RIGHT-OF-WAY & OWNERSHIP DATA

Station	Ownership	Length
3464+50 – 3468+24	WV-LE-154.03	374 LF, 394 SLOPE
3468+24 – 3469+26	WV-BR-001 / WV-LE-154.03	102 LF, 113 SLOPE
3469+26 – 3487+59	WV-BR-001	1833 LF, 1863 SLOPE
3487+59 – 3495+55	WV-BR-001 / WV-BR-002	796 LF, 802 SLOPE
3495+55 – 3514+77	WV-BR-002.01 / WV-BR-002	1922 LF, 1936 SLOPE
3514+77 – 3518+88	WV-BR-002.01	411 LF, 430 SLOPE
3518+88 – 3522+88	WV-BR-002.01 / WV-BR-002	400 LF, 404 SLOPE

DESIGN

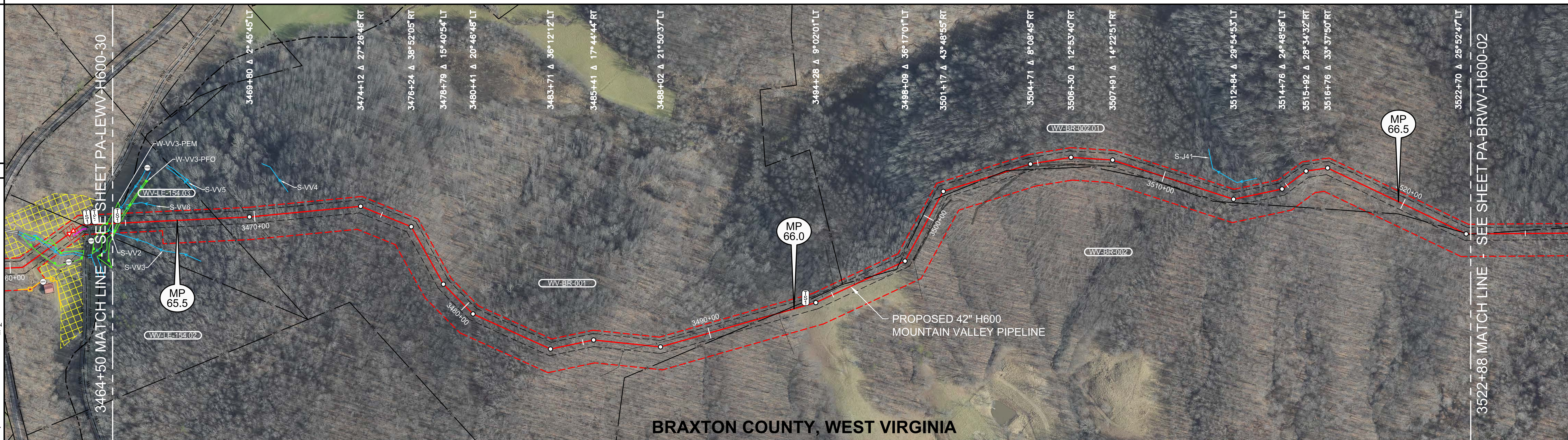
PIPE / COATING	3464+50 – 3464+77: 4	3464+77 – 3468+57: 2	3468+57 – 3522+88: 1	
SLOPE DISTANCE	27'	400'	5514'	
CLASS LOCATION / HCA	1			

ENVIRONMENTAL

CONSTRUCTION EXCLUSION	3464+50: T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-VV2 APRIL 1ST TO JUNE 30TH	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS	3522+88
WETLAND / STREAM	S-VV2: 19 LF	W-VV3-PEM: 17 LF	W-VV3-PFO: 52 LF
.			
.			

PLAN VIEW

0' 100' 200' 400'



LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL / PROPOSED TEST STATION
- MAILBOX / LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN / TOWER LEG
- TREE / GUY ANCHOR
- TANK / GAS VALVE
- WELL - GAS/OIL/WATER/ MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-04	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

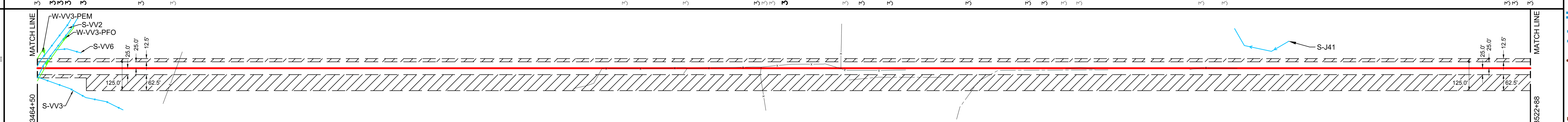
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

- 3464+50 MATCH LINE, END LEWIS COUNTY, BEGIN BRAXTON COUNTY
- **3464+50 BEGIN WETLAND(W-VV3-PFO)38'RT**
- **3464+67 END WETLAND(W-VV3-PEM)38'LT**
- **3464+68 STREAM BANK(S-VV2), PROPOSED TYPE 1 TEST STATION**
- **3465+02 END WETLAND(W-VV3-PFO)38'LT**
- 3468+55 PROPERTY LINE
- 3469+80 FENCE - BARBED WIRE
- 3487+47 FENCE - HOG WIRE
- 3489+86 FENCE - HOG WIRE
- 3492+64 PROPERTY LINE
- 3492+72 FENCE - HOG WIRE
- 3492+94 FENCE - HOG WIRE
- **3493+86 PROPOSED TYPE 1 TEST STATION**
- 3496+10 FENCE - HOG WIRE
- 3496+74 PROPERTY LINE
- 3497+84 PROPERTY LINE
- 3500+91 PROPERTY LINE
- 3503+24 PROPERTY LINE
- 3503+89 PROPERTY LINE
- 3504+65 FENCE - BARBED WIRE
- 3504+71 FENCE - BARBED WIRE
- 3510+02 FENCE - BARBED WIRE
- 3510+93 FENCE - BARBED WIRE
- 3522+58 PROPERTY LINE
- 3522+78 PROPERTY LINE
- 3522+88 MATCH LINE

WORK SPACE

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)



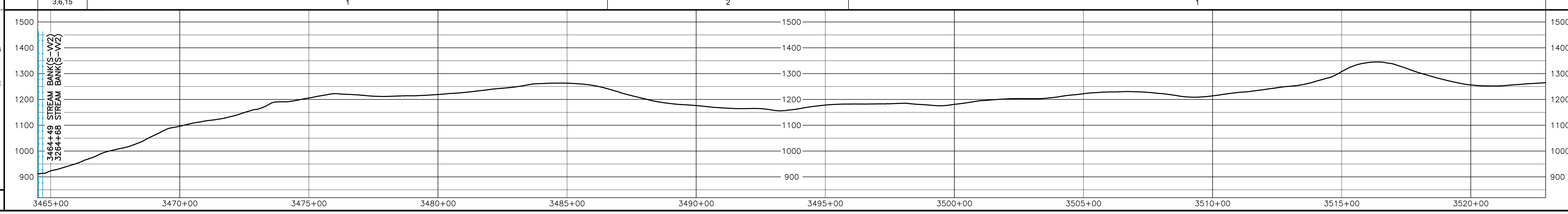
CONSTRUCTION METHOD

3464+50 –			
3,6,15	1	2	1

CONSTRUCTION METHOD KEY

- 1 - TYPICAL R/W WORKING SIDE RIGHT
- 1.1 - TYPICAL R/W WORKING SIDE LEFT
- 2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
- 2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
- 3 - TYPICAL WETLAND X-ING
- 4 - ROAD X-ING - BORE
- 5 - RAILROAD X-ING - BORE
- 6 - WATERBODY X-ING OPEN CUT - FLUME
- 7 - PARALLEL TO POWER LINE
- 8 - RIDGE CONSTRUCTION
- 10 - HDD ENTRY PLAN
- 11 - HDD EXIT PLAN
- 12 - HDD CONSTRUCTION
- 13 - PARALLEL TO POWER LINE
- 14 - PARALLEL TO POWER LINE
- 15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
- 33 - SIDE HILL CONSTRUCTION
- 34 - 2-TONE SIDE HILL CONSTRUCTION
- 53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
- 54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5514	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	400	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
4	27	42"O.D. X 0.740"W.T., X-70, FBE & ARO
	2	TYPE 1 TEST STATION - PIPELINE

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.13 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-13-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17
7	JJS	04-13-18

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17
7	JJS	04-13-18

HOLLAND ENGINEERING
220 Hoover Boulevard, Suite 2
Holland, Michigan 49423-3766
T 616-392-5938 F 616-392-2116
26555 Evergreen Rd. Suite 430
Southfield, Michigan 48076
T 248-827-7322 F 248-827-7549
www.hollandengineering.com

Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE SALT LICK DIST., BRAXTON CO.,W.V. STA. 3464+50 TO STA. 3522+88

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:.	.
AFE/P.O.NO.:	
HEI PROJECT NO.: 14-10-052	
DRAWING NO.: PA-BRWV-H600-01	
SHEET 73 OF 329	REV. 7
DATE OF PLOT: 04/18/18 12:02 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Owner	Length
3522+88 – 3527+57	WV-BR-002.01 / WV-BR-002	469 LF, 470 SLOPE
3527+57 – 3532+42	WV-BR-002	485 LF, 487 SLOPE
3532+42 – 3533+39	WV-BR-002.02 / WV-BR-002	97 LF, 97 SLOPE
3533+39 – 3534+24	WV-BR-002	85 LF, 85 SLOPE
3534+24 – 3537+83	WV-BR-002.01 / WV-BR-002	359 LF, 365 SLOPE
3537+83 – 3541+69	WV-BR-002	386 LF, 391 SLOPE
3541+69 – 3543+58	WV-BR-002.04 / WV-BR-002	189 LF, 190 SLOPE
3543+58 – 3543+77	WV-BR-002.04	19 LF, 20 SLOPE
3543+77 – 3544+83	WESTON GAULEY BRIDGE TURNPIKE TRAIL / WV-BR-002.04	106 LF, 106 SLOPE
3544+83 – 3557+87	WV-BR-002.04	1304 LF, 1318 SLOPE
3557+87 – 3565+42	WV-BR-002.08	755 LF, 789 SLOPE
3565+42 – 3566+56	COUNTY ROUTE 4/10 / WV-BR-002.08	114 LF, 115 SLOPE
3566+56 – 3578+60	WV-BR-002.08	1204 LF, 1260 SLOPE

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
3522+88 – 3544+03	1	2130'
3544+03 – 3544+83	4	80'
3544+83 – 3561+97	1	1730'
3561+97 – 3565+80	2	400'
3565+80 – 3566+20	4	40'
3566+20 – 3566+38	2	18'
3566+38 – 3566+78	4	40'
3566+78 – 3570+22	2	360'
3570+22 – 3578+60	1	895'

CLASS LOCATION / HCA: 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION (3522+88 – 3578+60):
TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31
SEE TREE CLEARING PLAN FOR FURTHER DETAILS

T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-L51 & S-J37 APRIL 1ST TO JUNE 30TH

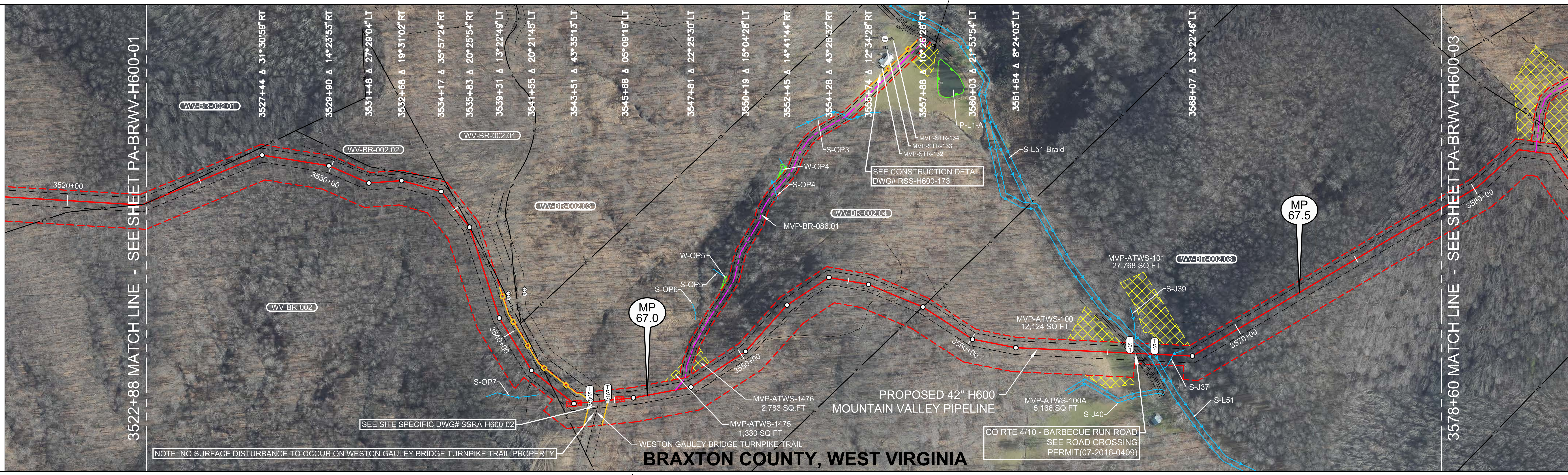
TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS

WETLAND / STREAM:

S-L51	S-J37
24 LF	3 LF

PLAN VIEW

0' 100' 200' 400'



AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL
- PROPOSED TEST STATION
- MAILBOX
- LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN
- TOWER LEG
- TREE
- GUY ANCHOR
- TANK
- GAS VALVE
- WELL - GAS/OIL/WATER/ MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-04	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-23	ACCESS ROAD DETAIL MAP
07-2016-0409	ROAD CROSSING PERMIT
RSS-H600-173	RESIDENTIAL SITE SPECIFIC
SSRA-H600-02	RECREATIONAL SITE SPECIFIC
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

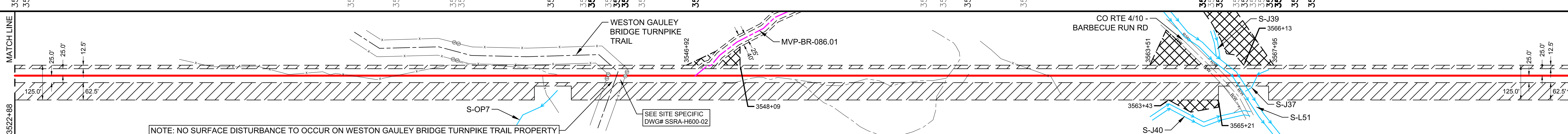
HORIZONTAL STATIONING

- 3522+88 MATCH LINE
- 3523+10 PROPERTY LINE
- 3534+91 FENCE - BARBED WIRE
- 3536+53 FENCE - BARBED WIRE
- 3538+57 GATE POST 59'LT
- 3538+72 GATE POST 55'LT
- 3542+49 PROPERTY LINE
- 3544+08 GATE POST 10'RT
- **3544+11 PROPOSED TYPE 1 TEST STATION,R/W**
- 3544+12 GATE,FENCE - HOG WIRE
- GATE POST 5'LT
- **3544+43 ℄ WESTON GAULEY BRIDGE TURNPIKE TRAIL**
- **3544+74 PROPOSED TYPE 1 TEST STATION,R/W**
- GATE,GATE POST 2'RT
- 3544+80 GATE POST 13'LT
- **3547+25 ACCESS ROAD - PERMANENT (MVP-BR-086.01)**
- 3556+30 ℄ TRAIL(DIRT)
- 3557+00 FENCE - BARBED WIRE
- 3557+87 PROPERTY LINE
- 3559+88 FENCE - BARBED WIRE
- **3565+80 PROPOSED TYPE 1 TEST STATION,R/W**
- 3565+94 EDGE OF GRAVEL
- **3566+00 ℄ CO RTE 4/10 - BARBECUE RUN ROAD**
- 3566+10 EDGE OF GRAVEL
- 3566+21 RIGHT OF WAY
- 3566+23 CULVERT OPEN END 34'RT
- 3566+37 CULVERT OPEN END 20'RT
- **3566+46 STREAM BANK(S-L51)**
- **3566+53 PROPOSED RIVER WEIGHT - STREAM**
- **3566+70 STREAM BANK(S-L51), PROPOSED TYPE 1 TEST STATION**
- **3567+37 ℄ STREAM(S-J37)**
- 3578+60 MATCH LINE

ISSUED FOR CONSTRUCTION

WORK SPACE

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)



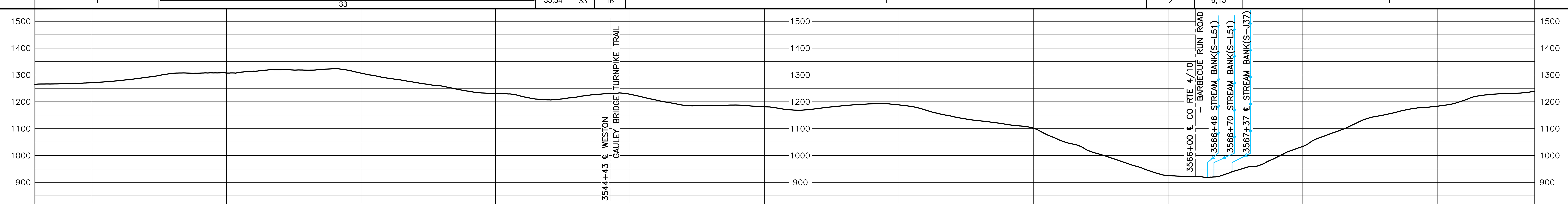
CONSTRUCTION METHOD

Station range	Method
3522+88 –	1
SEE LAND SLIDE MITIGATION PLAN DWG#	33
	33,54
	33
	16
	1
	2
	6,15
– 3578+60	1

CONSTRUCTION METHOD KEY

- 1 - TYPICAL R/W WORKING SIDE RIGHT
- 1.1 - TYPICAL R/W WORKING SIDE LEFT
- 2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
- 2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
- 3 - TYPICAL WETLAND X-ING
- 4 - ROAD X-ING - BORE
- 5 - RAILROAD X-ING - BORE
- 6 - WATERBODY X-ING OPEN CUT - FLUME
- 7 - PARALLEL TO POWER LINE
- 8 - RIDGE CONSTRUCTION
- 10 - HDD ENTRY PLAN
- 11 - HDD EXIT PLAN
- 12 - HDD CONSTRUCTION
- 13 - PARALLEL TO POWER LINE
- 14 - PARALLEL TO POWER LINE
- 15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
- 33 - SIDE HILL CONSTRUCTION
- 34 - 2-TONE SIDE HILL CONSTRUCTION
- 53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
- 54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



HOLLAND ENGINEERING

220 Hoover Boulevard, Suite 2
Holland, Michigan 49423-3766
T 616-392-5938 F 616-392-2116
26555 Evergreen Rd. Suite 430
Southfield, Michigan 48076
T 248-827-7322 F 248-827-7549
www.hollandengineering.com

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.13 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-13-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	4755	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	778	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
4	160	42"O.D. X 0.740"W.T., X-70, FBE & ARO
	4	TYPE 1 TEST STATION - PIPELINE
	1	RIVER WEIGHTS

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17
7	JJS	04-13-18

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17
7	JJS	04-13-18

Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE SALT LICK DIST., BRAXTON CO.,W.V. STA. 3522+88 TO STA. 3578+60

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:	.
AFE/P.O.NO.:	
HEI PROJECT NO.: 14-10-052	
DRAWING NO.: PA-BRWV-H600 -02	
SHEET 74 OF 329	REV. 7
DATE OF PLOT: 04/18/18 12:02 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tract	Length
3578+60 – 3585+86	WV-BR-002.08	726 LF / 746 SLOPE
3585+86 – 3588+39	WV-BR-002.09 / WV-BR-002.08	253 LF / 253 SLOPE
3588+39 – 3588+83	WV-BR-002.09	44 LF / 44 SLOPE
3588+83 – 3589+56	WV-BR-002.09 / WV-BR-002.10	73 LF / 73 SLOPE
3589+56 – 3592+68	WV-BR-002.10	312 LF / 323 SLOPE
3592+68 – 3601+99	WV-BR-002.10 / WV-BR-002.11	931 LF / 936 SLOPE
3601+99 – 3602+98	WV-BR-002.10	99 LF / 99 SLOPE
3602+98 – 3607+55	WV-BR-002.10 / WV-BR-002.12	457 LF / 460 SLOPE
3607+55 – 3623+19	WV-BR-002.12	1564 LF / 1579 SLOPE

DESIGN

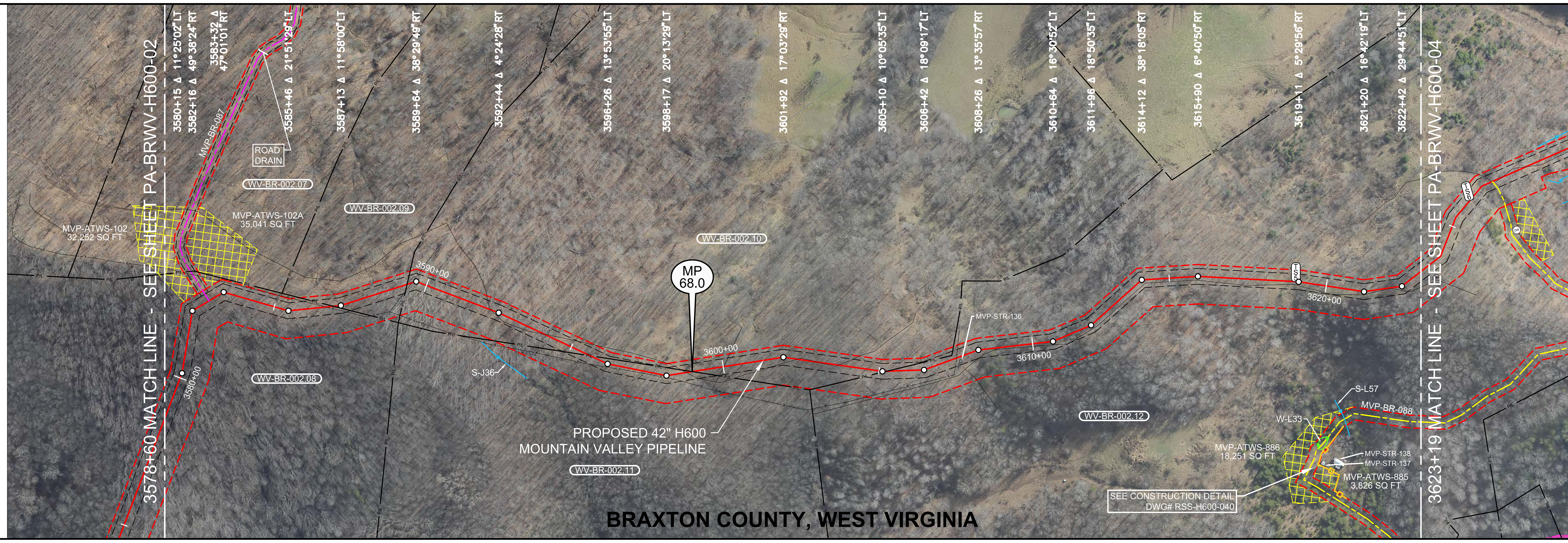
	3578+60 – 3623+19
PIPE / COATING	1
SLOPE DISTANCE	4513'
CLASS LOCATION / HCA	1

ENVIRONMENTAL

	3578+60 – 3623+19
CONSTRUCTION EXCLUSION	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
WETLAND / STREAM	
.	
.	

0' 100' 200' 400'

PLAN VIEW



LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL
- PROPOSED TEST STATION
- MAILBOX
- LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN
- TOWER LEG
- TREE
- GUY ANCHOR
- TANK
- GAS VALVE
- WELL - GAS/OIL/WATER/ MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

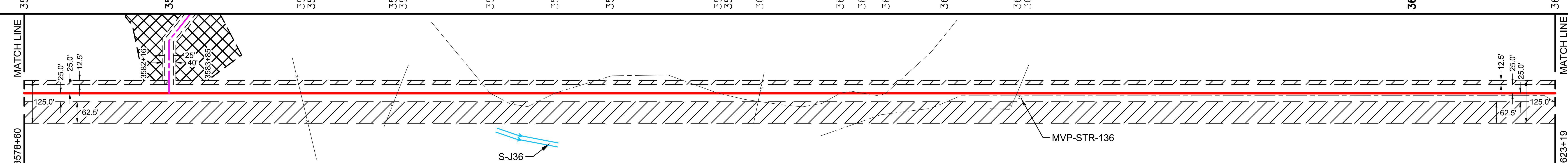
DRAWING NO.	DESCRIPTION
MVP-AR-H600-04	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-24	ACCESS ROAD DETAIL MAP
MVP-QDAR-H600-25	ACCESS ROAD DETAIL MAP
RSS-H600-040	RESIDENTIAL SITE SPECIFIC
P-W-H600-1204-02	CATHODIC PROTECTION STANDARD DRAWING

HORIZONTAL STATIONING

- 3578+60 MATCH LINE
- 3582+78 ACCESS RD -PERMANENT(MVP-BR-087)
- 3586+66 FENCE - BARBED WIRE
- 3586+90 PROPERTY LINE
- 3589+34 PROPERTY LINE
- 3589+49 FENCE - BARBED WIRE
- 3592+17 ℄ TRAIL(DIRT)
- 3594+05 ℄ TRAIL(DIRT)
- 3595+66 PROPERTY LINE
- 3598+81 ℄ TRAIL(DIRT)
- 3598+99 PROPERTY LINE
- 3600+02 FENCE - BARBED WIRE
- 3602+37 ℄ TRAIL(DIRT)
- 3603+00 ℄ TRAIL(DIRT)
- 3603+70 ℄ TRAIL(DIRT)
- 3605+25 PROPERTY LINE
- 3607+53 FENCE - BARBED WIRE
- 3607+59 DEER BLIND 10'RT
- 3619+02 PROPOSED TYPE 5 TEST STATION
- 3623+19 MATCH LINE

WORK SPACE

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)



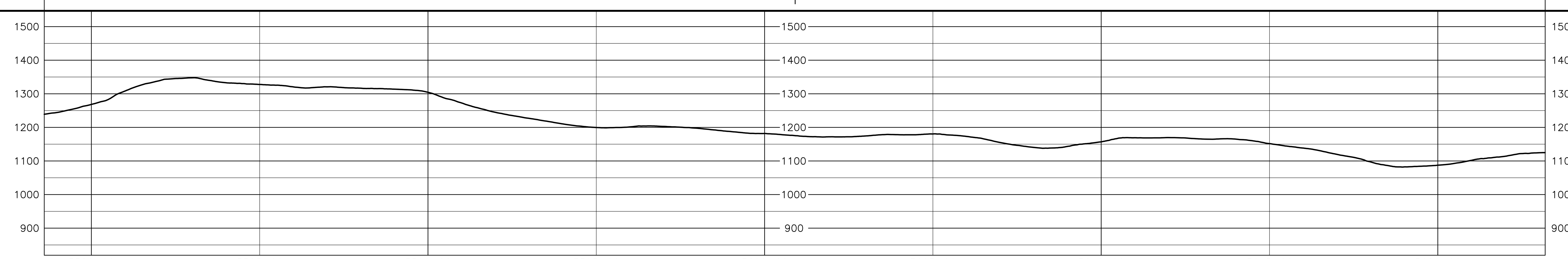
CONSTRUCTION METHOD

1

CONSTRUCTION METHOD KEY

1 - TYPICAL R/W WORKING SIDE RIGHT
1.1 - TYPICAL R/W WORKING SIDE LEFT
2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
3 - TYPICAL WETLAND X-ING
4 - ROAD X-ING - BORE
5 - RAILROAD X-ING - BORE
6 - WATERBODY X-ING OPEN CUT - FLUME
7 - PARALLEL TO POWER LINE
8 - RIDGE CONSTRUCTION
10 - HDD ENTRY PLAN
11 - HDD EXIT PLAN
12 - HDD CONSTRUCTION
13 - PARALLEL TO POWER LINE
14 - PARALLEL TO POWER LINE
15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
33 - SIDE HILL CONSTRUCTION
34 - 2-TONE SIDE HILL CONSTRUCTION
53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



ISSUED FOR CONSTRUCTION

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

HOLLAND ENGINEERING

220 Hoover Boulevard, Suite 2
Holland, Michigan 49423-3766
T 616-392-5938 F 616-392-2116

26555 Evergreen Rd. Suite. 430
Southfield, Michigan 48076
T 248-827-7322 F 248-827-7549

www.hollandengineering.com

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.13 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-13-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	4513	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
	1	TYPE 5 TEST STATION - METAL IR DROP TEST STATION

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17
7	JJS	04-13-18

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17
7	JJS	04-13-18

Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE SALT LICK DIST., BRAXTON CO.,W.V. STA. 3578+60 TO STA. 3623+19

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:	.
AFE/P.O.NO.:	
HEI PROJECT NO.: 14-10-052	
DRAWING NO.: PA-BRWV-H600-03	
SHEET 75 OF 329	REV. 7
DATE OF PLOT: 04/18/18 12:03 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Parcel	Length
3623+19 – 3632+01	WV-BR-002.12	882 LF / 910 SLOPE
3632+01 – 3633+59	WV-BR-002.12.01 / WV-BR-002.12	158 LF / 179 SLOPE
3633+59 – 3633+89	COUNTY ROUTE 5/5	30 LF - 31 SLOPE
3633+89 – 3635+12	WV-BR-002.13	123 LF / 124 SLOPE
3635+12 – 3635+71	WV-BR-007 / WV-BR-002.13	59 LF / 59 SLOPE
3635+71 – 3659+16	WV-BR-007	2345 LF / 2443 SLOPE
3659+16 – 3660+80	WV-BR-008 / WV-BR-007	164 LF / 166 SLOPE
3660+80 – 3676+90	WV-BR-008	1610 LF / 1622 SLOPE
3676+90 – 3678+05	WV-BR-008 / WV-BR-009	115 LF / 119 SLOPE

DESIGN

Stations	PIPE / COATING	SLOPE DISTANCE
3623+19 – 3625+98	1	290'
3625+98 – 3626+03	7	5'
3626+03 – 3626+74	1	82'
3626+74 – 3633+34	2	680'
3633+34 – 3634+14	4	80'
3634+14 – 3634+54	2	40'
3634+54 – 3634+94	4	40'
3634+94 – 3636+27	2	140'
3636+27 – 3636+67	4	40'
3636+67 – 3642+81	2	640'
3642+81 – 3644+03	1	122'
3644+03 – 3644+43	2	40'
3644+43 – 3659+99	1	1622'
3659+99 – 3660+39	2	40'
3660+39 – 3678+05	1	1792'

CLASS LOCATION / HCA: 1

ENVIRONMENTAL

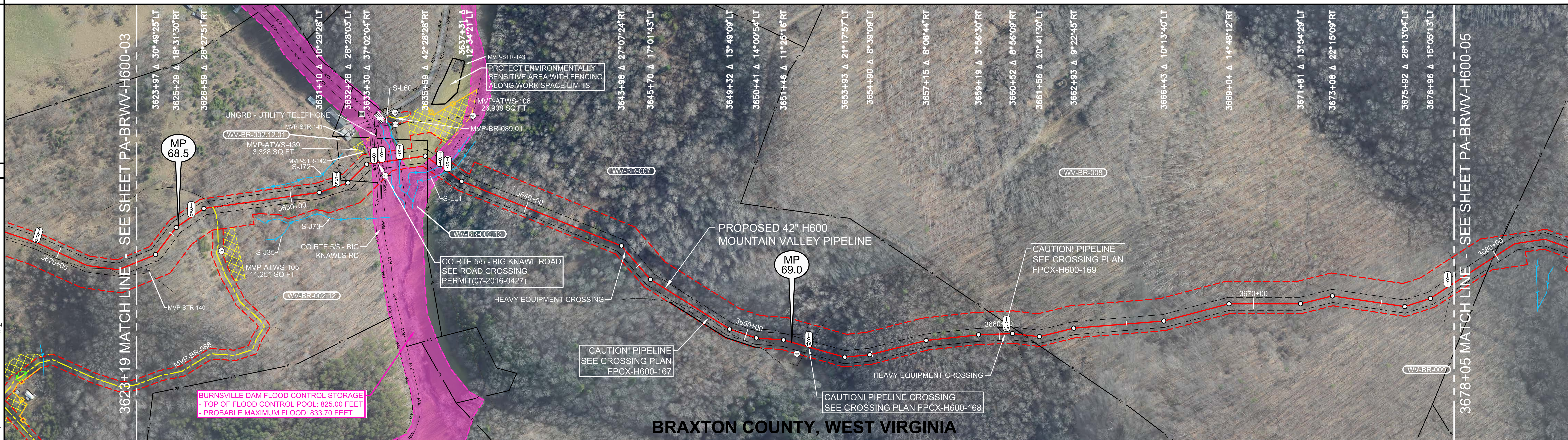
CONSTRUCTION EXCLUSION:
- 3623+19: TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31. SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAMS S-L60 & S-LL1 APRIL 1ST TO JUNE 30TH
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31. SEE TREE CLEARING PLAN FOR FURTHER DETAILS (to 3678+05)

WETLAND / STREAM:

S-L60	S-LL1
31 LF	36 LF

PLAN VIEW

0' 100' 200' 400'



LEGEND

- STUDY CORRIDOR
- PROPOSED 42" PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL / PROPOSED TEST STATION
- MAILBOX / LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN / TOWER LEG
- TREE / GUY ANCHOR
- TANK / GAS VALVE
- WELL - GAS/OIL/WATER/MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-04	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-25	ACCESS ROAD DETAIL MAP
FPCX-H600-167	FOREIGN PIPELINE X-ING PLAN
FPCX-H600-168	FOREIGN PIPELINE X-ING PLAN
FPCX-H600-169	FOREIGN PIPELINE X-ING PLAN
07-2016-0427	ROAD CROSSING PERMIT
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING
P-W-H600-1204-02	CATHODIC PROTECTION STANDARD DRAWING

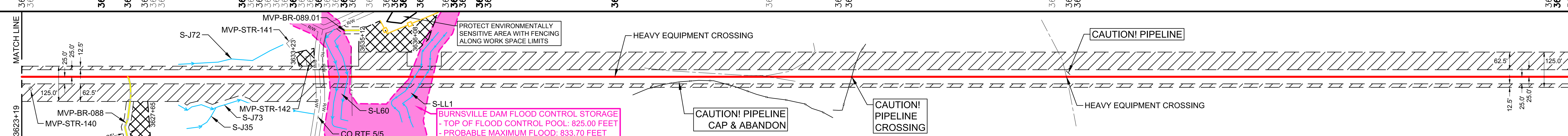
HORIZONTAL STATIONING

- 3623+19 MATCH LINE
- 3623+49 BUILDING - SHED 35'RT
- **3626+01 PROPOSED TYPE 6 TEST STATION**
- **3626+94 ACCESS RD - TEMPORARY(MVP-BR-088)**
- 3627+04 ℄ FIELD ROAD(DIRT)
- 3627+27 WELL - OIL 172'RT
- 3628+12 ℄ FIELD ROAD(DIRT)
- 3628+12 ℄ FIELD ROAD(DIRT)
- **3631+80 PROPOSED TYPE 5 TEST STATION**
- 3632+18 ℄ FIELD ROAD(DIRT)
- 3632+39 PROPERTY LINE
- 3632+96 ℄ FIELD ROAD(DIRT)
- 3633+30 BUILDING - SHED 114'LT
- 3633+44 BUILDING - BARN 42'LT
- **3633+59 PROPOSED TYPE 1 TEST STATION,R/W**
- 3633+61 CULVERT OPEN END 72'LT
- 3633+68 EDGE OF ASPHALT
- **3633+74 ℄ CO RTE 5/5 - BIG KNAWLS ROAD**
- 3633+80 EDGE OF ASPHALT
- 3633+84 CULVERT OPEN END 73'LT
- **3633+89 PROPOSED TYPE 1 TEST STATION,R/W**
- 3633+91 UNGRD UTILITY - TELEPHONE
- GUY ANCHOR 71'RT
- TELEPHONE POLE 54'RT
- 3633+96 PEDESTAL - TELEPHONE 55'RT
- 3634+12 OHT LINE
- 3634+29 STREAM BANK(S-L60)
- **3635+40 BEGIN PROPOSED 2 RIVER WEIGHTS AT 10 SPACING - STREAM**
- 3634+60 STREAM BANK(S-L60)
- **3634+60 PROPOSED TYPE 1 TEST STATION**
- OHP LINE
- 3635+71 PROPERTY LINE
- **3635+93 PROPOSED RIVER WEIGHT - STREAM**
- 3636+29 STREAM BANK(S-LL1), PROPOSED TYPE 1 TEST STATION
- **3636+49 PROPOSED RIVER WEIGHT - STREAM**
- 3636+65 STREAM BANK(S-LL1), PROPOSED TYPE 1 TEST STATION
- **3644+23 HEAVY EQUIPMENT CROSSING**
- 3649+66 ℄ TRAIL(DIRT)
- 3652+11 WELL - UNKNOWN 38'RT
- 3652+48 PIPELINE - FOREIGN - ABANDONED, **PROPOSED TYPE 4A TEST STATION**
- 3660+19 ℄ TRAIL(DIRT), **HEAVY EQUIPMENT CROSSING**
- 3660+23 PROPERTY LINE
- 3660+28 PIPELINE - FOREIGN-UNKNOWN 10'LT, **PROPOSED TYPE 4A TEST STATION**
- 3677+57 PROPERTY LINE
- **3677+76 PROPOSED TYPE 1 TEST STATION**
- 3678+05 MATCH LINE

ISSUED FOR CONSTRUCTION

WORK SPACE

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD
- TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)



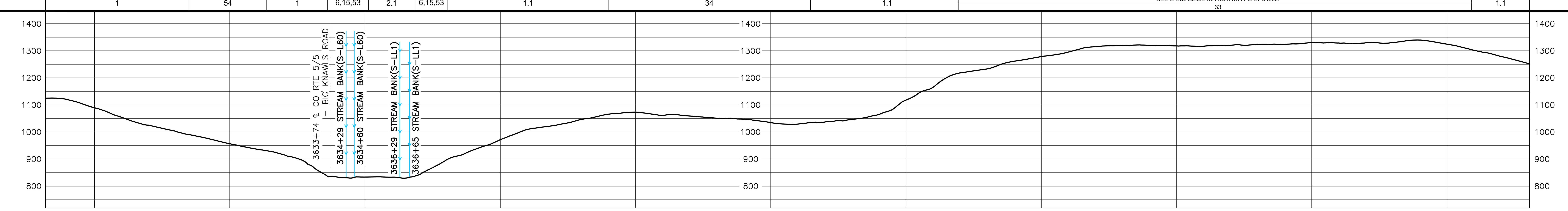
CONSTRUCTION METHOD

1	54	1	6,15,53	2.1	6,15,53	1.1	34	1.1	SEE LAND SLIDE MITIGATION PLAN DWG# 33	1.1

CONSTRUCTION METHOD KEY

- 1 - TYPICAL R/W WORKING SIDE RIGHT
- 1.1 - TYPICAL R/W WORKING SIDE LEFT
- 2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
- 2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
- 3 - TYPICAL WETLAND X-ING
- 4 - ROAD X-ING - BORE
- 5 - RAILROAD X-ING - BORE
- 6 - WATERBODY X-ING OPEN CUT - FLUME
- 7 - PARALLEL TO POWER LINE
- 8 - RIDGE CONSTRUCTION
- 10 - HDD ENTRY PLAN
- 11 - HDD EXIT PLAN
- 12 - HDD CONSTRUCTION
- 13 - PARALLEL TO POWER LINE
- 14 - PARALLEL TO POWER LINE
- 15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
- 33 - SIDE HILL CONSTRUCTION
- 34 - 2-TONE SIDE HILL CONSTRUCTION
- 53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
- 54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	3908	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	1580	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
4	160	42"O.D. X 0.740"W.T., X-70, FBE & ARO
7	5	ANSI 600 MONLITHIC ISULATING JOINT
	6	TYPE 1 TEST STATION - PIPELINE
	2	TYPE 4A TEST STATION - SINGLE LINE FOREIGN XING
	1	TYPE 5 TEST STATION - METAL IR DROP TEST STATION
	1	TYPE 6 TEST STATION - ISO. JOINT - BELOW GRADE
	4	RIVER WEIGHTS

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.13 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-13-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17
7	JJS	04-13-18

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17
7	JJS	04-13-18

HOLLAND ENGINEERING
220 Hoover Boulevard, Suite 2, Holland, Michigan 49423-3766, T 616-392-5938 F 616-392-2116
26555 Evergreen Rd. Suite 430, Southfield, Michigan 48076, T 248-827-7322 F 248-827-7549
www.hollandengineering.com

Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE SALT LICK DIST., BRAXTON CO.,W.V. STA. 3623+19 TO STA. 3678+05

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:.	.
AFE/P.O.NO.:	
HEI PROJECT NO.: 14-10-052	
DRAWING NO.: PA-BRWV-H600-04	
SHEET 76 OF 329	REV. 7
DATE OF PLOT: 04/18/18 12:04 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station range	Ownership	Length
3678+05 – 3679+29	WV-BR-008 / WV-BR-009	124 LF, 129 SLOPE
3679+29 – 3709+93	WV-BR-009	3064 LF, 3178 SLOPE
3709+93 – 3710+71	WV-BR-009 / WV-BR-009.01	78 LF, 83 SLOPE
3710+71 – 3719+78	WV-BR-009.01	907 LF, 928 SLOPE
3719+78 – 3720+41	WV-BR-013 / WV-BR-009.01	63 LF, 64 SLOPE
3720+41 – 3720+80	WV-BR-013	39 LF, 40 SLOPE
3720+80 – 3721+50	WV-BR-013 / WV-BR-014	70 LF, 76 SLOPE
3721+50 – 3736+28	WV-BR-014	1478 LF, 1498 SLOPE

DESIGN

Item	3678+05 – 3703+87	3703+87 – 3705+07	3705+07 – 3705+47	3705+47 – 3707+01	3707+01 – 3736+28
PIPE / COATING	1	2	4	2	1
SLOPE DISTANCE	2645'	120'	40'	160'	3031'
CLASS LOCATION / HCA	1				

ENVIRONMENTAL

CONSTRUCTION EXCLUSION:
- 3678+05 – : TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31. SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-QR30 APRIL 1ST TO JUNE 30TH
- – 3736+28: TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31. SEE TREE CLEARING PLAN FOR FURTHER DETAILS

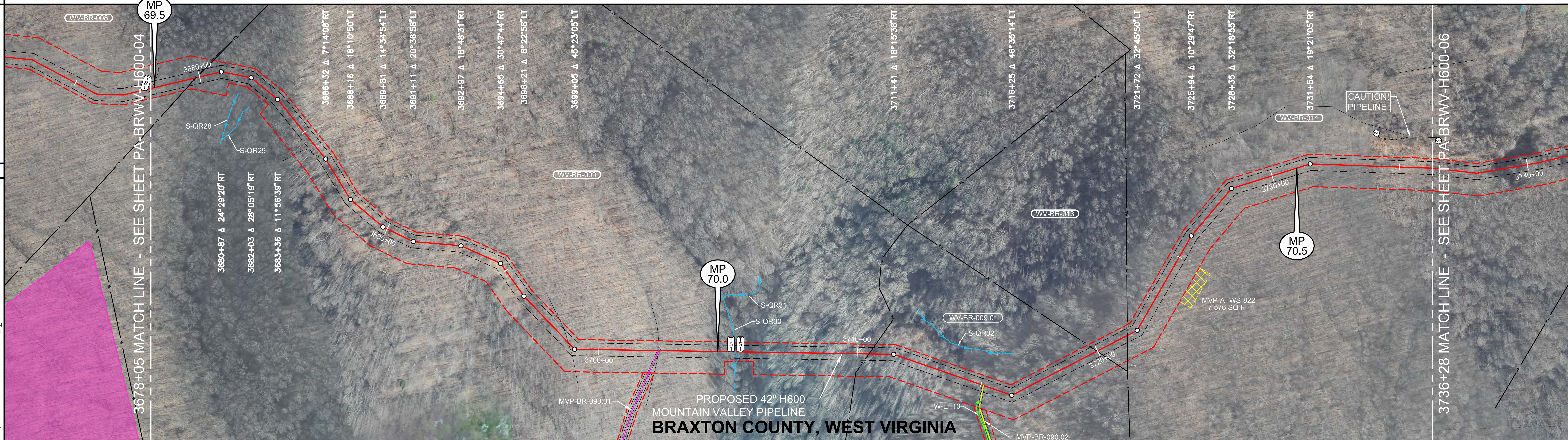
WETLAND / STREAM:

S-QR30	W-EF10
7 LF	19 LF

.

.

PLAN VIEW



0' 100' 200' 400'

LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL / PROPOSED TEST STATION
- MAILBOX / LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN / TOWER LEG
- TREE / GUY ANCHOR
- TANK / GAS VALVE
- WELL - GAS/OIL/WATER/ MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

ISSUED FOR CONSTRUCTION

REFERENCE DRAWINGS

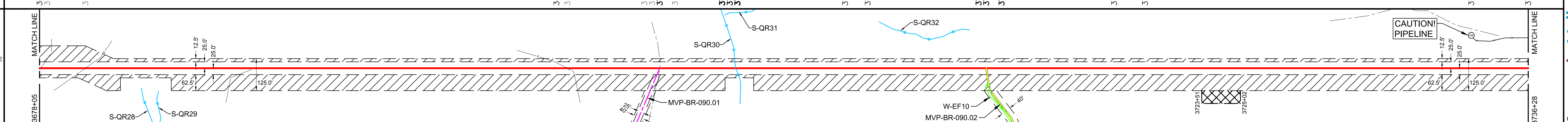
DRAWING NO.	DESCRIPTION
MVP-AR-H600-04	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-26	ACCESS ROAD DETAIL MAP
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

HORIZONTAL STATIONING

- 3678+05 MATCH LINE
- 3678+09 ℄ TRAIL(DIRT)
- 3679+84 FENCE – BARBED WIRE
- 3698+27 PROPERTY CORNER 25'LT
- 3698+70 FENCE – HOG WIRE
- 3702+25 EDGE OF DIRT
- 3702+30 ℄ TRAIL(DIRT)
- 3702+31 ACCESS ROAD – PERMANENT (MVP–BR–090.02)
- 3702+36 EDGE OF DIRT
- 3705+11 PROPOSED TYPE 1 TEST STATION
- 3705+27 ℄ STREAM(S–QR30)
- 3705+47 PROPOSED TYPE 1 TEST STATION
- 3709+56 PROPERTY CORNER 22'LT
- 3710+45 PROPERTY LINE
- 3715+03 BEGIN WETLANDS(W–EF10)74'RT
- 3715+08 ACCESS ROAD – TEMPORARY (MVP–BR–090.02)
- 3715+22 END WETLANDS(W–EF10)87'RT
- 3719+97 PROPERTY LINE
- 3721+29 PROPERTY LINE
- 3734+05 WELL – GAS 128'LT
- 3736+28 MATCH LINE

WORK SPACE

Legend: PROPOSED PIPELINE; EXISTING PIPELINE; ACCESS ROAD TEMPORARY WORK SPACE; PERMANENT EASEMENT; TEMPORARY WORK SPACE(TWS); ADD. TEMPORARY WORK SPACE(ATWS)



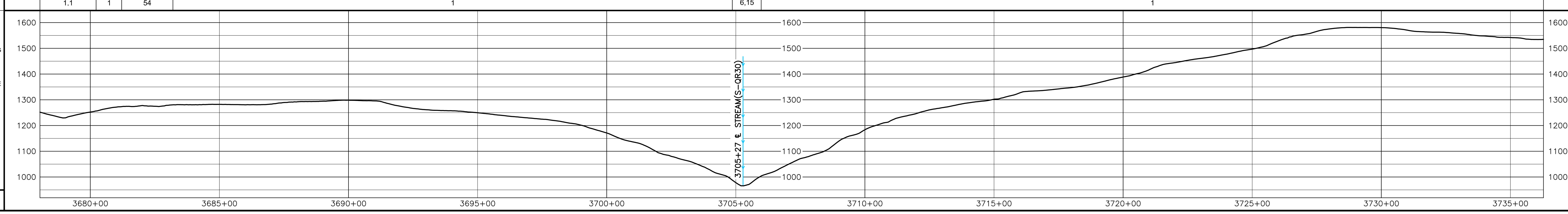
CONSTRUCTION METHOD

1.1	1	54	1	6,15	1

CONSTRUCTION METHOD KEY

- 1 - TYPICAL R/W WORKING SIDE RIGHT
- 1.1 - TYPICAL R/W WORKING SIDE LEFT
- 2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
- 2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
- 3 - TYPICAL WETLAND X-ING
- 4 - ROAD X-ING - BORE
- 5 - RAILROAD X-ING - BORE
- 6 - WATERBODY X-ING OPEN CUT - FLUME
- 7 - PARALLEL TO POWER LINE
- 8 - RIDGE CONSTRUCTION
- 10 - HDD ENTRY PLAN
- 11 - HDD EXIT PLAN
- 12 - HDD CONSTRUCTION
- 13 - PARALLEL TO POWER LINE
- 14 - PARALLEL TO POWER LINE
- 15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
- 33 - SIDE HILL CONSTRUCTION
- 34 - 2-TONE SIDE HILL CONSTRUCTION
- 53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
- 54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



HOLLAND ENGINEERING

220 Hoover Boulevard, Suite 2, Holland, Michigan 49423-3766, T 616-392-5938 F 616-392-2116
26555 Evergreen Rd. Suite 430, Southfield, Michigan 48076, T 248-827-7322 F 248-827-7549
www.hollandengineering.com

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.13 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-13-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5676	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	280	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
4	40	42"O.D. X 0.740"W.T., X-70, FBE & ARO
	2	TYPE 1 TEST STATION - PIPELINE

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17
7	JJS	04-13-18

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17
7	JJS	04-13-18

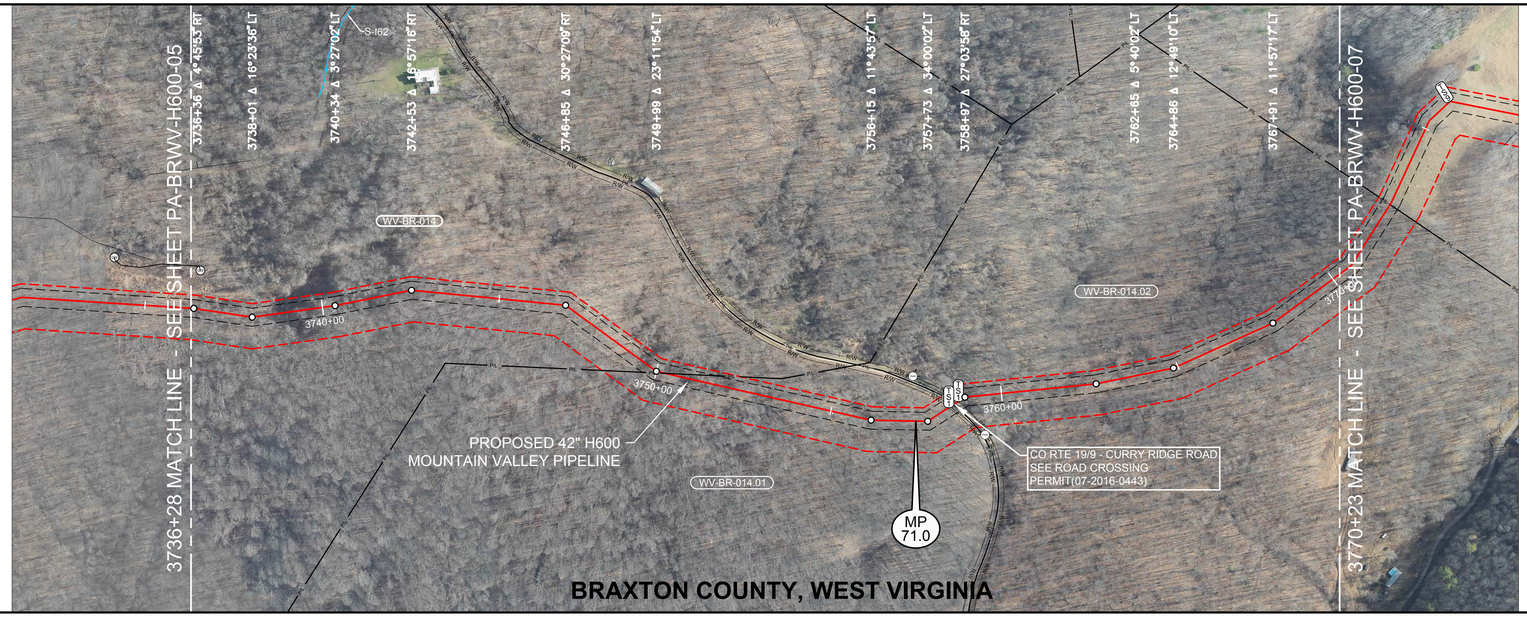
Mountain Valley PIPELINE

PIPELINE ALIGNMENT
MOUNTAIN VALLEY PROJECT - H600 LINE SALT LICK DIST., BRAXTON CO.,W.V. STA. 3678+05 TO STA. 3736+28

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:.	.
AFE/P.O.NO.:	
HEI PROJECT NO.: 14-10-052	
DRAWING NO.: PA-BRWV-H600 -05	
SHEET 77 OF 329	REV. 7
DATE OF PLOT: 04/18/18 12:04 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

		3736+28	WV-BR-014 1247 LF 1265 SLOPE	WV-BR-014 / WV-BR-014.01 358 LF 361 SLOPE 3748+75 – 3752+33	WV-BR-014.01 595 LF 606 SLOPE	COUNTY ROUTE 19/9 / WV-BR-014.01 16 LF 18 SLOPE 3758+28 – 3758+44	WV-BR-014.02 / COUNTY ROUTE 19/9 / WV-BR-014.01 78 LF 80 SLOPE 3758+41 – 3758+61	WV-BR-014.02 / COUNTY ROUTE 19/9 18 LF 19 SLOPE 3759+22 – 3759+40	WV-BR-014.02 1083 LF 1097 SLOPE	3770+23
DESIGN	PIPE / COATING	3736+28	1				4		1	3770+23
	SLOPE DISTANCE		2248'				40'		1158'	
	CLASS LOCATION / HCA		1							
ENVIRONMENTAL	CONSTRUCTION EXCLUSION	3736+28	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS							3770+23
	WETLAND / STREAM									
	.									
	.									



0' 100' 200' 400'

PLAN VIEW

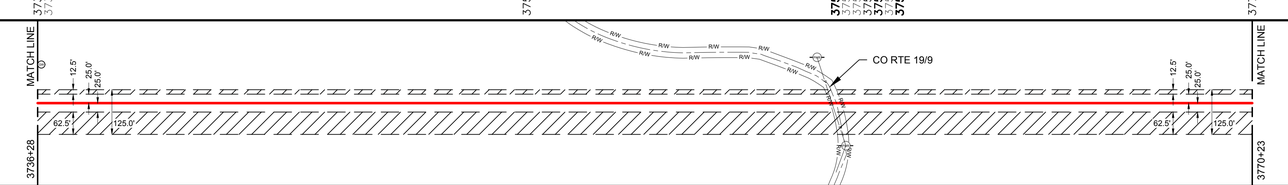
LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL
- PROPOSED TEST STATION
- MAILBOX
- LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN
- TOWER LEG
- TREE
- GUY ANCHOR
- TANK
- GAS VALVE
- WELL - GAS/OIL/WATER/ MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

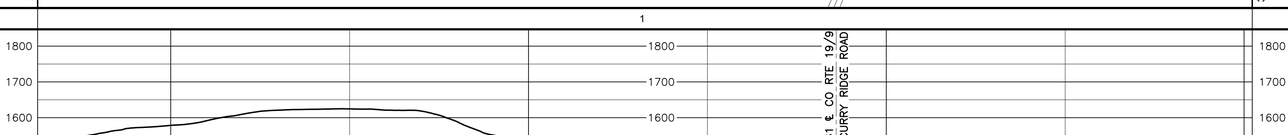
DRAWING NO.	DESCRIPTION
MVP-AR-H600-04	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
07-2016-0443	ROAD CROSSING PERMIT
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

HORIZONTAL STATIONING



WORK SPACE

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)

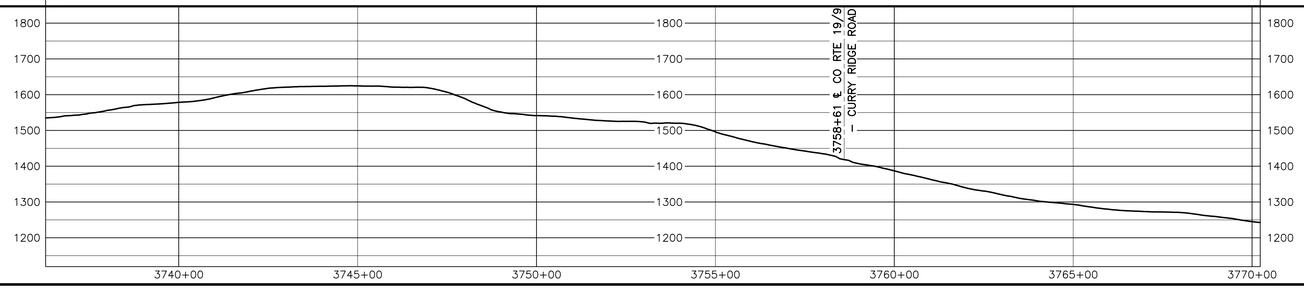


CONSTRUCTION METHOD

CONSTRUCTION METHOD KEY

1 - TYPICAL R/W WORKING SIDE RIGHT
1.1 - TYPICAL R/W WORKING SIDE LEFT
2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
3 - TYPICAL WETLAND X-ING
4 - ROAD X-ING - BORE
5 - RAILROAD X-ING - BORE
6 - WATERBODY X-ING OPEN CUT - FLUME
7 - PARALLEL TO POWER LINE
8 - RIDGE CONSTRUCTION
10 - HDD ENTRY PLAN
11 - HDD EXIT PLAN
12 - HDD CONSTRUCTION
13 - PARALLEL TO POWER LINE
14 - PARALLEL TO POWER LINE
15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
33 - SIDE HILL CONSTRUCTION
34 - 2-TONE SIDE HILL CONSTRUCTION
53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



ISSUED FOR CONSTRUCTION

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-14-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.0 ISSUED TO FERC
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-13-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	3486	42"O.D. X 0.617"W.T. X70 FBE BONDED EPOXY
4	40	42"O.D. X 0.740"W.T. X70 FBE & ARO
2	1	TYPE 1 TEST STATION - PIPELINE

APPROVED FOR CONSTRUCTION			APPROVED FOR BIDDING			APPROVED FOR FERC		
REV.	BY	DATE	REV.	BY	DATE	REV.	BY	DATE
6	JJS	11-27-17	3	RRR	09-03-16	0	RRR	10-15-15
7	JJS	04-13-18				4	RRR	10-14-16
						6	JJS	11-27-17
						7	JJS	04-13-18

HOLLAND ENGINEERING
220 Hoover Boulevard, Suite 2 | 26555 Evergreen Rd, Suite 430
Holland, Michigan 49423-3786 | Southfield, Michigan 48076
T 616.546.0600 F 616.546.0601 | T 248.557.7020 F 248.557.7049
www.hollandengineering.com

Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
SALT LICK DIST., BRAXTON CO.,W.V.
STA. 3736+28 TO STA. 3770+23

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK.	.
AFE/P.O.NO.:	
HEI PROJECT NO.:	14-10-052
DRAWING NO.:	**PA-BRWV-H600 -06**
SHEET 78 OF 329	REV. 7
DATE OF PLOT:	04/18/18 12:05 PM

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Parcel	Length
3770+23 – 3772+65	WV-BR-014.02	242 LF / 247 SLOPE
3772+65 – 3791+03	WV-BR-014.03	1838 LF / 1870 SLOPE
3791+03 – 3791+35	CO RTE 19/6	32 LF - 36 SLOPE
3791+35 – 3791+64	WV-BR-014.03	29 LF / 29 SLOPE
3791+64 – 3806+55	WV-BR-020	1491 LF / 1545 SLOPE
3806+55 – 3809+36	WV-BR-0419 / WV-BR-020	281 LF / 282 SLOPE
3809+36 – 3821+22	WV-BR-020	1186 LF / 1218 SLOPE
3821+22 – 3822+90	WV-BR-020.02 / WV-BR-020	168 LF / 174 SLOPE
3822+90 – 3824+49	WV-BR-020.02	159 LF / 163 SLOPE
3824+49 – 3825+20	WV-BR-020.02 / WV-BR-024	71 LF / 75 SLOPE
3825+20 – 3825+85	WV-BR-024	65 LF / 69 SLOPE

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
3770+23 – 3789+07	1	1917'
3789+07 – 3791+04	2	200'
3791+04 – 3791+84	4	80'
3791+84 – 3793+77	2	200'
3793+77 – 3825+85	1	3311'

CLASS LOCATION / HCA: 1

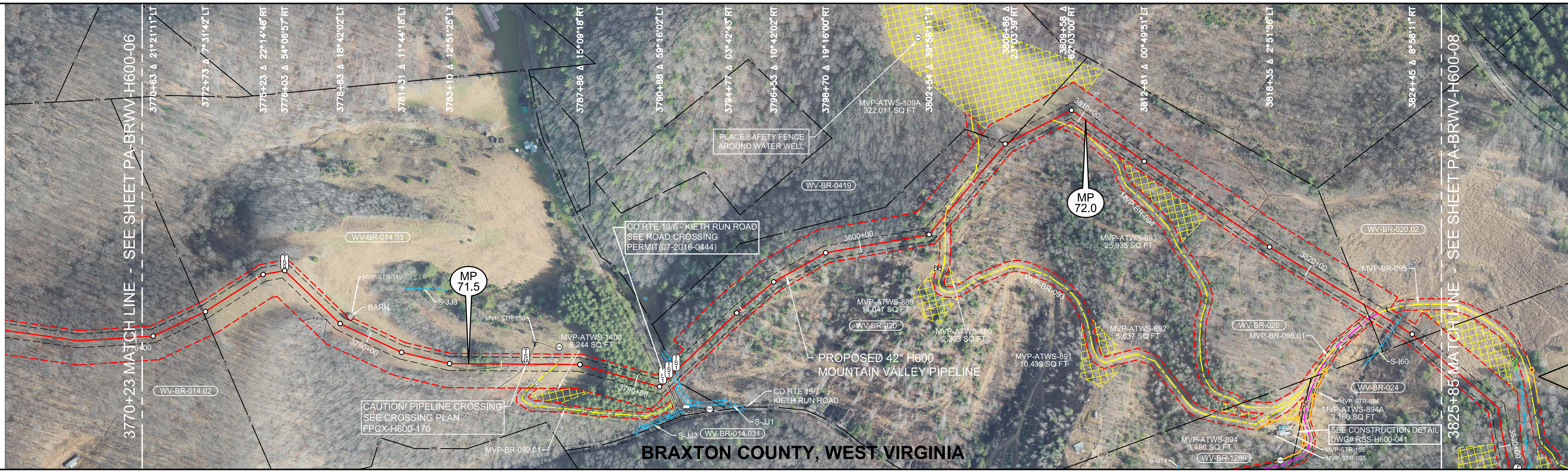
ENVIRONMENTAL

CONSTRUCTION EXCLUSION:
- 3770+23: TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-JJ1 APRIL 1ST TO JUNE 30TH
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-I60 APRIL 1ST TO JUNE 30TH
- 3825+85

WETLAND / STREAM:
- S-JJ1 — 16 LF
- S-I60 — 4 LF

PLAN VIEW

0' 100' 200' 400'



LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL / PROPOSED TEST STATION
- MAILBOX / LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN / TOWER LEG
- TREE / GUY ANCHOR
- TANK / GAS VALVE
- WELL - GAS/OIL/WATER/ MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
RSS-H600-041	RESIDENTIAL SITE SPECIFIC
MVP-AR-H600-04	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-25	ACCESS ROAD DETAIL MAP
FPCX-H600-170	FOREIGN PIPELINE X-ING PLAN
07-2016-0444	ROAD CROSSING PERMIT
CD-ATWS-H600-002	CONSTRUCTION DETAILS ATWS SITE SPECIFIC
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING
P-W-H600-1204-02	CATHODIC PROTECTION STANDARD DRAWING

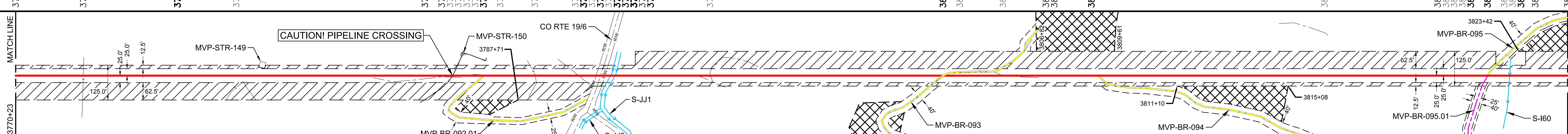
HORIZONTAL STATIONING

- 3770+23 MATCH LINE
- 3772+65 PROPERTY LINE,FENCE – BARBED WIRE
- **3776+03 PROPOSED TYPE 9 TEST STATION**
- 3779+14 BUILDING – BARN 26'LT
- 3785+89 PIPELINE–FOREIGN–JC BAKER & SONS,
- **3786+20 PROPOSED TYPE 4A TEST STATION**
- 3786+22 VALVE – GAS 68'LT
- 3786+28 GATE POST 61'RT
- 3786+29 BUILDING – METERING FACILITY 72'LT
- 3786+46 GATE POST 69'RT
- 3786+46 ℄ FIELD ROAD(DIRT)
- **3787+00 ACCESS ROAD – TEMPORARY (MVP–BR–092.01)**
- 3787+10 WELL – GAS 64'LT
- 3788+85 FENCE – BARBED WIRE
- 3790+41 OHP LINE
- **3791+03 PROPOSED TYPE 1 TEST STATION,R/W**
- 3791+14 EDGE OF GRAVEL
- **3791+19 ℄ CO RTE 19/6 – KIETH RUN ROAD**
- 3791+24 EDGE OF GRAVEL
- **3791+34 PROPOSED TYPE 1 TEST STATION,R/W**
- **3791+55 STREAM BANK(S–JJ1)**
- **3791+58 PROPOSED RIVER WEIGHTS – STREAM**
- 3791+64 PROPERTY LINE
- **3791+71 STREAM BANK(S–JJ1), PROPOSED TYPE 1 TEST STATION**
- 3795+12 ℄ FIELD ROAD(DIRT)
- **3803+47 ℄ ACCESS ROAD – TEMPORARY (MVP–BR–093)**
- 3803+50 ℄ FIELD ROAD(DIRT)
- 3805+62 ℄ FIELD ROAD(DIRT)
- 3806+87 PROPERTY LINE
- 3807+06 PROPERTY LINE
- **3808+79 ℄ ACCESS ROAD – TEMPORARY (MVP–BR–094)**
- 3817+14 ℄ FIELD ROAD(DIRT)
- 3822+40 PROPERTY LINE
- 3822+55 CULVERT OPEN END 67'RT
- 3822+75 CULVERT OPEN END 73'RT
- 3822+99 ℄ TRAIL(DIRT)
- **3822+99 ACCESS ROAD – PERMANENT (MVP–BR–095.01)**
- **3822+99 ACCESS ROAD – TEMPORARY (MVP–BR–095)**
- 3823+13 CULVERT OPEN END 35'LT
- 3823+26 CULVERT OPEN END 22'LT
- **3823+78 ℄ STREAM(S–I60)**
- 3824+70 PROPERTY LINE
- 3825+85 MATCH LINE

ISSUED FOR CONSTRUCTION

WORK SPACE

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)



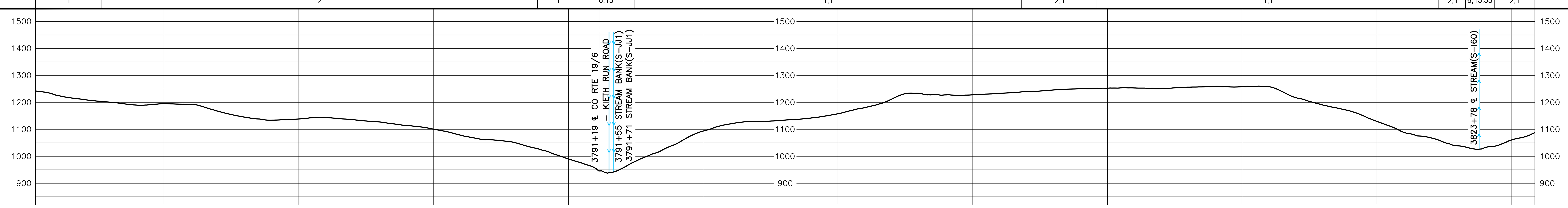
CONSTRUCTION METHOD

3770+23 – 3772+65	– 3789+07	– 3791+04	– 3791+84	– 3806+55	– 3809+36	– 3822+90	– 3823+42	– 3823+91	– 3825+85
1	2	1	6,15	1.1	2.1	1.1	2.1	6,15,53	2.1

CONSTRUCTION METHOD KEY

- 1 - TYPICAL R/W WORKING SIDE RIGHT
- 1.1 - TYPICAL R/W WORKING SIDE LEFT
- 2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
- 2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
- 3 - TYPICAL WETLAND X-ING
- 4 - ROAD X-ING - BORE
- 5 - RAILROAD X-ING - BORE
- 6 - WATERBODY X-ING OPEN CUT - FLUME
- 7 - PARALLEL TO POWER LINE
- 8 - RIDGE CONSTRUCTION
- 10 - HDD ENTRY PLAN
- 11 - HDD EXIT PLAN
- 12 - HDD CONSTRUCTION
- 13 - PARALLEL TO POWER LINE
- 14 - PARALLEL TO POWER LINE
- 15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
- 33 - SIDE HILL CONSTRUCTION
- 34 - 2-TONE SIDE HILL CONSTRUCTION
- 53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
- 54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



HOLLAND ENGINEERING

220 Hoover Boulevard, Suite 2, Holland, Michigan 49423-3766, T 616-392-5938 F 616-392-2116 | 26555 Evergreen Rd. Suite. 430, Southfield, Michigan 48076, T 248-827-7322 F 248-827-7549
www.hollandengineering.com

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.13 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-13-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5228	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	400	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
4	80	42"O.D. X 0.740"W.T., X-70, FBE & ARO
	3	TYPE 1 TEST STATION - PIPELINE
	1	TYPE 4A TEST STATION - SINGLE LINE FOREIGN XING
	1	TYPE 9 TEST STATION - TEST STATION IR COUPON
	1	RIVER WEIGHTS

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17
7	JJS	04-13-18

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17
7	JJS	04-13-18

Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE SALT LICK DIST., BRAXTON CO.,W.V. STA. 3770+23 TO STA. 3825+85

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:	.
AFE/P.O.NO.:	
HEI PROJECT NO.: 14-10-052	
DRAWING NO.: PA-BRWV-H600-07	
SHEET 79 OF 329	REV. 7
DATE OF PLOT: 04/18/18 12:05 PM	

MOUNTAIN VALLEY PROJECT - H600 LINE
PIPELINE ALIGNMENT
SALT LICK DIST., BRAXTON CO.,W.V.
STA. 3825+85 TO STA. 3872+82

RIGHT-OF-WAY & OWNERSHIP DATA

Station range	Tract	Length
3825+85 – 3831+25	WV-BR-024	540 LF, 565 SLOPE
3831+25 – 3831+87	US HWY 19 - ST HWY 4	62 LF - 66 SLOPE
3831+87 – 3863+21	WV-BR-024	3134 LF, 3224 SLOPE
3863+21 – 3864+41	WV-BR-025 / WV-BR-024	120 LF, 120 SLOPE
3864+41 – 3867+12	WV-BR-025	271 LF, 273 SLOPE
3867+12 – 3868+05	WV-BR-025 / WV-BR-026	93 LF, 96 SLOPE
3868+05 – 3872+82	WV-BR-026	477 LF, 480 SLOPE

DESIGN

PIPE / COATING	1	2	5	2	4	2	1
Stations	3825+85 – 3829+25	3829+25 – 3831+16	3831+16 – 3831+96	3831+96 – 3832+63	3832+63 – 3833+03	3833+03 – 3835+75	3835+75 – 3872+82
SLOPE DISTANCE	346'	200'	80'	67'	40'	280'	3811'
CLASS LOCATION / HCA	1						

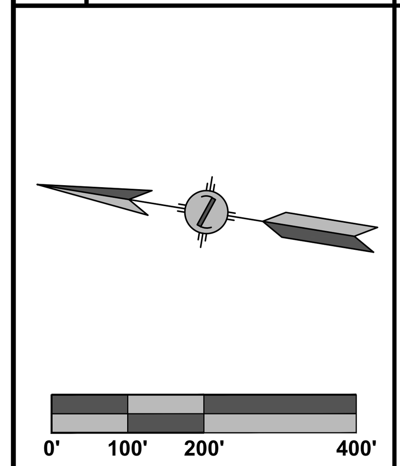
ENVIRONMENTAL

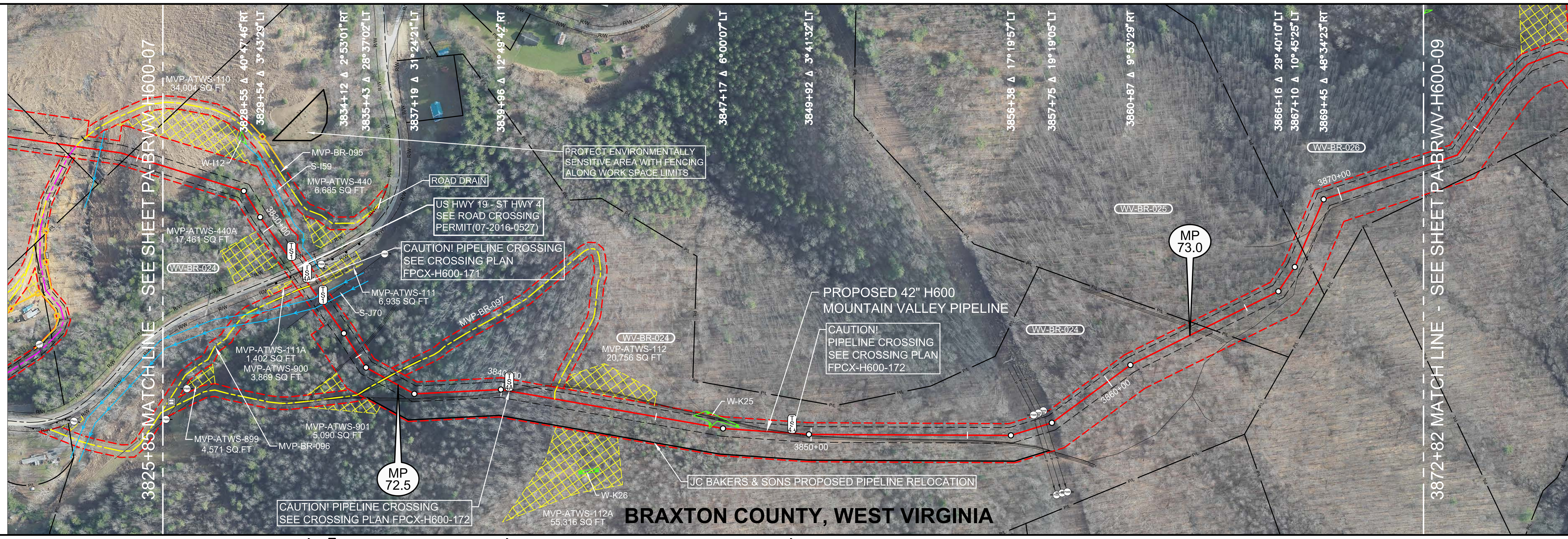
CONSTRUCTION EXCLUSION (3825+85 – 3872+82):
- T.O.Y.R.: SEE TREE CLEARING PLAN
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-J70 APRIL 1ST TO JUNE 30TH
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS

WETLAND / STREAM:

S-J70	W-K25
30 LF	147 LF

PLAN VIEW





LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL / PROPOSED TEST STATION
- MAILBOX / LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN / TOWER LEG
- TREE / GUY ANCHOR
- TANK / GAS VALVE
- WELL - GAS/OIL/WATER/MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

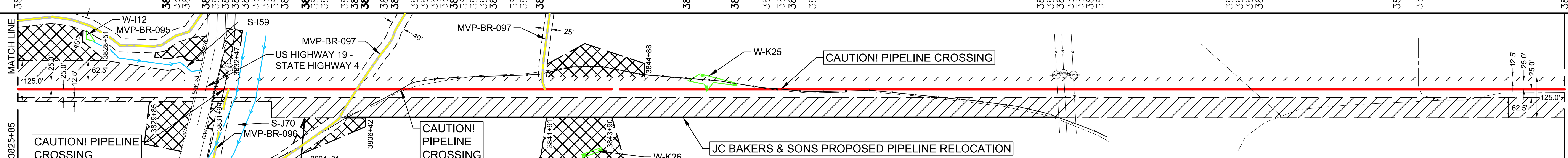
DRAWING NO.	DESCRIPTION
MVP-AR-H600-04	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-25	ACCESS ROAD DETAIL MAP
FPCX-H600-171	FOREIGN PIPELINE X-ING PLAN
FPCX-H600-172	FOREIGN PIPELINE X-ING PLAN
07-2016-0527	ROAD CROSSING PERMIT
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

HORIZONTAL STATIONING

- 3825+85 MATCH LINE
- **3831+25 PROPOSED TYPE 1 TEST STATION,R/W**
- 3831+44 EDGE OF ASPHALT
- 3831+52 CONCRETE 67'LT
- 3831+52 CULVERT OPEN END 70'LT
- **3831+56 ₵ US HIGHWAY 19 – STATE HIGHWAY 4**
- 3831+69 EDGE OF ASPHALT
- 3831+72 GUARDRAIL
- 3831+76 OHP LINE
- 3831+87 RIGHT-OF-WAY
- 3831+91 POWER POLE 71'LT
- 3831+97 CULVERT OPEN END 60'LT
- 3832+08 GUY ANCHOR 70'LT
- 3832+11 PIPELINE-FOREIGN-JC BAKER & SONS 2"
- **3832+13 PROPOSED TYPE 4A TEST STATION**
- **PROPOSED RIVER WEIGHT – FLOODPLAIN**
- 3832+22 EDGE OF DIRT
- 3832+26 ₵ TRAIL(DIRT)
- ACCESS RD – TEMPORARY(MVP-BR-096)
- 3832+29 EDGE OF DIRT
- **3832+68 STREAM BANK(S-J70)**
- **3832+73 BEGIN PROPOSED 3 RIVER WEIGHTS AT 10' SPACING IN STREAM**
- 3832+90 OHP LINE
- **3832+98 STREAM BANK(S-J70), PROPOSED TYPE 1 TEST STATION**
- 3834+85 EDGE OF DIRT
- 3834+89 ₵ TRAIL(DIRT)
- 3834+93 EDGE OF DIRT
- 3836+10 EDGE OF DIRT
- **3836+15 ₵ ACCESS RD-TEMPORARY(MVP-BR-097)**
- 3836+19 EDGE OF DIRT
- 3836+39 ₵ TRAIL(DIRT)
- 3840+21 EDGE OF DIRT
- **3840+23 PIPELINE-FOREIGN-JC BAKER & SONS 4" PROPOSED TYPE 4A TEST STATION**
- 3840+31 ₵ FIELD ROAD(DIRT)
- 3840+42 EDGE OF DIRT
- **3841+71 ₵ ACCESS RD-TEMPORARY(MVP-BR-097)**
- **3846+17 BEGIN WETLAND(W-K25)24'LT**
- **3847+64 END WETALND(W-K25)7'LT**
- 3848+59 EDGE OF DIRT
- 3849+04 ₵ FIELD ROAD(DIRT)
- **3849+38 PIPELINE-FOREIGN-JC BAKER & SONS 4" PROPOSED TYPE 4A TEST STATION**
- 3849+49 EDGE OF DIRT
- **3857+24 OHP LINE**
- 3857+27 POWER POLE 41'LT
- **3857+38 OHP LINE**
- 3857+43 POWER POLE 43'LT
- 3857+57 GUY ANCHOR 46'LT
- **3857+58 OHP LINE**
- 3857+60 POWER POLE 45'LT
- 3863+24 EDGE OF DIRT
- 3863+29 ₵ FIELD ROAD(DIRT)
- 3863+34 EDGE OF DIRT
- **3863+57 PROPERTY LINE**
- **3867+72 PROPERTY LINE**
- 3868+40 ₵ FIELD ROAD(DIRT)
- 3872+82 MATCH LINE

WORK SPACE

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)



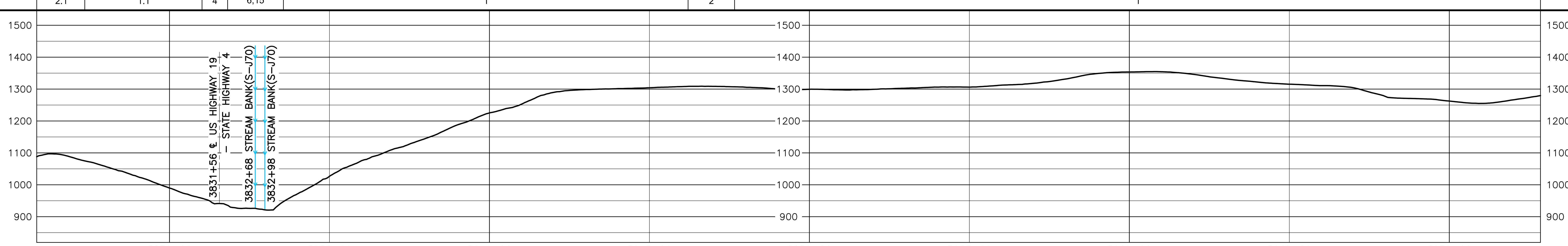
CONSTRUCTION METHOD

2.1	1.1	4	6,15	1	2	1

CONSTRUCTION METHOD KEY

- 1 - TYPICAL R/W WORKING SIDE RIGHT
- 1.1 - TYPICAL R/W WORKING SIDE LEFT
- 2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
- 2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
- 3 - TYPICAL WETLAND X-ING
- 4 - ROAD X-ING - BORE
- 5 - RAILROAD X-ING - BORE
- 6 - WATERBODY X-ING OPEN CUT - FLUME
- 7 - PARALLEL TO POWER LINE
- 8 - RIDGE CONSTRUCTION
- 10 - HDD ENTRY PLAN
- 11 - HDD EXIT PLAN
- 12 - HDD CONSTRUCTION
- 13 - PARALLEL TO POWER LINE
- 14 - PARALLEL TO POWER LINE
- 15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
- 33 - SIDE HILL CONSTRUCTION
- 34 - 2-TONE SIDE HILL CONSTRUCTION
- 53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
- 54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



ISSUED FOR CONSTRUCTION

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	4157	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	547	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
4	40	42"O.D. X 0.740"W.T., X-70, FBE & ARO
5	80	42"O.D. X 0.888"W.T., X-70, FBE & ARO
	2	TYPE 1 TEST STATION - PIPELINE
	3	TYPE 4A TEST STATION - SINGLE LINE FOREIGN XING
	4	RIVER WEIGHTS

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.13 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-13-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17
7	JJS	04-13-18

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17
7	JJS	04-13-18

HOLLAND ENGINEERING
220 Hoover Boulevard, Suite 2
Holland, Michigan 49423-3766
T 616-392-5938 F 616-392-2116
26555 Evergreen Rd. Suite. 430
Southfield, Michigan 48076
T 248-827-7322 F 248-827-7549
www.hollandengineering.com

Mountain Valley PIPELINE

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:	.
AFE/P.O.NO.:	
HEI PROJECT NO.: 14-10-052	
DRAWING NO.: PA-BRWV-H600 -08	
SHEET 80 OF 329	REV. 7
DATE OF PLOT: 04/18/18 12:06 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Parcel	Length
3872+82	WV-BR-026	34 LF / 34 SLOPE
3873+16 – 3874+60	WV-BR-026 / WV-BR-028	144 LF / 146 SLOPE
	WV-BR-026	626 LF / 629 SLOPE
3880+86	WV-BR-031	1675 LF / 1759 SLOPE
3897+61 – 3897+92	COUNTY ROUTE 24	31 LF - 31 SLOPE
	WV-BR-032	802 LF / 816 SLOPE
3905+94	WV-BR-033	766 LF / 800 SLOPE
3913+60	WV-BR-034	645 LF / 674 SLOPE
3920+05 – 3920+67	WV-BR-034 / WV-BR-033	62 LF / 70 SLOPE
	WV-BR-034 / WV-BR-035 / WV-BR-033	23 LF / 26 SLOPE
3920+90 – 3923+58	WV-BR-034 / WV-BR-035	268 LF / 300 SLOPE
	WV-BR-035	73 LF / 74 SLOPE
3924+31		

DESIGN

PIPE / COATING	3872+82	1	3888+41 – 6 – 3888+81	1	3897+37 – 4 – 3898+17	2	3913+38 – 4 – 3913+78	2	3918+30 – 4 – 3918+70	2
SLOPE DISTANCE		1606'	40'	893'	80'	1568'	40'	465'	40'	627'
CLASS LOCATION / HCA		1								

ENVIRONMENTAL

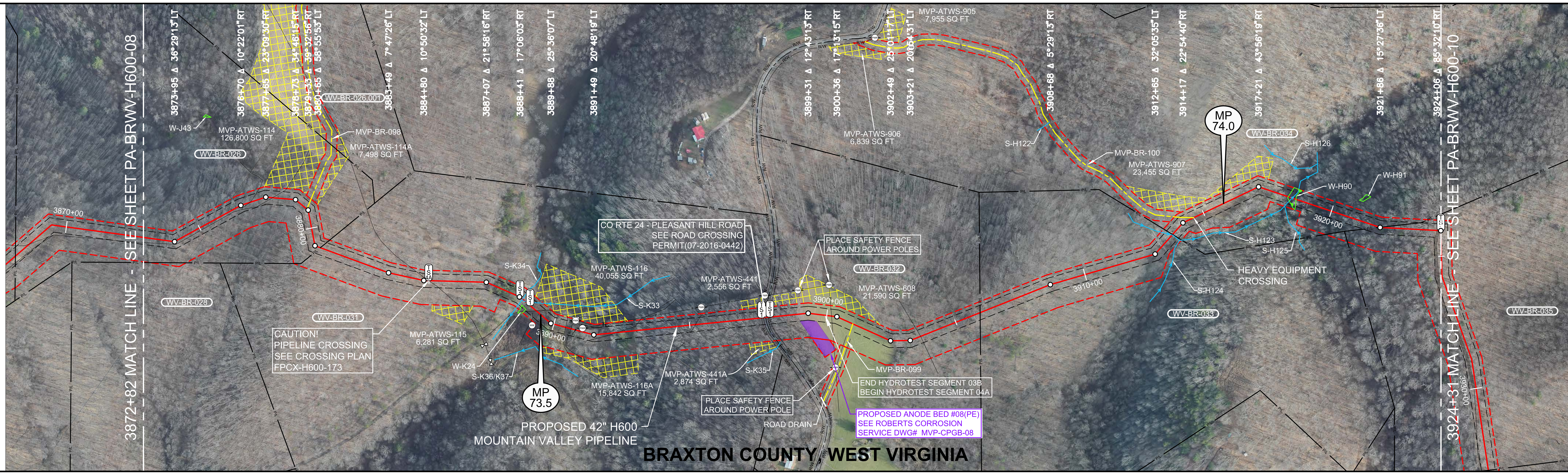
CONSTRUCTION EXCLUSION (3872+82):
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-K34 APRIL 1ST TO JUNE 30TH
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAMS S-H123, S-H124 & S-H123 APRIL 1ST TO JUNE 30TH
- TIME OF YEAR RESTRICTION: SEE TREE CLEARING PLAN (3924+31)

WETLAND / STREAM:

S-K34	S-K33	W-K24	S-H123	S-H124	W-H90	S-H123
5 LF	2 LF	22 LF	6 LF	6 LF	39 LF	6 LF

PLAN VIEW

0' 100' 200' 400'



LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL
- PROPOSED TEST STATION
- MAILBOX
- LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN
- TOWER LEG
- TREE
- GUY ANCHOR
- TANK
- GAS VALVE
- WELL - GAS/OIL/WATER/ MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

ISSUED FOR CONSTRUCTION

REFERENCE DRAWINGS

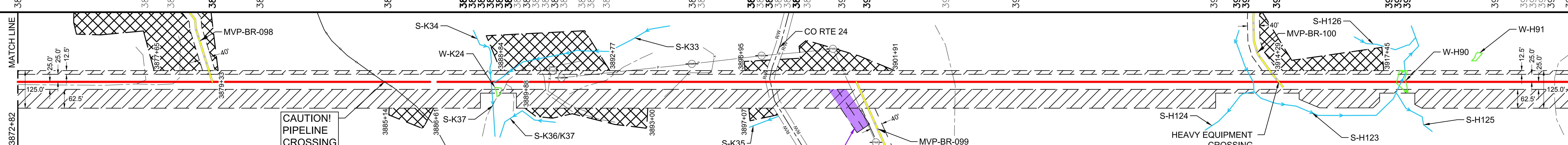
DRAWING NO.	DESCRIPTION
MVP-AR-H600-04	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-27	ACCESS ROAD DETAIL MAP
FPCX-H600-173	FOREIGN PIPELINE X-ING PLAN
07-2016-0442	ROAD CROSSING PERMIT
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING
MVP-CPGB-08	ROBERTS CORROSION SERVICE DRAWING

HORIZONTAL STATIONING

- 3872+82 MATCH LINE
- 3877+03 ℄ FIELD ROAD(DIRT)
- 3877+90 ℄ FIELD ROAD(DIRT)
- **3879+27 ACCESS RD – TEMPORARY(MVP–BR–098)**
- 3880+86 PROPERTY LINE
- 3884+98 PIPELINE–FOREIGN–JC BAKER & SONS **PROPOSED TYPE 4A TEST STATION**
- **3888+41 PROPOSED TYPE 1 TEST STATION**
- **3888+53 ℄ STREAM(S–K34)**
- **3888+65 ℄ STREAM(S–K33)**
- **3888+65 BEGIN WETLAND(W–K24)18'RT**
- **3888+87 END WETLAND(W–K24)21'RT**
- **3888+41 PROPOSED TYPE 1 TEST STATION**
- 3889+19 ℄ TRAIL(DIRT)
- 3889+41 WELL – WATER 50'RT
- 3889+46 BUILDING – SHED 42'RT
- 3890+44 ℄ TRAIL(DIRT)
- 3890+64 FENCE – BARBED WIRE
- 3890+72 POWER POLE 35'LT
- 3890+82 PEDESTAL – TELEPHONE 35'LT
- 3890+82 GUY ANCHOR 3'LT
- 3891+04 POWER POLE 13'LT
- 3892+35 ℄ TRAIL(DIRT)
- 3895+20 FENCE – BARBED WIRE
- 3895+47 POWER POLE 60'LT
- **3897+61 PROPOSED TYPE 1 TEST STATION,R/W**
- 3897+68 EDGE OF ASPHALT
- **3897+76 ℄ CO RTE 24 – PLEASANT HILL RD**
- 3897+81 POWER POLE 80'LT
- 3897+84 EDGE OF ASPHALT
- **3897+91 PROPOSED TYPE 1 TEST STATION,R/W**
- 3899+02 POWER POLE 86'LT
- 3900+17 OHP LINE
- **3901+00 ACCESS RD – TEMPORARY(MVP–BR–099)**
- 3903+62 ℄ TRAIL(DIRT)
- 3905+94 PROPERTY LINE
- 3912+52 PROPERTY CORNER 86'LT
- **3913+58 ℄ STREAM(S–H123)**
- **3913+60 ℄ STREAM(S–H124)33'RT**
- 3913+60 PROPERTY LINE
- **3914+60 ACCESS ROAD – TEMPORARY (MVP–BR–100), HEAVY EQUIPMENT CROSSING**
- **3918+33 BEGIN WETLAND(W–H90)4'RT**
- **3918+49 ℄ STREAM(S–H123)**
- **3918+72 END WETLAND(W–H90)36'RT**
- 3921+84 PROPERTY LINE
- 3923+93 EDGE OF DIRT
- 3923+97 ℄ FIELD ROAD(DIRT)
- 3924+01 EDGE OF DIRT
- 3924+06 PROPERTY CORNER 42'LT, **PROPOSED TYPE 1 TEST STATION**
- 3924+31 MATCH LINE

WORK SPACE

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)



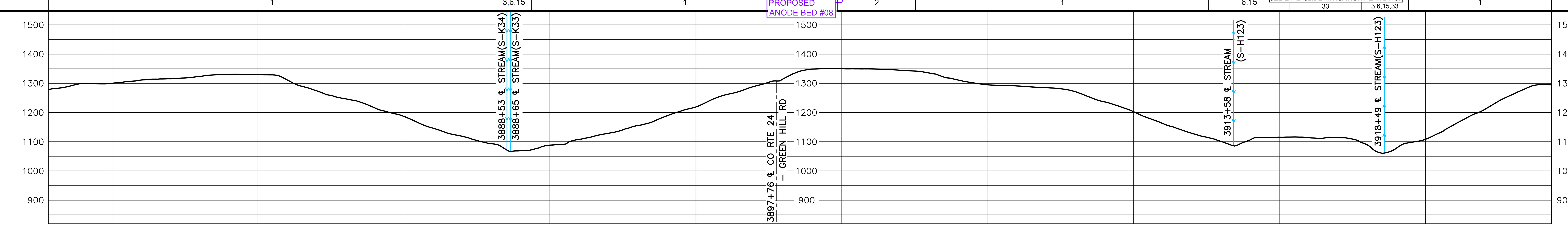
CONSTRUCTION METHOD

1	3,6,15	1	2	1	6,15	SEE LAND SLIDE MITIGATION PLAN DWG# 33	3,6,15,33	1

CONSTRUCTION METHOD KEY

- 1 - TYPICAL R/W WORKING SIDE RIGHT
- 1.1 - TYPICAL R/W WORKING SIDE LEFT
- 2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
- 2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
- 3 - TYPICAL WETLAND X-ING
- 4 - ROAD X-ING - BORE
- 5 - RAILROAD X-ING - BORE
- 6 - WATERBODY X-ING OPEN CUT - FLUME
- 7 - PARALLEL TO POWER LINE
- 8 - RIDGE CONSTRUCTION
- 10 - HDD ENTRY PLAN
- 11 - HDD EXIT PLAN
- 12 - HDD CONSTRUCTION
- 13 - PARALLEL TO POWER LINE
- 14 - PARALLEL TO POWER LINE
- 15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
- 33 - SIDE HILL CONSTRUCTION
- 34 - 2-TONE SIDE HILL CONSTRUCTION
- 53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
- 54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	2499	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	2660	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
4	160	42"O.D. X 0.740"W.T., X-70, FBE & ARO
6	40	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	5	TYPE 1 TEST STATION - PIPELINE
	1	TYPE 4A TEST STATION - SINGLE LINE FOREIGN XING

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.13 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-13-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17
7	JJS	04-13-18

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17
7	JJS	04-13-18

HOLLAND ENGINEERING
220 Hoover Boulevard, Suite 2, Holland, Michigan 49423-3766, T 616-392-5938 F 616-392-2116
26555 Evergreen Rd. Suite 430, Southfield, Michigan 48076, T 248-827-7322 F 248-827-7549
www.hollandengineering.com

Mountain Valley PIPELINE

PIPELINE ALIGNMENT
MOUNTAIN VALLEY PROJECT - H600 LINE SALT LICK DIST., BRAXTON CO.,W.V. STA. 3872+82 TO STA. 3924+31

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:	.
AFE/P.O.NO.:	
HEI PROJECT NO.: 14-10-052	
DRAWING NO.: PA-BRWV-H600 -09	
SHEET 81 OF 329	REV. 7
DATE OF PLOT: 04/18/18 12:06 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tract	Length	Slope
3924+31	WV-BR-035	869 LF	873 SLOPE
3933+00	WV-BR-036 / WV-BR-035	179 LF	179 SLOPE
3934+79	WV-BR-036	735 LF	754 SLOPE
3942+14	WV-BR-037	847 LF	871 SLOPE
3950+62	WV-BR-4404	831 LF	900 SLOPE
EQUATION: 3957+89 BK= 3957+27 AHD			
3958+32	LITTLE KANAWHA RIVER	97 LF	97 SLOPE
3959+29	WV-BR-038	2275 LF	2365 SLOPE
3982+04			

DESIGN

	3924+31 – 3957+73	3957+73 – 3960+39	3960+39 – 3982+04
PIPE / COATING	2	4	2
SLOPE DISTANCE	3445'	280'	2313'
CLASS LOCATION / HCA	1		

ENVIRONMENTAL

CONSTRUCTION EXCLUSION (3924+31 – 3982+04):

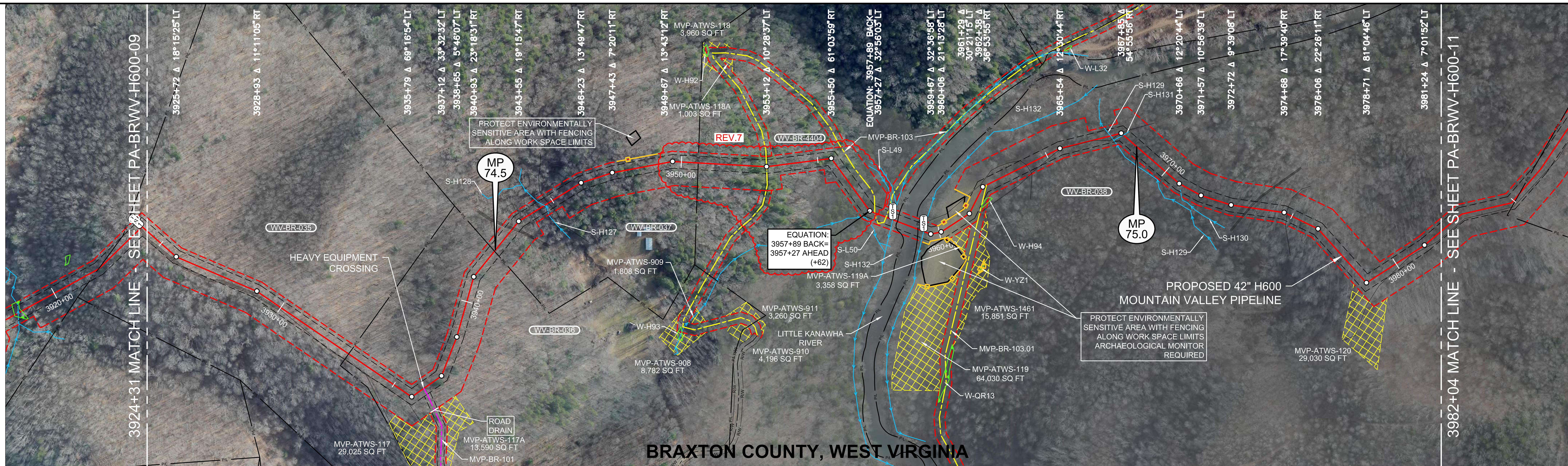
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-H127 APRIL 1ST TO JUNE 30TH
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAMS S-L50 & S-H132 APRIL 1ST TO JUNE 30TH
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS

WETLAND / STREAM:

S-H127	S-L50	S-H132	W-H94	S-H129	S-H131	S-H130
4 LF	10 LF	121 LF	43 LF	2 LF	2 LF	16 LF

PLAN VIEW

0' 100' 200' 400'



LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL / PROPOSED TEST STATION
- MAILBOX / LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN / TOWER LEG
- TREE / GUY ANCHOR
- TANK / GAS VALVE
- WELL - GAS/OIL/WATER/ MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

ISSUED FOR CONSTRUCTION

REFERENCE DRAWINGS

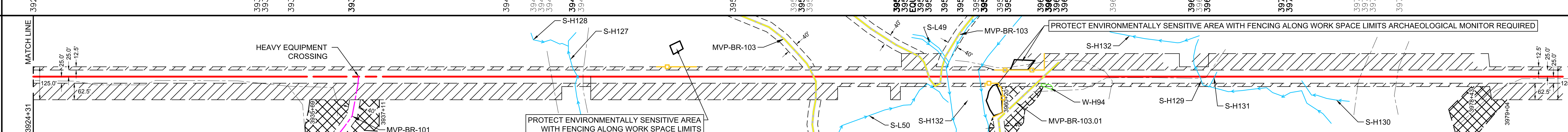
DRAWING NO.	DESCRIPTION
MVP-AR-H600-04	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-27	ACCESS ROAD DETAIL MAP
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

HORIZONTAL STATIONING

- 3924+31 MATCH LINE
- 3933+00 PROPERTY LINE
- 3933+06 PROPERTY CORNER 13'RT
- 3934+04 PROPERTY CORNER 11'RT
- **3936+32 ACCESS RD–PERMANENT(MVP–BR–101), HEAVY EQUIPMENT CROSSING**
- 3942+14 PROPERTY LINE
- 3943+17 EDGE OF DIRT
- 3943+21 ℄ FIELD ROAD(DIRT)
- 3943+25 EDGE OF DIRT
- **3944+65 ℄ STREAM(S–H127)**
- 3944+82 ℄ TRAIL(DIRT)
- 3950+61 PROPERTY LINE
- 3953+07 EDGE OF DIRT
- 3953+12 ACCESS RD – TEMPORARY(MVP–BR–103)
- 3953+17 EDGE OF DIRT
- **3957+75 PROPOSED RIVER WEIGHT – FLOODPLAIN**
- 3957+89 ℄ STREAM(S–L50)38'RT
- **EQUATION: 3957+89 BACK = 3957+27 AHEAD(+62)**
- 3957+37 ℄ STREAM(S–L50)38'RT
- 3957+48 ACCESS RD – TEMPORARY(MVP–BR–103), ℄ GROGORY ROAD
- 3957+92 ACCESS RD – TEMPORARY(MVP–BR–103), ℄ GROGORY ROAD
- 3958+18 STREAM BANK(S–H132), **PROPOSED TYPE 1 TEST STATION**
- 3958+37 PROPERTY LINE
- **3958+43 BEGIN PROPOSED 5 RIVER WEIGHTS AT 20' SPACING IN STREAM**
- 3959+17 PROPERTY LINE
- 3959+39 STREAM BANK(S–H132), **PROPOSED TYPE 1 TEST STATION**
- 3961+71 BEGIN WETLAND(W–H94)34'RT
- **3961+93 PROPOSED RIVER WEIGHT – FLOODPLAIN**
- 3962+14 END WETLAND(W–H94)37'RT
- 3962+53 ACCESS RD – TEMPORARY (MVP–BR–103.01)
- 3964+17 ℄ FIELD ROAD(DIRT)
- **3967+45 ℄ STREAM(S–H129)**
- 3967+79 ℄ FIELD ROAD(DIRT)
- **3967+95 ℄ STREAM(S–H131)**
- **3970+80 ℄ STREAM BANK(S–H130)19'RT**
- **3970+96 ℄ STREAM BANK(S–H130)37'RT**
- 3973+38 EDGE OF DIRT
- 3973+41 ℄ FIELD ROAD(DIRT)
- 3973+45 EDGE OF DIRT
- 3974+80 ℄ FIELD ROAD(DIRT)
- 3982+04 MATCH LINE

WORK SPACE

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)



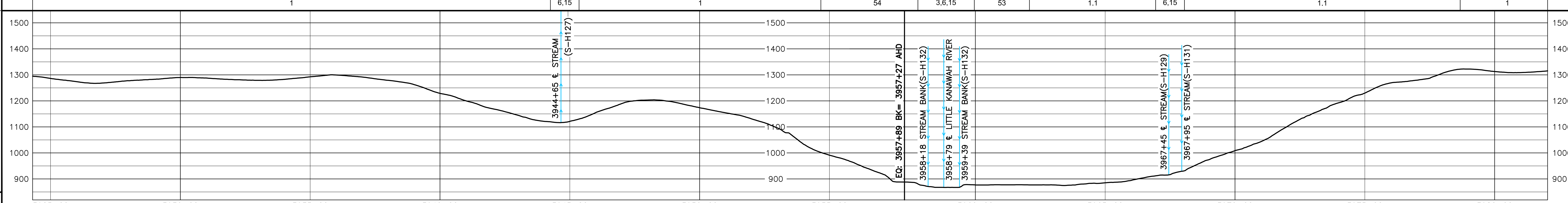
CONSTRUCTION METHOD

1	6,15	1	54	3,6,15	53	1.1	6,15	1.1	1

CONSTRUCTION METHOD KEY

- 1 - TYPICAL R/W WORKING SIDE RIGHT
- 1.1 - TYPICAL R/W WORKING SIDE LEFT
- 2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
- 2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
- 3 - TYPICAL WETLAND X-ING
- 4 - ROAD X-ING - BORE
- 5 - RAILROAD X-ING - BORE
- 6 - WATERBODY X-ING OPEN CUT - FLUME
- 7 - PARALLEL TO POWER LINE
- 8 - RIDGE CONSTRUCTION
- 10 - HDD ENTRY PLAN
- 11 - HDD EXIT PLAN
- 12 - HDD CONSTRUCTION
- 13 - PARALLEL TO POWER LINE
- 14 - PARALLEL TO POWER LINE
- 15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
- 33 - SIDE HILL CONSTRUCTION
- 34 - 2-TONE SIDE HILL CONSTRUCTION
- 53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
- 54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



HOLLAND ENGINEERING

220 Hoover Boulevard, Suite 2, Holland, Michigan 49423-3766, T 616-392-5938 F 616-392-2116 | 26555 Evergreen Rd. Suite. 430, Southfield, Michigan 48076, T 248-827-7322 F 248-827-7549

www.hollandengineering.com

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.13 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	03-07-18	BAT PORTAL VARIANCE STA. 3949+67 TO EQ: 3957+89 BACK=

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
2	5758	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
4	280	42"O.D. X 0.740"W.T., X-70, FBE & ARO
	2	TYPE 1 TEST STATION - PIPELINE
	7	RIVER WEIGHTS

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17

Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE SALT LICK DIST., BRAXTON CO.,W.V. STA. 3924+31 TO STA. 3982+04

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:	.
AFE/P.O.NO.:	
HEI PROJECT NO.: 14-10-052	
DRAWING NO.: PA-BRWV-H600-10	
SHEET 82 OF 329	REV. 7
DATE OF PLOT: 03/15/18 12:45 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Parcel(s)	Length
3982+04 – 3984+62	WV-BR-038	258 LF / 259 SLOPE
3984+62 – 3988+37	WV-BR-038 / WV-BR-039	375 LF / 377 SLOPE
3988+37 – 3997+04	WV-BR-039	867 LF / 871 SLOPE
3997+04 – 3999+10	WV-BR-038 / WV-BR-039	206 LF / 207 SLOPE
3999+10 – 4005+77	WV-BR-040	667 LF / 674 SLOPE
4005+77 – 4007+26	WV-BR-041 / WV-BR-040	149 LF / 149 SLOPE
4007+26 – 4009+95	WV-BR-041	269 LF / 271 SLOPE
4009+95 – 4014+12	WV-BR-041 / WV-BR-043	417 LF / 420 SLOPE
4014+12 – 4016+12	WV-BR-041	200 LF / 201 SLOPE
4016+12 – 4016+42	WV-BR-041 / WV-BR-043	30 LF / 30 SLOPE
4016+42 – 4017+04	WV-BR-042 / WV-BR-041 / WV-BR-043	62 LF / 63 SLOPE
4017+04 – 4018+39	WV-BR-044 / WV-BR-043	135 LF / 135 SLOPE
4018+39 – 4018+96	WV-BR-044 / WV-BR-038 / WV-BR-043	57 LF / 57 SLOPE
4018+96 – 4030+90	WV-BR-044 / WV-BR-038	1194 LF / 1212 SLOPE
4030+90 – 4031+11	WV-BR-044 / WV-BR-046 / WV-BR-038	21 LF / 21 SLOPE
4031+11 – 4034+96	WV-BR-044 / WV-BR-046	385 LF / 393 SLOPE
4034+96 – 4035+69	WV-BR-044 / WV-BR-046.01 / WV-BR-046	73 LF / 77 SLOPE
4035+69 – 4036+95	WV-BR-046.01 / WV-BR-046	126 LF / 128 SLOPE

DESIGN

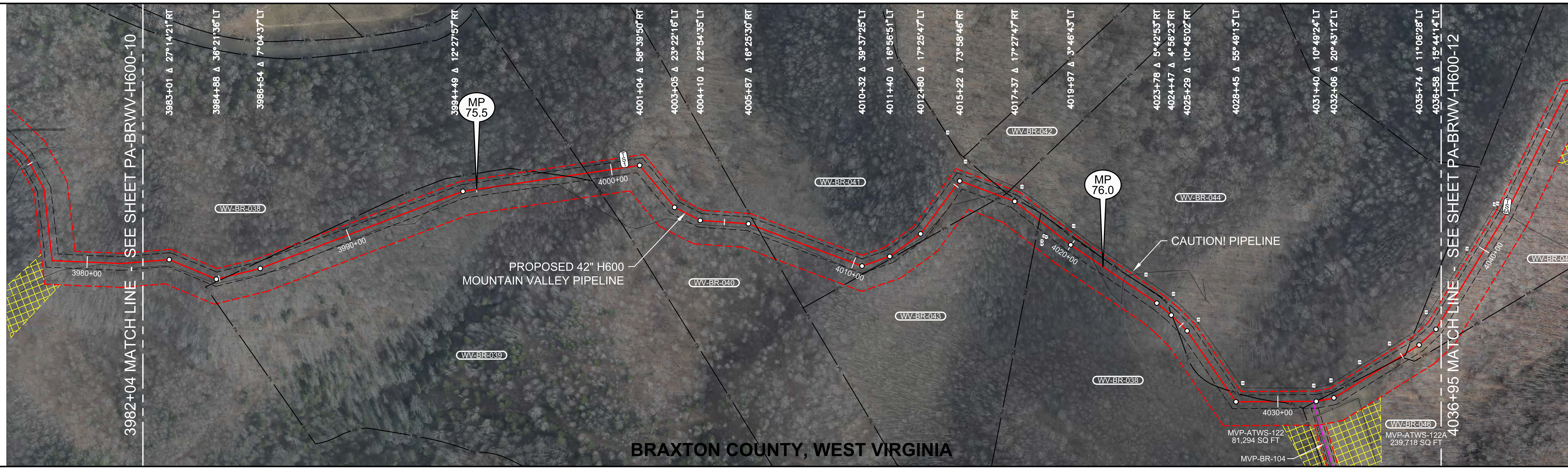
	3982+04 – 4036+95
PIPE / COATING	2
SLOPE DISTANCE	5545'
CLASS LOCATION / HCA	1

ENVIRONMENTAL

	3982+04 – 4036+95
CONSTRUCTION EXCLUSION	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
WETLAND / STREAM	
.	
.	

PLAN VIEW

0' 100' 200' 400'



LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL / PROPOSED TEST STATION
- MAILBOX / LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN / TOWER LEG
- TREE / GUY ANCHOR
- TANK / GAS VALVE
- WELL - GAS/OIL/WATER/ MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-04	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-28	ACCESS ROAD DETAIL MAP
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

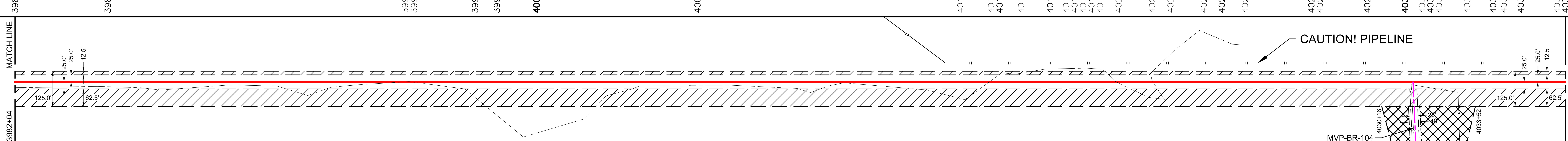
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

- 3982+04 MATCH LINE
- 3985+32 PROPERTY LINE
- 3995+85 ℄ TRAIL(DIRT)
- 3996+06 ℄ TRAIL(DIRT)
- 3998+33 PROPERTY LINE
- 3999+10 PROPERTY LINE
- **4000+51 PROPOSED TYPE 1 TEST STATION**
- 4006+20 PROPERTY LINE
- 4015+22 LINE MARKER 59'LT
- 4016+61 ℄ TRAIL(DIRT)
- 4016+85 PROPERTY LINE
- 4017+37 LINE MARKER 47'LT
- 4018+52 PROPERTY LINE
- 4019+00 FENCE POST 35'RT
- 4019+05 FENCE POST 54'RT
- 4019+09 FENCE POST 32'RT
- 4019+12 FENCE POST 63'RT
- 4019+73 LINE MARKER 49'LT
- 4020+96 ℄ TRAIL(DIRT)
- 4022+31 ℄ FIELD ROAD(DIRT)
- 4022+96 LINE MARKER 52'LT
- 4024+14 LINE MARKER 53'LT
- 4024+53 PROPERTY LINE
- 4025+31 LINE MARKER 49'LT
- 4027+95 PROPERTY LINE
- 4028+16 LINE MARKER 51'LT
- 4029+93 PROPERTY LINE
- **4031+27 ACCESS RD – PERMANENT (MVP–BR–104)**
- 4031+31 LINE MARKER 43'LT
- 4031+39 PROPERTY LINE
- 4032+05 LINE MARKER 50'LT
- 4033+47 LINE MARKER 48'LT
- 4034+38 PROPERTY LINE
- 4034+76 LINE MARKER 49'LT
- 4035+18 PROPERTY LINE
- 4036+80 LINE MARKER 55'LT
- 4036+95 MATCH LINE

WORK SPACE

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)



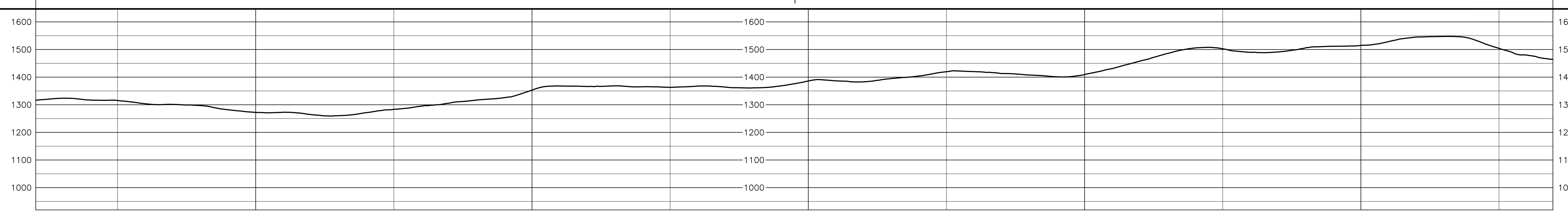
CONSTRUCTION METHOD

1

CONSTRUCTION METHOD KEY

- 1 - TYPICAL R/W WORKING SIDE RIGHT
- 1.1 - TYPICAL R/W WORKING SIDE LEFT
- 2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
- 2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
- 3 - TYPICAL WETLAND X-ING
- 4 - ROAD X-ING - BORE
- 5 - RAILROAD X-ING - BORE
- 6 - WATERBODY X-ING OPEN CUT - FLUME
- 7 - PARALLEL TO POWER LINE
- 8 - RIDGE CONSTRUCTION
- 10 - HDD ENTRY PLAN
- 11 - HDD EXIT PLAN
- 12 - HDD CONSTRUCTION
- 13 - PARALLEL TO POWER LINE
- 14 - PARALLEL TO POWER LINE
- 15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
- 33 - SIDE HILL CONSTRUCTION
- 34 - 2-TONE SIDE HILL CONSTRUCTION
- 53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
- 54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



HOLLAND ENGINEERING

220 Hoover Boulevard, Suite 2
Holland, Michigan 49423-3766
T 616-392-5938 F 616-392-2116

26555 Evergreen Rd. Suite 430
Southfield, Michigan 48076
T 248-827-7322 F 248-827-7549

www.hollandengineering.com

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.13 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-13-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
2	5545	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
	1	TYPE 1 TEST STATION - PIPELINE

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17
7	JJS	04-13-18

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17
7	JJS	04-13-18

Mountain Valley PIPELINE

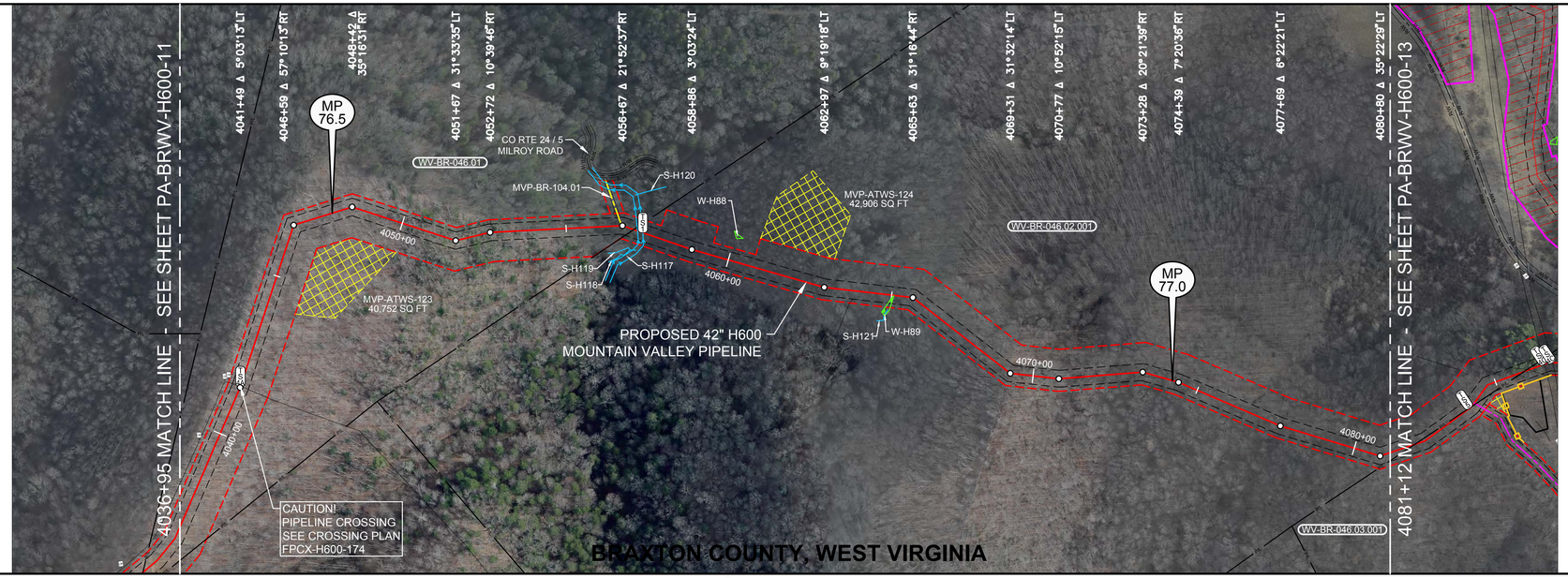
PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE SALT LICK DIST., BRAXTON CO.,W.V. STA. 3982+04 TO STA. 4036+95

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:	.
AFE/P.O.NO.:	
HEI PROJECT NO.: 14-10-052	
DRAWING NO.: PA-BRWV-H600-11	
SHEET 83 OF 329	REV. 7
DATE OF PLOT: 04/18/18 12:07 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

		4036+95		4056+75		4057+31		4080+76	4081+12
		WV-BR-046.01		WV-BR-046.01 / WV-BR-046.02.001		WV-BR-046.02.001		WV-BR-046.02.001 / WV-BR-046.03.001	
		1980 LF 2061 SLOPE		56 LF 62 SLOPE		2345 LF 2460 SLOPE		36 LF 36 SLOPE	
DESIGN	PIPE / COATING	2		4		2			
	SLOPE DISTANCE	2093'		40'		2486'			
	CLASS LOCATION / HCA	1							
ENVIRONMENTAL	CONSTRUCTION EXCLUSION	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS		T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-H117 APRIL 1ST TO JUNE 30TH		TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS			
	WETLAND / STREAM			S-H117 16 LF			W-H89 22 LF		
	.								
	.								



0' 100' 200' 400'

PLAN VIEW

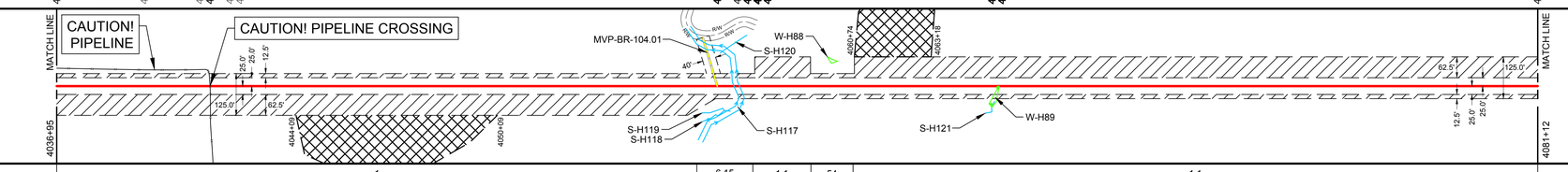
LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL
- PROPOSED TEST STATION
- MAILBOX
- LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN
- TOWER LEG
- TREE
- GUY ANCHOR
- TANK
- GAS VALVE
- WELL - GAS/OIL/WATER/ MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-04	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
FPCX-H600-174	FOREIGN PIPELINE X-ING PLAN
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

HORIZONTAL STATIONING



WORK SPACE

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)

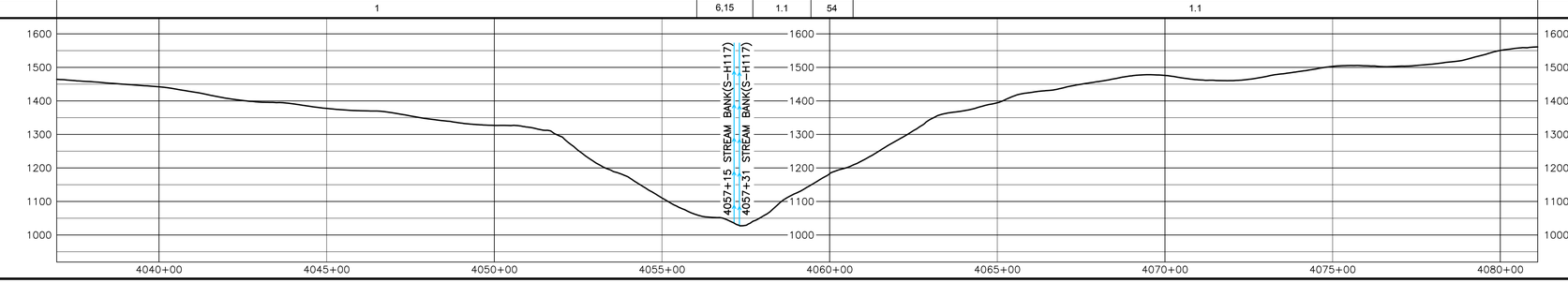
CONSTRUCTION METHOD

1		6,15	1.1	54	1.1

CONSTRUCTION METHOD KEY

1 - TYPICAL R/W WORKING SIDE RIGHT
1.1 - TYPICAL R/W WORKING SIDE LEFT
2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
3 - TYPICAL WETLAND X-ING
4 - ROAD X-ING - BORE
5 - RAILROAD X-ING - BORE
6 - WATERBODY X-ING OPEN CUT - FLUME
7 - PARALLEL TO POWER LINE
8 - RIDGE CONSTRUCTION
10 - HDD ENTRY PLAN
11 - HDD EXIT PLAN
12 - HDD CONSTRUCTION
13 - PARALLEL TO POWER LINE
14 - PARALLEL TO POWER LINE
15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
33 - SIDE HILL CONSTRUCTION
34 - 2-TONE SIDE HILL CONSTRUCTION
53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



ISSUED FOR CONSTRUCTION

HOLLAND ENGINEERING
220 Hoover Boulevard, Suite 2 | 26555 Evergreen Rd, Suite 430
Holland, Michigan 49423-3786 | Southfield, Michigan 48076
T 616.355.0081 F 616.355.0191 | T 248.557.7220 F 248.557.7949
www.hollandengineering.com

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-3-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	05-5-16	REV. 4.1.1 ISSUED TO FERC
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-13-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
2	4979	42"O.D. X 0.740"W.T. X70 FBE BONDED EPOXY
4	40	42"O.D. X 0.740"W.T. X 70 FBE & ARO
	1	TYPE 1 TEST STATION - PIPELINE
	1	TYPE 4A TEST STATION - SINGLE LINE FOREIGN XING
	1	RIVER WEIGHTS

APPROVED FOR CONSTRUCTION		
REV.	BY	DATE
6	JJS	11-27-17
7	JJS	04-13-18

APPROVED FOR BIDDING		
REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC		
REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17
7	JJS	04-13-18

Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
SALT LICK DIST., BRAXTON CO.,W.V.
STA. 4036+95 TO STA. 4081+12

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:	.
AFE/P.O.NO.:	
HEI PROJECT NO.:	14-10-052
DRAWING NO.:	PA-BRWV-H600-12
SHEET 84 OF 329	REV. 7
DATE OF PLOT:	04/18/18 12:07 PM

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Ownership	Length
4081+12 – 4089+60	WV-BR-046.02.001 / WV-BR-046.03.001	848 LF / 856 SLOPE
4089+60 – 4089+91	COUNTY ROUTE 24/5	31 LF - 31 SLOPE
4089+91 – 4095+90	WV-BR-046.02.001 / WV-BR-046.03.001	599 LF / 615 SLOPE
4095+90 – 4097+80	WV-BR-046.03	190 LF / 191 SLOPE
4097+80 – 4100+02	WV-BR-046.03 / WV-BR-0457.01	222 LF / 223 SLOPE
4100+02 – 4101+88	WV-BR-046.02 / WV-BR-0457.01	186 LF / 187 SLOPE
4101+88 – 4108+95	WV-BR-0457.01	707 LF / 776 SLOPE
4108+95 – 4118+29	WV-BR-046.04	934 LF / 1001 SLOPE
4118+29 – 4127+79	WV-BR-046.05	950 LF / 978 SLOPE
4127+79 – 4130+94	WV-BR-046.06	315 LF / 331 SLOPE
4130+94 – 4136+01	WV-BR-046.07	507 LF / 545 SLOPE

DESIGN

PIPE / COATING	SLOPE DISTANCE
4081+12 – 4089+56: 2	852'
4089+56 – 4089+96: 4	40'
4089+96 – 4092+38: 2	253'
4092+38 – 4093+18: 3	80'
4093+18 – 4094+84: 2	174'
4094+84 – 4094+89: 7	5'
4094+89 – 4098+19: 2	330'
4098+19 – 4101+55: 3	336'
4101+55 – 4108+36: 2	750'
4108+36 – 4108+76: 4	40'
4108+76 – 4131+49: 2	2384'
4131+49 – 4131+89: 4	40'
4131+89 – 4136+01: 2	448'

CLASS LOCATION / HCA: 1

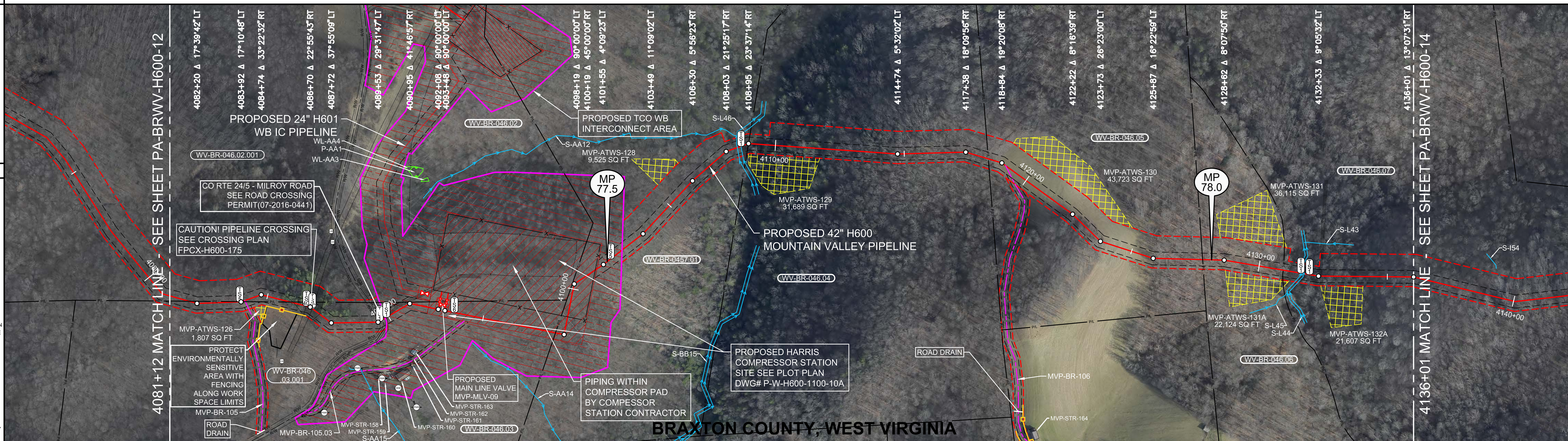
ENVIRONMENTAL

CONSTRUCTION EXCLUSION:
- 4081+12: TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-L46 APRIL 1ST TO JUNE 30TH
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-L44 APRIL 1ST TO JUNE 30TH
- T.O.Y.R.: SEE TREE CLEARING PLAN
- 4136+01

WETLAND / STREAM: S-L46 15 LF; S-L44 10 LF

PLAN VIEW

0' 100' 200' 400'



ISSUED FOR CONSTRUCTION

LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL
- PROPOSED TEST STATION
- MAILBOX
- LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN
- TOWER LEG
- TREE
- GUY ANCHOR
- TANK
- GAS VALVE
- WELL - GAS/OIL/WATER/ MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

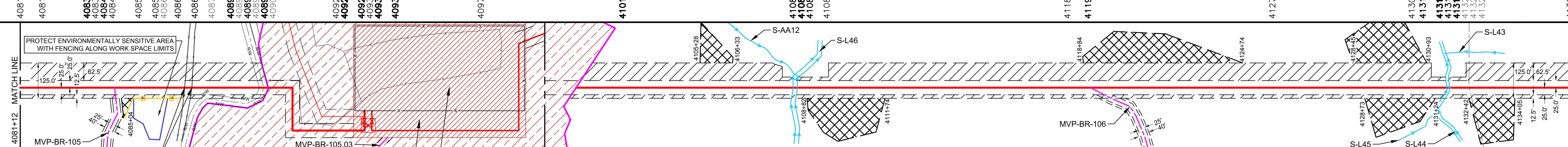
DRAWING NO.	DESCRIPTION
MVP-AR-H600-04	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-29	ACCESS ROAD DETAIL MAP
FPCX-H600-175	FOREIGN PIPELINE X-ING PLAN
07-2016-0441	ROAD CROSSING PERMIT
PA-BRWV-H601-01	H601 ALIGNMENT SHEET
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING
P-W-H600-1204-02	CATHODIC PROTECTION STANDARD DRAWING
P-W-H600-1100-10A	MAIN LINE VALVE 9 & HARRIS C.S. PLOT PLAN

HORIZONTAL STATIONING

- 4081+12 MATCH LINE
- 4081+89 PROPERTY LINE
- **4083+87 PROPOSED TYPE 5 TEST STATION**
- 4083+93 PROPERTY LINE
- **4084+07 ACCESS RD–PERMANENT(MVP–BR–105)**
- 4084+36 PROPERTY CORNER 17'RT
- 4085+30 SENSITIVE AREA 40'RT
- 4085+90 PROPERTY LINE
- 4086+04 FENCE – BARBED WIRE
- 4086+55 PIPELINE – FOREIGN–COLUMBIA 26"WB5
- **PROPOSED TYPE 4C TEST STATION**
- 4086+80 PIPELINE – FOREIGN–COLUMBIA 30"WB
- **PROPOSED TYPE 4C TEST STATION**
- 4087+16 FENCE – BARBED WIRE
- **4089+60 PROPOSED TYPE 1 TEST STATION,R/W**
- 4089+69 EDGE OF GRAVEL
- **4089+76 ℄ CO RTE 24/5 – MILROY ROAD**
- 4089+83 EDGE OF GRAVEL
- **4089+91 PROPOSED TYPE 1 TEST STATION,R/W**
- 4090+04 EDGE OF DIRT
- 4092+38 PROPERTY LINE
- **4092+43 MAIN LINE VALVE – PROPOSED (MVP–MLV–09A)**
- **4092+78 PROPOSED STATION FENCE**
- 4093+12 PROPERTY LINE
- **4093+12 MAIN LINE VALVE – PROPOSED (MVP–MLV–09B)**
- **4093+86 PROPOSED TYPE 6 TEST STATION**
- 4097+85 PROPERTY LINE
- **4101+91 PROPOSED TYPE 5 TEST STATION**
- 4108+49 STREAM BANK(S–L46)
- **4108+53 PROPOSED RIVER WEIGHT – STREAM**
- 4108+64 STREAM BANK(S–L46),
- **PROPOSED TYPE 1 TEST STATION**
- 4108+95 PROPERTY LINE
- 4118+29 PROPERTY LINE
- **4119+02 ACCESS RD–PERMANENT(MVP–BR–106)**
- 4127+79 PROPERTY LINE
- 4130+94 PROPERTY LINE
- 4131+64 STREAM BANK(S–L44),
- **PROPOSED TYPE 1 TEST STATION**
- **4131+68 PROPOSE RIVER WEIGHT– STREAM**
- 4131+74 STREAM BANK(S–L44),
- **4131+97 PROPOSED TYPE 1 TEST STATION**
- 4132+35 EDGE OF DIRT
- 4132+40 ℄ FIELD ROAD(DIRT)
- 4132+45 EDGE OF DIRT
- 4136+01 MATCH LINE

WORK SPACE

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)



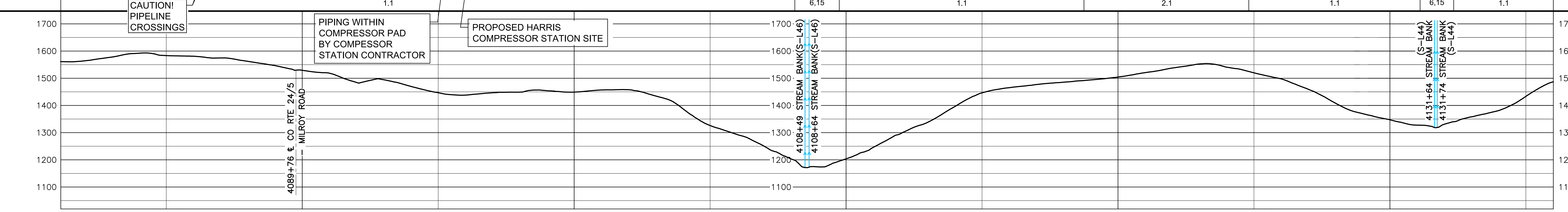
CONSTRUCTION METHOD

Station range	Method
4081+12 – 4108+36	1.1
4108+36 – 4109+76	6,15
4109+76 – 4119+02	1.1
4119+02 – 4127+79	2.1
4127+79 – 4130+94	1.1
4130+94 – 4132+20	6,15
4132+20 – 4136+01	1.1

CONSTRUCTION METHOD KEY

- 1 - TYPICAL R/W WORKING SIDE RIGHT
- 1.1 - TYPICAL R/W WORKING SIDE LEFT
- 2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
- 2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
- 3 - TYPICAL WETLAND X-ING
- 4 - ROAD X-ING - BORE
- 5 - RAILROAD X-ING - BORE
- 6 - WATERBODY X-ING OPEN CUT - FLUME
- 7 - PARALLEL TO POWER LINE
- 8 - RIDGE CONSTRUCTION
- 10 - HDD ENTRY PLAN
- 11 - HDD EXIT PLAN
- 12 - HDD CONSTRUCTION
- 13 - PARALLEL TO POWER LINE
- 14 - PARALLEL TO POWER LINE
- 15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
- 33 - SIDE HILL CONSTRUCTION
- 34 - 2-TONE SIDE HILL CONSTRUCTION
- 53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
- 54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
2	5191	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
3	416	42"O.D. X 0.888"W.T., X-70, FUSION BONDED EPOXY
4	120	42"O.D. X 0.740"W.T., X-70, FBE & ARO
7	5	ANSI 600 MONOLITHIC INSULATING JOINT
	5	TYPE 1 TEST STATION - PIPELINE
	2	TYPE 4C TEST STATION - SINGLE LINE FOREIGN XING WITH REFERENCE CELL
	2	TYPE 5 TEST STATION - METAL IR DROP TEST STATION
	1	TYPE 6 TEST STATION - ISO. JOINT - BELOW GRADE
	2	RIVER WEIGHTS

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.13 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-13-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17
7	JJS	04-13-18

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17
7	JJS	04-13-18

HOLLAND ENGINEERING
220 Hoover Boulevard, Suite 2 Holland, Michigan 49423-3766 T 616-392-5938 F 616-392-2116
26555 Evergreen Rd. Suite 430 Southfield, Michigan 48076 T 248-827-7322 F 248-827-7549
www.hollandengineering.com

Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE SALT LICK DIST., BRAXTON CO.,W.V. STA. 4081+12 TO STA. 4136+01

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:	.
AFE/P.O.NO.:	
HEI PROJECT NO.: 14-10-052	
DRAWING NO.: PA-BRWV-H600-13	
SHEET 85 OF 329	REV. 7
DATE OF PLOT: 04/18/18 12:07 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station range	Tract	Length
4136+01 – 4145+65	WV-BR-046.07	964 LF / 994 SLOPE
4145+65 – 4147+91	WV-BR-046.09 / COUNTY ROUTE 23 / WV-BR-046.08	226 LF / 227 SLOPE
4147+91 – 4148+48	WV-BR-046.09	57 LF / 58 SLOPE
4148+48 – 4155+09	WV-BR-046.09 / WV-BR-046.10	661 LF / 665 SLOPE
4155+09 – 4163+57	WV-BR-046.09	848 LF / 857 SLOPE
4163+57 – 4170+45	WV-BR-046.11	688 LF / 693 SLOPE
4170+45 – 4182+28	WV-BR-046.12	1183 LF / 1185 SLOPE
4182+28 – 4182+88	WV-BR-046.13	60 LF / 60 SLOPE
4182+88 – 4189+36	WV-BR-046.12 / WV-BR-046.15	648 LF / 653 SLOPE
4189+36 – 4191+12	WV-BR-046.13	176 LF / 176 SLOPE
4191+12 – 4193+21	WV-BR-046.14	209 LF / 210 SLOPE

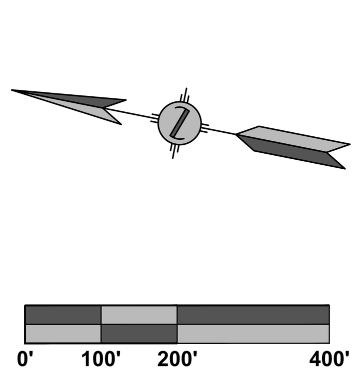
DESIGN

	4136+01 – 4138+77	4138+77 – 4146+53	4146+53 – 4147+33	4147+33 – 4193+21
PIPE / COATING	2	1	4	1
SLOPE DISTANCE	287'	800'	80'	4614'
CLASS LOCATION / HCA	1			

ENVIRONMENTAL

CONSTRUCTION EXCLUSION (4136+01 – 4193+21): TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31
SEE TREE CLEARING PLAN FOR FURTHER DETAILS

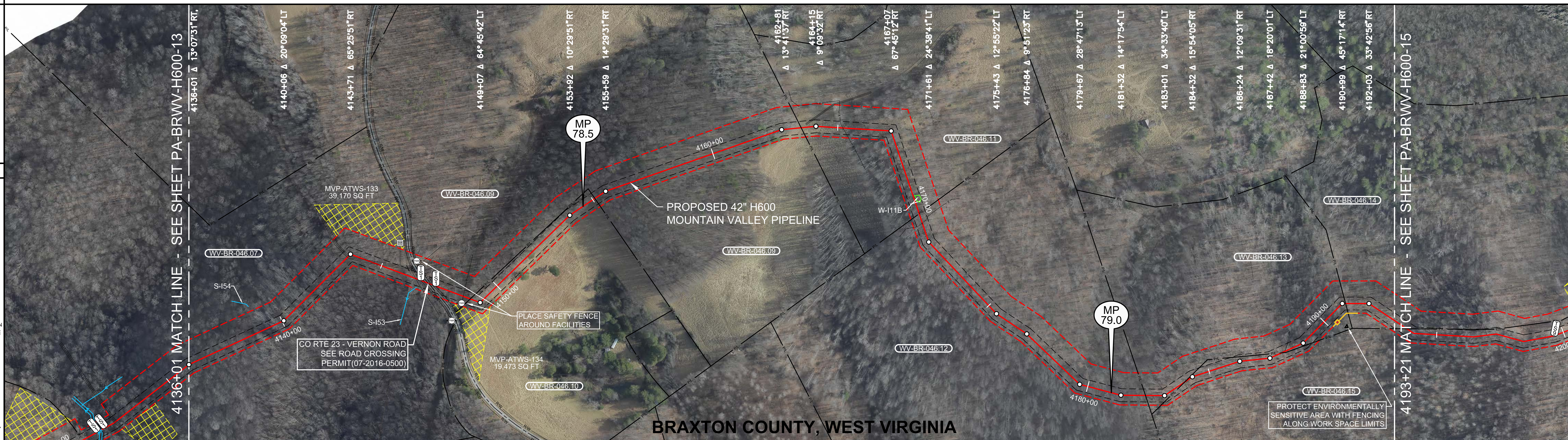
WETLAND / STREAM	Length
S-I53	2 LF
W-I11B	31 LF



PLAN VIEW

LEGEND

STUDY CORRIDOR
PROPOSED 42"PIPELINE
NON-SURVEYED C/L
500' TICK MARK
EXISTING PIPELINE
PERMANENT EASEMENT
WORK SPACE LIMITS
PERMANENT ACCESS RD
TEMPORARY ACCESS RD
ANCILLARY SITE
COUNTY LINE
PROPERTY LINE
ROAD RIGHT-OF-WAY
FENCE LINE
OVERHEAD POWER
OVERHEAD TELEPHONE
C/L ROAD
C/L RAILROAD
DELINEATED STREAM
DELINEATED WETLAND
BARRICADE FENCE
PI SYMBOL / PROPOSED TEST STATION
MAILBOX / LINE MARKER - VENT PIPE
POWER/TELE POLE
SIGN / TOWER LEG
TREE / GUY ANCHOR
TANK / GAS VALVE
WELL - GAS/OIL/WATER/ MONITORING
POST - GATE/FENCE
ELEC/GAS/WTR METER
PEDESTAL - UTILITY
MH - SANITARY/WATER
CATCH BASIN - CULVERT
ADDITIONAL TEMPORARY WORK SPACE(ATWS)
ABOVE GROUND FACILITY
LIMITS OF DISTURBANCE



ISSUED FOR CONSTRUCTION

REFERENCE DRAWINGS

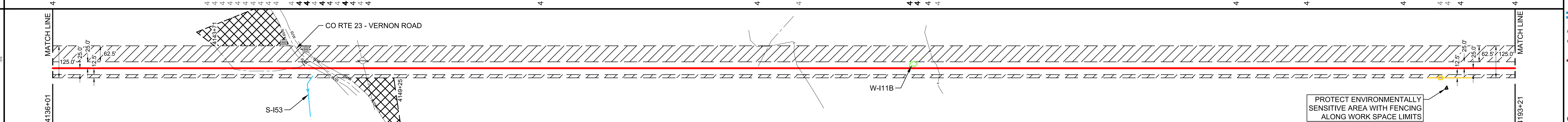
DRAWING NO.	DESCRIPTION
MVP-AR-H600-05	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
07-2016-0409	ROAD CROSSING PERMIT
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

HORIZONTAL STATIONING

4136+01 MATCH LINE
4143+54 EDGE OF DIRT
4143+59 ℄ FIELD ROAD(DIRT)
4143+64 EDGE OF DIRT
4144+34 EDGE OF DIRT
4144+60 ℄ FIELD ROAD(DIRT)
4144+85 EDGE OF DIRT
4145+90 CULVERT OPEN END 36'LT
4146+05 CULVERT OPEN END 19'LT
4146+10 GUY ANCHOR 74'LT
4146+20 POWER POLE 65'LT
PEDESTAL - TELEPHONE 65'LT
4146+41 ℄ TRAIL(DIRT)
4146+55 ℄ STREAM(S-I53)30'RT
4146+62 PROPOSED TYPE 1 TEST STATION,R/W
4146+76 EDGE OF ASPHALT
4146+93 ℄ CO RTE 23 - VERNON ROAD
4147+00 OHP LINE
4147+08 EDGE OF ASPHALT
4147+25 PROPOSED TYPE 1 TEST STATION,R/W
4148+37 OHP LINE
4148+40 POWER POLE 27'RT
4148+66 PROPERTY LINE
4155+09 PROPERTY LINE
4163+57 PROPERTY LINE
4165+20 FENCE - BARBED WIRE
4169+73 BEGIN WETLAND(W-I11B)5'LT
4170+04 END WETLAND(W-I11B)16'LT
4170+45 PROPERTY LINE
4170+83 FENCE - BARBED WIRE
4182+30 PROPERTY LINE
4185+06 PROPERTY CORNER 44'LT
4188+84 PROPERTY LINE
4190+54 SENSITIVE AREA 70'RT
4190+58 PROPERTY CORNER 95'RT
4191+08 PROPERTY LINE
4193+21 MATCH LINE

WORK SPACE

PROPOSED PIPELINE
EXISTING PIPELINE
ACCESS ROAD TEMPORARY WORK SPACE
PERMANENT EASEMENT
TEMPORARY WORK SPACE(TWS)
ADD. TEMPORARY WORK SPACE(ATWS)



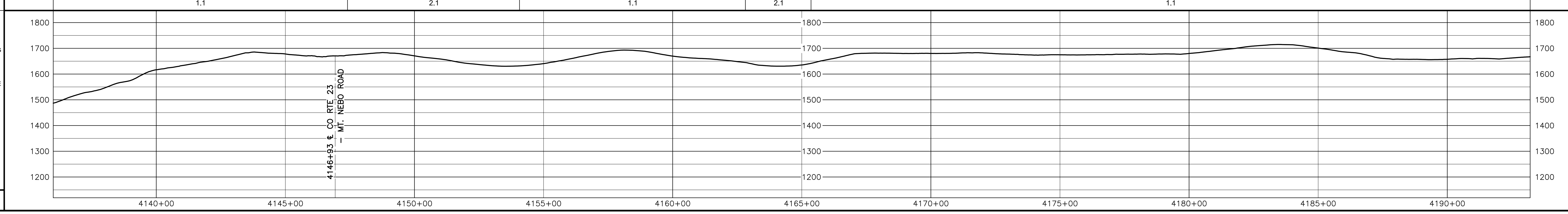
CONSTRUCTION METHOD

4136+01 – ~4147+	~4147+ – ~4153+	~4153+ – ~4163+	~4163+ – ~4165+	~4165+ – 4193+21
1.1	2.1	1.1	2.1	1.1

CONSTRUCTION METHOD KEY

1 - TYPICAL R/W WORKING SIDE RIGHT
1.1 - TYPICAL R/W WORKING SIDE LEFT
2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
3 - TYPICAL WETLAND X-ING
4 - ROAD X-ING - BORE
5 - RAILROAD X-ING - BORE
6 - WATERBODY X-ING OPEN CUT - FLUME
7 - PARALLEL TO POWER LINE
8 - RIDGE CONSTRUCTION
10 - HDD ENTRY PLAN
11 - HDD EXIT PLAN
12 - HDD CONSTRUCTION
13 - PARALLEL TO POWER LINE
14 - PARALLEL TO POWER LINE
15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
33 - SIDE HILL CONSTRUCTION
34 - 2-TONE SIDE HILL CONSTRUCTION
53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



HOLLAND ENGINEERING
220 Hoover Boulevard, Suite 2
Holland, Michigan 49423-3766
T 616-392-5938 F 616-392-2116
26555 Evergreen Rd. Suite 430
Southfield, Michigan 48076
T 248-827-7322 F 248-827-7549
www.hollandengineering.com

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.13 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-13-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5414	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	287	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
4	80	42"O.D. X 0.740"W.T., X-70, FBE & ARO
	2	TYPE 1 TEST STATION - PIPELINE

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17
7	JJS	04-13-18

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17
7	JJS	04-13-18

Mountain Valley PIPELINE

PIPELINE ALIGNMENT
MOUNTAIN VALLEY PROJECT - H600 LINE
SALT LICK & HOLLY DIST., BRAXTON CO.,W.V.
STA. 4136+01 TO STA. 4193+21

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:.	.
AFE/P.O.NO.:	
HEI PROJECT NO.: 14-10-052	
DRAWING NO.: PA-BRWV-H600 -14	
SHEET 86 OF 329	REV. 7
DATE OF PLOT: 04/18/18 12:08 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station range	Owner parcel(s)	Length
4193+21 – 4203+90	WV-BR-046.14 / WV-BR-046.15	1069 LF, 1084 SLOPE
4203+90 – 4205+48	WV-BR-046.15	158 LF, 158 SLOPE
4205+48 – 4213+05	WV-BR-046.14 / WV-BR-046.15	757 LF, 807 SLOPE
4213+05 – 4218+54	WV-BR-046.14	549 LF, 621 SLOPE
4218+54 – 4220+21	WV-BR-046.16	167 LF, 173 SLOPE

DESIGN

PIPE / COATING (4193+21)	1 (to 4211+74)	2 (to 4217+75)	4 (to 4218+15)	2 (to 4220+21)
SLOPE DISTANCE	1909'	680'	40'	214'
CLASS LOCATION / HCA	1			

ENVIRONMENTAL

CONSTRUCTION EXCLUSION (4193+21 – 4220+21): TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31. SEE TREE CLEARING PLAN FOR FURTHER DETAILS

T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-I57 APRIL 1ST TO JUNE 30TH

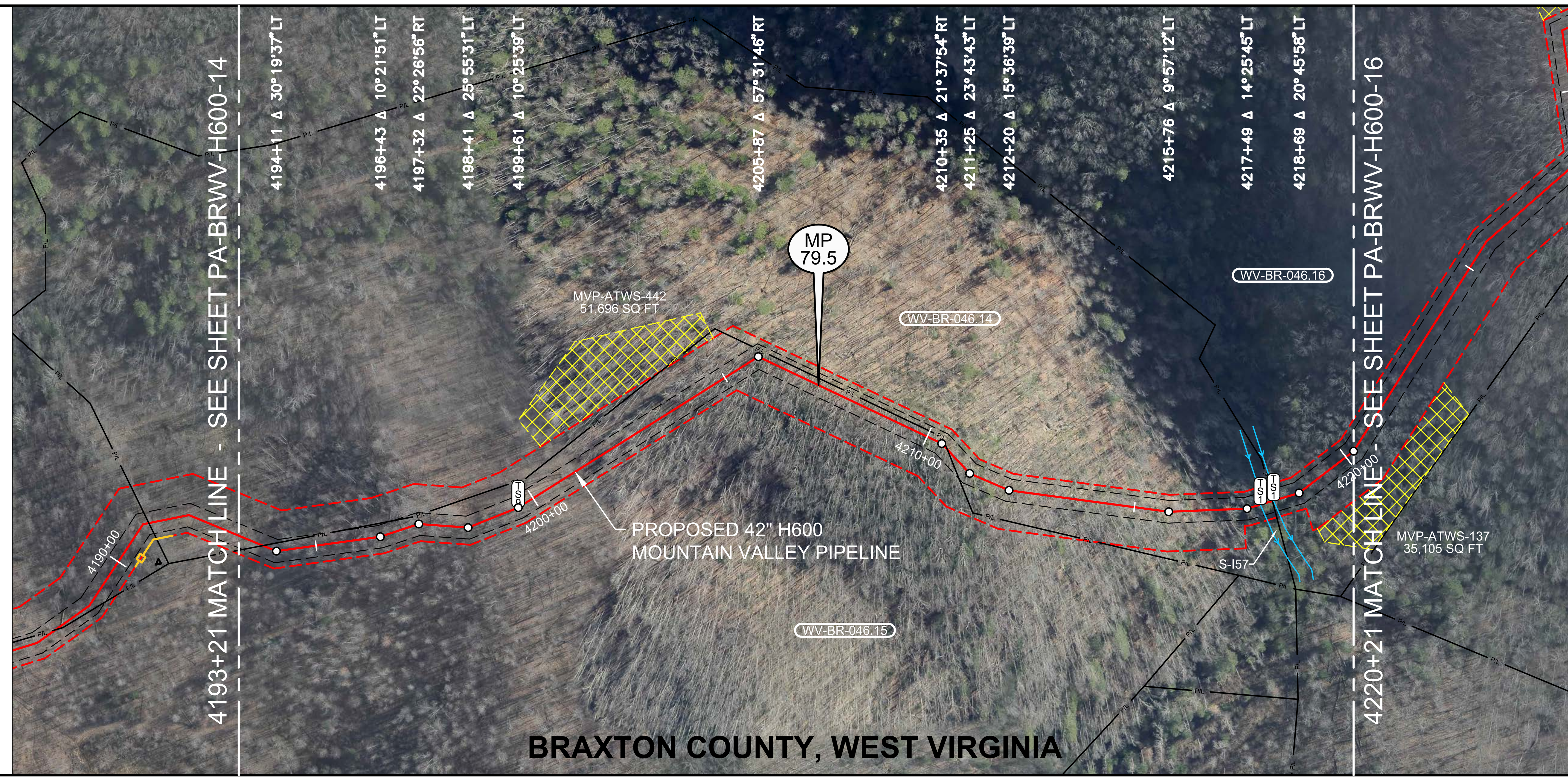
WETLAND / STREAM: S-I57, 30 LF

.

.

PLAN VIEW

0' 100' 200' 400'



LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL / PROPOSED TEST STATION
- MAILBOX / LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN / TOWER LEG
- TREE / GUY ANCHOR
- TANK / GAS VALVE
- WELL - GAS/OIL/WATER/ MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-05	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING
P-W-H600-1204-02	CATHODIC PROTECTION STANDARD DRAWING

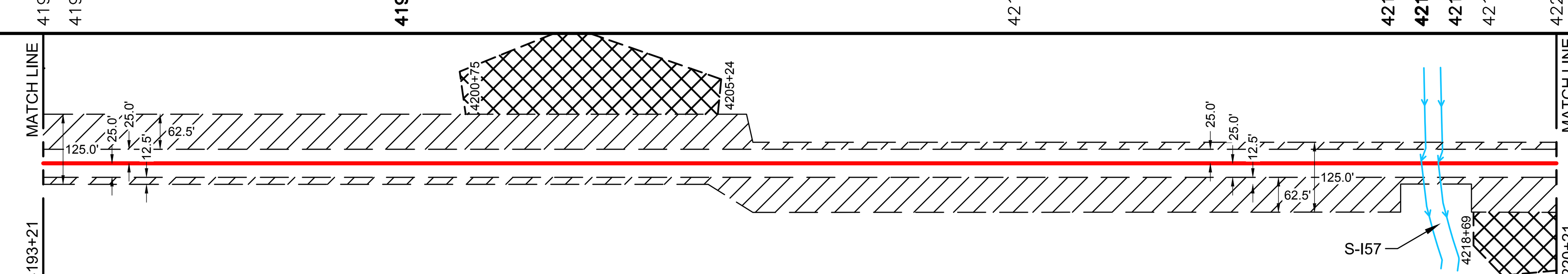
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

- 4193+21 MATCH LINE
- 4193+78 PROPERTY LINE
- **4199+60 PROPOSED TYPE 9 TEST STATION**
- 4210+53 PROPERTY LINE
- 4217+80 STREAM BANK(S-I57), PROPOSED TYPE 1 TEST STATION
- **4217+93 BEGIN PROPOSED 2 RIVER WEIGHTS AT 10' SPACONG - STREAM**
- 4218+10 STREAM BANK(S-I57), PROPOSED TYPE 1 TEST STATION
- 4218+54 PROPERTY LINE
- 4220+21 MATCH LINE

WORK SPACE

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)



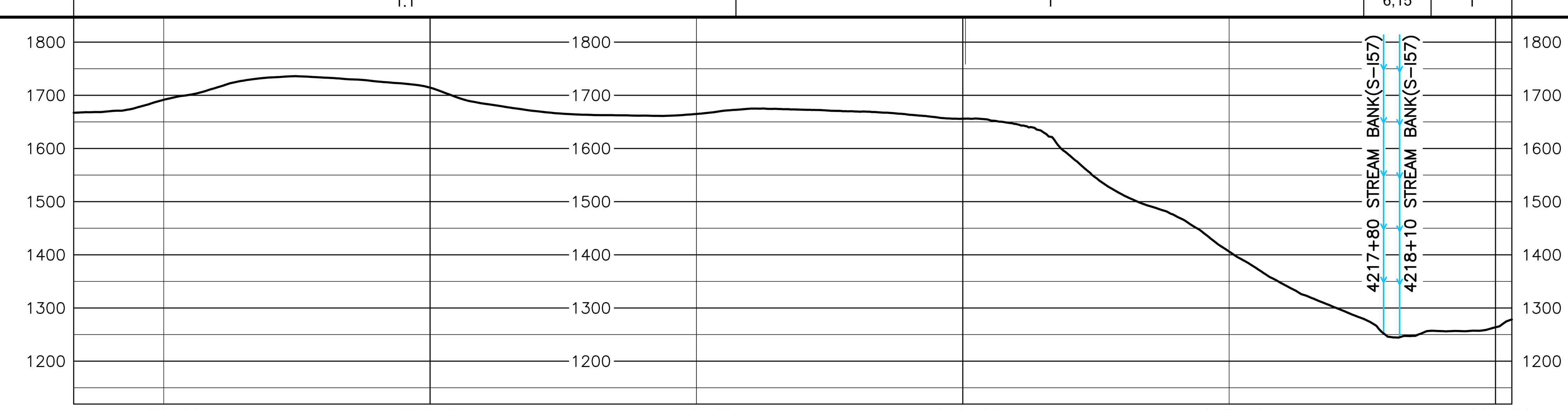
CONSTRUCTION METHOD

4193+21 –				
	1.1	1	6,15	1

CONSTRUCTION METHOD KEY

1 - TYPICAL R/W WORKING SIDE RIGHT
1.1 - TYPICAL R/W WORKING SIDE LEFT
2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
3 - TYPICAL WETLAND X-ING
4 - ROAD X-ING - BORE
5 - RAILROAD X-ING - BORE
6 - WATERBODY X-ING OPEN CUT - FLUME
7 - PARALLEL TO POWER LINE
8 - RIDGE CONSTRUCTION
10 - HDD ENTRY PLAN
11 - HDD EXIT PLAN
12 - HDD CONSTRUCTION
13 - PARALLEL TO POWER LINE
14 - PARALLEL TO POWER LINE
15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
33 - SIDE HILL CONSTRUCTION
34 - 2-TONE SIDE HILL CONSTRUCTION
53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

HOLLAND ENGINEERING
220 Hoover Boulevard, Suite 2, Holland, Michigan 49423-3766, T 616-392-5938 F 616-392-2116
26555 Evergreen Rd. Suite 430, Southfield, Michigan 48076, T 248-827-7322 F 248-827-7549
www.hollandengineering.com

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.13 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-13-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	1909	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	894	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
4	40	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	2	TYPE 1 TEST STATION - PIPELINE
	1	TYPE 9 TEST STATION - TEST STATION IR COUPON
	2	RIVER WEIGHTS

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17
7	JJS	04-13-18

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17
7	JJS	04-13-18

Mountain Valley PIPELINE

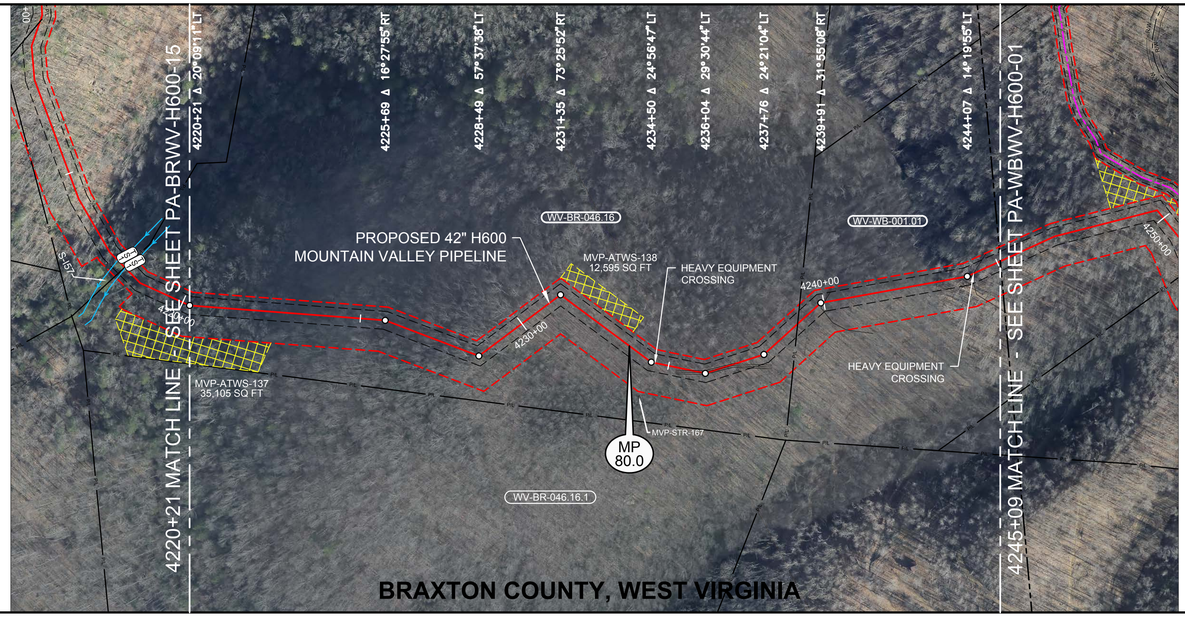
PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
HOLLY DIST., BRAXTON CO.,W.V.
STA. 4193+21 TO STA. 4220+21

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:.	.
AFE/P.O.NO.:	
HEI PROJECT NO.: 14-10-052	
DRAWING NO.: **PA-BRWV-H600 -15**	
SHEET 87 OF 329	REV. 7
DATE OF PLOT: 04/18/18 12:08 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

		4220+21	WV-BR-046.16 827 LF 951 SLOPE	4228+48	WV-BR-046.18 / WV-BR-046.18.1 60 LF 61 SLOPE	4229+08	WV-BR-046.16 887 LF 889 SLOPE	4237+95	WV-BR-046.18 / WV-WB-001.01 154 LF 155 SLOPE	4239+49	WV-WB-001.01 560 LF 569 SLOPE	4245+09
DESIGN	PIPE / COATING	4220+21	2	4226+22	1	4234+40	2	4234+60	1	4244+06	2	4244+46 / 4245+09
	SLOPE DISTANCE		667'		880'		40'		935'		40'	63'
	CLASS LOCATION / HCA		1									
ENVIRONMENTAL	CONSTRUCTION EXCLUSION	4220+21	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS									4245+09
	WETLAND / STREAM											
	.											
	.											



0' 100' 200' 400'

PLAN VIEW

LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
- PERMANENT EASEMENT
- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
- COUNTY LINE
- PROPERTY LINE
- ROAD RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER
- OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL
- PROPOSED TEST STATION
- MAILBOX
- LINE MARKER - VENT PIPE
- POWER/TELE POLE
- SIGN
- TOWER LEG
- TREE
- GUY ANCHOR
- TANK
- GAS VALVE
- WELL - GAS/OIL/WATER/ MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

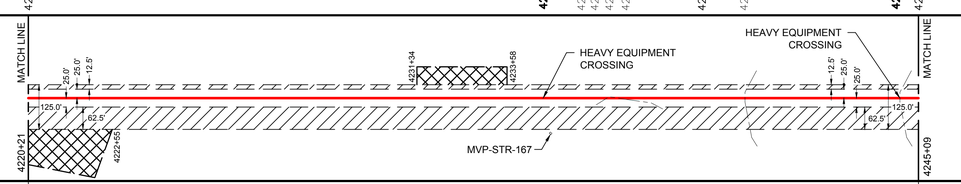
DRAWING NO.	DESCRIPTION
MVP-AR-H600-05	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES

HORIZONTAL STATIONING

WORK SPACE

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)

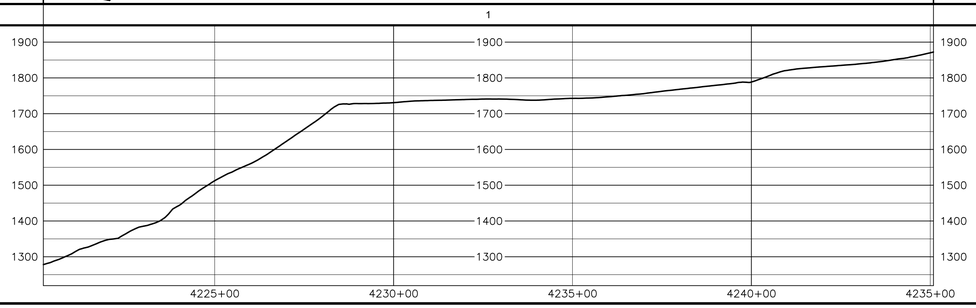
CONSTRUCTION METHOD



CONSTRUCTION METHOD KEY

1 - TYPICAL R/W WORKING SIDE RIGHT
1.1 - TYPICAL R/W WORKING SIDE LEFT
2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
3 - TYPICAL WETLAND X-ING
4 - ROAD X-ING - BORE
5 - RAILROAD X-ING - BORE
6 - WATERBODY X-ING OPEN CUT - FLUME
7 - PARALLEL TO POWER LINE
8 - RIDGE CONSTRUCTION
10 - HDD ENTRY PLAN
11 - HDD EXIT PLAN
12 - HDD CONSTRUCTION
13 - PARALLEL TO POWER LINE
14 - PARALLEL TO POWER LINE
15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
33 - SIDE HILL CONSTRUCTION
34 - 2-TONE SIDE HILL CONSTRUCTION
53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



ISSUED FOR CONSTRUCTION

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	1878	42"O.D. X 0.617"W.T. X-70 FUSION BONDED EPOXY
2	747	42"O.D. X 0.740"W.T. X-70 FUSION BONDED EPOXY
		TYPE 1 TEST STATION - PIPELINE

REVISIONS

REV.	BY	DATE	DESCRIPTION
A.0	HEI	10-1-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST No.1
2	HEI	04-14-16	FERC DATA REQUEST No.2
3	HEI	09-03-16	REV. 4.1.0 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	11-09-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION
7	HEI	04-15-18	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17
7	JJS	04-15-18

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16
6	JJS	11-27-17
7	JJS	04-15-18

HOLLAND ENGINEERING
220 Hoover Boulevard, Suite 2 | 26555 Evergreen Rd. Suite 430
Holland, Michigan 49423-3786 | Southfield, Michigan 48076
T 616.355.0055 F 616.355.0077 | T 248.557.7222 F 248.557.7949
www.hollandengineering.com

Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
HOLLY DIST., BRAXTON CO.,W.V.
STA. 4220+21 TO STA. 4245+09

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/17/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:	.
AFE/P.O.NO.:	
HEI PROJECT NO.:	14-10-052
DRAWING NO.:	**PA-BRWV-H600 -16**
SHEET 88 OF 329	REV. 7
DATE OF PLOT:	04/18/18 12:08 PM