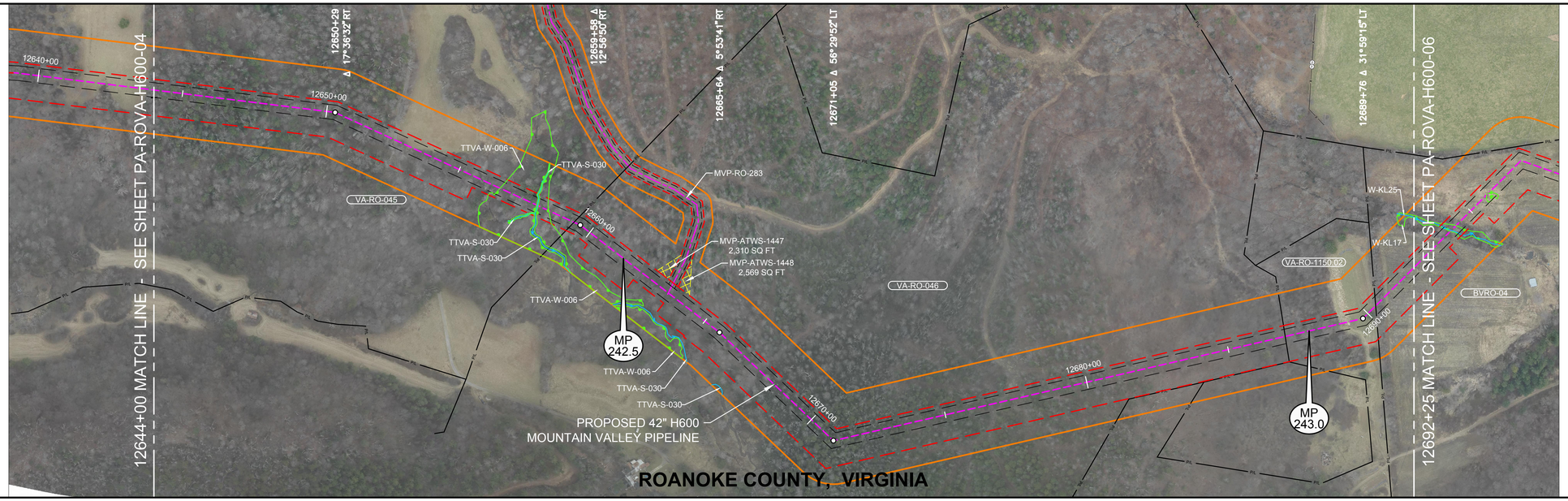
RIGHT-OF-WAY & OWNERSHIP DATA		VA-RO-045 (12644+00 – 12659+34, 1534 LF, 1546 SLOPE); VA-RO-046 (12659+34 – 12687+01, 2767 LF, 2839 SLOPE); VA-RO-1150.02 (12687+01 – 12689+61, 260 LF, 264 SLOPE); VA-RO-1150.02 / BVRO-04 (12689+61 – 12690+69, 108 LF, 108 SLOPE); BVRO-04 (12690+69 – 12692+25, 156 LF, 156 SLOPE)
DESIGN	PIPE / COATING	1
DESIGN	SLOPE DISTANCE	4913'
DESIGN	CLASS LOCATION / HCA	1
ENVIRONMENTAL	CONSTRUCTION EXCLUSION	T.O.Y.R.: NO CONSTRUCTION OCTOBER 1ST TO JUNE 30TH
ENVIRONMENTAL	WETLAND / STREAM	TTVA-W-006: 241 LF; TTVA-W-030: 10 LF
ENVIRONMENTAL	.	
ENVIRONMENTAL	.	



OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC

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
- BARRACADE 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

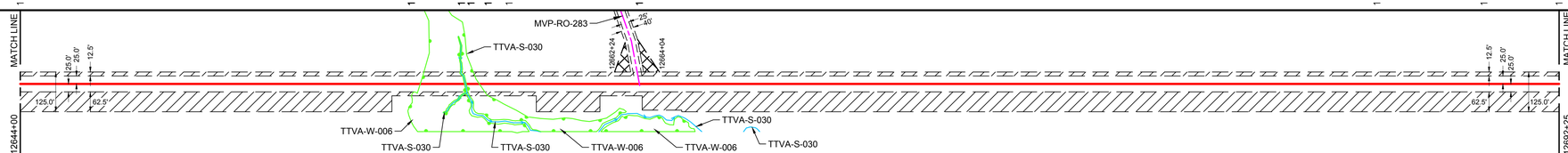
REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-14	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-97	ACCESS ROAD DETAIL MAP

HORIZONTAL STATIONING

WORK SPACE

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



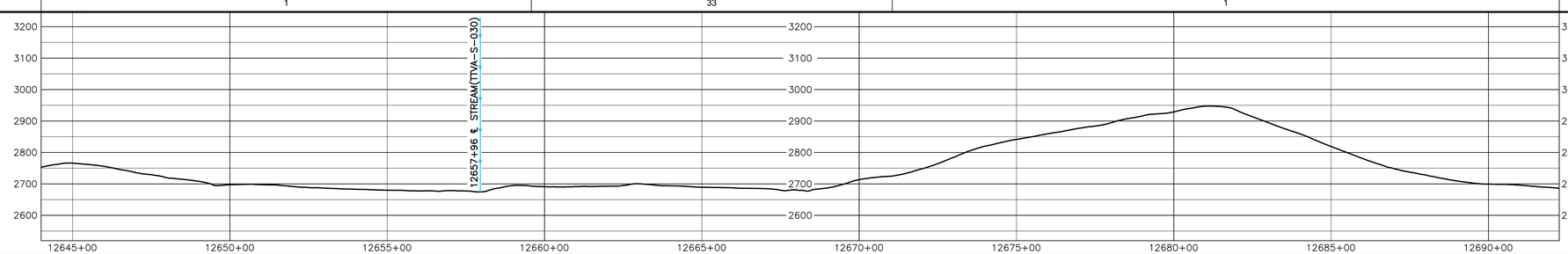
CONSTRUCTION METHOD

1	33	1

CONSTRUCTION METHOD KEY

1 - TYPICAL R/W WORKING SIDE RIGHT
1.1 - TYPICAL R/W WORKING SIDE RIGHT
2 - TYPICAL R/W WORKING SIDE LEFT
2.1 - TYPICAL 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
9 - WATERBODY X-ING OPEN CUT - WET DITCH
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

PROFILE



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www.hollandengineering.com

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0 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	09-05-16	REV. 4.1 ISSUED TO FERC
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	4913	42"O.D. X 0.617"W.T. X70 PSL1 FBE BONDED EPOXY TYPE 1 TEST STATION - PIPELINE

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
-		-

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-05-16

APPROVED FOR FERC

REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16

Mountain Valley PIPELINE

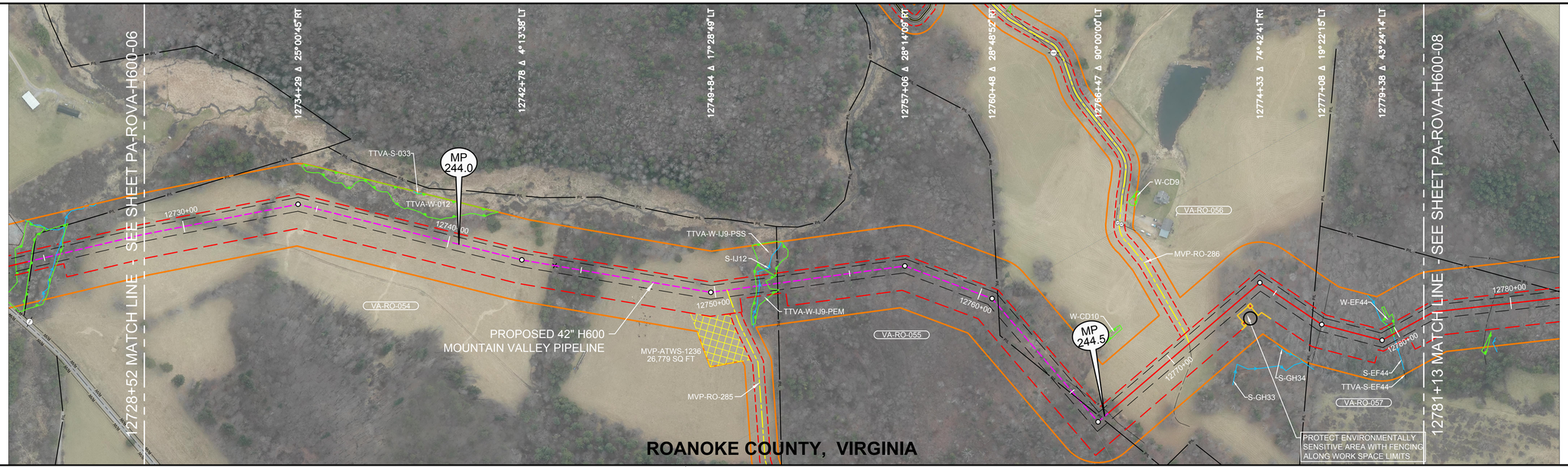
PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
BENT MOUNTAIN PCT.,ROANOKE CO.,VA.
STA. 12644+00 TO STA. 12692+25

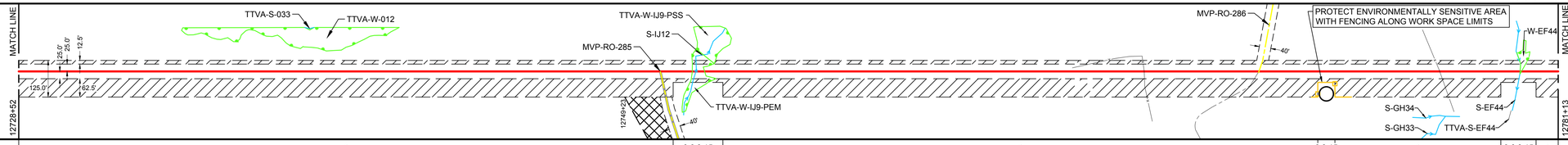
HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/11/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:	.
AFE/P.O.NO.:	
HEI PROJECT NO.:	14-10-052
DRAWING NO.:	PA-ROVA-H600 -05
SHEET 266 OF 329	REV. 4
DATE OF PLOT: 10/11/16 8:21 AM	

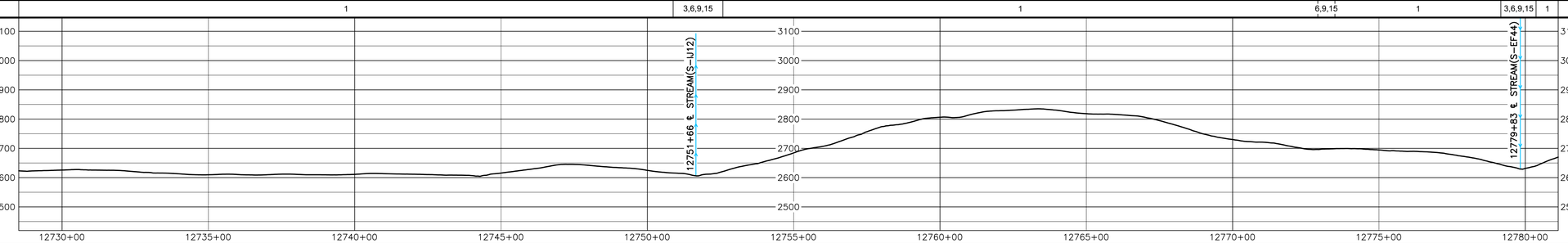
| RIGHT-OF-WAY & OWNERSHIP DATA | | |

RIGHT-OF-WAY & OWNERSHIP DATA																	
		12728+52	VA-RO-054 2380 LF 2389 SLOPE			12752+33	VA-RO-055 814 LF 841 SLOPE		12760+47	VA-RO-058	VA-RO-055 637 LF 641 SLOPE	12766+84	VA-RO-056 982 LF 996 SLOPE		12776+66	VA-RO-057 447 LF 461 SLOPE		12781+13
DESIGN	PIPE / COATING	12728+52	1														12781+13
	SLOPE DISTANCE	4875'															
	CLASS LOCATION / HCA	1															
ENVIRONMENTAL	CONSTRUCTION EXCLUSION																
	WETLAND / STREAM					TTVA-W-IJ9-PEM 89 LF	S-IJ12 3.5 LF	TTVA-W-IJ9-PSS 18 LF							W-EF44 28 LF	S-EF44 5 LF	
	.																
	.																



OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC





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
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- C/L RAILROAD
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- DELINEATED WETLAND
- BARRACADE FENCE
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- 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-H600-14	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-97	ACCESS ROAD DETAIL MAP

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 RIGHT
2 - TYPICAL R/W WORKING SIDE LEFT
2.1 - TYPICAL 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
9 - WATERBODY X-ING OPEN CUT - WET DITCH
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

PROFILE

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	4875	42"O.D. X 0.617"W.T. X70 FUSION BONDED EPOXY
2	1	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	09-05-16	REV. 4.1.1 ISSUED TO BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC

APPROVED FOR CONSTRUCTION			
REV.	BY	DATE	
-	-	-	

APPROVED FOR BIDDING			
REV.	BY	DATE	
3	RRR	09-05-16	

APPROVED FOR FERC			
REV.	BY	DATE	
0	RRR	10-15-15	
4	RRR	10-14-16	

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www.hollandengineering.com

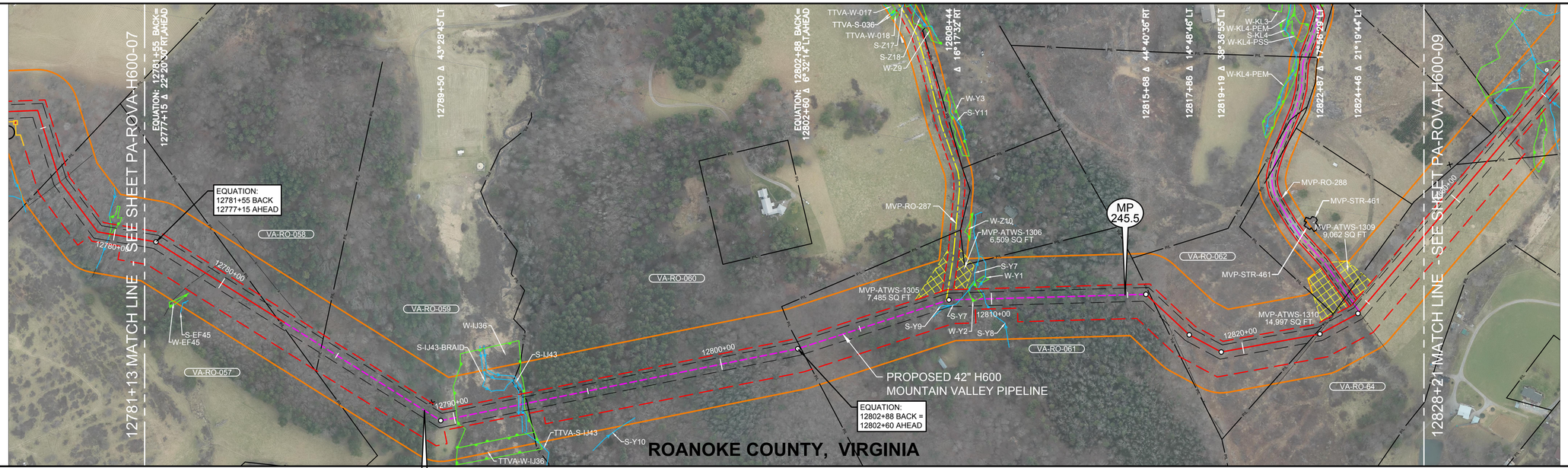
Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
BENT MOUNTAIN PCT.,ROANOKE CO.,VA.
STA. 12781+13 TO STA. 12776+66

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/11/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:	.
AFE/P.O.NO.:	
HEI PROJECT NO.:	14-10-052
DRAWING NO.:	PA-ROVA-H600 -07
SHEET 268 OF 329	REV. 4
DATE OF PLOT: 10/11/16 8:22 AM	

RIGHT-OF-WAY & OWNERSHIP DATA	
	12781+13 EQUATION: 12781+55 BACK = 12777+15 AHEAD; VA-RO-057 472 LF 480 SLOPE; 12781+45 VA-RO-058 275 LF 277 SLOPE; VA-RO-057 275 LF 277 SLOPE; 12784+20 VA-RO-059 46 LF 46 SLOPE; VA-RO-058 46 LF 46 SLOPE; VA-RO-057 46 LF 46 SLOPE; 12784+66 VA-RO-059 795 LF 813 SLOPE; 12792+61 VA-RO-060 13 LF 13 SLOPE; VA-RO-059 13 LF 13 SLOPE; 12792+74 VA-RO-060 1025 LF 1045 SLOPE; EQUATION: 12802+88 BACK = 12802+60 AHEAD; 12802+71 VA-RO-061 1257 LF 1280 SLOPE; 12815+28 VA-RO-062 268 LF 276 SLOPE; VA-RO-061 268 LF 276 SLOPE; 12817+96 VA-RO-062 360 LF 369 SLOPE; 12821+56 VA-RO-062 198 LF 205 SLOPE; VA-RO-64 198 LF 205 SLOPE; 12823+54 VA-RO-64 467 LF 470 SLOPE; 12828+21
DESIGN — PIPE / COATING	12781+13; 1; 12792+29; 4; 12792+69; 1; 12798+44; 2; 12828+21
DESIGN — SLOPE DISTANCE	1584'; 40'; 590'; 3065'
DESIGN — CLASS LOCATION / HCA	1; 2
ENVIRONMENTAL — CONSTRUCTION EXCLUSION	T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-IJ43 MAR 15TH - JUNE 15TH AND AUG 15TH - SEPT 30TH
ENVIRONMENTAL — WETLAND / STREAM	W-IJ36 263 LF; S-IJ43 15 LF; S-Y7 4 LF; S-Y9 14 LF; W-Y2 59 LF; S-Y8 4 LF
ENVIRONMENTAL — .	
ENVIRONMENTAL — .	



PLAN VIEW

0' 100' 200' 400'

LEGEND

- STUDY CORRIDOR
- PROPOSED 42"PIPELINE
- NON-SURVEYED C/L
- 500' TICK MARK
- EXISTING PIPELINE
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- WORK SPACE LIMITS
- PERMANENT ACCESS RD
- TEMPORARY ACCESS RD
- ANCILLARY SITE
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- BARRACADE FENCE
- PI SYMBOL
- PROPOSED TEST STATION
- MAILBOX
- LINE MARKER - VENT PIPE
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- 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

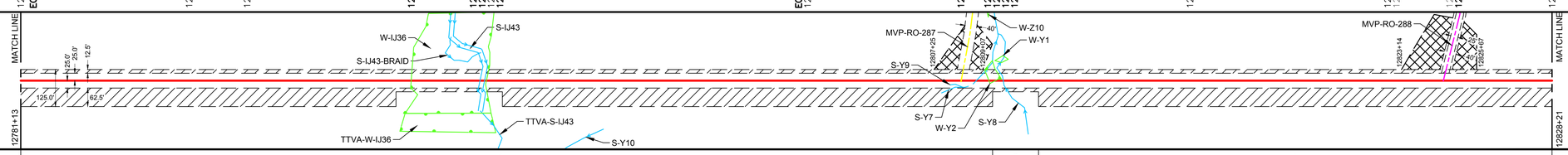
DRAWING NO.	DESCRIPTION
RSS-H600-085	RESIDENTIAL SITE SPECIFIC
MVP-AR-H600-14	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-98	ACCESS ROAD DETAIL MAP

HORIZONTAL STATIONING

12781+13 MATCH LINE
EQUATION: 12781+55 BACK = 12777+15 AHEAD
12782+39 PROPERTY LINE
12784+34 PROPERTY LINE
12790+08 BEGIN WETLAND(W-IJ36)25'IT
12792+42 STREAM BANK(S-IJ43)
12792+57 STREAM BANK(S-IJ43)
12792+74 PROPERTY LINE
12792+71 END WETLAND(W-IJ36)37'RT
EQUATION: 12802+88 BACK = 12802+60 AHEAD
12802+71 PROPERTY LINE
12808+33 ACCESS RD - TEMPORARY (MVP-RO-287)
12808+85 ℄ STREAM(S-Y7)
12809+28 BEGIN WETLAND(W-Y2)
12809+49 END WETLAND(W-Y2)
12809+76 ℄ STREAM(S-Y8)
12816+04 PROPERTY LINE
12822+68 PROPERTY LINE
12822+83 FENCE - BARBED WIRE
12824+52 FENCE - HOG WIRE
12824+55 ACCESS RD - PERMANENR (MVP-RO-288)
12828+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

CONSTRUCTION METHOD KEY

1 - TYPICAL R/W WORKING SIDE RIGHT
1.1 - TYPICAL R/W WORKING SIDE RIGHT
2 - TYPICAL R/W WORKING SIDE LEFT
2.1 - TYPICAL R/W WORKING SIDE LEFT
3 - TYPICAL WETLAND X-ING
4 - ROAD X-ING - BORE
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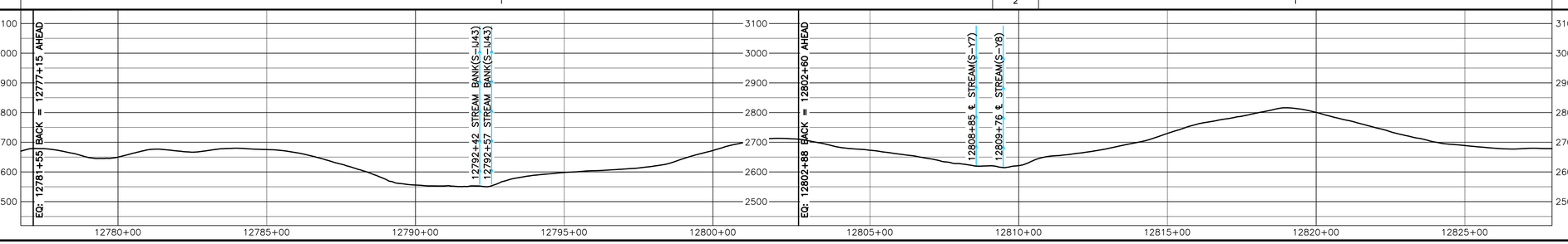
14 - PARALLEL TO POWER LINE
15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
33 - SIDE HILL CONSTRUCTION
34 - 2-TONE SIDE HILL CONSTRUCTION

PROFILE



OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC

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Holland, Michigan 49423-3786
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26850 Evergreen Rd. Suite 430
Southfield, Michigan 48076
T 248.357.1220 F 248.357.1949
www.hollandengineering.com

REVISIONS

REV.	BY	DATE	DESCRIPTION
0	HEI	10-15-15	REV. 4.0 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	09-05-16	90% IFR ISSUED TO MVP
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	2174	42"O.D. X 0.617"W.T. X X70 FUSION BONDED EPOXY
2	3065	42"O.D. X 0.740"W.T. X X70 FUSION BONDED EPOXY
4	40	42"O.D. X 0.740"W.T. X X70, FBE & ARO
		TYPE 1 TEST STATION - PIPELINE

APPROVED FOR CONSTRUCTION		
REV.	BY	DATE
-		

APPROVED FOR BIDDING		
REV.	BY	DATE
3	RRR	09-05-16

APPROVED FOR FERC		
REV.	BY	DATE
0	RRR	10-15-15
4	RRR	10-14-16

Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
BENT MOUNTAIN PCT.,ROANOKE CO.,VA.
STA. 12781+13 TO STA. 12828+21

HORZ. SCALE: 1" = 200'	
DRAWN BY: HEI(DRF)	02/11/15
DRAFTING CK:	.
ENGINEERING CK:	.
CONSTRUCTION CK:	.
ENVIRONMENTAL CK:	.
AFE/P.O.NO.:	
HEI PROJECT NO.:	14-10-052
DRAWING NO.:	PA-ROVA-H600 -08
SHEET 269 OF 329	REV. 4
DATE OF PLOT:	10/11/16 8:22 AM

| | | |