV-4	New	46	Towamensing Twp	Carbon	40° 51' 42.002" N, 75° 31' 52.758" W
	MLV-6	New	57	Moore Twp	Northampton	40° 46' 6.690" N, 75° 26' 39.997" W
	MLV-7	New	62.4R3	Upper Nazareth Twp	Northampton	40° 43' 48.756" N, 75° 21' 49.920" W

Facility Location	Type[1]	New/ Modified	MP[2]	Municipality	County	Coordinates
	Church Road Interconnects	New	68.2R3	Bethlehem Twp	Northampton	40° 40' 33.24" N, 75° 17' 38.04 " W
Blue Mountain Lateral	Blue Mountain Side Valve	New	BL - 0R3	Lower Towamensing Twp	Carbon	40° 49' 10.159" N, 75° 29' 43.875" W
	Blue Mountain Interconnect (UGI Central Penn Gas, Inc)	New	BL-0.51R3	Lower Towamensing Twp	Carbon	40° 49' 6.133" N, 75° 30' 19.535" W

[1] MLV-5 has been removed from the Project scope; however, the subsequent MLV numbers were not revised to reflect the removal.
[2] MPs shown are based on alignment sheet information and are based on pipeline centerline. Approximate mileage may be slightly off due to rounding and station equations.

1.2 LAND REQUIREMENTS

The construction workspace for the Project will include temporary workspace (TWS), additional temporary workspace (ATWS), permanent right-of-way (ROW), aboveground facilities access roads, staging areas, and wareyards. Table 1.2-1 includes a summary of land requirements for construction of the Project. Additional details regarding the Project's land requirements are included in Table 1.2-1.

The aerial photo-based alignment sheets are included in JPA Section H-1 and depict the location and configuration of temporary and permanent construction workspace required for the Project. The U.S. Geological Survey figure included in JPA Section I depicts the location of proposed temporary and permanent access roads in their entirety. Typical construction workspace configurations have been provided in the Project-specific Erosion and Sediment Control Plan (E&SCP), which is located in JPA Section M.

Table 1.2-1
Land Requirements for Project Facilities

Facility[1]	Approximate Length/ No. of Sites	Temporary Workspace for Construction (acres)	Additional Temporary Workspace for Construction (acres)	Permanent Easement for Construction and Operation (acres)[2]	Total Workspace for Construction and Operation (acres)
PennEast Mainline	67.7 (mi)/1	378.9	156.4	379.7	915.0
Blue Mountain 4-inch diameter Lateral	0.5 (mi)/1	2.6	0.0	3.0	5.6
Total Pipeline	**68.2 (mi)/2**	**381.5**	**156.4**	**382.7**	**920.6**
Aboveground Facilities	46.1 (ac)/13	5.0	0.0	41.1	46.1
Access Roads[3]	30.0 (mi)/66	98.1	0.0	7.0	105.1
Staging Areas	28.8 (ac)/8	28.8	0.0	0.0	28.8
Wareyards	20.1 (ac)/7	20.1	0.0	0.0	20.1
Total Project		**533.5**	**156.4**	**430.8**	**1,120.7**

1. This table does not specify valves and launcher/receivers that will be constructed on the pipeline segments since the land requirements for these facilities are within the land requirements for the pipeline segments.
2. Includes permanent 50-foot ROW that is outside of the Limits of Disturbances at HDDs.
3. Estimated Temporary Workspace for Construction includes access roads (new and existing).
4. All units in acres and rounded to the nearest 0.1. The totals shown in this table may not equal the sum of addends due to rounding.

1.2.1 Pipeline Facilities

The Project has a typical 50-foot-wide permanent ROW and, on average, an approximately 50-foot-wide temporary construction workspace for a nominal 100-foot-wide construction corridor. This corridor width is based on construction conditions of similar projects in the Northeast U.S. From the center of the ditch, the spoil side of the construction ROW is proposed to be 35 feet. This footprint will accommodate segregated topsoil and serve as the primary spoil storage area. Thus, the working side of the construction ROW will typically be 65 feet wide from the center of the ditch and will serve to accommodate trench

excavation, bank sloping, topsoil segregation and safe construction and restoration activities. Agricultural areas where full topsoil segregation of 12 inches deep will require an additional 25 feet of ATWS; in these areas the construction corridor will be a total of 125 feet wide. Figures that illustrate the typical construction workspace requirements are included in Typical Erosion and Sediment Details (JPA Section H). During project review, conditions evaluated include topography, soils, geologic conditions, steep slopes, bedrock, rock formations, boulders, abandoned mines, wetlands, and watercourses, as well as proximity to existing roads, railroads, and residences. PennEast has considered these conditions along with machinery requirements needed for safe pipeline installation and future operation and maintenance (O&M) activities. PennEast has also reduced workspace to 75 feet, wherever possible, through wetlands, floodways, and riparian areas. Site-specific alternatives analyses describing the workspace reductions at each wetland and watercourse are presented in JPA Section S. The land requirements for pipeline construction and O&M requirements are presented in Table 1.2-1.

1.2.1.1 New Pipeline ROW

Typical construction and operation ROW widths for new pipeline along the PennEast Mainline Pipeline and the Blue Mountain Lateral are shown in the Typical Construction ROW Details (JPA Section H). As noted, the typical construction ROW will be 100 feet wide consisting of new 50-foot permanent easement plus an average temporary workspace of 50 feet.

Where practicable, the construction ROW has been co-located and sited adjacent to, or in proximity with existing linear facilities (pipeline or electric transmission). Approximately 30 miles, or approximately 44%, of the total length of the Project (Mainline and Blue Mountain Lateral) is proposed to be co-located with existing utility ROWs.

1.2.1.2 Access Roads

To the extent practicable, existing public and private road crossings will be used as the primary means to access the ROW. Additional access points are necessary beyond those available by use of existing public roads. Preliminarily, PennEast has identified 66 access roads for use during construction of the Project, which are listed in Table 1.2-2. These access roads include a total length of approximately 30 miles. These access roads include use of 35 existing roads and construction or enhancement of 18 partially existing access roads. The following access roads are identified by County:

- 33 access roads – Luzerne County, Pennsylvania
- 18 access roads – Carbon County, Pennsylvania
- 1 access road – Monroe County, Pennsylvania (extends into Northampton County)
- 14 access roads – Northampton County, Pennsylvania

Temporary access roads (TARs) sited outside an existing roadway will require temporary improvements and will require E&S controls as shown on the plans. Permanent access roads may require permanent improvements (e.g. permanent grading, placement of impervious cover) and are included as part of the post-construction stormwater management (PCSM) design. At access roads, selective tree limb cutting and placement of temporary stone during construction may be needed. ATWS will be located adjacent to several access roads for temporary vehicle parking, vehicle turn-out passing areas, and/or staging of minor supplies (e.g., hay bales for erosion control activities). TARs for construction will be restored to original conditions upon project completion. Landowner permission will be obtained for proposed permanent access roads (PARs).

PennEast delineated wetlands, watercourses, and floodways within an approximately 50-foot wide corridor along existing and proposed access roads. In many instances, where a watercourse crosses an access road, there is an existing culvert or bridge that maintains stream flow under the road. PennEast surveyed the culvert locations, assessed the culvert and bridge conditions, and reduced workspace to avoid impacts to culverted and bridged watercourses. As a result of this assessment, PennEast proposes to replace just two existing culverts – one in Luzerne County and one in Carbon County. The associated impacts are discussed in greater detail in the Environmental Assessments in JPA Section L and the Hydrology and Hydraulics Analyses in JPA Section N for Luzerne and Carbon counties, respectively. Along some access roads, streams flow openly across the existing roads and appear to be forded by road users. PennEast proposes to construct temporary equipment bridges over these streams and impacts to the streams and floodways are addressed in the Aquatic Resources Impact Tables in JPA Section A-1 and the Environmental Assessments in JPA Section L. PennEast also reduced workspace to avoid or minimize impacts to wetlands along access roads wherever possible. Where wetlands cannot be avoided, PennEast will install temporary mats across wetlands to minimize impacts from equipment and truck traffic. Table 1.2-3 summarizes the aquatic resources that have been identified along each proposed access road and whether impacts are proposed at those resource crossings.

1.2.1.3 Wareyards and Staging Areas

The Project requires 7 wareyards and 8 staging areas to construct the pipeline in a safe and environmentally responsible manner. Wareyards are sited along the pipeline alignment and will be used for contractor field offices, equipment, and materials staging. Staging areas, which are required to stage equipment, assemble and fabricate pipe, and other activities that are necessary to construct the pipeline in a safe and environmentally responsible manner, are sited at the beginnings and ends of construction spreads and near river crossings. Temporary impacts for these wareyards and staging areas are presented in Table 1.2-1 above.

Table 1.2-2
Access Roads for the Project

Road No.	Milepost[1]	County	Length (ft)[2]	New/Existing[3]	Nominal LOD Width (ft)[4]	Existing Condition	Improvement Needed[5]	Improvement Distance (ft)[6]	Temporary/ Permanent[7]	Justification
AR-001[8]	0R1	Luzerne	1,634	Existing	30	Gravel	Yes	480	Temporary	Wyoming Interconnect access
AR-002A	0.2R3	Luzerne	3,192	Existing	30	Paved and gravel	No	0	Permanent	Springville Interconnect access
AR-003	4.6R3	Luzerne	2,388	Existing	30	Paved and gravel	No	0	Permanent	Access to Auburn and Leidy Interconnect
AR-003B	4.5R3	Luzerne	351	Existing	30	Gravel	No	0	Temporary	Temporary access to Auburn and Leidy Interconnect
AR-005	6.4R4	Luzerne	361	Existing	30	Paved	No	0	Temporary	Light vehicle access prior to clearing and construction
AR-006	6.9	Luzerne	1,000	New	30	Field	Yes	1,000	Temporary	Access for open cut of Susquehanna River
AR-006A	7.1	Luzerne	1,067	New	30	Grass and forest	Yes	1,067	Temporary	Access for open cut of Susquehanna River
AR-007	7.3R3	Luzerne	871	Existing	30	Paved	No	0	Temporary	Access to south side of Susquehanna River crossing
AR-008	8.2R2	Luzerne	366	Partially Existing	30	Grass and gravel	Yes	166	Temporary	Access for major equipment North of Lakewood Drive
AR-009	8.2R2	Luzerne	50	New	30	Grass and forest	Yes	50	Temporary	Access around guard rails on N Main Street
AR-009A	8.3R3	Luzerne	132	New	30	Grass and gravel	Yes	132	Temporary	Access for major equipment
AR-013	8.9R3	Luzerne	251	Existing	30	Gravel	No	0	Temporary	Access for heavy construction equipment
AR-015	9.4R3	Luzerne	3,112	Partially Existing	30	Paved, gravel, grass and dirt	Yes	112	Temporary	Access to ROW for materials and major equipment. Access to west side of railroad.
AR-015A	9.6R2	Luzerne	394	Partially Existing	30	Gravel, dirt and grass	Yes	255	Temporary	Access to ROW for materials and major equipment. Access to west side of railroad.
AR-015B	9.8R2	Luzerne	1,347	Existing	30	Paved	No	0	Temporary	Access to ROW for materials and major equipment. Access to quarry area.
AR-015CN	10.3R2	Luzerne	504	Partially Existing	20	Grass and gravel	Yes	174	Temporary	Access to support I81 HDD
AR-016	9.4R3	Luzerne	2,398	Existing	30	Paved and gravel	No	0	Temporary	Access for light and major equipment for construction through the existing quarry
AR-017A	9.4R3	Luzerne	1,174	Existing	30	Dirt and gravel	No	0	Temporary	Access for light and major equipment to the pipeyard
AR-017B	9.4R3	Luzerne	500	Existing	30	Paved and gravel	No	0	Temporary	Access for light and major equipment to the pipeyard and for construction through the existing quarry
AR-017C	9.4R3	Luzerne	62	Existing	30	Paved	No	0	Temporary	Access for light and major equipment to the pipeyard and for construction through the existing quarry
AR-017DN	9.4R3	Luzerne	205	Existing	30	Gravel	No	0	Temporary	Access to Wareyard
AR-023A	10.6R2	Luzerne	3,956	Existing	30	Dirt and gravel	No	0	Temporary	Access to south side of Hwy 315 and Interstate 81 HDD
AR-025	12.9	Luzerne	1,987	Existing	30	Gravel	No	0	Temporary	Clearing crew access for heavy equipment
AR-025A	12.4R2	Luzerne	548	Existing	30	Gravel	No	0	Temporary	Clearing crew access for heavy equipment
AR-028	13	Luzerne	1,055	Partially Existing	30	Paved and grass	Yes	705	Temporary	Access for light and major equipment from the west for construction of the crossing of highway 476 while avoiding a major wetland
AR-029[9]	13.3	Luzerne	2,502	Existing	30	Gravel and dirt	Yes	450 / 10	Temporary / Permanent	Access to south side of Interstate 476 crossing
AR-030	14.4	Luzerne	11,047	Existing	30	Gravel	No	0	Temporary	Access to ROW in remote area. Would minimize clearing.
AR-031B	16.6	Luzerne	116	New	30	Grass and forest	Yes	116	Temporary	Access to ROW in remote area.
AR-031C	15.7	Luzerne	11,171	Partially Existing	30	Matted, forest and gravel	Yes	1,811	Temporary	Access for heavy equipment
AR-031DN	19.6	Luzerne	94	New	15	Grass	Yes	94	Permanent	Access to mainline valve
AR-033	21.8	Luzerne	11,979	Existing	30	Gravel	No	0	Temporary	Access to ROW in remote area. Access to north side of Lehigh River crossing.
AR-033A	22.4	Luzerne	3,756	Partially Existing	30	Forest and dirt	Yes	881	Temporary	Access to ROW in remote area. Access to north side of Lehigh River crossing.

Road No.	Milepost[1]	County	Length (ft)[2]	New/Existing[3]	Nominal LOD Width (ft)[4]	Existing Condition	Improvement Needed[5]	Improvement Distance (ft)[6]	Temporary/ Permanent[7]	Justification
AR-033B	22.8	Luzerne	13,435	Partially Existing	30	Gravel, dirt and forest	Yes	1,368	Temporary	Access to ROW in remote area. Access to north side of Lehigh River crossing.
AR-034[10]	25	Carbon	12,148	Partially Existing	30	Paved, gravel, dirt and field	Yes	620 / 10	Temporary / Permanent	Access to ROW in remote area. Access to south side of Lehigh River crossing.
AR-034A	24.9	Carbon	4,064	Partially Existing	30	Forest and gravel	Yes	100	Temporary	Access to ROW in remote area. Access to south side of Lehigh River crossing.
AR-034B	26.3	Carbon	6,330	Existing	30	Gravel and paved	No	0	Temporary	Access to Wareyard
AR-034C	23.4	Carbon	11,159	Partially Existing	30	Forest, grass, and dirt	Yes	50	Temporary	Access to ROW in remote area. Access to south side of Lehigh River crossing.
AR-034EN	25.4	Carbon	604	Existing	30	Gravel	No	0	Temporary	Access for a turnaround for construction equipment
AR-036A	29.2R2	Carbon	15,873	Existing	30	Paved and gravel	No	0	Temporary	Access to ROW in remote area. Access to south side of wetlands.
AR-037	32R2	Carbon	433	Existing	30	Gravel	No	0	Temporary	Access to Spread 2 Preferred Contractor Yard
AR-037A	32R2	Carbon	320	Existing	30	Gravel	No	0	Temporary	Access to Spread 2 Preferred Contractor Yard
AR-037BN	32.3R2	Carbon	73	New	15	Grass	Yes	73	Permanent	Access to mainline valve
AR-040	35.8	Carbon	1,061	Partially Existing	30	Paved and grass	Yes	361	Temporary	Access for light and major equipment from the north for construction to the south
AR-045	44.8R2	Carbon	175	Existing	30	Dirt	No	0	Temporary	Access to west side of creek crossing at Sei Pike Ln
AR-046	45R2	Carbon	287	Partially Existing	30	Gravel, grass, and forest	Yes	137	Temporary	Access for light and major equipment for construction to the east and through the wetland to the south
AR-046AN	46	Carbon	89	New	15	Grass	Yes	46	Permanent	Access to mainline valve
AR-047	46.6	Carbon	1,196	Existing	30	Gravel	No	0	Temporary	Access to ROW in remote area
AR-048	48.1	Carbon	202	New	30	Grass and forest	Yes	202	Temporary	Access around guard rails to south side of Little Gap Rd crossing
AR-048AN	49R3	Carbon	541	Existing	30	Dirt and gravel	No	0	Temporary	Access to adjacent wareyard
AR-048CN	51.4R3	Monroe & Northampton	2,757	Existing	30	Dirt	No	0	Temporary	Access to facilitate crossing of Appalachian Trail
AR-048DN	52.6R3	Northampton	1,007	Existing	15	Dirt and gravel	No	0	Temporary	Access to facilitate crossing of Appalachian Trail
AR-048EN	51.8R3	Northampton	2,222	Partially Existing	30	Dirt, grass, and forest	Yes	72	Temporary	Access to facilitate crossing of Appalachian Trail
AR-050	0.51R3	Carbon	4,828	Existing	30	Paved and gravel	No	0	Permanent	Access for light and major equipment from the north for construction to the east and west
AR-050AN	0R3	Carbon	3,110	Existing	30	Dirt and gravel	No	0	Temporary	Access for Blue Mountain Side Valve
AR-054	55.9	Northampton	169	New	30	Grass	Yes	169	Temporary	Access for light and major equipment from the east for construction to the north to support crossing Mountain View Drive and multiple stream crossings
AR-054AN	57	Northampton	52	New	15	Grass	Yes	52	Permanent	Access to mainline valve
AR-055	60.2	Northampton	730	Existing	30	Paved	No	0	Temporary	Access to ROW that minimizes impact to Monocacy Creek
AR-056A	60.5	Northampton	578	New	30	Field	Yes	578	Temporary	Access to ROW
AR-056BN	62.4R3	Northampton	28	New	15	Grass	Yes	28	Permanent	Access to mainline valve
AR-057	62.8R3	Northampton	1,379	Existing	30	Gravel	No	0	Temporary	Access to south side of railroad crossing
AR-057AN	62.7	Northampton	302	Existing	20	Paved and gravel	No	0	Temporary	Access to Wareyard
AR-057BN	62.6	Northampton	1,996	Partially Existing	20	Paved, gravel, grass and forest	Yes	546	Temporary	Access to Wareyard
AR-058	63.4	Northampton	1,371	Existing	30	Gravel	No	0	Temporary	Access for light and major equipment from the south for construction to the east and west
AR-059	64R3	Northampton	519	Partially Existing	30	Gravel and grass	Yes	44	Temporary	Access for light and major equipment from the east for construction to the north and south and to access the proposed ATWS

Road No.	Milepost[1]	County	Length (ft)[2]	New/Existing[3]	Nominal LOD Width (ft)[4]	Existing Condition	Improvement Needed[5]	Improvement Distance (ft)[6]	Temporary/ Permanent[7]	Justification
AR-061	64.4R3	Northampton	222	Partially Existing	30	Paved and grass	Yes	52	Temporary	Access for light and major equipment for construction to the east and south and to support crossing Route 946
AR-066N	68.2R3	Northampton	19	Partially Existing	30	Paved	Yes	19	Permanent	Access to Church Road Interconnects

Notes:

1. Mileposts are approximate. All route deviations implemented after the September 2015 FERC Filing are denoted with an "R" and indicate a milepost equation. Mileposts with an "R1" indicate route deviations implemented and provided to FERC prior to the issuance of the Draft Environmental Impact Statement. Mileposts with an "R2" indicate route deviations implemented as part of the September 2016 Supplemental Filing. Mileposts with an "R3" indicate route deviations implemented post-FERC Certificate issuance. Mileposts with an "R4" indicate route deviations implemented since the previous PADEP Submission. All mileposts without an "R" indicate that the route has not changed since the September 2015 application.

2. Length of the proposed access road.

3. New = proposed road sited where there is no existing roadway; Existing = proposed road sited fully along an existing roadway; Partially Existing = proposed road sited partially along an existing roadway and partially outside of an existing roadway

4. Nominal LOD Width is the Limits of Disturbance width along a proposed access road. The width shown in the column is stated as nominal, as there may be workspace reductions along the road to avoid culverts and other existing features.

5. "Yes" indicates that a proposed access road is sited where there is no existing roadway, or an existing roadway is being expanded within a wetland or stream requiring mats or temporary equipment bridges. "No" indicates that a proposed access road is sited fully along an existing roadway and no BMPs are required. At access roads, selective tree limb cutting and placement of temporary stone during construction may be needed.

6. For temporary access roads, improvement distance represents the linear footage of a proposed access road sited outside an existing road and linear footage of proposed access road within an existing road that is temporarily expanded within a wetland or stream during construction. For permanent access roads, improvement distance represents the linear footage of a proposed access road where permanent post construction improvements (e.g. permanent grading, placement of impervious cover) and are included as part of the PCSM design.

7. Temporary access roads will be restored to original conditions following construction. Permanent access roads may require permanent post construction improvements (e.g. permanent grading, placement of impervious cover) and are included as part of the PCSM design.

8. Access road AR-001 improvements are temporary and consist of the placement of timber mats in wetlands during construction. No permanent improvements are planned at this access road.

9. Access road AR-029 temporary improvements include matting and bridging at streams and wetlands. Permanent improvements include permanent culvert replacement as shown in the Culvert Sizing Report.

10. Access road AR-034 temporary improvements include siting of a proposed temporary access road outside of an existing roadway. Permanent improvements include permanent culvert replacement as shown in the Culvert Sizing Report.

Table 1.2-3
Resources Crossed by Access Roads for the Project

Resource ID	MP	County	Resource Type	Temporary Equipment Crossing	Instream support needed?	Comments
AR-001						
053117_MB_1001_PEM	0R1	Luzerne	Wetland	Matted	N/A	
053117_MB_1001_PSS	0R1	Luzerne	Wetland	Matted	N/A	
010716_GM_1002_PEM	0R1	Luzerne	Wetland	Matted	N/A	
010716_GM_1001_PSS	0R1	Luzerne	Wetland	Matted	N/A	
010716_GM_1001_PEM	0R1	Luzerne	Wetland	Matted	N/A	
AR-002A						
No Resources Delineated	0.5	Luzerne				
AR-003						
No Resources Delineated	4.5R3	Luzerne				
AR-003B						
No Resources Delineated	4.5R3	Luzerne				
AR-005						
No Resources Delineated	6.4R2	Luzerne				
AR-006						
102315_WA_1001_P_MA	6.9	Luzerne	FEMA Floodway	Matted	N/A	This temporary access road is within an agricultural field on the right bank of the Susquehanna River and will be used to travel between the diversion dam and the cofferdam. These impacts are accounted for within the Susquehanna River floodway impact calculations.
AR-006A						
102315_WA_1001_P_MA	7.1	Luzerne	FEMA Floodway	Matted	N/A	This temporary access road is along the northern tip of Monocanock Island and will be used to travel between the diversion dam and the cofferdam. These impacts are accounted for within the Susquehanna River floodway impact calculations.
AR-007						
No Resources Delineated	7.3R3	Luzerne				
AR-008						
No Resources Delineated	8.1R3	Luzerne				
AR-009						
No Resources Delineated	8.2R2	Luzerne				
AR-009A						
No Resources Delineated	8.3R3	Luzerne				
AR-013						
No Resources Delineated	8.9R3	Luzerne				

Resource ID	MP	County	Resource Type	Temporary Equipment Crossing	Instream support needed?	Comments
AR-015						
No Resources Delineated	9.4R3	Luzerne				
AR-015A						
No Resources Delineated	9.6R2	Luzerne				
AR-015B						
No Resources Delineated	9.8R2	Luzerne				
AR-015CN						
No Resources Delineated	10.2R2	Luzerne				
AR-016						
No Resources Delineated	9.4R2	Luzerne				
AR-017A						
No Resources Delineated	9.4R3	Luzerne				
AR-017B						
No Resources Delineated	9.4R3	Luzerne				
AR-017C						
No Resources Delineated	9.4R3	Luzerne				
AR-017DN						
No Resources Delineated	9.4R3	Luzerne				
AR-023A						
032818_WA_1002_E_MI	10.6R2	Luzerne	Watercourse floodway	None	N/A	Existing gravel road that will have no additional improvements that affect the floodway
AR-025						
No Resources Delineated	12.9	Luzerne				
AR-025A						
121514_JC_1001_E_MI	12.4R2	Luzerne	Watercourse floodway	None	N/A	Existing gravel road that will have no additional improvements that affect the floodway
AR-028						
121814_JC_1010_P_MI	13.2	Luzerne	Watercourse channel and watercourse floodway	None	No	Existing culvert under paved portion of the access road, which will not require improvement or replacement
121814_JC_1011_P_MI	13.2	Luzerne	Watercourse channel and watercourse floodway	None	No	Existing culvert under paved portion of the access road, which will not require improvement or replacement
081215_MK_019_PEM	13.2	Luzerne	Wetland	Matted	N/A	Wetland within existing travel lane on a residential lot will be matted
AR-029						
121814_JC_1008_P_MI - 2	13.3	Luzerne	Watercourse channel and watercourse floodway	Mat or bridge or equivalent	No	Currently forded crossing along a dirt and gravel road. Temporary equipment bridge will be installed.
081215_MK_017_P_IM	13.3	Luzerne	Watercourse channel and watercourse floodway	In kind culvert replacement	No	Existing culvert will be replaced.
081215_MK_022_PEM	13.3	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt and gravel road will be matted.

Resource ID	MP	County	Resource Type	Temporary Equipment Crossing	Instream support needed?	Comments
081215_MK_021_PEM	13.3	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt and gravel road will be matted.
081215_MK_013_I_MI	13.3	Luzerne	Watercourse channel and watercourse floodway	Mat or bridge or equivalent	Yes	Currently forded crossing along a dirt and gravel road. Temporary equipment bridge will be installed.
081215_MK_014_P_IM	13.3	Luzerne	Watercourse channel and watercourse floodway	Mat or bridge or equivalent	Yes	Currently forded crossing along a dirt and gravel road. Temporary equipment bridge will be installed.
081215_MK_020_PEM	13.3	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt and gravel road will be matted.
081215_MK_015_I_MI	13.3	Luzerne	Watercourse channel and watercourse floodway	Mat or bridge or equivalent	No	Currently forded crossing along a dirt and gravel road. Temporary equipment bridge will be installed.
121814_JC_002_PEM	13.3	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt and gravel road will be matted.
081215_MK_016_E_MI	13.3	Luzerne	Watercourse channel and watercourse floodway	Mat or bridge or equivalent	No	Currently forded crossing along a dirt and gravel road. Temporary equipment bridge will be installed.
AR-030						
041717_WA_1001_E_MI	14.4	Luzerne	Watercourse channel and watercourse floodway	Mat or bridge or equivalent	No	Ephemeral channel and watercourse at road apron may be temporarily matted to accommodate the turning radii of construction equipment.
041717_WA_1002_E_MI	14.4	Luzerne	Watercourse channel and watercourse floodway	None	No	Existing culvert under gravel access road, which will not require improvement or replacement
041717_WA_1003_E_MI	14.4	Luzerne	Watercourse channel and watercourse floodway	None	No	Existing culvert under gravel access road, which will not require improvement or replacement
041717_WA_1004_E_MI	14.4	Luzerne	Watercourse floodway	None	N/A	Existing gravel road that will have no additional improvements that affect the floodway
041717_WA_1005_E_MI	14.4	Luzerne	Watercourse floodway	None	N/A	Existing gravel road that will have no additional improvements that affect the floodway
041717_WA_1006_E_MI	14.4	Luzerne	Watercourse channel and watercourse floodway	None	No	Existing culvert under gravel access road, which will not require improvement or replacement
041717_WA_1007_E_MI	14.4	Luzerne	Watercourse floodway	None	N/A	Existing gravel road that will have no additional improvements that affect the floodway
AR-031B						
No Resources Delineated	16.6	Luzerne				
AR-031C						
042417_GM_1002_PEM	15.9	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt and gravel road will be matted
042417_GM_1002_PSS	15.9	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt and gravel road will be matted
112114_JC_003B_PSS - 2	16.1	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt and gravel road will be matted
112114_JC_003B_PSS - 3	16.1	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt and gravel road will be matted
112114_JC_1003_P_IM - 2	16.1	Luzerne	Watercourse channel and watercourse floodway	Mat or bridge or equivalent	Yes	Currently forded crossing along a dirt and gravel road. Temporary equipment bridge will be installed.

Resource ID	MP	County	Resource Type	Temporary Equipment Crossing	Instream support needed?	Comments
112114_JC_003A_PSS - 2	16.2	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt and gravel road will be matted
112114_JC_1002_P_MI	16.2	Luzerne	Watercourse floodway	None	N/A	Existing gravel road that will have no additional improvements that affect the floodway
112114_JC_1001_P_MI - 2	16.4	Luzerne	Watercourse channel and watercourse floodway	Mat or bridge or equivalent	No	Currently forded crossing along a dirt and gravel road. Temporary equipment bridge will be installed.
112114_JC_002A_PSS - 1	16.4	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt and gravel road will be matted
112114_JC_002A_PSS - 2	16.4	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt and gravel road will be matted
112014_JC_1003_P_IM - 2	16.7	Luzerne	Watercourse channel and watercourse floodway	Mat or bridge or equivalent	Yes	Currently forded crossing along a dirt and gravel road. Temporary equipment bridge will be installed.
112014_JC_002_PSS	16.9	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt and gravel road will be matted
112014_JC_001_PSS	17.7	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt and gravel road will be matted
AR-031DN MLV						
No Resources Delineated	19.6	Luzerne				
AR-033						
042017_MK_1001_I_MI	21.8	Luzerne	Watercourse floodway	None	N/A	Existing gravel road that will have no additional improvements that affect the floodway
041917_MK_1002_I_MI	21.8	Luzerne	Watercourse floodway	None	N/A	Existing gravel road that will have no additional improvements that affect the floodway
041917_MK_1003_I_MI	21.8	Luzerne	Watercourse floodway	None	N/A	Existing gravel road that will have no additional improvements that affect the floodway
041917_MK_1001_P_IM	21.8	Luzerne	Watercourse channel and watercourse floodway	None	No	Existing bridge that will not require improvements
041817_MK_1001_I_MI	21.8	Luzerne	Watercourse floodway	None	N/A	Existing gravel road that will have no additional improvements that affect the floodway
AR-033A						
042517_GM_1002_PEM	22.5	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt road will be matted.
042517_GM_1001_P_IN	22.5	Luzerne	Watercourse channel and watercourse floodway	Mat or bridge or equivalent	Yes	Currently forded crossing along a dirt road. Temporary equipment bridge will be installed.
042017_MK_1002_P_MI	22.5	Luzerne	Watercourse channel and watercourse floodway	Mat or bridge or equivalent	No	Currently forded crossing along a dirt road. Temporary equipment bridge will be installed.
042517_GM_1002_I_MI	22.7	Luzerne	Watercourse channel and watercourse floodway	Mat or bridge or equivalent	No	Currently forded crossing along a dirt road. Temporary equipment bridge will be installed.
042517_GM_1001_PEM	22.7	Luzerne	Wetland	Matted	N/A	Wetland within existing dirt road will be matted.
AR-033B						
042517_GM_1005_P_MI	22.8	Luzerne	Watercourse floodway	None	N/A	Gravel portion of an existing road that will have no additional improvements that affect the floodway
042517_GM_1004_I_MI	22.8	Luzerne	Watercourse channel and watercourse floodway	None	No	Existing culvert under the gravel portion of the access road, which will not require improvement or replacement
042517_GM_1003_P_MI	22.8	Luzerne	Watercourse channel and watercourse floodway	Mat or bridge or equivalent	No	Currently forded crossing along a dirt portion of the access road. Temporary equipment bridge will be installed.

Resource ID	MP	County	Resource Type	Temporary Equipment Crossing	Instream support needed?	Comments
AR-034						
012617_GM_1002_P_MI	25.1	Carbon	Watercourse channel and watercourse floodway	In kind culvert replacement	No	Existing culvert will be replaced.
071817_MB_1003_I_MI	25.1	Carbon	Watercourse channel and watercourse floodway	None	No	Existing culvert under the paved portion of the access road, which will not require improvement or replacement
012617_GM_1003_I_MI	25.1	Carbon	Watercourse channel and watercourse floodway	None	No	Existing culvert under the paved portion of the access road, which will not require improvement or replacement
AR-034A						
012116_DB_1002_I_MI	24.9	Carbon	Watercourse floodway	None	N/A	Gravel portion of an existing road that will have no additional improvements that affect the floodway
012116_DB_1001_P_IN (1)	24.9	Carbon	Watercourse channel and watercourse floodway	None	No	Existing culvert under the gravel portion of the access road, which will not require improvement or replacement
012116_DB_1003_I_MI	24.9	Carbon	Watercourse channel and watercourse floodway	None	No	Existing culvert under the gravel portion of the access road, which will not require improvement or replacement
AR-034B						
012116_DB_1001_P_IN (2)	24.9	Carbon	Watercourse channel and watercourse floodway	None	No	Existing culvert under the gravel portion of the access road, which will not require improvement or replacement
AR-034EN						
No Resource Delineated	24.9	Carbon				
AR-034C						
063017_GM_1001_I_MI	24.4	Carbon	Watercourse channel and watercourse floodway	Mat or bridge or equivalent	No	Currently forded crossing along a dirt portion of the access road. Temporary equipment bridge will be installed.
Kidder Compressor Access Road						
082515_BT_1001_P_IM	26.6	Carbon	Watercourse channel and watercourse floodway	Permanent Culvert Installed	No	New permanent culvert will be installed.
AR-036A						
011817_GM_1001_I_MI	29.2R2	Carbon	Watercourse channel and watercourse floodway	None	No	Existing culvert under paved and gravel the access road, which will not require improvement or replacement
AR-037						
No Resource Delineated	32R2	Carbon				
AR-037A						
No Resource Delineated	32R2	Carbon				
AR-037BN MLV						
No Resource Delineated	32.3R2	Carbon				
AR-040						
No Resource Delineated	35.8	Carbon				
AR-045						
050918_WA_1000_E_MI	44.8R2	Carbon	Watercourse floodway	None	N/A	Existing gravel road that will have no additional improvements that affect the floodway

Resource ID	MP	County	Resource Type	Temporary Equipment Crossing	Instream support needed?	Comments
041018_WA_1001_P_MI	44.8R2	Carbon	Watercourse floodway	None	N/A	Existing gravel road that will have no additional improvements that affect the floodway
041018_WA_1000_P_MI	44.8R2	Carbon	Watercourse channel and watercourse floodway	None	No	Existing culvert under gravel access road, which will not require improvement or replacement
AR-046						
081715_MK_026_P_MI	45R2	Carbon	Watercourse channel and watercourse floodway	None	No	Existing culvert under dirt access road, which will not require improvement or replacement
051115_JC_1002_P_MI	45R2	Carbon	Watercourse floodway	None	N/A	Existing dirt road that will have no additional improvements that affect the floodway
AR-046AN MLV						
No Resource Delineated	46	Carbon				
AR-047						
No Resource Delineated	46.6	Carbon				
AR-048						
090914_WA_1000_P_IM	48.1	Carbon	Watercourse floodway	None	N/A	Existing dirt road that will have no additional improvements that affect the floodway
AR-048AN						
033018_WA_1000_E_MI	49R3	Carbon	Watercourse floodway	None	N/A	Existing dirt and gravel road that will have no additional improvements that affect the floodway
052218_WA_1000_E_MI	49R3	Carbon	Watercourse floodway	None	N/A	Existing dirt and gravel road that will have no additional improvements that affect the floodway
AR-050						
041117_GM_1003_P_MI	0.51R3	Carbon	Watercourse floodway	None	N/A	Existing paved and gravel road that will have no additional improvements that affect the floodway
AR-048CN						
N/A	51.4R3	Monroe				
AR-048DN						
052918_WA_1000_I_MI	56.2R3	Northampton	Watercourse floodway	None	N/A	Existing dirt and gravel road that will have no additional improvements that affect the floodway
080917_WA_1002_P_MI	52.6R3	Northampton	Watercourse floodway	None	N/A	Existing dirt and gravel road that will have no additional improvements that affect the floodway
AR-048EN						
No Resource Delineated	51.9R3	Northampton				
AR-050AN						
041017_GM_1001_P_IN	49.8R3	Northampton	Watercourse floodway	None	N/A	Existing dirt and gravel road that will have no additional improvements that affect the floodway
041117_GM_1002_E_MI	49.8R3	Northampton	Watercourse floodway	None	N/A	Existing dirt and gravel road that will have no additional improvements that affect the floodway
AR-054						
081815_MK_042_PEM - 2	55.9	Northampton	Wetland	Matted	N/A	Wetland within new temporary access road will be matted.
AR-054AN MLV						
No Resource Delineated	57	Northampton				
AR-055						
No Resource Delineated	60.2	Northampton				

Resource ID	MP	County	Resource Type	Temporary Equipment Crossing	Instream support needed?	Comments
AR-056A						
No Resource Delineated	60.5	Northampton				
AR-056BN MLV						
No Resource Delineated	62.4R3	Northampton				
AR-057						
No Resource Delineated	62.8R3	Northampton				
AR-057AN						
No Resource Delineated	62.7	Northampton				
AR-057BN						
No Resource Delineated	62.7	Northampton				
AR-058						
No Resource Delineated	63.4	Northampton				
AR-059						
No Resource Delineated	63.9	Northampton				
AR-061						
No Resource Delineated	64.4R3	Northampton				
AR-066N						
No Resource Delineated	68.2R3	Northampton				

1.2.2 Aboveground Facilities

Aboveground facilities associated with the Project will include one new compressor station, meter stations, MLVs, and appurtenant facilities (e.g., pig launchers/receivers, milepost markers, cathodic protection test points, etc.). The proposed compressor station location is a 74-acre, undeveloped forested tract in Kidder Township, Carbon County. PennEast will develop 19.3 acres of the parcel; the remainder of the parcel will remain forested. Table 1.2-4 summarizes the land requirements for construction and operation of the aboveground facilities associated with the Project. The locations of the aboveground facilities are provided on the aerial alignment sheets in JPA Section H.

Table 1.2-4
Land Requirements for Aboveground Facilities

Facility/Location[1]	County	Temp. Disturbed Acreage (acres)[2]	Perm. Disturbed Acreage on ROW[3]	Perm Disturbed Acreage off ROW	Total Perm. Disturbed Area (acres)	Total Disturbed Area (acres)[2]
Wyoming Interconnect	Luzerne	1.0	0.1	2.3	2.4	3.4
Springville Interconnect	Luzerne	0.0	0.6	3.2	3.8	3.8
Auburn and Leidy Interconnects	Luzerne	0.8	0.4	4.3	4.8	5.6
MLV-1	Luzerne	0.0	0.1	0.0	0.1	0.1
MLV-2	Luzerne	0.0	0.1	0.0	0.1	0.1
Kidder Compressor Station	Carbon	0.0	0.0	25.8	25.8	25.8
MLV-3	Carbon	0.0	0.1	0.0	0.1	0.1
MLV-4	Carbon	0.0	0.1	0.0	0.1	0.1
MLV-6	Northampton	0.0	0.1	0.0	0.1	0.1
MLV-7	Northampton	0.0	0.1	0.0	0.1	0.1
Church Road Interconnects	Northampton	2.7	0.3	2.4	2.7	5.4
Blue Mountain Side Valve	Carbon	0.0	0.2	0.1	0.3	0.3
Blue Mountain Interconnect	Carbon	0.5	0.0	1.0	1.0	1.5
Total Project		**5**	**2.2**	**39.1**	**41.4**	**46.4**

Notes:
[1] MLV-5 has been removed from the Project scope; however, the subsequent MLV numbers were not revised to reflect the removal.
[2] Discrepancies in total acreages are due to rounding.
[3] MLV acreage based on 50-ft x50-ft operational workspace.

1.3 CONSTRUCTION PROCEDURES

1.3.1 Standard Construction Methods

The proposed Project will be constructed in compliance with applicable specifications, Federal regulations and guidelines, and the Project-specific permit conditions included in Section 1.5 below. Construction of

the Project will commence after applicable ROW and regulatory permits and clearances have been acquired for the Project and upon receipt of a Notice to Proceed from the FERC. Construction of the entire Project is anticipated to require six to nine months to complete.

Construction and restoration techniques to be used will be those typical for cross-country and residential construction. The E&SCP (JPA Section M) provides detail of such techniques and mitigation measures that will be used for the Project. Additional construction techniques and measures that will be employed are described in the Project's Preparedness, Prevention, and Contingency (PPC) Plan.

The Project E&SCP will be consistent with the FERC's Upland Erosion Control, Revegetation, and Maintenance Plan (May 2013 version) and Wetland and Waterbody Construction and Mitigation Procedures (May 2013 version), collectively described as the FERC *Plan and Procedures*.

Construction of the Project will follow standard construction practices and will typically involve numerous divisions of the pipeline (spreads) with crews progressing work along the ROW within each spread in an ordered, choreographed fashion. The Project anticipates division of the pipeline portion of the Project into three construction spreads, identified in Table 1.3-1.

Table 1.3-1
Anticipated Construction Spreads

Spread	From MP	To MP	State	From	To
1	0.0	17.8	PA	Origination	Meadow Run Road Crossing
2	17.8	49.0R3	PA	Meadow Run Road Crossing	Lower Smith Gap Road
3	49.0R3	68.2R3	PA	Lower Smith Gap Road	Church Road Interconnects

Typically, survey crews will begin the operations by demarcating the pipeline centerline and construction workspace (CWS) along the ROW. Winter tree clearing may be employed in areas with sensitive habitat. Clearing, grading, trenching, and other crews would follow until a final cleanup crew initiates the restoration process. Crews most frequently progress in close sequence to facilitate orderly progress, minimize the active construction spread size, and expedite restoration efforts.

Pipeline construction generally involves the following sequential operations, which are discussed in more detail in the E&SCP (JPA Section M). These steps are summarized in the bullets below, and additional details are provided in the following sections.

Pipeline Construction – Typical Sequential Operation Steps:

- Survey/staking the route, approved workspace, and foreign line crossings.
- Clearing – remove vegetation from CWS.
- Installation of erosion and sediment controls.
- Grading to establish safe workspace; installation of erosion and sediment controls.
- Trenching – pipeline trench excavation.
- Stringing – placement of pipe joints along the trench line.
- Bending – bending pipe joints, as needed, for route and terrain.
- Welding.
- Pipe integrity – visual inspection, non-destructive examination of welds.

- Weld coating – corrosion protection and waterproofing.
- Lowering in – pipe placed in trench, tie-ins with previously laid sections, backfill.
- Hydrostatic testing – confirmation of pipeline integrity.
- In-line tool inspection of new pipeline segments.
- Tie-in to existing pipeline, purge, pack new section with gas.
- Regrade CWS to previous contours; clean-up, restoration, and seeding.

During construction, PennEast will apply dust mitigation measures, as necessary. Such applications will be at the direction of the Contractor Supervisor, Environmental Inspector, and/or the onsite Chief Construction Inspector. Typical measures that may be employed to minimize dust will be the use of water trucks to dampen workspace, if necessary, and use of paved roadways.

1.3.1.1 Surveying and Staking

Access to the CWS will normally be obtained via public roads that intersect the ROW. Permission will be obtained from landowners for the use/upgrade of private access roads to the CWS. Prior to construction, survey crews will stake the centerline of the proposed pipeline, foreign line crossings, the limits of the CWS, and the location of approved work access roads. Wetland boundaries and other environmentally sensitive areas will also be staked at this time in such a manner as to not attract the attention of non-Project personnel.

1.3.1.2 Clearing

The CWS will be cleared to remove brush, trees, roots, and other obstructions such as stumps. Non-woody vegetation may be mowed to ground level. No cleared material will be placed within wetland areas.

Clearing includes the removal of trees and brush from the CWS. With the exception of stream buffers and wetlands, tree stumps are removed from the permanent ROW. Stump grinding may be used as an alternative to removal to leave below grade root systems intact to aid in soil stabilization. PennEast anticipates disposal of trees cleared from the CWS using several different methods. Trees, if suitable, will be taken off-site by the clearing contractor and used for timber unless the landowner has made alternative arrangements for the salvageable timber. The stumps and brush may be disposed of by chipping and spreading, hauling to an approved disposal areas, storing along the ROW with landowner approval, or other approved methods. Trees and stumps may be chipped on-site and removed. Chipped material not removed from the site may be spread across the upland areas of the CWS in a manner that will not inhibit revegetation or broadcast into off-ROW and stable areas. Wood chips will not be left within agricultural lands, wetlands, or within 50 feet of wetlands. Wood chips will not be stockpiled in a manner that they may be transported into a wetland.

1.3.1.3 Installation of Erosion and Sediment Controls

Temporary erosion and sediment control measures will be installed in accordance with the approved E&SCP (JPA Section M). These controls include, but are not limited to, compost filter sock, silt fence, mulch, hay bales, or combinations of these measures. Soil disturbance will be minimized until the appropriate temporary erosion and sediment control have been installed. If Project construction activity extends beyond one construction season it will be necessary to stabilize the site for the over-winter period. Maintenance measures should continue as needed throughout the over-winter period. After each significant rainfall (greater than ½ inch), snowstorm (greater than 6 inches), or extended period of thawing and runoff

(temperatures over 32 degrees for over seven consecutive days), the construction contractor will conduct an inspection of installed erosion control measures and perform repairs as needed to insure their continuing function. Areas stabilized by temporary or permanent seeding prior to the onset of the winter season will be inspected in the spring to ascertain the condition of vegetation cover, to repair damaged areas or bare spots and reseed as necessary to establish vegetative cover.

To minimize impact to the soil profile on agricultural lands, topsoil will be segregated from subsoil and will remain segregated during construction to avoid loss due to mixing with subsoil material. PennEast will utilize either full CWS topsoil segregation or ditch plus spoil side topsoil segregation, as requested by the landowner as appropriate based upon site-specific conditions. Upon completion of backfilling operations, the topsoil will be pulled back over the graded area. Grading activities will be scheduled to minimize the time between initial clearing operations and the actual installation of pipe and in accordance with the FERC *Plan and Procedures*.

1.3.1.4 Grading

Grading of the CWS will allow for the movement of heavy equipment and the safe passage of work crews. Grading will include removing rock outcrops, tree stumps, ridges, and topographic irregularities. Generally, machinery will operate on one side of the trench (working side) with excavated materials stockpiled on the other (non-working side). Special construction procedures to minimize the amount of vegetation removed from stream banks and slopes, prevent undue disturbance of the soil profile, restore the original contours of the natural ground, and prevent topsoil erosion will be implemented as necessary.

1.3.1.5 Trenching

In most areas characterized by normal soils, the trench for the pipeline is excavated by crawler-mounted, rotary wheel-type trenching machines, or track–mounted excavators. The trench generally will be approximately 24 inches wider than the diameter of the pipe and of sufficient depth to allow for the minimum cover requirements to the top of the pipe in accordance with USDOT regulations pursuant to the Natural Gas Pipeline Safety Act of 1968, as amended. Landowner requests or permitting requirements may dictate greater depth.

Except as depicted on site-specific plans, the depth of cover for the proposed pipeline facilities, as well as the depth of cover for other, non-typical conditions, such as using a horizontal directional drill (HDD), will be in accordance with PennEast's minimum specifications. Scour analysis and the potential for external damage may increase these depths. For each watercourse crossing, a site-specific crossing plan and profile has been prepared (JPA Section H). The buried depth of the pipe will be increased, as necessary, to protect the pipeline and to reduce erosion and scour within the watercourse. In actively cultivated agricultural lands, PennEast plans to install the pipeline with a minimum of 48 inches of cover, except where rock prevents this depth. In all other areas, the pipeline will be installed with a minimum of 36-inches depth of cover.

Crossing of foreign pipelines will generally require the pipeline to be buried at greater depths depending upon the depth of the foreign pipeline. A minimum of 24 inches of clearance will be maintained when crossing foreign pipelines, utilities, or other structures as required by USDOT. Pipeline burial depths in areas requiring special construction techniques through rock will be in accordance with USDOT Title 49 CFR Part 192. Before beginning construction activities, the appropriate "Call Before You Dig" number/"811" call systems will be contacted to have underground utilities and foreign pipelines identified

and marked. Trenching in the vicinity of foreign utilities will begin only after completing the appropriate notification procedures.

Measures will be employed to minimize erosion during trenching operations and construction activities. Measures also will be taken to minimize the free flow of water into the trench and through the trench into watercourses. Compacted earth for temporary trench breakers and sandbags for permanent trench breakers may be installed within the trench to reduce erosion.

1.3.1.6 Stringing

The stringing operation involves moving the pipe into position along the prepared ROW. Pipe will be delivered to the Project area's pipeline storage areas typically by truck and will then be moved by truck from the pipeline storage areas to the construction zone, where it will be placed along the ROW in a continuous line in preparation for subsequent lineup and welding operations. Individual joints of pipe will be strung along the ROW parallel to the centerline and arranged so they are easily accessible to construction personnel. The amount of pipe necessary for stream or road crossings will be stockpiled in pipeline storage areas in the vicinity of each crossing. Stringing activities will be coordinated with the advance of the trenching and pipe laying crews to minimize the potential impact to wetlands, watercourses, and other sensitive resources. Steel pipe sections or joints in standard 40, 60, or 80-feet lengths will be used on the Project.

1.3.1.7 Bending

The pipe will be delivered to the Project site in straight sections. However, field bending of the pipe will be required to allow the pipeline to follow natural grade changes and direction changes of the ROW. For this purpose, prior to line-up and welding, selected joints will be field-bent by track-mounted hydraulic bending machines. For larger horizontal changes of direction, manufactured induction bends may be used.

Pipe bending in the field will be utilized for turns involving slight deflections and/or large radii. For turns involving larger deflections and/or small radii, often related to spatial limitations due to easement and topographic constraints, prefabricated elbow fittings will be utilized.

1.3.1.8 Welding

Following stringing and bending, the joints of pipe will be placed on temporary supports adjacent to the trench. The ends will be carefully aligned and welded together using multiple passes for a full penetration weld. Only welders qualified according to applicable American National Standards Institute (ANSI), American Society of Mechanical Engineers (ASME), and American Petroleum Institute (API) standards will be permitted to perform the welding.

1.3.1.9 Pipe Integrity

To ensure that the assembled pipe meets or exceeds the design strength requirements and to ensure weld quality and integrity, the welds will be inspected visually and tested non-destructively using radiographic (x-ray) or another approved test method, in accordance with API standards. Welds displaying inclusions (void spaces) or other defects will be repaired if out of code, or they will be cut out (removed) and new welds installed and retested.

1.3.1.10 Coating

Following welding, the previously uncoated ends of the pipe at the joints will be field-coated per applicable coating specifications. Prior to lowering the pipe into the trench, the coating on the entire pipe section will be visually inspected and evaluated using a holiday detector (inspection of pipe coating using electronic equipment). Damaged areas will be repaired per applicable coating repair specifications.

1.3.1.11 Lowering-In and Backfill

The pipe lengths are lowered into the trench by specialty "side boom" tractors. Extreme care is taken to protect the coating during the lowering-in process. Lowered pipe is positioned within the trench on sandbag benches (or approved equivalent structures) or padding the trench with screened subsoil; topsoil will not be used for padding. Connecting ends of the pipe are welded together in the ditch followed by the above inspection and coating process. Following lowering-in, permanent trench plugs are installed, and the trench and pipeline are backfilled. A bedding layer of rock-free pad dirt is placed first to protect the pipe and coatings. Final backfill makes use of material excavated from the trench; topsoil will not be used for backfilling.

1.3.1.12 Hydrostatic Testing

Completed sections of pipeline are further tested using water pressure. Pipes are filled with water and then pressurized to levels higher than the maximum operating pressure designated for the pipeline. The pressure test is held for a minimum of eight hours to be in compliance with USDOT Title 49 CFR 192 regulations.

1.3.1.13 Grade, Cleanup, Restoration, and Seeding

Cleanup and restoration commence as soon as practicable following completion of backfilling and testing. These activities include replacing grade cuts to original contours, seeding fertilizer, and mulching to restore ground cover and minimize erosion. Temporary workspaces will be allowed to revert to their preconstruction land uses.

1.3.2 Watercourse Construction Methods

PennEast has evaluated numerous specialized methods for pipeline construction for crossing watercourses. This evaluation includes consultations with the U.S. Fish and Wildlife Service, PADEP, and the USACE, among others. PennEast proposes to cross watercourses using a combination of trenchless crossing methods (i.e., HDD and bores), and dry-crossing methods, as described below. The specific impact type for each watercourse crossing is provided in the Aquatic Resources Impact Table in JPA Section A-1.

Generally during crossings, the full width of the construction ROW will be used on either side of the watercourse for construction staging and pipeline fabrication. ATWS may be required in some situations and will be located in upland areas a minimum of 50 feet from the watercourse, whenever possible; however, certain crossings may require ATWS in closer proximity to the watercourse.

For all watercourse crossings with exception of the Lehigh River crossing (Francis E. Walter Reservoir), PennEast will follow the instream timing restrictions identified by the Pennsylvania Fish and Boat Commission (PFBC) for dry crossings. There is a March 1 to June 15 instream timing restriction for PFBC-approved trout waters and trout stocked streams, and an October 1 to December 31 instream timing

restriction for PFBC-designated wild trout waters, and an October 1 to April 1 instream timing restriction for PFBC-designated Class A trout waters. The Chapter 93 Trout Stocked Fishery designation does not carry any instream timing restrictions. The approved trout water instream timing restrictions only apply to the stocked portions of the watercourse and unnamed tributaries within 0.5 mile of the stocked portions. These instream timing restrictions do not apply to unnamed tributaries outside of the 0.5 mile of the stocked streams. The instream timing restriction for PFBC wild trout waters applies to the entire reach of any stream within the designated watershed and the tributaries thereto. For Class A trout waters, the instream timing restriction applies to the stream reach defined by the PFBC.

The PFBC considers "instream construction" to consist of impacts to the streambed/bank or flowing water below the top of bank, which would include the installation of a utility line dry crossing. The PFBC has confirmed that the installation of a temporary equipment bridge that spans from bank to bank, or pre-blasting required outside of the top of banks, would not be subject to the instream timing restrictions.

At the proposed Lehigh River (Francis E. Walter Reservoir) crossing, PennEast will request a waiver to construct the crossing during the October 1 to December 31 instream construction restriction for wild trout waters. As described in the Luzerne and Carbon JPAs, PennEast proposes to construct this crossing between mid-October and February, when the USACE releases water from the Francis E. Walter Reservoir dam, and water levels at the proposed crossing will be the lowest. PennEast will employ best management practices to minimize impacts to wild trout.

1.3.2.1 Temporary Equipment Crossings

During clearing and grading activities, temporary bridges will be constructed across watercourses to permit construction equipment to cross. Construction equipment will be required to use the bridges, except the clearing crew who will be allowed one pass through the watercourses before the bridges are installed. Bridges and supports will be removed after restoration is complete. If bridges are not installed at state-designated fishery streams, equipment will be required to move around the watercourses to gain access to the other side.

In general, equipment refueling and lubricating will take place in upland areas that are more than 100 feet from the edges of streams and rivers and their associated wetlands. There may be certain instances where equipment refueling and lubrication may be necessary in or near streams and rivers. For example, stationary equipment, such as water pumps for hydrostatic test water, may need to be operated continuously on the banks of watercourses and may require refueling in place. PennEast has prepared a PCC Plan to address the handling of fuel and other materials in or within 100 feet of watercourses.

1.3.2.2 Open Cut Crossing

The open cut construction method involves the excavation of the pipeline trench across the watercourse, installation of a prefabricated pipeline segment, and backfilling of the trench with excavated material. Depending upon the width of the crossing and the reach of the excavating equipment, excavation and backfilling of the trench will generally be accomplished using backhoes or other excavation equipment operating from one or both banks of the watercourse. Excavated material from the trench will be placed on the bank above the ordinary high-water mark for use as backfill. The pipe segment can be weighted, as necessary to provide negative buoyancy and placed below scour depth. Typical backfill cover requirements will be met, contours will be restored within the watercourse, and the banks will be stabilized via seeding and/or the installation of erosion control matting or approved alternative, per applicable agency approvals.

1.3.2.3 Pre-Blasting In Streams

For streams that will be open cut, PennEast is proposing that during ditching activities, streambeds that contain solid rock be drilled and blasted. An application for a Permit for Use of Explosives in Commonwealth Waters will be filed with the PFBC. Blasting activities will be completed in accordance with the E&SCP. The ditch crew will test bore the stream banks with a rock drill to determine if rock will be encountered. Should the test holes determine the area will need to be shot or blasted, the crew will continue to prepare the ditch line area for blasting. Upon completion of blasting, the crew will ensure that the stream bottom is restored to prevent interference with the flow. Once the mainline tie-in crews move to the area, the stream will be excavated and pipeline installed in accordance with the E&SCP. The stream pre-blasting activities will reduce the duration of stream disturbance and enable the contractor to meet the timing restrictions for in-stream disturbance.

1.3.2.4 Dam and Pump Crossing Method

The primary crossing method that PennEast will use to cross watercourses is the dam and pump crossing method. The dam and pump crossing method involves constructing temporary sand or pea gravel bag dams upstream and downstream of the proposed crossing site while using a high capacity pump to divert water from the upstream side around the construction area to the downstream side (see E&SCP in JPA Section M). Energy dissipation devices, such as steel plates will be placed on the downstream side at the discharge point to prevent streambed scour.

After installing the dams and commencing pumping, a portable pump (separate from that pumping the stream flow around the construction area) may be used to pump standing water from between the dams into a dewatering structure consisting of straw bales/silt fence or into a filter bag located away from the stream banks, thereby creating a dry construction area.

Once the area between the dams is stable, backhoes located on both banks will excavate a trench across the stream. Spoil excavated from the trench may be stored in the dry streambed adjacent to the trench if the stream crossing is major or in a straw bale/silt fence containment area located a minimum of 10 feet from the edge of the stream banks. Leakage from the dam, or subsurface flow from below the streambed, may cause water to accumulate in the trench. As water accumulates in the trench, it may be periodically pumped out and discharged into a dewatering structure located away from the stream banks.

After trenching across the streambed is completed, a prefabricated segment of pipe will be installed in the trench. The streambed portion of the trench is immediately backfilled with streambed spoil. Once restoration of the streambed is complete, the dams are removed, and normal flow is re-established in the stream.

1.3.2.5 Flume Crossing Method

PennEast may also choose to cross specific watercourses by using the flume crossing method. The flume crossing method involves diverting the flow of the stream across the construction site through one or more flume pipes placed in the stream (see E&SCP in JPA Section M). The first step in the flume crossing method involves placing a sufficient number of adequately sized flume pipes in the stream to accommodate the highest anticipated flow during construction. After placing the pipes in the stream, sand or pea gravel bags will be placed in the stream upstream and downstream of the proposed trench. The bags serve to dam

the stream and divert the stream flow through the flume pipes, thereby isolating the stream flow from the construction area.

Backhoes located on both banks of the stream will excavate a trench under the flume pipe in the isolated streambed. Spoil excavated from the stream trench will be placed or stored a minimum of 10 feet from the edge of the watercourse or in ATWS as necessary. Once the trench is excavated, a pre-fabricated segment of pipe will be installed beneath the flume pipes. The trench will then be backfilled with native spoil from the streambed. Clean gravel or native cobbles will be used to backfill the top 12 inches of the trench in coldwater fisheries.

If trench dewatering is necessary near watercourses, the trench water will be discharged into an energy dissipation/sediment filtration device, such as geotextile filter bag or straw bale structure, away from the water's edge, preferably in a well-vegetated upland area to prevent heavily silt-laden water from flowing into the watercourse.

1.3.2.6 Restoration of Open Cut Watercourses

Completed stream crossings using the flume or dam and pump methods will be stabilized before returning flow to the channel. Original streambed and bank contours will be re-established, and mulch, jute thatching, or bonded fiber blankets will be installed on the stream banks. Where the flume technique is used, stream banks will be stabilized before removing the flume pipes and returning flow to the watercourse channel.

To minimize the potential for the establishment of invasive species and to promote the restoration of a healthy, native, riparian corridor, seeding of disturbed watercourse approaches will be completed in accordance with the E&SCP (JPA Section M) and the Wetland and Riparian Reforestation Plan (JPA Section L-4A) after final grading, weather and soil conditions permitting. Where necessary, slope breakers will be installed adjacent to stream banks to minimize the potential for erosion. Sediment barriers, such as silt fence and/or straw bales will be maintained across the ROW until permanent vegetation is established. Temporary equipment bridges will be removed following construction.

1.3.2.7 Conventional Bore

Auger boring, often referred to as "jack and bore" or "conventional boring," involves jacking a casing pipe housing auger flights from a launch pit to a retrieval pit. A hydraulic unit located within the jacking pit thrusts the casing pipe forward as the auger flight is rotated to convey the encountered geotechnical material at the leading edge of the casing pipe back to launch pit. The leading auger flight is typically one to two pipe diameters inside the casing pipe. Operating the auger flights in this manner reduces risks associated with excessive excavation / flow of soil into the auger flight during advancement. Once brought back to the launch pit, a muck bucket/excavator is used to remove the spoil. When groundwater is present and high permeable soils are anticipated, dewatering is often used to lower the water table to allow excavation under dry conditions and to reduce installations risks associated with unabated free flowing water through the auger flights. In low permeable soils, the installation is typically completed with little to no dewatering. In bedrock installations, a special rock cutting head needs to be attached to the casing pipe. Referred to as small boring units, these units are only capable of mining through very soft/weak bedrock materials.

The guided bore installation technique is a slight modification to the auger bore installation technique. It is identical to the auger bore installation methodology, with the addition of a new first step that involves pushing short five-foot sections of drill rods from the launch pit through the ground surface to the retrieval pit. The auger equipment is then attached to the installed drill rods and pushed through the ground to

completion. The benefit of the guided bore method is that it eliminates the line and grade inaccuracy associated with an auger bore installation. In addition, no material is removed during this phase of the work. Instead, the soil is displaced outwards as the drill rods are advanced.

Auger and guided bore installations are typically limited installation lengths of 300 to 400 feet and installations in soil. Bedrock installations are typically shorter.

1.3.2.8 Horizontal Directional Drilling

Directional drilling is an advanced boring method that requires the drilling of a small diameter hole, or pilot hole, along a predetermined design path. The pilot hole is then gradually enlarged until it is sufficient to accommodate the pipeline being installed. The pipeline may or may not be installed concurrently with the hole enlargement depending upon the final diameter of the enlarged hole and the soil conditions encountered.

Excavation of the drill entry and exit locations will be necessary to contain drilling fluids during all phases of the installation. These fluids and cuttings must be disposed of in an approved manner periodically or at the completion of the crossing installation. The crossing length and cross-sectional geometry are dependent upon the pipeline design parameters, the obstacle to be crossed, and the subsurface conditions. Additional temporary workspace, including pipe staging areas and storage areas for drilling mud and borehole cuttings, will be located in upland areas outside of wetlands and riparian zones wherever practicable.

Although PennEast is confident in the current HDD methods and technologies available, it recognizes that such methods contain inherent risks. PennEast has developed HDD Inadvertent Returns and Contingency Plan (JPA Section L-3D) to mitigate these risks. However, if HDD bores at the specified locations are not successful after two attempts, PennEast would resort to an open cut crossing. PennEast would submit revised crossing plans and coordinate with pertinent regulatory agencies for environmental evaluations and permit modifications that may be required.

The proposed HDD crossings are listed in Table 1.3-2 below.

Table 1.3-2
Horizontal Directional Drilling

Location/Feature	County	Begin Mile Post[1]	End Mile Post[1]	Length (ft.)[2]	HDD Exhibit No.[3]
PA State Route 315 / Interstate 81	Luzerne	10.2R2	10.6R2	1,755	000-03-07-001
Interstate 80	Carbon	26.8R2	27.6R2	3,824	000-03-07-013
Wild Creek & Pohopoco Creek (Beltzville Lake)	Carbon	43.2R3	44.4R3	6,100	000-03-07-002

[1] Begin/End MPs are at the approximate locations of HDD entry/exit points.
[2] Lengths are approximate and subject to field verification.
[3] For more information refer to the HDD Exhibit Plan and Profiles in JPA Section H.

1.3.3 Wetland Construction Methods

Wetland construction will be done in accordance with FERC's *Procedures* as well as applicable best management practice (BMP) required by the USACE, PADEP, and County Conservation Districts. In accordance with FERC guidelines PennEast will limit the typical width of the construction ROW to 75 feet, unless a variance is requested and approved at specific crossings and would maintain a 10-foot-wide corridor centered on the pipeline for operational purposes. In addition, PennEast will follow the PPC Plan and E&SCP as well as specific Pennsylvania permit conditions.

The pipeline will be constructed through or under wetlands using conventional open cut construction, conventional bore, or HDD methods. The specific impact type for each wetland crossing is provided in the Aquatic Resources Impact Table in JPA Section A-1.

1.3.3.1 Open Cut Crossing

The standard crossing method within wetlands will be via open cut trench. PennEast will utilize one of the following methods for installing the pipeline via conventional open cut construction techniques within wetlands during construction:

- Standard Pipeline Construction for non-saturated wetlands (described in Section 1.3.1)
- Conventional Wetland Construction (saturated wetland)
- Push-Pull Technique (inundated wetland)

To minimize the potential for adverse effects to wetlands, PennEast will implement the following BMPs outlined in the E&SCP (JPA Section M) when conducting pipeline installation activities:

- PennEast will minimize vegetation clearing where feasible and stumps that do not interfere with travel or installation of the pipeline will be left in place to allow for re-sprouting following construction and restoration;
- PennEast will use construction mats in wetlands to minimize impacts to the soil profile and reduce compaction in the travel lane;
- The excavation procedures used to cross unsaturated wetlands will be similar to those used in uplands;
- PennEast will segregate topsoil from the area disturbed by trenching, except in areas where standing water is present or soils are saturated;
- PennEast will install temporary trench plugs at the edges of wetlands, as necessary, to prevent the flow of upland sediments or other potential pollutants into wetlands during construction;
- PennEast will install permanent trench plugs at the edges of wetlands before the trench is backfilled to restore hydrology to preconstruction conditions;
- PennEast will install compost filter socks across and along the edge of the construction ROW, where indicated on the approved E&SCP (JPA Section M) and wherever necessary, to minimize the flow of sediment into wetlands; and
- PennEast will maintain a minimum 100-foot buffer from wetlands to refuel vehicles, store or transfer liquid hazardous materials, and field coat pipeline segments with concrete, unless otherwise approved by the EI and secondary containment is implemented.

1.3.3.2 Trenchless Construction

PennEast may also utilize trenchless construction methods to install the pipeline under wetlands, avoiding direct impacts to the wetlands. These methods include conventional bore and HDD methods described in Sections 1.3.2.7 and 1.3.2.8 above.

1.3.3.3 Wetland Restoration

Restoration of the natural hydrology, soil profiles, and topography is critical to promote natural regeneration and to maintain a successful wetland ecological community. Where the original contours are reestablished within a ROW and no other impediments to the natural hydrology occur, natural revegetation of a ROW that is adjacent to an unaffected wetland plant community will usually occur within one or two growing seasons in PEM and PSS wetlands. Restoration activities in wetlands will be conducted in accordance with PennEast's approved E&SCP (JPA Section M), unless federal or state agencies require an alternative method. PennEast will utilize the following criteria to restore disturbed wetland areas to as close to their pre-construction condition as practical:

- Equipment mats, temporary timber bridges, and other construction debris shall be removed during the final grading of the ROW. Once backfilling is complete, the original surface contours and flow regimes will be restored, and segregated topsoil will be returned to affected locations;
- During final grading, wetlands (including areas within 100 feet of wetlands) will be restored to their original contours and the buffer areas seeded and mulched as soon after backfilling as practicable with the exception of the travel portion of the ROW, which will also be restored using these procedures after the travel way is no longer required;
- For each wetland crossed, trench breakers will be installed at the base of slopes near the boundary between the wetland and adjacent upland areas and the trench bottom will be sealed as necessary to maintain the original wetland hydrology in areas where the pipeline trench may affect the groundwater hydrology;
- Permanent slope breakers will be installed across the construction ROW at the base of slopes in accordance with the E&SCP (JPA Section M) to prevent sediment transport into the wetland.
- Sediment barriers will be installed as outlined in the E&SCP (JPA Section M) and as approved or specified by the EI;
- Wetlands will be revegetated, unless standing water is present, in accordance with the procedures outlined in the E&SCP (JPA Section M) and the Wetland and Riparian Reforestation Plan (JPA Section L-4A);
- No fertilizers, lime or mulch will be utilized in wetland areas unless required in writing by applicable regulatory agencies; and
- After construction, disturbed wetlands and adjacent uplands will be monitored to ensure long-term stabilization. Regular inspection and maintenance of erosion control measures will expedite successful restoration of the wetlands.

1.3.4 <u>Other Specialized Construction Methods</u>

1.3.4.1 Other Utilities

Publicly available utility mapping indicates that foreign pipelines and utilities are present in a number of locations. PennEast has coordinated with the utility companies where the Project is proposing to collocate with respect to access, set-back distances required from their facilities, and areas of their existing ROWs

that can be used for staging, laydown, stockpiling of soils and related construction activities. PennEast will utilize previously disturbed areas in existing ROWs to the extent feasible, thereby reducing greenfield impacts. In addition to any agreements with the utilities, PennEast will continue to work with, and obtain consent from the individual landowners affected by the ROW. In addition, prior to construction, PennEast will contact the national "Call Before You Dig" number (811) so that the locations can be properly marked in the field.

1.3.4.2 Rugged Topography

Rugged topography is considered areas with steep slopes and side slopes greater than 30% and for pipeline length of greater than 68 feet (triple length of pipe) where recorded. The Project will cross 94 areas of rugged topography totaling approximately 3.1 miles.

1.3.4.3 Residential or Commercial

At this time, approximately 232 existing structures have been identified within 50 feet of the proposed CWS, which include buildings, sheds, and garages. Once the Project footprint was finalized, field surveys were conducted at locations where structures are in close proximity to the construction work to confirm the structure types. Residential or commercial structures located within 50 feet of the edge of the construction ROW and extra work/staging areas have been identified. In cases where the workspace cannot be reduced to maintain a 25-foot separation from the residence, site-specific construction plans have been created. As part of the FERC process, PennEast developed site-specific residential construction plans for currently identified residences within 25 feet of the CWS. PennEast land agents and contractors will coordinate with property owners throughout the construction process to minimize disruption and to maintain access to residences, commercial establishments, industrial areas and other buildings.

1.3.4.4 Active Croplands

Active croplands observed during field surveys conducted to date include corn, soybeans, and hay fields. PennEast has worked with state agencies as well as advocacy groups to formulate a comprehensive Agricultural Impact Minimization Plan to be implemented during construction. The plan outlines agriculture-specific construction methods and BMPs as well as restoration methods and monitoring to ensure that crop yields are not significantly impacted as a result of construction of the Project.

1.3.4.5 Road Crossings

The Project will cross 74 publicly used roadways. PennEast proposes to cross the majority of these with a bore (69 roadway crossings). Of the 172 roads crossed, 95 are constructed of asphalt, 31 are dirt/grass, and 46 are gravel. The other proposed crossing methods for the roads are an open cut method (95 roadway crossings) or HDD (8 roadway crossings).

1.3.4.6 Rock Removal and Blasting

Rock encountered during trenching will be removed using one of the available rock removal techniques:

- Conventional excavation with a backhoe;
- Ripping with a bulldozer followed by backhoe excavation;
- Pneumatic hammering followed by backhoe excavation;

- Blasting followed by backhoe excavation; and
- Blasting surface rock prior to excavation.

The technique selected is dependent on relative hardness, fracture susceptibility, expected volume, and location.

Blasting activity will be performed according to federal and state safety standards and in accordance with PennEast's comprehensive Blasting Plan to be implemented by a certified blasting contractor.

Excess rock generated during the construction of the Project will be hauled to approved quarries near the pipeline route and disposed of.

1.3.5 Aboveground Facility Construction

The proposed aboveground facilities will be constructed in accordance with American Society of Mechanical Engineers B31.8 standards[1]. The duration of construction for the aboveground facilities is approximately six to nine months. The only permanent employees will be located at the proposed compressor station.

1.3.6 Environmental Training for Construction

Environmental training will be required for land agents, construction personnel and environmental inspectors; and agency personnel will also be invited to the training. This training will include an overview of the FERC *Plan and Procedures*, and detailed sessions using the Environmental Permit Notebooks that describe the timing, notification and environmental permit conditions required to be implemented and adhered to at each phase of construction, restoration and mitigation. PennEast will use FERC's third-party monitoring program during construction.

1.3.7 Construction Workforce

It is anticipated that three construction spreads will be employed for the Project. There will be approximately 1,200 personnel involved in Spreads 1 and 2 for the pipeline portion of the Project (600 per spread). The anticipated peak workforce for Spread 3 is 400 personnel. In addition, it is planned that there will be a Chief Environmental Inspector as well as a minimum of two Environmental Inspectors for each spread. FERC third-party monitors will also review construction throughout the construction time period.

1.4 OPERATION AND MAINTENANCE PROCEDURES

PennEast will own, operate, and maintain the pipeline, the compressor station and other facilities associated with the Project in accordance with USDOT Title 49 CFR Part 192 and 199 and other applicable regulations. The proposed facilities will be operated and maintained in a manner to ensure that a safe, continuous supply of natural gas reaches each of the delivery points. Maintenance activities will include regularly scheduled

[1] American Society of Mechanical Engineers B31.8: Gas Transmission and Distribution Piping Systems. 49 CFR 192.619(a)(1)(i).

ground and overflight surveys. Signs, marker posts, aerial markers, and decals will be painted or replaced to ensure that the pipeline locations will be visible from the air and ground.

The facilities will be patrolled from the air periodically. This will provide information on possible leaks, construction activities, erosion, population density, possible encroachment, and other potential problems that may affect the safety and operation of the facility. In addition, PennEast contractors will adhere to the "Call Before You Dig" program. Under the "Call Before You Dig" program, anyone planning excavation activities may call a single number to alert all utility companies. Representatives of the utility companies that might be affected then visit the site and mark their facilities so that the excavation can proceed with relative certainty as to the location of underground lines.

Other maintenance functions will include:

- Mowing of the ROW in accordance with the timing restrictions outlined in FERC's *Plan and Procedures*;
- Periodic inspection of MLVs, water crossings and erosion control devices;
- Maintenance of a supply of emergency pipe, leak repair clamps, sleeves, and other equipment needed for repair activities;
- Periodic internal inspection with in-line inspection tools or "pigs"; and
- Calibration of equipment and transmitters.

No herbicides or pesticides will be used for the clearing or maintenance of the temporary or permanent ROW or within 100 feet of a watercourse.

A cathodic protection system for the pipeline and station will be constructed and maintained. In areas where the proposed pipeline parallels high-voltage electric transmission lines, an alternating current mitigation system will be implemented as necessary to reduce stray current, prevent possible shock to personnel during post-construction activities, and prevent interference with the cathodic protection system.

1.4.1 Cleared Areas

A 30-foot cleared area in the 50-foot permanent ROW, in non-wetland resource areas, will be maintained over the centerline of the pipeline. A permanent 10-foot wide cleared corridor will be maintained through wetland resource areas in accordance with FERC's *Plan* and *Procedures*. Maintaining a cleared ROW is required:

- For pipeline patrols and corrosion surveys;
- For emergency repairs of the pipeline; and
- For visibility during aerial patrols.

1.4.2 Erosion Control

Erosion problems on the pipeline ROW will be identified and repaired as necessary.

1.4.3 Periodic Pipeline and ROW Patrols

Erosion control devices will be regularly inspected and maintained, including:

- Stormwater outfalls;
- Water bars;
- Stream and river banks; and
- Other conditions that could affect operation of the pipeline.

1.5 PNDI AVOIDANCE MEASURES

In August 2014, PennEast submitted a Large Project Pennsylvania Natural Diversity Inventory (PNDI) review for rare, candidate, threatened, and endangered species under the jurisdiction of the USFWS, PFBC, Pennsylvania Game Commission (PGC) and the Pennsylvania Department of Conservation and Natural Resources (DCNR) for the Project. Each agency identified species under their jurisdiction which had the potential to be affected by the Project (refer to EA section S2.C.2, Potential PNDI Conflicts). Surveys were conducted for rare, threatened, and endangered species, as well as species of concern, from 2015 to 2019.

The species that may be impacted by the Project and require avoidance measures include the bog turtle (*Glyptemys muhlenbergii*, federal threatened) northern long-eared bat (*Myotis septentrionalis*, federal threatened), northern flying squirrel (*Glaucomys sabrinus macrotis*, state endangered) timber rattlesnake (*Crotalus horridus*, delisted), and various state-listed plant species.

A summary of the PNDI avoidance measures for each species is provided below. Additional information is provided in JPA Sections G, L-2, and L-3.

1.5.1 Bog Turtle

On November 28, 2017, the USFWS issued a Biological Opinion (BO) for impacts that the Project may have on bog turtles. The USFWS later revised their BO on July 29, 2019 to address several proposed route amendments. To minimize impacts to the species, PennEast will implement the following conservation measures:

- PennEast committed to avoid and minimize disturbance to wetlands with known or presumed bog turtle presence, wherever feasible, by deviation, workspace adjustment, or trenchless crossing method.
- A Recognized Qualified Bog Turtle Surveyor (RQBTS) will be employed prior to construction and during periods of active construction. The RQBTS will have the authority to stop work at any time. Work will cease immediately if a bog turtle is encountered at any time, and the USFWS will be immediately notified.
- If the RQBTS is on-site and determines that the proposed method of crossing a particular wetland will result in unanticipated impacts to bog turtles, given the wetlands site-specific characteristics or potential for bog turtle presence, the RQBTS will consult with PennEast and the USFWS immediately for further direction.
- Project contractors will receive site-specific environmental training related to the environmental review process, minimizing wetland impacts, species of concern, bog turtle habitat, and special protections for specific watershed areas (this is typically done by the RQBTS).
- Construction activities near areas that could support bog turtles will be confined by the installation of habitat exclusion barriers designed to keep turtles from entering the limit of disturbance outside of the wetland. This barrier will consist of backfilled 24-inch-high silt fence without voids. This barrier will be installed manually under the supervision of an RQBTS, in areas of soft soils and muck, and by equipment in uplands and areas containing 3-18 inch firm soils. Habitat exclusion barriers will be removed by hand immediately upon completion of all construction activities.

- Prior to construction, an RQBTS will oversee hand-clearing and removal of vegetation along the access path, the installation of the habitat exclusion barrier, and the placement of timber matting within the habitat exclusion barrier.
- Timber mats and equipment will be either new or pressure-washed of free-standing soil and vegetative materials prior to arrival on-site. This minimizes the potential impacts that could occur from the introduction of invasive plants, contaminants, or bog turtle pathogens or that can make their habitats unsuitable.
- Any matted wetland crossings will be completed in a manner that does not lower the water table or alter the hydrological characteristics of the wetland.
- Any HDDwork proposed for crossing a wetland or waterbody with known, or presumed, bog turtle presence will take place outside of the winter hibernation months (October 15 to March 31), to avoid any potential subterranean disturbance that may occur during an inadvertent return of drilling fluid.
- PennEast's Plans and Procedures will be adhered to for all activities in wetlands, including but not limited to signage, restrictions on fueling activities and repairs, and wetland restoration measures. The RQBTS will forward the results of pre-construction surveys, construction monitoring, Project timelines, and photographic documentation of site restoration to the USFWS and FERC. The USFWS will be contacted immediately if bog turtles are observed or if take occurs.

On November 22, 2019, the PFBC issued PennEast a state-level BO and Special Permit for construction activities in known, occupied bog turtle wetlands in Northampton County. The issuance of this BO and Special Permit allowed for the take of two bog turtles, with the following conditions:

<u>Conservation Measures</u>

- PennEast shall implement the Conservation, Avoidance and Minimization Measures, and Monitoring described in applicant's Biological Assessment (BA), including:
  - Prior to construction, a qualified Bog Turtle surveyor will survey the work area for the presence of Bog Turtles.
  - Prior to the survey, herbaceous vegetation will be cut to a height of 4 to 6 inches using a hand-held trimmer/weed-cutter, and carefully raked away from the area to be searched.
  - Immediately following the survey, silt fencing will be placed around the work area to exclude turtles from entering the work area.
  - If any bog turtle is encountered during the clearance survey, a radio-transmitter shall be attached, and the turtle(s) shall be monitored throughout construction activities.
  - An RQBTS will be onsite prior to and during all construction activities within the known occupied bog turtle wetlands.
  - Construction will take place during the bog turtle's active season (April 1 – October 31) to avoid potential impacts to hibernating turtles.

<u>Mitigation</u>

- Prior to construction, PennEast will develop a Bog Turtle Management Plan with the assistance of an RQBTS. The Plan will address bog turtle wetlands impacted by the Project and will be reviewed and approved by the PFBC prior to being implemented.
- PennEast will implement the mitigation measures outlined in the BA, including:
  - Leave temporary workspace as herbaceous vegetation after construction.
  - Cut all trees within the 50-foot permanent ROW easement within and adjacent to wetlands to open the canopy in occupied bog turtle wetlands.

- Maintain the entire 50-foot easement as herbaceous or scrub-shrub habitat, with maintenance occurring during November 1 – March 31.
- Coordinate with neighboring utility ROW regarding management activities on the ROW corridor.
- Revegetate with appropriate beneficial plant species

Monitoring

- Following construction, a bog turtle surveyor will conduct vegetation monitoring of impacted bog turtle wetlands annually for a minimum of 5 years post-construction. If invasive plants and/or non-native species are found within the disturbed wetlands, the applicant will prepare a proposal to implement invasive species control.
- PennEast will have an RQBTS conduct one mark-recapture (Phase 3) survey to assess the colony size and overall status of the species in the bog turtle wetlands, within one-year post-installation.
- Any dead specimens will be clearly photographed, frozen, and reported to the PFBC within 24 hours.

PennEast will also allow access to the Project ROW at the known bog turtle site in Northampton County, while accompanied by PennEast or their representative.

1.5.2 Northern Long-Eared Bat

The USFWS's BO also addressed impacts that the Project may have on the northern long-eared bat. To minimize impacts to the species, PennEast will implement the following conservation measures:

- PennEast will only clear trees ≥5 inches diameter-at-breast-height (dbh) between November 1 and March 31.
- PennEast will not blast within 0.25-mile of known northern long-eared bat hibernacula.
- PennEast will work with the USFWS to conduct vibration, and/or temperature and humidity monitoring within subterranean features found at Tunnel 34 prior to, during, and after construction as long as landowner access continues to be granted.
- Prior to construction, PennEast will file with the FERC Secretary, for review and written approval by the Director of Office of Energy Projects, a list of locations by milepost where, in accordance with the BO, the USFWS is requiring tree clearing restrictions that are specifically applicable to federally listed bat species.

1.5.3 Northern Flying Squirrel

The PGC identified a portion of the Project in Carbon County where northern flying squirrels are known to exist. The PGC requested avoidance of clearing activities between April 15 and June 15 to avoid potential impacts to northern flying squirrel young that are expected to be confined to their nests during this period, and the implementation of a northern flying squirrel mitigation plan. PennEast's Northern Flying Squirrel Impact Minimization Plan was approved by the PGC on January 9, 2019. In this plan, PennEast committed to seasonal tree clearing, replanting of temporary workspaces, and protection of timber reserve areas which are meant to act as crossing areas for northern flying squirrels, among other measures.

1.5.4 Timber Rattlesnake

Portions of the Project in Luzerne, Carbon, Monroe, and Northampton counties are within the range of the timber rattlesnake. Avoidance and minimization measures for the timber rattlesnake will include the re-

creation of impacted gestation habitat in accordance with PFBC guidelines and the avoidance of occupied dens.

1.5.5 Protected Plant Species

PennEast conducted rare plant surveys for targeted species that DCNR identified in consultation letters, and individuals and/or populations of the following species were observed within the or near the proposed workspace: variable sedge (*Carex polymorpha*), northern panic grass (*Dicanthelium boreale*), rough-leaved aster (*Eurybia radula*), thread rush (*Juncus filiformis*), Appalachian climbing fern (*Lygodium palmatum*), white fringed orchid (*Platanthera blephariglottis*), Torrey's bulrush (*Schoenoplectus torreyi*), golden club (*Orontium aquaticum*), and sundial lupine (*Lupinus perennis*).

PennEast will implement its Rare Plant Mitigation Plan that was approved by the PADCNR on August 24, 2018. In this plan, PennEast commits to additional pre-construction surveys in the areas where rare plant populations were identified in surveys conducted 2015-2019. During these surveys, individual plants and/or the extents of population boundaries will be mapped. If any rare plants are observed within the proposed Project workspace, the avoidance, minimization, and mitigation measures that are outlined in the plan would be followed. Affected populations would be monitored for three growing seasons after construction.

1.6 AGENCY AND PUBLIC CONSULTATIONS AND REQUIRED AUTHORIZATIONS

PennEast will obtain applicable permits and licenses relating to the aboveground facilities or crossings under watercourses, wetlands, and through other sites or places that a governmental license or permit may be required. Table 1.6-1 provides a list of permits and the applicable federal, state, and local agencies. Agency consultation letters to date are included in JPA Section D (Pennsylvania Historical and Museum Commission [PHMC] consultation) and JPA Section G (Threatened and Endangered [T&E] Species Consultation). PennEast will include copies of relevant environmental permits and approvals in the construction bid packages and contracts. The contractor will be required to be familiar with the permits and licenses obtained by PennEast; the requirements of these permits/licenses will be reviewed during the Project Environmental Training. The contractor will be also required to comply with the requirements related to the construction of the aboveground facilities and to the restoration of areas disturbed by the construction of the certificated facilities.

Table 1.6-1
Required Environmental Permits and Approvals for the Project

Agency	Permit/Approval	Status
FEDERAL		
Federal Energy Regulatory Commission	Certificate of Public Convenience and Necessity	PennEast request for pre-filing review filed October 7, 2014. Application filed September 24, 2015. Supplemental information provided in 2015 and 2016. FERC issued PennEast Certificate January 19, 2018. PennEast submitted an Amendment Application for the PA Revised Route on February 1, 2019. FERC issued an Environmental Assessment on September 20, 2019 and the amendment to the Certificate on March 19, 2020. PennEast submitted an Amendment Application for the Church Road Interconnects and staging Project construction on January 30, 2020. FERC issued an Environmental Assessment on August 3, 2020.
U.S. Army Corps of Engineers - Philadelphia and Baltimore Districts	Clean Water Act Section 404, Rivers and Harbors Act Section 10	Initial consultation letter sent August 12, 2014. Introduction and coordination meeting held October 2014. Updated route materials were sent, and pre-application meetings were held in 2015. Delineation Verifications commenced in November 2015 and were completed in 2019. Applications were submitted February 5, 2016. Route updates were provided subsequent to application submittal. District-specific Section 404/10 packages submitted to each district on January 26, 2017. PennEast provided responses to public comments on the Philadelphia District Individual Permit in December 2017 and responses to public comments on the Baltimore Individual Permit in January 2018. Amended applications submitted December 2018. Additional Individual Permits were noticed on May 23, 2019, and responses to public comments were submitted on November 26, 2019. Revised JPA materials provided October 30, 2019 in response to PADEP technical comments. Supplemental information to support the JPA and Preliminary Jurisdictional Determination Process was submitted on March 27, 2020. The USACE issued Preliminary Jurisdictional Determinations on June 3, 2020 (Baltimore District) and June 8, 2020 (Philadelphia District). Revised JPA materials provided July 2, 2020 in response to PADEP technical comments.
U.S. Army Corps of Engineers - Philadelphia District	Title 33 Section 408 Approvals	An initial consultation letter was sent on August 12, 2014. The pre-application meeting was held on July 16, 2015. The 408 Applications for Frances E. Walter Reservoir and Beltzville Lake were submitted on February 5, 2016. Supplemental information was provided in 2016-2018. A draft applicant-

Agency	Permit/Approval	Status
		prepared EA was provided in April and May 2017. A final applicant-prepared EA was provided in July 2018. The 408 Approvals and Finding of No Significant Impacts was issued by the USACE on November 24, 2018.
U.S. Fish and Wildlife Service - Pennsylvania	Endangered Species Act, Section 7 Consultation and Clearance	An initial consultation letter was sent on August 12, 2014. Coordination has continued from 2014 through 2020. USFWS issued a Biological Opinion for the Project on November 28, 2017; USFWS amended the Biological Opinion on July 29, 2019. On March 5, 2020, the USFWS confirmed that the additional workspace associated with the Church Road Interconnects will not result in effects above what was analyzed in the July 29, 2019 Opinion.
National Marine Fisheries Service (NMFS)	Endangered Species Act, Section 7 Consultation and Clearance	An initial consultation letter was sent on August 12, 2014. The response was received stating that no threatened or endangered species under the jurisdiction of the NMFS are known to occur in the Project area and no further consultation is necessary.

Agency	Permit/Approval	Status
STATE		
PADEP	• Water Obstruction and Encroachment Permits • Submerged Lands License Agreements • Section 401 Water Quality Certification (WQC) • Erosion and Sediment Control General Permit (ESCGP) • General Plan Approval and/or General Operating Permit for Natural Gas Compression and/or Processing Facilities (GP-5)	An initial consultation letter was sent on August 12, 2014. A coordination meeting was held in November 2014. Updated route materials were sent in 2015 and 2016. The pre-application meetings were held in 2015; additional meetings were held in 2016, 2018, 2019, and 2020. • Water Obstruction and Encroachment Permit Applications and Submerged Land License Agreements documentation were submitted on February 5, 2016. Amended applications were submitted in December 2018. The application was determined to be administratively complete on January 25, 2019. Technical comments were received on July 3, 2019. Revised JPAs in response to technical comments were submitted on October 30, 2019. JPA supplemental information related to staging Project construction and updated agency correspondence was submitted on March 27, 2020. PADEP provided additional technical comments on May 14, 2020; PennEast responded to the comments and provided revised JPAs on July 2, 2020. • A Section 401 WQC application was submitted on February 5, 2016. The 401 WQC was issued on February 7, 2017. • The ESCGP application was submitted on March 10, 2016. The amended application was submitted in December 2018. The application was determined to be administratively complete on January 25, 2019. Technical comments were received on July 3, 2019. Revised ESCGP in response to technical comments were submitted on October 30, 2019. ESCGP supplemental information was submitted on March 27, 2020 to include workspace changes at the proposed Church Road Interconnects. PADEP provided additional technical comments on May 14, 2020; PennEast responded to the comments and provided revised application materials on July 2, 2020. • PennEast submitted a GP-5 application for the Kidder Compressor Station on July 23, 2020. The permit was issued September 18, 2020.
Pennsylvania Game Commission (PGC)	T&E Species Consultation and Clearance	Initial consultation letter sent August 12, 2014. Records of coordination from 2014 through 2020 are documented in JPA Section G. The PGC issued concurrence on January 9, 2019. Additional coordination for Project changes

Agency	Permit/Approval	Status
		occurred in October 2019 and January 2020. In a letter dated March 10, 2020, the PGC provided an updated PNDI letter that outlines the avoidance and minimization measures that will be implemented to avoid potential impacts to state-listed bird and mammal species.
Pennsylvania Fish and Boat Commission (PFBC)	• T&E Species Consultation and Clearance • Aid to Navigation (ATON) Plan Approval • Permit for Use of Explosives in Commonwealth Waters	• Initial consultation letter sent August 12, 2014. Records of coordination from 2014 through 2020 are documented in JPA Section G. On November 22, 2019, the PFBC issued a Special Take Permit for potential bog turtle impacts in Northampton County, concluding consultation. Additional coordination for Project changes occurred in October 2019 and January 2020. In a letter dated June 25, 2020, the PFBC provided an updated PNDI letter that indicates potential impacts to protected species are resolved, provided the avoidance and minimization measures are implemented. • ATON Plan approvals for the Susquehanna River and Lehigh River/Francis E. Walter Reservoir provided on March 12 and February 5, 2019, respectively. PennEast will coordinate with the PFBC for ATON approval for the Buckwha Creek crossing. • PennEast will coordinate with the PFBC to obtain permits for use of explosives prior to construction.
Pennsylvania Department of Conservation and Natural Resources (DCNR)	T&E Species Consultation and Clearance	Initial consultation letter sent August 12, 2014. Records of coordination from 2014 through 2020 are documented in JPA Section G. The PADCNR issued their concurrence on August 24, 2018. Additional coordination for Project changes occurred in October 2019 and January 2020. In a letter dated February 4, 2020, the DCNR confirmed that no new surveys were required for the Project changes, and no new impacts are anticipated to species under DCNR jurisdiction. This letter confirmed that implementing the mitigation strategy that the DCNR approved on August 24, 2018 will avoid impacts to species or resources under DCNR's jurisdiction.
Pennsylvania Historical and Museum Commission (PHMC)	National Historic Preservation Act, Section 106 Consultation and Clearance	Initial consultation letter sent August 20, 2014. Records of coordination from 2014 through 2020 are documented in JPA Section D. The PHMC has reviewed archaeological survey results for the Project's APE and has concurred with PennEast's recommendations in letters concluding February 7, 2020. The PHMC has reviewed architectural history survey results for the

Agency	Permit/Approval	Status
		Project's APE and has concurred with PennEast's recommendations in letters concluding February 26, 2020.
COUNTY		
Luzerne Conservation District	ESCGP Technical Review	Initial consultation letter sent August 12, 2014. Pre-application meetings held in 2015, and route updates provided in 2015 and 2016. ESGPG application submitted March 10, 2016. Amended application submitted December 2018. Application determined to be administratively complete January 25, 2019. Technical comments received July 3, 2019. Revised application materials in response to technical comments submitted October 30, 2019. PADEP provided additional technical comments on May 14, 2020; PennEast responded to the comments and provided revised application materials on July 2, 2020.
Carbon Conservation District	ESCGP Technical Review	Initial consultation letter sent August 12, 2014. Pre-application meetings held in 2015, and route updates provided in 2015 and 2016. ESGPG application submitted March 10, 2016. Amended application submitted December 2018. Application determined to be administratively complete January 25, 2019. Technical comments received July 3, 2019. Revised application materials in response to technical comments submitted October 30, 2019. PADEP provided additional technical comments on May 14, 2020; PennEast responded to the comments and provided revised application materials on July 2, 2020
Monroe County Conservation District	ESCGP Technical Review	Amended application that included impacts in Monroe County was submitted December 2018. Application determined to be administratively complete January 25, 2019. Technical comments received July 3, 2019. Revised application materials in response to technical comments submitted October 30, 2019. PADEP provided additional technical comments on May 14, 2020; PennEast responded to the comments and provided revised application materials on July 2, 2020
Northampton County Conservation District	ESCGP Technical Review	Initial consultation letter sent August 12, 2014. Pre-application meetings held in 2015, and route updates provided in 2015 and 2016. ESGPG application submitted March 10, 2016. Amended application submitted December 2018. Application determined to be administratively complete January 25, 2019. Technical comments received July 3, 2019. Revised application materials in

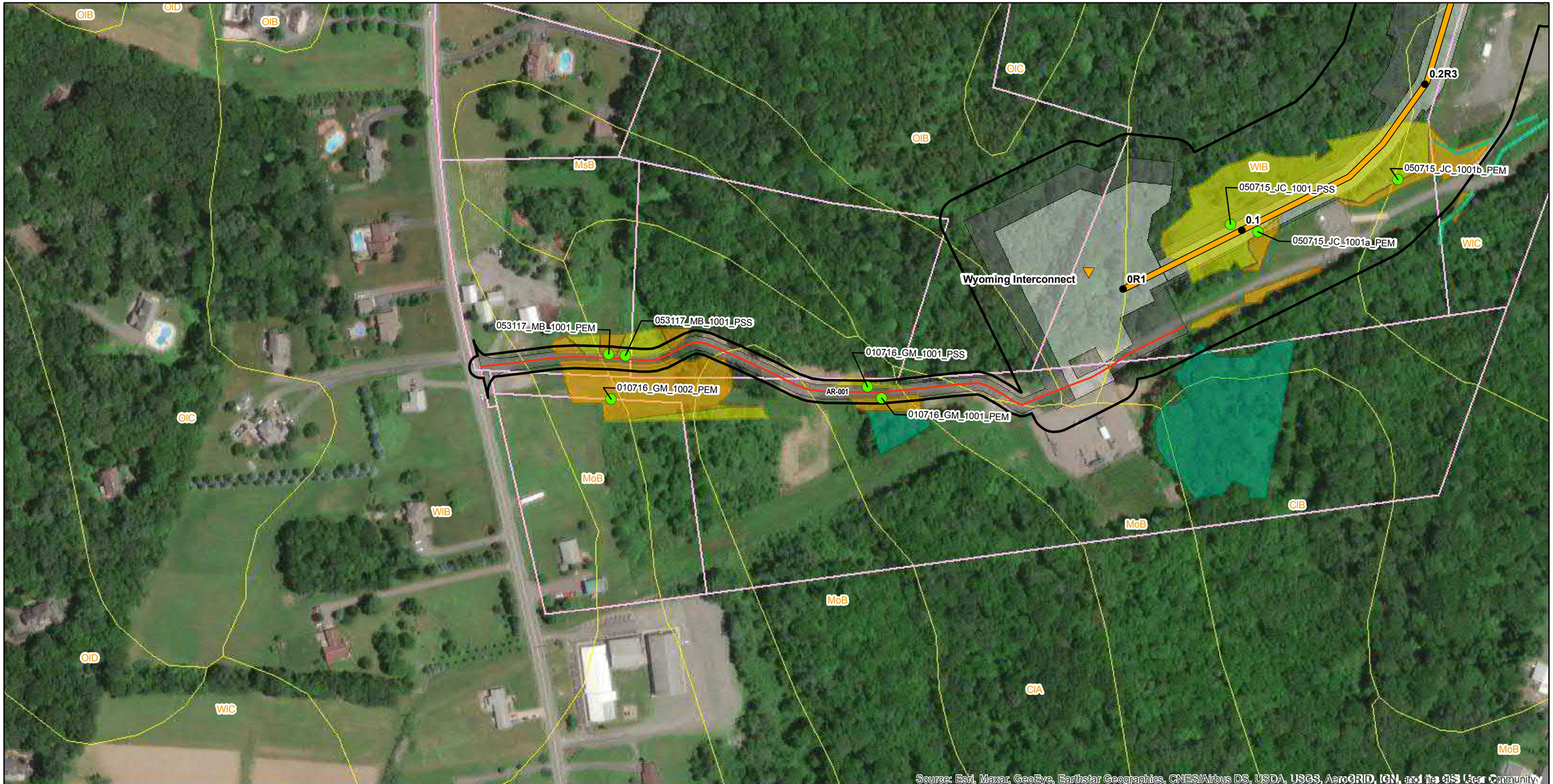
Agency	Permit/Approval	Status
		response to technical comments submitted October 30, 2019. ESCGP supplemental information was submitted on March 27, 2020 to include workspace changes at the proposed Church Road Interconnects. PADEP provided additional technical comments on May 14, 2020; PennEast responded to the comments and provided revised application materials on July 2, 2020.

1.7 REFERENCES

Federal Energy Regulatory Commission (FERC). 2013. *Upland Erosion Control, Revegetation, and Maintenance Plan* (May 2013 version) and *Wetland and Waterbody Construction and Mitigation Procedures* (May, 2013 version). Washington, D.C.

JPA Section K - Luzerne County

Photo Location Map



Legend

- Mile Post
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- Permanent Easement
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- Study Corridor
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Delineated Waterbodies

- Intermittent

Delineated Wetlands

- PEM
- PSS
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- Wetland Photo Locations

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

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PennEast Pipeline Project
Phase 1, Photolocation Map

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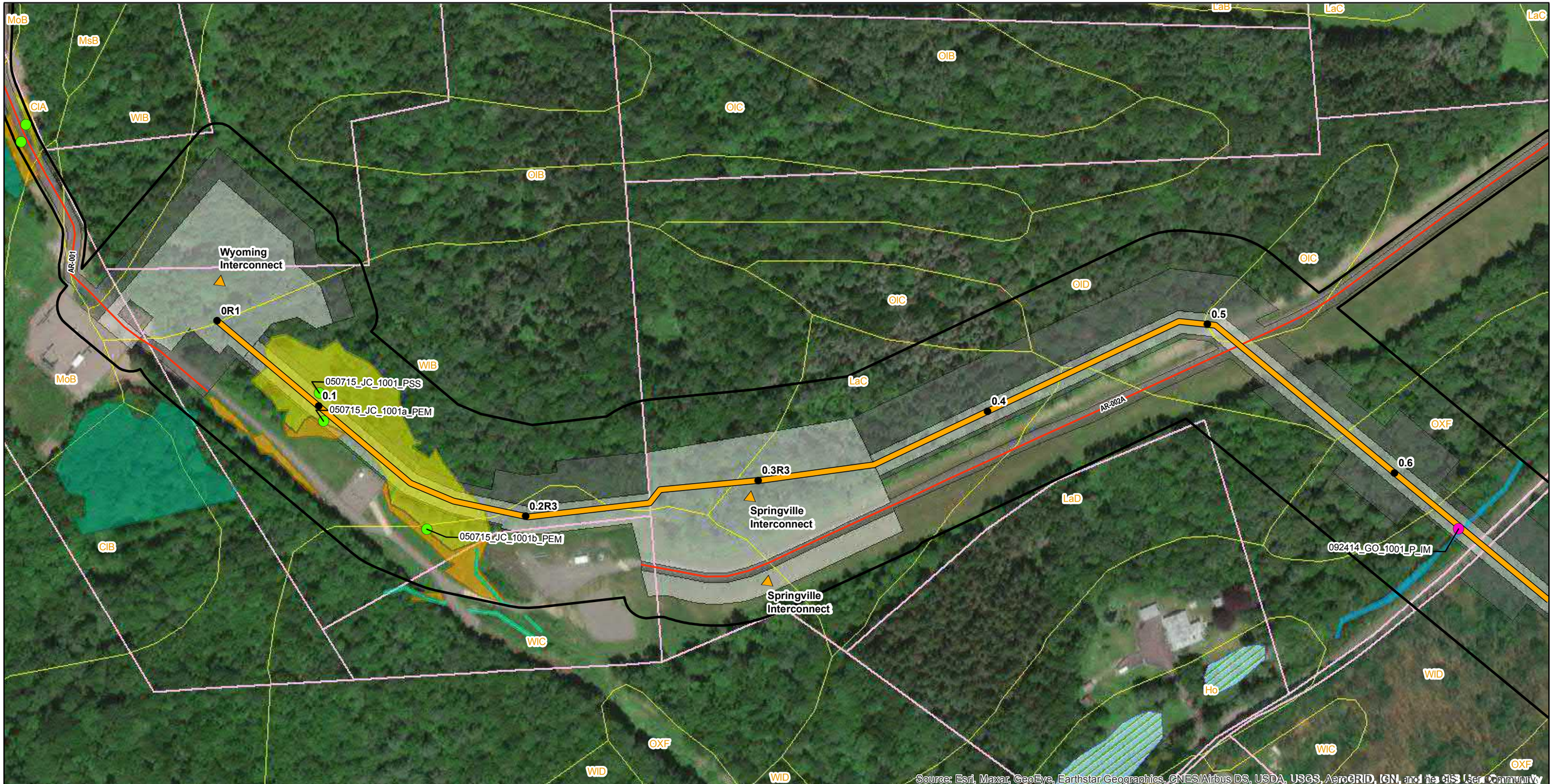

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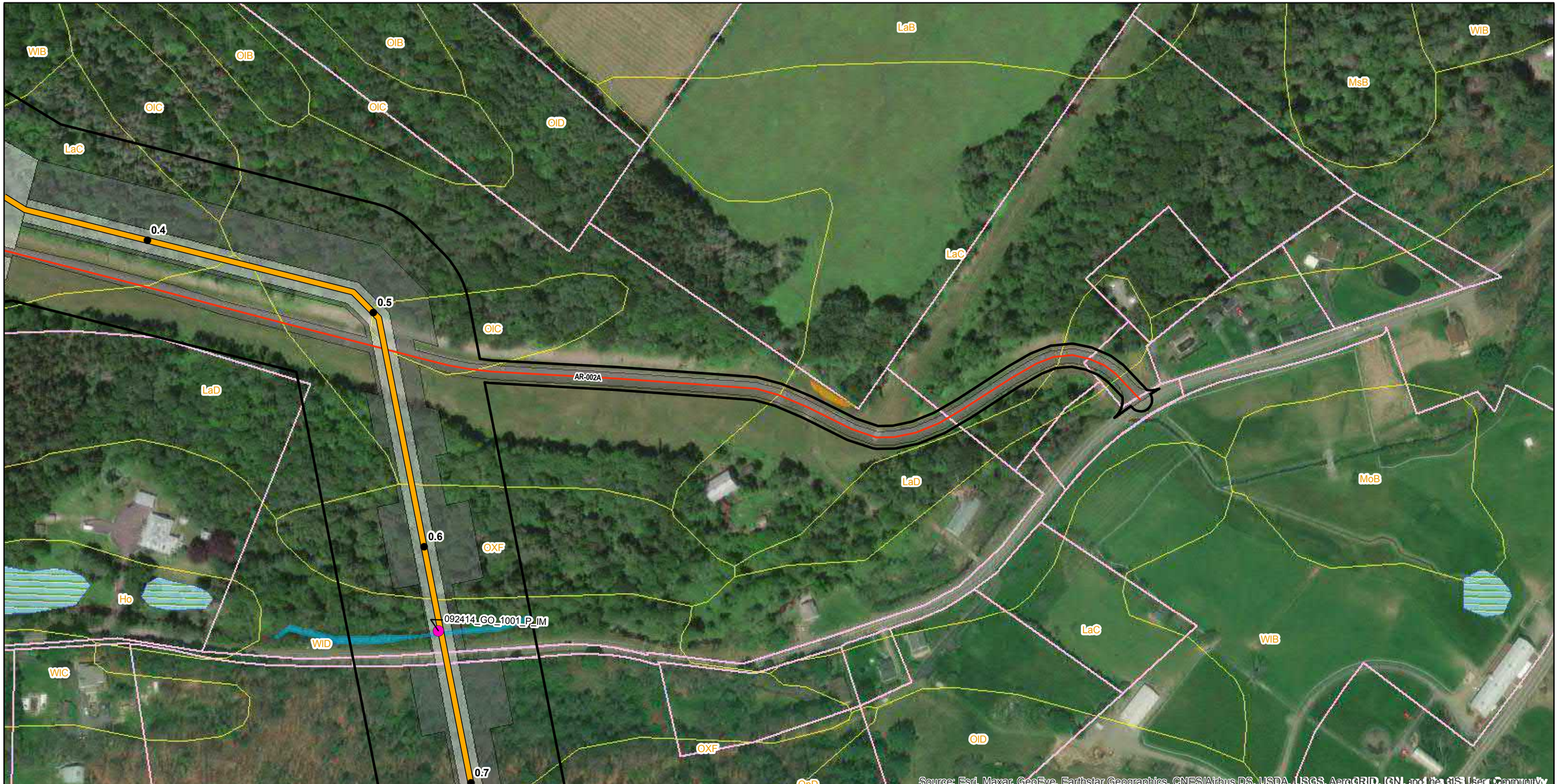

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Legend

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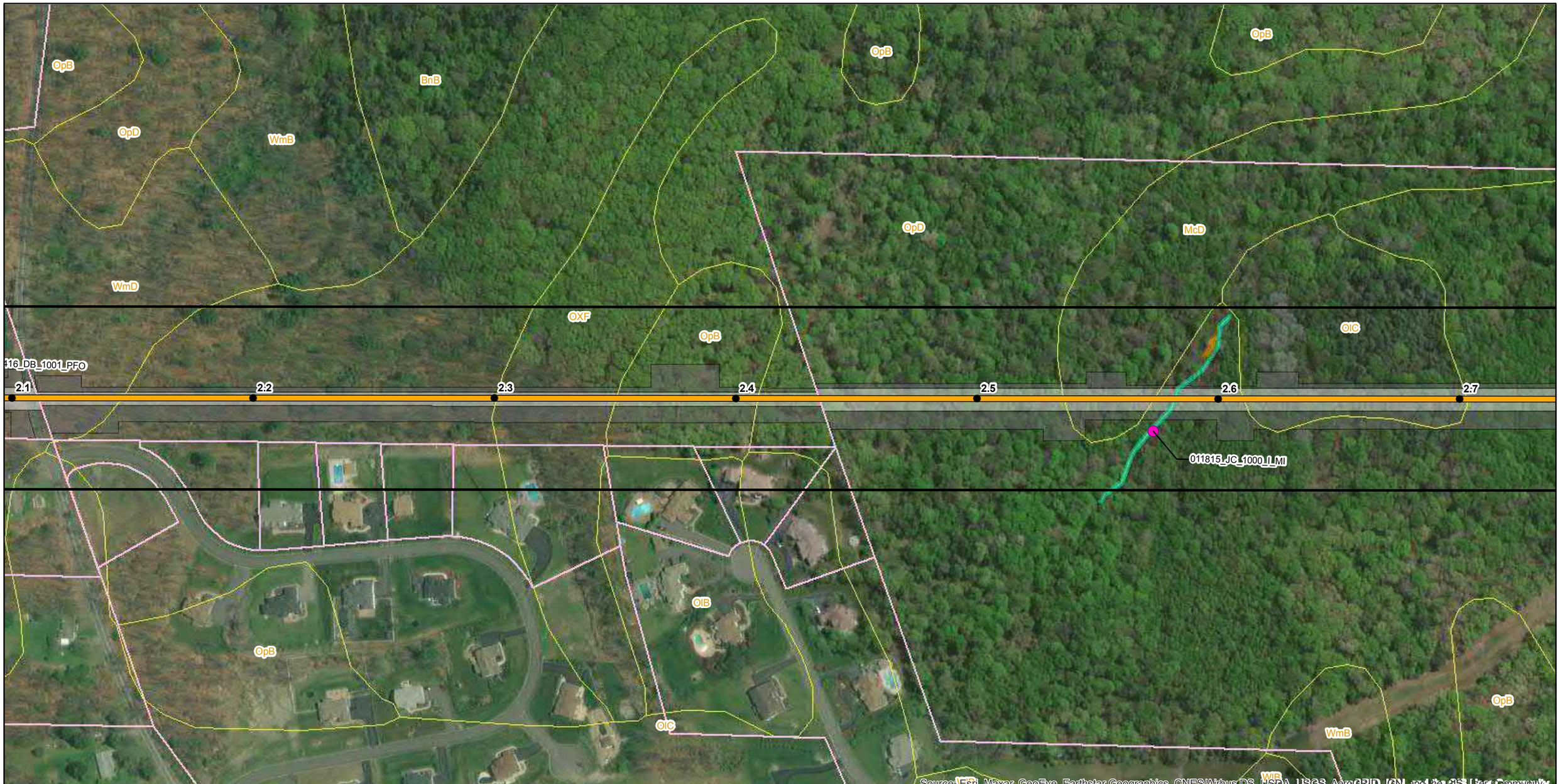

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Legend

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Legend

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- PUB

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Legend

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Legend

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JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:WEST WYOMING BORO, LUZERNE, PA				Date: 9/8/2020
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Legend

- Mile Post
- Proposed Route
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- County Boundary

Delineated Waterbodies

- Pond

Delineated Wetlands

- PEM
- PSS

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
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0 100 200 400 Feet

NAD 1983 UTM Zone 18N
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JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

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DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 13 of 171

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Legend

- Mile Post
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- Perennial
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Delineated Wetlands

- PEM
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PennEast PIPELINE

PennEast Pipeline Company, LLC

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Delineated Waterbodies

- Ephemeral
- Perennial
- Water Photo Locations

Delineated Wetlands

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NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

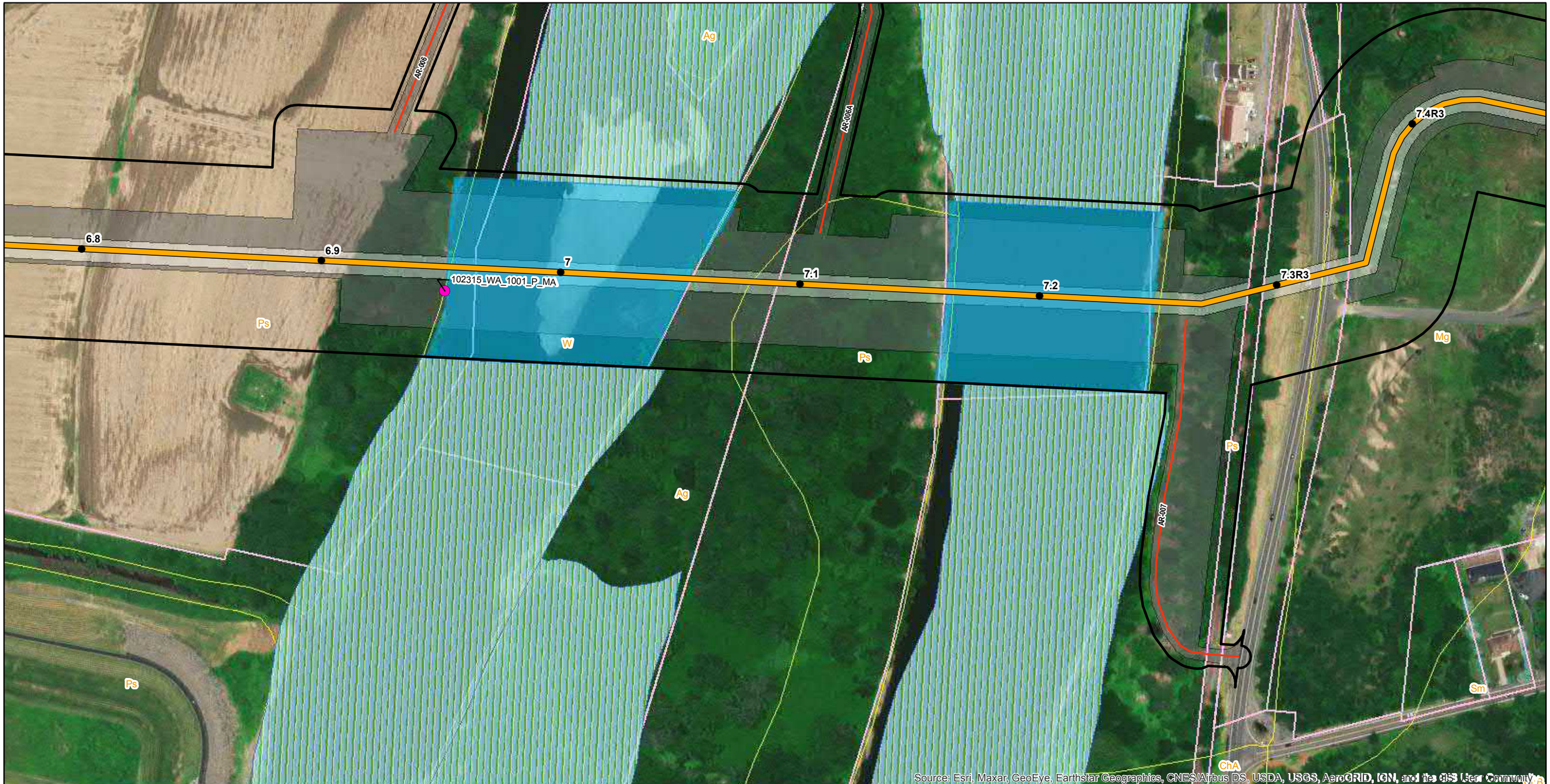
Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:WYOMING BORO, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 15 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd



Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- County Boundary

Delineated Waterbodies

- Perennial
- Water Photo Locations

Delineated Wetlands

PennEast PIPELINE

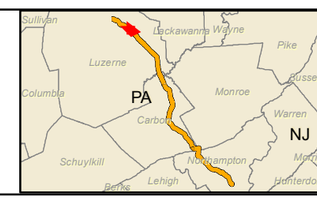
PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale



TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:WYOMING BORO/JENKINS TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 16 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd

Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- County Boundary

Delineated Waterbodies

- Perennial
- Water Photo Locations

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:WYOMING BORO/JENKINS TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 17 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd

Legend

- Mile Post
- Proposed Route
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- County Boundary

Delineated Waterbodies

Delineated Wetlands

- PEM

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:JENKINS TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 18 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd

Legend

- Mile Post
- Mainline Block Valve
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- County Boundary

Delineated Waterbodies

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:JENKINS TWP/PLAINS TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 19 of 171

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Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- County Boundary

Delineated Waterbodies

Delineated Wetlands

PennEast PIPELINE

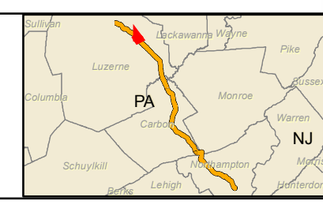
PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale



TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:PLAINS TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 20 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd

Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- County Boundary

Delineated Waterbodies

- Pond

Delineated Wetlands

- PEM

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:PLAINS TWP/JENKINS TWP/LAFLIN BORO, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 21 of 171

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Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- County Boundary

Delineated Waterbodies

- Ephemeral
- Perennial
- Water Photo Locations

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:PLAINS TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 22 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd

Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- County Boundary

Delineated Waterbodies

- Ephemeral
- Perennial
- Water Photo Locations

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:PLAINS TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 23 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd

Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- County Boundary

Delineated Waterbodies

- Intermittent
- Water Photo Locations

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:PLAINS TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 24 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd

Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- County Boundary

Delineated Waterbodies

- Ephemeral
- Perennial
- Water Photo Locations

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:PLAINS TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 25 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd

Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- County Boundary

Delineated Waterbodies

- Ephemeral

Delineated Wetlands

- PEM
- PFO

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:PLAINS TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 26 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd

Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- County Boundary

Delineated Waterbodies

- Ephemeral

Delineated Wetlands

- PEM
- PFO

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:PLAINS TWP/JENKINS TWP/LAFLIN BORO, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 27 of 171

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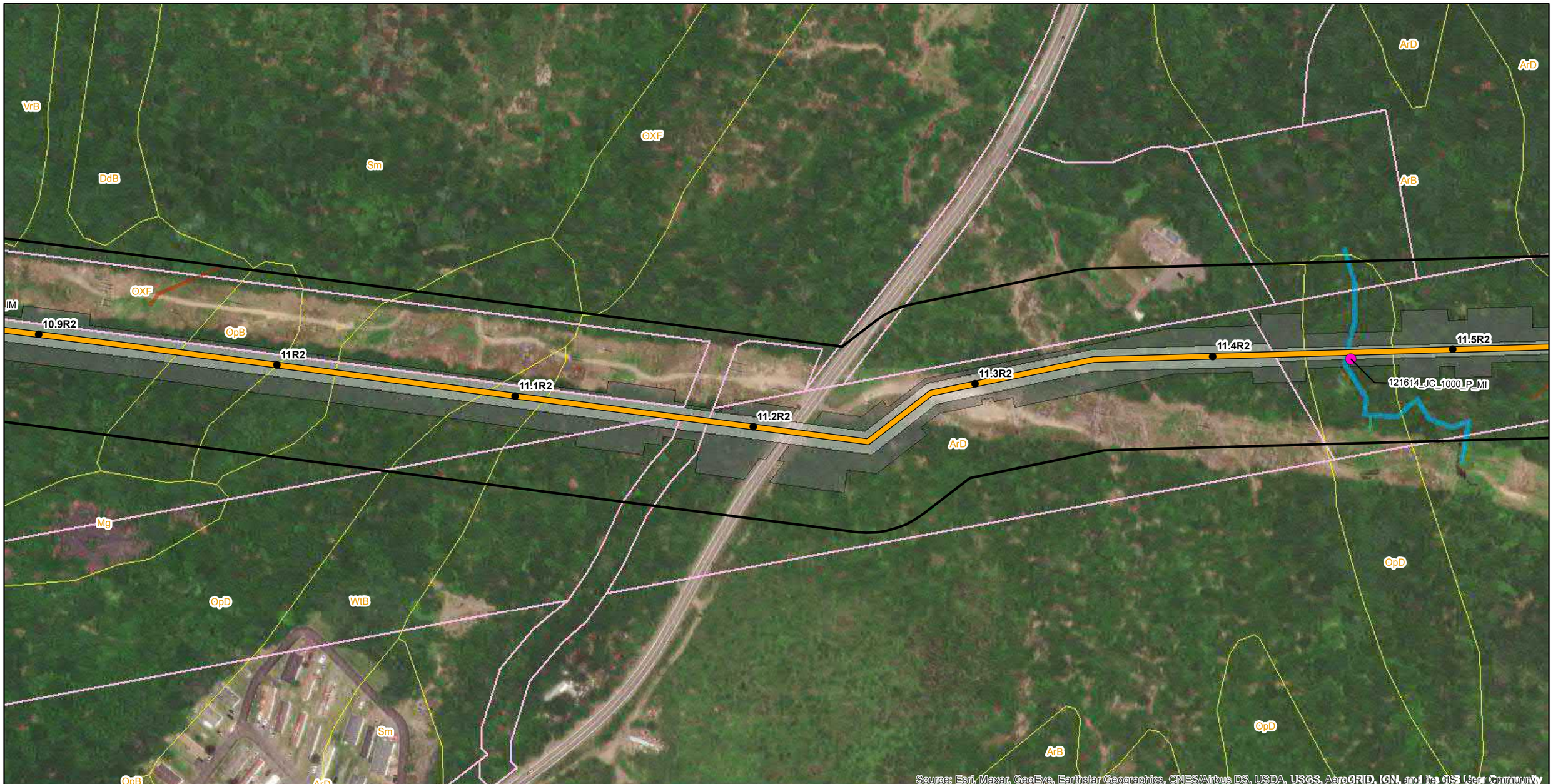


Legend

- Mile Post
- Proposed Route
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- County Boundary

Delineated Waterbodies

- Ephemeral
- Intermittent
- Perennial
- Water Photo Locations

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

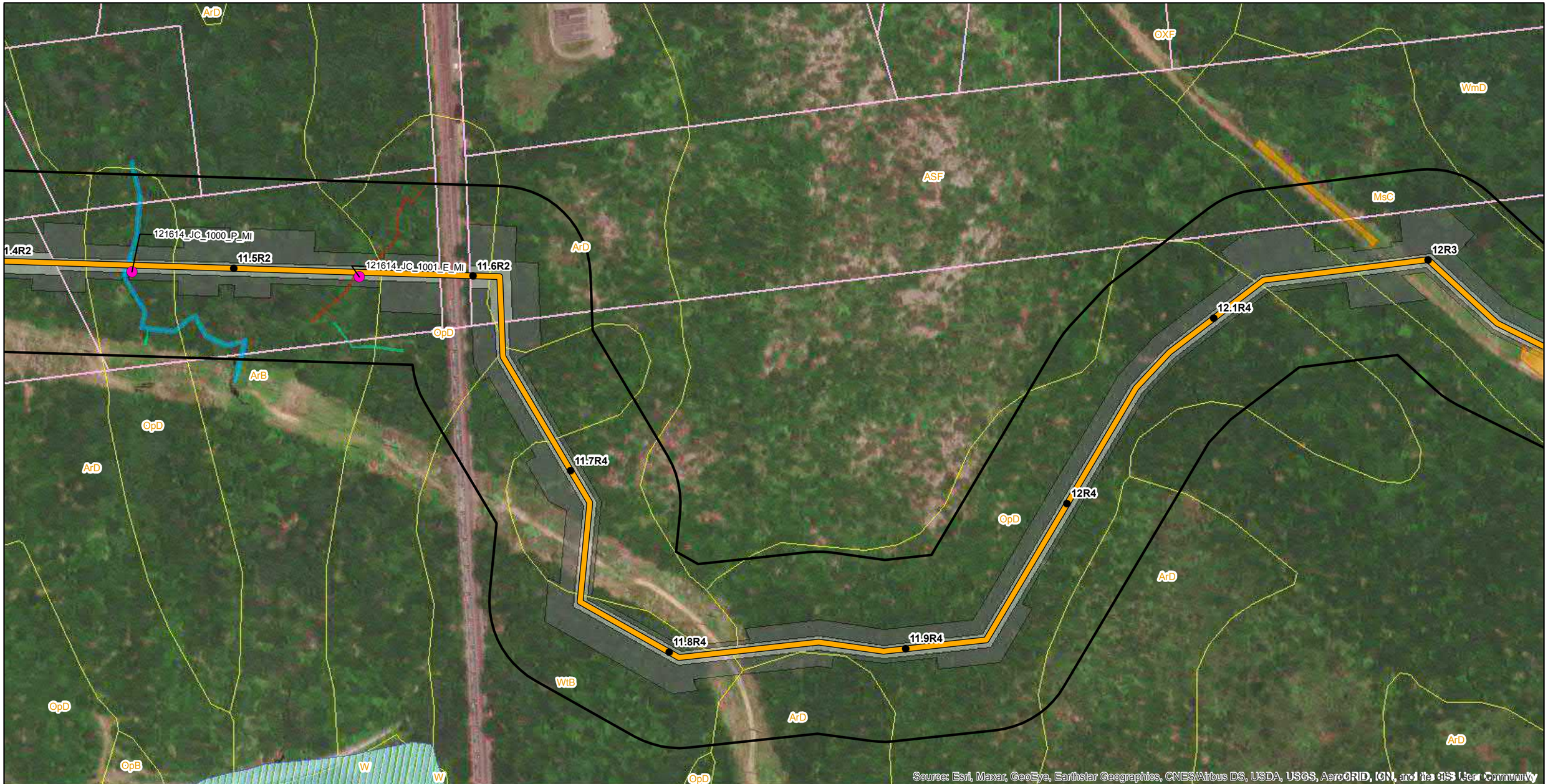
Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:PLAINS TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 28 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd



Legend

- Mile Post
- Proposed Route
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- County Boundary

Delineated Waterbodies

- Ephemeral
- Perennial
- Intermittent
- Water Photo Locations

Delineated Wetlands

- PEM

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

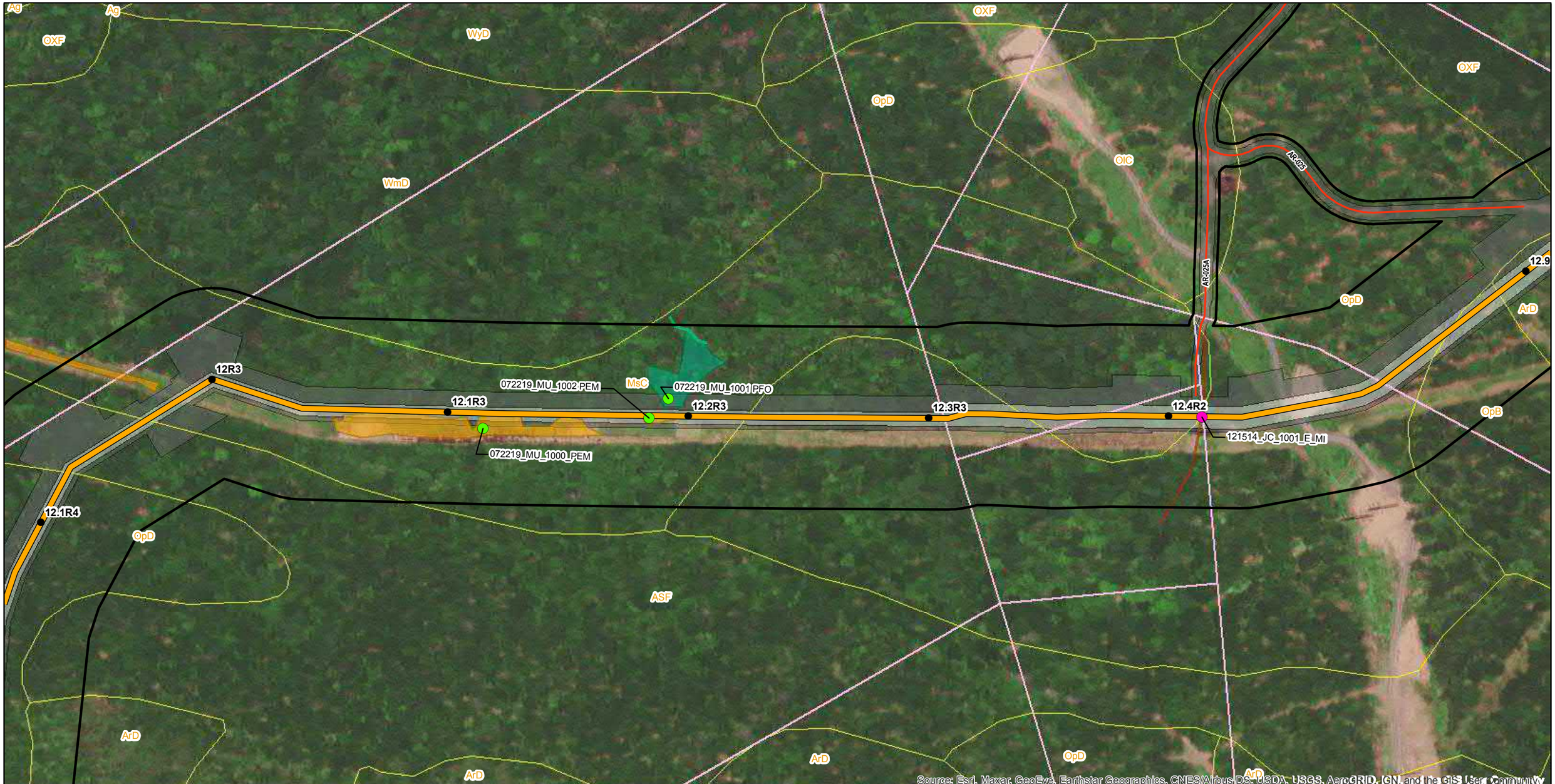
Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:PLAINS TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 29 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd



Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- County Boundary

Delineated Waterbodies

- Ephemeral
- Intermittent
- Water Photo Locations

Delineated Wetlands

- PEM
- PFO
- Wetland Photo Locations

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

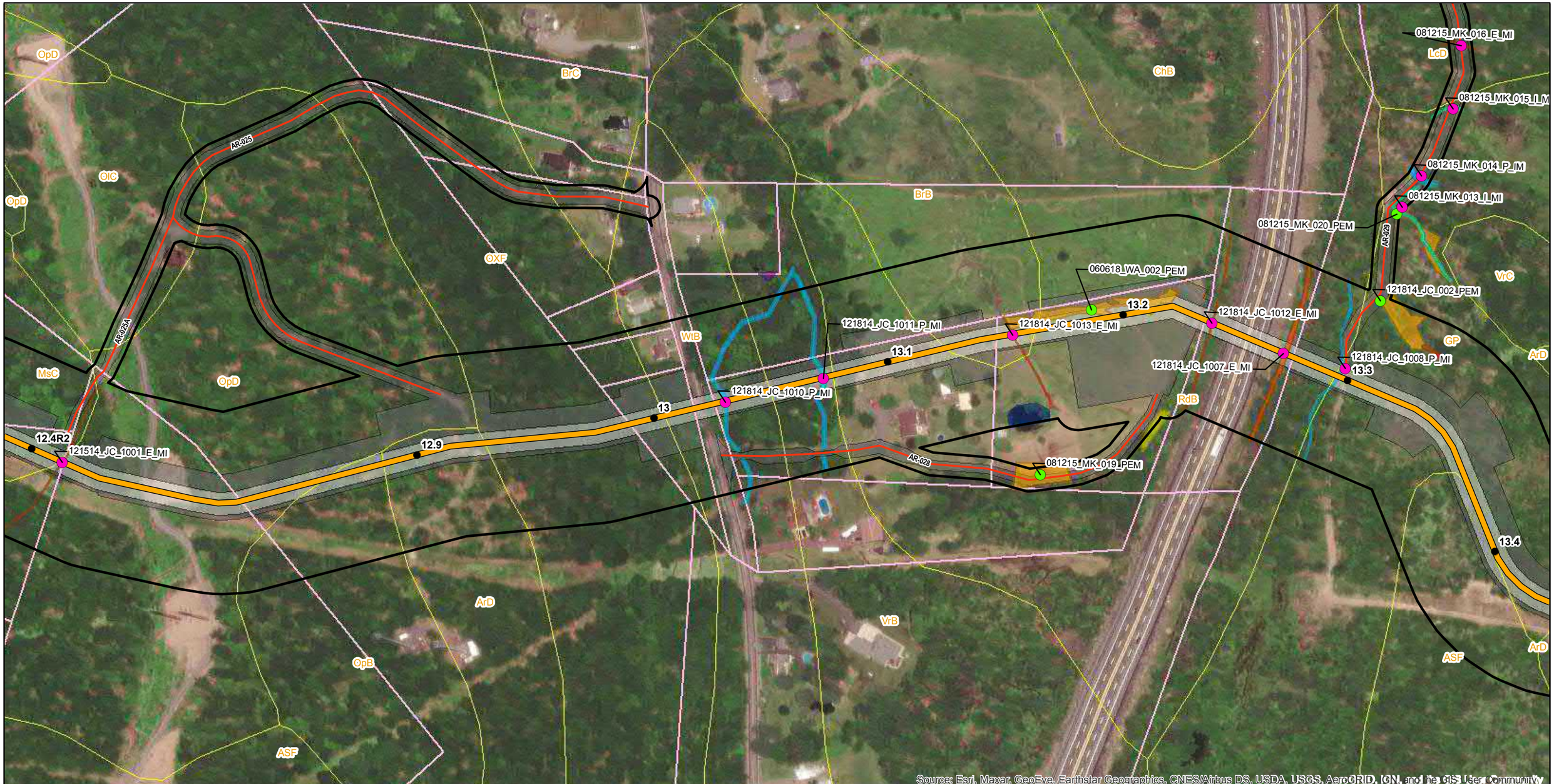
Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:PLAINS TWP/BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 30 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd



Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- County Boundary

Delineated Waterbodies

- Ephemeral
- Intermittent
- Perennial
- Pond
- Water Photo Locations

Delineated Wetlands

- PEM
- PSS
- Potential Vernal Pool
- Wetland Photo Locations

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

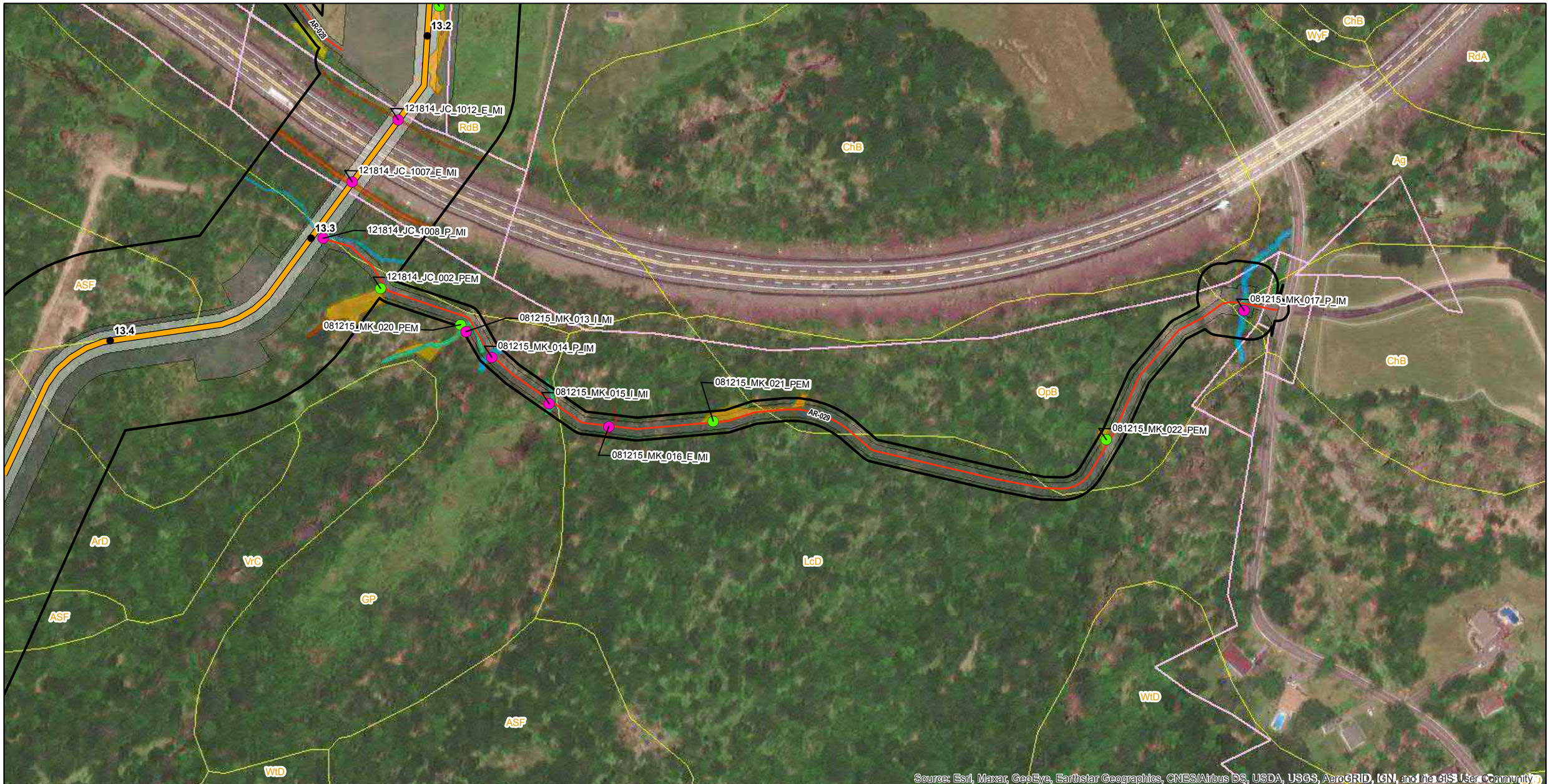
Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 31 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd



Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- County Boundary

Delineated Waterbodies

- Ephemeral
- Intermittent
- Perennial
- Water Photo Locations

Delineated Wetlands

- PEM
- PSS
- Wetland Photo Locations

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

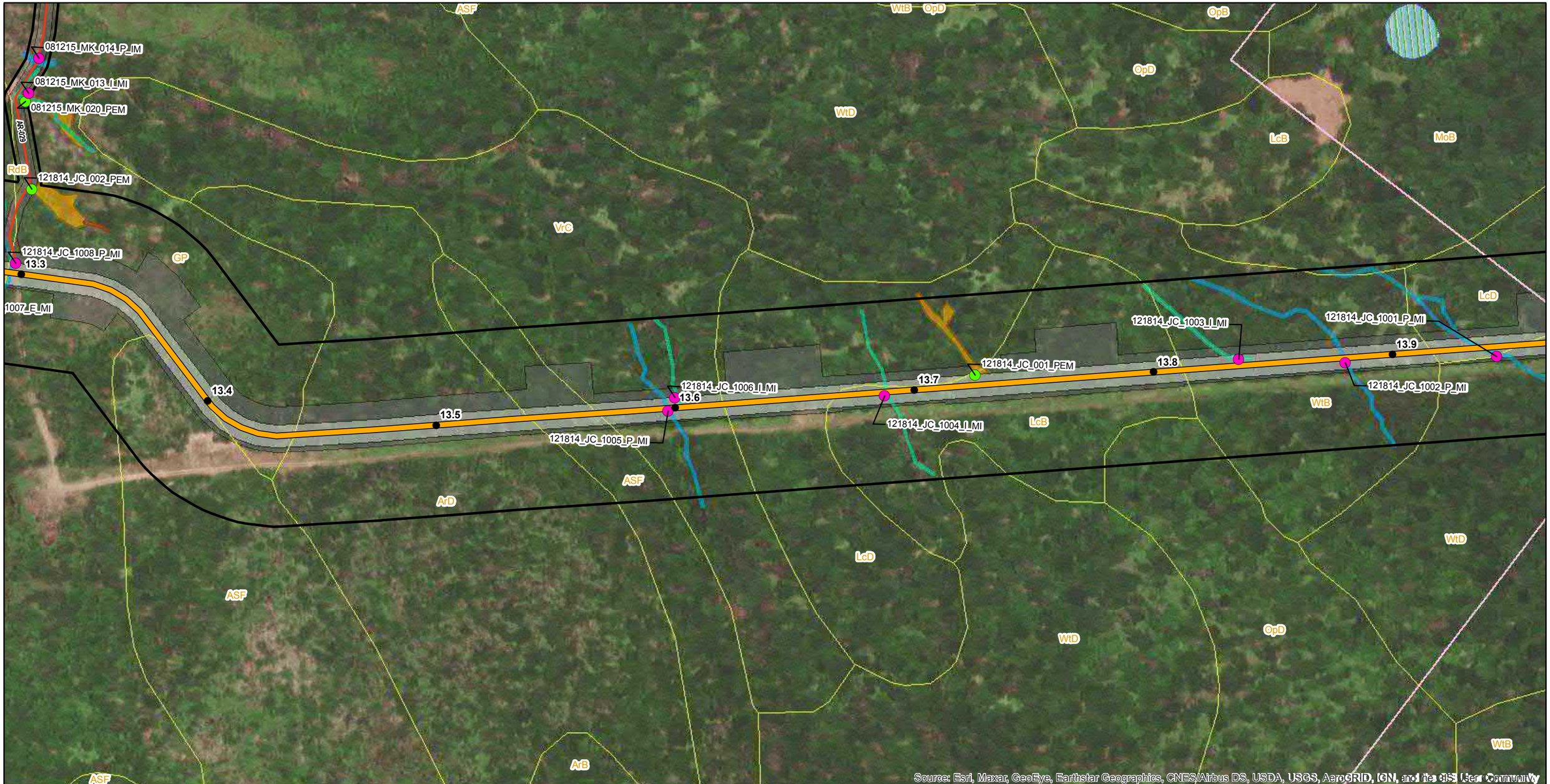
Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 32 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd



Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- County Boundary

Delineated Waterbodies

- Ephemeral
- Intermittent
- Perennial
- Water Photo Locations

Delineated Wetlands

- PEM
- Wetland Photo Locations

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

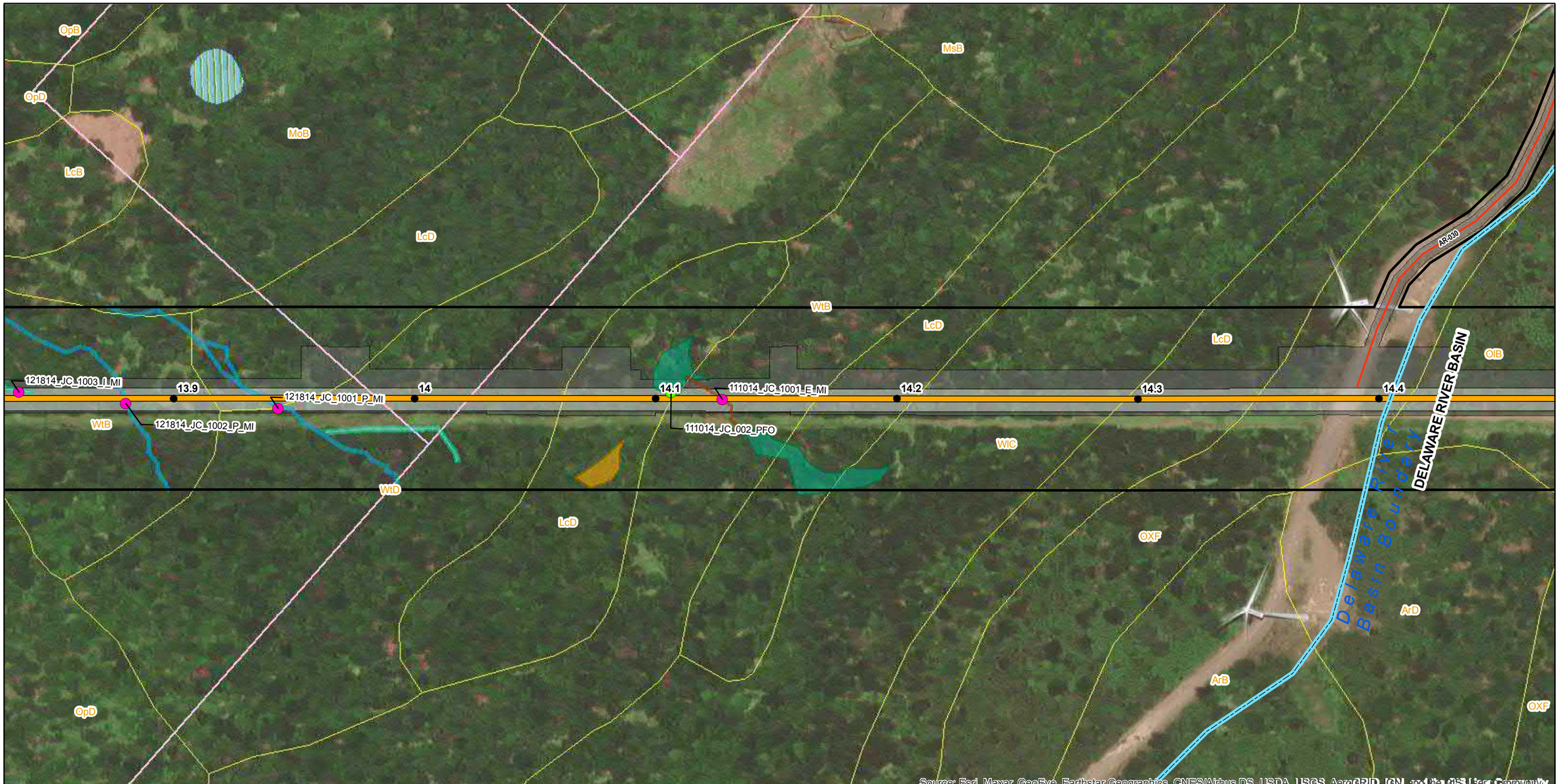
Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 33 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd



Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

- Ephemeral
- Intermittent
- Perennial
- Water Photo Locations

Delineated Wetlands

- PEM
- PFO
- Wetland Photo Locations

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 34 of 171

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Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

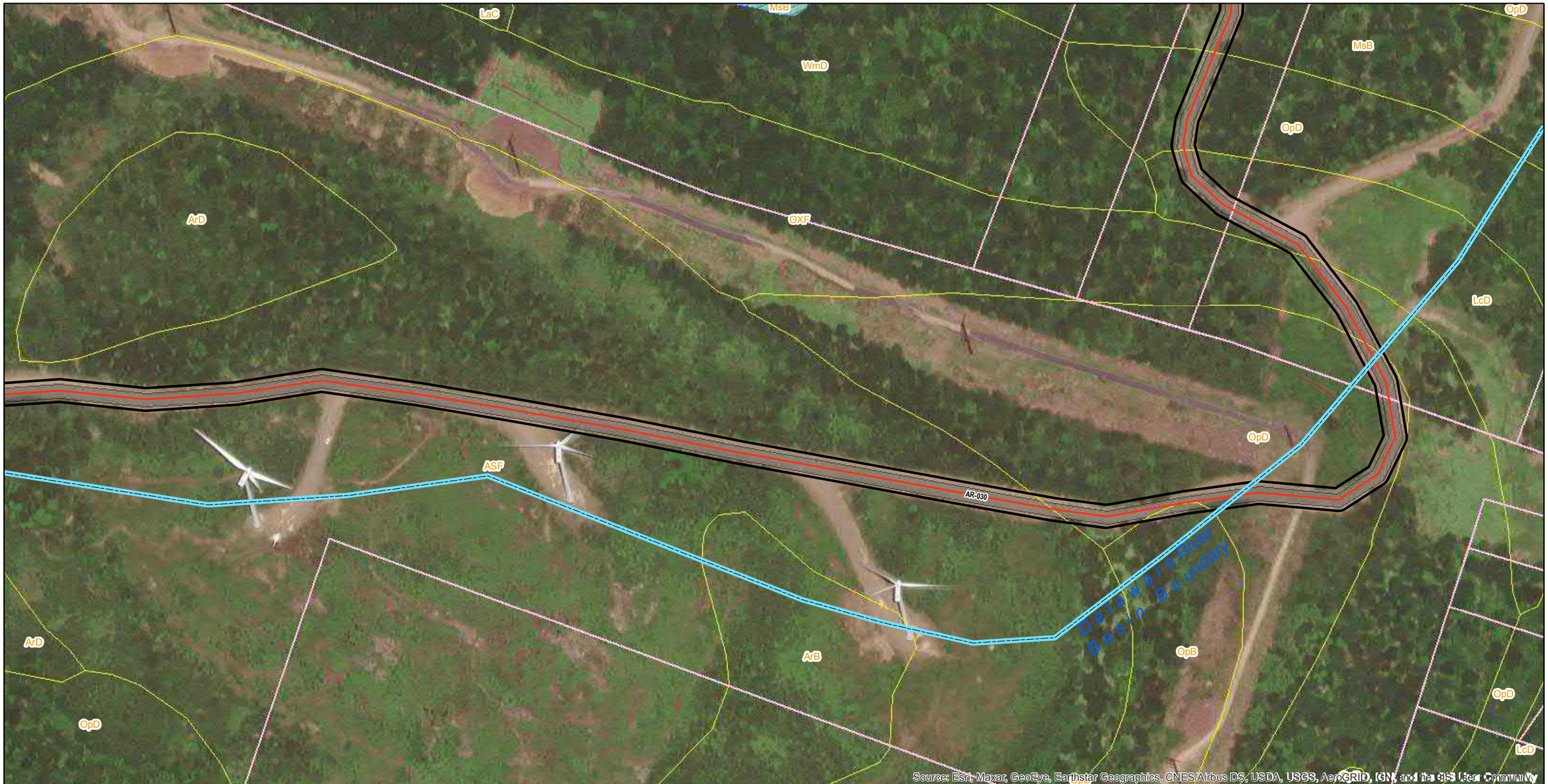
Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 35 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd



Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 36 of 171

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Legend

- Mile Post
- Proposed Route
- Access Road Centerline
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- Construction Limits
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- Parcel Boundary
- Soil Map Unit
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

- Ephemeral

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
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2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 37 of 171

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Legend

- Mile Post
- Proposed Route
- Access Road Centerline
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Delineated Waterbodies

- Ephemeral
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PennEast Pipeline Company, LLC

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Projection: Transverse Mercator
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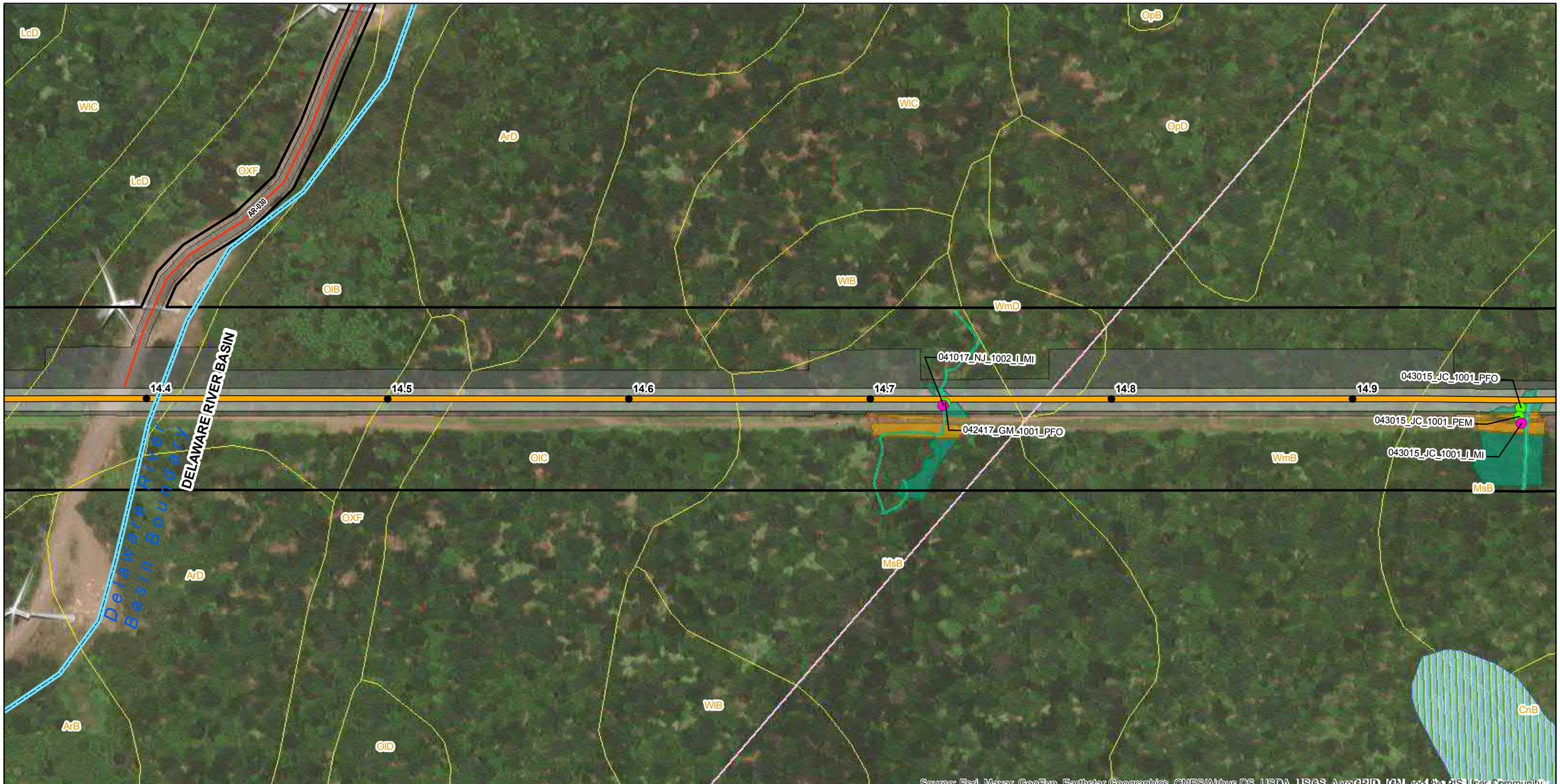
JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 38 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd



Legend

- Mile Post
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- Parcel Boundary
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- County Boundary

Delineated Waterbodies

- Intermittent
- Water Photo Locations

Delineated Wetlands

- PEM
- PFO
- Wetland Photo Locations

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

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NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
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Legend

- Mile Post
- Proposed Route
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PennEast PIPELINE

PennEast Pipeline Company, LLC

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JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 40 of 171

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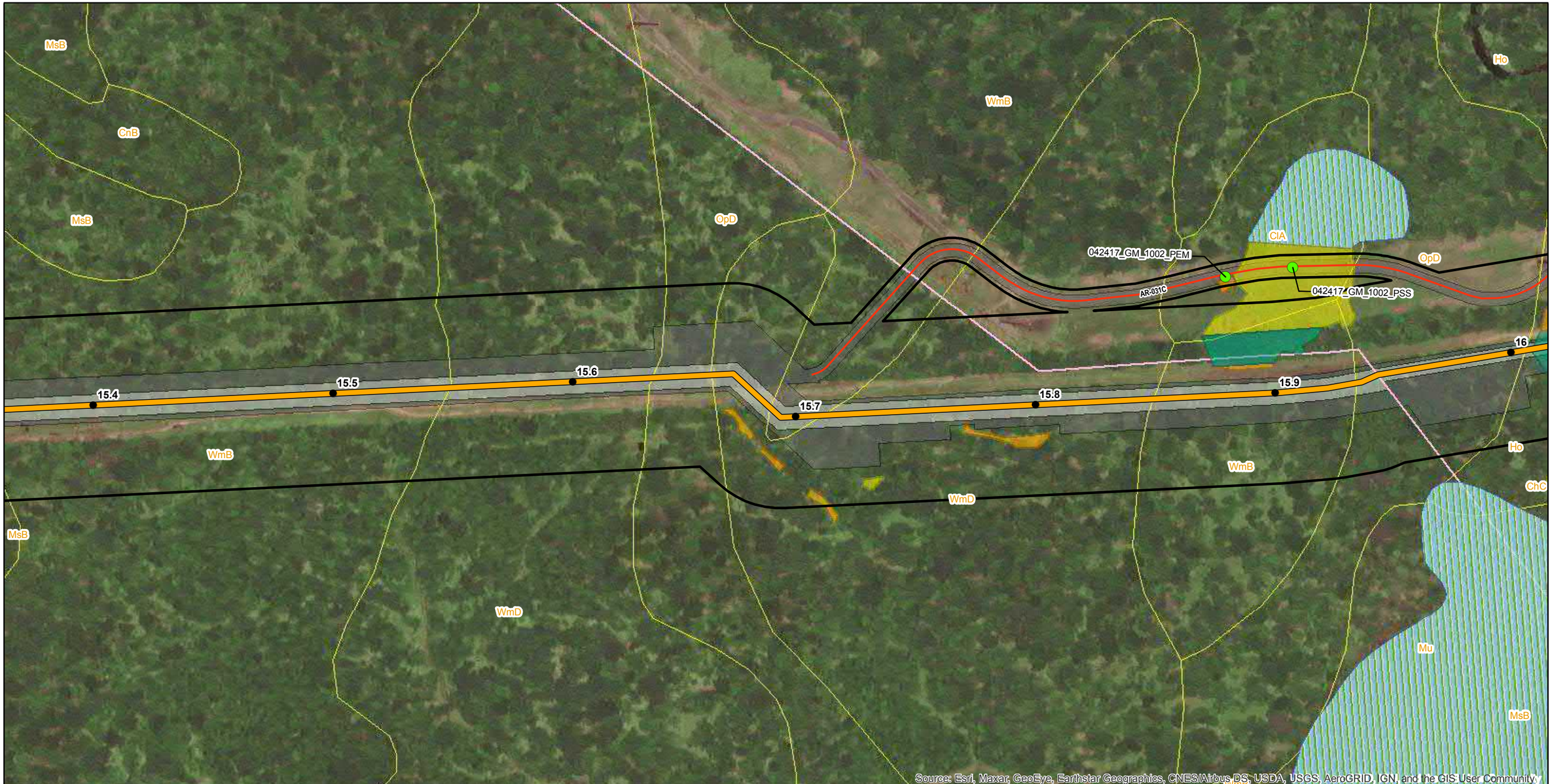

Legend

- Mile Post
- Proposed Route
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- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

Delineated Wetlands

- PEM
- PSS
- PFO
- Wetland Photo Locations

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
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2016 Aerial Imagery (ESRI)

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NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
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JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
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WmD
WmB
WyF
ChC
WmB
WmB
CIA
OpD
LcB
MsB
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042417_GM_1002_PEM
Ho
112114_JC_003B_PSS
AR-031C
ChB
OpD
112114_JC_003B_PFO
112114_JC_003A_PSS
112114_JC_1001_P_MI
112114_JC_002_PEM
WmB
15.9
16
16.1
16.2
16.3
16.4
16.5
112114_JC_1003_P_IM
112114_JC_1002_P_MI
112114_JC_002_PSS
OpD
WmB
WyD
112114_JC_002A_PSS
ChC
Mu
MsB
WmD
ChB
ChB
ChC
ChC
ChB
ChB
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

- Perennial
- Water Photo Locations

Delineated Wetlands

- PEM
- PSS
- PFO
- Wetland Photo Locations

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
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2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
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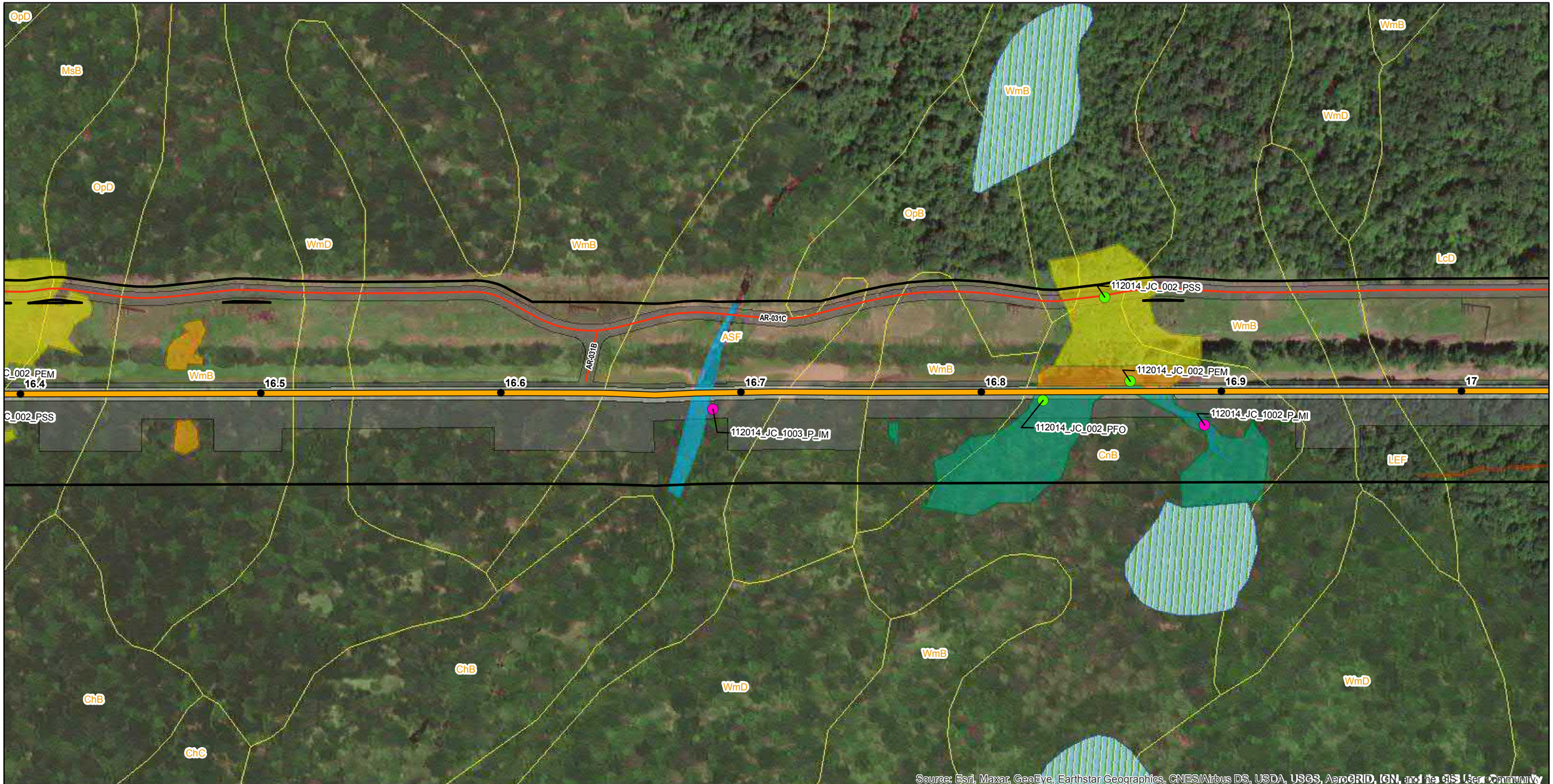

Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

- Ephemeral
- Perennial
- Water Photo Locations

Delineated Wetlands

- PEM
- PSS
- PFO
- Wetland Photo Locations

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
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Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

- Ephemeral
- Perennial

Delineated Wetlands

- PEM
- PFO

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

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JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
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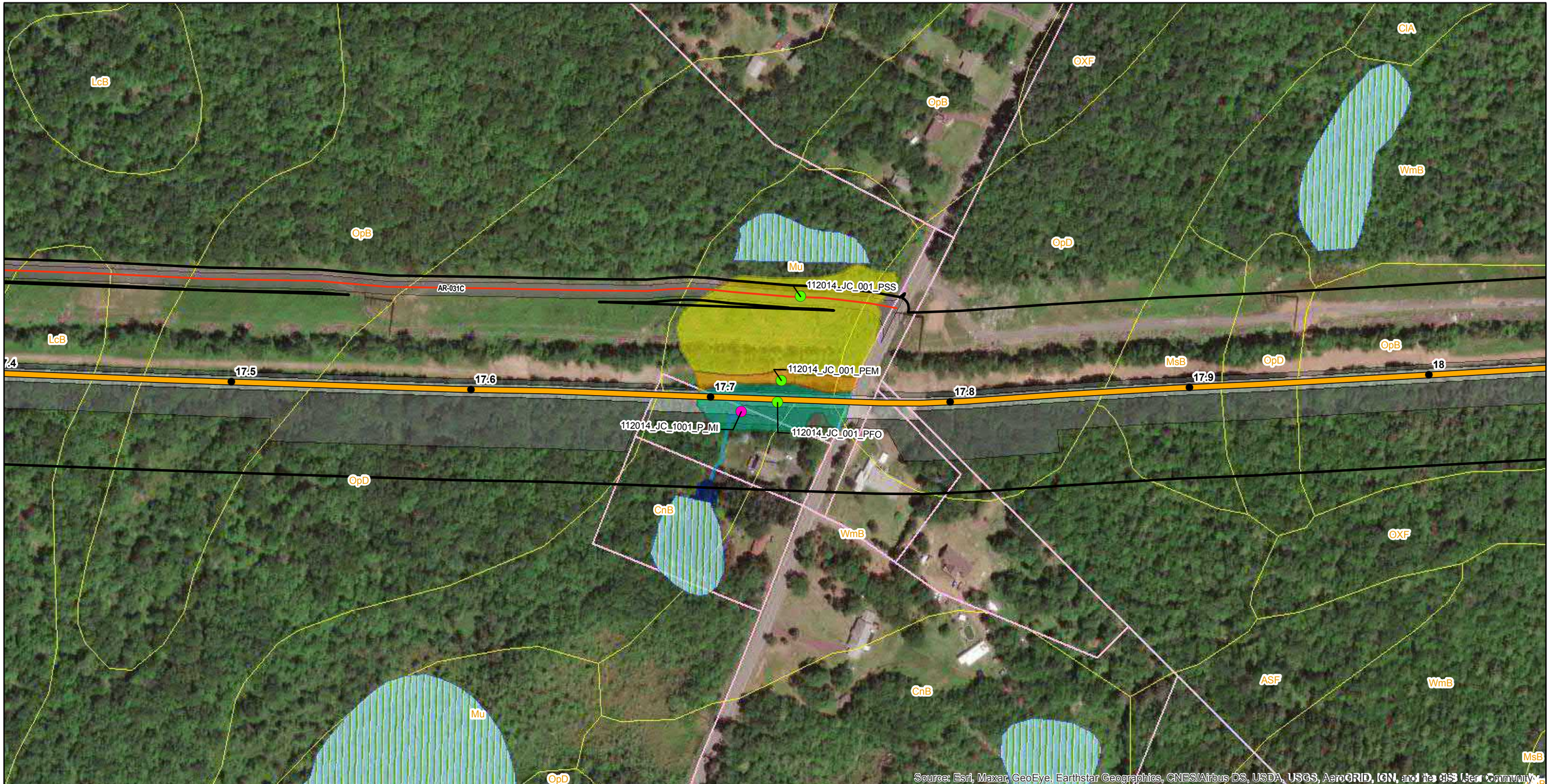

Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

- Perennial
- Pond
- Water Photo Locations

Delineated Wetlands

- PEM
- PSS
- PFO
- Wetland Photo Locations

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

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TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
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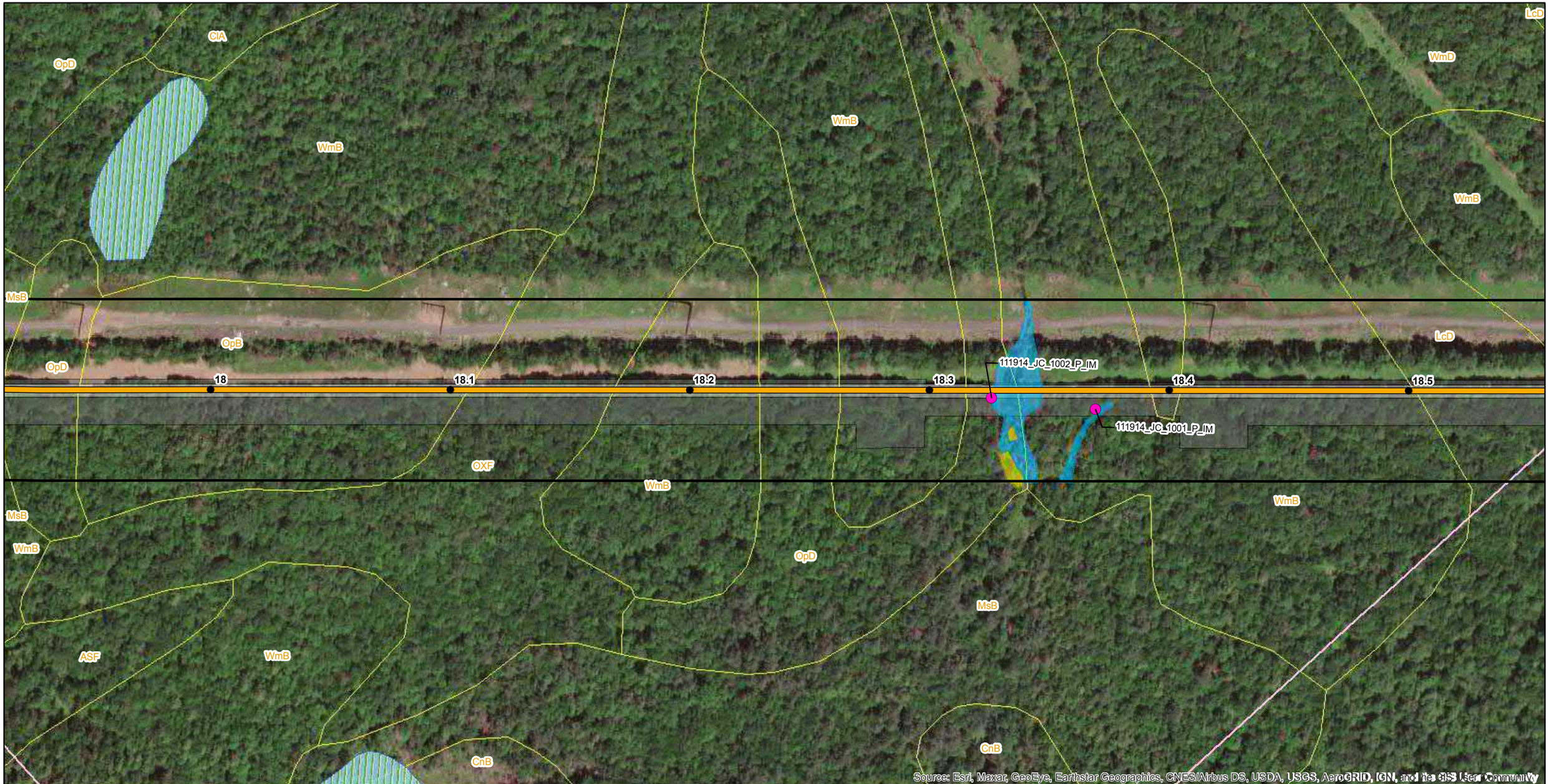

Legend

- Mile Post
- Proposed Route
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

- Perennial
- Water Photo Locations

Delineated Wetlands

- PSS

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
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Legend

- Mile Post
- Proposed Route
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

- Ephemeral
- Intermittent

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
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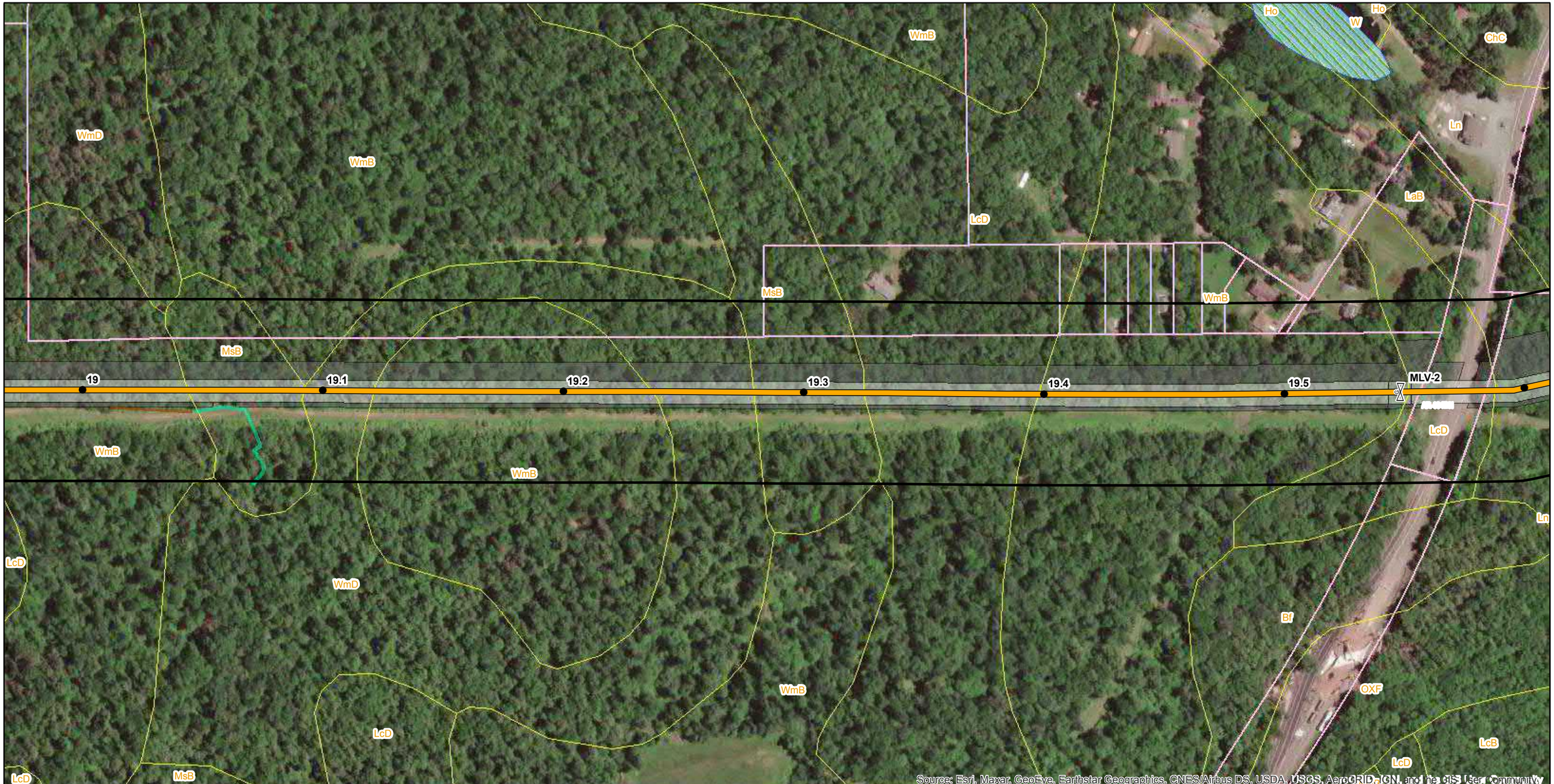
Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd



Legend

- Mile Post
- Mainline Block Valve
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

- Ephemeral
- Intermittent

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

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JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
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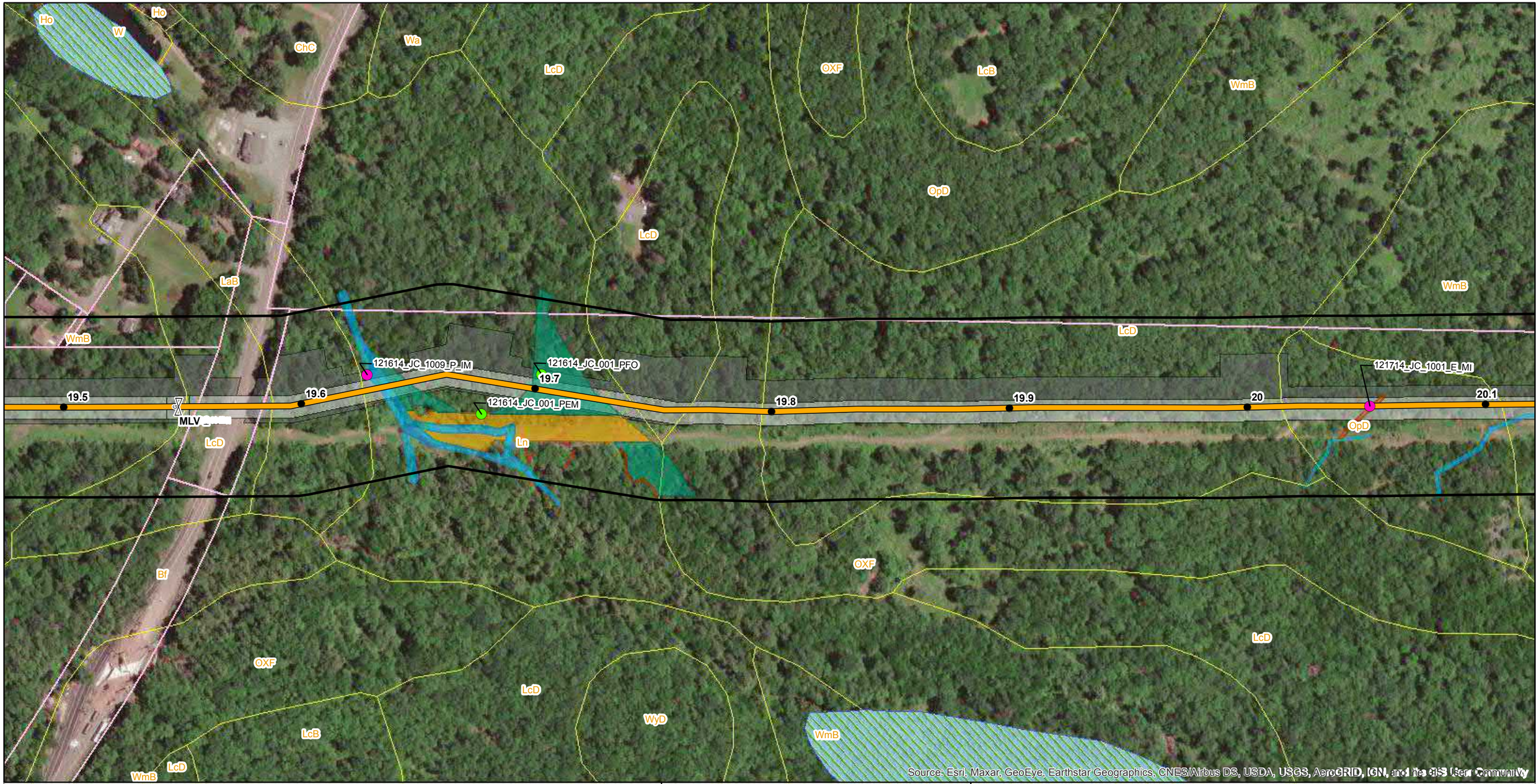

Legend

- Mile Post
- Mainline Block Valve
- Proposed Route
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- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
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- County Boundary

Delineated Waterbodies

- Ephemeral
- Perennial
- Water Photo Locations

Delineated Wetlands

- PEM
- PFO
- Wetland Photo Locations

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
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NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

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TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
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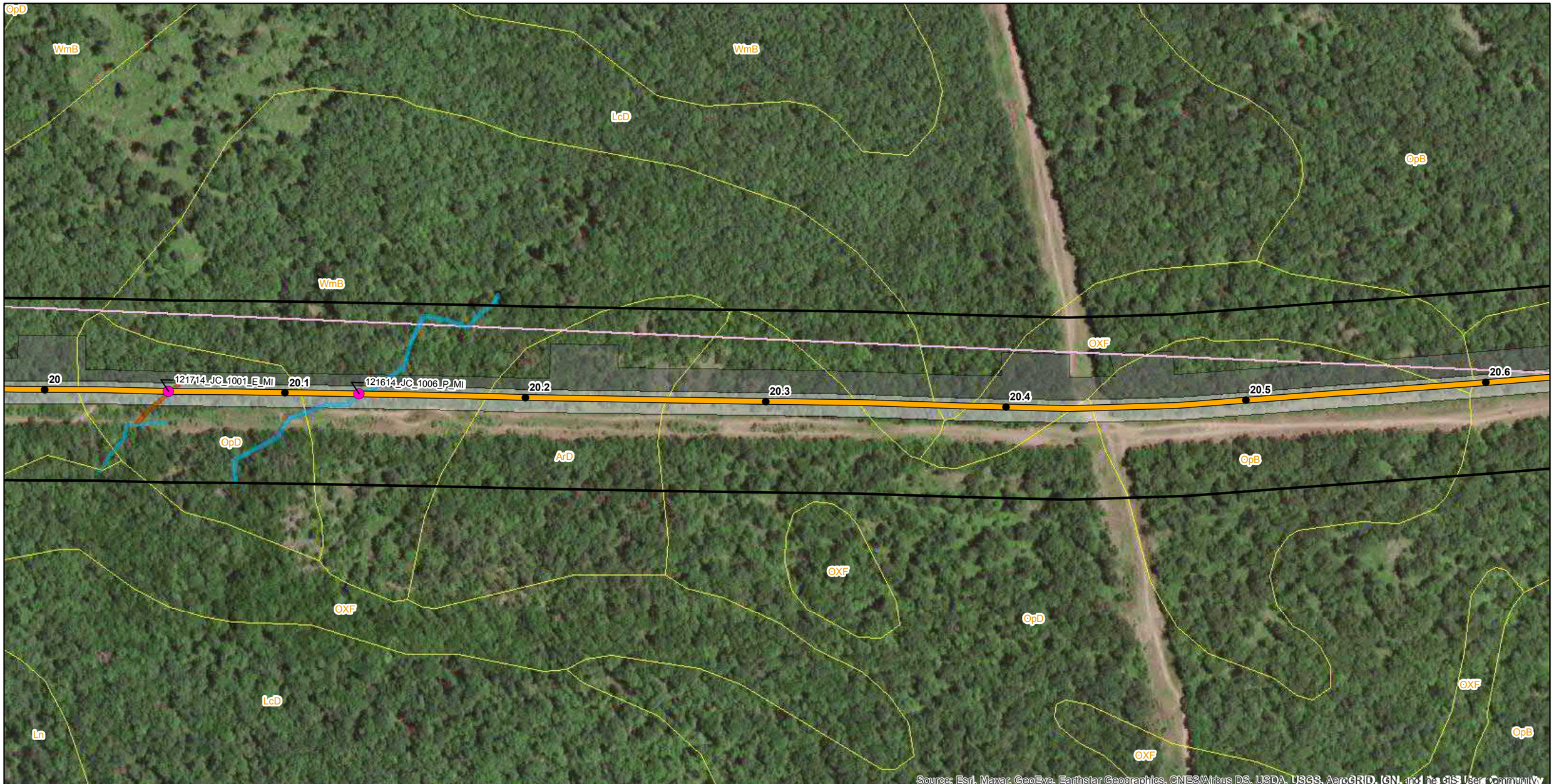

Legend

- Mile Post
- Proposed Route
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
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- County Boundary

Delineated Waterbodies

- Ephemeral
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PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
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TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
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Legend

- Mile Post
- Proposed Route
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
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- County Boundary

Delineated Waterbodies

- Intermittent

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

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NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
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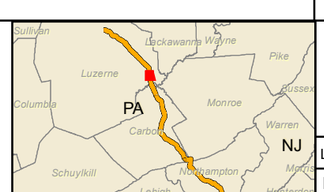
Key Map Not Drawn to Scale



TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 51 of 171

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Legend

- Mile Post
- Proposed Route
- Permanent Easement
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- Study Corridor
- Parcel Boundary
- Soil Map Unit
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

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Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

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Linear Unit: Foot (1.0)

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PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
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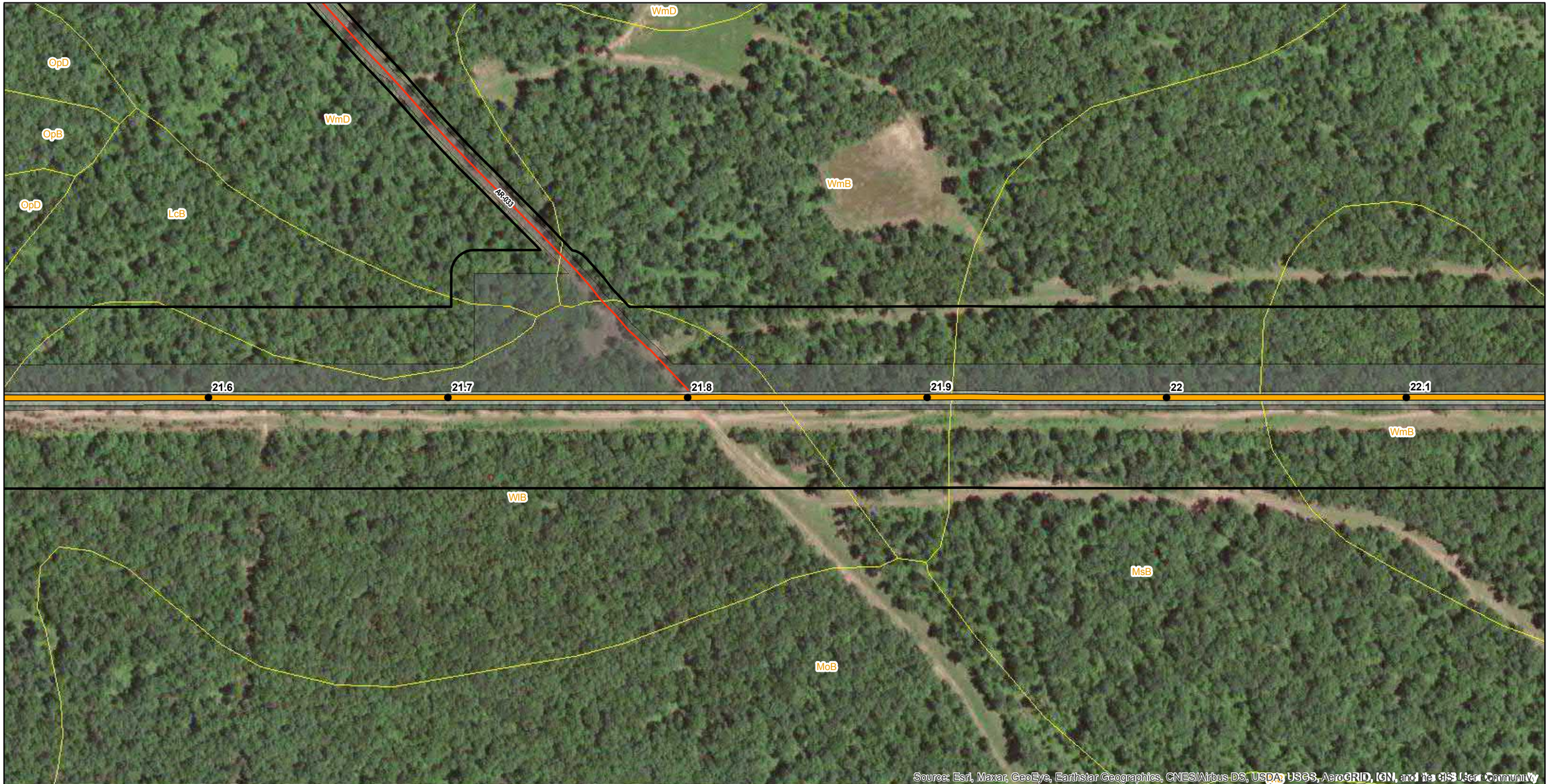

Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

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NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

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JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
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Legend

- Mile Post
- Proposed Route
- Access Road Centerline
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- Soil Map Unit
- NWI Wetland
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- County Boundary

Delineated Waterbodies

- Intermittent

Delineated Wetlands

- PSS

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Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP/BUCK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 54 of 171

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Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
- Soil Map Unit
- NWI Wetland
- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

Intermittent, Perennial

Delineated Wetlands

PEM, PFO

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BUCK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 55 of 171

Document Path: M:\Gisprojects\Projects\UGI\PennEast_60414094\MXD\WDR\Phase 1 Figures\Section K Photolocation Map.mxd

Legend

- Mile Post
- Proposed Route
- Access Road Centerline
- Permanent Easement
- Construction Limits
- Study Corridor
- Parcel Boundary
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- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

- Intermittent
- Perennial

Delineated Wetlands

- PEM
- PFO

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

Key Map Not Drawn to Scale

TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BUCK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 56 of 171

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Legend

- Mile Post
- Proposed Route
- Access Road Centerline
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- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

Delineated Wetlands

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

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TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BUCK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 57 of 171

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Legend

- Mile Post
- Proposed Route
- Access Road Centerline
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- NWI Wetland
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- County Boundary

Delineated Waterbodies

- Ephemeral
- Intermittent
- Perennial
- Water Photo Locations

Delineated Wetlands

- PEM
- PSS
- PFO

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

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JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 58 of 171

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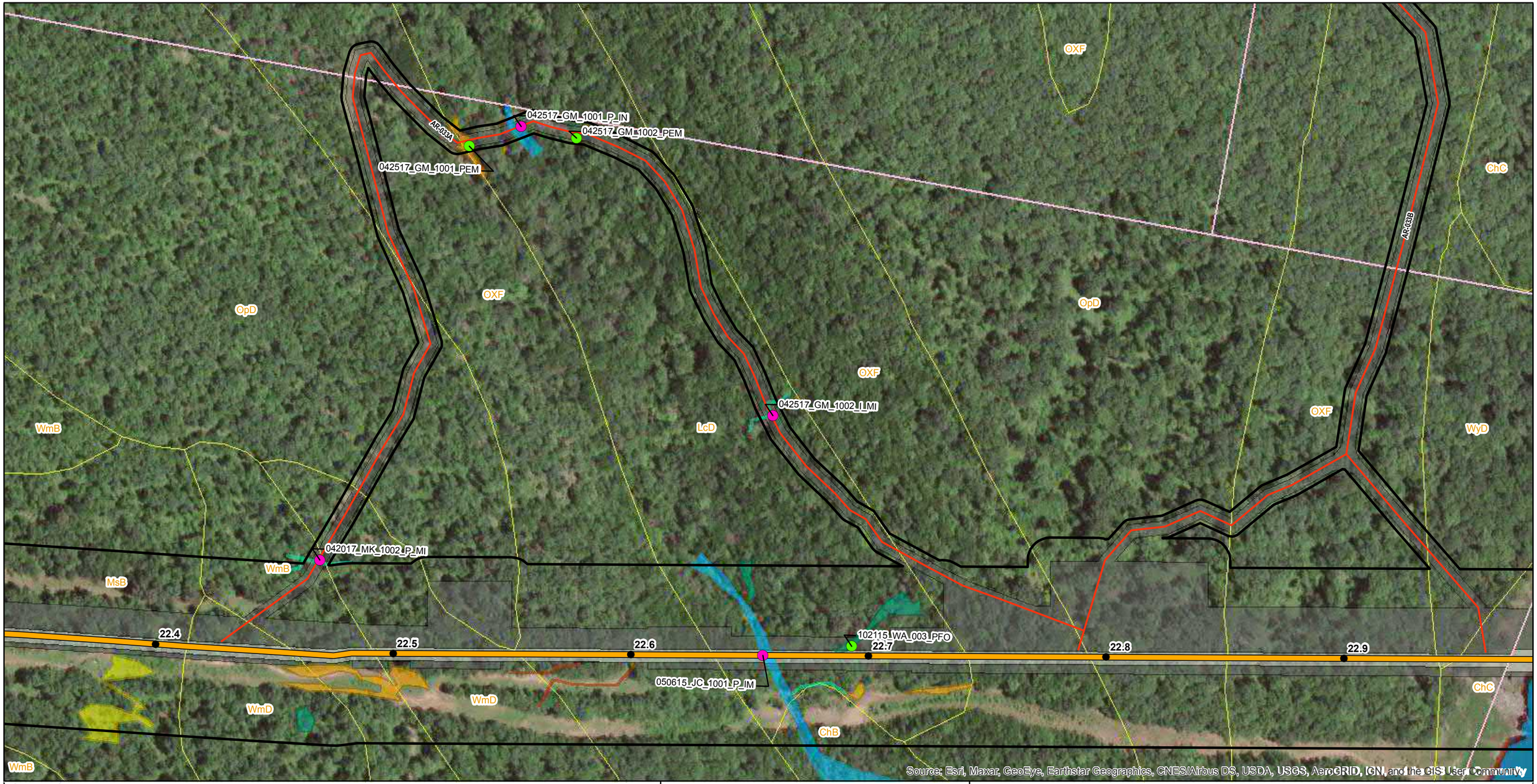

Legend

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- Delaware River Basin Boundary
- County Boundary

Delineated Waterbodies

- Ephemeral
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- Perennial
- Water Photo Locations

Delineated Wetlands

- PEM
- PSS
- PFO
- Wetland Photo Locations

PennEast PIPELINE

PennEast Pipeline Company, LLC

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2016 Aerial Imagery (ESRI)

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PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 59 of 171

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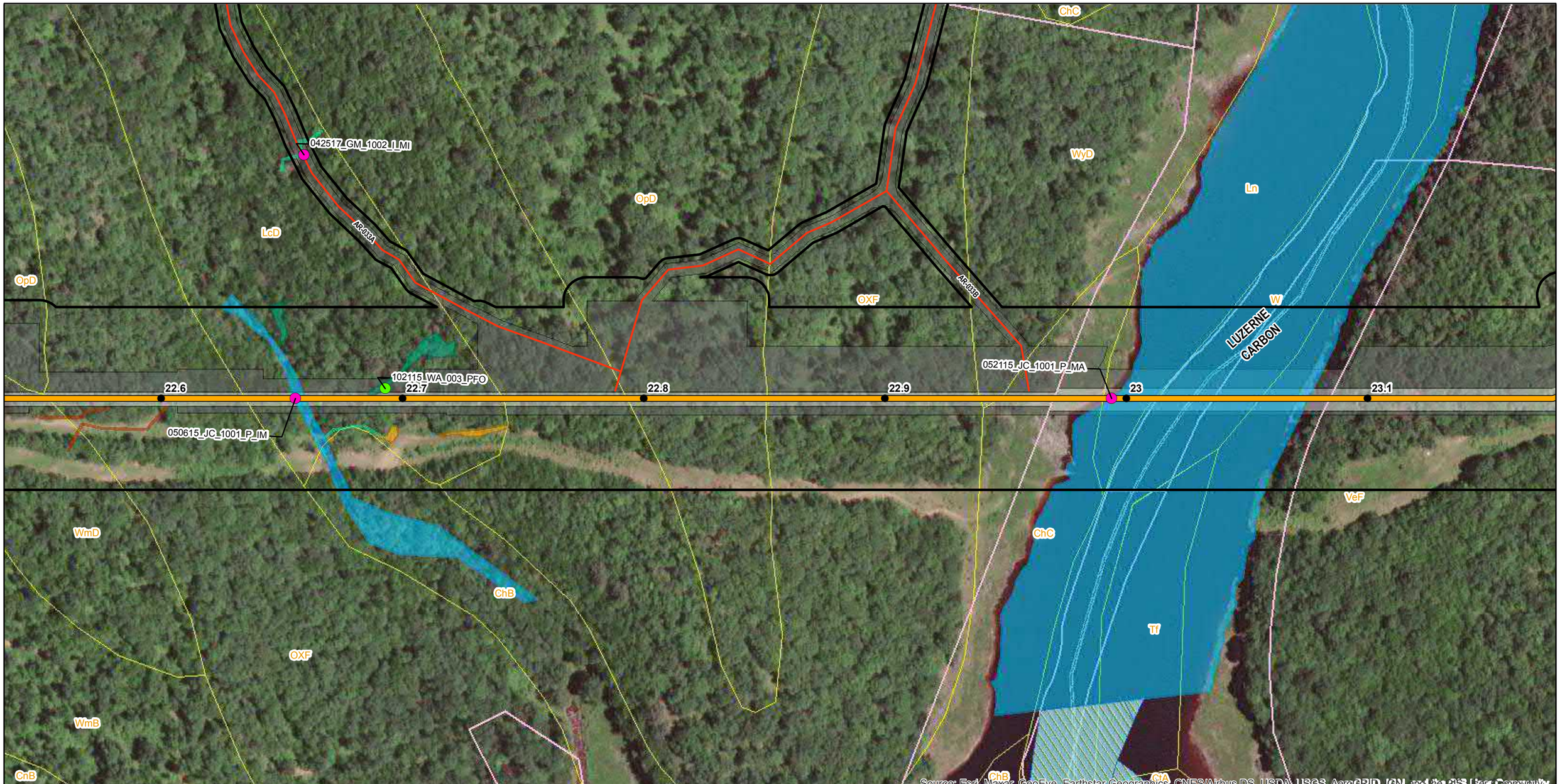

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Delineated Waterbodies

- Ephemeral
- Intermittent
- Perennial
- Water Photo Locations

Delineated Wetlands

- PEM
- PFO
- Wetland Photo Locations

PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
County Boundary Layer (PASDA)
2016 Aerial Imagery (ESRI)

0 100 200 400 Feet

NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Linear Unit: Foot (1.0)

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TITLE:

JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP/KIDDER TWP, LUZERNE/CARBON, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 60 of 171

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Delineated Waterbodies

- Perennial
- Water Photo Locations

Delineated Wetlands

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PennEast Pipeline Company, LLC

Reference:
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2016 Aerial Imagery (ESRI)

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Projection: Transverse Mercator
Linear Unit: Foot (1.0)

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JPA Section K
PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BEAR CREEK TWP/BUCK TWP, LUZERNE, PA				Date: 9/8/2020
DRN. BY: CDW	CKD. BY:	REV.:	SCALE: See Graphic Scale	SHEET: 61 of 171

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Delineated Waterbodies

Delineated Wetlands

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PennEast Pipeline Project
Phase 1, Photolocation Map

LOC:BUCK TWP, LUZERNE, PA				Date: 9/8/2020
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Delineated Waterbodies

- Intermittent

Delineated Wetlands

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Delineated Waterbodies

- Perennial

Delineated Wetlands

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