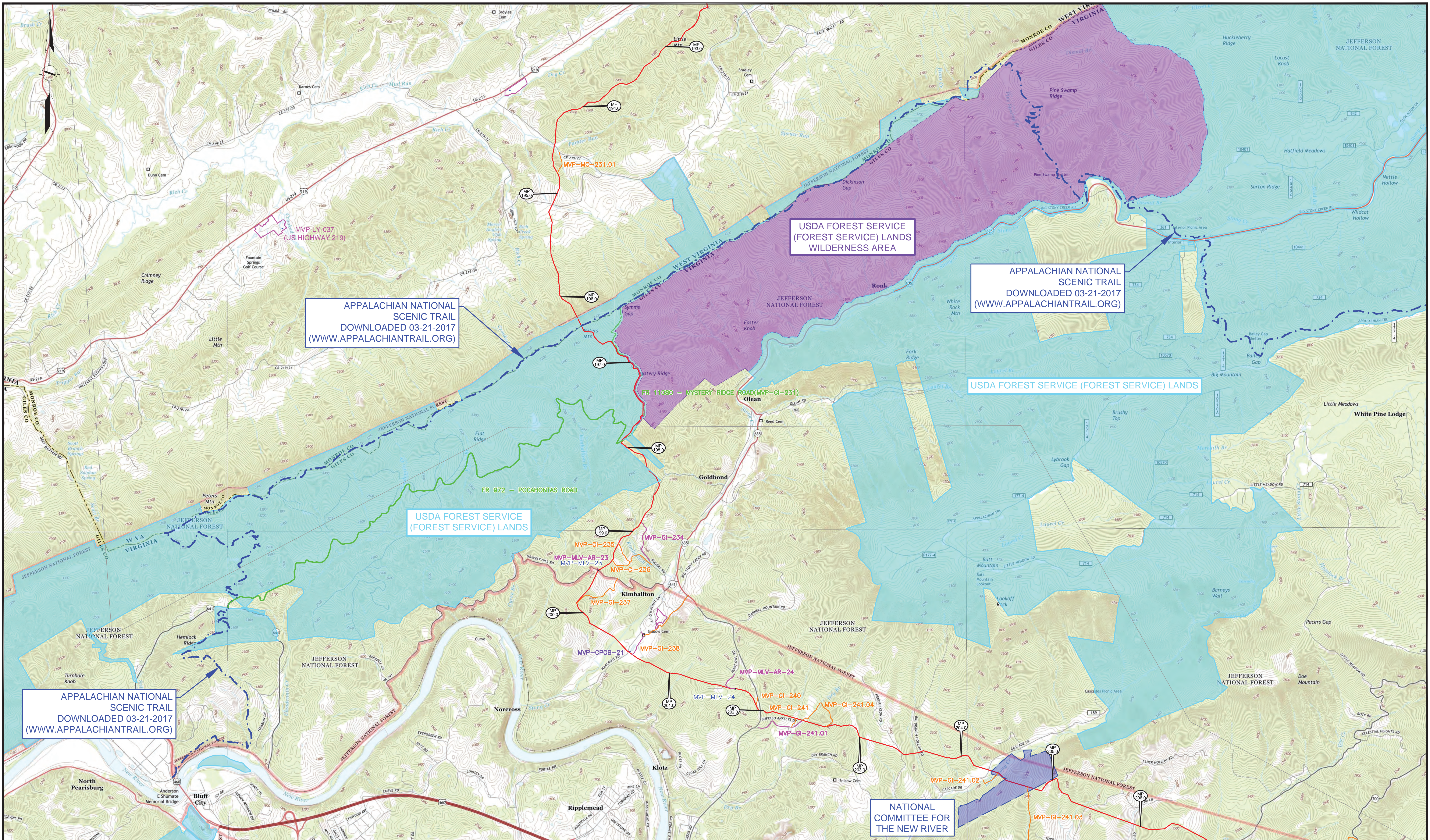


**APPENDIX A-1  
Alignment Sheets**

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APPALACHIAN NATIONAL SCENIC TRAIL  
DOWNLOADED 03-21-2017  
(WWW.APPALACHIANTRAIL.ORG)

USDA FOREST SERVICE  
(FOREST SERVICE) LANDS  
WILDERNESS AREA

APPALACHIAN NATIONAL SCENIC TRAIL  
DOWNLOADED 03-21-2017  
(WWW.APPALACHIANTRAIL.ORG)

USDA FOREST SERVICE (FOREST SERVICE) LANDS

USDA FOREST SERVICE  
(FOREST SERVICE) LANDS

APPALACHIAN NATIONAL SCENIC TRAIL  
DOWNLOADED 03-21-2017  
(WWW.APPALACHIANTRAIL.ORG)

NATIONAL COMMITTEE FOR THE NEW RIVER

**LEGEND**

- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED H600 PIPELINE
- ANCILLARY SITE
- 50' X 50' VALVE SETTING SITE
- USDA FOREST SERVICE (FOREST SERVICE) LANDS
- USDA FOREST SERVICE (FOREST SERVICE) LANDS WILDERNESS AREA

PROJECTION: UTM ZONE 17  
HORIZONTAL DATUM: NAD 83 US SURVEY FEET  
VERTICAL DATUM: NAVD88

DRAWING NUMBER		REFERENCE DRAWINGS		REVISIONS	
DRAWING NUMBER	TITLE	REV	BY	DATE	DESCRIPTION
PA-MONVY-H600-21	ALIGNMENT SHEET	0	DRF	10/15/15	REV 4.0.0 ISSUED TO FERC
PA-GIAV-H600-11	ALIGNMENT SHEET	1	DRF	01-13-16	FERC DATA REQUEST No.1
MVP-QDAR-H600-76-83	ACCESS ROAD DETAIL MAP	2	DRF	04-21-16	FERC DATA REQUEST No.2
		3	DRF	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
		4	DRF	11-27-17	ISSUED FOR CONSTRUCTION
		5	DRF	05-15-20	REMOVED ACCESS ROAD MVP-GI-232

**HOLLAND ENGINEERING**

220 Hoover Boulevard, Suite 5  
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

APPROVED FOR FERC			APPROVED FOR BIDDING			APPROVED FOR CONSTRUCTION		
REV.	BY	DATE	REV.	BY	DATE	REV.	BY	DATE
0	RRR	10-15-15				4	JJS	11-27-17
3								
4	JJS	11-27-17						

HORZ. SCALE: 1" = 2000'

DRAWN BY: HEI(DRF) 09/27/15

DRAFTING CK: .

ENGINEERING CK: .

UIE JOB NO.: .

AFE/P.O. NO.: .

HEI PROJECT NO.: 14-10-052

UIE FILE NO.: .

DRAWING NO.: MVP-AR-H600-11

SHEET 11 OF 21 REV. 5

DATE OF PLOT: 5/15/20 1:15 PM

**Mountain Valley PIPELINE**

PROPOSED ACCESS ROADS,  
ANCILLARY SITES, MAINLINE VALVES  
& LAUNCHER / RECEIVER SITES  
MVP PIPELINE PROJECT - H600 LINE  
MONROE CO., W.V. & GILES CO. VA.



NATIONAL COMMITTEE FOR THE NEW RIVER

USDA FOREST SERVICE (FOREST SERVICE) LANDS

USDA FOREST SERVICE (FOREST SERVICE) LANDS WILDERNESS AREA

USDA FOREST SERVICE (FOREST SERVICE) LANDS

APPALACHIAN NATIONAL SCENIC TRAIL  
DOWNLOADED 03-21-2017  
(WWW.APPALACHIANTRAIL.ORG)

USDA FOREST SERVICE (FOREST SERVICE) LANDS WILDERNESS AREA

BRUSH MOUNTAIN ROAD - FR188

**LEGEND**

- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED H600 PIPELINE
- ANCILLARY SITE
- 50' X 50' VALVE SETTING SITE
- USDA FOREST SERVICE (FOREST SERVICE) LANDS
- USDA FOREST SERVICE (FOREST SERVICE) LANDS WILDERNESS AREA

PROJECTION: UTM ZONE 17  
HORIZONTAL DATUM: NAD 83 US SURVEY FEET  
VERTICAL DATUM: NAVD88

DRAWING NUMBER		TITLE	REV	BY	DATE	DESCRIPTION
PA-GIVA-H600-12	ALIGNMENT SHEET		0	DRF	10/15/15	REV 4.0.0 ISSUED TO FERC
PA-MOVA-H600-45	ALIGNMENT SHEET		1	DRF	01/13/16	FERC DATA REQUEST No.1
MVP-QDAR-H600-83-87	ACCESS ROAD DETAIL MAP		2	DRF	04-21-16	FERC DATA REQUEST No.2
			3	DRF	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
			4	DRF	11-27-17	ISSUED FOR CONSTRUCTION

**HOLLAND ENGINEERING**

220 Hoover Boulevard, Suite 5 | 26555 Evergreen Rd., Suite 430  
Holland, Michigan 49423-3766 | Southfield, Michigan 48076  
T 616-392-5938 F 616-392-2116 | T 248-827-7322 F 248-827-7549

www.hollandengineering.com

APPROVED FOR FERC			APPROVED FOR BIDDING			APPROVED FOR CONSTRUCTION		
REV.	BY	DATE	REV.	BY	DATE	REV.	BY	DATE
0	RRR	10-15-15		J.J.		4	JJS	11-27-17
3	RRR	10-14-16						
4	JJS	11-27-17						

HORZ. SCALE: 1" = 2000'

DRAWN BY: HEI(DRF) 09/27/15

DRAFTING CK: [ ]

ENGINEERING CK: [ ]

UIE JOB NO.: [ ]

AFE/P.O. NO.: [ ]

HEI PROJECT NO.: 14-10-052

UIE FILE NO.: [ ]

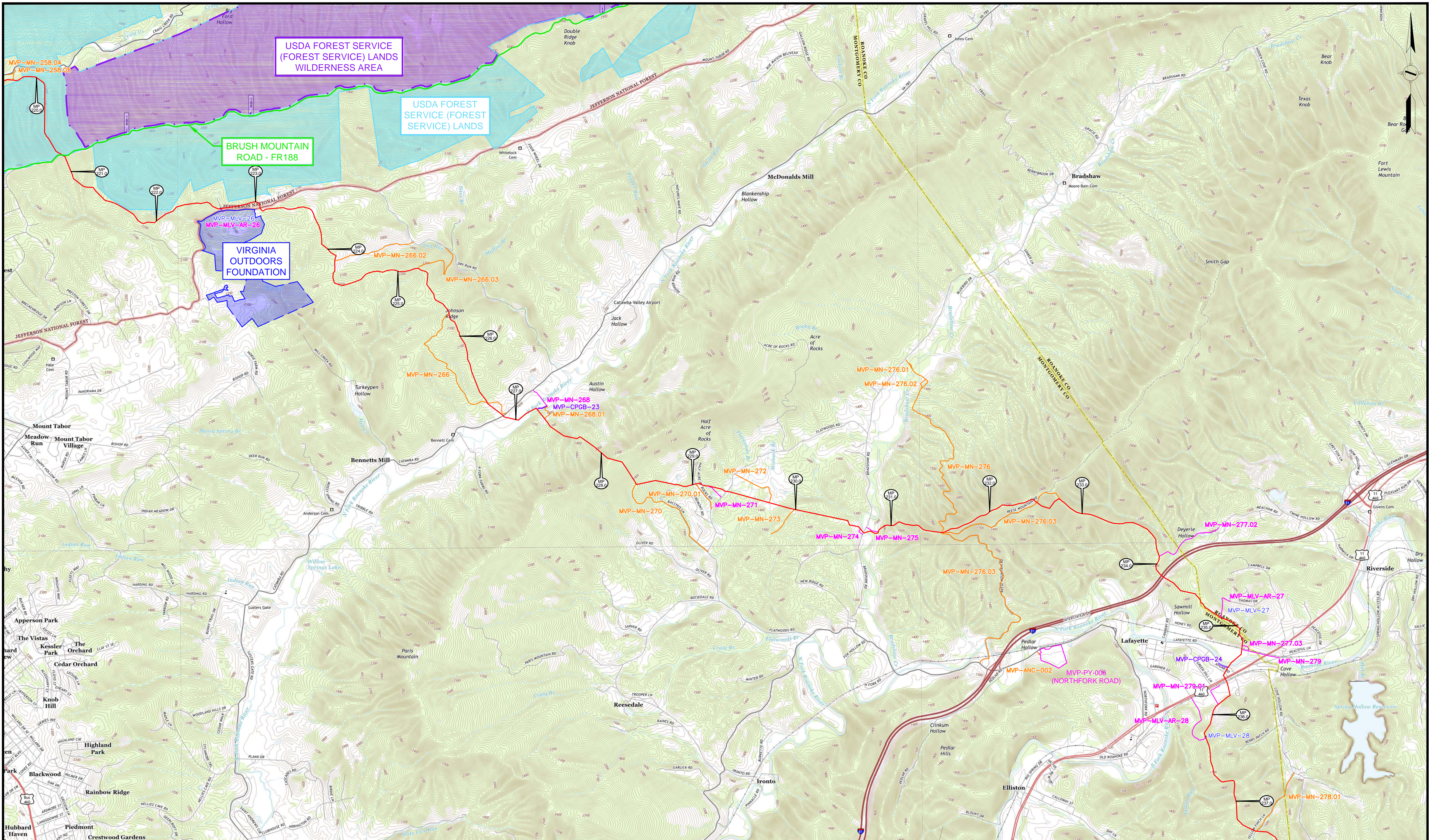
DRAWING NO.: MVP-AR-H600-12

SHEET 12 OF 21 REV. 4

DATE OF PLOT: 11/27/17 11:28 AM

**Mountain Valley PIPELINE**

PROPOSED ACCESS ROADS,  
ANCILLARY SITES, MAINLINE VALVES  
& LAUNCHER / RECEIVER SITES  
MVP PIPELINE PROJECT - H600 LINE  
GILES, CRAIG & MONTGOMERY CO.'S VA.



LEGEND	
	PERMANENT ACCESS ROAD
	TEMPORARY ACCESS ROAD
	PROPOSED H600 PIPELINE
	ANCILLARY SITE
	50' X 50' VALVE SETTING SITE
	USDA FOREST SERVICE (FOREST SERVICE) LANDS
	USDA FOREST SERVICE (FOREST SERVICE) LANDS WILDERNESS AREA

PROJECTION: UTM ZONE 17  
 HORIZONTAL DATUM: NAD 83 US SURVEY FEET  
 VERTICAL DATUM: NAVD88

REFERENCE DRAWINGS		REVISIONS			
DRAWING NUMBER	TITLE	REV	BY	DATE	DESCRIPTION
PA-MOVA-H600-06-21	ALIGNMENT SHEET	0	DRF	10/15/15	REV 4.0.0 ISSUED TO FERC
MVP-QDAR-H600-07-06	ACCESS ROAD DETAIL MAP	1	DRF	01-13-16	FERC DATA REQUEST No. 1
MVP-QDAS-H600-04	ANCILLARY SITE DETAIL MAP	2	DRF	04-21-16	FERC DATA REQUEST No. 2
		3	DRF	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
		4	DRF	11-27-17	ISSUED FOR CONSTRUCTION

**HOLLAND ENGINEERING**

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

www.hollandengineering.com

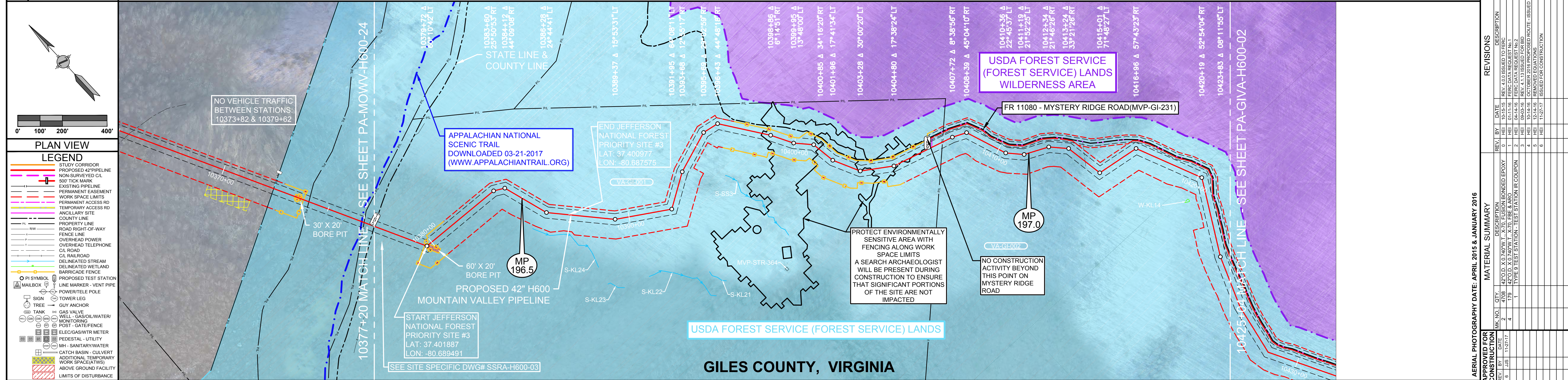
APPROVED FOR FERC			APPROVED FOR BIDDING			APPROVED FOR CONSTRUCTION		
REV.	BY	DATE	REV.	BY	DATE	REV.	BY	DATE
0	RRR	10-15-15				4	JJS	11-27-17
3	RRR	10-14-16						
4	JJS	11-27-17						

DRAWN BY: HEI(DRF)		08/27/15
DRAFTING CK:		
ENGINEERING CK:		
UIE JOB NO.:		
AFE/P.O. NO.:		
HEI PROJECT NO.:		14-10-052
UIE FILE NO.:		
DRAWING NO.:		MVP-AR-H600-13
SHEET 13 OF 21		REV. 4
DATE OF PLOT:		11/27/17 11:29 AM

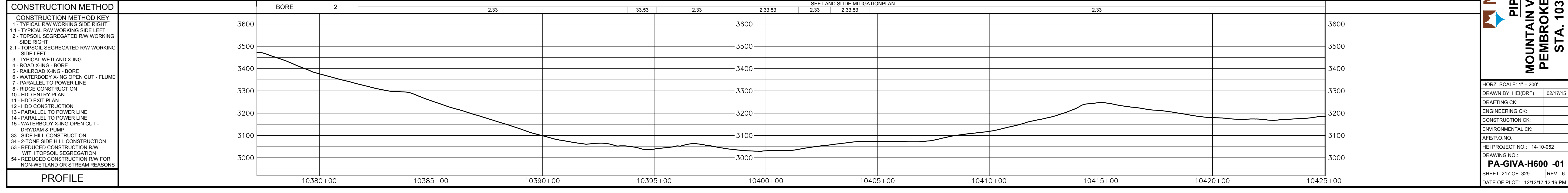
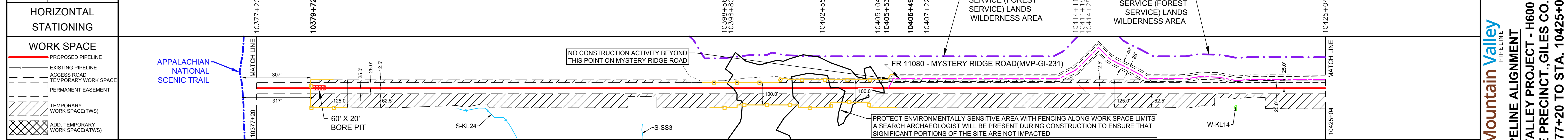
**Mountain Valley PIPELINE**

PROPOSED ACCESS ROADS,  
 ANCILLARY SITES, MAINLINE VALVES  
 & LAUNCHER / RECEIVER SITES  
 MVP PIPELINE PROJECT - H600 LINE  
 MONTGOMERY & ROANOKE COUNTIES VA.

DESIGN	PIPE / COATING	4	2
	SLOPE DISTANCE	179'	4708'
	CLASS LOCATION / HCA		1
ENVIRONMENTAL	CONSTRUCTION EXCLUSION	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS	
	WETLAND / STREAM		W-KL 14 20 LF



REFERENCE DRAWINGS	DESCRIPTION
MVP-AR-H600-11	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
SSRA-H600-03	RECREATIONAL SITE SPECIFIC PATH-WAY H600-1204-02 CATHODIC PROTECTION STANDARD DRAWING



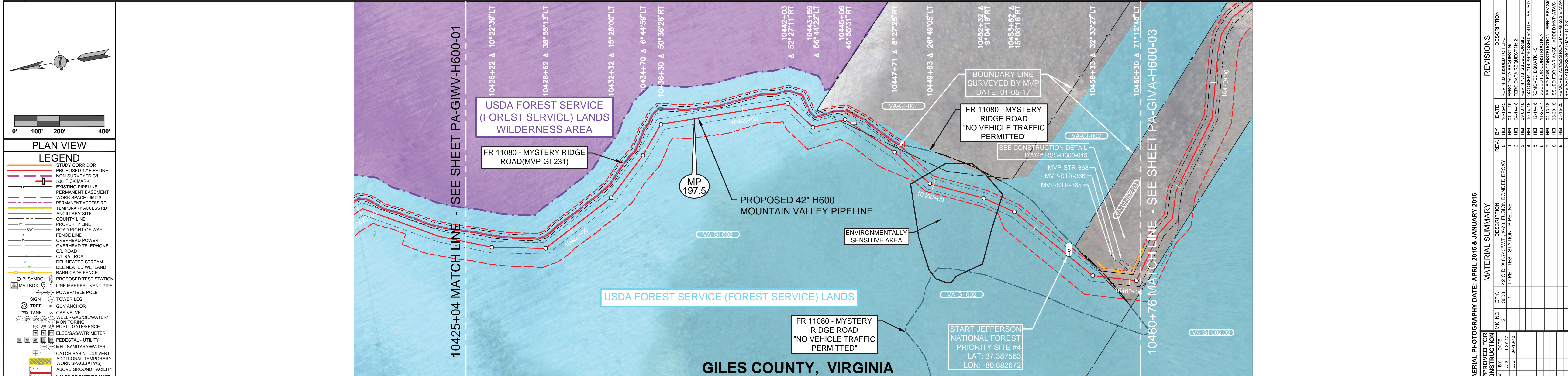
**HOLLAND**  
ENGINEERING

2500 Riverbend, Suite 2  
 1110 S. 25th Street  
 24847-2522  
 www.hollandengineering.com

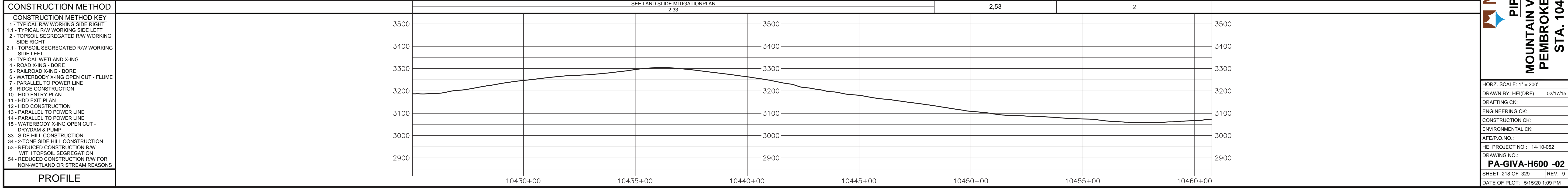
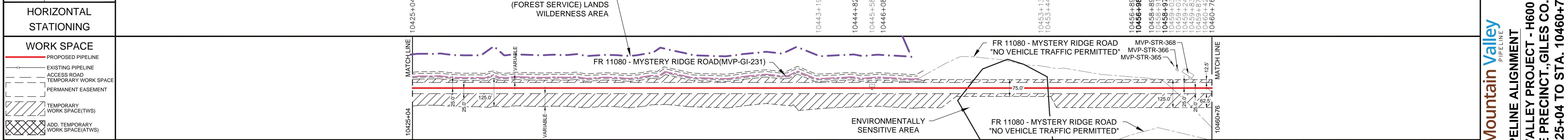
REVISIONS	
NO.	DESCRIPTION
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2	REVISED FOR PERMITS
3	REVISED FOR PERMITS
4	REVISED FOR PERMITS
5	REVISED FOR PERMITS
6	REVISED FOR PERMITS

MATERIAL SUMMARY	
QTY.	DESCRIPTION
1	TYPE B TEST STATION - TEST STATION RE COUPON
1	TYPE B TEST STATION - TEST STATION RE COUPON

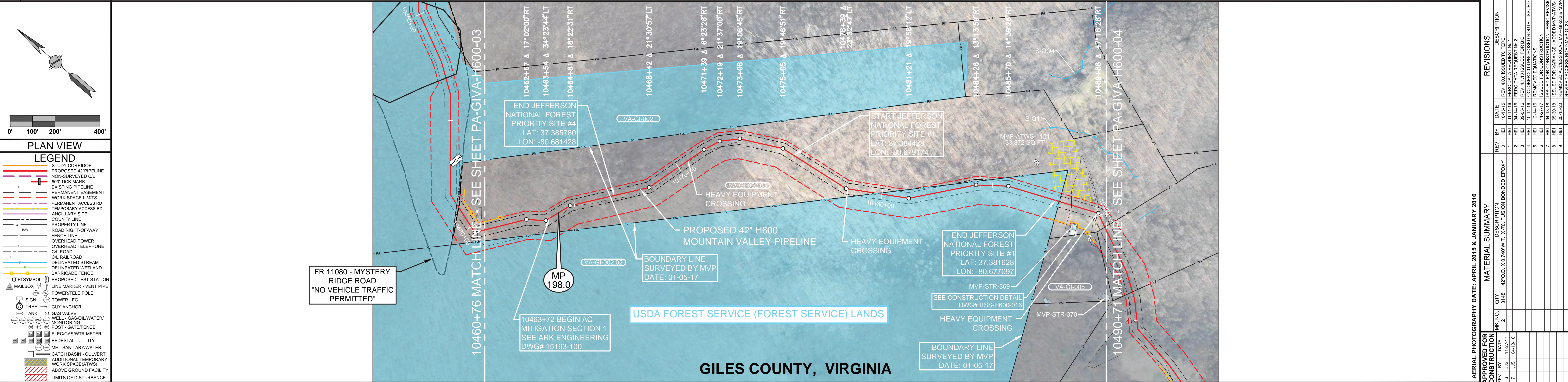
RIGHT-OF-WAY & OWNERSHIP DATA		VA-GI-002	VA-GI-004	VA-GI-002	VA-GI-002.03	VA-GI-002.03	VA-GI-002.03	
DESIGN	PIPE / COATING							
	SLOPE DISTANCE			2				
	CLASS LOCATION / HCA			3600'				
ENVIRONMENTAL	CONSTRUCTION EXCLUSION		TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS					
	WETLAND / STREAM							



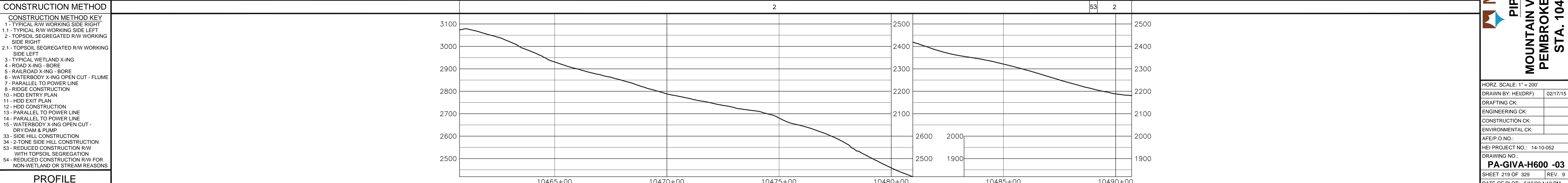
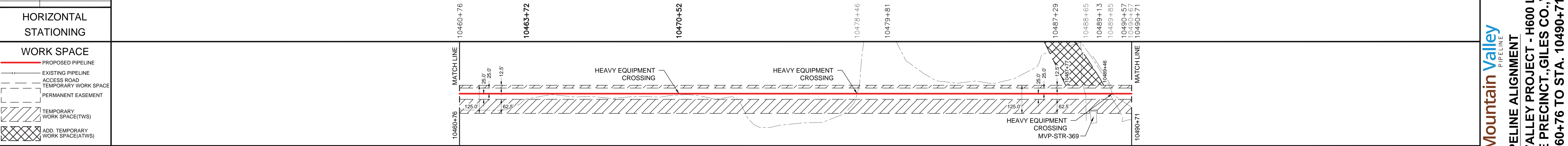
REFERENCE DRAWINGS	
DRAWING NO.	DESCRIPTION
MVP-AR-H600-11	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-20A8-H600-04	ACCESS ROAD DETAIL MAP
RSS-H600-015	RESIDENTIAL SITE SPECIFIC
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING



RIGHT-OF-WAY & OWNERSHIP DATA	<table border="1"> <tr> <td>VA-GI-002-03</td> <td>VA-GI-002-01</td> <td>VA-GI-002-03</td> <td>VA-GI-002-02</td> <td>VA-GI-002-03</td> <td>VA-GI-002-03</td> <td>VA-GI-002-03</td> <td>VA-GI-002-03</td> <td>VA-GI-002-03</td> <td>VA-GI-002-03</td> <td>VA-GI-002-03</td> </tr> <tr> <td>10462+76</td> <td>10464+11</td> <td>10471+02</td> <td>10484+45</td> <td>10487+29</td> <td>10490+34</td> <td>10494+56</td> <td>10498+05</td> <td>10499+71</td> <td>10499+71</td> <td>10499+71</td> </tr> <tr> <td>335 LF 395 SLOPE</td> <td>1381 LF 1444 SLOPE</td> <td>770 LF 822 SLOPE</td> <td>167 LF 174 SLOPE</td> <td>395 LF 315 SLOPE</td> <td>21 LF 21 SLOPE</td> <td>16 LF 17 SLOPE</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	VA-GI-002-03	VA-GI-002-01	VA-GI-002-03	VA-GI-002-02	VA-GI-002-03	VA-GI-002-03	VA-GI-002-03	VA-GI-002-03	VA-GI-002-03	VA-GI-002-03	VA-GI-002-03	10462+76	10464+11	10471+02	10484+45	10487+29	10490+34	10494+56	10498+05	10499+71	10499+71	10499+71	335 LF 395 SLOPE	1381 LF 1444 SLOPE	770 LF 822 SLOPE	167 LF 174 SLOPE	395 LF 315 SLOPE	21 LF 21 SLOPE	16 LF 17 SLOPE				
VA-GI-002-03	VA-GI-002-01	VA-GI-002-03	VA-GI-002-02	VA-GI-002-03	VA-GI-002-03	VA-GI-002-03	VA-GI-002-03	VA-GI-002-03	VA-GI-002-03	VA-GI-002-03																								
10462+76	10464+11	10471+02	10484+45	10487+29	10490+34	10494+56	10498+05	10499+71	10499+71	10499+71																								
335 LF 395 SLOPE	1381 LF 1444 SLOPE	770 LF 822 SLOPE	167 LF 174 SLOPE	395 LF 315 SLOPE	21 LF 21 SLOPE	16 LF 17 SLOPE																												
DESIGN	<table border="1"> <tr> <td>PIPE / COATING</td> <td>2</td> </tr> <tr> <td>SLOPE DISTANCE</td> <td>3148'</td> </tr> <tr> <td>CLASS LOCATION / HCA</td> <td>1</td> </tr> </table>	PIPE / COATING	2	SLOPE DISTANCE	3148'	CLASS LOCATION / HCA	1																											
PIPE / COATING	2																																	
SLOPE DISTANCE	3148'																																	
CLASS LOCATION / HCA	1																																	
ENVIRONMENTAL	<p>TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS</p>																																	



REFERENCE DRAWINGS	<table border="1"> <tr> <th>DRAWING NO.</th> <th>DESCRIPTION</th> </tr> <tr> <td>MVP-AR-H600-11</td> <td>ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES &amp; LAUNCHER/RECEIVER SITES</td> </tr> <tr> <td>RSS-H600-016</td> <td>RESIDENTIAL SITE SPECIFIC</td> </tr> <tr> <td>15193-100</td> <td>ARK ENGINEERING AC MITIGATION DESIGN</td> </tr> </table>	DRAWING NO.	DESCRIPTION	MVP-AR-H600-11	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES	RSS-H600-016	RESIDENTIAL SITE SPECIFIC	15193-100	ARK ENGINEERING AC MITIGATION DESIGN
DRAWING NO.	DESCRIPTION								
MVP-AR-H600-11	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES								
RSS-H600-016	RESIDENTIAL SITE SPECIFIC								
15193-100	ARK ENGINEERING AC MITIGATION DESIGN								



CONSTRUCTION METHOD	<p>CONSTRUCTION METHOD KEY</p> <ul style="list-style-type: none"> <li>1 - TYPICAL R/W WORKING SIDE RIGHT</li> <li>1.1 - TYPICAL R/W WORKING SIDE LEFT</li> <li>2 - TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT</li> <li>2.1 - TOPSOIL SEGREGATED R/W WORKING SIDE LEFT</li> <li>3 - TYPICAL WETLAND X-ING</li> <li>4 - ROAD X-ING - BORE</li> <li>5 - RAILROAD X-ING - BORE</li> <li>6 - WATERBODY X-ING OPEN CUT - FLUME</li> <li>7 - PARALLEL TO POWER LINE</li> <li>8 - RIDGE CONSTRUCTION</li> <li>10 - HDD ENTRY PLAN</li> <li>11 - HDD EXIT PLAN</li> <li>12 - HDD CONSTRUCTION</li> <li>13 - PARALLEL TO POWER LINE</li> <li>14 - PARALLEL TO POWER LINE</li> <li>15 - WATERBODY X-ING OPEN CUT - DRY/DAM &amp; PUMP</li> <li>33 - SIDE HILL CONSTRUCTION</li> <li>34 - 2-TONE SIDE HILL CONSTRUCTION</li> <li>53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION</li> <li>54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS</li> </ul>
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PROFILE	<p>HORIZ. SCALE: 1" = 200'</p> <p>DRAWN BY: HEI(DRF) 02/17/15</p> <p>DRAFTING CK:</p> <p>ENGINEERING CK:</p> <p>CONSTRUCTION CK:</p> <p>ENVIRONMENTAL CK:</p> <p>AFE/P.O. NO.:</p> <p>HEI PROJECT NO.: 14-10-052</p> <p>DRAWING NO.: PA-GIVA-H600-03</p> <p>SHEET 219 OF 329 REV. 9</p> <p>DATE OF PLOT: 5/15/20 1:10 PM</p>
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**HOLLAND ENGINEERING**

200 Hoover Boulevard, Suite 2  
26565 Englewood Rd, Suite 430  
Tomball, TX 77375  
T: 281-352-9338 F: 281-352-2111 W: www.hollandengineering.com

REV.	BY	DATE	DESCRIPTION
0	HEI	05-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST NO. 1
2	HEI	09-24-16	REV. 4.1.0 ISSUED FOR BIDDING
3	HEI	09-24-16	REV. 4.1.13 ISSUED FOR BIDDING
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	12-14-16	REMOVED EASEMENTS
6	HEI	04-14-16	ISSUED FOR CONSTRUCTION - FERRENSON REQUEST
7	HEI	05-20-16	ISSUED FOR VARIANCE - ADDED MVP-ATWS-1554
8	HEI	05-20-16	REMOVED ACCESS ROAD (MVP-STR-370)
9	HEI	05-20-16	REMOVED ACCESS ROAD (MVP-STR-369)

REV.	BY	DATE	DESCRIPTION
0	HEI	05-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST NO. 1
2	HEI	09-24-16	REV. 4.1.0 ISSUED FOR BIDDING
3	HEI	09-24-16	REV. 4.1.13 ISSUED FOR BIDDING
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	12-14-16	REMOVED EASEMENTS
6	HEI	04-14-16	ISSUED FOR CONSTRUCTION - FERRENSON REQUEST
7	HEI	05-20-16	ISSUED FOR VARIANCE - ADDED MVP-ATWS-1554
8	HEI	05-20-16	REMOVED ACCESS ROAD (MVP-STR-370)
9	HEI	05-20-16	REMOVED ACCESS ROAD (MVP-STR-369)

REV.	BY	DATE	DESCRIPTION
0	HEI	05-15-15	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST NO. 1
2	HEI	09-24-16	REV. 4.1.0 ISSUED FOR BIDDING
3	HEI	09-24-16	REV. 4.1.13 ISSUED FOR BIDDING
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
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8	HEI	05-20-16	REMOVED ACCESS ROAD (MVP-STR-370)
9	HEI	05-20-16	REMOVED ACCESS ROAD (MVP-STR-369)

**Mountain Valley Pipeline**

**PIPELINE ALIGNMENT**

**MOUNTAIN VALLEY PROJECT - H600 LINE**

**PEMBROKE PRECINCT, GILES CO., VA.**

**STA. 10460+76 TO STA. 10490+71**

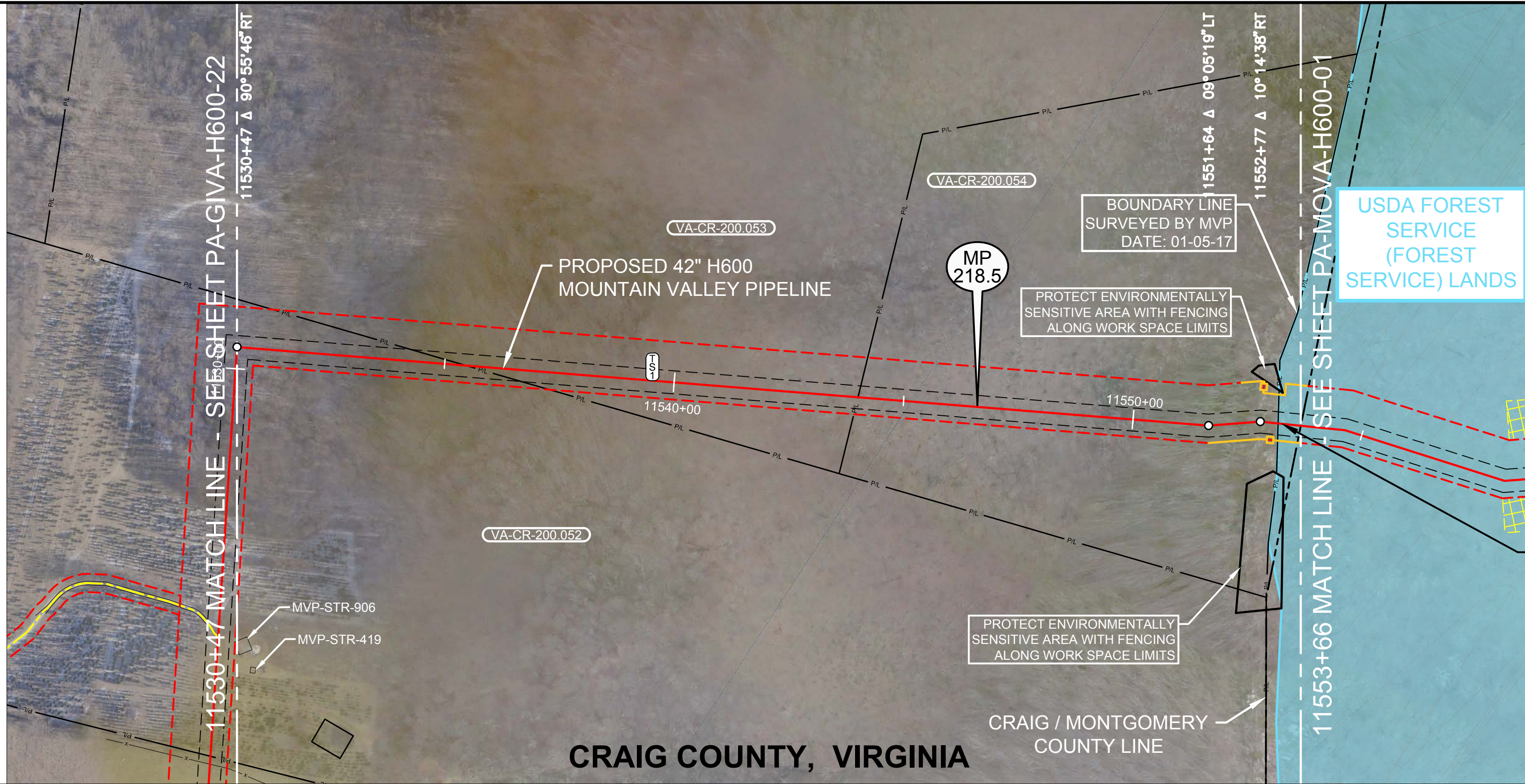
APPROVED FOR CONSTRUCTION  
DATE: APRIL 2015 & JANUARY 2016

RIGHT-OF-WAY & OWNERSHIP DATA		VA-CR-200.052	VA-CR-200.053	VA-CR-200.053	VA-CR-200.054		
DESIGN	PIPE / COATING	11530+47	73 LF 74 SLOPE	11531+26	612 LF 632 SLOPE	11534+01	
	SLOPE DISTANCE	11530+47				11534+01	
	CLASS LOCATION / HCA					11534+01	
ENVIRONMENTAL	CONSTRUCTION EXCLUSION	11530+47	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS				11534+01
	WETLAND / STREAM						

**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
- PROPOSED TEST STATION
- PI SYMBOL
- LINE MARKER - VENT PIPE
- MAILBOX
- POWER/TELE POLE
- TOWER LEG
- GUY ANCHOR
- TREE
- TANK
- GAS VALVE
- WELL - GAS/OIL/WATER
- MONITORING
- POST - GATE/FENCE
- ELEC/GAS/WTR METER
- PEDESTAL - UTILITY
- SH - SANITARY WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(TWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE



**ISSUED FOR CONSTRUCTION**

**REFERENCE DRAWINGS**

DRAWING NO.	DESCRIPTION
MVP-AR-H600-12	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

**HORIZONTAL STATIONING**

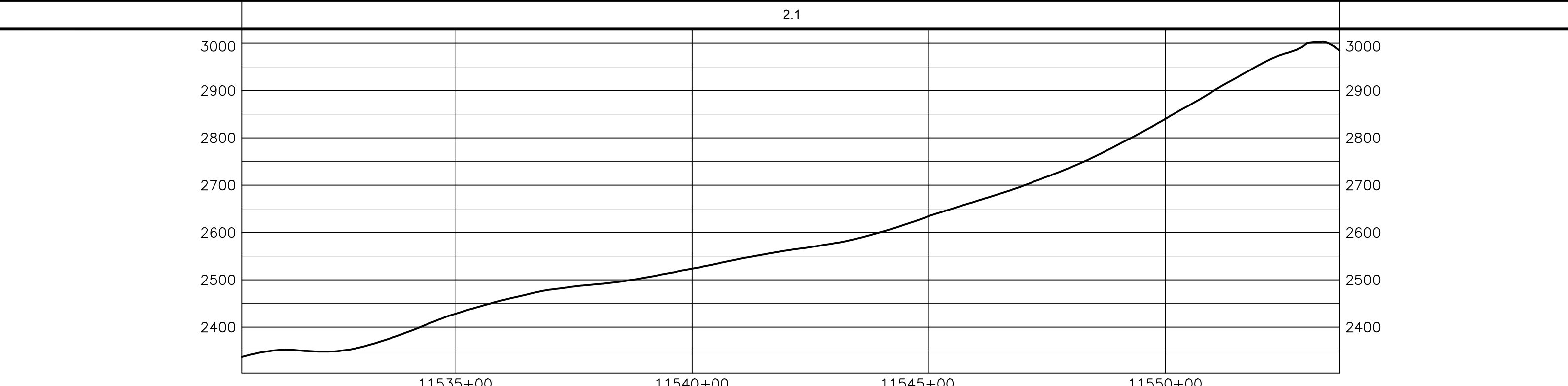
11530+47 MATCH LINE	11535+47 PROPERTY LINE	11539+53 PROPOSED TYPE 1 TEST STATION	11544+01 PROPERTY LINE	11553+66 PROPERTY LINE MATCH LINE, END CRAIG COUNTY, BEGIN MONTGOMERY COUNTY
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**CONSTRUCTION METHOD**

**CONSTRUCTION METHOD KEY**

- TYPICAL R/W WORKING SIDE RIGHT
- TYPICAL R/W WORKING SIDE LEFT
- TOPSOIL SEGREGATED R/W WORKING SIDE RIGHT
- TOPSOIL SEGREGATED R/W WORKING SIDE LEFT
- TYPICAL WETLAND X-ING
- ROAD X-ING - BORE
- RAILROAD X-ING - BORE
- WATERBODY X-ING OPEN CUT - FLUME
- PARALLEL TO POWER LINE
- RIDGE CONSTRUCTION
- HDD ENTRY PLAN
- HDD EXIT PLAN
- HDD CONSTRUCTION
- PARALLEL TO POWER LINE
- PARALLEL TO POWER LINE
- WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
- SIDE HILL CONSTRUCTION
- 2-TONE SIDE HILL CONSTRUCTION
- REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
- REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS



**HOLLAND ENGINEERING**

200 Hoover Boulevard, Suite 200  
 20000 Englewood Rd, Suite 470  
 Folsom, CA 95630  
 Tel: 916.352.2008 Fax: 916.352.2111  
 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	09-20-16	REV. 4.1.13 ISSUED FOR BID
3	HEI	09-20-16	REV. 4.1.13 ISSUED FOR BID
4	HEI	10-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	12-14-16	REVISED EDITIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

**MATERIAL SUMMARY**

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**APPROVED FOR CONSTRUCTION**

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**Mountain Valley PIPELINE ALIGNMENT**

**MOUNTAIN VALLEY PROJECT - H600 LINE**

**GIVENS & REYNOLD STORE PCT., CRAIG CO., VA.**

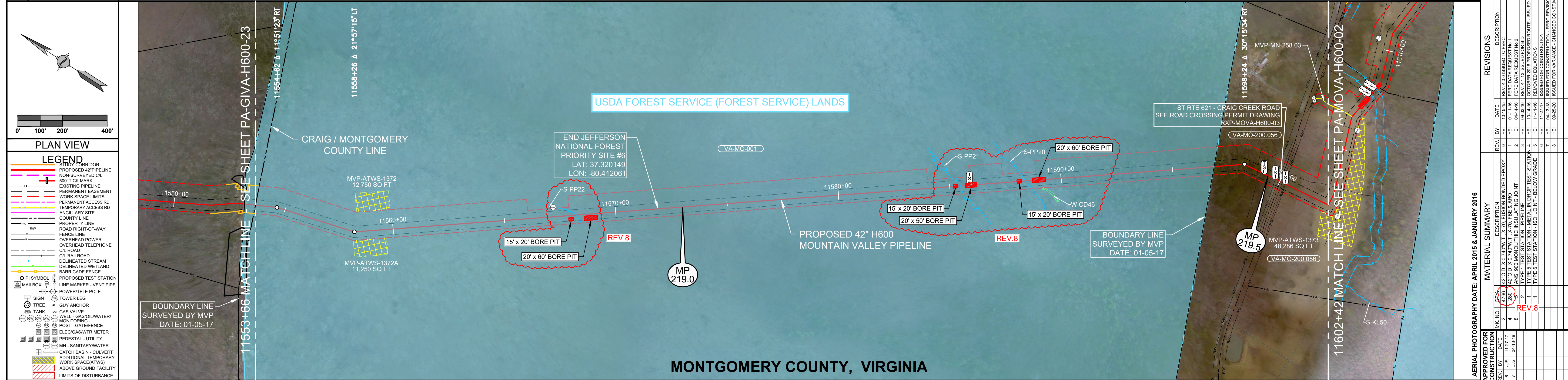
**STA. 11530+47 TO STA. 11553+66**

**APPROVED FOR BIDDING**

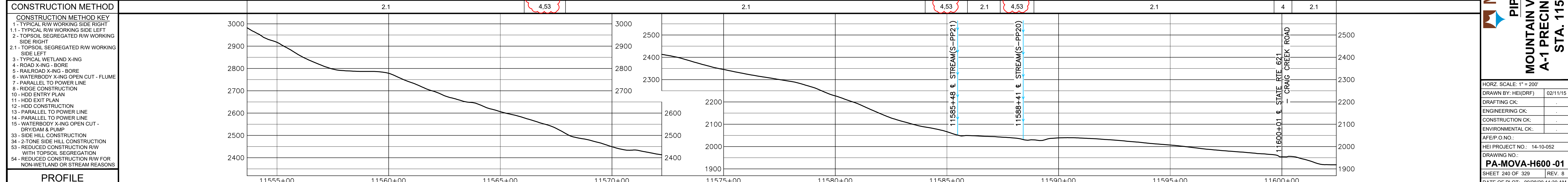
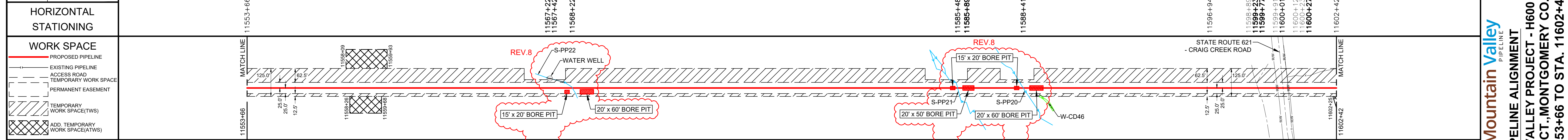
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6	HEI	11-27-17	ISSUED FOR CONSTRUCTION



RIGHT-OF-WAY & OWNERSHIP DATA		VA-MO-001		VA-MO-200-056		VA-MO-200-056		VA-MO-200-056	
DESIGN	PIPE / COATING	2		2		2		2	
DESIGN	SLOPE DISTANCE	1470'		1776'		1045'			
DESIGN	CLASS LOCATION / HCA	REV.8		REV.8		REV.8			
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 STREAMS S-PP21 & S-PP20 MARCH 1ST - JULY 31ST & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.		TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS			
ENVIRONMENTAL	WETLAND / STREAM	S-PP22 80 LF		S-PP21 4 LF		S-PP20 6 LF			



REFERENCE DRAWINGS	DRAWING NO.	DESCRIPTION
	MVP-AR-H600-12	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
	PA-MOVA-H600-01	STATE ROUTE 621 PERMIT DWG
	P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING
	P-W-H600-1204-02	CATHODIC PROTECTION STANDARD DRAWING



CONSTRUCTION METHOD	CONSTRUCTION METHOD KEY	1 - TYPICAL R/W WORKING SIDE RIGHT	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
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PROFILE	CONSTRUCTION METHOD KEY	1 - TYPICAL R/W WORKING SIDE RIGHT	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
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**HOLLAND ENGINEERING**  
 200 Hoover Boulevard, Suite 2  
 28056 Englewood, NC, USA, 430  
 T: 910-362-9308 F: 910-362-9311 P: 910-362-9322 E: holland@holland-engineering.com  
 www.holland-engineering.com

REV.	BY	DATE	DESCRIPTION
0	HE	01-05-17	REV. 4.0.0 ISSUED TO FERC
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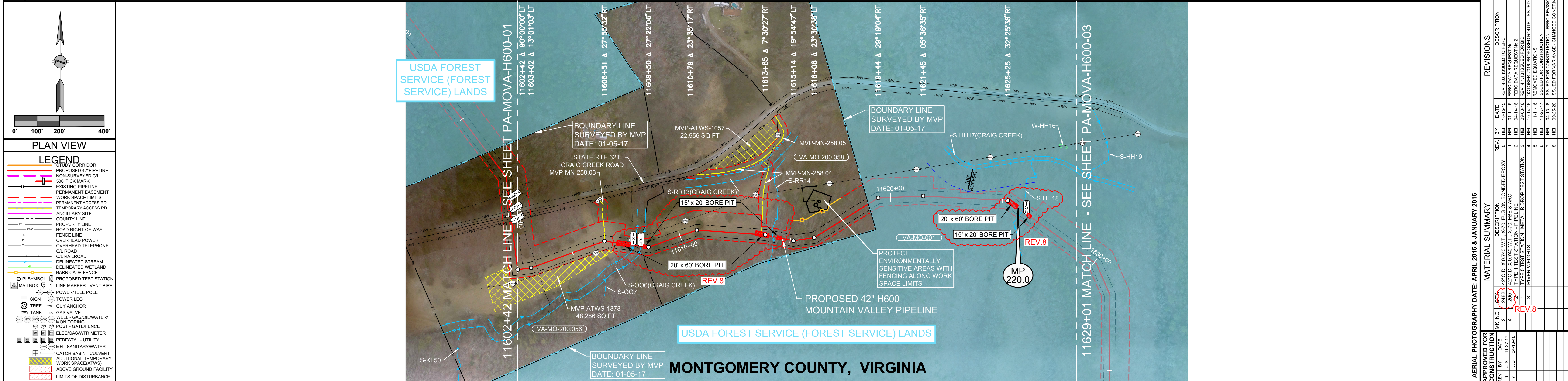
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APPROVED FOR CONSTRUCTION	DATE: APRIL 2015 & JANUARY 2016
APPROVED FOR BIDDING	
APPROVED FOR FERC	

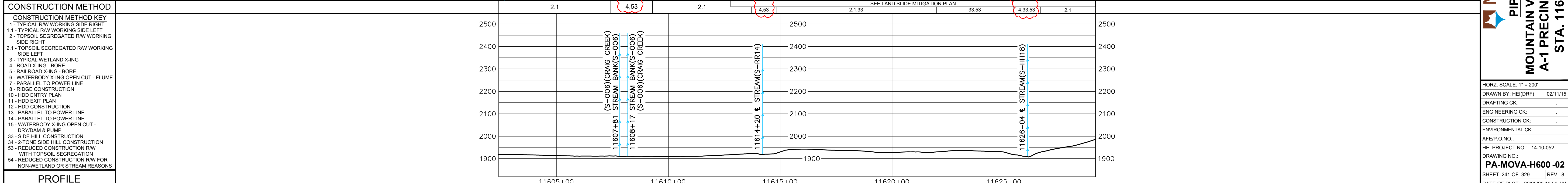
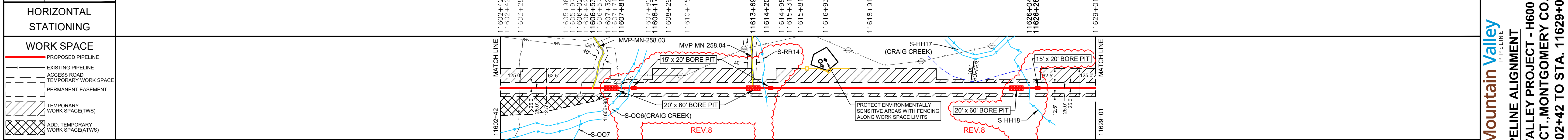
**Mountain Valley Pipeline**  
 PIPELINE ALIGNMENT  
 MOUNTAIN VALLEY PROJECT - H600 LINE  
 A-1 PRECINCT., MONTGOMERY CO., VA.  
 STA. 11553+66 TO STA. 11602+42

HORIZ. SCALE: 1" = 200'	DATE OF PLOT: 09/28/20 11:30 AM
DRAWN BY: HEI(DRF)	02/11/15
ENGINEERING CK:	
CONSTRUCTION CK:	
ENVIRONMENTAL CK:	
AFEP/ON:	
HEI PROJECT NO.: 14-10-052	
DRAWING NO.:	
<b>PA-MOVA-H600-01</b>	
SHEET 240 OF 329	REV. 8

RIGHT-OF-WAY & OWNERSHIP DATA		VA-MO-200.052	VA-MO-200.058	VA-MO-001	VA-MO-200.058	VA-MO-001
DESIGN	PIPE / COATING	2	4	2	4	2
	SLOPE DISTANCE	519'	80'	563'	40'	1133'
	CLASS LOCATION / HCA	1				
ENVIRONMENTAL	CONSTRUCTION EXCLUSION	T.O.Y.R.: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS		T.O.Y.R.: NO CONSTRUCTION WITHIN STREAMS S-006 & S-RR14 MARCH 1ST - JULY 31ST & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.		TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
	WETLAND / STREAM	S-O06 36 LF		S-RR14 7 LF		S-HH18 6 LF



REFERENCE DRAWINGS	
DRAWING NO.	DESCRIPTION
MVP-AR-H600-12	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



CONSTRUCTION METHOD	
CONSTRUCTION METHOD KEY	
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53	REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
54	REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE	
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**HOLLAND**  
ENGINEERING

220 Hoover Boulevard, Suite 200  
Montgomery, VA 22128  
Tel: 410-582-9008 Fax: 410-582-9011  
www.hollandengineering.com

REVISIONS		
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APPROVED FOR CONSTRUCTION		
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**Mountain Valley**  
PIPELINE ALIGNMENT

**MOUNTAIN VALLEY PROJECT - H600 LINE**  
**A-1 PRECINCT., MONTGOMERY CO., VA.**  
**STA. 11602+42 TO STA. 11629+01**

APPROVED FOR BIDDING		
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APPROVED FOR FERRECTION		
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HORZ. SCALE: 1" = 200'

DRAWN BY: HEI(DRF) 02/11/15

DRAFTING CK:

ENGINEERING CK:

CONSTRUCTION CK:

ENVIRONMENTAL CK:

AFEIP.O.N.O.:

HEI PROJECT NO.: 14-10-052

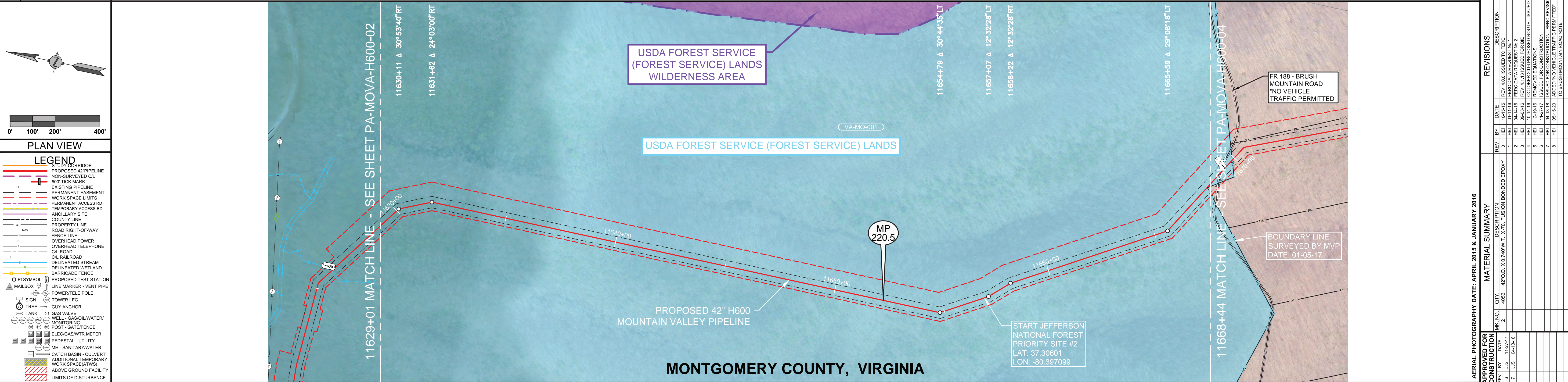
DRAWING NO.:

**PA-MOVA-H600-02**

SHEET 241 OF 329 REV. 8

DATE OF PLOT: 09/25/20 10:53 AM

RIGHT-OF-WAY & OWNERSHIP DATA				
DESIGN	PIPE / COATING		3943 LF 4053 SLOPE	
	SLOPE DISTANCE		2	
	CLASS LOCATION / HCA		4053'	
ENVIRONMENTAL	CONSTRUCTION EXCLUSION		1	
	WETLAND / STREAM			
			TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS	



**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
- BARICADE FENCE
- PROPOSED TEST STATION
- PI SYMBOL
- MAILBOX
- LINE MARKER - VENT PIPE
- POWER/TELE POLE
- TOWER LEG
- GUY ANCHOR
- TREE
- 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(TWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

**REFERENCE DRAWINGS**

DRAWING NO.	DESCRIPTION
MVP-AR-H600-12	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES

**HORIZONTAL STATIONING**

**WORK SPACE**

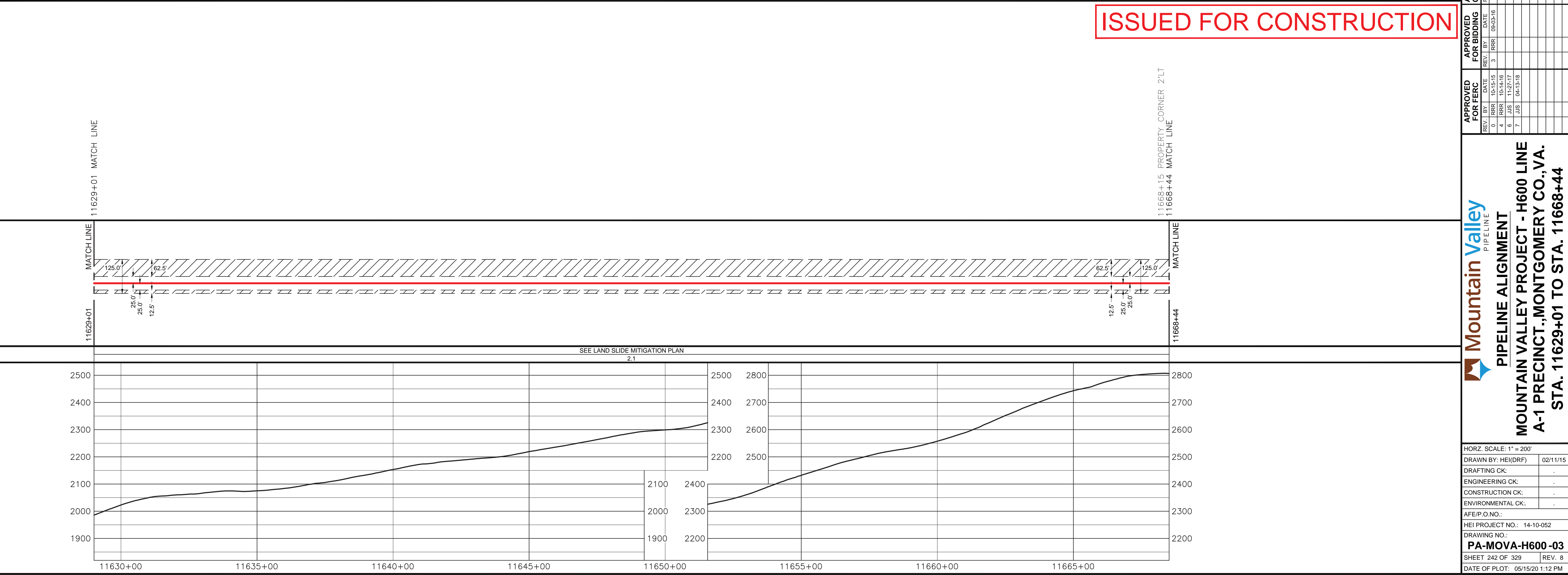
- PROPOSED PIPELINE
- EXISTING PIPELINE
- ACCESS ROAD
- TEMPORARY WORK SPACE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE(TWS)
- ADD. TEMPORARY WORK SPACE(ATWS)

**CONSTRUCTION METHOD**

**CONSTRUCTION METHOD KEY**

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- 54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

**PROFILE**



**HOLLAND ENGINEERING**

2505 Hoover Boulevard, Suite 200  
Montgomery, VA 22102  
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www.hollandengineering.com

**REVISIONS**

REV.	BY	DATE	DESCRIPTION
0	HEI	05-15-16	REV. 4.0.0 ISSUED TO FERC
1	HEI	01-11-16	FERC DATA REQUEST NO. 1
2	HEI	09-24-16	REV. 4.1.0 ISSUED FOR BID
3	HEI	09-24-16	REV. 4.1.1 ISSUED FOR BID
4	HEI	05-14-16	OCTOBER 2016 PROPOSED ROUTE - ISSUED TO FERC
5	HEI	12-29-16	REMOVED EDUCATION
6	HEI	04-14-16	ISSUED FOR CONSTRUCTION - FERC REVISION REQUEST
7	HEI	04-14-16	ADDED 'NO VEHICLE TRAFFIC PERMITTED'
8	HEI	05-15-20	ADDED 'NO VEHICLE TRAFFIC PERMITTED' TO BRUSH MOUNTAIN ROAD NOTE

**MATERIAL SUMMARY**

ITEM NO.	QTY.	DESCRIPTION
1	42" O.D. X 0.740" W.T. X 7.0' FUSION BONDED EPOXY	
2	42" O.D. X 0.740" W.T. X 7.0' FUSION BONDED EPOXY	

**APPROVED FOR CONSTRUCTION**

**APPROVED FOR BIDDING**

**APPROVED FOR FERC**

**Mountain Valley Pipeline**

**PIPELINE ALIGNMENT**

**MOUNTAIN VALLEY PROJECT - H600 LINE**

**A-1 PRECINCT., MONTGOMERY CO., VA.**

**STA. 11629+01 TO STA. 11668+44**

HORZ. SCALE: 1" = 200'

DRAWN BY: HEI(DRF) 02/11/15

DRAFTING CK: .

ENGINEERING CK: .

CONSTRUCTION CK: .

ENVIRONMENTAL CK: .

AFE/P.O. NO.: .

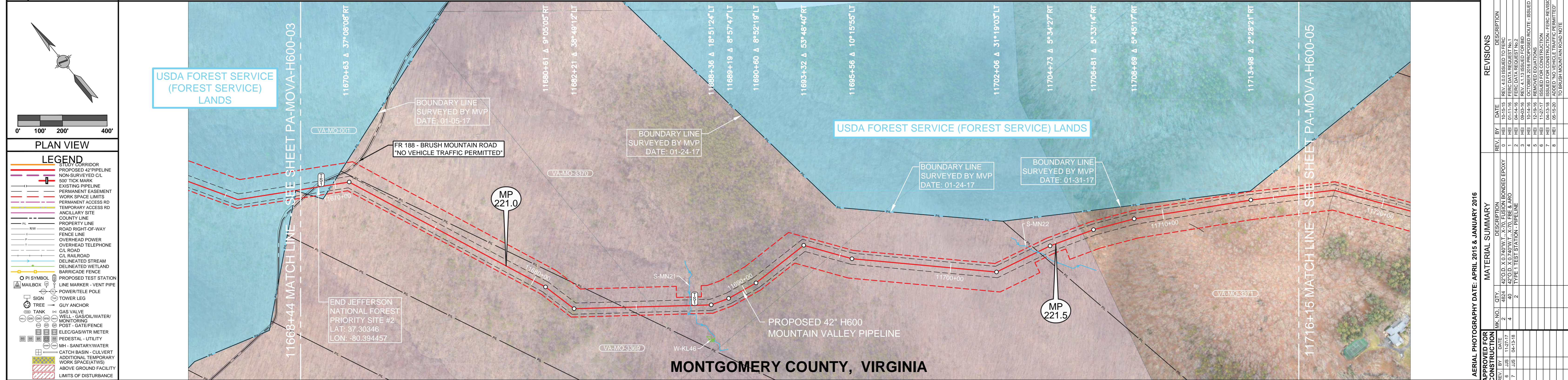
HEI PROJECT NO.: 14-10-052

DRAWING NO.: **PA-MOVA-H600-03**

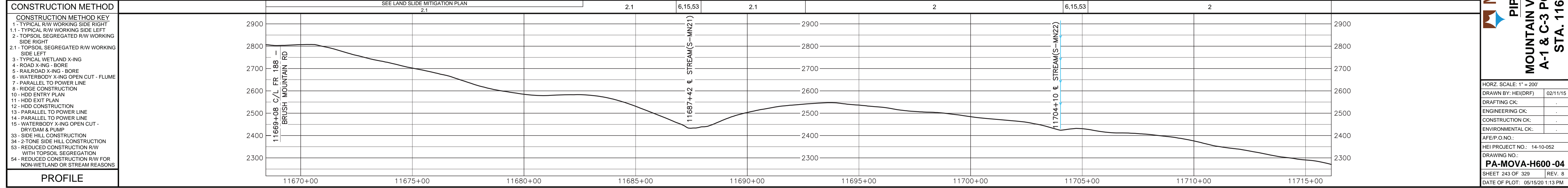
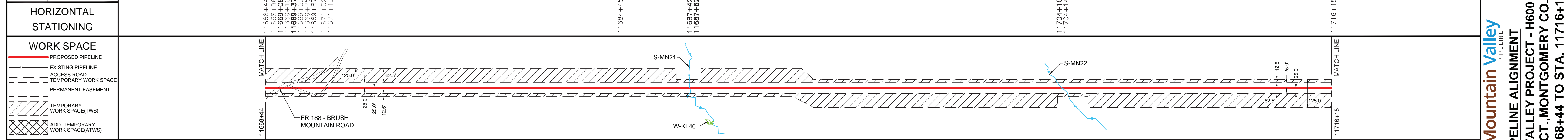
SHEET 242 OF 329 REV. 8

DATE OF PLOT: 05/15/20 1:12 PM

RIGHT-OF-WAY & OWNERSHIP DATA		VA-MO-001	VA-MO-001	VA-MO-001	VA-MO-001	VA-MO-3370	VA-MO-3369	VA-MO-3370	VA-MO-3370	VA-MO-3371	VA-MO-3371		
DESIGN	PIPE / COATING	52 LF 53 SLOPE	58 LF 58 SLOPE	81 LF 81 SLOPE	29 LF 29 SLOPE	1073 LF 1101 SLOPE	139 LF 139 SLOPE	242 LF 250 SLOPE	1185+18	1800 LF 1923 SLOPE	53 LF 53 SLOPE	1164 LF 1178 SLOPE	
	SLOPE DISTANCE	1903'					40'	2921'					
	CLASS LOCATION / HCA	2					4	1					
ENVIRONMENTAL	CONSTRUCTION EXCLUSION	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS					FISH RELOCATION REQUIRED WITHIN STREAM S-MN21 CONSULT RESPONSIBLE E.I.		TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS				
	WETLAND / STREAM						S-MN21 5 LF						



REFERENCE DRAWINGS	DRAWING NO.	DESCRIPTION
	MVP-AR-H600-12	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
	P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING



**ISSUED FOR CONSTRUCTION**

**HOLLAND ENGINEERING**  
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26055 Englewood, NE, Suite 430  
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REVISIONS	
REV. NO.	DESCRIPTION
1	REV. 4.0 ISSUED TO FERC
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5	REV. 4.0 ISSUED TO FERC
6	REV. 4.0 ISSUED TO FERC
7	REV. 4.0 ISSUED TO FERC
8	REV. 4.0 ISSUED TO FERC

**Mountain Valley Pipeline**  
PIPELINE ALIGNMENT  
**MOUNTAIN VALLEY PROJECT - H600 LINE**  
**A-1 & C-3 PCT., MONTGOMERY CO., VA.**  
**STA. 11668+44 TO STA. 11716+15**

HORIZ. SCALE: 1" = 200'  
DRAWN BY: HEI(DRF) 02/11/15  
DRAFTING CK: .  
ENGINEERING CK: .  
CONSTRUCTION CK: .  
ENVIRONMENTAL CK: .  
AFEP/D.O.: .  
HEI PROJECT NO.: 14-10-052  
DRAWING NO.:  
**PA-MOVA-H600-04**  
SHEET 243 OF 329 REV. 8  
DATE OF PLOT: 05/15/20 1:13 PM