Mountain Valley Pipeline, LLC
Mountain Valley Pipeline Project
Docket No. CP16-10-000

Implementation Plan
December 2017 Supplement

Attachment IP-4a

Pipeline Alignment Sheets

13 Franklin County, VA

RIGHT-OF-WAY & OWNERSHIP DATA

13016+28 – 13021+66: VA-RO-5637, 538 LF, 548 SLOPE
13021+66 – 13056+53: VA-FR-001, 3487 LF, 3563 SLOPE

DESIGN

PIPE / COATING: 13016+28 – 13023+86: 1; 13023+86 – 13024+26: 6; 13024+26 – 13042+44: 1; 13042+44 – 13042+84: 6; 13042+84 – 13056+53: 1
SLOPE DISTANCE: 777'; 40'; 1867'; 40'; 1387'
CLASS LOCATION / HCA: 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION: 13016+28
T.O.Y.R.: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
FISH RELOCATION REQUIRED WITHIN STREAM S-G24 CONSULT RESPONSIBLE E.I
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-H1 OCT 1ST - JUNE 30TH & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I
TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
13056+53

WETLAND / STREAM	W-ST2-PEM	S-G24	S-G25	S-H1
	88 LF	8 LF	7 LF	11 LF

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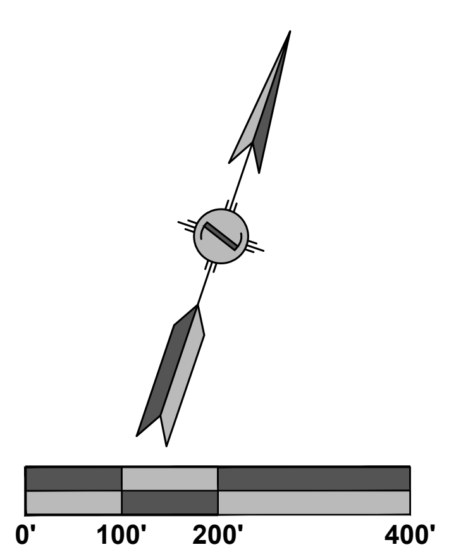
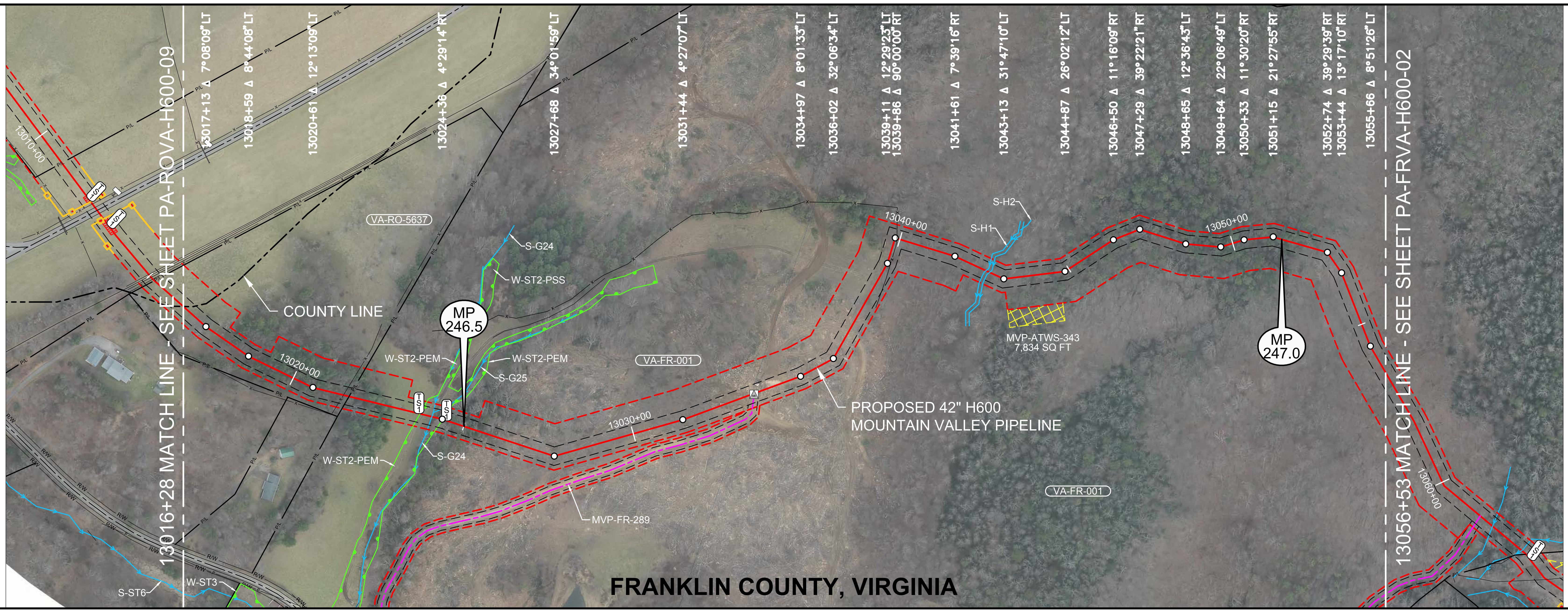


PLAN VIEW



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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○	PI SYMBOL
TS#	PROPOSED TEST STATION
MB	MAILBOX
LM	LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
	SIGN
TWR	TOWER LEG
	TREE
	GUY ANCHOR
TANK	TANK
⋈	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
	CATCH BASIN - CULVERT
▨	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

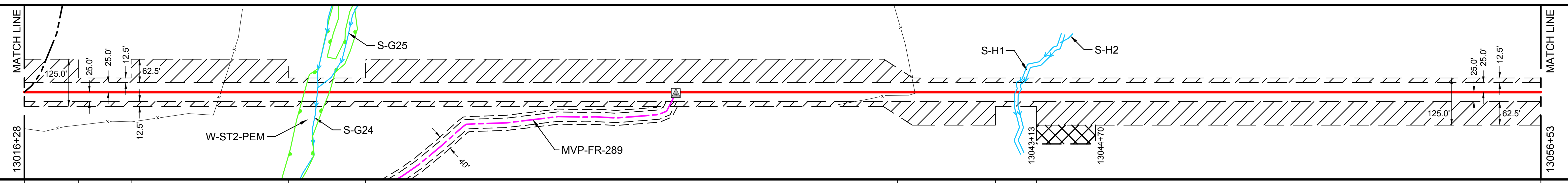
DRAWING NO.	DESCRIPTION
MVP-AR-H600-14	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-99	ACCESS ROAD DETAIL MAP
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

HORIZONTAL STATIONING

13016+28 MATCH LINE, END ROANOKE CO., BEGIN FRANKLIN COUNTY
13021+29 PROPERTY CORNER 61'RT
13021+50 FENCE – BARBED WIRE
13021+66 PROPERTY LINE
13023+61 BEGIN WETLAND(W–ST2–PEM)37'RT
13023+69 PROPOSED TYPE 1 TEST STATION
13024+06 ℄ STREAM(S–G24)
13024+08 ℄ STREAM(S–G25)13'LT
13024+11 PROPOSED RIVER WEIGHT – STREAM
13024+49 END WETLAND(W–ST2–PEM)38'LT, **PROPOSED TYPE 1 TEST STATION**
13033+59 ACCESS RD–PERMANENT(MVP–FR–289)
13039+91 FENCE – BARBED WIRE
13042+58 STREAM BANK(S–H1)
13042+61 PROPOSED RIVER WEIGHT – STREAM
13042+69 STREAM BANK(S–H1)
13056+53 MATCH LINE

WORK SPACE

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



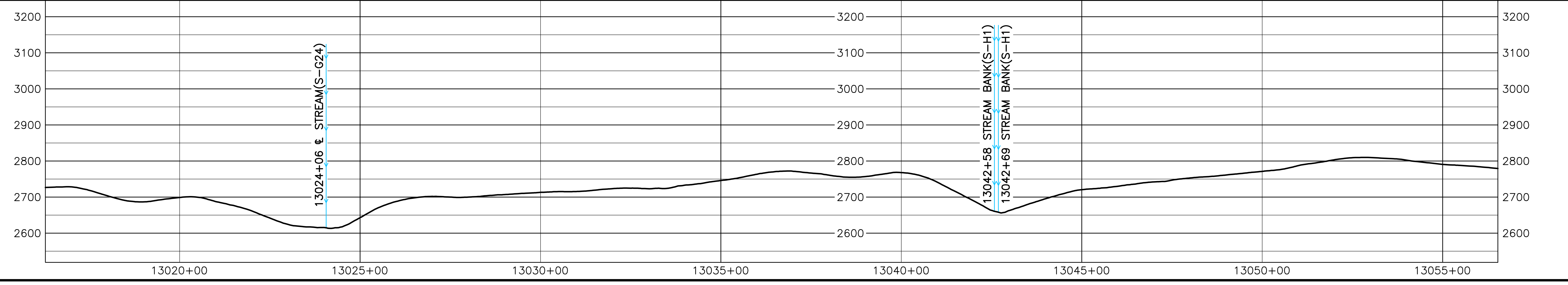
CONSTRUCTION METHOD

2.1 | 53 | 2.1 | 3,6,15 | 2.1 | 2 | 6,15,53 | 2

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
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26555 Evergreen Rd. Suite. 430
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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	4031	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
6	80	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	2	TYPE 1 TEST STATION - PIPELINE
	2	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
BOWMANS PCT.,FRANKLIN CO.,VA.
STA. 13016+28 TO STA. 13056+53

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-FRVA-H600 -01	
SHEET 271 OF 329	REV. 6
DATE OF PLOT: 12/8/17 12:59 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Parcel	Length
13056+53 to 13062+80	VA-FR-001.01	627 LF 658 SLOPE
13062+80 to 13063+36	VA-FR-001 VA-FR-001.01	56 LF 56 SLOPE
13063+36 to 13086+00	VA-FR-001.01	2264 LF 2350 SLOPE
13086+00 to 13087+09	VA-FR-001.01 VA-FR-005	109 LF 113 SLOPE
13087+09 to 13089+85	VA-FR-005	276 LF 285 SLOPE
13089+85 to 13090+75	VA-FR-008 VA-FR-005	90 LF 93 SLOPE
13090+75 to 13108+81	VA-FR-008	1806 LF 1859 SLOPE
13108+81 to 13109+00	VA-FR-008.01 VA-FR-008	19 LF 20 SLOPE
13109+00 to 13109+16	VA-FR-008.01 VA-FR-008 VA-FR-009	16 LF 17 SLOPE
13109+16 to 13110+86	VA-FR-009	170 LF 174 SLOPE

DESIGN

PIPE / COATING: 13056+53 to 13061+69: 1; 13061+69 to 13062+09: 6; 13062+09 to 13062+76: 1; 13062+76 to 13063+16: 6; 13063+16 to 13110+86: 1

SLOPE DISTANCE: 547'; 40'; 67'; 40'; 4931'

CLASS LOCATION / HCA: 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION: 13056+53 TIME OF YEAR RESTRICTION: SEE TREE CLEARING PLAN | FISH RELOCATION REQUIRED WITHIN STREAM S-G27 CONSULT RESPONSIBLE E.I | TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS | 13110+86

WETLAND / STREAM	S-G26	S-G27
	7 LF	7 LF

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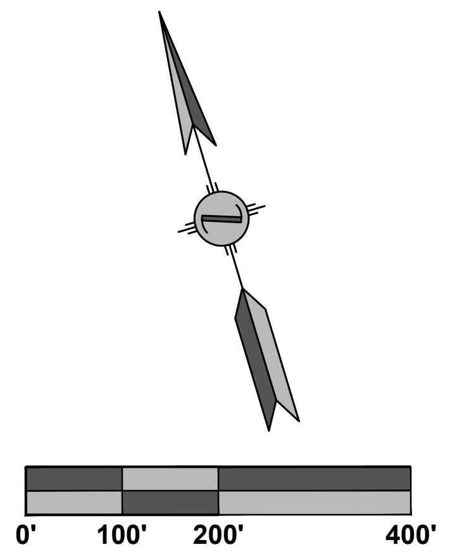
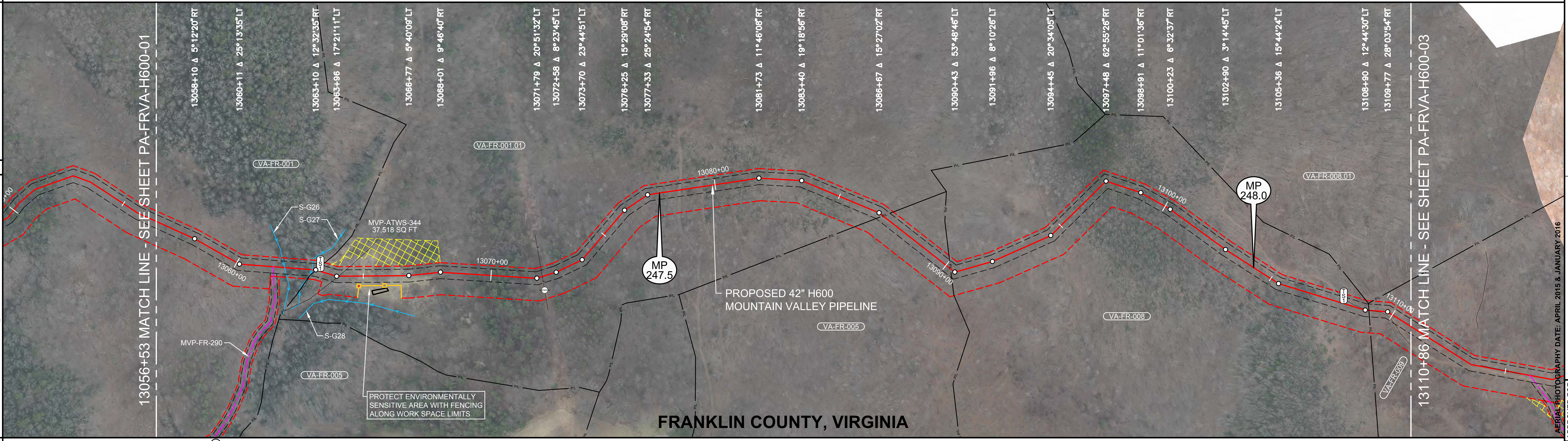


PLAN VIEW



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
— P/L —	PROPERTY LINE
— R/W —	ROAD RIGHT-OF-WAY
— X —	FENCE LINE
— P —	OVERHEAD POWER
— T —	OVERHEAD TELEPHONE
— — —	C/L ROAD
—+—+—	C/L RAILROAD
—>—	DELINEATED STREAM
—*—	DELINEATED WETLAND
—□—□—	BARRICADE FENCE
○ PI SYMBOL	PROPOSED TEST STATION
MB MAILBOX	LM LINE MARKER - VENT PIPE
	PWR TEL POWER/TELE POLE
SIGN	TWR TOWER LEG
TREE	GUY ANCHOR
TANK TANK	⋈ GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	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-H600-99	ACCESS ROAD DETAIL MAP
MVP-QDAR-H600-100	ACCESS ROAD DETAIL MAP
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

13056+53 MATCH LINE

13061+44 ACCESS ROAD–PERMANENT(MVP–FR–290)
13061+89 ℄ STREAM(S–G26)

13062+96 ℄ STREAM(S–G27)
13063+14 PROPERTY LINE

13063+29 PROPOSED TYPE 1 TEST STATION
13063+61 ℄ TRAIL(DIRT)

13071+94 POWER POLE 53'RT
13072+01 OHP LINE

13086+87 PROPERTY LINE

13090+22 PROPERTY LINE

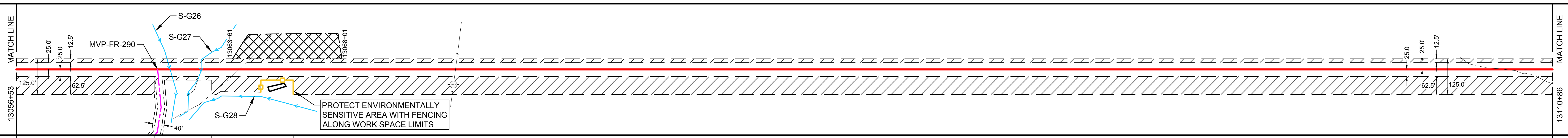
13108+02 PROPOSED TYPE 1 TEST STATION

13109+04 PROPERTY LINE
13109+15 ℄ TRAIL(DIRT)

13110+86 MATCH LINE

WORK SPACE

🟥	PROPOSED PIPELINE
─┤├─	EXISTING PIPELINE
— — —	ACCESS ROAD TEMPORARY WORK SPACE
┌ — — ┐	PERMANENT EASEMENT
▨	TEMPORARY WORK SPACE(TWS)
▩	ADD. TEMPORARY WORK SPACE(ATWS)



PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS

CONSTRUCTION METHOD

Station range	Method
13056+53 to 13061+44	2
13061+44 to 13062+96	6,15,53
13062+96 to 13063+61	53
13063+61 to 13110+86	2

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
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- 10 - HDD ENTRY PLAN
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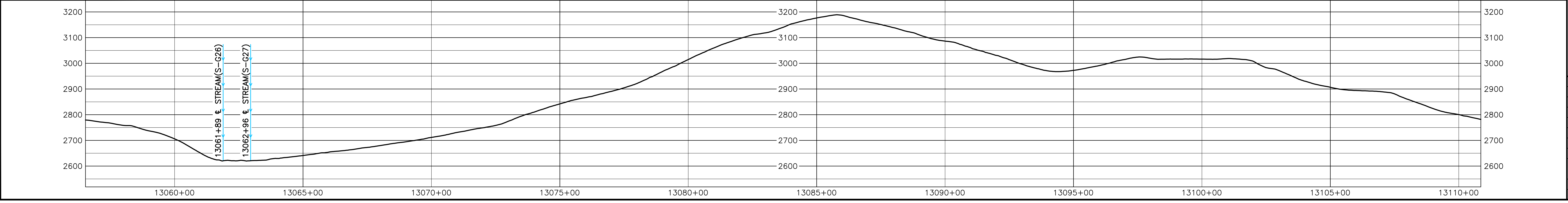
- 15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
- 33 - SIDE HILL CONSTRUCTION
- 34 - 2-TONE SIDE HILL CONSTRUCTION
- 53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
- 54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5545	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
6	80	42"O.D. X 0.617"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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

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

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Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
BOWMANS PCT.,FRANKLIN CO.,VA.
STA. 13056+53 TO STA. 13110+86

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-FRVA-H600 -02	
SHEET 272 OF 329	REV. 6
DATE OF PLOT: 12/11/17 10:33 AM	

RIGHT-OF-WAY & OWNERSHIP DATA

13110+86 (VA-FR-009) 1214 LF 1332 SLOPE 13123+00 (VA-FR-010) 2461 LF 2589 SLOPE 13147+61 (VA-FR-011) (VA-FR-010) 56 LF 56 SLOPE 13148+17 (VA-FR-011) 963 LF 970 SLOPE 13157+80 (VA-FR-012) 201 LF 204 SLOPE 13159+81

DESIGN

PIPE / COATING: 13110+86 1 13128+17 2 13137+58 4 13137+98 2 13140+05 4 13140+45 2 13141+27 4 13141+67 2 13146+36 4 13146+76 2 13157+00 4 13157+40 2 13159+81

SLOPE DISTANCE: 1918' 987' 40' 210' 40' 82' 40' 479' 40' 1034' 40' 241'

CLASS LOCATION / HCA: 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION: 13110+86 TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31
SEE TREE CLEARING PLAN FOR FURTHER DETAILS 13159+81

WETLAND / STREAM:

S-D17	S-D17	S-D17	S-D13	W-D7-PEM	S-D12	TTVA-S-D11
7 LF	7 LF	7 LF	4 LF	66 LF	6 LF	10 LF

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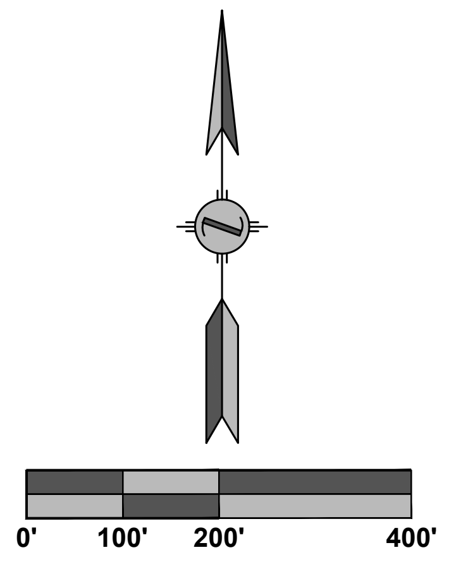
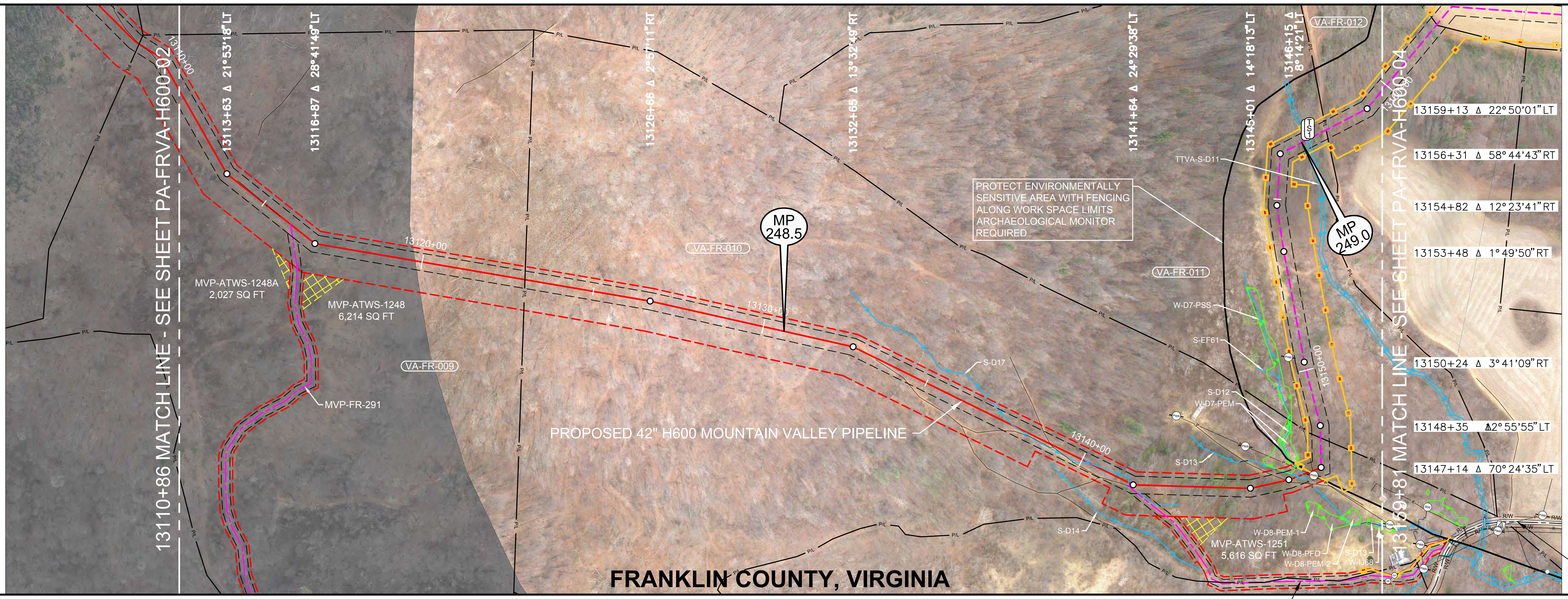


PLAN VIEW



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	NON-SURVEYED C/L
	500' TICK MARK
	EXISTING PIPELINE
	PERMANENT EASEMENT
	WORK SPACE LIMITS
	PERMANENT ACCESS RD
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MB MAILBOX	LM LINE MARKER - VENT PIPE
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PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
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	LIMITS OF DISTURBANCE

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	SITES, MAINLINE VALVES &
	LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-100	ACCESS ROAD DETAIL MAP
P-W-H600-1204-01	CATHODIC PROTECTION
	STANDARD DRAWING

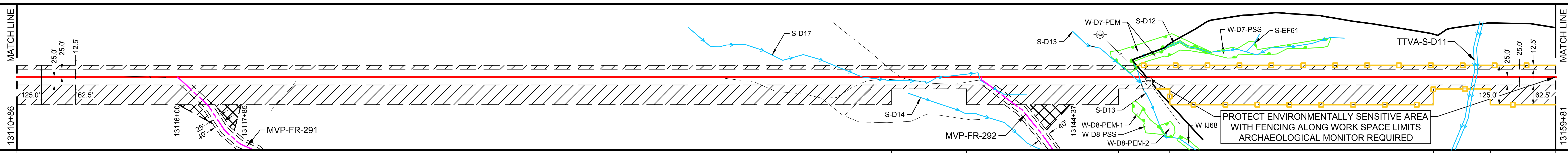
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

13110+86 MATCH LINE
13115+27 FENCE - HOG WIRE
13115+97 ACCESS RD-PERMANENT(MVP-FR-291)
13116+05 EDGE OF DIRT
13123+00 PROPERTY LINE
13137+78 ℄ STREAM(S-D17)
13138+96 ℄ TRAIL(DIRT)
13140+25 ℄ STREAM(S-D17)
13141+47 ℄ STREAM(S-D17)
13141+53 ACCESS RD-PERMANENT(MVP-FR-292)
13144+70 CULVERT OPEN END 76'LT
13144+90 CULVERT OPEN END 79'LT
13145+89 BEGIN WETLAND(W-D7-PEM) 38'LT
13146+06 ℄ TRAIL(DIRT)
13146+39 ℄ STREAM(S-D13)
13146+55 END WETLAND(W-D7-PEM) 37'LT
13146+56 ℄ STREAM(S-D12)
13146+71 OHP LINE
13146+85 POWER POLE 14'RT
13146+87 OHP LINE
13148+00 PROPERTY LINE
13157+15 ℄ STREAM BANK(TTVA-S-D11),
PROPOSED TYPE 1 TEST STATION
13157+25 ℄ STREAM BANK(TTVA-S-D11),
PROPOSED TYPE 1 TEST STATION
13157+80 PROPERTY LINE
13159+81 MATCH LINE

WORK SPACE

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



PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS ARCHAEOLOGICAL MONITOR REQUIRED

CONSTRUCTION METHOD

2 | 6,15,53 | 2 | 3,6,15 | 2 | 6,15 | 2

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
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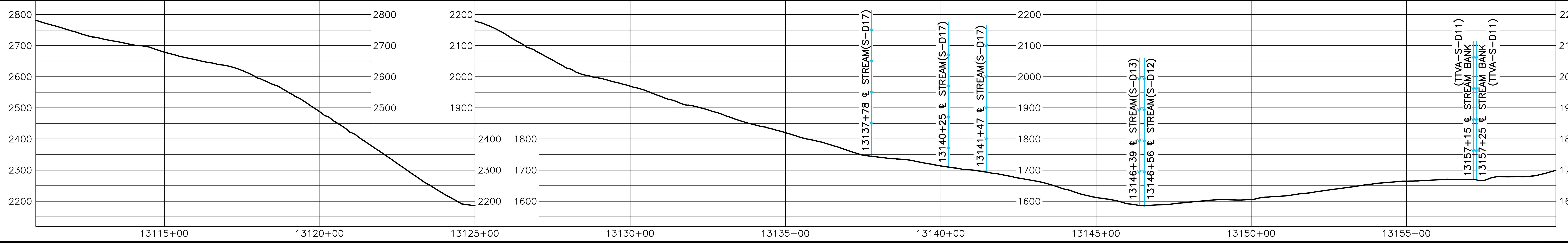
PROFILE



AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	1918	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	3033	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
4	200	42"O.D. X 0.740"W.T., X-70, FBE & ARO
	2	TYPE 1 TEST STATION - PIPELINE
	1	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

APPROVED FOR FERC

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

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17

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Mountain Valley PIPELINE

PIPELINE ALIGNMENT
MOUNTAIN VALLEY PROJECT - H600 LINE
BOWMANS PCT.,FRANKLIN CO.,VA.
STA. 13110+86 TO STA. 13159+81

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-FRVA-H600 -03	
SHEET 273 OF 329	REV. 6
DATE OF PLOT: 11/29/17 4:39 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Parcel	Length
13159+81 – 13162+27	VA-FR-012	246 LF 252 SLOPE
13162+27 – 13164+31	VA-FR-013.01 VA-FR-012	204 LF 205 SLOPE
13164+31 – 13196+71	VA-FR-013.01	3240 LF 3270 SLOPE
13196+71 – 13197+36	VA-FR-015.01	65 LF 69 SLOPE
13197+36 – 13197+76	STATE ROUTE 745 40 LF - 42 SLOPE	
13197+76 – 13200+72	VA-FR-015.01	296 LF 319 SLOPE
13200+72 – 13202+87	VA-FR-015.01 VA-FR-014	215 LF 231 SLOPE
13202+87 – 13203+26	VA-FR-015.01 VA-FR-015 VA-FR-014	39 LF 41 SLOPE
13203+26 – 13218+17	VA-FR-015.01 VA-FR-015	1491 LF 1553 SLOPE
13218+17 – 13218+61	VA-FR-016 VA-FR-015.01 VA-FR-015	44 LF 44 SLOPE
13218+61 – 13220+68	VA-FR-016 VA-FR-015	207 LF 208 SLOPE
13220+68 – 13220+77	VA-FR-016	9 LF 9 SLOPE

DESIGN

PIPE / COATING	13159+81 – 13196+61: 3	13196+61 – 13197+78: 5	13197+78 – 13198+18: 8	13198+18 – 13212+91: 3	13212+91 – 13220+77: 2	
SLOPE DISTANCE	3718'	120'	40'	1546'	819'	
CLASS LOCATION / HCA	1					

ENVIRONMENTAL

CONSTRUCTION EXCLUSION	13159+81: TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS	T.O.Y.R.: NO CONSTRUCTION OCTOBER 1ST TO JUNE 30TH WITHIN STREAM S-D8	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS – 13220+77
WETLAND / STREAM		S-D8 19 LF	
.			
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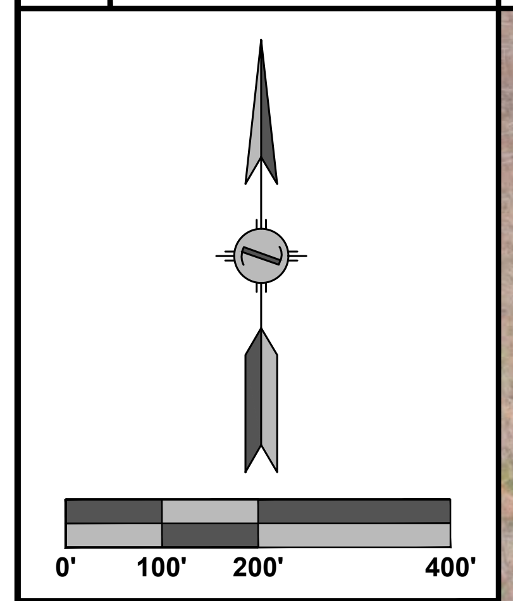
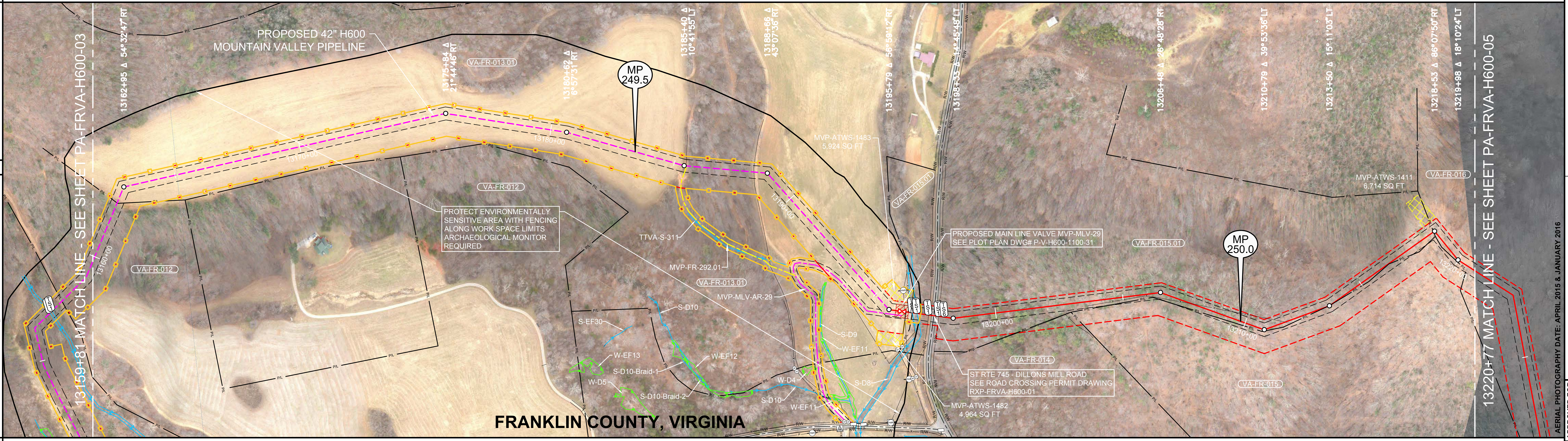


PLAN VIEW

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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○ PI SYMBOL	
TS#	PROPOSED TEST STATION
MB MAILBOX	
LM	LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	
TWR	TOWER LEG
TREE	
	GUY ANCHOR
TANK	
⋈	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	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

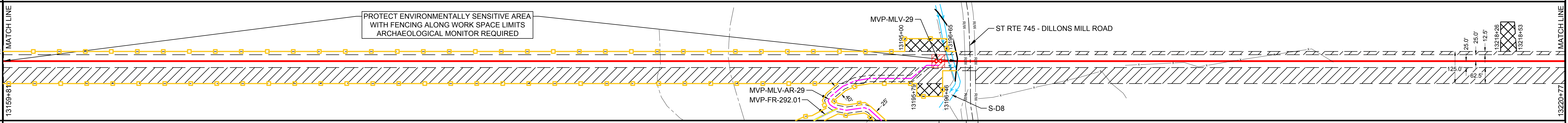
DRAWING NO.	DESCRIPTION
MVP-AR-H600-14	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
RXP-FRVA-H600-01	STATE ROUTE 745 PERMIT DWG
CDCB-H600-01	CONSTRUCTION DETAIL CONVENTIONAL BORE STREAM(S-MM26) & STATE ROUTE 643
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING
P-W-H600-1204-02	CATHODIC PROTECTION STANDARD DRAWING

HORIZONTAL STATIONING

- 13159+81 MATCH LINE
- 13162+27 PROPERTY LINE
- 13185+47 ℄ FIELD ROAD(DIRT)
- 13188+13 ℄ FIELD ROAD(DIRT)
- 13196+31 MAIN LINE VALVE – PROPOSED – (MVP–MLV–29)
- 13196+31 ACCESS ROAD – PERMANENT – (MVP–MLV–AR–29)17'RT
- 13196+41 OHP LINE
- 13196+69 FENCE – HOG WIRE
- 13196+71 PROPERTY LINE
- 13196+71 STREAM BANK(S–D8), PROPOSED TYPE 1 TEST STATION
- 13196+79 PROPOSED RIVER WEIGHT – STREAM
- 13196+90 STREAM BANK(S–D8), PROPOSED TYPE 1 TEST STATION
- 13197+35 PROPOSED TYPE 1 TEST STATION,R/W
- 13197+47 EDGE OF ASPHALT
- 13197+55 ℄ ST RTE 745 – DILLONS MILL ROAD
- 13197+64 EDGE OF ASPHALT
- 13197+75 PROPOSED TYPE 1 TEST STATION,R/W
- 13197+98 PROPOSED TYPE 6 TEST STATION
- 13202+92 PROPERTY CORNER 33'RT
- 13206+16 PROPERTY CORNER 15'RT
- 13207+78 FENCE – BARBED WIRE
- 13211+67 FENCE – BARBED WIRE
- 13213+43 PROPERTY LINE
- 13213+58 PROPERTY LINE
- 13218+71 PROPERTY CORNER 11'RT
- 13220+77 MATCH LINE

WORK SPACE

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



MATCH LINE
13159+81
PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS ARCHAEOLOGICAL MONITOR REQUIRED
MVP-MLV-29
13195+00
13196+65
ST RTE 745 - DILLONS MILL ROAD
MVP-MLV-AR-29
MVP-FR-292.01
S-D8
25.0'
12.5'
125.0'
62.5'
13218+26
13218+53
MATCH LINE
13220+77

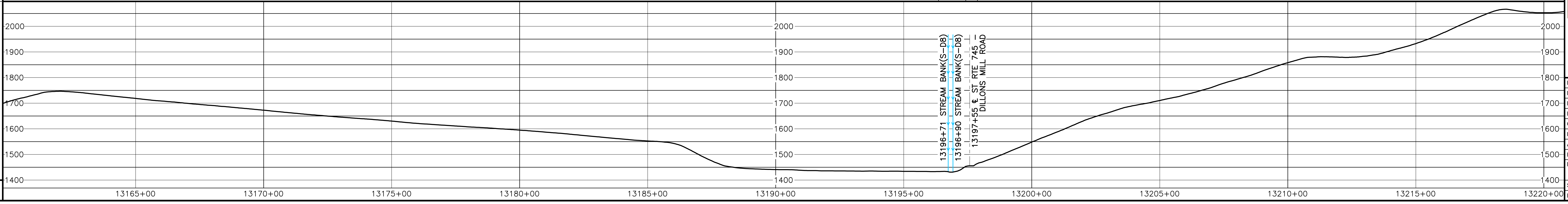
CONSTRUCTION METHOD

13159+81 – 13196+65	13196+65 – 13197+36	13197+36 – 13197+76	13197+76 – 13220+77
2	6,15,53	4	2

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



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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
2	819	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
3	5264	42"O.D. X 0.888"W.T., X-70, FUSION BONDED EPOXY
5	120	42"O.D. X 0.888"W.T., X-70, FBE & ARO
8	40	ANSI 900 MONOLITHIC INSULATING JOINT
	4	TYPE 1 TEST STATION - PIPELINE
	0	TYPE 5 TEST STATION - METAL IR DROP TEST STATION
	1	TYPE 6 TEST STATION - ISO. JOINT - BELOW GRADE
	1	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
BOWMANS PCT.,FRANKLIN CO.,VA.
STA. 13159+81 TO STA. 13220+77

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-FRVA-H600 -04	
SHEET 274 OF 329	REV. 6
DATE OF PLOT: 12/11/17 10:55 AM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tract	LF / Slope
13220+77 – 13227+56	VA-FR-016	679 LF 687 SLOPE
13227+56 – 13232+33	VA-FR-016 VA-FR-015	477 LF 483 SLOPE
13232+33 – 13234+53	VA-FR-015	220 LF 221 SLOPE
13234+53 – 13234+78	VA-FR-015.04	25 LF 25 SLOPE
13234+78 – 13237+76	VA-FR-016 VA-FR-015.04	298 LF 301 SLOPE
13237+76 – 13242+16	VA-FR-016 VA-FR-015.02	440 LF 446 SLOPE
13242+16 – 13247+82	VA-FR-015.02	566 LF 579 SLOPE
13247+82 – 13249+84	VA-FR-016 VA-FR-015.02	202 LF 207 SLOPE
13249+84 – 13272+02	VA-FR-016	2218 LF 2298 SLOPE

DESIGN

	13220+77 – 13260+47	13260+47 – 13260+87	13260+87 – 13262+38	13262+38 – 13262+78	13262+78 – 13272+02
PIPE / COATING	2	6	1	3	1
SLOPE DISTANCE	4068'	40'	152'	40'	947'
CLASS LOCATION / HCA	1				

ENVIRONMENTAL

CONSTRUCTION EXCLUSION	13220+77 TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS	FISH RELOCATION REQUIRED WITHIN STREAM S-II4 CONSULT RESPONSIBLE E.I	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS 13272+02
WETLAND / STREAM		S-II4 15 LF	
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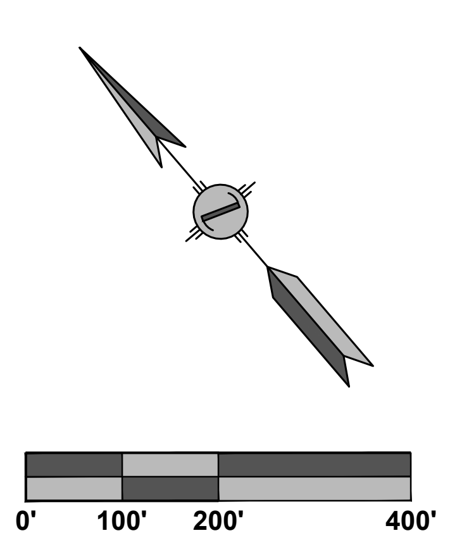
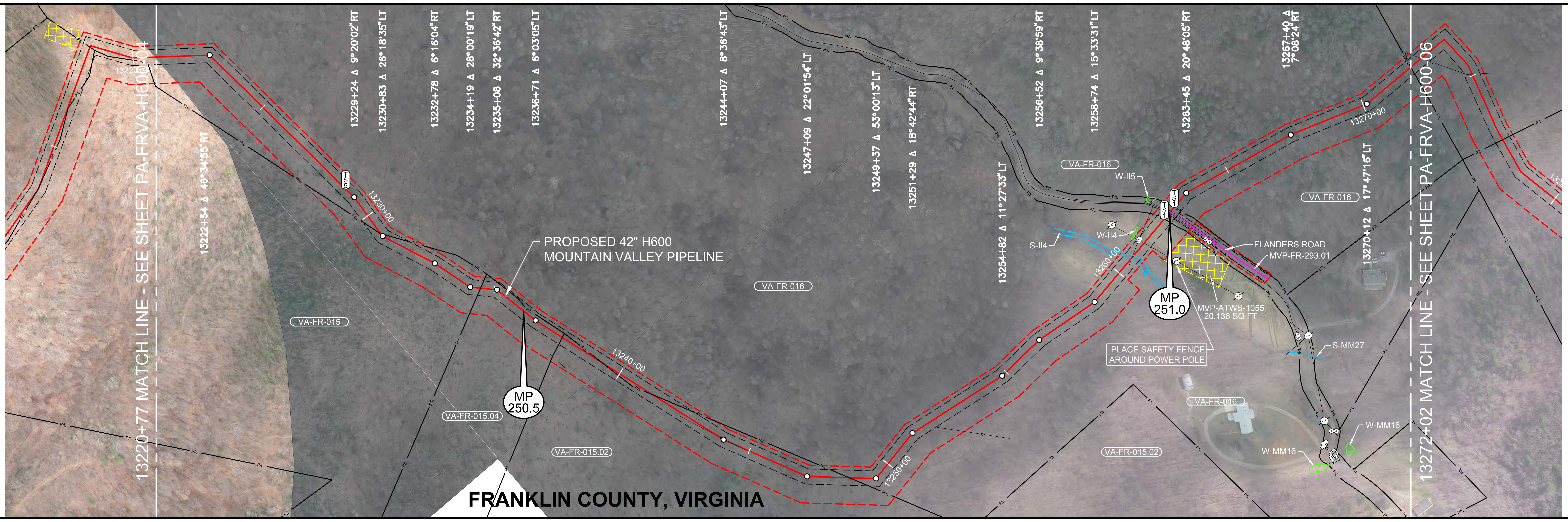


PLAN VIEW

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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○ PI SYMBOL	
TS#	PROPOSED TEST STATION
MB MAILBOX	
LM	LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	
TWR	TOWER LEG
TREE	
	GUY ANCHOR
TANK TANK	
⋈	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	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
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING
P-W-H600-1204-02	CATHODIC PROTECTION STANDARD DRAWING

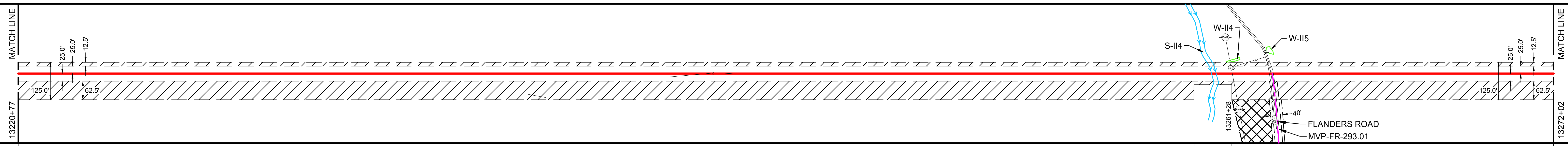
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

- 13220+77 MATCH LINE
- **13228+84 PROPOSED TYPE 5 TEST STATION**
- 13230+73 PROPERTY LINE
- 13234+53 PROPERTY LINE
- 13237+76 PROPERTY LINE
- 13240+55 PROPERTY CORNER 12'RT
- 13243+78 FENCE – BARBED WIRE
- 13244+49 FENCE – BARBED WIRE
- 13248+73 PROPERTY LINE
- 13260+60 STREAM BANK(S–II4)
- **13260+66 PROPOSED RIVER WEIGHT – STREAM**
- 13260+67 FENCE – BARBED WIRE
- **13260+75 STREAM BANK(S–II4)**
- 13261+23 GATE POST 19'LT
- **13261+28 OHP LINE**
- 13261+30 GATE POST 21'LT
- 13261+51 POWER POLE 120'RT
- **13262+33 PROPOSED TYPE 1 TEST STATION,℄**
- 13262+52 FENCE – ELECTRIC
- 13262+58 EDGE OF GRAVEL
- **13262+62 ACCESS ROAD – PERMANENT (MVP–FR–293.01)**
- 13262+66 EDGE OF GRAVEL
- **13262+84 PROPOSED TYPE 1 TEST STATION,℄**
- 13272+02 MATCH LINE, PROPERTY LINE

WORK SPACE

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



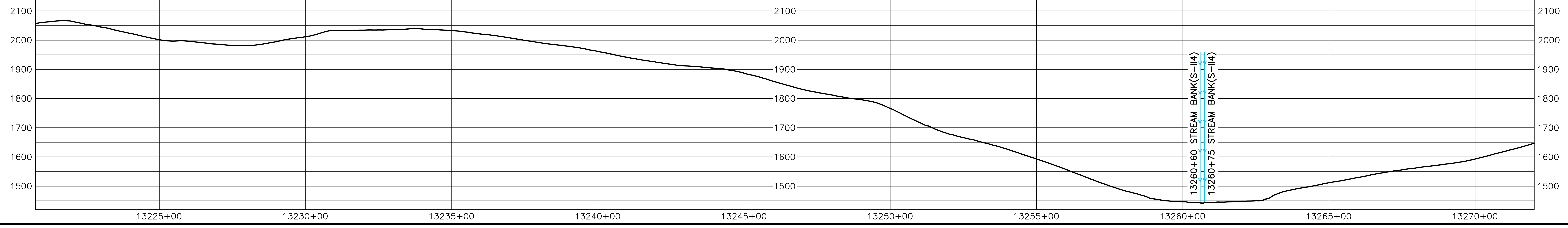
CONSTRUCTION METHOD

13220+77 – 13260+47	13260+47 – 13260+87	13260+87 – 13272+02
2	6,15,53	2

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

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	1099	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	4068	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
3	40	42"O.D. X 0.888"W.T., X-70, FUSION BONDED EPOXY
6	40	42"O.D. X 0.614"W.T., X-70, FBE & ARO
	2	TYPE 1 TEST STATION - PIPELINE
	1	TYPE 5 TEST STATION - METAL IR DROP TEST STATION
	1	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

APPROVED FOR FERC

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

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17

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Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
BOWMANS PCT.,FRANKLIN CO.,VA.
STA. 13220+77 TO STA. 13272+02

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-FRVA-H600 -05	
SHEET 275 OF 329	REV. 6
DATE OF PLOT: 12/8/17 1:02 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tract	Length
13272+02 to 13277+34	VA-FR-016	532 LF 538 SLOPE
13277+34 to 13315+70	VA-FR-017.02	3838 LF 3863 SLOPE

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
13272+02 to 13281+73	1	979'
13281+73 to 13282+53	3	80'
13282+53 to 13290+78	1	831'
13290+78 to 13293+18	3	240'
13293+18 to 13308+89	1	1571'
13308+89 to 13309+29	6	40'
13309+29 to 13315+70	1	641'

CLASS LOCATION / HCA: 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION: 13272+02 – TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS – FISH RELOCATION REQUIRED WITHIN STREAM S-GH7 CONSULT RESPONSIBLE E.I – 13315+70

WETLAND / STREAM: S-GH7 9 LF

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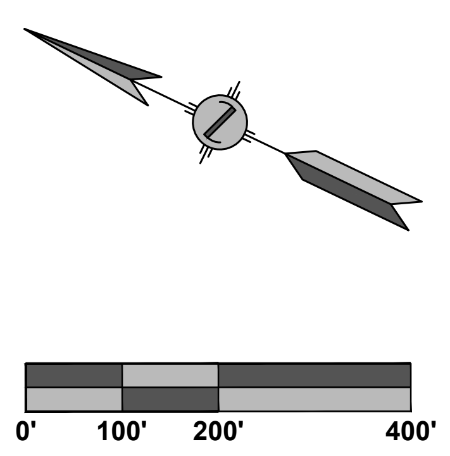
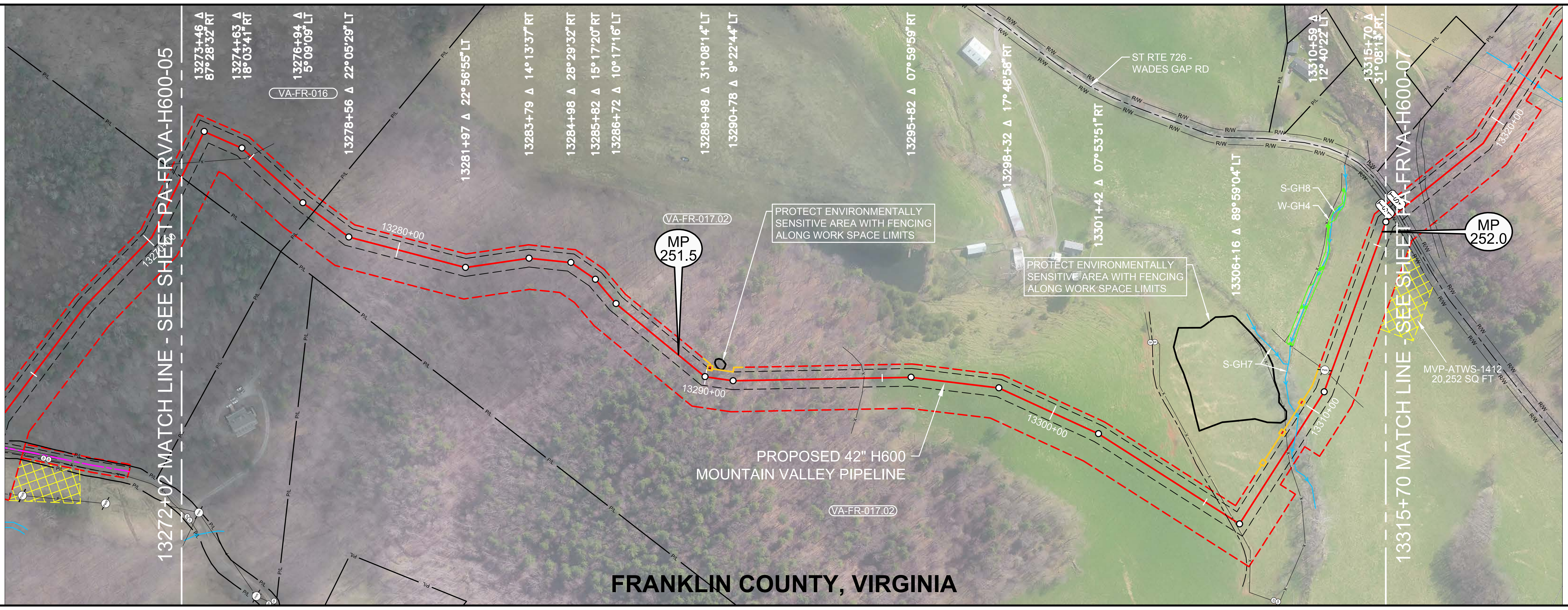


PLAN VIEW



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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○ PI SYMBOL	PROPOSED TEST STATION
MB MAILBOX	LM LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	TWR TOWER LEG
TREE	GUY ANCHOR
TANK	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
	CATCH BASIN - CULVERT
	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
	ABOVE GROUND FACILITY
	LIMITS OF DISTURBANCE

ISSUED FOR CONSTRUCTION

REFERENCE DRAWINGS

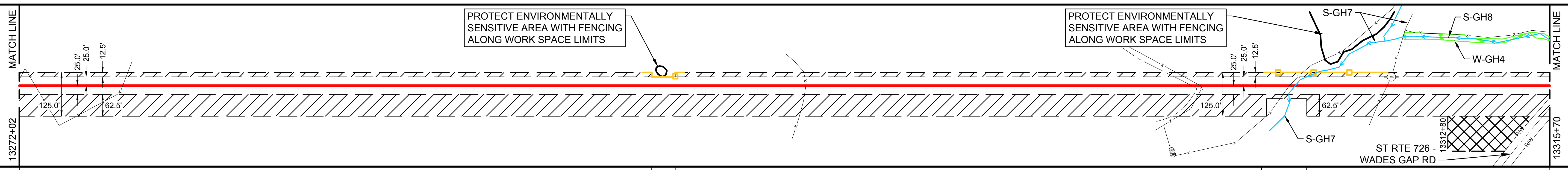
DRAWING NO.	DESCRIPTION
MVP-AR-H600-14	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

HORIZONTAL STATIONING

- 13272+02 MATCH LINE, PROPERTY LINE
- 13272+47 FENCE – BARBED WIRE
- 13274+95 FENCE – BARBED WIRE
- 13277+34 PROPERTY LINE
- 13294+48 FENCE – BARBED WIRE
- 13305+71 ℄ ROAD (DIRT) (ABANDONED)
- 13305+96 FENCE – ELECTRIC
- 13308+67 FENCE – BARBED WIRE
- 13309+09 ℄ STREAM(S-GH7)
- 13311+09 OHP LINE
- 13311+18 POWER POLE 19'LT
- 13315+70 MATCH LINE

WORK SPACE

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



MATCH LINE
13272+02
25.0'
25.0'
12.5'
125.0'
62.5'
PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS
PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS
S-GH7
S-GH8
W-GH4
S-GH7
25.0'
25.0'
12.5'
125.0'
62.5'
ST RTE 726 WADES GAP RD
MATCH LINE
13315+70

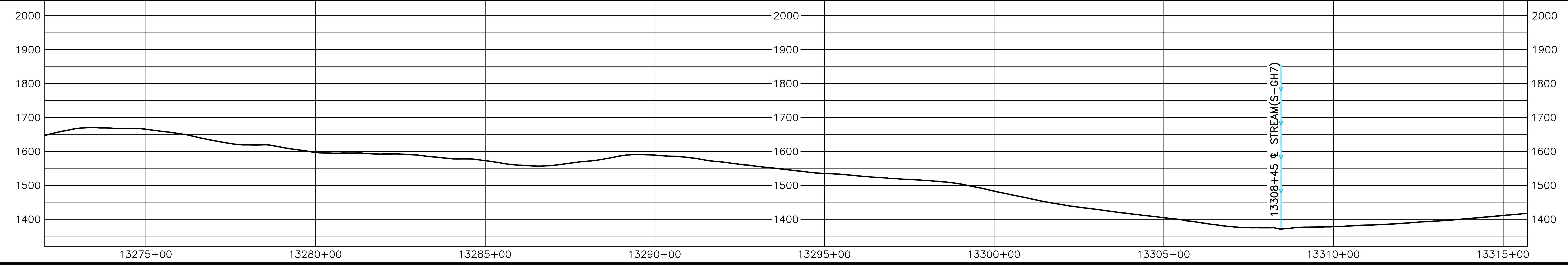
CONSTRUCTION METHOD

2	53	2	6,15,53	2

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



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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	4039	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
3	320	42"O.D. X 0.888"W.T., X-70, FUSION BONDED EPOXY
6	40	42"O.D. X 0.614"W.T., X-70, FBE & ARO
		TYPE 1 TEST STATION - PIPELINE

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

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
BOWMANS PCT.,FRANKLIN CO.,VA.
STA. 13272+02 TO STA. 13315+70

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-FRVA-H600 -06	
SHEET 276 OF 329	REV. 6
DATE OF PLOT: 12/8/17 1:04 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Parcel	Length
13315+70	VA-FR-017.02	23 LF 24 SLOPE
13315+93	STATE ROUTE 726	41 LF - 41 SLOPE
13316+34	VA-FR-017.06	1442 LF 1511 SLOPE
13330+76	VA-FR-017.04	499 LF 528 SLOPE
13335+75	VA-FR-017.07	665 LF 682 SLOPE
13342+40	STATE ROUTE 744	54 LF - 56 SLOPE
13342+94	VA-FR-017.08	2156 LF 2213 SLOPE
13364+50	VA-FR-017.08 VA-FR-017.10	125 LF 127 SLOPE
13365+75	VA-FR-017.09 VA-FR-017.08 VA-FR-017.10	25 LF 27 SLOPE
13366+00	VA-FR-017.09 VA-FR-017.10	591 LF 601 SLOPE
13371+91	VA-FR-017.11 VA-FR-017.10	95 LF 95 SLOPE
13372+86		

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
13315+70	1	5'
13315+74	4	80'
13316+54	1	2690'
13342+27	4	80'
13343+07	3	80'
13343+87	1	444'
13348+26	6	40'
13348+66	1	342'
13352+03	6	40'
13352+43	1	626'
13358+45	6	40'
13358+85	1	1238'
13370+86	3	80'
13371+66	1	121'
13372+86		

CLASS LOCATION / HCA: 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION

13315+70

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

FISH RELOCATION REQUIRED WITHIN STREAM S-G14 CONSULT RESPONSIBLE E.I

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

FISH RELOCATION REQUIRED WITHIN STREAM S-GH9 CONSULT RESPONSIBLE E.I

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

13372+86

WETLAND / STREAM

S-GH15	S-GH14	S-GH11	S-GH9	S-RR8	S-RR9	S-RR11
4 LF	4 LF	3 LF	4 LF	7 LF	9 LF	7 LF

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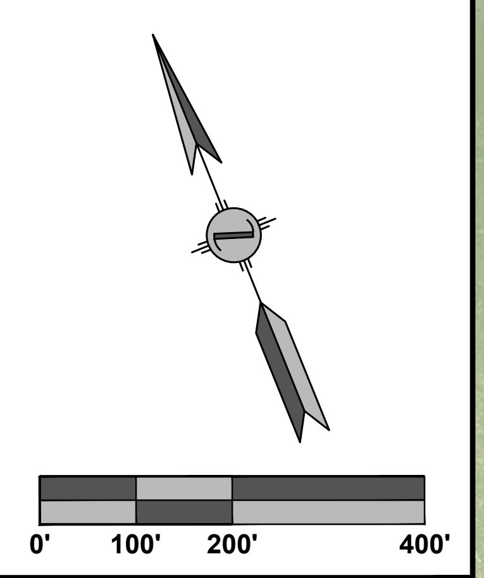
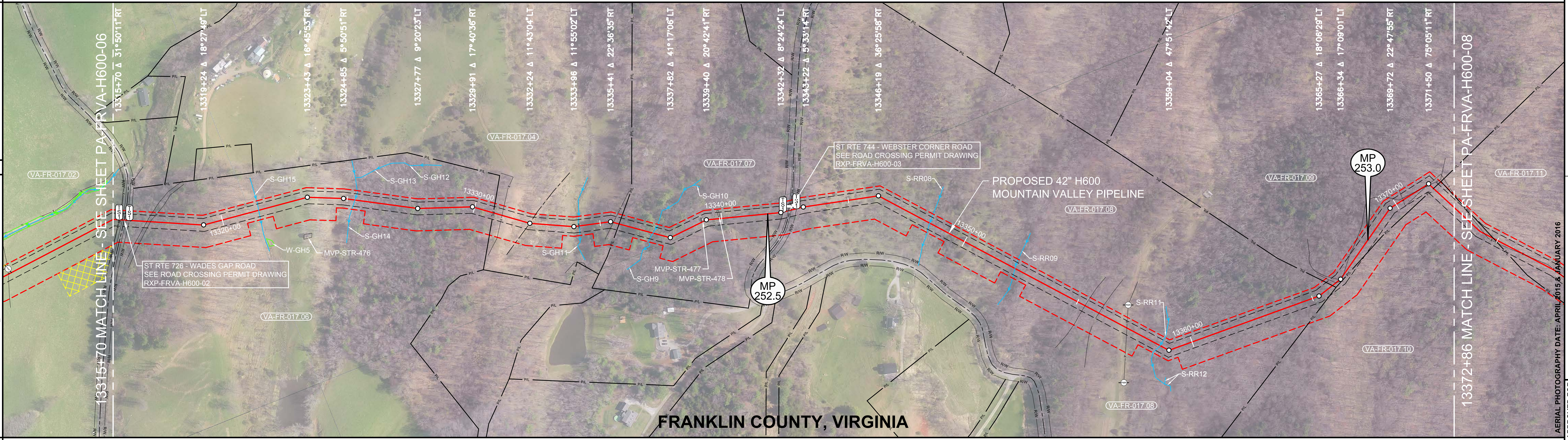


PLAN VIEW

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
- P/L PROPERTY LINE
- R/W ROAD RIGHT-OF-WAY
- X FENCE LINE
- P OVERHEAD POWER
- T OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- ○ PI SYMBOL
- TS# PROPOSED TEST STATION
- MB MAILBOX
- LM LINE MARKER - VENT PIPE
- PWR TEL POWER/TELE POLE
- SIGN
- TWR TOWER LEG
- TREE
- GUY ANCHOR
- TANK TANK
- ⋈ GAS VALVE
- WELL GW OW WW MNW WELL - GAS/OIL/WATER/ MONITORING
- POST FP GP POST - GATE/FENCE
- EM GM WM ELEC/GAS/WTR METER
- PED TEP EP FOP TVP PEDESTAL - UTILITY
- SAMH WMH 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
RXP-FRVA-H600-02	STATE ROUTE 726 PERMIT DWG
RXP-FRVA-H600-03	STATE ROUTE 744 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION
	STANDARD DRAWING
P-W-H600-1100-31	MAIN LINE VALVE #29
	PLOT PLAN

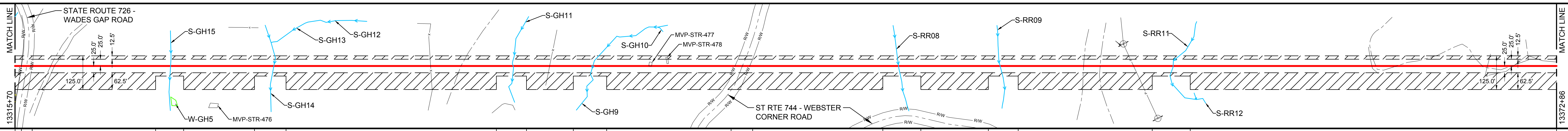
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

13315+70 MATCH LINE
13315+93 PROPOSED TYPE 1 TEST STATION,R/W
13315+94 FENCE – ELECTRIC
13316+06 EDGE OF ASPHALT
13316+13 ℄ ST RTE 726 – WADES GAP ROAD
13316+21 EDGE OF ASPHALT
13316+34 PROPOSED TYPE 1 TEST STATION,R/W
13317+02 ℄ DRIVEWAY(GRAVEL)
13317+16 FENCE – ELECTRIC
13321+47 ℄ STREAM(S–GH15)
13325+30 ℄ STREAM(S–GH14)
13330+76 PROPERTY LINE
13331+11 FENCE – HOG WIRE
13332+24 ℄ ROAD(DIRT)(ABANDONED)
13334+15 CULVERT OPEN END 7'RT
13334+17 ℄ STREAM(S–GH11)
13334+18 CULVERT OPEN END 8'LT
13335+53 FENCE – HOG WIRE
13335+75 PROPERTY LINE
13337+13 ℄ STREAM(S–GH9)
13339+30 BUILDING – CONCRETE PAD 1'RT
13339+88 BUILDING – CONCRETE PAD 8'LT
13342+40 PROPOSED TYPE 1 TEST STATION,R/W
13342+61 EDGE OF GRAVEL
13342+61 SIGN 1'RT
13342+67 ℄ ST RTE 744–WEBSTER CORNER RD
13342+73 EDGE OF GRAVEL
13342+94 PROPOSED TYPE 1 TEST STATION,R/W
13348+46 ℄ STREAM(S–RR08)
13352+23 ℄ STREAM(S–RR09)
13355+28 EDGE OF DIRT
13355+33 ℄ TRAIL(DIRT)
13355+38 EDGE OF DIRT
13355+89 EDGE OF DIRT
13355+94 ℄ TRAIL(DIRT)
13355+99 EDGE OF DIRT
13357+18 OHP LINE
13358+64 ℄ STREAM(S–RR11)
13365+93 PROPERTY LINE
13366+13 FENCE – HOG WIRE
13366+25 EDGE OF DIRT
13366+65 EDGE OF DIRT
13370+31 FENCE – HOG WIRE
13370+59 EDGE OF DIRT
13371+00 ℄ TRAIL
13371+35 EDGE OF DIRT
13371+51 FENCE – HOG WIRE
13371+51 EDGE OF DIRT
13371+56 ℄ TRAIL
13371+60 EDGE OF DIRT
13371+76 PROPERTY LINE
13372+86 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 | 4 | 2 | 6,15,53 | 2 | 6,15,53 | 2 | 6,15,53 | 2 | 6,15,53 | 2 | 4 | 2 | 6,15,53 | 2 | 6,15,53 | 2 | 6,15,53 | 2

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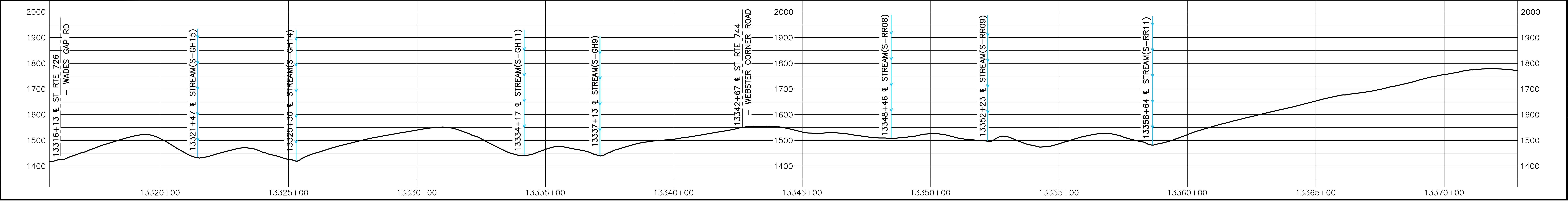
54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5466	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
3	160	42"O.D. X 0.888"W.T., X-70, FUSION BONDED EPOXY
4	160	42"O.D. X 0.740"W.T., X-70, FBE & ARO
6	120	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	4	TYPE 1 TEST STATION - PIPELINE

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
BOWMANS & BOONES MILL PCT.,FRANKLIN CO.,VA.
STA. 13315+70 TO STA. 13372+86

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-FRVA-H600 -07	
SHEET 277 OF 329	REV. 6
DATE OF PLOT: 12/8/17 1:16 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tract	Length
13372+86 – 13388+07	VA-FR-017.11	1521 LF 1528 SLOPE
13388+07 – 13390+39	VA-FR-017.11 VA-FR-017.10	232 LF 233 SLOPE
13390+39 – 13393+40	VA-FR-017.11 VA-FR-017.12	301 LF 303 SLOPE
13393+40 – 13396+81	VA-FR-017.11 VA-FR-017.13	341 LF 342 SLOPE
13396+81 – 13403+35	VA-FR-017.11 VA-FR-017.14	654 LF 657 SLOPE
13403+35 – 13415+28	VA-FR-017.11	1193 LF 1245 SLOPE
13415+28 – 13415+78	STATE ROUTE 742 50 LF - 51 SLOPE	
13415+78 – 13423+37	VA-FR-017.15	759 LF 765 SLOPE

DESIGN

	13372+86 – 13412+87	13412+87 – 13413+27	13413+27 – 13415+11	13415+11 – 13415+91	13415+91 – 13423+37
PIPE / COATING	1	6	1	5	1
SLOPE DISTANCE	4069'	40'	184'	80'	752'
CLASS LOCATION / HCA	1				

ENVIRONMENTAL

CONSTRUCTION EXCLUSION (13372+86 – 13423+37):

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

FISH RELOCATION REQUIRED
WITHIN STREAM S-IJ1
CONSULT RESPONSIBLE E.I

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

WETLAND / STREAM

S-IJ1	W-IJ1	S-IJ2	W-IJ2-PSS	S-IJ3	W-IJ2-PEM
12 LF	87 LF	2.5 LF	14 LF	5 LF	9 LF

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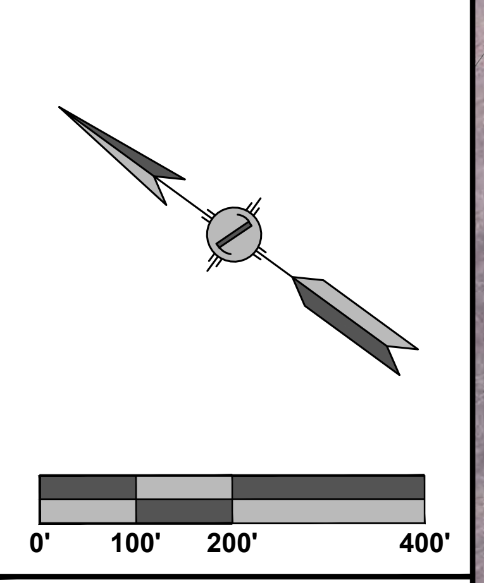
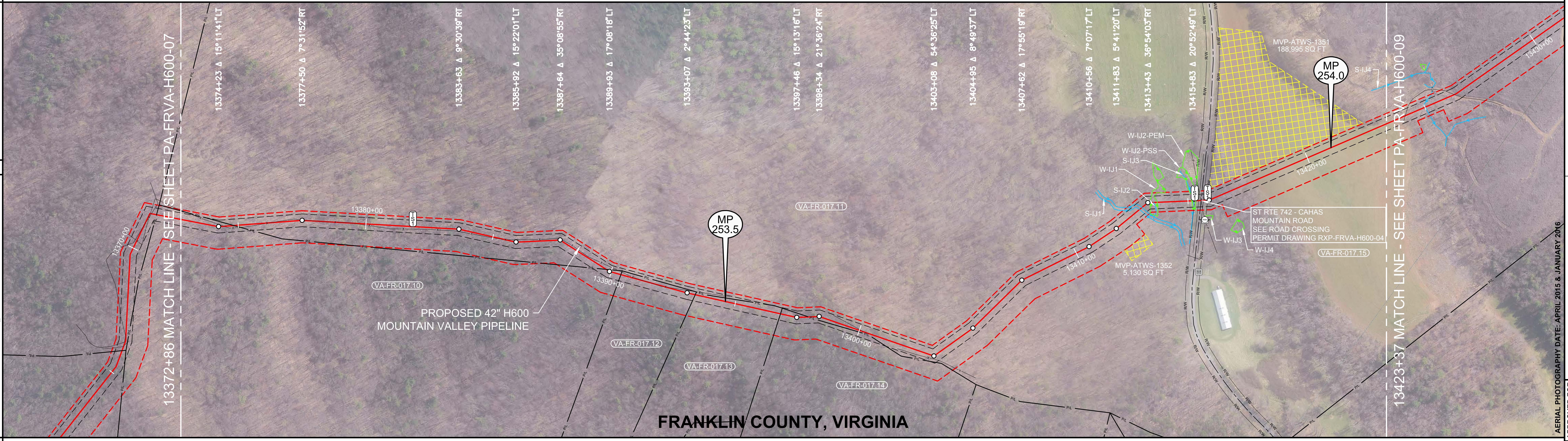


PLAN VIEW



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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○ PI SYMBOL	PROPOSED TEST STATION
MB MAILBOX	LM LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	TWR TOWER LEG
TREE	GUY ANCHOR
TANK TANK	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	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-H600-100	ACCESS ROAD DETAIL MAP
RXP-FRVA-H600-04	STATE ROUTE 742 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

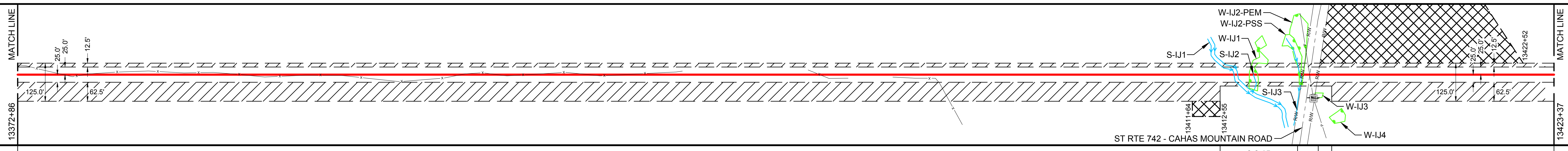
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

13372+86 MATCH LINE
13374+44 FENCE – HOG WIRE
13374+82 PROPERTY LINE
13376+26 FENCE – HOG WIRE
13378+03 FENCE – HOG WIRE
13378+86 FENCE – HOG WIRE
13379+42 FENCE – HOG WIRE
13381+83 PROPOSED TYPE 1 TEST STATION
13385+51 FENCE – HOG WIRE
13389+77 PROPERTY LINE
13391+46 FENCE – HOG WIRE
13392+23 FENCE – HOG WIRE
13394+04 PROPERTY CORNER 16'RT
13397+00 PROPERTY CORNER 7'RT
13397+93 PROPERTY LINE
13399+69 PROPERTY CORNER 15'RT
13413+01 STREAM BANK(S–IJ1)
13413+05 PROPOSED RIVER WEIGHT – STREAM
13413+13 STREAM BANK(S–IJ1)
13413+24 BEGIN WETLAND(W–IJ1) 37'RT
13413+65 ℄ STREAM(S–IJ2)
13414+11 END WETLAND(W–IJ1) 36'LT
13415+08 BEGIN WETLAND(W–IJ2–PSS) 35'LT
13415+16 BEGIN WETLAND(W–IJ2–PEM) 12'RT
13415+19 ℄ STREAM(S–IJ3)
13415+22 END WETLAND(W–IJ2–PSS) 21'LT
13415+25 END WETLAND(W–IJ2–PEM) 33'RT
13415+26 PROPOSED TYPE 1 TEST STATION,R/W
13415+41 EDGE OF ASPHALT
13415+50 OHP LINE
13415+51 ℄ ST RTE 742 – CAHAS MOUNTAIN RD
13415+60 EDGE OF ASPHALT
13415+76 PROPOSED TYPE 1 TEST STATION,R/W
13423+37 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	3,6,15	4	53	2

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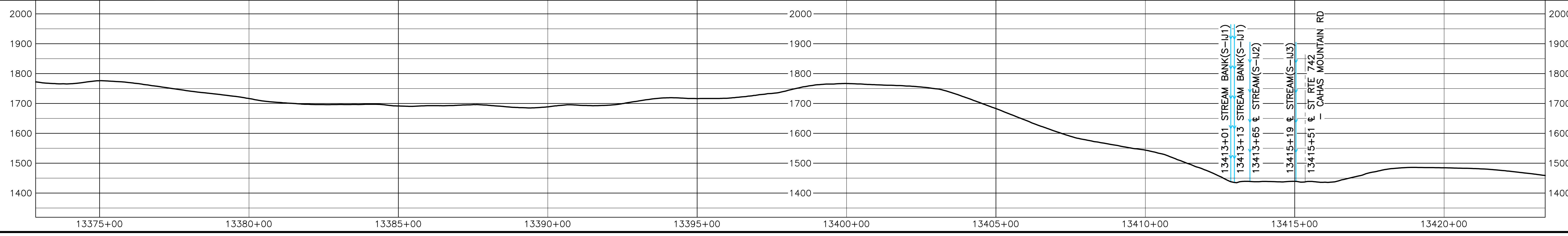
53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5005	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
5	80	42"O.D. X 0.888"W.T., X-70, FBE & ARO
6	40	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	3	TYPE 1 TEST STATION - PIPELINE
	1	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

HOLLAND
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Southfield, Michigan 48076
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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
BOONES MILL PCT.,FRANKLIN CO.,VA.
STA. 13372+86 TO STA. 13423+37

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-FRVA-H600 -08	
SHEET 278 OF 329	REV. 6
DATE OF PLOT: 12/8/17 1:17 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

13423+37
VA-FR-017.15 — 2724 LF 2779 SLOPE
13450+60
VA-FR-017.17 / VA-FR-017.15 — 117 LF 119 SLOPE
13451+77
VA-FR-017.17 / VA-FR-017.16 — 89 LF 90 SLOPE
13452+66
VA-FR-017.15 / VA-FR-017.16 — 131 LF 133 SLOPE
13453+97
VA-FR-017.15 / VA-FR-017.19 / VA-FR-017.16 — 71 LF 71 SLOPE
13454+68
VA-FR-017.15 / VA-FR-017.19 — 364 LF 372 SLOPE
13458+32
VA-FR-017.15 — 811 LF 818 SLOPE
13466+43
VA-FR-017.20 / VA-FR-017.15 — 597 LF 601 SLOPE
13472+40
VA-FR-017.20 / VA-FR-5392 / VA-FR-017.15 — 18 LF 18 SLOPE
13472+58
VA-FR-017.20 / VA-FR-5392 — 81 LF 81 SLOPE
13473+39
VA-FR-5392 — 298 LF 298 SLOPE
13476+37

DESIGN

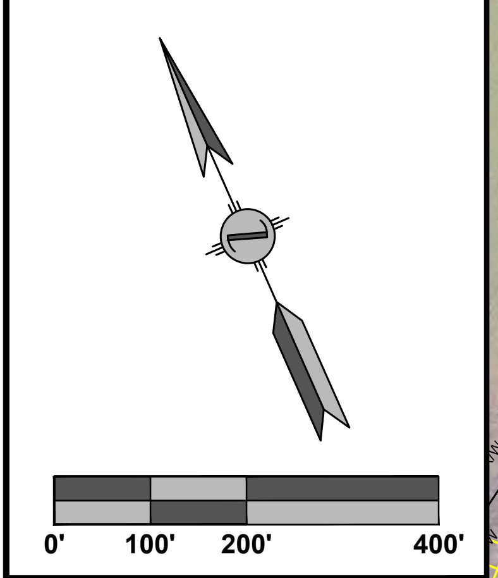
PIPE / COATING	13423+37	1	13442+88 3 13443+68	1 — 13476+37
SLOPE DISTANCE		2002'	80'	3298'
CLASS LOCATION / HCA		1		

ENVIRONMENTAL

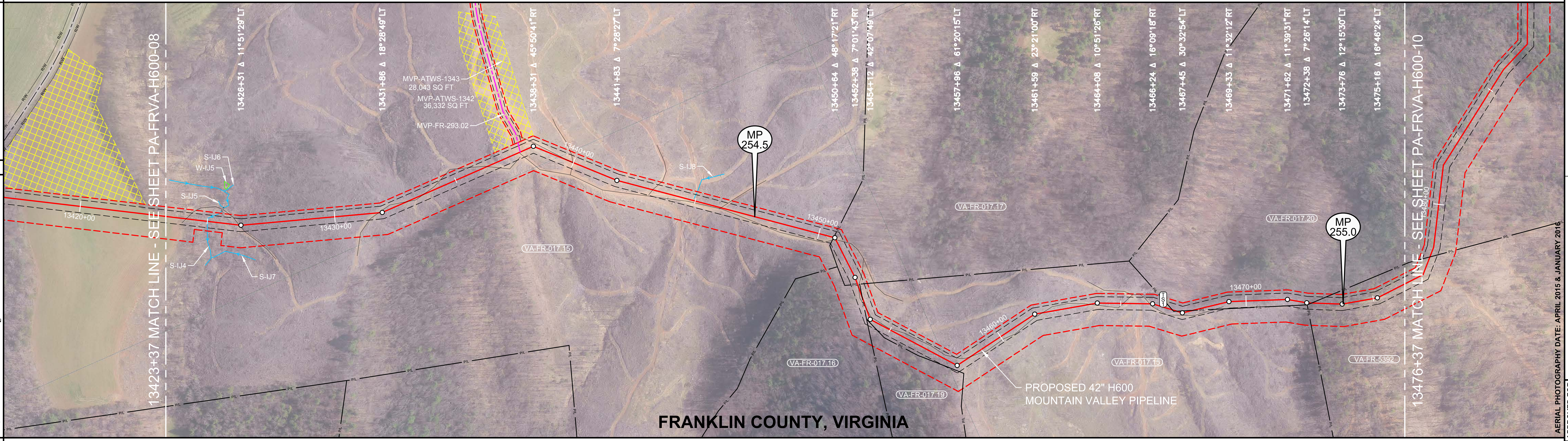
CONSTRUCTION EXCLUSION:
FISH RELOCATION REQUIRED WITHIN STREAM S-IJ4 CONSULT RESPONSIBLE E.I
TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31
SEE TREE CLEARING PLAN FOR FURTHER DETAILS
13476+37

WETLAND / STREAM:
S-IJ4 — 4 LF
S-IJ8 — 1.5 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
- P/L PROPERTY LINE
- R/W ROAD RIGHT-OF-WAY
- X FENCE LINE
- P OVERHEAD POWER
- T OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- ○ PI SYMBOL — TS# PROPOSED TEST STATION
- MB MAILBOX — LM LINE MARKER - VENT PIPE
- PWR TEL POWER/TELE POLE
- SIGN — TWR TOWER LEG
- TREE — GUY ANCHOR
- TANK TANK — ⋈ GAS VALVE
- WELL GW OW WW MNW WELL - GAS/OIL/WATER/ MONITORING
- POST FP GP POST - GATE/FENCE
- EM GM WM ELEC/GAS/WTR METER
- PED TEP EP FOP TVP PEDESTAL - UTILITY
- SAMH WMH 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-H600-100	ACCESS ROAD DETAIL MAP
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

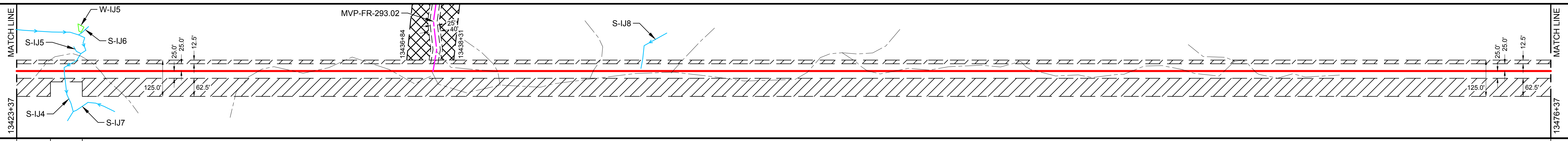
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

13423+37 MATCH LINE
13424+16 ℄ FIELD ROAD(DIRT)
13425+01 ℄ STREAM(S–IJ4)
13426+25 ℄ FIELD ROAD(DIRT)
13431+72 ℄ TRAIL(DIRT)
13432+92 ℄ TRAIL(DIRT)
13433+62 ℄ TRAIL(DIRT)
13436+27 PROPERTY CORNER 70'RT
13436+33 ℄ TRAIL(DIRT)
13437+75 ACCESS ROAD – PERMANENT (MVP–FR–293.02)
13439+76 ℄ FIELD ROAD(DIRT)
13439+97 ℄ FIELD ROAD(DIRT)
13443+28 ℄ FIELD ROAD(DIRT)
13444+93 ℄ STREAM(S–IJ8) 9'LT
13446+04 ℄ FIELD ROAD(DIRT)
13450+60 PROPERTY LINE
13450+72 ℄ TRAIL(DIRT)
13451+29 PROPERTY CORNER 53'RT
13451+41 PROPERTY CORNER 52'RT
13452+11 PROPERTY CORNER 36'RT
13452+66 PROPERTY LINE
13452+78 ℄ TRAIL(DIRT)
13453+20 PROPERTY LINE
13453+70 ℄ TRAIL(DIRT)
13458+18 PROPERTY CORNER 7'RT
13458+59 ℄ TRAIL(DIRT)
13461+89 ℄ TRAIL(DIRT)
13463+79 ℄ TRAIL(DIRT)
13465+09 ℄ TRAIL(DIRT)
13466+13 ℄ TRAIL(DIRT)
13466+67 PROPOSED TYPE 1 TEST STATION
13467+05 PROPERTY LINE
13467+22 PROPERTY LINE
13467+87 PROPERTY LINE
13472+57 PROPERTY LINE
13472+59 PROPERTY CORNER 34'LT
13476+37 MATCH LINE

WORK SPACE

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



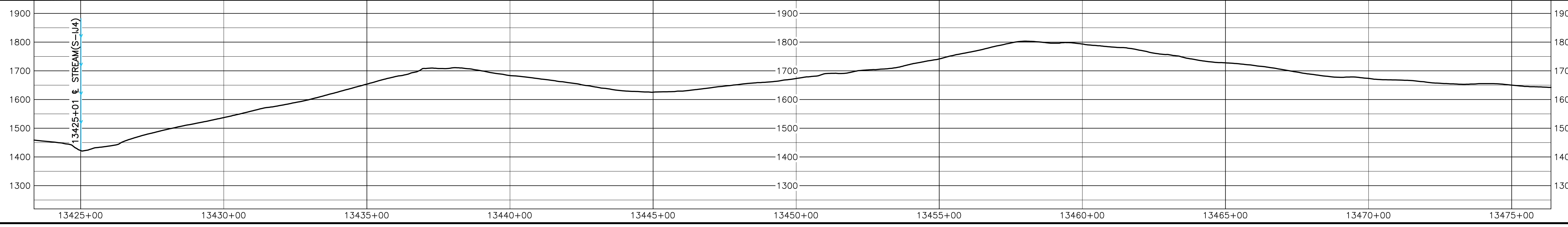
CONSTRUCTION METHOD

2 | 6,15,53 | 2

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



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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5300	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
3	80	42"O.D. X 0.888"W.T., X-70, FUSION BONDED EPOXY
	1	TYPE 1 TEST STATION - PIPELINE

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

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Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
BOONES MILL PCT.,FRANKLIN CO.,VA.
STA. 13423+37 TO STA. 13476+37

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-FRVA-H600 -09	
SHEET 279 OF 329	REV. 6
DATE OF PLOT: 12/11/17 11:01 AM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tract	Length
13476+37 – 13477+63	VA-FR-5392	126 LF 127 SLOPE
13477+63 – 13478+53	VA-FR-017.20 VA-FR-5392	90 LF 92 SLOPE
13478+53 – 13496+62	VA-FR-017.20	1809 LF 1844 SLOPE
13496+62 – 13497+12	STATE ROUTE 742	50 LF - 51 SLOPE
13497+12 – 13513+32	VA-FR-017.21	1620 LF 1629 SLOPE
13513+32 – 13514+05	VA-FR-017.24 VA-FR-017.21	73 LF 74 SLOPE
13514+05 – 13514+22	VA-FR-017.24 VA-FR-017.25 VA-FR-017.21	17 LF 17 SLOPE
13514+22 – 13517+49	VA-FR-017.25 VA-FR-017.21	327 LF 328 SLOPE
13517+49 – 13526+00	VA-FR-017.25	851 LF 864 SLOPE
13526+00 – 13530+87	VA-FR-017.26	487 LF 493 SLOPE
13530+87 – 13536+33	VA-FR-017.27	546 LF 559 SLOPE

DESIGN

	13476+37 – 13496+27	13496+27 – 13497+07	13497+07 – 13536+33
PIPE / COATING	1	4	1
SLOPE DISTANCE	2028'	80'	3930'
CLASS LOCATION / HCA	1		

ENVIRONMENTAL

CONSTRUCTION EXCLUSION

13476+37: 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-IJ10 MARCH 15TH TO JUNE 30TH, MUSSEL RELOCATION TO BE COMPLETE BEWTWEEN MAY 1ST & SEPT. 20TH and FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.

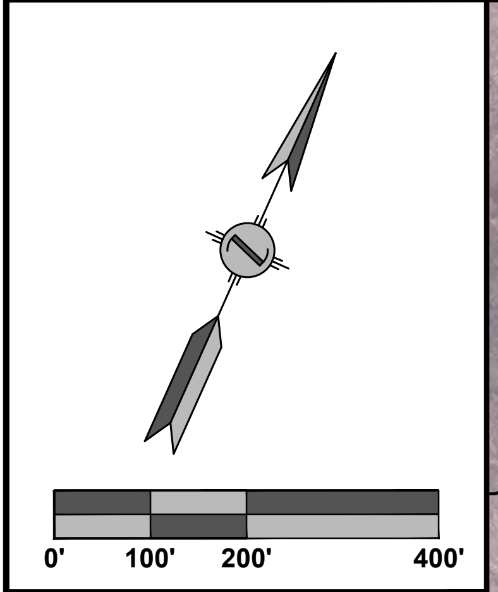
TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31
SEE TREE CLEARING PLAN FOR FURTHER DETAILS

FISH RELOCATION REQUIRED WITHIN STREAM S-KL2 CONSULT RESPONSIBLE E.I

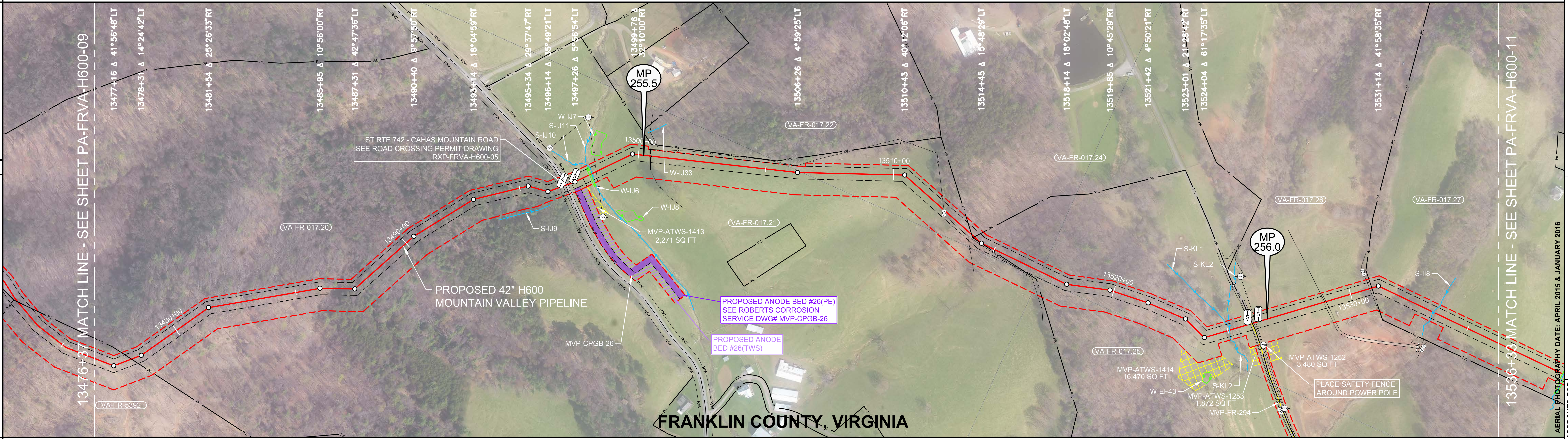
TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31
SEE TREE CLEARING PLAN FOR FURTHER DETAILS
13536+33

WETLAND / STREAM

W-IJ6	S-IJ10	S-KL2	S-KL1	S-II8
9 LF	3 LF	3.7 LF	4.5 LF	2 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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○ PI SYMBOL	PROPOSED TEST STATION
MB MAILBOX	LM LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	TWR TOWER LEG
TREE	GUY ANCHOR
TANK	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	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-H600-100	ACCESS ROAD DETAIL MAP
RXP-FRVA-H600-05	STATE ROUTE 742 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION
	STANDARD DRAWING
MVP-CPGB-26	ROBERTS CORROSION
	SERVICE DRAWING

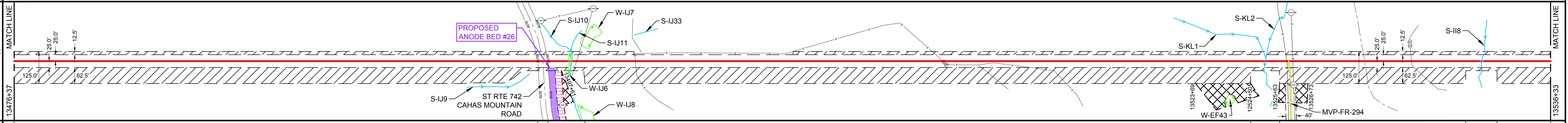
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

13476+37 MATCH LINE
13477+91 PROPERTY LINE
13482+55 ROCKS 4'LT
13496+62 PROPOSED TYPE 1 TEST STATION,R/W
13496+76 EDGE OF ASPHALT
13496+87 ℄ ST RTE 742 – CAHAS MOUNTAIN RD
13496+98 EDGE OF ASPHALT
13497+12 PROPOSED TYPE 1 TEST STATION,R/W
13497+89 BEGIN WETLAND(W–IJ6) 30'LT
13497+98 END WETLAND(W–IJ6) 28'LT
13498+00 ℄ STREAM(S–IJ10)
13498+19 OHP LINE
13500+48 FENCE – BARBED WIRE
13512+49 FENCE – BARBED WIRE
13512+53 GATE POST 4'RT
13512+62 GATE POST 14'RT
13513+94 PROPERTY LINE
13514+07 PROPERTY LINE
13516+83 PROPERTY CORNER 37'RT
13525+08 ℄ STREAM(S–KL2)
13525+10 ℄ STREAM(S–KL1) 10'LT
13525+80 PROPOSED TYPE 1 TEST STATION
13525+91 FENCE – BARBED WIRE, EDGE OF ASPHALT
13525+99 ACCESS ROAD – TEMPORARY
13526+00 PROPERTY LINE (MVP–FR–294)
13526+06 EDGE OF ASPHALT
13526+14 OHP LINE
13526+18 POWER POLE 93'RT
13526+23 PROPOSED TYPE 1 TEST STATION
13528+95 ℄ FIELD ROAD(GRAVEL)
13530+78 FENCE – BARBED WIRE
13530+86 PROPERTY LINE
13533+52 ℄ STREAM(S–II8)
13536+33 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	4	3,6,15	2	6,15,53	2	6,15,53	2

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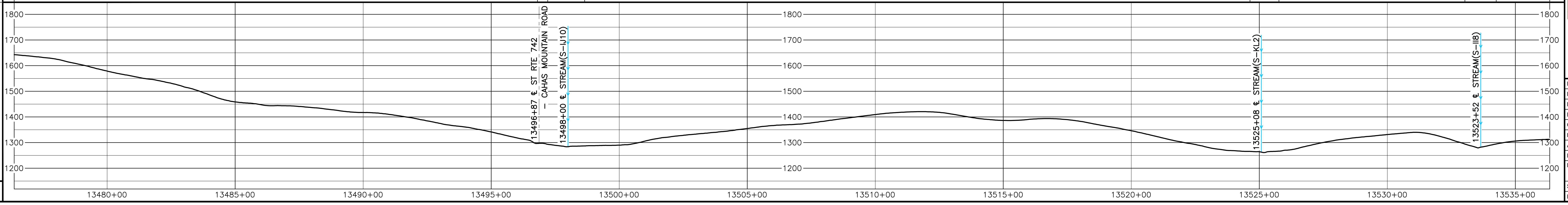
53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5958	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
4	80	42"O.D. X 0.740"W.T., X-70, FBE & ARO
	4	TYPE 1 TEST STATION - PIPELINE

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
BOONES MILL PCT.,FRANKLIN CO.,VA.
STA. 13476+37 TO STA. 13536+33

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-FRVA-H600 -10**	
SHEET 280 OF 329	REV. 6
DATE OF PLOT: 12/8/17 1:19 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Parcel	Length
13536+33	VA-FR-017.27	518 LF 526 SLOPE
13541+51 – 13541+83	STATE ROUTE 694	32 LF - 32 SLOPE
13541+83	VA-FR-017.28	2055 LF 2083 SLOPE
13562+38 – 13562+88	STATE ROUTE 739	50 LF - 50 SLOPE
13562+88	VA-FR-017.30	358 LF 367 SLOPE
13566+46	VA-FR-017.31 VA-FR-017.30	122 LF 123 SLOPE
13567+68	VA-FR-017.31	50 LF 50 SLOPE
13568+18	VA-FR-017.31 VA-FR-017.33	40 LF 40 SLOPE
13568+58	VA-FR-017.32 VA-FR-017.31 VA-FR-017.33	27 LF 28 SLOPE
13568+85	VA-FR-017.32 VA-FR-017.33	20 LF 20 SLOPE
13569+05	VA-FR-017.33	371 LF 372 SLOPE
13572+76	VA-FR-017.34	183 LF 187 SLOPE
13574+59	VA-FR-017.34 VA-FR-017.35	20 LF 20 SLOPE
13574+79	VA-FR-017.34 VA-FR-017.35 VA-FR-017.36	22 LF 22 SLOPE
13575+01 – 13575+42	STATE ROUTE 828	41 LF - 42 SLOPE
13575+42	VA-FR-017.37 VA-FR-017.38	106 LF 109 SLOPE
13576+48	VA-FR-017.38	1086 LF 1104 SLOPE
13587+34		

DESIGN

PIPE / COATING	13536+33 1 13541+27	4	13542+07 1 13543+02	6	13543+42 1 13556+48	2	13562+23 5 13563+03	2	13574+82 5 13575+62	2 13584+94	1 13587+34
SLOPE DISTANCE	500'	80'	109'	40'	1316'	580'	80'	1195'	80'	948'	246'

CLASS LOCATION / HCA: 1 | 2 | 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION:
- 13536+33 T.O.Y.R.: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- FISH RELOCATION REQUIRED WITHIN STREAM S-II9 CONSULT RESPONSIBLE E.I
- T.O.Y.R.: SEE TREE CLEARING PLAN
- FISH RELOCATION REQUIRED WITHIN STREAM S-II11 CONSULT RESPONSIBLE E.I
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- FISH RELOCATION REQUIRED WITHIN STREAM S-GH6 CONSULT RESPONSIBLE E.I
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS 13587+34

WETLAND / STREAM

W-II8	S-II7	S-II9	S-II11	S-II12	S-GH6	W-GH2	S-II6
19 LF	4 LF	21 LF	4 LF	2 LF	3 LF	31 LF	3 LF

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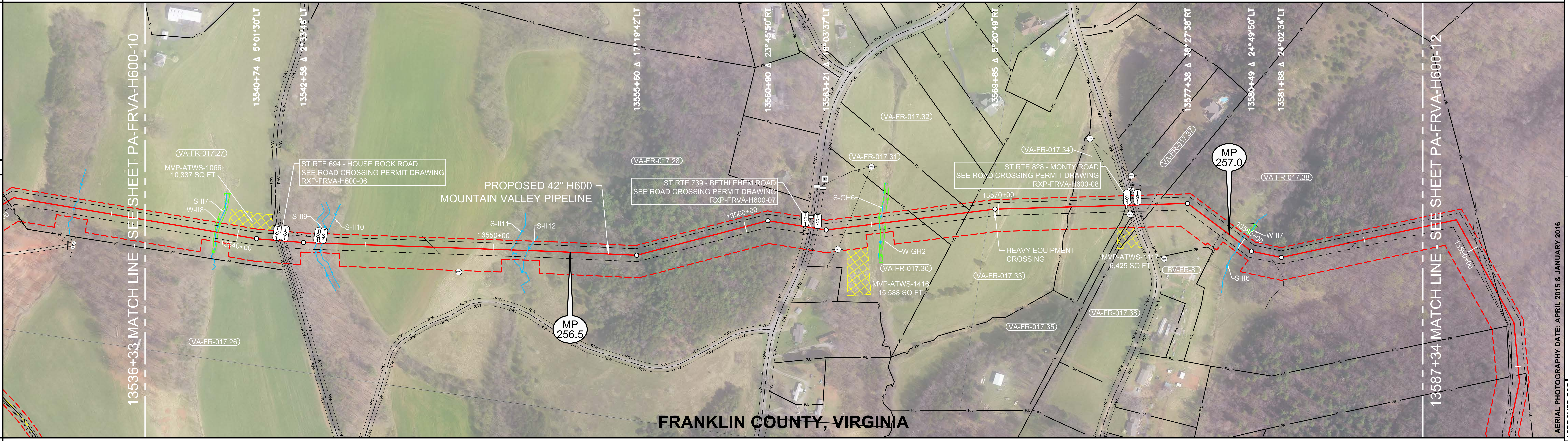


0' 100' 200' 400'

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
- P/L PROPERTY LINE
- R/W ROAD RIGHT-OF-WAY
- X FENCE LINE
- P OVERHEAD POWER
- T OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- ○ PI SYMBOL
- PROPOSED TEST STATION
- MB MAILBOX
- LM LINE MARKER - VENT PIPE
- PWR TEL POWER/TELE POLE
- SIGN
- TWR TOWER LEG
- TREE
- GUY ANCHOR
- TANK TANK
- ⋈ GAS VALVE
- WELL GW OW WW MNW WELL - GAS/OIL/WATER/ MONITORING
- POST FP GP POST - GATE/FENCE
- EM GM WM ELEC/GAS/WTR METER
- PED TEP EP FOP TVP PEDESTAL - UTILITY
- SAMH WMH 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-H600-100	ACCESS ROAD DETAIL MAP
RXP-FRVA-H600-06	STATE ROUTE 694 PERMIT DWG
RXP-FRVA-H600-07	STATE ROUTE 739 PERMIT DWG
RXP-FRVA-H600-08	STATE ROUTE 828 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

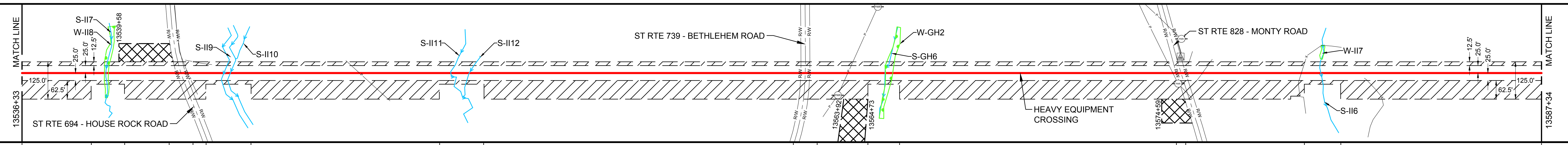
HORIZONTAL STATIONING

13536+33 MATCH LINE
13539+09 BEGIN WETLAND(W-II8) 27'RT
13539+14 ℄ STREAM(S-II7)
13539+28 END WETLAND(W-II8) 37'LT
13541+50 PROPOSED TYPE 1 TEST STATION,R/W
13541+60 EDGE OF ASPHALT
13541+66 ℄ ST RTE 694 - HOUSE ROCK ROAD
13541+73 EDGE OF ASPHALT
13541+82 PROPOSED TYPE 1 TEST STATION,R/W
13541+89 FENCE - BARBED WIRE
13543+11 STREAM BANK(S-II9), PROPOSED TYPE 1 TEST STATION
13543+19 PROPOSED RIVER WEIGHT - STREAM
13543+32 STREAM BANK(S-II9), PROPOSED TYPE 1 TEST STATION
13547+66 OHP LINE
13550+72 ℄ STREAM(S-II11)
13551+34 ℄ STREAM(S-II12)
13562+38 PROPOSED TYPE 1 TEST STATION,R/W
13562+53 EDGE OF ASPHALT
13562+54 SIGN 22'LT
13562+63 ℄ ST RTE 739 - BETHLEHEM ROAD
13562+73 EDGE OF ASPHALT
13562+88 PROPOSED TYPE 1 TEST STATION,R/W
13563+56 POWER POLE 81'RT
13564+02 OHP LINE
13565+30 ℄ STREAM(S-GH6)
13565+30 BEGIN WETLAND(W-GH2) 23'LT
13565+61 END WETLAND(W-GH2) 37'LT
13566+83 PROPERTY LINE
13568+79 PROPERTY LINE
13569+84 HEAVY EQUIPMENT CROSSING
13572+83 PROPERTY LINE
13574+93 OHP LINE
13574+98 PROPERTY LINE
13575+01 PROPOSED TYPE 1 TEST STATION,R/W
13575+04 GUY ANCHOR 41'RT
13575+06 GUY ANCHOR 39'RT
13575+11 POWER POLE 36'RT
13575+12 EDGE OF ASPHALT
13575+21 ℄ ST RTE 828 - MONTY ROAD
13575+31 EDGE OF ASPHALT
13575+42 PROPOSED TYPE 1 TEST STATION,R/W
13575+92 FENCE - BARBED WIRE
13576+15 PROPERTY LINE
13579+25 FENCE - BARBED WIRE
13579+93 ℄ STREAM(S-II6)
13587+34 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)

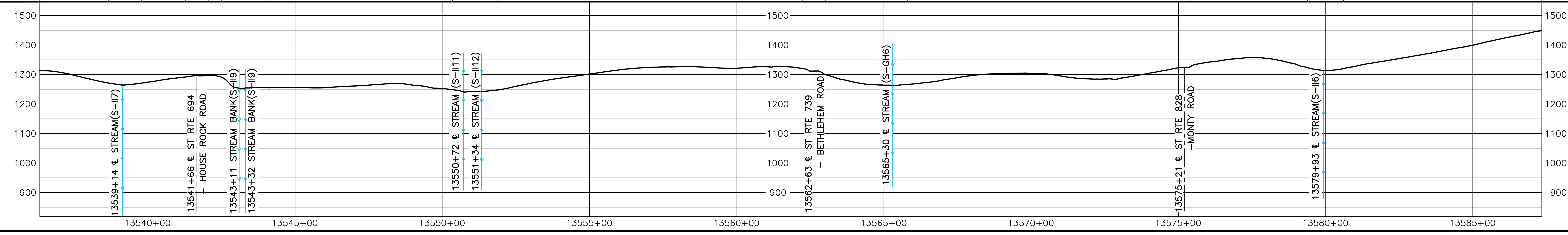


CONSTRUCTION METHOD

2 | 3,6,15 | 2 | 4 | 2 | 6,15,53 | 2 | 6,15,53 | 2 | 4 | 2 | 3,6,15 | 2 | 4 | 2 | 6,15,53 | 2

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

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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	2171	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	2723	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
4	80	42"O.D. X 0.740"W.T., X-70, FBE & ARO
5	160	42"O.D. X 0.888"W.T., X-70, FBE & ARO
6	40	42"O.D. X 0.614"W.T., X-70, FBE & ARO
	8	TYPE 1 TEST STATION - PIPELINE
	1	RIVER WEIGHTS

APPROVED FOR FERC

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

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17

Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE BOONES MILL PCT.,FRANKLIN CO.,VA. STA. 13536+33 TO STA. 13587+34

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-FRVA-H600 -11	
SHEET 281 OF 329	REV. 6
DATE OF PLOT: 12/8/17 1:22 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Parcel	Parcel	Length
13587+34	VA-FR-017.38		319 322 SLOPE
13590+53 – 13593+27	VA-FR-017.39	VA-FR-017.38	274 LF 275 SLOPE
	VA-FR-017.39	VA-FR-017.40	205 LF 206 SLOPE
13595+32 – 13595+92	VA-FR-017.39	VA-FR-017.41	60 LF 61 SLOPE
	VA-FR-017.41		641 LF 644 SLOPE
13602+33 – 13603+99	BV-FR-9		166 LF 168 SLOPE
	VA-FR-017.42	BV-FR-9	133 LF 133 SLOPE
13605+32 – 13606+74	VA-FR-017.43	BV-FR-9	142 LF 142 SLOPE
	VA-FR-017.43		136 LF 138 SLOPE
13608+10 – 13610+60	VA-FR-017.42	VA-FR-017.43	250 LF 252 SLOPE
	VA-FR-017.42 VA-FR-017.45 VA-FR-017.44	VA-FR-017.43	20 LF 21 SLOPE
13610+80 – 13611+10	VA-FR-017.45 VA-FR-017.44	VA-FR-017.43	30 LF 30 SLOPE
	VA-FR-017.45	VA-FR-017.44	395 LF 398 SLOPE
13615+05 – 13618+66	VA-FR-017.46	VA-FR-017.44	361 LF 362 SLOPE
	VA-FR-017.47		605 LF 617 SLOPE
13624+71			

DESIGN

	13587+34 – 13596+67	13596+67 – 13597+07	13597+07 – 13609+54	13609+54 – 13613+05	13613+05 – 13624+71
PIPE / COATING	1	2	1	2	1
SLOPE DISTANCE	940'	40'	1253'	355'	1181'
CLASS LOCATION / HCA	1			2	1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION	13587+34 – 13624+71: TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
WETLAND / STREAM	
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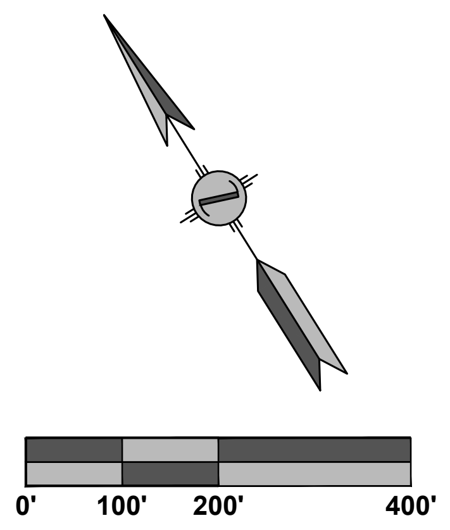
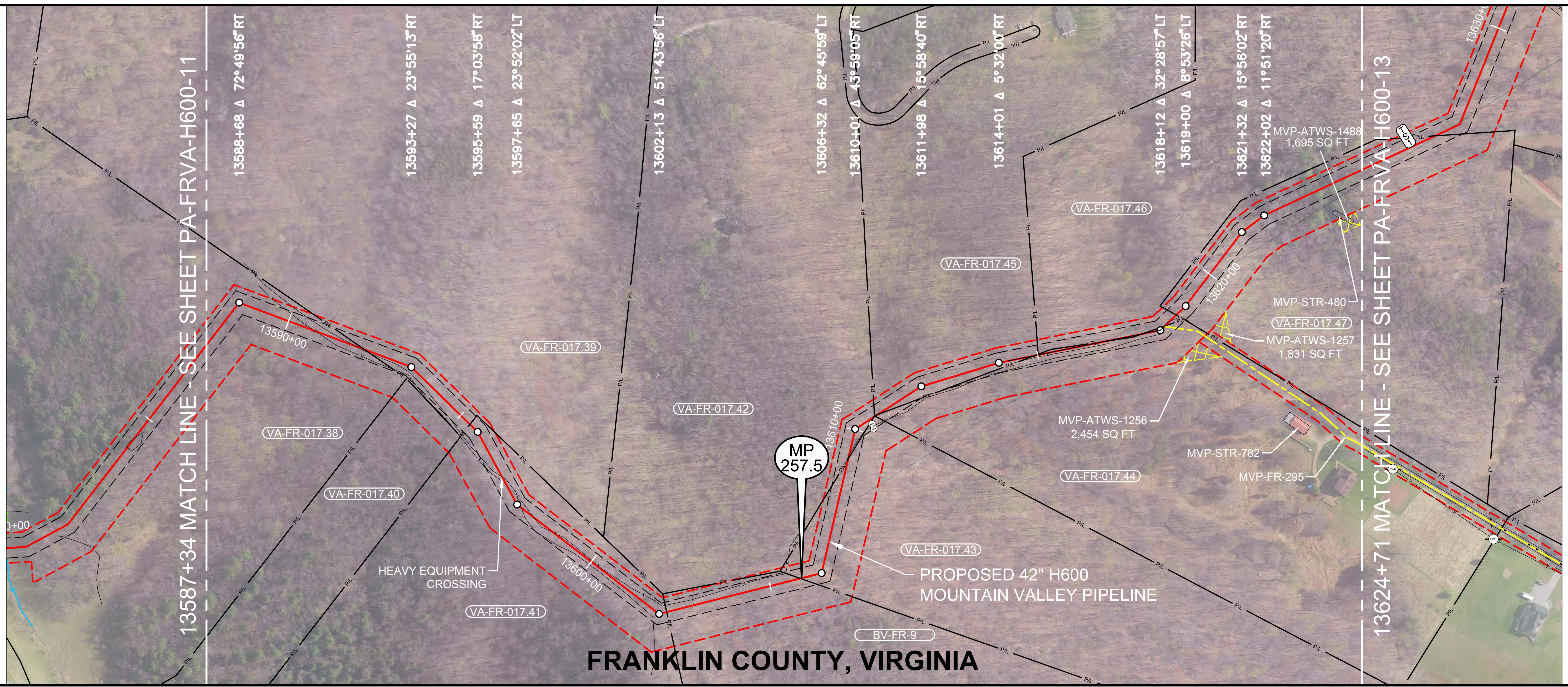


PLAN VIEW

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
— P/L —	PROPERTY LINE
— R/W —	ROAD RIGHT-OF-WAY
— X —	FENCE LINE
— P —	OVERHEAD POWER
— T —	OVERHEAD TELEPHONE
— - —	C/L ROAD
─┼─┼─	C/L RAILROAD
→	DELINEATED STREAM
──	DELINEATED WETLAND
─□─□─	BARRICADE FENCE
○ PI SYMBOL, TS#	PROPOSED TEST STATION
MB MAILBOX, LM	LINE MARKER - VENT PIPE
PWR, TEL	POWER/TELE POLE
SIGN, TWR	TOWER LEG
TREE	GUY ANCHOR
TANK	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	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-H600-15	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-101	ACCESS ROAD DETAIL MAP

HORIZONTAL STATIONING

13587+34 MATCH LINE

13590+70 FENCE – BARBED WIRE

13591+43 EDGE OF DIRT
13591+77 ₵ SERVICE ROAD(DIRT)
13592+02 PROPERTY LINE
13592+34 EDGE OF DIRT

13595+32 PROPERTY LINE

13596+76 EDGE OF DIRT
13596+87 ₵ SERVICE ROAD(DIRT)
HEAVY EQUIPMENT CROSSING
13596+97 EDGE OF DIRT
13597+15 FENCE – BARBED WIRE
13597+70 EDGE OF DIRT
13597+79 ₵ SERVICE ROAD(DIRT)
13597+88 EDGE OF DIRT
13598+18 FENCE – BARBED WIRE
13598+81 FENCE – BARBED WIRE

13602+33 PROPERTY LINE

13605+77 PROPERTY LINE

13609+03 EDGE OF DIRT

13609+25 PROPERTY LINE
13609+38 ₵ SERVICE ROAD(DIRT)
13609+53 EDGE OF DIRT

13610+41 GATE POST 25'RT
13610+43 GATE POST 11'RT
13610+56 PROPERTY LINE

13610+61 PROPERTY LINE
13610+68 PROPERTY LINE

13614+92 PROPERTY LINE

13616+76 PROPERTY LINE

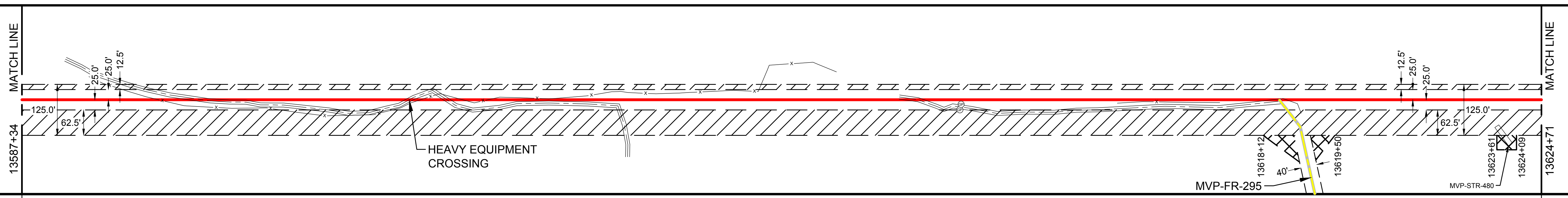
13617+66 PROPERTY LINE
13618+26 EDGE OF DIRT
13618+26 ACCESS RD – TEMPORARY(MVP–FR–295)
13618+27 PROPERTY LINE
13618+35 EDGE OF DIRT
13618+43 FENCE – BARBED WIRE
13618+67 PROPERTY LINE

13623+66 BUILDING – HOUSE – ABANDONED 62'RT

13624+71 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

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
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14 - PARALLEL TO POWER LINE
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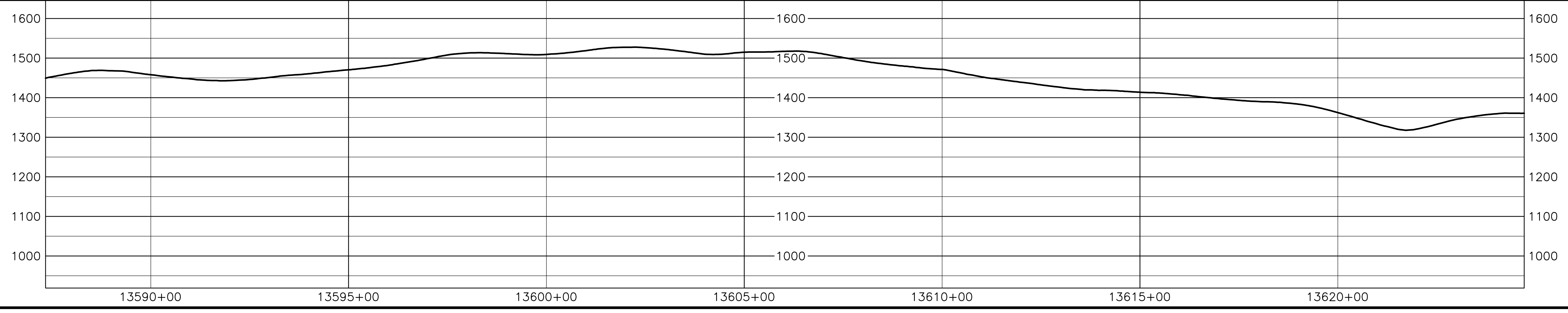
34 - 2-TONE SIDE HILL CONSTRUCTION
53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	3374	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	395	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY

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
BOONES MILL PCT.,FRANKLIN CO.,VA.
STA. 13587+34 TO STA. 13624+71

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-FRVA-H600 -12**	
SHEET 282 OF 329	REV. 6
DATE OF PLOT: 12/8/17 12:14 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

STATION	PARCEL	LENGTH
13624+71 – 13625+76	VA-FR-017.47	105 LF 106 SLOPE
13625+76 – 13627+92	VA-FR-017.46 VA-FR-017.47	216 LF 217 SLOPE
13627+92 – 13631+17	VA-FR-017.46	325 LF 344 SLOPE
13631+17 – 13631+57	VA-FR-017.46 VA-FR-017.48	40 LF 41 SLOPE
13631+57 – 13632+41	VA-FR-017.48	84 LF 87 SLOPE
13632+41 – 13640+05	VA-FR-017.46 VA-FR-017.48	764 LF 764 SLOPE
13640+05 – 13644+67	VA-FR-017.46	462 LF 464 SLOPE
13644+67 – 13644+97	STATE ROUTE 728	30 LF - 30 SLOPE
13644+97 – 13655+00	VA-FR-017.46	1003 LF 1005 SLOPE
13655+00 – 13655+63	VA-FR-045 VA-FR-017.46	63 LF 63 SLOPE
13655+63 – 13671+52	VA-FR-045	1589 LF 1599 SLOPE

DESIGN

STATION	PIPE / COATING	SLOPE DISTANCE
13624+71 – 13634+31	1	984'
13634+31 – 13643+40	2	884'
13643+40 – 13643+80	4	40'
13643+80 – 13643+89	2	9'
13643+89 – 13644+42	3	80'
13644+42 – 13645+22	5	80'
13645+22 – 13658+85	2	1367'
13658+85 – 13659+25	4	40'
13659+25 – 13671+52	2	1235'

CLASS LOCATION / HCA: 1 (13624+71 – 13634+31); 2 (13634+31 – 13653+20); 1 (13653+20 – 13669+85); 2 (13669+85 – 13671+52)

ENVIRONMENTAL

CONSTRUCTION EXCLUSION:
- 13624+71: 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-E28 MAR 15TH - JUNE 30TH & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.
- 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-GH3 & S-GH2 MAR 15TH - JUNE 30TH & FISH RELOCATION REQUIRED WITHIN STREAM S-GH3 CONSULT RESPONSIBLE E.I.
- TIME OF YEAR RESTRICTION: SEE TREE CLEARING PLAN
- 13671+52

WETLAND / STREAM:

S-E28	S-GH4	S-GH3	S-GH2
13 LF	5 LF	6 LF	2 LF

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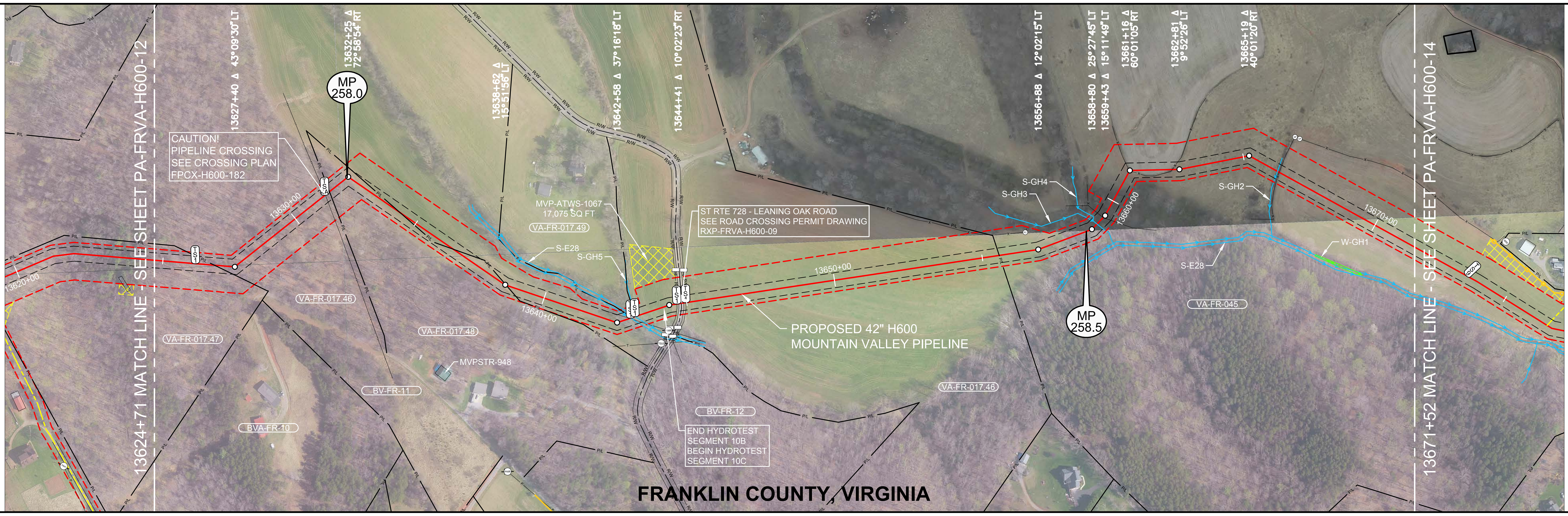


PLAN VIEW

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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○ PI SYMBOL	PROPOSED TEST STATION
MB MAILBOX	LM LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	TWR TOWER LEG
TREE	GUY ANCHOR
TANK TANK	⋈ GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
	CATCH BASIN - CULVERT
▨	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-101	ACCESS ROAD DETAIL MAP
FPCX-H600-182	FOREIGN PIPELINE X-ING PLAN
RXP-FRVA-H600-09	STATE ROUTE 728 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING
P-V-H600-1100-32	MAIN LINE VALVE #30 PLOT PLAN

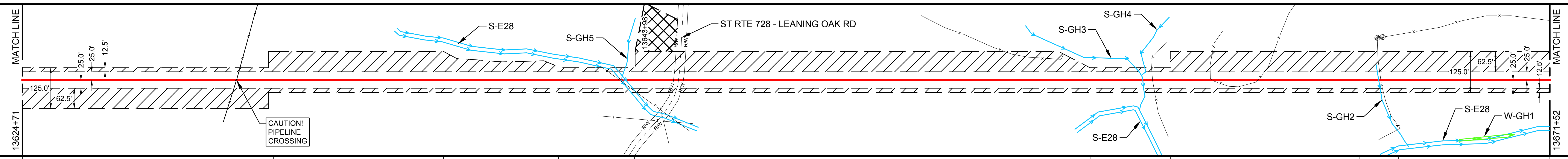
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

13624+71 MATCH LINE
13626+10 PROPOSED TYPE 1 TEST STATION
13626+73 PROPERTY LINE
13631+27 PIPELINE – FOREIGN – PLANTATION,
13631+45 PROPOSED TYPE 4A TEST STATION
13631+45 PROPERTY LINE
13634+35 PROPERTY LINE
13636+52 PROPERTY LINE
13638+66 PROPERTY LINE
13643+53 STREAM BANK(S–E28), **PROPOSED TYPE 1 TEST STATION**
13643+59 PROPOSED RIVER WEIGHT – STREAM
13643+63 OHP LINE
13643+66 STREAM BANK(S–E28), **PROPOSED TYPE 1 TEST STATION**
13644+67 PROPOSED TYPE 1 TEST STATION,R/W
13644+73 EDGE OF ASPHALT
13644+82 ℄ ST RTE 728 – LEANING OAK ROAD
13644+90 EDGE OF ASPHALT
13644+97 PROPOSED TYPE 1 TEST STATION,R/W
13655+56 PROPERTY LINE
13656+53 FENCE POST 63'LT
13659+03 ℄ STREAM(S–GH4) 17'LT
13659+04 ℄ STREAM(S–GH3)
13659+34 FENCE – ELECTRIC
13661+18 FENCE – ELECTRIC
13662+57 FENCE – ELECTRIC
13666+23 GATE POST 129'LT
13666+27 ℄ STREAM(S–GH2)
13666+34 FENCE – ELECTRIC
13666+39 GATE POST 131'LT
13671+52 MATCH LINE

WORK SPACE

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



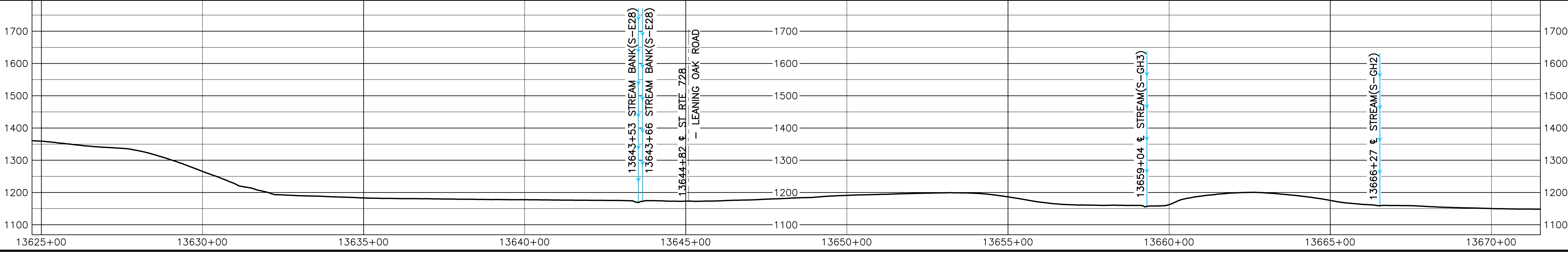
CONSTRUCTION METHOD

2	2.1	53	6,15,53	2.1	6,15,53	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



AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	984	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	3525	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
3	80	42"O.D. X 0.888"W.T., X-70, FUSION BONDED EPOXY
4	80	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
	5	TYPE 1 TEST STATION - PIPELINE
	1	TYPE 4A TEST STATION - SINGLE LINE FOREIGN XING
	1	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

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26555 Evergreen Rd. Suite 430
Southfield, Michigan 48076
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APPROVED FOR FERC

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

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17

Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
BOONES MILL PCT.,FRANKLIN CO.,VA.
STA. 13624+71 TO STA. 13671+52

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-FRVA-H600 -13**	
SHEET 283 OF 329	REV. 6
DATE OF PLOT: 12/11/17 11:03 AM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tract	Length
13671+52 – 13678+82	VA-FR-045	730 LF 730 SLOPE
13678+82 – 13681+64	BVA-FR-13	282 LF 282 SLOPE
13681+64 – 13687+78	VA-FR-047	614 LF 614 SLOPE
13687+78 – 13688+03	VA-FR-048	25 LF 26 SLOPE
13688+03 – 13690+71	STATE ROUTE 919 VA-FR-048	268 LF 268 SLOPE
13690+71 – 13691+25	STATE ROUTE 919 44 LF - 45 SLOPE	
13691+25 – 13693+68	VA-FR-049	243 LF 245 SLOPE
13693+68 – 13694+31	VA-FR-050 VA-FR-049	63 LF 63 SLOPE
13694+31 – 13703+81	VA-FR-050	950 LF 953 SLOPE
13703+81 – 13705+09	VA-FR-050 VA-FR-051	128 LF 129 SLOPE
13705+09 – 13713+51	VA-FR-051	706 LF 711 SLOPE
13713+51 – 13714+49	VA-FR-053 VA-FR-051	98 LF 98 SLOPE
13714+49 – 13729+89	VA-FR-053	1540 LF 1561 SLOPE

DESIGN

PIPE / COATING	SLOPE DISTANCE
13671+52 – 13678+50: 2	700'
13678+50 – 13678+90: 4	40'
13678+90 – 13690+50: 2	1161'
13690+50 – 13691+30: 5	80'
13691+30 – 13691+70: 8	40'
13691+70 – 13692+50: 2	80'
13692+50 – 13692+90: 4	40'
13692+90 – 13704+79: 2	1197'
13704+79 – 13705+19: 4	40'
13705+19 – 13727+97: 2	2295'
13727+97 – 13728+37: 4	40'
13728+37 – 13729+89: 2	162'

CLASS LOCATION / HCA: 2; 13705+73 1 13724+62; 2; 13725+05 HCA-14

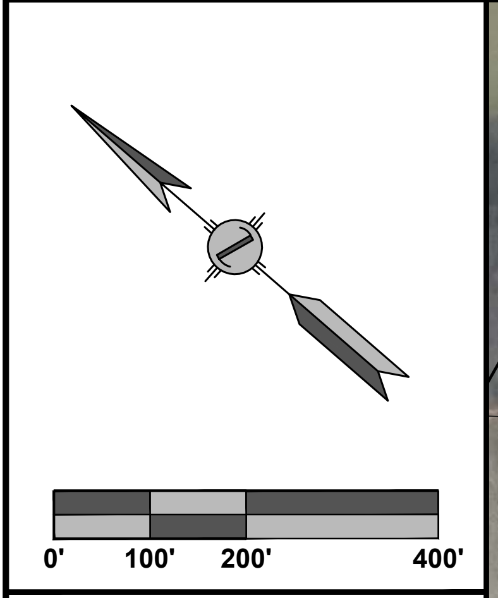
ENVIRONMENTAL

CONSTRUCTION EXCLUSION (13671+52 – 13729+89):

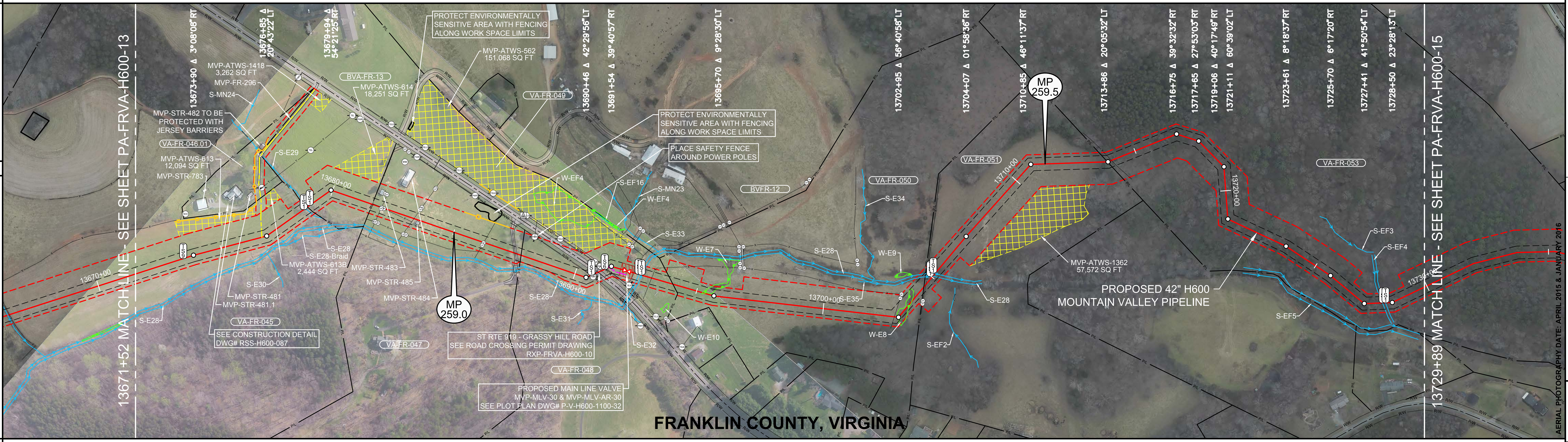
- T.O.Y.R.: SEE TREE CLEARING PLAN
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-E29 MARCH 15TH TO JUNE 30TH & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-E28 MARCH 15TH TO JUNE 30TH & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.
- TIME OF YEAR RESTRICTION: SEE TREE CLEARING PLAN
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-E28 MARCH 15TH TO JUNE 30TH & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.
- 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-EF4 MARCH 15TH TO JUNE 30TH & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.

WETLAND / STREAM

S-E29	S-E28	W-E7	W-E8	S-E28	S-EF4
8 LF	13 LF	81 LF	127 LF	17 LF	12 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
— P/L —	PROPERTY LINE
— R/W —	ROAD RIGHT-OF-WAY
— X —	FENCE LINE
— P —	OVERHEAD POWER
— T —	OVERHEAD TELEPHONE
— —	C/L ROAD
—+—+—	C/L RAILROAD
—>—	DELINEATED STREAM
—*—	DELINEATED WETLAND
—□—□—	BARRICADE FENCE
○ PI SYMBOL	PROPOSED TEST STATION
MB MAILBOX	LM LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	TWR TOWER LEG
TREE	GUY ANCHOR
TANK TANK	⋈ GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
⊞	CATCH BASIN - CULVERT
▩	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

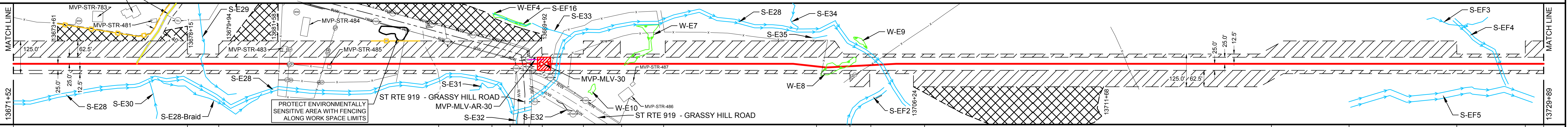
DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
RXP-FRVA-H600-10	STATE ROUTE 919 PERMIT DWG
RSS-H600-021	RESIDENTIAL SITE SPECIFIC
RSS-H600-087	RESIDENTIAL SITE SPECIFIC
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING
P-W-H600-1204-02	CATHODIC PROTECTION STANDARD DRAWING

HORIZONTAL STATIONING

13671+52 MATCH LINE
13673+47 PROPOSED TYPE 9 TEST STATION
13676+66 ACCESS ROAD – TEMPORARY (MVP–FR–296)
13678+63 PROPOSED TYPE 1 TEST STATION
13678+71 ℄ STREAM(S–E29)
13678+81 PROPERTY LINE
13678+91 PROPOSED TYPE 1 TEST STATION
13679+11 SENSITIVE AREA
13681+32 SENSITIVE AREA
13681+64 PROPERTY LINE
13681+65 FENCE – HOG WIRE
13681+93 BUILDING – COMMERCIAL 46'LT
13681+99 GATE POST 56'LT
13681+99 FENCE – HOG WIRE
13682+02 GATE POST 5'RT
13682+02 GATE POST 1'RT
13682+03 FENCE – HOG WIRE
13682+03 GATE POST
13682+06 GATE POST 54'LT
13682+12 GATE POST 1'RT
13682+71 BUILDING – BARN 104'LT
13683+36 FENCE – HOG WIRE
13683+49 BUILDING – SHED 3'RT
13683+64 WATER SPIGOT 93'LT
13683+77 GATE POST 136'LT
13686+24 FENCE – HOG WIRE
13687+49 EDGE OF GRAVEL
13687+54 ℄ DRIVEWAY(GRAVEL)
13687+61 EDGE OF GRAVEL
13687+78 PROPERTY LINE
13688+05 POWER POLE 85'LT
13688+05 GUY ANCHOR 72'LT
13688+05 GUY ANCHOR 74'LT
13688+07 GUY ANCHOR 66'LT
13688+17 GUY ANCHOR 80'LT
13689+02 TELEPHONE POLE 110'LT
13690+64 OHP LINE
13690+66 PROPOSED TYPE 1 TEST STATION,R/W
13690+67 POWER POLE 18'RT
13690+80 EDGE OF ASPHALT
13690+91 ℄ ST RTE 919 – GRASSY HILL ROAD
13691+02 EDGE OF ASPHALT
13691+13 TELEPHONE POLE 16'LT
13691+15 POWER POLE 11'RT
13691+25 PROPOSED TYPE 6 TEST STATION,R/W
13691+27 OHP LINE
13691+41 FENCE – WIRE
13692+17 MAIN LINE VALVE – PROPOSED (MVP–MLV–30)
13692+17 ACCESS ROAD – PERMANENT (MVP–MLV–AR–30)16'LT,
13692+41 POWER POLE 52'RT
13692+47 FENCE – BARBED WIRE
13692+48 GUY ANCHOR 38'RT
13692+49 GUY ANCHOR 34'RT
13692+64 STREAM BANK(S–E28), PROPOSED TYPE 1 TEST STATION
13692+72 PROPOSED RIVER WEIGHT – STREAM
13692+77 STREAM BANK(S–E28), PROPOSED TYPE 1 TEST STATION
13693+18 FENCE – WIRE
13694+04 PROPERTY LINE
13695+22 BEGIN WETLAND(W–E7) 5'RT
13695+37 BUILDING – HOUSE 89'RT
13695+56 BUILDING – SHED 68'RT
13696+03 END WETLAND(W–E7) 38'LT
13702+78 BEGIN WETLAND(W–E8) 38'RT
13702+80 FENCE – WIRE
13703+90 GATE POST 49'RT
13704+00 GATE POST 42'RT
13704+05 END WETLAND(W–E8) 23'LT
13704+55 PROPERTY LINE
13704+68 FENCE – BARBED WIRE
13704+90 STREAM BANK(S–E28), PROPOSED TYPE 1 TEST STATION
13704+97 PROPOSED RIVER WEIGHT – STREAM
13705+07 STREAM BANK(S–E28), PROPOSED TYPE 1 TEST STATION
13713+83 PROPERTY LINE
13714+00 FENCE – BARBED WIRE
13728+11 STREAM BANK(S–EF4) PROPOSED TYPE 1 TEST STATION
13728+16 PROPOSED RIVER WEIGHT–STREAM
13728+23 STREAM BANK(S–EF4) PROPOSED TYPE 1 TEST STATION
13729+89 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)

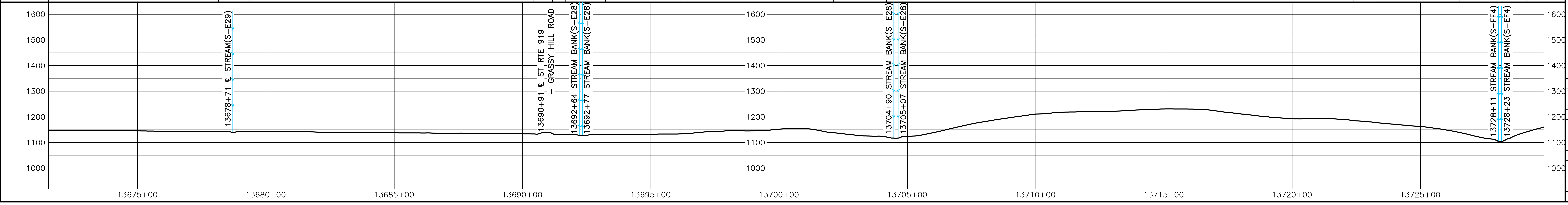
CONSTRUCTION METHOD

2.1	6,15,53	2.1	53	2.1	4	2.1	6,15,53	2.1	3	2.1	3	2	6,15,53	2	2.1	2.1,34	6,15,34,53	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



MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
2	5635	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
5	80	42"O.D. X 0.888"W.T., X-70, FBE & ARO
8	1	ANSI 900 MONOLITHIC INSULATING JOINT
	9	TYPE 1 TEST STATION - PIPELINE
	1	TYPE 6 TEST STATION - ISO. JOINT - BELOW GRADE
	1	TYPE 9 TEST STATION - TEST STATION IR COUPON
	3	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

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

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Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
BOONES MILL PCT.,FRANKLIN CO.,VA.
STA. 13671+52 TO STA. 13729+89

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-FRVA-H600 -14	
SHEET 284 OF 329	REV. 6
DATE OF PLOT: 12/11/17 11:06 AM	

RIGHT-OF-WAY & OWNERSHIP DATA

13729+89	VA-FR-053	883 LF 887 SLOPE	13738+72
13738+72	VA-FR-054.002 VA-FR-053	276 LF 277 SLOPE	13741+48
13741+48	VA-FR-053	508 LF 511 SLOPE	13746+56
13746+56	VA-FR-057	159 LF 165 SLOPE	13748+15
13748+15	STATE ROUTE 693	30 LF - 30 SLOPE	13748+45
13748+45	VA-FR-057	710 LF 714 SLOPE	13755+55
13755+55	VA-FR-058	1540 LF 1545 SLOPE	13770+95
13770+95	VA-FR-058 VA-FR-059.01	34 LF 35 SLOPE	13771+29
13771+29	VA-FR-059.01	570 LF 576 SLOPE	13776+99
13776+99	VA-FR-059.01 VA-FR-062	59 LF 59 SLOPE	13777+57

DESIGN

PIPE / COATING	SLOPE DISTANCE	CLASS LOCATION / HCA
13729+89 – 13747+90: 2	1816'	2 HCA-14
13747+90 – 13748+70: 5	80'	
13748+70 – 13755+40: 2	673'	
13755+40 – 13755+80: 4	40'	
13755+80 – 13777+57: 2	2190'	

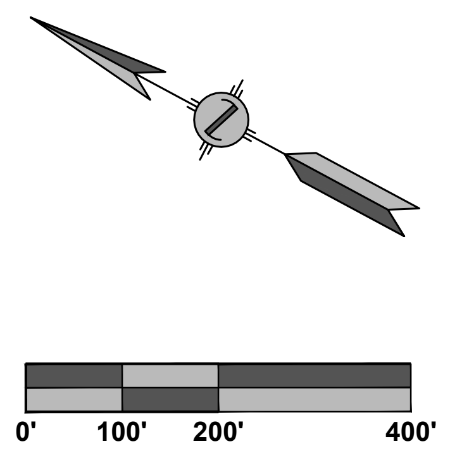
ENVIRONMENTAL

CONSTRUCTION EXCLUSION

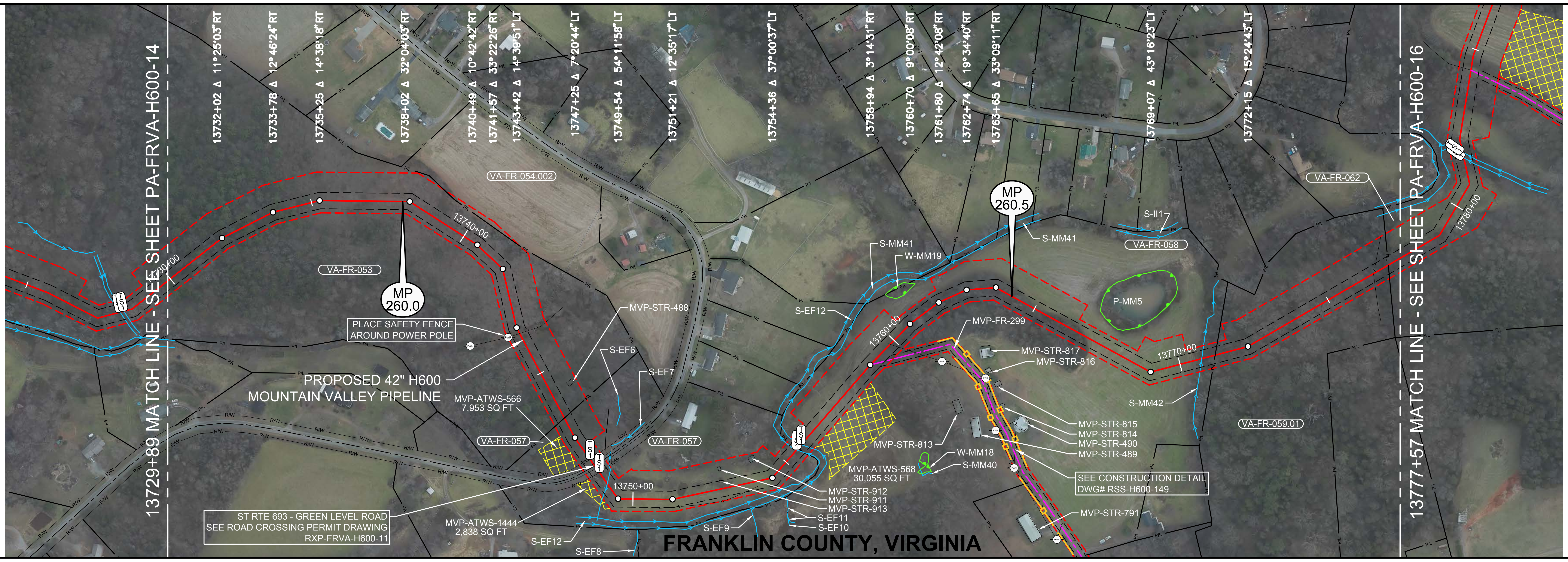
- 13729+89: TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAMS S-EF7 & S-EF12 MAR 15TH - JUNE 30TH & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-MM42 MAR 15TH - JUNE 30TH & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.
- T.O.Y.R.: SEE TREE CLEARING PLAN
- 13777+57

WETLAND / STREAM

S-EF7	S-EF12	S-MM42
2 LF	22 LF	2 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-H600-15	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-102	ACCESS ROAD DETAIL MAP
RXP-FRVA-H600-11	STATE ROUTE 693 PERMIT DWG
RSS-H600-149	RESIDENTIAL SITE SPECIFIC
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

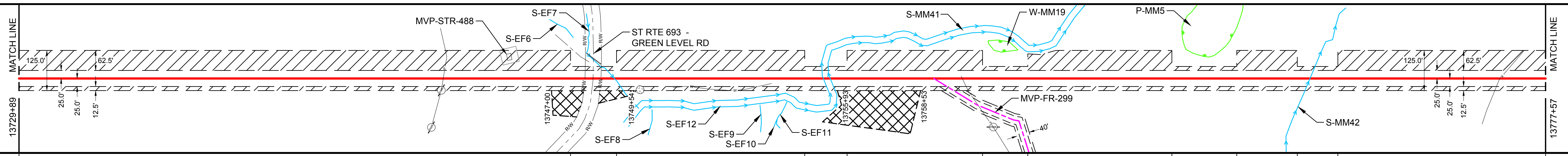
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

- 13729+89 MATCH LINE
- 13743+56 POWER POLE 37'RT
- 13743+62 OHP LINE
- 13743+68 GUY ANCHOR 38'RT
- 13745+63 BUILDING - STONE FOUNDATION 56'LT
- 13746+56 PROPERTY LINE
- **13748+05 PROPOSED TYPE 1 TEST STATION,R/W**
- 13748+11 CULVERT OPEN END 77'LT
- 13748+21 EDGE OF ASPHALT
- **13748+30 ℄ ST RTE 693 - GREEN LEVEL ROAD**
- 13748+36 EDGE OF ASPHALT
- 13748+53 CULVERT OPEN END 46'LT
- **13748+55 PROPOSED TYPE 1 TEST STATION,R/W**
- **13748+97 ℄ STREAM(S-EF7)**
- 13755+49 STREAM BANK(S-EF12), PROPOSED TYPE 1 TEST STATION
- 13755+57 PROPERTY LINE
- **13755+61 PROPOSED RIVER WEIGHT - STREAM**
- 13755+71 STREAM BANK(S-EF12), PROPOSED TYPE 1 TEST STATION
- 13758+95 ACCESS ROAD - PERMANENT (MVP-FR-299)
- 13759+83 OHP LINE
- 13770+69 ℄ STREAM(S-MM42)
- 13771+12 PROPERTY LINE
- 13776+63 FENCE - BARBED WIRE
- 13777+14 PROPERTY LINE
- 13777+57 MATCH LINE

WORK SPACE

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



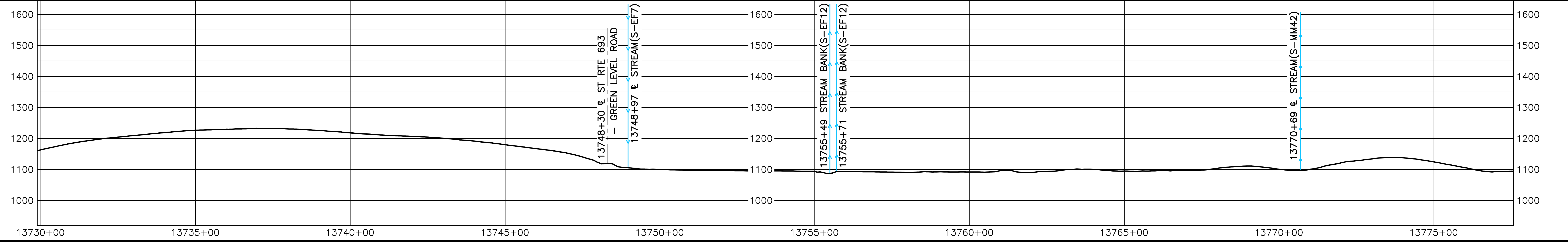
CONSTRUCTION METHOD

13729+89 – 13747+90	13747+90 – 13748+70	13748+70 – 13755+40	13755+40 – 13755+80						
2.1	4,6,15	2.1	6,15,53	2.1	53	2.1	53	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



AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
2	4679	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
	4	TYPE 1 TEST STATION - PIPELINE
	1	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 BOONES MILL PCT.,FRANKLIN CO.,VA. STA. 13729+89 TO STA. 13777+57

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-FRVA-H600 -15	
SHEET 285 OF 329	REV. 6
DATE OF PLOT: 12/8/17 12:23 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

13777+57 | VA-FR-062 1348 LF 1372 SLOPE | 13791+06 | VA-FR-063 VA-FR-062 112 LF 115 SLOPE | 13792+18 | VA-FR-063 VA-FR-062 BV-FR-0083 10 LF 10 SLOPE | 13792+28 | VA-FR-063 BV-FR-0083 68 LF 69 SLOPE | 13792+96 | VA-FR-063 141 LF 144 SLOPE | 13794+37 | VA-FR-064 1719 LF 1742 SLOPE | 13811+56 | STATE ROUTE 697 50 LF - 51 SLOPE | 13812+06 | VA-FR-068 BVFR-24 63 LF 63 SLOPE | 13812+69 | VA-FR-068 446 LF 454 SLOPE | 13817+15

DESIGN

PIPE / COATING: 13777+57 | 2 | 13781+50 | 4 | 13781+90 | 2 | 13790+39 | 4 | 13790+79 | 2 | 13794+37 | 4 | 13794+77 | 2 | 13805+50 | 4 | 13805+90 | 2 | 13811+40 | 5 | 13812+20 | 2 | 13817+15

SLOPE DISTANCE: 395' | 40' | 868' | 40' | 366' | 40' | 1089' | 40' | 560' | 80' | 502'

CLASS LOCATION / HCA: 2 | HCA-14 13785+19 | 13788+37 | 1 | 13806+12 | 2

ENVIRONMENTAL

CONSTRUCTION EXCLUSION: 13777+57 | T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-RR15 MAR 15TH - JUNE 30TH & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I. | T.O.Y.R.: SEE TREE CLEARING PLAN | T.O.Y.R.: NO CONSTRUCTION WITHIN STREAMS S-D22 & S-D23 MAR 15TH - JUNE 30TH & FISH RELOCATION REQUIRED WITHIN STREAM S-D23 CONSULT RESPONSIBLE E.I. | T.O.Y.R.: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS | T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-D20 MAR 15TH - JUNE 30TH | T.O.Y.R.: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS | 13817+15

WETLAND / STREAM: S-RR15 17 LF | S-D23 25 LF | S-D22 8 LF | S-D18 21 LF | S-D20 8 LF

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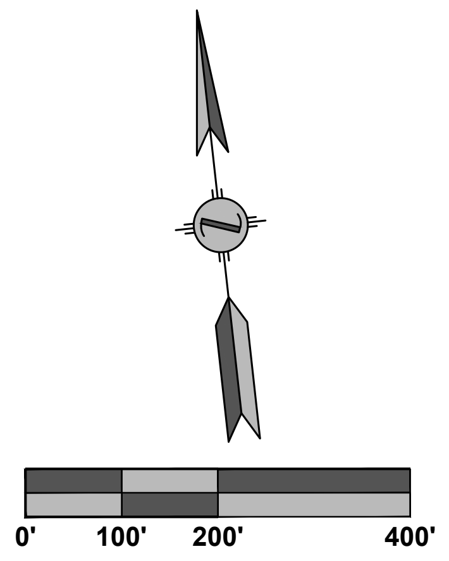
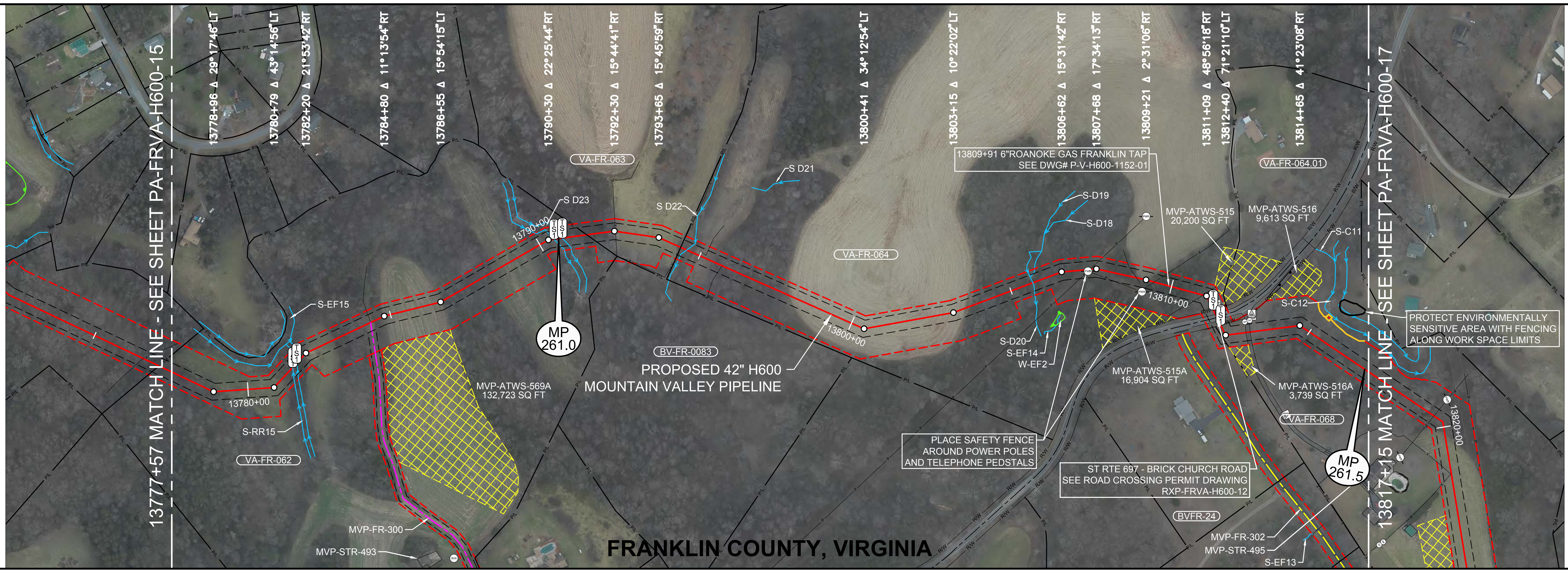


PLAN VIEW



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
─ P/L ─	PROPERTY LINE
─ R/W ─	ROAD RIGHT-OF-WAY
─ X ─	FENCE LINE
─ P ─	OVERHEAD POWER
─ T ─	OVERHEAD TELEPHONE
─ ─ ─	C/L ROAD
─┼─┼─	C/L RAILROAD
─>─	DELINEATED STREAM
───	DELINEATED WETLAND
─□─□─	BARRICADE FENCE
○ PI SYMBOL	TS# PROPOSED TEST STATION
MB MAILBOX	LM LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	TWR TOWER LEG
TREE	GUY ANCHOR
TANK TANK	⋈ GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
⊞	CATCH BASIN - CULVERT
▨	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY
	SITES, MAINLINE VALVES &
	LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-102	ACCESS ROAD DETAIL MAP
RXP-FRVA-H600-12	STATE ROUTE 697 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION
	STANDARD DRAWING
P-V-H600-1152-01	6"ROANOKE GAS TAP

HORIZONTAL STATIONING

13777+57 MATCH LINE

13781+62 STREAM BANK(S-RR15), PROPOSED TYPE 1 TEST STATION
13781+69 PROPOSED RIVER WEIGHT - STREAM
13781+79 STREAM BANK(S-RR15), PROPOSED TYPE 1 TEST STATION

13784+35 ACCESS ROAD - PERMANENT (MVP-FR-300)

13790+47 STREAM BANK(S-D23), PROPOSED TYPE 1 TEST STATION
13790+64 PROPOSED RIVER WEIGHT - STREAM
13790+72 STREAM BANK(S-D23), PROPOSED TYPE 1 TEST STATION

13791+47 PROPERTY LINE

13792+34 FENCE - BARBED WIRE

13794+37 PROPERTY LINE
13794+38 FENCE - ELECTRIC
13794+57 ℄ STREAM(S-D22)

13805+69 BEGIN ℄ STREAM(S-D18) 19'LT
13805+70 ℄ STREAM(S-D20)
13805+90 END ℄ STREAM(S-D18) 38'LT
13807+35 GUY ANCHOR 2'RT
13807+42 POWER POLE 5'RT
13807+48 OHP LINE

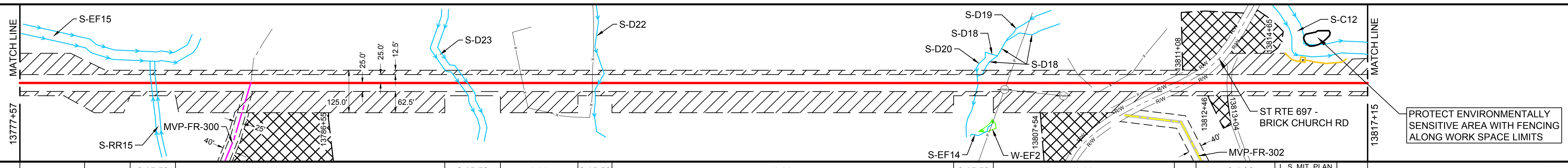
13808+91 FENCE - BARBED WIRE
13809+16 POWER POLE 38'RT
13809+23 GUY ANCHOR 29'RT
13809+46 FENCE - BARBED WIRE
13809+91 6"ROANOKE GAS TAP
13810+98 FENCE - BARBED WIRE
13811+56 PROPOSED TYPE 1 TEST STATION,R/W
13811+56 LINE MARKER 16'LT
13811+63 MAILBOX 17'LT
13811+70 EDGE OF ASPHALT
13811+81 ℄ ST RTE 697 - BRICK CHURCH RD
13811+91 EDGE OF ASPHALT
13812+06 PROPOSED TYPE 1 TEST STATION,R/W
13812+07 FENCE - WOOD
13813+02 EDGE OF ASPHALT
13813+03 GATE POST 32'LT
13813+15 EDGE OF ASPHALT
13813+18 GATE POST 35'LT
13813+26 MAILBOX 55'LT
13813+26 MAILBOX 55'LT
13813+27 PEDESTAL - TELEPHONE 47'LT

13817+15 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

2.1 | 2 | 6,15,53 | 2 | 6,15,53 | 2,33 | 6,15,53 | 2,33 | 6,15,53 | 2,33 | 4 | 2.1,33 | L. S. MIT. PLAN 33,53

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
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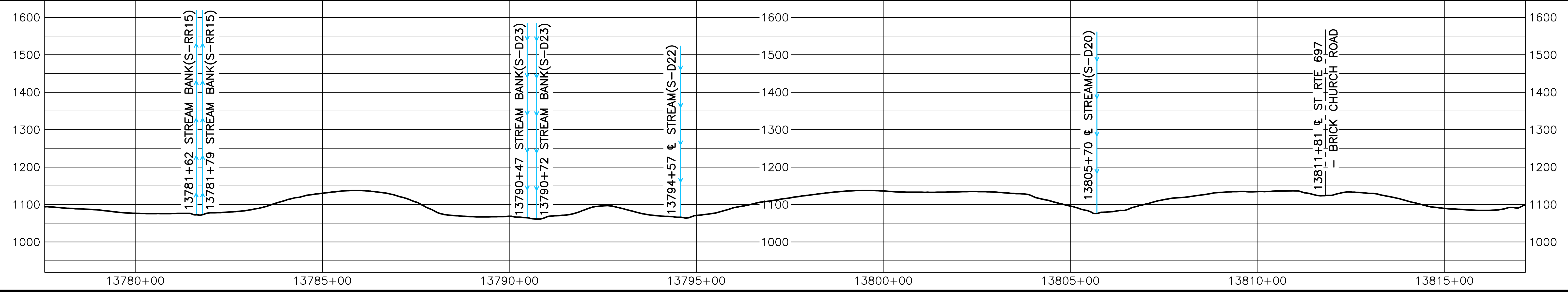
PROFILE



AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
2	3780	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
5	80	42"O.D. X 0.888"W.T., X-70, FBE & ARO
	6	TYPE 1 TEST STATION - PIPELINE
	1	6"GAS TAP
	3	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

APPROVED FOR FERC

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

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17

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www.hollandengineering.com

Mountain Valley PIPELINE

PIPELINE ALIGNMENT
MOUNTAIN VALLEY PROJECT - H600 LINE
BOONES MILL & GOGGINSVILLE PCT.,FRANKLIN CO.,VA.
STA. 13777+57 TO STA. 13817+15

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-FRVA-H600 -16
SHEET 286 OF 329 REV. 6
DATE OF PLOT: 12/11/17 11:16 AM

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tract	Length
13817+15 – 13829+02	VA-FR-068	1187 LF 1193 SLOPE
13829+02 – 13831+64	VA-FR-068 VA-FR-070	262 LF 264 SLOPE
13831+64 – 13834+02	VA-FR-070	238 LF 246 SLOPE
13834+02 – 13834+59	VA-FR-070 VA-FR-070.01	57 LF 58 SLOPE
13834+59 – 13835+30	VA-FR-070.01	71 LF 72 SLOPE
13835+30 – 13836+12	VA-FR-072 VA-FR-070.01	82 LF 82 SLOPE
13836+12 – 13842+10	VA-FR-072	598 LF 603 SLOPE
13842+10 – 13842+37	VA-FR-072 VA-FR-073	27 LF 27 SLOPE
13842+37 – 13847+43	VA-FR-073	506 LF 510 SLOPE
13847+43 – 13848+70	VA-FR-073 VA-FR-074	127 LF 130 SLOPE
13848+70 – 13849+08	VA-FR-073 VA-FR-074 VA-FR-075	38 LF 38 SLOPE
13849+08 – 13859+96	VA-FR-075	1089 LF 1097 SLOPE

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
13817+15 – 13833+93	2	1695'
13833+93 – 13834+73	4	80'
13834+73 – 13846+65	2	1200'
13846+65 – 13847+05	4	40'
13847+05 – 13859+96	2	1304'

CLASS LOCATION / HCA: 2 (to 13849+69); 1 (from 13849+69); HCA-15 13823+16 – 13847+52

ENVIRONMENTAL

CONSTRUCTION EXCLUSION:

Station	Restriction
13817+15	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-CD14 MAR 15TH - JUNE 30TH & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.
	TIME OF YEAR RESTRICTION: SEE TREE CLEARING PLAN
	T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-C16 MAR 15TH - JUNE 30TH & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.
13859+96	TIME OF YEAR RESTRICTION: SEE TREE CLEARING PLAN

WETLAND / STREAM:

Stream	Length
S-C14	60 LF
S-C16	15 LF

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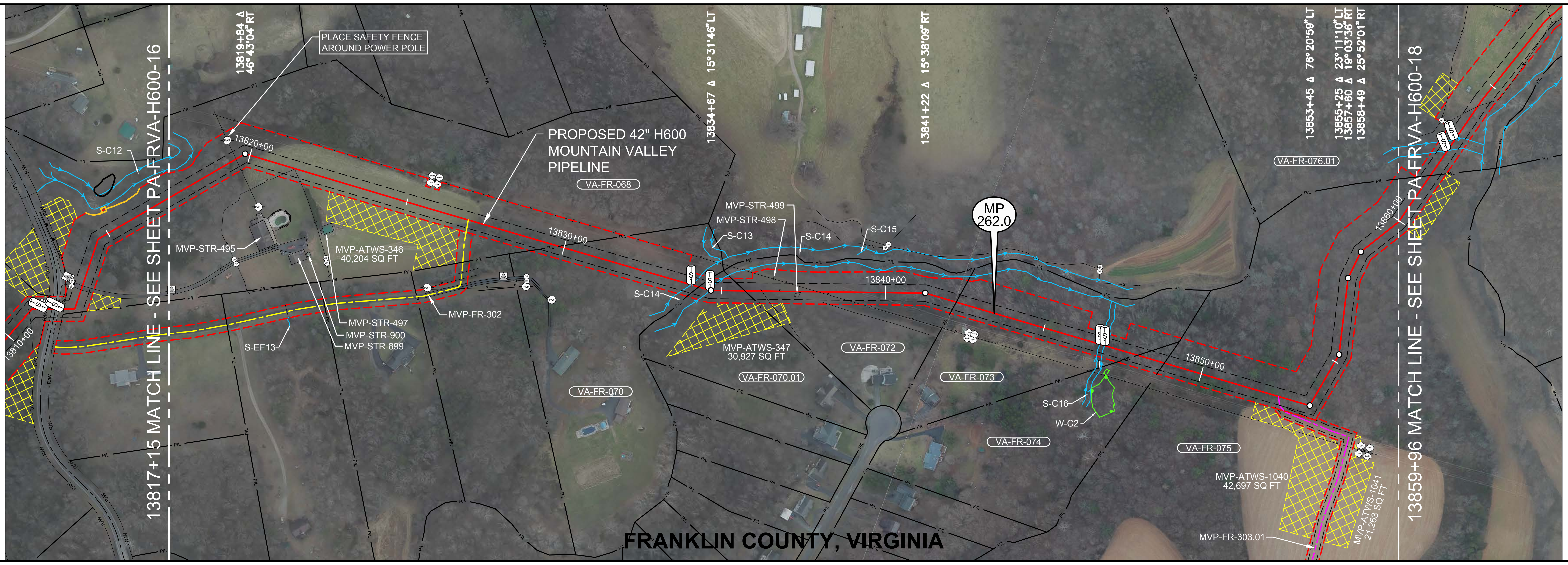


0' 100' 200' 400'

PLAN VIEW

LEGEND

Symbol	Description
🟧	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
── P/L ──	PROPERTY LINE
── R/W ──	ROAD RIGHT-OF-WAY
── X ──	FENCE LINE
── P ──	OVERHEAD POWER
── T ──	OVERHEAD TELEPHONE
── – ──	C/L ROAD
─┼─┼─	C/L RAILROAD
─→─	DELINEATED STREAM
──	DELINEATED WETLAND
─□─□─	BARRICADE FENCE
○ PI SYMBOL	
TS#	PROPOSED TEST STATION
MB MAILBOX	
LM ↑	LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	
TWR	TOWER LEG
TREE	
─◄	GUY ANCHOR
TANK	
⋈	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
⊞ ═	CATCH BASIN - CULVERT
▩	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY
	SITES, MAINLINE VALVES &
	LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-102	ACCESS ROAD DETAIL MAP
P-W-H600-1204-01	CATHODIC PROTECTION
	STANDARD DRAWING

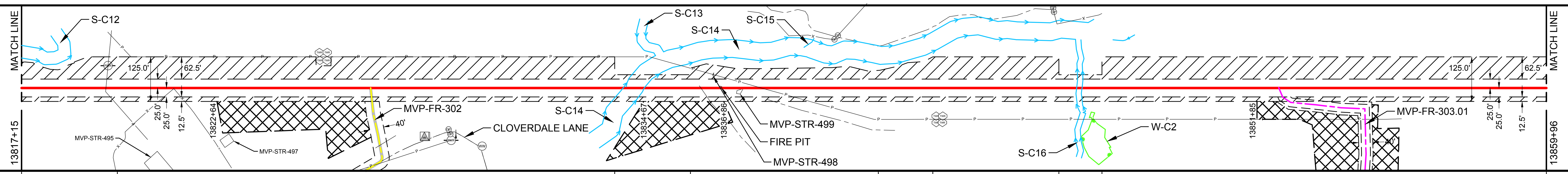
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

13817+15 MATCH LINE
13819+52 OHP LINE
13819+58 POWER POLE 63'LT
13825+53 TOWER LEG 77'LT
13825+74 TOWER LEG 78'LT
13826+95 ACCESS ROAD – TEMPORARY (MVP–FR–302)
13829+83 PROPERTY LINE
13834+04 STREAM BANK(S–C14), PROPOSED TYPE 1 TEST STATION BEGIN PROPOSED 2 RIVER WEIGHTS AT 20' SPACING IN STREAM
13834+28 PROPERTY LINE
13834+64 STREAM BANK(S–C14), PROPOSED TYPE 1 TEST STATION
13835+71 PROPERTY LINE
13836+23 ℄ FIELD ROAD(DIRT)
13836+57 BUILDING – SHOOTING RANGE 34'LT
13836+77 FIRE PIT 5'LT
13837+41 BUILDING – SHOOTING RANGE 2'RT
13837+94 OHP LINE
13842+21 PROPERTY LINE
13842+22 PROPERTY CORNER 73'LT
13846+78 STREAM BANK(S–C16), PROPOSED TYPE 1 TEST STATION
13846+88 PROPOSED RIVER WEIGHT – STREAM
13846+93 STREAM BANK(S–C16), PROPOSED TYPE 1 TEST STATION
13847+98 PROPERTY LINE
13848+83 PROPERTY LINE
13852+46 ACCESS ROAD – PERMANENT (MVP–FR–303.01)
13859+96 MATCH LINE

WORK SPACE

Symbol	Description
🟥	PROPOSED PIPELINE
─┤├─	EXISTING PIPELINE
— — —	ACCESS ROAD
┌ — — ┐	TEMPORARY WORK SPACE
└ — — ┘	PERMANENT EASEMENT
▨	TEMPORARY WORK SPACE(TWS)
▩	ADD. TEMPORARY WORK SPACE(ATWS)



CONSTRUCTION METHOD

33,53 | 2,1,7 | 6,15,53 | 53 | 33,53 | 2,1,33 | 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
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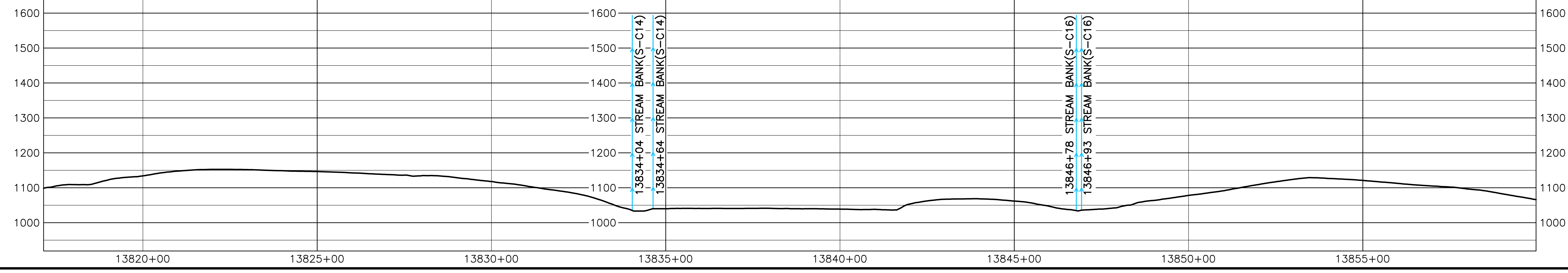
53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
2	4199	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
4	120	42"O.D. X 0.740"W.T., X-70, FBE & ARO
	4	TYPE 1 TEST STATION - PIPELINE
	3	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

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

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Mountain Valley PIPELINE

PIPELINE ALIGNMENT
MOUNTAIN VALLEY PROJECT - H600 LINE
BOONES MILL & GOGGINSVILLE PCT.,FRANKLIN CO.,VA.
STA. 13817+15 TO STA. 13859+96

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-FRVA-H600 -17	
SHEET 287 OF 329	REV. 6
DATE OF PLOT: 11/29/17 4:44 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

STATION	TRACT	LENGTH
13859+96 – 13860+92	VA-FR-075	96 LF 98 SLOPE
13860+92 – 13861+99	VA-FR-076.01 VA-FR-075	107 LF 108LOPE
13861+99 – 13875+34	VA-FR-076.01	1335 LF 1339 SLOPE
13875+34 – 13880+84	BVFR-26 VA-FR-077	550 LF 551 SLOPE
13880+84 – 13883+75	BVFR-26	291 LF 291 SLOPE
13883+75 – 13884+20	BVFR-26 VA-FR-077	45 LF 45 SLOPE
13884+20 – 13888+73	BVFR-26	453 LF 453 SLOPE
13888+73 – 13892+29	VA-FR-077	356 LF 380 SLOPE
13892+29 – 13892+59	STATE ROUTE 775	30 LF - 30 SLOPE
13892+59 – 13893+55	VA-FR-078	96 LF 97 SLOPE
13893+55 – 13894+69	VA-FR-078 VA-FR-077.01	114 LF 114 SLOPE
13894+69 – 13896+90	VA-FR-078	221 LF 221 SLOPE
13896+90 – 13910+43	VA-FR-079	1353 LF 1364 SLOPE

DESIGN

PIPE / COATING

STATION	PIPE / COATING	SLOPE DISTANCE
13859+96 – 13862+41	2	249'
13862+41 – 13863+21	4	80'
13863+21 – 13875+05	2	1186'
13875+05 – 13875+85	4	80'
13875+85 – 13892+05	2	1646'
13892+05 – 13892+85	5	80'
13892+85 – 13910+43	2	1769'

CLASS LOCATION / HCA: 1 – 13865+49 – 2 – 13906+73 – 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION

13859+96 T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-C17 MAR 15TH - JUNE 30TH & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.

T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-CD6 MAR 15TH - JUNE 30TH, MUSSEL RELOCATION TO BE COMPLETE BETWEEN MAY 1ST & SEPT. 30TH & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.

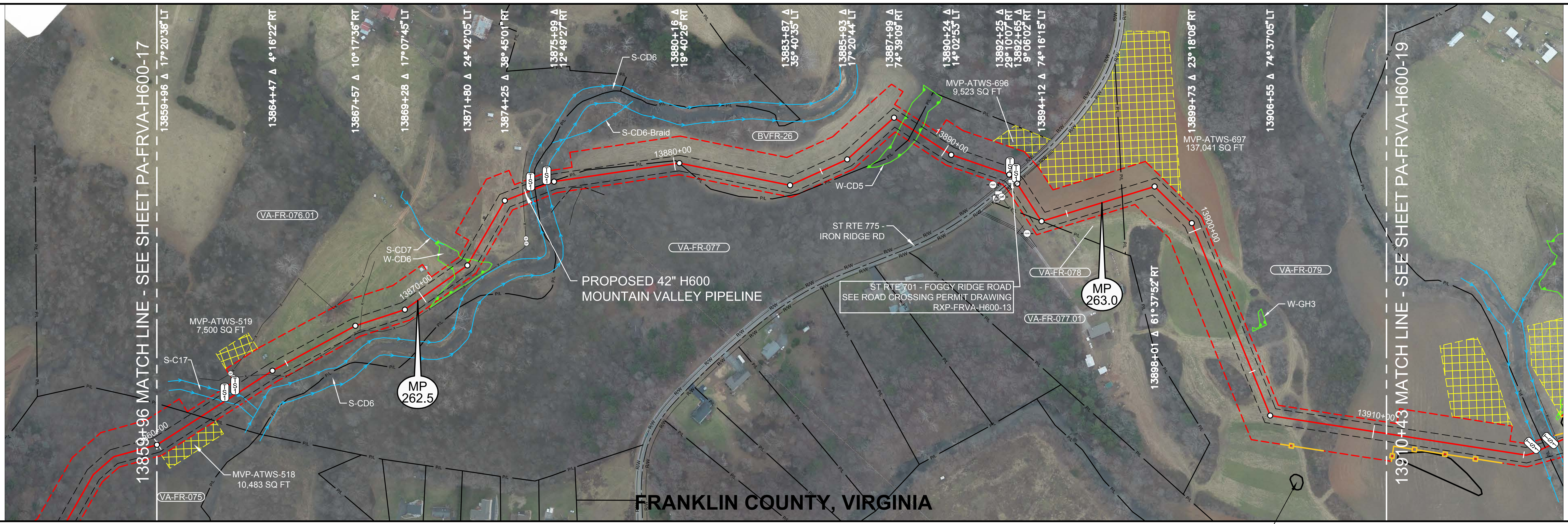
TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31
SEE TREE CLEARING PLAN FOR FURTHER DETAILS
13910+43

WETLAND / STREAM

S-C17	W-CD6	S-CD6	W-CD5
41 LF	202 LF	57 LF	72 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
- P/L PROPERTY LINE
- R/W ROAD RIGHT-OF-WAY
- X FENCE LINE
- P OVERHEAD POWER
- T OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL
- TS# PROPOSED TEST STATION
- MB MAILBOX
- LM LINE MARKER - VENT PIPE
- PWR TEL POWER/TELE POLE
- SIGN
- TWR TOWER LEG
- TREE
- GUY ANCHOR
- TANK
- GAS VALVE
- WELL GW OW WW MNW WELL - GAS/OIL/WATER/ MONITORING
- POST FP GP POST - GATE/FENCE
- EM GM WM ELEC/GAS/WTR METER
- PED TEP EP FOP TVP PEDESTAL - UTILITY
- SAMH WMH MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY
	SITES, MAINLINE VALVES &
	LAUNCHER/RECEIVER SITES
RXP-FRVA-H600-13	ROAD CROSSING PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION
	STANDARD DRAWING

PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS

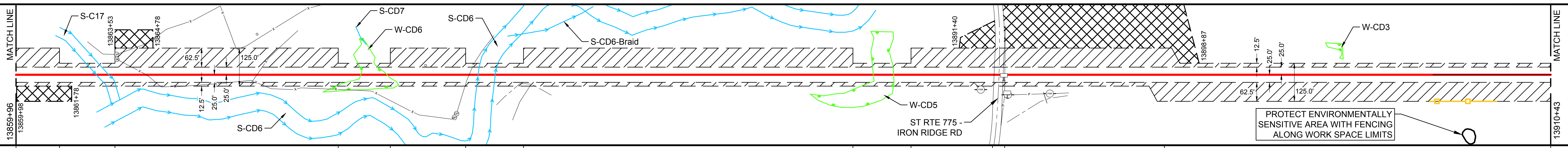
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

13859+96 MATCH LINE
13861+67 PROPERTY LINE
13862+60 STREAM BANK(S-C17), PROPOSED TYPE 1 TEST STATION
13862+61 BEGIN PROPOSED 2 RIVER WEIGHTS AT 20' SPACING IN STREAM
13863+01 STREAM BANK(S-C17), PROPOSED TYPE 1 TEST STATION
13863+28 2 GATE POSTS 51' & 67'LT
13864+24 FENCE - ELECTRIC
13867+75 FENCE - WIRE
13870+12 BEGIN WETLAND(W-CD6) 37'RT
13872+14 END WETLAND(W-CD6) 37'RT
13873+41 WATER TROUGH 27'LT
13874+89 FENCE - ELECTRIC
13875+16 STREAM BANK(S-CD6), PROPOSED TYPE 1 TEST STATION
13875+21 BEGIN PROPOSED 2 RIVER WEIGHTS AT 20' SPACING IN STREAM
13875+32 PROPERTY LINE
13875+73 STREAM BANK(S-CD6), PROPOSED TYPE 1 TEST STATION
13880+14 PROPERTY LINE
13888+27 BEGIN WETLAND(W-CD5) 37'LT
13888+75 PROPERTY LINE
13888+99 END WETLAND(W-CD5) 23'RT
13891+85 POWER POLE 49'RT
13892+29 PROPOSED TYPE 1 TEST STATION,R/W
13892+35 EDGE OF ASPHALT
13892+45 ℄ ST RTE 775 - IRON RIDGE ROAD
13892+55 EDGE OF ASPHALT
13892+59 PROPOSED TYPE 1 TEST STATION,R/W
13892+61 SIGN 20'RT
13892+64 OHP LINE
13894+11 PROPERTY LINE
13894+12 PROPERTY LINE
13896+90 PROPERTY LINE
13910+43 MATCH LINE

WORK SPACE

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



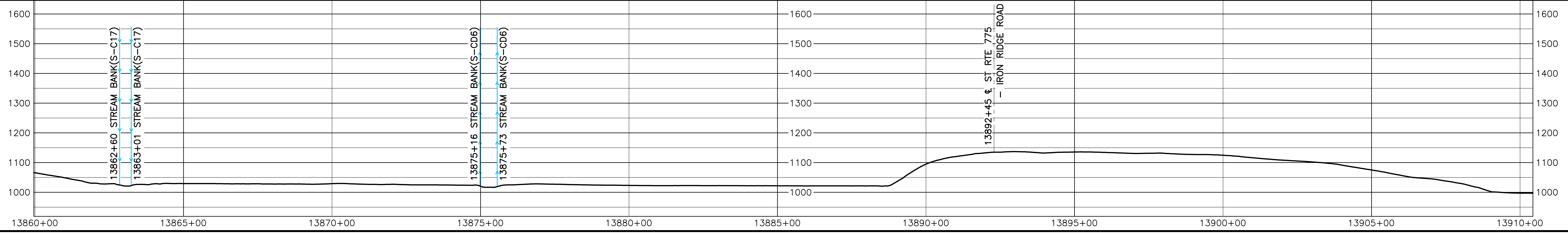
CONSTRUCTION METHOD

2.1	6,15,53	2.1	3	2.1	6,15,53	2.1	3	2.1	4	2.1	2

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

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

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

APPROVED FOR CONSTRUCTION		
REV.	BY	DATE
6	JJS	11-27-17

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
2	4850	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
5	80	42"O.D. X 0.888"W.T., X-70, FBE & ARO
	6	TYPE 1 TEST STATION - PIPELINE
	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

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Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
GOGGINSVILLE PCT.,FRANKLIN CO.,VA.
STA.13859+96 TO STA. 13910+43

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-FRVA-H600 -18	
SHEET 288 OF 329	REV. 6
DATE OF PLOT: 11/29/17 4:45 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station range	Tract	Length
13910+43 – 13915+75	VA-FR-079	532 LF 533 SLOPE
13915+75 – 13926+50	VA-FR-080	1075 LF 1084 SLOPE
13926+50 – 13928+88	VA-FR-080 VA-FR-081	238 LF 238 SLOPE
13928+88 – 13958+05	VA-FR-081	2908 LF 2915 SLOPE
13958+05 – 13958+56	STATE ROUTE 701	51 LF - 51 SLOPE
13958+56 – 13960+15	VA-FR-089	159 LF 159 SLOPE

DESIGN

Station range	PIPE / COATING	SLOPE DISTANCE
13910+43 – 13915+42	2	499'
13915+42 – 13916+22	4	80'
13916+22 – 13957+91	2	4183'
13957+91 – 13958+71	5	80'
13958+71 – 13960+15	2	144'

CLASS LOCATION / HCA: 1 (to 13926+40); 13926+40 2; 13929+50 1; 13935+92 2

ENVIRONMENTAL

CONSTRUCTION EXCLUSION:

13910+43

T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-II2 MARCH 15TH - JUNE 30TH & FISH RELOCATION REQUIRED CONSULT RESPONISIBLE E.I.

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

FISH RELOCATION REQUIRED WITHIN STREAM S-CD1 CONSULT RESPONSIBLE E.I

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

13960+15

WETLAND / STREAM:

S-II2	W-CD1	S-CD1
61 LF	105 LF	3.5 LF

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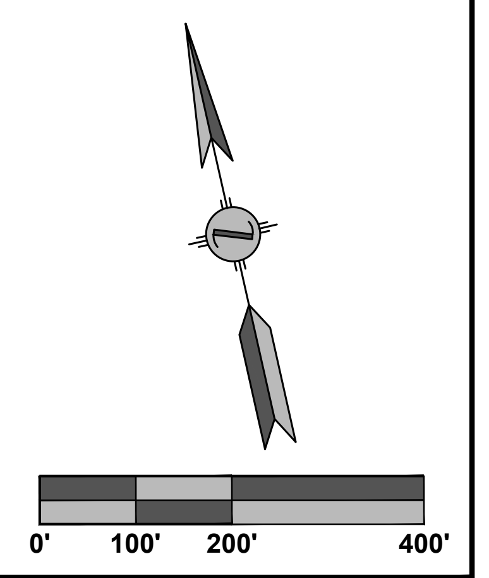
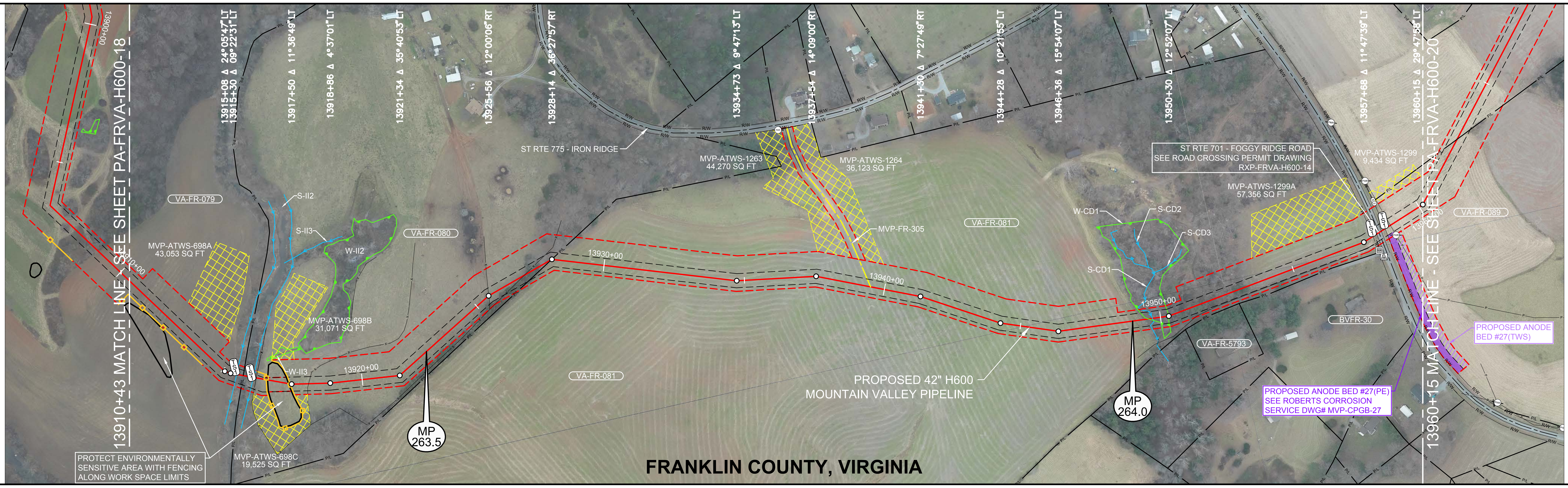


PLAN VIEW



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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○	PI SYMBOL
TS#	PROPOSED TEST STATION
MB	MAILBOX
LM	LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
	SIGN
TWR	TOWER LEG
	TREE
	GUY ANCHOR
TANK	TANK
⋈	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
⊞	CATCH BASIN - CULVERT
▨	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY
	SITES, MAINLINE VALVES &
	LAUNCHER/RECEIVER SITES
RXP-FRVA-H600-14	STATE ROUTE 701 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION
	STANDARD DRAWING
MVP-CPGB-27	ROBERTS CORROSION
	SERVICE DRAWING

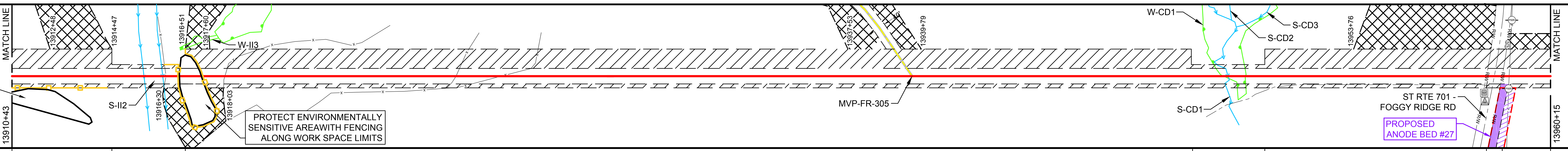
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

13910+43 MATCH LINE
13915+52 STREAM BANK(S–II2)
13915+57 PROPOSED TYPE 1 TEST STATION
BEGIN PROPOSED 3 RIVER WEIGHTS AT 20' SPACING IN STREAM
13915+75 PROPERTY LINE
13916+12 STREAM BANK(S–II2)
PROPOSED TYPE 1 TEST STATION
13916+23 FENCE – BARBED WIRE
13918+08 FENCE – BARBED WIRE
13925+55 FENCE – BARBED WIRE
13927+00 FENCE – BARBED WIRE
13928+25 PROPERTY LINE
13928+47 PROPERTY CORNER 36'LT
13939+50 ACCESS ROAD – TEMPORARY (MVP–FR–305)
13949+24 BEGIN WETLAND(W–CD1) 38'LT
13949+70 ℄ STREAM(S–CD1)
13950+29 END WETLAND(W–CD1) 5'LT
13958+05 CULVERT OPEN END 38'RT
13958+05 PROPOSED TYPE 1 TEST STATION,R/W
13958+08 CULVERT OPEN END 19'RT
13958+21 EDGE OF ASPHALT
13958+31 ℄ ST RTE 701 – FOGGY RIDGE ROAD
13958+40 EDGE OF ASPHALT
13958+56 PROPOSED TYPE 1 TEST STATION,R/W
13958+76 POWER POLE 40'RT
13958+78 OHP LINE
13960+15 MATCH LINE

WORK SPACE

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



PROTECT ENVIRONMENTALLY SENSITIVE AREAWITH FENCING ALONG WORK SPACE LIMITS

PROTECT ENVIRONMENTALLY SENSITIVE AREAWITH FENCING ALONG WORK SPACE LIMITS

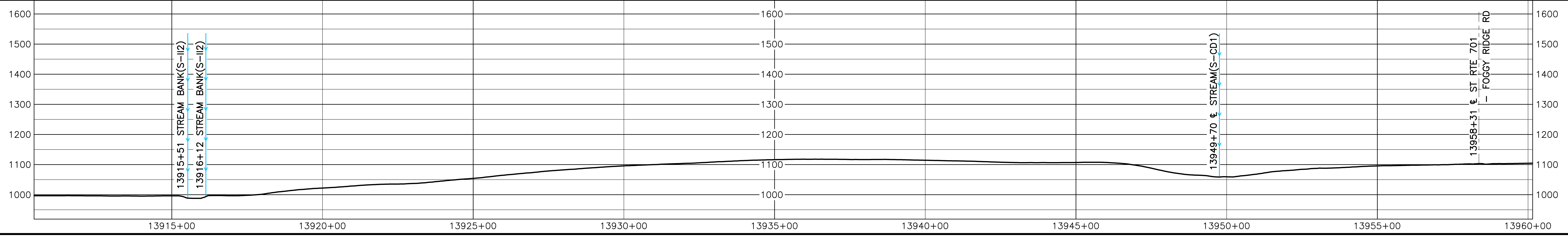
CONSTRUCTION METHOD

2.1 | 6,15,53 | 2.1 | 3,6,15 | 2.1 | 4 | 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



AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
2	4826	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
5	80	42"O.D. X 0.888"W.T., X-70, FBE & ARO
	4	TYPE 1 TEST STATION - PIPELINE
	3	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
GOGGINSVILLE & ROCKY MOUNT EAST PCT.,FRANKLIN CO.,VA.
STA. 13910+43 TO STA. 13960+15

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-FRVA-H600 -19	
SHEET 289 OF 329	REV. 6
DATE OF PLOT: 12/8/17 12:27 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tract	Length
13960+15 – 13961+98	VA-FR-089	183 LF 183 SLOPE
13961+98 – 13964+56	VA-FR-081.001 VA-FR-089	258 LF 258 SLOPE
13964+56 – 13975+49	VA-FR-5473	1093 LF 1096 SLOPE
13975+49 – 13977+54	VA-FR-5474 VA-FR-5473	205 LF 205 SLOPE
13977+54 – 13980+37	VA-FR-5474	283 LF 284 SLOPE
13980+37 – 13996+77	VA-FR-5475	1640 LF 1656 SLOPE
13996+77 – 13998+08	VA-FR-5476 VA-FR-5475	131 LF 131 SLOPE
13998+08 – 14009+75	VA-FR-5476	1167 LF 1195 SLOPE
14009+75 – 14010+91	US HIGHWAY 220	116 LF 117 SLOPE
14010+91 – 14016+27	VA-FR-5479	536 LF 544 SLOPE

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
13960+15 – 13997+95	2	3801'
13997+95 – 13998+35	4	40'
13998+35 – 14009+00	1	1088'
14009+00 – 14008+40	2	46'
14008+40 – 14011+40	5	200'
14011+40 – 14016+27	2	494'

CLASS LOCATION / HCA: 2 | 13998+07 1 | 14012+10 2 | 14000+39 HCA-16

ENVIRONMENTAL

CONSTRUCTION EXCLUSION: 13960+15

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

FISH RELOCATION REQUIRED WITHIN STREAM S-KL35 CONSULT RESPONSIBLE E.I.

FISH RELOCATION REQUIRED WITHIN STREAM S-KL36 CONSULT RESPONSIBLE E.I.

TIME OF YEAR RESTRICTION: SEE TREE CLEARING PLAN

FISH RELOCATION REQUIRED WITHIN STREAM S-KL38 CONSULT RESPONSIBLE E.I.

TIME OF YEAR RESTRICTION: SEE TREE CLEARING PLAN

14016+27

WETLAND / STREAM

W-EF48	S-KL35	S-KL36	S-KL38
73 LF	2.5 LF	7.5 LF	7 LF

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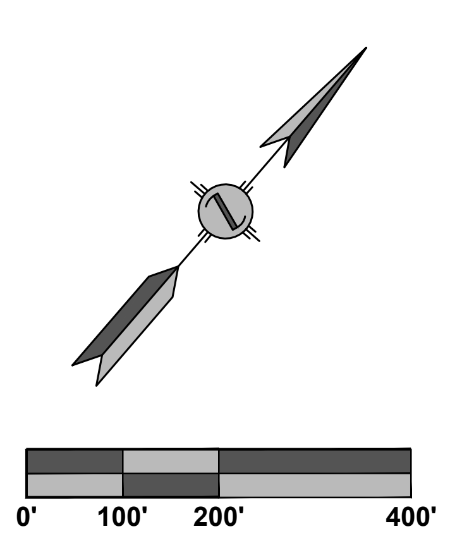
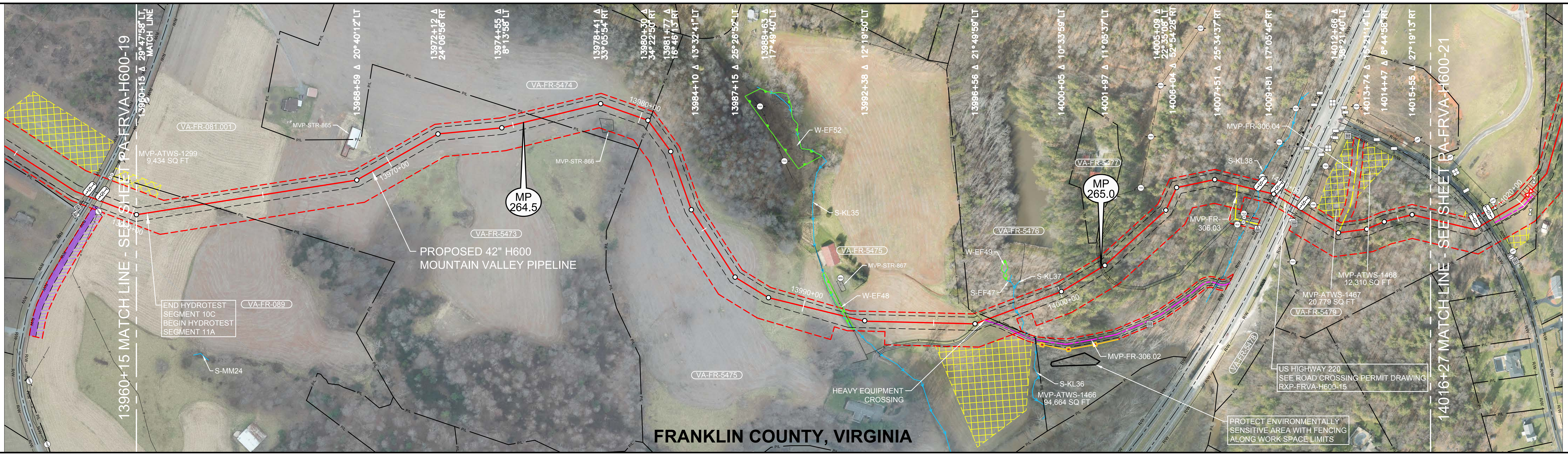


PLAN VIEW



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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○ PI SYMBOL	
TS#	PROPOSED TEST STATION
MB MAILBOX	
LM	LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	
TWR	TOWER LEG
TREE	
	GUY ANCHOR
TANK	
⋈	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
	CATCH BASIN - CULVERT
	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
	ABOVE GROUND FACILITY
	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
RXP-FRVA-H600-15	US HIGHWAY 220 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

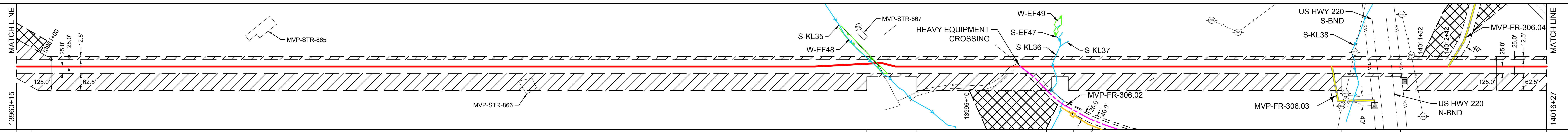
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

13960+15 MATCH LINE
13962+75 PROPERTY LINE
13979+05 BUILDING - DEMOLISHED 43'RT
13980+37 PROPERTY LINE
13991+29 BEGIN WETLAND(W-EF48) 38'LT
13991+69 ℄ STREAM(S-KL35)
13991+80 FENCE - BARBED WIRE
13992+02 END WETLAND(W-EF48) 32'RT
13996+62 FENCE - WOOD
13996+96 ACCESS ROAD - PERMANENT (MVP-FR-306.02), HEAVY EQUIPMENT CROSSING
13997+16 PROPERTY LINE
13998+15 ℄ STREAM(S-KL36)
14001+77 EDGE OF GRAVEL
14001+80 CULVERT OPEN END 53'RT
14001+82 ℄ DRIVEWAY(GRAVEL)
14001+87 EDGE OF GRAVEL
14001+95 CULVERT OPEN END 44'RT
14008+39 ACCESS ROAD - TEMPORARY
14009+11 OHT LINE (MVP-FR-306.03)
14009+11 PROPOSED TYPE 1 TEST STATION
14009+20 ℄ STREAM(S-KL38)
14009+33 PROPERTY CORNER 35'LT
14009+75 PROPOSED TYPE 1 TEST STATION,R/W
14009+86 GUARDRAIL
14009+90 EDGE OF ASPHALT
14009+91 EDGE OF ASPHALT
14010+05 ℄ US HIGHWAY 220
14010+21 EDGE OF ASPHALT
14010+44 EDGE OF ASPHALT
14010+58 ℄ US HIGHWAY 220
14010+76 EDGE OF ASPHALT
14010+91 PROPOSED TYPE 1 TEST STATION,R/W
14011+01 SIGN 64'RT
14011+05 PEDESTAL-TELEPHONE 55'RT
14011+39 OHP LINE
14012+60 EDGE OF DIRT
14012+66 ACCESS ROAD - TEMPORARY (MVP-FR-306.04)
14012+73 EDGE OF DIRT
14016+27 MATCH LINE

WORK SPACE

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



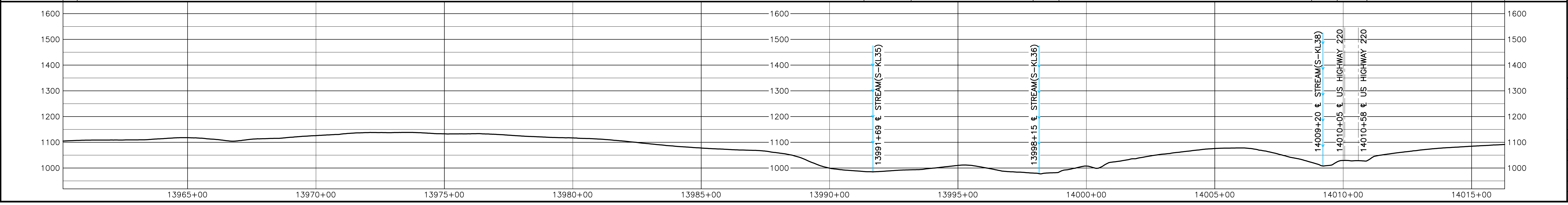
CONSTRUCTION METHOD

2.1	2	3,6,15	2	6,15,53	2	6,15,53	4	2

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

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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	1088	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	4341	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	200	42"O.D. X 0.888"W.T., X-70, FBE & ARO
	3	TYPE 1 TEST STATION - PIPELINE

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 ROCKY MOUNT EAST PCT.,FRANKLIN CO.,VA. STA. 13960+15 TO STA. 14016+27

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-FRVA-H600 -20	
SHEET 290 OF 329	REV. 6
DATE OF PLOT: 11/29/17 4:46 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station from	Station to	Tract	Length
14016+27	14017+24	VA-FR-5479	97 LF 98 SLOPE
14017+24	14018+16	VA-FR-5479 VA-FR-5481	92 LF 92 SLOPE
14018+16	14018+76	STATE ROUTE 635	60 LF - 61 SLOPE
14018+76	14020+06	VA-FR-5482	130 LF 131 SLOPE
14020+06	14021+97	VA-FR-5482 VA-FR-5483	191 LF 191 SLOPE
14021+97	14026+68	VA-FR-5483	471 LF 472 SLOPE
14026+68	14030+35	VA-FR-5485	367 LF 368 SLOPE
14030+35	14030+99	VA-FR-5487 VA-FR-5485	64 LF 64 SLOPE
14030+99	14033+77	VA-FR-5486	278 LF 283 SLOPE
14033+77	14040+58	VA-FR-5488	681 LF 689 SLOPE
14040+58	14041+83	VA-FR-5489 VA-FR-5488	125 LF 127 SLOPE
14041+83	14042+83	RAILROAD	100 LF 108 SLOPE
14042+83	14043+29	VA-FR-5490 VA-FR-5791	46 LF 46 SLOPE
14043+29	14047+72	VA-FR-5490	443 LF 448 SLOPE
14047+72	14049+11	VA-FR-5490 VA-FR-5492	139 LF 142 SLOPE
14049+11	14050+20	VA-FR-5492	109 LF 113 SLOPE
14050+20	14053+19	VA-FR-5493	299 LF 302 SLOPE
14053+19	14053+48	VA-FR-5493 VA-FR-5494	29 LF 29 SLOPE
14053+48	14057+23	VA-FR-5493	375 LF 377 SLOPE

DESIGN

Station from	Station to	PIPE / COATING	SLOPE DISTANCE
14016+27	14018+07	2	180'
14018+07	14018+87	5	80'
14018+87	14026+80	3	797'
14026+80	14035+08	2	840'
14035+08	14035+48	4	40'
14035+48	14041+30	2	587'
14041+30	14043+30	5	200'
14043+30	14057+23	2	1413'

CLASS LOCATION / HCA: 2 | 14034+34 | 1 | 14034+34 | 2

HCA-16

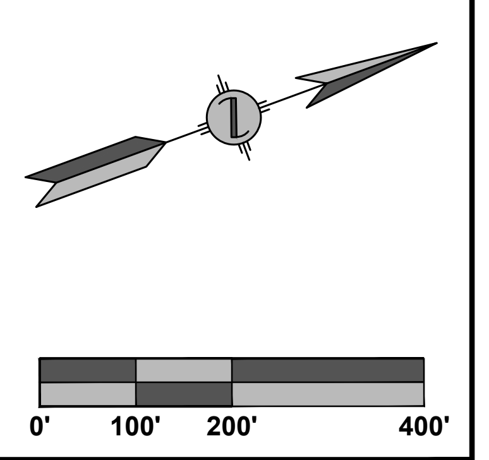
ENVIRONMENTAL

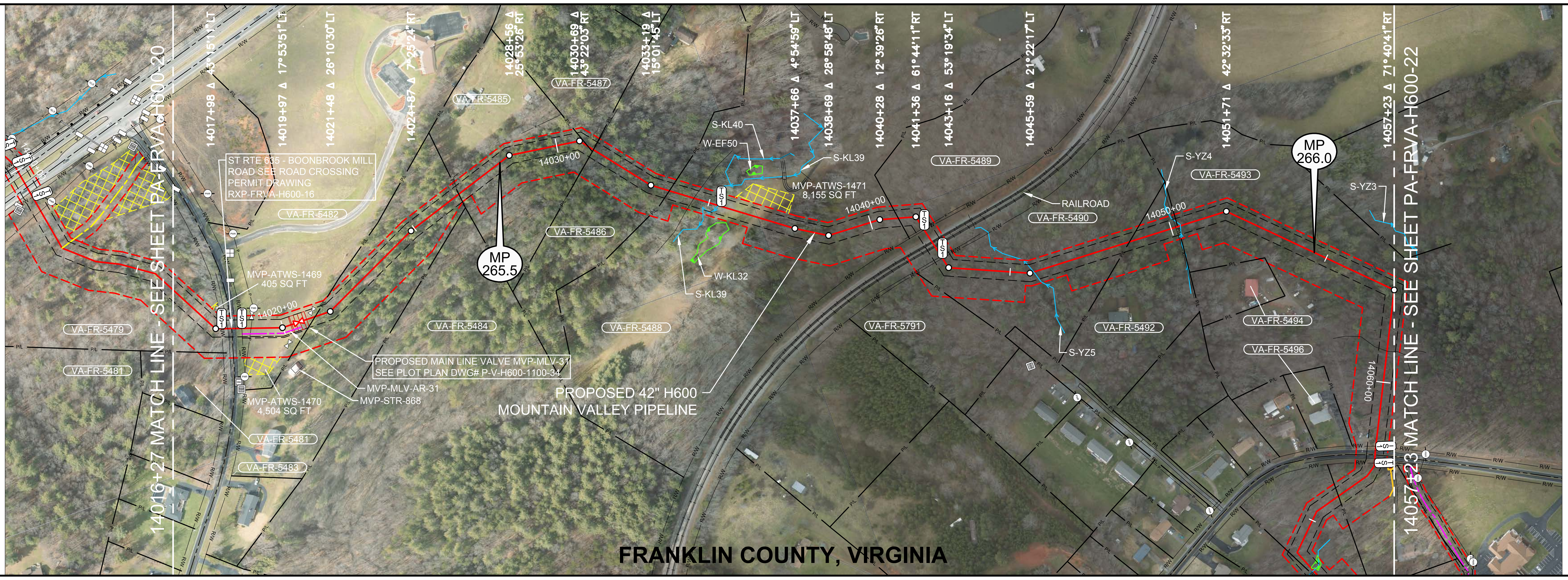
CONSTRUCTION EXCLUSION

Station	
14016+27	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
	FISH RELOCATION REQUIRED WITHIN STREAM S-KL39 CONSULT RESPONSIBLE E.I.
	TIME OF YEAR RESTRICTION: SEE TREE CLEARING PLAN
	FISH RELOCATION REQUIRED WITHIN STREAM S-YZ5 CONSULT RESPONSIBLE E.I.
	FISH RELOCATION REQUIRED WITHIN STREAM S-YZ4 CONSULT RESPONSIBLE E.I.
14057+23	TIME OF YEAR RESTRICTION: SEE TREE CLEARING PLAN

WETLAND / STREAM

Feature	Length
S-KL39	6.5 LF
S-YZ5	4 LF
S-YZ4	3 LF





ISSUED FOR CONSTRUCTION

PLAN VIEW

LEGEND

Symbol	Description
🟧	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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○ PI SYMBOL	
TS#	PROPOSED TEST STATION
MB MAILBOX	
LM	LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	
TWR	TOWER LEG
TREE	
	GUY ANCHOR
TANK	
⋈	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
⊞	CATCH BASIN - CULVERT
▨	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

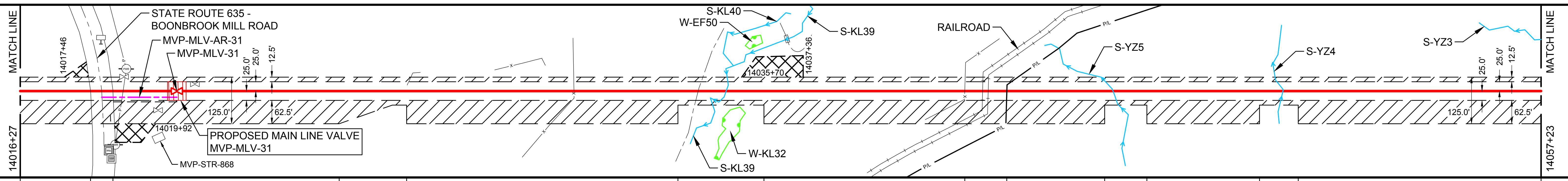
DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY
	SITES, MAINLINE VALVES &
	LAUNCHER/RECEIVER SITES
RXP-FRVA-H600-16	STATE ROUTE 635 PERMIT DWG
RSS-H600-089	RESIDENTIAL SITE SPECIFIC
RSS-H600-090	RESIDENTIAL SITE SPECIFIC
RSS-H600-151	RESIDENTIAL SITE SPECIFIC
P-W-H600-1204-01	CATHODIC PROTECTION
	STANDARD DRAWING
P-V-H600-1100-34	MAIN LINE VALVE #31
	PLOT PLAN

HORIZONTAL STATIONING

14016+27 MATCH LINE
14018+16 PROPOSED TYPE 1 TEST STATION,R/W
14018+35 EDGE OF ASPHALT
14018+47 ℄ BOONBROOK MILL ROAD
14018+58 EDGE OF ASPHALT
14018+70 CULVERT OPEN END 66'RT
14018+71 CULVERT OPEN END 81'RT
14018+76 PROPOSED TYPE 1 TEST STATION,R/W
14019+04 OHP LINE
14019+07 VALVE – WATER 39'LT
14019+98 VALVE – WATER 51'RT
14020+09 BUILDING – GARAGE 110'RT
14020+49 MAIN LINE VALVE – PROPOSED (MVP–MLV–31)
14020+49 ACCESS ROAD – PERMANENT (MVP–MLV–AR–310)17'RT
14020+97 VALVE – WATER 19'LT
14021+10 PROPERTY LINE
14026+58 PROPERTY CORNER 44'RT
14026+68 PROPERTY LINE
14030+99 PROPERTY LINE
14031+18 PROPERTY CORNER 6'RT, FENCE – BARBED WIRE
14033+77 PROPERTY LINE
14034+49 EDGE OF DIRT
14034+53 ℄ FIELD ROAD(DIRT)
14034+57 EDGE OF DIRT
14035+28 ℄ STREAM(S–KL39)
14035+38 PROPOSED TYPE 1 TEST STATION
14040+84 PROPERTY LINE
14041+77 FENCE – BARBED WIRE
14041+83 PROPOSED TYPE 1 TEST STATION,℄
14042+25 ℄ WEST RAILS
14042+33 ℄ RAILROAD
14042+40 ℄ EAST RAILS
14042+83 PROPOSED TYPE 1 TEST STATION,℄
14045+71 ℄ STREAM(S–YZ5)
14048+70 PROPERTY LINE
14050+20 PROPERTY LINE
14050+28 ℄ STREAM(S–YZ4)
14057+23 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	4	2	53	2	6,15,53	2	5	2	6,15,53	2	6,15,53	2

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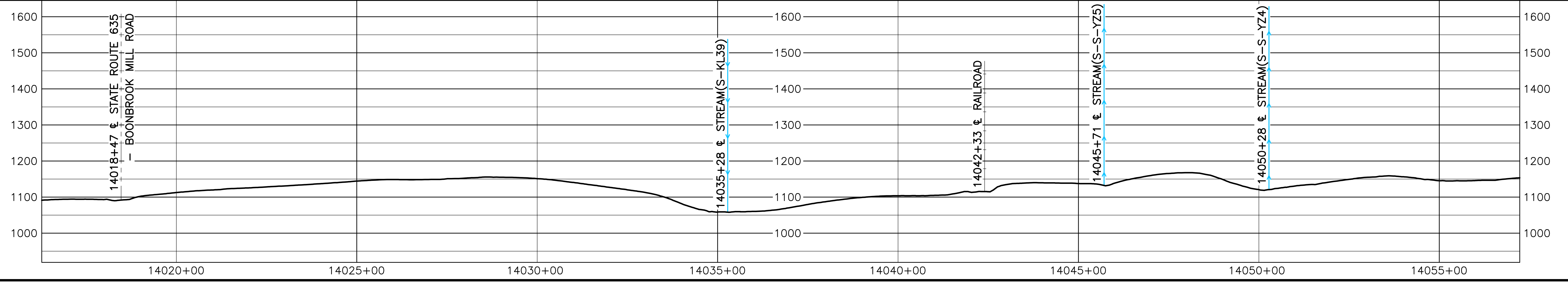
53 - REDUCED CONSTRUCTION R/W
54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



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Southfield, Michigan 48076
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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
2	3020	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
3	797	42"O.D. X 0.888"W.T., X-70, FUSION BONDED EPOXY
4	40	42"O.D. X 0.740"W.T., X-70, FBE & ARO
5	280	42"O.D. X 0.888"W.T., X-70, FBE & ARO
	5	TYPE 1 TEST STATION - PIPELINE

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

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
ROCKY MOUNT EAST & BURNT CHIMNEY PCT.,FRANKLIN CO.,VA.
STA. 14016+27 TO STA. 14057+23

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-FRVA-H600 -21	
SHEET 291 OF 329	REV. 6
DATE OF PLOT: 12/8/17 12:30 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

STATION	PARCEL	LENGTH
14057+23 – 14061+92	VA-FR-5493	469 LF 473 SLOPE
14061+92 – 14062+42	STATE ROUTE 635	50 LF - 50 SLOPE
14062+42 – 14063+90	VA-FR-5498	148 LF 150 SLOPE
14063+90 – 14065+95	VA-FR-5497	205 LF 207 SLOPE
14065+95 – 14067+83	VA-FR-5497 VA-FR-5500	188 LF 192 SLOPE
14067+83 – 14067+99	VA-FR-5497 VA-FR-5500 VA-FR-5502	16 LF 16 SLOPE
14067+99 – 14068+25	VA-FR-5497 VA-FR-5501 VA-FR-5502	26 LF 26 SLOPE
14068+25 – 14079+80	VA-FR-5501	1155 LF 1161 SLOPE
14079+80 – 14080+96	0440020000 VA-FR-5501	116 LF 116 SLOPE
14080+96 – 14083+01	VA-FR-5501	205 LF 207 SLOPE
14083+01 – 14084+64	VA-FR-5504 VA-FR-5501	163 LF 163 SLOPE
14084+64 – 14090+00	VA-FR-5504	536 LF 537 SLOPE
14090+00 – 14093+36	0440020300 VA-FR-5504	336 LF 337 SLOPE
14093+36 – 14099+27	VA-FR-5506 VA-FR-5505	591 LF 592 SLOPE

DESIGN

	14057+23 – 14061+77	14061+77 – 14062+57	14062+57 – 14075+07	14075+07 – 14096+27	14096+27 – 14099+27
PIPE / COATING	2	5	2	1	2
SLOPE DISTANCE	458'	80'	1263'	2126'	301'
CLASS LOCATION / HCA	2	2	2	1	2

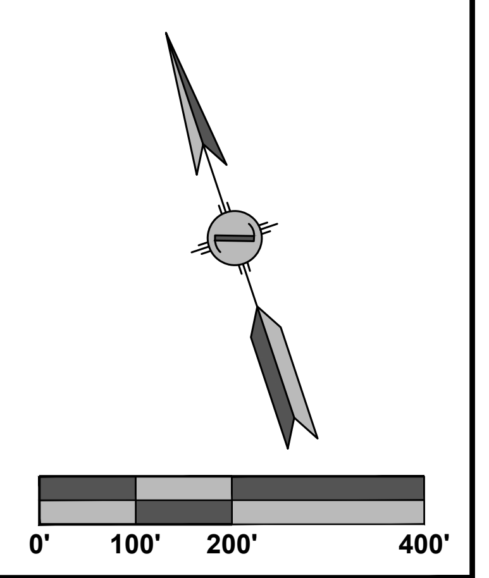
HCA-16 (14057+23 – 14091+31)

ENVIRONMENTAL

CONSTRUCTION EXCLUSION (14057+23 – 14099+27): TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31
SEE TREE CLEARING PLAN FOR FURTHER DETAILS

WETLAND / STREAM:

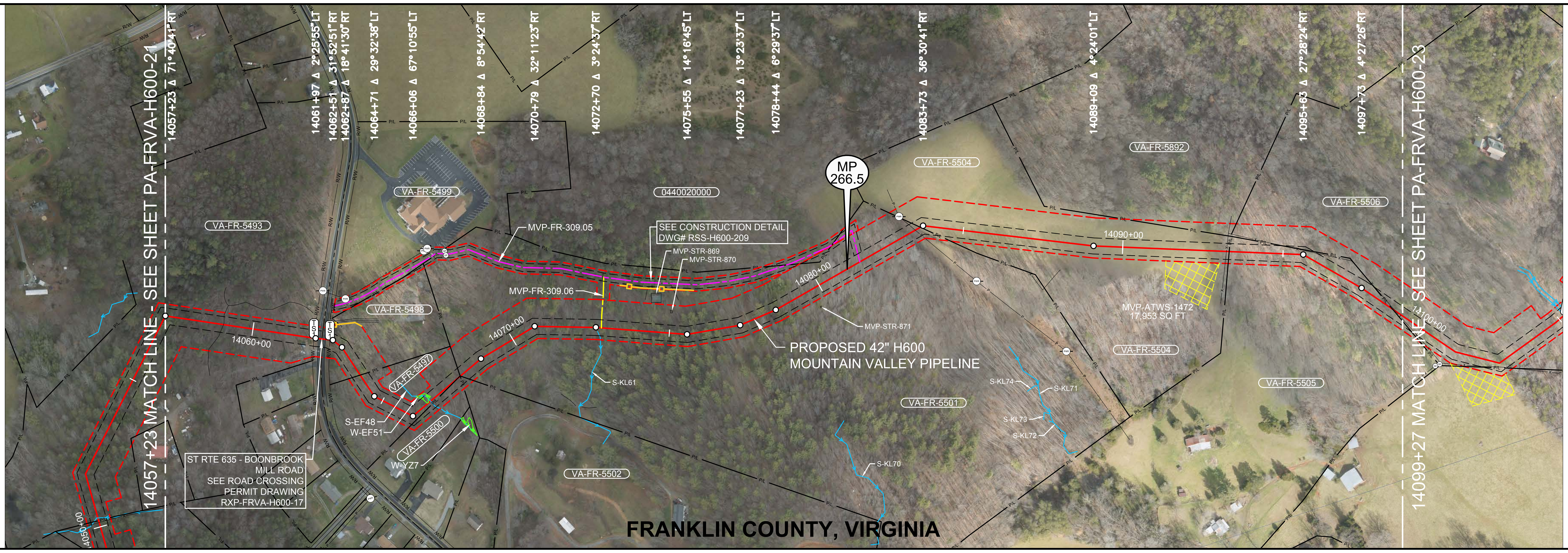
W-EF51	S-EF48
34 LF	2 LF



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-H600-15	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
RXP-FRVA-H600-17	STATE ROUTE 635 PERMIT DWG
RSS-H600-209	RESIDENTIAL SITE SPECIFIC
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

HORIZONTAL STATIONING

14057+23 MATCH LINE

14061+92 PROPOSED TYPE 1 TEST STATION,R/W
14062+05 EDGE OF ASPHALT
14062+17 ℄ ST RTE 635–BOONBROOK MILL RD
14062+29 EDGE OF ASPHALT
14062+36 CULVERT OPEN END 66'LT
14062+38 CULVERT OPEN END 68'LT

14062+42 PROPOSED TYPE 1 TEST STATION,R/W
14062+54 CULVERT OPEN END 56'LT
14063+42 PROPERTY LINE
14063+90 PROPERTY CORNER 4'RT

14066+53 BEGIN WETLAND(W–EF51)37'LT
14066+77 ℄ STREAM(S–EF48)
14066+87 END WETLAND(W–EF51)11'LT

14067+88 PROPERTY LINE
14067+97 PROPERTY CORNER
14067+99 PROPERTY LINE

14072+83 EDGE OF DIRT
14072+87 ACCESS ROAD – TEMPORARY (MVP–FR–309.06)
14072+91 EDGE OF DIRT

14074+36 BUILDING – CABIN 90'LT

14074+98 BUILDING – OUTHOUSE 63'LT

14078+54 EDGE OF DIRT
14078+60 ℄ ROAD(DIRT)(ABANDONED)
14078+66 EDGE OF DIRT

14081+40 EDGE OF GRAVEL
14081+46 ACCESS ROAD – TEMPORARY (MVP–FR–309.05)
14081+53 EDGE OF GRAVEL

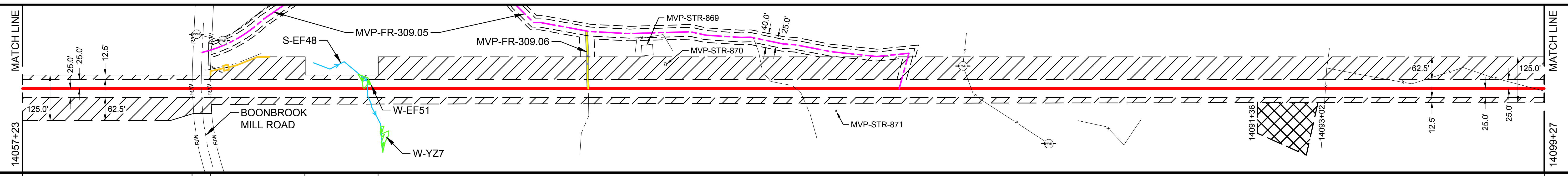
14083+13 GUY ANCHOR 61'LT
14083+22 POWER POLE 62'LT
14083+45 OHP LINE
14083+63 PROPERTY LINE

14093+23 FENCE – BARBED WIRE
14093+31 PROPERTY LINE

14098+89 PROPERTY LINE
14099+01 FENCE – BARBED WIRE
14099+27 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

14057+23 – 14061+92	14061+92 – 14062+42	14062+42 – 14065+0		14065+0 – 14099+27
2	4	2.1	3,6,15	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
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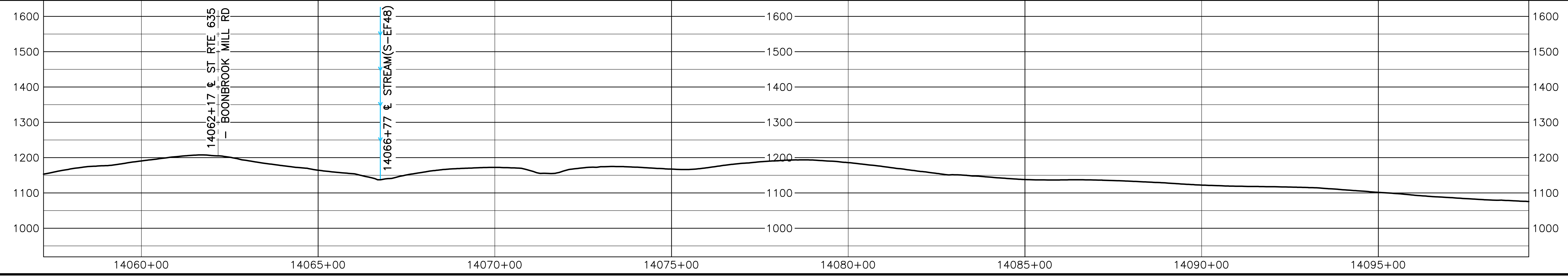
54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	2126	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
2	2022	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
5	80	42"O.D. X 0.888"W.T., X-70, FBE & ARO
	2	TYPE 1 TEST STATION - PIPELINE

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

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
BURNT CHIMNEY PCT.,FRANKLIN CO.,VA.
STA. 14057+23 TO STA. 14099+27

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-FRVA-H600 -22	
SHEET 292 OF 329	REV. 6
DATE OF PLOT: 12/8/17 1:31 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Parcel	Length
14099+27 – 14100+21	VA-FR-5506 / VA-FR-5505	94 LF 94 SLOPE
14100+21 – 14101+62	VA-FR-5506	141 LF 141 SLOPE
14101+62 – 14102+97	VA-FR-5506 / VA-FR-5507	135 LF 136 SLOPE
14102+97 – 14109+79	VA-FR-5506	682 LF 702 SLOPE
14109+79 – 14122+48	VA-FR-5508	1269 LF 1271 SLOPE
14122+48 – 14122+89	VA-FR-114 / VA-FR-5508	41 LF 41 SLOPE
14122+89 – 14153+54	VA-FR-114	3065 LF 3092 SLOPE
14153+54 – 14160+03	VA-FR-115	649 LF 668 SLOPE

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
14099+27 – 14105+06	2	590'
14105+06 – 14105+46	4	40'
14105+46 – 14115+63	2	1029'
14115+63 – 14141+43	1	2598'
14141+43 – 14141+83	6	40'
14141+83 – 14157+35	1	1576'
14157+35 – 14157+75	6	40'
14157+75 – 14160+03	1	230'

CLASS LOCATION / HCA: 2 (14099+27 – 14115+63); 1 (14115+63 – 14160+03)

ENVIRONMENTAL

CONSTRUCTION EXCLUSION:
14099+27 T.O.Y.R: SEE TREE CLEARING PLAN
FISH RELOCATION RQUIRED WITHIN STREAM S-KL41 CONSULT RESPONSIBLE E.I
TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31
SEE TREE CLEARING PLAN FOR FURTHER DETAILS
FISH RELOCATION RQUIRED WITHIN STREAM S-KL51 CONSULT RESPONSIBLE E.I 14160+03

WETLAND / STREAM	Length
S-KL41	12 LF
S-C8	5 LF
S-KL51	5.5 LF

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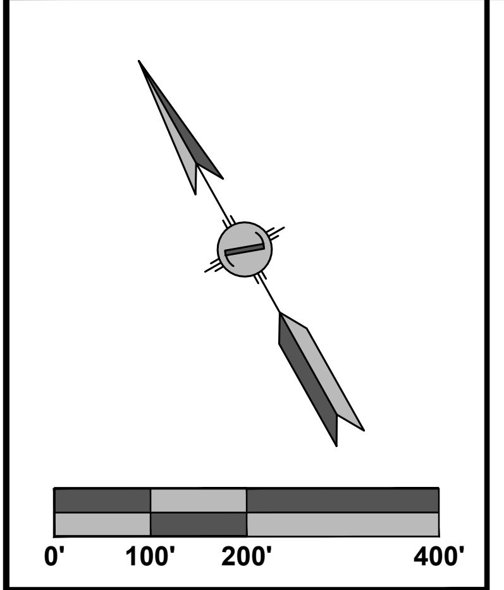
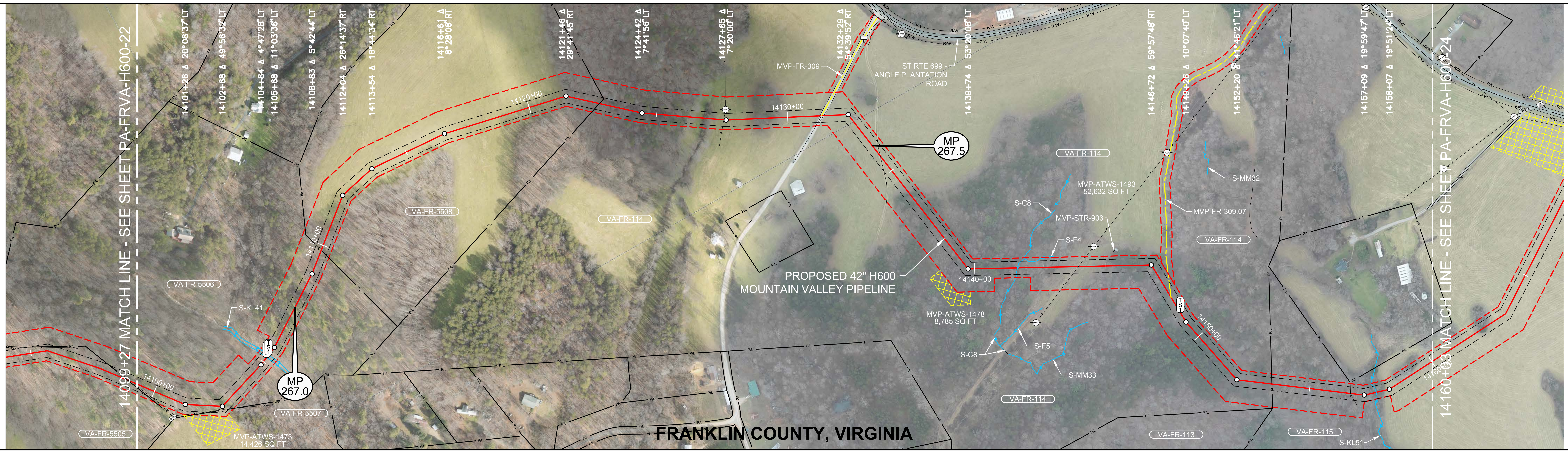


PLAN VIEW



LEGEND

Symbol	Description
🟧	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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○ PI SYMBOL	
TS#	PROPOSED TEST STATION
MB MAILBOX	
LM	LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	
TWR	TOWER LEG
TREE	
	GUY ANCHOR
TANK TANK	
⋈	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
⊞	CATCH BASIN - CULVERT
▨	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

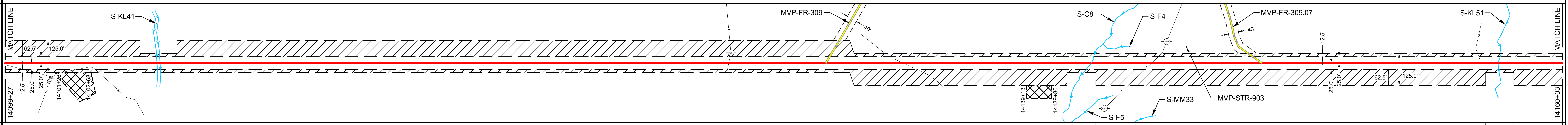
DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-103	ACCESS ROAD DETAIL MAP
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

14099+27 MATCH LINE
14105+20 STREAM BANK(S-KL41), PROPOSED TYPE 1 TEST STATION
14105+26 PROPOSED RIVER WEIGHT - STREAM
14105+32 STREAM BANK(S-KL41), PROPOSED TYPE 1 TEST STATION
14109+79 PROPERTY LINE
14122+77 PROPERTY LINE
14127+55 OHP LINE
14127+58 POWER POLE 40'LT
14131+21 EDGE OF GRAVEL
14131+28 ACCESS RD-TEMPORARY(MVP-FR-309)
14131+36 EDGE OF GRAVEL
14134+28 ℄ FIELD ROAD(DIRT)
14141+62 ℄ STREAM(S-C8)
14143+94 OHP LINE
14148+16 ACCESS ROAD - TEMPORARY (MVP-FR-309.07)
14148+85 PROPOSED TYPE 1 TEST STATION
14153+54 PROPERTY LINE
14157+55 ℄ STREAM(S-KL51)
14160+03 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)

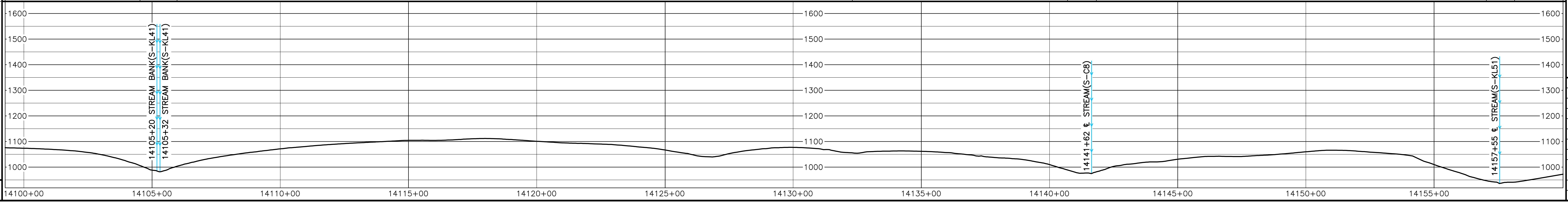
CONSTRUCTION METHOD

2.1 | 6,15,53 | 2.1 | 2 | 6,15,53 | 2 | 6,15,53 | 2

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

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	4404	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	1619	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
6	80	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	3	TYPE 1 TEST STATION - PIPELINE
	1	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

APPROVED FOR FERC

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

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17

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Mountain Valley PIPELINE

PIPELINE ALIGNMENT
MOUNTAIN VALLEY PROJECT - H600 LINE
BURNT CHIMNEY & GLADE HILL PCT.,FRANKLIN CO.,VA.
STA. 14099+27 TO STA. 14160+03

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-FRVA-H600 -23	
SHEET 293 OF 329	REV. 6
DATE OF PLOT: 12/8/17 1:33 PM	

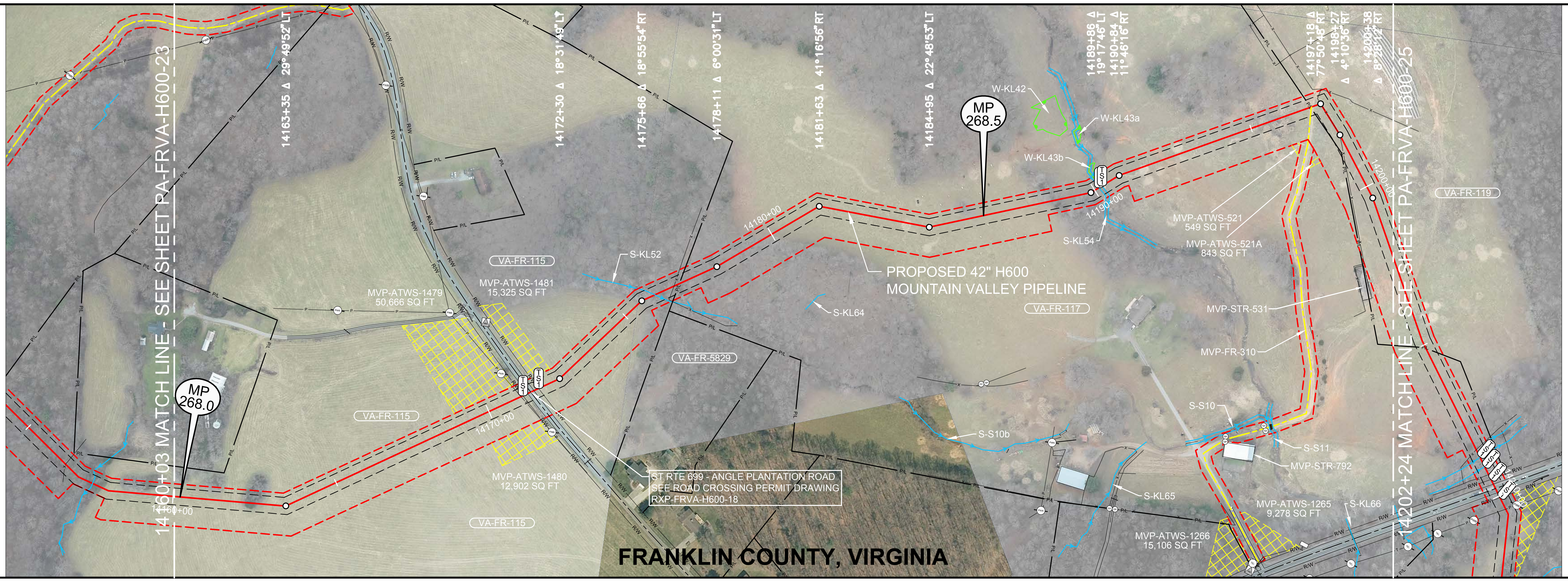
RIGHT-OF-WAY & OWNERSHIP DATA										
14160+03	VA-FR-115 1108 LF 1112 SLOPE	14171+11 ST RTE 699 51 LF - 52 SLOPE 14171+62	VA-FR-115 489 LF 493 SLOPE	14176+51	VA-FR-115 VA-FR-5829 75 LF 75 SLOPE	14177+26	VA-FR-117 1942 LF 1958 SLOPE	14196+68	VA-FR-119 VA-FR-117 507 LF 509 SLOPE	14201+75 VA-FR-119 49 LF 50 SLOPE 14202+24

DESIGN								
PIPE / COATING	14160+03	1	14170+96	4	14171+76 1	14189+99	6	14190+39 1 14202+24
SLOPE DISTANCE		1098'		80'	1838'		40'	1193'
CLASS LOCATION / HCA		1						

ENVIRONMENTAL						
CONSTRUCTION EXCLUSION	14160+03	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS	FISH RELOCATION RQUIRED WITHIN STREAM S-KL52 CONSULT RESPONSIBLE E.I	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS	FISH RELOCATION RQUIRED WITHIN STREAM S-KL54 CONSULT RESPONSIBLE E.I	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS 14202+24
WETLAND / STREAM			S-KL52 1 LF		S-KL54 11 LF W-KL43b 6 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
— P/L —	PROPERTY LINE
— R/W —	ROAD RIGHT-OF-WAY
— X —	FENCE LINE
— P —	OVERHEAD POWER
— T —	OVERHEAD TELEPHONE
— — —	C/L ROAD
—+—+—	C/L RAILROAD
—>—	DELINEATED STREAM
—	DELINEATED WETLAND
—□—□—	BARRICADE FENCE
○ PI SYMBOL	PROPOSED TEST STATION
MB MAILBOX	LM LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	TWR TOWER LEG
TREE	GUY ANCHOR
TANK	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
⊞	CATCH BASIN - CULVERT
▨	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-103	ACCESS ROAD DETAIL MAP
RXP-FRVA-H600-18	STATE ROUTE 699 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

14160+03 MATCH LINE

14171+11 PROPOSED TYPE 1 TEST STATION,R/W
14171+26 EDGE OF ASPHALT
14171+36 ℄ ST RTE 699–ANGLE PLANTATION RD
14171+47 EDGE OF ASPHALT
14171+62 PROPOSED TYPE 1 TEST STATION,R/W

14176+09 ℄ STREAM(S–KL52)

14176+71 FENCE – BARBED WIRE
14176+89 PROPERTY LINE

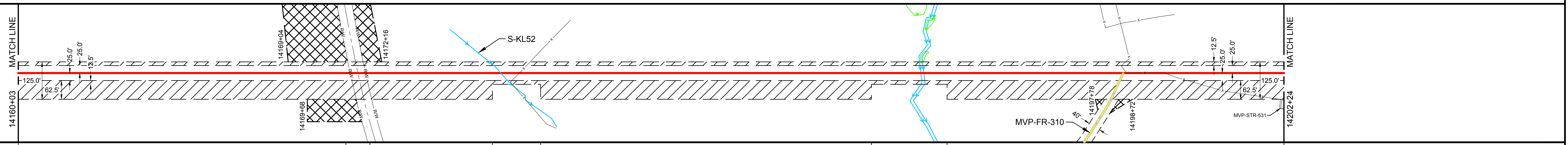
14190+14 STREAM BANK(S–KL54), PROPOSED TYPE 1 TEST STATION
14190+15 BEGIN WETLAND(W–KL43b)37'LT
14190+16 PROPOSED RIVER WEIGHT – STREAM
14190+21 END WETLAND(W–KL43b)37'LT
14190+25 STREAM BANK(S–KL54), PROPOSED TYPE 1 TEST STATION

14196+87 PROPERTY LINE
14196+90 ACCESS RD – TEMPORARY (MVP–FR–310)

14202+24 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	4	2	6,15,53	2	3,6,15	2

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
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5 - RAILROAD X-ING - BORE
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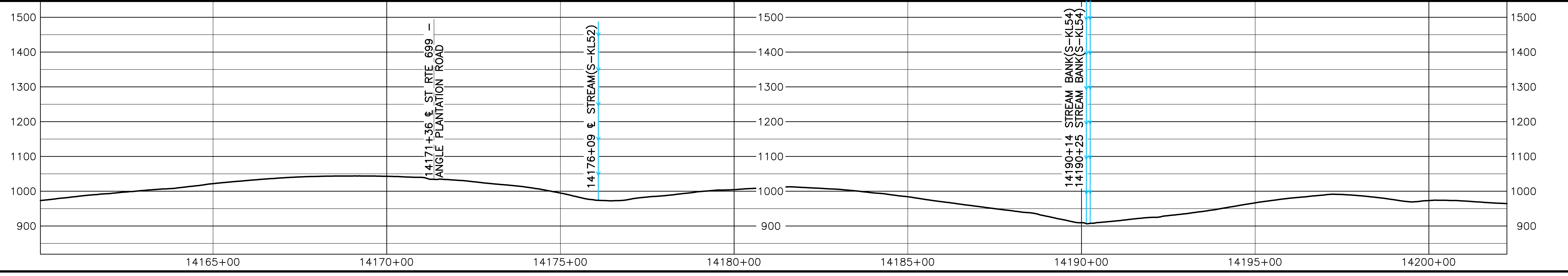
PROFILE



AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

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REVISIONS

REV.	BY	DATE	DESCRIPTION
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5	HEI	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	4129'	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
4	80	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
	4	TYPE 1 TEST STATION - PIPELINE
	1	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
GLADE HILL PCT.,FRANKLIN CO.,VA.
STA. 14160+03 TO STA. 14202+24

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-FRVA-H600 -24	
SHEET 294 OF 329	REV. 6
DATE OF PLOT: 11/29/17 4:49 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tract	Length	Slope
14202+24	VA-FR-119	245 LF	245 SLOPE
14204+69	VA-FR-119 VA-FR-117	82 LF	82 SLOPE
14205+51	VA-FR-117	393 LF	404 SLOPE
14209+44	STATE HIGHWAY 122	60 LF	63 SLOPE
14210+04	VA-FR-119	662 LF	673 SLOPE
14216+67	VA-FR-120 VA-FR-119.02	267 LF	269 SLOPE
14219+34	VA-FR-120	281 LF	286 SLOPE
14222+15	VA-FR-120 VA-FR-121	23 LF	24 SLOPE
14222+38	VA-FR-121	377 LF	379 SLOPE
14226+15	VA-FR-121 VA-FR-122	89 LF	89 SLOPE
14227+04	VA-FR-122	103 LF	103 SLOPE
14228+07	VA-FR-124 VA-FR-122	153 LF	153 SLOPE
14229+60	VA-FR-124	426 LF	454 SLOPE
14233+86	VA-FR-125	144 LF	145 SLOPE
14235+30	VA-FR-126 VA-FR-125	156 LF	156 SLOPE
14236+86	VA-FR-126	1243 LF	1247 SLOPE
14249+29	VA-FR-127	837 LF	859 SLOPE
14257+66	VA-FR-128	251 LF	252 SLOPE
14260+17			

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
14202+24	1	651'
14208+66	6	40'
14209+06	1	32'
14209+35	5	80'
14210+15	1	347'
14213+55	6	40'
14213+95	1	1941'
14232+95	6	80'
14233+75	1	118'
14234+90	7	40'
14235+30	2	40'
14235+70	3	80'
14236+50	2	20'
14236+70	1	1240'
14249+05	6	120'
14250+25	1	1014'
14260+17		

CLASS LOCATION / HCA: 1

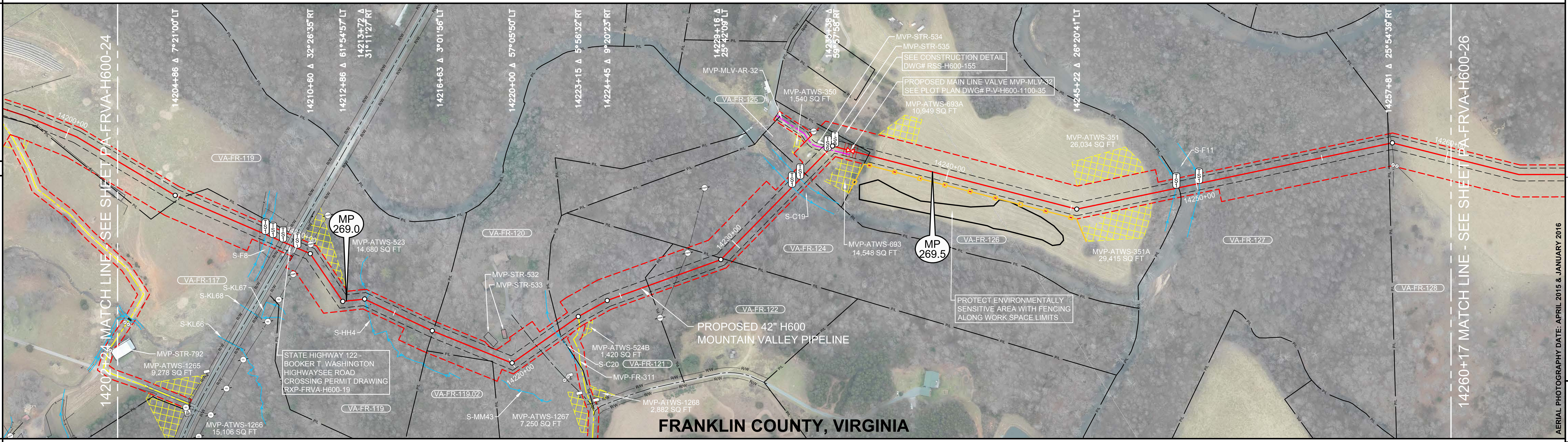
ENVIRONMENTAL

CONSTRUCTION EXCLUSION (14202+24 to 14260+17):

- TIME OF YEAR RESTRICTION: SEE TREE CLEARING PLAN
- FISH RELOCATION REQUIRED WITHIN STREAM S-F8 CONSULT RESPOSIBLE E.I.
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- FISH RELOCATION REQUIRED WITHIN STREAM S-C20 CONSULT RESPOSIBLE E.I.
- TIME OF YEAR RESTRICTION: SEE TREE CLEARING PLAN
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-C19 MARCH 15TH - JUNE 30TH & FISH RELOCATION REQUIRED CONSULT RESPOSIBLE E.I.
- 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-F11 MARCH 15TH - JUNE 30TH & MUSSEL RELOCATION TO BE COMPLETED BETWEEN MAY 1ST AND SEPT 30TH WITHIN and FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.
- TIME OF YEAR RESTRICTION: SEE TREE CLEARING PLAN

WETLAND / STREAM	Length
S-F8	32 LF
S-HH4	9 LF
S-C20	4 LF
S-C19	45 LF
S-F11	91 LF

PLAN VIEW


0' 100' 200' 400'
14202+24 MATCH LINE - SEE SHEET PA-FRVA-H600-24
14260+17 MATCH LINE - SEE SHEET PA-FRVA-H600-26
14204+86 Δ 7°21'00"LT
14210+60 Δ 32°26'35"RT
14212+86 Δ 61°54'57"LT
14213+72 Δ 31°11'27"RT
14216+63 Δ 3°01'56"LT
14220+00 Δ 57°05'50"LT
14223+15 Δ 5°56'32"RT
14224+45 Δ 9°20'23"RT
14229+16 Δ 25°42'09"LT
14233+38 Δ 59°57'58"RT
14245+22 Δ 26°20'41"LT
14257+81 Δ 25°54'39"RT
14200+00
14220+00
14230+00
14240+00
14250+00
MP 269.0
MP 269.5
VA-FR-119
VA-FR-117
VA-FR-119.02
VA-FR-120
VA-FR-121
VA-FR-122
VA-FR-124
VA-FR-125
VA-FR-126
VA-FR-127
VA-FR-128
S-F8
S-KL67
S-KL68
S-KL66
S-HH4
S-C20
S-C19
S-F11
S-MM43
MVP-STR-792
MVP-ATWS-1265 9,278 SQ FT
MVP-ATWS-1266 15,106 SQ FT
MVP-ATWS-523 14,680 SQ FT
MVP-STR-532
MVP-STR-533
MVP-ATWS-524B 1,420 SQ FT
MVP-FR-311
MVP-ATWS-1267 7,250 SQ FT
MVP-ATWS-1268 2,882 SQ FT
MVP-MLV-AR-32
MVP-ATWS-350 1,540 SQ FT
MVP-STR-534
MVP-STR-535
SEE CONSTRUCTION DETAIL DWG# RSS-H600-155
PROPOSED MAIN LINE VALVE MVP-MLV-32 SEE PLOT PLAN DWG# P-V-H600-1100-35
MVP-ATWS-693A 10,949 SQ FT
MVP-ATWS-693 14,548 SQ FT
MVP-ATWS-351 26,034 SQ FT
MVP-ATWS-351A 29,415 SQ FT
STATE HIGHWAY 122 - BOOKER T. WASHINGTON HIGHWAYSEE ROAD CROSSING PERMIT DRAWING RXP-FRVA-H600-19
PROPOSED 42" H600 MOUNTAIN VALLEY PIPELINE
PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS
FRANKLIN COUNTY, VIRGINIA

LEGEND

Symbol	Description
🟧	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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○	PI SYMBOL
MB	MAILBOX
TS#	PROPOSED TEST STATION
LM	LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
	SIGN
TWR	TOWER LEG
	TREE
	GUY ANCHOR
TANK	TANK
⋈	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
	CATCH BASIN - CULVERT
▨	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-103	ACCESS ROAD DETAIL MAP
MVP-QDAR-H600-104	ACCESS ROAD DETAIL MAP
RXP-FRVA-H600-19	STATE HIGHWAY 122 PERMIT DWG
RSS-H600-155	RESIDENTIAL SITE SPECIFIC
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING
P-W-H600-1204-02	CATHODIC PROTECTION STANDARD DRAWING
P-V-H600-1100-35	MAIN LINE VALVE #32 PLOT PLAN

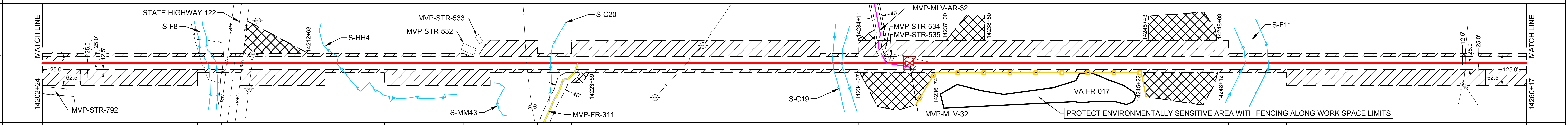
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

14202+24 MATCH LINE
14205+10 PROPERTY LINE
14208+46 FENCE – BARBED WIRE
14208+69 STREAM BANK(S–F8), PROPOSED TYPE 1 TEST STATION
14208+76 BEGIN PROPOSED 2 RIVER WEIGHTS AT 20' SPACING IN STREAM
14209+02 STREAM BANK(S–F8), PROPOSED TYPE 1 TEST STATION
14209+29 FENCE – BARBED WIRE
14209+45 PROPOSED TYPE 1 TEST STATION,R/W
14209+60 EDGE OF ASPHALT
14209+75 ℄ STATE HIGHWAY 122 – BOOKER T. WASHINGTON HWY
14209+88 EDGE OF ASPHALT
14210+05 PROPOSED TYPE 1 TEST STATION,R/W
14210+43 OHP LINE
14210+47 POWER POLE 34'LT
14213+75 ℄ STREAM(S–HH4)
14214+02 WATER CISTERN 9'RT
14216+67 PROPERTY LINE
14219+08 BUILDING – BARN 32'LT
14219+31 BUILDING – BARN 75'LT
14221+17 ℄ ST RTE 699 – FLINT HILL ROAD
14222+09 ℄ STREAM(S–C20)
14222+24 PROPERTY LINE
14223+41 ACCESS RD–TEMPORARY(MVP–FR–311)
14226+15 PROPERTY LINE
14227+40 OHP LINE
14228+03 POWER POLE 68'LT
14229+23 PROPERTY LINE
14233+12 STREAM BANK(S–C19), PROPOSED TYPE 1 TEST STATION
14143+16 BEGIN PROPOSED 2 RIVER WEIGHTS AT 20' SPACING IN STREAM
14233+57 STREAM BANK(S–C19), PROPOSED TYPE 1 TEST STATION
14233+86 PROPERTY LINE
14235+11 PROPOSED TYPE 6 TEST STATION
14235+19 ACCESS ROAD – PERMANENT (MVP–MLV–AR–32)
14235+21 BUILDING – MOBILE HOME 1'LT
14235+38 BUILDING – PORTABLE 9'LT
14235+48 PROPOSED TYPE 9 TEST STATION
14236+10 MAIN LINE VALVE – PROPOSED (MVP–MLV–32)
14236+83 PROPERTY LINE
14249+19 STREAM BANK(S–F11),PROPOSED TYPE 1 TEST STATION
14249+26 BEGIN PROPOSED 4 RIVER WEIGHTS AT 20' SPACING IN STREAM
14249+29 PROPERTY LINE
14250+10 STREAM BANK(S–F11),PROPOSED TYPE 1 TEST STATION
14257+66 PROPERTY LINE
14257+78 FENCE – BARBED WIRE
14258+05 GATE POST 83'RT
14258+20 GATE POST 84'RT
14260+17 MATCH LINE

WORK SPACE

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



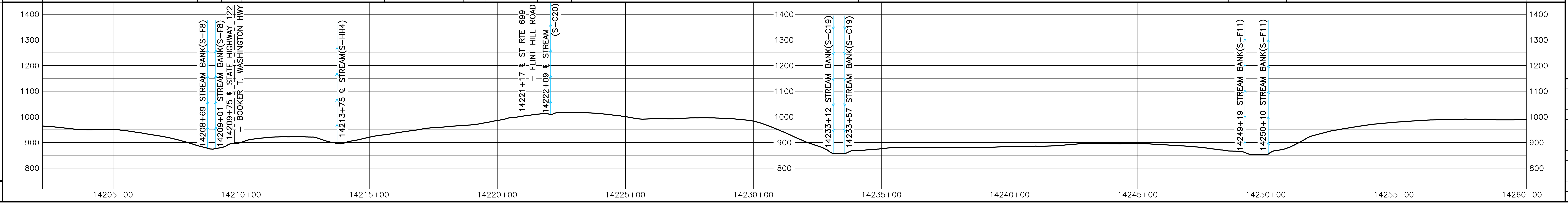
CONSTRUCTION METHOD

2 | 6,15,53 | 4 | 2 | 6,15,53 | 2 | 53 | 2.1 | 6,15,53 | 2.1 | 6,15,53 | 2.1 | 6,15,53 | 2

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

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5343	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	60	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
3	80	42"O.D. X 0.888"W.T., X-70, FBE & ARO
5	80	42"O.D. X 0.888"W.T., X-70, FBE & ARO
6	280	42"O.D. X 0.617"W.T., X-70, FBE & ARO
7	40	ANSI 600 MONOLITHIC INSULATING JOINT
	8	TYPE 1 TEST STATION - PIPELINE
	1	TYPE 6 TEST STATION - ISO. JOINT - BELOW GRADE
	1	TYPE 9 TEST STATION - TEST STATION IR COUPON
	8	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

APPROVED FOR FERC

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

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17

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Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE GLADE HILL PCT.,FRANKLIN CO.,VA. STA. 14202+24 TO STA. 14260+17

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-FRVA-H600 -25	
SHEET 295 OF 329	REV. 6
DATE OF PLOT: 12/8/17 1:35 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

From	To	Tract	Length
14260+17	14286+22	VA-FR-128	2605 LF 2620 SLOPE
14286+22	14286+74	VA-FR-129 VA-FR-128	52 LF 52 SLOPE
14286+74	14290+08	VA-FR-129	334 LF 336 SLOPE
14290+08	14294+34	VA-FR-130	426 LF 427 SLOPE
14294+34	14294+67	VA-FR-130 VA-FR-131	33 LF 34 SLOPE
14294+67	14307+50	VA-FR-131	1283 LF 1287 SLOPE

DESIGN

From	To	PIPE / COATING	SLOPE DISTANCE
14260+17	14273+96	1	1381'
14273+96	14278+81	2	494'
14278+81	14279+21	4	40'
14279+21	14287+85	2	868'
14287+85	14289+08	1	123'
14289+08	14289+48	2	40'
14289+48	14289+85	1	37'
14289+85	14290+25	6	40'
14290+25	14294+26	1	403'
14294+26	14294+66	6	40'
14294+66	14299+40	1	477'
14299+40	14307+50	2	811'

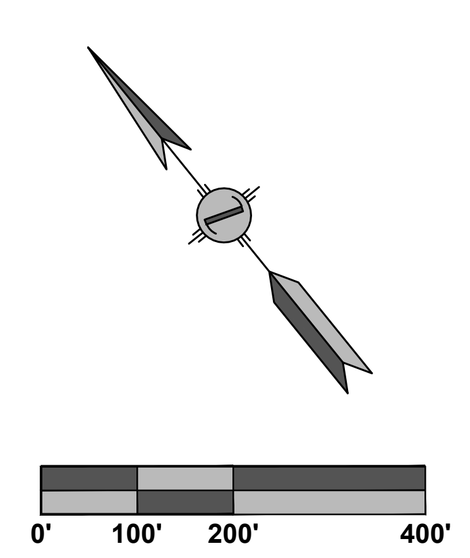
CLASS LOCATION / HCA: 1 (14260+17 – 14273+96); 2 (14273+96 – 14287+85); 1 (14287+85 – 14299+40); 2 (14299+40 – 14307+50); 14293+19 HCA-17

ENVIRONMENTAL

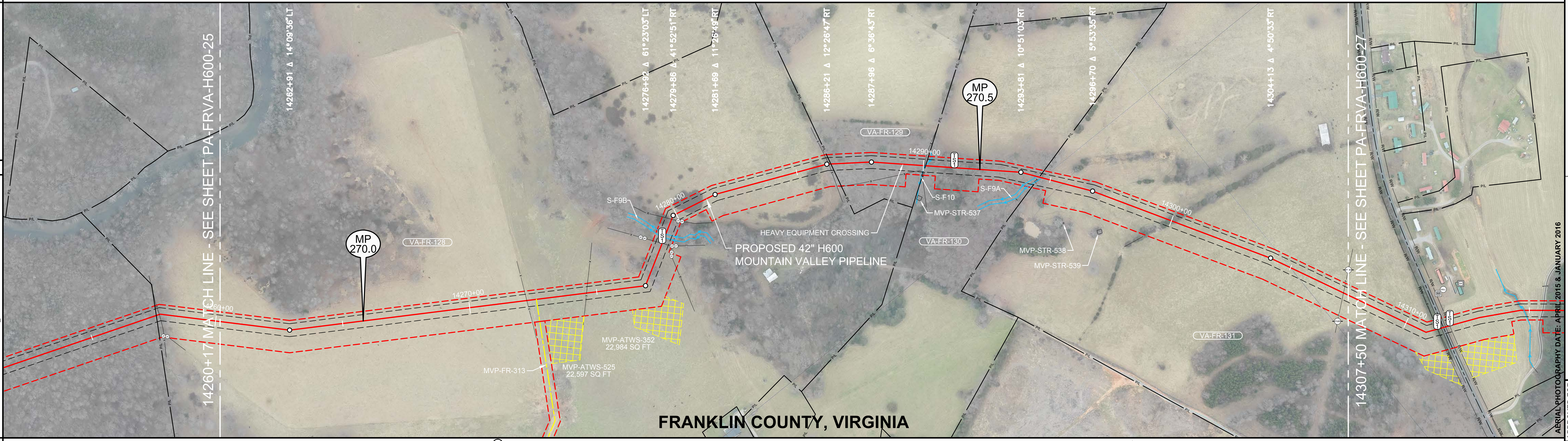
CONSTRUCTION EXCLUSION:
- 14260+17 TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- FISH RELOCATION REQUIRED WITHIN STREAM S-F9B CONSULT RESPONSIBLE E.I
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- FISH RELOCATION REQUIRED WITHIN STREAM S-F10 CONSULT RESPONSIBLE E.I
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS 14307+50

WETLAND / STREAM:

S-F9B	S-F10	S-F9A
15 LF	9 LF	21 LF



PLAN VIEW



LEGEND

Symbol	Description
🟧	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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
— —	C/L ROAD
—+—	C/L RAILROAD
→	DELINEATED STREAM
—	DELINEATED WETLAND
—□—	BARRICADE FENCE
○ PI SYMBOL / TS#	PROPOSED TEST STATION
MB MAILBOX / LM	LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN / TWR	TOWER LEG
TREE	GUY ANCHOR
TANK	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
⊞	CATCH BASIN - CULVERT
▨	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY
	SITES, MAINLINE VALVES &
	LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-104	ACCESS ROAD DETAIL MAP
P-W-H600-1204-01	CATHODIC PROTECTION
	STANDARD DRAWING

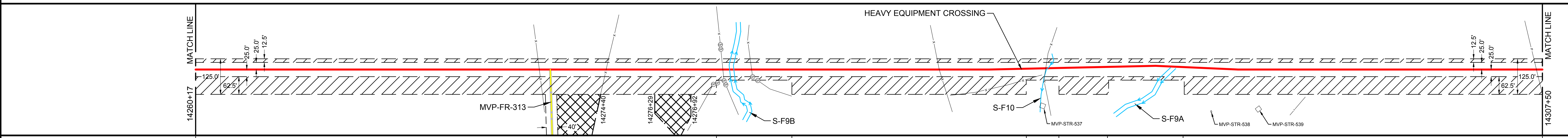
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

14260+17 MATCH LINE
14272+24 FENCE – ELECTRIC
14272+62 ACCESS RD – TEMPORARY(MVP–FR–313)
14274+60 FENCE – ELECTRIC
14278+36 GATE POST 52'RT
14278+50 GATE POST 47'RT
14278+69 FENCE – ELECTRIC,
PROPOSED TYPE 1 TEST STATION
14278+74 GATE POST 40'RT
14278+93 STREAM BANK(S–F9B)
14279+01 PROPOSED RIVER WEIGHT – STREAM
14279+08 STREAM BANK(S–F9B)
14279+71 FENCE – ELECTRIC
14279+74 GATE POST 26'RT
14280+07 GATE POST 37'RT
14286+30 FENCE – BARBED WIRE
14286+38 PROPERTY LINE
14289+28 PROPOSED TYPE 1 TEST STATION
14290+03 FENCE – BARBED WIRE
14290+05 ℄ STREAM(S–F10)(9')
14290+08 PROPERTY LINE
14291+20 PROPOSED TYPE 1 TEST STATION
14294+36 STREAM BANK(S–F9A) 4'LT
14294+50 PROPERTY LINE
14294+57 STREAM BANK(S–F9A) 5'LT
14297+54 BUILDING – BARN–DEMOLISHED 127'RT
14307+29 OHP LINE
14307+50 MATCH LINE

WORK SPACE

Symbol	Description
🟥	PROPOSED PIPELINE
—‖—	EXISTING PIPELINE
— —	ACCESS ROAD TEMPORARY WORK SPACE
⌜ ⌟	PERMANENT EASEMENT
▨	TEMPORARY WORK SPACE(TWS)
⊠	ADD. TEMPORARY WORK SPACE(ATWS)



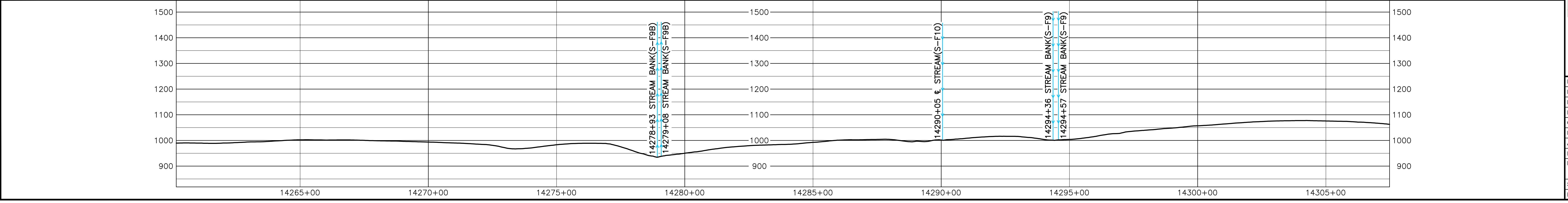
CONSTRUCTION METHOD

2 | 6,15,53 | 2 | 6,15,53 | 2 | 6,15,53 | 2

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



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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	2422	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	2213	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
6	80	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	1	TYPE 1 TEST STATION - PIPELINE
	1	RIVER WEIGHTS

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

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
GLADE HILL PCT.,FRANKLIN CO.,VA.
STA. 14260+17 TO STA. 14307+50

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-FRVA-H600 -26	
SHEET 296 OF 329	REV. 6
DATE OF PLOT: 11/29/17 4:49 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tract	LF / Slope
14307+50 – 14311+34	VA-FR-131	384 LF 384 SLOPE
14311+34 – 14311+84	STATE ROUTE 702	50 LF - 50 SLOPE
14311+84 – 14319+92	VA-FR-132	808 LF 811 SLOPE
14319+92 – 14321+79	VA-FR-132 VA-FR-133	187 LF 188 SLOPE
14321+79 – 14325+07	VA-FR-135	328 LF 331 SLOPE
14325+07 – 14326+19	VA-FR-136 VA-FR-135	112 LF 113 SLOPE
14326+19 – 14330+21	VA-FR-136	402 LF 407 SLOPE
14330+21 – 14330+67	BVFR-43 VA-FR-136	46 LF 47 SLOPE
14330+67 – 14332+74	VA-FR-136	207 LF 209 SLOPE
14332+74 – 14333+02	VA-FR-136 VA-FR-137	28 LF 28 SLOPE
14333+02 – 14333+52	STATE ROUTE 671	50 LF - 51 SLOPE
14333+52 – 14338+11	VA-FR-138 VA-FR-5918	459 LF 462 SLOPE
14338+11 – 14338+52	VA-FR-138	41 LF 41 SLOPE
14338+52 – 14341+18	VA-FR-139	266 LF 267 SLOPE
14341+18 – 14341+68	VA-FR-138	50 LF 50 SLOPE
14341+68 – 14344+81	VA-FR-138 VA-FR-5918	313 LF 313 SLOPE
14344+81 – 14345+30	VA-FR-140 VA-FR-138 VA-FR-5918	49 LF 49 SLOPE
14345+30 – 14345+78	VA-FR-140 VA-FR-5918	48 LF 48 SLOPE
14345+78 – 14352+46	VA-FR-140	668 LF 672 SLOPE
14352+46 – 14353+31	VA-FR-140.01 VA-FR-140	85 LF 86 SLOPE
14353+31 – 14353+45	VA-FR-140.01 VA-FR-140 VA-FR-141	14 LF 15 SLOPE
14353+45 – 14353+78	VA-FR-140.01 VA-FR-141	33 LF 34 SLOPE
14353+78 – 14356+22	VA-FR-141	244 LF 246 SLOPE

DESIGN

	Station	Value
PIPE / COATING	14307+50 – 14311+16	2
	14311+16 – 14311+96	5
	14311+96 – 14314+59	2
	14314+59 – 14314+99	4
	14314+99 – 14332+86	2
	14332+86 – 14333+66	5
	14333+66 – 14353+33	2
	14353+33 – 14353+73	4
	14353+73 – 14354+13	2
	14354+13 – 14356+22	1
SLOPE DISTANCE		366'
		80'
		264'
		40'
		1803'
		80'
		1979'
		40'
		40'
		210'
CLASS LOCATION / HCA	to 14353+89	2
	14353+89 – 14356+22	1
	to 14332+99	HCA-17

ENVIRONMENTAL

CONSTRUCTION EXCLUSION

14307+50 TIME OF YEAR RESTRICTION: SEE TREE CLEARING PLAN

FISH RELOCATION REQUIRED WITHIN STREAM S-GG4 CONSULT RESPONSIBLE E.I

TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31
SEE TREE CLEARING PLAN FOR FURTHER DETAILS 14356+22

WETLAND / STREAM

S-GG4	S-A36	S-A38	S-A40
5 LF	4 LF	9 LF	5.8 LF

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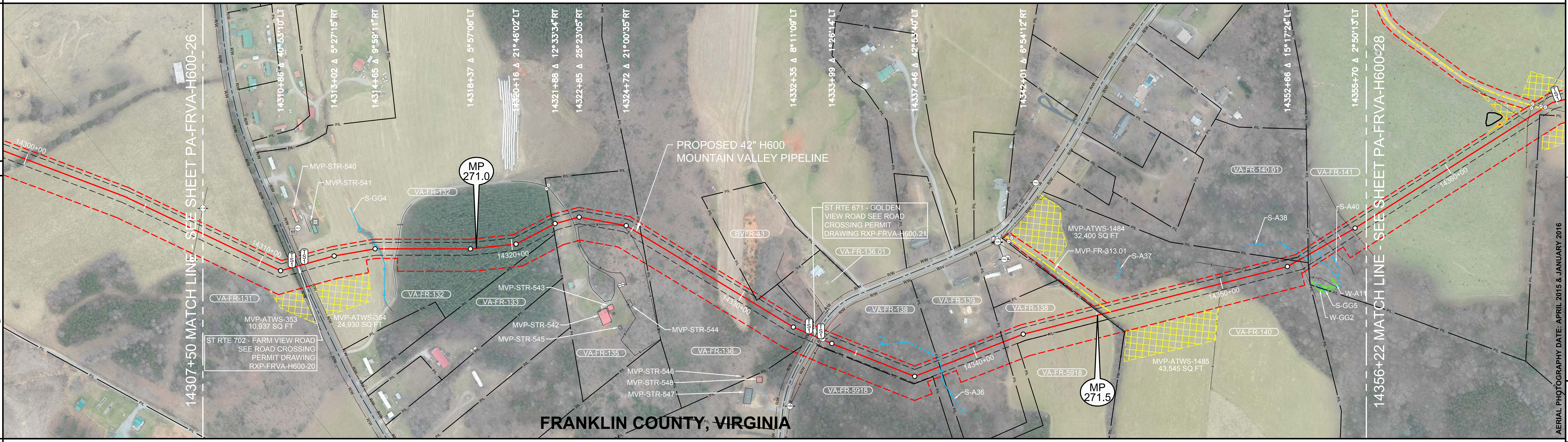


0' 100' 200' 400'

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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○ PI SYMBOL	
TS#	PROPOSED TEST STATION
MB MAILBOX	
LM	LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	
TWR	TOWER LEG
TREE	
	GUY ANCHOR
TANK TANK	
⋈	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
	CATCH BASIN - CULVERT
	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-105	ACCESS ROAD DETAIL MAP
RXP-FRVA-H600-20	STATE ROUTE 702 PERMIT DWG
RXP-FRVA-H600-21	STATE ROUTE 671 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

14307+50 MATCH LINE
14307+55 POWER POLE 110'RT

14311+31 PROPOSED TYPE 1 TEST STATION,R/W
14311+34 FENCE - BARBED WIRE
14311+47 EDGE OF ASPHALT
14311+57 ℄ ST RTE 702 - FARM VIEW ROAD
14311+65 EDGE OF ASPHALT
14311+82 PROPOSED TYPE 1 TEST STATION,R/W

14314+79 ℄ STREAM(S-GG4)
14315+52 ℄ DRIVEWAY(GRAVEL)

14321+91 PROPERTY LINE
14322+57 ℄ DRIVEWAY(GRAVEL)

14326+18 PROPERTY LINE

14333+01 PROPERTY CORNER 5'RT
14333+02 PROPOSED TYPE 1 TEST STATION,R/W
14333+17 EDGE OF ASPHALT
14333+27 ℄ ST RTE 671 - GOLDEN VIEW ROAD
14333+37 EDGE OF ASPHALT
14333+47 GUY ANCHOR 3'LT
14333+50 GUY ANCHOR 3'LT
14333+52 PROPOSED TYPE 1 TEST STATION,R/W
14333+57 OHP LINE, POWER POLE 4'LT

14338+52 PROPERTY LINE
14338+56 ℄ STREAM(S-A36)

14341+18 PROPERTY LINE

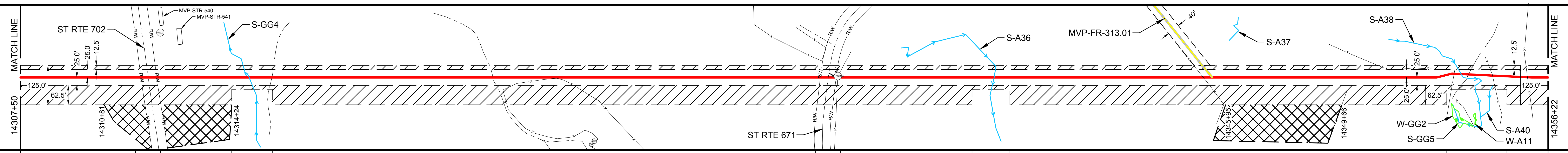
14345+17 PROPERTY LINE
14345+23 FENCE - BARBED WIRE
14345+48 EDGE OF DIRT
14345+53 ACCESS ROAD - TEMPORARY (MVP-FR-313.01)
14345+58 EDGE OF DIRT
14345+86 PROPERTY CORNER 89'RT

14353+22 FENCE - BARBED WIRE
14353+27 PROPERTY LINE
14353+53 ℄ STREAM(S-A38)
14353+55 PROPERTY LINE
14353+66 FENCE - BARBED WIRE
14354+48 ℄ STREAM(S-A40) 27'RT,
FENCE - BARBED WIRE

14355+58 FENCE - BARBED WIRE
14356+22 MATCH LINE

WORK SPACE

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

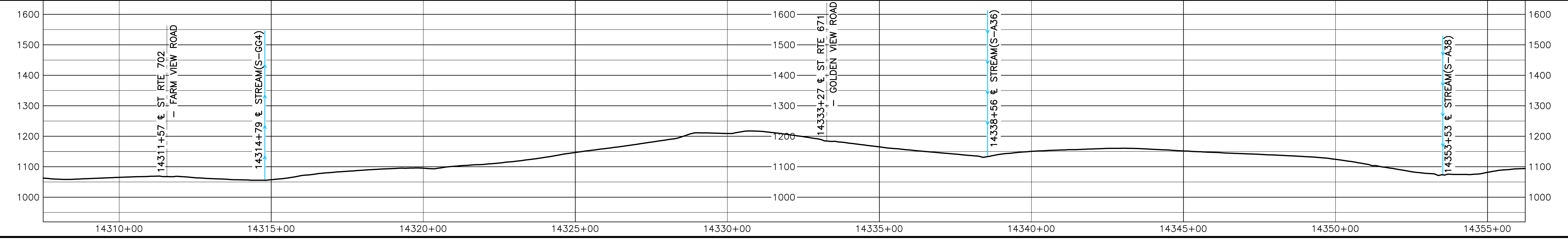


CONSTRUCTION METHOD

2	4	2	6,15,53	2	4	2	6,15,53	2	6,15,53	2

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

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	210	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	4452	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
5	160	42"O.D. X 0.888"W.T., X-70, FBE & ARO
	4	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

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

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www.hollandengineering.com

Mountain Valley PIPELINE

PIPELINE ALIGNMENT
MOUNTAIN VALLEY PROJECT - H600 LINE
GLADE HILL PCT.,FRANKLIN CO.,VA.
STA. 14307+50 TO STA. 14356+22

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-FRVA-H600 -27	
SHEET 297 OF 329	REV. 6
DATE OF PLOT: 11/29/17 4:50 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

14356+22
VA-FR-141 — 740 LF, 741 SLOPE
14363+62
VA-FR-141 / VA-FR-142 — 233 LF, 233 SLOPE
14365+95
VA-FR-141 — 96 LF, 96 SLOPE
14366+91
VA-FR-141 / VA-FR-143 — 214 LF, 214 SLOPE
14369+05
VA-FR-143 — 2864 LF, 2874 SLOPE
14397+69
VA-FR-143 / VA-FR-143.01 — 10 LF, 10 SLOPE
14397+79
VA-FR-143 / VA-FR-143.02 / VA-FR-143.01 — 29 LF, 29 SLOPE
14398+08
VA-FR-143 / VA-FR-143.02 — 48 LF, 48 SLOPE
14398+56
VA-FR-143.02 — 321 LF, 323 SLOPE
14401+77
VA-FR-145 / VA-FR-143.02 — 162 LF, 162 SLOPE
14403+39
VA-FR-145 / VA-FR-143.02 / VA-FR-143.03 — 28 LF, 28 SLOPE
14403+67
VA-FR-145 / VA-FR-143.03 — 237 LF, 237 SLOPE
14406+04
VA-FR-145 — 303 LF, 304 SLOPE
14409+07
VA-FR-146 — 428 LF, 429 SLOPE
14413+35

DESIGN

PIPE / COATING: 14356+22 | 1 | 14391+33 | 6 | 14391+73 | 1 | 14413+35

SLOPE DISTANCE: 3519' | 40' | 2169'

CLASS LOCATION / HCA: 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION: 14356+22 | TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS | 14413+35

WETLAND / STREAM:

W-DD1	S-A41	W-A12-PFO
52 LF	12 LF	25 LF

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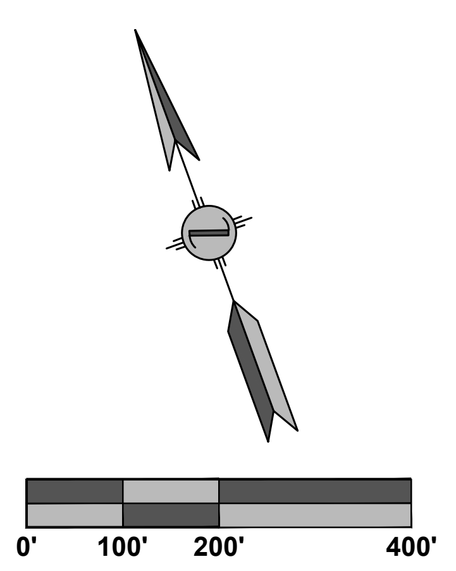
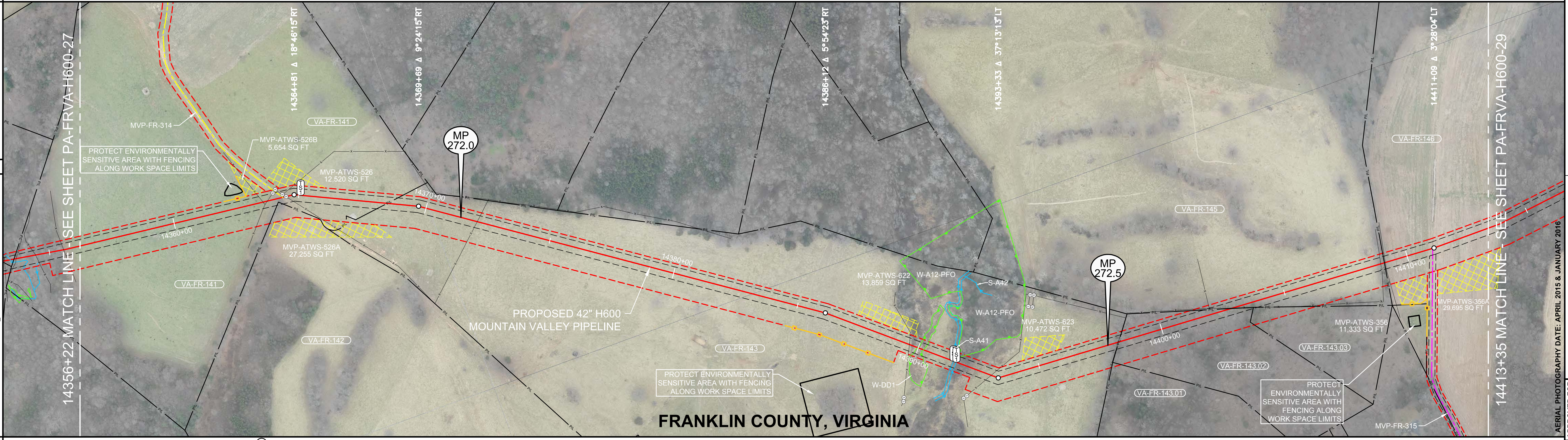


PLAN VIEW



14356+22 MATCH LINE SEE SHEET PA-FRVA-H600-27
MVP-FR-314
PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS
MVP-ATWS-526B 5,654 SQ FT
MVP-ATWS-526 12,520 SQ FT
MVP-ATWS-526A 27,255 SQ FT
VA-FR-141
VA-FR-142
14360+00
14364+81 Δ 18°46'15"RT
14369+69 Δ 9°24'15"RT
MP 272.0
14370+00
14380+00
PROPOSED 42" H600 MOUNTAIN VALLEY PIPELINE
VA-FR-143
PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS
14386+12 Δ 5°54'23"RT
MVP-ATWS-622 13,859 SQ FT
W-A12-PFO
S-A42
W-A12-PFO
S-A41
W-DD1
14390+00
14393+33 Δ 37°13'13"LT
MVP-ATWS-623 10,472 SQ FT
MP 272.5
14400+00
VA-FR-145
VA-FR-143.02
VA-FR-143.01
VA-FR-143.03
MVP-ATWS-356 11,333 SQ FT
PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS
14410+00
14411+09 Δ 3°28'04"LT
MVP-ATWS-356A 29,695 SQ FT
VA-FR-146
MVP-FR-315
14413+35 MATCH LINE SEE SHEET PA-FRVA-H600-29
FRANKLIN COUNTY, VIRGINIA
P/L

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
- P/L PROPERTY LINE
- R/W ROAD RIGHT-OF-WAY
- X FENCE LINE
- P OVERHEAD POWER
- T OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL
- TS# PROPOSED TEST STATION
- MB MAILBOX
- LM LINE MARKER - VENT PIPE
- PWR TEL POWER/TELE POLE
- SIGN
- TWR TOWER LEG
- TREE
- GUY ANCHOR
- TANK TANK
- GAS VALVE
- WELL GW OW WW MNW WELL - GAS/OIL/WATER/ MONITORING
- POST FP GP POST - GATE/FENCE
- EM GM WM ELEC/GAS/WTR METER
- PED TEP EP FOP TVP PEDESTAL - UTILITY
- SAMH WMH MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY
	SITES, MAINLINE VALVES &
	LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-105	ACCESS ROAD DETAIL MAP
P-W-H600-1204-01	CATHODIC PROTECTION
	STANDARD DRAWING

ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

14356+22 MATCH LINE

14363+57 FENCE – BARBED WIRE
14363+74 FENCE – BARBED WIRE
14364+02 GATE POST 25'LT
14364+14 GATE POST 36'LT
14364+36 ACCESS RD – TEMPORARY(MVP–FR–314)
14364+37 GATE POST 11'LT
14364+49 GATE, GATE POST
14365+07 PROPOSED TYPE 1 TEST STATION

14368+47 PROPERTY LINE

14372+06 FENCE – BARBED WIRE
14372+38 ℄ LEVEE
14372+43 TOP OF LEVEE

14385+43 TOE OF LEVEE
14385+48 TOP OF LEVEE

14389+63 FENCE – BARBED WIRE
14389+83 BEGIN WETLAND(W–DD1) 37'RT
14390+35 END WETLAND(W–DD1) 37'RT
14391+47 STREAM BANK(S–A41)
PROPOSED TYPE 1 TEST STATION
14391+50 PROPOSED RIVER WEIGHT – STREAM
14391+58 BEGIN WETLAND(W–A12–PFO) 37'LT
14391+59 STREAM BANK(S–A41)
PROPOSED TYPE 1 TEST STATION
14391+83 END WETLAND(W–A12–PFO) 37'LT
14393+04 FENCE – METAL

14398+23 FENCE – BARBED WIRE
14398+29 PROPERTY LINE

14402+91 FENCE – BARBED WIRE
14403+00 PROPERTY LINE

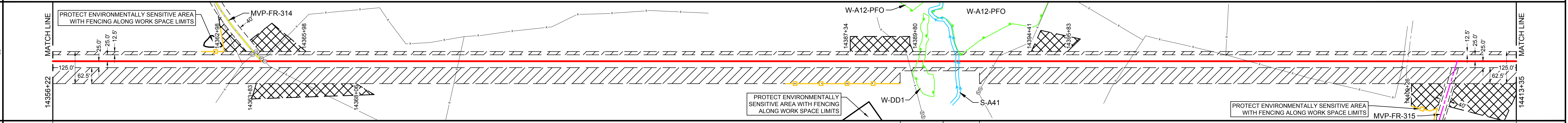
14408+92 FENCE – BARBED WIRE
14409+07 PROPERTY LINE
14409+11 ℄ FIELD ROAD(DIRT)

14411+04 ACCESS ROAD – PERMANENT (MVP–FR–315)

14413+35 MATCH LINE

WORK SPACE

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



MATCH LINE
14356+22
PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS
MVP-FR-314
40'
14362+98
14365+98
25.0'
25.0'
12.5'
125.0'
62.5'
14363+83
14366+56
14387+34
14389+80
W-A12-PFO
W-A12-PFO
14394+41
14395+83
PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS
W-DD1
S-A41
PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS
MVP-FR-315
12.5'
25.0'
25.0'
125.0'
62.5'
MATCH LINE
14413+35

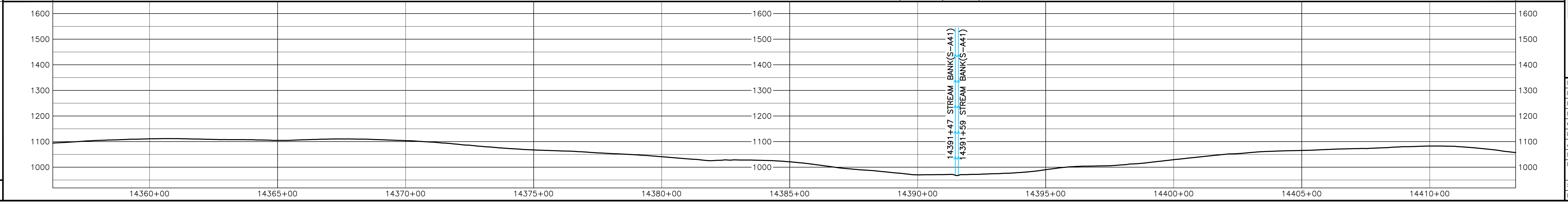
CONSTRUCTION METHOD

2 | 3 | 3,6,15 | 2

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



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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5688	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
6	40	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	3	TYPE 1 TEST STATION - PIPELINE
	1	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
GLADE HILL PCT.,FRANKLIN CO.,VA.
STA. 14356+22 TO STA. 14413+35

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-FRVA-H600 -28	
SHEET 298 OF 329	REV. 6
DATE OF PLOT: 11/29/17 4:50 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

14413+35 | VA-FR-146 2313 LF 2334 SLOPE | 14436+48 | VA-FR-147 / VA-FR-146 117 LF 118 SLOPE | 14437+65 | VA-FR-147 1636 LF 1643 SLOPE | 14454+01 STATE ROUTE 655 41 LF - 41 SLOPE 14454+42 | VA-FR-148 1653 LF 1659 SLOPE | 14470+95

DESIGN

PIPE / COATING: 14413+35 | 1 | 14420+50 | 6 | 14420+90 | 1 | 14438+01 | 6 | 14438+41 | 1 | 14453+81 | 4 | 14454+61 | 1 | 14470+95

SLOPE DISTANCE: 720' | 40' | 1728' | 40' | 1547' | 80' | 1641'

CLASS LOCATION / HCA: 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION: 14413+35 | TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS | FISH RELOCATION REQUIRED WITHIN STREAM S-GH44 CONSULT RESPONSIBLE E.I | TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS | 14470+95

WETLAND / STREAM:

S-GH36	S-KL17	S-GH37	S-GH38	S-GH39	S-GH40	W-GH16	S-GH44	S-IJ47
3 LF	5 LF	33 LF	3 LF	4 LF	3 LF	212 LF	6 LF	2 LF

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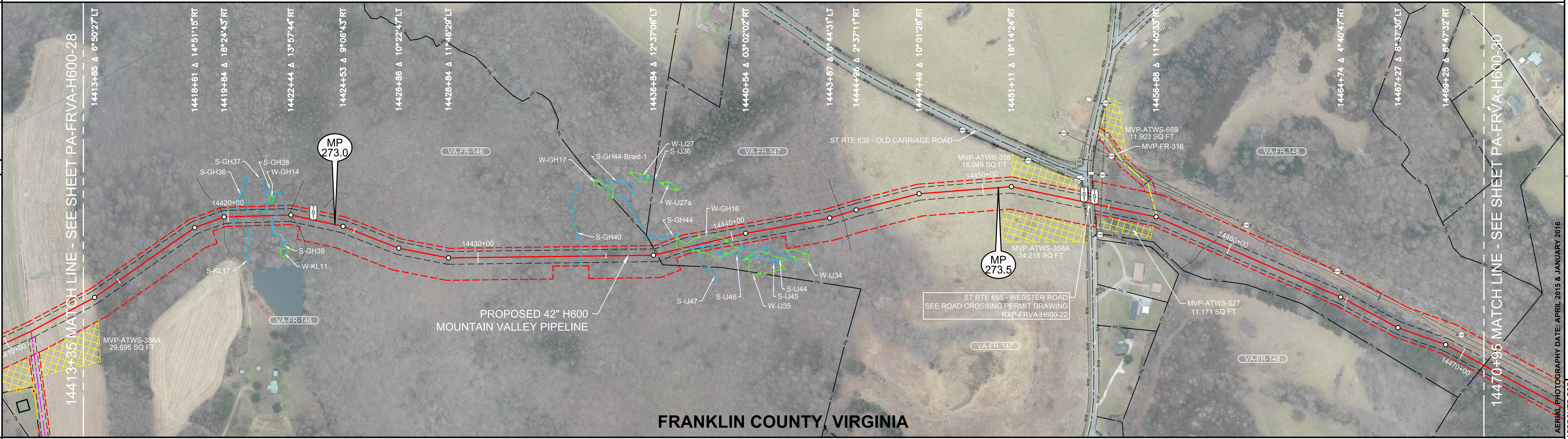
0' 100' 200' 400'

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
- P/L PROPERTY LINE
- R/W ROAD RIGHT-OF-WAY
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- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL
- TS# PROPOSED TEST STATION
- MB MAILBOX
- LM LINE MARKER - VENT PIPE
- PWR TEL POWER/TELE POLE
- SIGN
- TWR TOWER LEG
- TREE
- GUY ANCHOR
- TANK
- GAS VALVE
- WELL GW OW WW MNW WELL - GAS/OIL/WATER/ MONITORING
- POST FP GP POST - GATE/FENCE
- EM GM WM ELEC/GAS/WTR METER
- PED TEP EP FOP TVP PEDESTAL - UTILITY
- SAMH WMH MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-15	ACCESS ROADS, ANCILLARY
	SITES, MAINLINE VALVES &
	LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-105	ACCESS ROAD DETAIL MAP
RXP-FRVA-H600-22	STATE ROUTE 655 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION
	STANDARD DRAWING

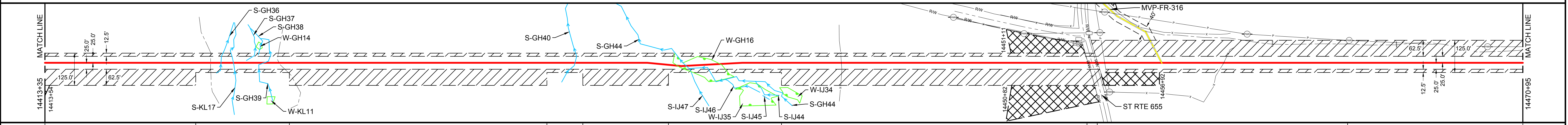
HORIZONTAL STATIONING

14413+35 MATCH LINE
14419+79 ℄ TRAIL(DIRT)
14420+21 ℄ STREAM(S-GH36)
14420+70 ℄ STREAM(S-KL17)
14421+20 BEGIN ℄ STREAM(S-GH37) 9'LT
14421+53 END ℄ STREAM(S-GH37) 37'LT
14421+67 ℄ STREAM(S-GH38) 31'LT
14421+89 ℄ STREAM(S-GH39)
14422+48 ℄ TRAIL(DIRT)
14423+34 PROPOSED TYPE 1 TEST STATION
14434+01 ℄ STREAM(S-GH40)
14436+74 PROPERTY LINE
14437+06 PROPERTY CORNER 44'RT
14437+82 BEGIN WETLAND(W-GH16) 9'LT
14438+33 ℄ STREAM(S-GH44)
14438+49 ℄ STREAM(S-IJ47) 22'RT
14439+94 END WETLAND(W-GH16) 37'RT
14444+37 FENCE - BARBED WIRE
14453+53 GATE POST 75'LT
14453+65 GATE POST 72'LT
14453+68 SIGN 74'LT
14453+77 SIGN 69'LT
14454+01 PROPOSED TYPE 1 TEST STATION,R/W
14454+04 FENCE - BARBED WIRE
14454+11 EDGE OF ASPHALT
14454+22 ℄ ST RTE 655 - WEBSTER ROAD
14454+32 EDGE OF ASPHALT
14454+42 PROPOSED TYPE 1 TEST STATION,R/W,
FENCE - BARBED WIRE
14454+69 OHP LINE
14456+94 ACCESS ROAD - TEMPORARY (MVP-FR-316)
14459+33 FENCE - BARBED WIRE
14461+23 CULVERT OPEN END 67'LT, CULVERT OPEN END 87'LT
14464+21 POWER POLE 91'LT
14466+12 CULVERT OPEN END 56'LT, CULVERT OPEN END 75'LT
14469+60 POWER POLE 62'LT
14470+95 MATCH LINE, PROPERTY 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)



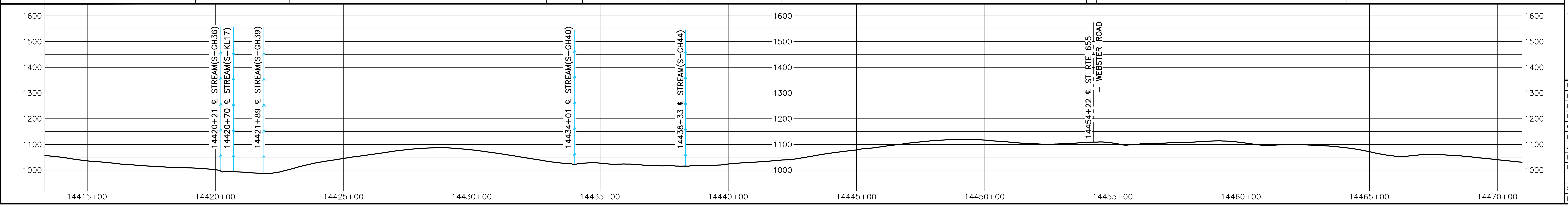
CONSTRUCTION METHOD

2 | 6,15,53 | 2 | 6,15,53 | 2 | 3,6,15 | 2 | 4 | 2.1 | 2.1,7

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	5636	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
4	80	42"O.D. X 0.740"W.T., X-70, FBE & ARO
6	80	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	3	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

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

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Mountain Valley PIPELINE

PIPELINE ALIGNMENT
MOUNTAIN VALLEY PROJECT - H600 LINE GLADE HILL PCT.,FRANKLIN CO.,VA. STA. 14413+35 TO STA. 14470+95

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-FRVA-H600 -29	
SHEET 299 OF 329	REV. 6
DATE OF PLOT: 12/8/17 1:36 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tract	Length
14470+95	VA-FR-149	566 LF 567 SLOPE
14476+61	VA-FR-150 VA-FR-149	31 LF 31 SLOPE
14476+92	VA-FR-150	955 LF 962 SLOPE
14486+47	VA-FR-150 VA-FR-151	19 LF 19 SLOPE
14486+66	VA-FR-151	1364 LF 1398 SLOPE
14500+30	VA-FR-152 VA-FR-151	48 LF 48 SLOPE
14500+78	VA-FR-152	160 LF 160 SLOPE
14502+38	VA-FR-153 VA-FR-152	1116 LF 1118 SLOPE
14513+54	VA-FR-153	380 LF 384 SLOPE
14517+34	VA-FR-154	396 LF 398 SLOPE
14521+30	VA-FR-154 VA-FR-155	43 LF 44 SLOPE
14521+73	VA-FR-155	90 LF 91 SLOPE
14522+63	VA-FR-155.01 VA-FR-155	186 LF 190 SLOPE
14524+49	STATE ROUTE 674	53 LF - 53 SLOPE
14525+02	VA-FR-155.02 VA-FR-156	394 LF 394 SLOPE
14528+96		

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
14470+95	1	1556'
14486+42	6	40'
14486+82	1	988'
14496+43	6	40'
14496+83	1	2165'
14518+37	2	40'
14518+77	1	565'
14524+36	4	80'
14525+16	1	383'
14528+96		

CLASS LOCATION / HCA: 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION

14470+95 TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31
SEE TREE CLEARING PLAN FOR FURTHER DETAILS

FISH RELOCATION REQUIRED
WITHIN STREAM S-G22 CONSULT
RESPONSIBLE E.I.

TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31
SEE TREE CLEARING PLAN FOR FURTHER DETAILS 14528+96

WETLAND / STREAM

S-G22	S-G23	S-G21	S-G20
12 LF	35 LF	51 LF	11 LF

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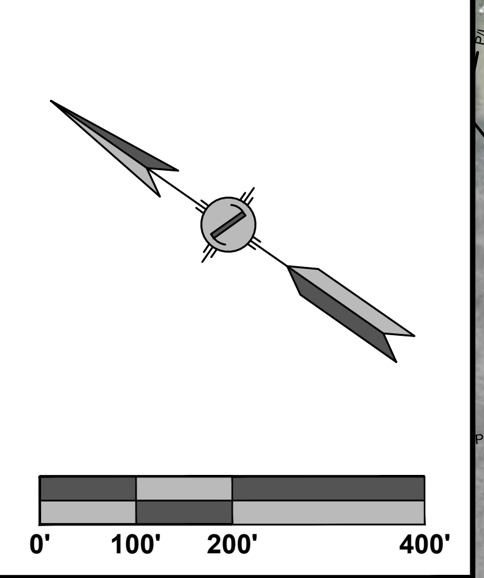
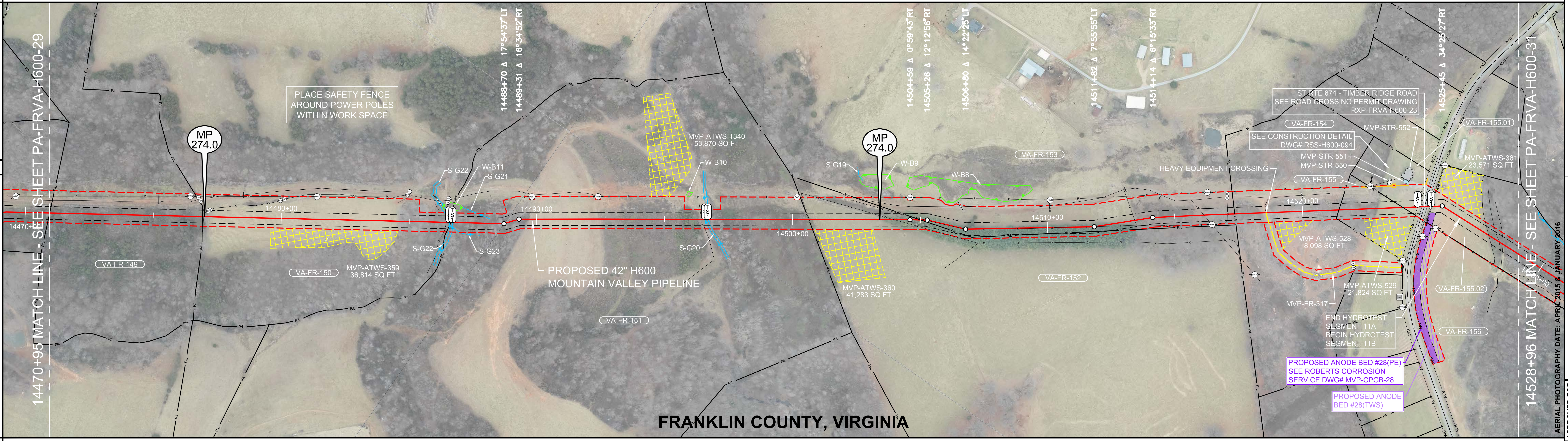


PLAN VIEW


14470+95 MATCH LINE - SEE SHEET PA-FRVA-H600-29
14528+96 MATCH LINE - SEE SHEET PA-FRVA-H600-31
MP 274.0
MP 274.0
PLACE SAFETY FENCE AROUND POWER POLES WITHIN WORK SPACE
14488+70 Δ 17°54'37" LT
14489+31 Δ 16°34'52" RT
14504+59 Δ 0°59'43" RT
14505+26 Δ 12°12'56" RT
14506+80 Δ 14°22'25" LT
14511+82 Δ 7°55'55" LT
14514+14 Δ 6°15'33" RT
14525+45 Δ 34°25'27" RT
14470+00
14480+00
14490+00
14500+00
14510+00
14520+00
VA-FR-149
VA-FR-150
VA-FR-151
VA-FR-152
VA-FR-153
VA-FR-154
VA-FR-155
VA-FR-155.01
VA-FR-155.02
VA-FR-156
MVP-ATWS-359 36,814 SQ FT
MVP-ATWS-1340 53,870 SQ FT
MVP-ATWS-360 41,283 SQ FT
MVP-ATWS-528 8,098 SQ FT
MVP-ATWS-529 21,824 SQ FT
MVP-ATWS-361 23,571 SQ FT
S-G22
W-B11
S-G21
S-G23
W-B10
S-G20
S G19
W-B9
W-B8
PROPOSED 42" H600 MOUNTAIN VALLEY PIPELINE
ST RTE 674 - TIMBER RIDGE ROAD SEE ROAD CROSSING PERMIT DRAWING RXP-FRVA-H600-23
SEE CONSTRUCTION DETAIL DWG# RSS-H600-094
MVP-STR-552
MVP-STR-551
MVP-STR-550
HEAVY EQUIPMENT CROSSING
MVP-FR-317
END HYDROTEST SEGMENT 11A BEGIN HYDROTEST SEGMENT 11B
PROPOSED ANODE BED #28(PE) SEE ROBERTS CORROSION SERVICE DWG# MVP-CPGB-28
PROPOSED ANODE BED #28(TWS)
FRANKLIN COUNTY, VIRGINIA
AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016
P/L
R/W
PWR

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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○ PI SYMBOL	TS# PROPOSED TEST STATION
MB MAILBOX	LM LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	TWR TOWER LEG
TREE	GUY ANCHOR
TANK TANK	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
	CATCH BASIN - CULVERT
▨	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-16	ACCESS ROADS, ANCILLARY
	SITES, MAINLINE VALVES &
	LAUNCHER/RECEIVER SITES
RXP-FRVA-H600-23	STATE ROUTE 674 PERMIT DWG
RSS-H600-094	RESIDENTIAL SITE SPECIFIC
P-W-H600-1204-01	CATHODIC PROTECTION
	STANDARD DRAWING
MVP-CPGB-28	ROBERTS CORROSION
	SERVICE DRAWING

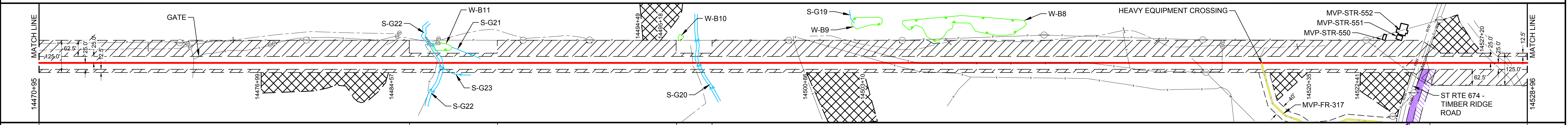
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

14470+95 MATCH LINE, PROPERTY LINE
14475+21 CULVERT OPEN END 76'LT
14475+21 CULVERT OPEN END 47'LT
14476+44 POWER POLE 78'LT
14476+75 GATE POST 74'LT
14476+84 GATE POST 61'LT
14476+92 PROPERTY LINE
14476+97 FENCE – BARBED WIRE
14478+52 CULVERT OPEN END 79'LT
14479+96 GATE POST 69'LT
14480+12 GATE POST 76'LT
14481+37 POWER POLE 88'LT
14486+23 CULVERT OPEN END 66'LT
14486+45 FENCE – BARBED WIRE
14486+49 GATE POST 78'LT
14486+56 STREAM BANK(S–G22), PROPOSED TYPE 1 TEST STATION
14486+59 PROPOSED RIVER WEIGHT – STREAM
14486+64 PROPERTY LINE
14486+65 BEGIN ℄ STREAM(S–G23) 16'RT
14486+68 STREAM BANK(S–G22), PROPOSED TYPE 1 TEST STATION
14487+00 END ℄ STREAM(S–G23) 37'RT
14487+64 BEGIN ℄ STREAM(S–G21) 38'LT
14488+15 END ℄ STREAMS–G21) 18'LT
14489+82 POWER POLE 87'LT
14492+41 POWER POLE 87'LT
14496+43 ℄ TRAIL(DIRT)
14496+58 STREAM BANK(S–G20), PROPOSED TYPE 1 TEST STATION
14496+64 PROPOSED RIVER WEIGHT – STREAM
14496+69 STREAM BANK(S–G20), PROPOSED TYPE 1 TEST STATION
14500+17 POWER POLE 88'LT
14500+63 PROPERTY LINE
14500+65 FENCE – BARBED WIRE
14503+97 FENCE – BARBED WIRE
14504+59 POWER POLE 87'LT
14505+00 PROPERTY LINE
14505+19 FENCE – ELECTRIC
14506+50 CULVERT OPEN END 71'LT
14506+80 FENCE – ELECTRIC
14510+10 GUY ANCHOR 75'LT
14510+11 GUY ANCHOR 63'LT
14510+38 FENCE – ELECTRIC
14511+82 FENCE – ELECTRIC
14513+43 FENCE – ELECTRIC
14514+43 CULVERT OPEN END 75'LT
14516+14 OHP LINE
14516+31 POWER POLE 87'LT
14516+43 POWER POLE 38'RT
14517+06 FENCE – BARBED WIRE
14517+07 GATE POST 62'LT
14517+08 GATE POST 78'LT
14517+34 PROPERTY LINE
14518+57 ACCESS RD – TEMPORARY (MVP–FR–317), HEAVY EQUIPMENT CROSSING
14519+97 CULVERT OPEN END 71'LT
14520+03 CULVERT OPEN END 52'LT
14521+42 PROPERTY LINE
14522+67 POWER POLE 87'LT
14523+45 BUILDING – NON SURVEYED 89'LT
14523+92 PROPERTY LINE
14523+92 OHP LINE
14524+14 BUILDING – NON SURVEYED 91'LT
14524+32 BUILDING – NON SURVEYED 111'LT
14524+49 PROPOSED TYPE 1 TEST STATION,R/W
14524+66 EDGE OF ASPHALT
14524+75 CULVERT OPEN END 52'RT
14524+76 ℄ ST RTE 674 – TIMBER RIDGE ROAD
14524+87 EDGE OF ASPHALT
14525+00 FENCE – ELECTRIC
14525+05 OHP LINE
14525+02 PROPOSED TYPE 1 TEST STATION,R/W
14525+16 POWER POLE 87'RT
14527+60 FENCE – ELECTRIC
14528+08 FENCE – BARBED WIRE
14528+26 ℄ FIELD ROAD(DIRT)
14528+96 MATCH LINE

WORK SPACE

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

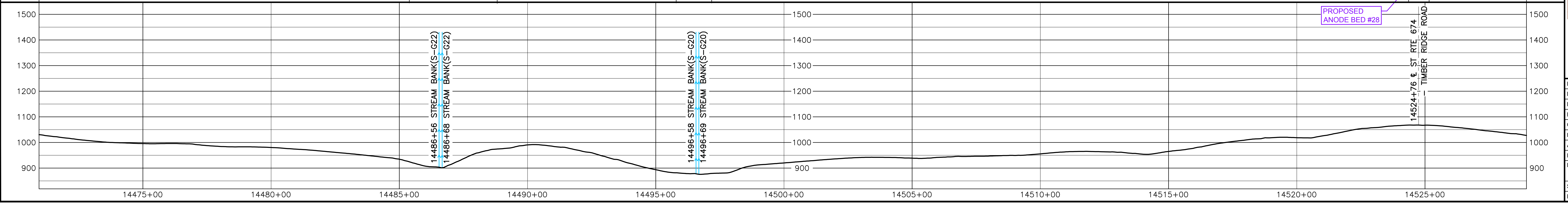


CONSTRUCTION METHOD

2.1,7	6,7,15,53	2.1,7	6,7,15,53	2.1,7	4	2,7

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



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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5657	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	40	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
6	80	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	6	TYPE 1 TEST STATION - PIPELINE
	2	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
GLADE HILL PCT.,FRANKLIN CO.,VA.
STA. 14470+95 TO STA. 14528+96

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-FRVA-H600 -30	
SHEET 300 OF 329	REV. 6
DATE OF PLOT: 12/8/17 12:47 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tracts	Length
14528+96	VA-FR-155.02 VA-FR-156	219 LF 221 SLOPE
14531+15	VA-FR-155.02	7 LF 7 SLOPE
14531+22	VA-FR-156.01 VA-FR-155.02	63 LF 63 SLOPE
14531+85	VA-FR-156.01	66 LF 68 SLOPE
14532+51	VA-FR-156.01 VA-FR-156	242 LF 246 SLOPE
14534+93	VA-FR-157 VA-FR-156.01 VA-FR-156	115 LF 115 SLOPE
14536+08	VA-FR-157	1041 LF 1056 SLOPE
14546+49	STATE ROUTE 926	53 LF - 55 SLOPE
14547+02	VA-FR-157.01 VA-FR-157	346 LF 347 SLOPE
14550+48	VA-FR-157.01	57 LF 57 SLOPE
14551+05	VA-FR-157.01 VA-FR-157	49 LF 49 SLOPE
14551+54	VA-FR-157	1862 LF 1868 SLOPE
14570+16	VA-FR-157 VA-FR-160	47 LF 48 SLOPE
14570+63	VA-FR-160	452 LF 451 SLOPE
14575+15		

DESIGN

	14528+96 – 14546+28	14546+28 – 14547+48	14547+48 – 14567+90	14567+90 – 14568+30	14568+30 – 14575+15
PIPE / COATING	1	4	1	6	1
SLOPE DISTANCE	1754'	120'	2050'	40'	687'
CLASS LOCATION / HCA	1				

ENVIRONMENTAL

CONSTRUCTION EXCLUSION (14528+96 – 14575+15):
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- FISH RELOCATION REQUIRED WITHIN STREAM S-G17 CONSULT RESPONSIBLE E.I.
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- FISH RELOCATION REQUIRED WITHIN STREAM S-E18 CONSULT RESPONSIBLE E.I.
- T.O.Y.R.: SEE TREE CLEARING PLAN

WETLAND / STREAM	S-G18	S-G17	S-E18
	2 LF	5 LF	7 LF

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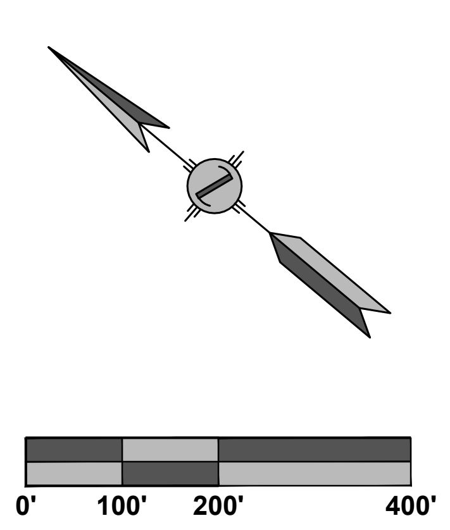
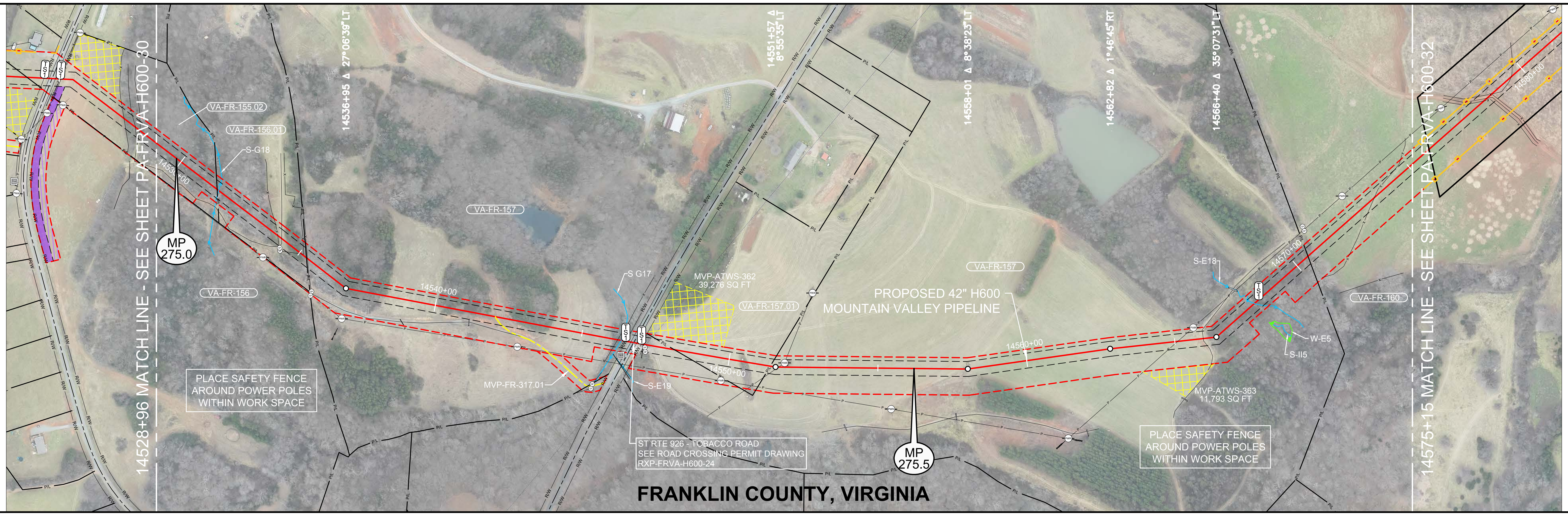


PLAN VIEW



14528+96 MATCH LINE - SEE SHEET PA-FRVA-H600-30
14575+15 MATCH LINE - SEE SHEET PA-FRVA-H600-32
MP 275.0
MP 275.5
14536+95 Δ 27°06'39" LT
14551+57 Δ 8°55'35" LT
14558+01 Δ 8°38'23" LT
14562+82 Δ 1°46'45" RT
14568+40 Δ 35°07'31" LT
VA-FR-155.02
VA-FR-156.01
VA-FR-156
VA-FR-157
VA-FR-157.01
VA-FR-160
S-G18
S G17
S-E19
S-E18
W-E5
S-II5
MVP-ATWS-362 39,278 SQ FT
MVP-ATWS-363 11,793 SQ FT
MVP-FR-317.01
PROPOSED 42" H600 MOUNTAIN VALLEY PIPELINE
PLACE SAFETY FENCE AROUND POWER POLES WITHIN WORK SPACE
ST RTE 926 - TOBACCO ROAD SEE ROAD CROSSING PERMIT DRAWING RXP-FRVA-H600-24
14530+00
14540+00
14545+00
14550+00
14560+00
14565+00
14570+00
FRANKLIN COUNTY, VIRGINIA

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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○ PI SYMBOL	
TS#	PROPOSED TEST STATION
MB MAILBOX	
LM	LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	
TWR	TOWER LEG
TREE	
	GUY ANCHOR
TANK	
⋈	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
	CATCH BASIN - CULVERT
	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
	ABOVE GROUND FACILITY
	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-16	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
RXP-FRVA-H600-24	STATE ROUTE 926 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

14528+96 MATCH LINE

14531+53 PROPERTY LINE
14531+58 ℄ STREAM(S-G18)

14534+06 FENCE – ELECTRIC
14534+11 POWER POLE 88'RT
14534+23 ℄ FIELD ROAD(DIRT)
14534+37 GATE POST 29'RT
14534+44 GATE POST 36'RT
14535+07 FENCE – ELECTRIC
14535+28 PROPERTY LINE
14535+32 FENCE – BARBED WIRE
14536+11 GATE POST 79'RT
14536+16 GATE POST 92'RT

14538+93 CULVERT OPEN END 68'RT
14539+08 CULVERT OPEN END 84'RT

14541+20 CULVERT OPEN END 25'RT
14541+22 CULVERT OPEN END 45'RT

14541+98 EDGE OF DIRT
14542+04 ACCESS ROAD – TEMPORARY (MVP–FR–317.01)
14542+11 EDGE OF DIRT

14542+95 POWER POLE 85'RT

14546+15 CULVERT OPEN END 50'RT
14546+21 FENCE – BARBED WIRE
14546+33 ℄ STREAM(S–G17)
14546+40 PEDESTAL – TELEPHONE 49'RT
14546+49 PROPOSED TYPE 1 TEST STATION,R/W
14546+66 EDGE OF ASPHALT
14546+75 ℄ ST RTE 926 – TOBACCO ROAD
14546+85 EDGE OF ASPHALT
14547+02 PROPOSED TYPE 1 TEST STATION,R/W
14547+08 CULVERT OPEN END 1'RT
14547+10 CULVERT OPEN END 46'RT
14547+15 GATE POST 10'RT
14547+19 GATE POST 24'RT

14549+84 POWER POLE 75'RT

14551+12 PROPERTY LINE
14551+47 PROPERTY LINE
14551+67 OHP LINE
14551+87 POWER POLE 14'LT
14551+98 GUY ANCHOR 6'LT

14555+45 POWER POLE 137'RT

14565+10 OHP LINE
14565+66 POWER POLE 40'LT
14565+96 ℄ FIELD ROAD(DIRT)

14568+10 ℄ STREAM(S–E18)
14568+29 PROPOSED TYPE 1 TEST STATION

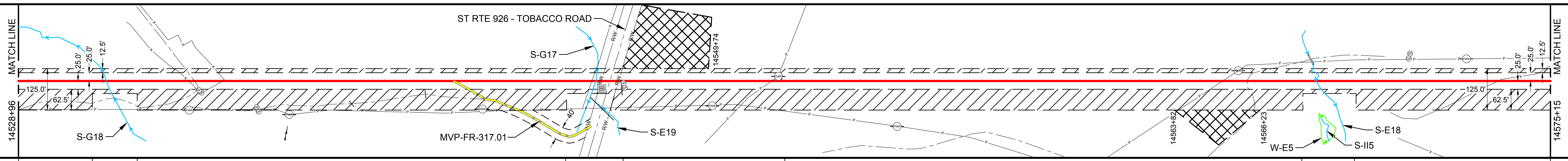
14570+49 PROPERTY LINE

14573+45 FENCE – ELECTRIC

14575+15 MATCH LINE

WORK SPACE

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

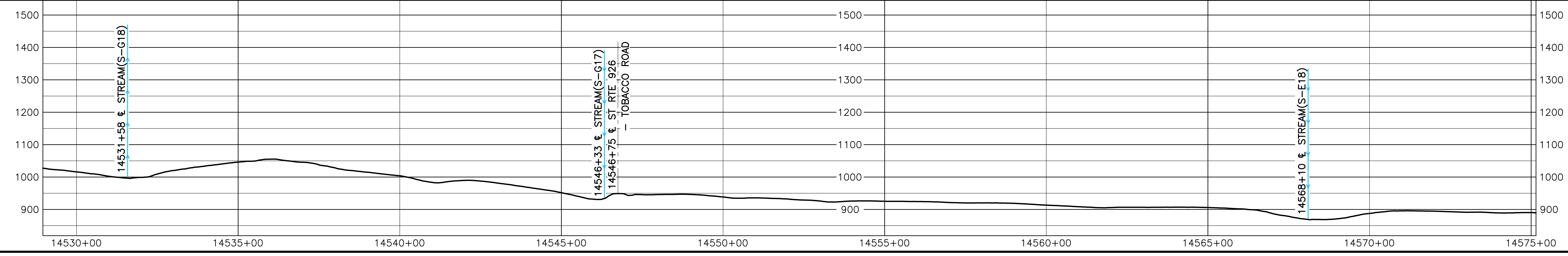


CONSTRUCTION METHOD

2,7 | 6,7,15,53 | 2,7 | 4,6,15 | 2,7 | 2 | 6,15,53 | 2

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



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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	4491	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
4	120	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
	3	TYPE 1 TEST STATION - PIPELINE

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

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
GLADE HILL PCT.,FRANKLIN CO.,VA.
STA. 14528+96 TO STA. 14575+15

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-FRVA-H600 -31	
SHEET 301 OF 329	REV. 6
DATE OF PLOT: 12/8/17 1:37 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Parcel	Length
14575+15 – 14584+96	VA-FR-160	981 LF 989 SLOPE
14584+96 – 14598+98	VA-FR-161	1402 LF 1407 SLOPE
14598+98 – 14599+50	STATE ROUTE 673	52 LF - 52 SLOPE
14599+50 – 14610+88	VA-FR-161	1138 LF 1144 SLOPE
14610+88 – 14611+04	VA-FR-162 VA-FR-161	16 LF 16 SLOPE
14611+04 – 14617+25	VA-FR-162	621 LF 628 SLOPE
14617+25 – 14617+90	VA-FR-162 VA-FR-162.01	65 LF 65 SLOPE
14617+90 – 14630+76	VA-FR-162.01	1286 LF 1289 SLOPE
14630+76 – 14633+10	VA-FR-162 VA-FR-162.01	234 LF 234 SLOPE

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
14575+15 – 14582+65	1	753'
14582+65 – 14583+05	6	40'
14583+05 – 14598+84	1	1588'
14598+84 – 14599+64	4	80'
14599+64 – 14611+07	1	1150'
14611+07 – 14611+47	6	40'
14611+47 – 14616+48	1	508'
14616+48 – 14616+88	2	40'
14616+88 – 14633+10	1	1625'

CLASS LOCATION / HCA: 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION:

14575+15 T.O.Y.R.: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS

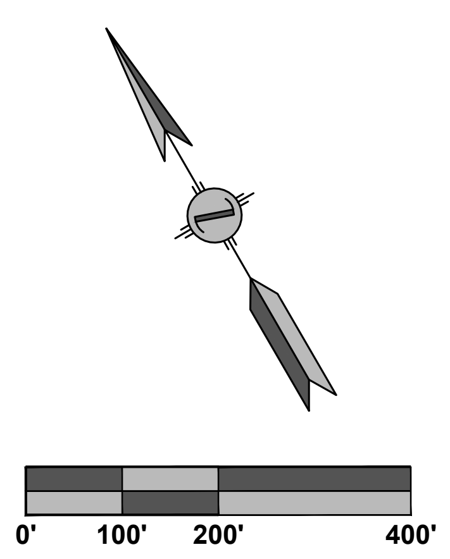
FISH RELOCATION REQUIRED WITHIN STREAM S-E17 CONSULT RESPONSIBLE E.I.

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

FISH RELOCATION REQUIRED WITHIN STREAM S-E14 CONSULT RESPONSIBLE E.I

TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS 14633+10

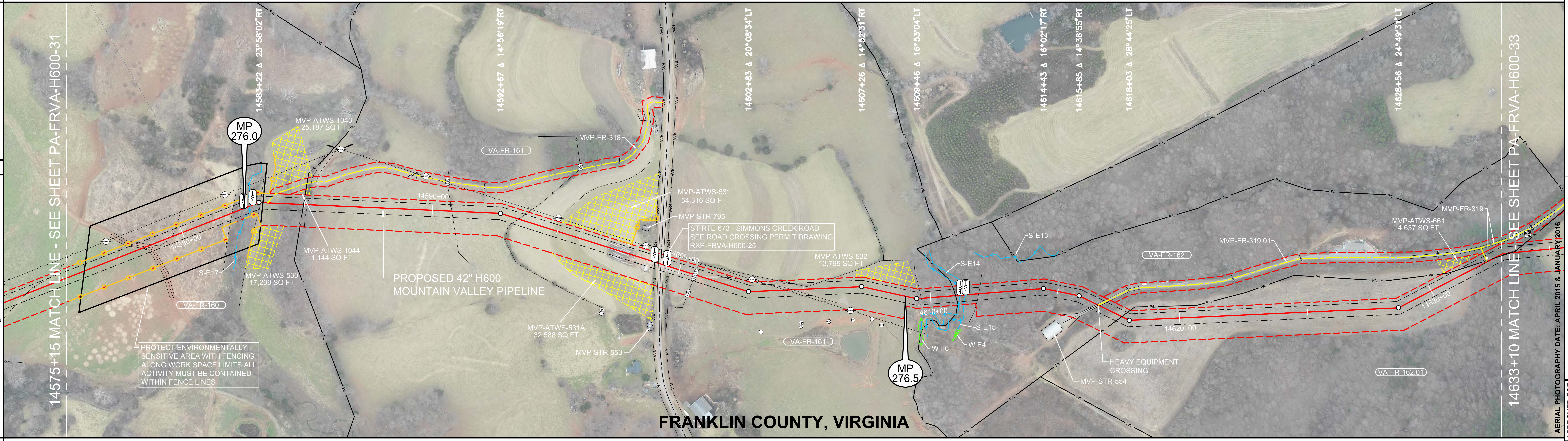
WETLAND / STREAM	LENGTH
S-E17	8 LF
S-E14	21 LF



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



14575+15 MATCH LINE - SEE SHEET PA-FRVA-H600-31
14633+10 MATCH LINE - SEE SHEET PA-FRVA-H600-33
14583+22 Δ 23°58'02"RT
14592+67 Δ 14°56'19"RT
14602+83 Δ 20°08'34"LT
14607+26 Δ 14°52'31"RT
14609+48 Δ 16°53'04"LT
14614+43 Δ 16°02'17"RT
14615+85 Δ 14°36'55"RT
14618+03 Δ 28°44'25"LT
14628+56 Δ 24°49'31"LT
MP 276.0
MP 276.5
MVP-ATWS-1043 25,187 SQ FT
MVP-FR-318
VA-FR-161
14590+00
MVP-ATWS-531 54,316 SQ FT
MVP-STR-795
ST RTE 673 - SIMMONS CREEK ROAD SEE ROAD CROSSING PERMIT DRAWING RXP-FRVA-H600-25
14585+00
S-E17
MVP-ATWS-530 17,209 SQ FT
MVP-ATWS-1044 1,144 SQ FT
PROPOSED 42" H600 MOUNTAIN VALLEY PIPELINE
VA-FR-160
14600+00
MVP-ATWS-532 13,795 SQ FT
PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS ALL ACTIVITY MUST BE CONTAINED WITHIN FENCE LINES
MVP-ATWS-531A 32,588 SQ FT
MVP-STR-553
VA-FR-161
S-E13
S-E14
14610+00
S-E15
W-E4
W-II6
VA-FR-162
MVP-FR-319.01
14620+00
HEAVY EQUIPMENT CROSSING
MVP-STR-554
MVP-ATWS-661 4,637 SQ FT
MVP-FR-319
14630+00
VA-FR-162.01
FRANKLIN COUNTY, VIRGINIA
AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-16	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
RXP-FRVA-H600-25	STATE ROUTE 673 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

14575+15 MATCH LINE

14578+33 FENCE – ELECTRIC
14578+47 ℄ FIELD ROAD(DIRT)
14578+68 FENCE – ELECTRIC

14579+56 FENCE – ELECTRIC

14582+09 FENCE – ELECTRIC
14582+56 PROPOSED TYPE 1 TEST STATION
14582+85 ℄ STREAM(S–E17)
14582+96 PROPOSED TYPE 1 TEST STATION
14583+28 FENCE – ELECTRIC
14583+56 ACCESS RD–TEMPORARY(MVP–FR–318)

14584+96 PROPERTY LINE
14585+12 FENCE – BARBED WIRE

14590+76 FENCE – BARBED WIRE

14593+41 FENCE – BARBED WIRE

14594+88 POWER POLE 50'LT

14598+45 POWER POLE 50'LT
14598+98 PROPOSED TYPE 1 TEST STATION,R/W
14599+01 CULVERT OPEN END 12'LT
14599+06 ℄ FIELD ROAD(GRAVEL)
14599+08 CULVERT OPEN END 14'RT
14599+14 EDGE OF ASPHALT
14599+24 ℄ ST RTE 673 – SIMMONS CREEK RD
14599+34 EDGE OF ASPHALT
14599+43 CULVERT OPEN END 11'LT
14599+50 PROPOSED TYPE 1 TEST STATION,R/W
14599+56 CULVERT OPEN END 27'RT
14600+59 GATE POST 86'RT
14600+60 GATE POST 72'RT
14600+63 GATE POST 15'RT
14600+64 GATE POST 2'RT, FENCE – HOG WIRE
14600+65 GATE POST 5'LT, GATE POST 15'LT
14600+92 ℄ FIELD ROAD(ROCK)
14601+82 CULVERT OPEN END 36'LT
14601+95 CULVERT OPEN END 20'LT
14602+99 POWER POLE 48'LT

14604+29 OHP LINE
14604+55 ℄ FIELD ROAD(ROCK)

14609+64 FENCE – BARBED WIRE

14610+98 PROPERTY LINE
14611+17 STREAM BANK(S–E14), **PROPOSED TYPE 1 TEST STATION**
14611+24 PROPOSED RIVER WEIGHTS – STREAM
14611+38 STREAM BANK(S–E14), **PROPOSED TYPE 1 TEST STATION**
14611+88 ℄ TRAIL(DIRT)

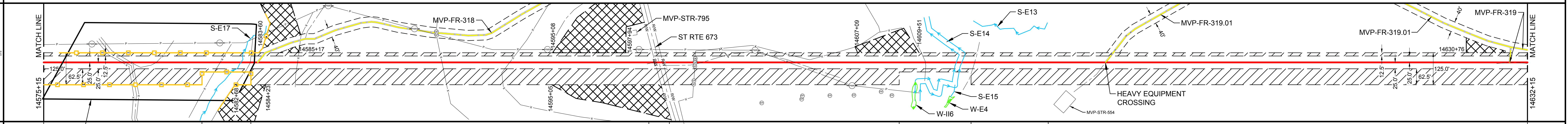
14615+13 BUILDING – BARN 110'RT

14616+62 EDGE OF GRAVEL
14616+68 ACCESS ROAD – TEMPORARY (MVP–FR–319.01), HEAVY EQUIPMENT CROSSING
14616+74 EDGE OF GRAVEL
14617+70 PROPERTY LINE

14632+46 ACCESS ROAD – TEMPORARY
14632+75 PROPERTY LINE (MVP–FR–319)
14633+10 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

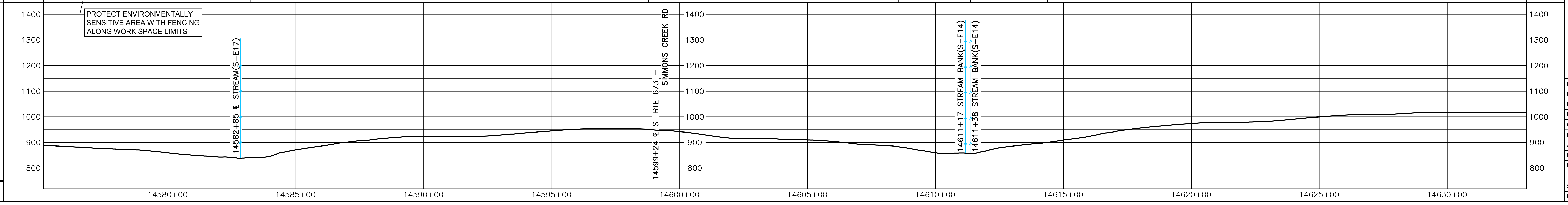
2	6,15,53	2	4	2	6,15,53	2,34	2

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

PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS



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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5624	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	40	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
6	80	42"O.D. X 0.740"W.T., X-70, FBE & ARO
	6	TYPE 1 TEST STATION - PIPELINE
	1	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
GLADE HILL & PENHOOK PCT.,FRANKLIN CO.,VA.
STA. 14575+15 TO STA. 14633+10

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-FRVA-H600 -32	
SHEET 302 OF 329	REV. 6
DATE OF PLOT: 12/11/17 11:19 AM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Parcel	Length
14633+10 – 14634+13	VA-FR-162 / VA-FR-162.01	103 LF 103 SLOPE
14634+13 – 14644+43	VA-FR-162.01	1030 LF 1032 SLOPE
14644+43 – 14644+94	STATE ROUTE 834	51 LF - 51 SLOPE
14644+94 – 14649+37	VA-FR-162.01	443 LF 447 SLOPE
14649+37 – 14649+97	STATE HIGHWAY 40	60 LF - 61 SLOPE
14649+97 – 14668+00	VA-FR-169	1803 LF 1817 SLOPE
14668+00 – 14670+20	VA-FR-170 / VA-FR-169	220 LF 221 SLOPE
14670+20 – 14680+33	VA-FR-170	1013 LF 1031 SLOPE
14680+33 – 14684+29	VA-FR-171	396 LF 401 SLOPE
14684+29 – 14690+48	VA-FR-172	619 LF 629 SLOPE

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
14633+10 – 14644+29	1	1121'
14644+29 – 14645+09	4	80'
14645+09 – 14649+27	2	422'
14649+27 – 14650+07	4	80'
14650+07 – 14656+74	1	672'
14656+74 – 14657+14	6	40'
14657+14 – 14672+90	1	1592'
14672+90 – 14673+30	6	40'
14673+30 – 14690+48	1	1746'

CLASS LOCATION / HCA: 1

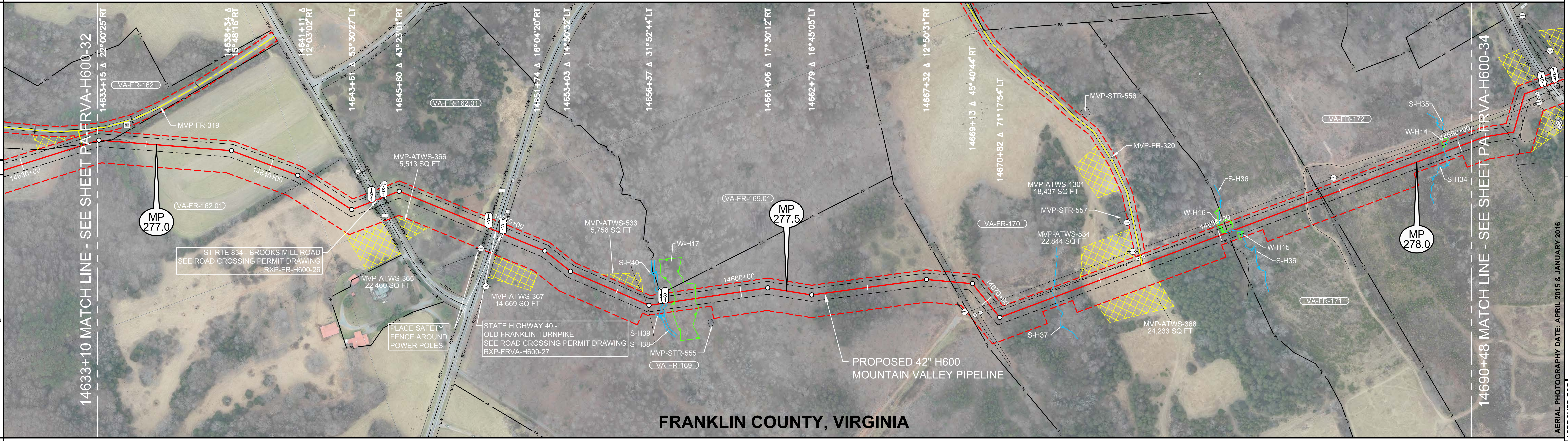
ENVIRONMENTAL

CONSTRUCTION EXCLUSION (14633+10 – 14690+48):

- 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-H38 MARCH 15TH TO MAY 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
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-H37 MARCH 15TH TO MAY 31ST & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.
- T.O.Y.R.: SEE TREE CLEARING PLAN
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAMS S-H36 & S-H34 MARCH 15TH TO MAY 31ST & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.
- T.O.Y.R.: SEE TREE CLEARING PLAN

WETLAND / STREAM

S-H38	W-H17	S-H37	W-H16	S-H36	S-H36	S-H36	W-H15	S-H34	W-H14
13 LF	105 LF	6 LF	58 LF	3 LF	3 LF	3 LF	24 LF	3 LF	23 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-H600-16	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-105	ACCESS ROAD DETAIL MAP
RXP-FRVA-H600-26	STATE ROUTE 834 PERMIT DWG
RXP-FRVA-H600-27	STATE HIGHWAY 40 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

HORIZONTAL STATIONING

14633+10 MATCH LINE
14633+32 ℄ FIELD ROAD(DIRT)
14633+45 PROPERTY LINE

14641+48 FENCE - BARBED WIRE

14644+44 PROPOSED TYPE 1 TEST STATION,R/W
14644+45 FENCE - HOG WIRE
14644+58 EDGE OF ASPHALT
14644+68 SIGN 84'RT
14644+69 ℄ ST RTE 834 - BROOKS MILL ROAD
14644+79 EDGE OF ASPHALT
14644+91 FENCE - HOG WIRE
14644+94 PROPOSED TYPE 1 TEST STATION,R/W

14649+32 OHP LINE
14649+37 PROPOSED TYPE 1 TEST STATION,R/W
14649+38 FENCE - BARBED WIRE
14649+39 POWER POLE 85'RT
14649+55 EDGE OF ASPHALT
14649+67 ℄ STATE HIGHWAY 40 - FRANKLIN ST
14649+81 EDGE OF ASPHALT
14649+96 POWER POLE 11'LT
14649+97 OHP LINE
14649+97 PROPOSED TYPE 1 TEST STATION,R/W

14656+27 ℄ FIELD ROAD(DIRT)
14656+87 STREAM BANK(S-H38), PROPOSED TYPE 1 TEST STATION
14656+91 PROPOSED RIVER WEIGHT - STREAM
14657+00 STREAM BANK(S-H38), PROPOSED TYPE 1 TEST STATION
14657+24 BEGIN WETLAND(W-H17) 30'RT
14658+29 END WETLAND(W-H17) 38'RT
14658+73 BUILDING - BARN 90'RT

14668+27 PROPERTY LINE
14668+50 FENCE - BARBED WIRE
14668+59 GUY ANCHOR 79'RT
14668+63 GUY ANCHOR 84'RT
14668+67 GUY ANCHOR 88'RT
14669+79 POWER POLE 93'RT
14670+15 GATE POST 69'RT
14670+15 OHP LINE
14670+21 GATE POST 47'RT
14670+40 FENCE - BARBED WIRE

14673+10 ℄ STREAM(S-H37)

14676+16 WATER TROUGH 17'LT
14676+23 WATER TROUGH 18'LT
14676+68 GATE POST 27'LT
14676+75 ACCESS ROAD - TEMPORARY (MVP-FR-320)
14676+80 EDGE OF GRAVEL
14676+90 GATE POST 26'LT

14679+92 FENCE - BARBED WIRE
14680+04 BEGIN WETLAND(W-H16) 32'LT
14680+29 ℄ STREAM(S-H36)
14680+33 PROPERTY LINE
14680+37 ℄ STREAM(S-H36)
14680+55 ℄ STREAM(S-H36)
14680+62 END WETLAND(W-H16) 28'LT
14680+67 BEGIN WETLAND(W-H15) 15'RT
14680+91 END WETLAND(W-H15) 17'RT

14683+62 ℄ FIELD ROAD(DIRT)

14684+22 FENCE - BARBED WIRE

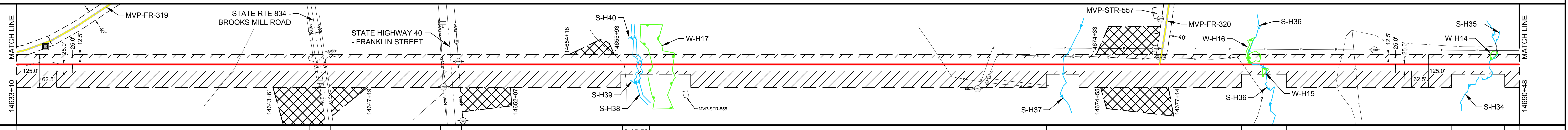
14684+29 PROPERTY LINE
14684+94 POWER POLE 56'LT

14689+36 ℄ STREAM(S-H34)
14689+39 BEGIN WETLAND(W-H14) 19'LT
14689+59 CULVERT OPEN END 81'LT
14689+62 END WETLAND(W-H14) 37'LT
14689+64 CULVERT OPEN END 50'LT
14690+48 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)

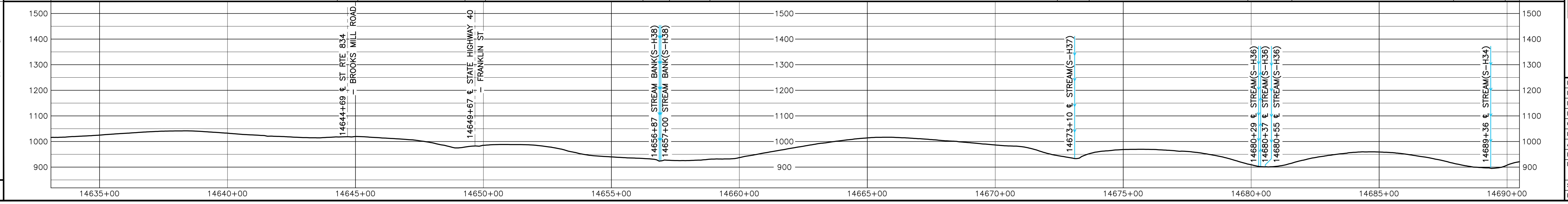


CONSTRUCTION METHOD

Station range	14633+10 – 14644+29	14644+29 – 14645+09	14645+09 – 14649+27	14649+27 – 14650+07	14650+07 – 14656+74	14656+74 – 14657+14	14657+14 – 14658+29	14658+29 – 14672+90	14672+90 – 14673+30	14673+30 – 14680+04		14680+91 – 14689+39		
Method	2	4	2	4	2	6,15,53	3	2	6,15,53	2	3,6,15	2	3,6,15	2

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



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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5131	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	422	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	80	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	6	TYPE 1 TEST STATION - PIPELINE
	1	RIVER WEIGHTS

AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

APPROVED FOR FERC

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

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17

Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
PENHOOK PCT.,FRANKLIN CO.,VA.
STA. 14633+10 TO STA. 14690+48

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-FRVA-H600 -33	
SHEET 303 OF 329	REV. 6
DATE OF PLOT: 12/8/17 12:51 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Parcel	Length
14690+48	VA-FR-172	404 LF 407 SLOPE
14694+52	STATE ROUTE 662	52 LF - 53 SLOPE
14695+04	VA-FR-172	944 LF 958 SLOPE
14704+48	VA-FR-173	445 LF 447 SLOPE
14708+93	VA-FR-174	318 LF 320 SLOPE
14712+11	VA-FR-175 VA-FR-174	37 LF 37 SLOPE
14712+48	VA-FR-175	298 LF 298 SLOPE
14715+46	VA-FR-176 VA-FR-175	50 LF 53 SLOPE
14715+96	VA-FR-176	195 LF 197 SLOPE
14717+91	VA-FR-176 VA-FR-177	170 LF 171 SLOPE
14719+61	VA-FR-178	474 LF 480 SLOPE
14724+35	VA-FR-178 VA-FR-179	85 LF 86 SLOPE
14725+20	VA-FR-179	332 LF 342 SLOPE
14728+52	VA-FR-178 VA-FR-179	46 LF 46 SLOPE
14728+98	VA-FR-179	659 LF 670 SLOPE
14735+57	VA-FR-180	235 LF 237 SLOPE
14737+92	BVFR-56 VA-FR-180	681 LF 688 SLOPE
14744+73	VA-FR-180	419 LF 421 SLOPE
14748+92		

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
14690+48	1	393'
14694+38	4	80'
14695+18	1	546'
14700+55	6	40'
14700+95	1	2679'
14727+42	6	40'
14727+82	1	86'
14728+64	6	80'
14729+44	1	1967'
14748+92		

CLASS LOCATION / HCA: 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION:

14690+48 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-H32 MARCH 15TH TO MAY 31ST & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.

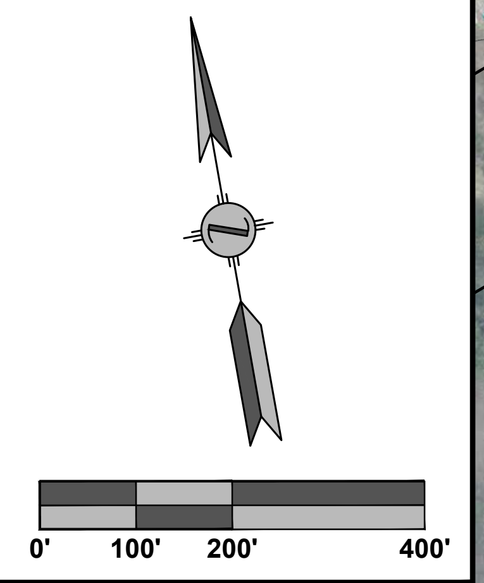
TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS

T.O.Y.R.: NO CONSTRUCTION WITHIN STREAMS, S-A18, S-A19/H26 & S-A20 MARCH 15TH TO MAY 31ST and FISH RELOCATION REQUIRED WITHIN STREAM S-A20 SEE RESPONSIBLE E.I.

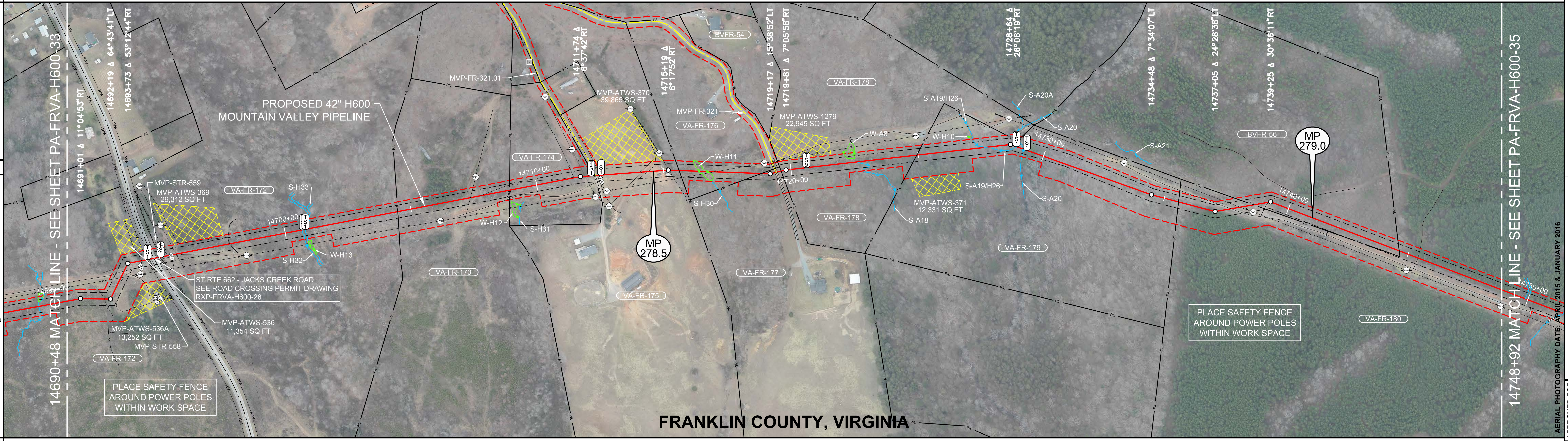
TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS 14748+92

WETLAND / STREAM:

S-H32	W-H11	S-H30	W-A8	S-A18	S-A19/H26	S-A19/H26	S-A20
10 LF	81 LF	1 LF	45 LF	2.6 LF	7 LF	7 LF	7 LF



PLAN VIEW



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
— P/L —	PROPERTY LINE
— R/W —	ROAD RIGHT-OF-WAY
— X —	FENCE LINE
— P —	OVERHEAD POWER
— T —	OVERHEAD TELEPHONE
— – —	C/L ROAD
—┼—┼—	C/L RAILROAD
—>—	DELINEATED STREAM
—*—	DELINEATED WETLAND
—▫—▫—	BARRICADE FENCE
○ PI SYMBOL	PROPOSED TEST STATION
MB MAILBOX	LM LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	TWR TOWER LEG
TREE	GUY ANCHOR
TANK TANK	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
⊞	CATCH BASIN - CULVERT
▨	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-16	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-105	ACCESS ROAD DETAIL MAP
MVP-QDAR-H600-106	ACCESS ROAD DETAIL MAP
RXP-FRVA-H600-28	STATE ROUTE 662 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING
P-W-H600-1204-02	CATHODIC PROTECTION STANDARD DRAWING

ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

14690+48 MATCH LINE

14691+95 FENCE – HOG WIRE
14693+11 OHP LINE
14693+40 ℄ FIELD ROAD(DIRT)
14694+13 POWER POLE 51'RT
14694+20 GATE POST 17'RT
14694+21 GATE POST 30'RT
14694+29 FENCE – HOG WIRE
14694+52 PROPOSED TYPE 1 TEST STATION,R/W
14694+57 CULVERT OPEN END 6'LT
14694+65 BUILDING – BARN 122'RT
14694+66 EDGE OF ASPHALT
14694+68 CULVERT OPEN END 33'RT
14694+77 ℄ ST RTE 662 – JACKS CREEK ROAD
14694+89 EDGE OF ASPHALT
14694+94 CULVERT OPEN END 10'LT
14694+97 BUILDING –HOUSE– DEMOLISHED 38'LT
14695+04 PROPOSED TYPE 1 TEST STATION,R/W
14695+05 CULVERT OPEN END 28'RT
14695+46 GATE POST, GATE
14695+47 GATE POST 13'RT
14695+66 OHP LINE
14697+76 FENCE – HOG WIRE
14698+35 POWER POLE 57'RT

14700+70 STREAM BANK(S–H32),
14700+74 PROPOSED TYPE 1 TEST STATION
PROPOSED RIVER WEIGHT – STREAM
14700+80 STREAM BANK(S–H32),
PROPOSED TYPE 1 TEST STATION

14704+48 PROPERTY LINE

14706+04 POWER POLE 67'RT

14707+36 OHP LINE
14707+72 POWER POLE 76'LT
14707+76 FENCE – ELECTRIC

14708+81 CULVERT OPEN END 23'RT
14708+84 CULVERT OPEN END 43'RT
14708+93 PROPERTY LINE

14711+93 OHP LINE
14712+27 POWER POLE 83'RT
14712+29 PROPERTY LINE
14712+16 PROPOSED TYPE 1 TEST STATION
14712+33 ACCESS ROAD – TEMPORARY (MVP–FR–321.01)
14712+46 CULVERT OPEN END 12'RT
14712+48 FENCE – ELECTRIC
14712+50 CULVERT OPEN END 32'RT
14712+52 GATE POST 13'RT
14712+55 PROPOSED TYPE 1 TEST STATION
14712+56 GATE POST 27'RT
14712+73 POWER POLE 64'RT
14714+13 OHP LINE
14714+39 ℄ DRIVEWAY(GRAVEL)
14715+21 FENCE – ELECTRIC
14715+61 PROPERTY LINE

14716+15 BEGIN WETLAND(W–H11) 37'LT

14716+92 ℄ STREAM(S–H30) 33'RT
14716+96 END WETLAND(W–H11) 23'RT
14717+01 OHP LINE

14718+82 PROPERTY LINE
14718+92 POWER POLE 41'LT
14719+23 CULVERT OPEN END 25'LT
14719+35 EDGE OF GRAVEL
14719+41 ACCESS ROAD – TEMPORARY (MVP–FR–321)
℄ DRIVEWAY(GRAVEL)
14719+46 EDGE OF GRAVEL
14719+48 CULVERT OPEN END 26'LT
14719+61 PROPERTY LINE
14720+60 PROPOSED TYPE 9 TEST STATION

14722+11 BEGIN WETLAND(W–A8) 38'LT
14722+56 END WETLAND(W–A8) 35'LT
14722+60 ℄ STREAM(S–A18)

14724+95 PROPERTY LINE
14724+99 POWER POLE 75'LT

14727+62 ℄ STREAM(S–A19/H26)

14728+91 PROPOSED TYPE 1 TEST STATION
14728+90 ℄ STREAM(S–A19/H26)
14729+19 ℄ STREAM(S–A20)
14729+30 PROPOSED TYPE 1 TEST STATION

14733+03 POWER POLE 75'LT

14735+57 PROPERTY LINE

14737+68 ℄ FIELD ROAD(ROCK)
14738+04 OHP LINE
14738+51 POWER POLE 27'RT
14738+57 PROPERTY LINE
14739+10 POST – YELLOW "T" 35'RT
14739+17 ℄ TRAIL(GRAVEL)

14741+70 CULVERT OPEN END 58'RT
14741+75 CULVERT OPEN END 28'RT

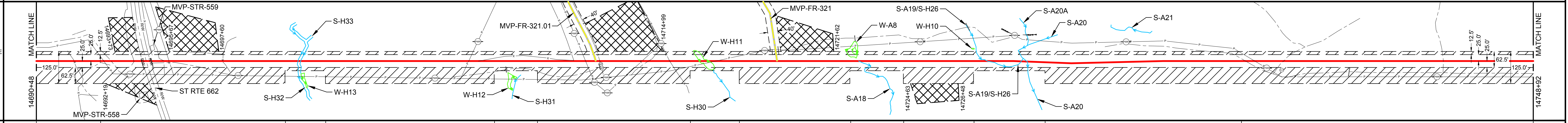
14744+63 PROPERTY LINE

14744+97 PROPERTY CORNER 16'RT
14745+16 POWER POLE 61'RT
14745+40 ℄ TRAIL(GRAVEL)

14748+92 MATCH LINE

WORK SPACE

━	PROPOSED PIPELINE
─┤├─	EXISTING PIPELINE
— —	ACCESS ROAD TEMPORARY WORK SPACE
┌ — ┐	PERMANENT EASEMENT
▨	TEMPORARY WORK SPACE(TWS)
▨	ADD. TEMPORARY WORK SPACE(ATWS)



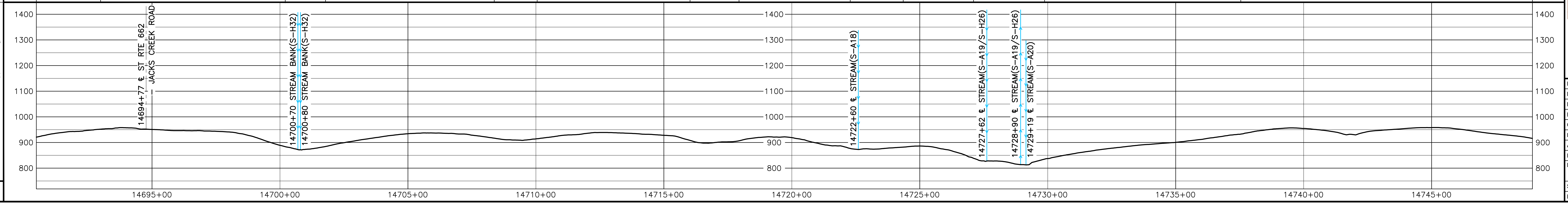
CONSTRUCTION METHOD

2 | 2,7 | 6,7,15,53 | 2,7 | 7,53 | 2,7 | 3,7 | 2 | 3,6,15 | 2 | 6,15,53 | 2 | 2,7

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	5671	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
4	80	42"O.D. X 0.740"W.T., X-70, FBE & ARO
6	160	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	8	TYPE 1 TEST STATION - PIPELINE
	1	TYPE 9 TEST STATION - TEST STATION IR COUPON
	1	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

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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 PENHOOK PCT.,FRANKLIN CO.,VA. STA. 14690+48 TO STA. 14748+92

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-FRVA-H600 -34	
SHEET 304 OF 329	REV. 6
DATE OF PLOT: 12/12/17 12:01 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tract	Length
14748+92 – 14757+89	VA-FR-180	897 LF 905 SLOPE
14757+89 – 14758+43	STATE ROUTE 952	54 LF - 54 SLOPE
14758+43 – 14771+08	VA-FR-180	1265 LF 1276 SLOPE
14771+08 – 14771+51	VA-FR-181 / VA-FR-180	43 LF 44 SLOPE
14771+51 – 14775+89	VA-FR-181	438 LF 438 SLOPE
14775+89 – 14779+40	VA-FR-182 / VA-FR-181	351 LF 353 SLOPE
14779+40 – 14788+72	VA-FR-182	932 LF 944 SLOPE
14788+72 – 14789+00	VA-FR-182 / VA-FR-183	28 LF 29 SLOPE
14789+00 – 14791+91	VA-FR-183	291 LF 296 SLOPE
14791+91 – 14796+04	VA-FR-184 / VA-FR-183	413 LF 422 SLOPE
14796+04 – 14802+05	VA-FR-184	601 LF 604 SLOPE
14802+05 – 14802+51	VA-FR-184 / VA-FR-183	46 LF 46 SLOPE
14802+51 – 14803+87	VA-FR-183	136 LF 138 SLOPE
14803+87 – 14806+16	VA-FR-185 / VA-FR-183	229 LF 234 SLOPE

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
14748+92 – 14749+74	1	85'
14749+74 – 14750+14	6	40'
14750+14 – 14751+31	1	117'
14751+31 – 14751+71	6	40'
14751+71 – 14757+76	1	610'
14757+76 – 14758+56	4	80'
14758+56 – 14776+45	1	1813'
14776+45 – 14776+85	2	40'
14776+85 – 14782+05	1	524'
14782+05 – 14782+45	6	40'
14782+45 – 14788+57	1	620'
14788+57 – 14788+97	6	40'
14788+97 – 14793+61	1	475'
14793+61 – 14794+41	6	80'
14794+41 – 14804+79	1	1048'
14804+79 – 14805+19	6	40'
14805+19 – 14806+16	1	100'

CLASS LOCATION / HCA: 1

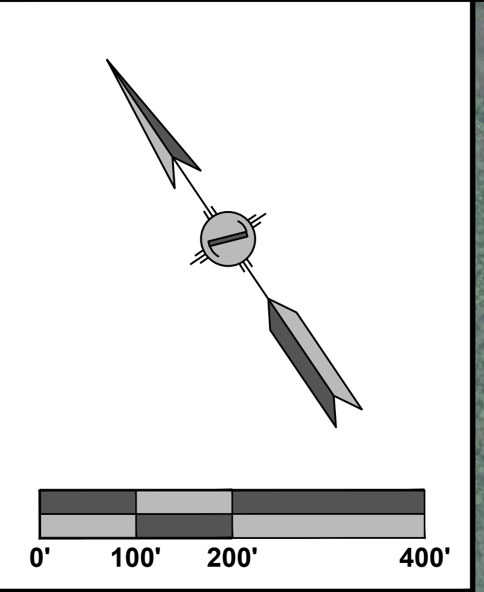
ENVIRONMENTAL

CONSTRUCTION EXCLUSION (14748+92 – 14806+16):

- T.O.Y.R.: SEE TREE CLEARING PLAN
- T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-A22 MARCH 15TH TO MAY 31ST
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- FISH RELOCATION REQUIRED WITHIN STREAM S-MM44 CONSULT RESPONSIBLE E.I
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- FISH RELOCATION REQUIRED WITHIN STREAM S-MM48 CONSULT RESPONSIBLE E.I
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS
- FISH RELOCATION REQUIRED WITHIN STREAM S-H24 CONSULT RESPONSIBLE E.I
- TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS

WETLAND / STREAM

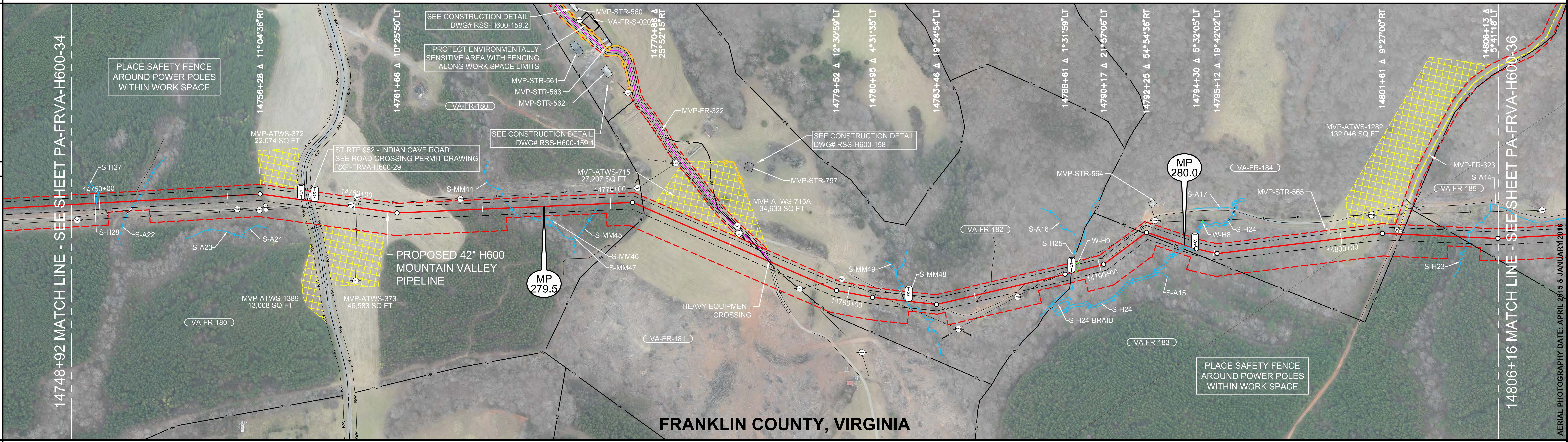
S-H28	S-H27	S-A22	S-MM44	S-MM46	S-MM45	S-MM48	S-H25	W-H9	S-H24	S-H23
8 LF	10 LF	8 LF	4 LF	3 LF	4 LF	7 LF	7 LF	25 LF	46 LF	5 LF



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


14748+92 MATCH LINE - SEE SHEET PA-FRVA-H600-34
14806+16 MATCH LINE - SEE SHEET PA-FRVA-H600-36
PLACE SAFETY FENCE AROUND POWER POLES WITHIN WORK SPACE
14756+28 Δ 11°04'36" RT
14761+66 Δ 10°25'50" LT
SEE CONSTRUCTION DETAIL DWG# RSS-H600-159.2
MVP-STR-560
VA-FR-S-020
14770+86 Δ 25°52'15" RT
PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS
MVP-STR-561
MVP-STR-563
MVP-STR-562
VA-FR-180
MVP-FR-322
SEE CONSTRUCTION DETAIL DWG# RSS-H600-159.1
SEE CONSTRUCTION DETAIL DWG# RSS-H600-158
MVP-ATWS-372 22,074 SQ FT
ST RTE 952 - INDIAN CAVE ROAD SEE ROAD CROSSING PERMIT DRAWING RXP-FRVA-H600-29
MVP-ATWS-715 27,207 SQ FT
MVP-STR-797
MVP-ATWS-715A 34,633 SQ FT
S-H27
14750+00
14760+00
14770+00
S-MM44
S-H28
S-A22
S-A23
S-A24
S-MM45
S-MM46
S-MM47
PROPOSED 42" H600 MOUNTAIN VALLEY PIPELINE
MP 279.5
MVP-ATWS-1389 13,008 SQ FT
MVP-ATWS-373 46,583 SQ FT
VA-FR-180
HEAVY EQUIPMENT CROSSING
VA-FR-181
14779+52 Δ 12°30'59" LT
14780+95 Δ 4°31'35" LT
14783+46 Δ 19°24'54" LT
14788+61 Δ 1°31'59" LT
14790+17 Δ 21°57'06" LT
14792+25 Δ 54°54'36" RT
14794+30 Δ 5°32'05" LT
14795+12 Δ 19°42'02" LT
14801+61 Δ 9°27'00" RT
14806+13 Δ 5°41'18" LT
MP 280.0
MVP-STR-564
VA-FR-184
MVP-STR-565
S-A17
W-H8
S-H24
VA-FR-182
S-A16
S-H25
W-H9
S-MM49
S-MM48
14780+00
14790+00
14800+00
S-A15
S-H24-BRAID
S-H23
VA-FR-183
MVP-ATWS-1282 132,046 SQ FT
MVP-FR-323
S-A14
VA-FR-185
PLACE SAFETY FENCE AROUND POWER POLES WITHIN WORK SPACE
FRANKLIN COUNTY, VIRGINIA
AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-16	ACCESS ROADS, ANCILLARY
	SITES, MAINLINE VALVES &
	LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-106	ACCESS ROAD DETAIL MAP
MVP-QDAR-H600-107	ACCESS ROAD DETAIL MAP
RXP-FRVA-H600-29	STATE ROUTE 952 PERMIT DWG
RSS-H600-158	RESIDENTIAL SITE SPECIFIC
RSS-H600-159.1	RESIDENTIAL SITE SPECIFIC
RSS-H600-159.2	RESIDENTIAL SITE SPECIFIC
P-W-H600-1204-01	CATHODIC PROTECTION
	STANDARD DRAWING

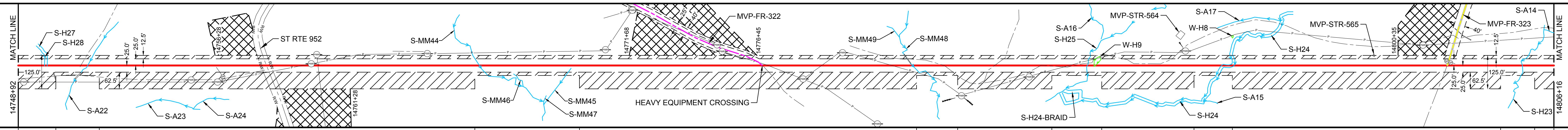
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

Station	Description
14748+92	MATCH LINE
14749+09	POWER POLE 62'RT
14749+81	**BEGIN ℄ STREAM(S-H28) 38'LT**
14749+89	STREAM BANK(S-H27),
	END ℄ STREAM(S-H28) 32'LT
14749+94	**PROPOSED RIVER WEIGHT – STREAM**
14749+99	STREAM BANK(S-H27)
14750+23	CULVERT OPEN END 27'RT
14750+31	CULVERT OPEN END 52'RT
14751+04	CULVERT OPEN END 49'RT
14751+25	℄ TRAIL(DIRT)
14751+25	CULVERT OPEN END 27'RT
14751+50	**℄ STREAM(S-A22)**
14755+36	POWER POLE 54'RT
14756+34	POWER POLE 62'RT
14756+54	GATE POST 42'RT
14756+58	GATE POST 58'RT
14757+89	**PROPOSED TYPE 1 TEST STATION,R/W**
14758+07	EDGE OF ASPHALT
14758+16	**℄ ST RTE 952 – INDIAN CAVE ROAD**
14758+25	EDGE OF ASPHALT
14758+43	**PROPOSED TYPE 1 TEST STATION,R/W**
14759+51	OHP LINE
14759+83	POWER POLE 6'LT
14760+04	POWER POLE 41'LT
14760+09	OHP LINE
14764+16	POWER POLE 44'LT
14766+11	**℄ STREAM(S-MM44)**
14767+38	**℄ STREAM(S-MM46) 32'RT**
14769+52	**℄ STREAM(S-MM45) 11'RT**
14770+86	POWER POLE 59'LT
14771+31	PROPERTY LINE
14775+15	POWER POLE 52'LT
14776+55	EDGE OF GRAVEL
14776+64	PROPERTY LINE
14776+65	**ACCESS RD–PERMANENT(MVP–FR–322),**
	HEAVY EQUIPMENT CROSSING
14776+74	EDGE OF GRAVEL
14776+86	OHP LINE
14777+58	CULVERT OPEN END 91'RT
14778+17	POWER POLE 51'RT
14778+87	OHP LINE
14779+64	POWER POLE 48'LT
14781+48	OHP LINE
14781+94	CULVERT OPEN END 41'LT
14782+18	CULVERT OPEN END 8'LT
14782+25	**℄ STREAM(S–MM48)**
14782+37	**PROPOSED TYPE 1 TEST STATION**
14783+41	℄ FIELD ROAD(GRAVEL)
14785+31	℄ FIELD ROAD(DIRT)
14786+60	POWER POLE 43'RT
14787+04	℄ FIELD ROAD(GRAVEL)
14787+14	℄ FIELD ROAD(GRAVEL)
14788+10	OHP LINE
14788+30	℄ FIELD ROAD(GRAVEL)
14788+77	**℄ STREAM(S–H25)**
14788+86	**PROPOSED TYPE 1 TEST STATION,℄**
14789+02	BEGIN WETLAND(W–H9)
14789+27	END WETLAND(W–H9) 22'LT
14792+17	PROPERTY LINE
14792+42	POWER POLE 54'LT
14793+78	STREAM BANK(S–H24)
14793+82	**BEGIN PROPOSED 2 RIVER WEIGHTS AT 20' SPACING IN STREAM**
14794+24	STREAM BANK(S–H24),
	PROPOSED TYPE 1 TEST STATION
14799+47	BUILDING – DEER BLIND 32'LT
14801+34	PROPERTY CORNER 68'RT
14802+17	GATE POST 16'LT
14802+19	**ACCESS ROAD – TEMPORARY (MVP–FR–323)**
14802+31	GATE POST 10'LT
14802+37	PROPERTY LINE
14804+59	PROPERTY LINE
14804+99	**℄ STREAM(S–H23)**
14806+16	MATCH LINE

WORK SPACE

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



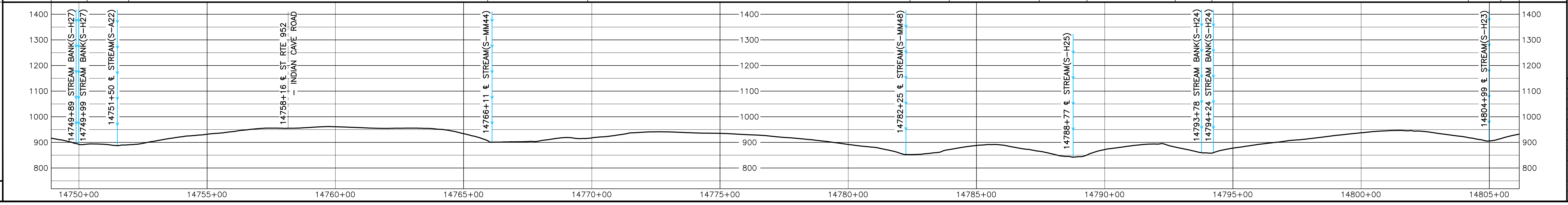
CONSTRUCTION METHOD

14748+92 –													– 14806+16
2,7	6,15,53	2,7	6,15,53	2	6,15,53	2	3,6,15	2	6,15,53	2	6,15,53	2	

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	5383	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	40	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
6	280	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	5	TYPE 1 TEST STATION - PIPELINE
	3	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

APPROVED FOR FERC

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

APPROVED FOR BIDDING

REV.	BY	DATE
3	RRR	09-03-16

APPROVED FOR CONSTRUCTION

REV.	BY	DATE
6	JJS	11-27-17

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Mountain Valley PIPELINE

PIPELINE ALIGNMENT

MOUNTAIN VALLEY PROJECT - H600 LINE
PENHOOK PCT.,FRANKLIN CO.,VA.
STA. 14748+92 TO STA. 14806+16

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-FRVA-H600 -35	
SHEET 305 OF 329	REV. 6
DATE OF PLOT: 12/11/17 11:21 AM	

RIGHT-OF-WAY & OWNERSHIP DATA

14806+16	VA-FR-185 2464 LF 2479 SLOPE	14830+80	VA-FR-185 VA-FR-186 37 LF 37 SLOPE	14831+17	VA-FR-186 1423 LF 1428 SLOPE	14845+40	STATE ROUTE 658 58 LF - 58 SLOPE	14845+98	VA-FR-187 811 LF 815 SLOPE	14854+09	VA-FR-188 707 LF 713 SLOPE	14861+16	STATE ROUTE 659 31 LF - 31 SLOPE	14861+47	VA-FR-188 52 LF 52 SLOPE	14861+99	VA-FR-189 VA-FR-188 29 LF 29 SLOPE	14862+28

	VA-FR-189 277 LF 278 SLOPE	14865+06

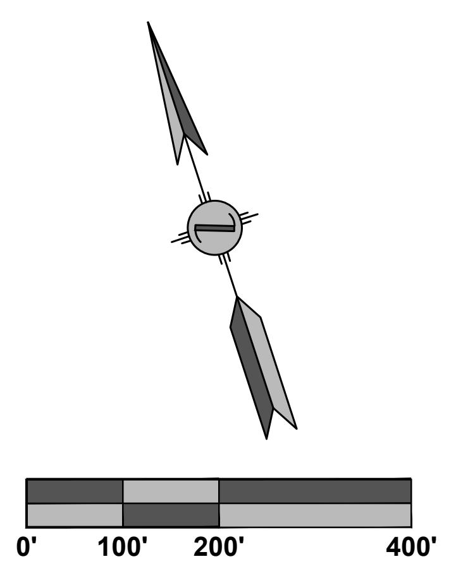
DESIGN

PIPE / COATING	14806+16	1	14823+35	6	14823+75	1	14544+27	7	14844+67	1	14845+30	4	14846+10	1	14853+19	6	14853+59	1	14854+55	6	14854+95	1	14860+92	4
SLOPE DISTANCE		1728'		40'		2127'		40'		63'		80'		713'		40'		96'		40'		602'		80'
CLASS LOCATION / HCA		1																						

PIPE / COATING	14861+72	1	14865+06
SLOPE DISTANCE		335'	
CLASS LOCATION / HCA			

ENVIRONMENTAL

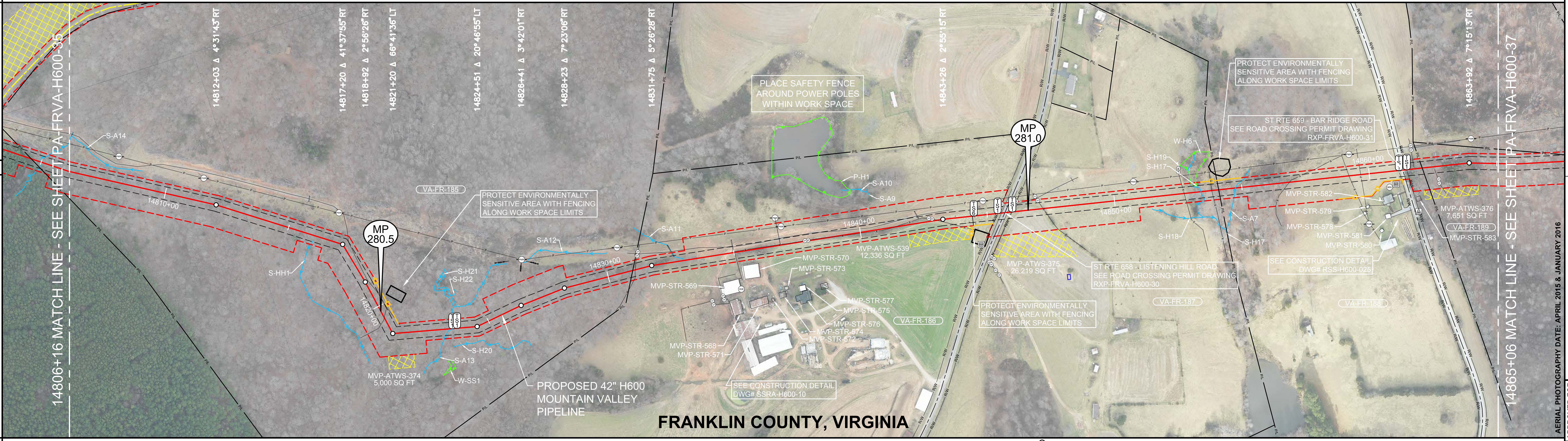
CONSTRUCTION EXCLUSION	14806+16	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS	T.O.Y.R.: NO CONSTRUCTION MARCH 15TH TO JUNE 30TH WITHIN STREAM S-A13 & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS	FISH RELOCATION REQUIRED WITHIN STREAM S-A7 CONSULT RESPONSIBLE E.I.	TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS	14865+06	
WETLAND / STREAM	S-HH1 5 LF	S-A13 8 LF	S-A11 41 LF	W-H6 23 LF	S-H17 8 LF	S-A7 6 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
P/L	PROPERTY LINE
R/W	ROAD RIGHT-OF-WAY
X	FENCE LINE
P	OVERHEAD POWER
T	OVERHEAD TELEPHONE
	C/L ROAD
	C/L RAILROAD
	DELINEATED STREAM
	DELINEATED WETLAND
	BARRICADE FENCE
○ PI SYMBOL	TS# PROPOSED TEST STATION
MB MAILBOX	LM LINE MARKER - VENT PIPE
PWR TEL	POWER/TELE POLE
SIGN	TWR TOWER LEG
TREE	GUY ANCHOR
TANK	GAS VALVE
WELL GW OW WW MNW	WELL - GAS/OIL/WATER/ MONITORING
POST FP GP	POST - GATE/FENCE
EM GM WM	ELEC/GAS/WTR METER
PED TEP EP FOP TVP	PEDESTAL - UTILITY
SAMH WMH	MH - SANITARY/WATER
	CATCH BASIN - CULVERT
▨	ADDITIONAL TEMPORARY WORK SPACE(ATWS)
▨	ABOVE GROUND FACILITY
▨	LIMITS OF DISTURBANCE


14806+16 MATCH LINE - SEE SHEET PA-FRVA-H600-35
14812+03 Δ 4°31'43"RT
14817+20 Δ 41°37'55"RT
14818+92 Δ 2°56'26"RT
14821+20 Δ 66°41'36"LT
14824+51 Δ 20°46'55"LT
14826+41 Δ 3°42'01"RT
14828+23 Δ 7°23'06"RT
14831+75 Δ 5°26'28"RT
14843+26 Δ 2°55'15"RT
14863+92 Δ 7°15'13"RT
14865+06 MATCH LINE - SEE SHEET PA-FRVA-H600-37
S-A14
14810+00
14830+00
14840+00
14850+00
14860+00
VA-FR-185
VA-FR-186
VA-FR-187
VA-FR-188
VA-FR-189
MP 280.5
MP 281.0
S-HH1
S-A12
S-H21
S-H22
S-H20
S-A13
W-SS1
S-A11
P-H1
S-A10
S-A9
W-H6
S-H19
S-H17
S-H18
S-A7
MVP-ATWS-374 5,000 SQ FT
MVP-ATWS-539 12,336 SQ FT
MVP-ATWS-375 26,219 SQ FT
MVP-ATWS-376 7,651 SQ FT
MVP-STR-568
MVP-STR-569
MVP-STR-570
MVP-STR-571
MVP-STR-572
MVP-STR-573
MVP-STR-574
MVP-STR-575
MVP-STR-576
MVP-STR-577
MVP-STR-578
MVP-STR-579
MVP-STR-580
MVP-STR-581
MVP-STR-582
MVP-STR-583
PROTECT ENVIRONMENTALLY SENSITIVE AREA WITH FENCING ALONG WORK SPACE LIMITS
PLACE SAFETY FENCE AROUND POWER POLES WITHIN WORK SPACE
ST RTE 658 - LISTENING HILL ROAD SEE ROAD CROSSING PERMIT DRAWING RXP-FRVA-H600-30
ST RTE 659 - BAR RIDGE ROAD SEE ROAD CROSSING PERMIT DRAWING RXP-FRVA-H600-31
SEE CONSTRUCTION DETAIL DWG# RSS-H600-025
SEE CONSTRUCTION DETAIL DWG# SSRA-H600-10
PROPOSED 42" H600 MOUNTAIN VALLEY PIPELINE
FRANKLIN COUNTY, VIRGINIA
AERIAL PHOTOGRAPHY DATE: APRIL 2015 & JANUARY 2016

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-16	ACCESS ROADS, ANCILLARY
	SITES, MAINLINE VALVES &
	LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-107	ACCESS ROAD DETAIL MAP
RXP-FRVA-H600-30	STATE ROUTE 658 PERMIT DWG
RXP-FRVA-H600-31	STATE ROUTE 659 PERMIT DWG
RSS-H600-025	RESIDENTIAL SITE SPECIFIC
SSRA-H600-10	SITE SPECIFIC -
	DOWN CREEK FARM
P-W-H600-1204-01	CATHODIC PROTECTION
	STANDARD DRAWING
P-W-H600-1204-02	CATHODIC PROTECTION
	STANDARD DRAWING

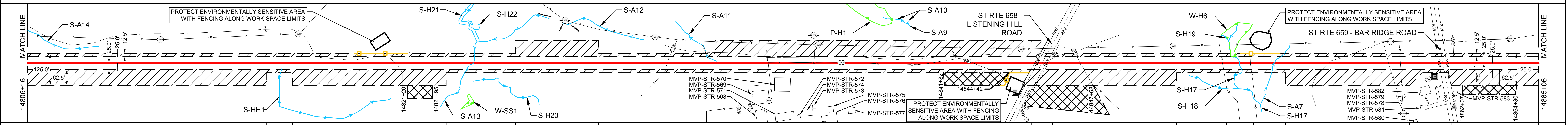
ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

14806+16 MATCH LINE
14816+07 ℄ STREAM(S-HH1) 20'RT
14820+50 ℄ FIELD ROAD(DIRT)
14823+53 PROPOSED TYPE 1 TEST STATION
14823+54 ℄ STREAM(S-A13)
14823+72 PROPOSED TYPE 1 TEST STATION
14830+98 PROPERTY LINE
14831+09 FENCE - BARBED WIRE
14832+61 BEGIN ℄ STREAM(S-A11) 38'LT
14832+66 CULVERT OPEN END 23'LT
14833+02 END ℄ STREAM(S-A11) 7'LT
14834+97 CULVERT OPEN END 49'LT
14834+99 CULVERT OPEN END 10'LT
14835+03 FENCE - HOG WIRE
14835+89 BUILDING - BARN 57'RT
14836+97 POWER POLE 71'LT
14837+80 GATE POST 2'LT
14837+93 GATE POST 2'LT
14838+81 FENCE - BARBED WIRE
14841+35 FENCE - BARBED WIRE
14842+21 CULVERT OPEN END 47'LT
14842+32 CULVERT OPEN END 20'LT
14842+72 GATE POST 12'LT
14842+84 GATE POST 8'LT
14843+02 FENCE - HOG WIRE
14844+47 SENSITIVE AREA 52'RT
14844+47 PROPOSED TYPE 6 TEST STATION
14844+88 POWER POLE 55'LT
14845+40 PROPOSED TYPE 1 TEST STATION,R/W
14845+41 FENCE - HOG WIRE
14845+53 GATE POST 21'LT
14845+56 EDGE OF ASPHALT
14845+61 GATE POST 35'LT
14845+68 ℄ ST RTE 658 - LISTENING HILL ROAD
14845+80 EDGE OF ASPHALT
14845+95 FENCE - HOG WIRE
14845+98 PROPOSED TYPE 1 TEST STATION,R/W
14846+10 GATE POST 26'LT
14846+18 GATE POST 40'LT
14847+01 GATE POST 33'LT
14847+19 FENCE - BARBED WIRE
14850+80 POWER POLE 66'LT
14852+73 FENCE - WIRE
14853+03 BEGIN WETLAND(W-H6) 37'LT
14853+26 END WETLAND(W-H6) 23'LT
14853+39 ℄ STREAM(S-H17)
14853+82 FENCE - BARBED WIRE
14854+09 PROPERTY LINE
14854+75 ℄ STREAM(S-A7)
14856+86 FENCE - BARBED WIRE
14859+20 FENCE - ELECTRIC
14859+66 OHP LINE
14859+85 BUILDING - BARN 120'RT
14860+73 WELL - WATER 61'RT
14860+78 BUILDING - HOUSE 87'RT
14861+00 PEDESTAL - TELEPHONE 52'RT
14861+16 PROPOSED TYPE 1 TEST STATION,R/W
14861+21 EDGE OF DIRT
14861+31 ℄ ST RTE 659 - BAR RIDGE ROAD
14861+42 EDGE OF DIRT
14861+47 PROPOSED TYPE 1 TEST STATION,R/W
14861+53 CULVERT OPEN END 40'RT
14861+88 BUILDING - BARN 107'RT
14862+08 PROPERTY LINE
14862+67 GATE POST 50'RT
14862+68 GATE POST 66'RT
14865+06 MATCH LINE

WORK SPACE

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



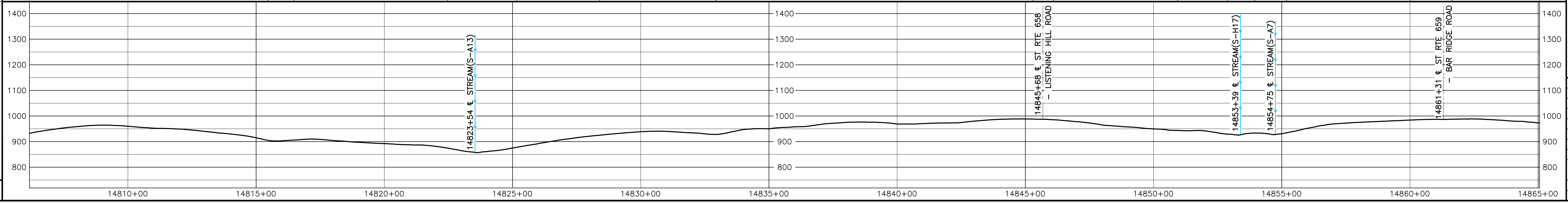
CONSTRUCTION METHOD

2	53	2	6,15,53	2.1	53	2.1	4	2	53	3,6,15	6,15,53	2	53	2

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



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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5601	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
4	160	42"O.D. X 0.740"W.T., X-70, FBE & ARO
6	120	42"O.D. X 0.617"W.T., X-70, FBE & ARO
7	40	ANSI 600 MONOLITHIC INSULATING JOINT
	6	TYPE 1 TEST STATION - PIPELINE
	1	TYPE 6 TEST STATION - ISO. JOINT - BELOW GRADE

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
PENHOOK PCT.,FRANKLIN CO.,VA.
STA. 14806+16 STA. 14865+06

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-FRVA-H600 -36	
SHEET 306 OF 329	REV. 6
DATE OF PLOT: 11/29/17 4:55 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

From STA.	To STA.	Parcel(s)	Length
14865+06	14866+80	VA-FR-189	175 LF 176 SLOPE
14866+80	14870+54	VA-FR-190 VA-FR-189	374 LF 385 SLOPE
14870+54	14870+74	VA-FR-191 VA-FR-190 VA-FR-189	20 LF 21 SLOPE
14870+74	14871+06	VA-FR-191 VA-FR-189	32 LF 32 SLOPE
14871+06	14877+45	VA-FR-191	639 LF 646 SLOPE
14877+45	14878+22	VA-FR-192 VA-FR-191	77 LF 77 SLOPE
14878+22	14895+78	VA-FR-192	1756 LF 1777 SLOPE
14895+78	14896+74	VA-FR-193 VA-FR-192	96 LF 97 SLOPE
14896+74	14902+40	VA-FR-193	566 LF 576 SLOPE
14902+40	14904+06	VA-FR-193 VA-FR-194	166 LF 169 SLOPE
14904+06	14906+95	VA-FR-194	289 LF 294 SLOPE
14906+95	14908+75	VA-FR-193 VA-FR-194	180 LF 180 SLOPE
14908+75	14913+74	VA-FR-193	499 LF 502 SLOPE
14913+74	14914+69	VA-FR-193 VA-FR-194	95 LF 97 SLOPE
14914+69	14920+25	VA-FR-194	556 LF 565 SLOPE
14920+25	14923+50	VA-FR-195	325 LF 328 SLOPE

DESIGN

From STA.	To STA.	PIPE / COATING	SLOPE DISTANCE
14865+06	14870+24	1	531'
14870+24	14870+64	6	40'
14870+64	14907+41	1	3725'
14907+41	14907+81	6	40'
14907+81	14915+92	1	820'
14915+92	14916+32	6	40'
14916+32	14923+50	1	726'

CLASS LOCATION / HCA: 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION:

14865+06 – 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-DD3 MARCH 15TH TO MAY 31ST

T.O.Y.R.: SEE TREE CLEARING PLAN

T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-G16 MARCH 15TH TO MAY 31ST & FISH RELOCATION REQUIRED CONSULT RESPONSIBLE E.I.

T.O.Y.R.: SEE TREE CLEARING PLAN – 14923+50

WETLAND / STREAM	S-SS8	S-CD8	S-AB8	S-DD3	S-G16
	8 LF	4.5 LF	4 LF	18 LF	30 LF

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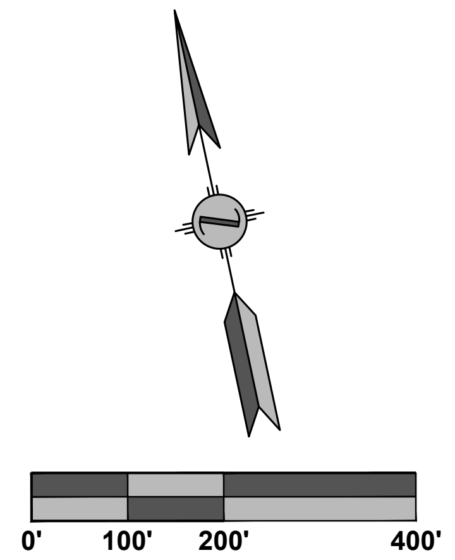
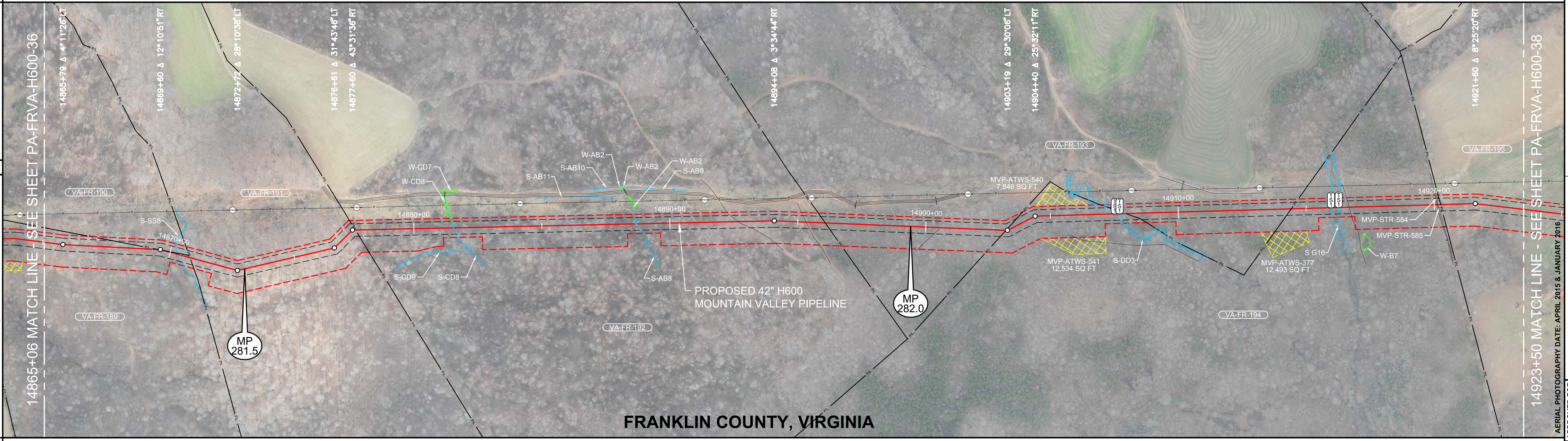


PLAN VIEW



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
- P/L PROPERTY LINE
- R/W ROAD RIGHT-OF-WAY
- X FENCE LINE
- P OVERHEAD POWER
- T OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- PI SYMBOL
- PROPOSED TEST STATION
- MB MAILBOX
- LM LINE MARKER - VENT PIPE
- PWR TEL POWER/TELE POLE
- SIGN
- TWR TOWER LEG
- TREE
- GUY ANCHOR
- TANK TANK
- GAS VALVE
- WELL GW OW WW MNW WELL - GAS/OIL/WATER/ MONITORING
- POST FP GP POST - GATE/FENCE
- EM GM WM ELEC/GAS/WTR METER
- PED TEP EP FOP TVP PEDESTAL - UTILITY
- SAMH WMH MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ▨ ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ▨ ABOVE GROUND FACILITY
- ▨ LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
MVP-AR-H600-16	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

14865+06 MATCH LINE

14869+51 PROPERTY LINE
14869+74 PROPERTY LINE
14870+43 ℄ STREAM(S–SS8)
14870+80 PROPERTY LINE

14877+71 PROPERTY LINE

14881+54 ℄ STREAM(S–CD8)

14888+69 ℄ STREAM(S–AB8)

14892+58 EDGE OF DIRT
14892+66 ℄ TRAIL(DIRT)
14892+74 EDGE OF DIRT

14895+27 EDGE OF DIRT
14895+33 ℄ TRAIL(DIRT)
14895+38 EDGE OF DIRT
14896+07 PROPERTY LINE

14903+13 PROPERTY LINE

14907+52 STREAM BANK(S–DD3), PROPOSED TYPE 1 TEST STATION
14907+57 PROPOSED RIVER WEIGHT – STREAM
14907+70 STREAM BANK(S–DD3), PROPOSED TYPE 1 TEST STATION
14907+94 PROPERTY LINE

14913+20 POWER POLE 85'LT

14914+41 PROPERTY LINE

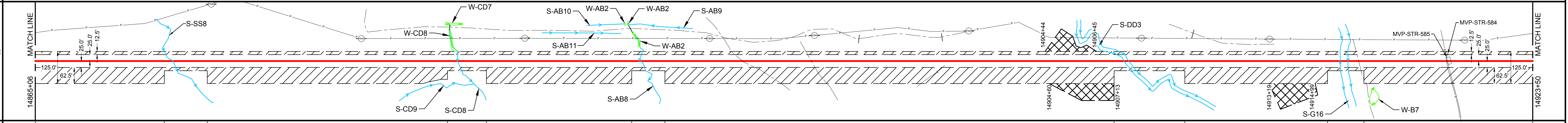
14915+96 STREAM BANK(S–G16), PROPOSED TYPE 1 TEST STATION
14916+06 PROPOSED RIVER WEIGHT–STREAM
14916+26 STREAM BANK(S–G16), PROPOSED TYPE 1 TEST STATION
14916+68 ℄ FIELD ROAD(DIRT)

14920+10 FENCE – BARBED WIRE
14920+11 BUILDING–DEER BLIND 23'LT
14920+14 BUILDING – BARN, FENCE – HOG WIRE
14920+25 PROPERTY LINE
14920+27 BUILDING – BARN
14920+29 BUILDING – BARN 11'RT
14920+81 POWER POLE 81'LT

14923+50 MATCH LINE

WORK SPACE

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



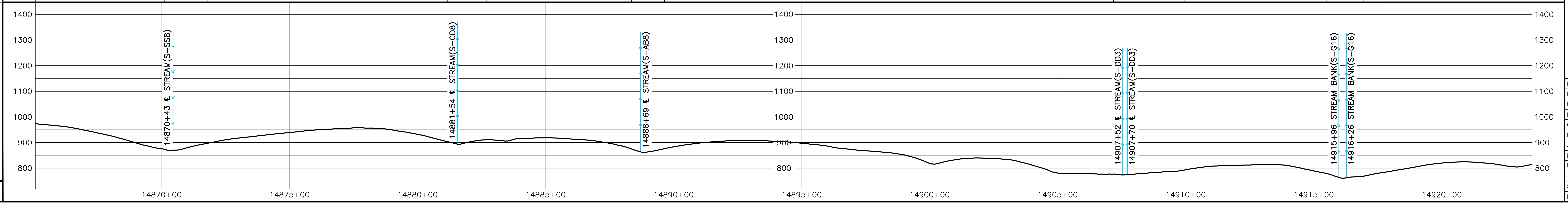
CONSTRUCTION METHOD

2	6,15,53	2	6,15,53	2	6,15,53	2	6,15,53	2

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



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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5802	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
6	120	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	4	TYPE 1 TEST STATION - PIPELINE
	2	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 PENHOOK PRECINCT, FRANKLIN CO.,VA. STA. 14865+06 TO STA. 14923+50

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-FRVA-H600 -37	
SHEET 307 OF 329	REV. 6
DATE OF PLOT: 12/8/17 12:53 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Tract	Length
14923+50 – 14928+32	VA-FR-195	482 LF 488 SLOPE
14928+32 – 14928+72	STATE ROUTE 626	40 LF - 41 SLOPE
14928+72 – 14941+12	VA-FR-195	1240 LF 1251 SLOPE
14941+12 – 14950+00	VA-FR-196	888 LF 893 SLOPE
14950+00 – 14950+24	VA-FR-196 VA-FR-196.01	24 LF 24 SLOPE
14950+24 – 14977+15	VA-FR-196.01	2691 LF 2724 SLOPE

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
14923+50 – 14928+32	1	489'
14928+32 – 14928+72	4	40'
14928+72 – 14932+69	1	404'
14932+69 – 14933+09	6	40'
14933+09 – 14950+27	1	1729'
14950+27 – 14950+67	6	40'
14950+67 – 14958+36	1	771'
14958+36 – 14958+76	2	40'
14958+76 – 14968+49	1	998'
14968+49 – 14968+89	2	40'
14968+89 – 14977+15	1	830'

CLASS LOCATION / HCA: 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION:

14923+50 – : 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-G13
MARCH 15TH TO MAY 31 ST & FISH RELOCATION
REQUIRED CONSULT RESPONSIBLE E.I.

– 14977+15: TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31
SEE TREE CLEARING PLAN FOR FURTHER DETAILS

WETLAND / STREAM:

Stream	Length
S-G15	9 LF
S-G13	8 LF

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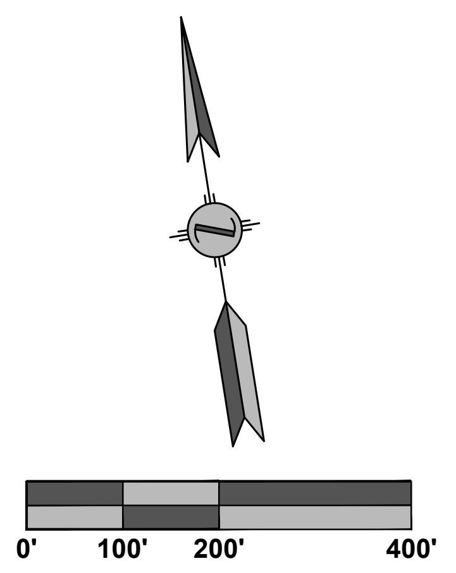
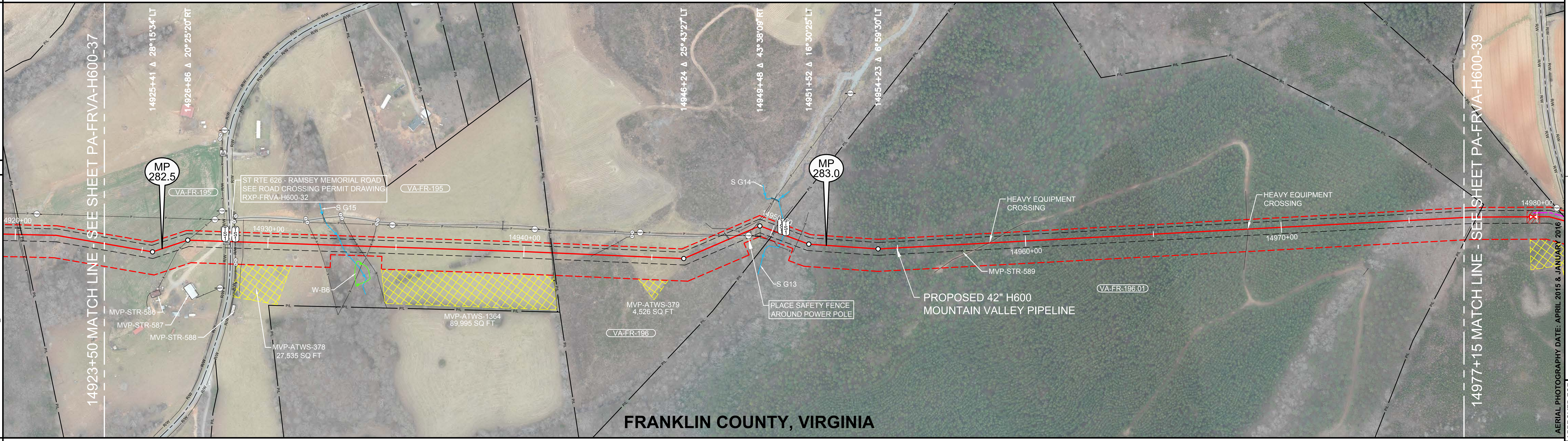


PLAN VIEW

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
- P/L PROPERTY LINE
- R/W ROAD RIGHT-OF-WAY
- X FENCE LINE
- P OVERHEAD POWER
- T OVERHEAD TELEPHONE
- C/L ROAD
- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- ○ PI SYMBOL
- TS# PROPOSED TEST STATION
- MB MAILBOX
- LM LINE MARKER - VENT PIPE
- PWR TEL POWER/TELE POLE
- SIGN
- TWR TOWER LEG
- TREE
- GUY ANCHOR
- TANK TANK
- ⋈ GAS VALVE
- WELL GW OW WW MNW WELL - GAS/OIL/WATER/ MONITORING
- POST FP GP POST - GATE/FENCE
- EM GM WM ELEC/GAS/WTR METER
- PED TEP EP FOP TVP PEDESTAL - UTILITY
- SAMH WMH 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-H600-16	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
RXP-FRVA-H600-32	STATE ROUTE 626 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING

ISSUED FOR CONSTRUCTION

HORIZONTAL STATIONING

14923+50 MATCH LINE

14926+88 FENCE – HOG WIRE
14928+10 EDGE OF DIRT
14928+26 EDGE OF DIRT
14928+32 PROPOSED TYPE 1 TEST STATION,R/W
14928+33 CULVERT OPEN END 33'LT
14928+35 CULVERT OPEN END 2'LT
14928+38 MAILBOX
14928+42 EDGE OF ASPHALT
14928+52 ¢ ST RTE 626 – RAMSEY MEMORIAL ROAD
14928+61 EDGE OF ASPHALT
14928+70 FENCE – HOG WIRE
14928+72 PROPOSED TYPE 1 TEST STATION,R/W
14929+03 ¢ FIELD ROAD(DIRT)

14931+95 FENCE – HOG WIRE

14932+89 ¢ STREAM(S–G15)

14933+51 FENCE – HOG WIRE
14934+00 FENCE – HOG WIRE

14941+08 FENCE – BARBED WIRE
14941+12 PROPERTY LINE
14942+74 FENCE – BARBED WIRE
14944+19 GATE POST 78'LT

14948+09 CULVERT OPEN END 29'LT
14948+16 CULVERT OPEN END
14948+53 OHP LINE
14948+54 ¢ FIELD ROAD(ROCK)
14948+92 POWER POLE 17'RT
14949+09 ¢ FIELD ROAD(ROCK)
14949+20 GUY ANCHOR 31'RT
14949+21 OHP LINE
14949+25 GUY ANCHOR 34'RT
14949+31 GUY ANCHOR 37'RT
14949+66 GUY ANCHOR 36'RT
14950+07 FENCE – BARBED WIRE
14950+12 PROPERTY LINE
14950+38 PROPOSED TYPE 1 TEST STATION
14950+47 ¢ STREAM(S–G13)
14950+56 PROPOSED TYPE 1 TEST STATION
14951+08 FENCE – BARBED WIRE

14957+53 BUILDING – DEER BLIND 23'RT

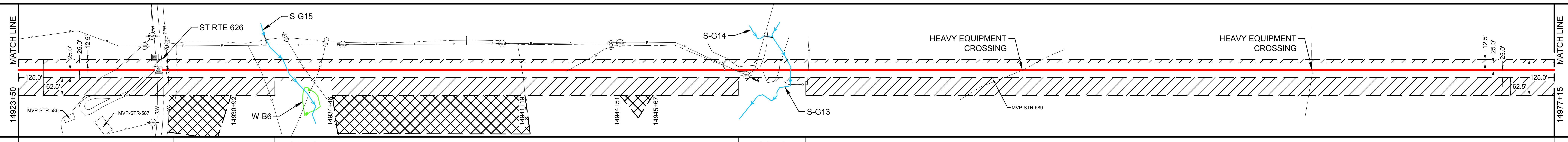
14958+56 ¢ FIELD ROAD(DIRT)
HEAVY EQUIPMENT CROSSING

14968+69 ¢ TRAIL(DIRT)
HEAVY EQUIPMENT CROSSING

14977+15 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

14923+50 – 14928+32	14928+32 – 14928+72	14928+72 – 14932+69	14932+69 – 14933+09	14933+09 – 14950+27	14950+27 – 14950+67	14950+67 – 14977+15
2	4	2	6,15,53	2	6,15,53	2

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
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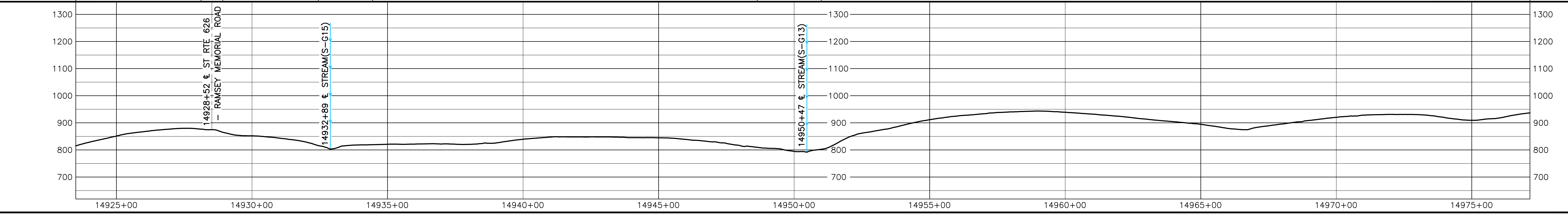
15 - WATERBODY X-ING OPEN CUT - DRY/DAM & PUMP
33 - SIDE HILL CONSTRUCTION
34 - 2-TONE SIDE HILL CONSTRUCTION
53 - REDUCED CONSTRUCTION R/W WITH TOPSOIL SEGREGATION
54 - REDUCED CONSTRUCTION R/W FOR NON-WETLAND OR STREAM REASONS

PROFILE



MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	5221	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	80	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
6	80	42"O.D. X 0.617"W.T., X-70, FBE & ARO
	4	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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

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

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Mountain Valley PIPELINE

PIPELINE ALIGNMENT
MOUNTAIN VALLEY PROJECT - H600 LINE
PENHOOK PRECINCT, FRANKLIN CO.,VA.
STA. 14923+50 TO STA. 14977+15

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-FRVA-H600 -38	
SHEET 308 OF 329	REV. 6
DATE OF PLOT: 11/29/17 4:55 PM	

RIGHT-OF-WAY & OWNERSHIP DATA

Station	Ownership	Length
14977+15 – 14977+85	VA-FR-196.01 VA-FR-196.02	70 LF 71 SLOPE
14977+85 – 14980+71	VA-FR-196.02	286 LF 286 SLOPE
14980+71 – 14981+08	VA-FR-196.03 VA-FR-196.02	37 LF 37 SLOPE
14981+08 – 14982+08	VA-FR-196.03 VA-FR-196.02 ST RTE 890	100 LF 100 SLOPE
14982+08 – 14982+64	VA-FR-196.03 ST RTE 890 ASHWORTH RD VA-FR-3862	56 LF 56 SLOPE
14982+64 – 14983+09	VA-FR-196.03 ASHWORTH RD	45 LF 45 SLOPE
14983+09 – 14995+12	VA-FR-196.03	1203 LF 1210 SLOPE
14995+12 – 14998+38	VA-PI-001	326 LF 327 SLOPE

DESIGN

Station	PIPE / COATING	SLOPE DISTANCE
14977+15 – 14979+06	1	191'
14979+06 – 14979+46	2	40'
14979+46 – 14980+26	3	80'
14980+26 – 14981+15	2	90'
14981+15 – 14981+95	4	80'
14981+95 – 14991+42	1	950'
14991+42 – 14991+82	6	40'
14991+82 – 14998+38	1	661'

CLASS LOCATION / HCA: 1

ENVIRONMENTAL

CONSTRUCTION EXCLUSION

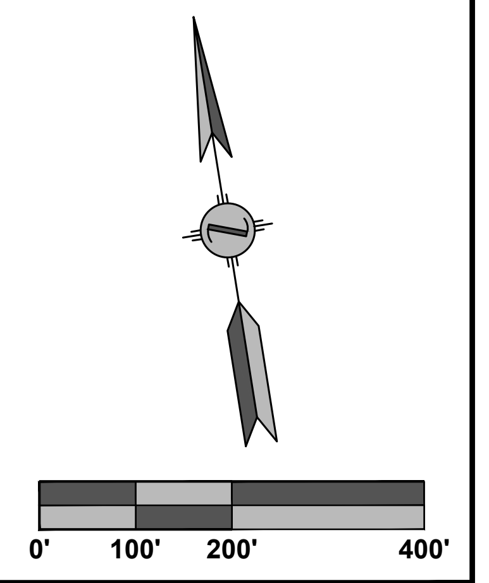
14977+15 – TIME OF YEAR RESTRICTION: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS

T.O.Y.R.: NO CONSTRUCTION WITHIN STREAM S-D7 MARCH 15TH TO MAY 31ST

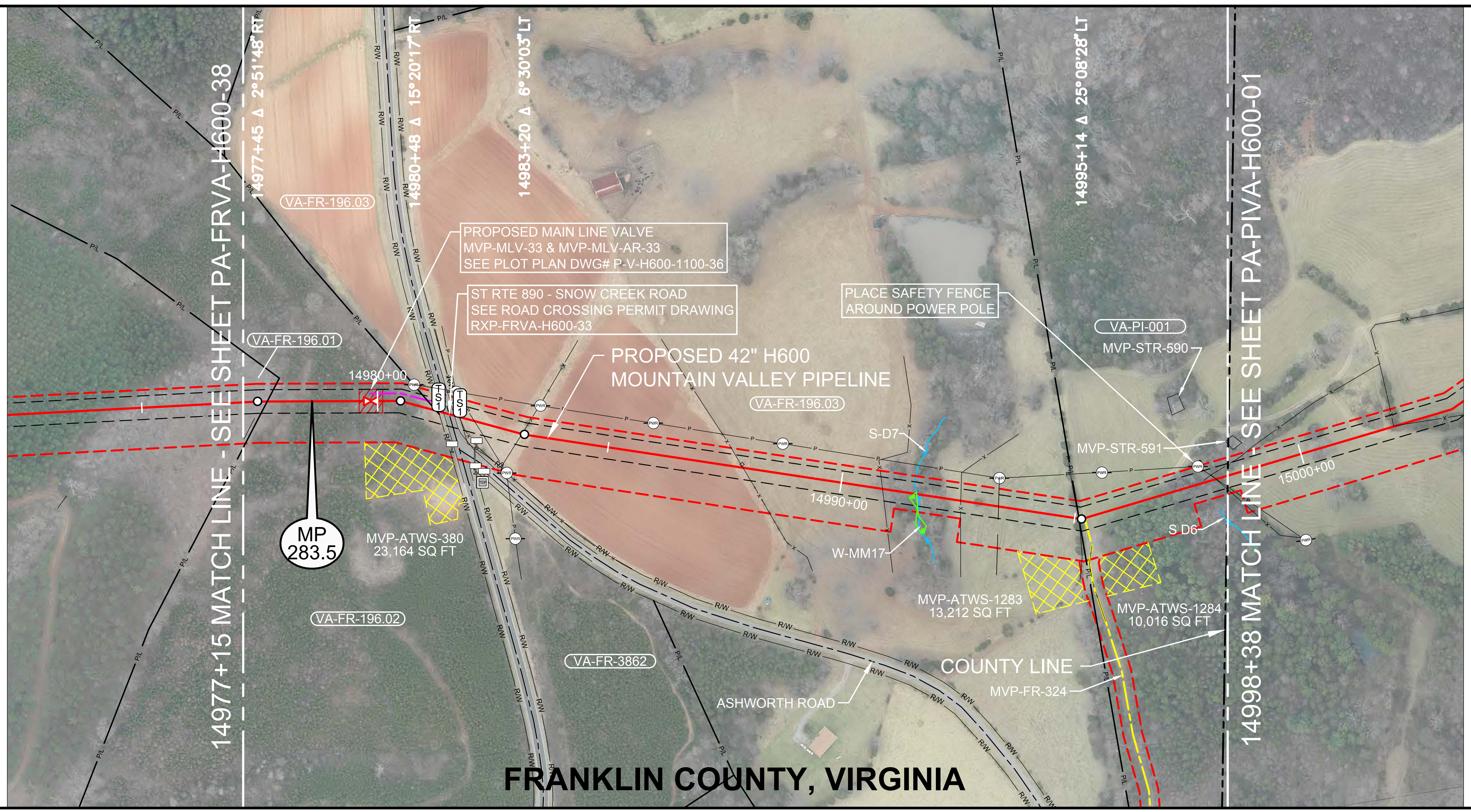
T.O.Y.R.: NO CLEARING JUNE 1 - JULY 31 SEE TREE CLEARING PLAN FOR FURTHER DETAILS – 14998+38

WETLAND / STREAM

W-MM17	S-D7
23 LF	8 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
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- C/L RAILROAD
- DELINEATED STREAM
- DELINEATED WETLAND
- BARRICADE FENCE
- ○ PI SYMBOL
- TS# PROPOSED TEST STATION
- MB MAILBOX
- LM LINE MARKER - VENT PIPE
- PWR TEL POWER/TELE POLE
- SIGN
- TWR TOWER LEG
- TREE
- GUY ANCHOR
- TANK TANK
- GAS VALVE
- WELL GW OW WW MNW WELL - GAS/OIL/WATER/ MONITORING
- POST FP GP POST - GATE/FENCE
- EM GM WM ELEC/GAS/WTR METER
- PED TEP EP FOP TVP PEDESTAL - UTILITY
- SAMH WMH MH - SANITARY/WATER
- CATCH BASIN - CULVERT
- ADDITIONAL TEMPORARY WORK SPACE(ATWS)
- ABOVE GROUND FACILITY
- LIMITS OF DISTURBANCE

REFERENCE DRAWINGS

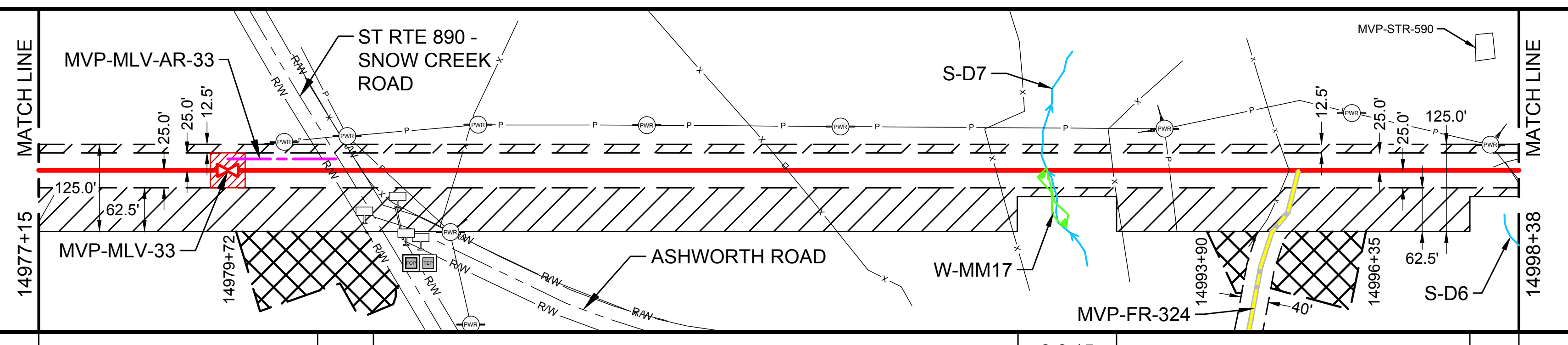
DRAWING NO.	DESCRIPTION
MVP-AR-H600-16	ACCESS ROADS, ANCILLARY SITES, MAINLINE VALVES & LAUNCHER/RECEIVER SITES
MVP-QDAR-H600-107	ACCESS ROAD DETAIL MAP
RXP-FRVA-H600-33	STATE ROUTE 890 PERMIT DWG
P-W-H600-1204-01	CATHODIC PROTECTION STANDARD DRAWING
P-V-H600-1100-36	MAIN LINE VALVE #33 PLOT PLAN

HORIZONTAL STATIONING

14977+15 MATCH LINE
14977+66 PROPERTY LINE
14979+85 MAIN LINE VALVE – PROPOSED (MVP–MLV–33)
14979+85 ACCESS ROAD – PERMANENT (MVP–MLV–AR–33)16'LT
14980+59 GUY ANCHOR 40'LT
14980+67 POWER POLE 41'LT
14981+27 PROPERTY LINE
14981+32 PROPOSED TYPE 1 TEST STATION,R/W
14981+43 EDGE OF ASPHALT
14981+55 ℄ ST RTE 890 – SNOW CREEK ROAD
14981+67 EDGE OF ASPHALT
14981+78 FENCE – HOG WIRE
14981+79 PROPOSED TYPE 1 TEST STATION,R/W
14981+82 SIGN 77'RT
14982+10 OHP LINE
14982+27 CULVERT OPEN END 53'RT
14982+29 SIGN 55'RT
14983+05 POWER POLE 88'RT
14983+10 GUY ANCHOR 85'RT
14983+15 FENCE – BARBED WIRE
14987+85 WATER TROUGH 7'LT
14987+89 FENCE – BARBED WIRE
14990+88 FENCE – HOG WIRE
14991+47 BEGIN WETLAND(W–MM17) 10'RT
14991+62 ℄ STREAM(S–D7)
14991+70 END WETLAND(W–MM17) 37'RT
14992+56 FENCE – HOG WIRE
14993+37 OHP LINE
14994+95 PROPERTY CORNER 43'LT
14995+08 FENCE – BARBED WIRE
14995+11 PROPERTY LINE
14995+21 ACCESS ROAD – TEMPORARY (MVP–FR–324)
14995+84 POWER POLE 82'LT
14997+82 POWER POLE 37'LT
14998+12 FENCE – BARBED WIRE, OHP LINE
14998+38 MATCH LINE, END FRANKLIN CO., BEGIN PITTSYLVANIA COUNTY

WORK SPACE

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



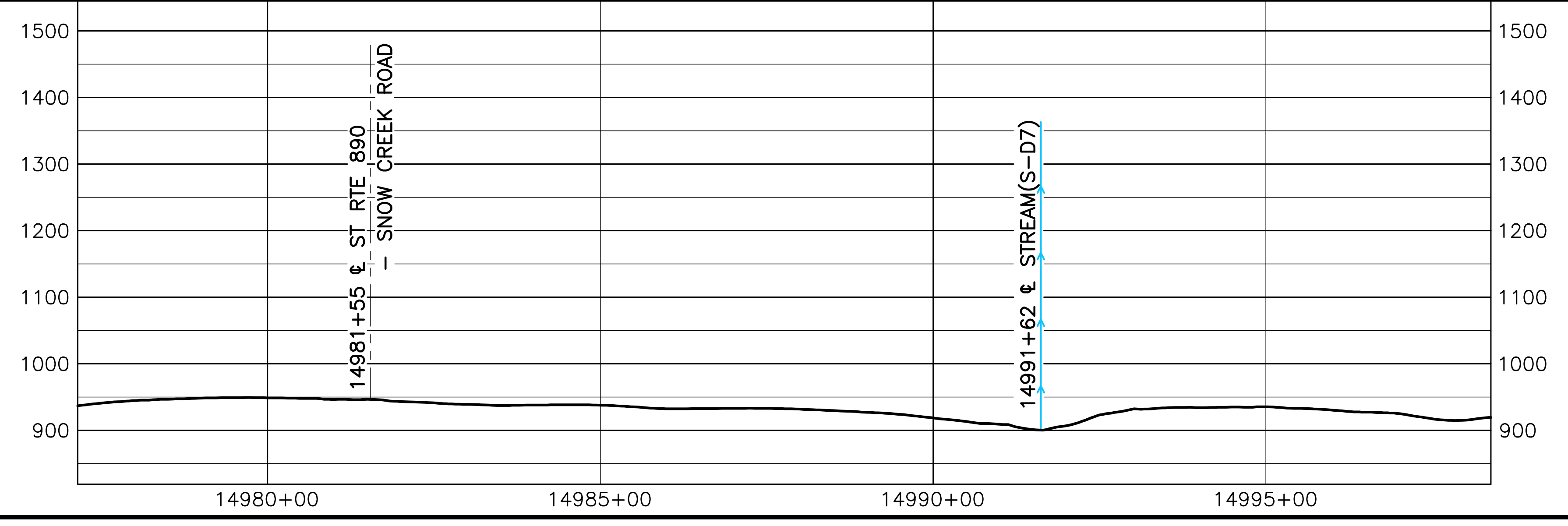
CONSTRUCTION METHOD

2	4	2	3,6,15	2	53

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

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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	12-21-16	REMOVED EQUATIONS
6	HEI	11-27-17	ISSUED FOR CONSTRUCTION

MATERIAL SUMMARY

MK. NO.	QTY.	DESCRIPTION
1	1802	42"O.D. X 0.617"W.T., X-70, FUSION BONDED EPOXY
2	130	42"O.D. X 0.740"W.T., X-70, FUSION BONDED EPOXY
3	80	42"O.D. X 0.888"W.T., X-70, FUSION BONDED EPOXY
4	80	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
	2	TYPE 1 TEST STATION - PIPELINE

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
PENHOOK PRECINCT, FRANKLIN CO., VA.
STA. 14977+15 TO STA. 14998+38

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-FRVA-H600 -39	
SHEET 309 OF 329	REV. 6
DATE OF PLOT: 12/8/17 1:44 PM	