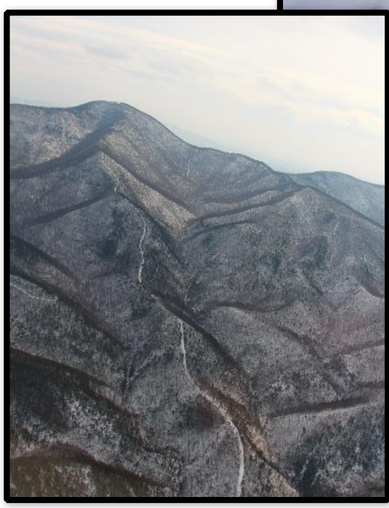
Federal Energy Regulatory Commission
Office of Energy Projects
Washington, DC 20426

Atlantic Coast Pipeline and Supply Header Project

Draft Environmental Impact Statement

Volume III



Atlantic Coast Pipeline, LLC
Dominion Transmission, Inc.

Docket Nos. CP15-554-000, CP15-554-001, and CP15-555-000
FERC/EIS-0274D

Cooperating Agencies:

U.S. Department of Agriculture – Forest Service

U.S. Army Corps of Engineers

U.S. Environmental Protection Agency

U.S. Fish and Wildlife Service, Great Dismal Swamp National Wildlife Refuge

West Virginia Department of Environmental Protection

West Virginia Division of Natural Resources

December 2016

This environmental impact statement was prepared by the staff of the Federal Energy Regulatory Commission to assess the potential environmental impacts of the Atlantic Coast Pipeline and Supply Header Project (Docket Nos. CP15-554-000, CP15-554-001, and CP15-555-000), proposed for construction in West Virginia, Virginia, North Carolina, and Pennsylvania. The cooperation and assistance of the U.S. Department of Agriculture – Forest Service; U.S. Army Corps of Engineers; U.S. Environmental Protection Agency; U.S. Fish and Wildlife Service – Great Dismal Swamp National Wildlife Refuge; West Virginia Department of Environmental Protection; and West Virginia Division of Natural Resources was greatly appreciated.

Atlantic Coast Pipeline and Supply Header Project

Draft Environmental Impact Statement

Table of Contents

VOLUME III – LIST OF APPENDICES

APPENDIX J

SITE-SPECIFIC PLANS

J1 RESIDENTIAL CONSTRUCTION PLANS

J2 SITE-SPECIFIC CROSSING PLAN FOR THE JAMES RIVER WILDLIFE MANAGEMENT AREA

J1 RESIDENTIAL CONSTRUCTION PLANS

Atlantic Coast Pipeline

AP-1

FERC's Plans will be followed for Residential Construction, for all Residences located within 50 feet of the construction work area

1. Orange safety fence will be installed at a minimum 15 feet from the residence, and 100 feet along the construction corridor, each direction from residence.
2. Will avoid the removal of mature trees and landscaping within the construction work area, unless necessary for safe operation of equipment, or as specified in the landowner agreements
3. Restore all lawn areas and landscaping immediately following clean up operations or as specified in landowner agreement
4. During landowner negotiations, identify location of septic system and avoid or develop a replacement plan with landowner during construction.

For this project, the following notes will also be applied

a. Where the pipeline centerline is within 25 feet of a residence, the trench will not be excavated until the pipe is ready for installation.

b. Landowner will be notified one week prior to construction on his/her property

c. No refueling or storage of hazardous materials will occur within 200 feet of a private well.

d. Steel plating or other effective means will be provided to allow landowner access to his/her residence should construction or other ground disturbance occur. Required at egress points, landowner driveways, or other private access ways.

e. On public roads, we will follow our traffic management plans that are filed as part of the permit

f. Construction will be limited to daylight hours.

g. Applicant will:

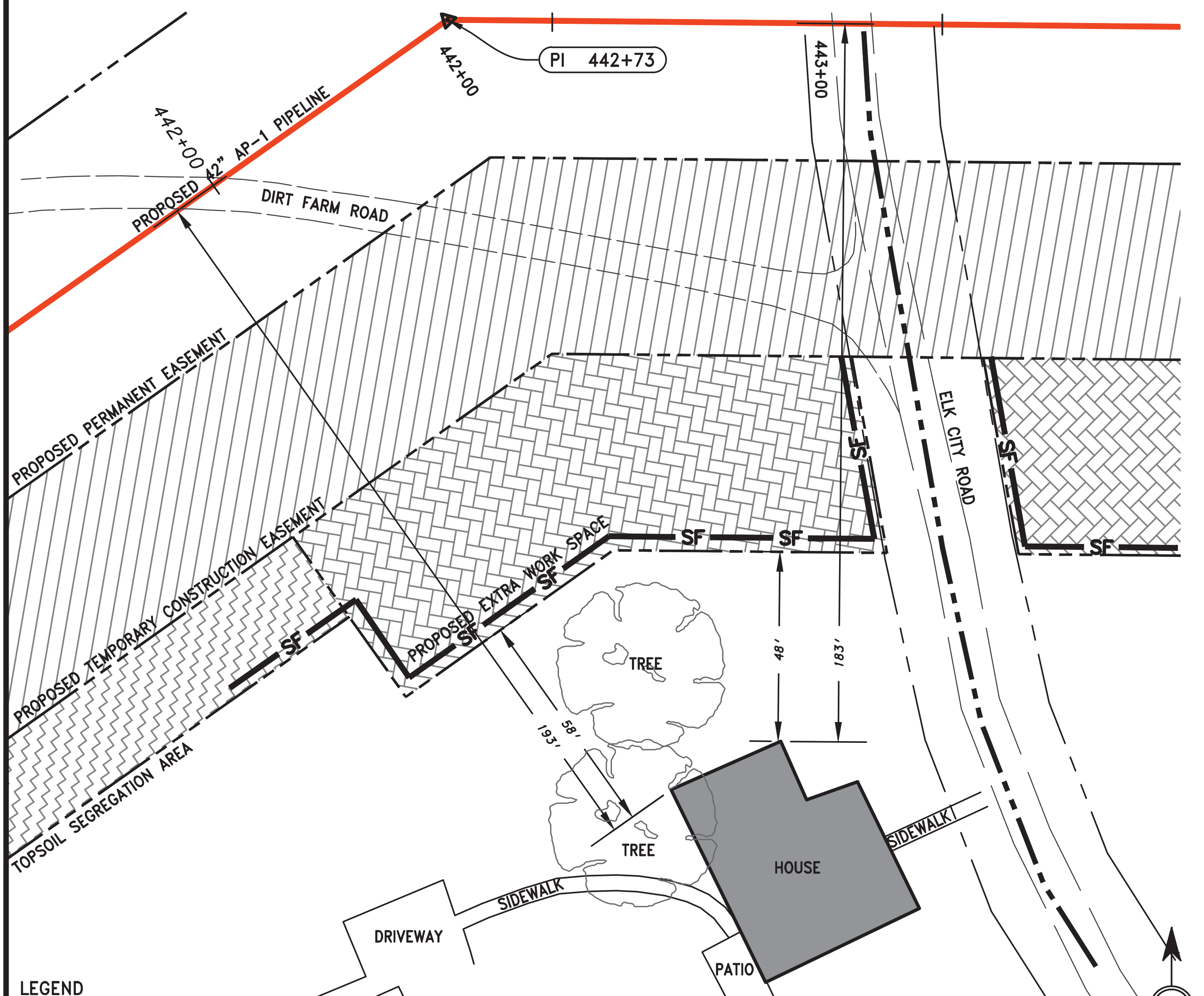
- Ensure piping is welded and installed as quickly as possible to minimize the amount of time a neighborhood is affected by construction;
- Complete final cleanup, grading, and installation of permanent erosion control devices within 10 days after backfilling the trench, weather permitting.
- During landowner negotiations, will work with landowner on restoration procedure. These procedures will include seeding mix, tree/shrub planting and hardscape replacement.

gai consultants SOUTHPOINTE OFFICE 6000 TOWNE CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES GENERAL NOTES	DWN. JJP	CHKD. DLH	APPD. NET	DATE 07/28/2016
		SCALE: NONE			TASK NO. 00
	ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. C140468 DRAWING NO. A001			REV –

GAI CAD FILE: Z:\ENERGY\2014\C140468.00 – DOMINION – SOUTHEAST PIPE\CAD\MASTER ROUTE\DRG\DRAWINGS\HOUSE_SITE_SPECIFIC_GENERAL_NOTES.DWG

7/19/2016 8:44 AM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.
TOPSOIL SEGREGATION AREA

LL-02-039
789 ELK CITY ROAD
JANE LEW, WEST VIRGINIA 26378
TAX MAP # 04-7B000200000000
AP-1 PIPELINE
MILE POST 8.37

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
LEWIS COUNTY, WEST VIRGINIA

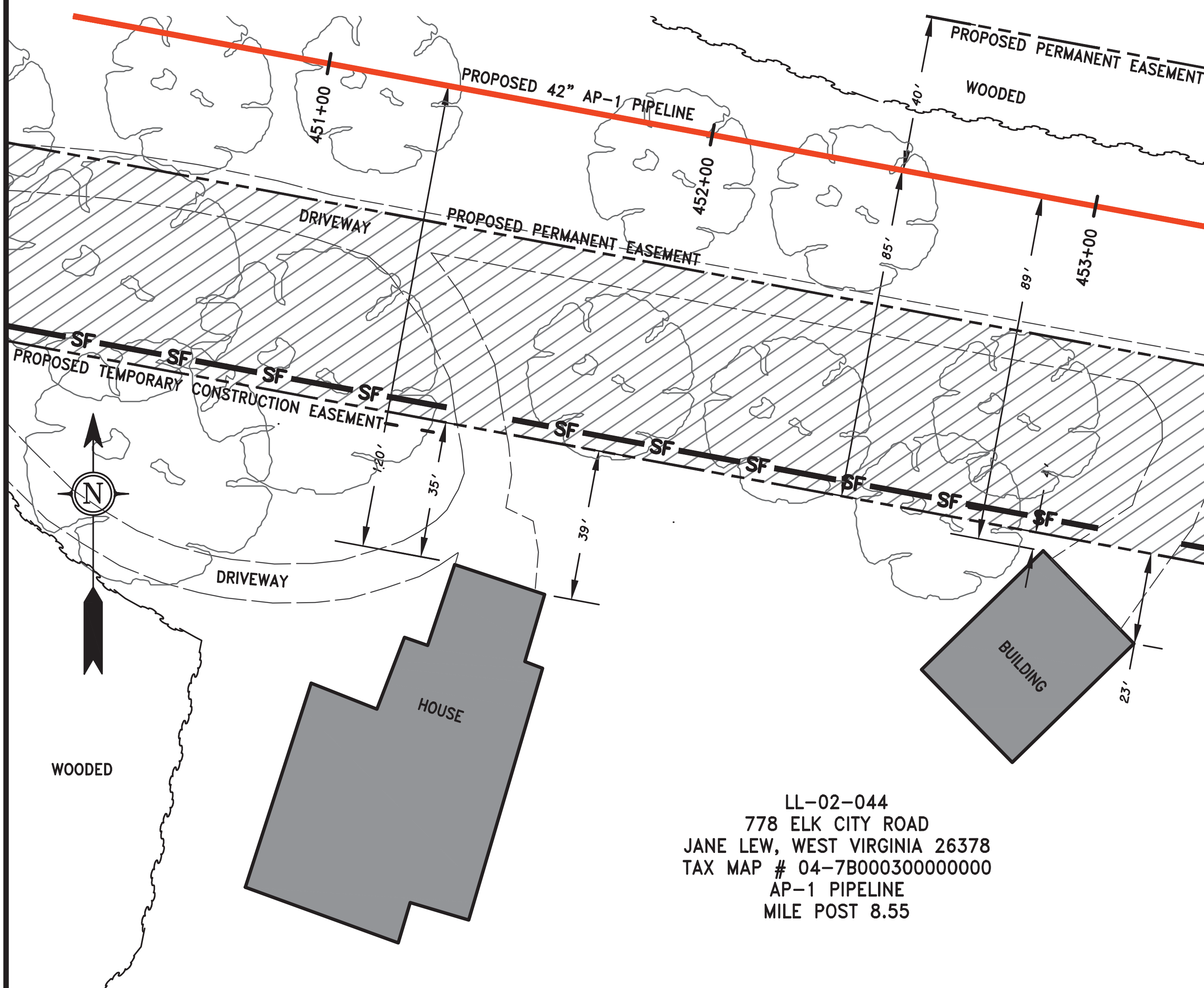
ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC CHKD. DLH APPD. NET DATE 6/28/2016
SCALE: AS SHOWN TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-02-039 REV

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 02 - SOUTHEAST PIPELINE (SECTION 1)\BUILDING CONFLICT EXHIBITS\2665-01 SPREAD-1 - BUILDING CONFLICT EXHIBITS LL-02-039.DWG

6/28/2016 3:34 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LL-02-044
778 ELK CITY ROAD
JANE LEW, WEST VIRGINIA 26378
TAX MAP # 04-7B000300000000
AP-1 PIPELINE
MILE POST 8.55

LEGEND

PROPERTY LINE
PROPOSED LIMITS OF CONSTRUCTION
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe
monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
LEWIS COUNTY, WEST VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

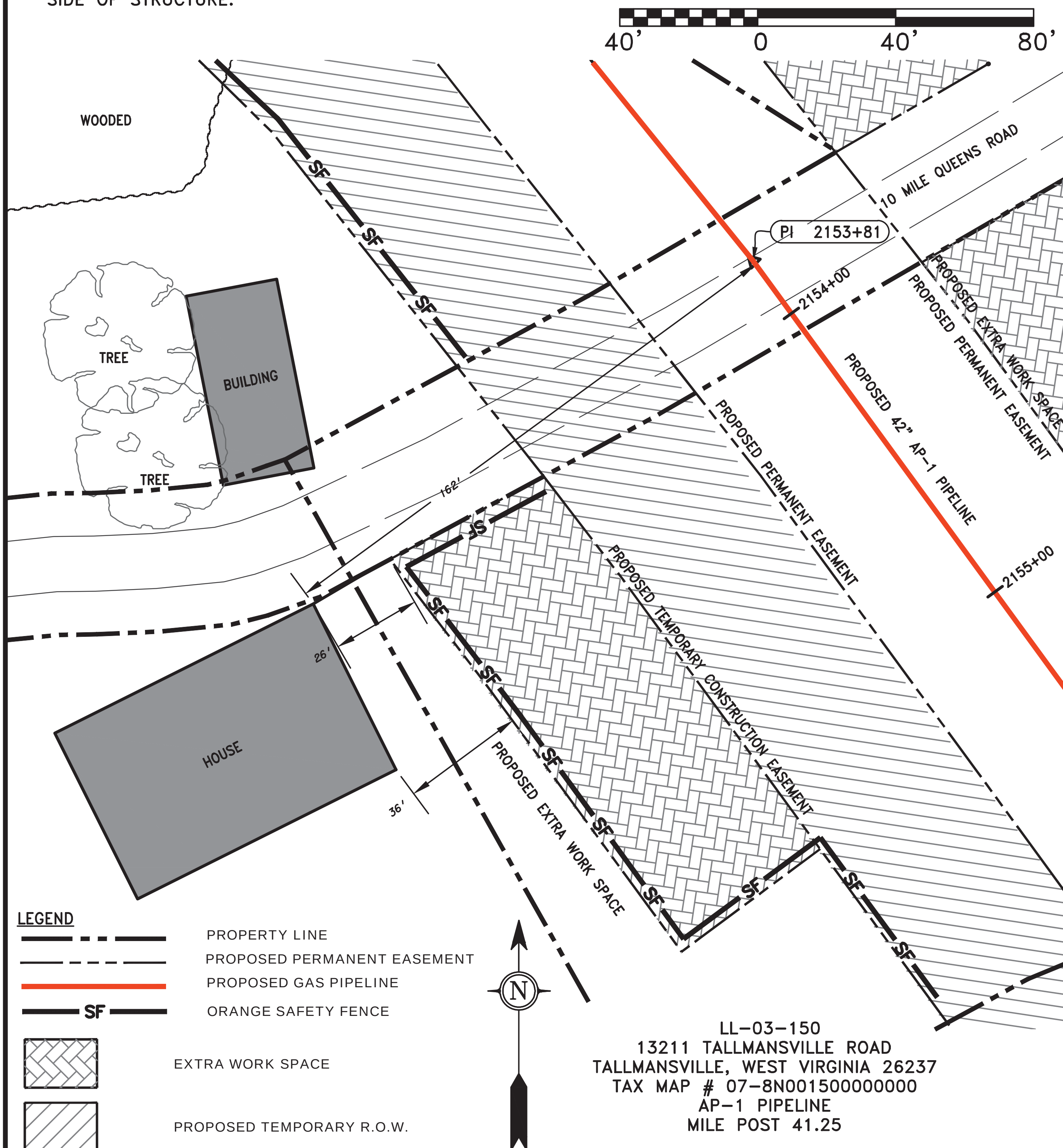
DWN. RDC | CHKD. DLH | APPD. NET | DATE 6/28/2016
SCALE: AS SHOWN | TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-02-044 | — REV

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 02 - SOUTHEAST PIPELINE (SECTION 1)\BUILDING CONFLICT EXHIBITS\2665-01 SPREAD-1 - BUILDING CONFLICT EXHIBITS LL-02-044.DWG

6/28/2016 3:29 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

SCALE: 1" = 40'



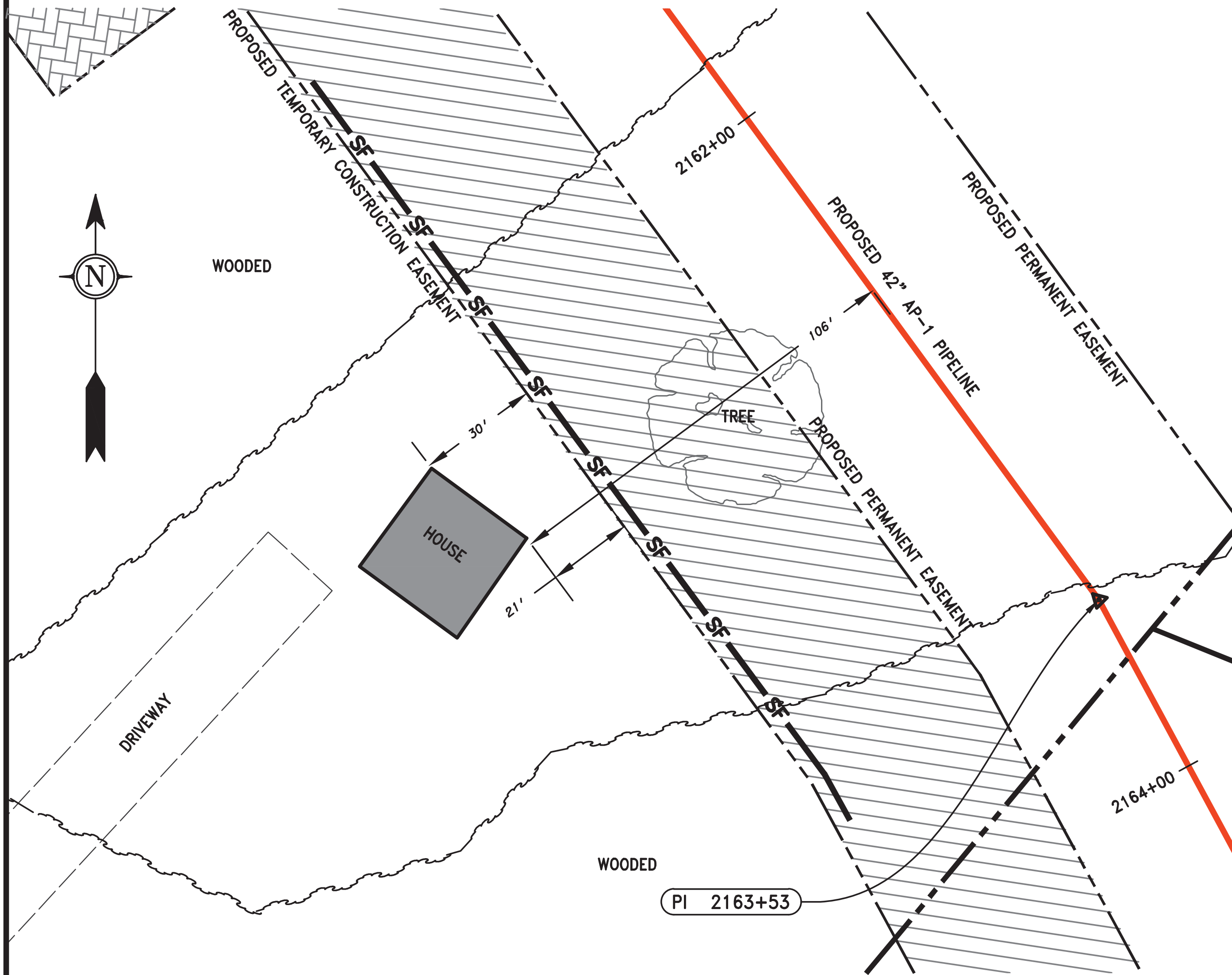
LL-03-150
13211 TALLMANSVILLE ROAD
TALLMANSVILLE, WEST VIRGINIA 26237
TAX MAP # 07-8N001500000000
AP-1 PIPELINE
MILE POST 41.25

gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	mbe monaloh basin engineers 300 BUSINESS CENTER DRIVE PITTSBURGH, PA 15205 412-788-2433	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES UPSHUR COUNTY, WEST VIRGINIA	DWN. RDC CHKD. DLH APPD. NET DATE 6/28/2016 SCALE: AS SHOWN TASK NO. 01
		ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. 140468 DRAWING NO. LL-03-150 REV –

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 02 - SOUTHEAST PIPELINE (SECTION 1)\BUILDING CONFLICT EXHIBITS\2665-01 SPREAD-1 - BUILDING CONFLICT EXHIBITS LL-03-150.DWG

6/28/2016 3:24 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

LL-03-154
1950 GUM ROAD
ELKINS, WEST VIRGINIA 26241
TAX MAP # 07-8N002800000000
AP-1 PIPELINE
MILE POST 41.41

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe
monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES
NEAR RESIDENTIAL STRUCTURES
UPSHUR COUNTY, WEST VIRGINIA

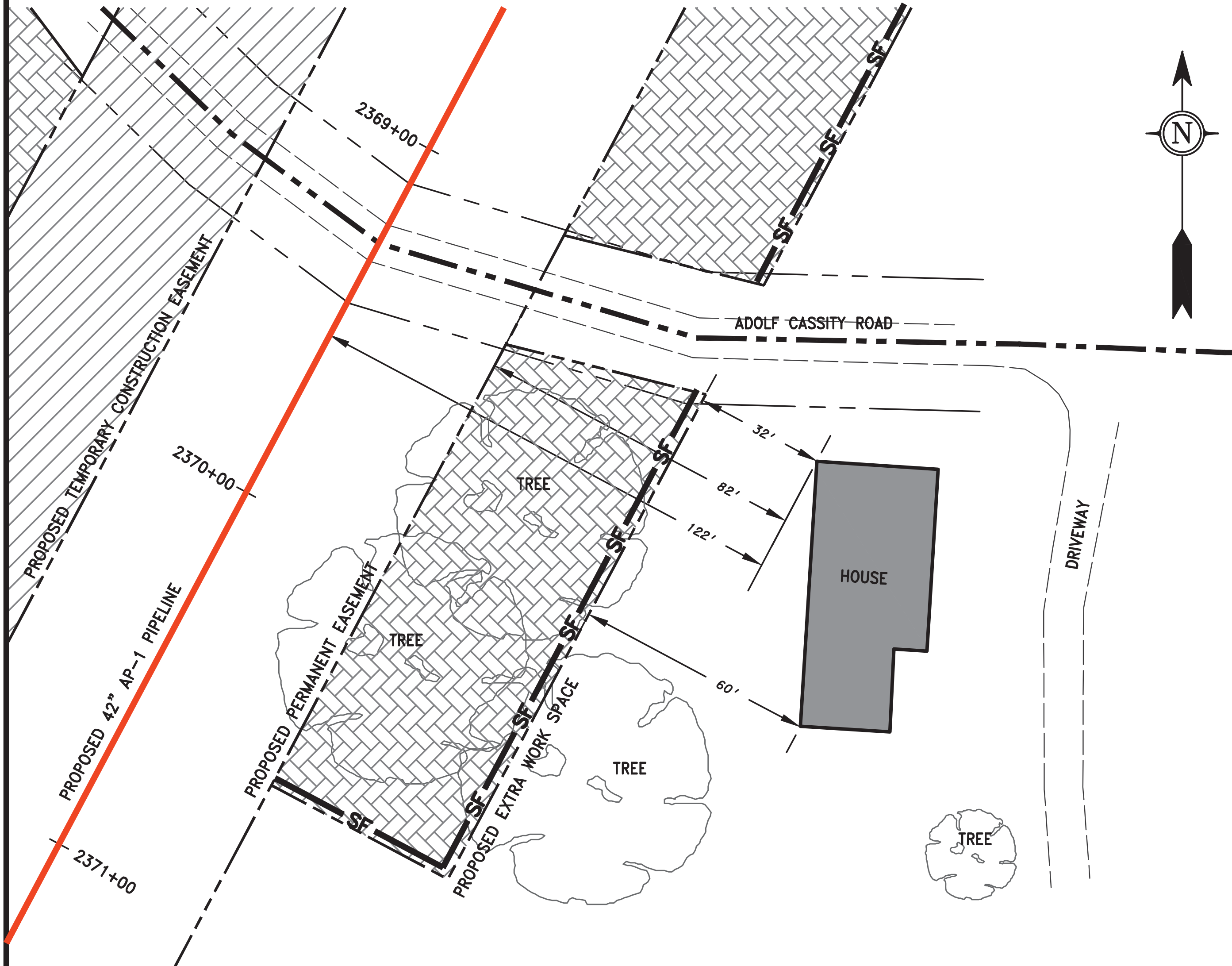
ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 6/24/2016
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-03-154			REV

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 02 - SOUTHEAST PIPELINE (SECTION 1)\BUILDING CONFLICT EXHIBITS\2665-01 SPREAD-1 - BUILDING CONFLICT EXHIBITS LL-03-154.DWG

6/24/2016 3:03 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
ORANGE SAFETY FENCE
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

LL-04-002-A002
2332 CASSITY ROAD
MABIE, WEST VIRGINIA 26278
TAX MAP # 11-111001000000000
AP-1 PIPELINE
MILE POST 45.35

SCALE: 1" = 40'
40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
RANDOLPH COUNTY, WEST VIRGINIA

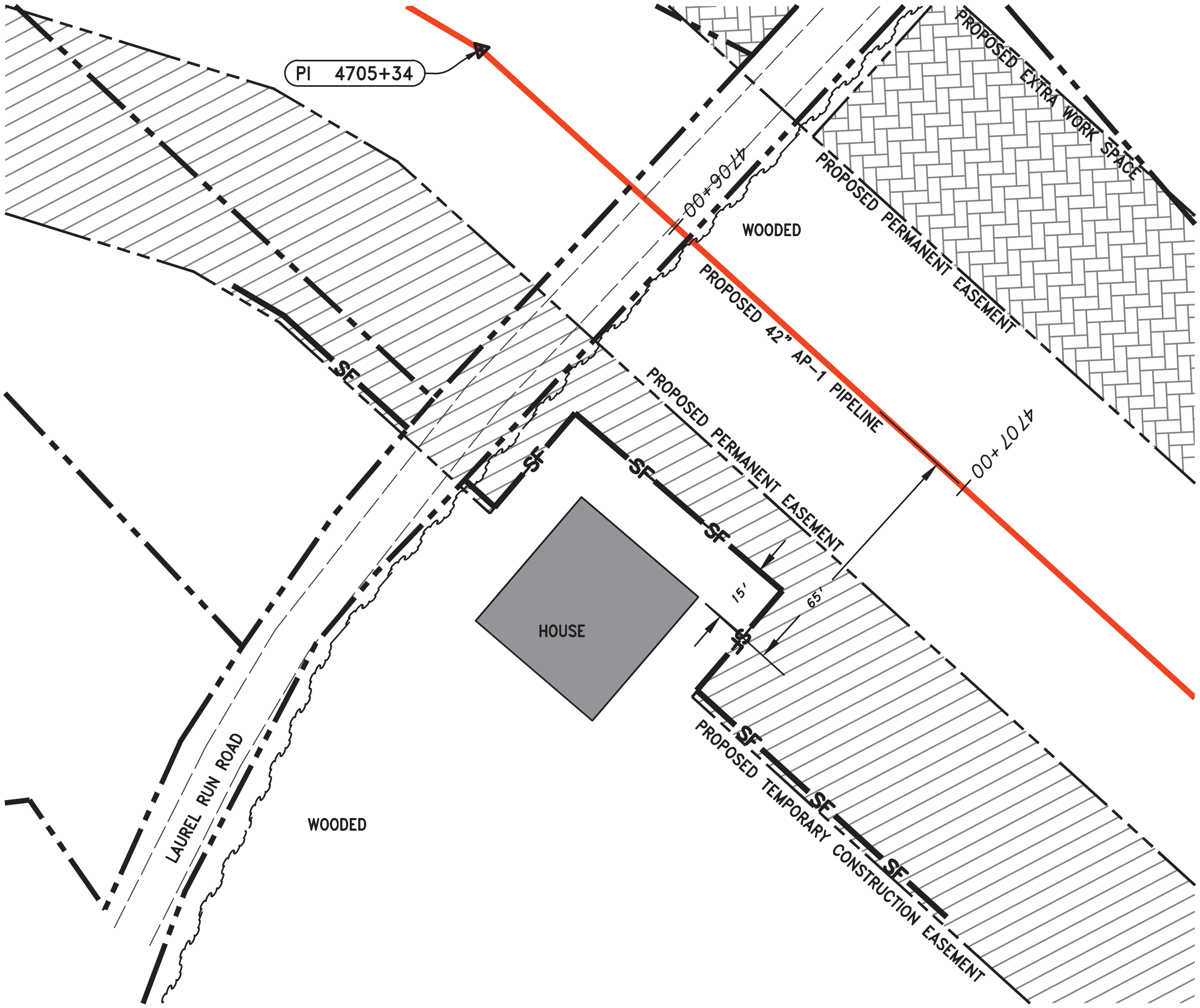
ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 6/24/2016
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-04-002-A002			REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 02 - SOUTHEAST PIPELINE (SECTION 1)\BUILDING CONFLICT EXHIBITS\2665-01 SPREAD-1 - BUILDING CONFLICT EXHIBITS LL-04-002-A002.DWG

6/24/2016 2:41 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- SF — ORANGE SAFETY FENCE
- EXTRA WORK SPACE
- PROPOSED TEMPORARY R.O.W.
- TOPSOIL SEGREGATION AREA

LL-05-001-E102
P.O. BOX 4938
EASTMAN, GEORGIA
TAX MAP # 04 83A001300000000
AP-1 PIPELINE
MILE POST 76.5

SCALE: 1" = 40'

40' 0 40' 80'

N

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe
monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
POCAHONTAS, WEST VIRGINIA

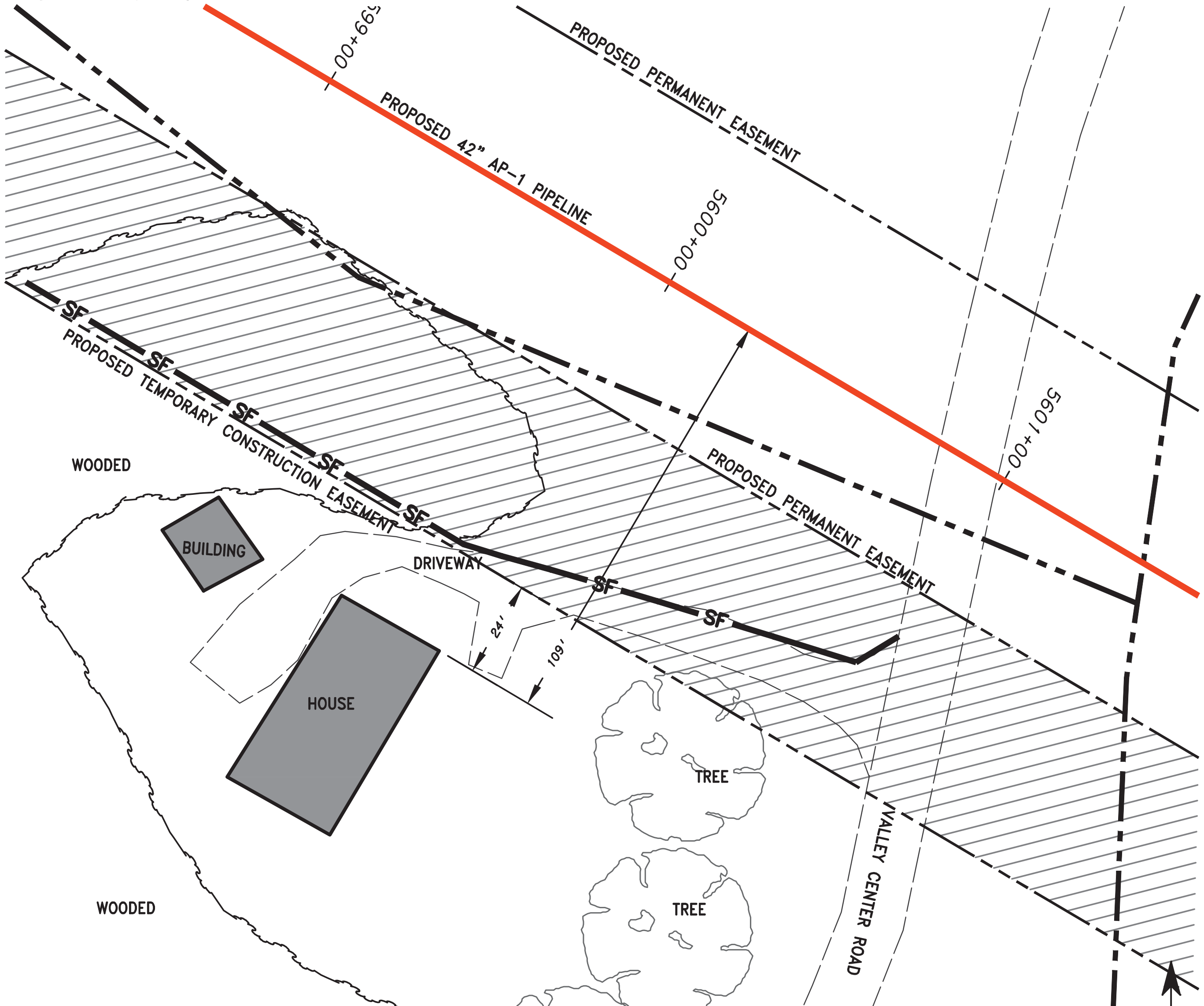
ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 7/18/2016
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-05-001-E102			1 REV

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 02 - SOUTHEAST PIPELINE (SECTION 1)\1 - REROUTE 1A\BUILDING EXHIBITS\2665-01 SPREAD-1A - LL-05-001-E102.DWG

7/18/2016 2:34 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

	PROPERTY LINE
	PROPOSED PERMANENT EASEMENT
	PROPOSED GAS PIPELINE
SF	ORANGE SAFETY FENCE
	EXTRA WORK SPACE
	PROPOSED TEMPORARY R.O.W.
	TOPSOIL SEGREGATION AREA

N

LL-06-001-C008
457 FORESTRY ROAD
HOT SPRINGS, VIRGINIA 24445
TAX MAP # 64-4-1
AP-1 PIPELINE
MILE POST 88.45

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe
monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES
NEAR RESIDENTIAL STRUCTURES
HIGHLAND COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC | CHKD. DLH | APPD. NET | DATE 6/24/2016

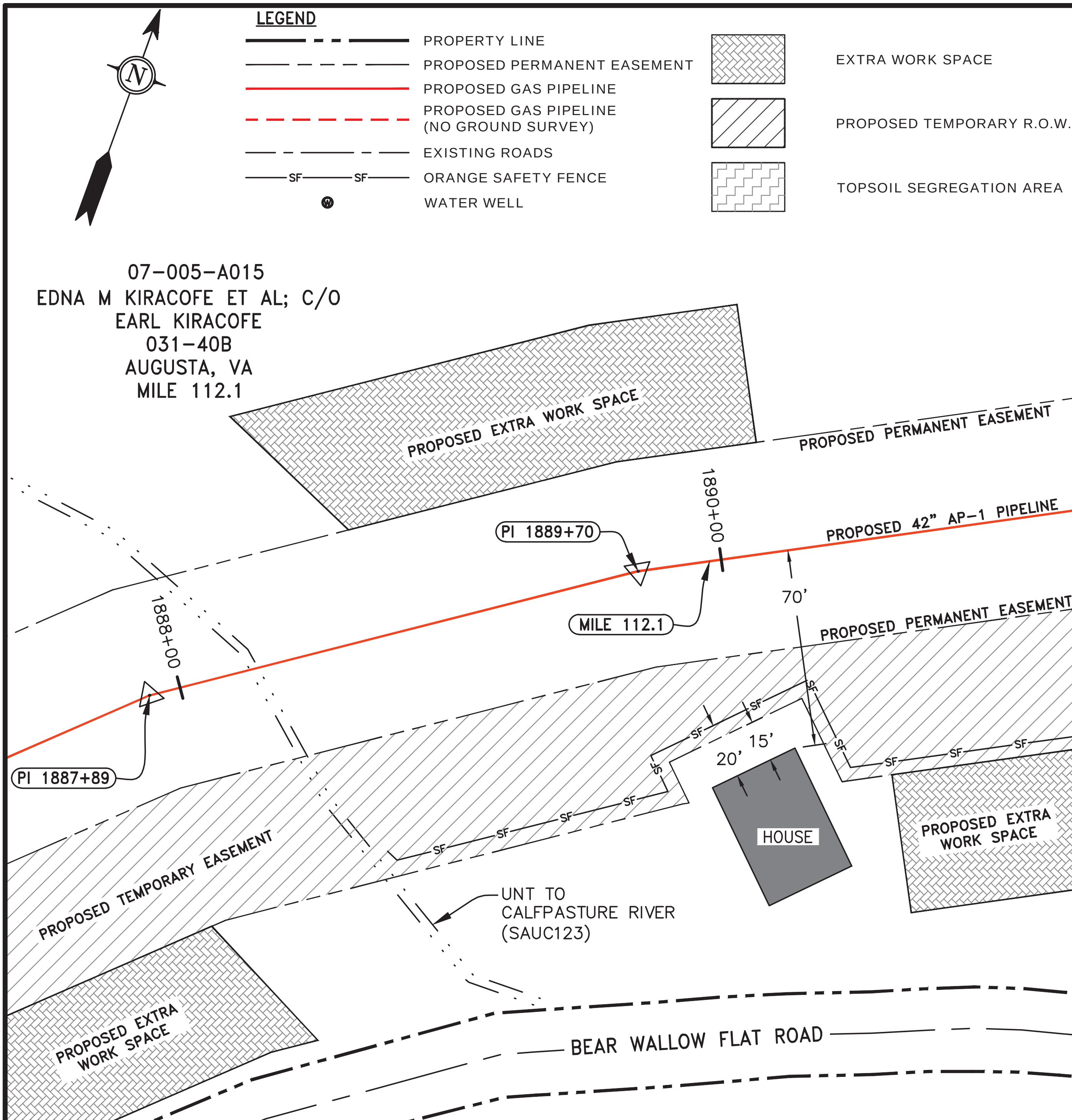
SCALE: AS SHOWN | TASK NO. 01

PROJECT NO./DASH NO. 140468

DRAWING NO. LL-06-001-C008 | 1 REV

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 02 - SOUTHEAST PIPELINE (SECTION 1)\1 - REROUTE 1A\BUILDING EXHIBITS\2665-01 SPREAD-1A - LL-06-001-C008.DWG

6/24/2016 12:55 PM



NOTES:

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE. ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

SCALE: 1" = 50'

50' 0 50' 100'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
SUITE 300 EAST
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES
NEAR RESIDENTIAL STRUCTURES
AGUSTA COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. ACE	CHKD. DLH	APPD. NET	DATE 7/18/16
SCALE: AS SHOWN			TASK NO. 001

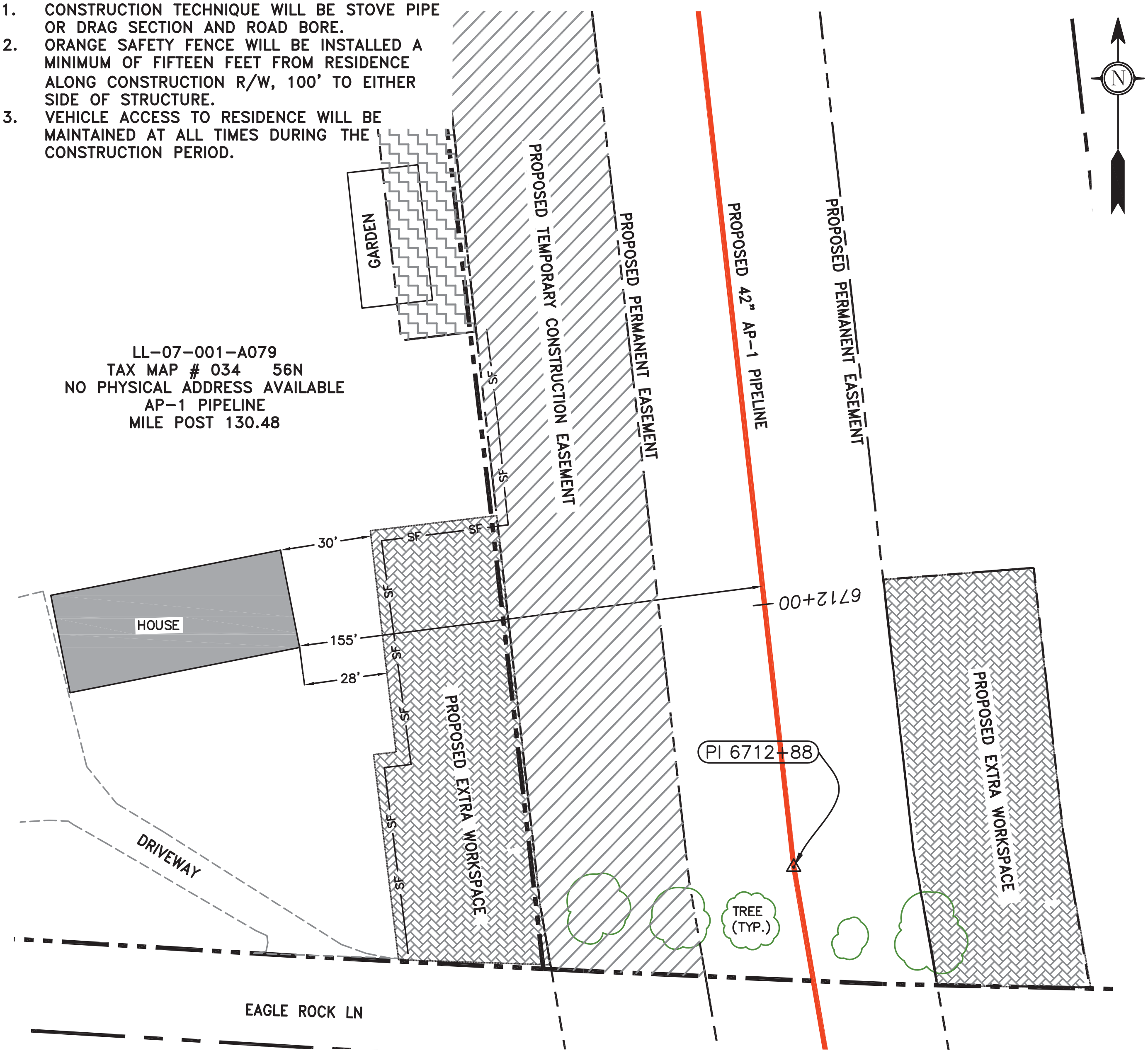
PROJECT NO./DASH NO. C140468

DRAWING NO. LL-07-005-A015 REV —

GAI CAD FILE: \\GAICONSULTANTS.LOCAL\BUPROJ\ENERGY\2014\C140468.00 - DOMINION - SOUTHEAST PIPE\CAD\MON FOREST REROUTE\DWG\HOUSE EXHIBITS\SITE SPECIFIC-LL-07-005-A015.DWG

7/18/2016 1:43 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF — SF ORANGE SAFETY FENCE
PROPOSED TEMPORARY R.O.W.
EXTRA WORK SPACE
TOPSOIL SEGREGATION AREA

SCALE: 1" = 50'
50' 0 50'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
AUGUSTA COUNTY, VIRGINIA

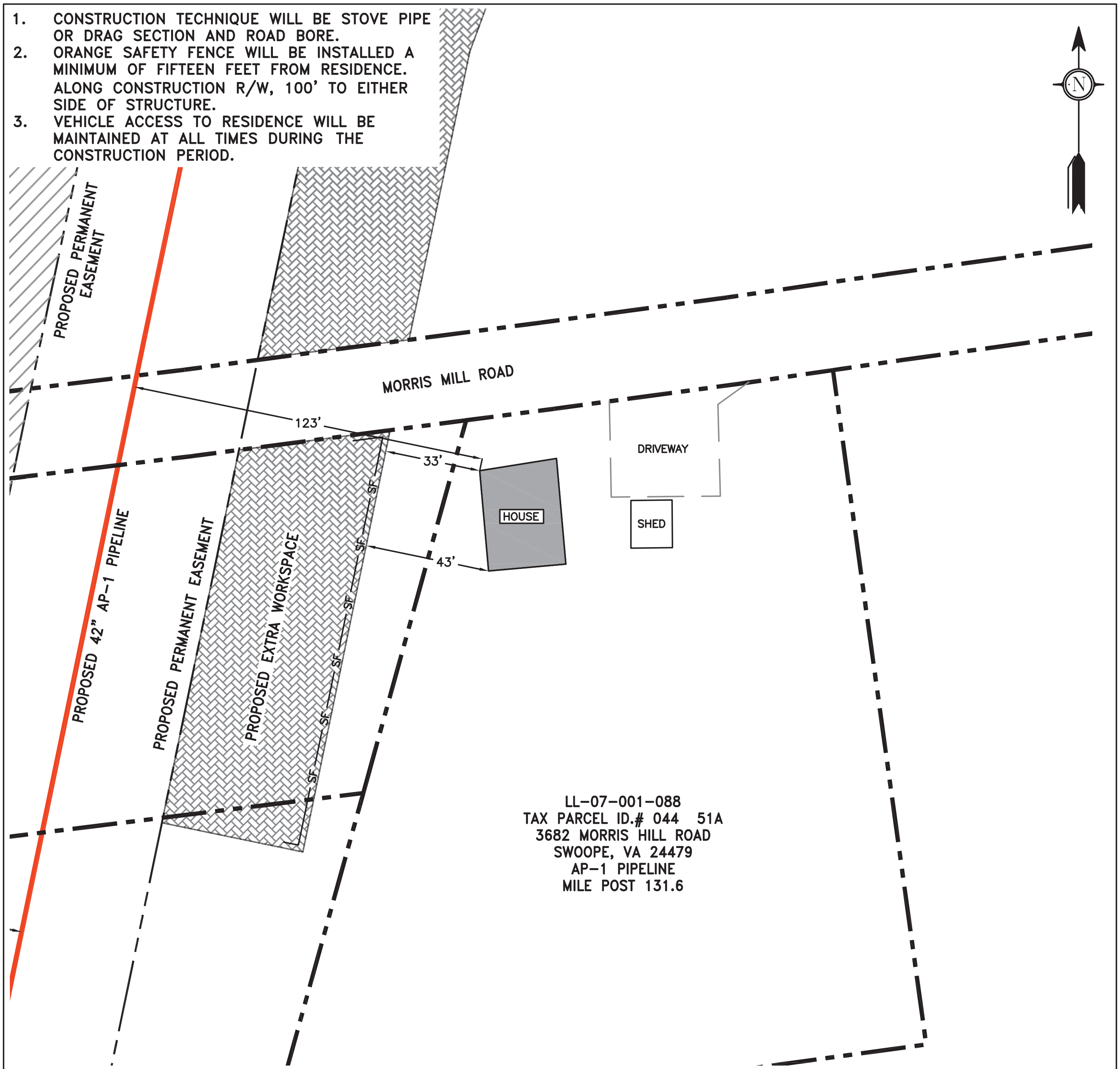
ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. SIB	CHKD. DLH	APPD. NET	DATE 6/30/16
SCALE: AS SHOWN			TASK NO. 01

PROJECT NO./DASH NO. 140468
DRAWING NO. LL-07-001-A079 REV 2

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 3\SECTION 3 HOUSE EXHIBITS - REROUTE.DWG

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE. ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

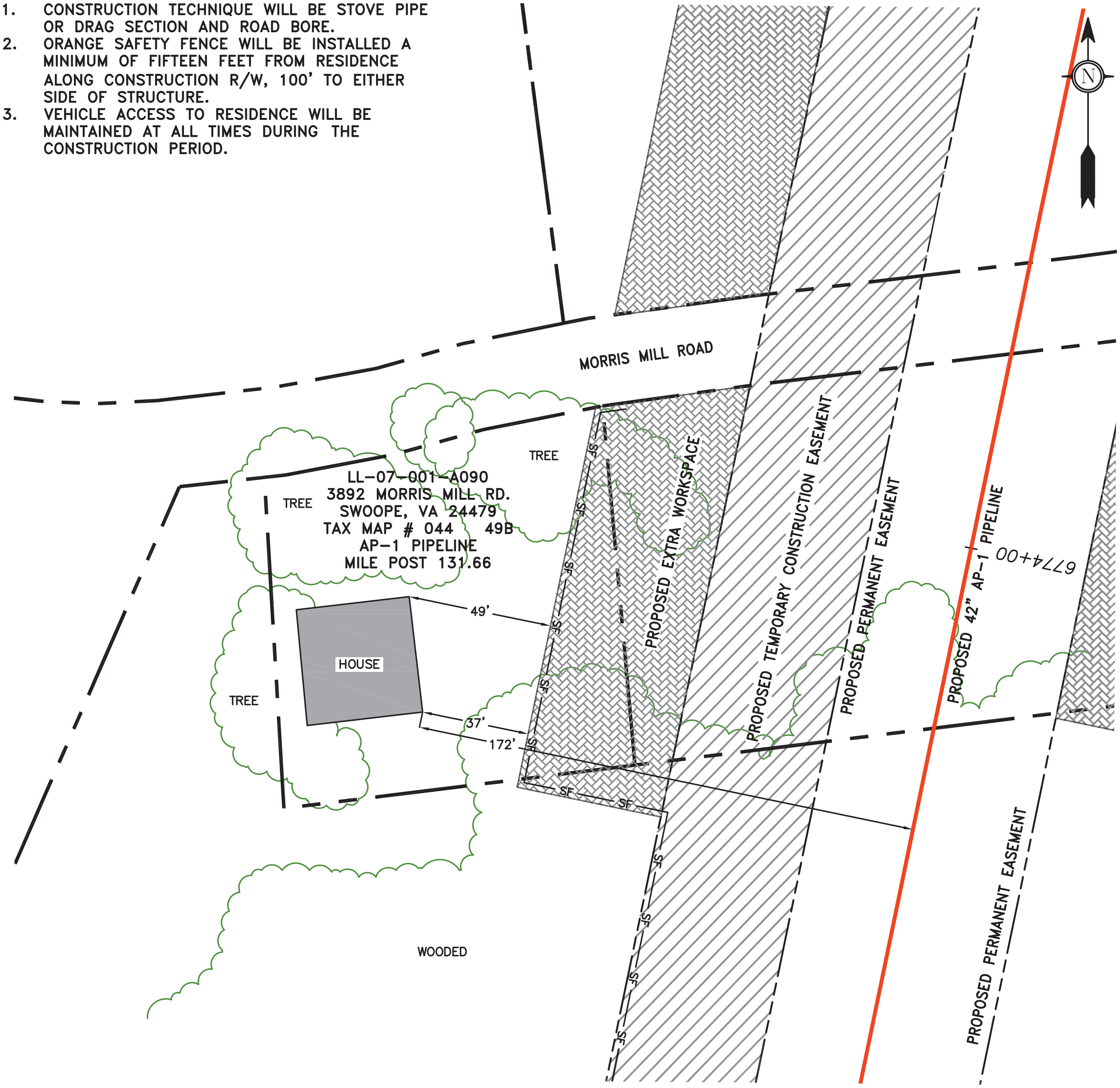
PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF——SF ORANGE SAFETY FENCE
PROPOSED TEMPORARY R.O.W.
EXTRA WORK SPACE
TOPSOIL SEGREGATION AREA

SCALE: 1" = 50'
50' 0 50'

gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES AUGUSTA COUNTY, VIRGINIA	DWN. GPT	CHKD. DLH	APPD. NET	DATE 7/11/2016
		SCALE: AS SHOWN			TASK NO. 01
	ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. 140468			
		DRAWING NO. LL-07-001-A088			REV –

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 3\SECTION 3 HOUSE EXHIBITS - REROUTE.DWG

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

PROPERTY LINE

PROPOSED PERMANENT EASEMENT

PROPOSED GAS PIPELINE

SF SF ORANGE SAFETY FENCE

PROPOSED TEMPORARY R.O.W.

EXTRA WORK SPACE

SCALE: 1" = 50'

50' 0 50'

gai consultants

SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

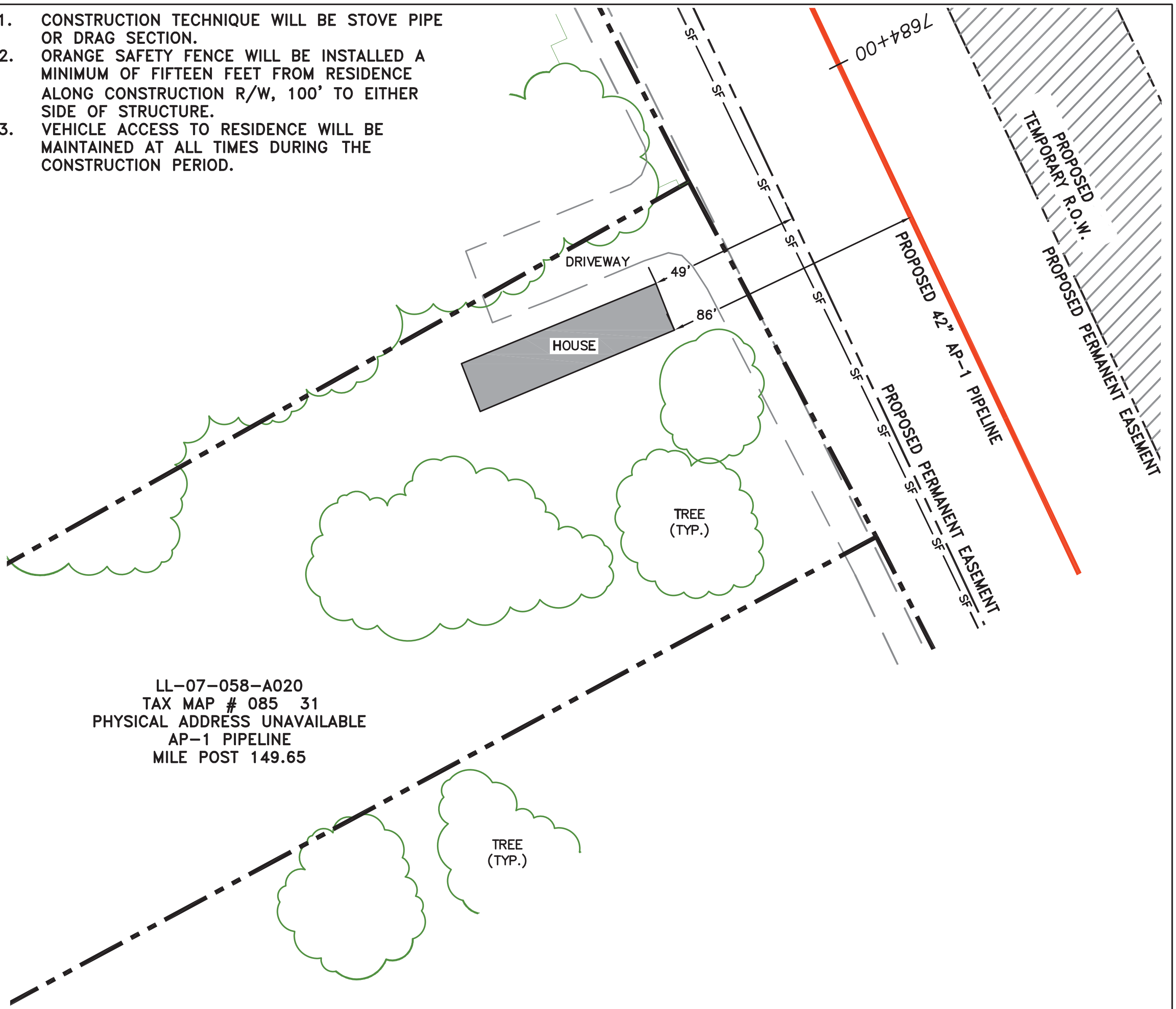
CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
AUGUSTA COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. GAH CHKD. DLH APPD. NET DATE 7/11/16
SCALE: AS SHOWN TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-07-001-A090 2 REV

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 3\SECTION 3 HOUSE EXHIBITS.DWG

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

PROPERTY LINE

PROPOSED PERMANENT EASEMENT

PROPOSED GAS PIPELINE

SF — SF ORANGE SAFETY FENCE

PROPOSED TEMPORARY R.O.W.

EXTRA WORK SPACE

TOPSOIL SEGREGATION AREA

SCALE: 1" = 50'

50' 0 50'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

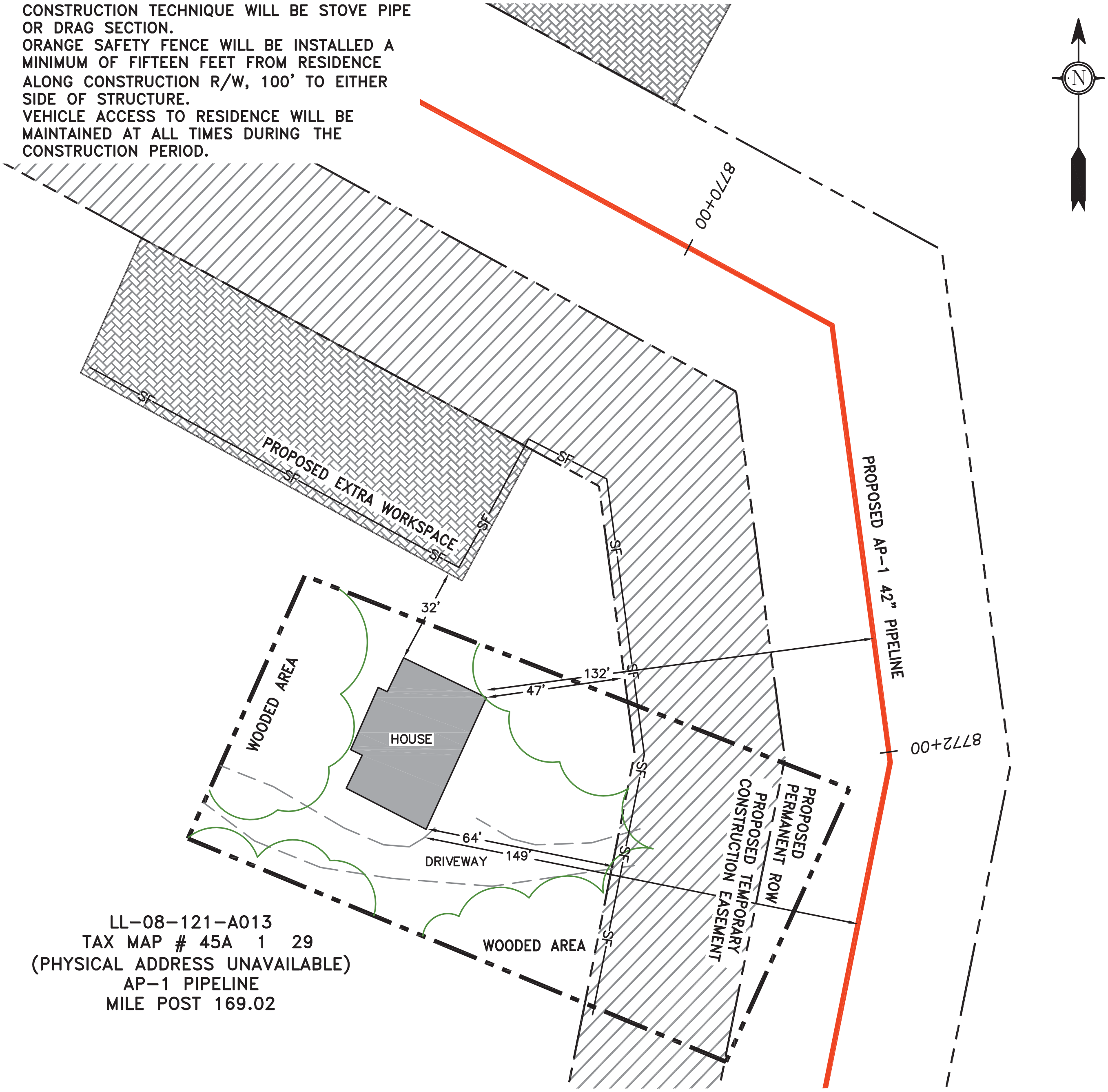
CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
AUGUSTA COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. GAH CHKD. DLH APPD. NET DATE 7/11/16
SCALE: AS SHOWN TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-07-058-A020 REV 2

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 3\SECTION 3 HOUSE EXHIBITS - REROUTE.DWG

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LL-08-121-A013
TAX MAP # 45A 1 29
(PHYSICAL ADDRESS UNAVAILABLE)
AP-1 PIPELINE
MILE POST 169.02

LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
ORANGE SAFETY FENCE
PROPOSED TEMPORARY R.O.W.
EXTRA WORK SPACE

SCALE: 1" = 50'
50' 0 50'

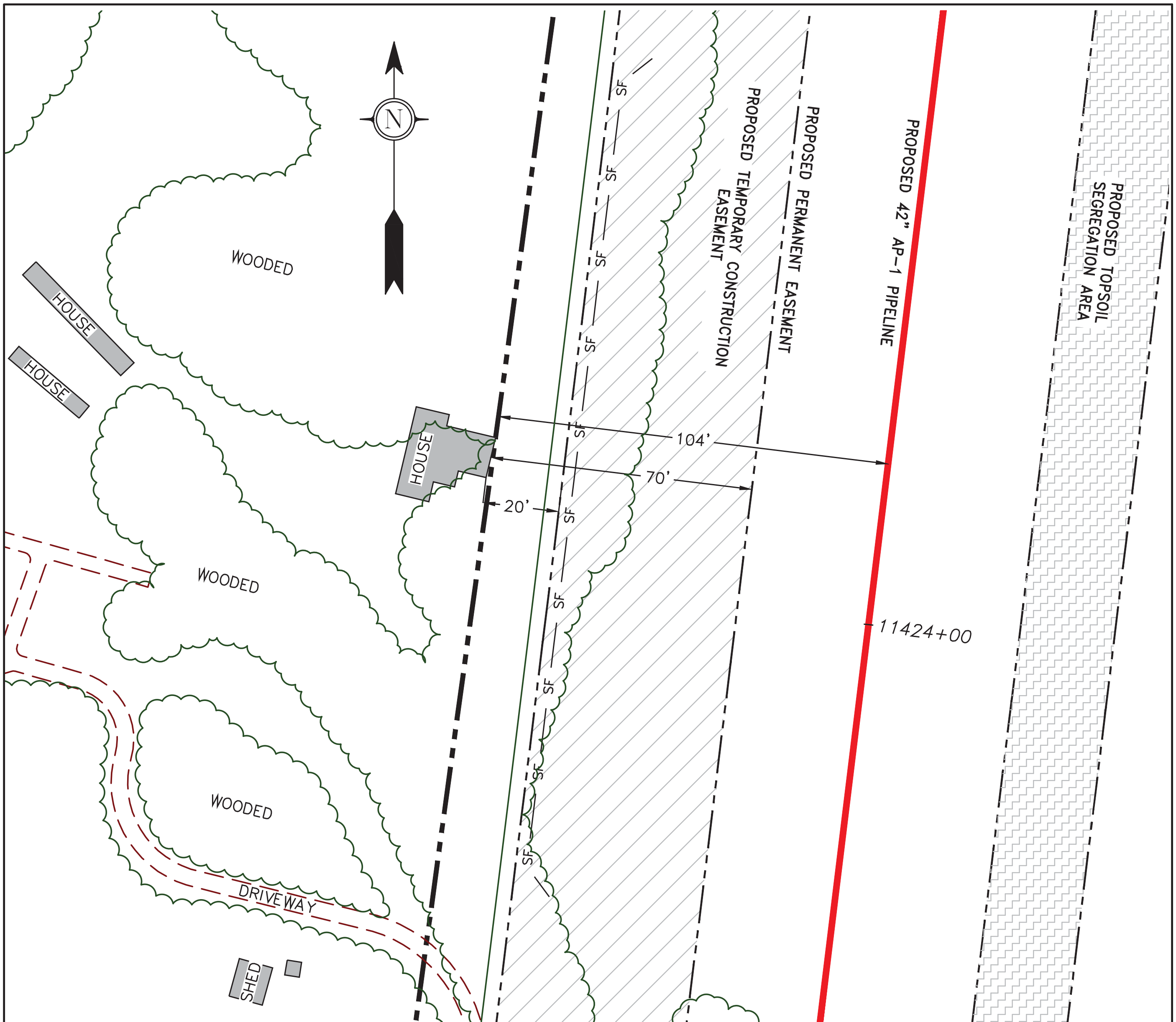
gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
NELSON COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. GAH	CHKD. DLH	APPD. NET	DATE 7/11/16
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-08-121-A013			REV 2

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 4\HOUSE EXHIBITS\SECTION 4 HOUSE EXHIBITS_RVSD 6-30-16.DWG



1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-10-011
TAX MAP # 096-A-72B
376 RAINES TAVERN ROAD
FARMVILLE, VA 23901
AP-1 MILE POST 213.26

LEGEND

- PROPERTY LINE
- PERMANENT EASEMENT
- EDGE OF PAVEMENT
- ORANGE SAFETY FENCE (SF — SF)
- PROPOSED GAS PIPELINE
- PROPOSED TEMPORARY WORKSPACE
- PROPOSED ADDITIONAL TEMPORARY WORKSPACE

SCALE: 1" = 40'

40' 0 40'

gai consultants
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

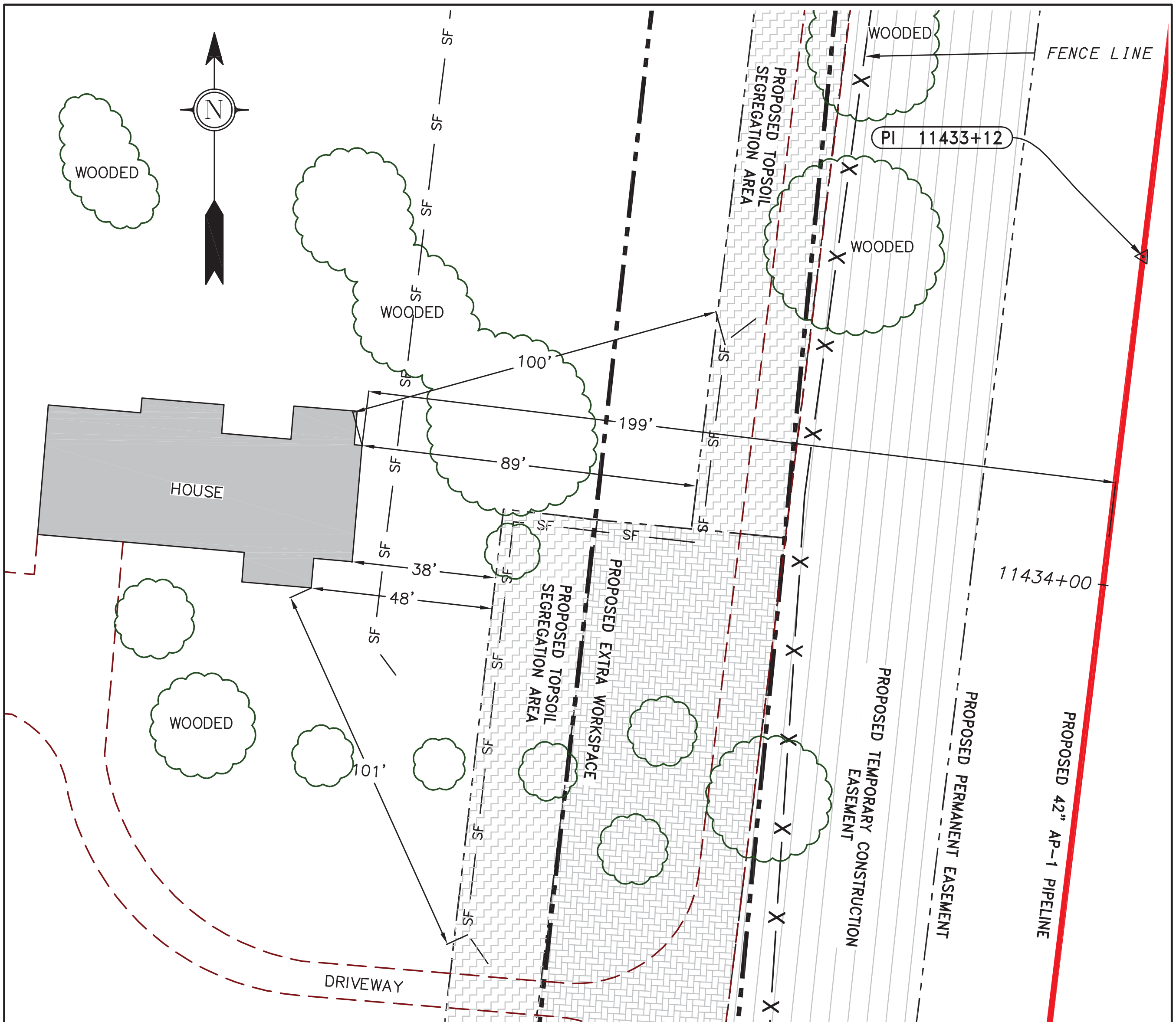
CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CUMBERLAND COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. JFS	CHKD. DLH	APPD. NET	DATE 7/14/16
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. C140468			
DRAWING NO. LL-10-011			REV 5

GAI CAD FILE: T:\DOMINION\CADD-GIS DATA\HOUSE DETAILS\LL-10-011 HOUSE DETAIL.DWG

7/14/2016 8:53 a.m.



1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-10-011.5
N/F
RACHEL SHELTER
TAX MAP # 096-A-72A
378 RAINES TAVERN RD
CUMBERLAND, VA 23901
MILE POST 213.46

LEGEND

TAX PARCEL LINE
PERMANENT EASEMENT
EDGE OF PAVEMENT
SF —— SF **ORANGE SAFETY FENCE**
PROPOSED GAS PIPELINE
PROPOSED TEMPORARY WORKSPACE
PROPOSED ADDITIONAL TEMPORARY WORKSPACE

SCALE: 1" = 40'
40' 0 40'

gai consultants
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

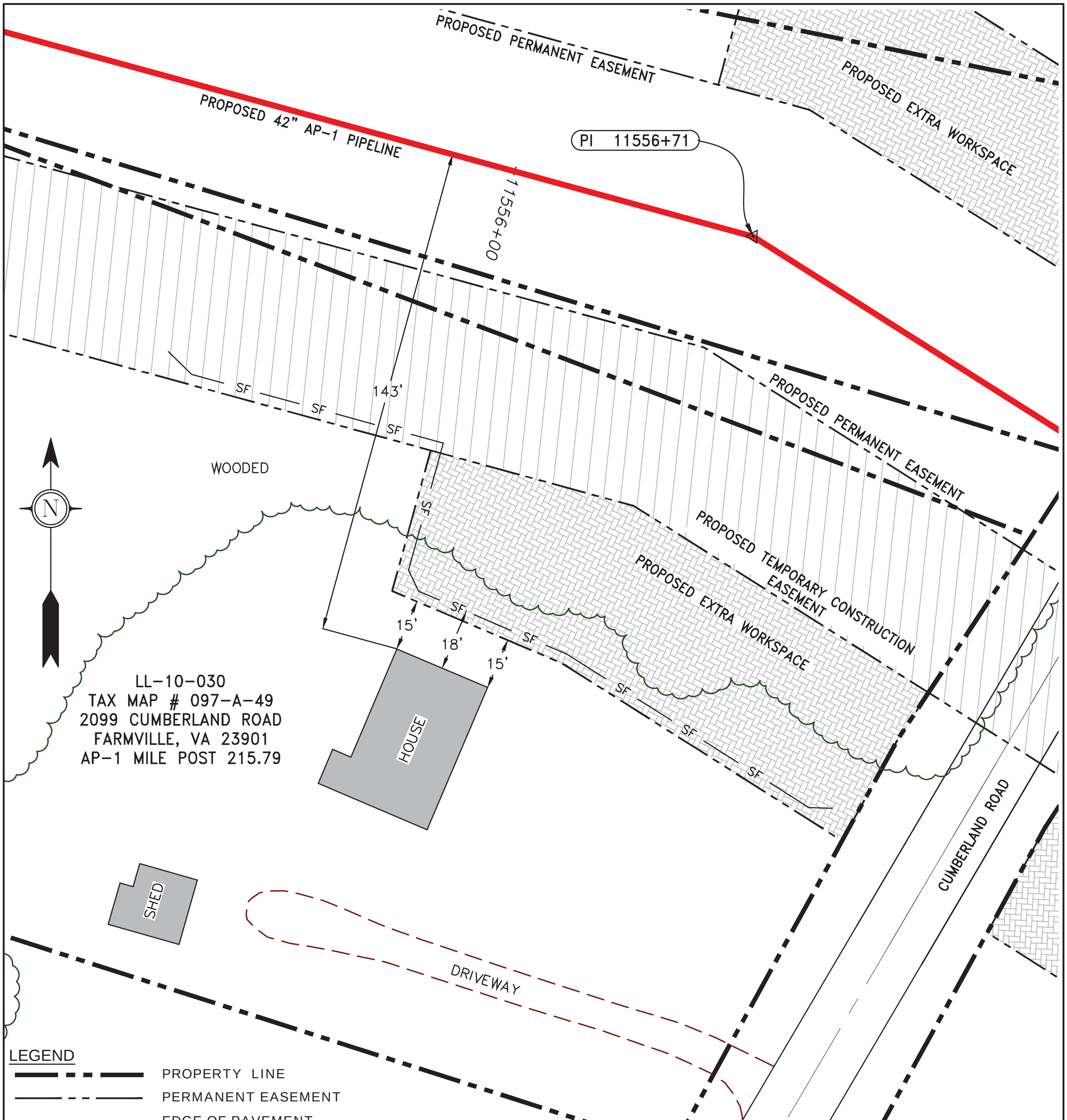
CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CUMBERLAND COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. DOO	CHKD. DLH	APPD. NET	DATE 1/19/16
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. C140468			
DRAWING NO. LL-10-011.5			REV 1

GAI CAD FILE: F:\DOMINION\CADD-GIS DATA\HOUSE DETAILS\LL-10-011.5 HOUSE DETAIL.DWG

1/19/2016 1:33 p.m.



LEGEND

PROPERTY LINE
PERMANENT EASEMENT
EDGE OF PAVEMENT
SF — SF ORANGE SAFETY FENCE
PROPOSED GAS PIPELINE
PROPOSED TEMPORARY WORKSPACE
PROPOSED ADDITIONAL TEMPORARY WORKSPACE

SCALE: 1" = 40'

40' 0 40'

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

gai consultants
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES
NEAR RESIDENTIAL STRUCTURES
CUMBERLAND COUNTY, VIRGINIA

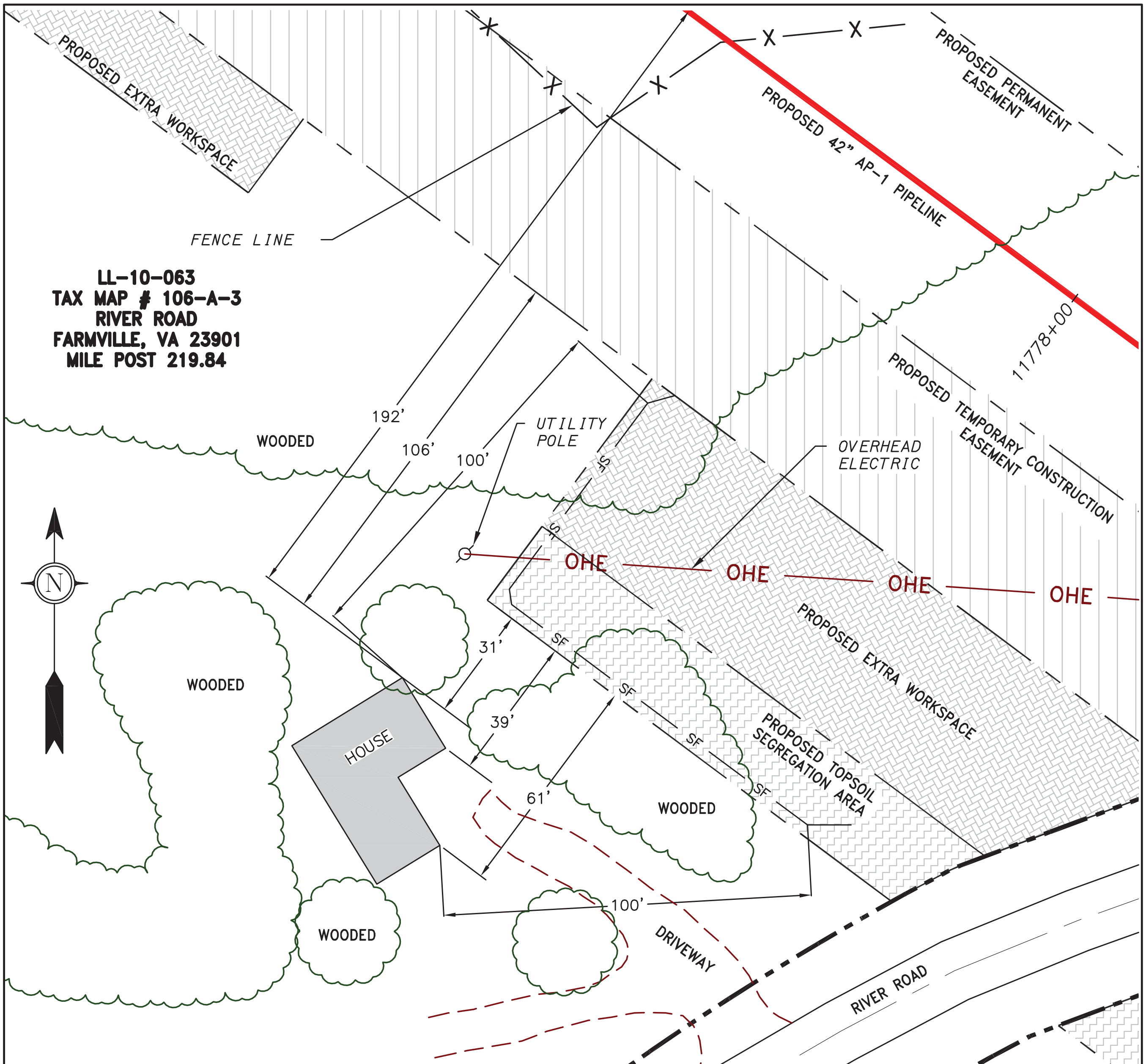
ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. JFS	CHKD. DLH	APPD. NET	DATE 7/13/16
SCALE: AS SHOWN			TASK NO. 01

PROJECT NO./DASH NO. C140468
DRAWING NO. LL-10-030 REV 3

GAI CAD FILE: T:\DOMINION\CADD-GIS DATA\HOUSE DETAILS\LL-10-030 HOUSE DETAIL.DWG

7/13/2016 4:30 p.m.



LEGEND

- TAX PARCEL LINE
- PERMANENT EASEMENT
- EDGE OF PAVEMENT
- SF — SF — ORANGE SAFETY FENCE
- PROPOSED GAS PIPELINE
- PROPOSED TEMPORARY WORKSPACE
- PROPOSED ADDITIONAL TEMPORARY WORKSPACE
- TOPSOIL SEGREGATION AREA

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

SCALE: 1" = 40'

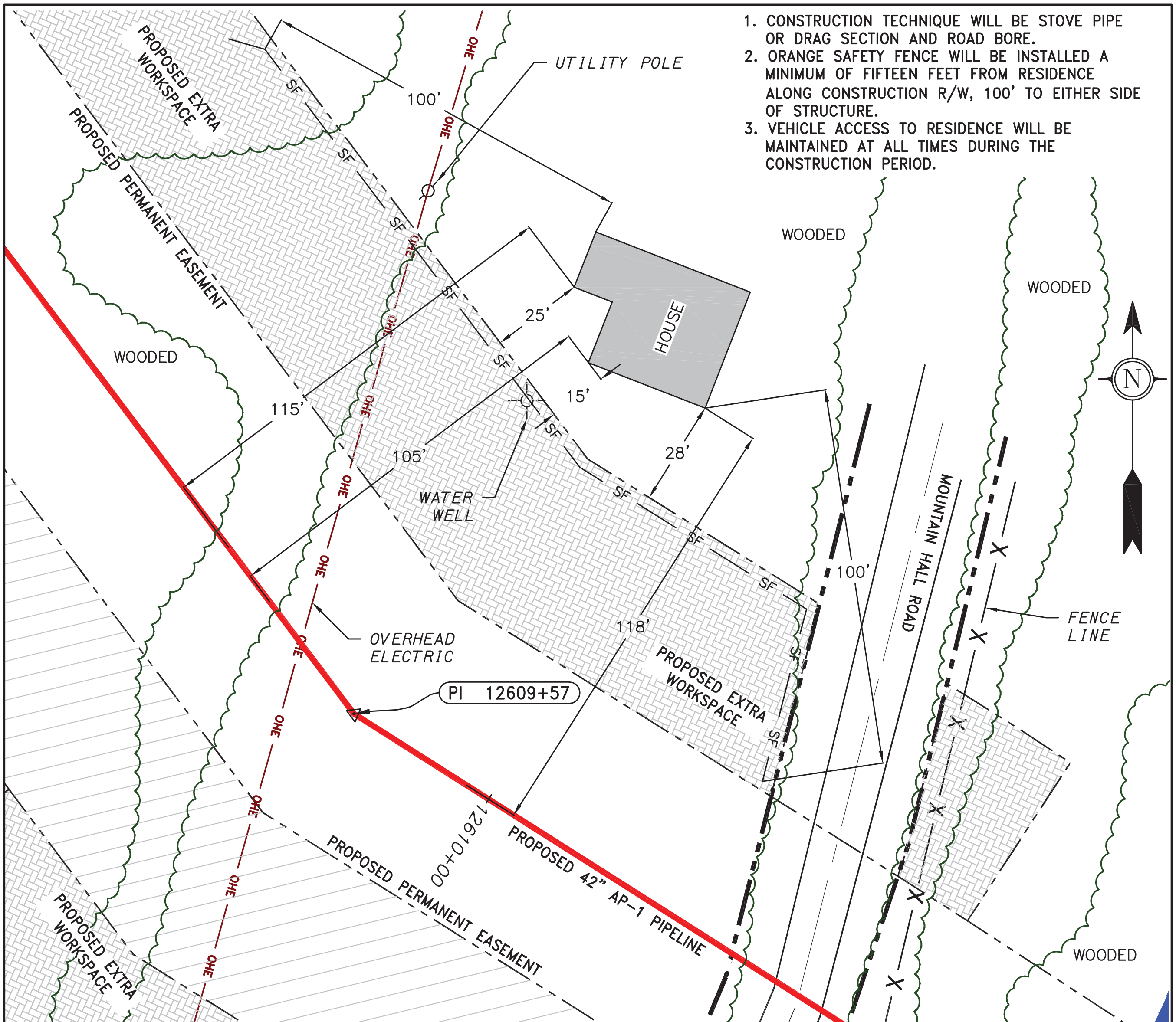
40' 0 40'

gai consultants 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES CUMBERLAND COUNTY, VIRGINIA	DWN. EEA	CHKD. DLH	APPD. NET	DATE 1/13/16
		SCALE: AS SHOWN			TASK NO. 01
	ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. C140468			
		DRAWING NO. LL-10-063			REV 1

GAI CAD FILE: F:\DOMINION\CADD-GIS DATA\HOUSE DETAILS\LL-10-063 HOUSE DETAIL.DWG

1/13/2016 1:08 p.m.

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LL-12-043
N/F
FRANK DYSON
TAX MAP # 6509-09-5118
MILE POST 235.62

(PHYSICAL ADDRESS UNAVAILABLE)

LEGEND

- TAX PARCEL LINE
- PERMANENT EASEMENT
- EDGE OF PAVEMENT
- SF —— SF —— ORANGE SAFETY FENCE
- PROPOSED GAS PIPELINE
- PROPOSED TEMPORARY WORKSPACE
- PROPOSED ADDITIONAL TEMPORARY WORKSPACE

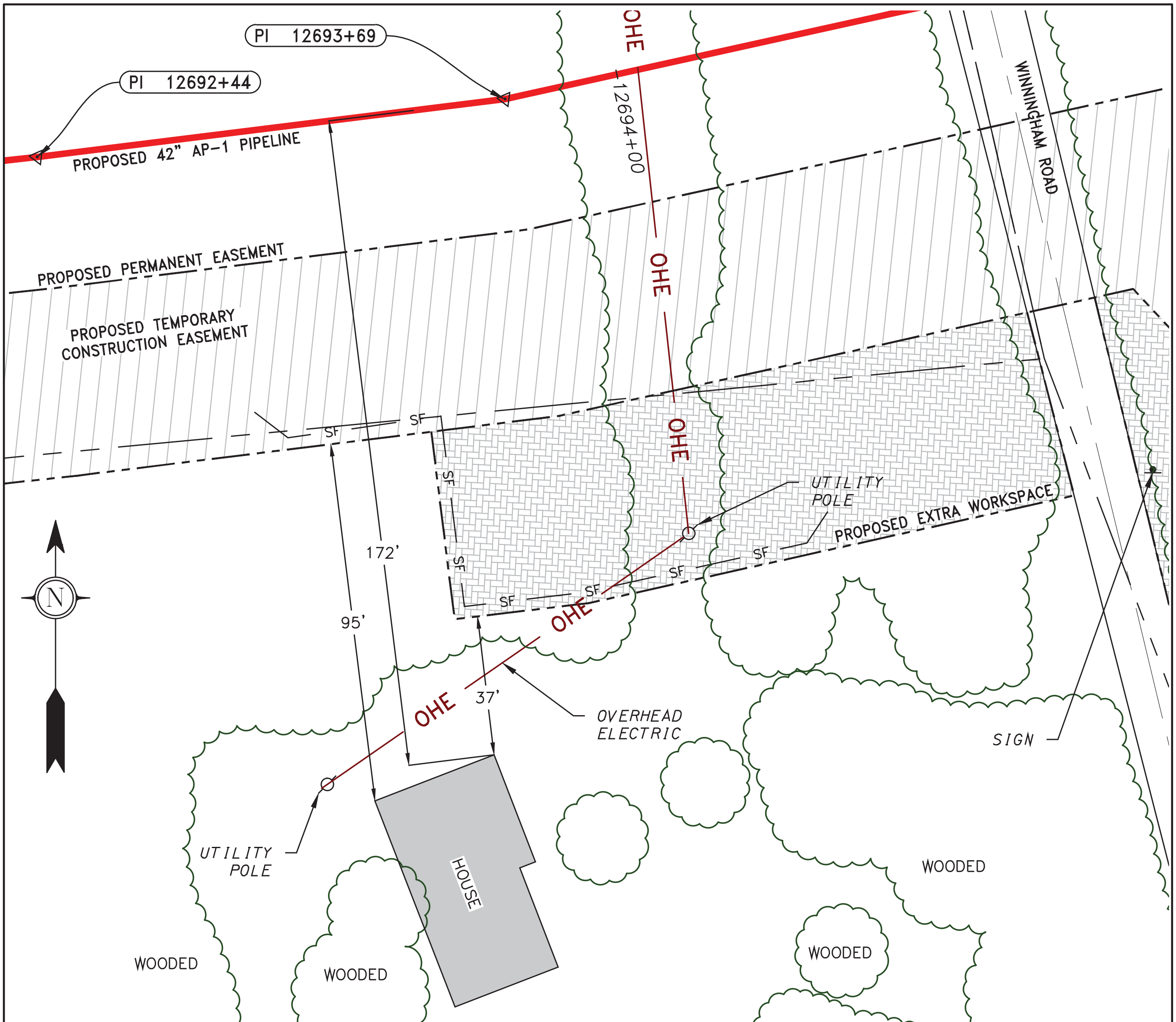
SCALE: 1" = 40'

40' 0 40'

gai consultants 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES NOTTOWAY COUNTY, VIRGINIA	DWN. EEA CHKD. DLH APPD. NET DATE 1/18/16 SCALE: AS SHOWN TASK NO. 01
	ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. C140468 DRAWING NO. LL-12-043 REV 2

GAI CAD FILE: F:\DOMINION\CADD-GIS DATA\HOUSE DETAILS\LL-12-043 HOUSE DETAIL.DWG

1/18/2016 1:54 p.m.



1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-12-049.5
TAX MAP # 20-11
AP-1 MILE POST 237.19

(PHYSICAL ADDRESS UNAVAILABLE)

LEGEND

- PROPERTY LINE
- PERMANENT EASEMENT
- EDGE OF PAVEMENT
- SF —— SF ORANGE SAFETY FENCE
- PROPOSED GAS PIPELINE
- PROPOSED GAS PIPELINE
- PROPOSED TEMPORARY WORKSPACE
- PROPOSED ADDITIONAL TEMPORARY WORKSPACE

SCALE: 1" = 40'

40' 0 40'

gai consultants
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
NOTTOWAY COUNTY, VIRGINIA

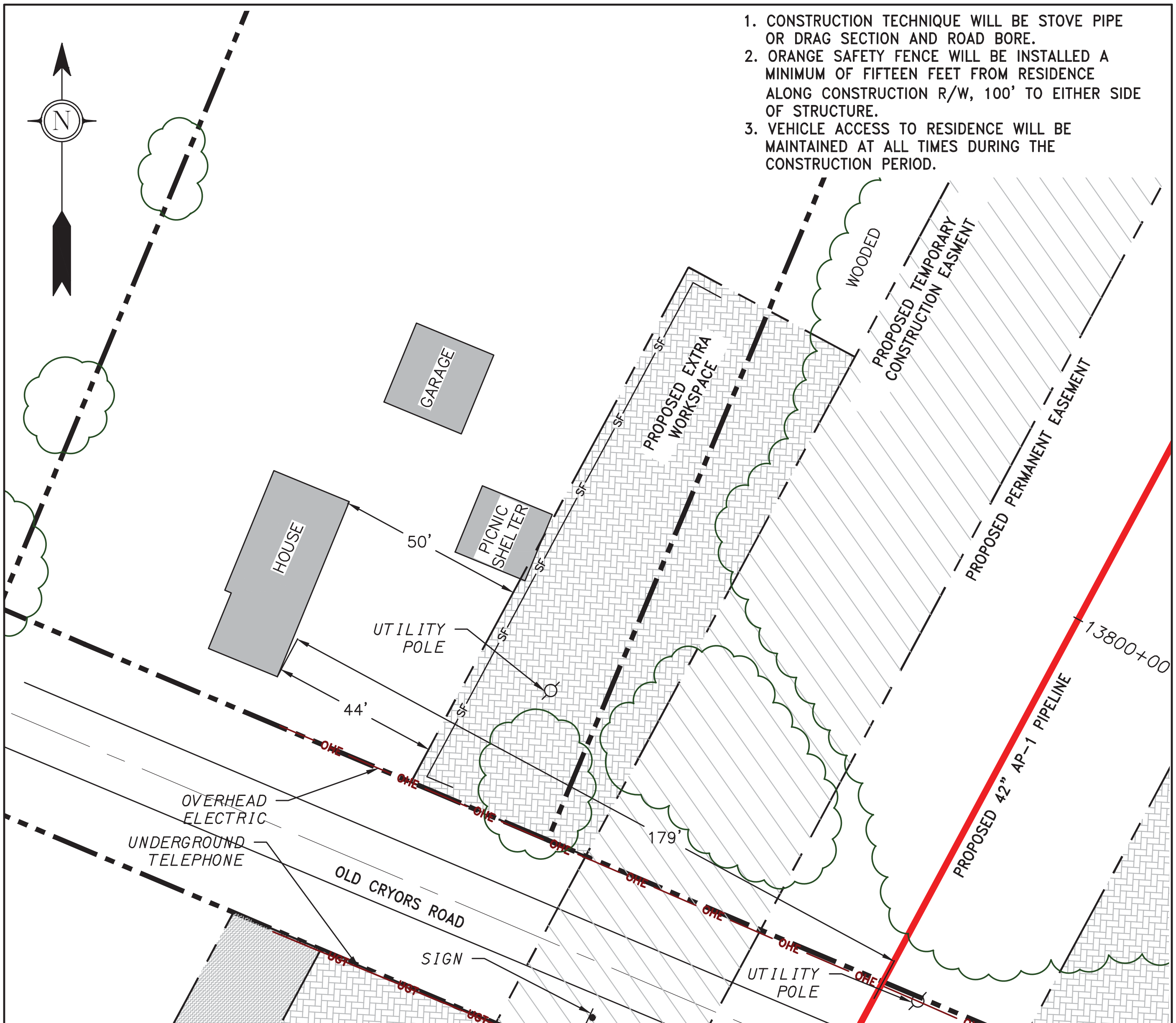
ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. JFS	CHKD. DLH	APPD. NET	DATE 6/24/16
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. C140468			
DRAWING NO. LL-12-049.5			REV 2

GAI CAD FILE: T:\DOMINION\CADD-GIS DATA\HOUSE DETAILS\LL-12-049.5 HOUSE DETAIL.DWG

6/24/2016 9:38 a.m.

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LL-13-019-A006
TAX MAP # 52-5A
AP-1 MILE POST 255.86
(PHYSICAL ADDRESS UNAVAILABLE)

LEGEND

PROPERTY LINE
PERMANENT EASEMENT
EDGE OF PAVEMENT
SF — SF — ORANGE SAFETY FENCE
PROPOSED GAS PIPELINE
PROPOSED TEMPORARY WORKSPACE
PROPOSED ADDITIONAL TEMPORARY WORKSPACE

SCALE: 1" = 40'

40' 0 40'

gai consultants
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
DINWIDDIE COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

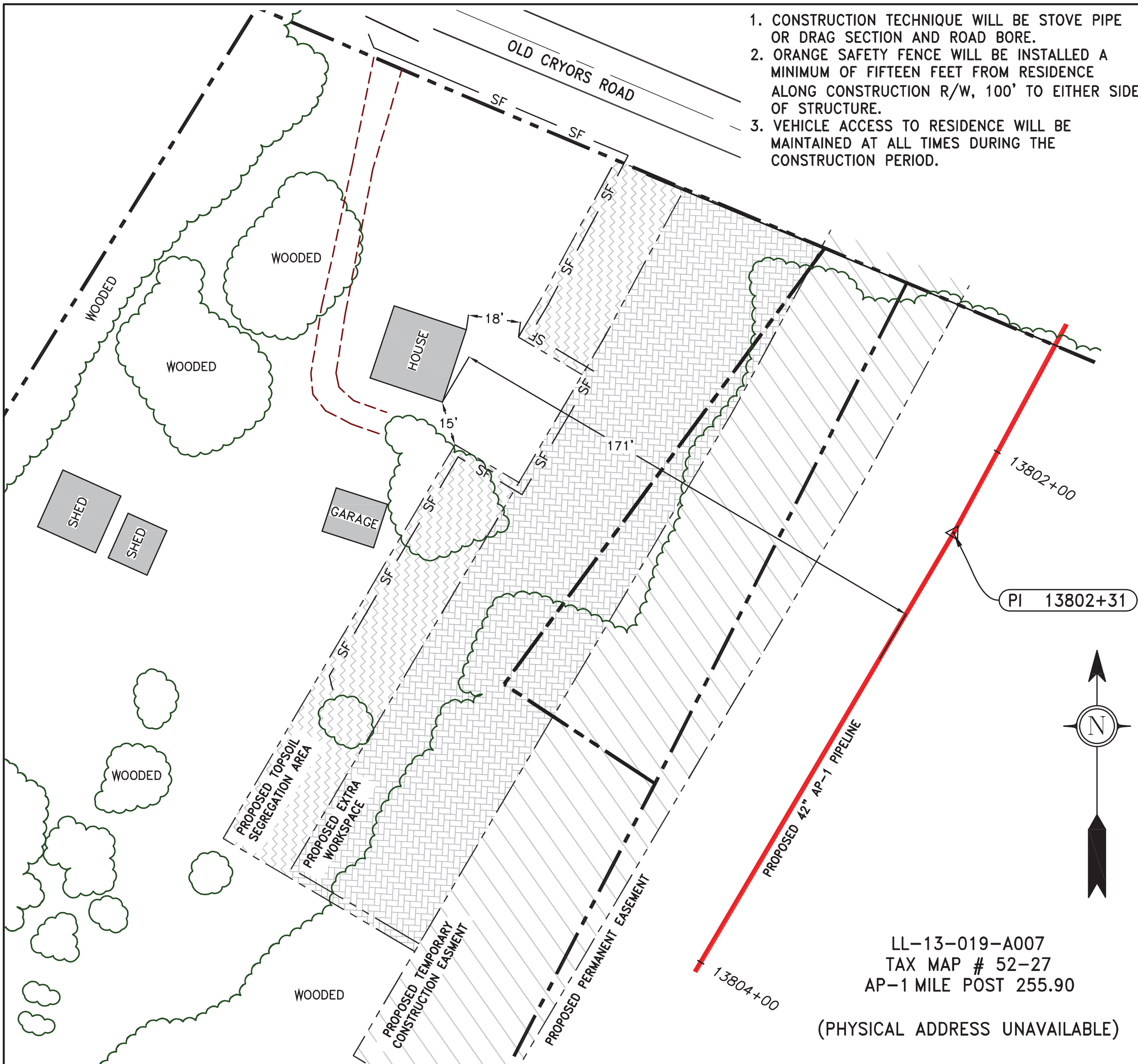
DWN. JFS	CHKD. DLH	APPD. NET	DATE 5/5/16
SCALE: AS SHOWN			TASK NO. 01

PROJECT NO./DASH NO. C140468
DRAWING NO. LL-13-019-A006 REV 1

GAI CAD FILE: F:\DOMINION\CADD-GIS DATA\HOUSE DETAILS\LL-13-19-A006 HOUSE DETAIL.DWG

5/5/2016 1:21 p.m.

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LL-13-019-A007
TAX MAP # 52-27
AP-1 MILE POST 255.90

(PHYSICAL ADDRESS UNAVAILABLE)

LEGEND

- PROPERTY LINE
- PERMANENT EASEMENT
- EDGE OF PAVEMENT
- SF — SF ORANGE SAFETY FENCE
- PROPOSED GAS PIPELINE
- PROPOSED TEMPORARY WORKSPACE
- PROPOSED ADDITIONAL TEMPORARY WORKSPACE

SCALE: 1" = 50'

50' 0 50'

gai consultants 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES DINWIDDIE COUNTY, VIRGINIA	DWN. DGC	CHKD. DLH	APPD. NET
		DATE 7/19/16	SCALE: AS SHOWN	TASK NO. 01
	ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. C140468	DRAWING NO. LL-13-019-A007	REV 2

GAI CAD FILE: T:\DOMINION\CADD-GIS DATA\HOUSE DETAILS\LL-13-19-A007 HOUSE DETAIL.DWG

7/19/2016 10:21 a.m.

AP-2

FERC's Plans will be followed for Residential Construction, for all Residences located within 50 feet of the construction work area

1. Orange safety fence will be installed at a minimum 15 feet from the residence, and 100 feet along the construction corridor, each direction from residence.
2. Will avoid the removal of mature trees and landscaping within the construction work area, unless necessary for safe operation of equipment, or as specified in the landowner agreements
3. Restore all lawn areas and landscaping immediately following clean up operations or as specified in landowner agreement
4. During landowner negotiations, identify location of septic system and avoid or develop a replacement plan with landowner during construction.

For this project, the following notes will also be applied

a. Where the pipeline centerline is within 25 feet of a residence, the trench will not be excavated until the pipe is ready for installation.

b. Landowner will be notified one week prior to construction on his/her property

c. No refueling or storage of hazardous materials will occur within 200 feet of a private well.

d. Steel plating or other effective means will be provided to allow landowner access to his/her residence should construction or other ground disturbance occur. Required at egress points, landowner driveways, or other private access ways.

e. On public roads, we will follow our traffic management plans that are filed as part of the permit

f. Construction will be limited to daylight hours.

g. Applicant will:

- Ensure piping is welded and installed as quickly as possible to minimize the amount of time a neighborhood is affected by construction;
- Complete final cleanup, grading, and installation of permanent erosion control devices within 10 days after backfilling the trench, weather permitting.
- During landowner negotiations, will work with landowner on restoration procedure. These procedures will include seeding mix, tree/shrub planting and hardscape replacement.

gai consultants
SOUTHPOINTE OFFICE
6000 TOWNE CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES
NEAR RESIDENTIAL STRUCTURES
GENERAL NOTES

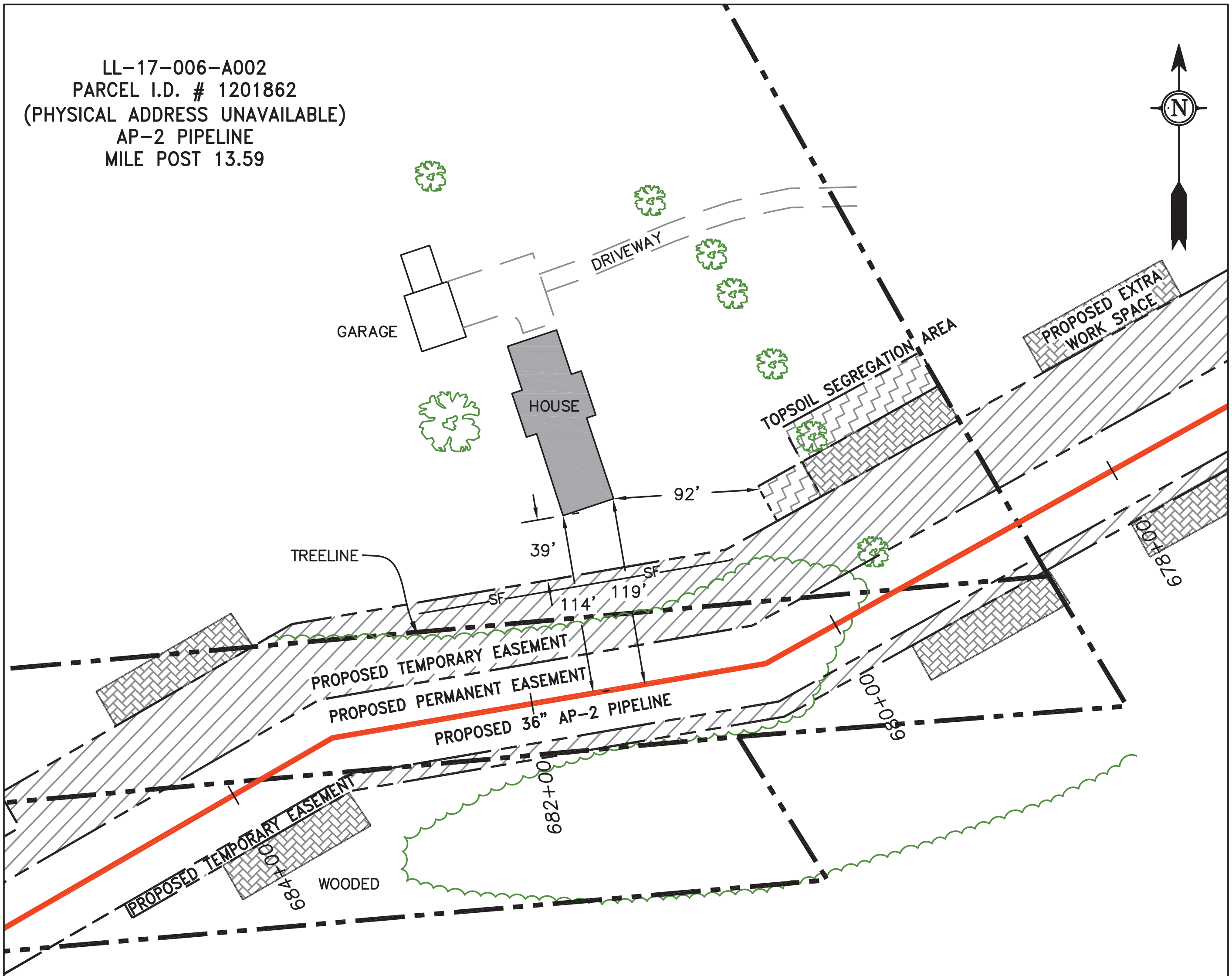
ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. JJP | CHKD. DLH | APPD. NET | DATE 07/28/2016
SCALE: NONE | TASK NO. 00
PROJECT NO./DASH NO. C140468
DRAWING NO. A001
REV –

GAI CAD FILE: Z:\ENERGY\2014\C140468.00 – DOMINION – SOUTHEAST PIPE\CAD\MASTER ROUTE\DRG\DRAWINGS\HOUSE_SITE_SPECIFIC_GENERAL_NOTES.DWG

7/19/2016 8:44 AM

LL-17-006-A002
PARCEL I.D. # 1201862
(PHYSICAL ADDRESS UNAVAILABLE)
AP-2 PIPELINE
MILE POST 13.59



LEGEND

— · —	**PROPERTY LINE**
— — —	**PROPOSED PERMANENT EASEMENT**
——	**PROPOSED GAS PIPELINE**
—SF—SF—	**ORANGE SAFETY FENCE**
	PROPOSED TEMPORARY R.O.W.
	EXTRA WORK SPACE
	TOPSOIL SEGREGATION AREA

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSRTUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

SCALE: 1" = 100'

100' 0 100'

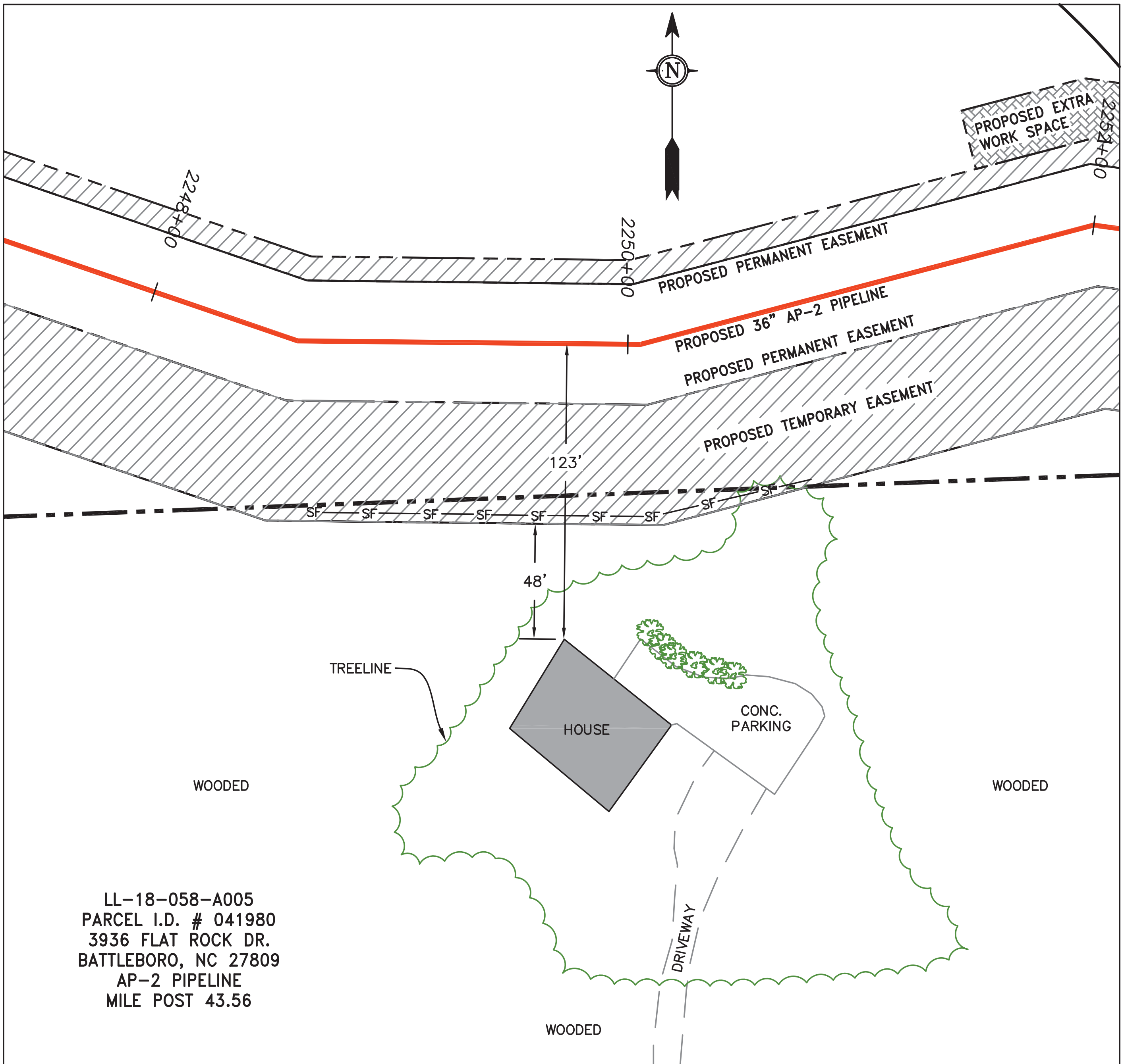
gai consultants
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
HALIFAX COUNTY, NORTH CAROLINA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. BJS	CHKD. DLH	APPD. NET	DATE 7/8/2016
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-17-006-A002			REV –

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 9\SEC 9 HOUSE EXHIBITS.DWG



LEGEND

- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- SF——SF ORANGE SAFETY FENCE
- PROPOSED TEMPORARY R.O.W.
- EXTRA WORK SPACE

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSRTUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

SCALE: 1" = 60'

60' 0 60'

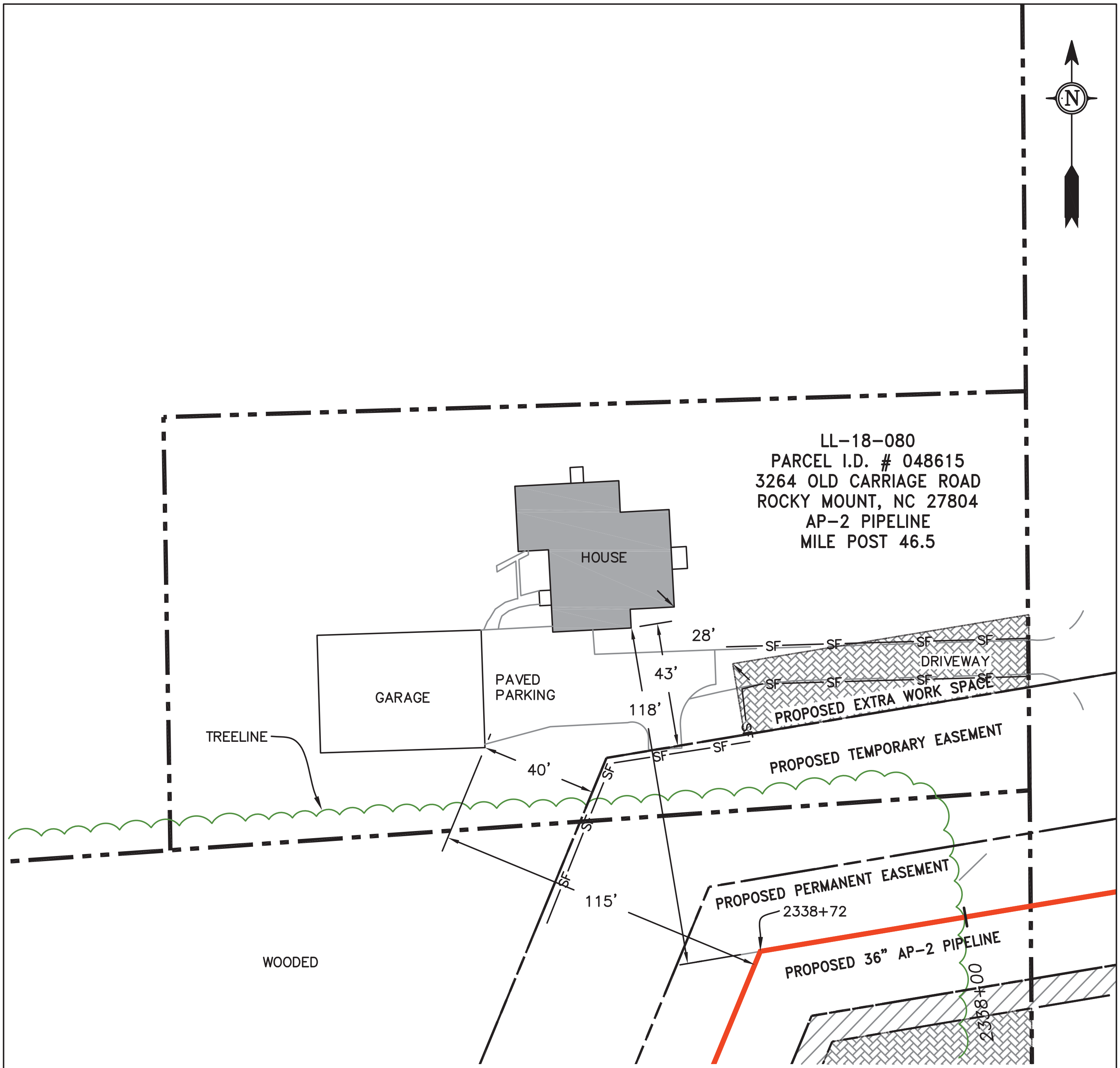
gai consultants
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
NASH COUNTY, NORTH CAROLINA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. BJS | CHKD. DLH | APPD. NET | DATE 7/8/2016
SCALE: AS SHOWN | TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-18-058-A005 REV 1

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 9\SEC 9 HOUSE EXHIBITS.DWG



LEGEND

PROPERTY LINE

PROPOSED PERMANENT EASEMENT

PROPOSED GAS PIPELINE

SF SF **ORANGE SAFETY FENCE**

PROPOSED TEMPORARY R.O.W.

EXTRA WORK SPACE

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSRTUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

SCALE: 1" = 50'

50' 0 50'

gai consultants
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

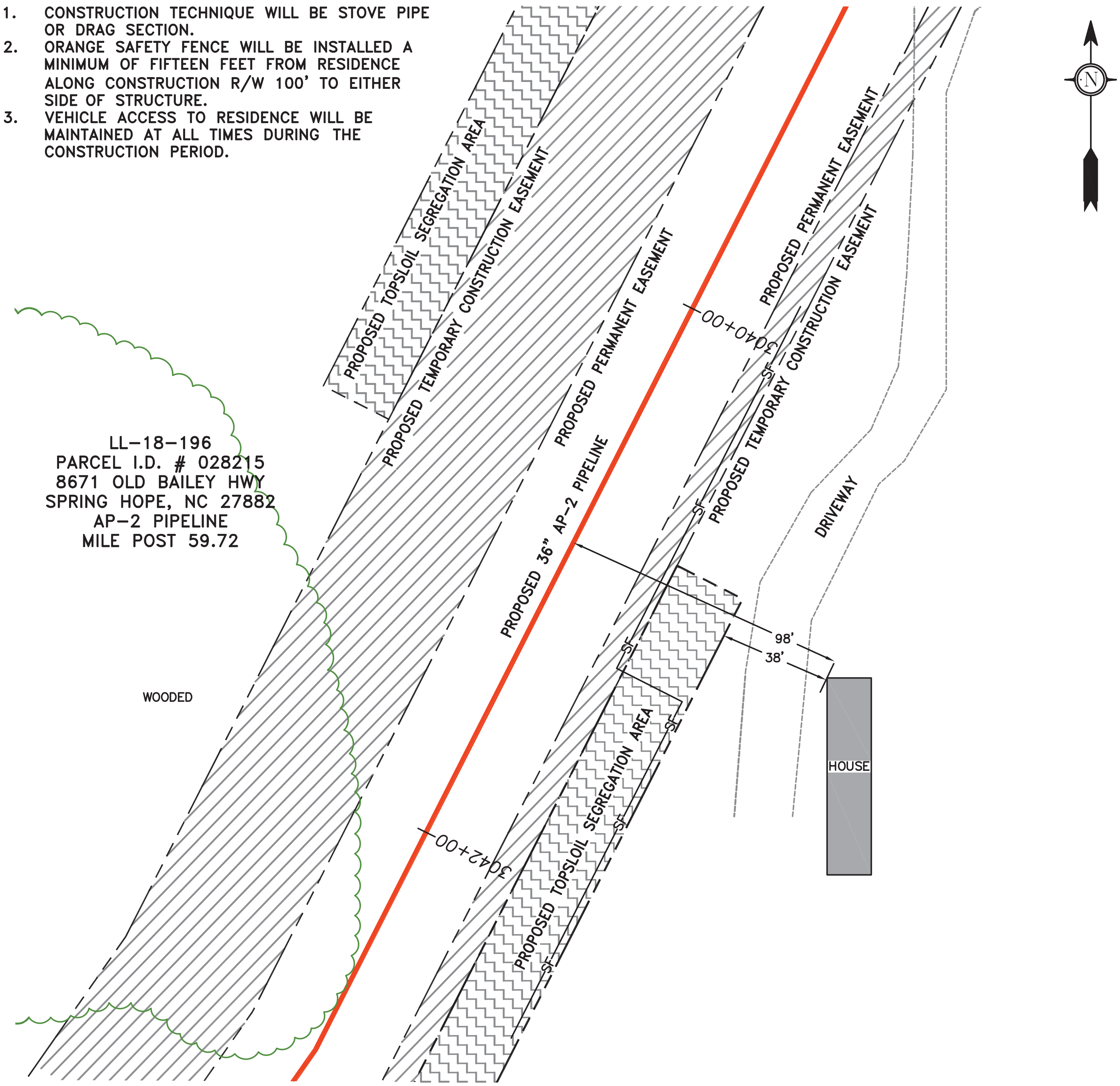
CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
NASH COUNTY, NORTH CAROLINA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. BJS	CHKD. DLH	APPD. NET	DATE 7/8/2016
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-18-080			REV –

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 9\SEC 9 HOUSE EXHIBITS.DWG

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

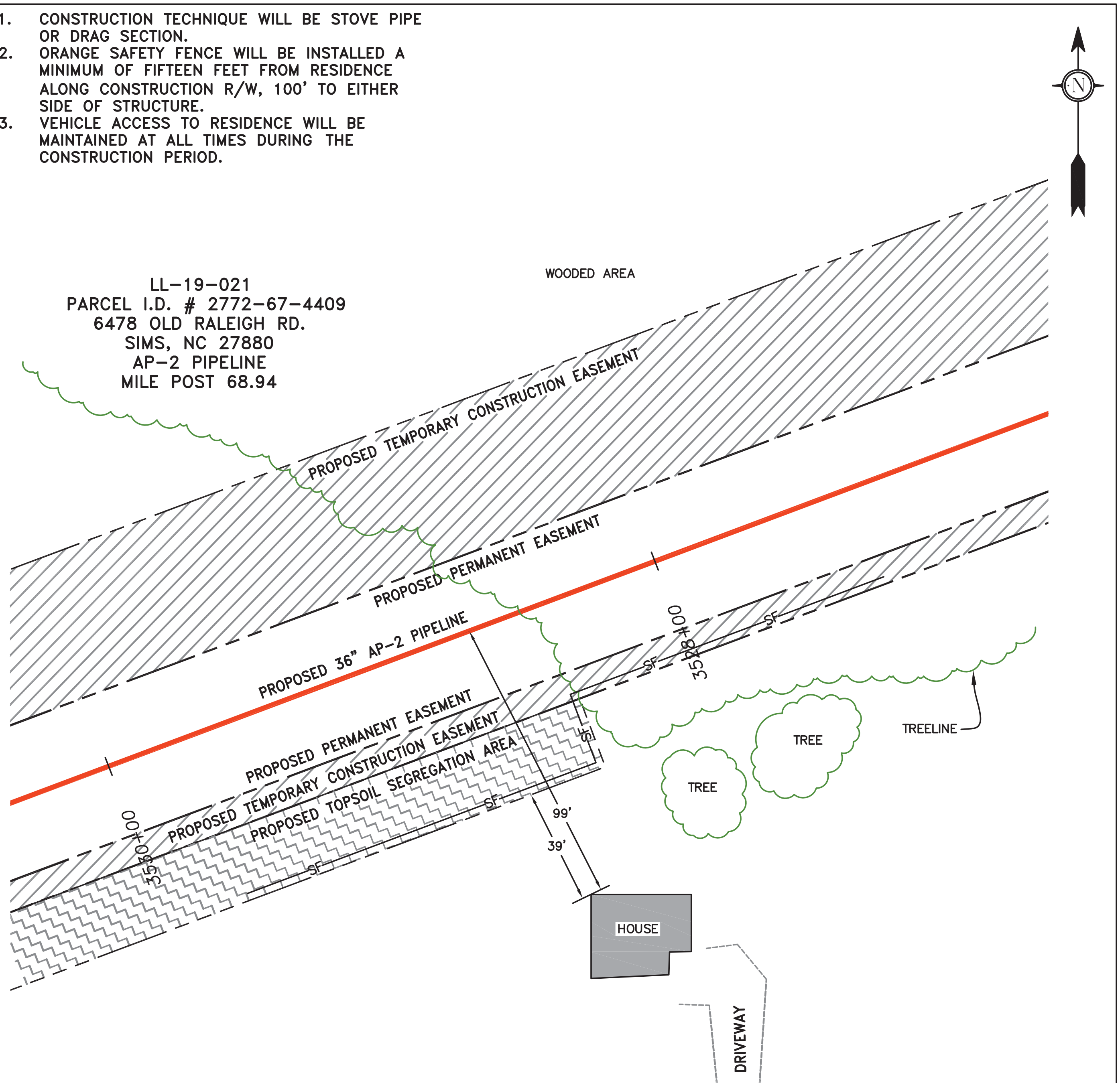
PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
ORANGE SAFETY FENCE (SF — SF)
PROPOSED TEMPORARY R.O.W.
TOPSOIL SEGREGATION AREA

SCALE: 1" = 50'
50' 0 50'

gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	**CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES** NASH COUNTY, NORTH CAROLINA	DWN. GAH · CHKD. DLH · APPD. NET · DATE 7/11/16 SCALE: AS SHOWN · TASK NO. 01
	ATLANTIC COAST PIPELINE LLC **C/O DOMINION TRANSMISSION, INC.** 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. 140468 DRAWING NO. LL-18-196 · REV 3

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 10\HOUSE EXHIBITS\SECTION 10 HOUSE EXHIBITS - NO NAMES.DWG

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

	PROPERTY LINE
	PROPOSED PERMANENT EASEMENT
	PROPOSED GAS PIPELINE
—SF—SF—	**ORANGE SAFETY FENCE**
	PROPOSED TEMPORARY R.O.W.
	TOPSOIL SEGREGATION AREA

SCALE: 1" = 50'

50' 0 50'

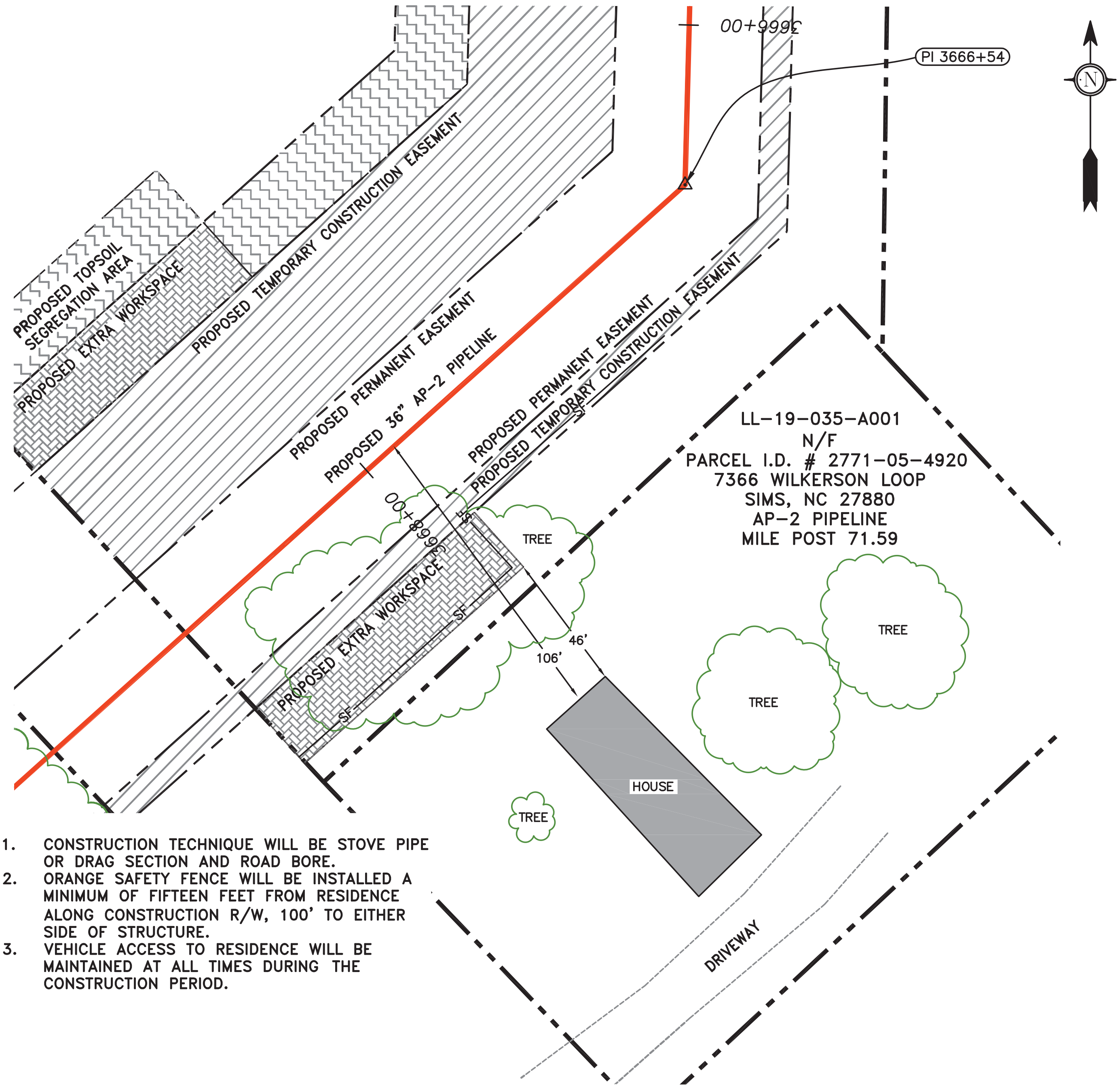
gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
WILSON COUNTY, NORTH CAROLINA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. GAH | CHKD. DLH | APPD. NET | DATE 7/11/16
SCALE: AS SHOWN | TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-19-021 | REV 2

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 10\HOUSE EXHIBITS\SECTION 10 HOUSE EXHIBITS - NO NAMES.DWG



1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF SF **ORANGE SAFETY FENCE**
PROPOSED TEMPORARY R.O.W.
EXTRA WORK SPACE
TOPSOIL SEGREGATION AREA

SCALE: 1" = 50'
50' 0 50'

gai consultants
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
WILSON COUNTY, NORTH CAROLINA

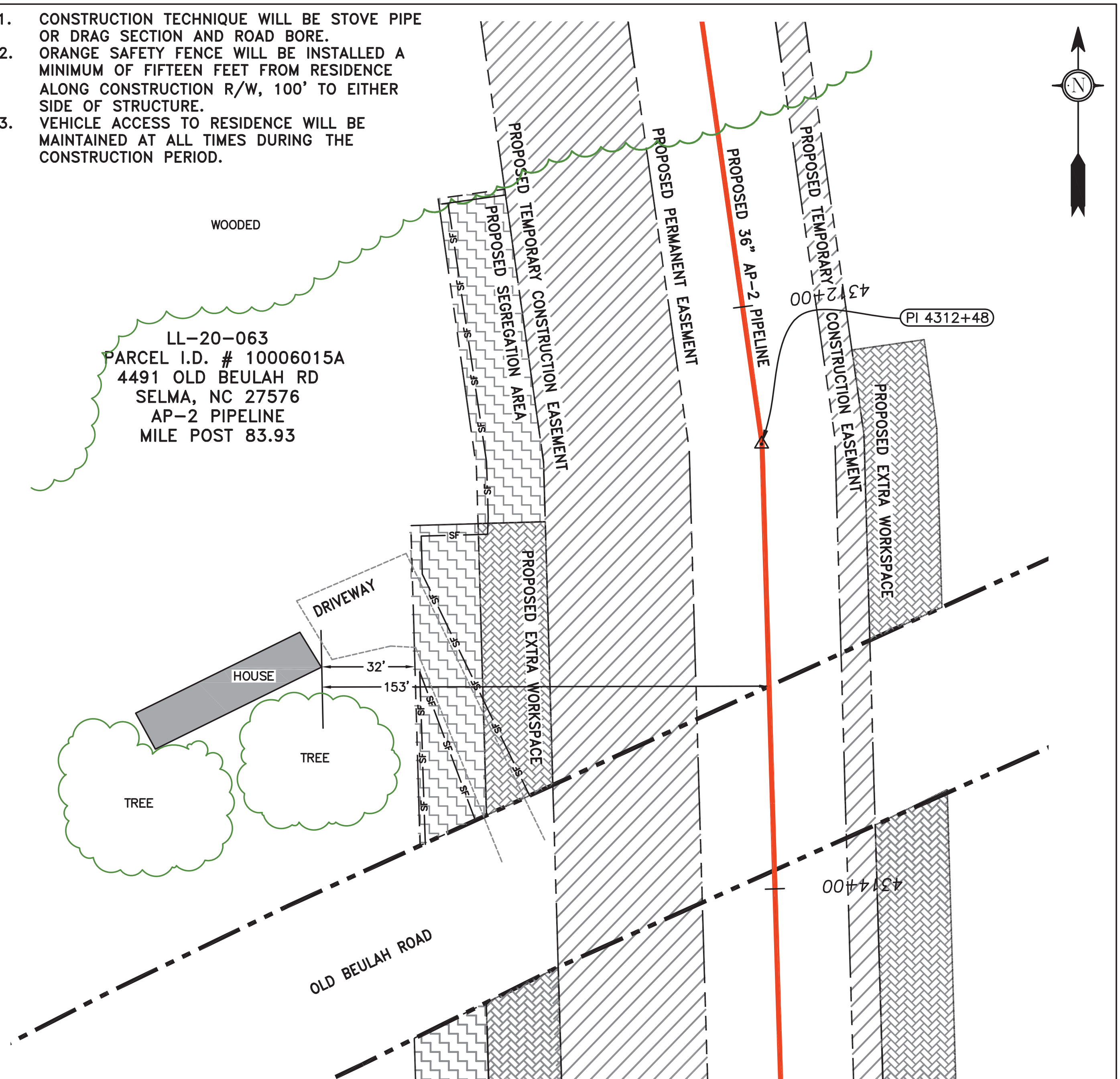
ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. CDM	CHKD. DLH	APPD. NET	DATE 7/11/16
SCALE: AS SHOWN			TASK NO. 01

PROJECT NO./DASH NO. 140468
DRAWING NO. LL-19-035-A001 REV 1

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 10\HOUSE EXHIBITS\SECTION 10 HOUSE EXHIBITS - NO NAMES.DWG

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

PROPERTY LINE

PROPOSED PERMANENT EASEMENT

PROPOSED GAS PIPELINE

SF SF **ORANGE SAFETY FENCE**

PROPOSED TEMPORARY R.O.W.

EXTRA WORK SPACE

TOPSOIL SEGREGATION AREA

SCALE: 1" = 50'

50' 0 50'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
JOHNSTON COUNTY, NORTH CAROLINA

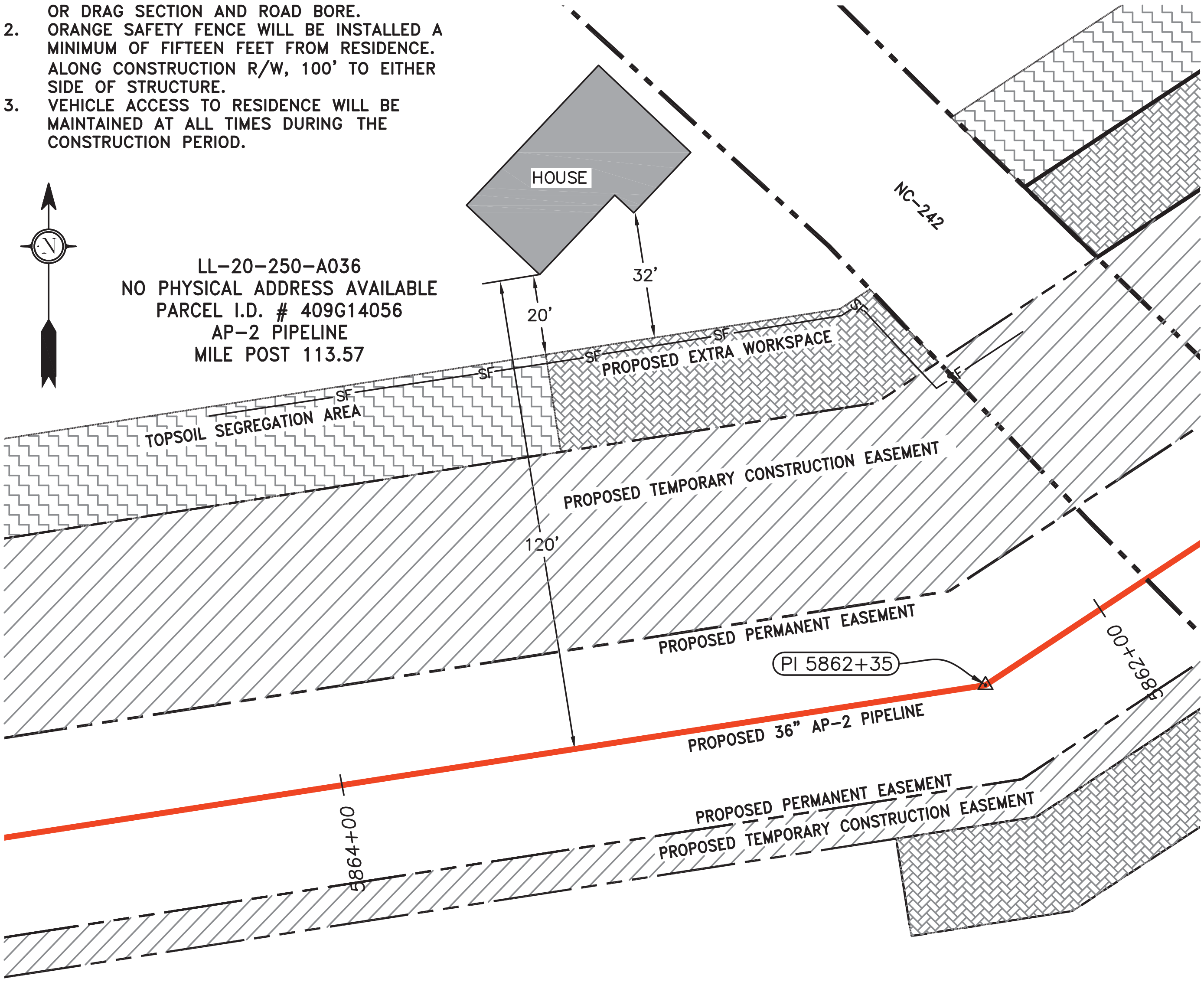
ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. GAH | CHKD. DLH | APPD. NET | DATE 7/08/16
SCALE: AS SHOWN | TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-20-063 | 2 REV

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 10\HOUSE EXHIBITS\SECTION 10 HOUSE EXHIBITS - NO NAMES.DWG

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE. ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL–20–250–A036
NO PHYSICAL ADDRESS AVAILABLE
PARCEL I.D. # 409G14056
AP–2 PIPELINE
MILE POST 113.57



LEGEND

- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- SF — SF — ORANGE SAFETY FENCE
- PROPOSED TEMPORARY R.O.W.
- EXTRA WORK SPACE
- TOPSOIL SEGREGATION AREA

SCALE: 1" = 40'
40' 0 40'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724–873–3545

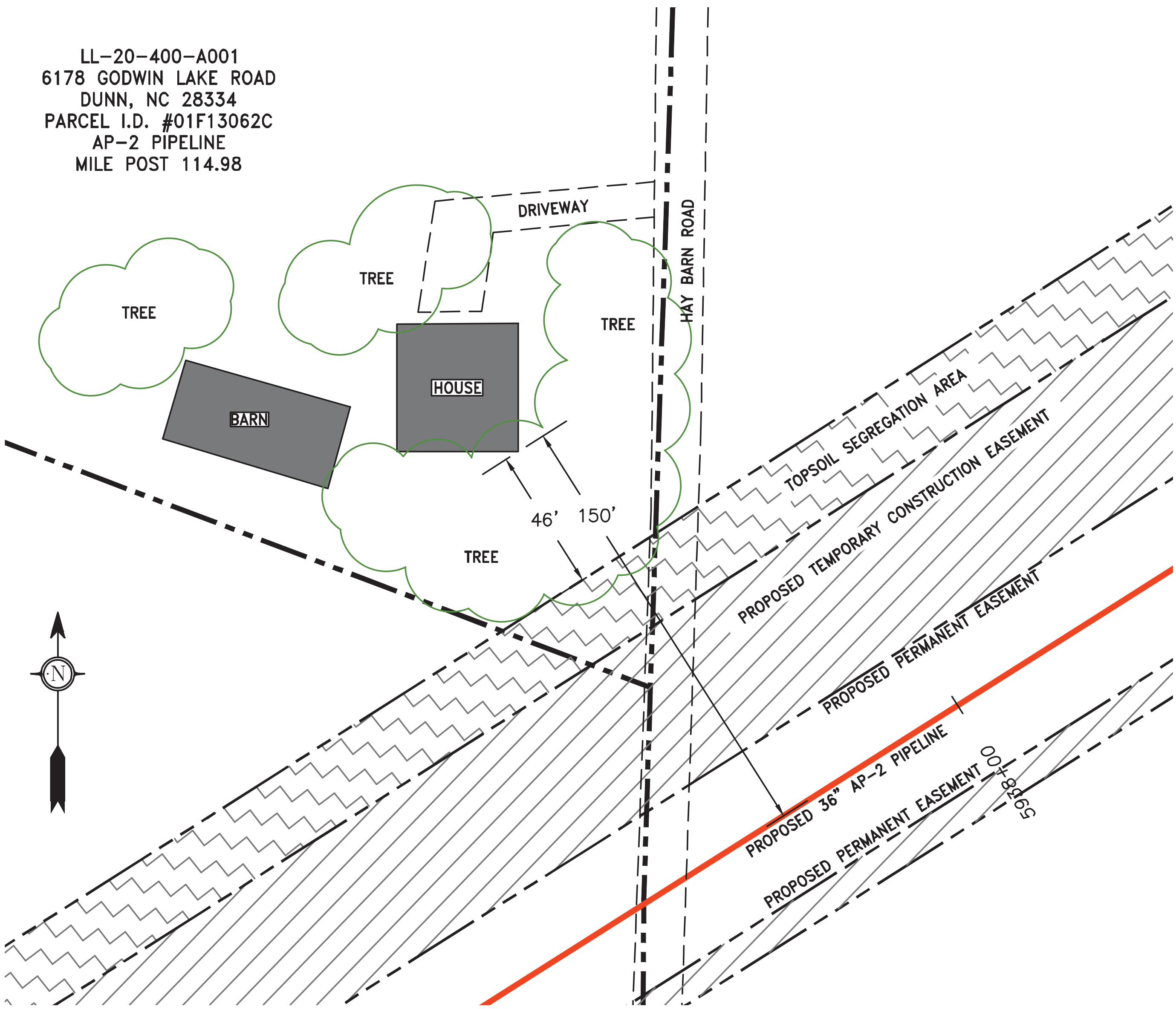
CONSTRUCTION TECHNIQUES
NEAR RESIDENTIAL STRUCTURES
JOHNSTON COUNTY, NORTH CAROLINA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. GPT CHKD. DLH APPD. NET DATE 7/11/2016
SCALE: AS SHOWN TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL–20–250–A036 REV –

GAI CAD FILE: R:\050–5159 – GIA, INC. – GAI – THRASHER – SERP – MAPPING\SURVEY\DRAWING\SEC 11\HOUSE EXHIBITS\SECT 11 REROUTE HOUSE EXHIBITS – NO NAMES.DWG

LL-20-400-A001
6178 GODWIN LAKE ROAD
DUNN, NC 28334
PARCEL I.D. #01F13062C
AP-2 PIPELINE
MILE POST 114.98



SCALE: 1" = 50'

50' 0 50'

LEGEND

PROPERTY LINE

PROPOSED PERMANENT EASEMENT

PROPOSED GAS PIPELINE

SF SF ORANGE SAFETY FENCE

PROPOSED TEMPORARY R.O.W.

EXTRA WORK SPACE

TOPSOIL SEGREGATION AREA

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE. ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

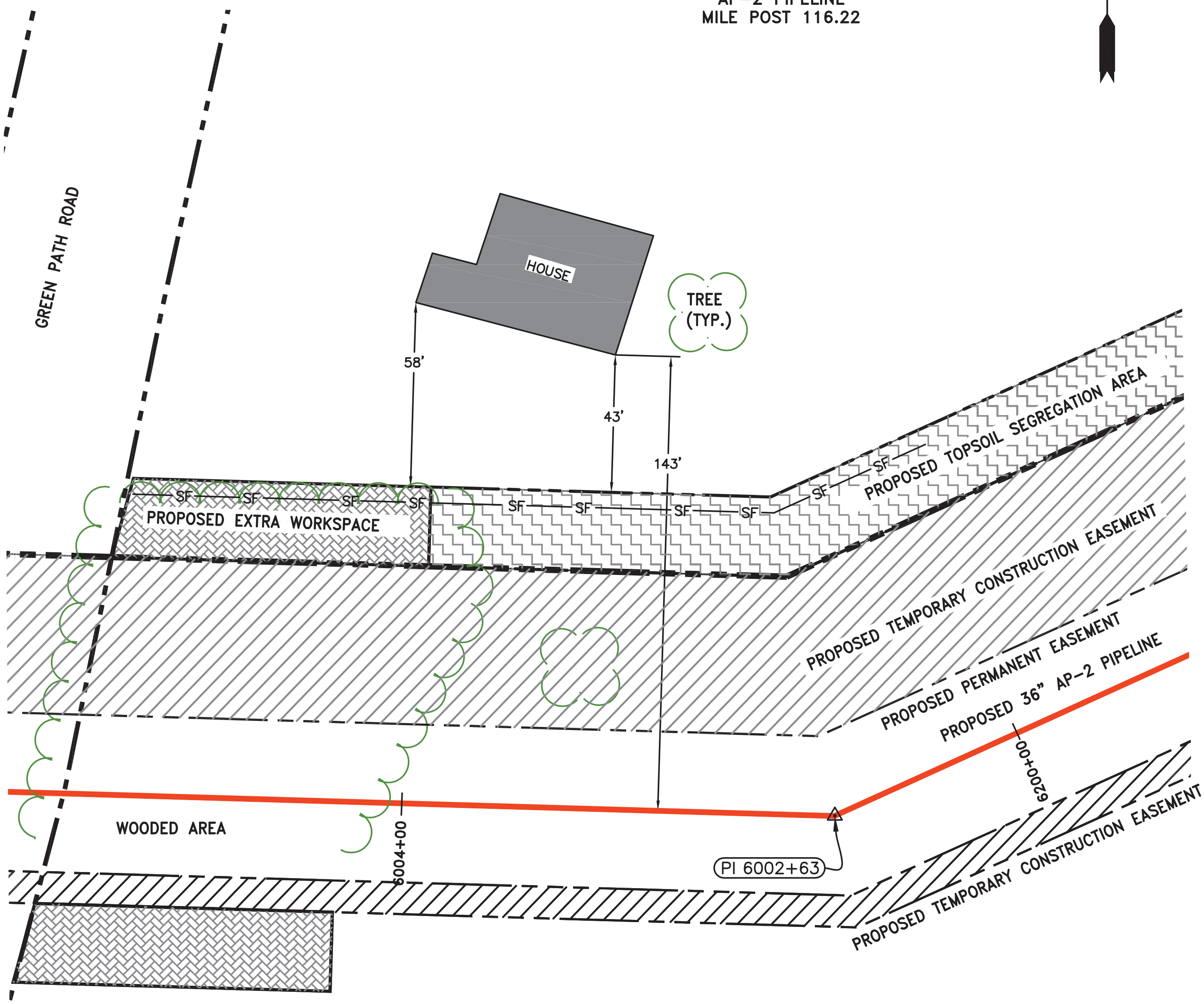
gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	**CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES** JOHNSTON COUNTY, NORTH CAROLINA	DWN. AKM · CHKD. DLH · APPD. NET · DATE 7/25/2016 SCALE: AS SHOWN · TASK NO. 01
	ATLANTIC COAST PIPELINE LLC **C/O DOMINION TRANSMISSION, INC.** 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. 140468 DRAWING NO. LL-20-400-A001 — REV

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 11\HOUSE EXHIBITS\SECT 11 REROUTE HOUSE EXHIBITS - NO NAMES.DWG

7/25/2016 4:26 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL–21–015
PARCEL I.D. # 14060428001
(PHYSICAL ADDRESS UNAVAILABLE)
AP–2 PIPELINE
MILE POST 116.22



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
—SF—SF— ORANGE SAFETY FENCE
PROPOSED TEMPORARY R.O.W.
EXTRA WORK SPACE
TOPSOIL SEGREGATION AREA

SCALE: 1" = 50'

50' 0 50'

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
SAMPSON COUNTY, NORTH CAROLINA

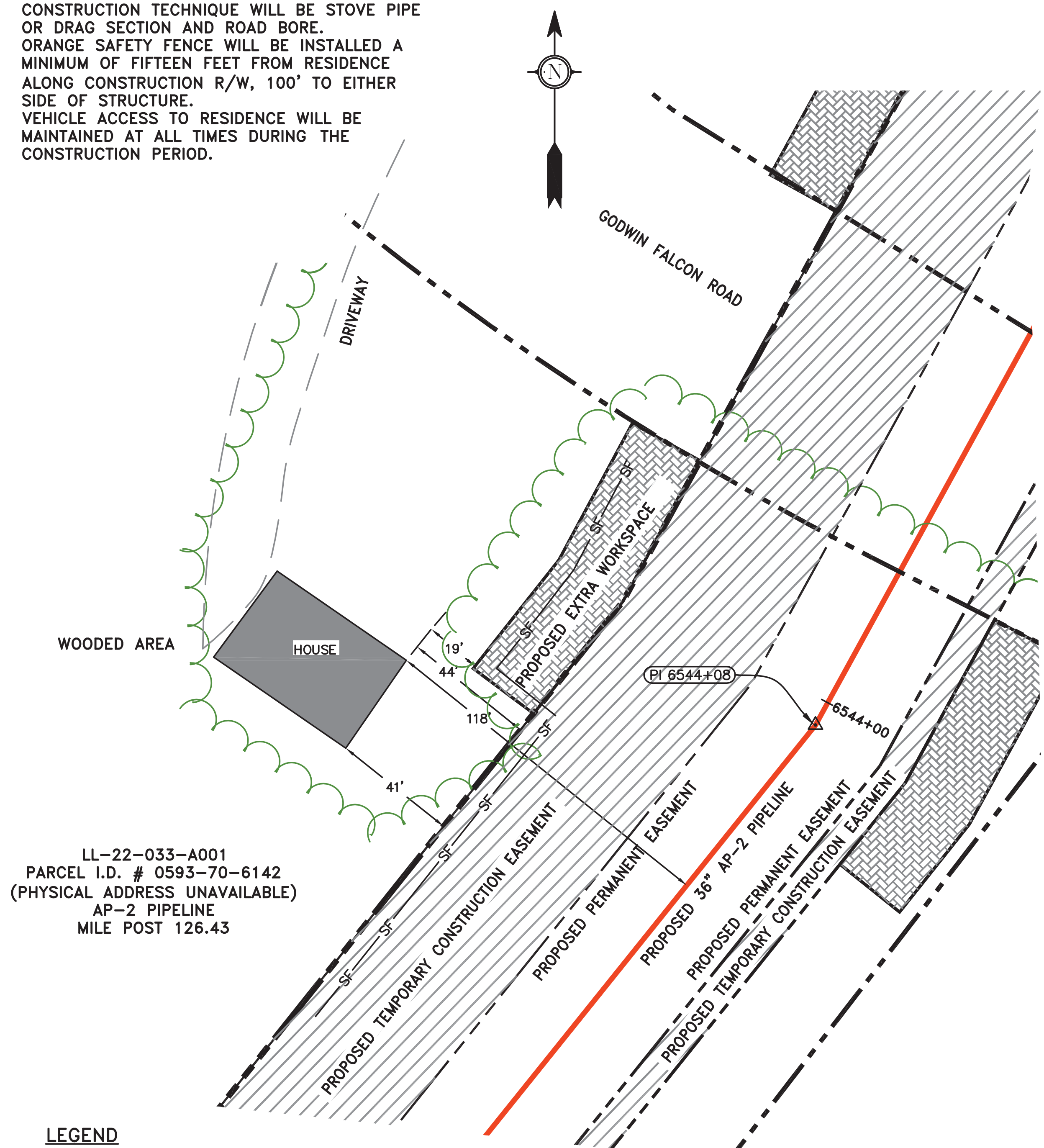
ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724–873–3545

DWN. GAH CHKD. DLH APPD. NET DATE 4/29/16
SCALE: AS SHOWN TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL–21–015 REV 2

GAI CAD FILE: R:\050–5159 – GIA, INC. – GAI – THRASHER – SERP – MAPPING\SURVEY\DRAWING\SEC 11\HOUSE EXHIBITS\SECT 11 REROUTE HOUSE EXHIBITS – NO NAMES.DWG

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

(property line symbol)	PROPERTY LINE
(permanent easement symbol)	PROPOSED PERMANENT EASEMENT
(gas pipeline symbol)	PROPOSED GAS PIPELINE
——SF——SF——	ORANGE SAFETY FENCE
(hatch)	PROPOSED TEMPORARY R.O.W.
(crosshatch)	EXTRA WORK SPACE

SCALE: 1" = 50'

50'   0   50'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

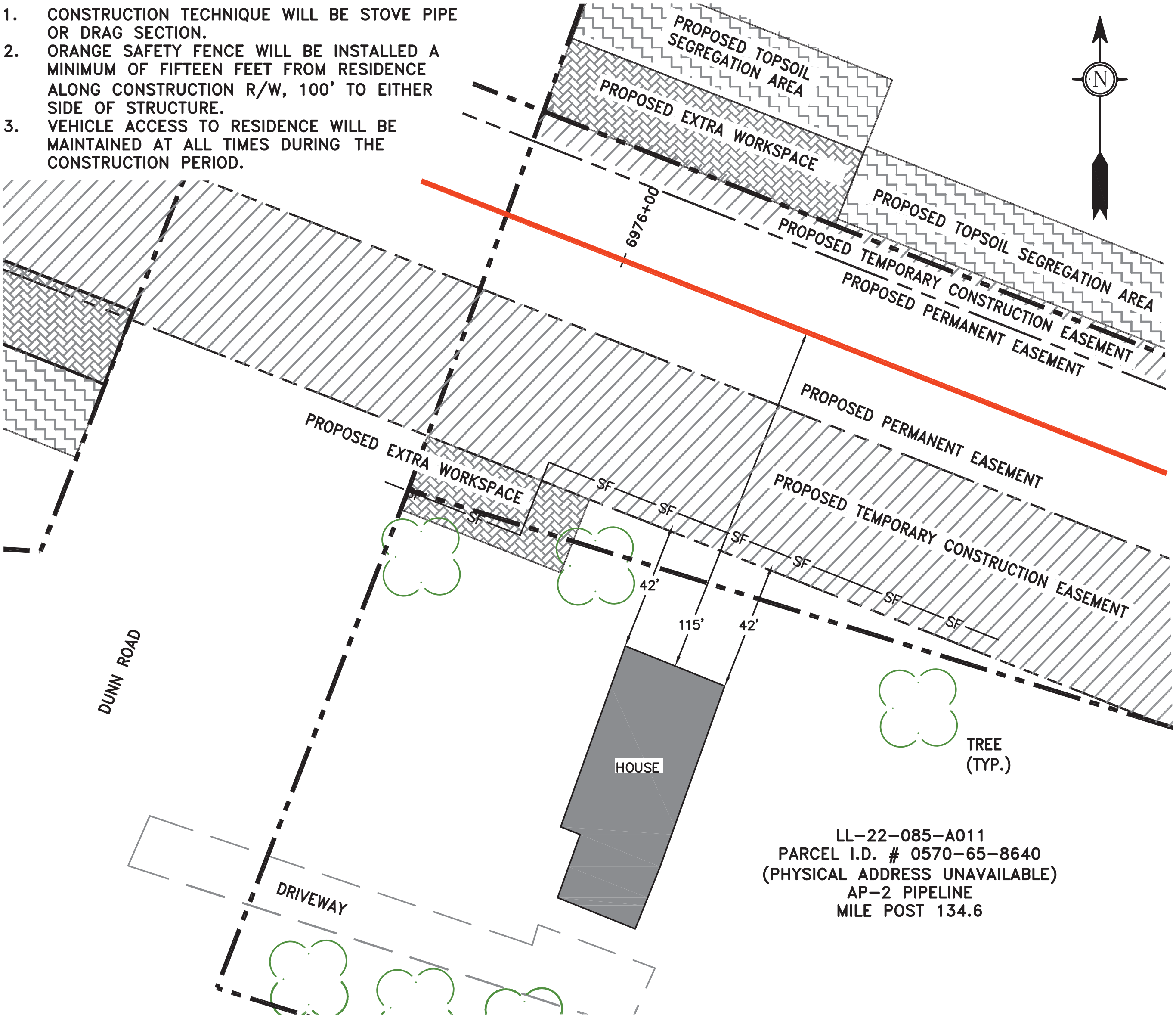
CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CUMBERLAND COUNTY, NORTH CAROLINA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. GAH | CHKD. DLH | APPD. NET | DATE 4/29/16
SCALE: AS SHOWN | TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-22-033-A001 REV 2

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 11\HOUSE EXHIBITS\SEC 11 REROUTE HOUSE EXHIBITS - NO NAMES.DWG

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF SF ORANGE SAFETY FENCE
PROPOSED TEMPORARY R.O.W.
EXTRA WORK SPACE
TOPSOIL SEGREGATION AREA

SCALE: 1" = 50'
50' 0 50'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

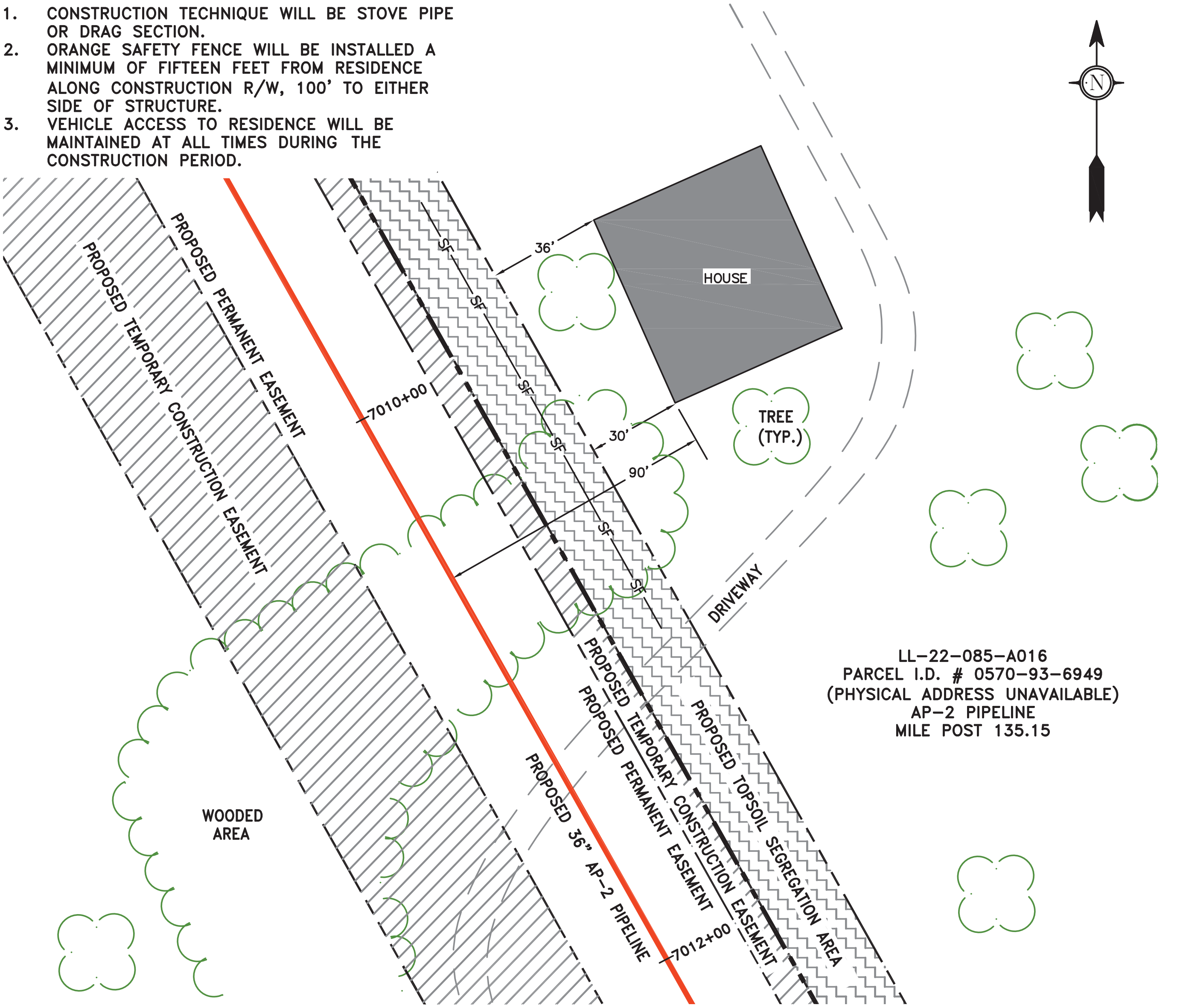
CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CUMBERLAND COUNTY, NORTH CAROLINA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. GAH	CHKD. DLH	APPD. NET	DATE 4/29/16
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-22-085-A011			REV 2

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 11\HOUSE EXHIBITS\SEC 11 REROUTE HOUSE EXHIBITS - NO NAMES.DWG

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

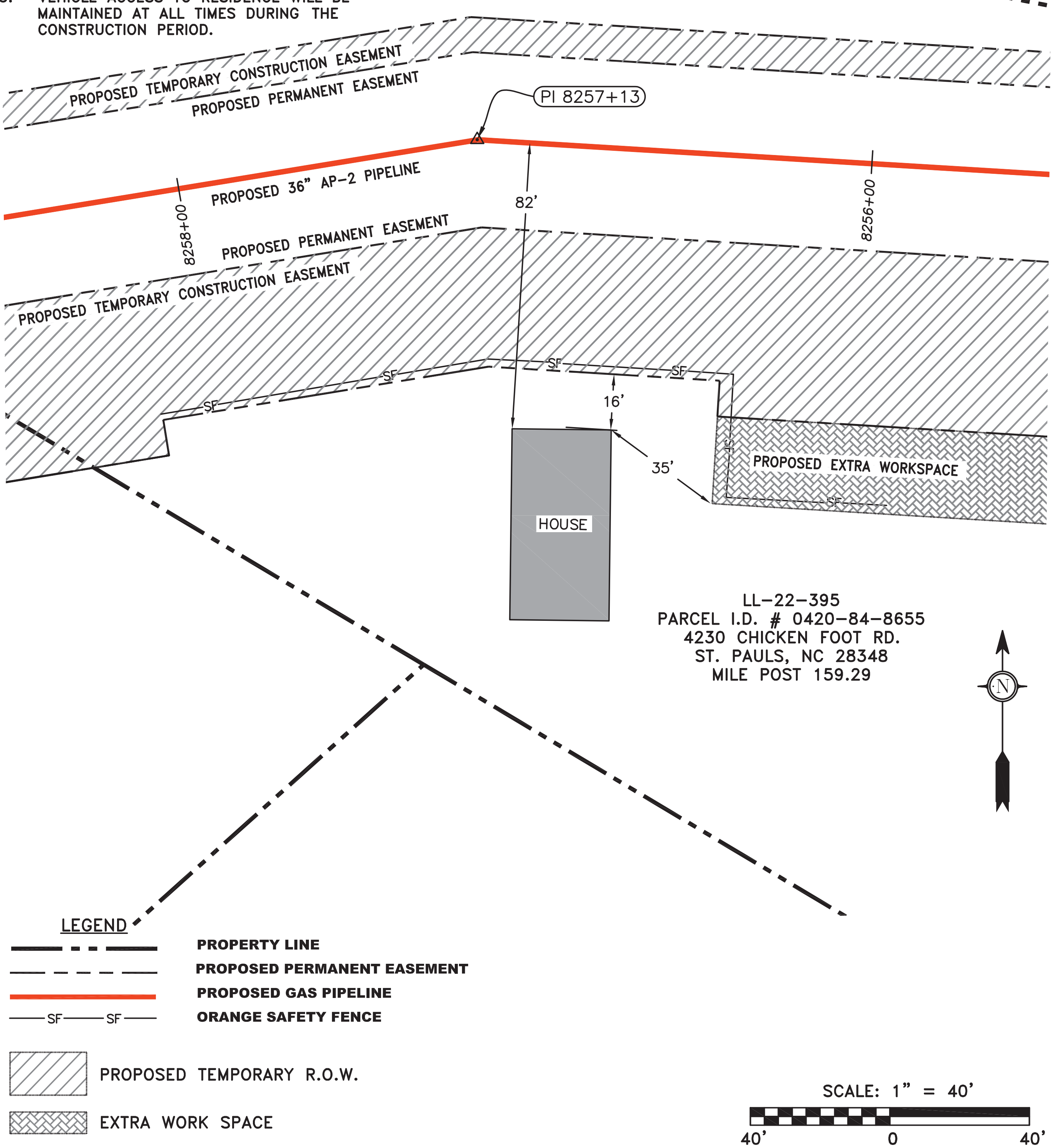
- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- SF — SF ORANGE SAFETY FENCE
- PROPOSED TEMPORARY R.O.W.
- TOPSOIL SEGREGATION AREA

SCALE: 1" = 50'

50' 0 50'

gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	**CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES** CUMBERLAND COUNTY, NORTH CAROLINA	DWN. GAH CHKD. DLH APPD. NET DATE 4/29/16 SCALE: AS SHOWN TASK NO. 01
	ATLANTIC COAST PIPELINE LLC **C/O DOMINION TRANSMISSION, INC.** 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. 140468 DRAWING NO. LL-22-085-A016 REV 2

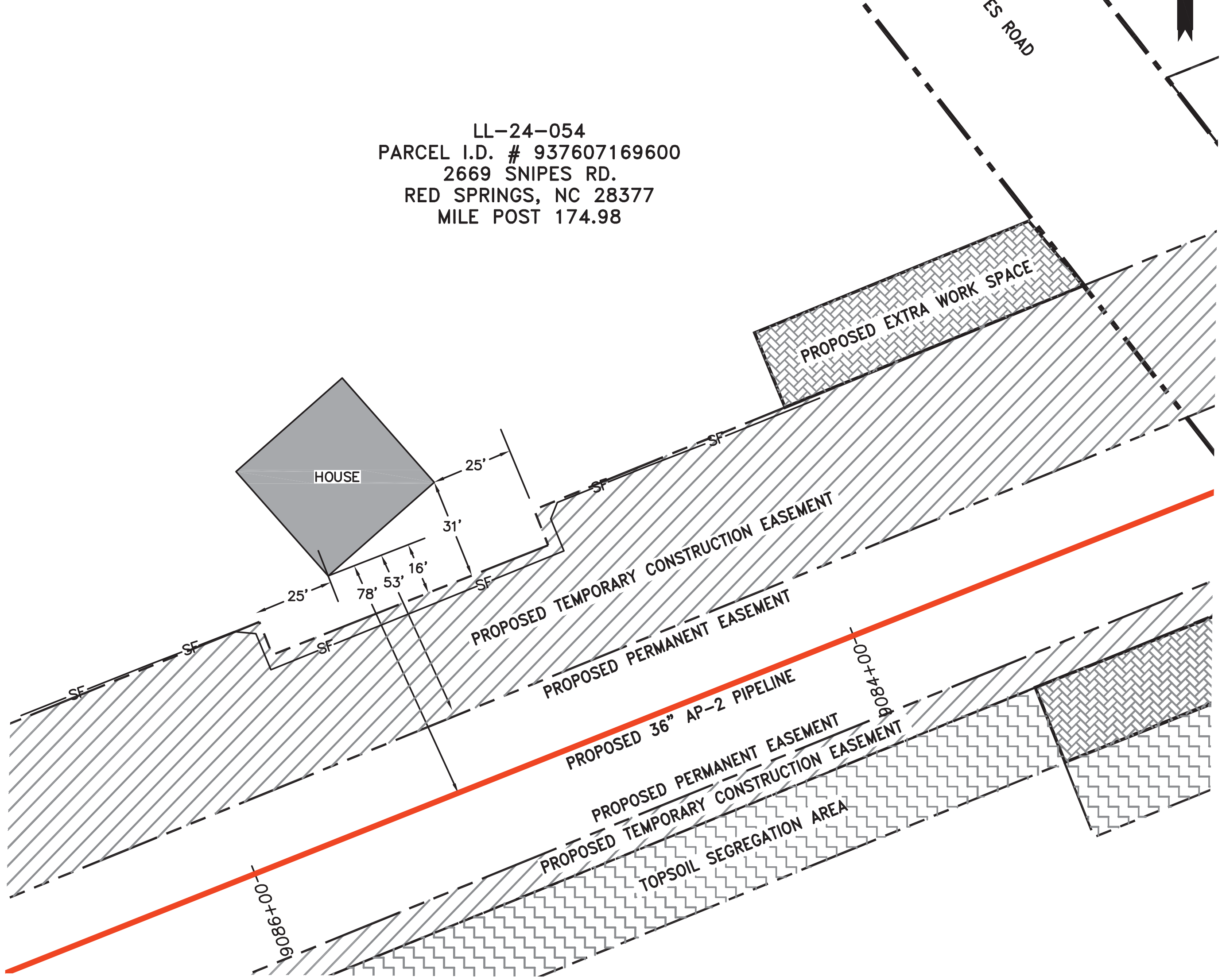
1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	**CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES** CUMBERLAND COUNTY, NORTH CAROLINA	DWN. GAH	CHKD. DLH	APPD. NET	DATE 6/25/16
		SCALE: AS SHOWN			TASK NO. 01
	ATLANTIC COAST PIPELINE LLC **C/O DOMINION TRANSMISSION, INC.** 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. 140468			
		DRAWING NO. LL-22-395			REV 2

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 11\HOUSE EXHIBITS\SECT 11 REROUTE HOUSE EXHIBITS - NO NAMES.DWG

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE. ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

PROPERTY LINE

PROPOSED PERMANENT EASEMENT

PROPOSED GAS PIPELINE

SF SF ORANGE SAFETY FENCE

PROPOSED TEMPORARY R.O.W.

EXTRA WORK SPACE

TOPSOIL SEGREGATION AREA

SCALE: 1" = 40'

40' 0 40'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CUMBERLAND COUNTY, NORTH CAROLINA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. GAH | CHKD. DLH | APPD. NET | DATE 7/12/16

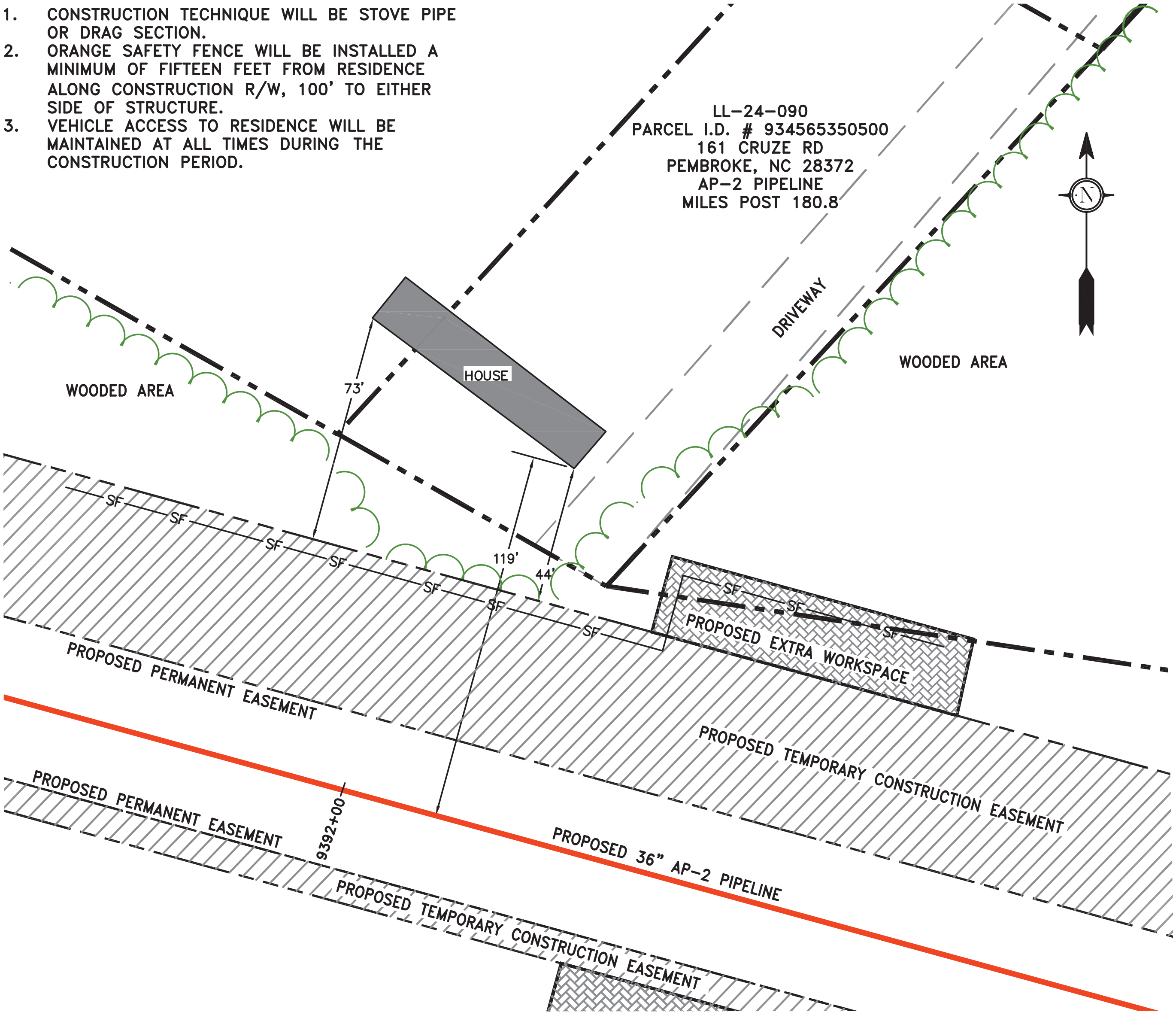
SCALE: AS SHOWN | TASK NO. 01

PROJECT NO./DASH NO. 140468

DRAWING NO. LL-24-054 | 2 REV

GAI CAD FILE: R:\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 11\HOUSE EXHIBITS\SECT 11 REROUTE HOUSE EXHIBITS - NO NAMES.DWG

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
—SF—SF— ORANGE SAFETY FENCE
PROPOSED TEMPORARY R.O.W.
EXTRA WORK SPACE

SCALE: 1" = 50'
50' 0 50'

gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	**CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES** ROBESON COUNTY, NORTH CAROLINA	DWN. GAH CHKD. DLH APPD. NET DATE 7/12/16 SCALE: AS SHOWN TASK NO. 01
	ATLANTIC COAST PIPELINE LLC **C/O DOMINION TRANSMISSION, INC.** 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. 140468 DRAWING NO. LL-24-090 REV 2

GAI CAD FILE: R:\050-5159 – GIA, INC. – GAI – THRASHER – SERP – MAPPING\SURVEY\DRAWING\SEC 11\HOUSE EXHIBITS\SECT 11 REROUTE HOUSE EXHIBITS – NO NAMES.DWG

AP-3

FERC's Plans will be followed for Residential Construction, for all Residences located within 50 feet of the construction work area

1. Orange safety fence will be installed at a minimum 15 feet from the residence, and 100 feet along the construction corridor, each direction from residence.
2. Will avoid the removal of mature trees and landscaping within the construction work area, unless necessary for safe operation of equipment, or as specified in the landowner agreements
3. Restore all lawn areas and landscaping immediately following clean up operations or as specified in landowner agreement
4. During landowner negotiations, identify location of septic system and avoid or develop a replacement plan with landowner during construction.

For this project, the following notes will also be applied

a. Where the pipeline centerline is within 25 feet of a residence, the trench will not be excavated until the pipe is ready for installation.

b. Landowner will be notified one week prior to construction on his/her property

c. No refueling or storage of hazardous materials will occur within 200 feet of a private well.

d. Steel plating or other effective means will be provided to allow landowner access to his/her residence should construction or other ground disturbance occur. Required at egress points, landowner driveways, or other private access ways.

e. On public roads, we will follow our traffic management plans that are filed as part of the permit

f. Construction will be limited to daylight hours.

g. Applicant will:

- Ensure piping is welded and installed as quickly as possible to minimize the amount of time a neighborhood is affected by construction;
- Complete final cleanup, grading, and installation of permanent erosion control devices within 10 days after backfilling the trench, weather permitting.
- During landowner negotiations, will work with landowner on restoration procedure. These procedures will include seeding mix, tree/shrub planting and hardscape replacement.

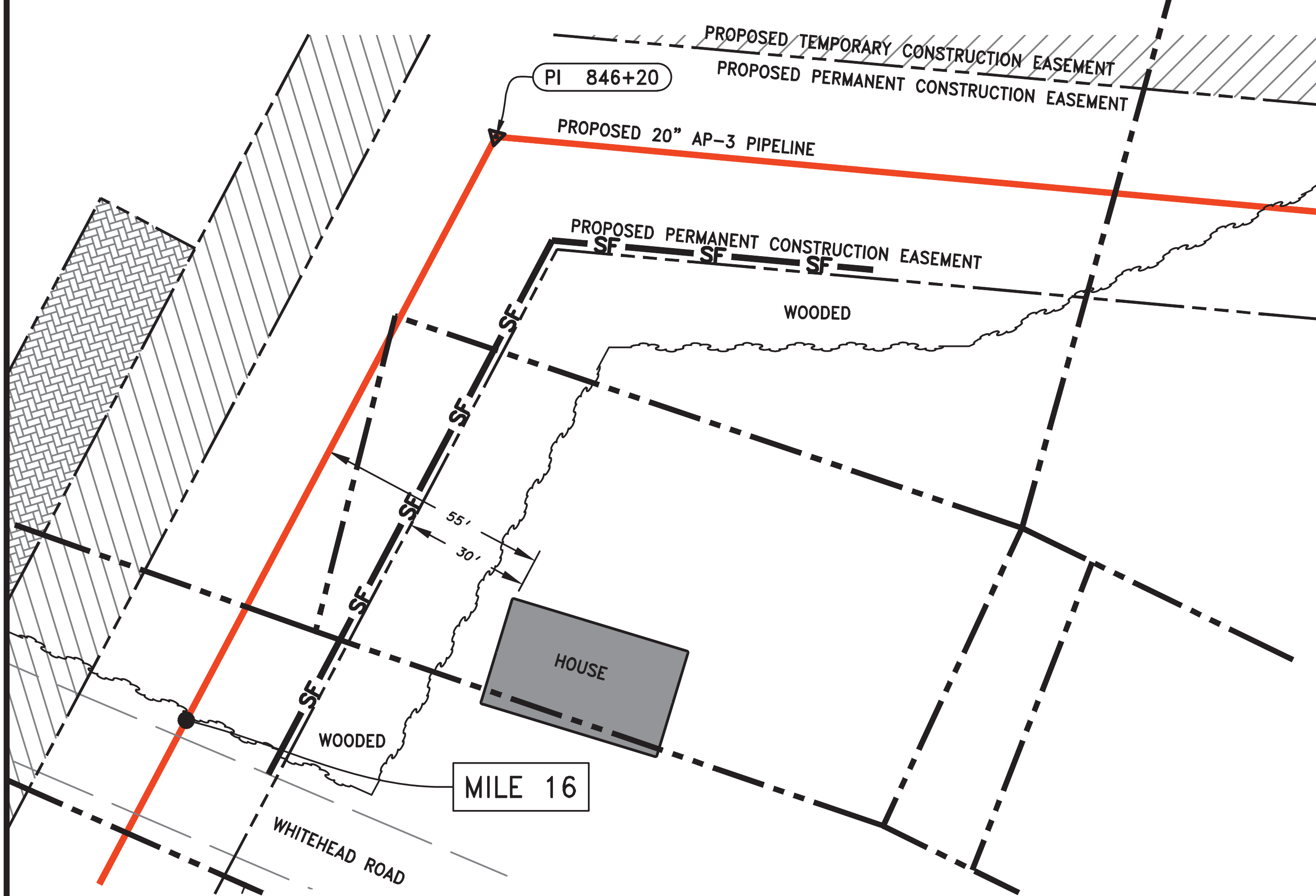
gai consultants SOUTHPOINTE OFFICE 6000 TOWNE CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES GENERAL NOTES	DWN. JJP	CHKD. DLH	APPD. NET
		DATE 07/28/2016	SCALE: NONE	TASK NO. 00
	ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. C140468	DRAWING NO. A001	REV –

GAI CAD FILE: Z:\ENERGY\2014\C140468.00 – DOMINION – SOUTHEAST PIPE\CAD\MASTER ROUTE\DRG\DRAWINGS\HOUSE_SITE_SPECIFIC_GENERAL_NOTES.DWG

7/19/2016 8:44 AM

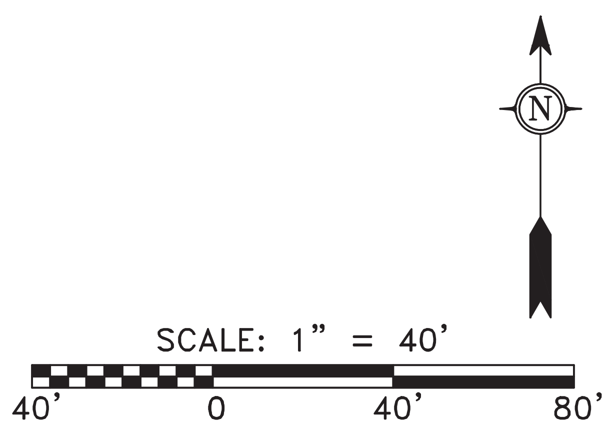
1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-25-001-B022
PO BOX 122
BRANCHVILLE, VIRGINIA 23828
TAX MAP # 110-24
MILE POST 16.02



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.



gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
SOUTHAMPTON COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

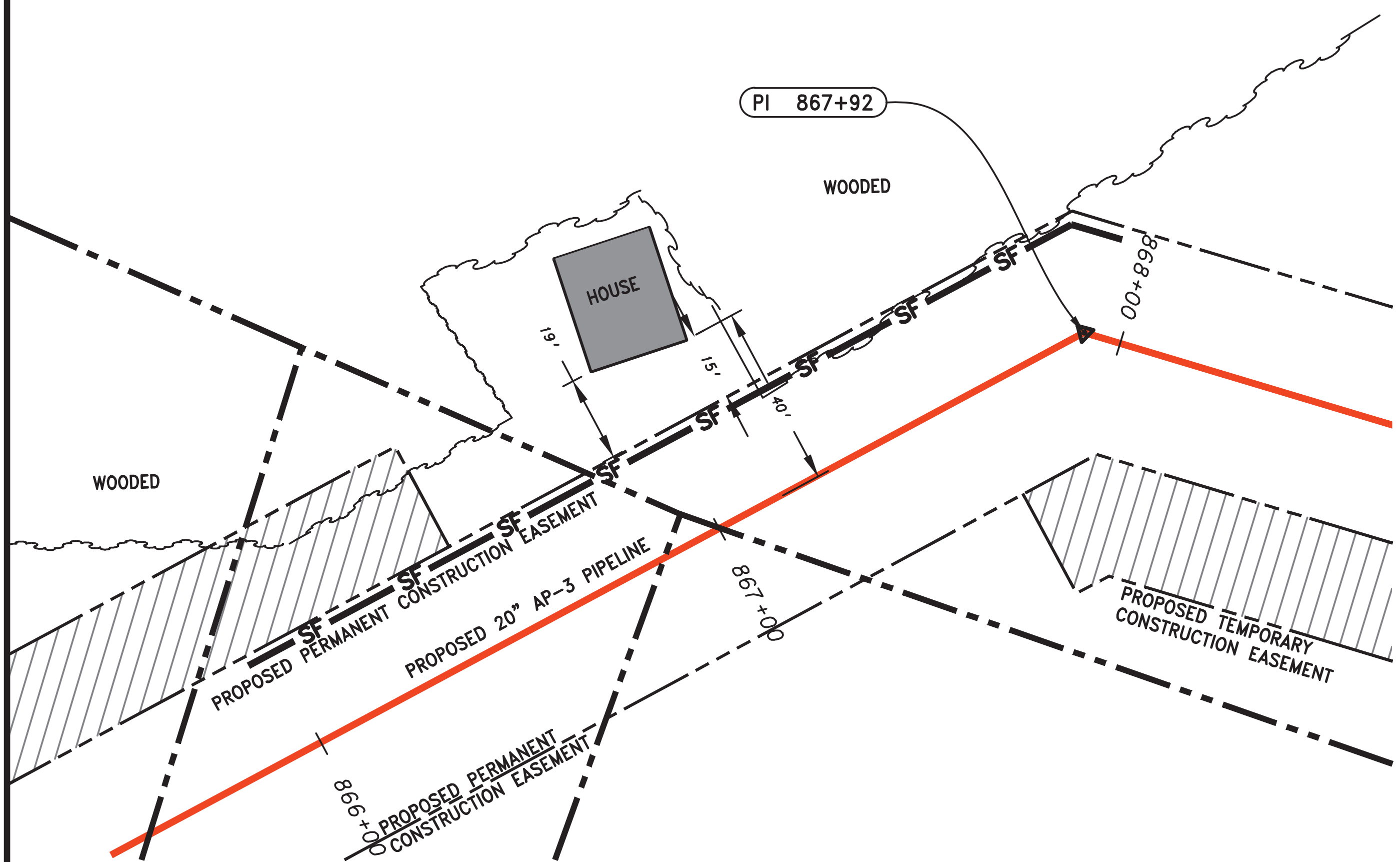
DWN. RDC	CHKD. DLH	APPD. NET	DATE 6/24/16
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-25-001-B022			REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 06 - SOUTHEAST PIPELINE (SECTION 7)\3 - CAD DRAWINGS\BUILDING CONFLICTS EXHIBITS\2665-07 SPREAD-7 - BUILDING CONFLICT EXHIBITS.DWG

6/24/2016 12:16 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-25-001-B029
820 GLORIA PL
VIRGINIA BEACH, VIRGINIA 23454
TAX MAP # 111-1
MILE POST 16.37



LEGEND

- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- SF ORANGE SAFETY FENCE
- TOPSOIL SEGREGATION AREA
- EXTRA WORK SPACE
- PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'
40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
SOUTHAMPTON COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 6/24/2016
SCALE: AS SHOWN			TASK NO. 01

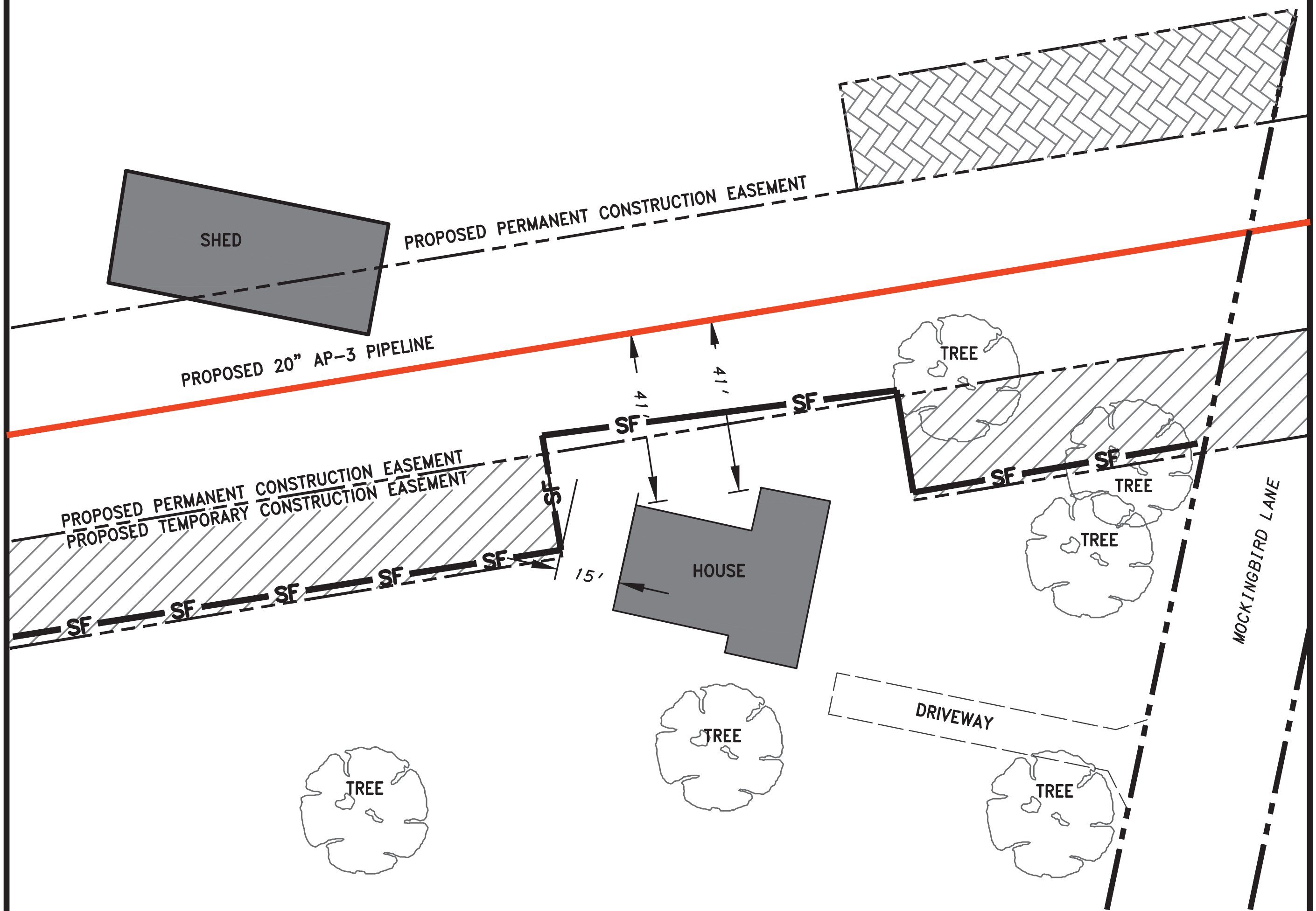
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-25-001-B029 REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 06 - SOUTHEAST PIPELINE (SECTION 7)\3 - CAD DRAWINGS\BUILDING CONFLICTS EXHIBITS\2665-07 SPREAD-7 - BUILDING CONFLICT EXHIBITS.DWG

7/1/2016 2:48 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-26-060-A068
4124 MOCKINGBIRD LANE
SUFFOLK, VIRGINIA 23434
TAX MAP # 252953000
AP-3 PIPELINE
MILE POST 61.88



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	mbe monaloh basin engineers 300 BUSINESS CENTER DRIVE PITTSBURGH, PA 15205 412-788-2433	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES CITY OF CHESAPEAKE, VIRGINIA ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC CHKD. DLH APPD. NET DATE 7/18/2016

SCALE: AS SHOWN TASK NO. 01

PROJECT NO./DASH NO. 140468

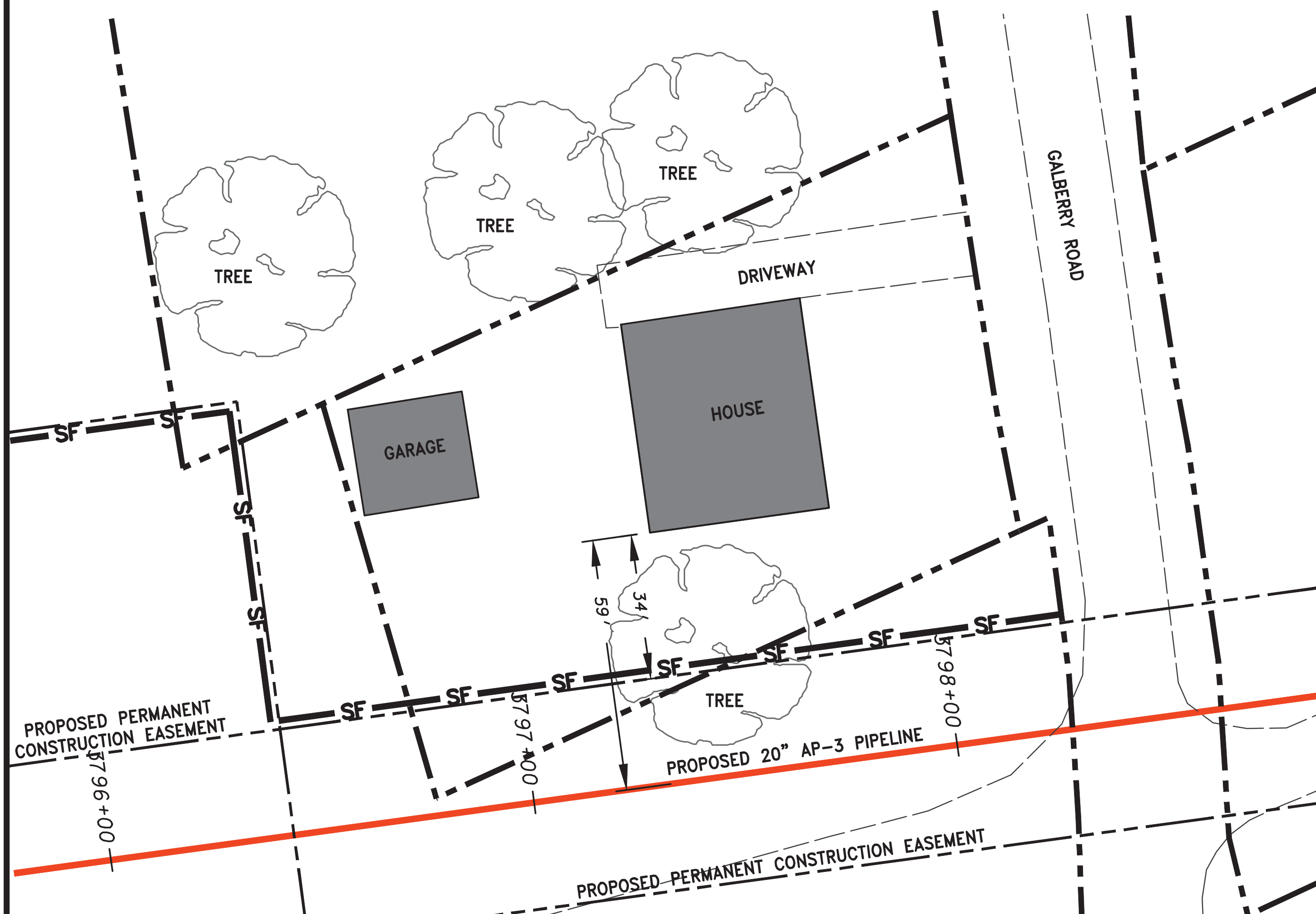
DRAWING NO. LL-26-060-A068 REV –

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-26-060-A068.DWG

7/18/2016 12:20 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-27-026-A009
3321 GALBERRY ROAD
CHESAPEAKE, VIRGINIA 23323-1401
TAX MAP # 0330000001712
AP-3 PIPELINE
MILE POST 77.6



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe
monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

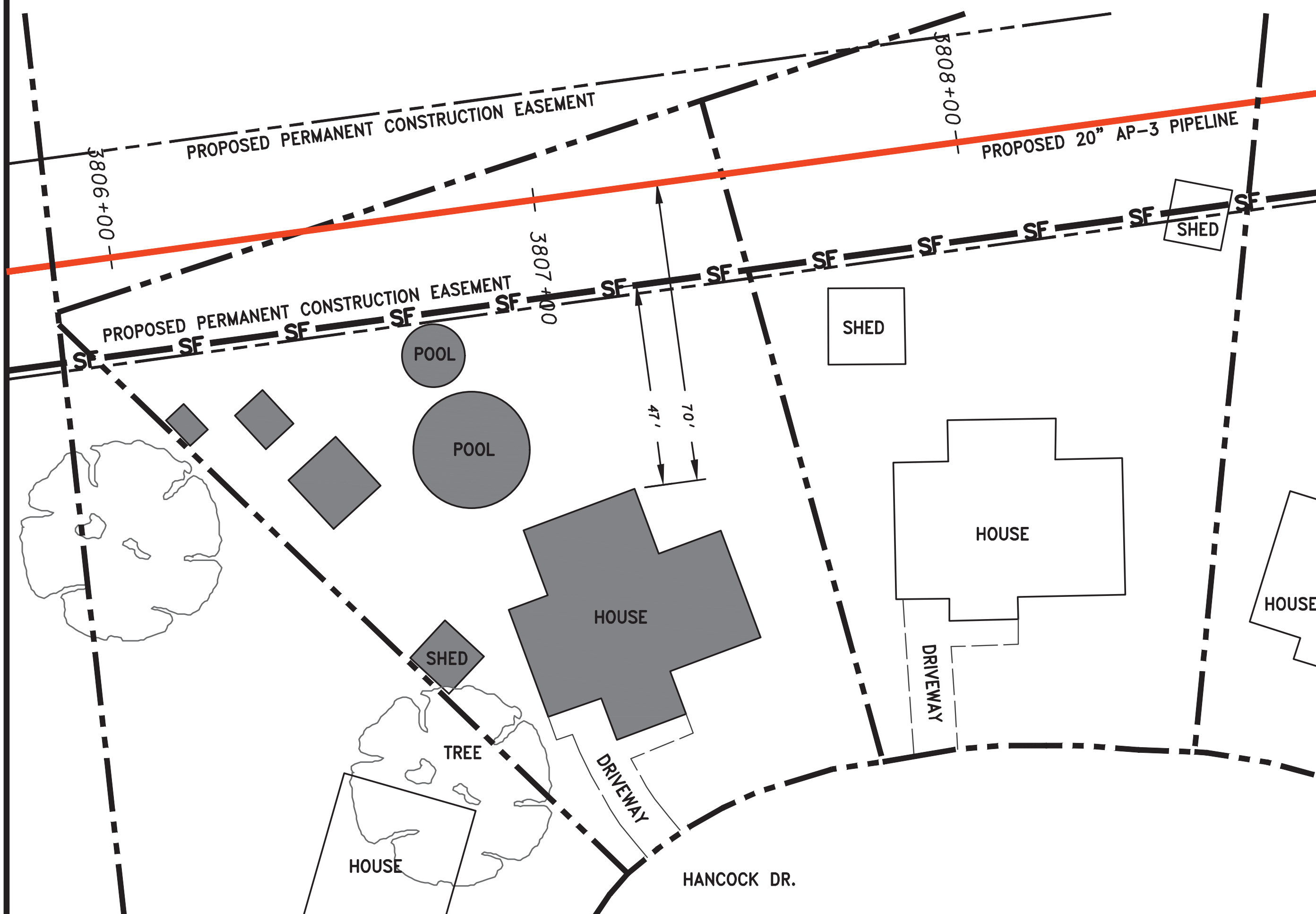
DWN. RDC | CHKD. DLH | APPD. NET | DATE 7/19/16
SCALE: AS SHOWN | TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-026-A009 REV –

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-026-A009.DWG

7/19/2016 12:28 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-27-026-A026
3261 HANCOCK DRIVE
CHESAPEAKE, VIRGINIA 23323-1937
TAX MAP # 0331007000270
AP-3 PIPELINE
MILE POST 77.8



LEGEND

PROPERTY LINE

PROPOSED PERMANENT EASEMENT

PROPOSED GAS PIPELINE

SF ORANGE SAFETY FENCE

TOPSOIL SEGREGATION AREA

EXTRA WORK SPACE

PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

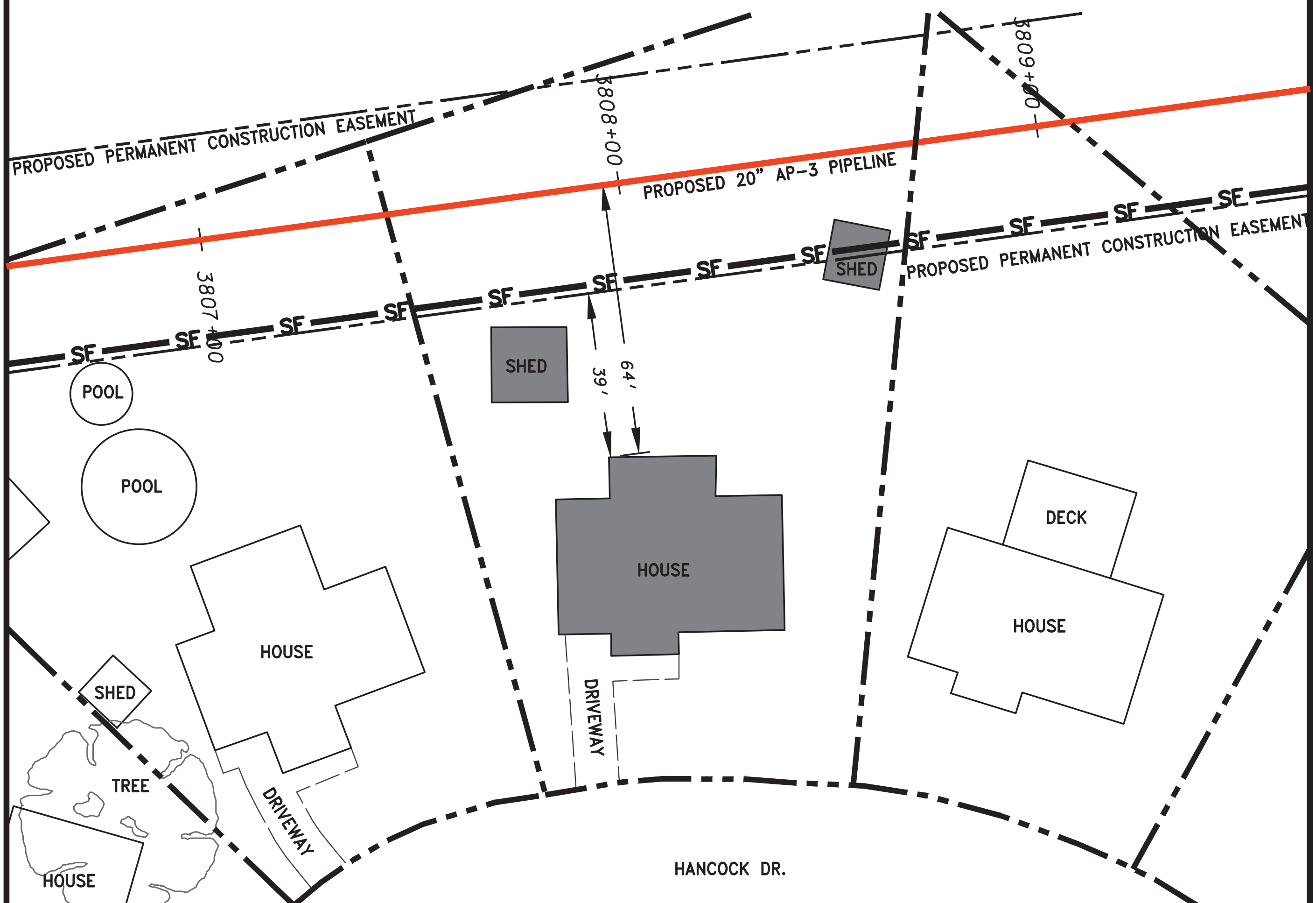
gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	mbe monaloh basin engineers 300 BUSINESS CENTER DRIVE PITTSBURGH, PA 15205 412-788-2433	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES CITY OF CHESAPEAKE, VIRGINIA	DWN. RDC CHKD. DLH APPD. NET SCALE: AS SHOWN	DATE 7/19/16 TASK NO. 01
		ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. 140468 DRAWING NO. LL-27-026-A026	REV —

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-026-A026.DWG

7/19/2016 12:33 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-27-026-A027
3257 HANCOCK DRIVE
CHESAPEAKE, VIRGINIA 23323-1937
TAX MAP # 0331007000260
AP-3 PIPELINE
MILE POST 77.8



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 7/19/16
SCALE: AS SHOWN			TASK NO. 01

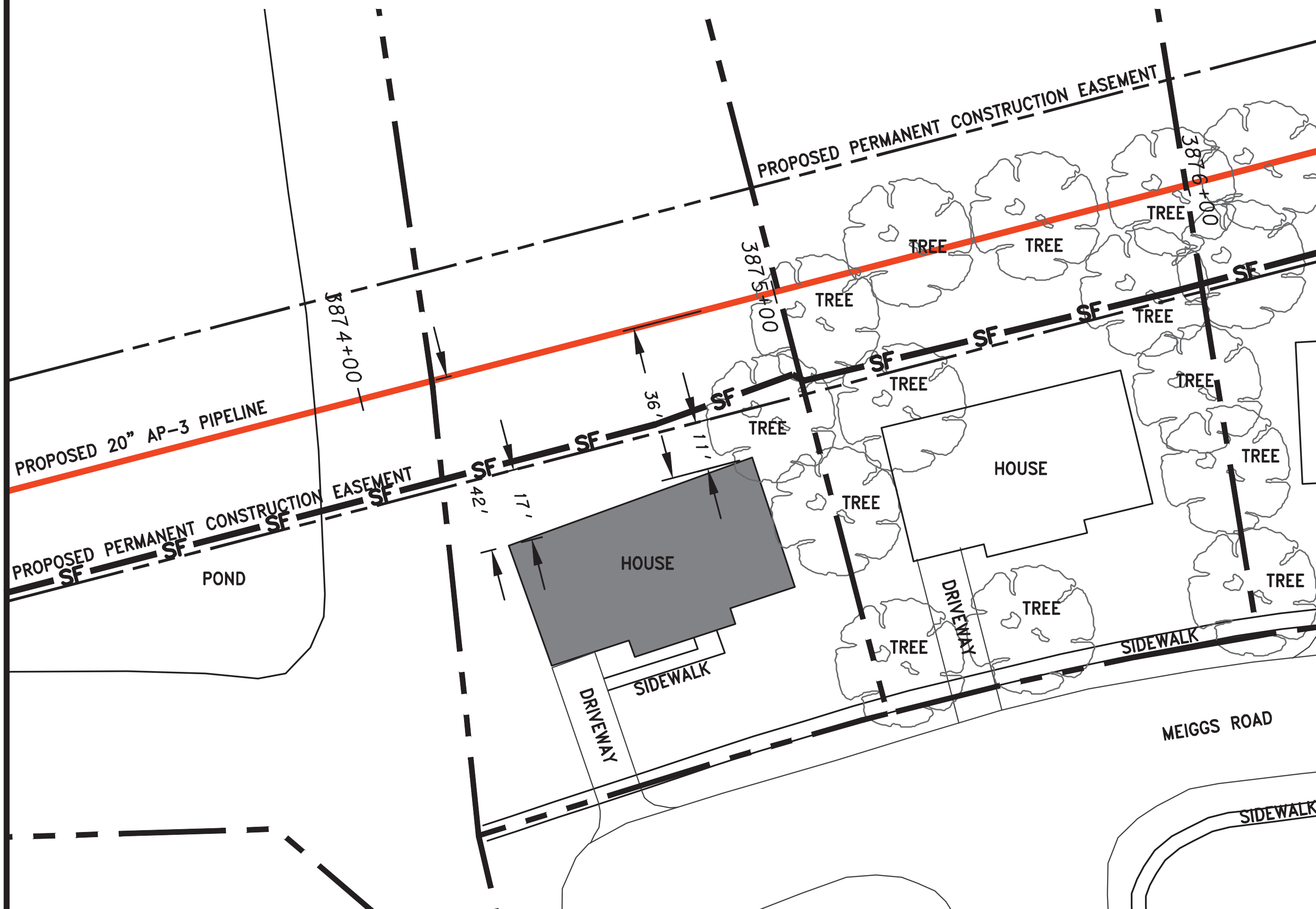
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-026-A027 REV

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-026-A027.DWG

7/19/2016 12:42 PM

1. CONSTRUCTION TECHNIQUE WILL BE HORIZONTAL DIRECTIONAL DRILL.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-27-058
5611 BRIAR OAKS LANE, APT 311
RALEIGH, NC 27612
TAX MAP # 0343011000010
AP-3 PIPELINE
MILE POST 79.10



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'
40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

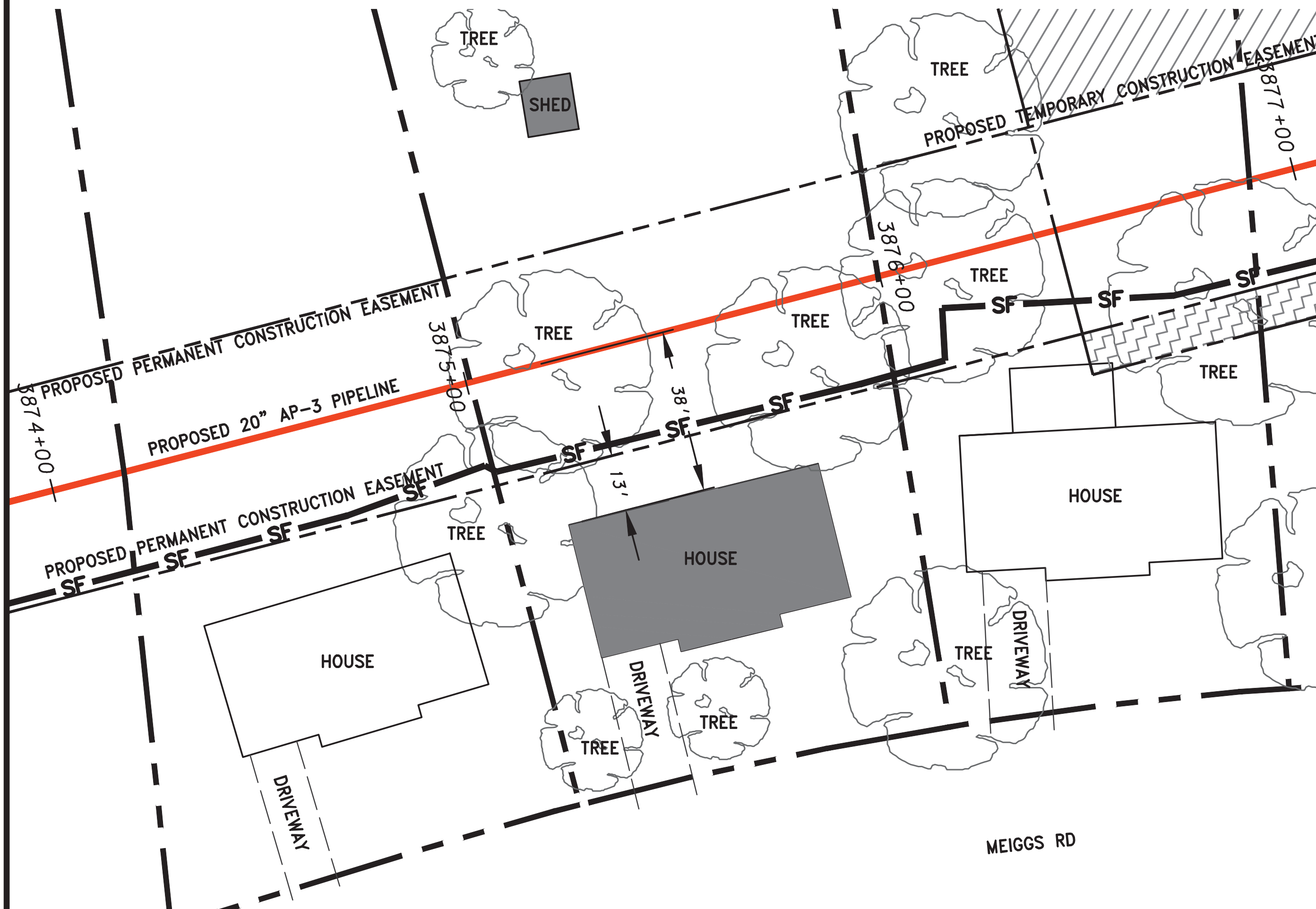
DWN. RDC CHKD. DLH APPD. NET DATE 7/18/2016
SCALE: AS SHOWN TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-058 REV –

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-058.DWG

7/18/2016 12:38 PM

1. CONSTRUCTION TECHNIQUE WILL BE HORIZONTAL DIRECTIONAL DRILL.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-27-060
2536 MEIGGS RD
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343011000020
AP-3 PIPELINE
MILE POST 79.11



LEGEND

- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- SF — ORANGE SAFETY FENCE
- TOPSOIL SEGREGATION AREA
- EXTRA WORK SPACE
- PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	mbe monaloh basin engineers 300 BUSINESS CENTER DRIVE PITTSBURGH, PA 15205 412-788-2433	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES CITY OF CHESAPEAKE, VIRGINIA ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC | CHKD. DLH | APPD. NET | DATE 7/18/16

SCALE: AS SHOWN | TASK NO. 01

PROJECT NO./DASH NO. 140468

DRAWING NO. LL-27-060

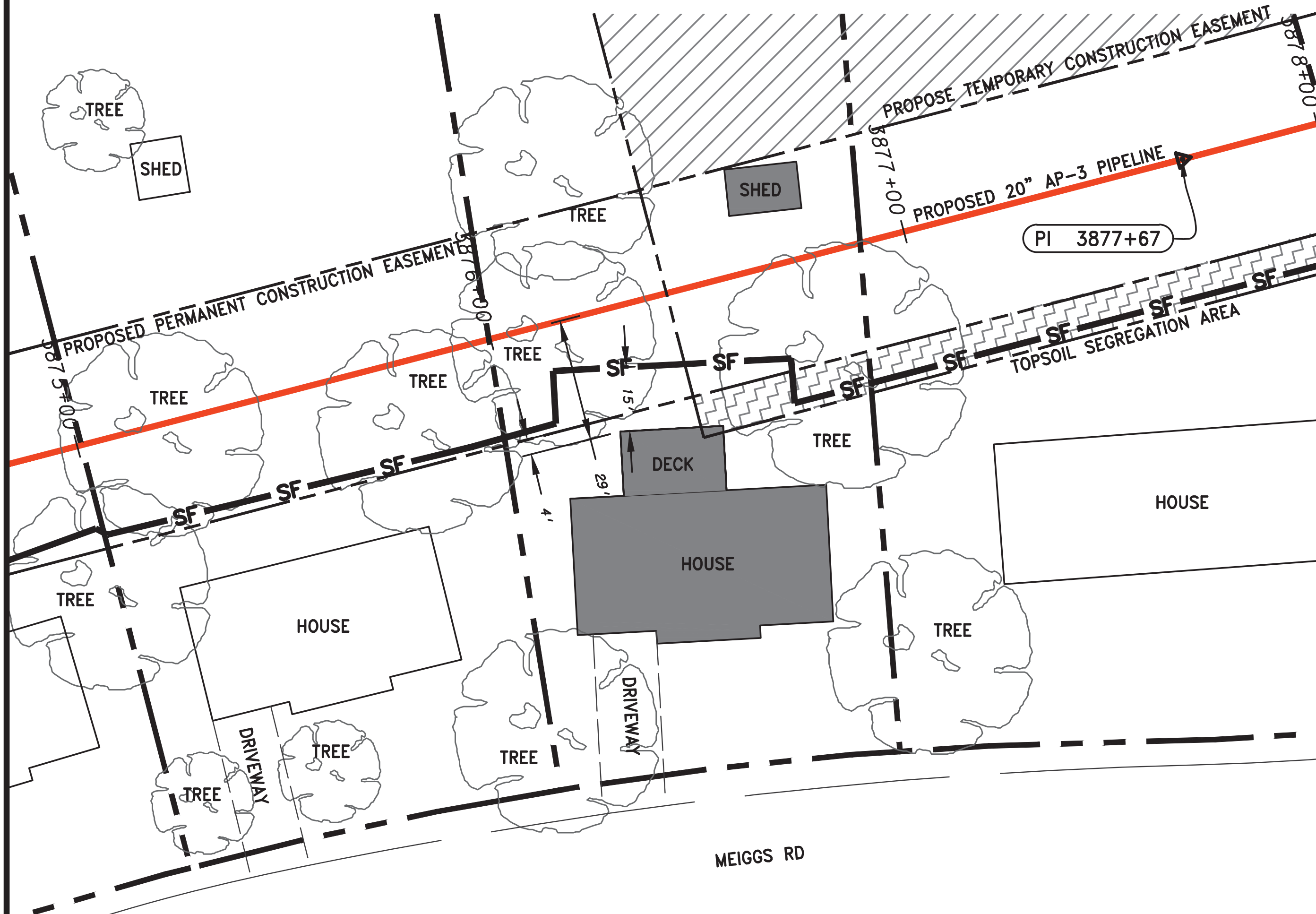
REV

GAI CAD FILE: J:\2665 –GAI\WORK ORDER 07 – SOUTHEAST PIPELINE (SECTION 8)\3 – CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 – BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 – LL-27-060.DWG

7/18/2016 12:35 PM

1. CONSTRUCTION TECHNIQUE WILL BE HORIZONTAL DIRECTIONAL DRILL.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-27-062
2532 MEIGGS RD
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343011000030
AP-3 PIPELINE
MILE POST 79.13



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

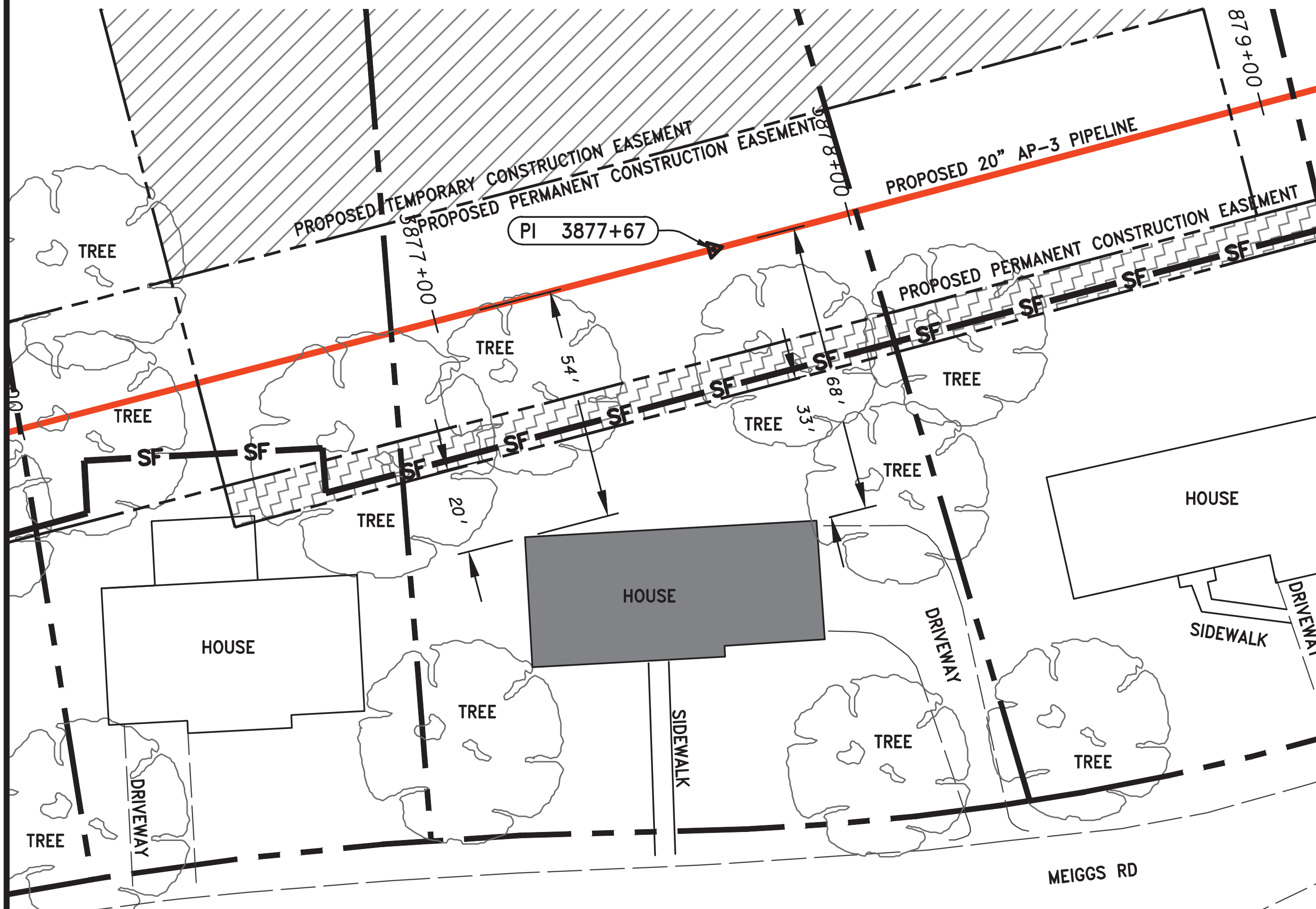
gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	mbe monaloh basin engineers 300 BUSINESS CENTER DRIVE PITTSBURGH, PA 15205 412-788-2433	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES CITY OF CHESAPEAKE, VIRGINIA ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	DWN. RDC CHKD. DLH APPD. NET DATE 7/18/16 SCALE: AS SHOWN TASK NO. 01 PROJECT NO./DASH NO. 140468 DRAWING NO. LL-27-062 REV –

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-062.DWG

7/18/2016 12:44 PM

1. CONSTRUCTION TECHNIQUE WILL BE HORIZONTAL DIRECTIONAL DRILL.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-27-064
121 CREEFS RIDGE ROAD
MANTEO, NORTH CAROLINA 27954
TAX MAP # 0343005000200
AP-3 PIPELINE
MILE POST 79.14



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'
40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

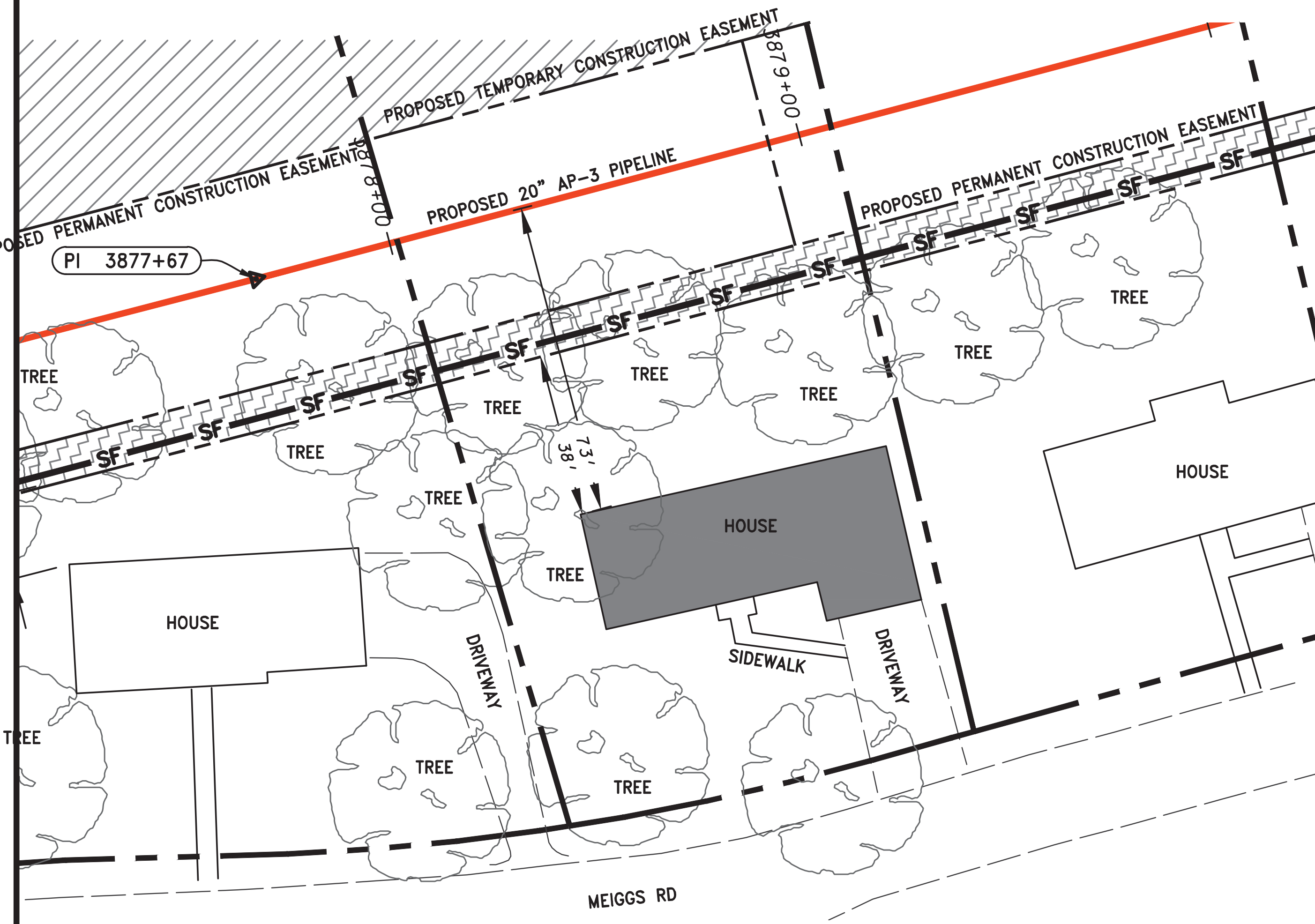
DWN. RDC	CHKD. DLH	APPD. NET	DATE 7/18/16
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-27-064			REV –

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-064.DWG

7/18/2016 12:49 PM

1. CONSTRUCTION TECHNIQUE WILL BE HORIZONTAL DIRECTIONAL DRILL.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-27-066
2524 MEIGGS ROAD
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343005000210
AP-3 PIPELINE
MILE POST 79.14



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

SCALE: 1" = 40'
40' 0 40' 80'

gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	mbe monaloh basin engineers 300 BUSINESS CENTER DRIVE PITTSBURGH, PA 15205 412-788-2433	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES CITY OF CHESAPEAKE, VIRGINIA ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301

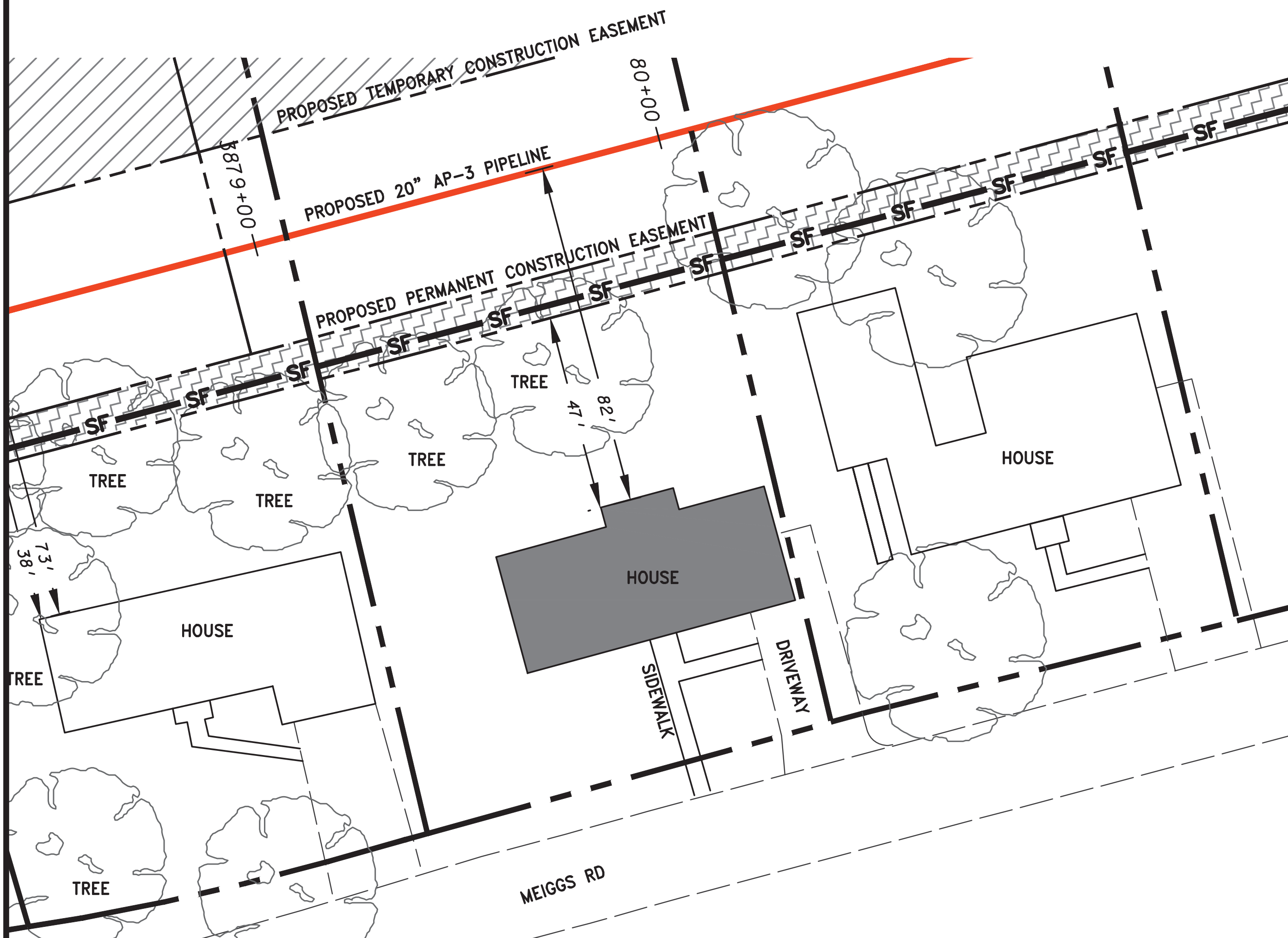
DWN. RDC CHKD. DLH APPD. NET DATE 7/22/16
SCALE: AS SHOWN TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-066 REV –

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-066.DWG

7/22/2016 2:01 PM

1. CONSTRUCTION TECHNIQUE WILL BE HORIZONTAL DIRECTIONAL DRILL.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-27-068
2520 MEIGGS ROAD
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343005000220
AP-3 PIPELINE
MILE POST 79.15



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 7/22/16
SCALE: AS SHOWN			TASK NO. 01

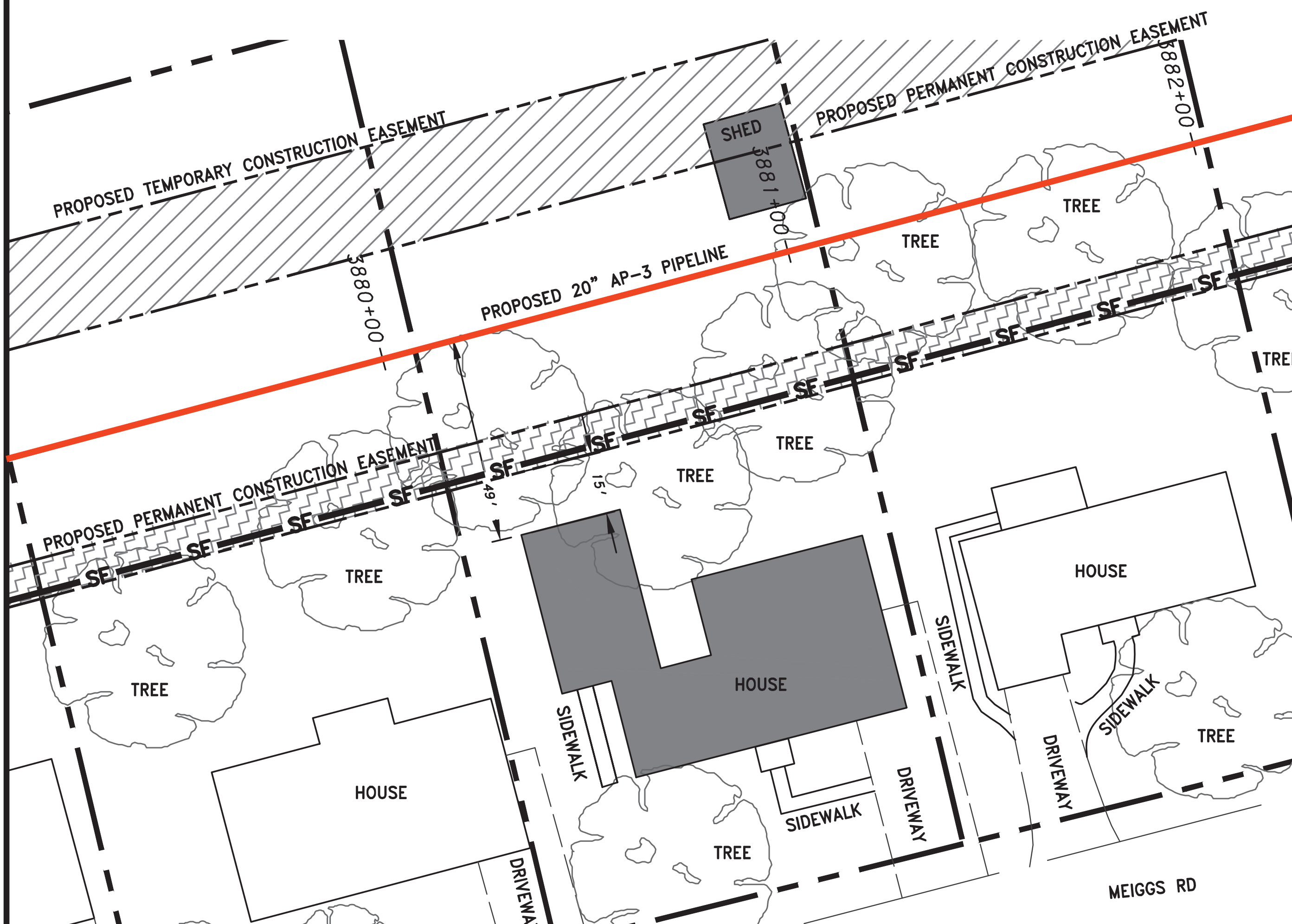
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-068
REV

CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-068.DWG

7/22/2016 2:25 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

LL-27-070
2516 MEIGGS RD
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343005000230
AP-3 PIPELINE
MILE POST 79.20



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe
monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

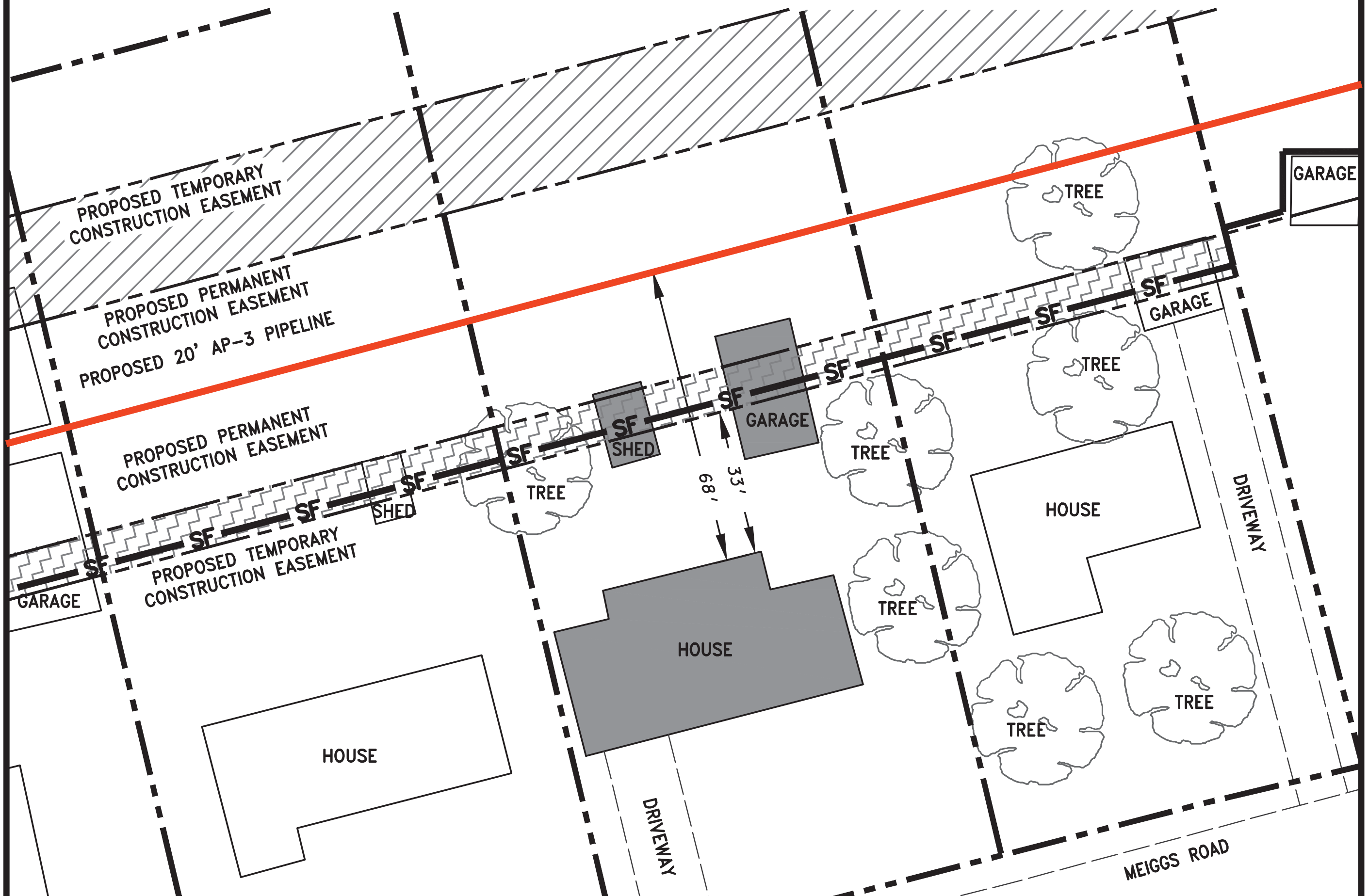
DWN. RDC	CHKD. DLH	APPD. NET	DATE 7/18/16
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-27-070			REV –

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-070.DWG

7/18/2016 12:53 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-075
2508 MEIGGS ROAD
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343004000250
AP-3 PIPELINE
MILE POST 79.24



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

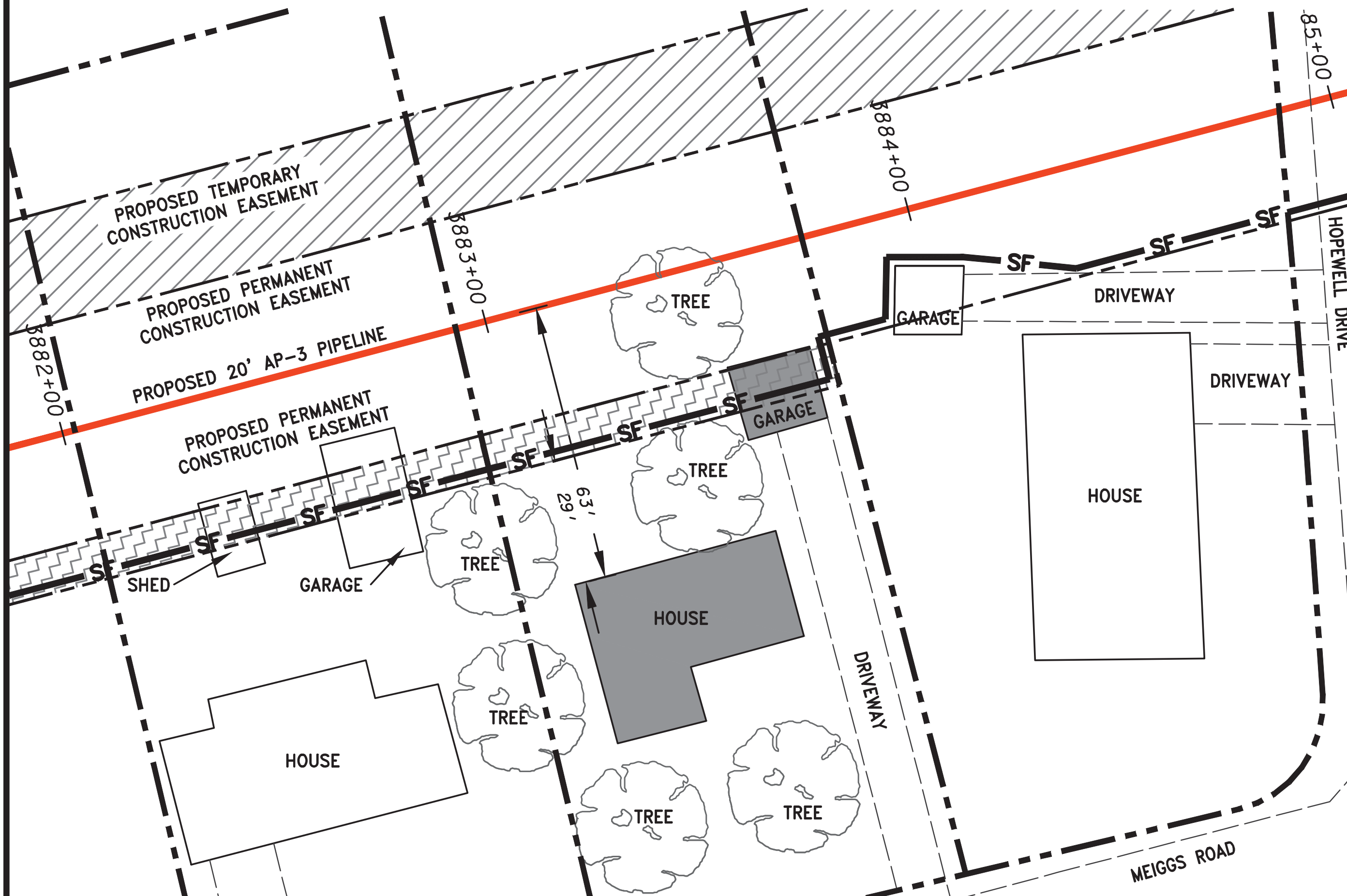
DWN. RDC CHKD. DLH APPD. NET DATE 7/18/16
SCALE: AS SHOWN TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-075 1 REV

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-075.DWG

7/18/2016 4:33 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-076
2504 MEIGGS ROAD
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343004000260
AP-3 PIPELINE
MILE POST 79.26



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'
40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe
monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

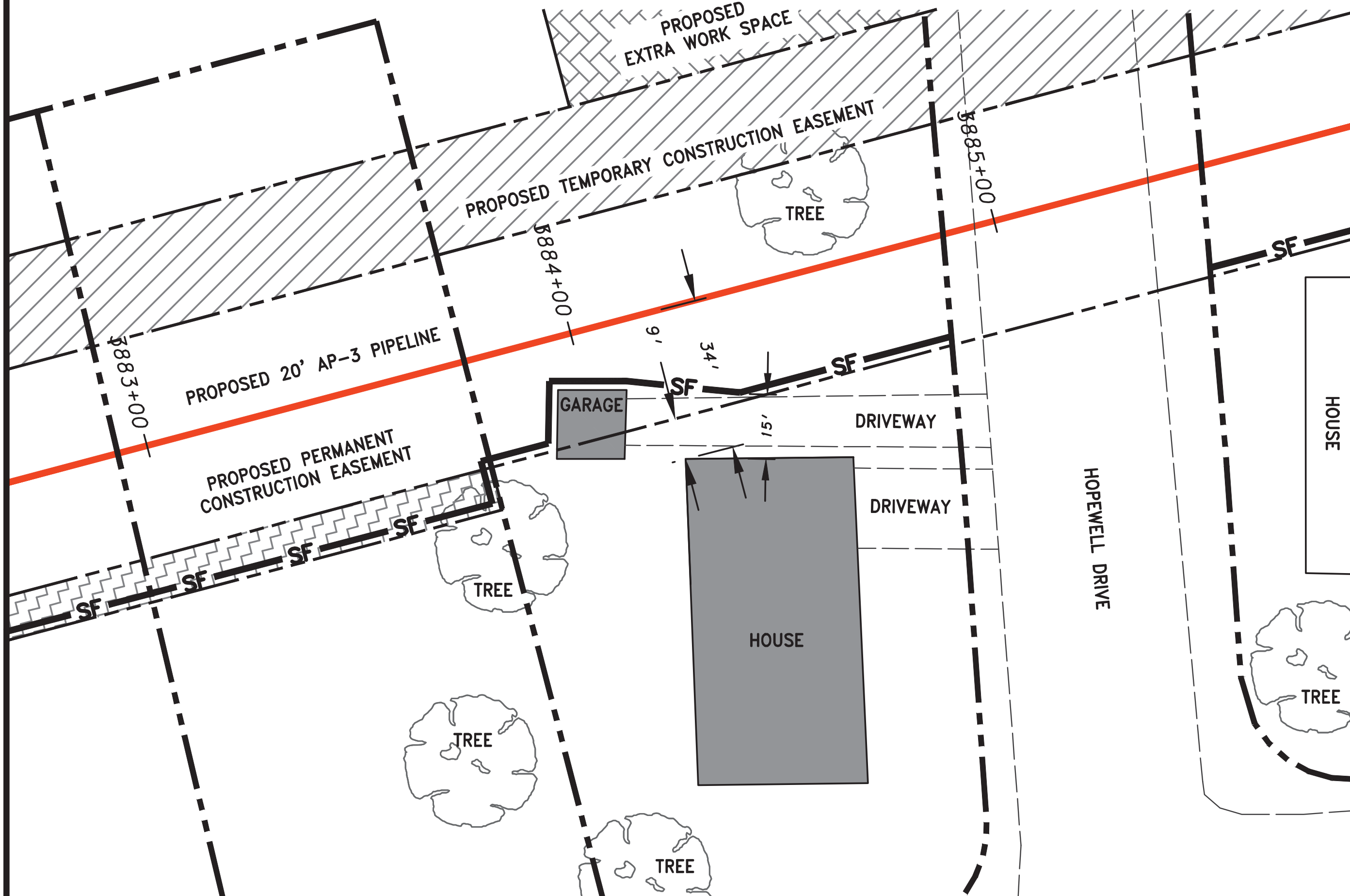
DWN. RDC CHKD. DLH APPD. NET DATE 7/18/16
SCALE: AS SHOWN TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-076 1 REV

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-076.DWG

7/18/2016 12:59 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-078
700 HOPEWELL DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 343004000270
AP-3 PIPELINE
MILE POST 79.27



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'
40' 0 40' 80'

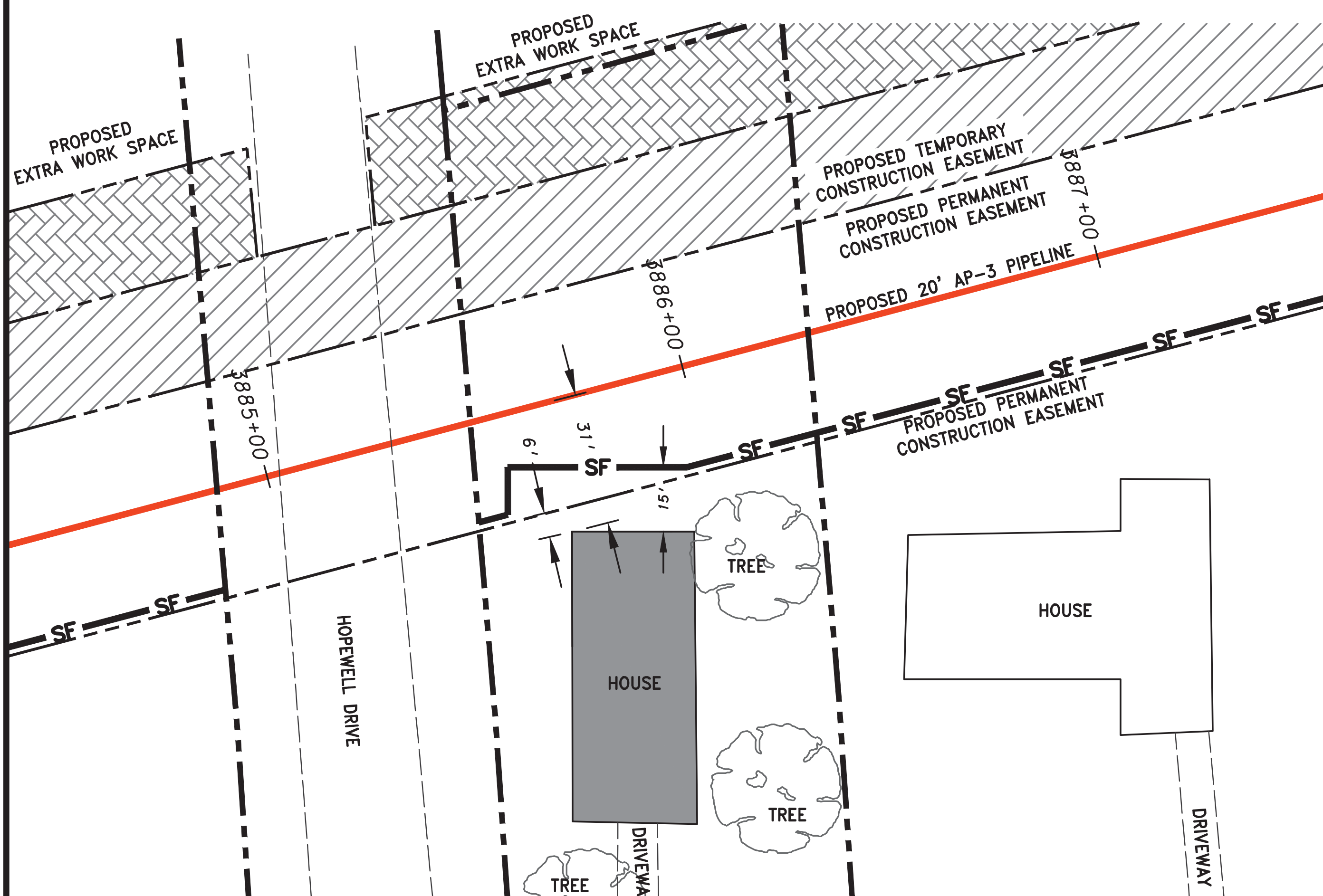
gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	mbe monaloh basin engineers 300 BUSINESS CENTER DRIVE PITTSBURGH, PA 15205 412-788-2433	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES CITY OF CHESAPEAKE, VIRGINIA	DWN. RDC / CHKD. DLH / APPD. NET SCALE: AS SHOWN	DATE 7/18/16 TASK NO. 01
		ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. 140468 DRAWING NO. LL-27-078	REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-078.DWG

7/18/2016 4:56 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-080
701 HOPEWELL DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343004000290
AP-3 PIPELINE
MILE POST 79.31



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'
40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

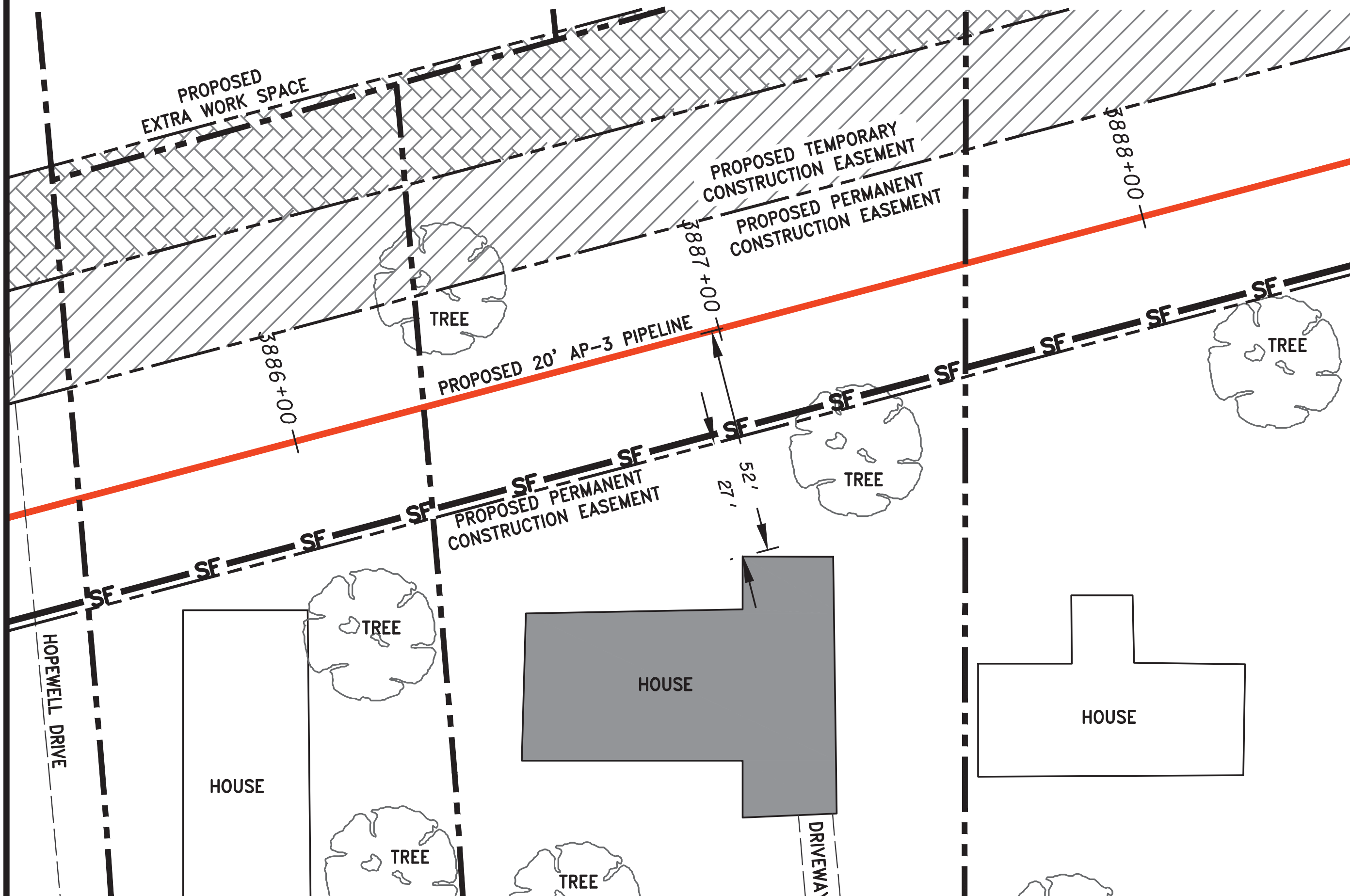
DWN. RDC | CHKD. DLH | APPD. NET | DATE 7/18/16
SCALE: AS SHOWN | TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-080
1 REV

GAI CAD FILE: J:\2665 -GAI WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-080.DWG

7/18/2016 1:09 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-082
2412 MEIGGS ROAD
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343005000300
AP-3 PIPELINE
MILE POST 79.33



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

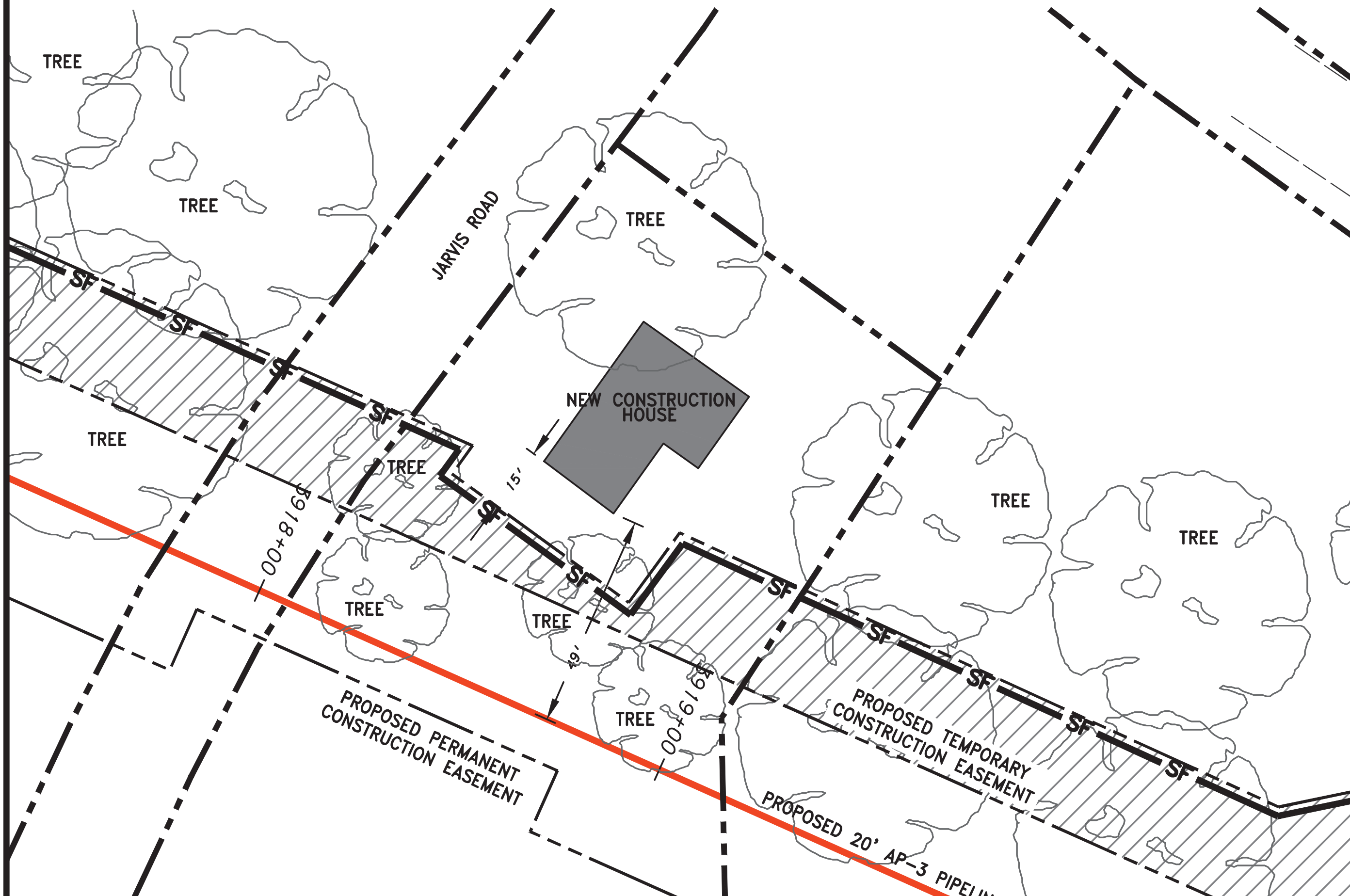
gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	mbe monaloh basin engineers 300 BUSINESS CENTER DRIVE PITTSBURGH, PA 15205 412-788-2433	**CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES** CITY OF CHESAPEAKE, VIRGINIA **ATLANTIC COAST PIPELINE LLC** **C/O DOMINION TRANSMISSION, INC.** 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	DWN. RDC CHKD. DLH APPD. NET DATE 7/18/16 SCALE: AS SHOWN TASK NO. 01 PROJECT NO./DASH NO. 140468 DRAWING NO. LL-27-082 REV 1

GAI CAD FILE: J:\2665 -GAI WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-082.DWG

7/18/2016 1:13 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-134.1
2525 OCONEE AVE #101
VIRGINIA BEACH, VA 23454-3997
TAX MAP # 0340000001831
AP-3 PIPELINE
MILE POST 79.94



LEGEND

- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- SF ORANGE SAFETY FENCE
- TOPSOIL SEGREGATION AREA
- EXTRA WORK SPACE
- PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 7/18/16
SCALE: AS SHOWN			TASK NO. 01

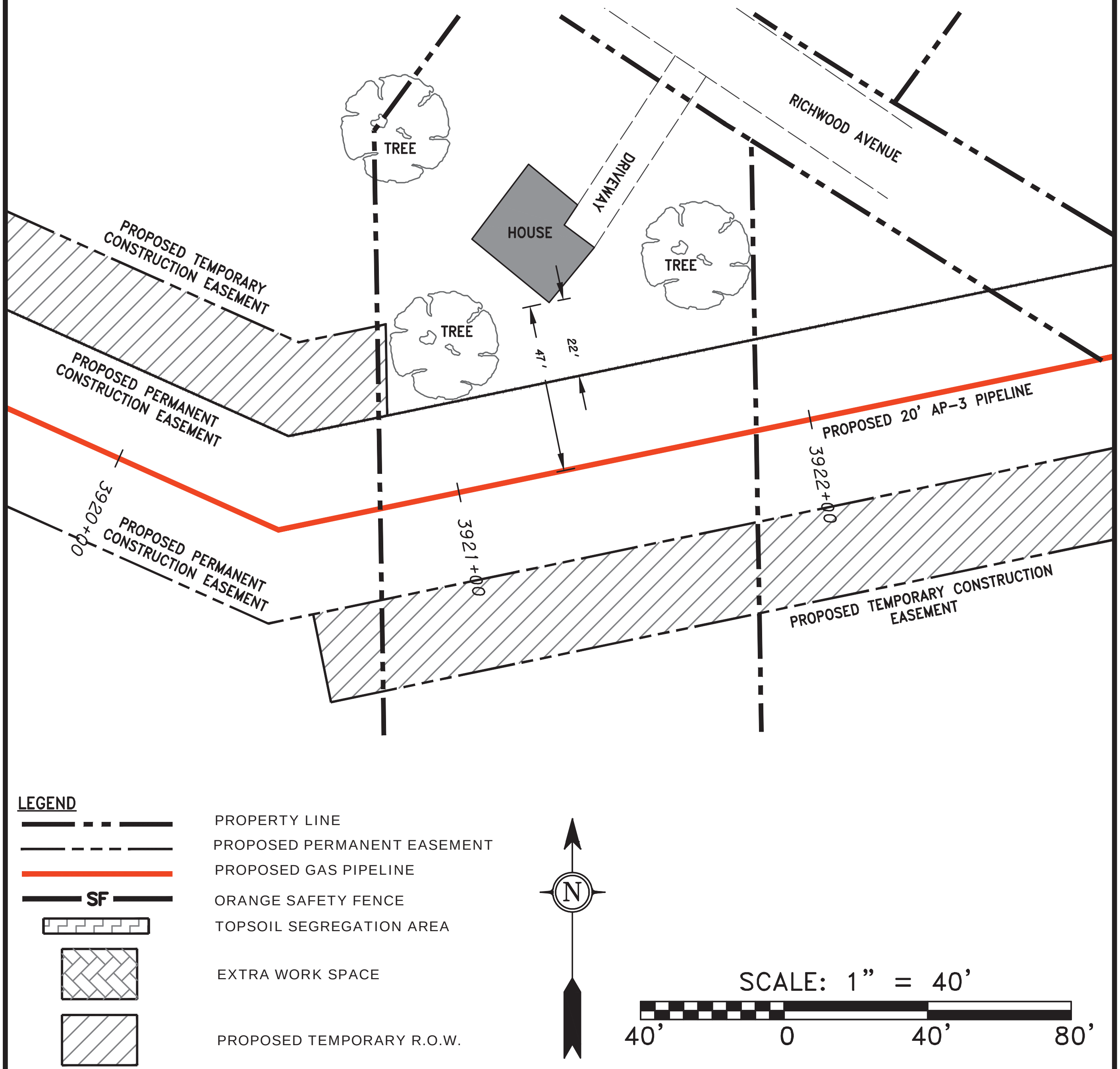
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-134.1
1 REV

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-134.1.DWG

7/18/2016 1:18 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-138
508 BAYLOR ST. STE. #B3
CHESAPEAKE, VIRGINIA 23320
TAX MAP # 0340000001820
AP-3 PIPELINE
MILE POST 79.99



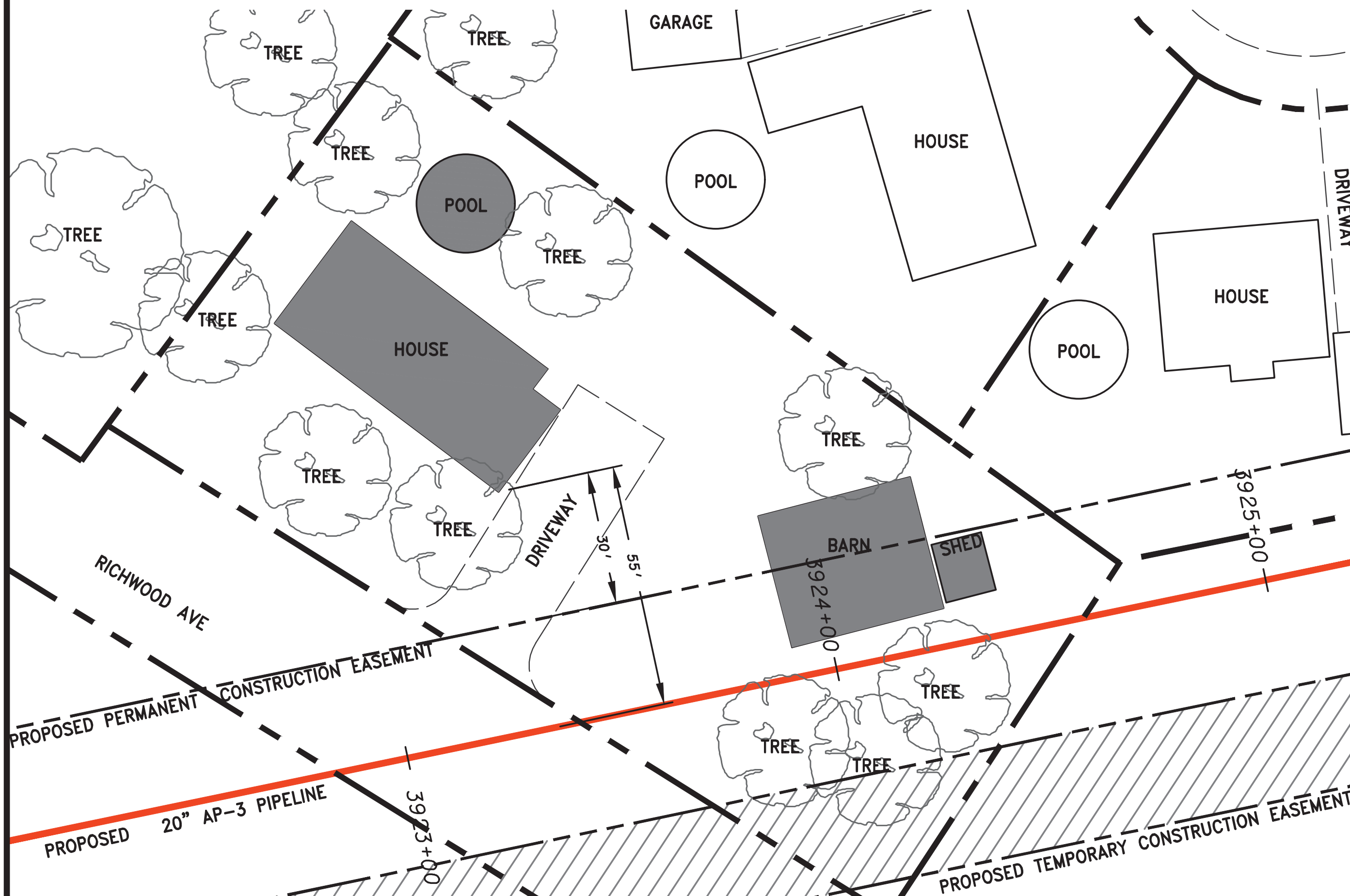
gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	mbe monaloh basin engineers 300 BUSINESS CENTER DRIVE PITTSBURGH, PA 15205 412-788-2433	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES CITY OF CHESAPEAKE, VIRGINIA ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	DWN. RDC CHKD. DLH APPD. NET DATE 7/18/16 SCALE: AS SHOWN TASK NO. 01 PROJECT NO./DASH NO. 140468 DRAWING NO. LL-27-138 REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-138.DWG

7/18/2016 1:32 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-137-A002
PSC 814 #524
FPO, AE 09865-9998
TAX MAP # 0343013000001
AP-3 PIPELINE
MILE POST 80.04



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 7/18/16
SCALE: AS SHOWN			TASK NO. 01

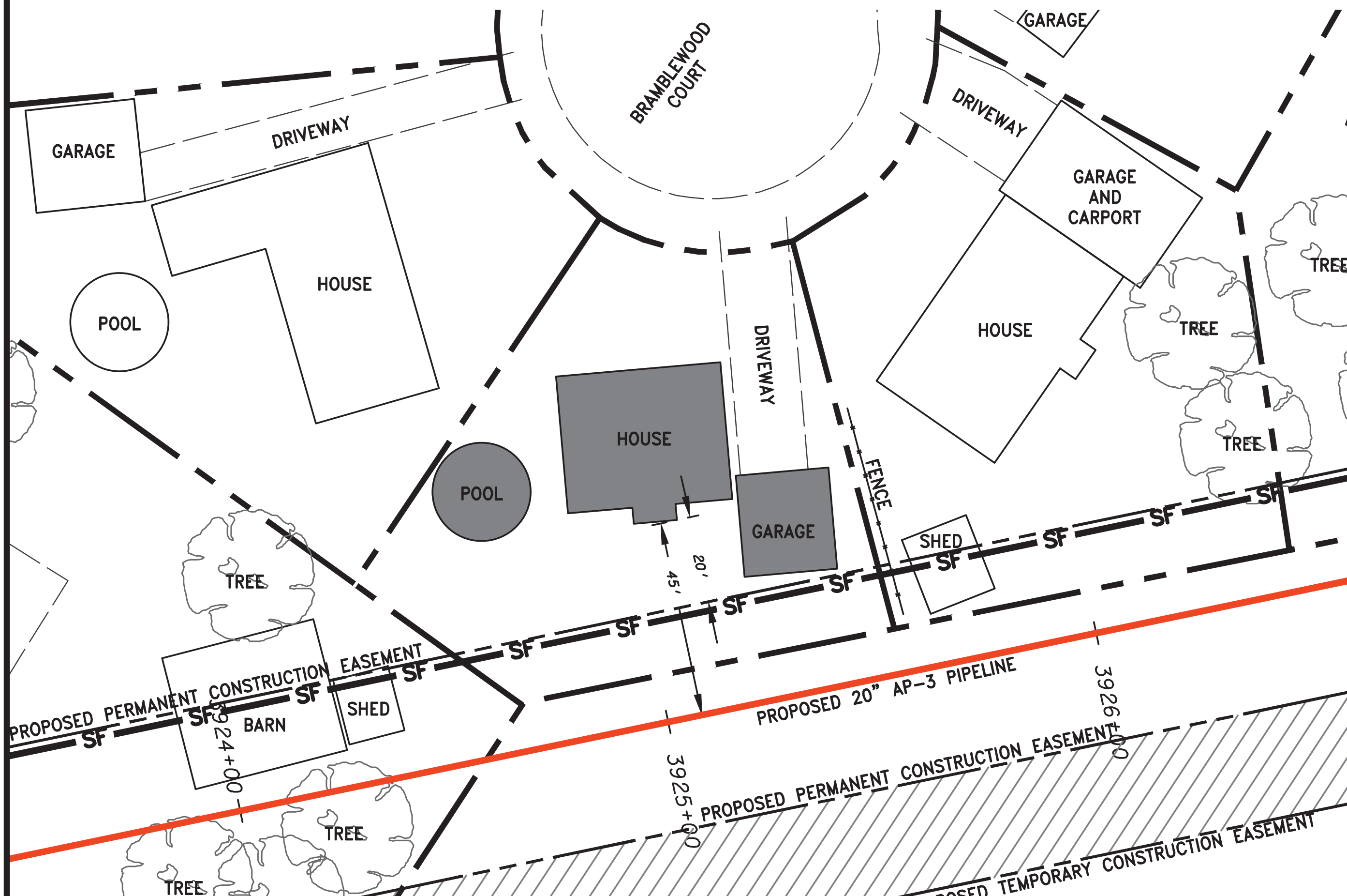
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-137-A002
REV –

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-137-A002.DWG

7/18/2016 1:23 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A001
1201 BRAMBLEWOOD CT
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343013000090
AP-3 PIPELINE
MILE POST 80.06



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

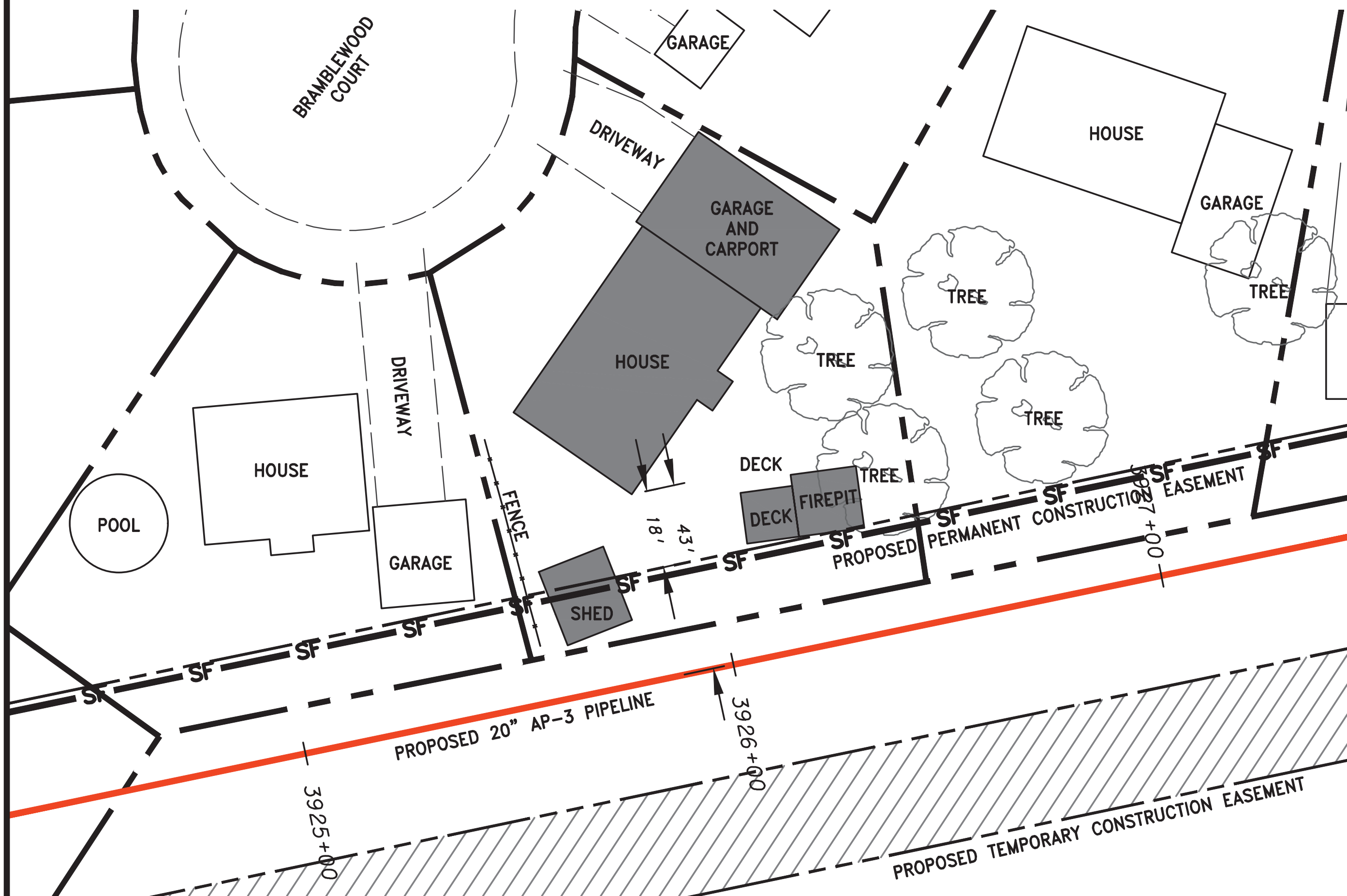
DWN. RDC | CHKD. DLH | APPD. NET | DATE 7/18/16
SCALE: AS SHOWN | TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-142-A001 | – REV

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A001.DWG

7/18/2016 1:39 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A002
1205 BRAMBLEWOOD CT
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343013000100
AP-3 PIPELINE
MILE POST 80.07



LEGEND

- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- SF ORANGE SAFETY FENCE
- TOPSOIL SEGREGATION AREA
- EXTRA WORK SPACE
- PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

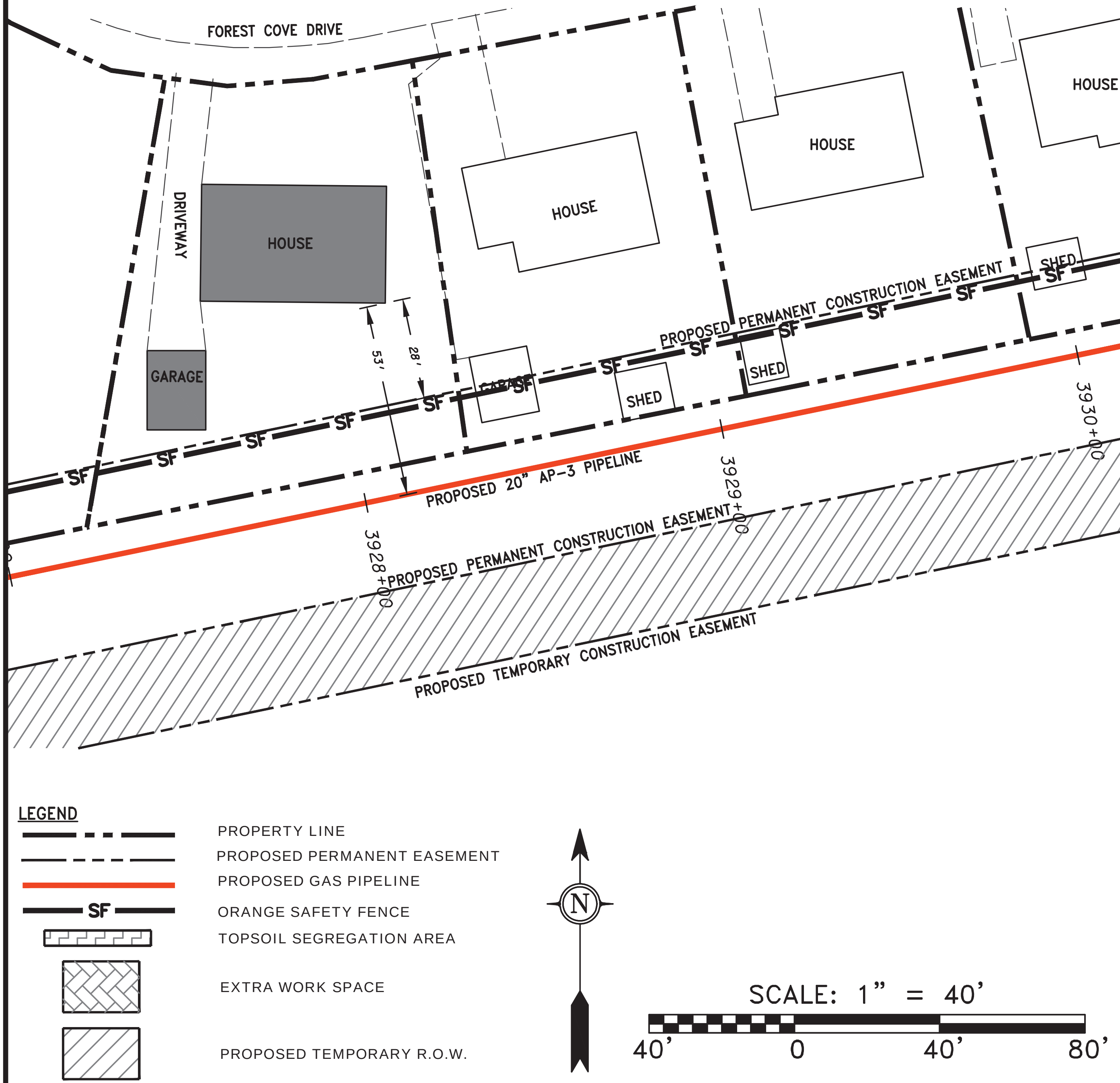
gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	mbe monaloh basin engineers 300 BUSINESS CENTER DRIVE PITTSBURGH, PA 15205 412-788-2433	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES CITY OF CHESAPEAKE, VIRGINIA	DWN. RDC	CHKD. DLH	APPD. NET
			DATE 7/18/16	SCALE: AS SHOWN	TASK NO. 01
		ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. 140468	DRAWING NO. LL-27-142-A002	REV –

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A002.DWG

7/18/2016 1:45 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A005
1537 FOREST COVE DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343013000130
AP-3 PIPELINE
MILE POST 80.11



gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	mbe monaloh basin engineers 300 BUSINESS CENTER DRIVE PITTSBURGH, PA 15205 412-788-2433	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES CITY OF CHESAPEAKE, VIRGINIA ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301

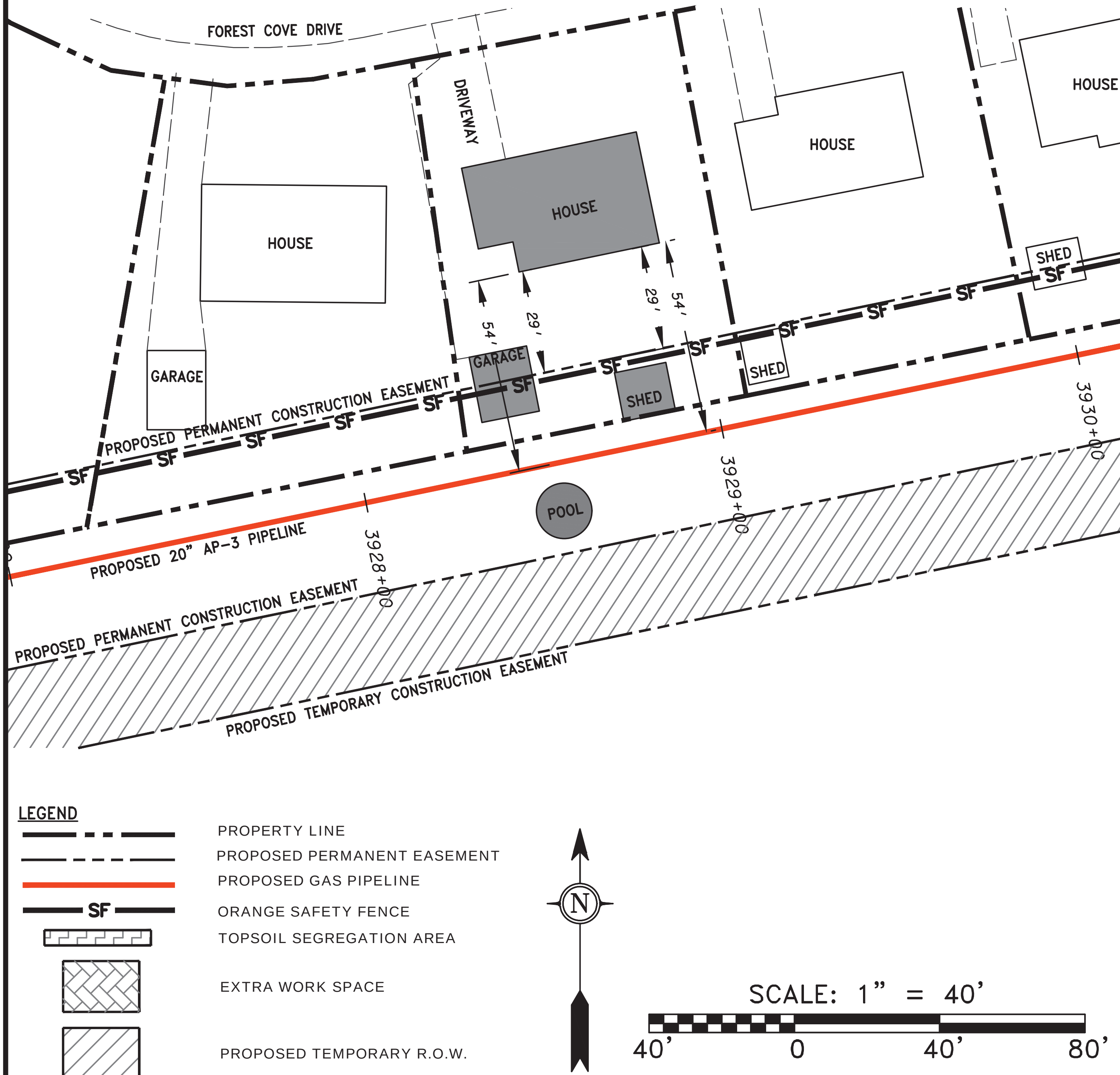
DWN. RDC | CHKD. DLH | APPD. NET | DATE 7/18/16
SCALE: AS SHOWN | TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-142-A005 REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A005.DWG

7/18/2016 1:48 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A007
322 EVANSVILLE RD
BERWICK, PA 18603
TAX MAP # 0343013000140
AP-3 PIPELINE
MILE POST 80.13



gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 7/18/16
SCALE: AS SHOWN			TASK NO. 01

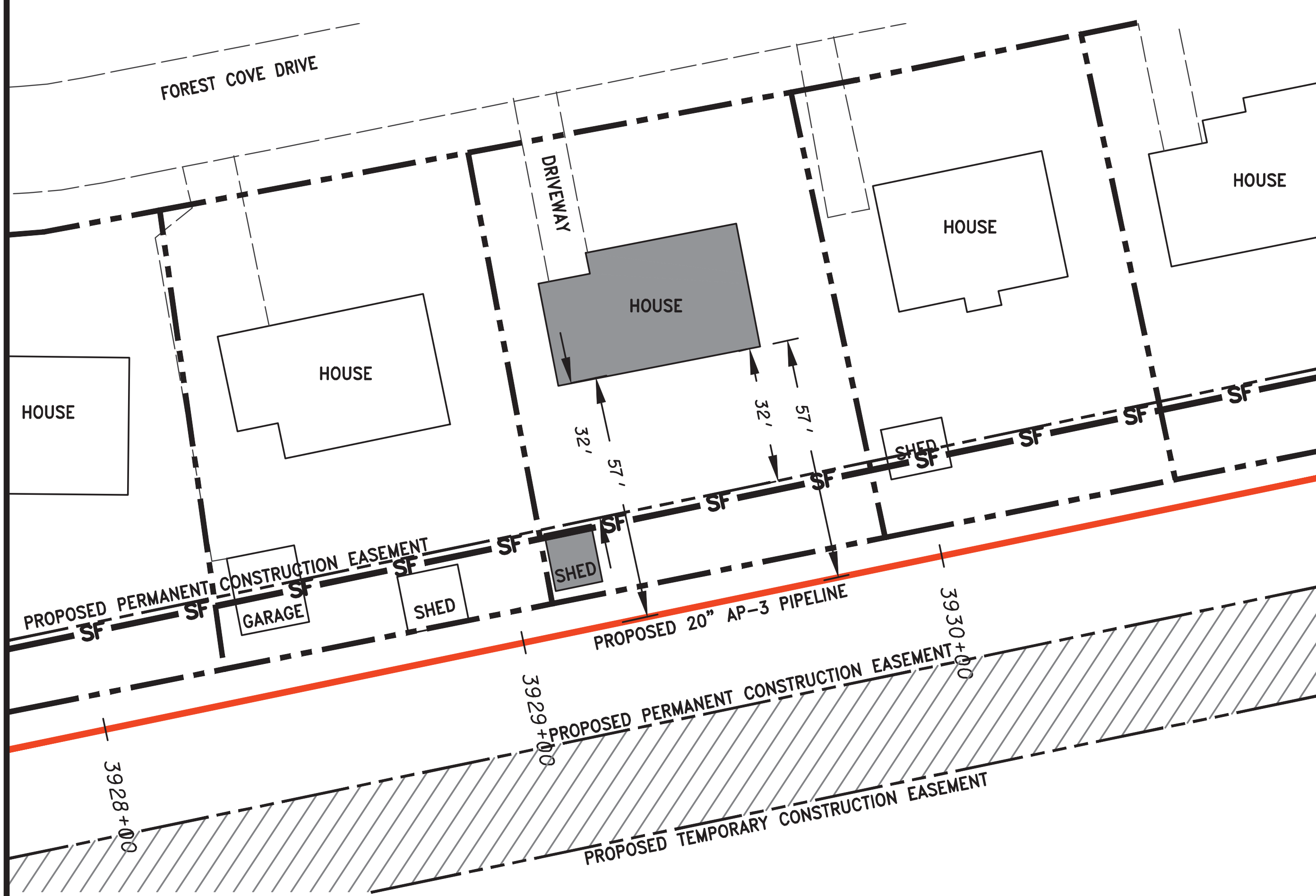
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-142-A007 REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A007.DWG

7/18/2016 1:53 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A009
1533 FOREST COVE DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343013000150
AP-3 PIPELINE
MILE POST 80.14



LEGEND

- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- SF ORANGE SAFETY FENCE
- TOPSOIL SEGREGATION AREA
- EXTRA WORK SPACE
- PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 7/18/16
SCALE: AS SHOWN			TASK NO. 01

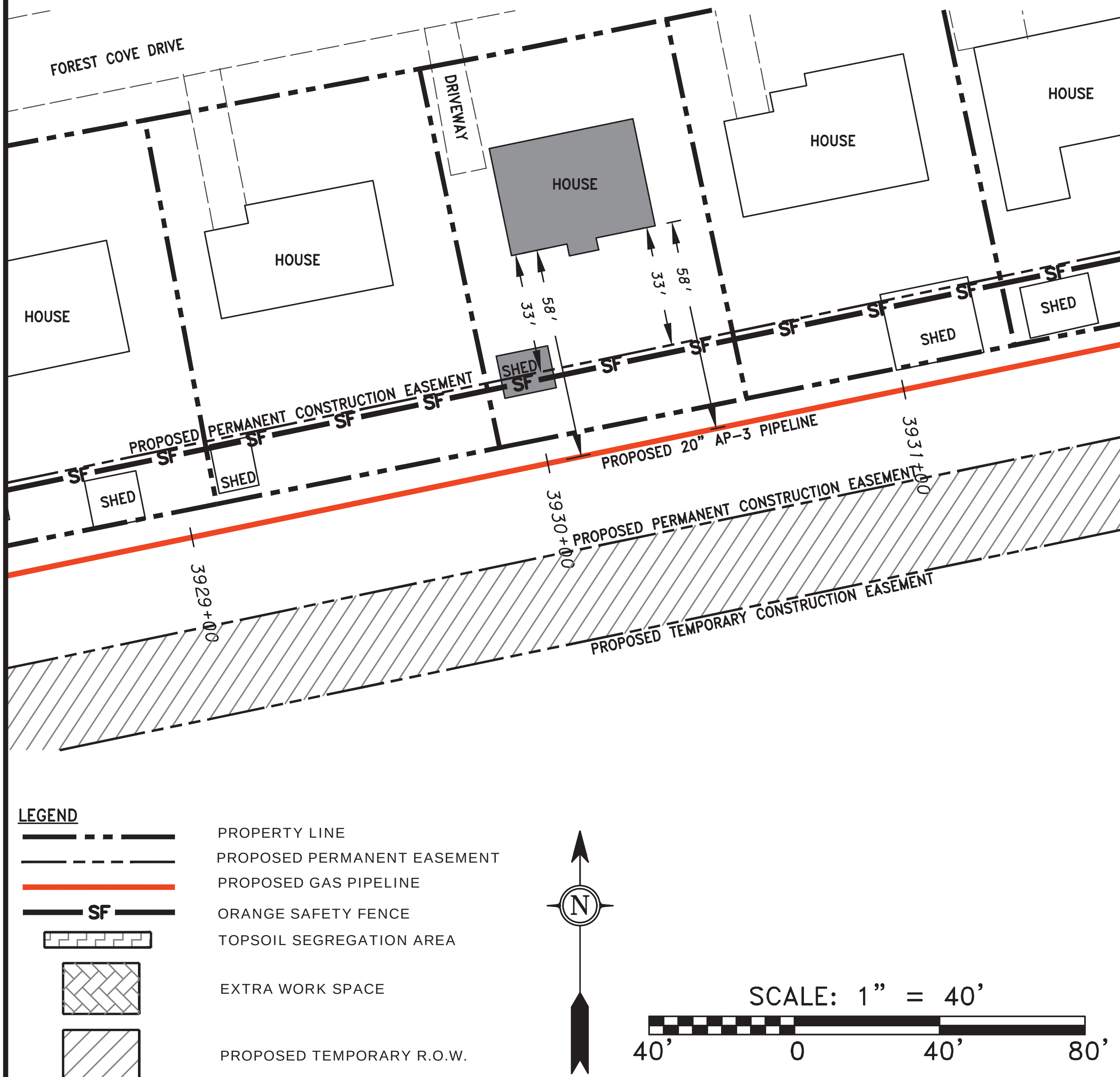
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-142-A009 REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A009.DWG

7/18/2016 1:59 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A011
1531 FOREST COVE DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343013000160
AP-3 PIPELINE
MILE POST 80.16



gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

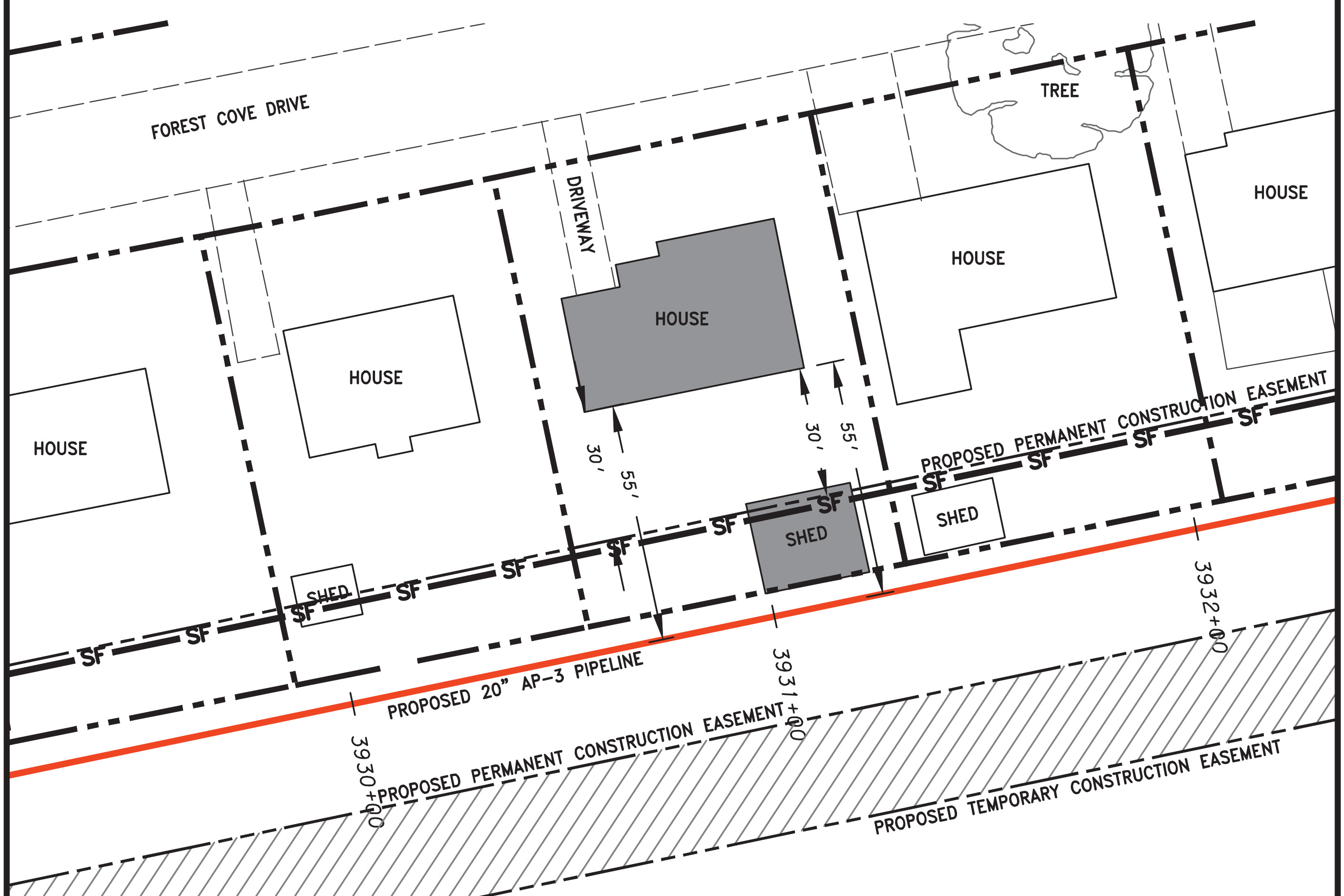
DWN. RDC	CHKD. DLH	APPD. NET	DATE 7/18/16
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-27-142-A011			REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A011.DWG

7/18/2016 2:01 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A013
1529 FOREST COVE DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343013000170
AP-3 PIPELINE
MILE POST 80.17



LEGEND

PROPERTY LINE

PROPOSED PERMANENT EASEMENT

PROPOSED GAS PIPELINE

SF ORANGE SAFETY FENCE

TOPSOIL SEGREGATION AREA

EXTRA WORK SPACE

PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe
monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 7/18/16
SCALE: AS SHOWN			TASK NO. 01

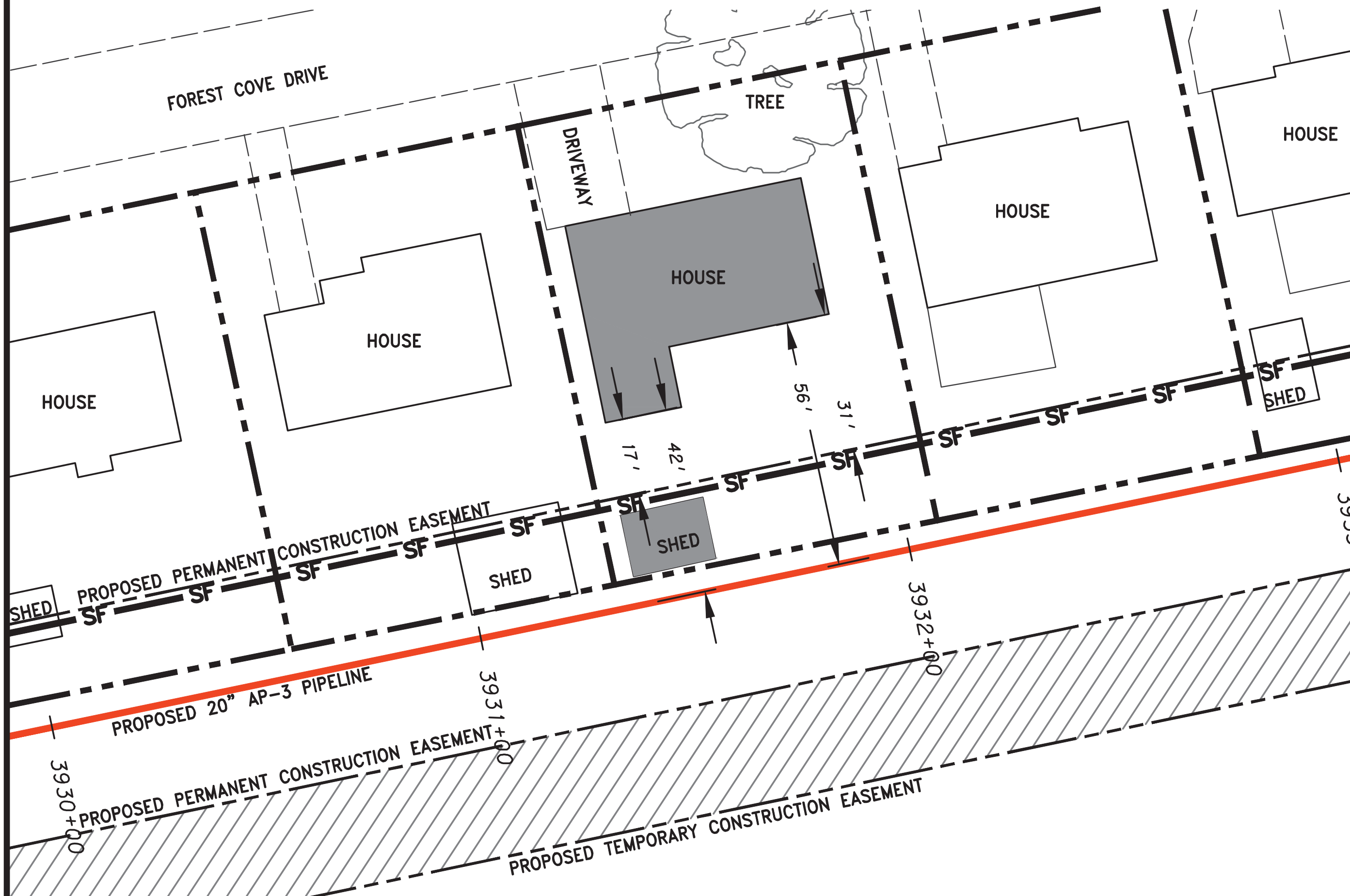
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-142-A013 REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - BUILDING CONFLICTS\2665-07 SPREAD-8 - LL-27-142-A013.DWG

7/18/2016 2:03 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A015
1527 FOREST COVE DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343013000180
AP-3 PIPELINE
MILE POST 80.19



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe
monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

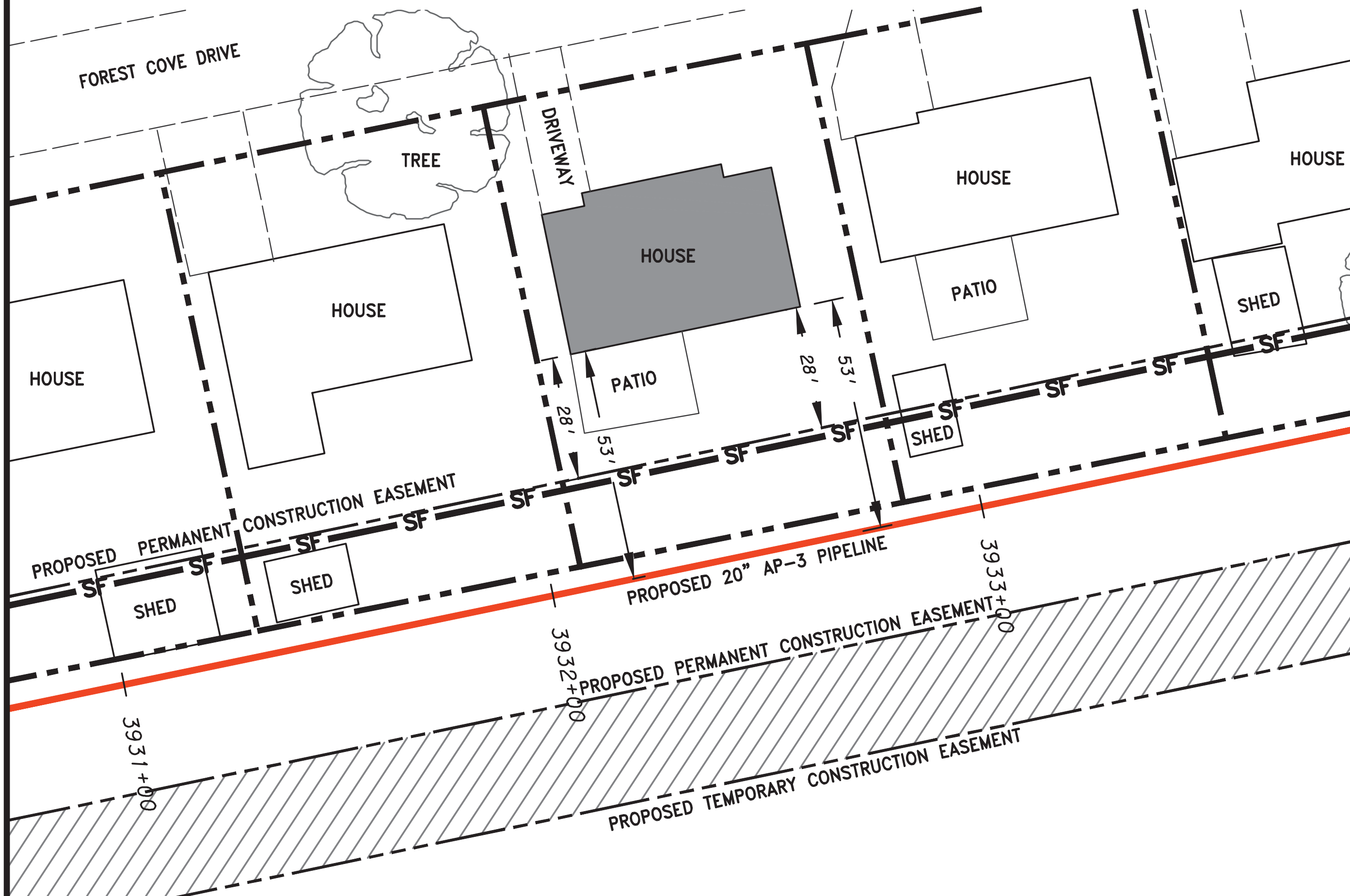
DWN. RDC | CHKD. DLH | APPD. NET | DATE 6/23/2016
SCALE: AS SHOWN | TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-142-A015 REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A015.DWG

6/28/2016 1:06 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A016
1525 FOREST COVE DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343017000010
AP-3 PIPELINE
MILE POST 80.20



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'
40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

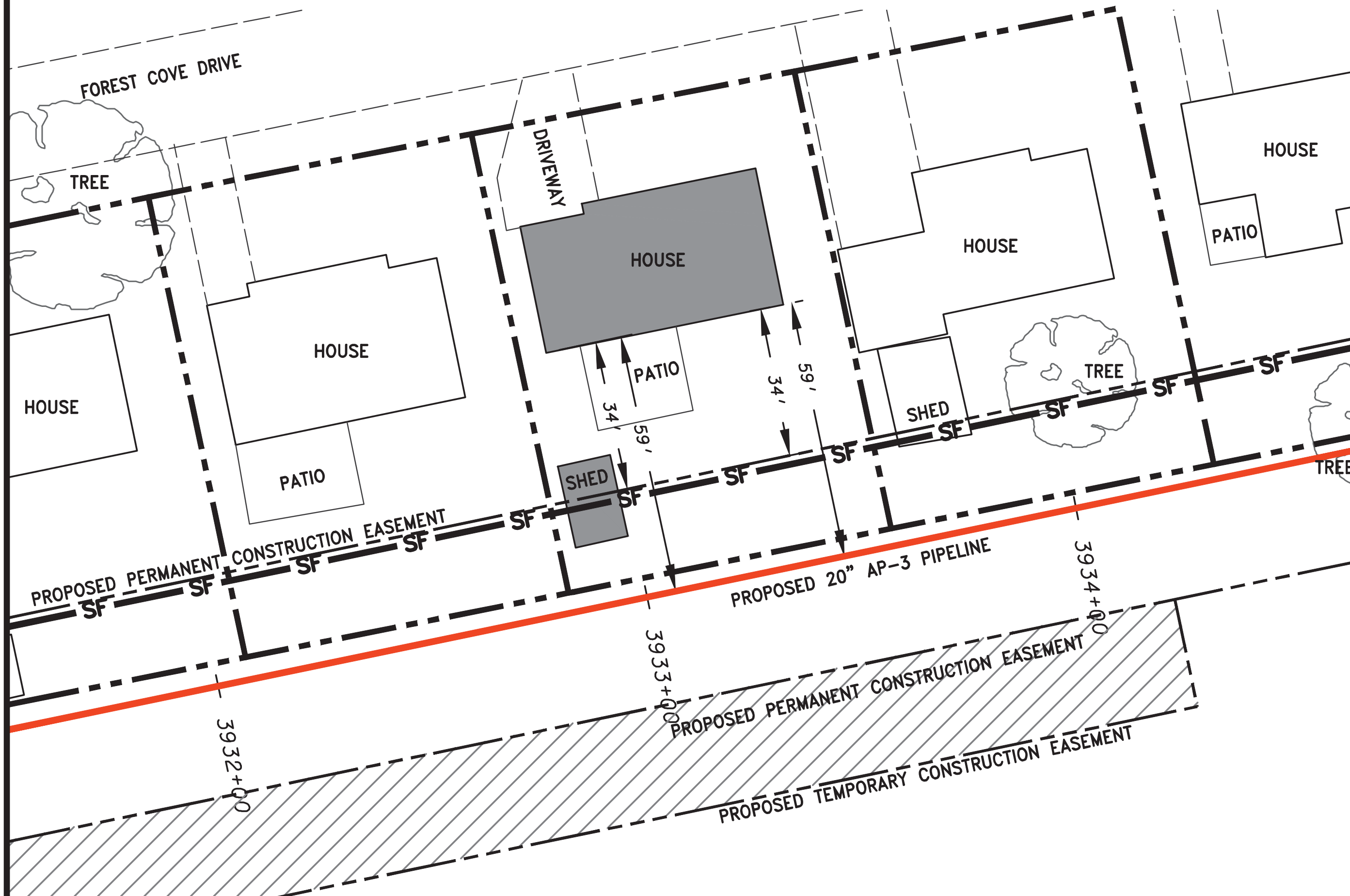
DWN. RDC	CHKD. DLH	APPD. NET	DATE 6/23/2016
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-27-142-A016			1 REV

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A016.DWG

6/28/2016 1:04 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWELINE R/W.

LL-27-142-A018
1523 FOREST COVE DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343017000020
AP-3 PIPELINE
MILE POST 80.21



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

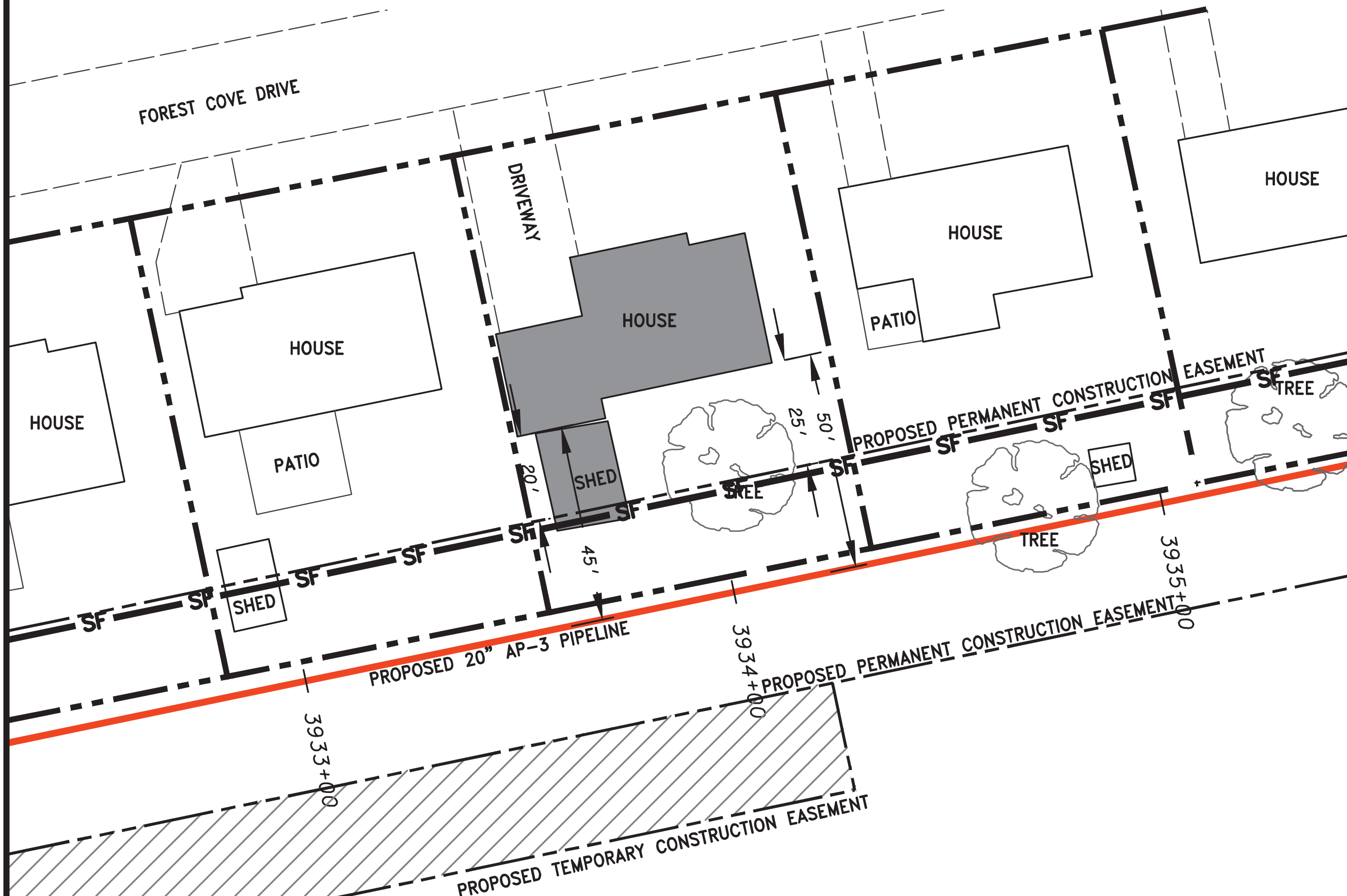
DWN. RDC | CHKD. DLH | APPD. NET | DATE 7/18/16
SCALE: AS SHOWN | TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-142-A018 | 1 REV

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A018.DWG

7/18/2016 2:07 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A020
1521 FOREST COVE DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343017000030
AP-3 PIPELINE
MILE POST 80.23



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe
monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 6/23/2016
SCALE: AS SHOWN			TASK NO. 01

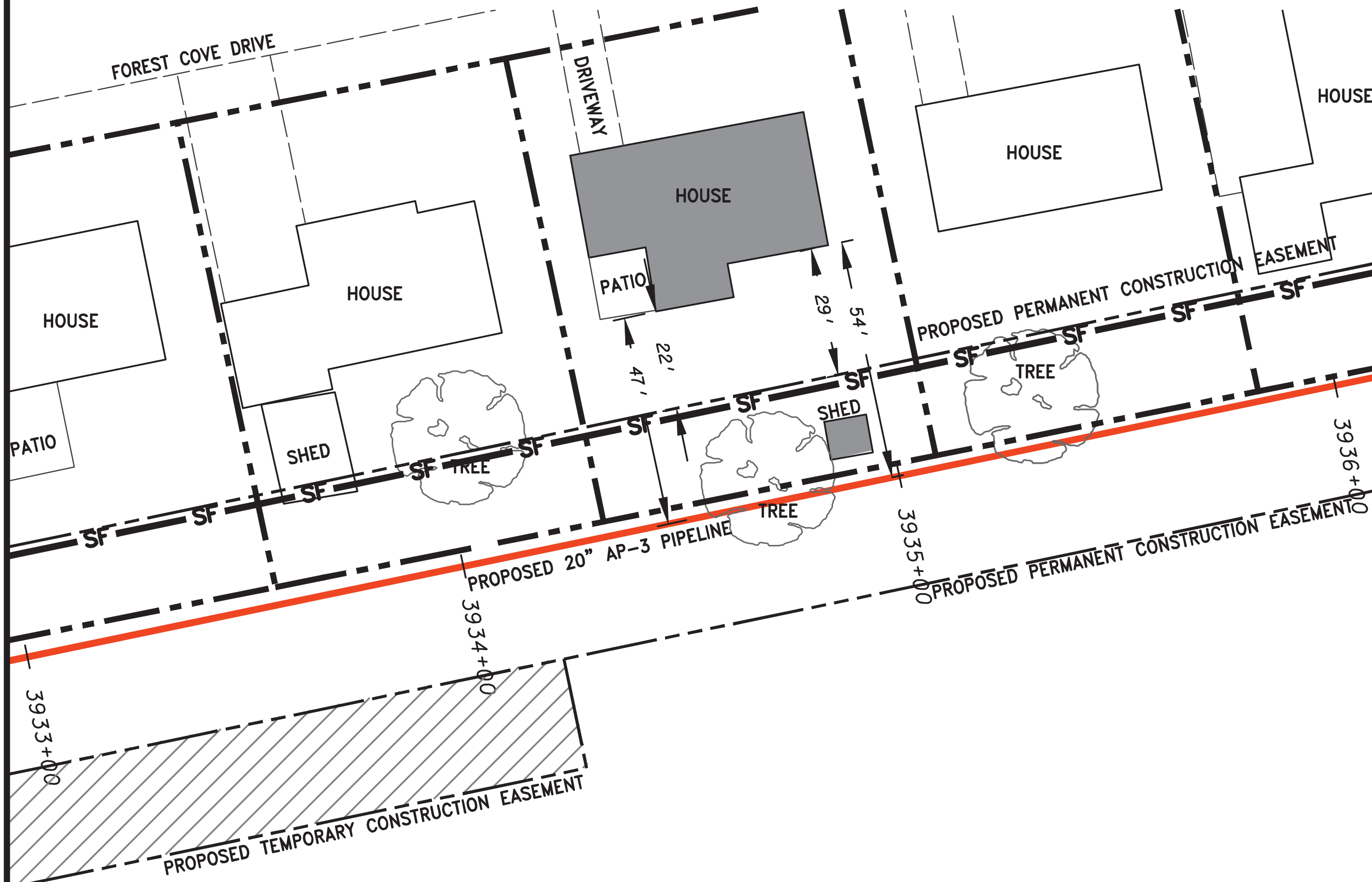
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-142-A020 REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A020.DWG

6/28/2016 1:02 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A022
1519 FOREST COVE DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343017000040
AP-3 PIPELINE
MILE POST 80.24



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe
monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 7/18/16
SCALE: AS SHOWN			TASK NO. 01

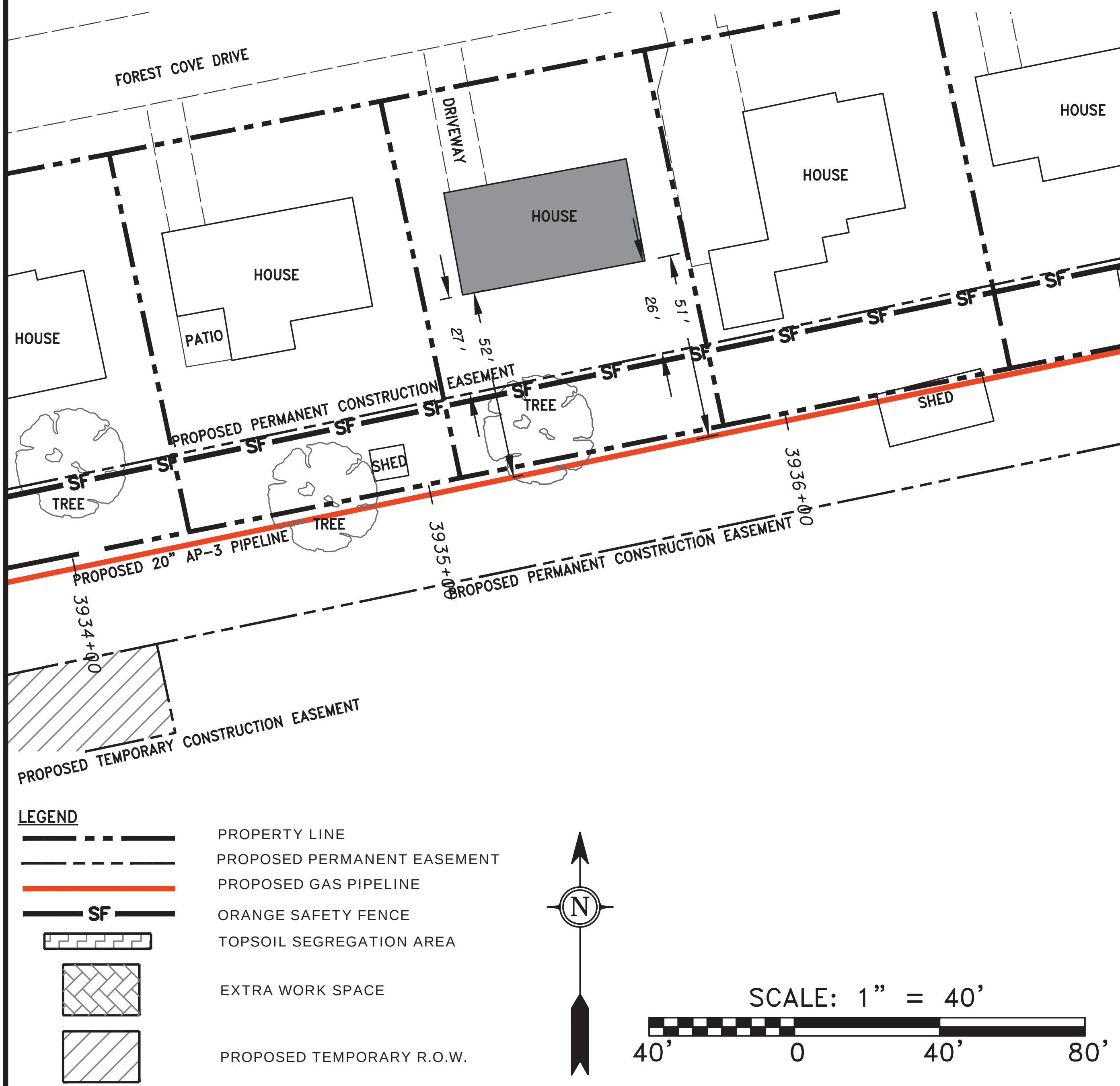
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-142-A022 REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A022.DWG

7/18/2016 2:11 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A024
1517 FOREST COVE DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343017000050
AP-3 PIPELINE
MILE POST 80.26



gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

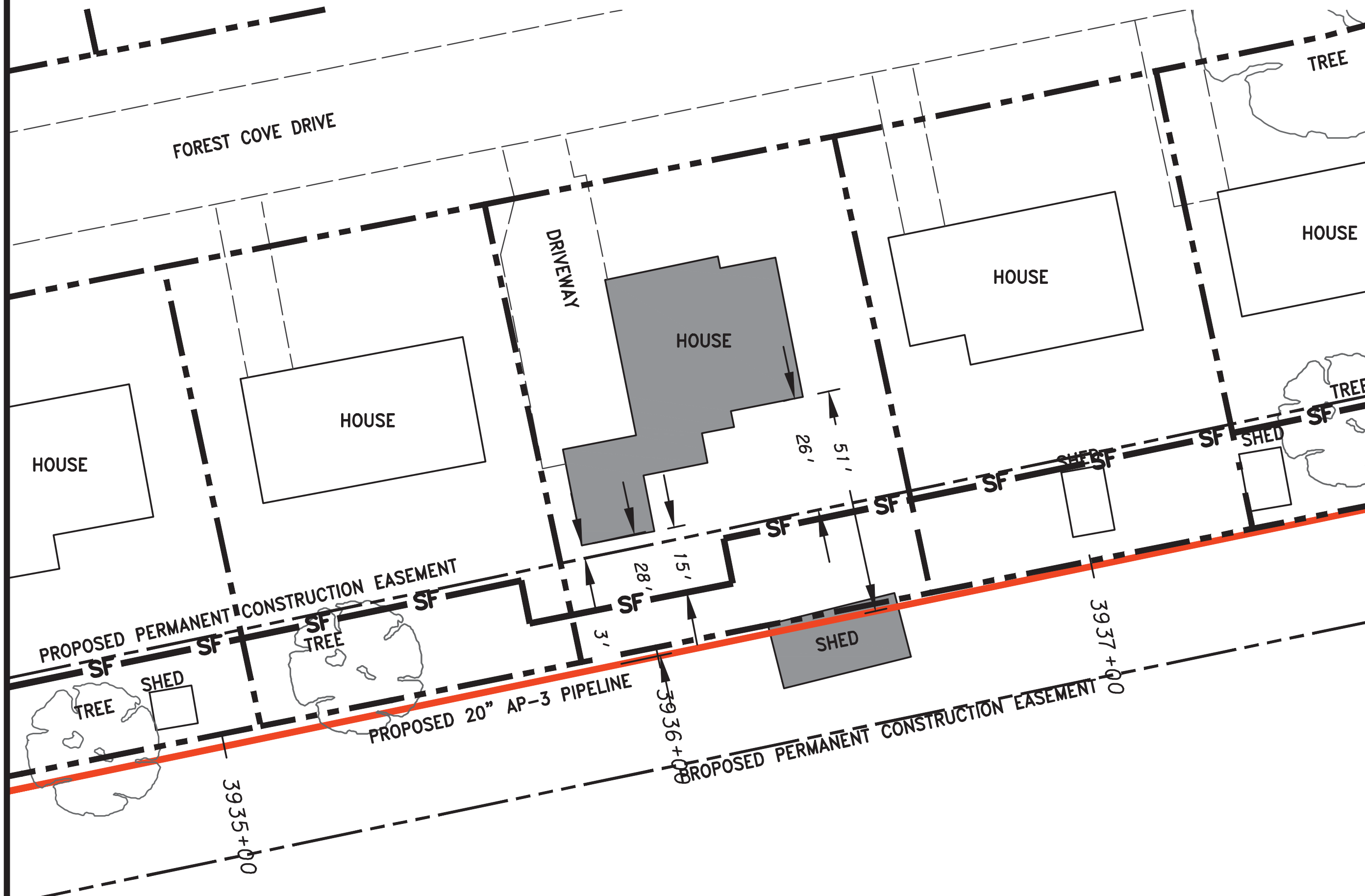
DWN. RDC	CHKD. DLH	APPD. NET	DATE 6/23/2016
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-27-142-A024			REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A024.DWG

6/28/2016 12:59 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A026
1515 FOREST COVE DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343017000060
AP-3 PIPELINE
MILE POST 80.27



LEGEND

- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- SF ORANGE SAFETY FENCE
- TOPSOIL SEGREGATION AREA
- EXTRA WORK SPACE
- PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 7/18/16
SCALE: AS SHOWN			TASK NO. 01

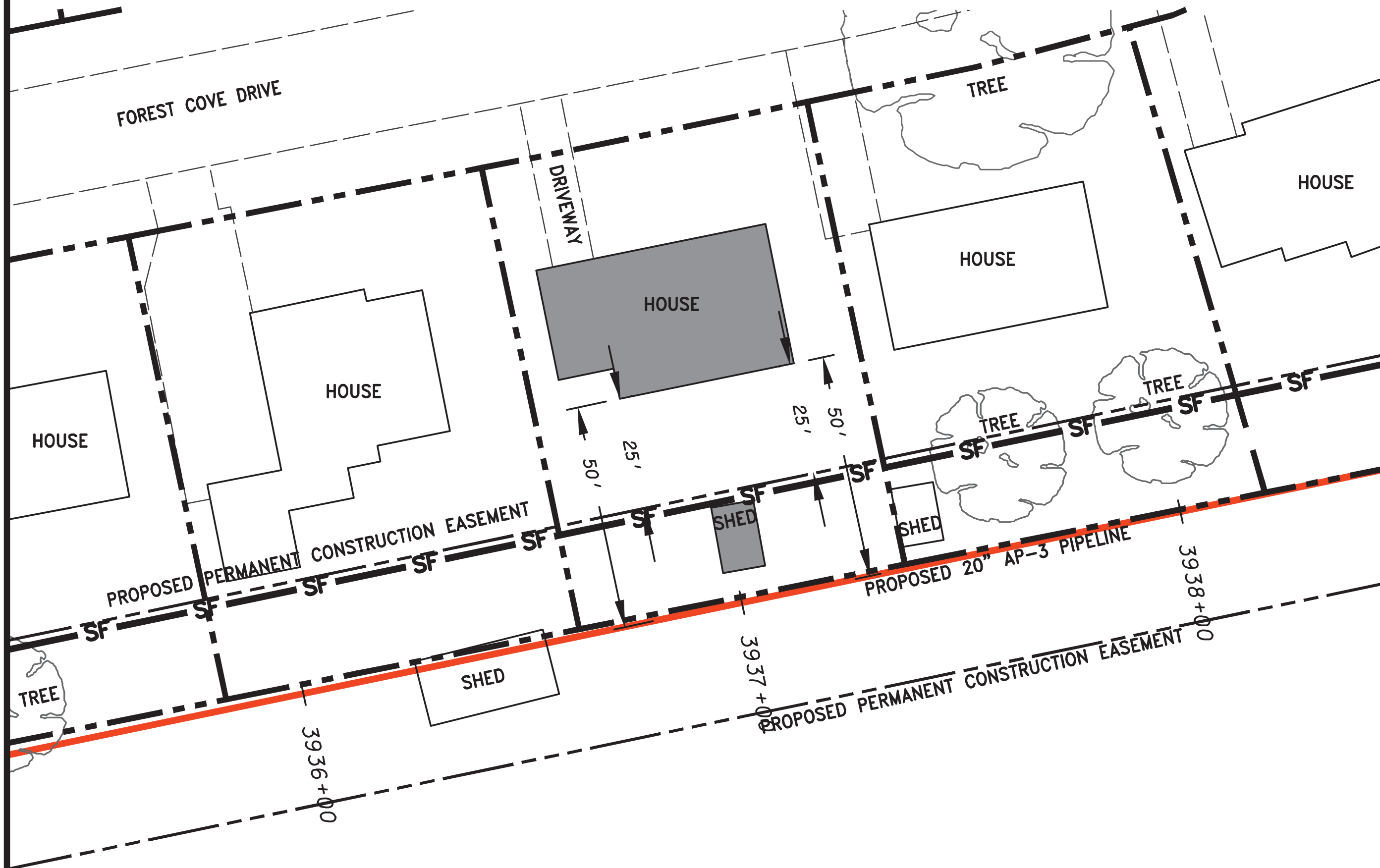
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-142-A026 REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A026.DWG

7/18/2016 2:15 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A028
4576 SCHOONER BLVD
SUFFOLK, VIRGINIA 23435
TAX MAP # 0343017000070
AP-3 PIPELINE
MILE POST 80.29



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'
40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

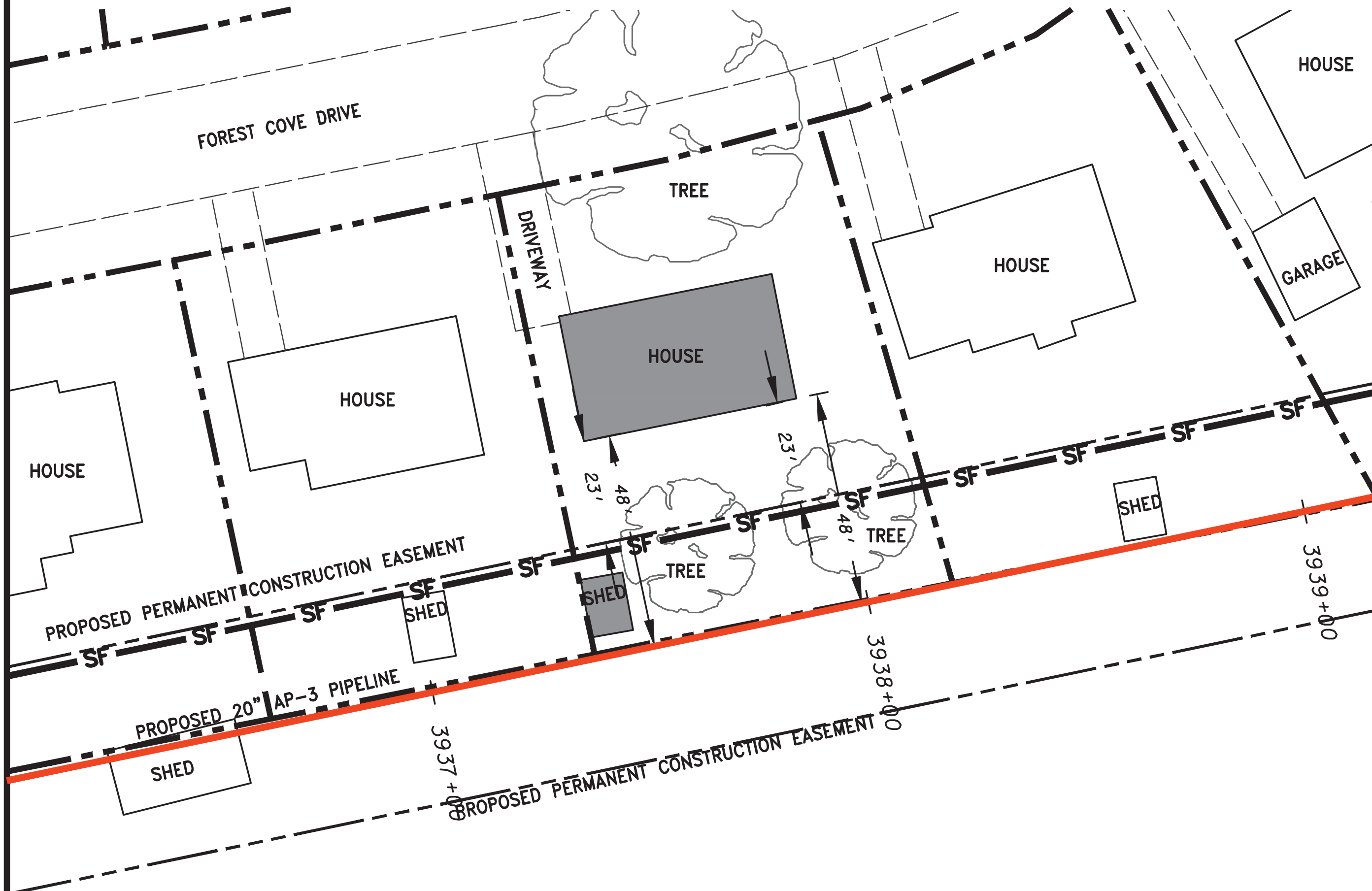
DWN. RDC	CHKD. DLH	APPD. NET	DATE 6/23/2016
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-27-142-A028			REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A028.DWG

7/5/2016 8:01 AM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A029
1511 FOREST COVE DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343017000080
AP-3 PIPELINE
MILE POST 80.30



LEGEND
PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'
40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC	CHKD. DLH	APPD. NET	DATE 6/23/2016
SCALE: AS SHOWN			TASK NO. 01

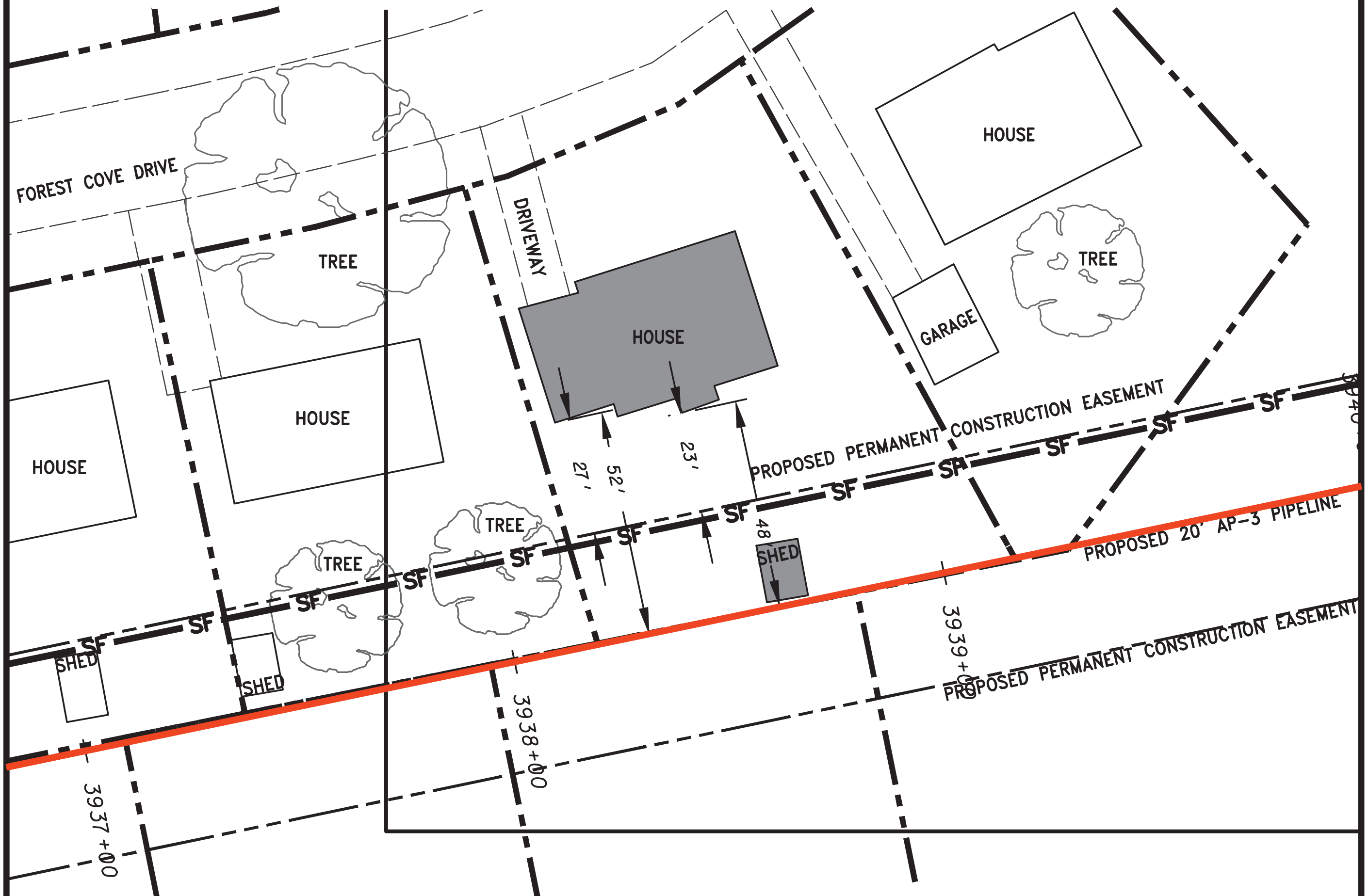
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-142-A029 REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A029.DWG

6/28/2016 12:52 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A031
1509 FOREST COVE DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343017000090
AP-3 PIPELINE
MILE POST 80.32



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'

40' 0 40' 80'

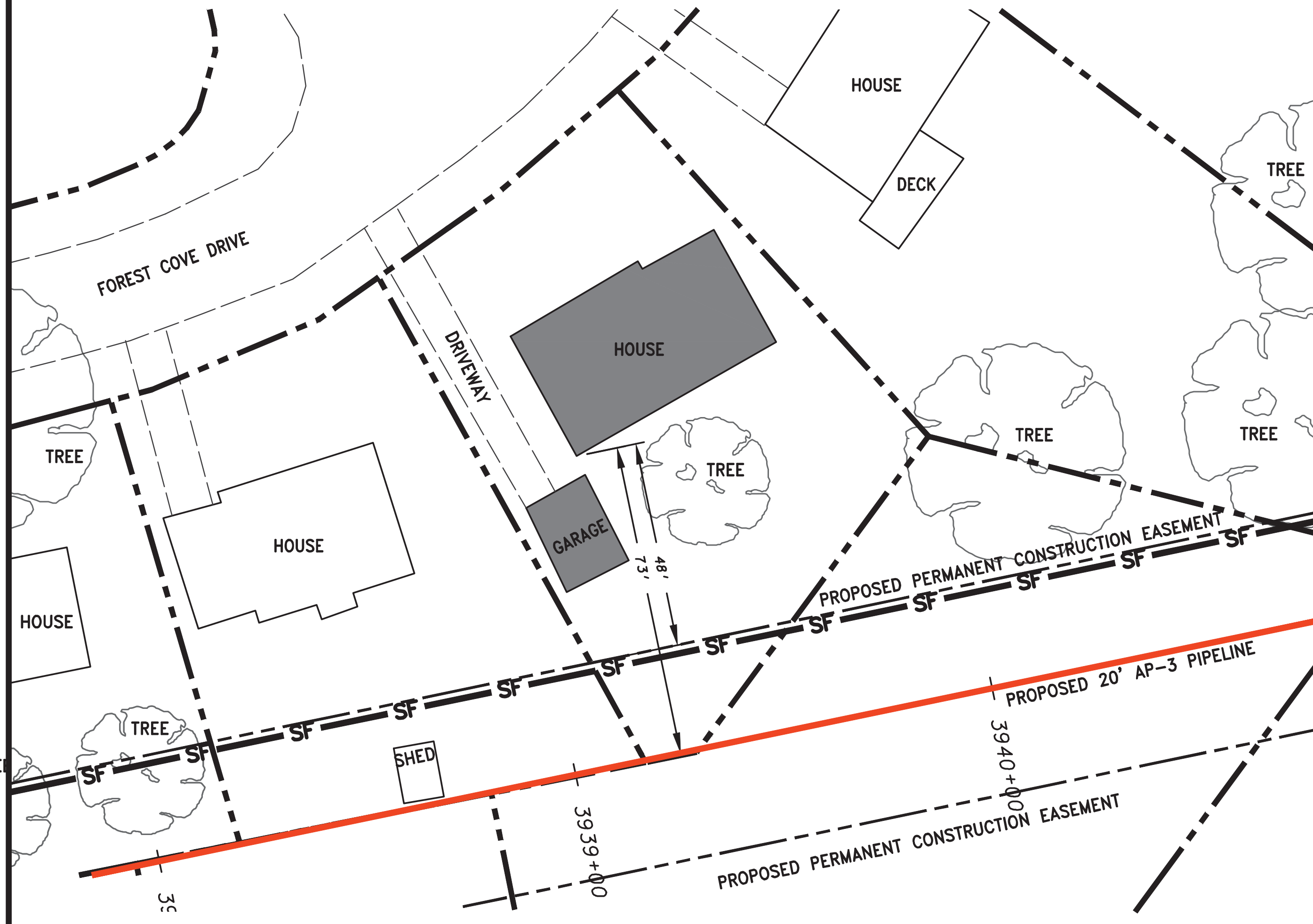
gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	mbe monaloh basin engineers 300 BUSINESS CENTER DRIVE PITTSBURGH, PA 15205 412-788-2433	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES CITY OF CHESAPEAKE, VIRGINIA ATLANTIC COAST PIPELINE LLC C/O DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	DWN. RDC CHKD. DLH APPD. NET DATE 6/28/2016 SCALE: AS SHOWN TASK NO. 01 PROJECT NO./DASH NO. 140468 DRAWING NO. LL-27-142-A031 REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A031.DWG

6/28/2016 12:49 PM

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
4. PIPELINE LOD IS WITHIN POWERLINE R/W.

LL-27-142-A032
1507 FOREST COVE DRIVE
CHESAPEAKE, VIRGINIA 23323
TAX MAP # 0343017000090
AP-3 PIPELINE
MILE POST 80.32



LEGEND

PROPERTY LINE
PROPOSED PERMANENT EASEMENT
PROPOSED GAS PIPELINE
SF ORANGE SAFETY FENCE
TOPSOIL SEGREGATION AREA
EXTRA WORK SPACE
PROPOSED TEMPORARY R.O.W.

N

SCALE: 1" = 40'
40' 0 40' 80'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

mbe
monaloh basin engineers
300 BUSINESS CENTER DRIVE
PITTSBURGH, PA 15205
412-788-2433

CONSTRUCTION TECHNIQUES
NEAR RESIDENTIAL STRUCTURES
CITY OF CHESAPEAKE, VIRGINIA

ATLANTIC COAST PIPELINE LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. RDC CHKD. DLH APPD. NET DATE 6/22/2016
SCALE: AS SHOWN TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-27-142-A032 REV 1

GAI CAD FILE: J:\2665 -GAI\WORK ORDER 07 - SOUTHEAST PIPELINE (SECTION 8)\3 - CAD DRAWINGS\BUILDING CONFLICTS\2665-07 SPREAD-8 - BUILDING CONFLICT EXHIBITS INDIVIDUAL\2665-07 SPREAD-8 - LL-27-142-A032.DWG

7/5/2016 8:14 AM

SUPPLY HEADER PROJECT

TL-636

FERC's Plans will be followed for Residential Construction, for all Residences located within 50 feet of the construction work area

1. Orange safety fence will be installed at a minimum 15 feet from the residence, and 100 feet along the construction corridor, each direction from residence.
2. Will avoid the removal of mature trees and landscaping within the construction work area, unless necessary for safe operation of equipment, or as specified in the landowner agreements
3. Restore all lawn areas and landscaping immediately following clean up operations or as specified in landowner agreement
4. During landowner negotiations, identify location of septic system and avoid or develop a replacement plan with landowner during construction.

For this project, the following notes will also be applied

a. Where the pipeline centerline is within 25 feet of a residence, the trench will not be excavated until the pipe is ready for installation.

b. Landowner will be notified one week prior to construction on his/her property

c. No refueling or storage of hazardous materials will occur within 200 feet of a private well.

d. Steel plating or other effective means will be provided to allow landowner access to his/her residence should construction or other ground disturbance occur. Required at egress points, landowner driveways, or other private access ways.

e. On public roads, we will follow our traffic management plans that are filed as part of the permit

f. Construction will be limited to daylight hours.

g. Applicant will:

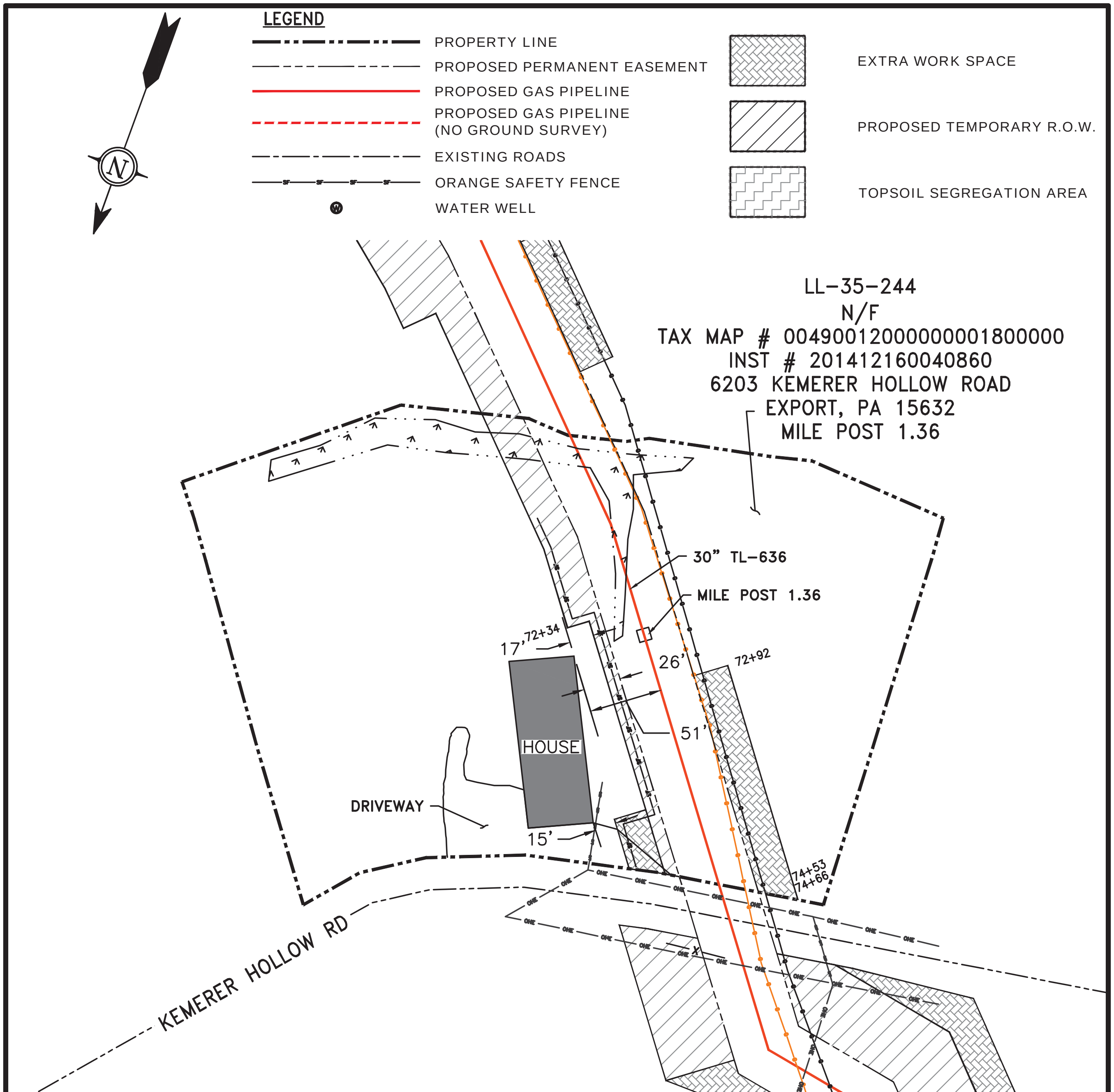
- Ensure piping is welded and installed as quickly as possible to minimize the amount of time a neighborhood is affected by construction;
- Complete final cleanup, grading, and installation of permanent erosion control devices within 10 days after backfilling the trench, weather permitting.
- During landowner negotiations, will work with landowner on restoration procedure. These procedures will include seeding mix, tree/shrub planting and hardscape replacement.

gai consultants
SOUTHPOINTE OFFICE
6000 TOWNE CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES GENERAL NOTES	DWN. JJP	CHKD. DLH	APPD. NET	DATE 07/28/2016
	SCALE: NONE			TASK NO. 00
DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. 141330.01			
	DRAWING NO. A001			REV –

GAI CAD FILE: Z:\ENERGY\2014\C140468.00 – DOMINION – SOUTHEAST PIPE\CAD\MASTER ROUTE\DRG\DRAWINGS\HOUSE_SITE_SPECIFIC_GENERAL_NOTES_SHP.DWG

7/19/2016 8:47 AM



NOTES:

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE. ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

SCALE: 1" = 100'

100' 0 100' 200'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
SUITE 300 EAST
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
WESTMORELAND COUNTY, PENNSYLVANIA

DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN.	CHKD.	APPD.	DATE
ACE	DLH	NET	7/15/16

SCALE: AS SHOWN

TASK NO. 05

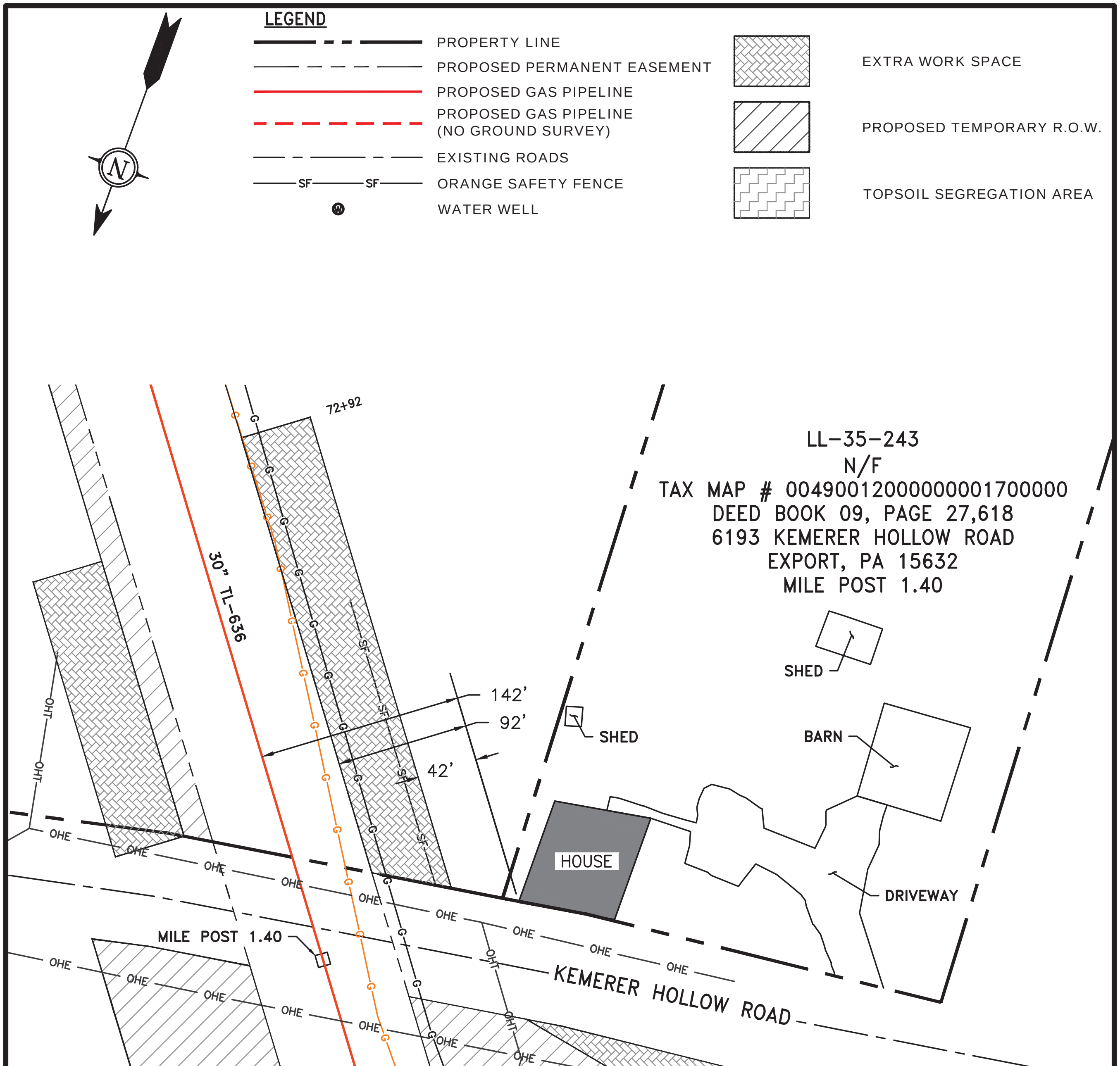
PROJECT NO./DASH NO. 141330.01

DRAWING NO. LL-35-244

REV –

GAI CAD FILE: Z:\ENERGY\2014\C141330.01 - DTI - SUPPLY HEADER - SUR\CAD\SURV C141330.01\CONSTRUCTION_ALIGNMENT - PA\DWG\HOUSE EXHIBITS\C141330-01-000-00-A011_HOUSE EXHIBIT_LL-35-244.DWG

7/15/2016 4:24 PM



NOTES:

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE. ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

SCALE: 1" = 50'

50' 0 50' 100'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
SUITE 300 EAST
CANONSBURG, PA 15317
724-873-3545

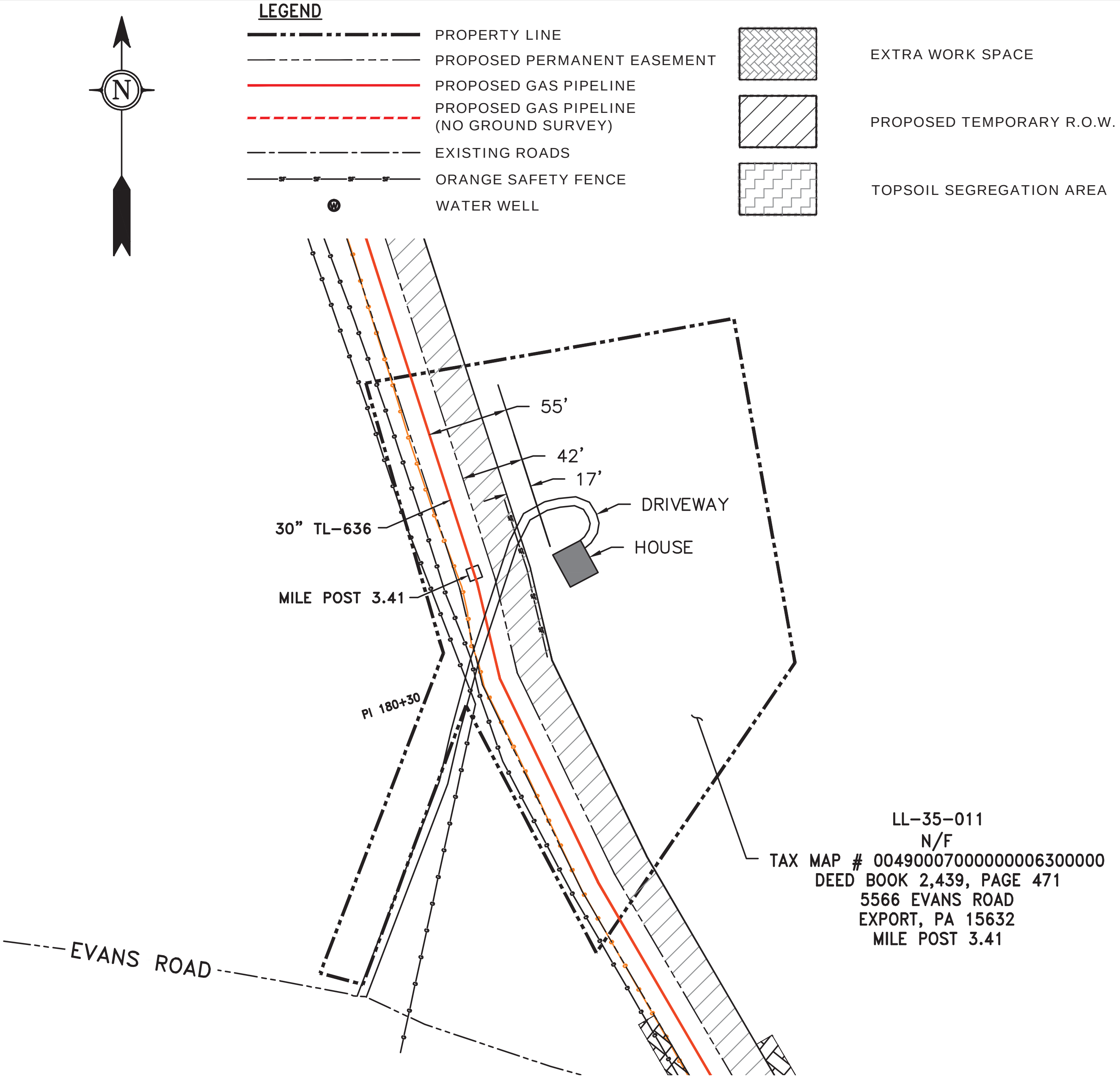
CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES
WESTMORELAND COUNTY, PENNSYLVANIA

DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. ACE	CHKD. DLH	APPD. NET	DATE 7/15/16
SCALE: AS SHOWN			TASK NO. 05
PROJECT NO./DASH NO. 141330.01			
DRAWING NO. LL-35-243			REV –

GAI CAD FILE: Z:\ENERGY\2014\C141330.01 - DTI - SUPPLY HEADER - SURV\CAD\SURV C141330.01\CONSTRUCTION_ALIGNMENT - PA\DWG\HOUSE EXHIBITS\C141330-01-000-00-017_HOUSE EXHIBIT_LL-35-243.DWG

7/15/2016 4:25 PM



NOTES:

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE. ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

SCALE: 1" = 200'

200' 0 200' 400'

gai consultants SOUTHPOINTE OFFICE 6000 TOWN CENTER BLVD. SUITE 300 EAST CANONSBURG, PA 15317 724-873-3545	CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES WESTMORELAND COUNTY, PENNSYLVANIA	DWN. ACE · CHKD. DLH · APPD. NET · DATE 7/15/16 SCALE: AS SHOWN · TASK NO. 05
	DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. 141330.01 DRAWING NO. LL-35-011 · REV –

GAI CAD FILE: Z:\ENERGY\2014\C141330.01 – DTI – SUPPLY HEADER – SUR\CAD\SURV C141330.01\CONSTRUCTION_ALIGNMENT – PA\DWG\HOUSE EXHIBITS\C141330-01-000-00-A030_HOUSE EXHIBIT_LL-35-011.DWG

7/15/2016 4:22 PM

TL-635

FERC's Plans will be followed for Residential Construction, for all Residences located within 50 feet of the construction work area

1. Orange safety fence will be installed at a minimum 15 feet from the residence, and 100 feet along the construction corridor, each direction from residence.
2. Will avoid the removal of mature trees and landscaping within the construction work area, unless necessary for safe operation of equipment, or as specified in the landowner agreements
3. Restore all lawn areas and landscaping immediately following clean up operations or as specified in landowner agreement
4. During landowner negotiations, identify location of septic system and avoid or develop a replacement plan with landowner during construction.

For this project, the following notes will also be applied

a. Where the pipeline centerline is within 25 feet of a residence, the trench will not be excavated until the pipe is ready for installation.

b. Landowner will be notified one week prior to construction on his/her property

c. No refueling or storage of hazardous materials will occur within 200 feet of a private well.

d. Steel plating or other effective means will be provided to allow landowner access to his/her residence should construction or other ground disturbance occur. Required at egress points, landowner driveways, or other private access ways.

e. On public roads, we will follow our traffic management plans that are filed as part of the permit

f. Construction will be limited to daylight hours.

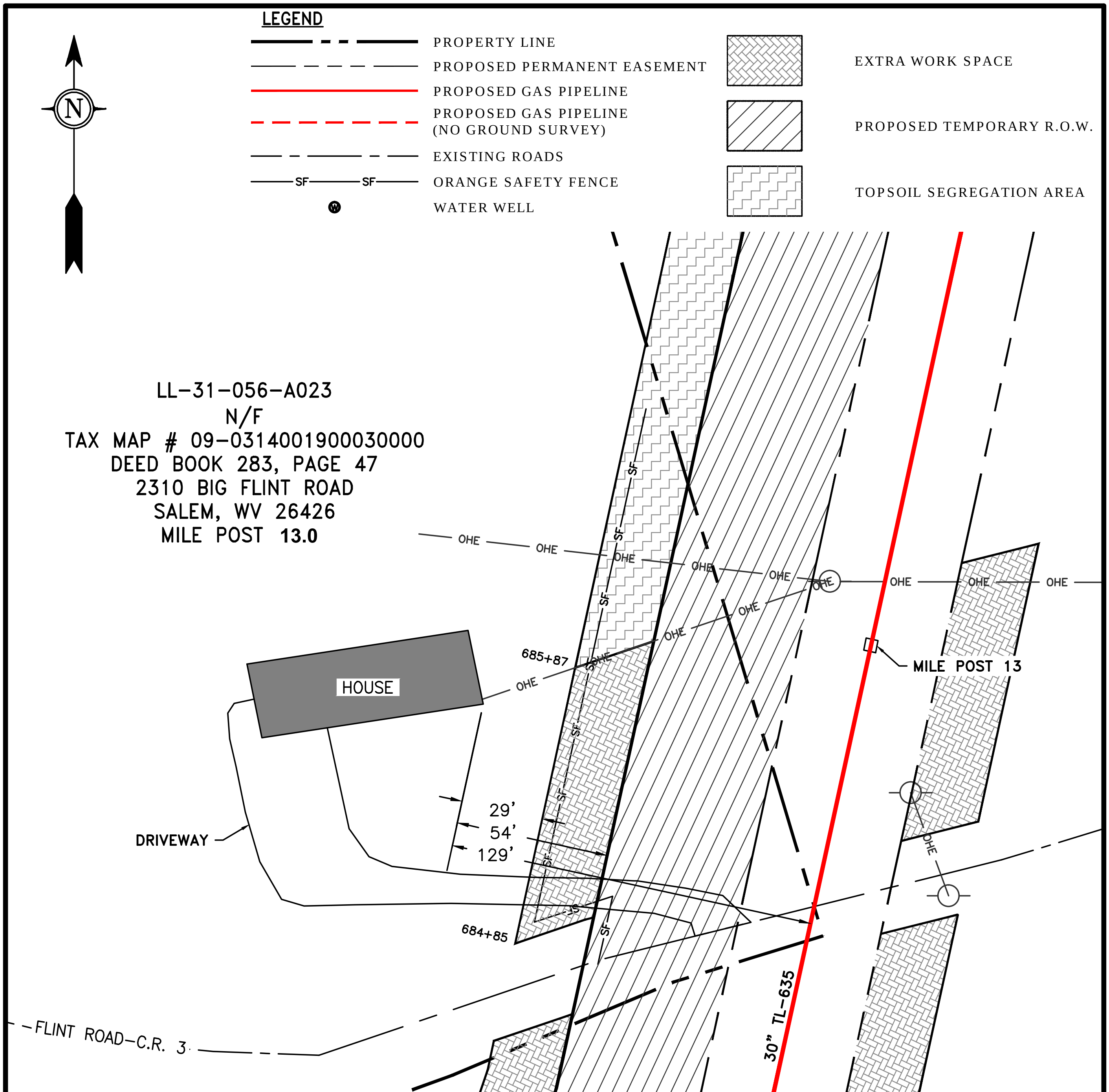
g. Applicant will:

- Ensure piping is welded and installed as quickly as possible to minimize the amount of time a neighborhood is affected by construction;
- Complete final cleanup, grading, and installation of permanent erosion control devices within 10 days after backfilling the trench, weather permitting.
- During landowner negotiations, will work with landowner on restoration procedure. These procedures will include seeding mix, tree/shrub planting and hardscape replacement.

gai consultants SOUTHPOINTE OFFICE 6000 TOWNE CENTER BLVD. CANONSBURG, PA 15317 724-873-3545	**CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL STRUCTURES** GENERAL NOTES	DWN. JJP	CHKD. DLH	APPD. NET	DATE 07/28/2016
		SCALE: NONE			TASK NO. 00
	DOMINION TRANSMISSION, INC. 445 W. MAIN STREET CLARKSBURG, WEST VIRGINIA 26301	PROJECT NO./DASH NO. 141330.01			
		DRAWING NO. A001			REV -

GAI CAD FILE: Z:\ENERGY\2014\C140468.00 -- DOMINION -- SOUTHEAST PIPE\CAD\MASTER ROUTE\DRG\DRAWINGS\HOUSE_SITE_SPECIFIC_GENERAL_NOTES_SHP.DWG

7/19/2016 8:47 AM



NOTES:

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE. ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

SCALE: 1" = 50'

50' 0 50' 100'

gai consultants

SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
SUITE 300 EAST
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL DWELLINGS

DODDRIDGE COUNTY, WEST VIRGINIA

DOMINION TRANSMISSION, INC.

445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

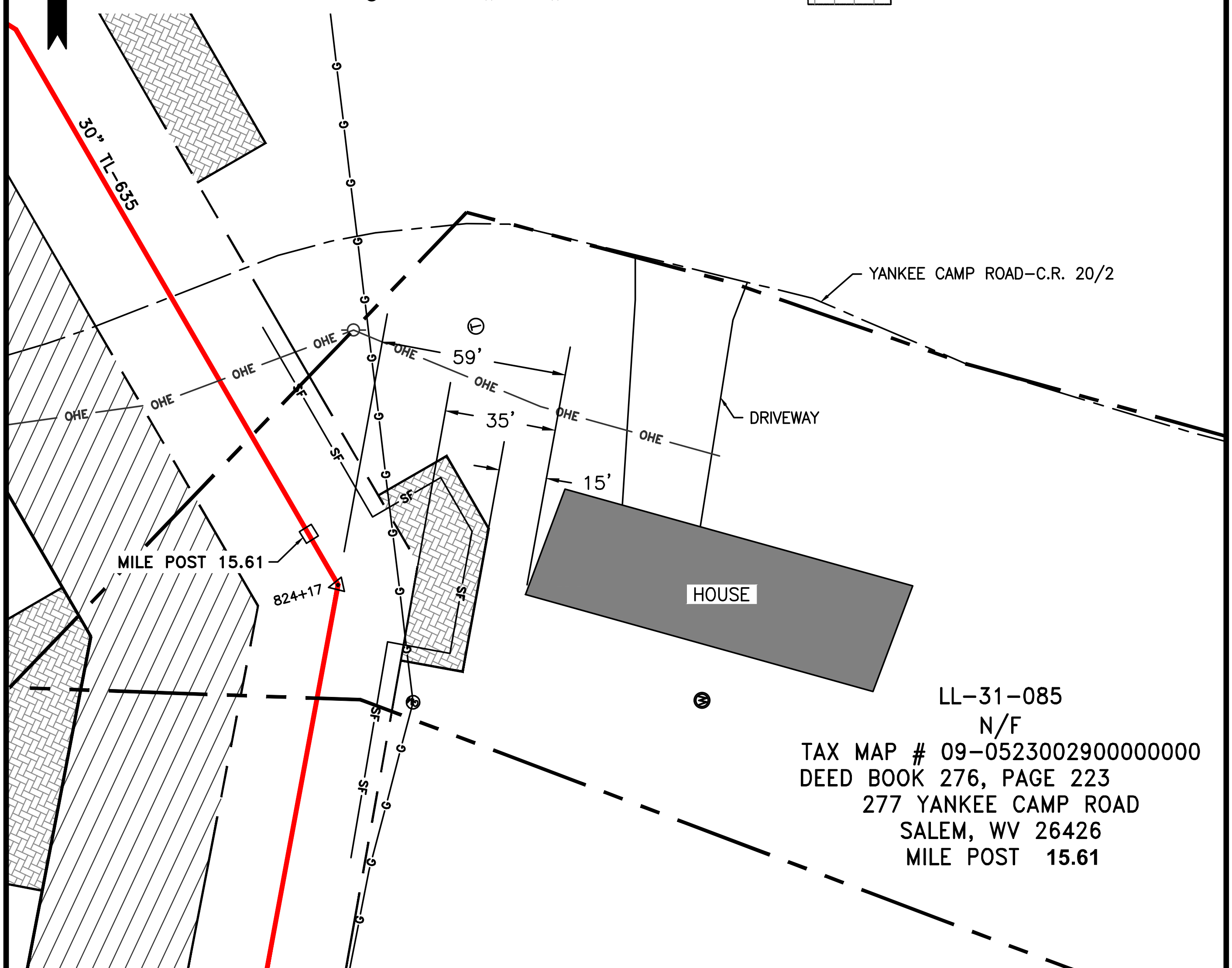
DWN. ACE	CHKD. DLH	APPD. NET	DATE 7/22/16
SCALE: AS SHOWN			TASK NO. 05
PROJECT NO./DASH NO. 141330.01			
DRAWING NO. LL-31-056-A023			REV –

GAI CAD FILE: Z:\ENERGY\2014\C141330.01 - DTI - SUPPLY HEADER - SURV\CAD\SURV C141330.01\CONSTRUCTION_ALIGNMENT - WV\DWG\HOUSE EXHIBITS\C141330-01-000-00-A080A_HOUSE EXHIBIT_LL-31-056-A023.DWG

7/22/2016 12:47 PM

LEGEND

- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- PROPOSED GAS PIPELINE (NO GROUND SURVEY)
- EXISTING ROADS
- ORANGE SAFETY FENCE (SF)
- WATER WELL
- EXTRA WORK SPACE
- PROPOSED TEMPORARY R.O.W.
- TOPSOIL SEGREGATION AREA



NOTES:

1. CONSTRUCTION TECHNIQUE WILL BE STOVE PIPE OR DRAG SECTION AND ROAD BORE.
2. ORANGE SAFETY FENCE WILL BE INSTALLED A MINIMUM OF FIFTEEN FEET FROM RESIDENCE. ALONG CONSTRUCTION R/W, 100' TO EITHER SIDE OF STRUCTURE.
3. VEHICLE ACCESS TO RESIDENCE WILL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

SCALE: 1" = 50'

50' 0 50' 100'

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
SUITE 300 EAST
CANONSBURG, PA 15317
724-873-3545

CONSTRUCTION TECHNIQUES NEAR RESIDENTIAL DWELLINGS
DODDRIDGE COUNTY, WEST VIRGINIA

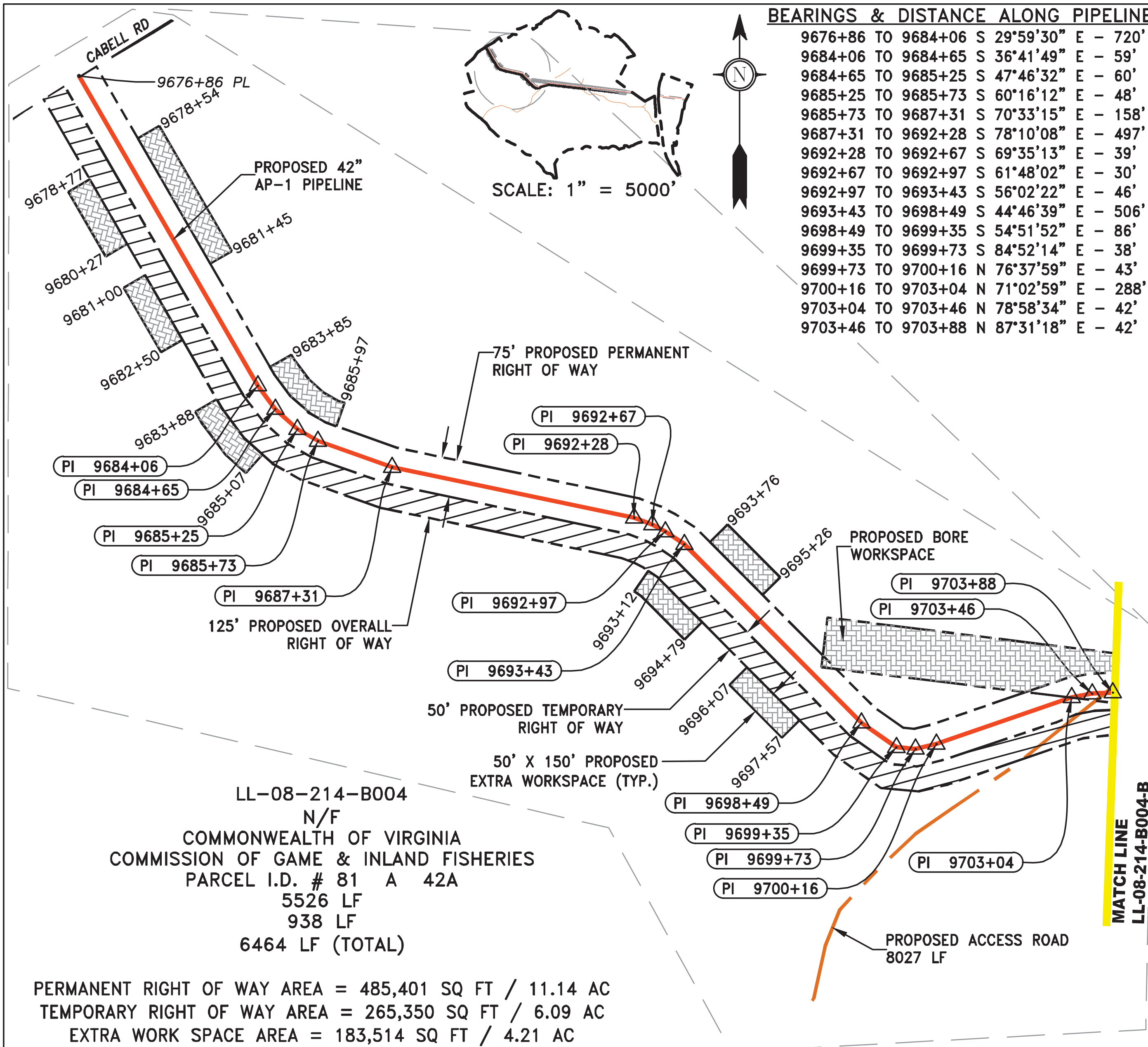
DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. ACE	CHKD. DLH	APPD. NET	DATE 7/22/16
SCALE: AS SHOWN			TASK NO. 05
PROJECT NO./DASH NO. 141330.01			
DRAWING NO. LL-31-085			REV

GAI CAD FILE: Z:\ENERGY\2014\C141330.01 - DTI - SUPPLY HEADER - SUR\CAD\SURV C141330.01\CONSTRUCTION_ALIGNMENT - WV\DWG\HOUSE EXHIBITS\C141330-01-000-00-A096_HOUSE EXHIBIT_LL-31-085.DWG

7/22/2016 12:45 PM

J2 SITE-SPECIFIC CROSSING PLAN FOR THE JAMES RIVER WILDLIFE MANAGEMENT AREA



BEARINGS & DISTANCE ALONG PIPELINE:

9676+86	TO	9684+06	S 29°59'30" E	– 720'
9684+06	TO	9684+65	S 36°41'49" E	– 59'
9684+65	TO	9685+25	S 47°46'32" E	– 60'
9685+25	TO	9685+73	S 60°16'12" E	– 48'
9685+73	TO	9687+31	S 70°33'15" E	– 158'
9687+31	TO	9692+28	S 78°10'08" E	– 497'
9692+28	TO	9692+67	S 69°35'13" E	– 39'
9692+67	TO	9692+97	S 61°48'02" E	– 30'
9692+97	TO	9693+43	S 56°02'22" E	– 46'
9693+43	TO	9698+49	S 44°46'39" E	– 506'
9698+49	TO	9699+35	S 54°51'52" E	– 86'
9699+35	TO	9699+73	S 84°52'14" E	– 38'
9699+73	TO	9700+16	N 76°37'59" E	– 43'
9700+16	TO	9703+04	N 71°02'59" E	– 288'
9703+04	TO	9703+46	N 78°58'34" E	– 42'
9703+46	TO	9703+88	N 87°31'18" E	– 42'

LL-08-214-B004
N/F
COMMONWEALTH OF VIRGINIA
COMMISSION OF GAME & INLAND FISHERIES
PARCEL I.D. # 81 A 42A
5526 LF
938 LF
6464 LF (TOTAL)

PERMANENT RIGHT OF WAY AREA = 485,401 SQ FT / 11.14 AC
TEMPORARY RIGHT OF WAY AREA = 265,350 SQ FT / 6.09 AC
EXTRA WORK SPACE AREA = 183,514 SQ FT / 4.21 AC
ACCESS RD, 8,027 LF X 30' WIDTH / 5.53 AC

LEGEND

- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- PROPOSED ACCESS ROAD
- PROPOSED TEMPORARY R.O.W.
- EXTRA WORK SPACE
- TOPSOIL SEGREGATION AREA
- AREA OF NO DISTURBANCE

SCALE: 1" = 300'
300' 0 300'

NOTES:

1. COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY – UTM WITH NAD83 DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MERIDAN 81° W
2. ALL STATIONING SHOWN IS SLOPE STATIONING.
3. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
4. PROPERTY BOUNDARIES SHOWN ARE FROM GIS AND TAX RECORDS PROVIDED BY OTHERS.
5. IN ACCORDANCE WITH THE EASEMENT AGREEMENT, GRANTEE SHALL HAVE THE RIGHT TO MODIFY THE LOCATION OF THE PIPELINE WITHIN THE PERMANENT EASEMENT DURING INITIAL CONSTRUCTION.

RIGHT OF WAY EXHIBIT

COMMONWEALTH OF VA COMMISSION OF GAME & INLAND FISHERIES
NELSON COUNTY, VIRGINIA

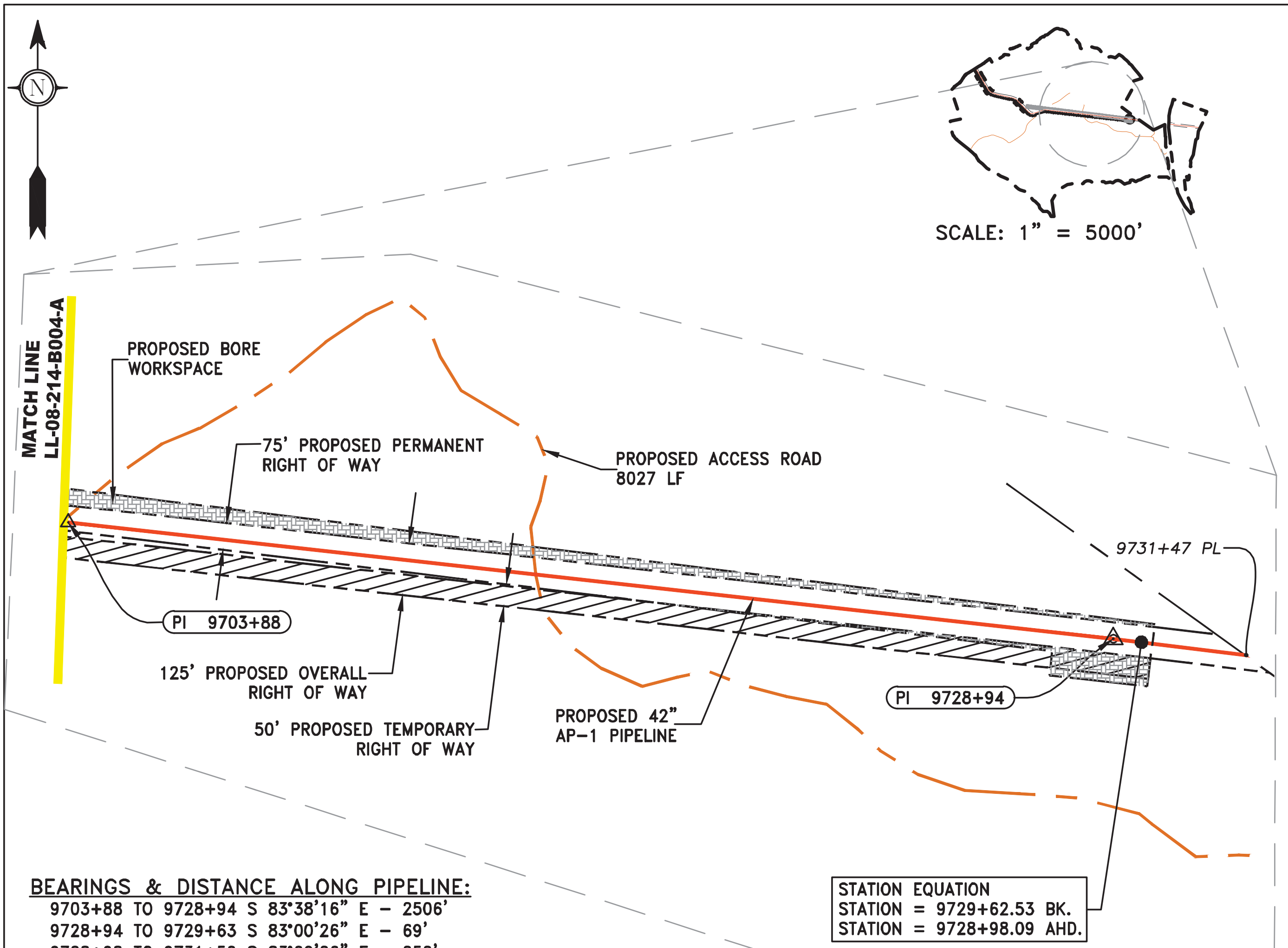
ATLANTIC COAST PIPELINE, LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD
CANONSBURG, PA 15317
724-873-3545

DWN. GAH | CHKD. DLH | APPD. NET | DATE 11/1/16
SCALE: AS SHOWN | TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-08-214-B004-A REV 2

GAI CAD FILE: \\TTG-FS1\THRASHER\050-5159 – GIA, INC. – GAI – THRASHER – SERP – MAPPING\SURVEY\DRAWING\SEC 4\PROPERTY EXHIBITS\SECT 4 PROP EXHIBITS 193-194 (21-22).DWG

11/2/2016 7:55 AM



BEARINGS & DISTANCE ALONG PIPELINE:
9703+88 TO 9728+94 S 83°38'16" E – 2506'
9728+94 TO 9729+63 S 83°00'26" E – 69'
9728+98 TO 9731+50 S 83°00'26" E – 252'

LL-08-214-B004
N/F
COMMONWEALTH OF VIRGINIA
COMMISSION OF GAME & INLAND FISHERIES
PARCEL I.D. # 81 A 42A
5526 LF
938 LF
6464 LF (TOTAL)

SCALE: 1" = 300'
300' 0 300'

PERMANENT RIGHT OF WAY AREA = 485,401 SQ FT / 11.14 AC
TEMPORARY RIGHT OF WAY AREA = 265,350 SQ FT / 6.09 AC
EXTRA WORK SPACE AREA = 183,514 SQ FT / 4.21 AC
ACCESS RD, 8,027 LF X 30' WIDTH / 5.53 AC

LEGEND
- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- PROPOSED ACCESS ROAD
- PROPOSED TEMPORARY R.O.W.
- EXTRA WORK SPACE
- TOPSOIL SEGREGATION AREA
- AREA OF NO DISTURBANCE

NOTES:
1. COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY – UTM WITH NAD83 DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MERIDAN 81° W
2. ALL STATIONING SHOWN IS SLOPE STATIONING.
3. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
4. PROPERTY BOUNDARIES SHOWN ARE FROM GIS AND TAX RECORDS PROVIDED BY OTHERS.
5. IN ACCORDANCE WITH THE EASEMENT AGREEMENT, GRANTEE SHALL HAVE THE RIGHT TO MODIFY THE LOCATION OF THE PIPELINE WITHIN THE PERMANENT EASEMENT DURING INITIAL CONSTRUCTION.

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD
CANONSBURG, PA 15317
724-873-3545

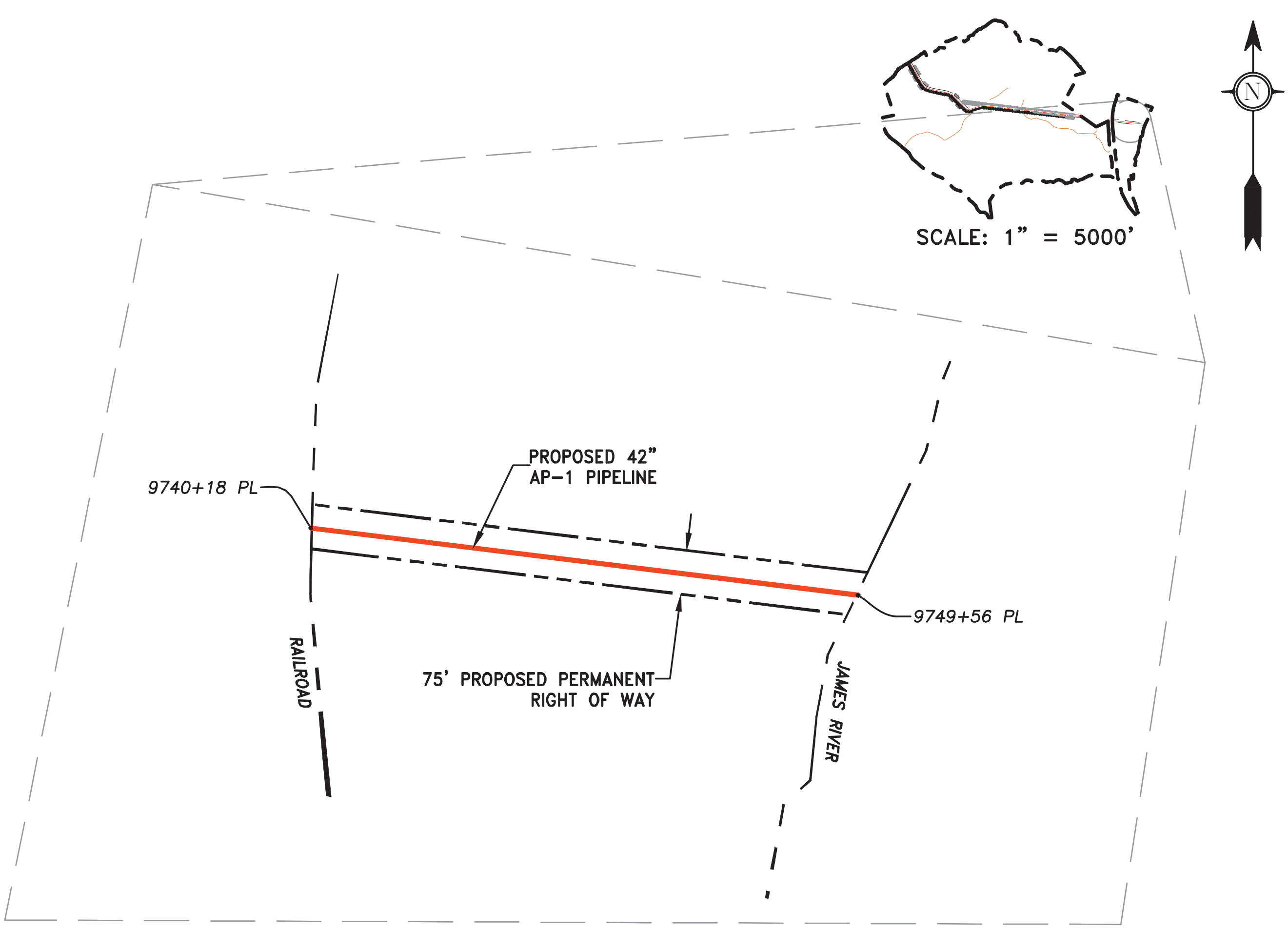
RIGHT OF WAY EXHIBIT
COMMONWEALTH OF VA COMMISSION OF GAME & INLAND FISHERIES
NELSON COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE, LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. GAH | CHKD. DLH | APPD. NET | DATE 11/1/16
SCALE: AS SHOWN | TASK NO. 01
PROJECT NO./DASH NO. 140468
DRAWING NO. LL-08-214-B004-B 2 REV

GAI CAD FILE: \\TTG-FS1\THRASHER\050-5159 – GIA, INC. – GAI – THRASHER – SERP – MAPPING\SURVEY\DRAWING\SEC 4\PROPERTY EXHIBITS\SECT 4 PROP EXHIBITS 193-194 (21-22).DWG

11/2/2016 7:47 AM



BEARINGS & DISTANCE ALONG PIPELINE:
9740+18 TO 9749+56 S 83°00'26" E - 938'

LL-08-214-B004
N/F
COMMONWEALTH OF VIRGINIA
COMMISSION OF GAME & INLAND FISHERIES
PARCEL I.D. # 81 A 42A
5526 LF
938 LF
6464 LF (TOTAL)

SCALE: 1" = 300'
300' 0 300'

PERMANENT RIGHT OF WAY AREA = 485,401 SQ FT / 11.14 AC
TEMPORARY RIGHT OF WAY AREA = 265,350 SQ FT / 6.09 AC
EXTRA WORK SPACE AREA = 183,514 SQ FT / 4.21 AC
ACCESS RD, 8,027 LF X 30' WIDTH / 5.53 AC

LEGEND

- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- PROPOSED ACCESS ROAD
- PROPOSED TEMPORARY R.O.W.
- EXTRA WORK SPACE
- TOPSOIL SEGREGATION AREA
- AREA OF NO DISTURBANCE

NOTES:

1. COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY – UTM WITH NAD83 DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MERIDAN 81° W
2. ALL STATIONING SHOWN IS SLOPE STATIONING.
3. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
4. PROPERTY BOUNDARIES SHOWN ARE FROM GIS AND TAX RECORDS PROVIDED BY OTHERS.
5. IN ACCORDANCE WITH THE EASEMENT AGREEMENT, GRANTEE SHALL HAVE THE RIGHT TO MODIFY THE LOCATION OF THE PIPELINE WITHIN THE PERMANENT EASEMENT DURING INITIAL CONSTRUCTION.

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD
CANONSBURG, PA 15317
724-873-3545

RIGHT OF WAY EXHIBIT
COMMONWEALTH OF VA COMMISSION OF GAME & INLAND FISHERIES
NELSON COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE, LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

DWN. GAH	CHKD. DLH	APPD. NET	DATE 11/1/16
SCALE: AS SHOWN			TASK NO. 01
PROJECT NO./DASH NO. 140468			
DRAWING NO. LL-08-214-B004-C			REV 2

GAI CAD FILE: \\TTG-FS1\THRASHER\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 4\PROPERTY EXHIBITS\SECT 4 PROP EXHIBITS 193-194 (21-22).DWG

11/2/2016 7:52 AM

GAI CAD FILE: \\TTG-FS1\THRASHER\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 4\PROPERTY EXHIBITS\SECT 4 PROP EXHIBITS 193-194 (21-22).DWG

LL-08-086-B021
N/F
VA. GAME COMMISSION
ATTN. LAND COORDINATOR
PARCEL I.D. # 81 A 42
127,230 SF

SCALE: 1" = 500'

500' 0 500'

ACCESS ROAD, 4,241 LF X 30' WIDTH / 2.92 AC

LEGEND

- PROPERTY LINE
- PROPOSED PERMANENT EASEMENT
- PROPOSED GAS PIPELINE
- PROPOSED ACCESS ROAD
- PROPOSED TEMPORARY R.O.W.
- EXTRA WORK SPACE
- TOPSOIL SEGREGATION AREA
- AREA OF NO DISTURBANCE

NOTES:

1. COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY – UTM WITH NAD83 DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MERIDAN 81° W
2. ALL STATIONING SHOWN IS SLOPE STATIONING.
3. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
4. PROPERTY BOUNDARIES SHOWN ARE FROM GIS AND TAX RECORDS PROVIDED BY OTHERS.
5. IN ACCORDANCE WITH THE EASEMENT AGREEMENT, GRANTEE SHALL HAVE THE RIGHT TO MODIFY THE LOCATION OF THE PIPELINE WITHIN THE PERMANENT EASEMENT DURING INITIAL CONSTRUCTION.

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD
CANONSBURG, PA 15317
724-873-3545

RIGHT OF WAY EXHIBIT
VA GAME COMMISSION ATTN. LAND COORDINATOR
BUCKINGHAM COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE, LLC
C/O DOMINION TRANSMISSION, INC.
445 W. MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

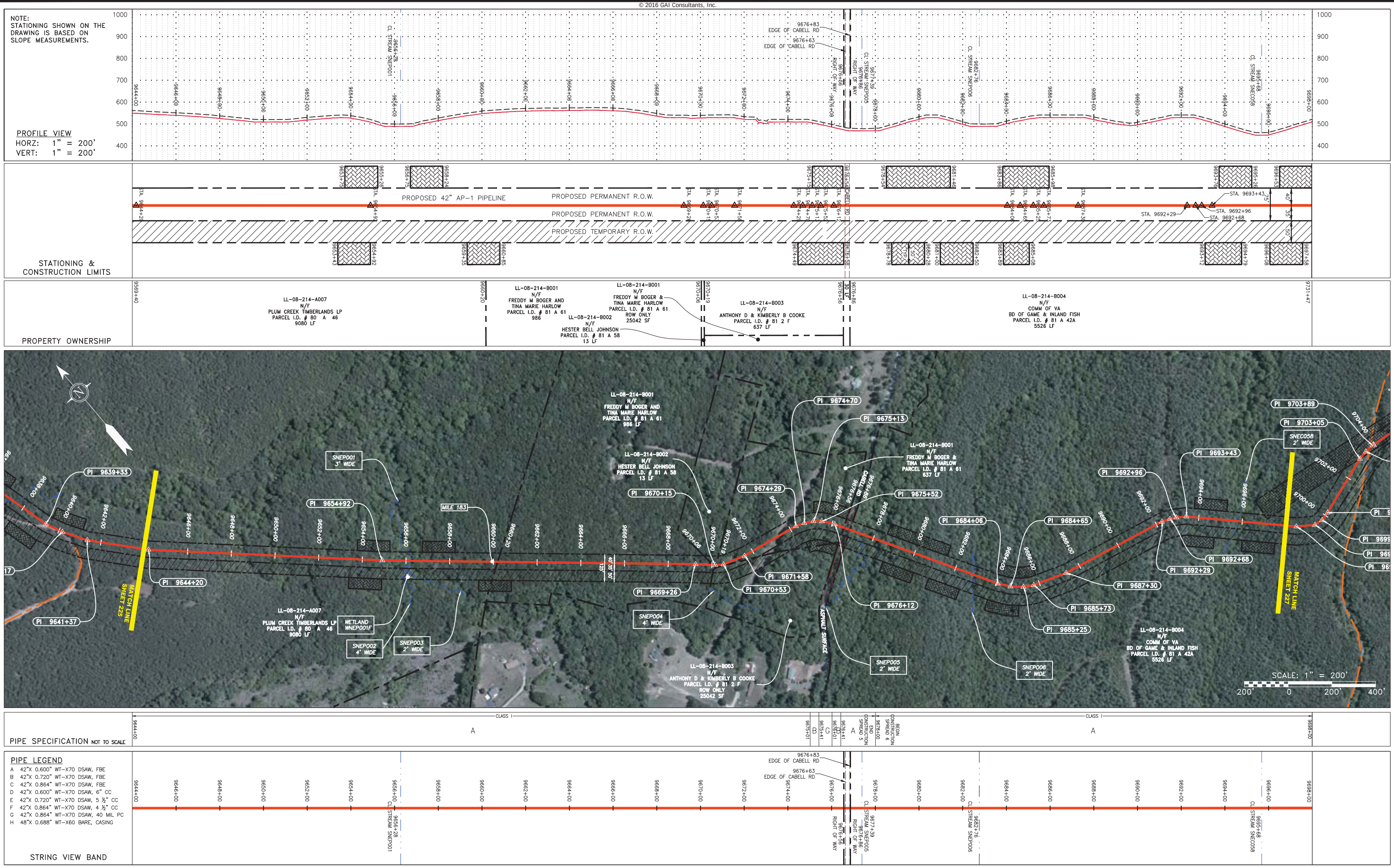
DWN. GAH	CHKD. DLH	APPD. NET	DATE 11/1/16
SCALE: AS SHOWN			TASK NO. 01

PROJECT NO./DASH NO. 140468
DRAWING NO. LL-08-086-B021 REV –

11/2/2016 10:44 AM

J2-5

GAI CAD FILE NO. \\TTG-FS1\THRASHER\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 4\SEC 4 SHEETS - 223-227 (17-21).DWG



LEGEND

- PROPERTY LINE
- FENCE
- STREAM
- EXISTING GAS PIPELINE
- OVERHEAD UTILITY LINES
- PROPOSED GAS PIPELINE
- PROPOSED GAS PIPELINE (NO GROUND SURVEY)
- STORM SEWER
- WATER LINE
- SANITARY SEWER
- EDGE OF GRAVEL
- PROPOSED PERMANENT EASEMENT
- UTILITY POLE
- PROPOSED TEMPORARY R.O.W.
- EXTRA WORK SPACE
- WETLAND (COLOR SHOWN TO PROVIDE CLARITY ONLY)
- TOPSOIL SEGREGATION AREA
- AREA OF NO DISTURBANCE

NOTES:

1. COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY - UTM WITH NAD83 DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MERIDAN 81° W
2. CONTOURS AND TOPOGRAPHIC FEATURES WERE DERIVED BY AN ON THE GROUND SURVEY PERFORMED BY THE THRASHER GROUP, INC. ON 06-25-2014 THRU 08-26-2014 GPS SUB-METER ACCURACY.
3. AERIAL IMAGERY IS TAKEN FROM A SPRING 2015 FLIGHT BY KUCERA INTERNATIONAL INC.
4. THE PROPERTY LINES SHOWN ARE BASED ON GIS & TAX ASSEMENT RECORDS (PROVIDED BY OTHERS). GAI & THE THRASHER GROUP MAKE NO GUARANTEE EITHER EXPRESSED OR IMPLIED AS TO THE ACCURACY OF THE RECORDS AS SHOWN ON THESE DRAWINGS.
5. WETLAND DATA SHOWN ON THE DRAWINGS WAS PROVIDED BY NRG.
6. THESE DRAWINGS ARE NOT INTENDED TO PROVIDE EROSION AND SEDIMENTATION CONTROL REQUIREMENTS. SEE EROSION AND SEDIMENTATION CONTROL PLANS FOR COMPLETE REQUIREMENTS AND BMP LOCATIONS.
7. ALL STATIONING SHOWN IS SLOPE STATIONING.

THIS DRAWING WAS PRODUCED WITH COMPUTER AIDED DRAFTING TECHNOLOGY AND IS SUPPORTED BY ELECTRONIC DRAWING FILES. DO NOT REVISE THIS DRAWING VIA MANUAL DRAFTING METHODS.

REVISIONS

NO.	DATE	DWN.	CHKD.	APPVD.	DESCRIPTION

9/14/16

42" AP-1 PIPELINE
CONSTRUCTION ALIGNMENT STA 9644+00 TO 9698+00
NELSON COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE, LLC
C/O DOMINION TRANSMISSION, INC.
445 WEST MAIN STREET
CLARKSBURG, WEST VIRGINIA, 26301

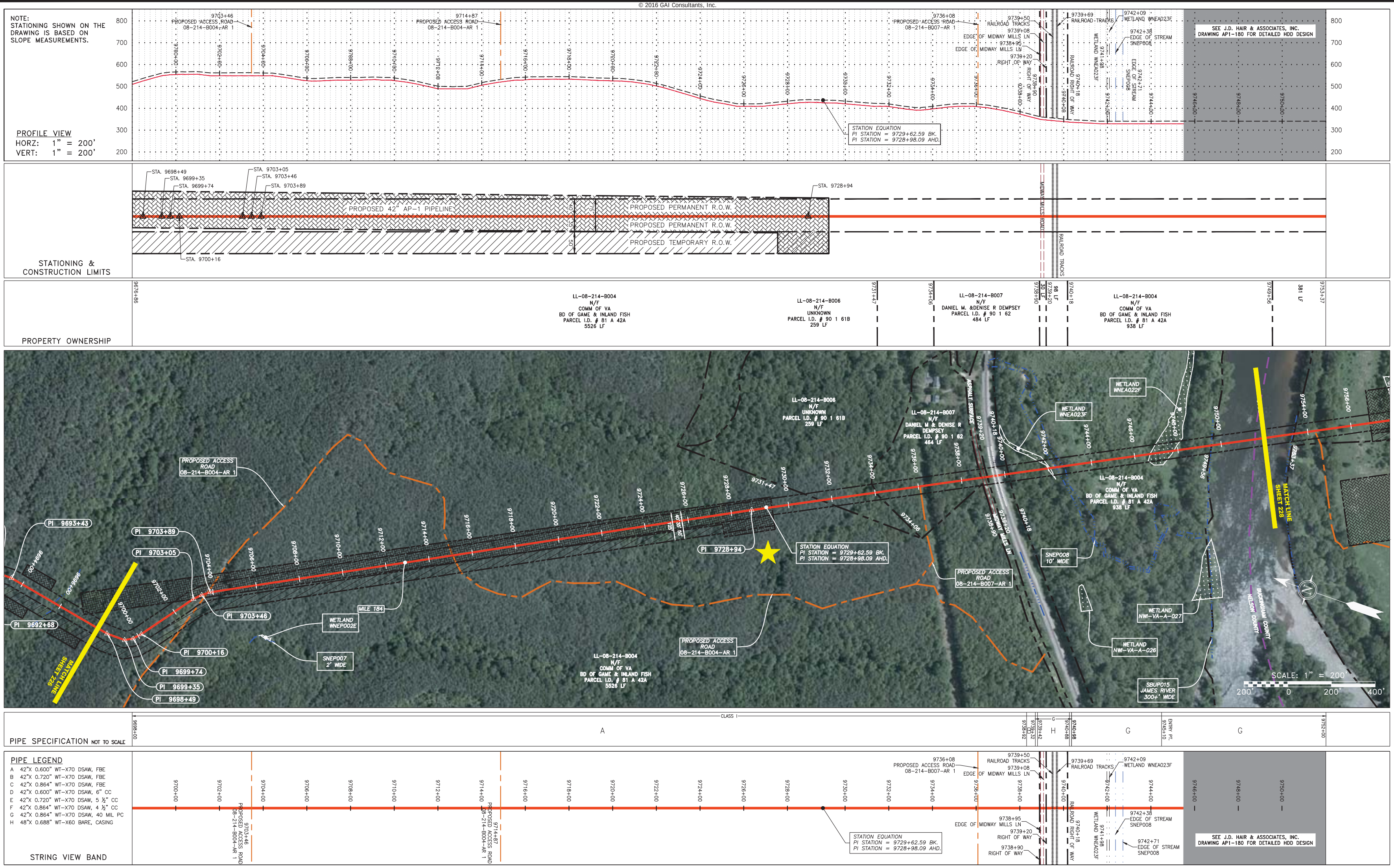
SCALE:	AS SHOWN
DATE:	09/09/16
DRAWN:	GPT
CHECKED:	DLH
APPROVED:	NET

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

PROJECT NO./DASH NO.	
140468	
TASK NO.	SUB TASK NO.
005	00
GROUP ID	DRAWING NO.
D	E226

J2-6

GAI CAD FILE NO. \\TTG-FS1\THRASHER\050-5159 - GIA, INC. - GAI - THRASHER - SERP - MAPPING\SURVEY\DRAWING\SEC 4\SEC 4 SHEETS - 223-227 (17-21).DWG



LEGEND

PROPERTY LINE	STORM SEWER	PROPOSED TEMPORARY R.O.W.	
FENCE	WATER LINE	EXTRA WORK SPACE	
STREAM	SANITARY SEWER	WETLAND (COLOR SHOWN TO PROVIDE CLARITY ONLY)	
EXISTING GAS PIPELINE	EDGE OF GRAVEL	TOPSOIL SEGREGATION AREA	
OVERHEAD UTILITY LINES	PROPOSED PERMANENT EASEMENT	AREA OF NO DISTURBANCE	
PROPOSED GAS PIPELINE	UTILITY POLE		
PROPOSED GAS PIPELINE (NO GROUND SURVEY)			

NOTES:

1. COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY - UTM WITH NAD83 DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MERIDAN 81° W
2. CONTOURS AND TOPOGRAPHIC FEATURES WERE DERIVED BY AN ON THE GROUND SURVEY PERFORMED BY THE THRASHER GROUP, INC. ON 06-25-2014 THRU 08-26-2014 GPS SUB-METER ACCURACY.
3. AERIAL IMAGERY IS TAKEN FROM A SPRING 2015 FLIGHT BY KUCERA INTERNATIONAL INC.
4. THE PROPERTY LINES SHOWN ARE BASED ON GIS & TAX ASSEMENT RECORDS (PROVIDED BY OTHERS). GAI & THE THRASHER GROUP MAKE NO GUARANTEE EITHER EXPRESSED OR IMPLIED AS TO THE ACCURACY OF THE RECORDS AS SHOWN ON THESE DRAWINGS.
5. WETLAND DATA SHOWN ON THE DRAWINGS WAS PROVIDED BY NRG.
6. THESE DRAWINGS ARE NOT INTENDED TO PROVIDE EROSION AND SEDIMENTATION CONTROL REQUIREMENTS. SEE EROSION AND SEDIMENTATION CONTROL PLANS FOR COMPLETE REQUIREMENTS AND BMP LOCATIONS.
7. ALL STATIONING SHOWN IS SLOPE STATIONING.

REVISIONS

NO.	DATE	DWN.	CHKD.	APPVD.	DESCRIPTION

9/14/16

42" AP-1 PIPELINE
CONSTRUCTION ALIGNMENT STA 9698+00 TO 9752+00
NELSON - BUCKINGHAM COUNTY, VIRGINIA

ATLANTIC COAST PIPELINE, LLC
C/O DOMINION TRANSMISSION, INC.
445 WEST MAIN STREET
CLARKSBURG, WEST VIRGINIA, 26301

SCALE:	AS SHOWN
DATE:	09/09/16
DRAWN:	GPT
CHECKED:	DLH
APPROVED:	NET

gai consultants
SOUTHPOINTE OFFICE
6000 TOWN CENTER BLVD.
CANONSBURG, PA 15317
724-873-3545

PROJECT NO./DASH NO. 140468	
TASK NO. 005	SUB TASK NO. 00
GROUP ID D	DRAWING NO. E227
227 OF 344	

APPENDIX K

WATERBODIES CROSSED BY THE
ATLANTIC COAST PIPELINE AND SUPPLY HEADER PROJECT

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Harrison County, WV	Perm AR	AP-1 / 0	UNT to Tanner Fork	Intermittent		5	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Harrison County, WV	Perm ROW	AP-1 / 0	Tanner Fork	Perennial		6	Not Crossed by Centerline	Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Harrison County, WV	Perm ROW	AP-1 / 0	UNT to Tanner Fork	Perennial		3		Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Harrison County, WV	Perm ROW	AP-1 / 0	Tanner Fork	Perennial		6	Not Crossed by Centerline	Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Harrison County, WV	Perm ROW, Temp ROW	AP-1 / 0	UNT to Tanner Fork	Perennial	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Harrison County, WV	Perm AR	AP-1 / 0.4	Tanner Fork	Perennial		4	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Harrison County, WV	Perm ROW, Temp ROW	AP-1 / 0.5	UNT to Tanner Fork	Intermittent	4 (CL)	4.5	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Harrison and Lewis Counties, WV	Perm ROW, Temp ROW	AP-1 / 1.1	Kincheloe Creek	Perennial	14 (CL)	12	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1, HQS	Iron and Fecal Coliform	April 1 to June 30	No mussels observed during survey	Will adhere to time of year restrictions for work within the waterbody.
Harrison County, WV	Perm AR	AP-1 / 1.1	Kincheloe Creek	Perennial	14 (AR)	12	Perm AR	NA	B1, HQS	Iron and Fecal Coliform	April 1 to June 30	No mussels observed during survey	Will adhere to time of year restrictions for work within the waterbody.
Harrison County, WV	Perm AR	AP-1 / 1.1	Kincheloe Creek	Perennial		12	Perm AR	NA	B1, HQS	Iron and Fecal Coliform	April 1 to June 30	No mussels observed during survey	Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 1.5	Sand Fork	Intermittent	12 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1, HQS	Conditions Not Allowable (CNA)-Biological	April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp AR, Temp ROW	AP-1 / 2.4	UNT to Kincheloe Creek	Intermittent	43 (AR) 21 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp AR	AP-1 / 2.4	UNT to Kincheloe Creek	Intermittent		5	Temp AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp AR	AP-1 / 2.4	UNT to Kincheloe Creek	Intermittent		5	Temp AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp AR	AP-1 / 2.4	UNT to Kincheloe Creek	Intermittent		5	Temp AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp AR	AP-1 / 2.4	UNT to Kincheloe Creek	Intermittent	12 (AR)	5	Temp AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Harrison County, WV	Temp AR	AP-1 / 2.4	Kincheloe Creek	Perennial	2 (AR)	20	Temp AR	NA	B1, HQS		April 1 to June 30	No mussels observed during survey	Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp AR	AP-1 / 2.4	Kincheloe Creek	Perennial	22 (AR)	20	Temp AR	NA	B1, HQS		April 1 to June 30	No mussels observed during survey	Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 2.4	Kincheloe Creek	Perennial	21 (AR)	20	Perm AR	NA	B1, HQS		April 1 to June 30	No mussels observed during survey	Will adhere to time of year restrictions for work within the waterbody. Per WVDNR request, southern access road crossing removed.
Lewis County, WV	Perm AR	AP-1 / 3	UNT to Hog Camp Run	Perennial		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 3	UNT to Hog Camp Run	Perennial		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 3	UNT to Hog Camp Run	Perennial		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 3.8	Hog Camp Run	Perennial	11 (AR)	7	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 4	UNT to Hog Camp Run	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 4	Hog Camp Run	Perennial	41 (CL)	15	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 5	Elk Lick	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 5	UNT to Elk Lick	Intermittent		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 5	Elk Lick	Intermittent		4	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 5	UNT to Elk Lick	Intermittent		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 5	Elk Lick	Intermittent		4	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 5.7	Turkeypen Creek	Perennial	8 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp ROW	AP-1 / 5.7	UNT to Turkeypen Creek	Intermittent		3	Not Crossed by Centerline	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp ROW	AP-1 / 5.7	UNT to Turkeypen Creek	Intermittent		3	Not Crossed by Centerline	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 7.2	UNT to Hollick Run	Ephemeral		1	Not Crossed by Centerline	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm CS, Temp CS	AP-1 / 7.5	Unnamed Pond	Pond	Pond (AR / CL)		Pond	Within 1000 feet	NA		NA		
Lewis County, WV	Perm CS, Temp CS	AP-1 / 7.6	UNT to Hollick Run	Intermittent		4	Compressor Station - Temporary Impact	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm CS	AP-1 / 7.7	UNT to Hollick Run	Intermittent		4	Compressor Station - Temporary Impact	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm CS	AP-1 / 7.7	UNT to Hollick Run	Intermittent		1.5	Compressor Station - Temporary Impact	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed[b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet)[c]	Survey/ Desktop Estimated OHWM Width (feet)[c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Lewis County, WV	Perm CS, Temp CS	AP-1 / 7.7	Hollick Run	Perennial	9 (CL)	8.5	1) Dam and Pump 2) Flume	Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm CS	AP-1 / 7.8	UNT to Hollick Run	Intermittent		1.5	Compressor Station - Temporary Impact	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm CS	AP-1 / 7.8	Hollick Run	Perennial		8.5	Compressor Station - Temporary Impact	Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp CS	AP-1 / 7.8	Hollick Run	Perennial		8.5	Compressor Station - Temporary Impact	Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp CS	AP-1 / 7.8	Hollick Run	Perennial		8.5	Compressor Station - Temporary Impact	Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 8.2	West Fork River	Perennial	92 (CL)	65	Cofferdam	In-stream; Within 1000 feet	A, B1, HQS	CNA-Biological, Fecal Coliform, and Polychlorinated Biphenyls (PCB)	April 1 to June 30	ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 9.4	Broad Run	Perennial	10 (CL)	9	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 9.9	UNT to Broad Run	Intermittent		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 10.2	Broad Run	Perennial		4	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 10.2	Broad Run	Perennial		4	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 10.2	Broad Run	Perennial		4	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 10.2	UNT to Broad Run	Intermittent	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp ROW	AP-1 / 10.8	UNT to Sycamore Lick	Ephemeral		2	Not Crossed by Centerline	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 10.9	Broad Run	Intermittent		3	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 11.8	UNT to Hackers Creek	Intermittent	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp ROW	AP-1 / 11.8	UNT to Hackers Creek	Intermittent		3	Not Crossed by Centerline	Within 1000 feet	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp ROW	AP-1 / 12.4	UNT to West Run	Intermittent		1.25	Not Crossed by Centerline	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp ROW	AP-1 / 12.5	UNT to West Run	Intermittent		1.25	Not Crossed by Centerline	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 12.5	UNT to West Run	Perennial	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 12.6	West Run	Perennial		8	Perm AR	NA	B1	Iron and Fecal Coliform	April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 12.6	West Run	Perennial		8	Perm AR	NA	B1	Iron and Fecal Coliform	April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 12.6	West Run	Perennial	14 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	B1	Iron and Fecal Coliform	April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 13.6	UNT to West Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 13.6	UNT to West Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 13.7	UNT to Lifes Run	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp ROW	AP-1 / 13.8	UNT to Lifes Run	Intermittent		4	Not Crossed by Centerline	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 14.2	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	NA		NA		
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 14.3	Lifes Run	Perennial	20 (CL)	15	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	B1	Fecal Coliform and CNA-Biological	April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 14.3	Lifes Run	Perennial		22	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 14.3	Lifes Run	Perennial		22	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 14.4	UNT to Lifes Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 14.4	UNT to Lifes Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW	AP-1 / 14.5	UNT to Lifes Run	Perennial	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp AR	AP-1 / 14.8	UNT to Hackers Creek	Intermittent		4	Temp AR	NA	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp AR	AP-1 / 14.8	UNT to Hackers Creek	Intermittent		4	Temp AR	NA	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 14.8	UNT to Hackers Creek	Intermittent	14 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 14.8	UNT to Hackers Creek	Intermittent		5	Perm AR	NA	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments) [f]
Lewis County, WV	Perm AR	AP-1 / 14.8	UNT to Hackers Creek	Intermittent	3 (AR)	5	Perm AR	NA	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp AR	AP-1 / 14.9	UNT to Hackers Creek	Intermittent		6	Temp AR	NA	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp AR	AP-1 / 14.9	UNT to Hackers Creek	Intermittent		6	Temp AR	NA	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW	AP-1 / 15	UNT to Hackers Creek	Ephemeral		1.5	Not Crossed by Centerline	Within 1000 feet	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 15	UNT to Hackers Creek	Ephemeral	3 (CL)	1.5	Dam and Pump	In-stream; Within 1000 feet	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW	AP-1 / 15	UNT to Hackers Creek	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 15.3	UNT to Hackers Creek	Intermittent	3 (AR)	3	Perm AR	NA	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 15.4	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	NA		NA		
Lewis County, WV	Perm AR	AP-1 / 15.5	UNT to Hackers Creek	Intermittent		4	Perm AR	NA	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 15.5	UNT to Hackers Creek	Intermittent		4	Perm AR	NA	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 15.5	UNT to Hackers Creek	Intermittent		2	Perm AR	NA	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 15.5	UNT to Hackers Creek	Intermittent	14 (AR)	4	Perm AR	NA	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 15.5	UNT to Hackers Creek	Perennial	13 (CL)	10	Dam and Pump	In-stream; Within 1000 feet	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 15.6	Hackers Creek	Perennial	30 (AR)	30	Perm AR	NA	A, B1, HQS		April 1 to June 30	Endangered Mussels Water / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 15.8	UNT to Hackers Creek	Ephemeral		1.5	Perm AR	NA	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 15.9	UNT to Hackers Creek	Ephemeral		1.5	Perm AR	NA	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 15.9	UNT to Hackers Creek	Ephemeral		1.5	Perm AR	NA	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 16.3	UNT to Hackers Creek	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 16.4	UNT to Hackers Creek	Perennial	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 17.2	UNT to Hackers Creek	Perennial	7 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to A, B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Temp ROW	AP-1 / 18.1	UNT to Laurel Lick	Intermittent		1.5	Not Crossed by Centerline	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 18.1	Laurel Lick	Intermittent	5 (CL)	15	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	B1	CNA-Biological, Iron, and Fecal Coliform	April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 19.9	UNT to Buckhannon Run	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm AR	AP-1 / 19.9	UNT to Buckhannon Run	Intermittent	5 (AR)	5	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 20.3	Buckhannon Run	Perennial	6 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	B1	CNA-Biological, Iron, and Fecal Coliform	April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Lewis County, WV	Perm ROW, Temp ROW	AP-1 / 20.6	UNT to Buckhannon Run	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 23.3	Fink Run	Perennial	10 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp AR, Temp ROW	AP-1 / 24	UNT to Fink Run	Intermittent	3 (AR) 4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 24.6	UNT to Brushy Fork	Intermittent	4 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 24.7	UNT to Brushy Fork	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 25.4	UNT to Brushy Fork	Intermittent	1 (CL)	1	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 25.4	UNT to Brushy Fork	Intermittent		1	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 25.4	UNT to Brushy Fork	Intermittent		1	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 25.7	Brushy Fork	Intermittent		3	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 25.7	Brushy Fork	Intermittent		3	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 25.8	UNT to Brushy Fork	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Temp CY	AP-1 / 25.8	UNT to Brushy Fork	Intermittent		3	Contractor Yard - Temporary Impact	Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Temp CY	AP-1 / 25.8	UNT to Brushy Fork	Intermittent		3	Contractor Yard - Temporary Impact	Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 26	Brushy Fork	Perennial	16 (CL)	15	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 28.4	UNT to Lick Run	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Temp ROW	AP-1 / 28.5	Unnamed Pond to Lick Run	Pond	Pond (AR / CL)		Pond	Within 1000 feet	NA		NA		
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 29.2	Cutright Run	Perennial	22 (CL)	12	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 29.3	UNT to Cutright Run	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 29.9	UNT to French Creek	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to B2, HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Temp ROW	AP-1 / 29.9	UNT to French Creek	Perennial		5	Not Crossed by Centerline	Within 1000 feet	UNT to B2, HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 30.3	UNT to French Creek	Intermittent		5	Perm AR	NA	UNT to B2, HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW	AP-1 / 30.5	UNT to French Creek	Perennial		3	Not Crossed by Centerline	Within 1000 feet	UNT to B2, HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW	AP-1 / 30.6	UNT to French Creek	Perennial		3	Not Crossed by Centerline	Within 1000 feet	UNT to B2, HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 30.6	UNT to French Creek	Intermittent		5	Perm AR	NA	UNT to B2, HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 30.7	UNT to French Creek	Intermittent		3	Perm AR	NA	UNT to B2, HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 30.7	UNT to French Creek	Intermittent		3	Perm AR	NA	UNT to B2, HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 30.9	UNT to French Creek	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to B2, HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 31.1	French Creek	Perennial	40 (CL)	40	Cofferdam	In-stream; Within 1000 feet	B2, HQS	Iron	September 15 to March 31	No mussels observed during survey	Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 31.7	Buckhannon River	Perennial	91 (CL)	75	Cofferdam	In-stream; Within 1000 feet	A, B2, HQS		September 15 to March 31	No mussels observed during survey	Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 32.1	UNT to Trubie Run	Intermittent	6 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 33	UNT to Trubie Run	Perennial	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 33	UNT to Trubie Run	Perennial		5	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 33	Trubie Run	Perennial		20	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 34.1	UNT to Buckhannon River	Ephemeral	3 (CL)	2.5	Dam and Pump	In-stream; Within 1000 feet	UNT to A, B2, HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 34.4	Grassy Run	Perennial	25 (CL)	17	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 36.1	Gravel Run	Perennial	21 (CL)	15	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 36.1	UNT to Gravel Run	Intermittent	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 36.7	UNT to Laurel Run	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 36.7	UNT to Laurel Run	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 36.7	UNT to Laurel Run	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 36.8	Laurel Run	Perennial	21 (CL)	15	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 36.8	Laurel Run	Perennial		15	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Temp AR	AP-1 / 37.1	UNT to Tenmile Creek	Intermittent		3.5	Temp AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Temp AR	AP-1 / 37.1	UNT to Tenmile Creek	Intermittent	6 (AR)	3.5	Temp AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Temp AR	AP-1 / 37.5	UNT to Tenmile Creek	Intermittent		2.5	Temp AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Temp AR	AP-1 / 37.5	UNT to Tenmile Creek	Intermittent		2.5	Temp AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Temp AR	AP-1 / 37.7	Tenmile Creek	Perennial	10 (AR)	14	Temp AR	NA	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Temp AR	AP-1 / 37.7	Tenmile Creek	Perennial		14	Temp AR	NA	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 37.8	Tenmile Creek	Perennial	17 (CL)	14	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Temp AR	AP-1 / 37.8	Unnamed Pond to Tenmile Creek	Pond	Pond (AR / CL)		Pond	NA	NA		NA		
Upshur County, WV	Perm AR	AP-1 / 37.8	UNT to Tenmile Creek	Perennial		3	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Temp AR	AP-1 / 37.8	Unnamed Pond to Tenmile Creek	Pond	Pond (AR / CL)		Pond	NA	NA		NA		
Upshur County, WV	Perm AR	AP-1 / 37.8	UNT to Tenmile Creek	Perennial		5	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 37.8	UNT to Tenmile Creek	Perennial		5	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 37.9	UNT to Tenmile Creek	Intermittent	8 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Temp ROW	AP-1 / 37.9	Unnamed Pond	Pond	Pond (AR / CL)		Pond	Within 1000 feet	NA		NA		
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 39.6	Tenmile Creek	Intermittent	8 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 40.5	UNT to Leonard Run	Intermittent	2 (CL)	1.5	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 40.7	UNT to Leonard Run	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm ROW, Temp ROW	AP-1 / 41.3	Right Fork Middle Fork River	Perennial	45 (CL)	32	1) Flume 2) Cofferdam	In-stream; Within 1000 feet	B2, HQS	Iron	September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Temp AR	AP-1 / 41.4	UNT to Right Fork Middle Fork River	Intermittent		2	Temp AR	NA	UNT to B2, HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 41.9	UNT to Jackson Fork	Ephemeral	17 (AR)	1	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Upshur County, WV	Perm AR	AP-1 / 41.9	Jackson Fork	Perennial		15	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 45.4	UNT to Jenks Fork	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 45.4	UNT to Jenks Fork	Intermittent		4	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 47	UNT to Long Run	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 47.1	UNT to Long Run	Intermittent	4 (CL)	3	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 47.4	UNT to Sugar Run	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 50.2	UNT to Dry Run	Intermittent		3	Not Crossed by Centerline	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 50.4	UNT to Dry Run	Intermittent	6 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW	AP-1 / 50.4	UNT to Dry Run	Ephemeral	3 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 50.5	Dry Run	Intermittent	5 (AR)	5	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 50.5	Dry Run	Perennial	23 (CL)	16	Dam and Pump	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Temp ROW	AP-1 / 50.6	UNT to Dry Run	Intermittent		5	Not Crossed by Centerline	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 50.7	UNT to Dry Run	Intermittent	4 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR, Perm ROW, Temp ROW	AP-1 / 50.8	UNT to Dry Run	Intermittent	4 (AR)	4	Not Crossed by Centerline	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 50.8	UNT to Dry Run	Intermittent	7 (CL)	7	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 50.8	UNT to Dry Run	Intermittent	10 (AR)	5	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 50.9	UNT to Dry Run	Intermittent	4 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Temp CY	AP-1 / 51.1	UNT to Dry Run	Intermittent		5	Contractor Yard - Temporary Impact	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 51.4	UNT to Lick Run	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 51.4	UNT to Lick Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 51.4	UNT to Lick Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR, Perm ROW, Temp ROW	AP-1 / 51.4	UNT to Lick Run	Intermittent	4 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 51.4	UNT to Lick Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 51.4	UNT to Lick Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 51.6	UNT to Lick Run	Intermittent	6 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 51.7	UNT to Lick Run	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 51.7	UNT to Lick Run	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 51.7	UNT to Lick Run	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 51.8	UNT to Lick Run	Perennial		7	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 51.8	UNT to Lick Run	Perennial		7	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 51.8	UNT to Lick Run	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Randolph County, WV	Perm AR	AP-1 / 52	UNT to Lick Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52	UNT to Lick Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52	UNT to Lick Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52	UNT to Lick Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.1	UNT to Beech Run	Perennial		14	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.1	UNT to Lick Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.1	UNT to Lick Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.1	UNT to Lick Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.1	UNT to Lick Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.1	Beech Run	Perennial	24 (AR)	25	Perm AR	NA	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 52.1	Beech Run	Perennial	27 (CL)	25	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	HQS	pH	September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.4	UNT to Beech Run	Intermittent	3 (AR)	3	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.4	UNT to Beech Run	Intermittent		3	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.4	UNT to Beech Run	Intermittent		3	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.6	UNT to Beech Run	Intermittent		3	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.8	UNT to Beech Run	Intermittent	32 (AR)	3	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.8	UNT to Beech Run	Intermittent		3	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.8	UNT to Beech Run	Intermittent		3	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.9	UNT to Beech Run	Intermittent		2	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 52.9	UNT to Beech Run	Intermittent		2	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 53	UNT to Beech Run	Intermittent		2	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 54.1	Left Fork Buckhannon River	Perennial	23 (AR)	18	Perm AR	NA	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 54.1	UNT to Left Fork Buckhannon River	Perennial	43 (AR)	25	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 54.1	Left Fork Buckhannon River	Perennial	20 (AR)	18	Perm AR	NA	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 54.1	UNT to Left Fork Buckhannon River	Intermittent	12 (AR)	12	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 54.1	Left Fork Buckhannon River	Perennial		50	Perm AR	NA	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 54.2	Left Fork Buckhannon River	Intermittent		10	Perm AR	NA	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 54.2	Left Fork Buckhannon River	Perennial		5	Perm AR	NA	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 54.3	Philips Camp Run	Perennial		22	Perm AR	NA	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 54.3	Philips Camp Run	Perennial		22	Perm AR	NA	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 54.3	Philips Camp Run	Perennial	29 (CL)	25	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 54.5	UNT to Left Fork Buckhannon River	Intermittent		10	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 55	Short Run	Perennial	9 (CL)	13	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 55.1	Left Fork Buckhannon River	Perennial	22 (AR)	10	Perm AR	NA	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 55.1	Long Run	Intermittent	20 (AR)	20	Perm AR	NA	HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 55.3	Long Run	Intermittent	5 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR, Perm ROW, Temp ROW	AP-1 / 55.3	Long Run	Perennial	14 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 55.3	UNT to Long Run	Intermittent		8	Perm AR	NA	UNT to HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 55.3	Long Run	Perennial		10	Perm AR	NA	HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 55.3	UNT to Long Run	Intermittent		3	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Randolph County, WV	Perm ROW	AP-1 / 56.1	UNT to Left Fork Buckhannon River	Intermittent	4 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW	AP-1 / 56.3	UNT to Left Fork Back Fork Elk River	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR, Temp ROW	AP-1 / 56.3	Unnamed pond	Pond	Pond (AR / CL)		Pond	Within 1000 feet	NA		NA		
Randolph County, WV	Perm AR	AP-1 / 56.3	UNT to Left Fork Back Fork Elk River	Intermittent		3	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 56.5	UNT to Left Fork Back Fork Elk River	Intermittent	3 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 56.7	UNT to Left Fork Back Fork Elk River	Intermittent	4 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR, Perm ROW, Temp ROW	AP-1 / 57	UNT to Left Fork Back Fork Elk River	Intermittent	5 (AR) 5 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.1	UNT to Left Fork Back Fork Elk River	Intermittent	6 (AR)	10	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 57.1	UNT to Left Fork Back Fork Elk River	Intermittent	14 (CL)	12	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW	AP-1 / 57.3	UNT to Left Fork Back Fork Elk River	Intermittent		2	Not Crossed by Centerline	Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.3	Mitchell Run	Intermittent		2	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.3	Mitchell Run	Perennial		8	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.3	Mitchell Run	Perennial		8	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.3	UNT to Mitchell Run	Intermittent		6	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.3	Mitchell Run	Perennial		8	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.3	Mitchell Run	Perennial		8	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.6	UNT to Mitchell Run	Intermittent	26 (AR)	9	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.6	UNT to Mitchell Run	Intermittent		9	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.6	UNT to Mitchell Run	Intermittent		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.6	UNT to Mitchell Run	Intermittent	5 (AR)	2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.6	UNT to Mitchell Run	Intermittent		7	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.6	UNT to Mitchell Run	Intermittent		7	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.6	UNT to Mitchell Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.7	UNT to Mitchell Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.7	UNT to Mitchell Run	Intermittent		5	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.7	UNT to Mitchell Run	Intermittent		5	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.7	UNT to Mitchell Run	Intermittent		5	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.7	UNT to Mitchell Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.7	UNT to Mitchell Run	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.7	UNT to Mitchell Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.7	UNT to Mitchell Run	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.7	Mitchell Run	Perennial		20	Perm AR	NA	Unclassified		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.7	Mitchell Run	Perennial		20	Perm AR	NA	Unclassified		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.7	Mitchell Run	Perennial		20	Perm AR	NA	Unclassified		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.7	Mitchell Run	Perennial		20	Perm AR	NA	Unclassified		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 57.8	Back Fork Elk River	Perennial	10 (AR)	10	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 58.2	Back Fork Elk River	Perennial	12 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 59.2	Hewett Fork	Intermittent	5 (AR)	5	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 59.4	UNT to Hickorylick Run	Intermittent	27 (AR)	5	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 59.7	UNT to Hickorylick Run	Ephemeral	5 (AR)	2	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments) [f]
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 60.7	UNT to Valley Fork	Intermittent	8 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 60.7	Valley Fork	Perennial	51 (CL)	50	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 60.7	UNT to Valley Fork	Intermittent	8 (CL)	7	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR, Temp ROW	AP-1 / 60.7	UNT to Valley Fork	Ephemeral		3	Not Crossed by Centerline	Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 60.7	UNT to Valley Fork	Intermittent	18 (AR)	5	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR, Perm ROW, Temp ROW	AP-1 / 60.8	UNT to Valley Fork	Ephemeral	3 (AR) 7 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW	AP-1 / 60.8	UNT to Valley Fork	Ephemeral	9 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 60.8	UNT to Valley Fork	Intermittent	22 (AR)	5	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 60.9	UNT to Valley Fork	Intermittent	26 (AR)	5	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 60.9	UNT to Valley Fork	Ephemeral	12 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 61	UNT to Valley Fork	Intermittent		5	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 61	UNT to Valley Fork	Intermittent	36 (AR)	5	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 61	UNT to Valley Fork	Ephemeral	6 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 61.1	UNT to Valley Fork	Intermittent	5 (AR)	5	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 61.1	UNT to Valley Fork	Ephemeral	6 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 61.3	UNT to Elk River	Intermittent		5	Not Crossed by Centerline	Within 1000 feet	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW	AP-1 / 61.7	Unnamed Pond	Pond	Pond (AR / CL)		Pond	Within 1000 feet	NA		NA		
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 62	UNT to Elk River	Intermittent		4	Not Crossed by Centerline	Within 1000 feet	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 62	UNT to Elk River	Intermittent	7 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW	AP-1 / 62.2	UNT to Elk River	Intermittent	3 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Temp ROW	AP-1 / 62.2	UNT to Elk River	Ephemeral		2	Not Crossed by Centerline	Within 1000 feet	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW	AP-1 / 62.9	Unnamed Pond	Pond	Pond (AR / CL)		Pond	Within 1000 feet	NA		NA		
Randolph County, WV	Temp CY	AP-1 / 63	UNT to Ralston Run	Intermittent		5	Contractor Yard - Temporary Impact	Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.2	UNT to Rough Gap Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.2	UNT to Rough Gap Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.2	UNT to Rough Gap Run	Ephemeral		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.2	UNT to Rough Gap Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.2	UNT to Rough Gap Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.2	Rough Gap Run	Intermittent	6 (AR)	6	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.2	Rough Gap Run	Intermittent		6	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.2	UNT to Rough Gap Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.3	UNT to Rough Gap Run	Ephemeral	9 (AR)	3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.4	UNT to Elk River	Intermittent		6	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.4	UNT to Elk River	Intermittent		6	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.6	UNT to Falling Spring Run	Ephemeral	6 (AR)	4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.7	Falling Spring Run	Perennial		20	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.7	Falling Spring Run	Perennial	61 (AR)	12	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.8	Falling Spring Run	Perennial		12	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.8	Falling Spring Run	Perennial	31 (AR)	12	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.8	Falling Spring Run	Perennial		12	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments) [f]
Randolph County, WV	Perm AR	AP-1 / 63.8	Falling Spring Run	Perennial		12	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.8	Falling Spring Run	Perennial		12	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.8	Falling Spring Run	Perennial		12	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.8	Falling Spring Run	Perennial		12	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.8	UNT to Falling Spring Run	Ephemeral		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.8	Falling Spring Run	Perennial		12	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.8	UNT to Falling Spring Run	Intermittent	3 (AR)	3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.8	UNT to Falling Spring Run	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.8	Falling Spring Run	Perennial		12	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.8	UNT to Falling Spring Run	Ephemeral		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.9	UNT to Falling Spring Run	Ephemeral		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.9	UNT to Falling Spring Run	Intermittent		10	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.9	UNT to Falling Spring Run	Ephemeral		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.9	UNT to Falling Spring Run	Ephemeral		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 63.9	UNT to Falling Spring Run	Ephemeral		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.1	UNT to Falling Spring Run	Ephemeral		5	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.1	UNT to Falling Spring Run	Ephemeral	12 (AR)	5	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.1	UNT to Falling Spring Run	Ephemeral		5	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.1	UNT to Falling Spring Run	Ephemeral		5	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.1	UNT to Falling Spring Run	Ephemeral		5	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW	AP-1 / 64.2	Unnamed Pond	Pond	Pond (AR / CL)		Pond	In-stream; Within 1000 feet	NA		NA		
Randolph County, WV	Perm ROW	AP-1 / 64.2	Unnamed Pond	Pond	Pond (AR / CL)		Pond	In-stream; Within 1000 feet	NA		NA		
Randolph County, WV	Perm AR	AP-1 / 64.3	UNT to Falling Spring Run	Intermittent		6	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.3	UNT to Falling Spring Run	Intermittent		6	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.4	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.4	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.4	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		6	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		6	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Intermittent	9 (AR)	6	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Intermittent		6	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Intermittent		8	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Intermittent		8	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.5	UNT to Falling Spring Run	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.6	UNT to Falling Spring Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.6	UNT to Falling Spring Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.6	UNT to Falling Spring Run	Intermittent		4	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.6	UNT to Falling Spring Run	Ephemeral		1	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.6	UNT to Falling Spring Run	Ephemeral		1	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.6	UNT to Falling Spring Run	Intermittent		5	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.6	UNT to Falling Spring Run	Ephemeral		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.7	UNT to Tygart Valley River	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.7	UNT to Tygart Valley River	Ephemeral		1	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.7	UNT to Tygart Valley River	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.8	UNT to Tygart Valley River	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.8	UNT to Tygart Valley River	Intermittent	3 (AR)	3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.8	UNT to Tygart Valley River	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.9	UNT to Tygart Valley River	Intermittent		8	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.9	UNT to Tygart Valley River	Intermittent		8	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.9	UNT to Tygart Valley River	Intermittent		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.9	UNT to Tygart Valley River	Intermittent	3 (AR)	3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.9	UNT to Tygart Valley River	Ephemeral	3 (AR)	3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.9	UNT to Tygart Valley River	Ephemeral	1 (AR)	2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.9	UNT to Tygart Valley River	Ephemeral		2	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 64.9	UNT to Tygart Valley River	Intermittent		10	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 65	UNT to Tygart Valley River	Intermittent		10	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 65	UNT to Tygart Valley River	Ephemeral		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 65	UNT to Tygart Valley River	Ephemeral		3	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 65.3	Mingo Run	Intermittent	19 (CL)	12	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm ROW, Temp ROW	AP-1 / 65.5	UNT to Mingo Run	Intermittent	9 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Randolph County, WV	Perm AR	AP-1 / 65.7	UNT to Mingo Run	Intermittent	17 (AR)	5	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 66.6	Douglas Fork	Intermittent	6 (AR)	5	Perm AR	NA	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 66.7	Douglas Fork	Intermittent	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW	AP-1 / 66.7	Douglas Fork	Intermittent		5	Not Crossed by Centerline	Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 67.5	Dry Fork	Intermittent	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 68.9	UNT to Big Spring Fork	Intermittent	5 (AR)	5	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 69.1	Big Spring Fork	Perennial	11 (AR)	10	Perm AR	NA	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 69.2	Big Spring Fork	Perennial	19 (CL)	20	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 69.3	Big Spring Fork	Perennial	10 (AR)	10	Perm AR	NA	HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 69.5	Mill Run	Intermittent	14 (AR)	5	Perm AR	NA	Unclassified		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 69.6	Mill Run	Intermittent		5	Perm AR	NA	Unclassified		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 69.6	Mill Run	Intermittent	6 (AR)	5	Perm AR	NA	Unclassified		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 70.3	Mill Run	Intermittent	5 (AR)	5	Perm AR	NA	Unclassified		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 70.8	UNT to Big Spring Fork	Intermittent	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW	AP-1 / 71.8	UNT to Clover Creek	Ephemeral		4	Not Crossed by Centerline	Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 71.9	UNT to Slaty Fork	Ephemeral	2 (AR)	2	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 71.9	UNT to Slaty Fork	Ephemeral	3 (AR)	3	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 71.9	UNT to Slaty Fork	Intermittent		2	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 71.9	UNT to Slaty Fork	Intermittent	3 (AR)	3	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 71.9	UNT to Slaty Fork	Ephemeral		4	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 71.9	UNT to Slaty Fork	Ephemeral		4	Perm AR	NA	UNT to HQS		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 72	Slaty Fork	Intermittent		7	Perm AR	NA	HQS, Tier 3		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 72.3	UNT to Clover Creek	Intermittent		8	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 72.4	UNT to Clover Creek	Ephemeral		2	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 72.4	UNT to Clover Creek	Ephemeral		2	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 72.5	UNT to Clover Creek	Ephemeral		2	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 72.7	UNT to Clover Creek	Intermittent		12	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 72.8	UNT to Clover Creek	Ephemeral		3	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR, Perm ROW	AP-1 / 72.8	UNT to Clover Creek	Ephemeral		3	Not Crossed by Centerline	Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 72.8	UNT to Clover Creek	Perennial	24 (CL)	18	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 72.8	UNT to Clover Creek	Perennial	13 (AR)	18	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 74.6	UNT to Clover Creek	Intermittent	6 (AR)	5	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 74.6	UNT to Clover Creek	Perennial	16 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 74.6	Clover Creek	Perennial	25 (AR)	10	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 75.2	UNT to Clover Creek	Intermittent	28 (AR)	5	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 75.3	UNT to Clover Creek	Intermittent	14 (AR)	5	Perm AR	NA	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 75.5	Clover Creek	Perennial	56 (CL)	30	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31	No mussels observed during survey	Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 75.5	UNT to Clover Creek	Intermittent	8 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 76	Glade Run	Perennial	19 (CL)	14	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 76.5	UNT to Glade Run	Ephemeral	2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 76.6	Greenbrier River	Perennial	180 (CL)	170	Cofferdam	In-stream; Within 1000 feet	B1, HQS		April 1 to June 30	ACP survey or Agency documentec presence of sensitive species / no mussels observed during survey	Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 76.9	UNT to Greenbrier River	Intermittent	8 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1, HQS		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 77.3	UNT to Mile Branch	Intermittent	6 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments) [f]
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 77.3	Mile Branch	Perennial	13 (CL)	15	Dam and Pump	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 78.1	UNT to Thorny Creek	Ephemeral		8	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 78.1	UNT to Thorny Creek	Ephemeral	66 (AR)	8	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 78.1	UNT to Thorny Creek	Ephemeral		8	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 79.2	UNT to Thorny Creek	Ephemeral		8	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 79.2	UNT to Thorny Creek	Ephemeral	35 (AR)	8	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 79.2	UNT to Thorny Creek	Ephemeral	24 (AR)	8	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 79.2	UNT to Thorny Creek	Ephemeral	53 (AR)	8	Perm AR	NA	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 79.3	Thomas Creek	Perennial	9 (CL)	12	Dam and Pump	In-stream; Within 1000 feet	B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 79.3	Powder Lick Run	Intermittent	8 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 79.8	UNT to Thomas Creek	Intermittent	6 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Temp ROW	AP-1 / 80.9	UNT to Sugar Camp Run	Intermittent		3	Not Crossed by Centerline	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 81	UNT to Sugar Camp Run	Intermittent	4 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Temp CY	AP-1 / 81	UNT to Sugar Camp Run	Perennial		73	Contractor Yard - Temporary Impact	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Temp CY	AP-1 / 81	UNT to Sugar Camp Run	Perennial		73	Contractor Yard - Temporary Impact	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Temp CY	AP-1 / 81	UNT to Sugar Camp Run	Perennial		73	Contractor Yard - Temporary Impact	Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 81.1	UNT to Sugar Camp Run	Intermittent	8 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 81.2	UNT to Sugar Camp Run	Intermittent		5	Perm AR	NA	UNT to B2		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 81.2	UNT to Sugar Camp Run	Intermittent		4	Perm AR	NA	UNT to B2		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 81.2	UNT to Sugar Camp Run	Intermittent		4	Perm AR	NA	UNT to B2		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 81.5	UNT to Sugar Camp Run	Intermittent	4 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B2		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm AR	AP-1 / 81.9	UNT to Sugar Camp Run	Ephemeral	2 (AR)	1	Perm AR	NA	UNT to B2		September 15 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Pocahontas County, WV	Perm ROW, Temp ROW	AP-1 / 82	UNT to Shock Run	Perennial	12 (CL)	12	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B2		October 1 to June 1		Will adhere to time of year restrictions for work within the waterbody.
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 85	UNT to Warwick Run (Townsend Draft)	Perennial	45 (CL)	20	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31 / March 15 to June 30	ACP survey or Agency documentec presence of sensitive species / no mussels or target aquatic species observed during survey	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 85.1	UNT to Warwick Run (Townsend Draft)	Perennial	10 (CL)	12	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31 / March 15 to June 30	ACP survey or Agency documentec presence of sensitive species / no mussels or target aquatic species observed during survey	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 85.4	UNT to Lick Draft	Perennial	10 (CL)	15	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Pre-construction aquatic species relocations.
Highland County, VA	Perm AR	AP-1 / 85.4	Warwick Run (Townsend Draft)	Perennial	10 (AR)	10	Perm AR	NA	Aquatic Life, I-IV		October 1 to March 31 / March 15 to June 30	ACP survey or Agency documentec presence of sensitive species / no mussels or target aquatic species observed during survey	Will adhere to time of year restrictions for work within the waterbody.
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 85.5	Lick Draft	Perennial	8 (CL)	15	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Aquatic Life, I-IV		October 1 to March 31	ACP survey or Agency documentec presence of sensitive species / no mussels or target aquatic species observed during survey	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 87.2	Back Creek	Perennial	73 (CL)	70	1) Cofferdam 2) Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, V-VIII	Temperature	March 15 to June 30	No mussels observed during survey / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 87.3	Unnamed Pond	Pond	Pond (AR / CL)		Pond	Within 1000 feet	NA		NA		
Highland County, VA	Perm AR	AP-1 / 87.7	UNT to Back Creek	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life, V-VIII		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 88.5	UNT to Back Creek	Ephemeral	4 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		
Highland County, VA	Perm AR	AP-1 / 88.6	UNT to Back Creek	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life, V-VIII		NA		
Highland County, VA	Perm AR	AP-1 / 88.8	UNT to Back Creek	Intermittent	13 (AR)	5	Perm AR	NA	UNT to Aquatic Life, V-VIII		NA		
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 88.8	UNT to Back Creek	Intermittent	9 (CL)	9	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Highland County, VA	Perm AR	AP-1 / 89.2	UNT to Back Creek	Intermittent		2	Perm AR	NA	UNT to Aquatic Life, V-VIII		NA		
Highland County, VA	Perm AR	AP-1 / 89.4	UNT to Jackson River	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31/March 15 to May 15		Will adhere to time of year restrictions for work within the waterbody.
Highland County, VA	Perm AR	AP-1 / 89.4	UNT to Jackson River	Intermittent	6 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31/March 15 to May 15		Will adhere to time of year restrictions for work within the waterbody.
Highland County, VA	Perm AR	AP-1 / 89.4	UNT to Jackson River	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31/March 15 to May 15		Will adhere to time of year restrictions for work within the waterbody.
Highland County, VA	Perm AR	AP-1 / 89.4	UNT to Jackson River	Intermittent	6 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31/March 15 to May 15		Will adhere to time of year restrictions for work within the waterbody.
Highland County, VA	Perm AR	AP-1 / 89.4	UNT to Jackson River	Intermittent	13 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31/March 15 to May 15		Will adhere to time of year restrictions for work within the waterbody.
Highland County, VA	Perm AR	AP-1 / 89.4	UNT to Jackson River	Perennial	15 (AR)	10	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31/March 15 to May 15/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Highland County, VA	Perm AR	AP-1 / 89.4	UNT to Jackson River	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31/March 15 to May 15		Will adhere to time of year restrictions for work within the waterbody.
Highland County, VA	Perm AR, Perm ROW, Temp ROW	AP-1 / 90	Peak Run	Ephemeral	3 (AR) 2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Aquatic Life		NA		
Highland County, VA	Perm AR	AP-1 / 90.1	UNT to Jackson River	Intermittent	10 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31/March 15 to May 15		Will adhere to time of year restrictions for work within the waterbody.
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 90.4	Peak Run	Perennial	9 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Highland County, VA	Perm AR	AP-1 / 90.7	UNT to Jackson River	Intermittent		5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31/March 15 to May 15		Will adhere to time of year restrictions for work within the waterbody.
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 90.8	UNT to Stony Run	Ephemeral	5 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 90.8	Stony Run	Perennial	31 (CL)	16	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Aquatic Life, I-IV		October 1 to March 31/ March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 91.1	Morris Run	Perennial	11 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 91.1	UNT to Morris Run	Intermittent	3 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 91.4	Morris Run	Perennial	11 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Highland County, VA	Perm ROW, Temp ROW	AP-1 / 91.5	Jackson River	Perennial	63 (CL)	60	1) Cofferdam 2) Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, I-IV	Escherichia Coli (E. Coli) and Temperature	October 1 to March 31/March 15 to May 15/March 15 to June 30	ACP survey or Agency documentec presence of sensitive species / mussel survey pending	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm AR	AP-1 / 91.7	UNT to Jackson River	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31/March 15 to May 15		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm AR	AP-1 / 91.7	UNT to Jackson River	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31/March 15 to May 15		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm ROW, Temp ROW, Temp TS	AP-1 / 91.8	UNT to Jackson River	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31/March 15 to May 15		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm AR	AP-1 / 91.9	UNT to Jackson River	Intermittent		5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31/March 15 to May 15		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm AR	AP-1 / 91.9	UNT to Jackson River	Intermittent	13 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31/March 15 to May 15		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 93	Little Valley Run	Intermittent	6 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm AR	AP-1 / 93	UNT to Little Valley Run	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 94.1	Laurel Run	Perennial	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, I-IV	pH	October 1 to March 31	No mussels or target fish observed during survey	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm AR	AP-1 / 94.1	Laurel Run	Perennial		5	Perm AR	NA	Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm AR	AP-1 / 94.2	Laurel Run	Perennial	38 (AR)	5	Perm AR	NA	Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm AR	AP-1 / 94.2	UNT to Laurel Run	Intermittent	7 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm AR	AP-1 / 94.4	Laurel Run	Perennial	10 (AR)	5	Perm AR	NA	Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm AR	AP-1 / 94.4	Laurel Run	Perennial		10	Perm AR	NA	Aquatic Life, I-IV		October 1 to March 31/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm AR	AP-1 / 94.4	Laurel Run	Perennial	32 (AR)	10	Perm AR	NA	Aquatic Life, I-IV		October 1 to March 31/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 94.7	UNT to Dry Run	Intermittent	13 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments) [f]
Bath County, VA	Perm AR	AP-1 / 94.8	Laurel Run	Perennial	12 (AR)	10	Perm AR	NA	Aquatic Life, I-IV		October 1 to March 31/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 95.2	UNT to Dry Run	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm AR, Perm ROW, Temp ROW	AP-1 / 95.5	UNT to Dry Run	Intermittent	6 (AR) 5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm AR	AP-1 / 95.6	UNT to Dry Run	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm ROW, Temp ROW, Temp TS	AP-1 / 97.8	UNT to Cowpasture River	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 97.8	Cowpasture River	Perennial	128 (CL)	125	1) Cofferdam 2)Dam and Pump	In-stream; Within 1000 feet	Aquatic Life		May 15 to July 31/March 15 to June 30	No federal or state mussels observed during survey / ACP survey or Agency documented presence of sensitive species / additional survey anticipated in 2017	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm AR	AP-1 / 97.8	Cowpasture River	Perennial		150	Perm AR	NA	Aquatic Life		May 15 to July 31/March 15 to June 30	No federal or state mussels observed during survey / ACP survey or Agency documented presence of sensitive species / additional survey anticipated in 2017	Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm AR	AP-1 / 97.9	Cowpasture River	Perennial	146 (AR)	150	Perm AR	NA	Aquatic Life		May 15 to July 31/March 15 to June 30	No federal or state mussels observed during survey / ACP survey or Agency documented presence of sensitive species / additional survey anticipated in 2017	Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm AR	AP-1 / 97.9	UNT to Cowpasture River	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life		NA		
Bath County, VA	Perm AR	AP-1 / 98.1	UNT to Cowpasture River	Intermittent	5 (AR)	5	Perm AR	NA	Unclassified		NA		
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 98.3	UNT to Cowpasture River	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA	No mussels or target aquatic species observed during survey	Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 99	UNT to Stuart Run	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Bath County, VA	Perm AR	AP-1 / 99.3	UNT to Stuart Run	Intermittent	6 (AR)	5	Perm AR	NA	Unclassified		NA		
Bath County, VA	Perm AR, Perm ROW, Temp ROW	AP-1 / 99.3	UNT to Stuart Run	Intermittent	6 (AR) 6 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Bath County, VA	Perm AR	AP-1 / 99.3	UNT to Stuart Run	Intermittent	6 (AR)	5	Perm AR	NA	Unclassified		NA		
Bath County, VA	Perm AR	AP-1 / 99.4	UNT to Stuart Run	Intermittent	20 (AR)	5	Perm AR	NA	Unclassified		NA		
Bath County, VA	Perm AR	AP-1 / 99.4	UNT to Stuart Run	Perennial	27 (AR)	10	Perm AR	NA	Unclassified		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm AR	AP-1 / 99.4	UNT to Stuart Run	Perennial	49 (AR)	10	Perm AR	NA	Unclassified		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 100.6	White Sulphur Spring Branch	Perennial	9 (CL)	20	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 100.7	Stuart Run	Perennial	65 (CL)	30	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		March 15 to June 30	No mussels observed during survey / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 100.8	UNT to Stuart Run	Ephemeral	8 (CL)		1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 101	UNT to Unnamed Pond	Perennial	5 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW	AP-1 / 101	UNT to Unnamed Pond	Ephemeral		5	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 101	UNT to Unnamed Pond	Perennial	4 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 101.1	UNT to Stuart Run	Ephemeral	2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		
Bath County, VA	Temp ROW	AP-1 / 101.1	UNT to Stuart Run	Perennial		2	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Bath County, VA	Temp ROW	AP-1 / 101.2	Unnamed Stream	Intermittent		3	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 101.5	UNT to Stuart Run	Perennial	6 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 101.5	UNT to Stuart Run	Perennial	6 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 101.6	UNT to Stuart Run	Intermittent	3 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 101.8	UNT to Stuart Run	Perennial	8 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Bath County, VA	Perm AR	AP-1 / 102	UNT to Stuart Run	Intermittent	5 (AR)	5	Perm AR	NA	Unclassified		NA		
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 102.1	UNT to Stuart Run	Intermittent	6 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 102.1	UNT to Stuart Run	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 102.5	UNT to Stuart Run	Intermittent	6 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 103.1	Mill Creek	Perennial	29 (CL)	12	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31	Mussel survey pending	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 103.1	UNT to Mill Creek	Perennial	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Aquatic Life, V-VIII		October 1 to March 31/October 1 to May 31	Mussel survey pending	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 103.6	UNT to Mill Creek	Perennial	5 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 103.8	UNT to Mill Creek	Perennial	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 103.9	UNT to Mill Creek	Perennial	7 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm AR	AP-1 / 103.9	Mill Creek	Perennial	10 (AR)	10	Perm AR	NA	Aquatic Life, V-VIII		October 1 to March 31/October 1 to May 31	Mussel survey pending	Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm AR	AP-1 / 103.9	UNT to Mill Creek	Intermittent	6 (AR)	5	Perm AR	NA	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 104	UNT to Mill Creek	Intermittent	3 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 104.1	UNT to Mill Creek	Perennial	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 104.2	UNT to Mill Creek	Intermittent	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 104.4	UNT to Mill Creek	Intermittent	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 104.6	UNT to Mill Creek	Intermittent	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm AR	AP-1 / 104.7	UNT to Mill Creek	Perennial	10 (AR)	10	Perm AR	NA	Aquatic Life, V-VIII		October 1 to March 31/October 1 to May 31		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 104.8	UNT to Mill Creek	Intermittent	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 104.8	UNT to Mill Creek	Perennial	11 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm AR	AP-1 / 105	Mill Creek	Perennial	11 (AR)	10	Perm AR	NA	Aquatic Life, V-VIII		October 1 to March 31/October 1 to May 31	Mussel survey pending	Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 105.7	UNT to Mill Creek	Perennial	4 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Bath County, VA	Perm ROW	AP-1 / 105.7	UNT to Mill Creek	Perennial		4	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm ROW	AP-1 / 105.7	UNT to Mill Creek	Perennial		3	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Bath County, VA	Perm ROW, Temp ROW	AP-1 / 105.7	UNT to Mill Creek	Perennial	3 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 107.1	UNT to Hamilton Branch	Intermittent		5	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 107.1	UNT to Hamilton Branch	Intermittent	8 (CL)	15	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 107.3	UNT to Hamilton Branch	Intermittent		5	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 107.5	UNT to Hamilton Branch	Perennial	7 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 107.5	UNT to Hamilton Branch	Perennial	3 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW	AP-1 / 107.5	UNT to Hamilton Branch	Perennial		2	Not Crossed by Centerline	In-stream; Within 1000 feet	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 107.5	UNT to Hamilton Branch	Perennial	3 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 107.5	UNT to Hamilton Branch	Intermittent	2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 107.7	UNT to Hamilton Branch	Perennial	2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 107.7	UNT to Hamilton Branch	Perennial		2	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 107.9	UNT to Hamilton Branch	Intermittent	4 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 108.1	UNT to Hamilton Branch	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 108.3	UNT to Hamilton Branch	Intermittent	2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 108.3	UNT to Hamilton Branch	Intermittent	2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 108.4	Hamilton Branch	Perennial	45 (CL)	20	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	Mussel survey pending	Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 108.5	UNT to Hamilton Branch	Ephemeral	10 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 108.6	UNT to Hamilton Branch	Intermittent	6 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Augusta County, VA	Perm AR	AP-1 / 108.6	Hamilton Branch	Perennial	103 (AR)	10	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW, Temp TS	AP-1 / 108.8	Hughart Run	Perennial	11 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 109	UNT to Hamilton Branch	Intermittent	7 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 109.2	UNT to Hamilton Branch	Intermittent	9 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 109.2	UNT to Hamilton Branch	Perennial	11 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 109.3	UNT to Hamilton Branch	Perennial	9 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 109.3	UNT to Hamilton Branch	Perennial	4 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 109.3	UNT to Hamilton Branch	Intermittent	5 (AR)	5	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 109.5	UNT to Hamilton Branch	Intermittent	9 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 109.6	UNT to Hamilton Branch	Perennial	2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 109.7	UNT to Hamilton Branch	Perennial	4 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 109.8	UNT to Hamilton Branch	Intermittent	6 (AR)	5	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 110.1	UNT to Calfpasture River	Perennial	21 (CL)	12	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 110.5	UNT to Calfpasture River	Intermittent	9 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 110.7	Tizzle Branch	Perennial	9 (CL)	12	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 110.8	UNT to Calfpasture River	Perennial	20 (CL)	15	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 110.8	UNT to Calfpasture River	Perennial	19 (CL)	15	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 110.9	UNT to Calfpasture River	Perennial	23 (CL)	15	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Temp ATWS	AP-1 / 111.1	UNT to Tizzle Branch	Perennial		10	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 111.4	Calfpasture River	Perennial	11 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Aquatic Life		NA	Mussel survey pending	Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 111.4	White Rock Branch	Perennial	11 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 111.5	UNT to Calfpasture River	Ephemeral	69 (CL)	14	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 111.5	White Rock Branch	Ephemeral	23 (CL)	14	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 112.1	UNT to Calfpasture River	Intermittent	3 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 112.2	Calfpasture River	Perennial	65 (CL)	45	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		NA	No mussels observed during survey	Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 112.3	UNT to Calfpasture River	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 112.6	Hodges Draft	Perennial	24 (CL)	30	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Aquatic Life, I-IV		October 1 to March 31	No mussels observed during survey	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 113	UNT to Calfpasture River	Intermittent		5	Perm AR	NA	UNT to Aquatic Life		NA		
Augusta County, VA	Perm AR	AP-1 / 113	UNT to Calfpasture River	Intermittent	13 (AR)	5	Perm AR	NA	UNT to Aquatic Life		NA		
Augusta County, VA	Perm AR	AP-1 / 113	UNT to Calfpasture River	Intermittent		8	Perm AR	NA	UNT to Aquatic Life		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 113.1	UNT to Calfpasture River	Perennial	11 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 113.1	UNT to Calfpasture River	Intermittent	33 (AR)	8	Perm AR	NA	UNT to Aquatic Life		NA		
Augusta County, VA	Perm AR	AP-1 / 113.1	UNT to Calfpasture River	Perennial		8	Perm AR	NA	UNT to Aquatic Life		NA		
Augusta County, VA	Perm ROW	AP-1 / 113.1	UNT to Calfpasture River	Perennial		3	Not Crossed by Centerline	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 113.3	UNT to Calfpasture River	Perennial	14 (CL)	9	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 113.4	UNT to Calfpasture River	Intermittent	2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 113.5	Wolfpen Draft	Intermittent	8 (AR)	5	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 113.5	UNT to Calfpasture River	Perennial	31 (CL)	30	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	No mussels observed during survey	Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW	AP-1 / 113.9	UNT to Calfpasture River	Ephemeral		2	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 113.9	UNT to Calfpasture River	Perennial	7 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 114.3	UNT to Body Lick Branch	Perennial	41 (CL)	30	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	No mussels observed during survey	Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 114.5	UNT to Body Lick Branch	Perennial	66 (CL)	60	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		NA	No mussels observed during survey	Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW	AP-1 / 114.7	UNT to Body Lick Branch	Ephemeral		2	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 114.7	UNT to Body Lick Branch	Ephemeral	4 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		
Augusta County, VA	Temp ROW	AP-1 / 115	UNT to Calfpasture River	Ephemeral		2	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 115.2	UNT to Calfpasture River	Intermittent	2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 115.2	UNT to Calfpasture River	Perennial	10 (CL)	12	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 115.4	UNT to Calfpasture River	Intermittent	30 (AR)	3	Perm AR	NA	UNT to Aquatic Life		NA		
Augusta County, VA	Perm AR	AP-1 / 115.4	UNT to Calfpasture River	Intermittent	10 (AR)	3	Perm AR	NA	UNT to Aquatic Life		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 115.4	UNT to Calfpasture River	Intermittent	3 (CL)	3	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Temp ROW	AP-1 / 115.7	UNT to Barn Lick Branch	Ephemeral		0.5	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 115.8	Barn Lick Branch	Perennial		8	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 115.8	Barn Lick Branch	Perennial	9 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 116.3	UNT to Calfpasture River	Perennial	12 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 116.5	Braley Branch	Perennial		15	Perm AR	NA	Unclassified		October 1 to May 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm AR, Perm ROW, Temp ROW	AP-1 / 116.5	Braley Branch	Intermittent	20 (AR) 12 (CL)	14	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 116.5	Braley Branch	Perennial		15	Perm AR	NA	Unclassified		October 1 to May 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm AR	AP-1 / 116.5	Braley Branch	Perennial		15	Perm AR	NA	Unclassified		October 1 to May 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm AR	AP-1 / 116.5	Braley Branch	Intermittent		14	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 116.7	Calfpasture River	Perennial	30 (CL)	16	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Aquatic Life		NA	No mussels observed during survey	Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR, Perm ROW, Temp ROW	AP-1 / 117.1	Dowells Draft	Perennial	10 (AR) 10 (CL)	16	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA	ACP survey or Agency documented presence of sensitive species / no mussels or target fish observed during survey	Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 117.2	UNT to Dowell's Draft	Perennial	9 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 117.2	UNT to Dowell's Draft	Perennial		8	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm AR	AP-1 / 117.2	UNT to Dowell's Draft	Perennial		8	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm AR	AP-1 / 117.3	East Branch Dowells Draft	Perennial	10 (AR)	10	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 117.7	UNT to Dowell's Draft	Intermittent	7 (CL)	7	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 120.2	UNT to White Oak Draft	Ephemeral	2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 120.2	White Oak Draft	Perennial	25 (CL)	20	Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, I-IV		October 1 to March 31	ACP survey or Agency documented presence of sensitive species / no mussels or target fish observed during survey	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Temp AR	AP-1 / 120.2	UNT to Jennings Branch	Perennial	25 (AR)	10	Temp AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm AR	AP-1 / 120.2	UNT to Jennings Branch	Perennial	75 (AR)	20	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm AR	AP-1 / 120.2	UNT to Jennings Branch	Perennial		20	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm AR	AP-1 / 120.2	UNT to Jennings Branch	Perennial		20	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm AR	AP-1 / 120.2	UNT to Jennings Branch	Perennial	290 (AR)	20	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Temp AR	AP-1 / 120.3	UNT to Jennings Branch	Ephemeral	1 (AR)	1	Temp AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed[b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet)[c]	Survey/ Desktop Estimated OHWM Width (feet)[c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 120.4	White Oak Draft	Perennial	29 (CL)	15	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, I-IV		October 1 to March 31	ACP survey or Agency documentec presence of sensitive species / no mussels or target fish observed during survey	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Temp ROW	AP-1 / 120.6	UNT to White Oak Draft	Intermittent		3	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm ROW	AP-1 / 120.7	UNT to Stoutameyer Branch	Intermittent		3	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 120.7	UNT to Stoutameyer Branch	Intermittent		3	Not Crossed by Centerline	In-stream; Within 1000 feet	Unclassified		NA		
Augusta County, VA	Perm AR, Perm ROW, Temp ROW	AP-1 / 120.9	UNT to Stoutameyer Branch	Intermittent	4 (AR) 5 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 121.1	Stoutameyer Branch	Perennial	9 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW	AP-1 / 121.1	Stoutameyer Branch	Perennial	1 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 122.5	UNT to Jennings Branch	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 122.8	UNT to Jennings Branch	Perennial	6 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31	ACP survey or Agency documentec presence of sensitive species / no mussels or target fish observed during survey	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 123	UNT to Jennings Branch	Intermittent	3 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR, Perm ROW, Temp ROW	AP-1 / 123.9	UNT to Elk Run	Intermittent	8 (AR) 6 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 124	UNT to Elk Run	Intermittent		3	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 124.1	UNT to Elk Run	Intermittent	5 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 124.2	UNT to Elk Run	Intermittent		4	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm AR	AP-1 / 124.2	UNT to Elk Run	Intermittent		4	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 124.4	UNT to Elk Run	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 125.1	UNT to Elk Run	Intermittent	5 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 125.8	UNT to Elk Run	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW, Temp TS	AP-1 / 128.8	UNT to Jennings Branch	Intermittent	6 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 129.2	Jennings Branch	Intermittent	54 (CL)	55	1) Cofferdam 2) Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, I-IV		October 1 to March 31	Mussel survey pending	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 130.1	UNT to Middle River	Intermittent	6 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 130.4	Middle River	Perennial	80 (CL)	75	1) Cofferdam 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA	Mussel survey pending	Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 134.2	UNT to Eidson Creek	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 134.4	UNT to Eidson Creek	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW, Temp TS	AP-1 / 137	Lewis Creek	Perennial	19 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 137.9	UNT to Folly Mills Creek	Intermittent		5	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 138.6	UNT to Folly Mills Creek	Intermittent	9 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ATWS, Temp ROW	AP-1 / 139.1	Folly Mills Creek	Perennial	10 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA	Mussel survey pending	Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 139.1	UNT to Folly Mills Creek	Intermittent		5	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 139.6	UNT to Folly Mills Creek	Perennial	8 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 140	UNT to Folly Mills Creek	Perennial	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 142.3	UNT to Christian's Creek	Intermittent	5 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 142.5	Christian's Creek	Perennial	27 (CL)	25	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Aquatic Life		NA	No federal or state mussels observed during survey	Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW	AP-1 / 142.5	UNT to Christian's Creek	Intermittent		4	Not Crossed by Centerline	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 143.9	UNT to Barterbrook Branch	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 144	Barterbrook Branch	Intermittent	2 (CL)	2.5	Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 145.6	UNT to South River	Perennial	8 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW	AP-1 / 146.2	UNT to South River	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 146.2	UNT to South River	Intermittent		5	Not Crossed by Centerline	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		
Augusta County, VA	Temp ROW	AP-1 / 146.3	UNT to South River	Intermittent		6	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 147.5	Unnamed Ditch	Canal/Ditch	21 (CL)		Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 148.6	South River	Perennial	46 (CL)	35	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Aquatic Life		NA	No federal or state mussels observed during survey	Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 150.8	UNT to South River	Ephemeral	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 151.5	UNT to South River	Intermittent	3 (CL)	9	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR, Perm ROW, Temp ROW	AP-1 / 152.3	Unnamed Pond	Pond	Pond (AR / CL)		Pond	Within 1000 feet	NA		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 152.4	UNT to Mills Creek	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 152.9	Mills Creek	Perennial	33 (CL)	16	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, I-VIII	Benthic-Macroinvertebrate Bioassessments	October 1 to March 31/October 1 to May 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 152.9	UNT to Mills Creek	Intermittent	5 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 153.1	UNT to Mills Creek	Perennial	7 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, I-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW	AP-1 / 153.2	UNT to Mills Creek	Intermittent	6 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, I-VIII		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 153.4	Orebank Creek	Perennial		13	Not Crossed by Centerline	Within 1000 feet	Aquatic Life, I-IV	pH	October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Temp ROW	AP-1 / 153.4	Orebank Creek	Perennial		10	Not Crossed by Centerline	Within 1000 feet	Aquatic Life, I-IV	pH	October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Temp ROW	AP-1 / 153.4	Orebank Creek	Perennial		13	Not Crossed by Centerline	Within 1000 feet	Aquatic Life, I-IV	pH	October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 153.4	Orebank Creek	Perennial	13 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Aquatic Life, I-IV	pH	October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 153.6	UNT to Back Creek	Intermittent	14 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 153.7	UNT to Back Creek	Perennial	11 (CL)	10	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 153.7	Back Creek	Perennial	12 (CL)	10	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, V-VIII	Benthic-Macroinvertebrate Bioassessments and E. coli	October 1 to May 31	Mussel survey pending	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 153.7	UNT to Laurel Springs Branch	Intermittent	5 (AR)	5	Perm AR	NA	Unclassified		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 154.2	UNT to Back Creek	Intermittent	5 (CL)	3	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 154.4	UNT to Back Creek	Intermittent	8 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 154.5	UNT to Back Creek	Intermittent	4 (CL)	3	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 154.8	UNT to Back Creek	Intermittent	10 (CL)	10	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 154.9	UNT to Back Creek	Ephemeral	6 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		
Augusta County, VA	Temp ROW	AP-1 / 155	UNT to Back Creek	Intermittent		2	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 155.1	UNT to Back Creek	Ephemeral	11 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 155.2	UNT to Back Creek	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 155.3	UNT to Back Creek	Intermittent	5 (CL)	4	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 155.3	UNT to Back Creek	Intermittent	6 (CL)	6	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 155.5	UNT to Back Creek	Perennial	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 155.6	UNT to Back Creek	Ephemeral	3 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 155.8	UNT to Back Creek	Perennial	11 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW	AP-1 / 155.9	UNT to Back Creek	Perennial		25	Not Crossed by Centerline	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 155.9	UNT to Back Creek	Intermittent	7 (CL)	6	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Temp ROW	AP-1 / 155.9	UNT to Back Creek	Intermittent		6	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 155.9	UNT to Back Creek	Intermittent	8 (CL)	6	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 156	UNT to Back Creek	Intermittent	4 (CL)	4	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 156.2	UNT to Back Creek	Perennial	5 (CL)	4	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 156.4	UNT to Back Creek	Intermittent	3 (CL)	2	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 156.6	UNT to Back Creek	Intermittent	8 (CL)	7	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 156.6	UNT to Back Creek	Perennial	19 (CL)	10	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 156.7	UNT to Back Creek	Intermittent	28 (CL)	7	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 156.7	UNT to Back Creek	Ephemeral	10 (CL)	3	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm ROW	AP-1 / 156.9	UNT to South Fork Back Creek	Ephemeral		6	Not Crossed by Centerline	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 156.9	UNT to South Fork Back Creek	Intermittent	7 (CL)	6	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 157	UNT to South Fork Back Creek	Perennial	6 (CL)	6	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 157	UNT to South Fork Back Creek	Perennial		6	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm AR	AP-1 / 157	UNT to South Fork Back Creek	Intermittent		4	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm AR	AP-1 / 157	UNT to South Fork Back Creek	Intermittent		4	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm AR	AP-1 / 157.2	UNT to South Fork Back Creek	Intermittent	37 (AR)	5	Perm AR	NA	UNT to Aquatic Life, V-VIII		NA		
Augusta County, VA	Perm AR	AP-1 / 157.2	UNT to South Fork Back Creek	Intermittent		5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 157.3	UNT to South Fork Back Creek	Intermittent	6 (CL)	5	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Augusta County, VA	Perm AR	AP-1 / 157.3	UNT to South Fork Back Creek	Intermittent		5	Perm AR	NA	UNT to Aquatic Life, V-VIII		NA		
Augusta County, VA	Temp ROW	AP-1 / 157.4	UNT to South Fork Back Creek	Intermittent		4	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm ROW, Temp ATWS, Temp ROW	AP-1 / 157.6	UNT to South Fork Back Creek	Perennial	17 (CL)	15	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Augusta County, VA	Temp ROW	AP-1 / 157.6	UNT to South Fork Back Creek	Intermittent		13	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm ROW, Temp ATWS, Temp ROW	AP-1 / 157.6	UNT to South Fork Back Creek	Ephemeral	11 (CL)	9	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm AR	AP-1 / 157.7	UNT to South Fork Back Creek	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Augusta County, VA	Perm ROW, Temp ROW	AP-1 / 157.8	UNT to South Fork Back Creek	Intermittent	7 (CL)	5	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Nelson County, VA	Perm AR	AP-1 / 158.6	UNT to South Fork Rockfish River	Perennial		8	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Nelson County, VA	Perm ROW	AP-1 / 158.6	UNT to South Fork Rockfish River	Perennial		8	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Nelson County, VA	Perm ROW	AP-1 / 158.7	UNT to South Fork Rockfish River	Perennial		8	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Nelson County, VA	Temp ATWS	AP-1 / 158.8	UNT to South Fork Rockfish River	Intermittent		3	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 158.9	South Fork Rockfish River	Perennial	20 (CL)	16	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, I-IV	E. Coli and Fecal Coliform	October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Nelson County, VA	Perm AR	AP-1 / 160.4	Spruce Creek	Perennial	16 (AR)	10	Perm AR	NA	Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Nelson County, VA	Perm AR	AP-1 / 161.1	Spruce Creek	Perennial	10 (AR)	10	Perm AR	NA	Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Nelson County, VA	Perm AR	AP-1 / 161.4	UNT to South Fork Rockfish River	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Nelson County, VA	Perm AR	AP-1 / 161.8	UNT to South Fork Rockfish River	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Nelson County, VA	Perm AR	AP-1 / 161.8	South Fork Rockfish River	Perennial	10 (AR)	10	Perm AR	NA	Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody.
Nelson County, VA	Perm ROW, Temp ATWS, Temp ROW	AP-1 / 162.4	Spruce Creek	Perennial	13 (CL)	10	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Nelson County, VA	Perm ROW, Temp ATWS, Temp ROW	AP-1 / 163.1	Spruce Creek	Perennial	11 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Aquatic Life, I-IV		October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 163.7	South Fork Rockfish River	Perennial	72 (CL)	40	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Aquatic Life, I-IV	E. Coli and Fecal Coliform	October 1 to March 31		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 163.9	UNT to South Fork Rockfish River	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 164.4	UNT to South Fork Rockfish River	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 165.4	UNT to Rockfish River	Perennial	7 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 165.5	UNT to Rockfish River	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 165.5	UNT to Rockfish River	Perennial	7 (CL)	7	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 165.9	UNT to Rockfish River	Perennial	16 (CL)	10	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 166.2	UNT to Rockfish river	Perennial	5 (CL)	4.5	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 166.3	UNT to Rockfish river	Perennial	9 (CL)	9	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm AR	AP-1 / 166.7	UNT to Rockfish river	Perennial	99 (AR)	10	Perm AR	NA	Unclassified		NA		
Nelson County, VA	Perm AR, Perm ROW, Temp ROW	AP-1 / 166.7	UNT to Rockfish river	Perennial	9 (CL)	9	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm AR	AP-1 / 166.7	UNT to Rockfish river	Perennial		9	Perm AR	NA	Unclassified		NA		
Nelson County, VA	Perm AR	AP-1 / 166.7	UNT to Rockfish river	Perennial		9	Perm AR	NA	Unclassified		NA		
Nelson County, VA	Perm AR	AP-1 / 166.9	UNT to Rockfish river	Perennial	11 (AR)	10	Perm AR	NA	Unclassified		NA		
Nelson County, VA	Perm AR	AP-1 / 167.8	UNT to Rockfish river	Intermittent	12 (AR)	5	Perm AR	NA	Unclassified		NA		
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 168.8	Davis Creek	Perennial	10 (CL)	10	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA	Mussel survey pending	Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 168.9	UNT to Davis Creek	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 169.3	Muddy Creek	Perennial	10 (CL)	10	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA	Mussel survey pending	Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 169.7	UNT to Rockfish River	Intermittent	7 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 170	UNT to Rockfish River	Perennial	16 (CL)	10	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ATWS, Temp ROW	AP-1 / 170.2	UNT to Rockfish River	Perennial	15 (CL)	10	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Temp ROW	AP-1 / 171	UNT to Rockfish River	Perennial		3	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 171	UNT to Rockfish River	Perennial	6 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm AR, Perm ROW, Temp ROW	AP-1 / 171.3	UNT to Rockfish River	Perennial	8 (AR) 4 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm AR	AP-1 / 171.3	UNT to Wheeler Cove	Intermittent	5 (AR)	5	Perm AR	NA	Unclassified		NA		
Nelson County, VA	Perm AR	AP-1 / 171.3	UNT to Wheeler Cove	Intermittent		5	Perm AR	NA	Unclassified		NA		
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 171.6	UNT to Rockfish River	Perennial	9 (CL)	9	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm AR	AP-1 / 171.7	UNT to Rockfish River	Intermittent	3 (AR)	4	Perm AR	NA	Unclassified		NA		
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 172.8	UNT to Rockfish River	Intermittent	10 (CL)	10	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 173.2	UNT to Dutch Creek	Intermittent	11 (CL)	10	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 175.1	UNT to Dutch Creek	Perennial	21 (CL)	25	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp AR, Temp ROW	AP-1 / 175.6	Dutch Creek	Perennial	17 (AR) 18 (CL)	30	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA	No mussels observed during survey	Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 175.9	UNT to Dutch Creek	Perennial	10 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ATWS, Temp ROW	AP-1 / 176.2	UNT to Dutch Creek	Perennial	21 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm AR	AP-1 / 177.4	UNT to Beaver Creek	Intermittent	5 (AR)	5	Perm AR	NA	Unclassified		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed[b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet)[c]	Survey/ Desktop Estimated OHWM Width (feet)[c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 179	UNT to Buffalo Creek	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 180.2	Buffalo Creek	Perennial	22 (CL)	12	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW	AP-1 / 180.5	UNT to Buffalo Creek	Intermittent	8 (CL)	7	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 180.6	UNT to Buffalo Creek	Intermittent		7	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 180.9	UNT to Buffalo Creek	Intermittent	1 (CL)	1.5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 181.5	UNT to Mayo Creek	Intermittent	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 181.9	Mayo Creek	Perennial	10 (CL)	10	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 182.6	UNT to Mayo Creek	Intermittent	10 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 182.9	UNT to Mayo Creek	Perennial		4	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 182.9	UNT to Mayo Creek	Perennial	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Temp ROW	AP-1 / 182.9	UNT to Mayo Creek	Perennial		2	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 183.3	UNT to Mayo Creek	Perennial	6 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 183.4	UNT to Mayo Creek	Intermittent	3 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nelson County, VA	Perm ROW, Temp ROW	AP-1 / 183.7	UNT to Mayo Creek	Ephemeral	2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Nelson County, VA	Perm AR	AP-1 / 184.5	UNT to James River	Intermittent		5	Perm AR	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Nelson County, VA	Perm ROW	AP-1 / 184.5	Mayo Creek	Perennial	35 (CL)	10	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		March 15 to June 30/April 15 to June 15 and August 15 to September 30	Anadromous / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Nelson and Buckingham Counties, VA	Perm ROW	AP-1 / 184.7	James River	Perennial	395 (CL)	300	HDD	Within 1000 feet	Aquatic Life, Migratory fish Spawning and Nursery	Mercury in Fish and PCB in Fish	March 15 to June 30/April 15 to June 15 and August 15 to September 30	Anadromous / Survey not required ACP survey or Agency documented presence of sensitive species	Mussels presence assumed, HDD crossing. Will adhere to time of year restrictions for work within the waterbody.
Buckingham County, VA	Perm AR	AP-1 / 184.9	UNT to James River	Perennial	21 (AR)	10	Perm AR	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		March 15 to June 30/April 15 to June 15 and August 15 to September 30	Anadromous / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 184.9	UNT to James River	Intermittent	4 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 185	UNT to James River	Intermittent	2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Buckingham County, VA	Perm AR	AP-1 / 185.4	UNT to James River	Perennial	14 (AR)	10	Perm AR	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		March 15 to June 30/April 15 to June 15 and August 15 to September 30	Anadromous / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody.
Buckingham County, VA	Perm AR	AP-1 / 185.4	UNT to James River	Intermittent		5	Perm AR	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Buckingham County, VA	Perm ROW	AP-1 / 185.4	UNT to James River	Intermittent		2	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 186.8	UNT to Sycamore Creek	Intermittent	6 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 186.8	UNT to Sycamore Creek	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 187.6	Sycamore Creek	Perennial	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 187.9	UNT to Sycamore Creek	Perennial	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm AR	AP-1 / 189.1	Walton Fork	Intermittent	3 (AR)	3	Perm AR	NA	Unclassified		NA		
Buckingham County, VA	Perm AR	AP-1 / 189.1	Walton Fork	Intermittent		3	Perm AR	NA	Unclassified		NA		
Buckingham County, VA	Perm AR	AP-1 / 190	UNT to Walton Fork	Intermittent		3	Perm AR	NA	Unclassified		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments) [f]
Buckingham County, VA	Perm AR	AP-1 / 190	UNT to Walton Fork	Intermittent		3	Perm AR	NA	Unclassified		NA		
Buckingham County, VA	Perm AR	AP-1 / 190	UNT to Walton Fork	Intermittent		2	Perm AR	NA	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 190.1	Walton Fork	Perennial	11 (CL)	10	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 191	UNT to Ripley Creek	Perennial	18 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Temp CS	AP-1 / 191.5	UNT to Ripley Creek	Intermittent		4	Compressor Station - Temporary Impact	Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp CS	AP-1 / 191.5	UNT to Ripley Creek	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW	AP-1 / 191.9	UNT to Ripley Creek	Intermittent		2	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 193.1	UNT to Matthews Creek	Perennial	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 194.1	North River	Perennial	33 (CL)	30	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	No federal or state mussels observed during survey	Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 194.9	UNT to North River	Intermittent	18 (CL)	12	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 195.1	UNT to North River	Perennial	7 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm AR	AP-1 / 195.2	North River	Perennial		30	Perm AR	NA	Unclassified		NA	No federal or state mussels observed during survey	Pre-construction aquatic species relocations.
Buckingham County, VA	Perm AR	AP-1 / 195.3	North River	Perennial		30	Perm AR	NA	Unclassified		NA	No federal or state mussels observed during survey	Pre-construction aquatic species relocations.
Buckingham County, VA	Temp CY	AP-1 / 195.5	UNT to North River	Ephemeral		3	Contractor Yard - Temporary Impact	Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 195.5	UNT to North River	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 196.1	UNT to North River	Intermittent	1 (CL)	1	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 196.3	UNT to North River	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 196.9	UNT to Slate River	Ephemeral	1 (CL)	1	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm AR	AP-1 / 197.1	UNT to Slate River	Perennial	4 (AR)	4	Perm AR	NA	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 197.4	UNT to Slate River	Perennial	9 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW	AP-1 / 197.4	UNT to Slate River	Ephemeral		1	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 197.9	Slate River	Perennial	36 (CL)	19	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	No federal or state mussels observed during survey	Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW	AP-1 / 198.1	UNT to Slate River	Ephemeral	1 (CL)	1	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 198.1	UNT to Slate River	Perennial	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW	AP-1 / 198.1	UNT to Slate River	Ephemeral		1	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 198.3	UNT to Licky Branch	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 198.5	UNT to Licky Branch	Intermittent		1.5	Not Crossed by Centerline	In-stream; Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 198.5	Licky Branch	Perennial	19 (CL)	12	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW	AP-1 / 199.4	UNT to Licky Branch	Ephemeral		2	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 200.3	UNT to Pitman Creek	Intermittent	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 201.2	Horsepen Creek	Perennial	6 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 201.3	UNT to Horsepen Creek	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 201.8	UNT to Horsepen Creek	Intermittent	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 201.8	UNT to Horsepen Creek	Perennial	8 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 202.7	UNT to Willis River	Ephemeral	3 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 203.6	UNT to Willis River	Perennial	12 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 204.2	UNT to Willis River	Intermittent	2 (CL)		Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 204.5	UNT to Willis River	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW	AP-1 / 204.5	UNT to Willis River	Ephemeral	1 (CL)	1	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 204.7	UNT to Willis River	Perennial	13 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 204.8	UNT to Willis River	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 205.1	Willis River	Perennial	25 (CL)	30	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	No federal or state mussels observed during survey	Pre-construction aquatic species relocations.
Buckingham County, VA	Temp AR	AP-1 / 205.1	Willis River	Perennial	28 (AR)	25	Temp AR	NA	Unclassified		NA	Mussel survey pending	
Buckingham County, VA	Perm ROW, Temp AR, Temp ROW	AP-1 / 205.2	UNT to Willis River	Intermittent	3 (AR) 7 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW	AP-1 / 205.6	UNT to Willis River	Ephemeral		3	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 205.7	UNT to Willis River	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 205.7	UNT to Willis River	Perennial	10 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Temp ROW	AP-1 / 205.7	UNT to Willis River	Intermittent		4	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 205.9	UNT to Willis River	Perennial	5 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 205.9	UNT to Willis River	Intermittent	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 206.1	UNT to Willis River	Perennial	6 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW	AP-1 / 206.5	UNT to Willis River	Intermittent		1	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 206.9	UNT to Willis River	Perennial	9 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW	AP-1 / 207.1	UNT to Willis River	Intermittent		2	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 207.2	UNT to Willis River	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 207.3	UNT to Willis River	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 207.3	UNT to Willis River	Intermittent	10 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 207.4	UNT to Willis River	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 207.8	Bishop Creek	Perennial	8 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 208.2	UNT to Willis River	Perennial	34 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 208.6	UNT to Willis River	Intermittent	5 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 208.9	UNT to Little Willis River	Ephemeral	1 (CL)	1	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Temp ROW	AP-1 / 209.1	UNT to Little Willis River	Ephemeral		4	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW	AP-1 / 209.1	UNT to Little Willis River	Ephemeral	6 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Temp ROW	AP-1 / 209.1	UNT to Little Willis River	Ephemeral		4	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 209.2	UNT to Little Willis River	Intermittent	5 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 209.5	Little Willis River	Perennial	15 (CL)	25	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	No mussels observed during survey	Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 210	Unnamed Ditch	Canal/Ditch	16 (CL)		1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Temp ROW	AP-1 / 210	Unnamed Ditch	Canal/Ditch		5	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 210.2	Gills Creek	Perennial	11 (CL)	12	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 211	UNT to Little Willis River	Ephemeral	1 (CL)	1	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Buckingham County, VA	Perm AR	AP-1 / 211	UNT to Perkins Creek	Ephemeral		2	Perm AR	NA	Unclassified		NA		
Buckingham County, VA	Perm AR	AP-1 / 211	UNT to Perkins Creek	Ephemeral		2	Perm AR	NA	Unclassified		NA		
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 211.4	Perkins Creek	Perennial	25 (CL)	13	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Buckingham County, VA	Perm ROW, Temp ROW	AP-1 / 211.7	UNT to Little Willis River	Ephemeral	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 212	UNT to Little Willis River	Ephemeral	3 (CL)	3	Dam and Pump	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 212.2	UNT to Little Willis River	Intermittent	9 (CL)	12	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 212.4	UNT to Little Willis River	Intermittent	14 (CL)	4	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 212.9	UNT to Little Willis River	Ephemeral	4 (CL)	4	Dam and Pump	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW	AP-1 / 213	UNT to Little Willis River	Ephemeral		3	Not Crossed by Centerline	NA	Unclassified		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 213.7	UNT to Dry Creek	Ephemeral	6 (CL)	2	Dam and Pump	NA	Unclassified		NA		
Cumberland County, VA	Temp ROW	AP-1 / 213.9	UNT to Dry Creek	Intermittent		5	Not Crossed by Centerline	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 214	UNT to Dry Creek	Ephemeral	2 (CL)	2	Dam and Pump	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 214	UNT to Dry Creek	Ephemeral	2 (CL)	2	Dam and Pump	NA	Unclassified		NA		
Cumberland County, VA	Temp ROW	AP-1 / 214	UNT to Dry Creek	Intermittent		2	Not Crossed by Centerline	NA	Unclassified		NA		
Cumberland County, VA	Temp ROW	AP-1 / 214	UNT to Dry Creek	Intermittent		2	Not Crossed by Centerline	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 214.2	UNT to Dry Creek	Intermittent	4 (CL)	4	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 214.3	UNT to Dry Creek	Intermittent	4 (CL)	3	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 214.5	UNT to Dry Creek	Ephemeral	6 (CL)	2	Dam and Pump	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 214.6	UNT to Dry Creek	Intermittent	18 (CL)	5	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 214.8	UNT to Dry Creek	Perennial	14 (CL)	10	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 215	UNT to Dry Creek	Ephemeral	3 (CL)	2	Dam and Pump	NA	Unclassified		NA		
Cumberland County, VA	Temp ROW	AP-1 / 215.1	UNT to Dry Creek	Intermittent		3	Not Crossed by Centerline	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 215.1	UNT to Dry Creek	Ephemeral	4 (CL)	4	Dam and Pump	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 215.2	Dry Creek	Perennial	10 (CL)	9	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 215.2	UNT to Dry Creek	Ephemeral		1	Not Crossed by Centerline	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW	AP-1 / 215.4	UNT to Dry Creek	Ephemeral	3 (CL)	2	Dam and Pump	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW	AP-1 / 215.9	UNT to Green Creek	Intermittent		4	Not Crossed by Centerline	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 215.9	UNT to Green Creek	Ephemeral	3 (CL)	3	Dam and Pump	NA	Unclassified		NA		
Cumberland County, VA	Temp ROW	AP-1 / 215.9	UNT to Green Creek	Ephemeral		2	Not Crossed by Centerline	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 216.2	Green Creek	Perennial	10 (CL)	6	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 216.8	UNT to Green Creek	Perennial	7 (CL)	5	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 217	UNT to Green Creek	Intermittent	7 (CL)	6	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Temp ROW	AP-1 / 217.4	UNT to Green Creek	Intermittent		2	Not Crossed by Centerline	NA	Unclassified		NA		
Cumberland County, VA	Temp ROW	AP-1 / 217.6	UNT to Green Creek	Intermittent		2.5	Not Crossed by Centerline	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 217.6	UNT to Green Creek	Perennial	9 (CL)	5	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 217.6	UNT to Green Creek	Intermittent	2 (CL)	2	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 218.1	UNT to Green Creek	Ephemeral	1 (CL)	1	Dam and Pump	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 218.1	UNT to Green Creek	Perennial	18 (CL)	10	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 218.2	UNT to Green Creek	Intermittent	3 (CL)	3	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 218.4	UNT to Green Creek	Intermittent	3 (CL)	3	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 218.6	UNT to Green Creek	Ephemeral		2	Not Crossed by Centerline	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 218.7	UNT to Green Creek	Intermittent	3 (CL)	2	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Temp AR	AP-1 / 218.8	Green Creek	Perennial	14 (AR)	14	Temp AR	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 219.2	UNT to Green Creek	Perennial	39 (CL)	15	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Temp ROW, Temp TS	AP-1 / 219.4	UNT to Green Creek	Ephemeral		1	Not Crossed by Centerline	NA	Unclassified		NA		
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 219.4	Green Creek	Perennial	43 (CL)	18	1) Dam and Pump 2) Flume	NA	Unclassified		NA	No mussels observed during survey	Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 219.5	UNT to Green Creek	Intermittent	2 (CL)	2	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 219.6	UNT to Green Creek	Intermittent	3 (CL)	3	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Cumberland County, VA	Perm ROW, Temp ROW	AP-1 / 219.8	UNT to Green Creek	Intermittent	4 (CL)	3	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Cumberland County, VA	Perm ROW	AP-1 / 219.8	UNT to Green Creek	Intermittent		3	Not Crossed by Centerline	NA	Unclassified		NA		
Cumberland and Prince Edward Counties, VA	Perm ROW, Temp ROW	AP-1 / 220.8	Appomattox River	Perennial	107 (CL)	100	Cofferdam	In-stream; Within 1000 feet	Aquatic Life		May 15 to July 31	No federal or state mussels observed during survey / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Prince Edward County, VA	Perm ROW, Temp ROW	AP-1 / 221.6	UNT to Appomattox River	Perennial	9 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		May 15 to July 31	ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Prince Edward County, VA	Perm ROW	AP-1 / 221.7	UNT to Appomattox River	Ephemeral	2 (CL)	1	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		
Prince Edward County, VA	Perm ROW, Temp ROW	AP-1 / 221.8	UNT to Appomattox River	Perennial	14 (CL)	9	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		May 15 to July 31	ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Prince Edward County, VA	Perm ROW, Temp ROW	AP-1 / 222	UNT to Appomattox River	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Prince Edward County, VA	Perm ROW, Temp ROW	AP-1 / 222.1	UNT to Appomattox River	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Prince Edward County, VA	Perm ROW, Temp ROW	AP-1 / 222.2	UNT to Appomattox River	Perennial	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		May 15 to July 31	ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Prince Edward County, VA	Perm ROW, Temp ROW	AP-1 / 222.4	UNT to Appomattox River	Perennial	14 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		May 15 to July 31	ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Prince Edward County, VA	Perm ROW, Temp ROW	AP-1 / 222.5	UNT to Appomattox River	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Prince Edward County, VA	Perm ROW, Temp ROW	AP-1 / 222.6	UNT to Appomattox River	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Prince Edward County, VA	Perm ROW, Temp ROW	AP-1 / 223.2	Little Saylers Creek	Perennial	17 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	Mussel survey pending	Pre-construction aquatic species relocations.
Prince Edward County, VA	Perm ROW, Temp ROW	AP-1 / 223.4	UNT to Little Saylers Creek	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Prince Edward County, VA	Perm ROW	AP-1 / 223.8	UNT to Little Saylers Creek	Intermittent	2 (CL)	1.5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Prince Edward County, VA	Perm ROW, Temp ROW	AP-1 / 223.9	UNT to Little Saylers Creek	Perennial	6 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Prince Edward County, VA	Temp ROW	AP-1 / 223.9	UNT to Little Saylers Creek	Intermittent		4	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Prince Edward County, VA	Perm ROW, Temp ROW	AP-1 / 224.1	UNT to Little Saylers Creek	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Prince Edward County, VA	Perm ROW, Temp ROW	AP-1 / 225.2	UNT to Little Saylers Creek	Intermittent	3 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Prince Edward County, VA	Perm ROW, Temp ROW	AP-1 / 225.5	UNT to Little Saylers Creek	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 226.6	Saylers Creek	Perennial	12 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 227.2	UNT to Ellis Creek	Intermittent	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 227.6	UNT to Ellis Creek	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 227.8	UNT to Ellis Creek	Ephemeral	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 228.2	Ellis Creek	Perennial	5 (CL)	18	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	No mussels observed during survey	Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW	AP-1 / 228.6	UNT to Ellis Creek	Intermittent		2	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 228.8	UNT to Flat Creek	Intermittent	5 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 229	UNT to Flat Creek	Perennial	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 229.2	Flat Creek	Perennial	38 (CL)	20	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	No mussels observed during survey	Pre-construction aquatic species relocations.
Nottoway County, VA	Perm AR	AP-1 / 229.7	UNT to Flat Creek	Perennial	3 (AR)	3	Perm AR	NA	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 229.9	UNT to Flat Creek	Ephemeral		2	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Temp ROW	AP-1 / 230.7	UNT to Little Creek	Perennial		3	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 230.7	Little Creek	Perennial	10 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	No mussels observed during survey	Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 230.9	UNT to Little Creek	Ephemeral	2 (CL)	1	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 231	UNT to Little Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 231.8	UNT to West Creek	Ephemeral	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 231.8	UNT to West Creek	Perennial	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 231.9	UNT to West Creek	Intermittent	7 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Nottoway County, VA	Temp ROW	AP-1 / 232	UNT to West Creek	Perennial		3	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 232	UNT to West Creek	Perennial	7 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 232.2	UNT to West Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 232.4	UNT to West Creek	Perennial	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 232.4	UNT to West Creek	Perennial	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW	AP-1 / 232.7	UNT to West Creek	Intermittent		4	Not Crossed by Centerline	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 232.7	West Creek	Perennial	11 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 232.8	UNT to West Creek	Intermittent		1	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW	AP-1 / 233	UNT to West Creek	Ephemeral	3 (CL)	1	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 233	UNT to West Creek	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 233.1	UNT to West Creek	Ephemeral	5 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW	AP-1 / 233.1	UNT to West Creek	Ephemeral		3	Not Crossed by Centerline	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 233.4	UNT to Little West Creek	Perennial	8 (CL)	7	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 234.2	Little West Creek	Perennial	21 (CL)	15	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 234.3	UNT to Little West Creek	Intermittent	14 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 235.1	UNT to Deep Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 235.2	UNT to Deep Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 235.5	UNT to Deep Creek	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 235.7	UNT to Deep Creek	Ephemeral	6 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 235.7	UNT to Deep Creek	Perennial	6 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 236	Deep Creek	Perennial	26 (CL)	35	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	No federal or state mussels observed during survey	Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 236.1	UNT to Deep Creek	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 236.2	UNT to Deep Creek	Perennial	12 (CL)	7	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 236.5	UNT to Deep Creek	Intermittent	21 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 236.9	UNT to Deep Creek	Intermittent	5 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm AR	AP-1 / 236.9	UNT to Deep Creek	Intermittent		2	Perm AR	NA	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 237	UNT to Deep Creek	Perennial	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 237.4	UNT to Deep Creek	Perennial	3 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 238.2	UNT to Winningham Creek	Ephemeral	3 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Temp ROW	AP-1 / 238.6	Winningham Creek	Perennial		50	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 238.6	Winningham Creek	Perennial	10 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	No federal or state mussels observed during survey / additional mussel surveys pending	Pre-construction aquatic species relocations.
Nottoway County, VA	Temp ROW	AP-1 / 238.6	Winningham Creek	Perennial		10	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Temp ROW	AP-1 / 238.6	Winningham Creek	Perennial		50	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 238.8	UNT to Winningham Creek	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 239.1	UNT to Winningham Creek	Perennial	6 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 239.9	UNT to Woody Creek	Perennial	6 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Temp ROW	AP-1 / 239.9	UNT to Woody Creek	Ephemeral		2	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 239.9	UNT to Woody Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 240	Unnamed Pond to Woody Creek	Pond	Pond (AR / CL)		Pond	Within 1000 feet	NA		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 240.6	UNT to Woody Creek	Perennial	10 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	No mussels observed during survey	Pre-construction aquatic species relocations.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed[b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet)[c]	Survey/ Desktop Estimated OHWM Width (feet)[c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 240.6	UNT to Woody Creek	Intermittent	8 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 241.5	UNT to Watson Creek	Ephemeral	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 241.6	Watson Creek	Perennial	10 (CL)	10	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 242.6	UNT to Cellar Creek	Perennial	6 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 242.9	Cellar Creek	Perennial	14 (CL)	15	Flume	In-stream; Within 1000 feet	Unclassified		NA	No federal or state mussels observed during survey	Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 242.9	UNT to Cellar Creek	Intermittent	3 (CL)	3	Flume	In-stream; Within 1000 feet	Unclassified		NA	No federal or state mussels observed during survey	Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 244.2	Lees Creek	Perennial	14 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 244.5	UNT to Lees Creek	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 244.7	UNT to Lees Creek	Intermittent	10 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 244.9	UNT to Less Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 245.1	UNT to Less Creek	Intermittent	5 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 245.4	UNT to Bland Creek	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 245.4	UNT to Bland Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 245.5	UNT to Bland Creek	Perennial	5 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 245.6	UNT to Bland Creek	Perennial	16 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Temp ROW	AP-1 / 245.6	UNT to Bland Creek	Ephemeral		2	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 246	UNT to Bland Creek	Perennial	6 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 247	UNT to Bland Creek	Intermittent	5 (CL)	4	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, V-VIII		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 247.2	UNT to Bland Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 247.8	UNT to Tommeheton Creek	Ephemeral	3 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 248.2	UNT to Twin Lakes	Intermittent	8 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 248.4	UNT to Twin Lakes	Ephemeral	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Nottoway County, VA	Perm ROW, Temp ROW	AP-1 / 248.6	UNT to Twin Lakes	Ephemeral	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 249.1	UNT to Butterwood Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 249.1	Butterwood Creek	Perennial	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 249.6	UNT to Butterwood Creek	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW, Temp TS	AP-1 / 249.7	UNT to Butterwood Creek	Intermittent	1 (CL)	1	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 249.9	UNT to Butterwood Creek	Intermittent	8 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 250.2	UNT to Butterwood Creek	Ephemeral	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Dinwiddie County, VA	Perm ROW	AP-1 / 250.2	UNT to Butterwood Creek	Ephemeral		2	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Dinwiddie County, VA	Perm ROW	AP-1 / 250.2	UNT to Butterwood Creek	Ephemeral		2	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 250.5	UNT to Butterwood Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 250.7	UNT to Butterwood Creek	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 251.2	UNT to Butterwood Creek	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 251.5	UNT to Butterwood Creek	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW	AP-1 / 251.6	UNT to Butterwood Creek	Ephemeral		2	Not Crossed by Centerline	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 251.7	UNT to Butterwood Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 251.8	UNT to Butterwood Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 252	UNT to Butterwood Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 252.1	UNT to Butterwood Creek	Ephemeral	4 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 252.6	UNT to Butterwood Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 252.7	UNT to Butterwood Creek	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 253.9	Unnamed Ditch	Canal/Ditch	10 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 254	UNT to Butterwood Creek	Intermittent	25 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 254.3	UNT to Butterwood Creek	Intermittent	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Dinwiddie County, VA	Temp ROW	AP-1 / 254.4	UNT to Butterwood Creek	Pond	Pond (AR / CL)		Pond	Within 1000 feet	NA		NA		
Dinwiddie County, VA	Temp ROW	AP-1 / 254.5	UNT to Butterwood Creek	Intermittent		5	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 254.9	UNT to Butterwood Creek	Intermittent	3 (CL)	3	Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 255	UNT to Butterwood Creek	Intermittent	2 (CL)	2	Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 255.9	UNT to Beaver Pond Creek	Intermittent	3 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 256.2	UNT to Beaver Pond Creek	Perennial	8 (CL)	7	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 256.5	UNT to Beaver Pond Creek	Perennial	10 (CL)	7	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm AR	AP-1 / 256.6	UNT to Beaver Pond Creek	Perennial	7 (AR)	7	Perm AR	NA	Unclassified		NA		
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 256.7	UNT to Beaver Pond Creek	Perennial	5 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 256.8	UNT to Beaver Pond Creek	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW	AP-1 / 257.7	UNT to Beaver Pond Creek	Intermittent		5	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 259.3	Beaver Pond Creek	Perennial	7 (CL)	4	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA	Roanoke logperch survey pending	Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 259.9	UNT to Nottoway River	Intermittent	3 (CL)	3	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Dinwiddie County, VA	Perm ROW, Temp ROW	AP-1 / 260.3	UNT to Tommeheton Creek	Intermittent	18 (CL)	3.5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Dinwiddie and Brunswick Counties, VA	Perm ROW, Temp ROW	AP-1 / 260.7	Nottoway River	Perennial	96 (CL)	55	Cofferdam	In-stream pending FWS consult; Within 1000 feet	Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/May 15 to July 31/March 15 to May 31 and August 15 to October 15/March 15 to June 30/March 15-May 31 and August 15-September 30	Anadromous / ACP survey or Agency documented presence of sensitive species / full survey pending	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 260.8	UNT to Nottoway River	Ephemeral	7 (CL)	6	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Brunswick County, VA	Perm ROW	AP-1 / 261.3	UNT to Nottoway River	Ephemeral	1 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 261.5	UNT to Nottoway River	Intermittent	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 261.8	Miry Run	Perennial	7 (CL)	7	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA	No Roanoke logperch observed during survey	Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 262.5	Hickory Run	Perennial	8 (CL)	8	Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 262.6	UNT to Hickory Run	Intermittent	4 (CL)	4	Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 262.9	UNT to Hickory Run	Perennial	3 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW	AP-1 / 263.8	UNT to Hickory Run	Ephemeral		4	Not Crossed by Centerline	In-stream; Within 1000 feet	Unclassified		NA		
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 264.6	UNT to Great Branch	Perennial	6 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 264.7	UNT to Great Branch	Perennial	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm AR	AP-1 / 264.7	UNT to Great Branch	Perennial	13 (AR)	10	Perm AR	NA	Unclassified		NA		
Brunswick County, VA	Perm AR	AP-1 / 264.7	UNT to Great Branch	Perennial		3	Perm AR	NA	Unclassified		NA		
Brunswick County, VA	Perm ROW	AP-1 / 265.1	UNT to Great Branch	Intermittent		3	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 265.1	UNT to Great Branch	Perennial	5 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 265.1	UNT to Great Branch	Perennial	5 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 265.4	UNT to Great Branch	Intermittent	1 (CL)	1	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 265.6	UNT to Great Branch	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 265.6	UNT to Great Branch	Perennial	1 (CL)	1	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 265.8	UNT to Great Branch	Perennial	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 266.1	UNT to Waqua Creek	Perennial	8 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 266.3	UNT to Waqua Creek	Perennial	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 266.8	UNT to Waqua Creek	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 266.9	UNT to Waqua Creek	Intermittent	4 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 267.4	Waqua Creek	Perennial	38 (CL)	27	1) Flume 2) Cofferdam	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30	No federal or state mussels or Roanoke logperch observed during survey	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 267.5	UNT to Waqua Creek	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 267.9	Big Branch	Perennial	16 (CL)	15	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA	No Roanoke logperch observed during survey	Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 268.9	UNT to Waqua Creek	Perennial	11 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to Aquatic Life		March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 270	UNT to Beaver Branch	Perennial	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 270.5	Beaver Branch	Perennial	7 (CL)	7	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 270.8	UNT to Beaver Branch	Intermittent	3 (CL)	3	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW	AP-1 / 271.6	UNT to Sturgeon Creek	Intermittent	3 (CL)	2	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 271.9	UNT to Sturgeon Creek	Intermittent	2 (CL)	2	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 271.9	UNT to Sturgeon Creek	Perennial	2 (CL)	2	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life		May 15 to July 31	ACP survey or Agency documentec presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 272	Sturgeon Creek	Perennial	42 (CL)	40	1) Flume 2) Dam and Pump	In-stream pending FWS consult; Within 1000 feet	Aquatic Life		May 15 to July 31	ACP survey or Agency documentec presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Brunswick County, VA	Temp ROW	AP-1 / 272.6	UNT to Spring Branch	Intermittent		2	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 272.9	UNT to Spring Branch	Intermittent	5 (CL)	3	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW	AP-1 / 272.9	UNT to Spring Branch	Intermittent		3	Not Crossed by Centerline	In-stream; Within 1000 feet	Unclassified		NA		
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 273	Spring Branch	Perennial	10 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA	No Roanoke logperch observed during survey	Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 274.3	Spring Branch	Perennial	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Temp ROW	AP-1 / 274.9	Reedy Creek	Intermittent		5	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 275	UNT to Reedy Creek	Intermittent	6 (CL)	5	Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Temp ROW	AP-1 / 275	UNT to Reedy Creek	Pond	Pond (AR / CL)		Pond	Within 1000 feet	NA		NA		
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 276.1	UNT to Brunswick County Pond	Perennial	4 (CL)	4	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 276.2	UNT to Brunswick County Pond	Intermittent	2 (CL)	2	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW	AP-1 / 276.3	UNT to Brunswick County Pond	Perennial	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 276.7	UNT to Brunswick County Pond	Perennial	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 276.7	UNT to Brunswick County Pond	Perennial		1	Not Crossed by Centerline	In-stream; Within 1000 feet	Unclassified		NA		
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 276.8	UNT to Brunswick County Pond	Perennial	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 277	UNT to Brunswick County Pond	Perennial	2 (CL)	2	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 277.4	UNT to Brunswick County Pond	Perennial	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Temp ROW	AP-1 / 277.6	UNT to Brunswick County Pond	Intermittent		3	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 277.6	UNT to Brunswick County Pond	Perennial	10 (CL)	12	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 277.9	UNT to Reedy Creek	Intermittent	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed[b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet)[c]	Survey/ Desktop Estimated OHWM Width (feet)[c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 278.3	UNT to Reedy Creek	Intermittent	7 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 278.6	UNT to Reedy Creek	Perennial	4 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 278.9	UNT to Reedy Creek	Perennial	5 (CL)	4	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 278.9	UNT to Reedy Creek	Perennial	10 (CL)	3	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 279.3	UNT to Reedy Creek	Perennial	3 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 279.3	UNT to Reedy Creek	Perennial	2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 279.7	UNT to Reedy Creek	Perennial	8 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 280.1	UNT to Reedy Creek	Intermittent	3 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 280.2	UNT to Reedy Creek	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW	AP-1 / 280.4	UNT to Reedy Creek	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 280.5	UNT to Reedy Creek	Intermittent	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Brunswick County, VA	Perm AR	AP-1 / 281.5	UNT to Reedy Creek	Intermittent	5 (AR)	5	Perm AR	NA	Unclassified		NA		
Brunswick County, VA	Perm AR	AP-1 / 282.5	Greensville Creek	Intermittent	5 (AR)	5	Perm AR	NA	Unclassified		NA		
Brunswick County, VA	Perm AR	AP-1 / 282.7	UNT to Greensville Creek	Intermittent	5 (AR)	5	Perm AR	NA	Unclassified		NA		
Brunswick County, VA	Perm ROW, Temp ROW	AP-1 / 282.9	UNT to Greensville Creek	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 283	Greensville Creek	Perennial	13 (CL)	10	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 283.1	Greensville Creek	Perennial	19 (CL)	17	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 283.2	UNT to Greensville Creek	Intermittent	2 (CL)	1.5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 283.3	UNT to Greensville Creek	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 283.4	Unnamed Ditch	Canal/Ditch	11 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 284.2	UNT to Greensville Creek	Intermittent	5 (CL)	2.5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 285	UNT to Greensville Creek	Intermittent	19 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 285.7	UNT to Meadows Branch	Intermittent	5 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 285.9	UNT to Meherrin River	Intermittent	5 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Greensville County, VA	Temp ROW	AP-1 / 286.2	UNT to Meherrin River	Intermittent		3	Not Crossed by Centerline	Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 286.2	UNT to Meherrin River	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 286.3	Meherrin River	Perennial	183 (CL)	115	Cofferdam	In-stream pending FWS consult; Within 1000 feet	Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/May 15 to July 31/April 15 to June 15 and August 15 to September 30	Anadromous / No federal or state mussels observed during survey / ACP survey or Agency documentec presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Greensville County, VA	Perm AR	AP-1 / 286.6	UNT to Meherrin River	Intermittent		4	Perm AR	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 286.8	UNT to Meherrin River	Intermittent	27 (CL)	9	1) Flume 2) Open Cut	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 287	UNT to Meherrin River	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 288.5	UNT to Falling Run	Ephemeral	12 (CL)	2.5	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 288.5	Falling Run	Intermittent	8 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments) [f]
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 288.8	UNT to Falling Run	Intermittent	5 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 290	UNT to Fontaine Creek	Intermittent	3 (CL)	2.5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 290.4	UNT to Fontaine Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Greensville County, VA	Perm ROW	AP-1 / 290.4	Unnamed Ditch	Canal/Ditch	2 (CL)		Flume	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Greensville County, VA	Temp ROW	AP-1 / 293.4	Unnamed Ditch	Canal/Ditch		5	Not Crossed by Centerline	Within 1000 feet	Unclassified		NA		
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 293.5	Unnamed Ditch	Canal/Ditch	6 (CL)		Dam and Pump	In-stream; Within 1000 feet	Unclassified		NA		
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 295.7	UNT to Camey Swamp	Intermittent	6 (CL)	4	1) Flume 2) Open Cut	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 296.9	UNT to Fontaine Creek	Perennial	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 297.4	UNT to Fontaine Creek	Perennial	8 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Greensville County, VA	Perm AR	AP-1 / 297.6	UNT to Fontaine Creek	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Greensville County, VA	Perm AR	AP-1 / 297.6	UNT to Fontaine Creek	Perennial		2	Perm AR	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Greensville County, VA	Perm AR	AP-1 / 298.6	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	NA		NA		
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 299.4	UNT to Fontaine Creek	Perennial	19 (CL)	15	1) Dam and Pump 2) Flume 3) Open Cut	In-stream; Within 1000 feet	Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 299.4	UNT to Fontaine Creek	Perennial	12 (CL)	12	1) Dam and Pump 2) Flume 3) Open Cut	In-stream; Within 1000 feet	Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 299.6	UNT to Fontaine Creek	Intermittent	30 (CL)	20	1) Dam and Pump 2) Flume 3) Open Cut	In-stream; Within 1000 feet	Aquatic Life, Migratory fish Spawning and Nursery	E. Coli, Dissolved Oxygen, anc Mercury in Fish	February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-1 / 299.6	UNT to Fontaine Creek	Perennial	29 (CL)	40	1) Dam and Pump 2) Flume 3) Open Cut	In-stream; Within 1000 feet	Aquatic Life, Migratory fish Spawning and Nursery	E. Coli, Dissolved Oxygen, anc Mercury in Fish	February 15 to June 30	Anadromous / No federal or state mussels observed during survey	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Northampton County, NC	Perm ROW, Temp ROW	AP-2 / 0.4	UNT to Jacks Swamp	Intermittent	6 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-2 / 1.1	UNT to Jacks Swamp	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-2 / 1.9	Jacks Swamp	Perennial	30 (CL)	15	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	C, NSW		NA		
Northampton County, NC	Perm AR	AP-2 / 8.3	UNT to Trouble Field Creek	Intermittent		5	Perm AR	NA	C		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-2 / 8.5	UNT to Trouble Field Creek	Perennial	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Northampton County, NC	Perm AR	AP-2 / 8.5	UNT to Trouble Field Creek	Perennial		10	Perm AR	NA	C		NA		
Northampton County, NC	Perm AR	AP-2 / 8.5	UNT to Trouble Field Creek	Perennial		10	Perm AR	NA	C		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-2 / 8.8	UNT to Trouble Field Creek	Intermittent	5 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-2 / 9.6	UNT to Roanoke River	Perennial	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Northampton and Halifax Counties, NC	Perm ROW	AP-2 / 9.9	Roanoke River	Perennial	355 (CL)	360	HDD	Within 1000 feet	C		February 1 to June 30/August 15 through November 15	Anadromous / ACP survey or Agency documented presence of sensitive speciese / survey not required	Mussels and Atlantic sturgeon presence assumed; HDD crossing. Will adhere to time of year restrictions for work within the waterbody.
Halifax County, NC	Perm ROW, Temp ATWS, Temp ROW	AP-2 / 10.1	UNT to Roanoke River	Perennial	11 (CL)	16	Dam and Pump	In-stream; Within 1000 feet	C		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments) [f]
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 10.7	UNT to Roanoke River	Perennial	20 (CL)	22	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 11.4	UNT to Mush Island Gut	Perennial	26 (CL)	11	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 11.6	Mush Island Gut	Perennial	20 (CL)	20	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 11.8	Unnamed Pond	Pond	Pond (AR / CL)		Pond	In-stream; Within 1000 feet	NA		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 11.9	UNT to Mush Island Gut	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 11.9	UNT to Mush Island Gut	Intermittent	9 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 12.4	UNT to Mush Island Gut	Intermittent	5 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 12.4	UNT to Mush Island Gut	Intermittent	7 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 13.3	UNT to Mush Island Gut	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 13.6	UNT to Roanoke River	Perennial	9 (CL)	9	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 13.9	UNT to Roanoke River	Intermittent	8 (CL)	7	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 14	UNT to Roanoke River	Ephemeral	3 (CL)	2.5	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 14.1	UNT to the Roanoke River	Perennial	13 (CL)	10	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Temp ROW	AP-2 / 14.1	UNT to the Roanoke River	Perennial		6	Not Crossed by Centerline	Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 14.4	UNT to the Roanoke River	Perennial	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 14.6	UNT to the Roanoke River	Perennial	6 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 15.3	UNT to Little Quankey Creek	Perennial	17 (CL)	12	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 15.7	Little Quankey Creek	Perennial	14 (CL)	16	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	C		NA	No federal or state mussels or target aquatic species observed during survey	Pre-construction mussel species relocations.
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 16.9	Quankey Creek	Perennial	53 (CL)	10	Dam and Pump	In-stream; Within 1000 feet	C		NA	No federal or state mussels or target aquatic species observed during survey	Pre-construction aquatic species relocations.
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 17.4	UNT to Quankey Creek	Intermittent		3	Not Crossed by Centerline	Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 18.1	UNT to Marsh Swamp	Intermittent		6	Not Crossed by Centerline	Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW	AP-2 / 18.2	UNT to Marsh Swamp	Ephemeral		2	Not Crossed by Centerline	Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 18.2	UNT to Marsh Swamp	Ephemeral		2	Not Crossed by Centerline	Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 18.2	UNT to Marsh Swamp	Intermittent		6	Not Crossed by Centerline	Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp CY, Temp ROW	AP-2 / 18.5	UNT to Marsh Swamp	Perennial	12 (CL)	9	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Temp CY	AP-2 / 18.6	UNT to Marsh Swamp	Perennial		12	Contractor Yard - Temporary Impact	Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 20.1	Marsh Swamp	Perennial	15 (CL)	15	1) Flume 2) Open Cut	In-stream; Within 1000 feet	C, Sw, NSW		NA	No federal or state mussels or target aquatic species observed during survey	
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 20.5	UNT to Marsh Swamp	Intermittent	6 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 21	UNT to Marsh Swamp	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ATWS, Temp ROW	AP-2 / 21.9	UNT to Marsh Swamp	Perennial	24 (CL)	16	1) Flume 2) Open Cut	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 22.8	UNT to Beaverdam Swamp	Intermittent	5 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 23.1	Beaverdam Swamp	Perennial	63 (CL)	45	1) Flume 2) Open Cut	In-stream; Within 1000 feet	C, Sw, NSW		NA	Mussel, Carolina madtom, NC spiny crayfish survey pending / no Neuse River waterdogs observed during survey	
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 23.3	UNT to Beaverdam Swamp	Intermittent	4 (CL)	3	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 23.6	UNT to Beaverdam Swamp	Intermittent	4 (CL)	4	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 24	UNT to Beaverdam Swamp	Perennial	5 (CL)	5	1) Flume 2) Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 24.6	UNT to Burnt Coat Swamp	Perennial	39 (CL)	20	1) Flume 2) Open Cut	In-stream; Within 1000 feet	C		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 25	UNT to Burnt Coat Swamp	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 26.6	Burnt Coat Swamp	Perennial	9 (CL)	8	1) Flume 2) Open Cut	In-stream; Within 1000 feet	C, Sw, NSW		NA	No mussel or target aquatic species observed during survey	
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 26.9	UNT to Burnt Coat Swamp	Intermittent	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 27.4	Jacket Swamp	Perennial	28 (CL)	25	1) Flume 2) Open Cut	In-stream; Within 1000 feet	C		NA	Mussel, Carolina madtom, NC spiny crayfish, and Neuse River waterdog survey pending	
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 27.7	UNT to Jacket Swamp	Intermittent	5 (CL)	5	1) Flume 2) Open Cut	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 28.9	UNT to Breeches Swamp	Intermittent	33 (CL)	26	1) Flume 2) Open Cut	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 29.1	UNT to Breeches Swamp	intermittent	26 (CL)	20	1) Flume 2) Open Cut	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 29.8	Breeches Swamp	Perennial	16 (CL)	15	1) Flume 2) Open Cut	In-stream; Within 1000 feet	C, Sw, NSW		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 30.6	UNT to Rocky Swamp	Intermittent		6	Not Crossed by Centerline	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 31	UNT to Rocky Swamp	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW	AP-2 / 31.2	UNT to Rocky Swamp	Intermittent		4	Not Crossed by Centerline	Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 31.2	UNT to Rocky Swamp	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 32	Rocky Swamp	Perennial	22 (CL)	26	Open Cut	In-stream; Within 1000 feet	WSIV, NSW		NA	No federal or state mussel species observed during survey / ACP survey or Agency documented presence of sensitive species	Pre-construction mussel species relocations.
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 32.7	UNT to Rocky Swamp	Intermittent	7 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm ROW, Temp ROW	AP-2 / 32.8	UNT to Rocky Swamp	Intermittent	9 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Halifax County, NC	Perm AR	AP-2 / 33.5	UNT to Fishing Creek	Perennial		4	Perm AR	NA	C		NA		
Halifax County, NC	Perm ROW	AP-2 / 33.7	UNT to Fishing Creek	Perennial	8 (CL)	8	HDD	Within 1000 feet	C		NA		
Halifax and Nash Counties, NC	Perm ROW	AP-2 / 33.9	Fishing Creek	Perennial	106 (CL)	40	HDD	Within 1000 feet	WSIV, NSW		February 15 to June 30	Anadromous / ACP survey or Agency documented presence of sensitive species	Revised to HDD crossing per agency request. Will adhere to time of year restrictions for work within the waterbody.
Nash County, NC	Perm ROW	AP-2 / 34.8	UNT to fishing Creek	Intermittent		3	Not Crossed by Centerline	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 34.8	UNT to fishing Creek	Intermittent	5 (CL)	5	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 35.1	UNT to fishing Creek	Intermittent	4 (CL)	4	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 36.6	UNT to Black Swamp	Perennial	43 (CL)	10	1) Dam and Pump 2) Flume	NA	WSIV, NSW		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 37	Black Swamp	Perennial	21 (CL)	25	1) Dam and Pump 2) Flume	NA	WSIV, NSW		NA	No live mussels observed, no state or federal target aquatic species observed during survey	
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 39.7	UNT to Swift Creek	Intermittent	2 (CL)	2	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 39.9	UNT to Swift Creek	Intermittent	5 (CL)	4	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 40.3	UNT to Swift Creek	Perennial	6 (CL)	6	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 40.6	Swift Creek	Perennial	126 (CL)	130	HDD	NA	C, NSW		February 15 to June 30	Anadromous / ACP survey or Agency documented presence of sensitive species	Revised to HDD crossing per agency request. Will adhere to time of year restrictions for work within the waterbody.
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 40.9	UNT to Flat Rock Branch	Perennial	9 (CL)	8	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 41.6	UNT to Flat Rock Branch	Perennial	7 (CL)	6	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 41.7	UNT to Flat Rock Branch	Perennial	4 (CL)	4	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 42	UNT to Flat Rock Branch	Intermittent	4 (CL)	4	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 42.1	UNT to Flat Rock Branch	Perennial	68 (CL)	10	1) Flume 2) Open Cut	NA	C, NSW		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 42.2	UNT to Flat Rock Branch	Perennial	9 (CL)	4	1) Flume 2) Open Cut	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 42.8	UNT to Flat Rock Branch	Intermittent	3 (CL)	3	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW	AP-2 / 44	UNT to Flat Rock Branch	Intermittent		3	Not Crossed by Centerline	NA	C		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 44.4	Flat Rock Branch	Perennial	6 (CL)	8	1) Flume 2) Open Cut	NA	C, NSW		NA	No state or federal mussel or targe aquatic species observed during survey	Pre-construction aquatic species relocations.
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 44.8	Flat Rock Branch	Perennial	7 (CL)	6	1) Flume 2) Open Cut	NA	C, NSW		NA	No state or federal mussel or targe aquatic species observed during survey	Pre-construction aquatic species relocations.
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 47.2	UNT to Pig Basket Creek	Perennial	5 (CL)	4	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 47.6	Pig Basket Creek	Perennial	30 (CL)	25	1) Dam and Pump 2) Flume 3) Open Cut	NA	C, NSW		NA	No state or federal mussel or targe aquatic species observed during survey	Pre-construction aquatic species relocations.
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 47.6	UNT to Pig Basket Creek	Intermittent	9 (CL)	9	1) Dam and Pump 2) Open Cut	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 48.3	UNT to Stony Creek	Intermittent	18 (CL)	5	1) Dam and Pump 2) Open Cut	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 48.7	UNT to Stony Creek	Intermittent	6 (CL)	5	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 48.7	Stony Creek	Perennial	10 (CL)	10	1) Dam and Pump 2) Flume	NA	C		NA	No state or federal mussel or targe aquatic species observed during survey / ACP survey or Agency documented presence of sensitive species	Pre-construction aquatic species relocations.
Nash County, NC	Temp ROW	AP-2 / 49.2	UNT to Stony Creek	Perennial		4	Not Crossed by Centerline	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 49.5	UNT to Stony Creek	Perennial	8 (CL)	6	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 50.2	UNT to Stony Creek	Perennial	19 (CL)	8	1) Dam and Pump 2) Flume	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 50.2	UNT to Stony Creek	Perennial	6 (CL)	6	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 50.2	UNT to Stony Creek	Perennial		8	Not Crossed by Centerline	NA	C		NA		
Nash County, NC	Temp ROW	AP-2 / 50.7	UNT to Stony Creek	Perennial		4	Not Crossed by Centerline	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 50.8	UNT to Stony Creek	Perennial	4 (CL)	4	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 51.5	UNT to Sapony Creek	Perennial	17 (CL)	6	1) Dam and Pump 2) Flume	NA	WSIV, NSW		NA	ACP survey or Agency documentec presence of sensitive species	
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 51.6	UNT to Sapony Creek	Perennial	6 (CL)	5	Dam and Pump	NA	C		NA	ACP survey or Agency documentec presence of sensitive species	
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 53.3	UNT to Sapony Creek	Perennial	24 (CL)	10	1) Dam and Pump 2) Flume 3) Open Cut	NA	C		NA	Mussel, Carolina madtom, NC spiny crayfish, and Neuse River waterdog survey pending / ACP survey or Agency documented presence of sensitive species	
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 54	Little Sapony Creek	Perennial	33 (CL)	10	1) Dam and Pump 2) Flume 3) Open Cut	NA	WSIV, NSW		NA	Mussel, Carolina madtom, NC spiny crayfish survey pending / no Neuse River waterdogs observed during survey	
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 54.9	UNT to Sapony Creek	Perennial	8 (CL)	8	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 56.1	UNT to Sapony Creek	Perennial	14 (CL)	8	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 56.3	Sapony Creek	Perennial	38 (CL)	20	1) Dam and Pump 2) Flume 3) Open Cut	NA	WSIV, NSW		NA	Mussel, Carolina madtom, NC spiny crayfish survey pending. No Neuse River waterdogs observed during survey.	
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 56.6	UNT to Sapony Creek	Perennial	24 (CL)	10	1) Flume 2) Open Cut	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 57	UNT to Sapony Creek	Intermittent	10 (CL)	7	1) Flume 2) Open Cut	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 57.1	UNT to Sapony Creek	Perennial	8 (CL)	10	Flume	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 58.8	UNT to Tar River	Perennial	3 (CL)	3	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 59.1	UNT to Tar River	Intermittent	8 (CL)	3	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW	AP-2 / 59.1	UNT to Tar River	Intermittent	3 (CL)	3	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW	AP-2 / 59.4	Tar River	Perennial	159 (CL)	130	HDD	NA	WSIV, NSW		February 15 to June 30	Anadromous / ACP survey or Agency documented presence of sensitive species	Revised to HDD crossing per agency request. Surveys performed per agency request. Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Nash County, NC	Perm GB, Perm ROW, Temp GB, Temp ROW	AP-2 / 60.4	UNT to Tar River	Ephemeral	3 (CL)	2	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 60.8	Little Swamp	Perennial	8 (CL)	13	1) Dam and Pump 2) Flume 3) Open Cut	NA	WSIII, NSW		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 61.9	UNT to Toisnot Swamp	Ephemeral	3 (CL)	3	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW	AP-2 / 62.7	UNT to Toisnot Swamp	Intermittent	2 (CL)	2	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 62.8	Toisnot Swamp	Pond	Pond (AR / CL)	40	Pond	NA	NA		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 62.8	Toisnot Swamp	Perennial	31 (CL)	25	Flume	NA	WSIII, NSW		NA	No federal or state mussel or targe aquatic species observed during survey	Pre-construction aquatic species relocations.
Nash County, NC	Perm ROW	AP-2 / 62.9	Toisnot Swamp	Pond	Pond (AR / CL)	40	Pond	NA	NA		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 63	UNT to Toisnot Swamp	Ephemeral	4 (CL)	2	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 63.3	UNT to Beaverdam Creek	Ephemeral	2 (CL)	2	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 63.3	UNT to Beaverdam Creek	Intermittent	5 (CL)	5	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 63.5	UNT to Beaverdam Creek	Ephemeral	6 (CL)	6	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 64.5	UNT to Bloomery Swamp	Ephemeral	2 (CL)	2	Dam and Pump	NA	C		NA		
Nash County, NC	Temp ROW	AP-2 / 64.6	Unnamed Pond	Pond	Pond (AR / CL)	30	Pond	NA	NA		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 65.1	UNT to Bloomery Swamp	Perennial	8 (CL)	8	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 65.2	UNT to Bloomery Swamp	Perennial	6 (CL)	8	Dam and Pump	NA	C		NA		
Nash County, NC	Perm ROW, Temp ROW	AP-2 / 65.6	UNT to Bloomery Swamp	Ephemeral	2 (CL)	2	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 66	Bloomery Swamp	Perennial	18 (CL)	17	Flume	NA	C, NSW		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 66.1	UNT to Bloomery Swamp	Perennial	9 (CL)	8	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 66.3	UNT to Bloomery Swamp	Intermittent	8 (CL)	4	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 66.9	Millstone Creek	Perennial	5 (CL)	10	1) Dam and Pump 2) Flume	NA	C		NA	ACP survey or Agency documentec presence of sensitive species / Neuse River waterdog survey pending	Pre-construction aquatic species relocations.
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 66.9	UNT to Millstone Creek	Intermittent		5	Not Crossed by Centerline	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 67.7	UNT to Millstone Creek	Intermittent	8 (CL)	2	1) Dam and Pump 2) Open Cut	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 67.8	UNT to Millstone Creek	Perennial	2 (CL)	1.5	1) Dam and Pump 2) Open Cut	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 68.3	UNT to Marsh Swamp	Intermittent	5 (CL)	5	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 69.1	UNT to Marsh Swamp	Perennial	22 (CL)	6	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 69.3	UNT to Marsh Swamp	Perennial	9 (CL)	5	1) Dam and Pump 2) Open Cut	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 69.5	UNT to Marsh Swamp	Intermittent	5 (CL)	5	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 69.7	Marsh Swamp	Perennial	9 (CL)	8	1) Dam and Pump 2) open Cut	NA	C, NSW		NA	ACP survey or Agency documentec presence of sensitive species	Pre-construction aquatic species relocations.
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 70.4	UNT to Marsh Swamp	Perennial	4 (CL)	4	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 70.5	UNT to Marsh Swamp	Perennial	9 (CL)	5	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 70.9	UNT to Marsh Swamp	Perennial	20 (CL)	4	1) Dam and Pump 2) Open Cut	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 71	UNT to Marsh Swamp	Perennial	16 (CL)	20	1) Dam and Pump 2) Flume 3) Open Cut	NA	C		NA	No federal or state mussel or targe aquatic species observed during survey	Pre-construction aquatic species relocations.
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 71	UNT to Marsh Swamp	Intermittent	10 (CL)	10	1) Dam and Pump 2) Open Cut	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 71.8	UNT to Contentnea Creek	Intermittent	4 (CL)	4	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 72.2	UNT to Contentnea Creek	Ephemeral	10 (CL)	3	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 72.3	UNT to Contentnea Creek	Intermittent	5 (CL)	5	Dam and Pump	NA	C		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 72.5	Unnamed Ditch	Canal/Ditch	11 (CL)	5	Dam and Pump	NA	Unclassified		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 73.1	UNT to Contentnea Creek	Perennial	4 (CL)	3	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 73.3	UNT to Contentnea Creek	Perennial	6 (CL)	3	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 73.4	UNT to Contentnea Creek	Perennial	5 (CL)	3	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 73.6	Contentnea Creek	Perennial	53 (CL)	40	HDD	NA	WSV, NSW		February 15 to June 30	Anadromous / ACP survey or Agency documented presence of sensitive species	Revised to HDD crossing per agency request. Will adhere to time of year restrictions for work within the waterbody.
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 73.9	UNT to Contentnea Creek	Intermittent	3 (CL)	3	1) Dam and Pump 2) Flume	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 74.1	UNT to Contentnea Creek	Intermittent	7 (CL)	2	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 74.6	UNT to Buckhorn Branch	Ephemeral	3 (CL)	3	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 74.9	UNT to Buckhorn Reservoir	Ephemeral	5 (CL)	4	1) Dam and Pump 2) Open Cut	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 75.8	UNT to Buckhorn Branch	Perennial	5 (CL)	4.5	Dam and Pump	NA	C		NA		
Wilson County, NC	Perm ROW, Temp ROW	AP-2 / 75.8	UNT to Buckhorn Branch	Intermittent		3	Not Crossed by Centerline	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 78.9	UNT to Little Buffalo Creek	Ephemeral	2 (CL)	2	Dam and Pump	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 78.9	UNT to Little Buffalo Creek	Ephemeral	2 (CL)	2	Dam and Pump	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 79.2	UNT to Little Buffalo Creek	Perennial	9 (CL)	5	1) Dam and Pump 2) Flume	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 79.3	UNT to Little Buffalo Creek	Perennial	17 (CL)	5	Dam and Pump	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 79.5	Little Buffalo Creek	Perennial	30 (CL)	20	1) Dam and Pump 2) Flume 3) Open Cut	NA	C, NSW		NA	No mussel or target aquatic species observed during survey	
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 81	UNT to Little River	Intermittent	3 (CL)	1.5	1) Dam and Pump 2) Open Cut	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 82	UNT to Little River	Intermittent	5 (CL)	5	Dam and Pump	NA	C		NA		
Johnston County, NC	Perm ROW	AP-2 / 82.5	UNT to Little River	Intermittent	2 (CL)	2	HDD	NA	C		NA		
Johnston County, NC	Perm ROW	AP-2 / 82.5	Little River	Perennial	58 (CL)	50	HDD	NA	WSV, NSW		February 15 to June 30	Anadromous / ACP survey or Agency documented presence of sensitive species / Neuse River waterdog survey pending	Revised to HDD crossing per agency request. Will adhere to time of year restrictions for work within the waterbody.
Johnston County, NC	Perm ROW	AP-2 / 82.6	UNT to Little River	Intermittent	6 (CL)	6	HDD	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 83.4	UNT to Buffalo Creek	Perennial	6 (CL)	6	1) Dam and Pump 2) Flume	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 83.5	UNT to Buffalo Creek	Intermittent	3 (CL)	3	1) Dam and Pump 2) Flume	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 84.6	Big Branch	Intermittent	15 (CL)	6	1) Dam and Pump 2) Open Cut	NA	C, NSW		NA		
Johnston County, NC	Temp GB	AP-2 / 84.6	UNT to Big Branch	Intermittent		5	Not Crossed by Centerline	NA	C, NSW		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 85.9	UNT to Little Creek	Perennial	8 (CL)	8	1) Dam and Pump 2) Open Cut	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 86.5	Little Creek	Perennial	5 (CL)	4	1) Dam and Pump 2) Open Cut	NA	C, NSW		NA	ACP survey or Agency documentec presence of sensitive species / Mussel, Carolina madtom, NC spiny crayfish, and Neuse River waterdog survey pending	
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 87.3	UNT to Moccasin Creek	Intermittent	3 (CL)	3	Dam and Pump	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 88.9	UNT to Moccasin Creek	Intermittent	3 (CL)	3	Dam and Pump	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 89.7	Moccasin Creek	Perennial	17 (CL)	12	1) Dam and Pump 2) Flume	NA	C, NSW	Ecological/biological Integrity Benthos	NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 91.2	UNT to Bawdy Swamp	Intermittent	2 (CL)	2	Dam and Pump	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 92.1	Bawdy Swamp	Perennial	8 (CL)	8	Conventional Bore (with US70 Business crossing)	NA	C, NSW		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 93.6	UNT to Mill Branch	Intermittent	14 (CL)	4	Dam and Pump	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 95.1	UNT to Polecat Branch	Intermittent	8 (CL)	6	Dam and Pump	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 95.3	UNT to Polecat Branch	Intermittent		4	Not Crossed by Centerline	NA	C		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Johnston County, NC	Temp ROW	AP-2 / 95.8	UNT to Polecat Branch	Intermittent		4	Not Crossed by Centerline	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 96.3	UNT to Polecat Branch	Perennial	4 (CL)	4	Dam and Pump	NA	C		NA		
Johnston County, NC	Temp CY	AP-2 / 96.4	UNT to Polecat Branch	Intermittent		4	Contractor Yard - Temporary Impact	NA	C		NA		
Johnston County, NC	Perm AR	AP-2 / 97.2	UNT to Polecat Branch	Intermittent	5 (AR)	5	Perm AR	NA	C		NA		
Johnston County, NC	Perm AR	AP-2 / 97.2	UNT to Polecat Branch	Intermittent	6 (AR)	5	Perm AR	NA	C		NA		
Johnston County, NC	Perm AR, Perm ROW, Temp ROW	AP-2 / 97.5	Polecat Branch	Perennial	12 (AR) 9 (CL)	8	1) Dam and Pump 2) Flume	NA	C		NA	No mussels or target aquatic species observed during survey	
Johnston County, NC	Perm AR, Perm ROW, Temp ROW	AP-2 / 97.7	UNT to Polecat Branch	Intermittent	10 (AR) 10 (CL)	10	1) Dam and Pump 2) Flume	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 98.1	UNT to Neuse River	Perennial	49 (CL)	26	1) Dam and Pump 2) Flume	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 98.5	Neuse River	Perennial	151 (CL)		Open Cut	NA	WSV, NSW		February 1 to June 30	Anadromous / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 98.6	UNT to Neuse River	Intermittent	6 (CL)	5	Dam and Pump	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ATWS, Temp ROW	AP-2 / 98.7	Unnamed Pond to Neuse River	Pond	Pond (AR / CL)		Pond	NA	NA		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 98.8	UNT to Neuse River	Intermittent	17 (CL)	5	Dam and Pump	NA	C		NA		
Johnston County, NC	Temp ROW	AP-2 / 98.9	UNT to Neuse River	Intermittent		5	Not Crossed by Centerline	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 99.7	Unnamed Ditch	Canal/Ditch	5 (CL)		Flume	NA	Unclassified		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 100.9	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	NA		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 101.3	Hannah Creek	Perennial	17 (CL)	19	1) Dam and Pump 2) Open Cut	NA	C, NSW		NA	No mussels or target aquatic species observed during survey	
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 102.4	UNT to Hannah Creek	Intermittent	1 (CL)	1	Dam and Pump	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 102.8	UNT to Hannah Creek	Intermittent	4 (CL)	4	1) Dam and Pump 2) Open Cut	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 102.8	UNT to Hannah Creek	Perennial	4 (CL)	4	1) Dam and Pump 2) Open Cut	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 103.9	UNT to Hannah Creek	Perennial	4 (CL)	4	1) Dam and Pump 2) Open Cut	NA	C		NA		
Johnston County, NC	Temp ROW	AP-2 / 104.4	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	NA		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 105.1	Whiteoak Branch	Perennial	11 (CL)	13	1) Dam and Pump 2) Flume 3) Open Cut	NA	C, NSW		NA	No mussels or target aquatic species observed during survey	
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 106.8	Stone Creek	Perennial	23 (CL)	17	1) Dam and Pump 2) Flume 3) Open Cut	NA	C, NSW		NA	No mussels or target aquatic species observed during survey	
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 107.6	Johnson Swamp	Perennial	13 (CL)	16	1) Dam and Pump 2) Flume 3) Open Cut	NA	C, NSW		NA	No federal or state mussels or target aquatic species observed during survey, additional survey pending	Pre-construction aquatic species relocations.
Johnston County, NC	Temp ROW	AP-2 / 108.1	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	NA		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 110.5	UNT to John K Swamp	Ephemeral	3 (CL)	3	1) Dam and Pump 2) Open Cut	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 110.6	John K. Swamp	Perennial	21 (CL)	20	Flume	NA	C, NSW		NA	Mussels, Carolina madtom, and NC spiny crayfish survey pending / no Neuse River waterdogs observed during survey	Pre-construction aquatic species relocations.
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 113.1	Mill Branch	Intermittent	8 (CL)	7	Dam and Pump	NA	C, NSW		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 114.2	UNT to Mill Creek	Intermittent	7 (CL)	5	Dam and Pump	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ROW	AP-2 / 114.2	UNT to Mill Creek	Intermittent	5 (CL)	5	Dam and Pump	NA	C		NA		
Johnston County, NC	Perm ROW, Temp ATWS, Temp ROW	AP-2 / 114.6	Jumping Run	Perennial	33 (CL)	10	1) Dam and Pump 2) Flume 3) Open Cut	NA	C, NSW		NA		
Johnston County, NC	Perm ROW, Temp ROW, Temp TS	AP-2 / 114.7	UNT to Mill Creek	Intermittent	34 (CL)	5	Dam and Pump	NA	C		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Sampson County, NC	Perm ROW, Temp ROW	AP-2 / 115.4	UNT to Big Juniper Run	Ephemeral	5 (CL)	3	Dam and Pump	NA	C		NA		
Sampson County, NC	Perm ROW, Temp ROW	AP-2 / 116.9	Little Juniper Run	Perennial	8 (CL)	8	1) Dam and Pump 2) Open Cut	NA	C, Sw		NA		
Sampson County, NC	Perm ROW, Temp ROW	AP-2 / 117.2	Big Juniper Run	Perennial	17 (CL)	12	1) Dam and Pump 2) Flume 3) Open Cut	NA	C, Sw		NA		
Sampson County, NC	Perm ROW, Temp ROW	AP-2 / 118.9	Beaverdam Swamp	Perennial	35 (CL)	9	1) Dam and Pump 2) Open Cut	NA	C, Sw		NA		
Sampson County, NC	Perm ROW, Temp ROW	AP-2 / 119.3	Beaverdam Swamp	Perennial	33 (CL)	10	1) Dam and Pump 2) Flume 3) Open Cut	NA	C, Sw		NA		
Sampson County, NC	Perm ROW, Temp ROW	AP-2 / 119.7	Beaverdam Swamp	Perennial	Wetland-Waterbody Complex (CL)	25	1) Dam and Pump 2) Flume 3) Open Cut	NA	C, Sw		NA		
Sampson County, NC	Perm ROW, Temp ROW	AP-2 / 120.9	UNT to Beaverdam Swamp	Intermittent	12 (CL)	10	Flume	NA	C		NA		
Sampson County, NC	Perm ROW, Temp ROW	AP-2 / 121.9	UNT to Starlins Swamp	Intermittent	8 (CL)	2	1) Dam and Pump 2) Open Cut	NA	C		NA		
Sampson County, NC	Perm ROW, Temp ROW	AP-2 / 121.9	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	NA		NA		
Sampson County, NC	Perm ROW, Temp ROW	AP-2 / 122.2	Starlins Swamp	Perennial	25 (CL)	15	1) Dam and Pump 2) Open Cut	NA	C, Sw		NA		
Sampson County, NC	Perm ROW, Temp ROW	AP-2 / 122.3	Starlins Swamp	Perennial	Wetland-Waterbody Complex (CL)	20	1) Dam and Pump 2) Open Cut	NA	C, Sw		NA		
Sampson County, NC	Perm AR	AP-2 / 122.5	UNT to Mingo Swamp	Intermittent		4	Perm AR	NA	C		NA		
Sampson County, NC	Perm AR	AP-2 / 122.5	UNT to Mingo Swamp	Intermittent		4	Perm AR	NA	C		NA		
Sampson County, NC	Perm AR	AP-2 / 122.5	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	NA		NA		
Sampson County, NC	Perm AR	AP-2 / 122.5	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	NA		NA		
Sampson County, NC	Perm ROW, Temp ROW	AP-2 / 122.7	Mingo Swamp	Perennial	13 (CL)	17	Flume	NA	C, Sw		NA		
Cumberland County, NC	Perm AR	AP-2 / 123	UNT to Mingo Swamp	Perennial	20 (AR)	12	Perm AR	NA	C		NA		
Cumberland County, NC	Perm AR	AP-2 / 123.1	UNT to Mingo Swamp	Perennial		10	Perm AR	NA	C		NA		
Cumberland County, NC	Perm AR	AP-2 / 123.1	UNT to Mingo Swamp	Perennial		10	Perm AR	NA	C		NA		
Cumberland County, NC	Perm AR	AP-2 / 123.1	UNT to Mingo Swamp	Perennial		10	Perm AR	NA	C		NA		
Cumberland County, NC	Perm AR	AP-2 / 123.1	UNT to Mingo Swamp	Perennial		10	Perm AR	NA	C		NA		
Cumberland County, NC	Perm AR	AP-2 / 123.1	UNT to Mingo Swamp	Perennial		10	Perm AR	NA	C		NA		
Cumberland County, NC	Perm AR	AP-2 / 123.1	UNT to Mingo Swamp	Perennial	8 (AR)	7	Perm AR	NA	C		NA		
Cumberland County, NC	Perm AR	AP-2 / 123.1	UNT to Mingo Swamp	Perennial		10	Perm AR	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 123.1	UNT to Mingo Swamp	Perennial	67 (CL)	16	Flume	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 124.5	Black River	Perennial	33 (CL)	10	1) Dam and Pump 2) Flume 3) Open Cut	NA	C, Sw		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 125.2	UNT to Black River	Intermittent	7 (CL)	5	1) Dam and Pump 2) Open Cut	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 125.8	UNT to Cape Fear River	Ephemeral	8 (CL)	8	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Temp ROW	AP-2 / 125.8	UNT to Cape Fear River	Intermittent		10	Not Crossed by Centerline	NA	C		NA		
Cumberland County, NC	Perm AR	AP-2 / 126.7	UNT to Cape Fear River	Ephemeral	4 (AR)	4	Perm AR	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 126.7	UNT to Cape Fear River	Ephemeral	4 (CL)	4	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm AR, Perm ROW, Temp ROW	AP-2 / 126.8	UNT to Cape Fear River	Perennial	8 (AR) 19 (CL)	8	1) Dam and Pump 2) Open Cut	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 127.3	UNT to Cape Fear River	Perennial	25 (CL)	6	1) Dam and Pump 2) Open Cut	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 129	UNT to Cape Fear Rive	Intermittent	3 (CL)	3	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 129.4	UNT to Cape Fear River	Perennial	7 (CL)	7	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 129.6	UNT to Cape Fear River	Perennial		30	Not Crossed by Centerline	NA	C		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 129.6	UNT to Cape Fear River	Perennial	7 (CL)	10	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Temp ROW	AP-2 / 129.7	UNT to Cape Fear River	Ephemeral		3	Not Crossed by Centerline	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 130.1	UNT to Cape Fear River	Intermittent	3 (CL)	3	1) Dam and Pump 2) Open Cut	NA	C		NA		
Cumberland County, NC	Perm AR	AP-2 / 131.1	UNT to Cape Fear River	Intermittent	4 (AR)	4	Perm AR	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 131.5	UNT to Cape Fear River	Perennial	6 (CL)	5	Dam and Pump	NA	C		NA		
Cumberland County, NC	Temp ROW	AP-2 / 131.6	UNT to Cape Fear River	Ephemeral		3	Not Crossed by Centerline	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 131.7	UNT to Cape Fear River	Intermittent	3 (CL)	2.5	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 131.7	UNT to Cape Fear River	Intermittent	5 (CL)	4	Dam and Pump	NA	C		NA		
Cumberland County, NC	Temp ROW	AP-2 / 131.8	UNT to Cape Fear River	Intermittent		3	Not Crossed by Centerline	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 132.7	UNT to Cape Fear River	Intermittent	9 (CL)	9	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 132.8	UNT to Cape Fear River	Perennial	24 (CL)	4	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Temp ROW	AP-2 / 132.8	UNT to Cape Fear River	Perennial		4	Not Crossed by Centerline	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 132.8	UNT to Cape Fear River	Perennial	4 (CL)	4	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Perm MR	AP-2 / 132.9	UNT to Cape Fear River	Perennial		15	M&R Workspace	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 133.2	UNT to Cape Fear River	Perennial	39 (CL)	15	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 133.4	UNT to Cape Fear River	Intermittent	3 (CL)	3	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 133.8	UNT to Cape Fear River	Intermittent	11 (CL)	6	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 133.9	UNT to Cape Fear River	Ephemeral	3 (CL)	3	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 134.2	UNT to Cape Fear River	Perennial	13 (CL)	10	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 135	UNT to Gum Log Canal	Intermittent	7 (CL)	6	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 135.8	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	NA		NA		
Cumberland County, NC	Perm AR, Perm ROW, Temp ROW	AP-2 / 137.1	UNT to Big Creek	Perennial	8 (CL)	8	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 139.3	Little Creek	Perennial	12 (CL)	10	1) Dam and Pump 2) Flume	NA	C, Sw		NA		
Cumberland County, NC	Temp CY	AP-2 / 141.6	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	NA		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 141.8	UNT to Buck Creek	Intermittent	5 (CL)	4	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 142	UNT to Buck Creek	Ephemeral	4 (CL)	3	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 142.7	UNT to Sandy Creek	Ephemeral	5 (CL)	4	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 142.8	UNT to Sandy Creek	Ephemeral	2 (CL)	2	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW	AP-2 / 142.8	UNT to Sandy Creek	Ephemeral		3	Not Crossed by Centerline	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 142.9	UNT to Sandy Creek	Ephemeral	3 (CL)	4	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 143.2	Sandy Creek	Perennial	10 (CL)	6	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 143.3	UNT to Sandy Creek	Intermittent	13 (CL)	8	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 143.4	UNT to Sandy Creek	Intermittent	13 (CL)	10	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 144.7	UNT to White Pond Bay	Intermittent		3	Not Crossed by Centerline	NA	C		NA		
Cumberland County, NC	Perm ROW	AP-2 / 146.2	UNT to Cedar Creek	Ephemeral		4	Not Crossed by Centerline	NA	C		NA		
Cumberland County, NC	Perm ROW	AP-2 / 146.2	UNT to Cedar Creek	Ephemeral	10 (CL)	4	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 146.2	UNT to Cedar Creek	Intermittent	6 (CL)	6	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 146.5	UNT to Cedar Creek	Intermittent	2 (CL)	2	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 146.6	UNT to Cedar Creek	Perennial	6 (CL)	4	1) Dam and Pump 2) Flume	NA	C		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Cumberland County, NC	Perm ROW, Temp ATWS, Temp ROW	AP-2 / 146.7	UNT to Cedar Creek	Intermittent	4 (CL)	3	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW, Temp TS	AP-2 / 147	UNT to Cedar Creek	Ephemeral	2 (CL)	2	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW, Temp TS	AP-2 / 147	UNT to Cedar Creek	Ephemeral	9 (CL)	2	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 147.1	UNT to Cedar Creek	Ephemeral	2 (CL)	2	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 150.3	UNT to Cape Fear River	Ephemeral	4 (CL)	4	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 150.4	UNT to Cape Fear River	Ephemeral	3 (CL)	2	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 150.4	UNT to Cape Fear River	Perennial	22 (CL)	15	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Temp ROW	AP-2 / 150.4	UNT to Cape Fear River	Ephemeral		4	Not Crossed by Centerline	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 150.7	UNT to Cape Fear River	Intermittent	9 (CL)	8	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 151	UNT to Cape Fear River	Intermittent	15 (CL)	8	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 151.1	UNT to Cape Fear River	Intermittent	10 (CL)	10	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 151.6	UNT to Hair Canal	Perennial	6 (CL)	5	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 151.7	Hair Canal	Perennial	31 (CL)	15	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Temp ROW	AP-2 / 152.8	UNT to Cape Fear River	Intermittent		28	Not Crossed by Centerline	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 153.1	UNT to Cape Fear River	Perennial	11 (CL)	9	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 153.2	UNT to Cape Fear River	Intermittent	4 (CL)	4	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 153.5	UNT to Cape Fear River	Ephemeral	3 (CL)	2	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ATWS, Temp ROW	AP-2 / 153.8	UNT to Cape Fear River	Perennial	11 (CL)	12	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ATWS, Temp ROW	AP-2 / 154	UNT to Cape Fear River	Perennial	7 (CL)	6	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Perm ROW	AP-2 / 154.1	UNT to Cape Fear River	Perennial	93 (CL)	60	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Perm ROW	AP-2 / 154.2	Cape Fear River	Perennial	322 (CL)	323	HDD	NA	WSIV		February 15 to June 30	Anadromous / ACP survey or Agency documented presence of sensitive species / survey not required	Mussel presence assumed; HDD crossing. Will adhere to time of year restrictions for work within the waterbody.
Cumberland County, NC	Perm ROW	AP-2 / 154.3	UNT to Cape Fear River	Intermittent	19 (CL)	6	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm AR, Perm ROW, Temp ROW	AP-2 / 154.6	UNT to Cape Fear River	Perennial	10 (AR) 12 (CL)	10	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 154.6	UNT to Cape Fear River	Intermittent		3	Not Crossed by Centerline	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 154.7	UNT to Cape Fear River	Intermittent	5 (CL)	3	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 155.1	UNT to Cape Fear River	Intermittent	21 (CL)	5	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Perm ROW	AP-2 / 155.2	UNT to Cape Fear River	Perennial	5 (CL)	2	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 156.7	Swans Creek	Perennial	12 (CL)	10	Flume	NA	WSIV		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 157.3	UNT to Swans Creek	Perennial	4 (CL)	3	1) Dam and Pump 2) Flume	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 158.3	UNT to Kirks Mill Creek	Intermittent	4 (CL)	4	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 158.3	UNT to Kirks Mill Creek	Intermittent	9 (CL)	9	Dam and Pump	NA	C		NA		
Cumberland County, NC	Temp ROW	AP-2 / 158.9	Kirks Mill Creek	Intermittent		2	Not Crossed by Centerline	NA	WSIV		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 159.1	UNT to Kirks Mill Creek	Intermittent	6 (CL)	5	Dam and Pump	NA	C		NA		
Cumberland County, NC	Perm ROW, Temp ROW	AP-2 / 160.4	Galberry Swamp	Perennial	11 (CL)	17	1) Dam and Pump 2) Flume 3) Open Cut	NA	C, Sw		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments) [f]
Robeson County, NC	Temp ROW	AP-2 / 161.8	Unnamed Pond to Little Marsh	Pond	Pond (AR / CL)	40	Pond	NA	NA		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 161.9	UNT to Little Marsh Swamp	Intermittent	10 (CL)	8	Dam and Pump	NA	C		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 162.5	Little Marsh Swamp	Perennial	17 (CL)	21	1) Dam and Pump 2) Flume 3) Open Cut	NA	C, Sw		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 164.2	UNT Little Marsh Swamp	Intermittent	8 (CL)	8	Dam and Pump	NA	C		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 166.2	Mercer Branch	Intermittent	16 (CL)	15	1) Dam and Pump 2) Flume	NA	C, Sw		NA		
Robeson County, NC	Temp ROW	AP-2 / 166.8	UNT to Black Branch	Ephemeral		5	Not Crossed by Centerline	NA	C		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 167	Black Branch	Intermittent	8 (CL)	8	1) Dam and Pump 2) Flume	NA	C, Sw		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 167.9	Big Marsh Swamp	Perennial	33 (CL)	41	1) Dam and Pump 2) Flume 3) Open Cut	NA	C, Sw		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 170.2	UNT to Tenmile Swamp	Ephemeral	3 (CL)	3	Dam and Pump	NA	C		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 170.7	Tenmile Swamp	Perennial	18 (CL)	21	1) Dam and Pump 2) Flume	NA	C, Sw		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 171.4	UNT to Little Tenmile Swamp	Intermittent	6 (CL)	4	Dam and Pump	NA	C		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 171.8	UNT to Saddletree Swamp	Intermittent	5 (CL)	4	Dam and Pump	NA	C		NA		
Robeson County, NC	Perm AR	AP-2 / 172	UNT to Saddletree Swamp	Intermittent		4	Perm AR	NA	C		NA		
Robeson County, NC	Perm AR	AP-2 / 172	UNT to Saddletree Swamp	Intermittent		4	Perm AR	NA	C		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 172	UNT to Little Tenmile Swamp	Intermittent	7 (CL)	4	Dam and Pump	NA	C		NA		
Robeson County, NC	Perm AR	AP-2 / 172.1	UNT to Saddletree Swamp	Intermittent		5	Perm AR	NA	C		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 172.4	UNT to Saddletree Swamp	Intermittent	7 (CL)	3	Dam and Pump	NA	C		NA		
Robeson County, NC	Perm ROW, Temp GB, Temp ROW	AP-2 / 172.4	UNT to Saddletree Swamp	Intermittent	3 (CL)	3	Dam and Pump	NA	C		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 172.8	Saddletree Swamp	Intermittent	35 (CL)	5	Dam and Pump	NA	C, Sw		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 174	Raft Swamp	Perennial	40 (CL)	40	1) Dam and Pump 2) Flume 3) Open Cut	NA	WSIV, Sw		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 174.5	Humphrey Branch	Perennial	47 (CL)	10	1) Dam and Pump 2) Flume 3) Open Cut	NA	WSIV, Sw		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 176.8	Panther Branch	Perennial	48 (CL)	10	1) Dam and Pump 2) Flume 3) Open Cut	NA	WSIV, Sw		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 177	Richland Swamp	Perennial	23 (CL)	27	1) Dam and Pump 2) Flume 3) Open Cut	NA	WSIV, Sw		NA		
Robeson County, NC	Perm AR	AP-2 / 177.4	UNT to Richland Swamp	Ephemeral		3	Perm AR	NA	C, Sw		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 178.5	Burnt Swamp	Perennial	10 (CL)	10	1) Dam and Pump 2) Flume 3) Open Cut	NA	C		NA		
Robeson County, NC	Perm ROW, Temp ROW, Temp TS	AP-2 / 179.2	Unnamed Ditch	Canal/Ditch	5 (CL)	5	Dam and Pump	NA	Unclassified		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 181.1	Moss Neck Swamp	Perennial	21 (CL)	20	1) Dam and Pump 2) Flume	NA	C, Sw		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 181.3	UNT to Moss Neck Swamp	Intermittent	2 (CL)	2	Dam and Pump	NA	C		NA		
Robeson County, NC	Temp ROW	AP-2 / 181.6	UNT to Bear Swamp	Intermittent		4	Not Crossed by Centerline	NA	C		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 181.6	UNT to Bear Swamp	Perennial	8 (CL)	7	Dam and Pump	NA	C		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 181.7	UNT to Bear Swamp	Intermittent	5 (CL)	3	Dam and Pump	NA	C		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 181.7	UNT to Bear Swamp	Intermittent	3 (CL)	3	Dam and Pump	NA	C		NA		
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 182.2	UNT to Bear Swamp	Intermittent		3	Not Crossed by Centerline	NA	C		NA		
Robeson County, NC	Perm AR, Perm ROW, Temp ROW	AP-2 / 182.3	UNT to Bear Swamp	Perennial	5 (CL)	5	Dam and Pump	NA	C		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Robeson County, NC	Perm ROW, Temp ROW	AP-2 / 182.6	Bear Swamp	Perennial	38 (CL)	10	1) Dam and Pump 2) Flume 3) Open Cut	NA	C, Sw		NA		
Northampton County, NC	Temp AR	AP-3 / 0.3	UNT to Jacks Swamp	Perennial		6	Temp AR	NA	C, NSW		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-3 / 1.3	UNT to Jack's Swamp	Ephemeral	13 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	C, NSW		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-3 / 1.5	UNT to Jack's Swamp	Ephemeral	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	C, NSW		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-3 / 3.6	UNT to Cypress Creek	Intermittent	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	C, NSW		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-3 / 4.2	UNT to Cypress Creek	Intermittent	10 (CL)	7	Dam and Pump	In-stream; Within 1000 feet	C, NSW		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-3 / 5.4	Cypress Creek	Perennial	Wetland-Waterbody Complex (CL)	300	Flume	In-stream; Within 1000 feet	C, NSW		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-3 / 5.9	UNT to Cypress Creek	Perennial	8 (CL)	7	1) Dam and Pump 2) Open Cut	In-stream; Within 1000 feet	C, NSW		NA	No Chowanoke crayfish observed during survey	
Northampton County, NC	Perm ROW, Temp ROW	AP-3 / 5.9	UNT to Cypress Creek	Perennial	31 (CL)	9	1) Flume 2) Dam and Pump 3) Open Cut	In-stream; Within 1000 feet	C, NSW		NA		
Northampton County, NC	Perm AR	AP-3 / 6.5	UNT to Cypress Creek	Intermittent		4	Perm AR	NA	C, NSW		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-3 / 7	UNT to Cypress Creek	Perennial	7 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	C, NSW		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-3 / 7.4	Cypress Creek	Perennial	Wetland-Waterbody Complex (CL)	620	Flume	In-stream; Within 1000 feet	C, NSW		NA	No Chowanoke crayfish observed during survey	
Northampton County, NC	Perm ROW, Temp ROW	AP-3 / 7.8	UNT to Cypress Creek	Ephemeral	2 (CL)	2	Dam and Pump	In-stream; Within 1000 feet	C, NSW		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-3 / 10	UNT to Meherin River	Intermittent	6 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	C		NA		
Northampton County, NC	Perm ROW	AP-3 / 10.2	UNT to Cypress Creek	Perennial	4 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-3 / 10.3	UNT to Cypress Creek	Perennial	3 (CL)	3	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Northampton County, NC	Perm AR	AP-3 / 10.8	UNT to Meherin River	Ephemeral		2.5	Perm AR	NA	C		NA		
Northampton County, NC	Perm AR	AP-3 / 11.2	UNT to Meherin River	Intermittent	9 (AR)	8	Perm AR	NA	C		NA		
Northampton County, NC	Perm ROW, Temp ROW	AP-3 / 11.6	UNT to Meherrin River	Intermittent	4 (CL)	4	Dam and Pump	In-stream; Within 1000 feet	C		NA		
Greensville and Southampton Counties, VA	Perm ROW, Temp ROW	AP-3 / 12.4	Meherrin River	Perennial	149 (CL)	113	1) Cofferdam 2) Open Cut	In-stream; Within 1000 feet	Aquatic Life, Migratory fish Spawning and Nursery	Mercury in Fish	February 15 to June 30/May 15 to July 31/April 15 to June 15 and August 15 to September 30	Anadromous / no federal or state mussels observed during survey / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 13.3	Unnamed Ditch	Canal/Ditch	15 (CL)		1) Dam and Pump 2) Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 13.5	UNT to Meherrin River	Perennial	6 (CL)	6	1) Dam and Pump 2) Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/May 15 to July 31/April 15 to June 15 and August 15 to September 30	Anadromous / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Temp ROW	AP-3 / 13.6	UNT to Meherrin River	Perennial		6	Not Crossed by Centerline	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/May 15 to July 31/April 15 to June 15 and August 15 to September 30		Will adhere to time of year restrictions for work within the waterbody.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 14.4	UNT to Meherrin River	Perennial	10 (CL)	7	1) Dam and Pump 2) Open Cut	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/May 15 to July 31/April 15 to June 15 and August 15 to September 30	Anadromous / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 15.4	UNT to Buck horn Swamp	Intermittent	12 (CL)	10	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 15.9	UNT to Buckhorn Swamp	Perennial	12 (CL)	10	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 16.5	Buckhorn Swamp	Perennial	7 (CL)	7	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 18.6	UNT to Tarrara Creek	Intermittent		1.5	Not Crossed by Centerline	NA	Unclassified		NA		
Southampton County, VA	Temp ROW	AP-3 / 18.9	UNT to Tarrara Creek	Ephemeral		5	Not Crossed by Centerline	NA	Unclassified		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 19	UNT to Tarrara Creek	Perennial	5 (CL)	5	1) Dam and Pump 2) Flume 3) Wet Crossing	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 19.2	UNT to Tarrara Creek	Perennial	3 (CL)	2	1) Dam and Pump 2) Open Cut	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 20	UNT to Tarrara Creek	Perennial	5 (CL)	3	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 20.1	UNT to Tarrara Creek	Perennial	4 (CL)	2	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 20.7	UNT to Tarrara Creek	Intermittent	2 (CL)	2	1) Dam and Pump 2) Open Cut	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 21	UNT to Tarrara Creek	Perennial	6 (CL)	5	1) Dam and Pump 2) Open Cut	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 21.3	UNT to Tarrara Creek	Intermittent	9 (CL)	6	1) Dam and Pump 2) Flume 3) Wet Crossing	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 21.7	UNT to Tarrara Creek	Intermittent	6 (CL)	5	1) Dam and Pump 2) Flume 3) Wet Crossing	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 22.1	Unnamed Ditch	Canal/Ditch	2 (CL)	2	1) Dam and Pump 2) Flume	NA	Unclassified		NA		
Southampton County, VA	Perm AR, Perm ROW, Temp ROW	AP-3 / 22.6	Unnamed Ditch	Canal/Ditch	7 (CL)		Dam and Pump	NA	Unclassified		NA		
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 22.8	Unnamed Ditch	Canal/Ditch		3	Not Crossed by Centerline	NA	Unclassified		NA		
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 23.7	UNT to Darden Pond	Perennial	6 (CL)	6	1) Dam and Pump 2) Open Cut	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 23.9	Unnamed Ditch	Canal/Ditch	5 (CL)		Dam and Pump	NA	Unclassified		NA		
Southampton County, VA	Perm GB, Temp GB	AP-3 / 24.2	UNT to Darden Pond	Intermittent		5	Not Crossed by Centerline	NA	Unclassified		NA		
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 24.3	UNT to Darden Pond	Perennial	3 (CL)	3	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 24.5	UNT to Darden Pond	Perennial	5 (CL)	4	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Southampton County, VA	Perm AR, Perm ROW, Temp ROW	AP-3 / 24.8	Unnamed Ditch	Canal/Ditch	4 (CL)	3	1) Dam and Pump 2) Flume	NA	Unclassified		NA		
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 26	UNT to Mill Swamp	Intermittent	1 (CL)	1	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 26.1	UNT to Mill Swamp	Intermittent	6 (CL)	5	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 27	Unnamed Ditch	Canal/Ditch	2 (CL)	2	Dam and Pump	NA	Unclassified		NA		
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 27.4	UNT to Nottoway River	Ephemeral	4 (CL)	3	Dam and Pump	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 28.8	UNT to Nottoway River	Intermittent	4 (CL)	4	Dam and Pump	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm AR	AP-3 / 28.8	UNT to Nottoway River	Intermittent	4 (AR)	4	Perm AR	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 30.7	UNT to Nottoway River	Perennial	18 (CL)	22	Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/May 15 to July 31/March 15 to May 31 and August 15 to October 15/March 15 to June 30/March 15-May 31 and August 15-September 30	Anadromous / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 31.3	UNT to Nottoway River	Intermittent	2 (CL)	2	1) Dam and Pump 2) Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm AR	AP-3 / 31.6	UNT to Nottoway River	Perennial	10 (AR)	10	Perm AR	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/May 15 to July 31/March 15 to May 31 and August 15 to October 15/March 15 to June 30/March 15-May 31 and August 15-September 30	Anadromous / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
Southampton County, VA	Perm ROW	AP-3 / 32.6	Nottoway River	Perennial	240 (CL)	160	HDD	NA	Aquatic Life, Migratory fish Spawning and Nursery	Benthic-Macroinvertebrate Bioassessments and Mercury in Fish	February 15 to June 30/May 15 to July 31/March 15 to May 31 and August 15 to October 15/March 15 to June 30/March 15-May 31 and August 15-September 30	Anadromous /ACP survey or Agency documented presence of sensitive species / survey not required	Mussel, Roanoke logperch, and Atlantic sturgeon presence assumed; HDD crossing. Will adhere to time of year restrictions for work within the waterbody.
Southampton County, VA	Perm AR	AP-3 / 33	UNT to Nottoway River	Intermittent	5 (AR)	5	Perm AR	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 33.1	UNT to Nottoway River	Intermittent	5 (CL)	5	1) Dam and Pump 2) Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Temp ROW	AP-3 / 33.1	Unnamed Ditch	Canal/Ditch		10	Not Crossed by Centerline	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Southampton County, VA	Perm AR	AP-3 / 33.1	UNT to Nottoway River	Intermittent	5 (AR)	4	Perm AR	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 33.1	UNT to Nottoway River	Intermittent	4 (CL)	4	1) Dam and Pump 2) Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 33.3	UNT to Nottoway River	Intermittent	10 (CL)	10	Dam and Pump	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 33.9	UNT to Nottoway River	Perennial	27 (CL)	22	1) Dam and Pump 2) Flume 3) Open Cut	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/May 15 to July 31/March 15 to May 31 and August 15 to October 15/March 15 to June 30/March 15-May 31 and August 15-September 30	Anadromous / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 33.9	Unnamed Ditch	Canal/Ditch	6 (CL)	6	1) Dam and Pump 2) Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 33.9	UNT to Nottoway River	Intermittent	12 (CL)	6	1) Dam and Pump 2) Open Cut	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 34.3	Unnamed Ditch	Canal/Ditch	10 (CL)		1) Dam and Pump 2) Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 34.4	UNT to Nottoway River	Intermittent	4 (CL)	4	Dam and Pump	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Franklin City, VA	Temp CY	AP-3 / 34.5	Unnamed Ditch	Canal/Ditch			Contractor Yard - Temporary Impact	Within 1000 feet	Unclassified		NA		
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 34.6	UNT to Nottoway River	Perennial	22 (CL)	15	1) Dam and Pump 2) Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/May 15 to July 31/March 15 to May 31 and August 15 to October 15/March 15 to June 30/March 15-May 31 and August 15-September 30	Anadromous / mussel survey pending / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 34.6	UNT to Nottoway River	Perennial	14 (CL)	10	1) Dam and Pump 2) Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/May 15 to July 31/March 15 to May 31 and August 15 to October 15/March 15 to June 30/March 15-May 31 and August 15-September 30	Anadromous / ACP survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 34.8	Unnamed Ditch	Canal/Ditch	1 (CL)	1	1) Dam and Pump 2) Flume	NA	Unclassified		NA		
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 34.9	Unnamed Ditch	Canal/Ditch	3 (CL)	2	1) Dam and Pump 2) Flume	NA	Unclassified		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments) [f]
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 35.7	UNT to Nottoway River	Intermittent	5 (CL)	4	1) Dam and Pump 2) Open Cut	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30/March 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 35.9	Unnamed Ditch	Canal/Ditch	2 (CL)	2	1) Dam and Pump 2) Flume	NA	Unclassified		NA		
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 35.9	Unnamed Ditch	Canal/Ditch	2 (CL)	2	1) Dam and Pump 2) Flume	NA	Unclassified		NA		
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 36.3	UNT to Blackwater River	Perennial	18 (CL)	16	Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery	Mercury in Fish	February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 36.6	Unnamed Ditch	Canal/Ditch	14 (CL)		1) Dam and Pump 2) Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
Southampton County, VA	Perm ROW, Temp ROW	AP-3 / 36.6	UNT to Blackwater River	Intermittent	4 (CL)	3	Dam and Pump	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
Southampton County and City of Suffolk, VA	Perm ROW	AP-3 / 38.6	Blackwater River	Perennial	208 (CL)	185	HDD	Within 1000 feet	Aquatic Life, Migratory fish Spawning and Nursery	Dissolved Oxygen and Mercury in Fish	February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 39.4	UNT to Blackwater River	Perennial	5 (CL)	4	1) Dam and Pump 2) Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery	Mercury in Fish	February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 39.5	Unnamed Ditch	Canal/Ditch	4 (CL)	4	1) Dam and Pump 2) Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 39.7	UNT to Blackwater River	Intermittent	3 (CL)	3	Dam and Pump	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 40.1	UNT to Blackwater River	Perennial	8 (CL)	5	Dam and Pump	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 40.2	UNT to Blackwater River	Perennial	7 (CL)	6	Dam and Pump	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery	Mercury in Fish	February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW	AP-3 / 40.5	Unnamed Ditch	Canal/Ditch	5 (CL)		1) Dam and Pump 2) Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 41.4	UNT to Blackwater River	Perennial	5 (CL)	3	Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 41.6	UNT to Blackwater River	Ephemeral	3 (CL)	3	Dam and Pump	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
City of Suffolk, VA	Perm ROW	AP-3 / 41.6	UNT to Blackwater River	Ephemeral		3	Not Crossed by Centerline	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
City of Suffolk, VA	Perm ROW	AP-3 / 41.6	UNT to Blackwater River	Ephemeral		5	Not Crossed by Centerline	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
City of Suffolk, VA	Perm ROW	AP-3 / 41.6	UNT to Blackwater River	Ephemeral		5	Not Crossed by Centerline	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 42.3	UNT to Blackwater River	Perennial	8 (CL)	7	Dam and Pump	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery	Mercury in Fish	February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 42.3	UNT to Blackwater River	Perennial	5 (CL)	5	Dam and Pump	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery	Mercury in Fish	February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 42.7	UNT to Blackwater River	Intermittent	7 (CL)	5	1) Dam and Pump 2) Flume	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody. Pre-construction aquatic species relocations.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
City of Suffolk, VA	Temp ROW	AP-3 / 42.7	UNT to Blackwater River	Intermittent		4	Not Crossed by Centerline	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 44.5	UNT to Kingsale Swamp	Perennial	5 (CL)	4	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 44.6	UNT to Kingsale Swamp	Perennial		5	Not Crossed by Centerline	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW	AP-3 / 44.6	UNT to Kingsale Swamp	Perennial	7 (CL)	5	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Temp ROW	AP-3 / 44.6	Unnamed Ditch	Canal/Ditch		2	Not Crossed by Centerline	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 44.6	Unnamed Ditch	Canal/Ditch		1.5	Not Crossed by Centerline	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 45.1	UNT to Kingsale Swamp	Perennial	11 (CL)	6	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 45.4	Unnamed Ditch	Canal/Ditch	11 (CL)	2	Dam and Pump	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 45.5	Unnamed Ditch	Canal/Ditch	10 (CL)	4	Dam and Pump	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 45.7	Unnamed Ditch	Canal/Ditch	8 (CL)		1) Dam and Pump 2) Flume	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 45.8	Unnamed Ditch	Canal/Ditch	6 (CL)		1) Dam and Pump 2) Flume	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 46.1	UNT to Kingsale Swamp	Perennial	4 (CL)	4	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 46.2	Unnamed Ditch	Canal/Ditch	5 (CL)	4	1) Dam and Pump 2) Flume	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 48	Unnamed Ditch	Canal/Ditch	9 (CL)		1) Dam and Pump 2) Flume	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 48.5	Unnamed Ditch	Canal/Ditch	5 (CL)		1) Dam and Pump 2) Flume	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 48.7	Unnamed Ditch	Canal/Ditch	26 (CL)		1) Dam and Pump 2) Flume	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 49.2	Unnamed Ditch	Canal/Ditch	4 (CL)		1) Dam and Pump 2) Flume	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 49.9	UNT to Quaker Swamp	Perennial	3 (CL)	3	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 50.5	UNT to Quaker Swamp	Perennial	2 (CL)	2	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 51.7	Unnamed Ditch	Canal/Ditch	8 (CL)		Flume	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 52.1	UNT to Quaker Swamp	Intermittent	3 (CL)	4	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 52.1	UNT to Quaker Swamp	Perennial	6 (CL)	6	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 52.2	UNT to Quaker Swamp	Intermittent		4.5	Not Crossed by Centerline	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 52.6	UNT to Quaker Swamp	Intermittent	3 (CL)	2	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 52.6	UNT to Quaker Swamp	Intermittent	2 (CL)	3	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 52.7	UNT to Daughtrey Poccoson	Perennial	17 (CL)	16	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Temp ROW	AP-3 / 53.9	UNT to Cohoon Creek	Intermittent		3	Not Crossed by Centerline	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 53.9	UNT to Cohoon Creek	Intermittent	4 (CL)	4	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 53.9	UNT to Cohoon Creek	Intermittent	3 (CL)	3	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 54.6	UNT to Cohoon Creek	Perennial	4 (CL)	4	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 55.4	UNT to Cohoon Creek	Perennial	10 (CL)	10	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ATWS, Temp ROW	AP-3 / 55.5	Unnamed Ditch	Canal/Ditch	2 (CL)	2	1) Dam and Pump 2) Flume	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 56.2	UNT to Cohoon Creek	Perennial	15 (CL)	6	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 56.3	UNT to Cohoon Creek	Intermittent	1 (CL)	0.5	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Temp ROW	AP-3 / 56.3	UNT to Cohoon Creek	Intermittent		2	Not Crossed by Centerline	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 56.4	UNT to Cohoon Creek	Perennial	10 (CL)	6	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW	AP-3 / 56.7	UNT to Cohoon Creek	Intermittent	2 (CL)	2	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 56.7	Unnamed Pond	Pond	Pond (AR / CL)	55	Pond	NA	NA		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
City of Suffolk, VA	Perm ROW, Temp ATWS, Temp ROW	AP-3 / 57	UNT to Eley Swamp	Intermittent	2 (CL)	2.5	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW	AP-3 / 58	UNT to Eley Swamp	Perennial	9 (CL)	5	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 58.1	UNT to Eley Swamp	Perennial	4 (CL)	2	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm AR	AP-3 / 58.8	Unnamed Ditch	Canal/Ditch		0.5	Perm AR	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 59.3	UNT to Lake Prince	Perennial	3 (CL)	3	1) Dam and Pump 2) Flume	NA	UNT to Public fishing Lake		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 59.4	UNT to Lake Prince	Perennial	5 (CL)	5	1) Dam and Pump 2) Flume	NA	UNT to Public fishing Lake		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW	AP-3 / 59.4	UNT to Lake Prince	Intermittent	12 (CL)	2	1) Dam and Pump 2) Flume	NA	UNT to Public fishing Lake		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 60.5	UNT to Lake Prince	Perennial	2 (CL)	2	Flume	NA	UNT to Public fishing Lake		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW	AP-3 / 60.9	UNT to Lake Prince	Intermittent		2	Not Crossed by Centerline	NA	UNT to Public fishing Lake		NA		
City of Suffolk, VA	Perm ROW	AP-3 / 61	Lake Prince	Reservoir	33 (CL)		HDD	NA	Public fishing Lake		NA		
City of Suffolk, VA	Perm ROW	AP-3 / 61	Prince Lake	Reservoir	171 (CL)	135	HDD	NA	Public fishing Lake		NA		
City of Suffolk, VA	Perm ROW	AP-3 / 61	Lake Prince	Reservoir		Reservoir	Not Crossed by Centerline	NA	Public fishing Lake		NA		
City of Suffolk, VA	Perm ROW	AP-3 / 61.1	Prince Lake	Reservoir	49 (CL)	135	HDD	NA	Public fishing Lake		NA		
City of Suffolk, VA	Perm ROW	AP-3 / 61.1	Prince Lake	Reservoir	116 (CL)		HDD	NA	Public fishing Lake		NA		
City of Suffolk, VA	Perm ROW	AP-3 / 61.1	UNT to Lake Prince	Ephemeral	3 (CL)	1	HDD	NA	UNT to Public fishing Lake		NA		
City of Suffolk, VA	Temp ROW	AP-3 / 61.6	UNT to Western Branch Reservoir	Intermittent		1	Not Crossed by Centerline	NA	UNT to Public fishing Lake		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 61.7	UNT to Western Branch Reservoir	Perennial	9 (CL)	3	1) Dam and Pump 2) Flume	NA	UNT to Public fishing Lake		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 61.8	UNT to Western Branch Reservoir	Perennial	3 (CL)	3	1) Dam and Pump 2) Flume	NA	UNT to Public fishing Lake		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW	AP-3 / 61.8	UNT to Western Branch Reservoir	Perennial		3	Not Crossed by Centerline	NA	UNT to Public fishing Lake		NA		
City of Suffolk, VA	Perm ROW	AP-3 / 62.4	Western Branch Reservoir	Reservoir	302 (CL)		HDD	NA	Public fishing Lake		NA		
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 62.7	UNT to Western Branch Reservoir	Perennial	3 (CL)	3	Dam and Pump	NA	UNT to Public fishing Lake		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 63	UNT to Western Branch Reservoir	Perennial	2 (CL)	2	Dam and Pump	NA	UNT to Public fishing Lake		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 63	UNT to Western Branch Reservoir	Perennial	5 (CL)	3	Dam and Pump	NA	UNT to Public fishing Lake		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW	AP-3 / 63.6	Western Branch Nansemond River	Perennial	60 (CL)		HDD	NA	Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
City of Suffolk, VA	Perm ROW	AP-3 / 63.6	Western Branch Nansemond River	Perennial	143 (CL)	150	HDD	NA	Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
City of Suffolk, VA	Perm ROW	AP-3 / 64.4	Nansemond River	Perennial	460 (CL)	440	HDD	NA	Aquatic Life, Migratory fish Spawning and Nursery		February 15 to June 30		Will adhere to time of year restrictions for work within the waterbody.
City of Suffolk, VA	Temp ROW, Temp TS	AP-3 / 65.5	Unnamed Ditch	Canal/Ditch		5	Not Crossed by Centerline	NA	Unclassified		NA		
City of Suffolk, VA	Perm ROW, Temp ROW, Temp TS	AP-3 / 65.9	UNT to Unnamed Reservoir	Intermittent	7 (CL)	5	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 66.9	UNT to Great Dismal Swamp	Perennial	9 (CL)	8	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 67	UNT to Great Dismal Swamp	Perennial	5 (CL)	5	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 67.6	UNT to Great Dismal Swamp	Perennial	24 (CL)	15	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 68	UNT to Great Dismal Swamp	Perennial	25 (CL)	15	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 68.5	UNT to Great Dismal Swamp	Intermittent	30 (CL)	5	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 69.6	UNT to Great Dismal Swamp	Perennial	24 (CL)	23	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 70.2	UNT to Great Dismal Swamp	Intermittent	18 (CL)	5	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 70.9	UNT to Great Dismal Swamp	Perennial	15 (CL)	15	1) Dam and Pump 2) Flume 3) Open Cut	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Suffolk, VA	Perm ROW, Temp ROW	AP-3 / 71.3	UNT to Great Dismal Swamp	Perennial	14 (CL)	14	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 71.4	UNT to Great Dismal Swamp	Perennial	12 (CL)	14	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments) [f]
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 71.6	UNT to East Ditch	Perennial	5 (CL)		Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 71.7	UNT to East Ditch	Perennial	3 (CL)	3	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 71.8	UNT to East Ditch	Perennial	4 (CL)	4	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 73.6	UNT to Great Dismal Swamp	Perennial	13 (CL)	10	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 73.7	UNT to Great Dismal Swamp	Intermittent	9 (CL)	7	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 73.9	UNT to Great Dismal Swamp	Perennial	17 (CL)	15	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Temp AR	AP-3 / 74.1	Unnamed Ditch	Canal/Ditch	5 (AR)	5	Temp AR	NA	Unclassified		NA		
City of Chesapeake, VA	Temp AR	AP-3 / 74.1	Unnamed Ditch	Canal/Ditch	15 (AR)		Temp AR	NA	Unclassified		NA		
City of Chesapeake, VA	Temp AR	AP-3 / 74.2	Unnamed Ditch	Canal/Ditch			Temp AR	NA	Unclassified		NA		
City of Chesapeake, VA	Temp AR	AP-3 / 74.3	Unnamed Ditch	Canal/Ditch			Temp AR	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 74.3	UNT to Deep Creek	Perennial	15 (CL)	7	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Temp AR	AP-3 / 74.8	Unnamed Ditch	Canal/Ditch			Temp AR	NA	Unclassified		NA		
City of Chesapeake, VA	Temp AR	AP-3 / 74.9	Unnamed Ditch	Canal/Ditch			Temp AR	NA	Unclassified		NA		
City of Chesapeake, VA	Perm AR, Temp AR	AP-3 / 75	Unnamed Ditch	Canal/Ditch			Temp AR	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 75	UNT to Deep Creek	Perennial	43 (CL)	15	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Perm AR	AP-3 / 75.1	Unnamed Ditch	Canal/Ditch			Perm AR	NA	Unclassified		NA		
City of Chesapeake, VA	Perm AR	AP-3 / 75.1	Unnamed Ditch	Canal/Ditch			Perm AR	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW	AP-3 / 76	UNT to Deep Creek	Perennial	30 (CL)	15	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Temp ROW	AP-3 / 76.9	UNT to Deep Creek	Intermittent		5	Not Crossed by Centerline	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 77.4	Deep Creek	Perennial	32 (CL)	14	Dam and Pump	NA	Unclassified		February 15 to June 30		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 77.4	UNT to Deep Creek	Perennial	6 (CL)	6	Dam and Pump	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 77.4	UNT to Deep Creek	Intermittent	3 (CL)	2	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Temp ROW	AP-3 / 77.5	Unnamed Ditch	Canal/Ditch		5	Not Crossed by Centerline	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW	AP-3 / 77.8	Unnamed Ditch	Canal/Ditch	5 (CL)	5	HDD	NA	Unclassified		NA		
City of Chesapeake, VA	Perm AR	AP-3 / 78.3	UNT to Deep Creek	Canal/Ditch	5 (AR)	5	Perm AR	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 78.3	UNT to Deep Creek	Intermittent	42 (CL)	3	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Perm ROW	AP-3 / 78.8	UNT to Unnamed Pond	Perennial	20 (CL)	6	1) Dam and Pump 2) Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Perm ROW	AP-3 / 78.8	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW	AP-3 / 78.9	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW	AP-3 / 79	Unnamed Ditch	Canal/Ditch	7 (CL)		HDD	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW	AP-3 / 79	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW	AP-3 / 79.7	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 81	UNT to South Branch Elizabeth River	Ephemeral	3 (CL)	3	Flume	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 81.2	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	Unclassified		NA		
City of Chesapeake, VA	Temp ROW	AP-3 / 81.6	Unnamed Pond	Pond	Pond (AR / CL)		Pond	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW	AP-3 / 81.8	South Branch Elizabeth River	Perennial	835 (CL)	840	HDD	NA	Aquatic Life, Migratory fish Spawning and Nursery		February 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 82.1	UNT to South Branch Elizabeth River	Intermittent	17 (CL)	6	Part of Elizabeth River HDD	NA	UNT to Aquatic Life, Migratory fish Spawning and Nursery		February 1 to June 30		Will adhere to time of year restrictions for work within the waterbody.
City of Chesapeake, VA	Temp ROW	AP-3 / 82.1	Unnamed Ditch	Canal/Ditch		4	Not Crossed by Centerline	NA	Unclassified		NA		

Appendix K-1

Waterbody Crossings Along the Atlantic Coast Project[a]

County/City, State/ Commonwealth	Facilities Crossed [b]	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [c]	Survey/ Desktop Estimated OHWM Width (feet) [c]	Construction Method[d]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data[e]	Atlantic Commitments to Conservation Measures (TOYR or other commitments)[f]
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 82.3	Unnamed Ditch	Canal/Ditch	6 (CL)	6	Flume	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW	AP-3 / 82.4	UNT to South Branch Elizabeth River	Ephemeral		5	Not Crossed by Centerline	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW	AP-3 / 82.4	UNT to South Branch Elizabeth River	Perennial	5 (CL)	5	Flume	NA	Unclassified		NA		Pre-construction aquatic species relocations.
City of Chesapeake, VA	Perm ROW, Temp ROW	AP-3 / 82.5	Unnamed Ditch	Canal/Ditch		3	Not Crossed by Centerline	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW	AP-3 / 82.5	Unnamed Ditch	Canal/Ditch		3	Not Crossed by Centerline	NA	Unclassified		NA		
City of Chesapeake, VA	Perm ROW	AP-3 / 82.5	Unnamed Ditch	Canal/Ditch		3	Not Crossed by Centerline	NA	Unclassified		NA		
Greensville County, VA	Perm ROW, Temp ROW	AP-5 / 0.2	UNT to Greensville Creek	Intermittent	2 (CL)	2	Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Greensville County, VA	Perm AR, Perm ROW, Temp ROW	AP-5 / 0.4	UNT to Greensville Creek	Intermittent	4 (AR) 4 (CL)	3.5	Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.
Greensville County, VA	Perm ROW, Temp ROW	AP-5 / 0.8	Greensville Creek	Perennial	22 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified		NA		Pre-construction aquatic species relocations.

[a] Shaded rows indicate waterbody crossings on the Monongahela and George Washington National Fores

[b] Project facility abbreviations used in the tables includ

Perm AR = Permanent Access Road
Perm AR = Permanent Access Road
Temp AR = Temporary Access Road
Perm ROW = Permanent Workspace/Right-of-Way
Temp ROW = Temporary Workspace/Right-of-Way
Temp ATWS = Temporary Additional Workspace
Temp TS = Temporary Topsoil Workspace
Perm CS = Permanent Compressor Station Footprint
Temp CS = Temporary Compressor Station Workspace
Perm GB = Permanent Ground Bed Easement
Temp GB = Temporary Ground Bed Workspace
Perm MR = Permanent Metering and Regulation Station Footprint
Temp CY = Temporary Contractor Yard

[c] "Access Road (AR) and Centerline (CL) Crossings" and "Survey/Desktop Estimated OHWM Width" represent measures of the width or crossing width of waterbodies. The first two crossing lengths, for access roads and for the pipeline centerline are GIS derived measurements based on waterbody polygons and the distance the respective facilities (access road or pipeline centerline) cross within the waterbody polygon. The third column of measurement is included for features that are not crossed by either an access road or the pipeline centerline, based on the field survey or desktop estimated ordinary high water mark (OHWM) width of the waterbodies.

[d] Construction Method includes trenchline construction methods for waterbodies that have a pipeline centerline crossing length. For waterbodies that are not crossed by the pipeline centerline or other unique facility components this column reads "Not Crossed by Centerline". For waterbodies that intersect unique facility components (e.g., compressor stations, contractor yards) the column refers to the unique facility crossed and identifies the nature of the planned impacts.

[e] Based on results of field surveys conducted by ACP, and/or based on historic survey data provided by federal and/or state agencies denoting presence of sensitive species within the waterbody or watershed. The federal and state listed species that were documented during ACP surveys at waterbody crossing locations are not disclosed in this table in order to protect the species from over-collection, habitat degradation, and/or to respect landowner, land-managing agencies, and/or regulatory agencies request to restrict the release of the location information.

[e] Includes Agency Recommended Mitigation measures received to date in consultation with State/Commonwealth and Federal agencies. Agency consultations are on-going; updates to mitigation measures will be provided when av

Appendix K-2

Waterbody Crossings Along the Supply Header Project

County, State/ Commonwealth	Facilities Crossed	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [a]	Survey/Desktop Estimated OHWM Width (feet) [a]	Construction Method [b]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data [c]	DTI Commitments to Conservation Measures (TOYR or other commitments) [d]
Harrison County, WV	Pipeline Workspace	TL-635 / 0.2	UNT to Tanner Fork	Perennial	2 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Harrison County, WV	Pipeline Workspace	TL-635 / 0.7	UNT to Dry Fork	Intermittent	NA	2	Not Crossed by Centerline	Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Harrison County, WV	Pipeline Workspace	TL-635 / 0.8	UNT to Dry Fork	Perennial	8 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 0.9	Dry Fork	Perennial	6 (AR)	4	Perm AR	NA	B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Perm AR	TL-635 / 0.9	UNT to Dry Fork	Perennial	4 (AR)	5	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Pipeline Workspace	TL-635 / 1.3	Dry Fork	Perennial	11 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Pipeline Workspace	TL-635 / 1.4	UNT to Dry Fork	Perennial	4 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Pipeline Workspace	TL-635 / 2.1	Meathouse Fork	Perennial	30 (CL)	25	Dam and Pump	In-stream; Within 1000 feet	B1, HQS	Fecal Coliform, Iron, CNA Biological – Aquatic Life	April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Pipeline Workspace	TL-635 / 2.9	Johnson Fork	Perennial	6 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 2.9	UNT to Johnson Fork	Perennial	4 (AR)	4	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Perm AR	TL-635 / 4	UNT to Indian Fork	Perennial	18 (AR)	10	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Pipeline Workspace	TL-635 / 4	UNT to Indian Fork	Perennial	13 (CL)	12	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Pipeline Workspace	TL-635 / 4.6	UNT to Indian Fork	Perennial	9 (CL)	8	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 5	Indian Fork	Perennial	20 (AR)	15	Perm AR	NA	B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Pipeline Workspace	TL-635 / 5.1	UNT to Indian Fork	Perennial	8 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 5.1	Indian Fork	Perennial	6 (AR)	6	Perm AR	NA	B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Perm AR	TL-635 / 5.4	Buckeye Creek	Perennial	21 (AR)	10	Perm AR	NA	B1, HQS		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Perm AR	TL-635 / 5.4	Indian Fork	Perennial	12 (AR)	10	Perm AR	NA	B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Pipeline Workspace	TL-635 / 5.5	Buckeye Creek	Perennial	31 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1, HQS	Fecal Coliform	April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Pipeline Workspace	TL-635 / 5.5	UNT to Buckeye Creek	Intermittent	17 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Pipeline Workspace	TL-635 / 5.9	UNT to Buckeye Creek	Intermittent	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Pipeline Workspace	TL-635 / 6.7	Greenbriar Creek	Perennial	10 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Pipeline Workspace	TL-635 / 7.8	Buffalo Calf Fork	Perennial	21 (CL)	10	Dam and Pump	In-stream; Within 1000 feet	B1	Fecal Coliform	April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 7.8	Buffalo Calf Fork	Perennial	10 (AR)	10	Perm AR	NA	B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Pipeline Workspace	TL-635 / 7.9	UNT to Buffalo Calf Fork	Perennial	NA	6	Not Crossed by Centerline	Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 7.9	UNT to Buffalo Calf Fork	Perennial	4 (AR)	4	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Pipeline Workspace	TL-635 / 8.9	UNT to Buffalo Calf Fork	Perennial	8 (CL)	8	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-2

Waterbody Crossings Along the Supply Header Project

County, State/ Commonwealth	Facilities Crossed	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [a]	Survey/Desktop Estimated OHWM Width (feet) [a]	Construction Method [b]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data [c]	DTI Commitments to Conservation Measures (TOYR or other commitments) [d]
Doddridge County, WV	Pipeline Workspace	TL-635 / 9.4	Long Run	Perennial	26 (CL)	25	Dam and Pump	In-stream; Within 1000 feet	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 9.4	UNT to Long Run	Perennial	25 (AR)	4	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Pipeline Workspace	TL-635 / 10.6	Buckeye Run	Perennial	17 (CL)	16	Bore	Within 1000 feet	B1, HQS	Fecal Coliform, Iron, CNA Biological – Aquatic Life	April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Pipeline Workspace	TL-635 / 10.6	UNT to Buckeye Run	Perennial	10 (CL)	10	Bore	Within 1000 feet	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 11.7	UNT to Buckeye Run	Intermittent	4 (AR)	4	Perm AR	NA	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Pipeline Workspace	TL-635 / 12.9	Flint Run	Perennial	12 (CL)	10	Dam and Pump	In-stream; Within 1000 feet	B1, HQS	Fecal Coliform	April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 13.5	UNT to Flint Run	Perennial	4 (AR)	4	Perm AR	NA	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Pipeline Workspace	TL-635 / 14.1	UNT to Righthand Fork East Run	Perennial	7 (CL)	7	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 14.1	UNT to Righthand Fork East Run	Perennial	19 (AR)	7	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Perm AR	TL-635 / 14.1	UNT to Righthand Fork	Perennial	4 (AR)	4	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Perm AR	TL-635 / 14.2	UNT to Righthand Fork East Run	Intermittent	3 (AR)	3	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Perm AR	TL-635 / 14.2	UNT to Big Battle Run	Perennial	6 (AR)	6	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Pipeline Workspace	TL-635 / 15.1	UNT to Big Battle Run	Perennial	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Pipeline Workspace	TL-635 / 15.2	UNT to Big Battle Run	Perennial	3 (CL)	2	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 15.5	Big Battle Run	Perennial	18 (AR)	15	Perm AR	NA	B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Pipeline Workspace	TL-635 / 15.6	UNT to Big Battle Run	Perennial	11 (CL)	5	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 15.8	UNT to Big Battle Run	Intermittent	3 (AR)	3	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Pipeline Workspace	TL-635 / 15.8	UNT to Big Battle Run	Perennial	6 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 15.8	UNT to Big Battle Run	Perennial	5 (AR)	5	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Perm AR	TL-635 / 16.3	Big Battle Run	Perennial	31 (AR)	15	Perm AR	NA	B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Perm AR	TL-635 / 16.5	Big Battle Run	Perennial	27 (AR)	15	Perm AR	NA	B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Perm AR	TL-635 / 16.5	UNT to Big Battle Run	Perennial	5 (AR)	4	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions.
Doddridge County, WV	Pipeline Workspace	TL-635 / 17.8	Little Battle Run	Perennial	16 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 17.8	Little Battle Run	Perennial	6 (AR)	6	Perm AR	NA	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Ground Bed	TL-635 / 17.8	UNT to Little Battle Run	Perennial	NA	1	Ground Bed	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 17.8	Little Battle Run	Perennial	19 (AR)	10	Perm AR	NA	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-2

Waterbody Crossings Along the Supply Header Project

County, State/ Commonwealth	Facilities Crossed	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [a]	Survey/Desktop Estimated OHWM Width (feet) [a]	Construction Method [b]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data [c]	DTI Commitments to Conservation Measures (TOYR or other commitments) [d]
Doddridge County, WV	Pipeline Workspace	TL-635 / 18.5	McElroy Creek	Perennial	74 (CL)	55	Dam and Pump	In-stream; Within 1000 feet	B1, HQS		April 1 - June 30	Endangered Mussels Water / DTI survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody and mussel relocation requirements.
Doddridge County, WV	Perm AR	TL-635 / 18.5	McElroy Creek	Perennial	37 (AR)	55	Perm AR	NA	B1, HQS		April 1 - June 30	Endangered Mussels Water / DTI survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody and mussel relocation requirements.
Doddridge County, WV	Pipeline Workspace	TL-635 / 18.6	UNT to McElroy Creek	Perennial	41 (CL)	6	Dam and Pump	In-stream; Within 1000 feet	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 19	Franks Run	Perennial	10 (AR)	10	Perm AR	NA	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Pipeline Workspace	TL-635 / 20.6	Franks Run	Perennial	31 (CL)	20	Dam and Pump	In-stream; Within 1000 feet	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Doddridge County, WV	Perm AR	TL-635 / 21.9	UNT to Broad Run	Intermittent	5 (AR)	4	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Tyler County, WV	Pipeline Workspace	TL-635 / 23.1	UNT to Indian Creek	Intermittent	NA	5	Not crossed by centerline	Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Tyler County, WV	Pipeline Workspace	TL-635 / 23.1	Indian Creek	Perennial	16 (CL)	15	Dam and Pump	In-stream; Within 1000 feet	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 24.8	UNT to Buffalo Run	Perennial	15 (CL)	15	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 24.8	UNT to Buffalo Run	Perennial	3 (AR)	3	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 24.8	UNT to Buffalo Run	Perennial	10 (AR)	4	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 24.8	UNT to Buffalo Run	Perennial	11 (AR)	4	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 24.8	UNT to Buffalo Run	Perennial	8 (AR)	4	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 24.8	UNT to Buffalo Run	Perennial	17 (AR)	8	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 25.4	UNT to Buffalo Run	Perennial	NA	4	Not crossed by centerline	Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 25.4	UNT to Buffalo Run	Perennial	5 (AR)	4	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 25.4	UNT to Buffalo Run	Perennial	13 (CL)	12	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 25.4	UNT to Buffalo Run	Perennial	24 (AR)	12	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 25.4	UNT to Arches Fork	Perennial	17 (AR)	8	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 25.4	Arches Fork	Perennial	27 (AR)	25	Perm AR	NA	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 25.5	UNT to Buffalo Run	Perennial	10 (AR)	9	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 25.5	UNT to Buffalo Run	Perennial	4 (AR)	9	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 25.5	UNT to Buffalo Run	Perennial	4 (AR)	9	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 25.9	UNT to Arches Fork	Perennial	8 (AR)	6	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 26.2	UNT to Buffalo Run	Perennial	22 (AR)	8	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 26.2	UNT to Buffalo Run	Perennial	59 (AR)	8	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 26.2	UNT to Buffalo Run	Perennial	81 (AR)	8	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 26.2	UNT to Buffalo Run	Perennial	9 (AR)	8	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-2

Waterbody Crossings Along the Supply Header Project

County, State/ Commonwealth	Facilities Crossed	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [a]	Survey/Desktop Estimated OHWM Width (feet) [a]	Construction Method [b]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data [c]	DTI Commitments to Conservation Measures (TOYR or other commitments) [d]
Wetzel County, WV	Perm AR	TL-635 / 26.2	UNT to Buffalo Run	Perennial	54 (AR)	2	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 26.2	UNT to Buffalo Run	Perennial	6 (AR)	2	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 26.2	UNT to Buffalo Run	Perennial	4 (AR)	3	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 26.2	UNT to Buffalo Run	Intermittent	3 (AR)	3	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 26.2	UNT to Buffalo Run	Intermittent	2 (AR)	2	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 26.2	UNT to Buffalo Run	Intermittent	4 (AR)	4	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 26.2	UNT to Buffalo Run	Intermittent	2 (AR)	2	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 26.8	UNT to Carpenter Run	Perennial	NA	8	Not crossed by centerline	Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 26.9	Carpenter Run	Perennial	16 (CL)	15	Dam and Pump	In-stream; Within 1000 feet	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 28.1	Ashcamp Run	Perennial	10 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 29.4	UNT to South Fork Fishing Creek	Perennial	NA	4	Not crossed by centerline	Within 1000 feet	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 29.4	South Fork Fishing Creek	Perennial	74 (CL)	70	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1, HQS		April 1 - June 30	DTI survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody and mussel relocation requirements.
Wetzel County, WV	Pipeline Workspace	TL-635 / 29.5	UNT to South Fork Fishing Creek	Perennial	3 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 29.5	UNT to South Fork Fishing Creek	Perennial	4 (AR)	4	Perm AR	NA	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 29.7	UNT to South Fork Fishing Creek	Intermittent	10 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 29.7	UNT to South Fork Fishing Creek	Intermittent	7 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 29.7	UNT to South Fork Fishing Creek	Intermittent	9 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 29.7	UNT to South Fork Fishing Creek	Intermittent	NA	4	Not crossed by centerline	Within 1000 feet	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 29.7	UNT to South Fork Fishing Creek	Intermittent	NA	4	Not crossed by centerline	Within 1000 feet	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 29.7	UNT to South Fork Fishing Creek	Intermittent	NA	4	Not crossed by centerline	Within 1000 feet	UNT to B1, HQS		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 29.7	South Fork Fishing Creek	Perennial	66 (CL)	50	Dam and Pump	In-stream; Within 1000 feet	B1, HQS	Fecal Coliform, Iron, CNA (Conditions not allowable) Biological - Aquatic life	April 1 - June 30	No mussels obseved during survey	Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 30.1	South Fork Fishing Creek	Perennial	54 (CL)	45	Dam and Pump	In-stream; Within 1000 feet	B1, HQS	Fecal Coliform, Iron, CNA (Conditions not allowable) Biological - Aquatic life	April 1 - June 30	DTI survey or Agency documented presence of sensitive species	Will adhere to time of year restrictions for work within the waterbody and mussel relocation requirements.
Wetzel County, WV	Pipeline Workspace	TL-635 / 30.9	Richwood Run	Perennial	33 (CL)	15	Dam and Pump	In-stream; Within 1000 feet	B1	Fecal Coliform	April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.

Appendix K-2

Waterbody Crossings Along the Supply Header Project

County, State/ Commonwealth	Facilities Crossed	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [a]	Survey/Desktop Estimated OHWM Width (feet) [a]	Construction Method [b]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data [c]	DTI Commitments to Conservation Measures (TOYR or other commitments) [d]
Wetzel County, WV	Perm AR	TL-635 / 30.9	Richwood Run	Perennial	24 (AR)	15	Perm AR	NA	B1	Fecal Coliform	April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 30.9	Richwood Run	Perennial	24 (AR)	15	Perm AR	NA	B1	Fecal Coliform	April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 31.8	Upper Run	Perennial	29 (CL)	20	Dam and Pump	In-stream; Within 1000 feet	B1	Fecal Coliform	April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 32.2	UNT to Upper Run	Perennial	18 (CL)	15	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 33.2	Lower Run	Perennial	27 (CL)	7	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 33.2	Lower Run	Perennial	34 (AR)	7	Perm AR	NA	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 33.4	Lower Run	Perennial	14 (AR)	14	Perm AR	NA	B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Pipeline Workspace	TL-635 / 33.4	UNT to Lower Run	Perennial	15 (CL)	15	Dam and Pump	In-stream; Within 1000 feet	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 33.5	South Fork Fishing Creek	Perennial	87 (AR)	98	Perm AR	NA	B1, HQS		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 33.5	UNT to Lower Run	Perennial	11 (AR)	10	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 33.5	UNT to Lower Run	Perennial	7 (AR)	6	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Perm AR	TL-635 / 33.5	UNT to Lower Run	Perennial	7 (AR)	6	Perm AR	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Compressor Station	Mockingbird Hill / 33.6	UNT to Lower Run	Intermittent	NA	10	Compressor Station - Temporary Impact	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Wetzel County, WV	Compressor Station	Mockingbird Hill / 33.6	UNT to Lower Run	Perennial	NA	6	Compressor Station - Temporary Impact	NA	UNT to B1		April 1 - June 30		Will adhere to time of year restrictions for work within the waterbody.
Westmoreland County, PA	Pipeline Workspace	TL-636 / 0.2	UNT to Turtle Creek	Perennial	4 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	TSF	Aquatic Life	March 1 - June 15		Will adhere to time of year restrictions for work within the waterbody.
Westmoreland County, PA	Perm AR	TL-636 / 0.2	UNT to Turtle Creek	Perennial	13 (AR)	3	Perm AR	NA	TSF	Aquatic Life	March 1 - June 15		Will adhere to time of year restrictions for work within the waterbody.
Westmoreland County, PA	Pipeline Workspace	TL-636 / 0.6	UNT to Turtle Creek	Perennial	3 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	TSF	Aquatic Life	March 1 - June 15		Will adhere to time of year restrictions for work within the waterbody.
Westmoreland County, PA	Pipeline Workspace	TL-636 / 1.2	UNT to Kemerer Hollow	Perennial	4 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified	Aquatic Life	NA		
Westmoreland County, PA	Perm AR	TL-636 / 1.2	UNT to Kemerer Hollow	Perennial	4 (AR)	4	Perm AR	NA	Unclassified	Aquatic Life			
Westmoreland County, PA	Pipeline Workspace	TL-636 / 1.3	Kemerer Hollow	Perennial	5 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified	Aquatic Life	NA		
Westmoreland County, PA	Pipeline Workspace	TL-636 / 1.7	UNT to Kemerer Hollow	Perennial	6 (CL)	1	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified	Aquatic Life	NA		
Westmoreland County, PA	Pipeline Workspace	TL-636 / 1.9	UNT to Kemerer Hollow	Perennial	5 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	Unclassified	Aquatic Life	NA		
Westmoreland County, PA	Pipeline Workspace	TL-636 / 2.5	UNT to Steels Run	Perennial	4 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to HQ-CWF	Aquatic Life	NA		
Westmoreland County, PA	Pipeline Workspace	TL-636 / 2.6	Steels Run	Perennial	7 (CL)	6	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	HQ-CWF	Aquatic Life	October 1 to December 31		Will adhere to time of year restrictions for work within the waterbody.
Westmoreland County, PA	Perm AR	TL-636 / 2.7	UNT to Steels Run	Perennial	2 (AR)	2	Perm AR	NA	UNT to HQ-CWF				

Appendix K-2

Waterbody Crossings Along the Supply Header Project

County, State/ Commonwealth	Facilities Crossed	Project Segment / Milepost	Feature Name	Waterbody Regime	Access Road (AR) and Centerline (CL) Crossings (feet) [a]	Survey/Desktop Estimated OHWM Width (feet) [a]	Construction Method [b]	Blasting Planned (in-stream or within 1000 feet)	State/Commonwealth Regulatory Classification	Impairment	State/Commonwealth or Federal Time of Year Restriction (TOYR) (work limited between dates listed)	State/Commonwealth and Federal Species Survey Results / Assumed Presence based on Agency Data [c]	DTI Commitments to Conservation Measures (TOYR or other commitments) [d]
Westmoreland County, PA	Pipeline Workspace	TL-636 / 2.9	UNT to Steels Run	Perennial	10 (CL)	10	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to HQ-CWF	Aquatic Life	NA		
Westmoreland County, PA	Pipeline Workspace	TL-636 / 3.2	UNT to Steels Run	Perennial	6 (CL)	4	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to HQ-CWF	Aquatic Life	NA		
Westmoreland County, PA	Pipeline Workspace	TL-636 / 3.6	UNT to Haymakers Run	Perennial	6 (CL)	5	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to HQ-CWF		NA		
Westmoreland County, PA	Pipeline Workspace	TL-636 / 3.8	UNT to Haymakers Run	Perennial	3 (CL)	3	1) Dam and Pump 2) Flume	In-stream; Within 1000 feet	UNT to HQ-CWF		NA		
Westmoreland County, PA	Compressor Station	JB Tonkin / 3.9	UNT to Haymakers Run	Perennial	NA	8	Compressor Station - Temporary Impact	NA	UNT to HQ-CWF		NA		
Westmoreland County, PA	Compressor Station	JB Tonkin / 3.9	Haymakers Run	Perennial	NA	9	Compressor Station - Temporary Impact	NA	HQ-CWF		October 1 - December 31		Will adhere to time of year restrictions for work within the waterbody.
Westmoreland County, PA	Perm AR	TL-636 / 3.9	Haymakers Run	Perennial	9 (AR)	9	Perm AR	NA	HQ-CWF		October 1 - December 31		Will adhere to time of year restrictions for work within the waterbody.
Westmoreland County, PA	Compressor Station	JB Tonkin / 3.9	UNT to Haymakers Run	Perennial	NA	3	Compressor Station - Temporary Impact	NA	UNT to HQ-CWF		NA		

[a] "Access Road (AR) and Centerline (CL) Crossings" and "Survey/Desktop Estimated OHWM Width" represent measures of the width or crossing width of waterbodies. The first two crossing lengths, for access roads and for the pipeline centerline are GIS derived measurements based on waterbody polygons and the distance the respective facilities (access road or pipeline centerline) cross within the waterbody polygon. The third column of measurement is included for features that are not crossed by either an access road or the pipeline centerline, based on the field survey or desktop estimated ordinary high water mark (OHWM) width of the waterbodies.

[b] Construction Method includes trenchline construction methods for waterbodies that have a pipeline centerline crossing length. For waterbodies that are not crossed by the pipeline centerline or other unique facility components this column reads "Not Crossed by Centerline". For waterbodies that intersect unique facility components (e.g., compressor stations, contractor yards) the column refers to the unique facility crossed and identifies the nature of the planned impacts.

[c] Based on results of field surveys conducted by DTI, and/or based on historic survey data provided by federal and/or state agencies denoting presence of sensitive species within the waterbody or watershed. The federal and state listed species that were documented during DTI surveys at waterbody crossing locations are not disclosed in this table in order to protect the species from over-collection, habitat degradation, and/or to respect landowner, land-managing agencies, and/or regulatory agencies request to restrict the release of the location information.

[d] Includes Agency Recommended Mitigation measures received to date in consultation with State/Commonwealth and Federal agencies. Agency consultations are on-going; updates to mitigation measures will be provided when available.

APPENDIX L

WETLANDS CROSSED BY THE ATLANTIC COAST PIPELINE
AND SUPPLY HEADER PROJECT

TABLE L-1

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
AP-1								
West Virginia								
Harrison County	0.0	05020002	whab001e	PEM	0	<0.1	0.0	Open Cut
	0.0	05020002	whab001s	PSS	0	<0.1	0.0	NA
	0.0	05020002	whab001s	PSS	0	<0.1	0.0	NA
	0.0	05020002	whab001e	PEM	3	<0.1	0.0	Open Cut
	0.0	05020002	whab001e	PEM	0	<0.1	0.0	Open Cut
	0.5	05020002	whab002e	PEM	7	<0.1	0.0	Open Cut
	1.1	05020002	wleb001e	PEM	0	<0.1	0.0	NA
Lewis County	1.1	05020002	wleb001e	PEM	25	<0.1	0.0	Open Cut
	5.7	05020002	wlea003e	PEM	0	<0.1	0.0	NA
	5.7	05020002	wlea002e	PEM	53	<0.1	0.0	Open Cut
	5.8	05020002	wlea004e	PEM	44	0.1	0.0	Open Cut
	7.2	05020002	wlea005e	PEM	9	<0.1	0.0	Open Cut
	8.2	05020002	wleb003e	PEM	0	<0.1	0.0	NA
	9.2	05020002	wlea006e	PEM	6	<0.1	0.0	Open Cut
	9.2	05020002	wleb004e	PEM	0	<0.1	0.0	Open Cut
	9.6	05020002	wleb201e	PEM	0	<0.1	0.0	NA
	10.3	05020002	wleb006s	PSS	24	<0.1	<0.1	Open Cut
	11.8	05020002	wlea007e	PEM	26	0.1	0.0	Open Cut
	14.5	05020002	wleh006e	PEM	0	<0.1	0.0	NA
	15.0	05020002	wleb106e	PEM	0	<0.1	0.0	NA
	15.3	05020002	wleb107e	PEM	11	<0.1	0.0	Open Cut
	16.4	05020002	wleb108e	PEM	16	<0.1	0.0	Open Cut
	16.4	05020002	wleb108e	PEM	0	<0.1	0.0	Open Cut
	19.9	05020002	wlea011e	PEM	0	<0.1	0.0	Open Cut
	20.7	05020002	wlea012f	PFO	0	<0.1	0.0	NA
Upshur County	24.0	05020001	wupa001e	PEM	26	<0.1	0.0	Open Cut
	24.0	05020001	wupa001e	PEM	29	0.1	0.0	Open Cut
	24.3	05020001	wupa002e	PEM	12	<0.1	0.0	Open Cut
	24.7	05020001	wupa003e	PEM	25	<0.1	0.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	24.7	05020001	wupa003e	PEM	15	<0.1	0.0	Open Cut
	25.4	05020001	wupb001e	PEM	39	0.1	0.0	Open Cut
	25.4	05020001	wupb001e	PEM	5	<0.1	0.0	Open Cut
	25.7	05020001	wupb002e	PEM	0	<0.1	0.0	NA
	25.9	05020001	wupb003e	PEM	429	0.7	0.0	Open Cut
	26.0	05020001	wupb004e	PEM	874	1.5	0.0	Open Cut
	26.3	05020002	wupa005e	PEM	72	0.1	0.0	Open Cut
	26.6	05020002	wupa004e	PEM	39	0.1	0.0	Open Cut
	26.8	05020002	wupa006e	PEM	8	<0.1	0.0	Open Cut
	29.1	05020001	wupb006e	PEM	56	0.1	0.0	Open Cut
	29.3	05020001	wupb007e	PEM	100	0.1	0.0	Open Cut
	30.5	05020001	wupa007e	PEM	0	<0.1	0.0	Open Cut
	30.6	05020001	wupa007e	PEM	3	<0.1	0.0	Open Cut
	30.9	05020001	wupa008e	PEM	21	0.1	0.0	Open Cut
	30.9	05020001	wupa008e	PEM	0	<0.1	0.0	NA
	36.1	05020001	wupb009f	PFO	1	<0.1	<0.1	Open Cut
	36.1	05020001	wupa010f	PFO	16	<0.1	<0.1	Open Cut
	36.1	05020001	wupa010f	PFO	1	<0.1	<0.1	Open Cut
	36.1	05020001	wupa010f	PFO	0	<0.1	0.0	NA
	36.1	05020001	wupb009f	PFO	18	<0.1	<0.1	Open Cut
	36.8	05020001	wupb010e	PEM	0	<0.1	0.0	NA
	37.9	05020001	wupb011e	PEM	0	<0.1	0.0	NA
	39.4	05020001	wupa012e	PEM	141	0.1	0.0	Open Cut
	39.6	05020001	wupa015f	PFO	0	<0.1	0.0	NA
	41.3	05020001	wupa011e	PEM	23	<0.1	0.0	Open Cut
Randolph County	47.3	05020001	wraa104e	PEM	22	<0.1	0.0	Open Cut
	47.4	05020001	wrab103e	PEM	22	0.1	0.0	Open Cut
	48.4	05020001	wraf002e	PEM	0	<0.1	0.0	Open Cut
	48.8	05020001	wrac099e	PEM	62	0.1	0.0	Open Cut
	50.2	05020001	wrac100e	PEM	58	0.1	0.0	Open Cut
	50.2	05020001	wrac100e	PEM	0	<0.1	0.0	NA
	50.3	05020001	wrac101e	PEM	22	0.1	0.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	50.7	05020001	wraa402f	PFO	12	0.1	<0.1	Open Cut
	50.7	05020001	wraa402f	PFO	0	<0.1	0.0	NA
	50.7	05020001	wraa402f	PFO	4	<0.1	<0.1	Open Cut
	50.8	05020001	wraa403e	PEM	11	<0.1	0.0	Open Cut
	50.8	05020001	wrae001e	PEM	17	<0.1	0.0	Open Cut
	50.9	05020001	wraa404f	PFO	32	<0.1	<0.1	Open Cut
	50.9	05020001	wraa404e	PEM	125	0.2	0.0	Open Cut
	51.0	05020001	wraa405f	PFO	0	<0.1	0.0	NA
	51.2	05020001	wraa406e	PEM	14	<0.1	0.0	Open Cut
	51.2	05020001	wraa407e	PEM	11	<0.1	0.0	Open Cut
	51.4	05020001	wraa408f	PFO	0	<0.1	<0.1	Open Cut
	51.4	05020001	wraa409e	PEM	0	<0.1	0.0	NA
	51.4	05020001	wraa409e	PEM	0	<0.1	0.0	NA
	51.4	05020001	wraa410f	PFO	29	<0.1	<0.1	Open Cut
	51.5	05020001	wraa411f	PFO	31	<0.1	<0.1	Open Cut
	51.6	05020001	wraa412f	PFO	30	<0.1	<0.1	Open Cut
	51.6	05020001	wraa413f	PFO	14	<0.1	<0.1	Open Cut
	51.7	05020001	wraa414e	PEM	8	<0.1	0.0	Open Cut
	51.8	05020001	wraa418e	PEM	0	<0.1	0.0	Open Cut
	51.9	05020001	wraa417e	PEM	19	<0.1	0.0	Open Cut
	52.0	05020001	wraa416e	PEM	0	<0.1	0.0	Open Cut
	52.0	05020001	wraa415f	PFO	30	<0.1	<0.1	Open Cut
	52.1	05020001	wraa420f	PFO	31	0.1	<0.1	Open Cut
	52.2	05020001	wraa423e	PEM	0	<0.1	0.0	NA
	52.3	05020001	wraa422e	PEM	0	<0.1	0.0	NA
	53.3	05020001	wraa421e	PEM	71	0.1	0.0	Open Cut
	53.7	05020001	wraa424e	PEM	29	<0.1	0.0	Open Cut
	54.3	05020001	wraa429e	PEM	71	0.1	0.0	Open Cut
	54.4	05020001	wraa430s	PSS	21	<0.1	<0.1	Open Cut
	55.1	05020001	wrap001e	PFO	16	0.1	<0.1	Open Cut
	55.3	05020001	wrap003e	PEM	0	<0.1	0.0	NA
	55.4	05020001	wrap004e	PEM	31	<0.1	0.0	Open Cut

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	55.8	05020001	wrap005e	PEM	0	<0.1	0.0	Open Cut
	55.9	05020001	wrap007e	PEM	0	<0.1	0.0	NA
	55.9	05020001	wrap008e	PEM	16	<0.1	0.0	Open Cut
	56.0	05020001	wrap009e	PEM	32	0.1	0.0	Open Cut
	56.0	05020001	wrap011e	PEM	0	<0.1	0.0	NA
	56.1	05020001	wrap012e	PEM	135	0.3	0.0	Open Cut
	56.1	05020001	wrap012e	PEM	0	<0.1	0.0	NA
	56.3	05050007	wrap017e	PEM	0	<0.1	0.0	NA
	56.4	05050007	wrap019e	PEM	0	<0.1	0.0	NA
	56.4	05050007	wrap020e	PEM	0	<0.1	0.0	Open Cut
	56.4	05050007	wrap020s	PSS	0	0.2	<0.1	Open Cut
	56.4	05050007	wrap022e	PEM	0	<0.1	0.0	NA
	56.5	05050007	wrap024s	PSS	0	<0.1	0.0	NA
	56.5	05050007	wrap025e	PEM	0	<0.1	0.0	NA
	56.7	05050007	wrap026e	PEM	14	<0.1	0.0	Open Cut
	56.7	05050007	wrap027e	PEM	10	0.1	0.0	Open Cut
	56.7	05050007	wrap028e	PEM	8	<0.1	0.0	Open Cut
	56.7	05050007	wrap029e	PEM	11	<0.1	0.0	Open Cut
	56.8	05050007	wrap030e	PEM	0	<0.1	0.0	NA
	56.8	05050007	wrae200e	PEM	0	<0.1	0.0	NA
	57.3	05050007	wrae201e	PEM	0	<0.1	0.0	NA
	57.4	05050007	wrae202e	PEM	0	<0.1	0.0	NA
	57.4	05050007	wrae203e	PEM	10	<0.1	0.0	Open Cut
	57.4	05050007	wrae205e	PEM	0	<0.1	0.0	Open Cut
	57.4	05050007	wrae204e	PEM	0	<0.1	0.0	NA
	57.4	05050007	wrac104e	PEM	76	0.1	0.0	Open Cut
	57.9	05050007	wrae240e	PEM	11	<0.1	0.0	Open Cut
	57.9	05050007	wrae239e	PEM	0	<0.1	0.0	Open Cut
	58.2	05050007	wrae237e	PEM	8	<0.1	0.0	Open Cut
	58.3	05050007	wrae236e	PEM	0	<0.1	0.0	NA
	58.3	05050007	wrae235e	PEM	99	0.2	0.0	Open Cut
	60.3	05050007	wrae207e	PEM	15	<0.1	0.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	61.2	05050007	wrae209e	PEM	0	<0.1	0.0	NA
	61.7	05050007	wrae225e	PEM	0	<0.1	0.0	Open Cut
	62.2	05050007	wrae223e	PEM	45	0.1	0.0	Open Cut
	62.2	05050007	wrae222e	PEM	110	0.2	0.0	Open Cut
	62.4	05050007	wrae220s	PSS	0	<0.1	0.0	NA
	62.4	05050007	wrae220e	PEM	14	<0.1	0.0	Open Cut
	62.4	05050007	wrae219e	PEM	0	0.1	0.0	Open Cut
	62.6	05050007	wrae218e	PEM	0	<0.1	0.0	Open Cut
	62.6	05050007	wrae217e	PEM	31	<0.1	0.0	Open Cut
	62.8	05050007	wrae216e	PEM	86	0.2	0.0	Open Cut
	63.0	05020001	wrae215f	PFO	49	0.1	<0.1	Open Cut
	63.0	05020001	wrae214e	PEM	78	0.1	0.0	Open Cut
	63.3	05020001	wrae212e	PEM	16	<0.1	0.0	Open Cut
	63.3	05020001	wrae213f	PFO	0	<0.1	0.0	NA
	63.5	05020001	wrae211e	PEM	28	<0.1	0.0	Open Cut
	63.8	05020001	wrae210e	PEM	26	<0.1	0.0	Open Cut
Pocahontas County	71.0	05050007	wpoe002e	PEM	6	<0.1	0.0	Open Cut
	71.7	05050003	wpoa406e	PEM	0	<0.1	0.0	NA
	71.7	05050003	wpoa404e	PEM	0	<0.1	0.0	NA
	71.7	05050003	wpoa404e	PEM	0	<0.1	0.0	NA
	71.7	05050003	wpoa403e	PEM	345	0.5	0.0	Open Cut
	72.2	05050003	wpoc105f	PFO	181	0.3	0.1	Open Cut
	74.6	05050003	wpoc109e	PEM	53	<0.1	0.0	Open Cut
	74.6	05050003	wpoc109e	PEM	0	0.0	0.0	NA
	75.5	05050003	wpoc100e	PEM	70	0.1	0.0	Open Cut
	75.6	05050003	wpoc101e	PEM	25	<0.1	0.0	Open Cut
	75.7	05050003	wpoc102e	PEM	961	1.7	0.0	Open Cut
	76.2	05050003	wpoc103e	PEM	38	0.3	0.0	Open Cut
	76.3	05050003	wpoc103e	PEM	147	0.3	0.0	Open Cut
	76.4	05050003	wpoc104e	PEM	16	0.1	0.0	Open Cut
	76.4	05050003	wpoc106e	PEM	27	<0.1	0.0	Open Cut
	76.5	05050003	wpoc107s	PSS	17	<0.1	<0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	76.5	05050003	wpoc107s	PSS	23	<0.1	<0.1	Open Cut
	81.0	05050003	wpoe011e	PEM	8	<0.1	0.0	Open Cut
	81.0	05050003	wpoe011e	PEM	14	0.1	0.0	Open Cut
	81.0	05050003	wpoe011e	PEM	0	<0.1	0.0	NA
	81.1 [g]	05050003	wpoe010e	PEM	26	<0.1	0.0	Open Cut
	82.7 [g]	05050003	wpoa400e	PEM	0	<0.1	0.0	Open Cut
Virginia								
Highland County	85.4 [g]	02080201	whia407f	PFO	0	<0.1	0.0	NA
	85.4 [g]	02080201	whia406f	PFO	49	<0.1	<0.1	Open Cut
	88.3	02080201	whia403e	PEM	29	<0.1	0.0	Open Cut
	90.6	02080201	whia400e	PEM	2	<0.1	0.0	Open Cut
	91.3	02080201	whic121e	PEM	0	<0.1	0.0	NA
Bath County	94.8	02080201	nwi_va_e_002	PEM	0	<0.1	0.0	Open Cut
	95.5	02080201	nwi_va_e_003	PEM	0	<0.1	0.0	NA
	97.7	02080201	nwi_va_k_003	PEM	0	<0.1	0.0	NA
	100.6	02080201	wbaa002e	PEM	7	<0.1	0.0	Open Cut
	101.0	02080201	wbar009f	PFO	0	<0.1	<0.1	Open Cut
	101.2	02080201	wbaf001f	PFO	0	<0.1	<0.1	Open Cut
	101.2	02080201	wbaf001e	PEM	0	<0.1	0.0	Open Cut
	103.1	02080202	nwi_va_k_004	PFO	9	0.3	<0.1	Open Cut
	103.1	02080202	nwi_va_k_004	PFO	10	<0.1	<0.1	Open Cut
	103.1	02080202	wbar004e	PEM	89	<0.1	0.0	Open Cut
	103.1	02080202	nwi_va_k_004	PFO	0	<0.1	<0.1	Open Cut
	103.1	02080202	nwi_va_k_004	PFO	0	<0.1	<0.1	Open Cut
	103.1	02080202	nwi_va_k_004	PFO	0	<0.1	0.0	NA
	103.1	02080202	wbar003e	PEM	64	0.1	0.0	Open Cut
	103.2	02080202	wbar003e	PEM	0	<0.1	0.0	NA
	104.2	02080202	wbar001f	PFO	0	<0.1	<0.1	Open Cut
	104.8	02080202	nwi_va_k_006	PFO	126	0.2	0.1	Open Cut
	104.8	02080202	nwi_va_k_006	PFO	49	0.2	<0.1	Open Cut
	105.0	02080202	nwi_va_e_014	PFO	0	0.1	0.0	NA
	105.7	02080202	wbar007f	PFO	15	<0.1	<0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	105.7	02080202	wbar007f	PFO	0	<0.1	0.0	NA
Augusta County	108.3	02080202	waur001f	PFO	14	<0.1	<0.1	Open Cut
	108.3	02080202	waur001e	PEM	78	0.1	0.0	Open Cut
	108.3	02080202	waur001e	PEM	17	<0.1	0.0	Open Cut
	109.6	02080202	wauz007e	PEM	0	0.1	0.0	NA
	109.6	02080202	wauz006e	PEM	0	0.1	0.0	Open Cut
	109.7	02080202	wauz005e	PEM	9	<0.1	0.0	Open Cut
	109.8	02080202	wauz004e	PEM	10	<0.1	0.0	Open Cut
	110.2	02080202	wauc112e	PEM	35	0.1	0.0	Open Cut
	110.3	02080202	wauc113e	PEM	216	0.4	0.0	Open Cut
	112.0	02080202	wauc110e	PEM	19	<0.1	0.0	Open Cut
	113.1 [g]	02080202	waua402s	PSS	0	<0.1	0.0	NA
	113.1 [g]	02080202	waua402s	PSS	0	<0.1	0.0	NA
	113.1 [g]	02080202	wauz003e	PEM	0	<0.1	0.0	NA
	113.5	02080202	waua403e	PEM	6	<0.1	0.0	Open Cut
	114.3	02080202	waua405s	PSS	0	<0.1	0.0	NA
	114.7	02080202	wauc106e	PEM	78	0.2	0.0	Open Cut
	115.0	02080202	wauc104e	PEM	0	<0.1	0.0	NA
	115.0	02080202	wauc104e	PEM	0	<0.1	0.0	NA
	115.4	02080202	waub100e	PEM	9	<0.1	0.0	Open Cut
	115.8 [g]	02080202	waub101e	PEM	15	<0.1	0.0	Open Cut
	115.8 [g]	02080202	waub102e	PEM	21	<0.1	0.0	Open Cut
	116.5	02080202	wauz001e	PEM	0	<0.1	0.0	NA
	116.5	02080202	wauz002e	PEM	0	<0.1	0.0	NA
	117.1	02080202	wauc001f	PFO	12	<0.1	<0.1	Open Cut
	120.4 [g]	02070005	wauc002s	PSS	0	<0.1	<0.1	Open Cut
	143.2	02070005	wauc101e	PEM	0	<0.1	0.0	NA
	143.2	02070005	waub001e	PEM	10	<0.1	0.0	Open Cut
	148.5	02070005	wauc102f	PFO	204	0.3	0.1	Open Cut
	148.6	02070005	wauc102f	PFO	385	0.5	0.3	Open Cut
	148.7	02070005	wauc102e	PEM	0	<0.1	0.0	NA
	150.8	02070005	wauc103f	PFO	0	<0.1	0.0	NA

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	152.4	02070005	waub103f	PFO	283	0.4	0.2	Open Cut
	153.4	02070005	waua059f	PFO	3	<0.1	<0.1	Open Cut
	154.6 [g]	02070005	wauc100e	PEM	0	<0.1	0.0	NA
	156.0	02070005	waua053s	PSS	13	<0.1	<0.1	Open Cut
	156.0	02070005	waua053s	PSS	27	<0.1	<0.1	Open Cut
	156.2	02070005	waua052e	PEM	0	<0.1	0.0	NA
	156.2	02070005	waua052e	PEM	0	<0.1	0.0	NA
	156.2	02070005	waua052e	PEM	20	0.1	0.0	Open Cut
	156.4	02070005	waua051e	PEM	20	<0.1	0.0	Open Cut
	156.4	02070005	waua051e	PEM	23	0.1	0.0	Open Cut
	156.9	02070005	waue001s	PSS	104	0.1	<0.1	Open Cut
	157.5	02070005	waua400f	PFO	128	0.3	0.1	Open Cut
Nelson County	158.9	02080203	wnea020f	PFO	0	<0.1	0.0	NA
	165.5	02080203	wnec050e	PEM	28	<0.1	0.0	Open Cut
	165.5	02080203	wnec050e	PEM	0	0.0	0.0	Open Cut
	166.2	02080203	wnea051f	PFO	24	<0.1	<0.1	Open Cut
	166.2	02080203	wnea051f	PFO	33	<0.1	<0.1	Open Cut
	166.3	02080203	wnea051f	PFO	0	<0.1	0.0	NA
	171.0	02080203	wnez004s	PSS	0	<0.1	0.0	NA
	171.8	02080203	wnea402e	PEM	0	<0.1	0.0	Open Cut
	182.9	02080203	wnep001f	PFO	0	<0.1	0.0	NA
	184.5	02080203	wnea023f	PFO	10	<0.1	<0.1	Open Cut
	184.6	02080203	wnea022f	PFO	110	0.2	0.1	HDD
Buckingham County	184.8	02080203	wbuc109f	PFO	281	0.8	0.2	Open Cut
	185.4	02080203	wbup007e	PEM	0	<0.1	0.0	NA
	186.8	02080203	nwi_va_a_025	PFO	0	<0.1	0.0	NA
	186.8	02080203	nwi_va_a_025	PFO	0	0.2	<0.1	Open Cut
	187.6	02080203	wbup005f	PFO	104	0.1	0.1	Open Cut
	188.2	02080203	wbup004f	PFO	26	<0.1	<0.1	Open Cut
	188.2	02080203	wbup003f	PFO	0	<0.1	0.0	NA
	190.1	02080203	wbuc108f	PFO	25	<0.1	<0.1	Open Cut
	190.6	02080203	wbua001f	PFO	56	0.1	<0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	190.7	02080203	wbua010f	PFO	0	<0.1	0.0	NA
	191.0	02080203	wbua002f	PFO	0	<0.1	0.0	NA
	191.0	02080203	wbua002f	PFO	0	<0.1	0.0	NA
	191.0	02080203	wbua002f	PFO	0	<0.1	0.0	NA
	191.0	02080203	wbua002f	PFO	15	<0.1	<0.1	Open Cut
	191.0	02080203	wbua002f	PFO	36	0.1	<0.1	Open Cut
	191.5	02080203	wbub050f	PFO	93	0.1	0.1	Open Cut
	191.9	02080203	wbub051s	PSS	34	0.1	<0.1	Open Cut
	193.5	02080203	wbuc003f	PFO	115	0.1	0.1	Open Cut
	194.1	02080203	wbuc004e	PEM	11	<0.1	0.0	Open Cut
	194.1	02080203	wbuc005f	PFO	0	<0.1	<0.1	Open Cut
	195.0	02080203	wbuk001e	PEM	24	<0.1	0.0	Open Cut
	196.1	02080203	wbuk005e	PEM	124	0.1	0.0	Open Cut
	196.1	02080203	wbuk005e	PEM	53	0.1	0.0	Open Cut
	197.5	02080203	wbuk007e	PEM	0	0.0	0.0	Open Cut
	198.5	02080203	wbua200e	PEM	29	<0.1	0.0	Open Cut
	198.5	02080203	wbua201e	PEM	47	0.1	0.0	Open Cut
	198.5	02080203	wbua201f	PFO	68	0.1	<0.1	Open Cut
	200.1	02080203	wbul004s	PSS	29	<0.1	<0.1	Open Cut
	200.5	02080203	wbup002e	PEM	132	0.2	0.0	Open Cut
	201.2	02080203	wbup001s	PSS	0	0.0	<0.1	Open Cut
	201.2	02080203	wbup001f	PFO	30	<0.1	<0.1	Open Cut
	201.2	02080203	wbup001f	PFO	121	0.2	0.1	Open Cut
	201.2	02080203	wbup001s	PSS	0	0.0	0.0	NA
	201.8	02080203	wbul005f	PFO	51	<0.1	<0.1	Open Cut
	201.8	02080203	wbul005f	PFO	78	0.1	0.1	Open Cut
	203.6	02080205	wbul002f	PFO	171	0.3	0.1	Open Cut
	203.6	02080205	wbul002f	PFO	53	0.1	<0.1	Open Cut
	205.2	02080205	wbul003f	PFO	0	<0.1	0.0	NA
	206.5	02080205	wbul007f	PFO	0	<0.1	0.0	NA
	206.6	02080205	wbul007f	PFO	0	<0.1	0.0	NA
	206.9	02080205	wbul006f	PFO	35	0.1	<0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	206.9	02080205	wbul006f	PFO	46	0.1	<0.1	Open Cut
	207.8	02080205	wbua004f	PFO	14	<0.1	<0.1	Open Cut
	207.8	02080205	wbua004f	PFO	22	<0.1	<0.1	Open Cut
	208.8	02080205	wbua400f	PFO	0	<0.1	0.0	NA
	209.1	02080205	wbuk013f	PFO	0	<0.1	0.0	NA
	209.2	02080205	wbuk013f	PFO	0	<0.1	<0.1	Open Cut
	209.2	02080205	wbuk013f	PFO	28	0.1	<0.1	Open Cut
	209.4	02080205	wbuk016f	PFO	0	<0.1	0.0	NA
	209.5	02080205	wbuk017e	PEM	31	0.1	0.0	Open Cut
	209.5	02080205	wbuk018e	PEM	157	0.2	0.0	Open Cut
	210.1	02080205	wbuc104f2	PFO	210	0.4	0.1	Open Cut
	210.2	02080205	wbuc104f2	PFO	62	0.1	<0.1	Open Cut
	210.9	02080205	wbuk010f	PFO	68	0.1	<0.1	Open Cut
	211.7	02080205	wbua203e	PEM	0	<0.1	0.0	NA
	211.7	02080205	wbua401f	PFO	0	<0.1	0.0	NA
	211.7	02080205	wbua401f	PFO	0	<0.1	0.0	NA
	211.8	02080205	wbua402e	PEM	17	<0.1	0.0	Open Cut
Cumberland County	213.8	02080207	wcuk001f	PFO	19	<0.1	<0.1	Open Cut
	213.9	02080207	wcuk002f	PFO	0	0.1	0.0	NA
	214.5	02080207	wcuc001f	PFO	32	0.1	<0.1	Open Cut
	214.8	02080207	nwi_va_044	PFO	197	0.3	0.1	Open Cut
	214.8	02080207	nwi_va_044	PFO	80	0.1	0.1	Open Cut
	215.0	02080207	wcuk014f	PFO	0	<0.1	0.0	NA
	215.4	02080207	wcuk016f	PFO	0	<0.1	0.0	NA
	216.0	02080207	wcuk017e	PEM	0	<0.1	0.0	NA
	218.2	02080207	wcuk012s	PSS	41	<0.1	<0.1	Open Cut
	218.7	02080207	wcuk011f	PFO	12	<0.1	<0.1	Open Cut
	218.7	02080207	wcuk011f	PFO	0	<0.1	<0.1	Open Cut
	218.7	02080207	wcuk011f	PFO	0	<0.1	0.0	NA
	218.7	02080207	wcuk011f	PFO	0	<0.1	0.0	NA
	218.7	02080207	wcuk011f	PFO	0	<0.1	0.0	NA
	219.5	02080207	wcuk008f	PFO	45	0.1	<0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	219.5	02080207	wcuk008f	PFO	10	<0.1	<0.1	Open Cut
	220.0	02080207	wcuc100e	PEM	0	<0.1	0.0	NA
	220.4	02080207	wcuk006e	PEM	18	<0.1	0.0	Open Cut
	220.5	02080207	wcuk006e	PEM	199	0.4	0.0	Open Cut
	220.7	02080207	wcuk005e	PEM	70	0.1	0.0	Open Cut
Prince Edward County	221.7	02080207	wpek001e	PEM	90	0.1	0.0	Open Cut
	222.6	02080207	wpek002e	PEM	72	0.1	0.0	Open Cut
	223.1	02080207	wpea005f	PFO	97	0.7	0.3	Open Cut
	223.2	02080207	nwi_va_047	PFO	51	0.1	<0.1	Open Cut
	223.2	02080207	nwi_va_047	PFO	19	<0.1	<0.1	Open Cut
	223.2	02080207	wpea005f	PFO	442	0.7	0.3	Open Cut
	223.9	02080207	wpea002f	PFO	0	<0.1	0.0	NA
	224.1	02080207	wpea003f	PFO	60	0.1	<0.1	Open Cut
	224.3	02080207	wpea004f	PFO	42	0.1	<0.1	Open Cut
	225.2	02080207	wpec001f	PFO	53	0.1	<0.1	Open Cut
	225.5	02080207	wpea006f	PFO	41	0.1	<0.1	Open Cut
	225.5	02080207	wpea006f	PFO	17	<0.1	<0.1	Open Cut
Nottoway County	226.0	02080207	wnok021s	PSS	25	<0.1	<0.1	Open Cut
	226.1	02080207	wnok022f	PFO	62	0.1	<0.1	Open Cut
	226.8	02080207	wnok001f	PFO	0	<0.1	0.0	NA
	227.2	02080207	wnok002f	PFO	30	<0.1	<0.1	Open Cut
	227.2	02080207	wnok002f	PFO	0	<0.1	0.0	NA
	228.3	02080207	wnok003f	PFO	0	<0.1	<0.1	Open Cut
	228.3	02080207	wnok003e	PEM	155	0.2	0.0	Open Cut
	228.8	02080207	wnok005f	PFO	44	0.1	<0.1	Open Cut
	228.8	02080207	wnok005f	PFO	0	0.0	0.0	NA
	229.2	02080207	wnok006e	PEM	153	0.3	0.0	Open Cut
	229.3	02080207	wnok007f	PFO	3	<0.1	<0.1	Open Cut
	229.9	02080207	wnok008f	PFO	7	<0.1	<0.1	Open Cut
	229.9	02080207	wnok008f	PFO	0	<0.1	<0.1	Open Cut
	230.0	02080207	wnok009f	PFO	47	0.1	<0.1	Open Cut
	231.8	02080207	wnol001f	PFO	61	0.1	<0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	232.4	02080207	wnol003f	PFO	0	<0.1	0.0	NA
	232.7	02080207	wnok017f	PFO	30	0.1	<0.1	Open Cut
	232.7	02080207	wnok017e	PEM	56	0.1	0.0	Open Cut
	232.7	02080207	wnok017f	PFO	83	0.1	0.1	Open Cut
	232.8	02080207	wnok018s	PSS	0	<0.1	0.0	NA
	232.8	02080207	wnok018s	PSS	0	<0.1	0.0	NA
	233.4	02080207	wnok019f	PFO	27	<0.1	<0.1	Open Cut
	233.4	02080207	wnok019f	PFO	63	0.1	<0.1	Open Cut
	233.5	02080207	wnok020s	PSS	0	<0.1	<0.1	Open Cut
	233.5	02080207	wnok020f	PFO	33	0.1	<0.1	Open Cut
	235.2	02080207	wnom005e	PEM	0	<0.1	0.0	Open Cut
	235.5	02080207	wnom006f	PFO	191	0.2	0.1	Open Cut
	235.5	02080207	wnom006f	PFO	84	0.2	0.1	Open Cut
	235.6	02080207	nwi_va_c_043	PFO	0	0.1	0.0	NA
	236.0	02080207	wnok101f	PFO	275	0.4	0.2	Open Cut
	236.1	02080207	wnok100f	PFO	34	0.1	<0.1	Open Cut
	236.1	02080207	wnok100f	PFO	54	0.1	<0.1	Open Cut
	237.4	02080207	wnop001f	PFO	32	0.1	<0.1	Open Cut
	238.6	02080207	wnok010e	PEM	0	<0.1	0.0	NA
	238.8	02080207	wnok011e	PEM	12	<0.1	0.0	Open Cut
	238.8	02080207	wnok011e	PEM	17	<0.1	0.0	Open Cut
	238.8	02080207	wnok011e	PEM	0	<0.1	0.0	NA
	239.1	02080207	wnok012f	PFO	0	<0.1	<0.1	Open Cut
	240.0	02080207	wnok013e	PEM	11	<0.1	0.0	Open Cut
	240.6	02080207	wnok016f	PFO	0	<0.1	<0.1	Open Cut
	241.4	02080207	wnoc100f	PFO	57	0.1	<0.1	Open Cut
	241.5	02080207	wnoc100f	PFO	356	0.6	0.2	Open Cut
	241.6	02080207	wnoc100f	PFO	53	0.1	<0.1	Open Cut
	242.8	02080207	wnoc001f	PFO	361	0.6	0.2	Open Cut
	242.8	02080207	wnoc001e	PEM	0	<0.1	0.0	Open Cut
	242.9	02080207	wnoc001e	PEM	158	0.2	0.0	Open Cut
	242.9	02080207	wnoc001e	PEM	333	0.6	0.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	243.0	02080207	wnoc001f	PFO	105	0.2	0.1	Open Cut
	244.1	02080207	nwi_va_k_007	PFO	496	1.4	0.3	Open Cut
	245.1	02080207	wnol006f	PFO	51	0.1	<0.1	Open Cut
	245.1	02080207	wnol006f	PFO	117	0.2	0.1	Open Cut
	245.4	02080207	wnoa010f	PFO	17	<0.1	<0.1	Open Cut
	245.6	02080207	wnol007f	PFO	111	0.2	0.1	Open Cut
	246.0	02080207	wnol008f	PFO	64	0.1	<0.1	Open Cut
	246.0	02080207	wnol008f	PFO	49	0.1	<0.1	Open Cut
	247.2	02080207	wnok024f	PFO	0	0.1	<0.1	Open Cut
	247.2	02080207	wnok025f	PFO	0	<0.1	<0.1	Open Cut
	247.7	03010201	wnom001e	PEM	0	<0.1	0.0	Open Cut
	247.7	03010201	wnom001e	PEM	0	<0.1	0.0	Open Cut
	247.8	03010201	wnom001e	PEM	0	<0.1	0.0	NA
	247.8	03010201	wnom001e	PEM	0	<0.1	0.0	NA
	247.8	03010201	wnom001e	PEM	10	<0.1	0.0	Open Cut
	247.8	03010201	wnom001e	PEM	42	<0.1	0.0	Open Cut
	247.8	03010201	wnom001e	PEM	0	<0.1	0.0	NA
	248.1	03010201	wnom002e	PEM	52	0.1	0.0	Open Cut
	248.1	03010201	wnom003f	PFO	31	0.1	<0.1	Open Cut
	248.2	03010201	wnom003f	PFO	10	<0.1	<0.1	Open Cut
	248.4	03010201	wnom003f	PFO	0	<0.1	0.0	NA
	248.4	03010201	wnom003f	PFO	0	0.1	0.0	NA
	248.6	03010201	wnom004f	PFO	7	<0.1	<0.1	Open Cut
	248.6	03010201	wnom004f	PFO	111	0.2	0.1	Open Cut
Dinwiddie County	249.1	03010201	wdim001f	PFO	0	<0.1	0.0	NA
	249.1	03010201	wdim001f	PFO	53	0.1	<0.1	Open Cut
	249.1	03010201	wdim001e	PEM	59	0.1	0.0	Open Cut
	249.1	03010201	wdim001f	PFO	0	<0.1	0.0	NA
	249.2	03010201	wdim002s	PSS	60	0.1	<0.1	Open Cut
	249.5	03010201	wdim003e	PEM	9	<0.1	0.0	Open Cut
	249.6	03010201	wdim003e	PEM	135	0.2	0.0	Open Cut
	249.8	03010201	wdim004e	PEM	37	0.1	0.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	249.9	03010201	wdim005s	PSS	0	<0.1	0.0	NA
	250.2	03010201	wdim006f	PFO	0	<0.1	<0.1	Open Cut
	250.2	03010201	wdim006f	PFO	51	0.1	<0.1	Open Cut
	250.2	03010201	wdim006f	PFO	0	<0.1	0.0	NA
	250.2	03010201	wdim006f	PFO	0	<0.1	0.0	NA
	250.5	03010201	wdim007f	PFO	5	<0.1	<0.1	Open Cut
	250.5	03010201	wdim007f	PFO	12	<0.1	<0.1	Open Cut
	250.6	03010201	wdim011f	PFO	166	0.3	0.1	Open Cut
	251.2	03010201	wdim010f	PFO	11	<0.1	<0.1	Open Cut
	251.2	03010201	wdim010f	PFO	29	<0.1	<0.1	Open Cut
	251.4	03010201	wdim008e	PEM	7	<0.1	0.0	Open Cut
	251.5	03010201	wdim009e	PEM	58	0.1	0.0	Open Cut
	251.5	03010201	wdim009f	PFO	7	<0.1	<0.1	Open Cut
	251.5	03010201	wdim012f	PFO	82	0.1	<0.1	Open Cut
	252.0	03010201	wdim015f	PFO	54	0.1	0.1	Open Cut
	252.0	03010201	wdim015f	PFO	20	<0.1	<0.1	Open Cut
	252.0	03010201	wdim015f	PFO	0	0.0	0.0	NA
	252.1	03010201	wdim016f	PFO	7	<0.1	<0.1	Open Cut
	252.1	03010201	wdim016f	PFO	4	<0.1	<0.1	Open Cut
	252.6	03010201	wdim018f	PFO	61	0.1	<0.1	Open Cut
	252.7	03010201	wdim019f	PFO	14	<0.1	<0.1	Open Cut
	252.7	03010201	wdim019f	PFO	0	<0.1	0.0	NA
	252.7	03010201	wdim019f	PFO	19	0.1	<0.1	Open Cut
	252.9	03010201	wdim020f	PFO	30	0.1	<0.1	Open Cut
	253.1	03010201	wdim021f	PFO	24	<0.1	<0.1	Open Cut
	253.6	03010201	wdic013f	PFO	907	1.6	0.6	Open Cut
	253.8	03010201	wdic013f	PFO	516	0.8	0.4	Open Cut
	254.0	03010201	wdic011f	PFO	494	0.7	0.3	Open Cut
	254.3	03010201	wdic010f	PFO	29	0.1	<0.1	Open Cut
	254.5	03010201	wdic008e	PEM	0	<0.1	0.0	NA
	254.6	03010201	wdic007e	PEM	0	<0.1	0.0	NA
	254.6	03010201	wdib006f	PFO	75	0.1	0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	254.8	03010201	wdia006f	PFO	159	0.4	0.1	Open Cut
	255.4	03010201	wdib004f	PFO	30	<0.1	<0.1	Open Cut
	255.4	03010201	wdib005e	PEM	54	0.1	0.0	Open Cut
	255.5	03010201	wdib003s	PSS	48	0.1	<0.1	Open Cut
	255.7	03010201	wdib002s	PSS	156	0.3	<0.1	Open Cut
	255.9	03010201	wdib001f	PFO	105	0.1	0.1	Open Cut
	256.2	03010201	wdic006f	PFO	29	0.1	<0.1	Open Cut
	256.5	03010201	wdic004f	PFO	100	0.2	0.1	Open Cut
	256.7	03010201	wdio030f	PFO	0	<0.1	<0.1	Open Cut
	257.3	03010201	wdio028f	PFO	95	0.2	0.1	Open Cut
	259.3	03010201	wdic001f	PFO	78	0.1	<0.1	Open Cut
	259.3	03010201	wdic001f	PFO	158	0.3	0.1	Open Cut
	259.4	03010201	wdia400f	PFO	221	0.3	0.1	Open Cut
	259.7	03010201	wdio026f	PFO	0	<0.1	<0.1	Open Cut
	260.6	03010201	wdic003f	PFO	410	0.7	0.3	Open Cut
Brunswick County	260.7	03010201	wbrc003f	PFO	33	0.1	<0.1	Open Cut
	260.8	03010201	wbrc003f	PFO	80	0.1	0.1	Open Cut
	260.8	03010201	wbra201f	PFO	100	0.2	0.1	Open Cut
	261.3	03010201	wbrc001f	PFO	46	0.1	<0.1	Open Cut
	261.5	03010201	wbra202f	PFO	14	<0.1	<0.1	Open Cut
	261.5	03010201	wbra202f	PFO	17	<0.1	<0.1	Open Cut
	261.6	03010201	wbra400f	PFO	34	0.1	<0.1	Open Cut
	262.5	03010201	wbra203f	PFO	26	<0.1	<0.1	Open Cut
	262.5	03010201	wbra203f	PFO	126	0.2	0.1	Open Cut
	262.6	03010201	wbra203f	PFO	26	<0.1	<0.1	Open Cut
	262.8	03010201	wbra204f	PFO	242	0.3	0.2	Open Cut
	262.9	03010201	wbra204f	PFO	202	0.4	0.1	Open Cut
	264.2	03010201	wbrc050e	PEM	0	<0.1	0.0	Open Cut
	265.1	03010201	wbro003f	PFO	0	<0.1	0.0	NA
	265.4	03010201	wbro005f	PFO	0	<0.1	<0.1	Open Cut
	265.4	03010201	wbro005f	PFO	64	0.1	<0.1	Open Cut
	265.4	03010201	wbro005f	PFO	0	0.0	0.0	NA

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	266.1	03010201	wbrr013f	PFO	0	<0.1	0.0	NA
	266.1	03010201	wbrr013f	PFO	0	<0.1	0.0	NA
	266.3	03010201	wbrr012f	PFO	36	<0.1	<0.1	Open Cut
	266.6	03010201	wbrr011s	PSS	160	0.3	<0.1	Open Cut
	266.7	03010201	wbrr010f	PFO	142	0.2	0.1	Open Cut
	266.8	03010201	wbrr010f	PFO	39	0.1	<0.1	Open Cut
	266.9	03010201	wbrr009e	PEM	4	<0.1	0.0	Open Cut
	266.9	03010201	wbrr014f	PFO	63	0.1	<0.1	Open Cut
	267.4	03010201	wbrr015s	PSS	56	0.1	<0.1	Open Cut
	267.4	03010201	wbrr015f	PFO	0	0.1	<0.1	Open Cut
	267.5	03010201	wbro010f	PFO	0	<0.1	0.0	NA
	267.8	03010201	wbro008f	PFO	0	<0.1	0.0	NA
	267.9	03010201	wbro009f	PFO	77	0.1	<0.1	Open Cut
	267.9	03010201	wbro009e	PEM	0	<0.1	0.0	Open Cut
	267.9	03010201	wbro009f	PFO	37	<0.1	<0.1	Open Cut
	267.9	03010201	wbro009e	PEM	0	<0.1	0.0	Open Cut
	269.4	03010201	nwi_va_b_061	PFO	113	0.2	0.1	Open Cut
	269.7	03010201	wbrr006f	PFO	0	<0.1	0.0	NA
	270.0	03010201	wbrr001f	PFO	12	<0.1	<0.1	Open Cut
	270.0	03010201	wbrr001f	PFO	9	<0.1	<0.1	Open Cut
	270.0	03010201	wbrr001e	PEM	0	<0.1	0.0	Open Cut
	270.2	03010201	wbrr002e	PEM	17	<0.1	0.0	Open Cut
	270.2	03010201	wbrr002f	PFO	97	0.1	<0.1	Open Cut
	270.5	03010201	wbrr003e	PEM	108	0.1	0.0	Open Cut
	270.5	03010201	wbrr003f	PFO	0	0.1	0.0	NA
	270.5	03010201	wbrr003e	PEM	15	<0.1	0.0	Open Cut
	270.6	03010201	wbrr003f	PFO	0	<0.1	0.0	NA
	271.8	03010201	wbrr005f	PFO	0	<0.1	<0.1	Open Cut
	271.8	03010201	wbrr005e	PEM	18	<0.1	0.0	Open Cut
	271.9	03010201	wbrr005e	PEM	23	0.1	0.0	Open Cut
	271.9	03010201	wbrr005f	PFO	352	0.5	0.2	Open Cut
	272.0	03010201	wbrr007f	PFO	19	<0.1	<0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	272.6	03010201	wbrr008e	PEM	35	<0.1	0.0	Open Cut
	272.9	03010201	wbro001e	PEM	0	<0.1	0.0	Open Cut
	273.0	03010201	wbro011f	PFO	0	<0.1	0.0	NA
	273.0	03010201	nwi_va_b_054	PFO	48	0.1	<0.1	Open Cut
	273.0	03010201	nwi_va_b_054	PFO	90	0.3	0.1	Open Cut
	274.3	03010201	wbrc101e	PEM	55	0.1	0.0	Open Cut
	274.3	03010201	wbrc101e	PEM	23	<0.1	0.0	Open Cut
	274.4	03010201	wbrc100e	PEM	94	0.1	0.0	Open Cut
	274.4	03010201	wbrc102e	PEM	21	<0.1	0.0	Open Cut
	274.6	03010204	wbrr016e	PEM	1,003	1.9	0.0	Open Cut
	274.9	03010204	nwi_va_b_045	PFO	385	0.8	0.3	Open Cut
	275.0	03010204	nwi_va_b_045	PFO	14	<0.1	<0.1	Open Cut
	275.5	03010204	wbro015e	PEM	71	0.1	0.0	Open Cut
	275.5	03010204	wbro015f	PFO	0	<0.1	0.0	NA
	275.5	03010204	wbro016e	PEM	122	0.2	0.0	Open Cut
	275.6	03010204	wbro017e	PEM	52	0.1	0.0	Open Cut
	275.9	03010204	wbrp002f	PFO	0	0.2	<0.1	Open Cut
	276.1	03010204	wbrp003f	PFO	27	0.2	<0.1	Open Cut
	276.1	03010204	wbrp003e	PEM	85	0.1	0.0	Open Cut
	276.1	03010204	wbrp003e	PEM	46	0.1	0.0	Open Cut
	276.1	03010204	wbrp003f	PFO	0	0.1	<0.1	Open Cut
	276.8	03010204	wbro018f	PFO	0	<0.1	0.0	NA
	277.0	03010204	wbro019e	PEM	10	<0.1	0.0	Open Cut
	277.0	03010204	wbro020f	PFO	0	0.1	<0.1	Open Cut
	277.0	03010204	wbro020e	PEM	13	<0.1	0.0	Open Cut
	277.0	03010204	wbro020f	PFO	0	<0.1	<0.1	Open Cut
	277.0	03010204	wbro020e	PEM	32	<0.1	0.0	Open Cut
	277.6	03010204	wbrc103e	PEM	0	<0.1	0.0	NA
	277.6	03010204	wbrc103e	PEM	104	0.1	0.0	Open Cut
	277.7	03010204	wbrc104e	PEM	60	0.1	0.0	Open Cut
	278.9	03010204	wbro014e	PEM	28	<0.1	0.0	Open Cut
	279.2	03010204	wbrp001e	PEM	26	<0.1	0.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
Greensville County	279.2	03010204	wbrp001f	PFO	0	<0.1	0.0	NA
	280.0	03010204	wbra217s	PSS	0	<0.1	0.0	NA
	280.1	03010204	wbra217s	PSS	0	<0.1	<0.1	Open Cut
	280.4	03010204	wbra216f	PFO	604	0.9	0.4	Open Cut
	280.5	03010204	wbra216f	PFO	0	<0.1	<0.1	Open Cut
	280.6	03010204	wbra215f	PFO	130	0.3	0.1	Open Cut
	281.0	03010201	wbra214f	PFO	0	<0.1	0.0	NA
	281.3	03010201	wbra213s	PSS	42	0.1	<0.1	Open Cut
	281.9	03010204	wbrb003f	PFO	10	<0.1	<0.1	Open Cut
	282.0	03010204	wbrb002f	PFO	64	0.2	<0.1	Open Cut
	282.1	03010204	wbrb001f	PFO	243	0.4	0.2	Open Cut
	282.3	03010204	wbrb004f	PFO	124	0.2	0.1	Open Cut
	282.8	03010204	wbra002f	PFO	0	0.2	<0.1	Open Cut
	282.9	03010204	wbra001f	PFO	34	0.1	<0.1	Open Cut
	282.9	03010204	wbra001f	PFO	10	<0.1	<0.1	Open Cut
	283.0	03010204	WVA-DDF-002	PFO	24	0.1	<0.1	Open Cut
	283.0	03010204	WVA-DDF-002	PFO	163	0.3	0.1	Open Cut
	283.1	03010204	WVA-DDF-002	PFO	204	0.4	0.1	Open Cut
	283.3	03010204	WVA-DDF-010	PFO	61	0.1	<0.1	Open Cut
	283.5	03010204	WVA-DDF-011	PEM	104	0.2	0.0	Open Cut
	283.9	03010204	wgra016f	PFO	68	0.1	<0.1	Open Cut
	284.0	03010204	WVA-RDK-007	PFO	0	<0.1	0.0	NA
	284.1	03010204	wgra016f	PFO	81	0.2	0.1	Open Cut
	284.1	03010204	wgra016e	PEM	0	<0.1	0.0	Open Cut
	284.2	03010204	wgra016f	PFO	16	<0.1	<0.1	Open Cut
	284.2	03010204	wgra016f	PFO	34	0.1	<0.1	Open Cut
	284.4	03010204	WVA-RDK-002	PSS	0	<0.1	0.0	NA
	284.5	03010204	WVA-RDK-001	PSS	1,110	1.9	0.3	Open Cut
	285.0	03010204	wgrc108f	PFO	0	<0.1	0.0	NA
	285.0	03010204	wgrc108f	PFO	0	<0.1	0.0	NA
	285.4	03010204	wgra040f	PFO	0	0.1	0.0	NA
	285.9	03010204	wgra013f	PFO	27	<0.1	<0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	285.9	03010204	wgra013f	PFO	35	0.1	<0.1	Open Cut
	286.2	03010204	wgra014f	PFO	0	<0.1	0.0	NA
	286.2	03010204	wgra014f	PFO	0	<0.1	0.0	NA
	286.3	03010204	wgra015f	PFO	46	0.1	<0.1	Open Cut
	286.4	03010204	wgra008f	PFO	334	0.6	0.2	Open Cut
	286.5	03010204	wgra008e	PEM	104	0.2	0.0	Open Cut
	286.8	03010204	wgra009f	PFO	272	0.5	0.2	Open Cut
	287.6	03010204	wgra039f	PFO	174	0.5	0.1	Open Cut
	287.8	03010204	wgra011f1	PFO	261	0.4	0.2	Open Cut
	287.8	03010204	wgra011f2	PFO	377	0.7	0.3	Open Cut
	288.2	03010204	wgra001f	PFO	119	0.2	0.1	Open Cut
	288.5	03010204	wgra002f	PFO	59	0.1	<0.1	Open Cut
	288.5	03010204	wgra002f	PFO	285	0.4	0.2	Open Cut
	288.8	03010204	wgra002f	PFO	206	0.3	0.1	Open Cut
	289.1	03010204	wgrc109s	PSS	19	<0.1	<0.1	Open Cut
	290.1	03010204	wgrc010e	PEM	472	0.8	0.0	Open Cut
	290.2	03010204	wgrc011f	PFO	40	0.1	<0.1	Open Cut
	290.2	03010204	wgrc011f	PFO	10	<0.1	<0.1	Open Cut
	290.4	03010204	wgrc009f	PFO	511	0.8	0.3	Open Cut
	291.4	03010204	wgra003f	PFO	28	0.1	<0.1	Open Cut
	292.4	03010204	wgra012s	PSS	3,493	6.0	0.8	Open Cut
	294.0	03010204	nwi_va_k_010	PFO	153	0.4	0.1	Open Cut
	294.0	03010204	nwi_va_k_011	PFO	696	1.9	0.5	Open Cut
	295.6	03010204	wgrb003f	PFO	369	0.6	0.3	Open Cut
	295.7	03010204	wgrb003f	PFO	240	0.4	0.2	Open Cut
	295.9	03010204	wgrp004f	PFO	138	0.3	0.1	Open Cut
	296.1	03010204	wgrp003f	PFO	78	0.1	0.1	Open Cut
	296.8	03010204	wgrb001f	PFO	242	0.4	0.2	Open Cut
	296.9	03010204	wgrb002f	PFO	773	1.3	0.5	Open Cut
	297.4	03010204	wgrb002f	PFO	159	0.2	0.1	Open Cut
	297.5	03010204	wgrc012f	PEM	149	0.3	0.0	Open Cut
	297.7	03010204	wgra034s	PSS	580	0.8	0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	297.8	03010204	wgra034e	PEM	373	0.9	0.0	Open Cut
	297.9	03010204	wgra033f	PFO	1,920	3.3	1.3	Open Cut
	298.3	03010204	nwi_va_a_011	PFO	105	0.2	0.1	Open Cut
	298.3	03010204	wgra032f	PFO	0	<0.1	0.0	NA
	298.4	03010204	nwi_va_a_010	PFO	0	<0.1	<0.1	Open Cut
	298.4	03010204	nwi_va_a_009	PFO	24	0.1	<0.1	Open Cut
	298.4	03010204	wgra031f	PFO	173	0.2	0.1	Open Cut
	298.4	03010204	nwi_va_a_008	PFO	0	<0.1	0.0	NA
	298.4	03010204	wgra030f	PFO	153	0.3	0.1	Open Cut
	298.5	03010204	nwi_va_a_006	PFO	0	0.1	0.0	NA
	298.6	03010204	wgra029f	PFO	101	0.2	0.1	Open Cut
	298.7	03010204	wgrp005s	PSS	804	1.4	0.2	Open Cut
	299.3	03010204	wgrp006s	PSS	562	1.0	0.1	Open Cut
	299.4	03010204	wgrp006s	PSS	658	1.1	0.1	Open Cut
	299.6	03010204	wgrp006f	PFO	217	0.4	0.1	Open Cut
	299.6	03010204	wgrp006f	PFO	1,095	1.9	0.7	Open Cut
AP-1 Subtotal					**45,990**	**84.5**	**19.9**	
AP-2								
North Carolina								
Northampton County	0.3	03010204	wnra002f	PFO	204	0.3	0.1	Open Cut
	0.4	03010204	wnra002f	PFO	75	0.1	0.1	Open Cut
	0.7	03010204	wnra001f	PFO	96	0.2	0.1	Open Cut
	1.0	03010204	wnrh011f	PFO	43	0.1	<0.1	Open Cut
	1.0	03010204	wnrh011f	PFO	386	0.7	0.3	Open Cut
	1.1	03010204	wnrh011f	PFO	59	0.1	<0.1	Open Cut
	1.2	03010204	wnrh010f	PFO	352	0.6	0.2	Open Cut
	1.4	03010204	wnrh009f	PFO	1,003	1.7	0.7	Open Cut
	1.6	03010204	wnrh008f	PFO	161	0.3	0.1	Open Cut
	1.8	03010204	wnrh007f	PFO	539	0.9	0.4	Open Cut
	1.9	03010204	wnrh007f	PFO	245	0.5	0.2	Open Cut
	3.1	03010204	wnro001f	PFO	203	0.4	0.2	Open Cut
	3.4	03010204	wnrh012f	PFO	155	0.3	0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	3.5	03010204	wnrg001e	PEM	43	0.1	0.0	Open Cut
	3.6	03010204	wnrg002f	PFO	428	0.7	0.3	Open Cut
	5.1	03010107	wnrp023f	PFO	200	0.3	0.1	Open Cut
	6.6	03010107	wnrp019f	PFO	0	<0.1	0.0	NA
	8.0	03010107	wnrg005f	PFO	77	0.1	0.1	Open Cut
	8.5	03010107	wnrg006f	PFO	73	0.1	0.1	Open Cut
	8.5	03010107	wnrg006f	PFO	77	0.1	0.1	Open Cut
	9.6	03010107	wnrh005f	PFO	0	<0.1	0.0	NA
	9.6	03010107	wnrh005f	PFO	3	<0.1	<0.1	Open Cut
	9.6	03010107	wnrh005f	PFO	0	<0.1	<0.1	Open Cut
	9.6	03010107	wnrh005f	PFO	0	<0.1	0.0	NA
Halifax County	10.1	03010107	whlh002f	PFO	134	0.3	0.1	Open Cut
	10.7	03010107	whlh003f	PFO	89	0.1	0.1	Open Cut
	11.4	03010107	whlc002f	PFO	20	0.1	<0.1	Open Cut
	11.4	03010107	whlc002f	PFO	2	<0.1	<0.1	Open Cut
	11.4	03010107	whlc002f	PFO	10	<0.1	<0.1	Open Cut
	11.6	03010107	whlc003e	PEM	25	<0.1	0.0	Open Cut
	11.7	03010107	whlc003e	PEM	8	<0.1	0.0	Open Cut
	11.7	03010107	whlc004e	PEM	47	0.1	0.0	Open Cut
	11.8	03010107	whlc005f	PFO	11	<0.1	<0.1	Open Cut
	11.9	03010107	whlc006f	PFO	49	0.1	<0.1	Open Cut
	11.9	03010107	whlc006f	PFO	30	<0.1	<0.1	Open Cut
	12.8	03010107	whlc001f	PFO	127	0.2	0.1	Open Cut
	13.2	03010107	whlg001f	PFO	1	<0.1	<0.1	Open Cut
	13.2	03010107	whig001f	PFO	114	0.2	0.1	Open Cut
	13.6	03010107	whlf002s	PSS	12	<0.1	<0.1	Open Cut
	13.6	03010107	whlf003f	PFO	157	0.3	0.1	Open Cut
	13.9	03010107	whlf004s	PSS	24	<0.1	<0.1	Open Cut
	14.4	03010107	whlp001f	PFO	34	0.1	<0.1	Open Cut
	14.4	03010107	whlp001f	PFO	53	0.1	<0.1	Open Cut
	14.6	03010107	whlp001f	PFO	60	0.1	<0.1	Open Cut
	14.6	03010107	whlp001f	PFO	39	0.1	<0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	15.3	03010107	whlf007f	PFO	30	<0.1	<0.1	Open Cut
	15.4	03010107	whlf007f	PFO	66	0.1	<0.1	Open Cut
	15.5	03010107	whlf008f	PEM	229	0.4	0.0	Open Cut
	15.7	03010107	whlf009f	PFO	153	0.3	0.1	Open Cut
	15.8	03010107	whlg005f	PFO	746	1.4	0.5	Open Cut
	16.2	03010107	nwi_nc_a_005	PSS	0	<0.1	0.0	NA
	16.9	03010107	nwi_nc_h_001	PEM	129	0.5	0.0	Open Cut
	16.9	03010107	nwi_nc_h_001	PEM	102	0.6	0.0	Open Cut
	17.3	03010107	whlg008f	PFO	0	0.1	<0.1	Open Cut
	17.3	03010107	whlg008f	PFO	0	<0.1	0.0	NA
	17.4	03010107	whlg008f	PFO	0	<0.1	0.0	NA
	17.5	03010107	whlg008f	PFO	542	1.0	0.4	Open Cut
	17.8	03010107	whlg009f	PFO	568	1.0	0.4	Open Cut
	19.2	03020102	whlh010f	PFO	283	0.4	0.2	Open Cut
	19.7	03020102	whlh009f	PFO	1,443	2.6	1.0	Open Cut
	20.1	03020102	whlh009f	PFO	1,726	3.0	1.2	Open Cut
	20.4	03020102	whlh008f	PFO	111	0.1	0.1	Open Cut
	20.6	03020102	whlg012e	PEM	525	0.9	0.0	Open Cut
	20.7	03020102	whlg012f	PFO	10	<0.1	<0.1	Open Cut
	21.0	03020102	whlh032s	PSS	10	0.2	<0.1	Open Cut
	21.1	03020102	whlh032s	PSS	1,971	3.4	0.5	Open Cut
	21.5	03020102	whlh032f	PFO	268	0.5	0.2	Open Cut
	21.6	03020102	whlh031f	PFO	523	0.9	0.4	Open Cut
	21.9	03020102	whlh030f	PFO	124	0.2	0.1	Open Cut
	21.9	03020102	whlh030f	PFO	5	<0.1	<0.1	Open Cut
	22.0	03020102	whlb103f	PFO	166	0.3	0.1	Open Cut
	22.2	03020102	whlh027e	PEM	338	0.6	0.0	Open Cut
	22.3	03020102	whlh027f	PFO	172	0.3	0.1	Open Cut
	22.7	03020102	whlh028f	PFO	172	0.3	0.1	Open Cut
	22.8	03020102	whlh028f	PFO	40	0.1	<0.1	Open Cut
	22.8	03020102	whlh028f	PFO	29	0.1	<0.1	Open Cut
	23.0	03020102	whlh029f	PFO	448	0.8	0.3	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	23.1	03020102	whlh029f	PFO	329	0.6	0.3	Open Cut
	23.5	03020102	whlg019f	PFO	163	0.3	0.1	Open Cut
	23.6	03020102	whlg019f	PFO	42	0.1	<0.1	Open Cut
	23.8	03020102	whlg018f	PFO	305	0.5	0.2	Open Cut
	24.2	03020102	whlg017s	PSS	1,242	2.1	0.3	Open Cut
	24.6	03020102	whlg016f	PFO	0	<0.1	0.0	NA
	24.6	03020102	whlg016f	PFO	209	0.4	0.1	Open Cut
	24.7	03020102	whlg015f	PFO	455	0.9	0.3	Open Cut
	24.9	03020102	whlb100f2	PFO	444	0.8	0.3	Open Cut
	25.0	03020102	whlb100f1	PFO	21	<0.1	<0.1	Open Cut
	25.0	03020102	whlb100f1	PFO	87	0.1	0.1	Open Cut
	25.2	03020102	whlg014f	PFO	107	0.2	0.1	Open Cut
	25.3	03020102	whlg013f	PFO	1,165	2.0	0.8	Open Cut
	25.8	03020102	whlh012f	PFO	400	0.7	0.3	Open Cut
	26.3	03020102	whlh014f	PFO	1,348	2.3	0.9	Open Cut
	26.6	03020102	whlh014f	PFO	532	0.9	0.4	Open Cut
	27.2	03020102	whlh015f	PFO	919	1.6	0.6	Open Cut
	27.4	03020102	whlh015f	PFO	431	0.8	0.3	Open Cut
	27.7	03020102	whlh016f	PFO	70	0.1	<0.1	Open Cut
	27.7	03020102	whlh016f	PFO	169	0.3	0.1	Open Cut
	29.0	03020102	whlh017f	PFO	261	0.5	0.2	Open Cut
	29.1	03020102	whlh018f	PFO	0	<0.1	0.0	NA
	29.1	03020102	whlh018f	PFO	132	0.2	0.1	Open Cut
	29.3	03020102	whlh019f	PFO	320	0.5	0.2	Open Cut
	29.7	03020102	whlh020f	PFO	323	0.5	0.2	Open Cut
	29.8	03020102	whlh020f	PFO	95	0.2	0.1	Open Cut
	30.2	03020102	whlh024f	PFO	216	0.3	0.1	Open Cut
	30.5	03020102	whlh025f	PFO	168	0.3	0.1	Open Cut
	30.9	03020102	whlh026f	PFO	331	0.6	0.2	Open Cut
	31.2	03020102	whlo001f	PFO	105	0.2	0.1	Open Cut
	31.6	03020102	whlh021s	PSS	88	0.1	<0.1	Open Cut
	32.0	03020102	whlh023e	PEM	213	0.4	0.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	32.0	03020102	whlh023e	PEM	221	0.4	0.0	Open Cut
	33.3	03020102	whlg010f	PFO	437	1.0	0.3	Open Cut
	33.7	03020102	whlg011f	PFO	166	0.2	0.1	Open Cut
Nash County	34.8	03020102	wnag001f	PFO	57	0.1	<0.1	Open Cut
	34.8	03020102	wnag001f	PFO	0	<0.1	0.0	NA
	34.8	03020102	wnag001f	PFO	33	0.1	<0.1	Open Cut
	34.9	03020102	wnag002f	PFO	124	0.2	0.1	Open Cut
	35.1	03020102	wnag003f	PFO	41	0.1	<0.1	Open Cut
	35.1	03020102	wnag003f	PFO	83	0.1	0.1	Open Cut
	35.1	03020102	wnah017f	PFO	193	0.3	0.1	Open Cut
	36.5	03020102	wnah015f	PFO	945	1.6	0.7	Open Cut
	36.6	03020102	wnah015f	PFO	54	0.1	<0.1	Open Cut
	36.7	03020102	wnah014f	PFO	123	0.2	0.1	Open Cut
	37.0	03020102	wnah019f	PFO	199	0.3	0.1	Open Cut
	37.0	03020102	wnah019e	PEM	104	0.2	0.0	Open Cut
	37.0	03020102	wnah019e	PEM	413	0.7	0.0	Open Cut
	37.8	03020102	wnah036f	PFO	83	0.2	0.1	Open Cut
	37.9	03020102	wnah018s	PSS	202	0.4	<0.1	Open Cut
	38.1	03020102	wnah006f	PFO	194	0.3	0.1	Open Cut
	38.3	03020102	wnah005f	PFO	282	0.5	0.2	Open Cut
	38.4	03020102	wnab102s	PSS	31	0.1	<0.1	Open Cut
	38.5	03020102	wnah004f	PFO	251	0.3	0.2	Open Cut
	38.7	03020102	wnab101f	PFO	82	0.2	0.1	Open Cut
	38.9	03020102	wnah003f	PFO	234	0.4	0.2	Open Cut
	39.1	03020102	wnah002f	PFO	459	0.8	0.3	Open Cut
	39.2	03020102	wnah001f	PFO	846	1.5	0.6	Open Cut
	39.7	03020101	wnab100f	PFO	6	<0.1	<0.1	Open Cut
	39.9	03020101	wnah008f	PFO	56	0.1	<0.1	Open Cut
	39.9	03020101	wnah008f	PFO	44	0.1	<0.1	Open Cut
	40.1	03020101	wnah007f	PFO	250	0.4	0.2	Open Cut
	40.9	03020101	wnah013f	PFO	391	0.7	0.3	Open Cut
	41.0	03020101	wnah012f	PFO	292	0.5	0.2	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	41.6	03020101	wnah011f	PFO	48	0.1	<0.1	Open Cut
	41.6	03020101	wnah011f	PFO	22	<0.1	<0.1	Open Cut
	41.7	03020101	wnah010f	PFO	64	0.1	<0.1	Open Cut
	41.7	03020101	wnah010f	PFO	59	0.1	<0.1	Open Cut
	41.8	03020101	wnah009f	PFO	93	0.2	0.1	Open Cut
	42.0	03020101	wnah034f	PFO	498	0.9	0.3	Open Cut
	42.1	03020101	wnah034f	PFO	74	0.3	0.1	Open Cut
	42.2	03020101	wnah034f	PFO	73	0.2	0.1	Open Cut
	42.8	03020101	wnac002f	PFO	16	<0.1	<0.1	Open Cut
	42.8	03020101	wnac002f	PFO	36	0.1	<0.1	Open Cut
	43.0	03020101	wnac001f	PFO	0	0.1	0.0	NA
	43.6	03020101	wnac003f	PFO	322	0.6	0.2	Open Cut
	44.0	03020101	wnac004f	PFO	354	0.6	0.2	Open Cut
	44.4	03020101	wnac005s	PSS	119	0.2	<0.1	Open Cut
	44.4	03020101	wnac005f	PFO	157	0.3	0.1	Open Cut
	44.5	03020101	wnac005f	PFO	35	0.1	<0.1	Open Cut
	44.7	03020101	wnag012f	PFO	193	0.3	0.1	Open Cut
	44.8	03020101	wnag012f	PFO	28	0.1	<0.1	Open Cut
	45.4	03020101	wnac006f	PFO	264	0.5	0.2	Open Cut
	45.6	03020101	wnab103f	PFO	533	1.0	0.4	Open Cut
	47.2	03020101	wnah021f	PFO	29	<0.1	<0.1	Open Cut
	47.6	03020101	wnah022f	PFO	0	<0.1	0.0	NA
	47.7	03020101	wnah022f	PFO	2,450	4.2	1.7	Open Cut
	48.1	03020101	wnah022e	PEM	165	0.3	0.0	Open Cut
	48.2	03020101	wnah022f	PFO	708	1.2	0.5	Open Cut
	48.3	03020101	wnah022f	PFO	386	0.7	0.3	Open Cut
	48.4	03020101	wnah023f	PFO	1,041	1.9	0.7	Open Cut
	48.6	03020101	nwi_nc_k_004	PFO	281	0.5	0.2	Open Cut
	48.7	03020101	wnah023e	PEM	0	<0.1	0.0	NA
	48.7	03020101	nwi_nc_k_004	PFO	318	0.8	0.2	Open Cut
	48.7	03020101	nwi_nc_k_004	PFO	366	0.9	0.3	Open Cut
	48.8	03020101	wnah023f	PFO	0	<0.1	0.0	NA

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	48.9	03020101	wnah023f	PFO	0	<0.1	0.0	NA
	48.9	03020101	wnah024f	PFO	713	1.3	0.5	Open Cut
	50.3	03020101	wnag006f	PFO	99	0.2	0.1	Open Cut
	50.7	03020101	wnag005f	PFO	0	0.1	<0.1	Open Cut
	50.8	03020101	wnag004f	PFO	113	0.2	0.1	Open Cut
	51.5	03020101	wnag008f	PFO	188	0.4	0.1	Open Cut
	51.5	03020101	wnag008f	PFO	7	<0.1	<0.1	Open Cut
	51.6	03020101	wnag008f	PFO	89	0.1	0.1	Open Cut
	51.6	03020101	wnag008f	PFO	290	0.5	0.2	Open Cut
	52.0	03020101	wnag007f	PFO	135	0.2	0.1	Open Cut
	53.3	03020101	wnah030e	PEM	92	0.1	0.0	Open Cut
	53.3	03020101	wnah030e	PEM	154	0.3	0.0	Open Cut
	53.5	03020101	wnah029f	PFO	370	0.6	0.3	Open Cut
	53.7	03020101	wnah028f	PFO	1,429	2.5	1.0	Open Cut
	54.0	03020101	wnah028f	PFO	730	1.3	0.5	Open Cut
	54.3	03020101	wnah027f	PFO	167	0.3	0.1	Open Cut
	54.4	03020101	wnah027f	PFO	1,208	1.9	0.8	Open Cut
	54.9	03020101	wnah026f	PFO	199	0.3	0.1	Open Cut
	54.9	03020101	wnah026f	PFO	225	0.4	0.2	Open Cut
	55.7	03020101	wnah032f	PFO	52	0.1	<0.1	Open Cut
	55.9	03020101	wnah033f	PFO	573	1.0	0.4	Open Cut
	56.2	03020101	wnah031f	PFO	324	0.6	0.2	Open Cut
	56.3	03020101	wnah031f	PFO	2,419	4.2	1.7	Open Cut
	56.6	03020101	wnah031f	PFO	210	0.3	0.1	Open Cut
	56.8	03020101	wnah025f	PFO	1,218	2.1	0.8	Open Cut
	57.0	03020101	wnah025f	PFO	170	0.3	0.1	Open Cut
	57.1	03020101	wnah025f	PFO	237	0.4	0.2	Open Cut
	57.9	03020101	wnao012f	PFO	966	1.6	0.7	Open Cut
	58.2	03020101	wnao012f	PFO	1,969	3.1	1.4	Open Cut
	58.8	03020101	wnap004f	PFO	36	<0.1	<0.1	Open Cut
	59.1	03020101	wnap003f	PFO	81	0.1	<0.1	Open Cut
	59.1	03020101	wnap003f	PFO	98	0.2	0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	59.3	03020101	wnap002f	PFO	66	0.1	<0.1	Open Cut
	59.4	03020101	wnap001f	PFO	17	<0.1	<0.1	Open Cut
	59.8	03020101	wnao011f	PFO	0	<0.1	0.0	NA
	60.6	03020203	wnao010f	PFO	1,100	2.0	0.8	Open Cut
	60.8	03020203	wnao010f	PFO	246	0.4	0.2	Open Cut
	61.2	03020203	wnao009f	PFO	188	0.3	0.1	Open Cut
	61.3	03020203	wnap006f	PFO	246	0.4	0.2	Open Cut
	61.8	03020203	wnao008f	PFO	263	0.5	0.2	Open Cut
	62.1	03020203	wnao007f	PFO	0	<0.1	0.0	NA
	62.3	03020203	wnao006f	PFO	846	1.4	0.6	Open Cut
	62.6	03020203	wnao005f	PFO	493	0.8	0.3	Open Cut
	62.8	03020203	wnao004f	PFO	139	0.2	0.1	Open Cut
	62.8	03020203	wnao004f	PFO	329	0.7	0.2	Open Cut
	63.3	03020203	wnao003f	PFO	43	0.1	<0.1	Open Cut
	63.3	03020203	wnao003f	PFO	137	0.2	0.1	Open Cut
	64.6	03020203	wnao002f	PFO	2,150	3.7	1.5	Open Cut
	65.3	03020203	wnao001f	PFO	408	0.8	0.3	Open Cut
Wilson County	66.0	03020203	wwio021f	PFO	100	0.2	0.1	Open Cut
	66.0	03020203	wwio021f	PFO	165	0.3	0.1	Open Cut
	66.5	03020203	wwio018f	PFO	173	0.3	0.1	Open Cut
	66.6	03020203	wwio017f	PFO	552	0.9	0.4	Open Cut
	66.9	03020203	nwi_nc_k_005	PFO	52	0.1	<0.1	Open Cut
	66.9	03020203	nwi_nc_k_005	PFO	195	0.5	0.1	Open Cut
	66.9	03020203	nwi_nc_k_005	PFO	0	0.1	0.0	NA
	67.7	03020203	wwio001s	PSS	205	0.4	<0.1	Open Cut
	67.8	03020203	wwio001f	PFO	78	0.1	0.1	Open Cut
	67.8	03020203	wwio001f	PFO	34	0.1	<0.1	Open Cut
	67.8	03020203	wwio001s	PSS	155	0.3	<0.1	Open Cut
	68.0	03020203	wwio002f	PFO	136	0.2	0.1	Open Cut
	69.1	03020203	wwio004e	PEM	100	0.1	0.0	Open Cut
	69.1	03020203	wwio004f	PFO	96	0.3	0.1	Open Cut
	69.3	03020203	wwio005f	PFO	106	0.2	0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	69.3	03020203	wwio005f	PFO	229	0.4	0.2	Open Cut
	69.6	03020203	wwio006f	PFO	318	0.5	0.2	Open Cut
	69.7	03020203	wwio006f	PFO	21	<0.1	<0.1	Open Cut
	69.9	03020203	wwio007f	PFO	443	0.7	0.3	Open Cut
	70.3	03020203	wwio009f	PFO	568	1.0	0.4	Open Cut
	70.4	03020203	wwio009f	PFO	20	<0.1	<0.1	Open Cut
	70.5	03020203	wwip020f	PFO	0	<0.1	0.0	NA
	70.5	03020203	wwio008f	PFO	26	<0.1	<0.1	Open Cut
	70.5	03020203	wwio008f	PFO	25	<0.1	<0.1	Open Cut
	70.9	03020203	wwio012f	PFO	458	0.7	0.3	Open Cut
	70.9	03020203	wwio012f	PFO	0	<0.1	0.0	NA
	70.9	03020203	wwio012f	PFO	31	0.1	<0.1	Open Cut
	71.0	03020203	wwio012f	PFO	60	0.1	<0.1	Open Cut
	71.0	03020203	wwio012f	PFO	342	0.5	0.2	Open Cut
	71.3	03020203	wwio013f	PFO	668	1.2	0.5	Open Cut
	71.6	03020203	wwip001f	PFO	151	0.2	0.1	Open Cut
	71.7	03020203	wwip002f	PFO	51	0.2	<0.1	Open Cut
	71.9	03020203	wwip003e	PEM	145	0.2	0.0	Open Cut
	71.9	03020203	wwip003f	PFO	28	0.1	<0.1	Open Cut
	72.3	03020203	wwic002f	PFO	109	0.2	0.1	Open Cut
	72.5	03020203	wwic001f	PFO	62	0.1	<0.1	Open Cut
	72.9	03020203	wwic003f	PFO	509	0.9	0.3	Open Cut
	73.1	03020203	wwib101f	PFO	321	0.6	0.2	Open Cut
	73.2	03020203	wwib101f	PFO	33	0.1	<0.1	Open Cut
	73.3	03020203	wwib101f	PFO	516	0.9	0.4	Open Cut
	73.4	03020203	wwib101f	PFO	263	0.4	0.2	Open Cut
	73.5	03020203	wwib100f	PFO	126	0.2	0.1	Open Cut
	73.8	03020203	wwip018f	PFO	66	0.1	<0.1	Open Cut
	73.9	03020203	wwip017f	PFO	87	0.1	0.1	Open Cut
	74.0	03020203	wwip016f	PFO	240	0.4	0.2	Open Cut
	74.3	03020203	wwip015f	PFO	442	0.7	0.3	Open Cut
	74.5	03020203	wwip004f	PFO	246	0.4	0.2	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	74.8	03020203	wwip006f	PFO	317	0.5	0.2	Open Cut
	74.9	03020203	wwip006f	PFO	313	0.5	0.2	Open Cut
	75.1	03020203	wwip007f	PFO	268	0.5	0.2	Open Cut
	75.2	03020203	wwip008f	PFO	121	0.2	0.1	Open Cut
	75.2	03020203	wwia001f	PFO	276	0.5	0.2	Open Cut
	75.6	03020203	wwip019f	PFO	443	0.7	0.3	Open Cut
	75.8	03020203	wwip019f	PFO	66	0.1	<0.1	Open Cut
	76.0	03020203	wwip013f	PFO	4,165	7.1	2.9	Open Cut
	76.8	03020203	wwip013e	PEM	39	0.1	0.0	Open Cut
	76.8	03020203	wwip013f	PFO	182	0.3	0.1	Open Cut
	76.9	03020203	wwip014f	PFO	285	0.5	0.2	Open Cut
	77.0	03020203	wwio016f	PFO	140	0.2	0.1	Open Cut
	77.3	03020203	wwio015f	PFO	257	0.4	0.2	Open Cut
	77.4	03020203	wwio014s	PSS	0	<0.1	0.0	NA
	77.5	03020203	wwio014f	PFO	1,113	1.9	0.8	Open Cut
Johnston County	77.9	03020203	wjoo003f	PFO	1,798	3.1	1.2	Open Cut
	78.5	03020201	wjoo002f	PFO	966	1.7	0.7	Open Cut
	79.1	03020201	wjob109f	PFO	178	0.3	0.1	Open Cut
	79.2	03020201	wjob109f	PFO	73	0.1	<0.1	Open Cut
	79.3	03020201	wjob110f	PFO	125	0.2	0.1	Open Cut
	79.4	03020201	wjob111s	PSS	386	0.7	0.1	Open Cut
	79.5	03020201	wjob111s	PSS	77	0.1	<0.1	Open Cut
	79.7	03020201	wjob106f	PFO	99	0.2	0.1	Open Cut
	79.8	03020201	wjob105f	PFO	517	0.9	0.4	Open Cut
	79.9	03020201	wjob105e	PEM	41	0.1	0.0	Open Cut
	80.1	03020201	wjoo004f	PFO	1,102	1.9	0.8	Open Cut
	80.4	03020201	wjop022f	PFO	587	1.0	0.4	Open Cut
	80.6	03020201	wjop020f	PFO	1,368	2.3	0.9	Open Cut
	81.0	03020201	wjop021f	PFO	771	1.3	0.5	Open Cut
	81.4	03020201	wjoo009f	PFO	92	0.2	0.1	Open Cut
	81.5	03020201	wjoo010e	PEM	13	<0.1	0.0	Open Cut
	81.9	03020201	wjop004f	PFO	796	1.3	0.5	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	82.5	03020201	wjoe001f	PFO	87	0.1	0.1	Open Cut
	82.6	03020201	wjoe002f	PFO	186	0.2	0.1	Open Cut
	83.2	03020201	wjoe004f	PFO	346	0.6	0.2	Open Cut
	83.7	03020201	wjop017f	PFO	36	0.1	<0.1	Open Cut
	84.5	03020201	wjop002f	PFO	331	0.6	0.2	Open Cut
	84.6	03020201	wjop002f	PFO	47	0.1	<0.1	Open Cut
	85.0	03020201	wjoo011f	PFO	905	1.6	0.6	Open Cut
	85.3	03020201	wjop003f	PFO	256	0.4	0.2	Open Cut
	85.6	03020201	wjoo012f	PFO	961	1.7	0.7	Open Cut
	85.9	03020201	wjoo013f	PFO	131	0.2	0.1	Open Cut
	85.9	03020201	wjoo013f	PFO	127	0.2	0.1	Open Cut
	86.1	03020201	wjoo014s	PSS	373	0.6	0.1	Open Cut
	86.3	03020201	wjoo015f	PFO	0	<0.1	0.0	NA
	86.4	03020201	wjoo016f	PFO	170	0.3	0.1	Open Cut
	86.5	03020201	wjoo016f	PFO	362	0.6	0.3	Open Cut
	87.0	03020201	wjoo017f	PFO	244	0.4	0.2	Open Cut
	87.3	03020201	wjoo019f	PFO	82	0.1	0.1	Open Cut
	87.3	03020201	wjoo019f	PFO	32	<0.1	<0.1	Open Cut
	87.3	03020201	wjoo020f	PFO	0	<0.1	0.0	NA
	87.4	03020201	wjoo020f	PFO	0	<0.1	0.0	NA
	87.6	03020201	wjoo021f	PFO	2,702	4.7	1.9	Open Cut
	89.6	03020201	wjop005f	PFO	432	0.7	0.3	Open Cut
	89.7	03020201	wjop006f	PFO	115	0.2	0.1	Open Cut
	89.8	03020201	wjop007f	PFO	431	0.7	0.3	Open Cut
	90.0	03020201	wjop027f	PFO	745	1.3	0.5	Open Cut
	90.3	03020201	wjop026e	PEM	242	0.4	0.0	Open Cut
	90.4	03020201	wjop008e	PEM	25	<0.1	0.0	Open Cut
	90.6	03020201	wjop009f	PFO	421	0.7	0.3	Open Cut
	90.9	03020201	wjop028s	PSS	400	0.7	0.1	Open Cut
	91.0	03020201	wjop011s	PSS	300	0.5	0.1	Open Cut
	91.0	03020201	wjop011e	PEM	101	0.2	0.0	Open Cut
	91.1	03020201	wjop011f	PFO	228	0.4	0.2	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	91.8	03020201	wjop012f	PFO	154	0.2	0.1	Open Cut
	92.1	03020201	wjop013f	PFO	79	0.1	<0.1	Open Cut
	92.6	03020201	wjop031f	PFO	1,671	2.8	1.1	Open Cut
	93.0	03020201	wjop039f	PFO	443	0.8	0.3	Open Cut
	93.1	03020201	wjop038f	PFO	16	<0.1	<0.1	Open Cut
	93.3	03020201	wjop019f	PFO	907	1.6	0.6	Open Cut
	94.0	03020201	wjoa020f	PFO	1,404	2.4	1.0	Open Cut
	94.7	03020201	wjoo029f	PFO	133	0.2	0.1	Open Cut
	95.1	03020201	wjoa019f	PFO	49	0.1	<0.1	Open Cut
	95.1	03020201	wjoa019f	PFO	94	0.2	0.1	Open Cut
	95.9	03020201	wjob108f	PFO	749	1.3	0.5	Open Cut
	96.1	03020201	wjob107f	PFO	49	0.1	<0.1	Open Cut
	97.1	03020201	wjoo032f	PFO	233	0.6	0.2	Open Cut
	97.1	03020201	wjoo031f	PFO	868	1.7	0.6	Open Cut
	97.4	03020201	wjoo030f	PFO	396	1.1	0.3	Open Cut
	97.5	03020201	wjoo030f	PFO	461	1.2	0.3	Open Cut
	97.6	03020201	wjoo034f	PFO	1,037	2.8	0.7	Open Cut
	97.7	03020201	wjoo034f	PFO	1,136	2.3	0.8	Open Cut
	97.9	03020201	wjoo036f	PFO	1,317	2.3	0.9	Open Cut
	98.2	03020201	wjoo036f	PFO	904	1.5	0.6	Open Cut
	98.3	03020201	wjoo036f	PFO	1	<0.1	<0.1	Open Cut
	98.3	03020201	wjop034f	PFO	1	<0.1	<0.1	Open Cut
	98.3	03020201	wjop034f	PFO	41	0.1	<0.1	Open Cut
	98.3	03020201	wjop034f	PFO	842	1.4	0.6	Open Cut
	98.4	03020201	wjob112s	PSS	316	0.6	0.1	Open Cut
	98.6	03020201	wjoa013s	PSS	46	0.1	<0.1	Open Cut
	98.6	03020201	nwi_nc_k_006	PFO	41	0.1	<0.1	Open Cut
	98.7	03020201	nwi_nc_k_006	PFO	143	0.5	0.1	Open Cut
	98.7	03020201	nwi_nc_k_006	PFO	56	0.2	<0.1	Open Cut
	98.8	03020201	nwi_nc_k_007	PFO	189	0.5	0.1	Open Cut
	98.8	03020201	nwi_nc_k_007	PFO	1,496	3.6	1.0	Open Cut
	99.8	03020201	wjoa021f	PFO	380	0.6	0.3	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	99.9	03020201	wjoa021s	PSS	762	1.5	0.2	Open Cut
	100.0	03020201	wjoa021f	PFO	387	0.7	0.3	Open Cut
	100.5	03020201	wjob113e	PEM	258	0.5	0.0	Open Cut
	100.5	03020201	wjob113f	PFO	292	0.6	0.2	Open Cut
	101.2	03020201	wjoa012f	PFO	245	0.5	0.2	Open Cut
	101.3	03020201	wjoa012f	PFO	496	0.8	0.3	Open Cut
	101.5	03020201	wjoa011f	PFO	146	0.3	0.1	Open Cut
	101.7	03020201	wjoa010f	PFO	517	0.8	0.3	Open Cut
	102.2	03020201	wjoa009f	PFO	21	<0.1	<0.1	Open Cut
	102.8	03020201	wjoa008f	PFO	282	0.4	0.2	Open Cut
	102.8	03020201	wjoa008f	PFO	471	0.6	0.3	Open Cut
	103.9	03020201	wjoa007f	PFO	386	0.5	0.3	Open Cut
	103.9	03020201	wjoa007f	PFO	109	0.2	0.1	Open Cut
	104.4	03020201	wjoa006f	PFO	110	0.2	0.1	Open Cut
	105.0	03020201	wjoa005f	PFO	190	0.3	0.1	Open Cut
	105.1	03020201	wjoa005f	PFO	196	0.4	0.1	Open Cut
	106.3	03020201	wjoa004e	PEM	0	<0.1	0.0	NA
	106.5	03020201	wjoa003f	PFO	281	0.5	0.2	Open Cut
	106.6	03020201	wjoa003f	PFO	987	1.7	0.7	Open Cut
	106.8	03020201	wjoa003f	PFO	120	0.2	0.1	Open Cut
	107.5	03020201	wjoa002f	PFO	459	0.8	0.3	Open Cut
	107.6	03020201	wjoa002f	PFO	659	1.1	0.5	Open Cut
	108.1	03020201	wjob100f	PFO	0	<0.1	0.0	NA
	108.1	03020201	wjob100f	PFO	59	0.1	<0.1	Open Cut
	108.9	03020201	wjoa001f	PFO	51	0.1	<0.1	Open Cut
	110.1	03020201	wjop024f	PFO	915	1.7	0.6	Open Cut
	110.5	03020201	wjop029f	PFO	276	0.5	0.2	Open Cut
	110.6	03020201	wjop029f	PFO	451	0.8	0.3	Open Cut
	111.4	03020201	wjoo026f	PFO	61	0.1	<0.1	Open Cut
	113.1	03020201	wjoo027f	PFO	939	1.7	0.6	Open Cut
	113.7	03020201	wjoo024f	PFO	1,006	1.7	0.7	Open Cut
	114.5	03020201	wjoo023e	PEM	14	<0.1	0.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	114.5	03020201	wjoo023f	PFO	111	0.2	0.1	Open Cut
	114.6	03020201	wjoo023f	PFO	69	0.1	<0.1	Open Cut
	114.6	03020201	wjoo022f	PFO	375	0.6	0.3	Open Cut
	114.7	03020201	wjoo022f	PFO	0	<0.1	0.0	NA
Sampson County	116.7	03030006	wsao002f	PFO	634	1.1	0.4	Open Cut
	116.9	03030006	wsao001f	PFO	184	0.3	0.1	Open Cut
	116.9	03030006	wsao001f	PFO	117	0.2	0.1	Open Cut
	117.2	03030006	wsap002f	PFO	59	0.1	<0.1	Open Cut
	117.2	03030006	wsap002f	PFO	417	0.7	0.3	Open Cut
	117.9	03030006	wsap003f	PFO	287	0.5	0.2	Open Cut
	118.3	03030006	wsao010f	PFO	1,818	3.1	1.3	Open Cut
	118.7	03030006	wsao011f	PFO	609	1.0	0.4	Open Cut
	118.8	03030006	wsao007e	PEM	439	0.7	0.0	Open Cut
	118.9	03030006	wsao007f	PFO	1,119	1.9	0.8	Open Cut
	119.3	03030006	wsao007f	PFO	294	0.5	0.2	Open Cut
	119.6	03030006	wsao009f	PFO	298	0.5	0.2	Open Cut
	119.7	03030006	wsao009f	PFO	658	1.1	0.4	Open Cut
	120.4	03030006	wsao003s	PSS	34	0.1	<0.1	Open Cut
	120.9	03030006	wsao004e	PEM	17	<0.1	0.0	Open Cut
	121.1	03030006	wsao005e	PEM	5	<0.1	0.0	Open Cut
	121.8	03030006	wsao006f	PFO	226	0.3	0.2	Open Cut
	122.0	03030006	wsao006f	PFO	3,325	5.7	2.3	Open Cut
	122.7	03030006	wsao006f	PFO	204	0.3	0.1	Open Cut
Cumberland County	122.7	03030006	wsao006f	PFO	4	<0.1	<0.1	Open Cut
	122.7	03030006	wcmo011s	PSS	9,309	15.5	2.1	Open Cut
	124.5	03030006	wcmo011s	PSS	606	1.0	0.1	Open Cut
	124.7	03030006	wcmo011f	PFO	436	0.7	0.3	Open Cut
	125.4	03030006	wcmc006s	PSS	288	0.5	0.1	Open Cut
	125.6	03030006	wcmc005f	PFO	215	0.4	0.1	Open Cut
	126.0	03030004	wcmp006f	PFO	441	0.7	0.3	Open Cut
	126.3	03030004	wcmp007f	PFO	105	0.2	0.1	Open Cut
	126.8	03030004	wcmp008f	PFO	171	0.3	0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	126.8	03030004	wcmp008f	PFO	51	0.1	<0.1	Open Cut
	127.2	03030004	wcmp010f	PFO	95	0.1	0.1	Open Cut
	127.3	03030004	wcmp010f	PFO	119	0.2	0.1	Open Cut
	127.5	03030004	wcmp011f	PFO	0	<0.1	0.0	NA
	127.7	03030004	wcmp011f	PFO	0	0.1	<0.1	Open Cut
	127.8	03030004	wcmp011f	PFO	110	0.2	0.1	Open Cut
	128.4	03030004	wcmp017f	PFO	24	0.1	<0.1	Open Cut
	128.8	03030004	wcmp016f	PFO	228	0.4	0.2	Open Cut
	129.0	03030004	wcmp015f	PFO	153	0.3	0.1	Open Cut
	129.0	03030004	wcmp015f	PFO	45	0.1	<0.1	Open Cut
	129.4	03030004	wcmc002f	PFO	25	<0.1	<0.1	Open Cut
	129.4	03030004	wcmc002f	PFO	9	<0.1	<0.1	Open Cut
	129.6	03030004	wcmc003f	PFO	0	<0.1	<0.1	Open Cut
	129.6	03030004	nwi_nc_k_009	PFO	25	<0.1	<0.1	Open Cut
	129.6	03030004	wcmc003f	PFO	165	0.2	0.1	Open Cut
	129.6	03030004	nwi_nc_k_009	PFO	0	<0.1	<0.1	Open Cut
	129.6	03030004	wcmc003f	PFO	0	<0.1	<0.1	Open Cut
	129.6	03030004	nwi_nc_k_009	PFO	0	0.1	<0.1	Open Cut
	130.1	03030004	wcmc007f	PFO	0	<0.1	0.0	NA
	130.1	03030004	wcmc007f	PFO	0	<0.1	0.0	NA
	131.8	03030004	wcmb103f	PFO	1,977	3.4	1.4	Open Cut
	132.3	03030004	wcmb102f	PFO	126	0.2	0.1	Open Cut
	133.1	03030004	wcmo009f	PFO	590	1.0	0.4	Open Cut
	133.9	03030004	wcmp039e	PEM	91	0.2	0.0	Open Cut
	134.3	03030004	nwi_nc_f_006	PFO	155	0.3	0.1	Open Cut
	135.7	03030004	nwi_nc_f_007	PFO	119	0.2	0.1	Open Cut
	136.7	03030006	nwi_nc_f_008	PFO	6,478	10.7	4.3	Open Cut
	137.7	03030006	wcmp048e	PEM	0	0.5	0.0	Open Cut
	138.1	03030006	nwi_nc_f_009	PFO	2,161	3.7	1.5	Open Cut
	138.8	03030006	nwi_nc_f_010	PEM	0	0.3	0.0	Open Cut
	139.0	03030006	nwi_nc_f_011	PFO	1,507	2.6	1.0	Open Cut
	139.3	03030006	nwi_nc_f_011	PFO	1,452	2.5	1.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	139.7	03030006	wcmf002f	PFO	289	0.4	0.2	Open Cut
	139.7	03030006	wcmf002e	PEM	0	0.1	0.0	Open Cut
	139.8	03030006	wcmf003e	PEM	64	0.2	0.0	Open Cut
	139.9	03030006	wcmf003f	PFO	786	1.3	0.5	Open Cut
	140.2	03030006	wcmf004e	PEM	23	0.1	0.0	Open Cut
	140.4	03030006	wcmf001e	PEM	0	<0.1	0.0	NA
	140.4	03030006	wcmf001e	PEM	162	0.3	0.0	Open Cut
	140.4	03030006	wcmf001f	PFO	1,325	2.2	0.9	Open Cut
	140.7	03030006	wcmf005e	PEM	106	0.5	0.0	Open Cut
	140.7	03030006	wcmf005f1	PFO	1,818	2.9	1.3	Open Cut
	141.0	03030006	wcmf005f2	PFO	1,610	2.7	1.1	Open Cut
	141.3	03030006	wcmf005f	PFO	1,902	4.9	1.3	Open Cut
	141.8	03030006	wcmr003f	PFO	422	1.0	0.3	Open Cut
	141.8	03030006	wcmr003f	PFO	1,161	2.0	0.8	Open Cut
	141.9	03030006	wcmr003e	PEM	0	0.2	0.0	NA
	142.3	03030006	wcmo027f	PFO	182	0.3	0.1	Open Cut
	142.3	03030006	wcmo027e	PEM	0	<0.1	0.0	NA
	142.4	03030006	wcmo028f	PFO	41	0.2	<0.1	Open Cut
	142.4	03030006	wcmo028e	PEM	149	0.1	0.0	Open Cut
	142.9	03030006	wcmo029f	PFO	764	1.4	0.6	Open Cut
	143.0	03030006	wcmo029e	PEM	0	0.1	0.0	Open Cut
	143.3	03030006	wcmf010e	PEM	0	<0.1	0.0	NA
	143.3	03030006	wcmf010e	PEM	0	<0.1	0.0	NA
	143.5	03030006	wcmf011e	PEM	0	<0.1	0.0	NA
	143.6	03030006	wcmf009e	PEM	0	<0.1	0.0	NA
	143.6	03030006	wcmf009f	PFO	473	0.8	0.3	Open Cut
	143.7	03030006	wcmf009e	PEM	0	<0.1	0.0	NA
	143.8	03030006	wcmr006f	PFO	634	1.2	0.4	Open Cut
	143.9	03030006	wcmr006e	PEM	0	0.2	0.0	NA
	144.0	03030006	wcmf008f	PFO	540	1.3	0.4	Open Cut
	144.1	03030006	wcmf008f	PFO	1,737	3.0	1.2	Open Cut
	144.2	03030006	wcmf008e	PEM	0	0.1	0.0	NA

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	145.0	03030005	wcmf006f	PFO	5,162	8.6	3.5	Open Cut
	145.5	03030005	wcmf006e	PEM	0	0.3	0.0	NA
	146.2	03030005	wcmp040f	PFO	0	0.1	0.0	NA
	147.5	03030005	wcmr005f	PFO	375	0.9	0.3	Open Cut
	147.8	03030005	wcmo026f	PFO	1,052	1.8	0.7	Open Cut
	147.9	03030005	wcmo026e	PEM	0	<0.1	0.0	NA
	148.3	03030005	wcmo031f	PFO	65	0.1	<0.1	Open Cut
	148.7	03030005	wcmo024f	PFO	4,252	7.3	2.9	Open Cut
	149.5	03030005	wcmo032f	PFO	703	1.2	0.5	Open Cut
	152.8	03030005	wcmr002f	PFO	666	1.1	0.5	Open Cut
	153.0	03030005	wcmr001f	PFO	118	0.2	0.1	Open Cut
	153.0	03030005	wcmr001e	PEM	0	<0.1	0.0	NA
	153.1	03030005	wcmr001f	PFO	0	0.2	<0.1	Open Cut
	153.3	03030005	wcmp045s	PSS	70	0.1	<0.1	Open Cut
	153.4	03030005	wcmp043s	PSS	0	<0.1	0.0	NA
	153.5	03030005	wcmp046f	PFO	112	0.2	0.1	Open Cut
	154.0	03030005	wcmp042f	PFO	30	0.1	<0.1	Open Cut
	154.0	03030005	wcmp042e	PEM	0	<0.1	0.0	Open Cut
	154.0	03030005	wcmp042f	PFO	96	0.1	<0.1	Open Cut
	154.0	03030005	wcmp042e	PEM	0	<0.1	0.0	Open Cut
	154.3	03030005	wcmo022e	PEM	0	<0.1	0.0	NA
	154.4	03030005	wcmo022f	PFO	85	0.4	0.1	Open Cut
	154.4	03030005	wcmo023f	PFO	0	<0.1	<0.1	Open Cut
	154.8	03030005	wcmo021f	PFO	18	<0.1	<0.1	Open Cut
	154.9	03030005	wcmo020e	PEM	0	<0.1	0.0	NA
	154.9	03030005	wcmo020f	PFO	23	<0.1	<0.1	Open Cut
	155.1	03030005	nwi_nc_f_037	PFO	221	0.4	0.2	Open Cut
	155.1	03030005	nwi_nc_f_037	PFO	333	0.6	0.2	Open Cut
	155.2	03030005	wcmo033f	PFO	628	1.0	0.4	Open Cut
	155.2	03030005	wcmo033f	PFO	0	<0.1	<0.1	Open Cut
	155.3	03030005	wcmo033e	PEM	0	<0.1	0.0	NA
	156.4	03030005	wcmo025s	PSS	28	0.1	<0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	156.4	03030005	wcmo025f	PFO	721	1.2	0.5	Open Cut
	156.7	03030005	nwi_nc_f_039	PFO	253	0.4	0.2	Open Cut
	157.3	03030005	wcmp047f	PFO	90	0.1	0.1	Open Cut
	157.3	03030005	wcmp047s	PSS	216	0.4	<0.1	Open Cut
	157.3	03030005	wcmp047s	PSS	455	0.8	0.1	Open Cut
	158.3	03030005	wcmh004f	PFO	2,011	3.5	1.4	Open Cut
	158.9	03030005	wcmh003f	PFO	205	0.5	0.1	Open Cut
	159.1	03030005	wcmh002s	PSS	137	0.3	<0.1	Open Cut
	159.1	03030005	wcmh002f	PFO	483	0.9	0.3	Open Cut
	159.2	03030005	wcmh002s	PSS	59	0.1	<0.1	Open Cut
	159.6	03040203	wcmh008s	PSS	447	0.8	0.1	Open Cut
	159.7	03040203	wcmh008f	PFO	507	0.8	0.3	Open Cut
	159.8	03040203	nwi_nc_k_013	PFO	0	0.3	0.0	NA
	160.3	03040203	nwi_nc_k_014	PFO	587	1.5	0.4	Open Cut
	160.4	03040203	nwi_nc_k_014	PFO	24	0.1	<0.1	Open Cut
Robeson County	160.5	03040203	nwi_nc_k_014	PFO	1,449	3.6	1.0	Open Cut
	161.1	03040203	nwi_nc_k_015	PFO	335	0.9	0.2	Open Cut
	162.1	03040203	wroh019f	PFO	1,924	3.3	1.3	Open Cut
	162.5	03040203	wroh019f	PFO	2,341	4.0	1.6	Open Cut
	163.7	03040203	wroc100e	PEM	141	0.2	0.0	Open Cut
	164.2	03040203	wrog008f	PFO	22	<0.1	<0.1	Open Cut
	164.2	03040203	wrog008f	PFO	36	0.1	<0.1	Open Cut
	164.9	03040203	wrog007f	PFO	1,527	2.6	1.1	Open Cut
	165.3	03040203	wrob001f	PFO	2,126	3.7	1.5	Open Cut
	165.7	03040203	wrob002f	PFO	125	0.2	0.1	Open Cut
	166.0	03040203	wrof004f	PFO	203	0.4	0.1	Open Cut
	166.1	03040203	wrof004e	PEM	39	0.1	0.0	Open Cut
	166.1	03040203	wrof004f	PFO	258	0.5	0.2	Open Cut
	166.2	03040203	wrof003f	PFO	127	0.2	0.1	Open Cut
	166.2	03040203	wrof003f	PFO	196	0.4	0.1	Open Cut
	166.3	03040203	wrof002e	PEM	136	0.2	0.0	Open Cut
	166.4	03040203	wrof001e	PEM	922	1.6	0.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	166.9	03040203	wrof006f	PFO	203	0.4	0.1	Open Cut
	167.0	03040203	wroc003f	PFO	146	0.2	0.1	Open Cut
	167.6	03040203	wroh018f	PFO	227	0.4	0.2	Open Cut
	167.7	03040203	wroh018s	PSS	2,758	4.8	0.6	Open Cut
	168.2	03040203	wroh018f	PFO	173	0.3	0.1	Open Cut
	169.0	03040203	wroh017f	PFO	2,962	5.1	2.0	Open Cut
	169.6	03040203	wrog006f	PFO	1,517	2.7	1.0	Open Cut
	170.6	03040203	wrog004f	PFO	2,364	4.1	1.6	Open Cut
	171.3	03040203	wrog003f	PFO	212	0.4	0.1	Open Cut
	171.5	03040203	wrog002s	PSS	1,389	2.4	0.3	Open Cut
	171.8	03040203	wrog002f	PFO	220	0.5	0.2	Open Cut
	171.9	03040203	wrog001s	PSS	22	<0.1	<0.1	Open Cut
	172.0	03040203	wrog001s	PSS	472	0.9	0.1	Open Cut
	172.1	03040203	wrog001f	PFO	278	0.5	0.2	Open Cut
	172.4	03040203	wroh016s	PSS	1,763	3.1	0.4	Open Cut
	172.8	03040203	wroh016s	PSS	619	1.1	0.1	Open Cut
	172.9	03040203	wroh015f	PFO	2,048	3.5	1.4	Open Cut
	173.4	03040203	wroh014f	PFO	376	0.7	0.3	Open Cut
	173.9	03040203	wroh013f	PFO	800	1.4	0.6	Open Cut
	174.0	03040203	wroh013s	PSS	29	<0.1	<0.1	Open Cut
	174.0	03040203	wroh013s	PSS	522	0.9	0.1	Open Cut
	174.1	03040203	wroh013f	PFO	1,357	2.4	0.9	Open Cut
	174.4	03040203	wroh013s	PSS	179	0.3	<0.1	Open Cut
	174.4	03040203	wroh013f	PFO	228	0.4	0.2	Open Cut
	174.5	03040203	wroh013f	PFO	246	0.4	0.2	Open Cut
	175.5	03040203	wroh011f	PFO	1,874	3.2	1.3	Open Cut
	176.4	03040203	wroh010s	PSS	292	0.5	0.1	Open Cut
	176.7	03040203	wroh008f	PFO	485	0.9	0.3	Open Cut
	176.8	03040203	wroh008f	PFO	1,963	3.3	1.4	Open Cut
	177.5	03040203	wroh007s	PSS	682	1.2	0.2	Open Cut
	177.7	03040203	wroh007s	PSS	646	1.1	0.1	Open Cut
	178.5	03040203	nwi_nc_k_016	PFO	279	0.8	0.2	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	180.7	03040203	wroh005s	PSS	62	0.1	<0.1	Open Cut
	181.5	03040203	wroe001e	PEM	144	0.2	0.0	Open Cut
	181.6	03040203	wroh004s	PSS	272	0.5	0.1	Open Cut
	181.7	03040203	wroh003s	PSS	270	0.4	0.1	Open Cut
	182.5	03040203	wroh002f	PFO	261	0.4	0.2	Open Cut
	182.6	03040203	wroh002f	PFO	267	0.4	0.2	Open Cut
AP-2 Subtotal					**240,804**	**427.5**	**148.4**	
AP-3								
North Carolina								
Northampton County	0.4	03010204	wnra002f	PFO	1,120	1.8	0.8	Open Cut
	0.7	03010204	wnrc001s	PSS	51	0.3	<0.1	Open Cut
	0.7	03010204	wnrc001e	PEM	103	0.1	0.0	Open Cut
	1.5	03010204	wnrc003f	PFO	0	<0.1	<0.1	Open Cut
	1.6	03010204	wnrc002f	PFO	40	0.1	<0.1	Open Cut
	2.2	03010204	wnrc004f	PFO	67	0.1	<0.1	Open Cut
	2.6	03010204	wnrc006f	PFO	314	0.6	0.2	Open Cut
	3.0	03010204	wnrc007f	PFO	41	0.1	<0.1	Open Cut
	3.6	03010204	wnrp003f	PFO	35	0.1	<0.1	Open Cut
	4.1	03010204	wnrp004f	PFO	40	0.1	<0.1	Open Cut
	4.9	03010204	wnrc008e	PEM	115	0.2	0.0	Open Cut
	4.9	03010204	wnrc008f	PFO	0	<0.1	0.0	NA
	5.1	03010204	wnrc009e	PEM	135	0.2	0.0	Open Cut
	5.3	03010204	wnrp020f	PFO	466	0.8	0.3	Open Cut
	5.5	03010204	wnrp020f	PFO	46	0.1	<0.1	Open Cut
	5.9	03010204	wnrp022f	PFO	171	0.3	0.1	Open Cut
	5.9	03010204	wnrp022f	PFO	79	0.2	0.1	Open Cut
	6.3	03010204	wnrp011f	PFO	192	0.2	0.1	Open Cut
	6.3	03010204	wnrp011e	PEM	0	0.1	0.0	Open Cut
	7.0	03010204	wnrp009e	PEM	28	<0.1	0.0	Open Cut
	7.0	03010204	wnrp009e	PEM	24	0.1	0.0	Open Cut
	7.0	03010204	wnrp009f	PFO	111	0.2	0.1	Open Cut
	7.0	03010204	wnrp009f	PFO	30	<0.1	<0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	7.1	03010204	wnrp009e	PEM	0	<0.1	0.0	Open Cut
	7.1	03010204	wnrp008f	PFO	32	<0.1	<0.1	Open Cut
	7.1	03010204	wnrp008e	PEM	0	<0.1	0.0	Open Cut
	7.3	03010204	wnrp006e	PEM	215	0.1	0.0	Open Cut
	7.5	03010204	wnrp006f	PFO	24	0.3	0.1	Open Cut
	7.5	03010204	wnrp006e	PEM	0	<0.1	0.0	Open Cut
	7.5	03010204	wnrp007e	PEM	10	<0.1	0.0	Open Cut
	7.6	03010204	wnrb107f	PFO	258	0.5	0.2	Open Cut
	7.6	03010204	wnrb107e	PEM	125	0.2	0.0	Open Cut
	8.1	03010204	wnrb108e	PEM	96	0.1	0.0	Open Cut
	8.1	03010204	wnrb108e	PEM	261	0.2	0.0	Open Cut
	8.2	03010204	wnrb108f	PFO	0	0.5	0.1	Open Cut
	8.6	03010204	wnrc011e	PEM	253	0.2	0.0	Open Cut
	8.6	03010204	wnrc011f	PFO	0	0.2	<0.1	Open Cut
	8.7	03010204	wnrc012e	PEM	751	1.0	0.0	Open Cut
	8.8	03010204	wnrc012f	PFO	0	<0.1	0.0	NA
	8.9	03010204	wnrc012e	PEM	673	0.7	0.0	Open Cut
	9.0	03010204	wnrc012f	PFO	4	0.8	0.1	Open Cut
	9.2	03010204	wnrp018f	PFO	0	<0.1	0.0	NA
	9.4	03010204	wnrp017f	PFO	0	0.1	<0.1	Open Cut
	9.4	03010204	wnrp017e	PEM	5	<0.1	0.0	Open Cut
	9.4	03010204	wnrp016e	PEM	633	0.7	0.0	Open Cut
	9.4	03010204	wnrp016f	PFO	0	0.4	<0.1	Open Cut
	9.7	03010204	wnrb106s	PSS	167	0.3	<0.1	Open Cut
	9.9	03010204	wnro003f	PFO	303	0.6	0.2	Open Cut
	9.9	03010204	wnro002f	PFO	149	0.4	0.1	Open Cut
	10.0	03010204	wnrb102f	PFO	444	0.8	0.3	Open Cut
	10.0	03010204	wnrb102f	PFO	958	1.7	0.7	Open Cut
	10.3	03010204	wnrb102f	PFO	31	0.1	<0.1	Open Cut
	10.5	03010204	wnrb101f	PFO	0	<0.1	0.0	NA
	10.7	03010204	wnrb100f	PFO	329	0.5	0.2	Open Cut
	11.9	03010204	wnrp015f	PFO	1,165	1.9	0.8	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	12.1	03010204	wgrp001f	PFO	0	<0.1	<0.1	Open Cut
	12.1	03010204	wgrp002f	PFO	78	0.1	<0.1	Open Cut
Virginia								
Greensville County	12.3	03010204	wgrp001f	PFO	480	0.8	0.3	Open Cut
Southampton County	12.4	03010204	wsop004f	PFO	1,354	2.4	0.9	Open Cut
	12.9	03010204	wsop004f	PFO	658	1.2	0.5	Open Cut
	13.4	03010204	wsop001f	PFO	111	0.2	0.1	Open Cut
	13.5	03010204	wsop001f	PFO	3,446	6.1	2.4	Open Cut
	14.3	03010204	wsop006s	PSS	263	0.7	0.1	Open Cut
	14.3	03010204	wsop006e	PEM	437	0.5	0.0	Open Cut
	14.4	03010204	wsop006f	PFO	0	<0.1	0.0	NA
	14.4	03010204	wsop006e	PEM	73	1.7	0.0	Open Cut
	14.4	03010204	wsop006f	PFO	3,636	4.7	1.7	Open Cut
	14.5	03010204	wsop006f	PFO	0	<0.1	0.0	NA
	15.2	03010204	wsop022e	PEM	120	0.1	0.0	Open Cut
	15.2	03010204	wsop022f	PFO	0	0.1	<0.1	Open Cut
	15.3	03010204	wsop023f	PFO	705	1.0	0.4	Open Cut
	15.4	03010204	wsop023e	PEM	0	0.3	0.0	Open Cut
	15.4	03010204	wsop023f	PFO	307	0.4	0.2	Open Cut
	15.4	03010204	wsop023e	PEM	0	0.1	0.0	Open Cut
	15.6	03010204	wsor001e	PEM	757	1.1	0.0	Open Cut
	16.3	03010204	wsoo007f	PFO	0	0.1	<0.1	Open Cut
	16.5	03010204	wsoo001f	PFO	83	0.2	0.1	Open Cut
	16.5	03010204	wsoo001f	PFO	86	0.1	0.1	Open Cut
	16.8	03010204	wsop015e	PEM	262	0.3	0.0	Open Cut
	16.8	03010204	wsop015f	PFO	0	0.1	0.0	NA
	17.0	03010204	wsop016e	PEM	187	0.2	0.0	Open Cut
	17.0	03010204	wsop016f	PFO	0	0.2	<0.1	Open Cut
	17.1	03010204	wsop017e	PEM	1,183	1.6	0.0	Open Cut
	17.2	03010204	wsop017f	PFO	0	0.4	0.0	NA
	17.3	03010204	wsop017f	PFO	0	<0.1	0.0	NA
	17.7	03010204	wsop018f	PFO	1,061	1.8	0.7	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	17.8	03010204	wsop018e	PEM	0	0.1	0.0	Open Cut
	18.0	03010204	wsop018f	PFO	489	0.8	0.3	Open Cut
	18.0	03010204	wsop018e	PEM	0	<0.1	0.0	NA
	18.1	03010204	wsoa073e	PEM	157	0.2	0.0	Open Cut
	18.2	03010204	wsoa073f	PFO	0	0.1	<0.1	Open Cut
	18.3	03010204	wsoa072e	PEM	152	0.2	0.0	Open Cut
	18.3	03010204	wsoa072f	PFO	0	0.1	<0.1	Open Cut
	18.4	03010204	wsoa071e	PEM	759	0.6	0.0	Open Cut
	18.4	03010204	wsoa071f	PFO	62	0.2	0.1	Open Cut
	18.5	03010204	wsoa071f	PFO	76	0.5	0.1	Open Cut
	19.0	03010204	wsoa070f	PFO	46	0.1	<0.1	Open Cut
	19.0	03010204	wsoa070f	PFO	37	0.1	<0.1	Open Cut
	19.2	03010204	wsoo002e	PFO	96	0.2	0.1	Open Cut
	19.2	03010204	wsoo002e	PFO	100	0.2	0.1	Open Cut
	20.0	03010204	wsop014e	PEM	39	<0.1	0.0	Open Cut
	20.0	03010204	wsop014e	PEM	10	<0.1	0.0	Open Cut
	20.4	03010204	wsop013e	PEM	0	<0.1	0.0	Open Cut
	20.4	03010204	wsop013f	PFO	52	0.1	<0.1	Open Cut
	20.7	03010204	wsop012f	PFO	111	0.1	0.1	Open Cut
	20.7	03010204	wsop012e	PEM	0	<0.1	0.0	Open Cut
	20.7	03010204	wsop012f	PFO	12	0.1	<0.1	Open Cut
	20.7	03010204	wsop012e	PEM	0	<0.1	0.0	Open Cut
	20.8	03010204	wsop011e	PEM	67	0.1	0.0	Open Cut
	20.8	03010204	wsop011f	PFO	205	0.4	0.1	Open Cut
	21.0	03010204	wsop011e	PEM	0	<0.1	0.0	Open Cut
	21.0	03010204	wsop011e	PEM	0	<0.1	0.0	Open Cut
	21.1	03010204	wsop011e	PEM	0	0.1	0.0	Open Cut
	21.1	03010204	wsop011e	PEM	0	<0.1	0.0	NA
	21.3	03010204	wsoa076e	PEM	107	0.1	0.0	Open Cut
	21.3	03010204	wsoa076e	PEM	37	<0.1	0.0	Open Cut
	21.3	03010204	wsoa076f	PFO	0	<0.1	<0.1	Open Cut
	21.3	03010204	wsoa076e	PEM	152	0.1	0.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	21.3	03010204	wsoa076f	PFO	0	0.2	<0.1	Open Cut
	21.5	03010204	wsoa075e	PEM	1,063	0.7	0.0	Open Cut
	21.6	03010204	wsoa075f	PFO	0	0.9	0.3	Open Cut
	21.7	03010204	wsoa075e	PEM	227	0.2	0.0	Open Cut
	21.8	03010204	wsoa075f	PFO	0	<0.1	<0.1	Open Cut
	21.8	03010204	wsoa075f	PFO	132	0.4	0.1	Open Cut
	22.3	03010204	wsoa074e	PEM	20	<0.1	0.0	Open Cut
	22.8	03010201	wsoa032f	PFO	300	0.3	0.2	Open Cut
	23.0	03010201	wsoa031f	PFO	74	0.1	0.1	Open Cut
	23.5	03010201	wsoa005f	PFO	31	0.1	<0.1	Open Cut
	23.7	03010201	wsoo003f	PFO	332	0.5	0.2	Open Cut
	24.5	03010201	wsoo008f	PFO	0	<0.1	0.0	NA
	24.9	03010201	wsoo009f	PFO	0	<0.1	<0.1	Open Cut
	25.1	03010201	wsop021f	PFO	77	0.1	0.1	Open Cut
	25.3	03010201	wsop020f	PFO	275	0.5	0.2	Open Cut
	25.4	03010201	wsop019f	PFO	68	0.2	<0.1	Open Cut
	26.6	03010201	wsoo006e	PEM	0	<0.1	0.0	Open Cut
	26.6	03010201	wsoo006f	PFO	45	<0.1	<0.1	Open Cut
	27.3	03010201	wsol009f	PFO	232	0.4	0.2	Open Cut
	27.4	03010201	wsol009f	PFO	236	0.4	0.2	Open Cut
	27.7	03010201	wsol010f	PFO	301	0.6	0.2	Open Cut
	27.7	03010201	wsol010e	PEM	206	0.3	0.0	Open Cut
	27.9	03010201	wsol011e	PEM	35	0.1	0.0	Open Cut
	28.1	03010201	wsol012f	PFO	521	0.9	0.4	Open Cut
	28.3	03010201	wsol014f	PFO	131	0.2	0.1	Open Cut
	28.6	03010201	wsop100f	PFO	140	0.2	0.1	Open Cut
	28.7	03010201	wsol015f	PFO	66	0.1	<0.1	Open Cut
	29.2	03010201	wsol016f	PFO	76	0.1	0.1	Open Cut
	29.4	03010201	wsol017s	PSS	207	0.5	<0.1	Open Cut
	29.5	03010201	wsol018f	PFO	208	0.3	0.1	Open Cut
	29.7	03010201	wsoc009f	PFO	48	0.1	<0.1	Open Cut
	30.0	03010201	wsol019e	PEM	209	0.3	0.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	30.0	03010201	wsol019f	PFO	254	0.5	0.2	Open Cut
	30.1	03010201	wsol020f	PFO	453	0.7	0.3	Open Cut
	30.7	03010201	wsoa017f	PFO	155	0.3	0.1	Open Cut
	30.7	03010201	wsoa017f	PFO	54	0.1	<0.1	Open Cut
	31.8	03010201	wsoa020f	PFO	504	0.8	0.3	Open Cut
	32.1	03010201	wsol031f	PFO	121	0.2	0.1	Open Cut
	32.1	03010201	wsol031f	PFO	327	0.5	0.2	Open Cut
	32.3	03010201	wsol030f	PFO	301	0.5	0.2	Open Cut
	32.3	03010201	wsol029f	PFO	153	0.3	0.1	Open Cut
	32.4	03010201	wsol029s	PSS	196	0.3	<0.1	Open Cut
	32.5	03010201	wsol028s	PSS	47	0.1	<0.1	Open Cut
	32.5	03010201	wsol027f	PFO	149	0.5	0.1	Open Cut
	32.5	03010201	wsol027f	PFO	0	<0.1	0.0	NA
	32.6	03010201	wsol026f	PFO	113	0.1	0.1	Open Cut
	32.6	03010201	wsol021f	PFO	728	0.8	0.5	HDD
	33.0	03010201	wsol022f	PFO	52	0.1	<0.1	Open Cut
	33.5	03010201	wsoa026e	PEM	32	0.1	0.0	Open Cut
	33.6	03010201	wsoa027s	PSS	141	0.2	<0.1	Open Cut
	33.7	03010201	wsoa028f	PFO	254	0.4	0.2	Open Cut
	34.6	03010201	wsoo010f	PFO	6	<0.1	<0.1	Open Cut
	34.9	03010201	wsol025f2	PFO	1,081	1.8	0.7	Open Cut
	35.1	03010201	wsol025f1	PFO	54	0.1	<0.1	Open Cut
	35.1	03010201	wsol025s	PSS	469	0.8	0.1	Open Cut
	35.2	03010201	wsol024s	PSS	507	0.9	0.1	Open Cut
	35.4	03010201	wsol023s	PSS	1,232	2.1	0.3	Open Cut
	35.6	03010201	wsol023f	PFO	292	0.5	0.2	Open Cut
	35.7	03010201	wsol023f	PFO	754	1.3	0.5	Open Cut
	35.8	03010202	wsoa025e	PEM	27	0.1	0.0	Open Cut
	37.0	03010202	wsol033e	PEM	433	0.7	0.0	Open Cut
	37.3	03010202	wsol034f	PFO	172	0.3	0.1	Open Cut
	37.4	03010202	wsoa023f	PFO	804	1.4	0.6	Open Cut
	37.6	03010202	wsoc008f	PFO	105	0.1	0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	37.7	03010202	wsoc017f	PFO	111	0.2	0.1	Open Cut
	37.8	03010202	wsoa022f	PFO	95	0.2	0.1	Open Cut
	38.1	03010202	wsoa021f	PFO	74	0.1	0.1	Open Cut
	38.1	03010202	wsoa021f	PFO	563	1.0	0.4	Open Cut
	38.4	03010202	wsoa024f	PFO	1,093	1.2	0.8	HDD
City of Suffolk	38.6	03010202	wsoa024f	PFO	15	<0.1	<0.1	HDD
	38.6	03010202	wsua006f	PFO	209	0.2	0.1	HDD
	39.1	03010202	wsua007s	PSS	50	0.1	<0.1	Open Cut
	39.4	03010202	wsua008f	PFO	44	0.2	<0.1	Open Cut
	39.4	03010202	wsua008f	PFO	96	0.2	0.1	Open Cut
	39.5	03010202	wsua021f	PFO	39	0.1	<0.1	Open Cut
	39.5	03010202	wsua021f	PFO	234	0.4	0.2	Open Cut
	39.6	03010202	wsua021f	PFO	213	0.3	0.1	Open Cut
	39.7	03010202	wsua020f	PFO	25	<0.1	<0.1	Open Cut
	39.7	03010202	wsua020f	PFO	12	<0.1	<0.1	Open Cut
	39.7	03010202	wsua019s	PSS	111	0.2	<0.1	Open Cut
	39.9	03010202	wsua018s	PSS	33	<0.1	<0.1	Open Cut
	40.0	03010202	wsua009f	PFO	32	0.1	<0.1	Open Cut
	40.1	03010202	wsua010f	PFO	62	0.1	<0.1	Open Cut
	40.1	03010202	wsua010f	PFO	31	<0.1	<0.1	Open Cut
	40.2	03010202	wsua010f	PFO	62	0.1	<0.1	Open Cut
	40.2	03010202	wsua010f	PFO	37	0.1	<0.1	Open Cut
	41.0	03010202	wsua072f	PFO	68	0.1	<0.1	Open Cut
	41.1	03010202	wsua070f	PFO	83	0.2	0.1	Open Cut
	41.2	03010202	wsua071f	PFO	490	0.8	0.3	Open Cut
	41.4	03010202	wsuo037f	PFO	32	0.1	<0.1	Open Cut
	41.4	03010202	wsuo037f	PFO	72	0.1	0.1	Open Cut
	42.2	03010202	wsuo013f	PFO	89	0.1	0.1	Open Cut
	42.3	03010202	wsuo013f	PFO	172	0.3	0.1	Open Cut
	42.3	03010202	wsuo013f	PFO	155	0.3	0.1	Open Cut
	42.7	03010202	wsuo012f	PFO	107	0.2	0.1	Open Cut
	43.1	03010202	wsup030e	PEM	11	<0.1	0.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	43.7	03010202	wsup014e	PEM	26	<0.1	0.0	Open Cut
	43.7	03010202	wsup014f	PFO	0	<0.1	<0.1	Open Cut
	43.8	03010202	wsup013e	PEM	490	0.8	0.0	Open Cut
	43.9	03010202	wsup013f	PFO	0	0.3	0.1	Open Cut
	43.9	03010202	wsup013f	PFO	94	0.2	0.1	Open Cut
	44.0	03010202	wsup013f	PFO	202	0.2	0.1	Open Cut
	44.0	03010202	wsup013f	PFO	184	0.1	0.1	Open Cut
	44.2	03010202	wsup026e	PEM	483	0.7	0.0	Open Cut
	44.2	03010202	wsup026f	PFO	0	0.1	<0.1	Open Cut
	44.3	03010202	wsup026f	PFO	0	<0.1	<0.1	Open Cut
	44.5	03010202	wsup025f	PFO	335	0.6	0.3	Open Cut
	44.6	03010202	wsup025f	PFO	0	0.1	0.0	NA
	44.6	03010202	wsup025e	PEM	31	<0.1	0.0	Open Cut
	44.6	03010202	wsup025e	PEM	0	<0.1	0.0	NA
	44.6	03010202	wsuo017f	PFO	287	0.5	0.2	Open Cut
	45.1	03010202	wsuo020f	PFO	62	0.1	<0.1	Open Cut
	45.1	03010202	wsuo020f	PFO	28	0.1	<0.1	Open Cut
	45.5	03010202	wsua076f	PFO	562	1.0	0.4	Open Cut
	45.6	03010202	wsua076e	PEM	82	0.1	0.0	Open Cut
	46.1	03010202	wsua074e	PEM	2	<0.1	0.0	Open Cut
	46.1	03010202	wsua074e	PEM	11	<0.1	0.0	Open Cut
	46.2	03010202	wsua073f	PFO	1,525	2.6	1.0	Open Cut
	46.5	03010203	wsuc101f	PFO	2,348	4.0	1.6	Open Cut
	47.0	03010203	wsuc101e	PEM	72	0.1	0.0	Open Cut
	47.0	03010203	wsuc101f	PFO	118	0.2	0.1	Open Cut
	47.0	03010203	wsuc101f	PFO	783	1.4	0.5	Open Cut
	47.2	03010203	wsuc101s	PSS	332	0.6	0.1	Open Cut
	47.3	03010203	wsuc100f	PFO	235	0.4	0.2	Open Cut
	47.3	03010203	wsuc100s	PSS	281	0.5	0.1	Open Cut
	47.4	03010203	wsuc100f	PFO	604	1.0	0.4	Open Cut
	47.5	03010203	wsuc005f	PFO	801	2.2	0.6	Open Cut
	47.6	03010203	wsuc005s	PSS	1,556	1.8	0.4	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	48.1	03010203	wsuc006e	PEM	293	0.2	0.0	Open Cut
	48.1	03010203	wsuc006f	PFO	0	0.3	0.1	Open Cut
	48.6	03010203	wsuc007e	PEM	470	0.8	0.0	Open Cut
	49.3	03010203	nwi_va_b_047	PFO	241	0.4	0.2	Open Cut
	49.4	03010203	nwi_va_b_048	PFO	800	1.5	0.6	Open Cut
	49.6	03010203	wsuo027f	PFO	198	0.3	0.1	Open Cut
	49.7	03010203	wsuo027e	PEM	143	0.2	0.0	Open Cut
	49.7	03010203	wsuo027f	PFO	0	<0.1	<0.1	Open Cut
	49.7	03010203	wsuo027f	PFO	23	<0.1	<0.1	Open Cut
	49.8	03010203	wsuo026f	PFO	114	0.2	0.1	Open Cut
	49.9	03010203	wsuo026f	PFO	74	0.2	0.1	Open Cut
	50.0	03010203	wsuo025f	PFO	1,167	2.0	0.8	Open Cut
	50.4	03010203	wsuo024f	PFO	0	<0.1	0.0	NA
	50.5	03010203	wsuo024f	PFO	56	0.1	<0.1	Open Cut
	50.5	03010203	wsuo024f	PFO	25	0.1	<0.1	Open Cut
	50.8	03010203	wsuo022f	PFO	2,402	4.1	1.7	Open Cut
	51.4	03010203	wsuo023f	PFO	866	1.6	0.6	Open Cut
	52.1	03010203	wsup037f	PFO	142	0.2	0.1	Open Cut
	52.3	03010203	wsup021f	PFO	420	0.8	0.3	Open Cut
	52.6	03010203	wsup024s	PSS	59	0.1	<0.1	Open Cut
	52.6	03010203	wsup024s	PSS	112	0.2	<0.1	Open Cut
	52.6	03010203	wsup024s	PSS	0	<0.1	<0.1	Open Cut
	52.6	03010203	wsup024f	PFO	90	0.1	0.1	Open Cut
	52.7	03010203	wsup023f	PFO	242	0.4	0.2	Open Cut
	52.8	03010203	wsup022f	PFO	1,350	2.3	0.9	Open Cut
	53.0	02080208	wsup022s	PSS	2,745	4.7	0.6	Open Cut
	53.6	02080208	wsuo039f	PFO	21	<0.1	<0.1	Open Cut
	53.9	02080208	wsup027s	PSS	2,051	3.5	0.5	Open Cut
	54.4	02080208	wsup028s	PSS	353	0.6	0.1	Open Cut
	54.5	02080208	wsup028f	PFO	88	0.1	0.1	Open Cut
	54.6	02080208	wsup029f	PFO	203	0.3	0.1	Open Cut
	54.6	02080208	wsur007f	PFO	60	0.1	<0.1	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	54.7	02080208	wsur008f	PFO	0	<0.1	0.0	NA
	55.0	02080208	nwi_va_c_027	PFO	158	0.3	0.1	Open Cut
	55.0	02080208	nwi_va_c_007	PEM	746	1.3	0.0	Open Cut
	55.4	02080208	nwi_va_c_028	PFO	86	0.1	0.1	Open Cut
	55.4	02080208	nwi_va_c_028	PFO	0	<0.1	<0.1	Open Cut
	56.1	02080208	wsup032f	PFO	856	1.4	0.6	Open Cut
	56.3	02080208	wsup032f	PFO	143	0.2	0.1	Open Cut
	56.3	02080208	wsup033f	PFO	76	0.1	<0.1	Open Cut
	56.4	02080208	wsup034e	PEM	22	0.1	0.0	Open Cut
	56.4	02080208	wsup034e	PEM	131	0.2	0.0	Open Cut
	56.6	02080208	wsup035f	PFO	0	<0.1	<0.1	Open Cut
	56.7	02080208	wsup035f	PFO	80	0.1	0.1	Open Cut
	57.4	02080208	wsup0038f	PFO	135	0.2	0.1	Open Cut
	57.5	02080208	wsuo032f	PFO	441	0.8	0.3	Open Cut
	57.9	02080208	wsuo033f	PFO	465	0.6	0.3	Open Cut
	59.3	02080208	wsuo034f	PFO	39	<0.1	<0.1	Open Cut
	59.3	02080208	wsuo034f	PFO	0	<0.1	0.0	NA
	59.4	02080208	wsuo035f	PFO	58	0.1	<0.1	Open Cut
	59.4	02080208	wsuo035f	PFO	62	0.1	<0.1	Open Cut
	59.4	02080208	wsuo035f	PFO	19	<0.1	<0.1	Open Cut
	62.7	02080208	wsuo041f	PFO	0	<0.1	<0.1	Open Cut
	62.7	02080208	wsuo041f	PFO	4	<0.1	<0.1	Open Cut
	62.7	02080208	wsuo041f	PFO	21	<0.1	<0.1	Open Cut
	63.0	02080208	wsuo042f	PFO	56	0.1	<0.1	Open Cut
	63.0	02080208	wsuo042f	PFO	29	<0.1	<0.1	Open Cut
	63.6	02080208	wsup015f	PFO	50	0.1	0.1	HDD
	63.6	02080208	wsup015e	PEM	20	<0.1	0.0	HDD
	63.6	02080208	nwi_va_c_001	E2E	1,938	2.2	0.0	HDD
	64.0	02080208	wsup018e	PEM	50	0.1	0.0	HDD
	64.3	02080208	wsup016e	PEM	37	<0.1	0.0	HDD
	64.3	02080208	nwi_va_c_002	E2E	297	0.3	0.0	HDD
	64.4	02080208	nwi_va_c_005	E2U	1,864	2.1	0.0	HDD

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	64.8	02080208	wsuc112e	PEM	349	0.4	0.0	HDD
	65.2	02080208	wsuc113e	PEM	25	0.1	0.0	Open Cut
	66.2	02080208	nwi_va_c_042	PFO	49	0.3	0.1	Open Cut
	66.2	02080208	nwi_va_i_004	PEM	295	0.3	0.0	Open Cut
	66.3	02080208	wsuo018e	PEM	3,488	2.5	0.0	Open Cut
	66.6	02080208	wsuo018s	PSS	0	3.3	0.0	Open Cut
	67.0	02080208	wsuo019e	PEM	2,174	1.8	0.0	Open Cut
	67.2	02080208	wsuo019s	PSS	1,073	3.7	0.3	Open Cut
	67.6	02080208	wsup020f	PFO	1,605	6.0	1.7	Open Cut
	67.6	02080208	wsup020e	PEM	1,623	1.6	0.0	Open Cut
	68.1	02080208	wsup020e	PEM	6	<0.1	0.0	Open Cut
	68.1	02080208	wsup020e	PEM	2,133	1.7	0.0	Open Cut
	68.6	02080208	wsuo009e	PEM	895	0.9	0.0	Open Cut
	68.7	02080208	wsuo009f	PFO	0	1.6	0.4	Open Cut
	68.8	02080208	wsuo009f	PFO	159	0.3	0.1	Open Cut
	68.8	02080208	wsuo009e	PEM	149	0.3	0.0	Open Cut
	68.9	02080208	wsuo009f	PFO	3,729	6.4	2.6	Open Cut
	69.5	02080208	wsuo009e	PEM	20	<0.1	0.0	Open Cut
	69.6	02080208	wsuo009f	PFO	1,155	2.0	0.8	Open Cut
	69.8	02080208	wsuo009f	PFO	2,768	4.8	1.9	Open Cut
	70.3	02080208	wsuo009e	PEM	20	<0.1	0.0	Open Cut
	70.3	02080208	wsuo009f	PFO	2,761	4.9	1.9	Open Cut
	70.9	02080208	wsuo010s	PSS	524	0.9	0.1	Open Cut
	71.0	02080208	wsur001f	PFO	64	0.1	<0.1	Open Cut
	71.1	02080208	wsuo011f	PFO	1,289	2.1	0.9	Open Cut
	71.3	02080208	wsuo011e	PEM	25	0.1	0.0	Open Cut
City of Chesapeake	71.4	02080208	wchr004f	PFO	126	0.2	0.1	Open Cut
	71.8	02080208	wchr002f	PFO	7,181	10.5	4.9	Open Cut
	71.8	02080208	wchr002e	PEM	0	<0.1	0.0	NA
	73.1	02080208	wchr002e	PEM	99	2.0	0.0	Open Cut
	73.1	02080208	wchr002f	PFO	1,682	2.9	1.2	Open Cut
	73.5	02080208	wchr002e	PEM	240	0.4	0.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	73.5	02080208	wchr002f	PFO	586	1.0	0.4	Open Cut
	73.6	02080208	wchr002f	PFO	245	0.4	0.2	Open Cut
	73.7	02080208	wchr002f	PFO	1,431	2.5	1.0	Open Cut
	73.9	02080208	wchr002f	PFO	1,943	3.4	1.3	Open Cut
	74.3	02080208	wchr002f	PFO	3,854	6.6	2.7	Open Cut
	75.1	02080208	wchr001f	PFO	4,846	7.9	3.3	Open Cut
	76.0	02080208	nwi_va_i_008	PFO	701	1.0	0.5	Open Cut
	76.2	02080208	wcho001f	PFO	3,277	3.7	2.2	Open Cut
	76.9	02080208	wchc002f	PFO	179	0.2	0.1	Open Cut
	77.1	02080208	wchc001f	PFO	54	0.1	<0.1	Open Cut
	77.3	02080208	wcho002f	PFO	8	0.1	<0.1	Open Cut
	77.4	02080208	wcho004f	PFO	84	0.2	0.1	Open Cut
	77.4	02080208	wcho004f	PFO	49	0.1	<0.1	Open Cut
	77.9	02080208	wcho011e3	PEM	21	<0.1	0.0	HDD
	78.0	02080208	wcho011e3	PEM	34	0.1	0.0	Open Cut
	78.0	02080208	wcho011f3	PFO	602	1.1	0.4	Open Cut
	78.0	02080208	wcho011f3	PFO	0	<0.1	0.0	NA
	78.2	02080208	wcho011f	PFO	837	1.2	0.6	Open Cut
	78.5	02080208	wcho011e	PEM	394	1.5	0.0	Open Cut
	79.5	02080208	wcho005e	PEM	0	<0.1	0.0	NA
	79.9	02080208	wcho009e	PEM	72	0.1	0.0	Open Cut
	79.9	02080208	wcho009f	PFO	0	0.1	0.0	NA
	80.4	02080208	wcho010e	PEM	1,594	1.7	0.0	Open Cut
	80.4	02080208	wcho010f	PFO	0	0.1	<0.1	Open Cut
	80.4	02080208	wchro001e	PEM	0	<0.1	0.0	Open Cut
	80.7	02080208	wcho010f	PFO	443	2.2	0.4	Open Cut
	80.8	02080208	wchro002_tidal	Tidal	801	1.5	0.0	Open Cut
	80.8	02080208	wchro002_tidal	Tidal	0	<0.1	0.0	NA
	80.8	02080208	wchro002e	PEM	0	0.1	0.0	Open Cut
	80.9	02080208	wchro002f	PFO	351	0.5	0.2	Open Cut
	81.0	02080208	wchro002e	PEM	0	0.1	0.0	Open Cut
	81.0	02080208	wcho012e	PEM	6	<0.1	0.0	Open Cut

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
	81.4	02080208	wcho014f	PFO	0	1.1	<0.1	Open Cut
	81.7	02080208	wcho016f	PFO	0	0.1	<0.1	Open Cut
	81.7	02080208	wcho017e	PEM	0	<0.1	0.0	NA
	81.7	02080208	wcho016e	PEM	319	0.4	0.0	HDD
	82.4	02080208	nwi_va_i_009	PFO	452	0.4	0.2	Open Cut
AP-3 Subtotal					**141,011**	**239.3**	**70.1**	
AP-4								
Virginia								
Brunswick County			None		0	0	0	NA
AP-4 Subtotal					**0**	**0**	**0**	
AP-5								
Virginia								
Greenville County			None		0	0	0	NA
AP-5 Subtotal					**0**	**0**	**0**	
ACP PIPELINE FACILITIES TOTALS					**427,805**	**751.3**	**238.3**	
ABOVEGROUND FACILITIES								
Compressor Station								
Virginia								
Buckingham County	191.5	02080203	wbub050f	PFO	0	0.5	0.0	NA
	191.5	02080203	wbub050f	PFO	0	<0.1	0.0	NA
	191.5	02080203	wbub050f	PFO	0	<0.1	0.0	NA
	191.5	02080203	wbub050e	PEM	0	0.8	0.0	NA
	191.8	02080203	wbub050s	PSS	0	1.3	0.0	NA
Long Run M&R Station								
West Virginia								
Randolph County	47.3	05020001	wrab102e	PEM	0	<0.1	<0.1	NA
	47.3	05020001	wrae227e	PEM	0	0.1	0.1	NA
Elizabeth River M&R Station								
Virginia								
City of Chesapeake	82.6	02080208	wcha001f	PFO	0	0.1	0.1	NA
Marts L&R								
West Virginia								

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]
Harrison County	0.0	05020002	whab001e	PEM	0	0.1	0.1	NA
	0.0	05020002	Whab001s	PSS	0	<0.1	<0.1	NA
Contractor Yards/Pipe Yards								
AP-1								
West Virginia								
Randolph County	44.8	05020001	wrac102e	PEM	0	0.3	0.0	NA
	44.8	05020001	wrac103e	PEM	0	0.3	0.0	NA
	44.8	05020001	wrac105e	PEM	0	1.7	0.0	NA
	53.7	05020001	nwi_wv_k_007	PFO	0	0.2	0.0	NA
	59.7	05020001	nwi_wv_k_005	PEM	0	1.3	0.0	NA
Pocahontas County	81.0	05050003	nwi_wv_k_001	PEM	0	0.2	0.0	NA
	81.0	05050003	nwi_wv_k_002	PEM	0	0.1	0.0	NA
	82.7	05050003	wpoa400e	PEM	0	<0.1	0.0	NA
Virginia								
Highland County	87.6	02080201	whic100e	PEM	0	0.2	0.0	NA
	87.6	02080201	whic101e1	PEM	0	<0.1	0.0	NA
	87.6	02080201	whic101e2	PEM	0	0.1	0.0	NA
	87.6	02080201	whic101s	PSS	0	<0.1	0.0	NA
	109.0	02080201	whie003e	PEM	0	0.4	0.0	NA
	109.0	02080201	whie005e	PEM	0	<0.1	0.0	NA
	109.0	02080201	whie006e	PEM	0	<0.1	0.0	NA
Augusta County	109.2	02080202	wauf001e	PEM	0	0.5	0.0	NA
Brunswick County	274.8	03010204	wgrc106e	PEM	0	<0.1	0.0	NA
	274.9	03010204	wgrc107e	PEM	0	0.1	0.0	NA
AP-2								
North Carolina								
Halifax County	18.3	03020102	whlb050e	PEM	0	0.2	0.0	NA
	18.4	03020102	whlb050e	PEM	0	<0.1	0.0	NA
Johnston County	96.4	03020201	wjob115f	PFO	0	0.7	0.0	NA
	96.4	03020201	wjob115f	PFO	0	0.1	0.0	NA
Cumberland County	141.7	03030004	wcuc051e	PEM	0	0.4	0.0	NA
ABOVEGROUND FACILITIES TOTALS						**10.1**	**0.4**	

TABLE L-1 (cont'd)

Wetlands Crossed and Crossing Methods for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Construction Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e, f]

[a] Wetland types according to Cowardin et al. (1979):
PFO = palustrine forested
PSS = palustrine scrub-shrub
PEM = palustrine emergent
PUB = palustrine unconsolidated bottom
E2E = estuarine intertidal emergent
E2U = estuarine intertidal unconsolidated shore

[b] The crossing length is the measure of the distance of the centerline through the wetland. It does not include feet crossed outside the centerline. A value of 0 indicates that the centerline does not cross the wetland.

[c] Temporary wetland impacts associated with the construction right-of-way (includes permanent impacts, temporary impacts, ATWS impacts, ground bed impacts and water impoundment impacts).

[d] Operational impacts are associated with scrub-shrub and forested wetlands. Operational requirements allow a 10-foot-wide corridor centered over the pipeline to be maintained in an herbaceous state, and for the removal of trees within 15 feet on either side of the pipeline. To determine conversion impacts on scrub-shrub wetlands, a 10-foot-wide corridor centered over the pipeline was assessed. A 30-foot-wide corridor centered over the pipeline was assessed for forested wetlands. Because the easement will be maintained in an herbaceous state, there will be no operational impacts on emergent wetlands.

[e] Pending the results of geotechnical investigations and final engineering, Atlantic is evaluating use of the HDD method to cross six waterbodies, a water impoundment area, two highways, and the Appalachian Trail/Blue Ridge Parkway. Use of the HDD method would avoid these features as well as adjacent wetlands and riparian areas. If successfully implemented, the HDD method would avoid impacts on the adjacent wetlands, including wetlands identified in this table.

[f] NA = wetland occurs within workspace but is not crossed by the centerline, trenching thru the wetland is not expected.

[g] Located entirely or partially on NFS land.

Note: The totals shown in this table may not equal the sum of addends due to rounding.

TABLE L-2

Wetlands Crossed and Crossing Methods for the Supply Header Project

Facility/State or Commonwealth	County	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Width (feet) [b]	Temporary Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e]
PIPELINE FACILITIES									
TL-635									
West Virginia	Harrison County								
		0.0	5020002	whag001e	PEM	241	0.3	0.0	Open Cut
		0.4	5020002	whag002e	PEM	101	0.2	0.0	Open Cut
	Doddridge County								
		0.8	5030201	wdog001e	PEM	N/A	<0.1	0.0	NA
		1.3	5030201	wdog005e	PEM	94	0.2	0.0	Open Cut
		1.4	5030201	wdoh003e	PEM	N/A	<0.1	0.0	NA
		2.9	5030201	wdog006f	PFO	23	<0.1	<0.1	Open Cut
		5.1	5030201	wdog008f	PFO	37	0.1	<0.1	Open Cut
		12.2	5030201	wdog010f	PFO	50	0.1	<0.1	Open Cut
		15.1	5030201	wdog003e	PEM	N/A	<0.1	0.0	NA
		20.7	5030201	wdog012s	PSS	65	0.1	<0.1	Open Cut
	Wetzel County								
		24.8	5030201	wwzg003f	PFO	61	0.1	<0.1	Open Cut
		26.8	5030201	wwzg004f	PFO	129	0.2	0.1	Open Cut
TL-635 Totals						**801**	**1.3**	**0.2**	
TL-636									
Pennsylvania	Westmoreland County								
		0.2	5020005	wwmh012f	PFO	33	0.1	<0.1	Open Cut
		0.6	5020005	wwmh001f	PFO	69	0.1	<0.1	Open Cut
		1.2	5020005	wwmh002e	PEM	85	0.2	0.0	Open Cut
		1.3	5020005	wwmh002e	PEM	51	0.1	0.0	Open Cut
		1.9	5020005	wwmh007e	PEM	199	0.3	0.0	Open Cut
		2.6	5020005	wwmh003f	PFO	N/A	0.1	<0.1	NA
		2.9	5020005	wwmh008e	PEM	N/A	<0.1	0.0	NA
		2.9	5020005	wwmh009e	PEM	N/A	<0.1	0.0	NA
		2.9	5020005	wwmh010f	PFO	N/A	<0.1	<0.1	Open Cut
		3.1	5020005	wwmh010f	PFO	N/A	<0.1	<0.1	Open Cut
		3.2	5020005	wwmh010f	PFO	55	0.1	<0.1	Open Cut

TABLE L-2 (cont'd)

Wetlands Crossed and Crossing Methods for the Supply Header Project

Facility/State or Commonwealth	County	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Width (feet) [b]	Temporary Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e]
		3.6	5020005	wwmh011f	PFO	42	0.1	<0.1	Open Cut
		3.8	5020005	wwmh006e	PEM	11	<0.1	0.0	Open Cut
TL-636 Totals						**544**	**1.0**	**0.1**	
SUPPLY HEADER PIPELINE TOTALS						**1,345**	**2.4**	**0.3**	
ABOVEGROUND FACILITIES									
JB Tonkin									
Pennsylvania	Westmoreland								
		3.8	5020005	wwmh005e	PEM	--	<0.1	<0.1	--
Martz Junction Receiver Site									
West Virginia	Harrison								
		0.0	5020002	whag004e	PEM	--	0.1	0.1	--
ABOVEGROUND FACILITIES TOTALS							**0.1**	**0.1**	
ACCESS ROADS									
TL-635									
West Virginia	Doddridge								
		14.1	5030201	wdoh006f	PFO	71	<0.1	<0.1	--
	Wetzel								
		24.8	5030201	wwzg003f	PFO	95	0.1	0.1	
		25.4	5030201	wwzh021e	PEM	172	0.1	0.1	--
		25.4	5030201	wwzh022e	PEM	74	<0.1	<0.1	
		26.2	5030201	wwzh020e	PEM	102	0.1	0.1	--
TL-636									
Pennsylvania	Westmoreland								
		0.0	5020005	wwmc001e	PEM	124	0.1	0.1	--
ACCESS ROAD TOTALS						**638**	**0.4**	**0.4**	
GROUND BEDS									
TL-635									
West Virginia	Doddridge								
		17.8	5030201	wdoh004e	PEM	--	<0.1	<0.1	--

TABLE L-2 (cont'd)

Wetlands Crossed and Crossing Methods for the Supply Header Project

Facility/State or Commonwealth	County	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Width (feet) [b]	Temporary Impacts (acres) [c]	Operation Impacts (acres) [d]	Construction Method [e]

[a] Wetland types according to Cowardin et al. (1979):
PFO = palustrine forested
PSS = palustrine scrub-shrub
PEM = palustrine emergent

[b] N/A for Crossing Width indicates that the proposed route centerline does not cross the wetland.

[c] Temporary wetland impacts are associated with a 75-foot-wide construction right-of-way through wetlands plus additional temporary workspace and topsoil segregation space.

[d] Wetland vegetation type conversion impacts are associated with scrub-shrub and forested wetlands. Operational requirements (corrosion/leak surveys) allow a 10-foot-wide corridor centered over the pipeline to be maintained in an herbaceous state, and allow trees within 15 feet on either side of the pipeline with roots that could compromise the integrity of the pipeline to be selectively cut from the right-of-way. To determine conversion impacts on scrub-shrub wetlands, a 10-foot-wide corridor centered over the pipeline was assessed. A 30-foot-wide corridor centered over the pipeline was assessed for forested wetlands.

[e] NA = wetland occurs within workspace but is not crossed by the centerline, trenching thru the wetland is not expected.

Note: The totals shown in this table may not equal the sum of addends due to rounding

TABLE L-3

Wetlands Crossed by Access Roads for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Impacts (acres)	Permanent Impacts (acres)
AP-1							
West Virginia							
Lewis County	2.4	05020002	wleb110e	PEM	0	<0.1	0.0
	2.4	05020002	wleb109e	PEM	68	<0.1	0.0
	2.4	05020002	wleb109e	PEM	97	0.1	0.0
	3.0	05020002	wleb111e	PEM	282	0.1	0.1
	6.8	05020002	wleb105e	PEM	13	<0.1	0.0
	12.7	05020002	wlea088e	PEM	0	<0.1	<0.1
	13.6	05020002	wlec001e	PEM	0	<0.1	<0.1
	14.5	05020002	wlea079e	PEM	3	<0.1	<0.1
	14.5	05020002	wlea079e	PEM	0	<0.1	<0.1
	14.5	05020002	wlea080e	PEM	0	<0.1	<0.1
	14.5	05020002	wlea080e	PEM	0	<0.1	<0.1
	14.7	05020002	wlea081e	PEM	28	<0.1	<0.1
	14.7	05020002	wlea082e	PEM	0	<0.1	<0.1
	14.7	05020002	wlea083e	PEM	0	<0.1	<0.1
	14.8	05020002	wlea084e	PEM	0	<0.1	0.0
	14.8	05020002	wlea084e	PEM	0	<0.1	0.0
	14.8	05020002	wlea085e	PEM	198	0.1	<0.1
	14.8	05020002	wlea087e	PEM	0	<0.1	<0.1
	14.9	05020002	wlea087e	PEM	0	<0.1	<0.1
	15.3	05020002	wlea086e	PEM	72	<0.1	<0.1
	15.3	05020002	wleb107e	PEM	0	<0.1	<0.1
	15.5	05020002	wlea076e	PEM	0	<0.1	<0.1
	15.5	05020002	wlea076e	PEM	0	<0.1	<0.1
	15.5	05020002	wlea076e	PEM	0	<0.1	<0.1
	16.5	05020002	wlea077e	PEM	287	0.2	0.2
	17.3	05020002	wlea075e	PEM	0	<0.1	<0.1
	19.0	05020002	wlec005e	PEM	38	<0.1	<0.1
	19.9	05020002	nwi_wv_h_001	PUB	0	<0.1	<0.1
	19.9	05020002	nwi_wv_h_001	PUB	96	0.1	0.1
	20.2	05020002	wlec006e	PEM	33	<0.1	<0.1

TABLE L-3 (cont'd)

Wetlands Crossed by Access Roads for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Impacts (acres)	Permanent Impacts (acres)
	20.2	05020002	wlec006e	PEM	95	0.1	0.1
Upshur County	24.0	05020001	wupb101e	PEM	0	<0.1	0.0
	24.0	05020001	wupa001e	PEM	21	<0.1	0.0
	24.0	05020001	wupa001e	PEM	25	<0.1	0.0
	26.8	05020002	wupc001e	PEM	0	<0.1	<0.1
	26.8	05020002	wupc001e	PEM	0	<0.1	<0.1
	26.8	05020002	wupc001e	PEM	0	<0.1	<0.1
	26.8	05020002	wupc001e	PEM	0	<0.1	<0.1
	29.3	05020001	wupb007e	PEM	42	<0.1	<0.1
	36.1	05020001	wupb009f	PFO	68	<0.1	<0.1
	37.1	05020001	wupa050e	PEM	89	0.1	0.0
	37.8	05020001	wupb050e	PEM	17	<0.1	<0.1
	41.9	05020001	wupb103e	PEM	87	<0.1	<0.1
Randolph County	47.1	05020001	wraa059f	PFO	67	<0.1	<0.1
	47.3	05020001	wrab102e	PEM	0	<0.1	<0.1
	50.3	05020001	nwi_wv_h_002	PUB	74	<0.1	<0.1
	50.9	05020001	wraa404e	PEM	411	0.2	0.2
	51.4	05020001	wraa431s	PSS	0	<0.1	<0.1
	51.8	05020001	wraa432s	PSS	0	<0.1	<0.1
	52.2	05020001	wraa434s	PSS	19	<0.1	<0.1
	52.2	05020001	wraa423e	PEM	56	<0.1	<0.1
	52.2	05020001	wraa423s	PSS	132	0.1	0.1
	52.3	05020001	wraa435e	PEM	115	0.1	0.1
	52.3	05020001	wraa435e	PEM	0	<0.1	<0.1
	53.2	05020001	wraa436e	PEM	0	<0.1	<0.1
	53.3	05020001	wraa436e	PEM	0	<0.1	<0.1
	53.3	05020001	wraa436e	PEM	0	<0.1	<0.1
	53.3	05020001	wraa436e	PEM	0	<0.1	<0.1
	54.2	05020001	wrac113e	PEM	0	<0.1	<0.1
	54.3	05020001	wrac110e	PEM	0	<0.1	<0.1
	54.3	05020001	wrac112e	PEM	0	<0.1	<0.1
	55.1	05020001	wrac114e	PEM	0	<0.1	<0.1
	55.1	05020001	wrac114e	PEM	0	<0.1	<0.1

TABLE L-3 (cont'd)

Wetlands Crossed by Access Roads for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Impacts (acres)	Permanent Impacts (acres)
	57.3	05050007	wrac108e	PEM	0	<0.1	<0.1
	57.3	05050007	wrae201e	PEM	8	<0.1	<0.1
	57.4	05050007	wrae202e	PEM	111	<0.1	<0.1
	57.4	05050007	wrae203e	PEM	29	<0.1	<0.1
	57.7	05050007	wrae232e	PEM	0	<0.1	<0.1
	57.7	05050007	wrae233e	PEM	0	<0.1	<0.1
	57.7	05050007	wrae233e	PEM	124	0.1	0.1
	57.7	05050007	wrae241e	PEM	0	<0.1	<0.1
	57.7	05050007	wrae241e	PEM	0	<0.1	<0.1
	57.7	05050007	wrae230e	PEM	0	<0.1	<0.1
	57.7	05050007	wrae230e	PEM	3	<0.1	<0.1
	57.7	05050007	wrae231e	PEM	33	<0.1	<0.1
	57.8	05050007	wrae235e	PEM	0	<0.1	<0.1
	58.1	05050007	wrae235e	PEM	0	<0.1	<0.1
	58.1	05050007	wrae235e	PEM	839	0.6	0.6
	58.3	05050007	wrae235e	PEM	431	0.3	0.3
	58.3	05050007	wrae235e	PEM	395	0.2	0.2
	58.3	05050007	wrae235e	PEM	119	0.1	0.1
	58.4	05050007	wrae235e	PEM	10	<0.1	<0.1
	59.9	05050007	wrac106e	PEM	0	<0.1	<0.1
	63.0	05020001	wrae214e	PEM	36	<0.1	<0.1
	63.1	05050007	wrac115e	PEM	0	<0.1	<0.1
	63.3	05020001	wrae212e	PEM	0	<0.1	<0.1
Pocahontas County	71.7	05050003	wpoa404e	PEM	0	<0.1	<0.1
	71.7	05050003	wpoa404e	PEM	288	0.2	0.2
	71.7	05050003	wpoa403e	PEM	93	<0.1	<0.1
	71.7	05050003	wpoa403e	PEM	6	<0.1	<0.1
	71.9	05050007	wpoa413e	PEM	0	<0.1	<0.1
	71.9	05050007	wpoa414e	PEM	0	<0.1	<0.1
	71.9	05050007	wpoa411e	PEM	12	<0.1	<0.1
	71.9	05050007	wpoa415e	PEM	0	<0.1	<0.1
	71.9	05050007			25	<0.1	<0.1
Virginia							

TABLE L-3 (cont'd)

Wetlands Crossed by Access Roads for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Impacts (acres)	Permanent Impacts (acres)
Highland County	85.4 [c]	02080201	whia406f	PFO	33	<0.1	<0.1
Bath County	103.9	02080202	nwi_va_l_006	PFO	169	0.1	0.1
	103.9	02080202	nwi_va_l_006	PFO	91	0.1	0.1
	104.0	02080202	wbar002f	PFO	0	<0.1	<0.1
	104.0	02080202	nwi_va_l_002	PEM	114	0.1	0.1
	104.0	02080202	nwi_va_e_008	PEM	0	<0.1	<0.1
	104.7	02080202	nwi_va_l_007	PFO	51	<0.1	<0.1
	104.7	02080202	nwi_va_l_007	PFO	39	<0.1	<0.1
Augusta County	108.6	02080202	nwi_va_l_001	PSS	206	0.1	0.1
	112.3	02080202	nwi_va_h_002	PEM	162	0.1	0.1
	112.3	02080202	nwi_va_h_001	PEM	102	0.1	0.1
	112.3	02080202	nwi_va_h_001	PEM	0	<0.1	<0.1
	124.0	02070005	waub107e	PEM	0	<0.1	<0.1
	141.0	02070005	waub106e	PEM	0	<0.1	<0.1
	141.0	02070005	waub106e	PEM	0	<0.1	<0.1
	157.0	02070005	waue002e	PEM	0	<0.1	<0.1
	157.0	02070005	waue002e	PEM	0	<0.1	<0.1
Nelson County	171.3	02080203	wnez003s	PSS	40	<0.1	<0.1
	175.5	02080203	nwi_va_c_045	PFO	0	<0.1	0.0
	184.6	02080203	wnec052e	PEM	0	<0.1	0.0
	184.6	02080203	wnea021e	PEM	0	<0.1	0.0
Buckingham County	184.8	02080203	wbua009f	PFO	39	<0.1	<0.1
	184.8	02080203	wbuc109f	PFO	175	0.1	0.1
	184.8	02080203	wbup006e	PEM	0	<0.1	<0.1
	184.9	02080203	wbua008e	PEM	20	<0.1	<0.1
	185.2	02080203	wbua007e	PEM	16	<0.1	<0.1
	185.3	02080203	wbua007e	PEM	85	0.1	0.1
	185.4	02080203	wbua006e	PEM	0	<0.1	<0.1
	185.4	02080203	wbua006e	PEM	0	<0.1	<0.1
	189.1	02080203	wbuc007s	PSS	0	<0.1	<0.1
	189.1	02080203			5	<0.1	<0.1
	189.1	02080203			17	<0.1	<0.1
	190.0	02080203	wbuc106s	PSS	0	<0.1	<0.1

TABLE L-3 (cont'd)

Wetlands Crossed by Access Roads for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Impacts (acres)	Permanent Impacts (acres)
	190.0	02080203	wbuc106s	PSS	0	<0.1	<0.1
	195.3	02080203	wbuc105f	PFO	399	0.2	0.2
	211.4	02080205	wbua003e	PEM	17	<0.1	<0.1
Cumberland County	218.9	02080207	wcua002f	PFO	32	<0.1	0.0
	218.9	02080207	wcua002f	PFO	0	<0.1	0.0
Brunswick County	260.7	03010201	nwi_va_a_044	PFO	121	0.1	0.1
	260.7	03010201	wbrc003f	PFO	44	<0.1	<0.1
	281.5	03010204	nwi_va_063	PFO	166	0.1	0.1
	281.5	03010204	nwi_va_062	PFO	198	0.1	0.1
	282.4	03010204	wbra026f	PFO	0	<0.1	<0.1
Greensville County	283.9	03010201	WVA-RDK-006	PEM	0	<0.1	<0.1
	283.9	03010201	WVA-RDK-006	PEM	0	<0.1	<0.1
	284.8	03010204	WVA-RDK-001	PSS	123	0.1	0.0
	286.6	03010204	wgrc001f	PFO	100	0.1	0.1
	298.4	03010204	nwi_va_a_031	PEM	210	0.1	0.1
	298.6	03010204	nwi_va_a_034	PFO	492	0.3	0.3
AP-1 Subtotal					**8,358**	**5.8**	**5.3**
AP-2							
North Carolina							
Halifax County	10.1	03010107	nwi_nc_a_011	PFO	821	0.6	0.6
	19.6	03020102	whlg020f	PFO	0	<0.1	<0.1
	19.6	03020102	whlg020f	PFO	0	<0.1	<0.1
	24.5	03020102	whlg016f	PFO	0	<0.1	<0.1
	24.5	03020102	whlg016f	PFO	0	<0.1	<0.1
	24.6	03020102	whlh035e	PEM	208	0.1	0.1
	29.0	03020102	whlg021e	PEM	0	<0.1	0.0
	33.5	03020102	whlh034f	PFO	54	<0.1	<0.1
	33.5	03020102	whlh034f	PFO	116	0.1	0.1
	33.5	03020102	whlh034f	PFO	0	<0.1	<0.1
Nash County	53.1	03020101	wnag011f	PFO	0	<0.1	<0.1
	54.3	03020101	wnah027f	PFO	0	<0.1	<0.1

TABLE L-3 (cont'd)

Wetlands Crossed by Access Roads for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Impacts (acres)	Permanent Impacts (acres)
	54.4	03020101	wnah027f	PFO	0	<0.1	<0.1
	61.2	03020203	wnao009f	PFO	0	<0.1	<0.1
	61.3	03020203	wnap006f	PFO	0	<0.1	<0.1
	61.3	03020203	wnao009f	PFO	0	<0.1	<0.1
	61.3	03020203	wnap006f	PFO	0	<0.1	<0.1
	61.3	03020203	wnao009f	PFO	0	<0.1	<0.1
Johnston County	97.2	03020201	nwi_nc_l_004	PFO	231	0.2	0.2
	97.2	03020201	nwi_nc_l_004	PFO	288	0.2	0.2
	97.4	03020201	wjoo030f	PFO	0	<0.1	<0.1
	97.4	03020201	wjoo031f	PFO	100	0.1	0.1
	97.5	03020201	wjoo031f	PFO	0	<0.1	<0.1
	97.5	03020201	wjoo030f	PFO	27	0.1	0.1
	97.5	03020201	wjoo031f	PFO	0	<0.1	<0.1
	97.5	03020201	wjoo031f	PFO	0	<0.1	<0.1
	97.6	03020201	wjoo034f	PFO	0	<0.1	<0.1
	97.7	03020201	wjoo034f	PFO	0	<0.1	<0.1
	97.7	03020201	wjoo035f	PFO	0	0.1	0.1
	97.7	03020201	wjoo034f	PFO	161	0.2	0.2
	97.7	03020201	wjop036f	PFO	0	<0.1	0.0
	97.8	03020201	wjoo035f	PFO	0	<0.1	<0.1
	97.8	03020201	wjop036f	PFO	0	0.1	0.0
	97.8	03020201	wjop036f	PFO	0	0.2	0.0
	98.0	03020201	wjop036f	PFO	0	0.1	0.0
	98.0	03020201	wjop036f	PFO	0	<0.1	0.0
	98.0	03020201	wjop036f	PFO	0	<0.1	0.0
	98.0	03020201	wjop036f	PFO	0	0.1	0.0
	98.1	03020201	wjop036f	PFO	30	0.1	0.0
	98.1	03020201	wjop036f	PFO	219	0.2	0.0
	98.1	03020201	wjop036f	PFO	0	<0.1	0.0
	98.2	03020201	wjop035f	PFO	0	<0.1	0.0
	98.3	03020201	wjop034f	PFO	24	0.2	0.0
	98.3	03020201	wjop034f	PFO	138	0.3	0.0
	98.3	03020201	wjop032f	PFO	0	<0.1	0.0

TABLE L-3 (cont'd)

Wetlands Crossed by Access Roads for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Impacts (acres)	Permanent Impacts (acres)
	98.4	03020201	wjop032f	PFO	0	0.1	0.0
	98.4	03020201	wjop032e	PEM	361	0.1	0.0
	98.4	03020201	wjob112f	PFO	127	0.1	0.0
	98.4	03020201	wjob112f	PFO	0	<0.1	0.0
	98.4	03020201	wjob112f	PFO	153	0.1	0.0
	98.5	03020201	wjob112f	PFO	80	0.1	0.0
	98.5	03020201	wjob112f	PFO	0	<0.1	0.0
	99.9	03020201	wjoa021s	PSS	0	0.0	0.0
	106.3	03020201	wjob104f	PFO	0	<0.1	<0.1
	106.3	03020201	wjob104f	PFO	0	<0.1	<0.1
	106.3	03020201	wjob103s	PSS	0	<0.1	<0.1
	106.3	03020201	wjob103s	PSS	0	<0.1	<0.1
	106.3	03020201	wjob103s	PSS	0	<0.1	<0.1
Cumberland County	122.7	03030006	wcmo011s	PSS	14	<0.1	<0.1
	123.0	03030006	wcmo015s	PSS	797	0.5	0.5
	123.1	03030006	wcmo015s	PSS	167	0.1	0.1
	123.1	03030006	wcmo015e	PEM	88	<0.1	<0.1
	123.1	03030006	wcmo015s	PSS	0	<0.1	<0.1
	126.8	03030004	wcmp008f	PFO	0	<0.1	<0.1
	126.8	03030004	wcmp008f	PFO	0	<0.1	<0.1
	126.8	03030004	wcmp009f	PFO	0	<0.1	<0.1
	126.8	03030004	wcmp009f	PFO	0	<0.1	<0.1
	136.1	03030006	nwi_nc_l_003	PFO	0	<0.1	<0.1
	136.1	03030006	nwi_nc_l_003	PFO	265	0.2	0.2
	136.7	03030006	nwi_nc_l_002	PFO	0	<0.1	<0.1
	136.7	03030006	nwi_nc_f_008	PFO	64	<0.1	<0.1
	137.1	03030006	nwi_nc_l_001	PFO	0	<0.1	<0.1
	137.2	03030006	nwi_nc_l_001	PFO	2,010	1.4	1.4
	143.9	03030006	wcmr006e	PEM	0	<0.1	<0.1
Robeson County	182.3	03040203	wroh022f	PFO	0	<0.1	<0.1
AP-2 Subtotal					**6,542**	**6.2**	**4.3**
AP-3							
North Carolina							

TABLE L-3 (cont'd)

Wetlands Crossed by Access Roads for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Impacts (acres)	Permanent Impacts (acres)
Northampton County	0.3	03010204	wnrh014e	PEM	0	<0.1	0.0
	0.3	03010204	wnrh014e	PEM	0	<0.1	0.0
	7.2	03010204	wnrr007f	PFO	9	<0.1	<0.1
Virginia							
Southampton County	14.4	03010204	wsop006f	PFO	150	0.1	0.0
	14.8	03010204	nwi_va_a_035	PFO	1,072	0.7	0.0
	14.8	03010204	wsop006f	PFO	0	<0.1	0.0
	14.8	03010204	wsop006f	PFO	0	<0.1	0.0
	14.8	03010204	wsop006f	PFO	0	<0.1	0.0
	14.8	03010204	wsop005f	PFO	0	<0.1	0.0
	29.5	03010201	wsol018f	PFO	68	0.1	0.0
	31.6	03010201	nwi_va_108	PFO	73	<0.1	<0.1
	31.6	03010201	nwi_va_108	PFO	38	<0.1	<0.1
	31.9	03010201	nwi_va_111	PFO	49	<0.1	<0.1
	31.9	03010201	wsoa020f	PFO	0	<0.1	<0.1
	32.3	03010201	wsoa019s	PSS	0	<0.1	0.0
	32.4	03010201	wsoa019s	PSS	172	0.1	0.0
	32.5	03010201	wsol028s	PSS	0	<0.1	<0.1
	32.5	03010201	wsol027f	PFO	0	<0.1	<0.1
	32.5	03010201	wsol027f	PFO	0	<0.1	<0.1
	32.9	03010201	wsol022f	PFO	0	<0.1	<0.1
City of Suffolk	39.1	03010202	wsua007s	PSS	0	0.1	0.1
	39.1	03010202	wsuc010s	PSS	0	<0.1	<0.1
	39.1	03010202	wsua007s	PSS	0	0.1	0.1
	53.0	02080208	wsup022s	PSS	1,172	0.8	0.0
	53.3	02080208	nwi_va_h_005	PSS	261	0.2	0.0
	64.2	02080208	nwi_va_h_006	E2EM	181	0.1	0.1
	64.2	02080208	nwi_va_h_007	E2EM	411	0.3	0.3
	66.3	02080208	nwi_va_l_005	PFO	864	0.6	0.0
	66.6	02080208	wsuo018s	PSS	141	0.1	0.0
	71.0	02080208	wsuc111f	PFO	0	<0.1	<0.1
City of Chesapeake	73.9	02080208	wchr002f	PFO	176	0.2	0.0
	74.0	02080208	nwi_va_l_004	PFO	774	0.5	0.0

TABLE L-3 (cont'd)

Wetlands Crossed by Access Roads for the Atlantic Coast Pipeline

Facility/State or Commonwealth/County or City	Milepost	Hydrologic Unit Code (HUC8)	Unique ID	Cowardin Classification [a]	Crossing Length (feet) [b]	Temporary Impacts (acres)	Permanent Impacts (acres)
	74.1	02080208	wchr002f	PFO	19	<0.1	0.0
	74.1	02080208	nwi_va_l_004	PFO	0	<0.1	0.0
	74.1	02080208	wchr002f	PFO	13	<0.1	0.0
	74.2	02080208	wchr002f	PFO	0	0.2	0.0
	74.3	02080208	wchr002f	PFO	0	<0.1	<0.1
	75.0	02080208	wchr002f	PFO	0	0.2	0.0
	75.0	02080208	wchr002f	PFO	0	0.1	0.1
	75.1	02080208	wchr002f	PFO	0	<0.1	<0.1
	75.1	02080208	wchc003s	PSS	0	0.1	0.1
	75.1	02080208	wchr001f	PFO	0	0.2	0.2
	75.1	02080208	wchr001f	PFO	0	0.1	0.1
	78.2	02080208	wcho011f	PFO	134	<0.1	<0.1
	78.4	02080208	wcho011e	PEM	1,039	0.6	0.6
	78.5	02080208	wcho011f	PFO	104	0.2	0.2
	78.5	02080208	wcho011e	PEM	419	0.5	0.5
	78.6	02080208	wcho011e	PEM	0	<0.1	<0.1
AP-3 Subtotal					**7,338**	**6.4**	**2.6**
AP-5							
Virginia							
Greensville County	0.2	03010204	WVA-RDK-001	PSS	154	0.1	0.0
AP-5 Subtotal					**154**	**0.1**	**0.0**
ACCESS ROAD TOTALS					**22,392**	**18.5**	**12.2**

____

[a] Wetland types according to Cowardin et al. (1979):
PFO = palustrine forested
PSS = palustrine scrub-shrub
PEM = palustrine emergent
PUB = palustrine unconsolidated bottom
E2EM = estuarine intertidal emergent

[b] The crossing length is the measure of the distance of the centerline through the wetland. A value of 0 indicates that the centerline does not cross the wetland.

[c] Located entirely or partially on NFS land.

APPENDIX M

ROADS AND RAILROADS CROSSED BY THE
ATLANTIC COAST PIPELINE AND SUPPLY HEADER PROJECT

APPENDIX M

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
ATLANTIC COAST PIPELINE					
AP-1					
West Virginia	Harrison County	County or local road	County Hwy 35/3	1.1	Bore
West Virginia	Lewis County	County or local road	County Hwy 2	1.4	Bore
West Virginia	Lewis County	County or local road	County Hwy 4/3	3.9	Bore
West Virginia	Lewis County	County or local road		4.1	Bore
West Virginia	Lewis County	County or local road	County Hwy 10/10	4.1	Bore
West Virginia	Lewis County	County or local road	County Hwy 10/11	5.0	Bore
West Virginia	Lewis County	County or local road	County Hwy 10/12	5.7	Bore
West Virginia	Lewis County	County or local road	Hollick Run Rd	7.8	Bore
West Virginia	Lewis County	County or local road	County Hwy 1	8.1	Bore
West Virginia	Lewis County	County or local road	Elk City Rd	8.4	Bore
West Virginia	Lewis County	County or local road	Broad Run Rd	9.4	Bore
West Virginia	Lewis County	County or local road	County Hwy 8/3	9.6	Bore
West Virginia	Lewis County	Railroad	Baltimore and Ohio Railroad	11.7	Bore
West Virginia	Lewis County	County or local road	Sycamore Rd	11.8	Bore
West Virginia	Lewis County	County or local road		12.2	Bore
West Virginia	Lewis County	U.S. or State Hwy	US Hwy 19	12.7	Bore
West Virginia	Lewis County	County or local road	4WD Road	13.7	Bore
West Virginia	Lewis County	U.S. or State Hwy	I 79	14.1	Bore
West Virginia	Lewis County	County or local road	Lifes Run Rd	14.3	Bore
West Virginia	Lewis County	County or local road	County Hwy 7/4	15.5	Bore
West Virginia	Lewis County	County or local road	County Hwy 13	17.2	Bore
West Virginia	Lewis County	County or local road	Laurel Lick Rd	18.1	Bore
West Virginia	Lewis County	County or local road		19.9	Bore
West Virginia	Lewis County	County or local road	County Hwy 32/2	20.4	Bore
West Virginia	Lewis County	County or local road	County Hwy 32	20.6	Bore
West Virginia	Lewis County	County or local road		20.7	Bore
West Virginia	Upshur County	County or local road	County Hwy 12	23.2	Bore
West Virginia	Upshur County	U.S. or State Hwy	US Hwy 119/33	23.2	Bore
West Virginia	Upshur County	County or local road	Fink Run Rd	24.0	Bore
West Virginia	Upshur County	County or local road	County Hwy 7/4	24.7	Bore
West Virginia	Upshur County	County or local road	County Route 7	25.8	Bore
West Virginia	Upshur County	County or local road	County Hwy 14	27.1	Bore
West Virginia	Upshur County	U.S. or State Hwy	State Hwy 4	29.1	Bore
West Virginia	Upshur County	County or local road	Sago Rd	29.3	Bore
West Virginia	Upshur County	County or local road	County Hwy 20/9	30.5	Bore
West Virginia	Upshur County	Railroad	Baltimore and Ohio Railroad	31.1	Bore
West Virginia	Upshur County	County or local road	Sago Rd	31.6	Bore
West Virginia	Upshur County	Railroad	Baltimore and Ohio Railroad	31.6	Bore
West Virginia	Upshur County	County or local road	County Hwy 22	31.7	Bore
West Virginia	Upshur County	County or local road	County Hwy 22	33.8	Bore
West Virginia	Upshur County	County or local road	County Hwy 22/3	34.4	Bore
West Virginia	Upshur County	County or local road		34.4	Bore
West Virginia	Upshur County	County or local road	Driveway	36.7	Bore
West Virginia	Upshur County	County or local road	County Hwy 24	36.8	Bore
West Virginia	Upshur County	County or local road	County Hwy 9/8	37.7	Bore
West Virginia	Upshur County	County or local road		38.7	Bore
West Virginia	Upshur County	County or local road	County Hwy 30/18	40.6	Bore
West Virginia	Upshur County	County or local road	County Hwy 30	41.3	Bore
West Virginia	Upshur County	County or local road	County Hwy 9	41.3	Bore
West Virginia	Upshur County	County or local road	County Hwy 9/23	43.8	Bore

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
West Virginia	Randolph County	County or local road	County Hwy 34	45.3	Bore
West Virginia	Randolph County	County or local road	County Hwy 42/1	48.4	Bore
West Virginia	Randolph County	County or local road	County Hwy 42	48.4	Bore
West Virginia	Randolph County	County or local road	County Hwy 46/2	49.0	Bore
West Virginia	Randolph County	County or local road	County Hwy 46/2	49.1	Bore
West Virginia	Randolph County	County or local road	County Hwy 46/2	49.7	Bore
West Virginia	Randolph County	County or local road	County Hwy 46	50.6	Bore
West Virginia	Randolph County	County or local road	County Hwy 45	56.2	Bore
West Virginia	Randolph County	U.S. or State Hwy	State Hwy 15	59.5	Bore
West Virginia	Randolph County	County or local road		59.5	Bore
West Virginia	Randolph County	County or local road	County Hwy 49	60.7	Bore
West Virginia	Randolph County	County or local road	County Rte 219/14	65.4	Bore
West Virginia	Randolph County	County or local road	County Hwy 51/1	66.6	Bore
West Virginia	Pocahontas County	County or local road	County Rte	67.5	Bore
West Virginia	Pocahontas County	Railroad	Western Maryland Railway	68.6	Bore
West Virginia	Pocahontas County	U.S. or State Hwy	US Hwy 219	69.1	Bore
West Virginia	Pocahontas County	County or local road	4WD Road	70.7	Bore
West Virginia	Pocahontas County	County or local road	Driveway	72.8	Bore
West Virginia	Pocahontas County	County or local road	Beverage Rd	74.6	Bore
West Virginia	Pocahontas County	County or local road	County Hwy 9/2	75.3	Bore
West Virginia	Pocahontas County	County or local road		75.6	Bore
West Virginia	Pocahontas County	County or local road	County Hwy 15	75.9	Bore
West Virginia	Pocahontas County	County or local road	County Hwy 1	76.5	Bore
West Virginia	Pocahontas County	Railroad	C and O Railroad	76.6	Bore
West Virginia	Pocahontas County	County or local road	County Hwy 1/4	76.6	Bore
West Virginia	Pocahontas County	U.S. or State Hwy	State Hwy 28	79.2	Bore
West Virginia	Pocahontas County	U.S. or State Hwy	State Hwy 92	81.1	Bore
West Virginia	Pocahontas County	County or local road	4WD Road	82.5	Bore
West Virginia	Pocahontas County	County or local road	4WD Road	82.5	Bore
West Virginia	Pocahontas County	County or local road	4WD Road	82.6	Bore
West Virginia	Pocahontas County	County or local road	4WD Road	82.6	Bore
West Virginia	Pocahontas County	County or local road	4WD Road	83.0	Bore
West Virginia	Pocahontas County	County or local road	4WD Road	83.1	Bore
West Virginia	Pocahontas County	County or local road		83.2	Bore
West Virginia	Pocahontas County	County or local road		83.7	Bore
West Virginia	Pocahontas County	County or local road		83.8	Bore
West Virginia	Pocahontas County	County or local road		83.8	Bore
Virginia	Highland County	U.S. or State Hwy	State Hwy 84	87.2	Bore
Virginia	Highland County	U.S. or State Hwy	State Hwy 604	88.5	Bore
Virginia	Highland County	County or local road	Bratton McGuffin Trl	89.2	Bore
Virginia	Highland County	County or local road		89.7	Bore
Virginia	Highland County	County or local road		91.2	Bore
Virginia	Highland County	U.S. or State Hwy	US Hwy 220	91.3	Bore
Virginia	Bath County	County or local road		92.1	Bore
Virginia	Bath County	County or local road		92.1	Bore
Virginia	Bath County	County or local road		92.2	Bore
Virginia	Bath County	U.S. or State Hwy	State Hwy 694	93.0	Bore
Virginia	Bath County	County or local road		93.7	Bore
Virginia	Bath County	U.S. or State Hwy	State Hwy 614	94.7	Bore
Virginia	Bath County	U.S. or State Hwy	State Hwy 609	95.3	Bore
Virginia	Bath County	U.S. or State Hwy	State Hwy 678	97.7	Bore
Virginia [b]	Bath County	Forest Service road	Shenandoah Mt. Trail (FS Trail 447)	98.7	Bore

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
Virginia	Bath County	U.S. or State Hwy	State Hwy 627	100.8	Bore
Virginia	Bath County	U.S. or State Hwy	State Hwy 629	101.4	Bore
Virginia	Bath County	County or local road	Driveway	102.7	Bore
Virginia	Bath County	County or local road	Route 640	103.1	Bore
Virginia	Bath County	U.S. or State Hwy	State Hwy 641	105.5	Bore
Virginia [b]	Bath County	Forest Service trail	Brushy Ridge Trail (FS Trial 718)	105.9	Conventional
Virginia	Augusta County	U.S. or State Hwy	Deerfield Valley Rd	108.3	Bore
Virginia	Augusta County	County or local road		108.5	Bore
Virginia	Augusta County	County or local road		108.6	Bore
Virginia	Augusta County	County or local road		108.8	Bore
Virginia	Augusta County	County or local road		109.5	Bore
Virginia	Augusta County	U.S. or State Hwy	Deerfield Valley Rd	110.0	Bore
Virginia	Augusta County	County or local road	Hug Hart Fort Ln	110.6	Bore
Virginia	Augusta County	County or local road		111.3	Bore
Virginia	Augusta County	County or local road		111.7	Bore
Virginia	Augusta County	County or local road	Pauley Mill Rd	111.9	Bore
Virginia	Augusta County	U.S. or State Hwy	Deerfield Valley Rd	112.5	Bore
Virginia	Augusta County	County or local road	Hodges Draft Ln	112.7	Bore
Virginia	Augusta County	County or local road	Clay Hill CH Ln	113.1	Bore
Virginia	Augusta County	County or local road	Methodist Church Ln	113.4	Bore
Virginia	Augusta County	County or local road	W Augusta Rd	113.6	Bore
Virginia	Augusta County	U.S. or State Hwy	U.S. Highway 250	114.8	Bore
Virginia	Augusta County	County or local road		115.5	Bore
Virginia	Augusta County	County or local road		115.8	Bore
Virginia [b]	Augusta County	Forest Service road	FS Road 348.1	116.5	Bore
Virginia [b]	Augusta County	Forest Service road	Braley Pond Rd/FS Road 715	116.7	Bore
Virginia [b]	Augusta County	Forest Service road	FS Road 449	117.0	Conventional
Virginia [b]	Augusta County	Forest Service road	Dowells Draft Trail (FS Trail 650)	117.1	Conventional
Virginia [b]	Augusta County	Forest Service road	FS Road 449A	118.7	Conventional
Virginia [b]	Augusta County	Forest Service road	FS Road 449B	118.8	Conventional
Virginia [b]	Augusta County	Forest Service road	FS Road 449B	119.1	Conventional
Virginia [b]	Augusta County	Forest Service road	FS Road 466A	120.2	Conventional
Virginia [b]	Augusta County	Forest Service road	FS Road 466/White Oak Draft Trail (FS Trail 486)	120.4	Conventional
Virginia [b]	Augusta County	Forest Service road	FS Road 728	121.0	Conventional
Virginia [b]	Augusta County	Forest Service road	FS Road 1755	121.2	Conventional
Virginia [b]	Augusta County	Forest Service road	FS Road 1755	121.4	Conventional
Virginia [b]	Augusta County	Forest Service road	FS Road 1757	121.8	Conventional
Virginia	Augusta County	County or local road	Jennings Gap Rd	124.5	Bore
Virginia	Augusta County	County or local road	Dryden Rd	124.9	Bore
Virginia	Augusta County	County or local road		125.0	Bore
Virginia	Augusta County	U.S. or State Hwy	State Hwy 42	125.9	Bore
Virginia	Augusta County	County or local road		126.5	Bore
Virginia	Augusta County	County or local road	Private Dr	126.9	Bore
Virginia	Augusta County	County or local road	Hotchkiss Rd	127.4	Bore
Virginia	Augusta County	U.S. or State Hwy	Churchville Ave	129.3	Bore
Virginia	Augusta County	County or local road	Vinegar Hill Rd	129.7	Bore
Virginia	Augusta County	County or local road		129.7	Bore
Virginia	Augusta County	County or local road	Eagle Rock Ln	130.5	Bore
Virginia	Augusta County	County or local road	Driveway	130.8	Bore
Virginia	Augusta County	County or local road		130.8	Bore

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
Virginia	Augusta County	County or local road	Driveway	130.9	Bore
Virginia	Augusta County	County or local road	Morris Mill Rd	131.6	Bore
Virginia	Augusta County	County or local road		133.5	Bore
Virginia	Augusta County	County or local road	Driveway	133.5	Bore
Virginia	Augusta County	U.S. or State Hwy	Parkersburg Tpke	134.2	Bore
Virginia	Augusta County	County or local road	Miss Phillips Rd	134.5	Bore
Virginia	Augusta County	Railroad	C and O Railroad	135.1	Bore
Virginia	Augusta County	County or local road	Hebron Rd	135.1	Bore
Virginia	Augusta County	U.S. or State Hwy	Middlebrook Rd	137.1	Bore
Virginia	Augusta County	County or local road	Stingy Hollow Rd	137.5	Bore
Virginia	Augusta County	County or local road	Old Greenville Rd	139.1	Bore
Virginia	Augusta County	U.S. or State Hwy	Lee Jackson Hwy	140.0	Bore
Virginia	Augusta County	County or local road	Folly Mills Station Rd	140.3	Bore
Virginia	Augusta County	County or local road	Folly Mills Station Rd	140.6	Bore
Virginia	Augusta County	U.S. or State Hwy	I 64	140.8	Bore
Virginia	Augusta County	County or local road	Guthrie Rd	143.0	Bore
Virginia	Augusta County	County or local road		143.1	Bore
Virginia	Augusta County	County or local road	Tinkling Spring Rd	144.1	Bore
Virginia	Augusta County	U.S. or State Hwy	Stuarts Draft Hwy	145.3	Bore
Virginia	Augusta County	County or local road		146.6	Bore
Virginia	Augusta County	County or local road	Wayne Ave	147.3	Bore
Virginia	Augusta County	Railroad	Norfolk and Western Railroad	147.6	Bore
Virginia	Augusta County	County or local road	Cisco Ln	148.1	Bore
Virginia	Augusta County	County or local road	Patton Farm Rd	148.8	Bore
Virginia	Augusta County	County or local road	Lyndhurst Rd	149.4	Bore
Virginia	Augusta County	County or local road	Schages Ln	149.4	Bore
Virginia	Augusta County	County or local road		152.0	Bore
Virginia	Augusta County	U.S. or State Hwy	Howardsville Tpke	152.2	Bore
Virginia	Augusta County	County or local road	Clear Meadows Ln	152.3	Bore
Virginia	Augusta County	County or local road	Mt Torrey Rd	153.4	Bore
Virginia	Augusta County	County or local road		154.5	Bore
Virginia	Augusta County	County or local road	Bear Path Ln	155.3	Bore
Virginia	Augusta County	County or local road	Hibernia Cir	156.6	Bore
Virginia [b]	Augusta County	Trail	Appalachian National Scenic Trail (FT 1)	158.1	HDD
Virginia	Augusta County	County or local road	Blue Ridge Pkwy	158.2	HDD
Virginia	Nelson County	County or local road	Beech Grove Rd	158.6	HDD
Virginia	Nelson County	County or local road		158.8	Bore
Virginia	Nelson County	U.S. or State Hwy	Beech Grove Rd	158.9	Bore
Virginia	Nelson County	County or local road		162.5	Bore
Virginia	Nelson County	County or local road		162.8	Bore
Virginia	Nelson County	U.S. or State Hwy	State Hwy 151	163.1	Bore
Virginia	Nelson County	County or local road	Glenthorne Loop	163.3	Bore
Virginia	Nelson County	County or local road		165.7	Bore
Virginia	Nelson County	County or local road	Gullysville Ln	166.2	Bore
Virginia	Nelson County	County or local road	Grape Lawn Dr	168.8	Bore
Virginia	Nelson County	County or local road	Thomas Nelson Hwy	169.0	Bore
Virginia	Nelson County	U.S. or State Hwy	Thomas Nelson Hwy	169.0	Bore
Virginia	Nelson County	County or local road	Old Ridge Rd	169.5	Bore
Virginia	Nelson County	County or local road	Stagebridge Rd	170.4	Bore
Virginia	Nelson County	County or local road	Wheelers Cove Rd	171.0	Bore
Virginia	Nelson County	Railroad	Southern Railroad	175.4	Bore
Virginia	Nelson County	County or local road	Laurel Rd	176.2	Bore

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
Virginia	Nelson County	County or local road		176.3	Bore
Virginia	Nelson County	County or local road		178.5	Bore
Virginia	Nelson County	County or local road	Glade Rd	179.9	Bore
Virginia	Nelson County	County or local road		181.0	Bore
Virginia	Nelson County	U.S. or State Hwy	State Hwy 646	181.1	Bore
Virginia	Nelson County	County or local road	Dillard Ln	183.1	Bore
Virginia	Nelson County	U.S. or State Hwy	State Hwy 626	183.3	Bore
Virginia	Nelson County	County or local road	Midway Mills Ln	184.5	HDD
Virginia	Nelson County	Railroad	Chesapeake and Ohio Railroad	184.5	HDD
Virginia	Buckingham County	County or local road		185.2	Bore
Virginia	Buckingham County	County or local road		185.6	Bore
Virginia	Buckingham County	County or local road		185.7	Bore
Virginia	Buckingham County	County or local road		186.1	Bore
Virginia	Buckingham County	U.S. or State Hwy	State Hwy 604	186.4	Bore
Virginia	Buckingham County	U.S. or State Hwy	State Hwy 737	188.6	Bore
Virginia	Buckingham County	County or local road		188.8	Bore
Virginia	Buckingham County	U.S. or State Hwy	State Hwy 660	190.5	Bore
Virginia	Buckingham County	County or local road	Union Hill Rd	192.2	Bore
Virginia	Buckingham County	U.S. or State Hwy	State Hwy 56	192.6	Bore
Virginia	Buckingham County	U.S. or State Hwy	US Hwy 60	196.3	Bore
Virginia	Buckingham County	U.S. or State Hwy	State Hwy 644	198.2	Bore
Virginia	Buckingham County	U.S. or State Hwy	State Hwy 641	199.9	Bore
Virginia	Buckingham County	U.S. or State Hwy	State Hwy 638	200.8	Bore
Virginia	Buckingham County	U.S. or State Hwy	State Hwy 640	202.3	Bore
Virginia	Buckingham County	County or local road	Appomattox Buckingham SF	202.4	Bore
Virginia	Buckingham County	U.S. or State Hwy	State Hwy 633	204.0	Bore
Virginia	Buckingham County	U.S. or State Hwy	State Hwy 609	206.0	Bore
Virginia	Buckingham County	U.S. or State Hwy	State Hwy 633	208.8	Bore
Virginia	Buckingham County	U.S. or State Hwy	US Hwy 15	209.4	Bore
Virginia	Buckingham County	U.S. or State Hwy	State Hwy 769	209.9	Bore
Virginia	Cumberland County	County or local road	Pleasant Valley Rd	212.0	Bore
Virginia	Cumberland County	County or local road	Pleasant Valley Rd	212.7	Bore
Virginia	Cumberland County	County or local road	Raines Rd	213.5	Bore
Virginia	Cumberland County	County or local road	Plank Rd	214.3	Bore
Virginia	Cumberland County	U.S. or State Hwy	Cumberland Rd	215.8	Bore
Virginia	Cumberland County	County or local road	Ingle Rd	217.3	Bore
Virginia	Cumberland County	County or local road	River Rd	219.9	Bore
Virginia	Prince Edward County	U.S. or State Hwy	State Hwy 619	222.6	Bore
Virginia	Prince Edward County	County or local road	Gully Tavern Ln	223.7	Bore
Virginia	Prince Edward County	County or local road	Gully Tavern Rd	224.7	Bore
Virginia	Prince Edward County	U.S. or State Hwy	State Hwy 617	225.8	Bore
Virginia	Nottoway County	U.S. or State Hwy	Holly Farm Rd	226.4	Bore
Virginia	Nottoway County	County or local road	S Genito Rd	227.0	Bore
Virginia	Nottoway County	County or local road	Dutchtown Rd	228.7	Bore
Virginia	Nottoway County	County or local road	Jennings Ordinary Rd	230.2	Bore
Virginia	Nottoway County	Railroad	Southern Railroad	231.5	Bore
Virginia	Nottoway County	U.S. or State Hwy	E Patrick Henry Hwy	231.6	Bore
Virginia	Nottoway County	County or local road	Good Hope Rd	232.8	Bore
Virginia	Nottoway County	County or local road	W Creek Rd	233.2	Bore

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
Virginia	Nottoway County	County or local road	Namozine Rd	234.8	Bore
Virginia	Nottoway County	County or local road	Mountian Hall Rd	235.6	Bore
Virginia	Nottoway County	County or local road	Winningham Rd	237.2	Bore
Virginia	Nottoway County	County or local road	Indian Oak Rd	237.8	Bore
Virginia	Nottoway County	County or local road	Bible Rd	239.6	Bore
Virginia	Nottoway County	County or local road	Piney Green Rd	241.0	Bore
Virginia	Nottoway County	County or local road	Cellar Creek Rd	242.2	Bore
Virginia	Nottoway County	County or local road	Cottage Rd	243.6	Bore
Virginia	Nottoway County	County or local road	Hawthorne Dr	244.8	Bore
Virginia	Nottoway County	County or local road	Yellow Bird Rd	245.2	Bore
Virginia	Nottoway County	County or local road	Green Gable Rd	246.6	Bore
Virginia	Nottoway County	U.S. or State Hwy	US Hwy 460	247.1	Bore
Virginia	Nottoway County	Railroad	Norfolk and Western Railroad	247.3	Bore
Virginia	Nottoway County	County or local road	Reservation Rd	247.4	Bore
Virginia	Nottoway County	County or local road	Wellville Rd	247.9	Bore
Virginia	Nottoway County	County or local road	Fort Pickett Military Reserve	248.0	Bore
Virginia	Dinwiddie County	County or local road	Green Meadows Ln	250.1	Bore
Virginia	Dinwiddie County	County or local road	Zilles Rd	250.9	Bore
Virginia	Dinwiddie County	County or local road	White Oak Rd	254.6	Bore
Virginia	Dinwiddie County	U.S. or State Hwy	Darvills Rd	255.9	Bore
Virginia	Dinwiddie County	County or local road	Whitmore Rd	257.6	Bore
Virginia	Dinwiddie County	County or local road	Harpers Rd	259.6	Bore
Virginia	Brunswick County	County or local road	Gills Bridge Rd	260.9	Bore
Virginia	Brunswick County	County or local road	Gills Bridge Rd	261.0	Bore
Virginia	Brunswick County	County or local road	Gills Bridge Rd	261.0	Bore
Virginia	Brunswick County	County or local road	Gills Bridge Rd	261.0	Bore
Virginia	Brunswick County	County or local road	Lew Jones Rd	262.3	Bore
Virginia	Brunswick County	County or local road	Rawlings Rd	263.9	Bore
Virginia	Brunswick County	Railroad	Seaboard System Railroad	265.4	Bore
Virginia	Brunswick County	County or local road	Waqua Creek Rd	266.9	Bore
Virginia	Brunswick County	U.S. or State Hwy	US Hwy 1	267.7	Bore
Virginia	Brunswick County	U.S. or State Hwy	I 85	268.1	Bore
Virginia	Brunswick County	U.S. or State Hwy	I 85	268.2	Bore
Virginia	Brunswick County	County or local road	Pine Ridge Rd	268.4	Bore
Virginia	Brunswick County	County or local road	Antioch Rd	269.4	Bore
Virginia	Brunswick County	County or local road	Ebenezer Rd	269.9	Bore
Virginia	Brunswick County	County or local road	Great Oak Rd	271.2	Bore
Virginia	Brunswick County	County or local road	Blackbottom Rd	273.0	Bore
Virginia	Brunswick County	Railroad	Norfolk and Western Railroad	274.4	Bore
Virginia	Brunswick County	County or local road	Liberty Rd	274.5	Bore
Virginia	Brunswick County	County or local road	Old Stage Rd	274.9	Bore
Virginia	Brunswick County	County or local road	County Pond Rd	275.7	Bore
Virginia	Brunswick County	County or local road		276.5	Bore
Virginia	Brunswick County	County or local road		276.5	Bore
Virginia	Brunswick County	County or local road		276.6	Bore
Virginia	Brunswick County	County or local road		276.6	Bore
Virginia	Brunswick County	County or local road		276.8	Bore
Virginia	Brunswick County	County or local road		276.8	Bore
Virginia	Brunswick County	County or local road		277.3	Bore
Virginia	Brunswick County	County or local road		277.8	Bore
Virginia	Brunswick County	U.S. or State Hwy	Governor Harrison Pkwy	279.6	Bore
Virginia	Brunswick County	County or local road		279.8	Bore
Virginia	Brunswick County	County or local road	Walton Rd	279.9	Bore

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
Virginia	Brunswick County	County or local road	Freemans Cross Rd	280.5	Bore
Virginia	Brunswick County	County or local road	Markum Rd	281.2	Bore
Virginia	Brunswick County	Railroad	Norfolk and Western Railroad	281.9	Bore
Virginia	Brunswick County	County or local road		282.7	Bore
Virginia	Brunswick County	County or local road	Belfield Rd	283.0	Bore
Virginia	Greensville County	County or local road	Radium Rd	284.0	Bore
Virginia	Greensville County	County or local road		284.8	Bore
Virginia	Greensville County	County or local road	Rodgers Rd	285.6	Bore
Virginia	Greensville County	County or local road		285.7	Bore
Virginia	Greensville County	County or local road		285.8	Bore
Virginia	Greensville County	County or local road		286.0	Bore
Virginia	Greensville County	County or local road		286.1	Bore
Virginia	Greensville County	County or local road		287.3	Bore
Virginia	Greensville County	County or local road		287.7	Bore
Virginia	Greensville County	County or local road	Dry Bread Rd	288.1	Bore
Virginia	Greensville County	County or local road		289.4	Bore
Virginia	Greensville County	U.S. or State Hwy	Brink Rd	290.5	Bore
Virginia	Greensville County	County or local road	Collins Rd	291.2	Bore
Virginia	Greensville County	County or local road	Rock Bridge Rd	292.2	Bore
Virginia	Greensville County	U.S. or State Hwy	State Hwy F 129	293.1	Bore
Virginia	Greensville County	U.S. or State Hwy	I 95	293.1	Bore
Virginia	Greensville County	U.S. or State Hwy	Skippers Rd	293.5	Bore
Virginia	Greensville County	Railroad	Seaboard System Railroad	293.6	Bore
Virginia	Greensville County	County or local road	Zion Church Rd	294.9	Bore
Virginia	Greensville County	County or local road		295.3	Bore
Virginia	Greensville County	County or local road		295.3	Bore
Virginia	Greensville County	County or local road		296.3	Bore
Virginia	Greensville County	County or local road	Taylors Mill Rd	296.4	Bore
Virginia	Greensville County	County or local road		297.5	Bore
Virginia	Greensville County	County or local road		299.2	Bore
Virginia	Greensville County	U.S. or State Hwy	State Hwy 662	300.1	Bore
AP-2					
North Carolina	Northampton County	County or local road		2.4	Bore
North Carolina	Northampton County	County or local road	Hickory Tree Rd	2.4	Bore
North Carolina	Northampton County	County or local road	Big John Store Rd	3.5	Bore
North Carolina	Northampton County	County or local road	Old Garysburg Rd	4.2	Bore
North Carolina	Northampton County	County or local road		4.3	Bore
North Carolina	Northampton County	U.S. or State Hwy	US Hwy 301	4.9	Bore
North Carolina	Northampton County	Railroad	Seaboard Coast Line Railroad	5.0	Bore
North Carolina	Northampton County	County or local road	Stephenson Rd	5.8	Bore
North Carolina	Northampton County	Railroad	Seaboard Coast Line Railroad	6.4	Bore
North Carolina	Northampton County	U.S. or State Hwy	US Hwy 301	6.4	Bore
North Carolina	Northampton County	U.S. or State Hwy	State Hwy 186	7.2	Bore
North Carolina	Northampton County	Railroad	Seaboard Coast Line Railroad	7.6	Bore
North Carolina	Northampton County	County or local road	Ellis St	7.6	Bore
North Carolina	Northampton County	County or local road	Old Highway Rd	8.1	Bore
North Carolina	Northampton County	U.S. or State Hwy	US Hwy 158	8.2	Bore
North Carolina	Northampton County	County or local road		9.4	Bore
North Carolina	Halifax County	County or local road	River Rd	10.4	Bore
North Carolina	Halifax County	County or local road		10.9	Bore
North Carolina	Halifax County	County or local road		12.8	Bore
North Carolina	Halifax County	U.S. or State Hwy	US Hwy 301	13.5	Bore
North Carolina	Halifax County	County or local road	White Hill Rd	13.5	Bore

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
North Carolina	Halifax County	County or local road		14.4	Bore
North Carolina	Halifax County	County or local road		14.9	Bore
North Carolina	Halifax County	County or local road	Reeses Store Rd	15.0	Bore
North Carolina	Halifax County	Railroad	Seaboard Coast Line Railroad	15.1	Bore
North Carolina	Halifax County	U.S. or State Hwy	NC Hwy 125	15.1	Bore
North Carolina	Halifax County	County or local road	Dog Pound Rd	16.1	Bore
North Carolina	Halifax County	U.S. or State Hwy	NC Highway 903	16.3	Bore
North Carolina	Halifax County	County or local road	J S Pope Rd	18.2	Bore
North Carolina	Halifax County	County or local road	Grapevine Rd	18.7	Bore
North Carolina	Halifax County	U.S. or State Hwy	State Hwy 561	20.5	Bore
North Carolina	Halifax County	County or local road	Justice Branch Rd	20.9	Bore
North Carolina	Halifax County	County or local road	Williams Scott Rd	21.9	Bore
North Carolina	Halifax County	County or local road	Whitehead Rd	22.5	Bore
North Carolina	Halifax County	County or local road	Richneck Rd	23.4	Bore
North Carolina	Halifax County	County or local road	Beaver Dam Rd	24.9	Bore
North Carolina	Halifax County	County or local road	S Brown Rd	25.7	Bore
North Carolina	Halifax County	County or local road	Bryant Rd	26.1	Bore
North Carolina	Halifax County	County or local road	Heathsville Rd	27.2	Bore
North Carolina	Halifax County	County or local road		27.8	Bore
North Carolina	Halifax County	County or local road		28.1	Bore
North Carolina	Halifax County	County or local road	Ringwood Rd	28.2	Bore
North Carolina	Halifax County	County or local road		28.8	Bore
North Carolina	Halifax County	U.S. or State Hwy	I 95	28.9	Bore
North Carolina	Halifax County	County or local road	4WD Road	29.9	Bore
North Carolina	Halifax County	County or local road	Sneed Rd	30.1	Bore
North Carolina	Halifax County	County or local road	Driveway	30.2	Bore
North Carolina	Halifax County	County or local road	Driveway	30.2	Bore
North Carolina	Halifax County	County or local road	Wagon Wheel Rd	30.8	Bore
North Carolina	Halifax County	County or local road	Wagon Wheel Rd	30.9	Bore
North Carolina	Halifax County	County or local road	Hope Rd	31.0	Bore
North Carolina	Halifax County	County or local road	Faith Rd	31.3	Bore
North Carolina	Halifax County	County or local road		31.4	Bore
North Carolina	Halifax County	U.S. or State Hwy	State Hwy 481	31.5	Bore
North Carolina	Halifax County	County or local road		32.6	Bore
North Carolina	Halifax County	County or local road		33.0	Bore
North Carolina	Halifax County	County or local road		33.1	Bore
North Carolina	Halifax County	County or local road	Bellamy Lake Rd	33.1	Bore
North Carolina	Halifax County	County or local road		33.4	Bore
North Carolina	Nash County	U.S. or State Hwy	NC Highway 48	34.7	Bore
North Carolina	Nash County	County or local road	Swift Creek School Rd	35.1	Bore
North Carolina	Nash County	County or local road	Hickory Rd	36.9	Bore
North Carolina	Nash County	County or local road	Straight Gate Rd	38.0	Bore
North Carolina	Nash County	County or local road	Watson Seed Farm Rd	39.6	Bore
North Carolina	Nash County	County or local road	Massengale Rd	40.2	Bore
North Carolina	Nash County	County or local road	N Browntown Rd	40.8	Bore
North Carolina	Nash County	County or local road	Wollett Mill Rd	41.9	Bore
North Carolina	Nash County	County or local road	Deans Rd	43.2	Bore
North Carolina	Nash County	County or local road	Red Oak Battleboro Rd	44.1	Bore
North Carolina	Nash County	U.S. or State Hwy	Red Oak Blvd	45.0	Bore
North Carolina	Nash County	County or local road	Turkey Foot Rd	45.5	Bore
North Carolina	Nash County	County or local road	Big Jim Rd	45.9	Bore
North Carolina	Nash County	County or local road	Lacy Ln	46.2	Bore
North Carolina	Nash County	County or local road	N Old Carriage Rd	46.5	Bore

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
North Carolina	Nash County	County or local road	Lacy Ln	46.5	Bore
North Carolina	Nash County	County or local road	Hunter Hill Rd	46.9	Bore
North Carolina	Nash County	County or local road	Reges Store Rd	48.4	Bore
North Carolina	Nash County	U.S. or State Hwy	US Hwy 64	49.3	Bore
North Carolina	Nash County	County or local road	Eastern Ave	49.8	Bore
North Carolina	Nash County	County or local road	Kamlar Rd	50.1	Bore
North Carolina	Nash County	Railroad	Seaboard Coast Line Railroad	50.7	Bore
North Carolina	Nash County	County or local road	Oak Level Rd	51.2	Bore
North Carolina	Nash County	U.S. or State Hwy	State Hwy 58	52.2	Bore
North Carolina	Nash County	County or local road	E Old Spring Hope Rd	52.3	Bore
North Carolina	Nash County	County or local road	Bone Ln	52.6	Bore
North Carolina	Nash County	County or local road	Lindsay Rd	56.8	Bore
North Carolina	Nash County	County or local road	Sandy Cross Rd	57.9	Bore
North Carolina	Nash County	County or local road	Bend of the River Rd	58.7	Bore
North Carolina	Nash County	U.S. or State Hwy	E NC Highway 97	60.0	Bore
North Carolina	Nash County	County or local road	Old Bailey Hwy	60.4	Bore
North Carolina	Nash County	County or local road	Graham Brantley Rd	60.5	Bore
North Carolina	Nash County	County or local road	Back 40 Ln	61.4	Bore
North Carolina	Nash County	County or local road	Ada Taylor Rd	61.6	Bore
North Carolina	Nash County	County or local road	Maudis Rd	62.2	Bore
North Carolina	Nash County	County or local road	Old Smithfield Rd	62.8	Bore
North Carolina	Nash County	County or local road	Old Smithfield Rd	63.6	Bore
North Carolina	Nash County	County or local road	W Hornes Church Rd	64.0	Bore
North Carolina	Nash County	County or local road	Bull Head Rd	65.2	Bore
North Carolina	Nash County	County or local road	Friday Rd	65.7	Bore
North Carolina	Wilson County	County or local road	Green Pond Rd	66.0	Bore
North Carolina	Wilson County	County or local road	Countryside Rd	66.4	Bore
North Carolina	Wilson County	U.S. or State Hwy	US Hwy 264	66.4	Bore
North Carolina	Wilson County	County or local road	Bruce Rd	66.6	Bore
North Carolina	Wilson County	County or local road		67.4	Bore
North Carolina	Wilson County	U.S. or State Hwy	US Hwy 264A	67.5	Bore
North Carolina	Wilson County	Railroad	Norfolk Southern Railroad	67.5	Bore
North Carolina	Wilson County	County or local road	Sims School Rd	68.2	Bore
North Carolina	Wilson County	County or local road	Rock Ridge Sims Rd	68.2	Bore
North Carolina	Wilson County	County or local road	Winborne Rd	69.2	Bore
North Carolina	Wilson County	County or local road	Marsh Swamp Rd	69.4	Bore
North Carolina	Wilson County	County or local road	Nobles Chapel Rd	69.7	Bore
North Carolina	Wilson County	County or local road		69.8	Bore
North Carolina	Wilson County	County or local road	Boykin Rd	70.8	Bore
North Carolina	Wilson County	County or local road	Wilkerson Loop	71.1	Bore
North Carolina	Wilson County	County or local road	Healthy Plaines Church Rd	71.6	Bore
North Carolina	Wilson County	County or local road	Rock Ridge School Rd	72.2	Bore
North Carolina	Wilson County	County or local road	Leonard Rd	72.6	Bore
North Carolina	Wilson County	U.S. or State Hwy	State Hwy 581	74.2	Bore
North Carolina	Wilson County	U.S. or State Hwy	State Hwy 42	74.7	Bore
North Carolina	Wilson County	County or local road	Exum Rd	75.9	Bore
North Carolina	Wilson County	County or local road	Shaw Rd	76.9	Bore
North Carolina	Johnston County	U.S. or State Hwy	NC Highway 222 W	78.8	Bore
North Carolina	Johnston County	County or local road	Bay Valley Rd	79.2	Bore
North Carolina	Johnston County	County or local road	Beulahtown Rd	79.3	Bore
North Carolina	Johnston County	County or local road	Glendale Rd	80.0	Bore
North Carolina	Johnston County	County or local road	Abednego Rd	80.3	Bore
North Carolina	Johnston County	County or local road	Hales Rd	80.9	Bore

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
North Carolina	Johnston County	County or local road	Moore Rd	81.4	Bore
North Carolina	Johnston County	County or local road	Old Beulah Rd	82.1	Bore
North Carolina	Johnston County	County or local road	Micro Rd W	83.6	Bore
North Carolina	Johnston County	County or local road	Old Beulah Rd	83.9	Bore
North Carolina	Johnston County	County or local road	Davis Homestead Rd	84.6	Bore
North Carolina	Johnston County	County or local road	Old Creech Rd	85.5	Bore
North Carolina	Johnston County	County or local road	Hawkins Rd	86.8	Bore
North Carolina	Johnston County	U.S. or State Hwy	US Highway 301 N	87.3	Bore
North Carolina	Johnston County	Railroad	Seaboard Coast Line Railroad	88.2	Bore
North Carolina	Johnston County	County or local road	Lizzie Mill Rd	88.4	Bore
North Carolina	Johnston County	U.S. or State Hwy	I 95	88.6	Bore
North Carolina	Johnston County	County or local road	Campground Rd	89.3	Bore
North Carolina	Johnston County	County or local road	Futrell Rd	89.5	Bore
North Carolina	Johnston County	County or local road	Pine Level Selma Rd	90.4	Bore
North Carolina	Johnston County	Railroad	Southern Railroad	90.4	Bore
North Carolina	Johnston County	County or local road	Firetower Rd	91.0	Bore
North Carolina	Johnston County	U.S. or State Hwy	US Highway 70A E	91.4	Bore
North Carolina	Johnston County	U.S. or State Hwy	US Hwy 70	92.1	Bore
North Carolina	Johnston County	County or local road		92.2	Bore
North Carolina	Johnston County	U.S. or State Hwy	US Highway 70 Bus E	93.5	Bore
North Carolina	Johnston County	County or local road		94.3	Bore
North Carolina	Johnston County	County or local road		94.3	Bore
North Carolina	Johnston County	County or local road		94.4	Bore
North Carolina	Johnston County	County or local road	Casey Rd	94.9	Bore
North Carolina	Johnston County	County or local road	Brogden Rd	95.7	Bore
North Carolina	Johnston County	County or local road	Stevens Sausage Rd	96.4	Bore
North Carolina	Johnston County	County or local road	Stevens Sausage Rd	97.3	Bore
North Carolina	Johnston County	County or local road	Guin Rd	99.6	Bore
North Carolina	Johnston County	County or local road	Devils Racetrack Rd	100.7	Bore
North Carolina	Johnston County	U.S. or State Hwy	US Highway 701 S	102.2	Bore
North Carolina	Johnston County	County or local road	Lees Union Church Rd	102.7	Bore
North Carolina	Johnston County	County or local road	Coats Rd	103.6	Bore
North Carolina	Johnston County	County or local road	Stricklands Crossroads Rd	104.1	Bore
North Carolina	Johnston County	County or local road		105.3	Bore
North Carolina	Johnston County	County or local road	Oak Forest Rd	106.0	Bore
North Carolina	Johnston County	County or local road	W Johnson Rd	107.8	Bore
North Carolina	Johnston County	County or local road	Enoch Rd	108.2	Bore
North Carolina	Johnston County	U.S. or State Hwy	I 40	108.2	Bore
North Carolina	Johnston County	County or local road	Meadowbrook Rd	108.5	Bore
North Carolina	Johnston County	County or local road	Godwin Lake Rd	109.4	Bore
North Carolina	Johnston County	U.S. or State Hwy	NC Highway 50 S	109.6	Bore
North Carolina	Johnston County	U.S. or State Hwy	NC Highway 96 S	111.0	Bore
North Carolina	Johnston County	County or local road	Godwin Lake Rd	112.0	Bore
North Carolina	Johnston County	County or local road	Mamie Rd	112.1	Bore
North Carolina	Johnston County	County or local road	Holly Grove Rd	112.5	Bore
North Carolina	Johnston County	County or local road	Golda Rd	112.9	Bore
North Carolina	Johnston County	U.S. or State Hwy	NC Highway 242 S	113.5	Bore
North Carolina	Sampson County	County or local road	Hay Barn Rd	115.0	Bore
North Carolina	Sampson County	County or local road	Godwin Lake Rd	115.3	Bore
North Carolina	Sampson County	U.S. or State Hwy	Harnett Dunn Hwy	115.9	Bore
North Carolina	Sampson County	County or local road	Green Path Rd	116.3	Bore
North Carolina	Sampson County	County or local road	Larry Ln	116.4	Bore
North Carolina	Sampson County	County or local road	Timothy Rd	117.6	Bore

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
North Carolina	Sampson County	County or local road	Green Path Rd	117.7	Bore
North Carolina	Sampson County	U.S. or State Hwy	Plain View Hwy	118.6	Bore
North Carolina	Sampson County	County or local road	Old US 421 Hwy S	118.8	Bore
North Carolina	Sampson County	County or local road	N Spring Branch Rd	120.3	Bore
North Carolina	Sampson County	County or local road	Green Path Rd	121.0	Bore
North Carolina	Sampson County	County or local road	Ottis Rd	121.3	Bore
North Carolina	Cumberland County	County or local road	Sherrill Baggett Rd	125.0	Bore
North Carolina	Cumberland County	U.S. or State Hwy	I 95	125.1	Bore
North Carolina	Cumberland County	County or local road	Leitha Ln	125.1	Bore
North Carolina	Cumberland County	County or local road	Leitha Ln	125.7	Bore
North Carolina	Cumberland County	U.S. or State Hwy	Godwin Falcon Rd	126.4	Bore
North Carolina	Cumberland County	U.S. or State Hwy	Dunn Rd	128.1	Bore
North Carolina	Cumberland County	Railroad	Seaboard System Railroad	128.3	Bore
North Carolina	Cumberland County	County or local road	Sisk Culbreth Rd	129.9	Bore
North Carolina	Cumberland County	County or local road		130.8	Bore
North Carolina	Cumberland County	County or local road	River Rd	131.6	Bore
North Carolina	Cumberland County	County or local road		132.7	Bore
North Carolina	Cumberland County	County or local road	Swamp Rd	132.8	Bore
North Carolina	Cumberland County	County or local road	Jackie Lee Rd	133.6	Bore
North Carolina	Cumberland County	Railroad	Seaboard System Railroad	133.6	Bore
North Carolina	Cumberland County	U.S. or State Hwy	Dunn Rd	134.6	Bore
North Carolina	Cumberland County	U.S. or State Hwy	I 95	134.9	Bore
North Carolina	Cumberland County	County or local road		135.7	Bore
North Carolina	Cumberland County	U.S. or State Hwy	Goldsboro Rd	136.1	Bore
North Carolina	Cumberland County	County or local road		137.1	Bore
North Carolina	Cumberland County	County or local road	Murphy Rd	138.7	Bore
North Carolina	Cumberland County	County or local road		140.2	Bore
North Carolina	Cumberland County	County or local road		140.4	Bore
North Carolina	Cumberland County	County or local road	Maxwell Rd	140.7	Bore
North Carolina	Cumberland County	U.S. or State Hwy	Clinton Rd	142.1	Bore
North Carolina	Cumberland County	Railroad	Seaboard System Railroad	142.8	Bore
North Carolina	Cumberland County	County or local road		144.5	Bore
North Carolina	Cumberland County	U.S. or State Hwy	State Hwy 210	145.0	Bore
North Carolina	Cumberland County	County or local road	Stedman Cedar Creek Rd	146.6	Bore
North Carolina	Cumberland County	County or local road	Bogie Island Rd	146.6	Bore
North Carolina	Cumberland County	U.S. or State Hwy	Cedar Creek Rd	148.2	Bore
North Carolina	Cumberland County	County or local road	Sophia Bill Rd	148.4	Bore
North Carolina	Cumberland County	County or local road	Dudley Rd	150.1	Bore
North Carolina	Cumberland County	County or local road		150.4	Bore
North Carolina	Cumberland County	County or local road	Johnson Rd	151.1	Bore
North Carolina	Cumberland County	County or local road	Tabor Church Rd	153.0	Bore
North Carolina	Cumberland County	County or local road	Matt Hair Rd	153.7	Bore
North Carolina	Cumberland County	County or local road	Cheraw St	155.0	Bore
North Carolina	Cumberland County	County or local road	Marsh Rd	155.1	Bore
North Carolina	Cumberland County	U.S. or State Hwy	NC Highway 87 S	156.0	Bore
North Carolina	Cumberland County	County or local road	Yarborough Rd	156.9	Bore
North Carolina	Cumberland County	County or local road	Fire Department Rd	157.8	Bore
North Carolina	Cumberland County	County or local road	Chickenfoot Rd	159.3	Bore
North Carolina	Cumberland County	County or local road	Yarborough Rd	159.4	Bore
North Carolina	Robeson County	County or local road	Ballance Farm Rd	161.5	Bore
North Carolina	Robeson County	Railroad	Seaboard System Railroad	163.5	Bore
North Carolina	Robeson County	County or local road	Willow Dr	163.7	Bore
North Carolina	Robeson County	County or local road	Freedom Dr	164.0	Bore

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
North Carolina	Robeson County	U.S. or State Hwy	I 95	164.1	Bore
North Carolina	Robeson County	County or local road	W McRainey Rd	164.3	Bore
North Carolina	Robeson County	U.S. or State Hwy	US Hwy 301	164.9	Bore
North Carolina	Robeson County	County or local road	Carolina Church Rd	165.2	Bore
North Carolina	Robeson County	U.S. or State Hwy	NC Highway 20 W	167.2	Bore
North Carolina	Robeson County	County or local road	W Great Marsh Church Rd	168.6	Bore
North Carolina	Robeson County	County or local road	Coy Rd	169.6	Bore
North Carolina	Robeson County	County or local road	M Strong Rd	169.8	Bore
North Carolina	Robeson County	County or local road	M Strong Rd	169.9	Bore
North Carolina	Robeson County	County or local road	Mary C Rd	170.4	Bore
North Carolina	Robeson County	County or local road	Waldron Rd	170.5	Bore
North Carolina	Robeson County	County or local road	Tolar Rd	171.3	Bore
North Carolina	Robeson County	County or local road	Rennert Rd	172.4	Bore
North Carolina	Robeson County	County or local road	Shannon Rd	173.7	Bore
North Carolina	Robeson County	County or local road	Snipes Rd	174.9	Bore
North Carolina	Robeson County	County or local road	McQueen Rd	175.2	Bore
North Carolina	Robeson County	U.S. or State Hwy	NC Highway 211 W	176.1	Bore
North Carolina	Robeson County	County or local road	Buies Mill Rd	176.5	Bore
North Carolina	Robeson County	County or local road	Buie-Philadelphus Rd	177.8	Bore
North Carolina	Robeson County	County or local road	Evergreen Church Rd	178.6	Bore
North Carolina	Robeson County	County or local road	Stafford Dr	179.0	Bore
North Carolina	Robeson County	Railroad	Seaboard Coast Line Railroad	179.2	Bore
North Carolina	Robeson County	County or local road	Townsends Chapel Rd	179.4	Bore
North Carolina	Robeson County	U.S. or State Hwy	State Hwy 72	179.8	Bore
North Carolina	Robeson County	County or local road	Philadelphus Rd	180.7	Bore
North Carolina	Robeson County	County or local road	Frank Rd	181.3	Bore
North Carolina	Robeson County	County or local road	Whistling Rufus Rd	181.3	Bore
North Carolina	Robeson County	U.S. or State Hwy	NC Highway 710	182.9	Bore
AP-3					
North Carolina	Northampton County	County or local road		1.1	Bore
North Carolina	Northampton County	County or local road	Concord Church Rd	2.0	Bore
North Carolina	Northampton County	County or local road	Dr Parker Rd	2.5	Bore
North Carolina	Northampton County	County or local road	Big John Store Rd	3.3	Bore
North Carolina	Northampton County	County or local road	Peanut Market Rd	3.4	Bore
North Carolina	Northampton County	County or local road		4.4	Bore
North Carolina	Northampton County	County or local road		4.5	Bore
North Carolina	Northampton County	County or local road		6.4	Bore
North Carolina	Northampton County	County or local road	Mount Zion Church Rd	7.5	Bore
North Carolina	Northampton County	County or local road	Big John Store Rd	7.9	Bore
North Carolina	Northampton County	County or local road		9.4	Bore
North Carolina	Northampton County	County or local road		9.5	Bore
North Carolina	Northampton County	County or local road		9.6	Bore
North Carolina	Northampton County	U.S. or State Hwy	State Hwy 186	9.9	Bore
North Carolina	Northampton County	Railroad	Seaboard Coast Line Railroad	10.0	Bore
North Carolina	Northampton County	County or local road		10.9	Bore
North Carolina	Northampton County	U.S. or State Hwy	State Hwy 186	11.3	Bore
North Carolina	Northampton County	County or local road		11.8	Bore
Virginia	Southampton County	Railroad	Seaboard Coast Line Railroad	13.3	Bore
Virginia	Southampton County	County or local road	The Hall Rd	13.4	Bore
Virginia	Southampton County	County or local road		14.2	Bore

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
Virginia	Southampton County	County or local road		15.1	Bore
Virginia	Southampton County	County or local road	Whitehead Rd	16.0	Bore
Virginia	Southampton County	County or local road	Old Branchville Rd	16.4	Bore
Virginia	Southampton County	County or local road		17.4	Bore
Virginia	Southampton County	County or local road	Powells Hill Rd	19.0	Bore
Virginia	Southampton County	U.S. or State Hwy	State Hwy 35	19.6	Bore
Virginia	Southampton County	County or local road	Lassiters Dr	19.8	Bore
Virginia	Southampton County	County or local road	Cross Keys Rd	20.8	Bore
Virginia	Southampton County	County or local road	Three Bees Rd	22.0	Bore
Virginia	Southampton County	County or local road		22.6	Bore
Virginia	Southampton County	County or local road		22.7	Bore
Virginia	Southampton County	County or local road		23.5	Bore
Virginia	Southampton County	County or local road	Grays Shop Rd	23.5	Bore
Virginia	Southampton County	County or local road	Blackhead Signpost Rd	24.2	Bore
Virginia	Southampton County	County or local road	Thomaston Rd	25.5	Bore
Virginia	Southampton County	County or local road	Thomaston Rd	26.6	Bore
Virginia	Southampton County	County or local road	Cypress Bridge Rd	26.9	Bore
Virginia	Southampton County	County or local road	Bishop Poquoson Rd	28.8	Bore
Virginia	Southampton County	U.S. or State Hwy	General Thomas Hwy	29.2	Bore
Virginia	Southampton County	Railroad	Seaboard Coast Line Railroad	29.2	Bore
Virginia	Southampton County	County or local road	Beale Rd	29.5	Bore
Virginia	Southampton County	County or local road	Handsom Rd	30.2	Bore
Virginia	Southampton County	County or local road	Nottoway Farms Dr	31.1	Bore
Virginia	Southampton County	County or local road	Nottoway Farms Dr	31.2	Bore
Virginia	Southampton County	County or local road	Nottoway Farms Dr	31.3	Bore
Virginia	Southampton County	County or local road		31.9	Bore
Virginia	Southampton County	County or local road	Campbell's Run Rd	32.9	Bore
Virginia	Southampton County	County or local road	Delaware Rd	33.2	Bore
Virginia	Southampton County	County or local road	Sycamore Church Rd	34.7	Bore

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
Virginia	Southampton County	County or local road		34.7	Bore
Virginia	Southampton County	U.S. or State Hwy	Smiths Ferry Rd	35.8	Bore
Virginia	Southampton County	County or local road		37.1	Bore
Virginia	Southampton County	County or local road		37.4	Bore
Virginia	Southampton County	County or local road		38.0	Bore
Virginia	Southampton County	County or local road	Hemlock St	38.2	Bore
Virginia	City of Suffolk	Railroad	Seaboard Systen Railroad	39.1	Bore
Virginia	City of Suffolk	U.S. or State Hwy	S Quay Rd	39.9	Bore
Virginia	City of Suffolk	County or local road	New Rd	40.6	Bore
Virginia	City of Suffolk	County or local road	S Quay Rd	41.1	Bore
Virginia	City of Suffolk	U.S. or State Hwy	US Hwy 58	41.5	Bore
Virginia	City of Suffolk	County or local road	Holy Neck Rd	41.9	Bore
Virginia	City of Suffolk	County or local road	Harvest Dr	43.1	Bore
Virginia	City of Suffolk	County or local road	Barnes Rd	44.4	Bore
Virginia	City of Suffolk	County or local road	Elwood Rd	44.6	Bore
Virginia	City of Suffolk	County or local road	Brentwood Rd	45.5	Bore
Virginia	City of Suffolk	U.S. or State Hwy	S Quay Rd	45.9	Bore
Virginia	City of Suffolk	County or local road	Okelly Dr	46.5	Bore
Virginia	City of Suffolk	County or local road	Dutch Rd	47.5	Bore
Virginia	City of Suffolk	County or local road	Longstreet Ln	48.5	Bore
Virginia	City of Suffolk	County or local road	Quince Rd	48.8	Bore
Virginia	City of Suffolk	County or local road	Pioneer Rd	49.6	Bore
Virginia	City of Suffolk	Railroad	Norfolk and Western Railroad	50.4	Bore
Virginia	City of Suffolk	U.S. or State Hwy	Holland Rd	50.6	Bore
Virginia	City of Suffolk	County or local road	Chappell Dr	51.8	Bore
Virginia	City of Suffolk	Railroad	Seaboard Coast Line Railroad	53.6	Bore
Virginia	City of Suffolk	County or local road	Deer Path Rd	53.9	Bore
Virginia	City of Suffolk	Railroad	Norfolk and Western Railroad	54.6	Bore
Virginia	City of Suffolk	County or local road	Indian Trl	55.5	Bore
Virginia	City of Suffolk	County or local road	Little Creek Rd	56.3	Bore
Virginia	City of Suffolk	Railroad	Norfolk and Western Railroad	56.8	Bore
Virginia	City of Suffolk	County or local road	Archers Mill Rd	57.0	Bore
Virginia	City of Suffolk	U.S. or State Hwy	Pruden Blvd	59.0	Bore
Virginia	City of Suffolk	County or local road	Lake Prince Dr	60.2	Bore
Virginia	City of Suffolk	County or local road	Labrador Ln	60.6	Bore
Virginia	City of Suffolk	County or local road	Matoaka Rd	61.4	Bore
Virginia	City of Suffolk	County or local road	Mockingbird Ln	61.9	Bore
Virginia	City of Suffolk	County or local road	Waters Ave	62.7	Bore
Virginia	City of Suffolk	U.S. or State Hwy	State Hwy 10	63.2	Bore
Virginia	City of Suffolk	U.S. or State Hwy	Nansemond Pkwy	66.1	Bore
Virginia	City of Suffolk	Railroad	Railway	66.3	Bore
Virginia	City of Suffolk	Railroad	Railway	66.9	Bore
Virginia	City of Suffolk	U.S. or State Hwy	W Military Hwy	71.3	Bore
Virginia	City of Chesapeake	Railroad	Seaboard Coast L Railroad	71.4	Bore
Virginia	City of Chesapeake	County or local road	Peach Rd	73.6	Bore
Virginia	City of Chesapeake	Railroad	Norfolk Southern Railway	76.0	Bore
Virginia	City of Chesapeake	County or local road	Galberry Rd	77.6	HDD
Virginia	City of Chesapeake	County or local road		77.6	HDD

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
Virginia	City of Chesapeake	U.S. or State Hwy	I 64	77.8	HDD
Virginia	City of Chesapeake	U.S. or State Hwy	I 64	77.9	HDD
Virginia	City of Chesapeake	U.S. or State Hwy	George Washington Hwy N	78.7	HDD
Virginia	City of Chesapeake	County or local road	Fenway Ave	78.7	HDD
Virginia	City of Chesapeake	County or local road		79.0	HDD
Virginia	City of Chesapeake	County or local road	Hopewell Dr	79.3	Bore
Virginia	City of Chesapeake	County or local road	Baywood Trl	79.6	Bore
Virginia	City of Chesapeake	County or local road	Shell Rd	79.9	Bore
Virginia	City of Chesapeake	County or local road	Jarvis Rd	79.9	Bore
Virginia	City of Chesapeake	County or local road	Richwood Ave	80.0	Bore
Virginia	City of Chesapeake	County or local road	Steel St	80.8	Bore
Virginia	City of Chesapeake	County or local road	Currie Ave	81.0	Bore
Virginia	City of Chesapeake	County or local road	Vepco St	81.1	Bore
Virginia	City of Chesapeake	Railroad	N P B Railroad	82.2	Bore
Virginia	City of Chesapeake	U.S. or State Hwy	Bainbridge Blvd	82.4	Bore
Virginia	City of Chesapeake	County or local road	Driveway	82.7	Bore
AP-4					
Virginia	Brunswick County	County or local road	Walton Rd	0.3	Bore
AP-5					
Virginia	Greensville County	County or local road		0.3	Bore
Virginia	Greensville County	County or local road	Radium Rd	0.5	Bore
Virginia	Greensville County	County or local road		0.6	Bore
Virginia	Greensville County	County or local road		0.6	Bore
SUPPLY HEADER PROJECT					
TL-636					
Pennsylvania	Westmoreland County	County or local road	Borland Farm Rd	0.3	Bore
Pennsylvania	Westmoreland County	County or local road	Wilson St	0.9	Bore
Pennsylvania	Westmoreland County	County or local road	Kemerer Hollow Rd	1.4	Bore
Pennsylvania	Westmoreland County	County or local road	Wiestertown Rd	2.7	Bore
Pennsylvania	Westmoreland County	County or local road	Evans Rd	3.3	Bore
Pennsylvania	Westmoreland County	County or local road		3.4	Bore
Pennsylvania	Westmoreland County	County or local road	Hills Church Rd	3.6	Bore
TL-635					
West Virginia	Harrison County	County or local road		0.2	Bore
West Virginia	Doddridge County	County or local road	County Hwy 27	1.4	Bore
West Virginia	Doddridge County	County or local road	County Hwy 25	2.1	Bore
West Virginia	Doddridge County	County or local road	County Hwy 46/3	4.0	Bore
West Virginia	Doddridge County	County or local road	County Hwy 46	4.6	Bore
West Virginia	Doddridge County	County or local road	County Hwy 15	5.6	Bore
West Virginia	Doddridge County	County or local road	County Hwy 15/11	5.9	Bore
West Virginia	Doddridge County	County or local road	County Hwy 17	6.7	Bore
West Virginia	Doddridge County	County or local road	County Hwy 17/1	7.6	Bore
West Virginia	Doddridge County	County or local road	County Hwy 42	7.9	Bore
West Virginia	Doddridge County	Railroad	Baltimore and Ohio Railroad	9.4	Bore
West Virginia	Doddridge County	County or local road	County Hwy 38	9.4	Bore
West Virginia	Doddridge County	U.S. or State Hwy	US Hwy 50	10.6	Bore

APPENDIX M (cont'd)

Atlantic Coast Pipeline and Supply Header Project Road and Railroad Crossings [a]

Facility/State or Commonwealth	County/City	Road Type	Road/Railroad Name	Milepost	Construction Method
West Virginia	Doddridge County	County or local road	Old US 50	10.6	Bore
West Virginia	Doddridge County	County or local road	County Hwy 3	13.0	Bore
West Virginia	Doddridge County	County or local road	County Hwy 20/2	15.6	Bore
West Virginia	Doddridge County	County or local road	County Hwy 55/8	17.8	Bore
West Virginia	Doddridge County	U.S. or State Hwy	State Hwy 23	18.6	Bore
West Virginia	Doddridge County	County or local road	County Hwy 6	20.7	Bore
West Virginia	Doddridge County	County or local road	County Hwy 4	22.8	Bore
West Virginia	Tyler County	County or local road	County Hwy 13	23.1	Bore
West Virginia	Wetzel County	County or local road	County Hwy 82	23.8	Bore
West Virginia	Wetzel County	County or local road		26.8	Bore
West Virginia	Wetzel County	Railroad	Baltimore and Ohio Railroad	29.5	Bore
West Virginia	Wetzel County	U.S. or State Hwy	State Hwy 20	29.5	Bore
West Virginia	Wetzel County	County or local road	County Hwy 20/10	29.7	Bore
West Virginia	Wetzel County	County or local road	County Hwy 20/10	30.1	Bore
West Virginia	Wetzel County	County or local road	County Hwy 7/6	30.9	Bore
West Virginia	Wetzel County	County or local road	County Hwy 20/4	31.8	Bore

[a] Road and railroad data obtained from RexTag Strategies, June 2016.
[b] Located entirely or partially within NFS land.

APPENDIX N

FOREIGN UTILITIES CROSSED BY THE ATLANTIC COAST PIPELINE AND SUPPLY HEADER PROJECT

APPENDIX N

Atlantic Coast Pipeline and Supply Header Project Crossings of Existing Pipelines and Other Facilities [a]

Facility/State or Commonwealth	County/City	Milepost	Type	Operator
ATLANTIC COAST PIPELINE				
AP-1				
West Virginia	Harrison County	0.0	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Harrison County	0.0	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Harrison County	0.1	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Harrison County	0.3	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	1.9	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	3.3	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)
West Virginia	Lewis County	5.2	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	6.0	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)
West Virginia	Lewis County	6.4	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	6.5	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	6.5	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	7.3	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	7.5	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	7.7	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	7.9	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	8.0	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	8.0	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	8.1	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	8.4	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	8.4	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	8.4	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	8.4	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	8.5	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	8.6	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	8.6	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	9.2	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	9.2	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	9.2	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	10.8	Electric Transmission Line	Monongahela Power Company
West Virginia	Lewis County	11.0	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	11.0	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)
West Virginia	Lewis County	12.2	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	13.3	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	13.3	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	13.8	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	14.0	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	14.3	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	15.5	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	15.9	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	16.6	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	17.4	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Lewis County	18.2	Natural Gas Pipeline	Dominion Transmission, Inc.
West Virginia	Lewis County	18.6	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Lewis County	19.0	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Lewis County	19.3	Natural Gas Pipeline	Chesapeake Midstream Development, LP

APPENDIX N (cont'd)

Atlantic Coast Pipeline and Supply Header Project Crossings of Existing Pipelines and Other Facilities [a]

Facility/State or Commonwealth	County/City	Milepost	Type	Operator
West Virginia	Upshur County	22.5	Electric Transmission Line	
West Virginia	Upshur County	22.7	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)
West Virginia	Upshur County	23.1	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)
West Virginia	Upshur County	25.5	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Upshur County	26.4	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Upshur County	26.6	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Upshur County	27.1	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Upshur County	27.1	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Upshur County	27.1	Electric Transmission Line	Monongahela Power Company
West Virginia	Upshur County	27.2	Natural Gas Pipeline	Appalachia Midstream Services, LLC
West Virginia	Upshur County	27.4	Natural Gas Pipeline	Appalachia Midstream Services, LLC
West Virginia	Upshur County	27.5	Electric Transmission Line	
West Virginia	Upshur County	30.1	Electric Transmission Line	Monongahela Power Company
West Virginia	Upshur County	30.9	Electric Transmission Line	Monongahela Power Company
West Virginia	Upshur County	31.4	Electric Transmission Line	Monongahela Power Company
West Virginia	Upshur County	33.0	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Upshur County	33.1	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Upshur County	33.4	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Upshur County	33.6	Natural Gas Pipeline	Appalachia Midstream Services, LLC
West Virginia	Upshur County	33.7	Natural Gas Pipeline	Appalachia Midstream Services, LLC
West Virginia	Upshur County	34.2	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Upshur County	37.1	Natural Gas Pipeline	CONE Midstream Partners, LP
West Virginia	Upshur County	37.4	Natural Gas Pipeline	CONE Midstream Partners, LP
West Virginia	Upshur County	37.7	Electric Transmission Line	
West Virginia	Upshur County	38.6	Natural Gas Pipeline	CONE Midstream Partners, LP
West Virginia	Upshur County	40.7	Natural Gas Pipeline	Eastern America Energy Corporation
West Virginia	Randolph County	45.2	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	45.4	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	45.5	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	45.9	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	46.1	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	46.4	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	47.2	Natural Gas Pipeline	Chesapeake Midstream Development, LP

APPENDIX N (cont'd)

Atlantic Coast Pipeline and Supply Header Project Crossings of Existing Pipelines and Other Facilities [a]

Facility/State or Commonwealth	County/City	Milepost	Type	Operator
West Virginia	Randolph County	47.3	Natural Gas Pipeline	Columbia Gas Transmission
West Virginia	Randolph County	47.3	Natural Gas Pipeline	Columbia Gas Transmission
West Virginia	Randolph County	47.3	Natural Gas Pipeline	Columbia Gas Transmission
West Virginia	Randolph County	47.3	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	47.3	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	47.4	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	47.5	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	48.1	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	48.2	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	48.4	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	48.4	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	49.6	Natural Gas Pipeline	Chesapeake Midstream Development, LP
West Virginia	Randolph County	50.8	Electric Transmission Line	Monongahela Power Company
West Virginia	Randolph County	56.7	Electric Transmission Line	Monongahela Power Company
West Virginia	Randolph County	59.2	Electric Transmission Line	
West Virginia	Randolph County	62.6	Electric Transmission Line	Monongahela Power Company
West Virginia	Pocahontas County	67.7	Electric Transmission Line	Monongahela Power Company
West Virginia	Pocahontas County	75.8	Electric Transmission Line	
Virginia	Highland County	90.0	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Augusta County	114.1	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Augusta County	124.4	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Augusta County	136.5	Electric Transmission Line	
Virginia	Augusta County	142.8	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Augusta County	142.8	Electric Transmission Line	
Virginia	Augusta County	145.3	Electric Transmission Line	
Virginia	Augusta County	147.2	Natural Gas Pipeline	Columbia Gas Transmission
Virginia	Augusta County	148.1	Electric Transmission Line	
Virginia	Augusta County	153.3	Electric Transmission Line	
Virginia	Nelson County	177.0	Electric Transmission Line	

APPENDIX N (cont'd)

Atlantic Coast Pipeline and Supply Header Project Crossings of Existing Pipelines and Other Facilities [a]

Facility/State or Commonwealth	County/City	Milepost	Type	Operator
Virginia	Nelson County	179.2	Electric Transmission Line	
Virginia	Buckingham County	191.6	Natural Gas Pipeline	Transcontinental Gas P.l. Co., LLC
Virginia	Buckingham County	191.6	Natural Gas Pipeline	Transcontinental Gas P.l. Co., LLC
Virginia	Buckingham County	191.6	Natural Gas Pipeline	Transcontinental Gas P.l. Co., LLC
Virginia	Buckingham County	191.6	Natural Gas Pipeline	Transcontinental Gas P.l. Co., LLC
Virginia	Buckingham County	196.5	Electric Transmission Line	
Virginia	Buckingham County	199.9	Electric Transmission Line	
Virginia	Buckingham County	200.8	Electric Transmission Line	
Virginia	Buckingham County	209.5	Electric Transmission Line	
Virginia	Buckingham County	211.3	Electric Transmission Line	
Virginia	Cumberland County	213.5	Electric Transmission Line	
Virginia	Cumberland County	214.5	Electric Transmission Line	
Virginia	Cumberland County	215.1	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Cumberland County	219.9	Electric Transmission Line	
Virginia	Cumberland County	220.0	Electric Transmission Line	
Virginia	Prince Edward County	225.7	Electric Transmission Line	
Virginia	Nottoway County	231.6	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Nottoway County	232.1	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Nottoway County	247.4	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Brunswick County	267.1	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Greensville County	283.5	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Greensville County	284.1	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Greensville County	288.3	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Greensville County	288.7	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Greensville County	291.9	Natural Gas Pipeline	Transcontinental Gas P.l. Co., LLC
Virginia	Greensville County	293.0	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Greensville County	293.2	Natural Gas Pipeline	Columbia Gas Transmission
Virginia	Greensville County	293.2	Natural Gas Pipeline	Transcontinental Gas P.l. Co., LLC

AP-2

APPENDIX N (cont'd)

Atlantic Coast Pipeline and Supply Header Project Crossings of Existing Pipelines and Other Facilities [a]

Facility/State or Commonwealth	County/City	Milepost	Type	Operator
North Carolina	Northampton County	2.0	Natural Gas Pipeline	Transcontinental Gas P.l. Co., LLC
North Carolina	Northampton County	4.9	Electric Transmission Line	
North Carolina	Northampton County	5.1	Electric Transmission Line	Dominion Virginia Power Company
North Carolina	Northampton County	6.2	Electric Transmission Line	Dominion Virginia Power Company
North Carolina	Northampton County	6.4	Electric Transmission Line	
North Carolina	Halifax County	12.7	Electric Transmission Line	
North Carolina	Halifax County	15.0	Electric Transmission Line	
North Carolina	Halifax County	16.3	Electric Transmission Line	
North Carolina	Halifax County	20.5	Electric Transmission Line	
North Carolina	Halifax County	22.2	Electric Transmission Line	
North Carolina	Halifax County	22.2	Electric Transmission Line	Dominion Virginia Power Company
North Carolina	Halifax County	22.2	Natural Gas Pipeline	Piedmont Natural Gas Company
North Carolina	Halifax County	24.9	Electric Transmission Line	
North Carolina	Halifax County	28.2	Electric Transmission Line	
North Carolina	Halifax County	28.4	Electric Transmission Line	
North Carolina	Halifax County	31.9	Natural Gas Pipeline	Piedmont Natural Gas Company
North Carolina	Nash County	48.1	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Nash County	48.1	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Nash County	52.6	Natural Gas Pipeline	Piedmont Natural Gas Company
North Carolina	Nash County	62.5	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Wilson County	74.7	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Johnston County	91.1	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Johnston County	91.5	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Johnston County	92.9	Natural Gas Pipeline	Piedmont Natural Gas Company
North Carolina	Johnston County	92.9	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Johnston County	92.9	Natural Gas Pipeline	Piedmont Natural Gas Company
North Carolina	Johnston County	93.5	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Johnston County	100.8	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Johnston County	109.6	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Johnston County	113.0	Natural Gas Pipeline	Piedmont Natural Gas Company

APPENDIX N (cont'd)

Atlantic Coast Pipeline and Supply Header Project Crossings of Existing Pipelines and Other Facilities [a]

Facility/State or Commonwealth	County/City	Milepost	Type	Operator
North Carolina	Sampson County	115.0	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Sampson County	115.9	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Sampson County	119.8	Natural Gas Pipeline	Piedmont Natural Gas Company
North Carolina	Sampson County	119.8	Natural Gas Pipeline	Piedmont Natural Gas Company
North Carolina	Cumberland County	125.3	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	129.6	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	129.9	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	130.6	Natural Gas Pipeline	Piedmont Natural Gas Company
North Carolina	Cumberland County	131.1	Natural Gas Pipeline	Piedmont Natural Gas Company
North Carolina	Cumberland County	131.1	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	132.8	Natural Gas Pipeline	Piedmont Natural Gas Company
North Carolina	Cumberland County	133.9	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	134.6	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	140.7	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	143.3	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	151.7	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	152.0	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	152.3	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	152.7	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	152.8	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	153.2	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	154.7	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	155.8	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	157.3	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	157.6	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	157.7	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	158.2	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Cumberland County	159.3	Natural Gas Pipeline	Piedmont Natural Gas Company
North Carolina	Robeson County	163.0	Electric Transmission Line	Progress Energy Carolinas, LLC

APPENDIX N (cont'd)

Atlantic Coast Pipeline and Supply Header Project Crossings of Existing Pipelines and Other Facilities [a]

Facility/State or Commonwealth	County/City	Milepost	Type	Operator
North Carolina	Robeson County	163.0	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Robeson County	167.3	Natural Gas Pipeline	Piedmont Natural Gas Company
North Carolina	Robeson County	171.8	Electric Transmission Line	Progress Energy Carolinas, LLC
North Carolina	Robeson County	182.9	Natural Gas Pipeline	Piedmont Natural Gas Company
AP-3				
North Carolina	Northampton County	6.1	Electric Transmission Line	Dominion Virginia Power Company
North Carolina	Northampton County	8.6	Electric Transmission Line	Dominion Virginia Power Company
North Carolina	Northampton County	8.7	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Southampton County	14.4	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Southampton County	16.5	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Southampton County	16.7	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Southampton County	17.7	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Southampton County	18.1	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Southampton County	18.2	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Southampton County	19.7	Electric Transmission Line	
Virginia	Southampton County	20.7	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Southampton County	20.8	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Southampton County	22.3	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Southampton County	25.6	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Southampton County	26.9	Electric Transmission Line	
Virginia	Southampton County	27.0	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Southampton County	28.6	Electric Transmission Line	Dominion Virginia Power Company
Virginia	Southampton County	35.9	Electric Transmission Line	
Virginia	City of Suffolk	41.9	Electric Transmission Line	
Virginia	City of Suffolk	42.8	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	43.9	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	44.0	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	44.1	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	44.1	Electric Transmission Line	Dominion Virginia Power Company

APPENDIX N (cont'd)

Atlantic Coast Pipeline and Supply Header Project Crossings of Existing Pipelines and Other Facilities [a]

Facility/State or Commonwealth	County/City	Milepost	Type	Operator
Virginia	City of Suffolk	44.4	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	45.9	Electric Transmission Line	
Virginia	City of Suffolk	47.3	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	48.0	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	49.7	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	56.5	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	56.5	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	59.0	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	62.1	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	62.2	Natural Gas Pipeline	Columbia Gas Transmission
Virginia	City of Suffolk	62.3	Natural Gas Pipeline	Columbia Gas Transmission
Virginia	City of Suffolk	63.2	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	65.0	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	65.9	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Suffolk	66.1	Electric Transmission Line	
Virginia	City of Suffolk	68.8	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Chesapeake	73.1	Natural Gas Pipeline	Columbia Gas Transmission
Virginia	City of Chesapeake	73.1	Natural Gas Pipeline	Columbia Gas Transmission
Virginia	City of Chesapeake	73.5	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Chesapeake	77.7	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Chesapeake	77.9	Electric Transmission Line	Dominion Virginia Power Company
Virginia	City of Chesapeake	78.7	Electric Transmission Line	
Virginia	City of Chesapeake	78.7	Electric Transmission Line	
Virginia	City of Chesapeake	79.5	Electric Transmission Line	
Virginia	City of Chesapeake	79.8	Electric Transmission Line	
Virginia	City of Chesapeake	79.8	Electric Transmission Line	
Virginia	City of Chesapeake	80.7	Electric Transmission Line	
Virginia	City of Chesapeake	80.7	Electric Transmission Line	
Virginia	City of Chesapeake	80.7	Natural Gas Pipeline	Columbia Gas Transmission
Virginia	City of Chesapeake	80.8	Natural Gas Pipeline	Columbia Gas Transmission

APPENDIX N (cont'd)

Atlantic Coast Pipeline and Supply Header Project Crossings of Existing Pipelines and Other Facilities [a]

Facility/State or Commonwealth	County/City	Milepost	Type	Operator
Virginia	City of Chesapeake	80.8	Electric Transmission Line	
Virginia	City of Chesapeake	80.8	Electric Transmission Line	
Virginia	City of Chesapeake	82.7	Natural Gas Pipeline	Columbia Gas Transmission
Virginia	City of Chesapeake	82.7	Natural Gas Pipeline	Columbia Gas Transmission
SUPPLY HEADER PROJECT				
Tl-636				
Pennsylvania	Westmoreland County	0.0	Electrical Transmission Line	West Penn Power Company
Pennsylvania	Westmoreland County	0.4	Natural Gas Pipeline	West Penn Power Company
Pennsylvania	Westmoreland County	0.6	Natural Gas Pipeline	Peoples Natural Gas
Pennsylvania	Westmoreland County	0.7	Products Pipeline	Sunoco Pipeline, LP
Pennsylvania	Westmoreland County	1.1	Natural Gas Pipeline	Peoples Natural Gas
Pennsylvania	Westmoreland County	1.6	Natural Gas Pipeline	Peoples Natural Gas
Pennsylvania	Westmoreland County	1.8	Natural Gas Pipeline	Peoples Natural Gas
Pennsylvania	Westmoreland County	2.6	Natural Gas Pipeline	Peoples Natural Gas
Pennsylvania	Westmoreland County	3.2	Natural Gas Pipeline	Peoples Natural Gas
Pennsylvania	Westmoreland County	3.6	Natural Gas Pipeline	Peoples Natural Gas
Pennsylvania	Westmoreland County	3.8	Natural Gas Pipeline	Peoples Natural Gas
TL-635				
West Virginia	Doddridge County	6.3	Natural Gas Pipeline	Eastern America Energy Corporation
West Virginia	Doddridge County	6.3	Natural Gas Pipeline	MarkWest Liberty Midstream & Resources, LLC
West Virginia	Doddridge County	6.3	Natural Gas Pipeline	Crestwood Marcellus Pipeline
West Virginia	Doddridge County	6.3	Natural Gas Pipeline	Mountaineer Midstream Company, LLC
West Virginia	Doddridge County	7.5	Natural Gas Pipeline	Columbia Gas Transmission
West Virginia	Doddridge County	8.5	Natural Gas Pipeline	Columbia Gas Transmission
West Virginia	Doddridge County	9.0	Natural Gas Pipeline	Columbia Gas Transmission
West Virginia	Doddridge County	9.1	Natural Gas Pipeline	MarkWest Liberty Midstream & Resources, LLC
West Virginia	Doddridge County	12.0	Natural Gas Pipeline	MarkWest Liberty Midstream & Resources, LLC
West Virginia	Doddridge County	12.1	Electrical Transmission Line	Monongahela Power Company
West Virginia	Doddridge County	12.3	Natural Gas Pipeline	Mountaineer Midstream Company, LLC
West Virginia	Doddridge County	13.0	Natural Gas Pipeline	Columbia Gas Transmission

APPENDIX N (cont'd)

Atlantic Coast Pipeline and Supply Header Project Crossings of Existing Pipelines and Other Facilities [a]

Facility/State or Commonwealth	County/City	Milepost	Type	Operator
West Virginia	Doddridge County	14.0	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)
West Virginia	Doddridge County	14.5	Natural Gas Pipeline	Mountaineer Midstream Company, LLC
West Virginia	Doddridge County	14.6	Natural Gas Pipeline	Chesapeake Energy, Inc.
West Virginia	Doddridge County	14.8	Natural Gas Pipeline	Mountaineer Midstream Company, LLC
West Virginia	Doddridge County	15.0	Electrical Transmission Line	Monongahela Power Company
West Virginia	Doddridge County	16.2	Natural Gas Pipeline	Mountaineer Midstream Company, LLC
West Virginia	Doddridge County	16.3	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)
West Virginia	Doddridge County	17.8	Natural Gas Pipeline	MarkWest Liberty Midstream & Resources, LLC
West Virginia	Doddridge County	18.9	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)
West Virginia	Doddridge County	19.1	Natural Gas Pipeline	Columbia Gas Transmission
West Virginia	Doddridge County	20.2	Natural Gas Pipeline	Columbia Gas Transmission
West Virginia	Doddridge County	20.2	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)
West Virginia	Wetzel County	23.9	Natural Gas Pipeline	Eureka Hunter Holdings, LLC
West Virginia	Wetzel County	23.9	Natural Gas Pipeline	Eureka Hunter Holdings, LLC
West Virginia	Wetzel County	24.0	Natural Gas Pipeline	Eureka Hunter Holdings, LLC
West Virginia	Wetzel County	24.0	Natural Gas Pipeline	Eureka Hunter Holdings, LLC
West Virginia	Wetzel County	24.0	Natural Gas Pipeline	Eureka Hunter Holdings, LLC
West Virginia	Wetzel County	24.0	Natural Gas Pipeline	Eureka Hunter Holdings, LLC
West Virginia	Wetzel County	24.1	Natural Gas Pipeline	Eureka Hunter Holdings, LLC
West Virginia	Wetzel County	25.4	Natural Gas Pipeline	Caiman Energy
West Virginia	Wetzel County	25.8	Natural Gas Pipeline	Eureka Hunter Holdings, LLC
West Virginia	Wetzel County	30.6	Natural Gas Pipeline	Caiman Energy
West Virginia	Wetzel County	31.2	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)
West Virginia	Wetzel County	31.4	Electrical Transmission Line	Monongahela Power Company
West Virginia	Wetzel County	31.4	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)
West Virginia	Wetzel County	31.6	Natural Gas Pipeline	Eureka Hunter Holdings, LLC
West Virginia	Wetzel County	31.8	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)
West Virginia	Wetzel County	32.3	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)
West Virginia	Wetzel County	33.1	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)
West Virginia	Wetzel County	33.2	Natural Gas Pipeline	EQT Midstream Partners (Equitrans)

[a] Utility data obtained from RexTag Strategies, June 2016.

APPENDIX O

BEDROCK GEOLOGY CROSSED BY THE
ATLANTIC COAST PIPELINE AND SUPPLY HEADER PROJECT

APPENDIX O

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
ATLANTIC COAST PIPELINE					
West Virginia					
AP-1	0.0 – 1.2	Permian - Pennsylvanian	Dunkard Group	Sandstone	Siltstone
	1.2 – 1.3	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	1.3 – 1.5	Permian - Pennsylvanian	Dunkard Group	Sandstone	Siltstone
	1.5 – 1.6	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	1.6 – 2.2	Permian - Pennsylvanian	Dunkard Group	Sandstone	Siltstone
	2.2- 3.1	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	3.1- 3.1	Permian - Pennsylvanian	Dunkard Group	Sandstone	Siltstone
	3.1 – 4.7	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	4.7 – 4.8	Permian - Pennsylvanian	Dunkard Group	Sandstone	Siltstone
	4.8 – 5.7	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	5.7 – 5.9	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	5.9 – 7.1	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	7.1- 8.1	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	8.1 – 8.3	Quaternary	Quaternary Alluvium	Alluvium	NA
	8.3 – 9.1	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	9.1 – 9.9	Quaternary	Quaternary Alluvium	Alluvium	NA
	9.9 – 11.7	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	11.7 – 11.9	Quaternary	Quaternary Alluvium	Alluvium	NA
	11.9 – 15.1	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	15.1 – 15.3	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	15.3 – 15.7	Quaternary	Quaternary Alluvium	Alluvium	NA
	15.7 – 15.8	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	15.8 – 16.2	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	16.2 – 16.4	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	16.4 – 16.9	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	16.9 – 17.3	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	17.3 – 17.8	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	17.8 – 18.4	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	18.4 – 19.7	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	19.7 – 20.7	Pennsylvanian	Conemaugh Group	Shale	Siltstone

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	20.7 – 21.0	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	21.0 – 21.9	Pennsylvanian	Dunkard Group	Sandstone	Siltstone
	21.9 – 22.2	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	22.2 – 22.3	Pennsylvanian	Dunkard Group	Sandstone	Siltstone
	22.3 – 23.2	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	23.2 – 23.3	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	23.3 – 23.9	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	23.9 – 24.1	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	24.1 – 24.6	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	24.6 – 24.9	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	24.9 – 25.1	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	25.1 – 25.2	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	25.2 – 23.4	Pennsylvanian	Monongahela Group	Sandstone	Siltstone
	25.4 – 25.7	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	25.7 – 26.0	Pennsylvanian	Quaternary Alluvium	Alluvium	NA
	26.0 – 30.0	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	30.0 – 30.2	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	30.2 – 30.3	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	30.3 – 31.1	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	31.1 – 31.4	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	31.4 – 32.5	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	32.5 – 32.6	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	32.6 – 33.5	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	33.5 – 33.8	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	33.8 – 34.0	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	34.0 – 34.3	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	34.3 – 34.5	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	34.5 – 34.7	Pennsylvanian	Kanawha Formation	Sandstone	Shale
	34.7 – 34.9	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	34.9 – 35.0	Pennsylvanian	Kanawha Formation	Sandstone	Shale
	35.0 – 35.4	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	35.4 – 35.5	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	35.5 – 35.6	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	35.6 – 35.8	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	35.8 – 35.9	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	35.9 – 36.0	Pennsylvanian	Kanawha Formation	Sandstone	Shale
	36.0 – 36.3	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	36.3 – 36.5	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	36.5 – 36.7	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	36.7- 36.9	Pennsylvanian	Kanawha Formation	Sandstone	Shale
	36.9 – 37.2	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	37.2 – 37.4	Pennsylvanian	Conemaugh Group	Shale	Siltstone
	37.4 – 37.5	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	37.5 – 38.1	Pennsylvanian	Kanawha Formation	Sandstone	Shale
	38.1 – 39.5	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	39.5 – 39.7	Pennsylvanian	Kanawha Formation	Sandstone	Shale
	39.7 – 41.1	Pennsylvanian	Allegheny Formation	Sandstone	Siltstone
	41.1 – 50.4	Pennsylvanian	Kanawha Formation	Sandstone	Shale
	50.4 – 50.6	Pennsylvanian	New River Formation	Sandstone	Shale
	50.6 – 51.9	Pennsylvanian	Kanawha Formation	Sandstone	Shale
	51.9 – 52.1	Pennsylvanian	New River Formation	Sandstone	Shale
	52.1 – 52.2	Mississippian	Bluestone and Princeton Formations	Shale	Sandstone
	52.2 – 52.3	Pennsylvanian	New River Formation	Sandstone	Shale
	52.3 – 54.1	Pennsylvanian	Kanawha Formation	Sandstone	Shale
	54.1 – 54.5	Pennsylvanian	New River Formation	Sandstone	Shale
	54.5 – 55.2	Pennsylvanian	Kanawha Formation	Sandstone	Shale
	55.2 – 55.5	Pennsylvanian	New River Formation	Sandstone	Shale
	55.5 – 58.0	Pennsylvanian	Kanawha Formation	Sandstone	Shale
	58.0 – 58.1	Pennsylvanian	New River Formation	Sandstone	Shale
	58.1 – 58.3	Mississippian	Bluestone and Princeton Formations	Shale	Sandstone
	58.3 – 58.7	Pennsylvanian	New River Formation	Sandstone	Shale
	58.7 – 59.8	Pennsylvanian	Kanawha Formation	Sandstone	Shale
	59.8 – 60.1	Pennsylvanian	New River Formation	Sandstone	Shale
	60.1 – 60.3	Mississippian	Bluestone and Princeton Formations	Shale	Sandstone
	60.3 – 60.4	Mississippian	Hinton Formation	Shale	Sandstone
	60.4 – 61.0	Mississippian	Bluefield Formation	Shale	Limestone

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	61.0 – 61.6	Mississippian	Hinton Formation	Shale	Sandstone
	61.6 – 61.9	Mississippian	Bluestone and Princeton Formations	Shale	Sandstone
	61.9 – 62.2	Pennsylvanian	New River Formation	Sandstone	Shale
	62.2 – 62.2	Mississippian	Bluestone and Princeton Formations	Shale	Sandstone
	62.2 – 62.7	Pennsylvanian	New River Formation	Sandstone	Shale
	62.7 – 62.9	Mississippian	Bluestone and Princeton Formations	Shale	Sandstone
	62.9 – 63.8	Pennsylvanian	New River Formation	Sandstone	Shale
	63.8 – 64.1	Mississippian	Bluestone and Princeton Formations	Shale	Sandstone
	64.1 – 64.6	Mississippian	Hinton Formation	Shale	Sandstone
	64.6 – 65.0	Mississippian	Bluefield Formation	Shale	Limestone
	65.0 – 65.5	Mississippian	Greenbrier Limestone	Limestone	Shale
	65.5 – 66.5	Mississippian	Bluefield Formation	Shale	Limestone
	66.5 – 66.7	Mississippian	Greenbrier Limestone	Limestone	Shale
	66.7 – 67.3	Mississippian	Bluefield Formation	Shale	Limestone
	67.3 – 67.7	Mississippian	Greenbrier Limestone	Limestone	Shale
	67.7 – 67.9	Mississippian	Bluefield Formation	Shale	Limestone
	67.9 – 68.1	Mississippian	Hinton Formation	Shale	Sandstone
	68.1 – 68.5	Mississippian	Bluefield Formation	Shale	Limestone
	68.5 – 68.6	Mississippian	Greenbrier Limestone	Limestone	Shale
	68.6 – 68.8	Mississippian	Bluefield Formation	Shale	Limestone
	68.8 – 69.4	Mississippian	Greenbrier Limestone	Limestone	Shale
	69.4 – 69.6	Mississippian	Bluefield Formation	Shale	Limestone
	69.6 – 70.4	Mississippian	Hinton Formation	Shale	Sandstone
	70.4 – 70.8	Mississippian	Bluefield Formation	Shale	Limestone
	70.8 – 71.1	Mississippian	Hinton Formation	Shale	Sandstone
	71.1 – 71.6	Mississippian	Bluestone and Princeton Formations	Shale	Sandstone
	71.6 – 72.4	Mississippian	Hinton Formation	Shale	Sandstone
	72.4 – 72.6	Mississippian	Bluefield Formation	Shale	Limestone
	72.6 – 73.0	Mississippian	Greenbrier Limestone	Limestone	Shale
	73.0 – 73.5	Mississippian	Bluefield Formation	Shale	Limestone
	73.5 – 73.7	Mississippian	Hinton Formation	Shale	Sandstone
	73.7 – 74.2	Mississippian	Bluefield Formation	Shale	Limestone
	74.2 – 74.6	Mississippian	Greenbrier Limestone	Limestone	Shale

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	74.6 – 74.7	Mississippian	Maccrady Formation	Shale	Sandstone
	74.7 – 75.1	Mississippian	Greenbrier Limestone	Limestone	Shale
	75.1 – 75.2	Mississippian	Maccrady Formation	Shale	Sandstone
	75.2 – 75.6	Mississippian	Pocono Formation	Sandstone	Siltstone
	75.6 – 78.1	Devonian	Hampshire Formation	Sandstone	Limestone
	78.1 – 78.6	Devonian	Chadakoin Formation	Siltstone	Shale
	78.6 – 79.4	Devonian	Brallier Formation	Shale	Siltstone
	79.4 – 80.0	Devonian	Millboro Shale	Shale	Black Shale
	80.0 – 80.1	Devonian	Oriskany Sandstone and Helderberg Group, undivided	Sandstone	Limestone
	80.1 – 80.2	Silurian	Tonoloway, Wills Creek, and Williamsport Formations	Limestone	Shale
	80.2 – 80.3	Silurian	McKenzie Formation and Clinton Group	Shale	Sandstone
	80.3 – 80.4	Silurian	Tuscarora Formation	Quartzite	Sandstone
	80.4 – 80.6	Silurian	McKenzie Formation and Clinton Group	Shale	Sandstone
	80.6 – 80.7	Silurian	Tonoloway, Wills Creek, and Williamsport Formations	Limestone	Shale
	80.7 – 80.8	Devonian	Oriskany Sandstone and Helderberg Group, undivided	Sandstone	Limestone
	80.8 – 81.2	Devonian	Millboro Shale	Shale	Black Shale
	81.2 – 81.8	Devonian	Brallier Formation	Shale	Siltstone
	81.8 – 82.8	Devonian	Chadakoin Formation	Siltstone	Shale
	82.8 – 83.9	Devonian	Hampshire Formation	Sandstone	Limestone
Virginia					
AP-1	83.9 – 86.9	Devonian	Hampshire Formation	Sandstone	Limestone
	86.9 – 87.1	Devonian	Brallier Formation	Shale	Siltstone
	87.1 – 87.4	Devonian	Millboro Shale and Needmore Formation	Black Shale	Shale
	87.4 – 87.5	Silurian-Devonian	Ridgeley Sandstone, Helderberg and Cayugan Groups	Limestone	Sandstone
	87.5 – 87.7	Silurian	Keefer, Rose Hill, and Tuscarora Formations	Arenite	Shale
	87.7 – 88.0	Ordovician	Juniata, Oswego, Martinsburg (Reedsville and Dolly Ridge), and Eggleston Formations	Shale	Mudstone
	88.0 – 88.1	Silurian	Keefer, Rose Hill, and Tuscarora Formations	Arenite	Shale
	88.1 – 88.5	Ordovician	Juniata, Oswego, Martinsburg (Reedsville and Dolly Ridge), and Eggleston Formations	Shale	Mudstone
	88.5 – 88.9	Ordovician	Moccasin or Bays Formation through Blackford Formation	Shale	Mudstone

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	88.9 – 89.3	Ordovician	Juniata, Oswego, Martinsburg (Reedsville and Dolly Ridge), and Eggleston Formations	Shale	Mudstone
	89.3 – 90.3	Silurian	Keefer, Rose Hill, and Tuscarora Formations	Arenite	Shale
	90.3 – 90.9	Silurian-Devonian	Ridgeley Sandstone, Helderberg and Cayugan Groups	Limestone	Sandstone
	90.9 – 92.0	Devonian	Millboro Shale and Needmore Formation	Black Shale	Shale
	92.0 – 92.2	Silurian-Devonian	Ridgeley Sandstone, Helderberg and Cayugan Groups	Limestone	Sandstone
	92.2 – 92.8	Silurian	Keefer, Rose Hill, and Tuscarora Formations	Arenite	Shale
	92.8 – 93.6	Ordovician	Juniata, Oswego, Martinsburg (Reedsville and Dolly Ridge), and Eggleston Formations	Shale	Mudstone
	93.6 – 94.6	Silurian	Keefer, Rose Hill, and Tuscarora Formations	Arenite	Shale
	94.6 – 95.8	Silurian-Devonian	Ridgeley Sandstone, Helderberg and Cayugan Groups	Limestone	Sandstone
	95.8 – 96.9	Silurian	Keefer, Rose Hill, and Tuscarora Formations	Arenite	Shale
	96.9 – 97.5	Silurian-Devonian	Ridgeley Sandstone, Helderberg and Cayugan Groups	Limestone	Sandstone
	97.5 – 97.9	Devonian	Millboro Shale and Needmore Formation	Black Shale	Shale
	97.9 – 101.8	Devonian	Brallier Formation	Shale	Siltstone
	101.8 – 102.2	Devonian	Millboro Shale and Needmore Formation	Black Shale	Shale
	102.2 – 102.4	Silurian-Devonian	Ridgeley Sandstone, Helderberg and Cayugan Groups	Limestone	Sandstone
	102.4 – 102.5	Silurian	Keefer, Rose Hill, and Tuscarora Formations	Arenite	Shale
	102.5 – 103.7	Silurian-Devonian	Ridgeley Sandstone, Helderberg and Cayugan Groups	Limestone	Sandstone
	103.7 – 105.2	Devonian	Millboro Shale and Needmore Formation	Black Shale	Shale
	105.2 – 108.4	Silurian-Devonian	Ridgeley Sandstone, Helderberg and Cayugan Groups	Limestone	Sandstone
	108.4 – 108.9	Devonian	Millboro Shale and Needmore Formation	Black Shale	Shale
	108.9 – 109.1	Devonian	Brallier Formation	Shale	Siltstone
	109.1 – 110.5	Devonian	Millboro Shale and Needmore Formation	Black Shale	Shale
	110.5 – 114.9	Devonian	Brallier Formation	Shale	Siltstone
	114.9 – 115.0	Devonian	Millboro Shale and Needmore Formation	Black Shale	Shale
	115.0 – 115.1	Devonian	Brallier Formation	Shale	Siltstone
	115.1 – 115.3	Devonian	Millboro Shale and Needmore Formation	Black Shale	Shale
	115.3 – 117.2	Devonian	Brallier Formation	Shale	Siltstone

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	117.2 – 120.2	Devonian	Chadakoin Formation	Siltstone	Shale
	120.2 – 121.2	Devonian	Brallier Formation	Shale	Siltstone
	121.2 – 122.1	Devonian	Chadakoin Formation	Siltstone	Shale
	122.1 – 122.6	Devonian	Brallier Formation	Shale	Siltstone
	122.6 – 122.8	Devonian	Millboro Shale and Needmore Formation	Black Shale	Shale
	122.8 – 123.4	Silurian-Devonian	Lower Devonian and Silurian Formations Undivided	Sandstone	Limestone
	123.4 – 123.7	Ordovician	Juniata, Oswego, Martinsburg (Reedsville and Dolly Ridge), and Eggleston Formations	Shale	Mudstone
	123.7 – 123.9	Ordovician	Edinburg Formation, Lincolnshire and New Market Limestones	Limestone	Black Shale
	123.9 – 125.0	Cambrian	Elbrook Formation	Dolostone (Dolomite)	Limestone
	125.0 – 128.6	Cambrian-Ordovician	Conococheague Formation	Limestone	Dolostone (Dolomite)
	128.6 – 131.5	Ordovician	Beekmantown Group	Limestone	Dolostone (Dolomite)
	131.5 – 132.3	Cambrian-Ordovician	Conococheague Formation	Limestone	Dolostone (Dolomite)
	132.3 – 135.0	Ordovician	Beekmantown Group	Limestone	Dolostone (Dolomite)
	135.0 – 137.0	Cambrian-Ordovician	Conococheague Formation	Limestone	Dolostone (Dolomite)
	137.0 – 137.7	Ordovician	Beekmantown Group	Limestone	Dolostone (Dolomite)
	137.7 – 138.7	Cambrian	Elbrook Formation	Dolostone (Dolomite)	Limestone
	138.7 – 139.2	Cambrian-Ordovician	Conococheague Formation	Limestone	Dolostone (Dolomite)
	139.2 – 140.6	Ordovician	Beekmantown Group	Limestone	Dolostone (Dolomite)
	140.6 – 141.0	Ordovician	Edinburg Formation, Lincolnshire and New Market Limestones	Limestone	Black Shale
	141.0 – 142.1	Ordovician	Martinsburg Formation	Shale	NA
	142.1 – 143.1	Ordovician	Edinburg Formation, Lincolnshire and New Market Limestones	Limestone	Black Shale
	143.1 – 144.8	Ordovician	Beekmantown Group	Limestone	Dolostone (Dolomite)

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	144.8 – 145.9	Cambrian-Ordovician	Conococheague Formation	Limestone	Dolostone (Dolomite)
	145.9 – 149.5	Cambrian	Elbrook Formation	Dolostone (Dolomite)	Limestone
	149.5 – 152.4	Cambrian	Waynesboro Formation	Dolostone (Dolomite)	Shale
	152.4 – 153.3	Cambrian	Shady Dolomite	Dolostone (Dolomite)	Limestone
	153.3 – 155.5	Cambrian	Chilhowee Group	Quartzite	Conglomerate
	155.5 – 155.8	Proterozoic Z-Cambrian	Catoctin Formation - Metabasalt	Meta-Basalt	NA
	155.8 – 156.6	Cambrian	Chilhowee Group	Quartzite	Conglomerate
	156.6 – 157.0	Proterozoic Z-Cambrian	Catoctin Formation - Metabasalt	Meta-Basalt	NA
	157.0 – 157.3	Cambrian	Chilhowee Group	Quartzite	Conglomerate
	157.3 – 158.6	Proterozoic Z-Cambrian	Catoctin Formation - Metabasalt	Meta-Basalt	NA
	158.6 – 161.0	Proterozoic Y	Charnockite	Granitic Gneiss	NA
	161.0 – 161.8	Proterozoic Z-Cambrian	Catoctin Formation - Metabasalt	Meta-Basalt	NA
	161.8 – 162.2	Proterozoic Y	Charnockite	Granitic Gneiss	NA
	162.2 – 162.9	Proterozoic Y	Layered Pyroxene Granulite	Granulite	NA
	162.9 – 163.1	Proterozoic - Paleozoic ?	Mylonite, Mylonite Gneiss, and Cataclastic Rocks	Mylonite	Gneiss
	163.1 – 163.6	Proterozoic Y	Biotite-Muscovite Leucogranite Gneiss	Granitic Gneiss	NA
	163.6 – 164.0	Proterozoic - Paleozoic ?	Mylonite, Mylonite Gneiss, and Cataclastic Rocks	Mylonite	Gneiss
	164.0 – 164.3	Proterozoic Y	Layered Biotite Granulite and Gneiss	Gneiss	Granulite
	164.3 – 165.3	Proterozoic Y	Porphyoblastic Biotite-Plagioclase Augen Gneiss	Augen Gneiss	NA
	165.3 – 165.9	Proterozoic Y	Charnockite	Granitic Gneiss	NA
	165.9 – 166.6	Proterozoic Y	Porphyoblastic Biotite-Plagioclase Augen Gneiss	Augen Gneiss	NA
	166.6 – 167.1	Proterozoic Y	Charnockite	Granitic Gneiss	NA
	167.1 – 167.2	Proterozoic Y	Porphyoblastic Biotite-Plagioclase Augen Gneiss	Augen Gneiss	NA
	167.2 – 168.7	Proterozoic Y	Charnockite	Granitic Gneiss	NA
	168.7 – 168.8	Proterozoic Y	Porphyoblastic Biotite-Plagioclase Augen Gneiss	Augen Gneiss	NA
	168.8 – 169.5	Proterozoic Y	Charnockite	Granitic Gneiss	NA
	169.5 – 169.9	Proterozoic Y	Porphyoblastic Biotite-Plagioclase Augen Gneiss	Augen Gneiss	NA
	169.9 – 170.7	Proterozoic Y	Layered Biotite Granulite and Gneiss	Gneiss	Granulite
	170.7 – 171.2	Proterozoic Y	Layered Quartzofeldspathic Augen Gneiss and Flaser Gneiss	Felsic Gneiss	Flaser Gneiss
	171.2 – 173.4	Proterozoic Y	Porphyoblastic Biotite-Plagioclase Augen Gneiss	Augen Gneiss	NA

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	172.4 – 172.5	Proterozoic Z-Cambrian	Metagabbro	Amphibolite	Amphibolite
	172.5 – 173.0	Proterozoic Z	Rockfish River Pluton	Granodiorite	NA
	173.0 – 173.7	Proterozoic Y	Alkali Feldspar Leucogranite	Granite	NA
	173.7 – 174.1	Proterozoic Y	Porphyoblastic Biotite-Plagioclase Augen Gneiss	Augen Gneiss	NA
	174.1 – 175.0	Proterozoic Z-Cambrian	Metagabbro	Amphibolite	Amphibolite
	175.0 – 177.1	Late Proterozoic	Linville Metadiabase	Metamorphic Rock	Greenstone
	177.1 – 179.2	Proterozoic Z	Ashe Formation - Biotite gneiss	Biotite Gneiss	NA
	179.2 – 179.7	Proterozoic Z-Cambrian	Alligator Back Formation - Feldspathic metagraywacke	Meta-Argillite	Schist
	179.7 – 180.0	Proterozoic Z-Cambrian	Mafic Igneous Complex Undivided	Mafic Metavolcanic Rock	NA
	180.0 – 180.9	Proterozoic Z-Cambrian	Alligator Back Formation - Feldspathic metagraywacke	Meta-Argillite	Schist
	180.9 – 181.2	Proterozoic Z-Cambrian	Catoctin Formation - Metabasalt	Meta-Basalt	NA
	181.2 – 183.2	Cambrian	Candler Formation - Phyllite and schist	Phyllite	Schist
	183.2 – 183.4	Proterozoic - Paleozoic ?	Mylonite, Mylonite Gneiss, and Cataclastic Rocks	Mylonite	Gneiss
	183.4 – 184.0	Proterozoic Z-Cambrian	Alligator Back Formation - Feldspathic metagraywacke	Meta-Argillite	Schist
	184.0 – 184.2	Cambrian	Candler Formation - Phyllite and schist	Phyllite	Schist
	184.2 – 184.8	Upper Triassic	Newark Supergroup; Triassic Sandstone, Siltstone, and Shale	Sandstone	Siltstone
	184.8 – 186.9	Cambrian	Candler Formation - Phyllite and schist	Phyllite	Schist
	186.9 – 188.7	Proterozoic Z-Cambrian	Metagraywacke, Quartzose Schist, and Melange	Meta-Argillite	Schist
	188.7 – 189.3	Cambrian	Candler Formation - Phyllite and schist	Phyllite	Schist
	189.3 – 193.4	Proterozoic Z-Cambrian	Metagraywacke, Quartzose Schist, and Melange	Meta-Argillite	Schist
	193.4 – 193.7	Proterozoic Z-Pennsylvanian	Buckingham Complex - Metamorphosed mafic and ultramafic rocks	Metamorphic Rock	NA
	193.7 – 193.9	Proterozoic Z-Cambrian	Metagraywacke, Quartzose Schist, and Melange	Meta-Argillite	Schist
	193.9 – 196.7	Proterozoic Z-Pennsylvanian	Buckingham Complex - Metamorphosed mafic and ultramafic rocks	Metamorphic Rock	NA
	196.7 – 196.8	Proterozoic Z-Cambrian	Metagraywacke, Quartzose Schist, and Melange	Meta-Argillite	Schist
	196.8 – 197.1	Proterozoic Z-Pennsylvanian	Buckingham Complex - Metamorphosed mafic and ultramafic rocks	Metamorphic Rock	NA
	197.1 – 197.6	Proterozoic Z-Cambrian	Metagraywacke, Quartzose Schist, and Melange	Meta-Argillite	Schist

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	197.6 – 197.7	Proterozoic Z-Pennsylvanian	Buckingham Complex - Metamorphosed mafic and ultramafic rocks	Metamorphic Rock	NA
	197.7 – 198.0	Proterozoic Z-Cambrian	Metagraywacke, Quartzose Schist, and Melange	Meta-Argillite	Schist
	198.0 – 198.2	Proterozoic Z-Pennsylvanian	Buckingham Complex - Metamorphosed mafic and ultramafic rocks	Metamorphic Rock	NA
	198.2 – 200.7	Proterozoic Z-Cambrian	Metagraywacke, Quartzose Schist, and Melange	Meta-Argillite	Schist
	200.7 – 200.8	Proterozoic - Paleozoic ?	Mylonite, Mylonite Gneiss, and Cataclastic Rocks	Mylonite	Gneiss
	200.8 – 202.2	Cambrian	Chopawamsic Formation - Interlayered felsic and mafic metavolcanic rocks	Metavolcanic Rock	NA
	202.2 – 203.5	Ordovician	Axemann Formation	Limestone	NA
	203.5 – 204.3	Cambrian	Interlayered Mafic and Felsic Metavolcanic Rocks - Amphibolite, hornblende-biotite gneiss, and schist.	Amphibolite	Biotite Gneiss
	204.3 – 204.4	Proterozoic	Ultramafic Rocks	Ultramafitite (Komatiite)	NA
	204.4 – 210.3	Cambrian	Interlayered Mafic and Felsic Metavolcanic Rocks - Amphibolite, hornblende-biotite gneiss, and schist.	Amphibolite	Biotite Gneiss
	210.3 – 211.4	Upper Triassic	Newark Supergroup; Breccia, mixed clasts	Breccia	NA
	211.4 – 214.3	Upper Triassic	Newark Supergroup; Triassic Sandstone, Siltstone, and Shale	Sandstone	Siltstone
	214.3 – 215.6	Triassic	Newark Supergroup, Chatham Group; Sanford Formation	Conglomerate	Sandstone
	215.6 – 217.0	Proterozoic	Migmatitic Paragneiss	Paragneiss	NA
	217.0 – 217.1	Proterozoic	Porphyroblastic Biotite Gneiss	Biotite Gneiss	NA
	217.1 – 220.0	Proterozoic	Migmatitic Paragneiss	Paragneiss	NA
	220.0 – 200.5	Proterozoic	Porphyroblastic Biotite Gneiss	Biotite Gneiss	NA
	220.5 – 220.7	Proterozoic	Biotite Granite Gneiss	Granitic Gneiss	NA
	220.7 – 221.7	Proterozoic	Porphyroblastic Biotite Gneiss	Biotite Gneiss	NA
	221.7 – 223.5	Proterozoic	Biotite Granite Gneiss	Granitic Gneiss	NA
	223.5 – 223.8	Proterozoic	Porphyroblastic Biotite Gneiss	Biotite Gneiss	NA
	223.8 – 224.3	Proterozoic	Migmatitic Paragneiss	Paragneiss	NA
	224.3 – 228.2	Proterozoic	Biotite Granite Gneiss	Granitic Gneiss	NA
	228.2 – 229.4	Proterozoic	Migmatitic Paragneiss	Paragneiss	NA
	229.4 – 234.5	Proterozoic	Burkeville Pluton	Granodiorite	Monzonite
	234.5 – 235.4	Proterozoic	Amphibolite and Amphibole-Bearing Gneiss and Schist	Amphibolite	Gneiss
	235.4 – 235.5	Proterozoic	Burkeville Pluton	Granodiorite	Monzonite

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	235.5 – 235.9	Proterozoic	Amphibolite and Amphibole-Bearing Gneiss and Schist	Amphibolite	Gneiss
	235.9 – 236.2	Proterozoic	Piedmont Upland	Migmatitic Paragneiss	Paragneiss
	236.2 – 236.6	Proterozoic Y-Pennsylvanian	Piedmont Upland	Quartzofeldspathic Gneiss	Felsic Gneiss
	236.6 – 236.7	Proterozoic Y	Piedmont Upland	Porphyroblastic Garnet-Biotite Gneiss	Biotite Gneiss
	236.7 – 237.1	Proterozoic Y-Pennsylvanian	Piedmont Upland	Quartzofeldspathic Gneiss	Felsic Gneiss
	237.1 – 239.9	Proterozoic Y	Piedmont Upland	Porphyroblastic Garnet-Biotite Gneiss	Biotite Gneiss
	239.9 – 240.1	Proterozoic Y	Piedmont Upland	Amphibolite, Amphibole Gneiss, And Schist	Schist
	240.1 – 240.7	Proterozoic Y-Pennsylvanian	Piedmont Upland	Granite Gneiss	Granitic Gneiss
	240.7 – 241.5	Proterozoic Y	Piedmont Upland	Porphyroblastic Garnet-Biotite Gneiss	Biotite Gneiss
	241.5 – 244.7	Proterozoic - Paleozoic ?	Piedmont Upland	Mylonite, Mylonite Gneiss, And Cataclastic Rocks	Mylonite
	244.7 – 245.9	Proterozoic	Piedmont Upland	Gneissic Granite And Granodiorite	Granite
	245.9 – 248.4	Proterozoic	Piedmont Upland	Biotite Gneiss	Biotite Gneiss
	248.4 – 248.7	Proterozoic	Piedmont Upland	Gneissic Granite And Granodiorite	Granite
	248.7 – 250.7	Proterozoic	Piedmont Upland	Biotite Gneiss	Biotite Gneiss
	250.7 – 251.2	Proterozoic	Piedmont Upland	Gneissic Granite And Granodiorite	Granite
	251.2 – 259.9	Proterozoic	Piedmont Upland	Biotite Gneiss	Biotite Gneiss
	259.9 – 260.3	Proterozoic	Piedmont Upland	Gneissic Granite And Granodiorite	Granite
	260.3 – 261.2	Proterozoic	Piedmont Upland	Biotite Gneiss	Biotite Gneiss

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	261.2 – 261.3	Proterozoic	Piedmont Upland	Gneissic Granite And Granodiorite	Granite
	261.3 – 262.7	Proterozoic	Piedmont Upland	Biotite Gneiss	Biotite Gneiss
	262.7 – 264.1	Proterozoic	Piedmont Upland	Gneissic Granite And Granodiorite	Granite
	264.1 – 270.6	Proterozoic	Piedmont Upland	Biotite Gneiss	Biotite Gneiss
	270.6 – 272.4	Proterozoic - Paleozoic ?	Piedmont Upland	Mylonite, Mylonite Gneiss, And Cataclastic Rocks	Mylonite
	272.4 – 276.2	Proterozoic	Piedmont Upland	Porphyroblastic Biotite Granite	Granite
	276.2 – 278.2	Proterozoic	Piedmont Upland	Mafic And Felsic Volcanic Rocks	Metavolcanic Rock
	278.2 – 280.0	Proterozoic - Paleozoic ?	Mylonite, Mylonite Gneiss, and Cataclastic Rocks	Mylonite	Gneiss
	280.0 – 281.1	Proterozoic	Mafic and Felsic Volcanic Rocks	Metavolcanic Rock	NA
	281.1 – 281.5	Proterozoic	Granite	Granite	Granodiorite
	281.5 – 282.1	Tertiary	Pliocene Sand and Gravel	Gravel	Sand
	282.1 – 283.1	Proterozoic	Granite	Granite	Granodiorite
	283.1 – 283.3	Proterozoic	Mafic and Felsic Volcanic Rocks	Metavolcanic Rock	NA
	283.3 – 284.3	Tertiary	Pliocene Sand and Gravel	Gravel	Sand
	284.3 – 284.6	Proterozoic	Mafic and Felsic Volcanic Rocks	Metavolcanic Rock	NA
	284.6 – 285.6	Tertiary	Pliocene Sand and Gravel	Gravel	Sand
	285.6 – 287.1	Proterozoic	Mafic and Felsic Volcanic Rocks	Metavolcanic Rock	NA
	287.1 – 289.6	Tertiary	Pliocene Sand and Gravel	Gravel	Sand
	289.6 – 290.2	Proterozoic	Granite	Granite	Granodiorite
	290.2 – 297.8	Tertiary	Bacons Castle Formation	Gravel	Sand
	297.8 – 298.0	Tertiary-Quaternary	Windsor Formation	Gravel	Sand
	298.0 – 298.7	Quaternary	Charles City Formation	Sand	Silt
	298.7 – 299.4	Quaternary	Alluvium	Alluvium	Clay or Mud
	299.4 – 300.1	Tertiary	Bacons Castle Formation	Gravel	Sand
	300.1 – 300.1	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand
North Carolina					

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
AP-2	0.0 – 9.4	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand
	9.4 – 11.3	Cambrian/Late Proterozoic	Metamudstone and Meta-Argillite	Metasedimentary Rock	Meta-Argillite
	11.3 – 13.9	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand
	13.9 – 14.2	Paleozoic/Late Proterozoic	Metamorphosed Quartz Diorite	Metamorphic Rock	NA
	14.2 – 15.0	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand
	15.0 – 15.6	Paleozoic/Late Proterozoic	Metamorphosed Quartz Diorite	Metamorphic Rock	NA
	15.6 – 16.5	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand
	16.5 – 16.9	Paleozoic/Late Proterozoic	Metamorphosed Quartz Diorite	Metamorphic Rock	NA
	16.9 – 19.4	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand
	19.4 – 20.0	Paleozoic/Late Proterozoic	Metamorphosed Quartz Diorite	Metamorphic Rock	NA
	20.0 – 22.7	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand
	22.7 – 23.1	Paleozoic/Late Proterozoic	Metamorphosed Quartz Diorite	Metamorphic Rock	NA
	23.1 – 32.5	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand
	32.5 – 32.8	Permian/Pennsylvanian	Foliated to Massive Granitic Rock	Granite	NA
	32.8 – 33.6	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand
	33.6 – 34.1	Permian/Pennsylvanian	Foliated to Massive Granitic Rock	Granite	NA
	34.1 – 39.3	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand
	39.3 – 42.9	Permian/Pennsylvanian	Foliated to Massive Granitic Rock	Granite	NA
	42.9 – 43.69	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	43.6 – 44.9	Permian/Pennsylvanian	Foliated to Massive Granitic Rock	Granite	NA
	44.9 – 46.9	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	46.9 – 49.4	Cambrian/Late Proterozoic	Metamudstone and Meta-Argillite	Metasedimentary Rock	Meta-Argillite
	49.4 – 50.2	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	50.2 – 50.5	Cambrian/Late Proterozoic	Metamudstone and Meta-Argillite	Metasedimentary Rock	Meta-Argillite
	50.5 – 51.7	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	51.7 – 52.0	Cambrian/Late Proterozoic	Felsic Metavolcanic Rock	Felsic Metavolcanic Rock	Mafic Metavolcanic Rock
	52.0 – 52.8	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	52.8 – 57.1	Cambrian/Late Proterozoic	Metamudstone and Meta-Argillite	Metasedimentary Rock	Meta-Argillite
	57.1 – 58.2	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	58.2 – 59.5	Cambrian/Late Proterozoic	Felsic Metavolcanic Rock	Felsic Metavolcanic Rock	Mafic Metavolcanic Rock
	59.5 – 60.6	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	60.6 – 60.8	Cambrian/Late Proterozoic	Metamudstone and Meta-Argillite	Metasedimentary Rock	Meta-Argillite
	60.8 – 62.4	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	62.4 – 63.0	Cambrian/Late Proterozoic	Metamudstone and Meta-Argillite	Metasedimentary Rock	Meta-Argillite
	63.0 – 65.6	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand
	65.6 – 66.2	Cambrian/Late Proterozoic	Metamudstone and Meta-Argillite	Metasedimentary Rock	Meta-Argillite
	66.2 – 66.7	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	66.7 – 67.4	Cambrian/Late Proterozoic	Metamudstone and Meta-Argillite	Metasedimentary Rock	Meta-Argillite
	67.4 – 69.0	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	69.0 – 69.1	Cambrian/Late Proterozoic	Metamudstone and Meta-Argillite	Metasedimentary Rock	Meta-Argillite
	69.1 – 69.8	Permian/Pennsylvanian	Granitic Rock	Granite	NA
	69.8 – 69.8	Cambrian/Late Proterozoic	Metamudstone and Meta-Argillite	Metasedimentary Rock	Meta-Argillite
	69.8 – 70.3	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	70.3 – 71.2	Cambrian/Late Proterozoic	Metamudstone and Meta-Argillite	Metasedimentary Rock	Meta-Argillite
	71.2 – 72.6	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	72.6 – 74.1	Cambrian/Late Proterozoic	Metamudstone and Meta-Argillite	Metasedimentary Rock	Meta-Argillite
	74.1 – 78.5	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	78.5 – 79.7	Cambrian/Late Proterozoic	Felsic Metavolcanic Rock	Felsic Metavolcanic Rock	Mafic Metavolcanic Rock
	79.7 – 82.3	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	82.3 – 83.9	Cambrian/Late Proterozoic	Felsic Metavolcanic Rock	Felsic Metavolcanic Rock	Mafic Metavolcanic Rock
	83.9 – 87.2	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	87.2 – 92.5	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	92.5 – 92.9	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	92.9 – 95.3	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand
	95.3 – 96.0	Tertiary	Terrace Deposits and Upland Sediment	Terrace	Gravel
	96.0 – 103.1	Cretaceous	Cape Fear Formation	Sandstone	Mudstone
	103.1 – 106.5	Cretaceous	Black Creek Formation	Clay or Mud	Sand
	106.5 – 107.0	Cretaceous	Cape Fear Formation	Sandstone	Mudstone
	107.0 – 116.7	Cretaceous	Black Creek Formation	Clay or Mud	Sand
	116.7 – 117.2	Cretaceous	Cape Fear Formation	Sandstone	Mudstone
	117.2 – 122.9	Cretaceous	Black Creek Formation	Clay or Mud	Sand
	122.9 – 135.3	Cretaceous	Cape Fear Formation	Sandstone	Mudstone
	135.3 – 183.0	Cretaceous	Black Creek Formation	Clay or Mud	Sand
North Carolina					
AP-3	0.0 – 12.1	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand
Virginia					
AP-3					
	12.1 – 12.2	Tertiary	Yorktown Formation and Duplin Formation, Undivided	Clay or Mud	Sand
	12.2 – 13.5	Quaternary	Alluvium	Alluvium	Clay or Mud
	13.5 – 13.7	Quaternary	Shirley Formation	Gravel	Sand
	13.7 – 13.7	Quaternary	Alluvium	Alluvium	Clay or Mud
	13.7 – 17.4	Quaternary	Shirley Formation	Gravel	Sand
	17.4 – 17.5	Tertiary	Moorings Unit of Oaks and Coch (1973)	Sand	Silt
	17.5 – 17.6	Quaternary	Shirley Formation	Gravel	Sand
	17.6 – 18.3	Quaternary	Alluvium	Alluvium	Clay or Mud
	18.3 – 19.5	Quaternary	Shirley Formation	Gravel	Sand
	19.5 – 28.3	Tertiary-Quaternary	Windsor Formation	Gravel	Sand
	28.3 – 32.1	Quaternary	Shirley Formation	Gravel	Sand
	32.1 – 32.9	Quaternary	Alluvium	Alluvium	Clay or Mud
	32.9 – 34.4	Quaternary	Dune Sand	Dune Sand	NA
	34.4 – 38.0	Quaternary	Tabb Formation; Sedgefield Member	Sand	NA
	38.0 – 38.6	Quaternary	Alluvium	Alluvium	Clay or Mud
	38.6 – 39.3	Quaternary	Tabb Formation; Sedgefield Member	Sand	NA
	39.3 – 39.6	Quaternary	Chuckatuck Formation	Gravel	Sand
	39.6 – 40.0	Tertiary-Quaternary	Windsor Formation	Gravel	Sand

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	40.0 – 41.8	Quaternary	Charles City Formation	Sand	Silt
	41.8 – 44.0	Tertiary-Quaternary	Windsor Formation	Gravel	Sand
	44.0 – 44.3	Quaternary	Alluvium	Alluvium	Clay or Mud
	44.3 – 44.7	Quaternary	Charles City Formation	Sand	Silt
	44.7 – 49.1	Tertiary-Quaternary	Windsor Formation	Gravel	Sand
	49.1 – 49.8	Quaternary	Alluvium	Alluvium	Clay or Mud
	49.8 – 49.9	Quaternary	Charles City Formation	Sand	Silt
	49.9 – 50.4	Quaternary	Alluvium	Alluvium	Clay or Mud
	50.4 – 51.3	Tertiary-Quaternary	Windsor Formation	Gravel	Sand
	51.3 – 55.3	Quaternary	Charles City Formation	Sand	Silt
	55.3 – 55.5	Tertiary	Chesapeake Group	Sand	Silt
	55.5 – 55.9	Quaternary	Charles City Formation	Sand	Silt
	55.9 – 56.5	Tertiary	Chesapeake Group	Sand	Silt
	56.5 – 57.5	Quaternary	Charles City Formation	Sand	Silt
	57.5 – 58.1	Tertiary	Chesapeake Group	Sand	Silt
	58.1 – 60.6	Quaternary	Charles City Formation	Sand	Silt
	60.6 – 61.3	Tertiary	Chesapeake Group	Sand	Silt
	61.3 – 62.0	Quaternary	Charles City Formation	Sand	Silt
	62.0 – 62.7	Tertiary	Chesapeake Group	Sand	Silt
	62.7 – 63.4	Quaternary	Charles City Formation	Sand	Silt
	63.4 – 64.2	Quaternary	Alluvium	Alluvium	Clay or Mud
	64.2 – 64.6	Holocene	water	Water	NA
	64.6 – 65.1	Quaternary	Alluvium	Alluvium	Clay or Mud
	65.1 – 65.2	Quaternary	Tabb Formation; Sedgefield Member	Sand	NA
	65.2 – 65.5	Holocene	water	Water	NA
	65.5 – 66.5	Quaternary	Tabb Formation; Sedgefield Member	Sand	NA
	66.5 – 68.7	Quaternary	Swamp Deposits	Peat	Clay or Mud
	68.7 – 69.9	Quaternary	Artificial Fill	Unconsolidated Deposit	NA
	69.9 – 71.5	Quaternary	Tabb Formation; Sedgefield Member	Sand	NA
	71.5 – 72.6	Quaternary	Swamp Deposits	Peat	Clay or Mud
	72.6 – 73.4	Quaternary	Tabb Formation; Sedgefield Member	Sand	NA
	73.4 – 76.4	Quaternary	Swamp Deposits	Peat	Clay or Mud
	76.4 – 81.7	Quaternary	Tabb Formation; Lynnhaven Member	Sand	Silt

APPENDIX O (cont'd)

Bedrock Geology Crossed by the Atlantic Coast Pipeline and Supply Header Project

Project/State or Commonwealth/ Component	Milepost Range	Unit Age	Geologic Unit	Primary Lithology	Secondary Lithology
	81.7 – 81.8	Holocene	water	Water	NA
	81.8 – 82.7	Quaternary	Tabb Formation; Lynnhaven Member	Sand	Silt
Virginia					
AP-4	0.0 – 0.4	Proterozoic - Paleozoic	Mylonite, Mylonite Gneiss, and Cataclastic Rocks	Mylonite	Gneiss
Virginia					
AP-5	0.0 – 1.0	Proterozoic	Mafic and Felsic Volcanic Rocks	Metavolcanic Rock	NA
SUPPLY HEADER PROJECT					
Pennsylvania					
TL-636	0.0 – 1.1	Pennsylvanian	Monongahela Group	Limestone	Shale
	1.1 – 2.5	Pennsylvanian	Casselman Formation	Shale	Siltstone
	2.5 – 3.4	Pennsylvanian	Glenshaw Formation	Shale	Sandstone
	3.4 – 3.5	Pennsylvanian	Casselman Formation	Shale	Siltstone
	3.5 – 3.9	Pennsylvanian	Glenshaw Formation	Shale	Sandstone
West Virginia					
TL-635	0.0 – 33.6	Permian-Pennsylvanian	Dunkard Group	Sandstone	Siltstone

APPENDIX P

REVISED UNIVERSAL SOIL LOSS EQUATION 2 ANALYSIS

Appendix P

Revised Universal Soil Loss Equation 2 Analysis

The RUSLE2 equation is used to evaluate potential erosion rates at specific sites as well as guide conservation and erosion control planning. RUSLE2 uses factors that represent the effects of climate, soil erodibility, topography, cover management and support practices to compute soil erosion.

RUSLE2 estimates average annual soil loss from the eroding portion of the overland-flow path, deposition on the depositional portion of the path, and sediment load along the overland flow path. Sediment yield (delivery) is the sediment load at the end of the overland flow path, at the outlet of terrace/diversion channels, or discharged from sediment basins that are considered in the overland flow path (profile) representation used in a particular RUSLE2 computation. These quantities are expressed in units of mass per unit area per year.

RUSLE2 computes net detachment each day using the factors: [a = r k l S c p] where: a = net detachment (mass/unit area), r = erosivity factor, k = soil erodibility factor, l = slope length factor, S = slope steepness factor, c = cover-management factor, and p = supporting practices factor.

The R factor represents the erosivity of the climate at a particular location. An average annual value of R is determined from historical weather records using erosivity values determined for individual storms. The erosivity of an individual storm is computed as the product of the storm's total energy, which is closely related to storm amount, and the storm's maximum 30-minute intensity. Erosivity range from less than 8 (US customary units) in the western US to about 700 for New Orleans.

The K factor represents a relative quantitative index of the susceptibility of bare soil to particle detachment and transport by water, and is one of the factors used in the Revised Universal Soil Loss Equation to calculate soil loss. K factor values range from 0.02 to 0.69. Fine textured soils high in clay have low K values, about 0.02 to 0.15, because they are resistant to detachment. Coarse texture soils, such as sandy soils, have low K values, about 0.05 to 0.2, because of low runoff even though these soils are easily detached. Medium textured soils, such as silt loam soils, have moderate K values, about 0.25 to 0.40, because they are moderately susceptible to detachment and they produce moderate runoff. Soils having a high silt content are the most erodible of all soils. They are easily detached and they tend to crust and produce large amounts and rates of runoff. Values of K for these soils tend to be greater than 0.4.

The l and S factors jointly represent the effect of slope length, steepness, and shape on sediment production. The c factor accounts for the effects of cover-management and the p factor accounts for supporting management practices. Support practices include contouring, filter and buffer strips, rotational strip cropping, terraces and diversions, and small impoundments These practices are referred as support practices because they are used to support primary cultural erosion control practices based on vegetation, crop residue, plant litter, and applied mulch (Foster 2004).

Four “scenarios” were analyzed using two soil map units that would be crossed by the project in Bath County, Virginia. Outlines of each scenario are below. Additional inputs and RUSLE2 computer model output values are summarized in table P-1.

1. “Preconstruction”
    a. 100’ slope length
    b. Slope Steepness = representative slope value as defined in SSURGO for each soil map unit
    c. Crop Management Zone: CMZ 64

    d. Base management = Permanent pasture, average annual canopy 95%, residue 30%
2. Construction, no cover
    a. 100’ slope length
    b. Slope Steepness = representative slope value as defined in SSURGO for each soil map unit
    c. Crop Management Zone: CMZ 64
    d. Base management = Construction site, no vegetative cover
3. Construction, with temporary seed and mulch
    a. 100’ slope length
    b. Slope Steepness = representative slope value as defined in SSURGO for each soil map unit
    c. Crop Management Zone: CMZ 64
    d. Base management = Construction site, temporary seed annual ryegrass with mulch
4. Restoration
    a. 100’ slope length
    b. Slope Steepness = representative slope value as defined in SSURGO for each soil map unit
    c. Crop Management Zone: CMZ 64
    d. Base management = Permanent pasture, average annual canopy 50%, residue 5%

TABLE P-1

Summary of RUSLE2 Computer Model Inputs and Outputs for Selected Soil Map Units in Bath County, VA

Input Values								Output Values			
Scenario	**Management Practices**	**Crop Mgmt Zone [a]**	**R Factor**	**K Factor [b]**	**Slope Length**	**Slope Steepness [c]**	**Slope T Value, t/ac/yr**	**Conservation Plan Soil Loss, t/ac/yr**	**Sediment Delivery, t/ac/yr**	**Soil Conditioning Index (SCI)**	**Annual Event Runoff, in/yr**
Bath County, VA; 16E, Dekalb-Watahala-McClung complex, 35 to 55 percent slopes											
"Preconstruction"	Permanent Pasture, Avg. Annual Canopy 95%, Residue 30%	CMZ 64	150	0.15	100	45	2	0.015	0.015	1.9	0.57
Construction A	Construction Site, no vegetation	CMZ 64	150	0.15	100	45	2	120	120	-9.7	3.6
Construction B	Construction Site, Temporary Seed Annual Ryegrass with Mulch	CMZ 64	150	0.15	100	45	2	69	69	-5.3	3.5
Restoration	Permanent Pasture, Avg. Annual Canopy 50%, Residue 5%	CMZ 64	150	0.15	100	45	2	3.7	3.7	0.42	1.6
Bath County, VA; 50D, Shelocta-Berks complex, 15 to 35 percent slopes											
"Preconstruction"	Permanent Pasture, Avg. Annual Canopy 95%, Residue 30%	CMZ 64	150	0.37	100	25	5	0.022	0.022	1.9	2
Construction A	Construction Site, no vegetation	CMZ 64	150	0.37	100	25	5	180	180	-14	6.1
Construction B	Construction Site, Temporary Seed Annual Ryegrass with Mulch	CMZ 64	150	0.37	100	25	5	97	97	-7.5	6.2
Restoration	Permanent Pasture, Avg. Annual Canopy 50%, Residue 5%	CMZ 64	150	0.37	100	25	5	5	5	0.31	3.8

[a] Crop Management Zone selected based on county; http://fargo.nserl.purdue.edu/rusle2_dataweb/NRCS_Crop_Management_Zone_Maps.htm

[b] K Factor inputs obtained from the SSURGO database for each soil map unit

[c] Slope Steepness inputs obtained from the representative slope value as defined in SSURGO for each soil map unit

References/Additional Resources

Foster, George R. *Revised Universal Soil Loss EquationVersion 2, Draft User's Reference Guide*. Prepared for USDA-Agricultural Research Service, Washington D.C. December 22, 2004.

USDA, Agricultural Research Service, Overview or RUSLE2. https://www.ars.usda.gov/southeast-area/oxford-ms/national-sedimentation-laboratory/watershed-physical-processes-research/docs/revised-universal-soil-loss-equation-2-overview-of-rusle2/

VA RUSLE2 Plan Printout w/

Detailed printout of RUSLE2 calculation for multiple fields, one or more management alternatives per field

I. Client/Tract ID & Summary

Client/Owner name:
Tract #:
Location: USA\Virginia\Bath County

Printout date: December 8, 2016
Prepared by (name):
USDA Service Center/Location:

Narrative description of plan, fields, and/or management alternatives being compared:
Info: Analysis of runoff potential for individual soil types within the analysis area. Slopes entered were extracted from SSURGO database, "Slope Gradient - Representative Value" field.

Notes on collection of input data, field visits, etc.:

Summary of RUSLE2 output for each field & management alternative:

Field name	*Description*	*Cons. plan. soil loss, t/ac/yr*	*Soil conditioning index (SCI)*	*STIR value*
VA017_16E	**Preconstruction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 95%, Residue 30%**	**0.015**	**1.9**	**2.9**
VA017_16E	**Construction Site, 100' slope length, All default values used**	**120**	**-9.7**	**49**
VA017_16E	**Construction Site, 100' slope length, Temporary Seed Annual Ryegrass with Mulch**	**69**	**-5.3**	**27**
VA017_16E	**Post-Construction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 50%, Residue 5%**	**3.7**	**0.42**	**7.3**
VA017_50D	**Preconstruction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 95%, Residue 30%**	**0.022**	**1.9**	**2.9**
VA017_50D	**Construction Site, 100' slope length, All default values used**	**180**	**-14**	**49**
VA017_50D	**Construction Site, 100' slope length, Temporary Seed Annual Ryegrass with Mulch**	**97**	**-7.5**	**27**
VA017_50D	**Post-Construction: 100' slope length, Permanent Pasture, Avg. Annual Canopy 50%, Residue 5%**	**5.0**	**0.31**	**7.3**

Recommendations / Comments:

II. RUSLE2 Plan Inputs

1. CLIMATE (R FACTOR)

Climate Location: USA\Virginia\Bath County (R Factor: 150 US)

2 & 3. SOIL & TOPOGRAPHY (K and LS FACTORS)

Field name	*Soil*	*Slope T Value, t/ac/yr*	*Slope length, ft*	*Slope steepness, %*
VA017_16E	soils\Bath County, Virginia\16E Dekalb-Watahala-McClung complex, 35 to 55 percent slopes\Dekalb Channery sandy loam 35%	2.0	100	45.0
VA017_16E	soils\Bath County, Virginia\16E Dekalb-Watahala-McClung complex, 35 to 55 percent slopes\Dekalb Channery sandy loam 35%	2.0	100	45.0
VA017_16E	soils\Bath County, Virginia\16E Dekalb-Watahala-McClung complex, 35 to 55 percent slopes\Dekalb Channery sandy loam 35%	2.0	100	45.0

Field name	*Soil*	*Slope T Value, t/ac/yr*	*Slope length, ft*	*Slope steepness, %*
VA017_16E	soils\Bath County, Virginia\16E Dekalb-Watahala-McClung complex, 35 to 55 percent slopes\Dekalb Channery sandy loam 35%	2.0	100	45.0
VA017_50D	soils\Bath County, Virginia\50D Shelocta-Berks complex, 15 to 35 percent slopes\Shelocta Silt loam 60%	5.0	100	25.0
VA017_50D	soils\Bath County, Virginia\50D Shelocta-Berks complex, 15 to 35 percent slopes\Shelocta Silt loam 60%	5.0	100	25.0
VA017_50D	soils\Bath County, Virginia\50D Shelocta-Berks complex, 15 to 35 percent slopes\Shelocta Silt loam 60%	5.0	100	25.0
VA017_50D	soils\Bath County, Virginia\50D Shelocta-Berks complex, 15 to 35 percent slopes\Shelocta Silt loam 60%	5.0	100	25.0

4A. CROP MANAGEMENT (C FACTOR) SUMMARY – ALL FIELDS/ALTERNATIVES

RUSLE2 crop management file name for each field & management alternative:

Field name	*Description*	*Management*
VA017_16E	Preconstruction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 95%, Residue 30%	managements\CMZ 64\a.Single Year/Single Crop Templates\F01. PERMANENT PASTURE\01. PASTURE, PERMANENT. Avg annual canopy 95%, residue 30%
VA017_16E	Construction Site, 100' slope length, no vegetation	managements\CMZ 64\d.Construction Site Templates\Construction site
VA017_16E	Construction Site, 100' slope length, Temporary Seed Annual Ryegrass with Mulch	managements\CMZ 64\d.Construction Site Templates\Temporary Seed Annual Ryegrass with mulch
VA017_16E	Post-Construction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 50%, Residue 5%	managements\CMZ 64\a.Single Year/Single Crop Templates\F01. PERMANENT PASTURE\06. PASTURE, PERMANENT. Avg annual canopy 50%, residue 5%
VA017_50D	Preconstruction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 95%, Residue 30%	managements\CMZ 64\a.Single Year/Single Crop Templates\F01. PERMANENT PASTURE\01. PASTURE, PERMANENT. Avg annual canopy 95%, residue 30%
VA017_50D	Construction Site, 100' slope length, no vegetation	managements\CMZ 64\d.Construction Site Templates\Construction site
VA017_50D	Construction Site, 100' slope length, Temporary Seed Annual Ryegrass with Mulch	managements\CMZ 64\d.Construction Site Templates\Temporary Seed Annual Ryegrass with mulch
VA017_50D	Post-Construction: 100' slope length, Permanent Pasture, Avg. Annual Canopy 50%, Residue 5%	managements\CMZ 64\a.Single Year/Single Crop Templates\F01. PERMANENT PASTURE\06. PASTURE, PERMANENT. Avg annual canopy 50%, residue 5%

4B. CROP MANAGEMENT (C FACTOR) DETAILS – SELECTED ALTERNATIVES

Key crop management details can be printed for one or more management alternatives in this plan. Details that can be printed include:

- *Rotation duration (years)*
- *Crops / vegetations in rotation and long-term yield averages (table)*
- *Key dates and list of field operations (table)*
- *Details about external residue (manure, compost) additions (table)*

In order to print these details:

- *Return to this Plan in RUSLE2.*
- *Open relevant Worksheet(s) within the Plan, then relevant Profile(s) within the Worksheet(s).*
- *From the Profile screen(s), print using "VA RUSLE2 Profile Printout w Details.2007".*
- *Copy the desired crop management details from the resulting Word Profile printout(s).*
- *Paste the crop management details below and clearly identify the alternative(s) to which they apply.*
- *Delete these instructions.*

a. Alternative 1: …

b. Alternative 2: …

c. Alternative 3: …

5. SUPPORT PRACTICES (P FACTOR) SUMMARY

Summary of support practices selected for each field & management alternative:

Field name	*Description*	*Contouring system*	*Support practices*	*Terrace/diversion system*
VA017_16E	Preconstruction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 95%, Residue 30%	contour-systems\default	-- none --	-- none --
VA017_16E	Construction Site, 100' slope length, All default values used	contour-systems\default	-- none --	-- none --
VA017_16E	Construction Site, 100' slope length, Temporary Seed Annual Ryegrass with Mulch	contour-systems\default	-- none --	-- none --
VA017_16E	Post-Construction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 50%, Residue 5%	contour-systems\default	-- none --	-- none --
VA017_50D	Preconstruction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 95%, Residue 30%	contour-systems\default	-- none --	-- none --

Field name	*Description*	*Contouring system*	*Support practices*	*Terrace/diversion system*
VA017_50D	Construction Site, 100' slope length, All default values used	contour-systems\default	-- none --	-- none --
VA017_50D	Construction Site, 100' slope length, Temporary Seed Annual Ryegrass with Mulch	contour-systems\default	-- none --	-- none --
VA017_50D	Post-Construction: 100' slope length, Permanent Pasture, Avg. Annual Canopy 50%, Residue 5%	contour-systems\default	-- none --	-- none --

6. RUSLE2 SOFTWARE DETAILS

- Program version: Feb 23 2016
- Database name: BASE_NRCS_MOSES_03302016
- Plan file name: plans\ACP_Analysis_ByMUSYM_16E

III. RUSLE2 Plan Outputs & Definitions

1. SOIL LOSS ESTIMATES & SOIL QUALITY SCORES – ALL FIELDS & ALTERNATIVES:

Field name	*Description*	*Cons. plan. soil loss, t/ac/yr*	*Sed. delivery, t/ac/yr*	*Soil conditioning index (SCI)*	*STIR value*
VA017_16E	Preconstruction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 95%, Residue 30%	0.015	0.015	1.9	2.9
VA017_16E	Construction Site, 100' slope length, All default values used	120	120	-9.7	49

Field name	*Description*	*Cons. plan. soil loss, t/ac/yr*	*Sed. delivery, t/ac/yr*	*Soil conditioning index (SCI)*	*STIR value*
VA017_16E	Construction Site, 100' slope length, Temporary Seed Annual Ryegrass with Mulch	69	69	-5.3	27
VA017_16E	Post-Construction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 50%, Residue 5%	3.7	3.7	0.42	7.3
VA017_50D	Preconstruction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 95%, Residue 30%	0.022	0.022	1.9	2.9
VA017_50D	Construction Site, 100' slope length, All default values used	180	180	-14	49
VA017_50D	Construction Site, 100' slope length, Temporary Seed Annual Ryegrass with Mulch	97	97	-7.5	27
VA017_50D	Post-Construction: 100' slope length, Permanent Pasture, Avg. Annual Canopy 50%, Residue 5%	5.0	5.0	0.31	7.3

<u>Cons. Plan. Soil Loss, t/ac/yr</u> = Soil loss for conservation planning in tons/acre/year
Estimate of average annual rainfall-induced soil loss (detachment of soil particles & transport downhill) over the length of the modeled slope. It is critical to understand that this value represents a long-term (20- to 30-year) average, not a prediction of actual soil loss in any single year. This is the number to use for conservation planning and to compare with the field's "T" soil loss tolerance value. This number is a measure of the likelihood of degradation by erosion of the soil resource in upslope (steeper) areas of the field. Very little credit is given for any sediment deposition that may occur towards the bottom of the modeled slope (for example, due to an end-of-slope filter strip), because upslope areas are still being degraded.

<u>Sed. Delivery, t/ac/yr</u> = Sediment delivery, tons/acre/year
Estimate of the amount of sediment delivered by runoff to the end of the modeled slope. This is RUSLE2's best estimate of long-term average "edge of field" soil loss. Full credit is given for any sediment deposition that occurs anywhere on the modeled slope due to reductions in slope grade, filter strips, terraces, etc. This number is not used for conservation planning, but may be used for other environmental applications (e.g., P-Index). In many cases, RUSLE2 users will model slopes as uniform with no structural practices, vegetative features (filter strips), or breaks in topography that result in sediment deposition. In this typical situation, results for sediment delivery and soil loss for conservation planning will be identical.

<u>Soil conditioning index (SCI)</u>
Soil organic matter (SOM) or soil carbon (C) trend score. If SCI is negative (less than zero), SOM and soil C and soil quality are predicted to decline over time on the modeled slope under the modeled management system. If SCI is positive (greater than zero), SOM and soil C and soil quality are predicted to stay the same or to increase over time. SCI scores usually range from -1 to +1 in typical VA situations, although more extreme values are possible. SCI is an index score (no units) designed solely for comparing the relative impact of different management alternatives on long-term soil quality trends. When calculating SCI, RUSLE2 considers three key factors: (1) amount of surface and subsurface biomass returned to the soil; (2) tillage-induced oxidation of soil carbon; and (3) predicted sheet & rill erosion. Climate and soil type inputs are also considered due to the influence of these factors on soil C oxidation trends.

<u>STIR</u> = Soil Tillage Intensity Rating (average annual value for the overall crop rotation)
Measure of intensity of tillage or soil disturbance. STIR is an index (no units) designed solely for comparing the relative impact of different management alternatives on soil disturbance. STIR increases with increasing tillage and can range from 0 to 200+. Average annual STIR values (shown in this printout) reflect the total amount of soil disturbance that occurs during the overall rotation, averaged across the number of years in the rotation. STIR values can also be calculated for individual crops (shown only in the VA Profile Printout w/ Details). The STIR for an individual crop represents the sum of all soil disturbance associated with establishing and harvesting that crop. STIR values in the 5 to 20 range are typical of no-till crops and/or continuous no-till or low soil disturbance cropping systems. In long rotations with a mix of tilled and no-till and/or perennial crops, the average annual STIR for the overall rotation may be relatively low even if significant tillage occurs in individual years and STIR values for one or more crops in the rotation are relatively high.

<u>2. FUEL USAGE & COST ESTIMATES (adjusted for soil texture):</u>

Field name	*Description*	*STIR value*	*Fuel cost, US$/ac*
VA017_16E	Preconstruction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 95%, Residue 30%	2.9	0
VA017_16E	Construction Site, 100' slope length, All default values used	49	0
VA017_16E	Construction Site, 100' slope length, Temporary Seed Annual Ryegrass with Mulch	27	0
VA017_16E	Post-Construction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 50%, Residue 5%	7.3	0
VA017_50D	Preconstruction, 100' slope length, Permanent Pasture, Avg. Annual Canopy 95%, Residue 30%	2.9	0

Field name	*Description*	*STIR value*	*Fuel cost, US$/ac*
VA017_50D	Construction Site, 100' slope length, All default values used	49	0
VA017_50D	Construction Site, 100' slope length, Temporary Seed Annual Ryegrass with Mulch	27	0
VA017_50D	Post-Construction: 100' slope length, Permanent Pasture, Avg. Annual Canopy 50%, Residue 5%	7.3	0

<u>Fuel cost, US$/ac</u>
Estimate of total cost of fuel consumed by all field operations over the full duration of the modeled crop rotation. RUSLE2 calculates this value using the Equivalent Diesel Use (gal/ac) output and the user-selected fuel type and cost ($/gal) (neither can be shown in a Plan printout).

In order to make a valid overall fuel cost comparison between management alternatives, it is especially important that a fuel type and unit fuel cost should be selected for each alternative under consideration. Therefore, the user should check RUSLE2 to verify that all fuel related inputs are correct before drawing conclusions from the fuel cost estimates in this printout.

RUSLE2 fuel usage results are expressed as total fuel used over the full duration of the rotation (i.e., gal/ac), **<u>not</u>** average annual fuel use (i.e., gal/ac/yr). Therefore, be very careful when using these values to compare relative fuel efficiency of two crop rotations that differ in duration!

Fuel usage results are derived from built-in estimates of “typical” fuel needs for each field operation in the RUSLE2 database. When interpreting these results, remember that most RUSLE2 management files were created with the goal of modeling operations and processes that impact soil loss. Therefore, some fuel-consuming operations with no impact on soil loss may not be listed in management files (e.g., post-emergence pesticide applications, hay tedding and raking, etc.). If you wish to improve the accuracy of fuel usage estimates and comparisons, make sure that all field operations (including those with no soil loss impact) are included in the relevant RUSLE2 management files.

RUSLE2 fuel usage estimates also reflect an adjustment based on soil type (i.e., finer texture requires more energy to till). RUSLE2 makes this soil type adjustment to fuel usage for every operation, including operations that do not disturb soil. Therefore, keeping soil type constant for all management alternatives under consideration will also help ensure a more accurate fuel usage comparison.

APPENDIX Q

TERRESTRIAL VEGETATION COMMUNITIES CROSSED BY THE ATLANTIC COAST PIPELINE AND SUPPLY HEADER PROJECT

TABLE Q-1

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres)	
				Con.	Op.
WEST VIRGINIA					
Barren Land	Acidic Rock Outcrops, Cliffs, and Talus	Physiognomy is variable and includes sparsely vegetated rock faces, lichen and bryophyte dominated communities, sparse vertical shrublands, and boulderfield woodlands and forests. Boulderfield forests and woodlands occur in relatively moist topographic positions where deep rocky colluvium restricts tree growth to a few adapted species, notably Sweet Birch, Yellow Birch, Chestnut Oak, and Mountain Ash. In open habitats tree growth is limited by drought and/or lack of rooting medium.	Acidic Rock Outcrop, Cliff, and Talus habitats occupy a very small area of the state. Sparsely vegetated to wooded lithomorphic habitats, including rock outcrops, cliffs, talus, and boulderfields on acidic geologic formations across the state at all elevations. These habitats are restricted to certain geologic formations and are concentrated in certain areas.	2.3	2.1
Coniferous (Evergreen) Forest	Red Spruce Forests	Upland, mixed evergreen-deciduous forests and woodlands at high elevations dominated or codominated by Red Spruce. Associated trees may include the evergreen Eastern Hemlock, and deciduous Yellow Birch, Red Maple, American Beech, Mountain Ash, and Black Cherry. Common shrubs include Mountain Holly, Great Rhododendron, Striped Maple, Southern Mountain Cranberry, and Mountain Laurel. The herb layer is characterized by species adapted to short, cool growing seasons, including Intermediate Woodfern, Mountain Woodfern, Mountain Wood Sorrel, Canada Mayflower, and Painted Wakerobin. Mosses and liverworts often have heavy cover over the rocky ground.	These habitats are confined to high elevations in the Allegheny Mountains Ecoregion, There are five globally rare upland Red Spruce associations classified in West Virginia. These forests occur in small to large patches. Small areas of two forest seep associations are also included in this map class.	6.3	3.8
Deciduous Forest	Dry Calcareous Forests, Woodlands, and Glades [d]	Natural vegetation of forests is dominated by oak and hickory species, including Chinquapin Oak, White Oak, Red Oak, Bitternut Hickory, and Shagbark Hickory, with codominance by a variety of other hardwoods, including Black Maple, Sugar Maple, and White Ash. Common shrubs and small trees include Paw Paw, Muscletree, Redbud, Dogwood, Spicebush, Hop Hornbeam, and Black Haw. Herb layers are usually diverse, combining species with affinities for other oak-hickory forests in the region and more strict calciphiles. Open stand structure of woodland and glade habitats is maintained by drought stress to trees and in some cases by avalanches, fire, or grazing. Common woodland trees include Eastern Red Cedar, Chinquapin Oak, Red Oak, and White Ash.	Dry to dry-mesic calcareous forests, woodlands, and glades within the range of Chinquapin Oak at low to middle elevations, most abundant in areas with drier climates in the rain shadow on the lee side of the Allegheny Mountains. Some of the oldest known living trees in the eastern United States are Eastern Red Cedars found in this habitat in West Virginia. The herb layer is usually diverse and includes several globally and state rare species.	5.1	3.0

TABLE Q-1 (cont'd)

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres)	
				Con.	Op.
Deciduous Forest	Dry-Mesic Oak Forests	Most stands have a large component of oaks, including Red Oak, Chestnut Oak, White Oak, and Black Oak. A subset can be described as oak – hickory forests with a large component of hickory species including Pignut, Mockernut, and Shagbark. Other common trees include Red Maple, Sugar Maple, White Ash, Tuliptree, Black Gum, and American Beech. Common small trees and shrubs include Sourwood, Witch Hazel. Hop Hornbeam, Serviceberry,and Dogwood. Heath shrubs may be present but are not abundant as in the Dry Oak (-Pine) Forest. Common vines include Virginia Creeper and Greenbrier. The herb layer ranges from sparse to moderate and is often quite diverse.	Upland, mostly deciduous forests at lower and middle elevations throughout the state. Soils are usually somewhat less acidic and more fertile compared to the Dry Oak (-Pine) Forest, but are dryer than the Mixed Mesophytic Forest or Northern Hardwood Forest. This map class also includes areas of pine plantations.	350.7	216.3
Deciduous Forest	Montane Red Oak Forests	Forests dominated by Red Oak at high elevations in the Ridge and Valley Ecoregion and along the border with Virginia on Allegheny Mountain in the Allegheny Mountains Ecoregion. Other oaks and hickories are generally excluded and canopy height is stunted due to severe climate. There is usually abundant coarse woody debris and an open canopy structure due to tree damage from wind and ice storms. Associated trees include Red Maple, Sugar Maple, Black Cherry and Sweet Birch. Common subcanopy trees and shrubs include Striped Maple, Witch Hazel, and Mountain Holly. Some stands have shrub layers dominated by heaths. Herb layers are variable, with variants dominated by combinations of grasses, forbs, and ferns.	Known occurrences of these habitats are restricted to the highest ridges in the Ridge and Valley Ecoregion and in the Allegheny Mountains Ecoregion along the border with Virginia. In these environments they occur as large or continuous linear patches, which dominate the ridgetops and upper slopes. The heath understory type is very rare in the state and known only in the southernmost counties near the Virginia border.	15.5	6.2
Deciduous Forest	Northern Hardwood Forests	Common deciduous tree species in natural forests include Sugar Maple, Red Maple, American Beech, Yellow Birch, Sweet Birch, Black Cherry, Red Oak, Cucumber-tree, and White Ash. Some stands may include or be dominated by Eastern Hemlock. Red Spruce is often present but is not abundant in the tree canopy. Common shrubs include Striped Maple and Mountain Holly. The herb layer is characterized by species adapted to short, cool growing seasons, including Intermediate Woodfern, New York Fern, Mountain Wood Sorrel, and Canada Mayflower.	Upland deciduous and mixed deciduous-evergreen forests at high elevations in the Allegheny Mountains Ecoregion. This upland forest ecosystem may include forest seeps which are too small to map as a separate wetland habitat. The map class may also include plantations of Red Pine, Eastern White Pine, Norway Spruce, and Red Spruce.	645.7	421.9

TABLE Q-1 (cont'd)

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres)	
				Con.	Op.
Mixed Forest	Dry Oak (-Pine) Forests	Dominant trees include Chestnut Oak, Scarlet Oak, Black Oak, White Oak, and Red Maple. Sourwood is a common small tree, except in the Ridge and Valley Ecoregion, where it is absent. In the eastern counties there are large areas where Eastern White Pine is codominant with oaks. Other pines are often found scattered in mostly deciduous stands. Some small patches in the Western Allegheny Plateau and Cumberland Mountains ecoregions are dominated or codominated by Virginia Pine or Short Leaf Pine. Understories are usually dominated by heath shrubs including Mountain Laurel, Black Huckleberry, and blueberries. Herb layers are usually sparse and have low diversity.	Upland deciduous and mixed evergreen-deciduous forests on warm, dry topographic positions and soils throughout the state, except at the highest elevations, most extensive in the Ridge and Valley Ecoregion.	389.7	229.0
Mixed Forest	Mixed Mesophytic Forests	Common deciduous tree species in natural stands include Sugar Maple, American Basswood, American Beech, Red Maple, Tuliptree, Red Oak, Sweet Birch, White Ash, and Yellow Buckeye. Some stands may include or be dominated by Eastern Hemlock. Common shrubs include Great Rhododendron, Spicebush, Witch Hazel, and Striped Maple. The herb layers of are often lush and diverse, characterized by a flush of spring ephemerals followed by late season dominance by Wood Nettle and ferns.	These habitats are broadly distributed across the lower and middle elevations of the state but are most abundant in areas with more rainfall to the west of the Allegheny Front. They occur in large areas on cool aspects of mountain flanks and gorge slopes. In the dissected landscapes of the Western Allegheny Plateau Ecoregion and low-rainfall areas of the Ridge and Valley Ecoregion patches are smaller and are confined to lower slopes and the coolest aspects.	169.1	107.9
Mixed Forest	Pine-Oak Rocky Woodlands	Dominant pines which comprise distinct subtypes include Pitch Pine, Table Mountain Pine, Virginia Pine, and Red Pine. Oaks are sometimes codominant. Trees are often stunted and stand physiognomy is sometimes dwarf forest with canopy less than 16 feet tall. The understories are usually dominated by dense heath shrubs including Mountain Laurel, blueberries, and Black Huckleberry. The herb layer is typically sparse and has low diversity. This habitat type also includes sandstone glades with high exposure of bedrock pavement with scattered, dwarfed trees, including pines and Eastern Red Cedar	Upland evergreen and mixed evergreen-deciduous woodlands and forests in hot, very dry topographic positions. This habitat type is confined to the eastern counties where a dry climate is produced by the rain shadow on the lee side of the Allegheny Mountains. Stands are often small patches on rocky summits, outcrops, and cliffs. Trees are often stunted and stand physiognomy is sometimes dwarf forest with canopy less than 16 feet tall.	1.4	0.7
Herbaceous Emergent Wetland	Unknown Wetland [e]	Includes only a few wetlands that did not fall in the floodplain and riparian zones. These included some Laurentian-Acadian and Piedmont types that were renamed "unknown."		0.2	0.2

TABLE Q-1 (cont'd)

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres)	
				Con.	Op.
Woody Wetland	High Allegheny Wetlands	Forested swamps are dominated by Red Spruce, with varying cover by Red Maple, Eastern Hemlock, and Yellow Birch. Where limestone or calcareous shale influences seepage water, Balsam Fir and Black Ash are typical canopy dominants. Shrub swamps may be dominated by Speckled Alder, Bushy St. John's wort, Black Chokeberry, Common Winterberry, and/or Velvetleaf Blueberry. Herbaceous communities may be dominated by species of bulrushes, bur reeds, rushes, sedges, and grasses. Mosses, especially peat mosses have high ground cover in most communities.	These habitats are confined to higher elevations of the Allegheny Mountains Ecoregion in Preston, Mineral, Tucker, Grant, Randolph, Pendleton, Pocahantas, Nicholas, and Greenbrier counties. Large concentrations of these habitats are found in Canaan Valley, Cranesville Swamp, Cranberry Glades, and headwaters of the Greenbrier and Shavers Fork rivers. Wetlands in this system are drained by low-gradient, meandering, intermittent to small streams that form the headwaters of larger mountain rivers. These habitats form complex mosaics of small patch communities. Forested swamps occupy the drier margins or slightly higher "islands" in the wetland mosaic. Nutrient-poor fens with bog-like vegetation such as Cottongrass and *Sphagnum* mosses form the characteristic open portion of many of these wetlands. Ombrotrophic bogs, which receive all their water and nutrients from precipitation, are rare, but occur in undisturbed portions of a few of the larger wetlands.	<0.1	0.0
Woody Wetland	River Floodplains	Common trees of forested floodplains at lower elevations include Sycamore, Silver Maple, River Birch, White Ash, Green Ash, Sugar Maple, Pin Oak, and Tuliptree. High elevation floodplain forests are often dominated by Red Spruce, Yellow Birch, and/or Eastern Hemlock. Shrub swamps of lower elevation floodplains are often dominated by Smooth Alder or Buttonbrush. Riverscour prairies are usually characterized by warm-season grasses such as Big Bluestem and Switch Grass, but these are lacking in riverscour prairies at higher elevations. Herbaceous wetland floodplain communities may be dominated by species of bulrushes, burreeds, rushes, sedges, water lilies and/or other species.	These habitats occupy a very small area of the state. Because they are along rivers, they are concentrated in the lower elevations, but they also include smaller areas along rivers at higher elevations. Thus they range from the lowest elevations in the state along the Ohio and Potomac rivers up to 3,600 feet elevation along the Shavers Fork River.	31.4	5.3
Woody Wetland	Small Stream Riparian Habitats	These habitats are mostly jurisdictional wetlands, but narrow riparian zones that are not wetlands may also be included. Habitats include headwater wetlands and seeps, and wetlands and riparian zones along creeks and other small streams. Beaver-influenced wetlands are common. Common names for these habitats include floodplain forests, swamp forests, riparian forests, riparian zones, forest seeps, shrub swamps, marshes, wet meadows, Beaver meadows, and Beaver ponds.	Natural vegetation of variable physiognomy in the floodplains of small streams, primarily at low to middle elevations. These habitats occur in linear zones and small patches throughout the state, and include specialized marl marshes that occur nowhere else in the state and host a high diversity of rare plants.	45.4	29.2
Scrub-Shrub	Anthropogenic Shrubland & Grassland	These habitats developed on land that was converted from natural habitats by humans, and then abandoned. Vegetation is highly variable and often includes a mixture of native and non-native plant species.	These habitats occur in small to large patches throughout the state at all elevations.	4.1	2.9
			ACP WEST VIRGINIA TOTAL:	**1,666.9**	**1,028.5**

TABLE Q-1 (cont'd)

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres)	
				Con.	Op.
VIRGINIA					
Barren Land	Acidic Cliff and Talus	A sparsely vegetated cliff or talus slope formed on granitic, sandstone, or other acidic bedrock. The lack of soil, highly acidic bedrock, and constant erosion, limits the vegetation to mosses, lichens, and herbs growing on bare rock or crevices, and to sparse trees and shrubs rooted in deeper soil pockets. Lichen cover may be extensive. In the Central Appalachians, red-cedar trees, poison ivy vines and rock polypody ferns are characteristic. Birch or spruce replaces red cedar in the north, where a shrubland of heaths and reindeer lichen may develop where cold air accumulates at the sheltered bottom of slopes. Areas of concentrated seepage are sometimes present.	Landforms in this system are associated with steeper mountains and hills, river bluffs, and gorges. In some cases this system may take the form of upper-slope boulderfields without adjacent cliffs, where talus forms from freeze/thaw action on the bedrock. This system is prone to harsh climatic conditions; frequent disturbances include drought stress and wind and storm damage.	1.1	1.0
Barren Land	Circumneutral Cliff and Talus	A sparsely vegetated cliff or steep talus slope formed on calcareous sandstone or shale or other moderately calcareous bedrock. The vegetation varies from sparse to patchy as the lack of soil and constant erosion restricts vegetation growth to rock crevices or soil pockets. Trees are typically present and may form woodland or even forest vegetation. Basswood, ash, and bladdernut are woody indicators of the enriched setting; northern white cedar is sometimes present. The herb layer is typically not extensive but includes at least some species that are indicators of high nutrient conditions.	Vertical or near-vertical cliffs and steep talus slopes where weathering and/or bedrock lithology produce circumneutral to calcareous pH and heightened nutrient availability. Substrates include calcareous sandstone, calcareous shale, or other sedimentary mixtures containing limestone or dolomite.	1.1	0.6
Coniferous (Evergreen) Forest	Southern Appalachian Montane Pine Forest and Woodland	A conifer forest of slopes and ridges at high elevations in the Southern Appalachians. Table mountain pine is typical and often dominant, occurring with pitch pine, Virginia pine, or Carolina hemlock. Chestnut oak, scarlet oak, and scrub oak are usually present and are sometimes abundant in examples that have not burned recently. A dense heath shrub layer is typical; herbs are usually sparse but may be more abundant and shrubs less dense when fires occurred more frequently. Periodic fire presumably also maintained a more open woodland canopy structure in these communities. In some areas pines may be able to maintain dominance due to edaphic conditions, such as very shallow soil or extreme exposure, but most sites appear eventually to succeed to oak in the absence of fire.	This system occurs on the most extreme of convex landforms--sharp ridges and adjacent upper slopes. At the northern end of its range in the central Appalachians, it is found from elevations of about 1,750 to 4,000 feet. Underlying rocks are acidic and soils are infertile, shallow and droughty. A thick duff layer and volatile heath shrubs create a strongly fire-prone habitat. Disturbance from southern pine beetle outbreaks can be system-changing.	13.1	7.1
Deciduous Forest	Central and Southern Appalachian Montane Oak Forest	A high elevation hardwood forest dominated by red oak and white oak, with the individuals often stunted or wind-flagged. Chestnut oak and xeric hickories are also sometimes present. Chestnut trees were important in this system historically, but are now found only as stumps and sprouts. Early azalea and other heath shrubs, along with mountain holly, are common in understory vegetation, though graminoid species and ferns dominate in some examples.	This forest mostly occurs on exposed, inhospitable sites from about 3,000 to 4,500 feet. The weathered soils are thin, nutrient-poor, low in organic matter, and acidic. High winds and ice storms are commonplace, which probably explains the stunted appearance of many of these communities. Lightning-caused fires may suppress heath shrub development in the understory.	54.2	35.0

TABLE Q-1 (cont'd)

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres) Con.	Impacts (Acres) Op.
Deciduous Forest	Northeastern Interior Dry-Mesic Oak Forest	An oak-dominated, mostly closed canopy forest that occurs as a matrix (dominant) type through the central part of our region. Oak species characteristic of dry to mesic conditions (e.g., red, white, black, and scarlet oak) and hickories are dominant in mature stands. Chestnut oak may be present but is generally less important than other oak species. Red maple, black birch, and yellow birch may be common associates. Heath shrubs are often present but not well developed. Local areas of limy bedrock, or colluvial pockets, may support forests that reflect the richer soils. With a long history of human habitation, many of the forests are midsuccessional, in which pines (typically Virginia or white) or tuliptree may be codominant or dominant.	Moderate moisture and heat loading are characteristic for this oaky system. It occurs at low to mid elevations, where the topography is flat to gently rolling, occasionally steep. Substrate bedrock and soils are commonly but not always acidic. Chestnut was formerly a prominent tree in these forests.	831.2	462.0
Deciduous Forest	Southern Atlantic Coastal Plain Mesic Hardwood Forest	A hardwood forest of the coastal plain with a significant component of mesophytic (moist but non-wetland) species, such as American beech or southern sugar maple. Upland and bottomland oaks at the mid-range of moisture tolerance are usually also present, particularly white oak, but sometimes also southern red oak, cherrybark oak, or Shumard oak. Loblolly pine is sometimes present, but it is unclear if it is a natural component or has entered only as a result of past cutting. Understories are usually well developed. Shrub and herb layers may be sparse or moderately dense.	Found on lower slopes, along streams and rivers, on mesic flats between drier pine-dominated uplands and floodplains, and on local raised areas within bottomland terraces or wet flats. Soils are variable in texture and pH, excluding only the coarsest sands.	135.7	81.0
Deciduous Forest	Southern Piedmont Mesic Forest	A hardwood forest of moist low or north-facing slopes in the Piedmont. Vegetation is dominated by trees that favor conditions of moderate moisture (sweetgum, white oak, red oak, tuliptree, basswood), with American beech most prominent. Conifers are occasionally abundant. A few places support dense heath shrubs; otherwise shrubs layers tend to be sparse to moderate. Rock chemistry is an important determinant of variation, with denser and more diverse herb layers on richer examples.	Occurring on mesic sites in the Piedmont from Virginia southward. Most examples occur on lower or north-facing slopes where topography creates moister and cooler conditions.	546.4	290.1
Deciduous Forest	North Atlantic Coastal Plain Hardwood Forest	A hardwood forest largely dominated by oaks, often mixed with pine. White, red, chestnut, black, and scarlet oaks are typical, and American holly is sometimes present. Sassafras, birch, aspen, and hazelnut are common associates in earlier successional areas. In the northern half of the range, conditions can grade to dry-mesic, reflected in the local abundance of beech. A heath shrub layer is common; the herbaceous layer is sparse. In southern-more occurrences in Maryland or Virginia, pines (shortleaf, Virginia, and particularly loblolly) may be important, even strongly dominant canopy trees.	These forests occur on sandy to gravelly glacial deposits and outwash from Long Island north, and on deep, acidic, coarse-textured soils on the flat to rolling landscapes of the coastal plain to the south.	4.6	3.0

TABLE Q-1 (cont'd)

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres) Con.	Impacts (Acres) Op.
Grassland / Herbaceous	Central Appalachian Alkaline Glade and Woodland	A mosaic of woodlands and open glades on thin soils over limestone, dolostone or similar calcareous rock with its core distribution in the Central Appalachians. In some cases, the woodlands grade into closed-canopy forests. Eastern red-cedar is a common tree, filling in in the absence of fire, and chinquapin oak is indicative of the limestone substrate. Other locally occurring trees and shrubs are sugar maple, red and white oak, pignut hickory, eastern redbud, and hackberry. Prairie grasses are often dominant in the herb layer, and forb richness is often high, supporting species such as tall larkspur, American harebell, columbine, and four-leafed milkweed.	A moderately dry patch community that forms in shallow soils at high landscape positions (upper slopes, ridgetops), at elevations up to about 2,500 feet. It is known widely through the region. Fire is sometimes an important natural disturbance vector, but open physiognomies may also be maintained by drought and landslides. Lower elevation examples are often in highly fragmented agricultural landscapes.	56.9	31.1
Herbaceous Emergent Wetlands	Laurentian-Acadian Freshwater Marsh	A freshwater emergent or submergent marsh dominated by herbaceous vegetation and associated with isolated basins, edges of streamways, and seepage slopes. Typical plants include cattails, marsh fern, touch-me-not, pondweeds, water lilies, pickerelweed, and tall rushes, species that tolerate sustained inundations and do not persist through the winter. Scattered shrubs are often present and usually total less than 25% cover. Trees are generally absent and, if present, are scattered. Zonation within a marsh is associated with water depth and length of inundation. This is a very broadly defined system, with many variants distributed widely in the Northeast.	Freshwater marshes are associated with lakes, ponds, headwater basins and slow-moving streams, impoundments, ditches, or any low lying basin that collects water. Such basins are often flat-bottomed and shallow, or marsh vegetation forms a ring around the edge of deeper basins. They typically occur on muck over mineral soil, and as part of a larger wetland complex that may include forested or shrubby swamps, peatlands, and/or open water.	0.1	0.1
Herbaceous Emergent Wetlands	Piedmont-Coastal Plain Freshwater Marsh	An herbaceous wetland that occurs in small basins and alluvial environments in the Piedmont and coastal plain of Virginia. Vegetation is zoned according to water depth, length of inundation, and substrate; submergent plants in the deepest water like pondweeds and water lilies give way to emergents like cattails and bulrushes, then shallower water species like arrow-arum and American bur-reed, and finally to species of periodically flooded shorelines like marsh St. John's-wort and various sedges.	Occurs most commonly in alluvial settings, at margins of streams, but also in headwater basins and in small, permanently flooded isolated basins and non-alluvial springheads. Substrates are generally muck over mineral soil; water chemistry and available nutrients vary.	44.2	30.3
Herbaceous Emergent Wetlands	Piedmont-Coastal Plain Shrub Swamp	Dominant overstory species are red maple and blackgum, with tulip-tree and loblolly pine also locally important. Common small trees and shrubs are sweetbay magnolia, sweet pepperbush, highbush blueberries, swamp azalea, smooth winterberry, and southern wild raisin. Compact dodder is often abundantly attached to the stems of shrubs in these swamps. Common herbaceous species include cinnamon fern, netted chain fern, and the sedges.	The habitats occupied by these saturated, deciduous or mixed forests include small headwaters stream bottoms and seeping toe-slopes with acidic, nutrient-poor soils. Similar seepage wetlands are known from most coastal states of the mid-Atlantic region. Characterized by diffuse drainage with braided channels and Sphagnum-covered hummocks in a sandy or peaty substrate, these habitats are generally wet and somewhat protected from fire.	18.7	13.6

TABLE Q-1 (cont'd)

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres)	
				Con.	Op.
Mixed Forest	Appalachian (Hemlock)-Northern Hardwood Forest	A hardwood forest of sugar maple, American beech, and yellow birch, sometimes mixed with, and sometimes dominated by, eastern hemlock. Northern red oak and white oak occur commonly, but do not dominate. Black cherry, black birch, white pine, and tulip tree are typical on nutrient rich or historically disturbed sites.	This habitat type is an ecological generalist in much of its range, occupying low to mid-elevations on a variety of landforms and bedrock types. Drier, typic, and moist/cool variants occur along a gradient from higher, more exposed sites to lower, more protected ones. To the south, the hemlock wooly adelgid and a warming climate may push this system to more closely resemble Southern Appalachian Oak Forests.	8.8	6.2
Mixed Forest	Central Appalachian Pine-Oak Rocky Woodland	A mixed forest or woodland of pitch pine and/or Virginia pine mixed with dry-site oaks (primarily scrub oak, scarlet oak, and chestnut oak). Red pine and shortleaf pine may also occur. Some areas have a fairly well-developed heath shrub layer; a graminoid herb layer dominated by Pennsylvania sedge, poverty grass, and common hairgrass may be more prominent in others. The vegetation is patchy, with woodland as well as open portions, or even sparse cover on dry rocky hilltops and outcrops.	This forest occurs as relatively small patches on exposed ridgetops, hilltops and outcrops, at elevations ranging up to about 4,000 feet. The substrate rock is granitic or other acidic lithology, including traprock in New England. Conditions are dry, and soils are thin and nutrient-poor. This system experiences moderately intense fires naturally every 5 to 25 years; fire history largely determines the vegetation character of individual occurrences.	24.4	13.1
Mixed Forest	Dry Oak-Pine Forest/ Central Appalachian Southern Piedmont	An oak or oak-pine forest of dry sites, characterized by a variable mixture of drought tolerant oaks (chestnut oak, white oak, red oak, black oak, scarlet oak) and pines (pitch, white, Virginia). It occurs broadly in the Central Appalachians and northern Piedmont ecoregions, most commonly as a large (to very large) patch habitat. It has a much more limited range in New England, where hickories may be present. Community structure ranges from open woodlands to closed forest. Heath shrubs are common in the understory; the herb layer is often sparse and lacks diversity. In the absence of fire this system may tend to succeed to hemlock and locally common hardwoods.	A habitat of dry rolling hills, mid- to upper slopes and ridgetops, where soils are often thin, well-drained, and nutrient-poor. This system may occur on any kind of rock type; rock chemistry is an important determinant of variation. Regular low intensity fire helped maintain the oak-pine balance historically.	870.2	495.0
Mixed Forest	Plantation Forest	The most common species planted are loblolly, shortleaf and Virginia pines, with white pine sometimes planted in the western part of the state, yellow-poplar, and mixed hardwoods.	Plantation forests occur throughout the state, but plantation pine forests occur mostly in the Coastal Plain and Piedmont regions.	494.7	284.8
Mixed Forest	Southern and Central Appalachian Cove Forest	A hardwood or mixed forest with a high diversity of mesophytic (moisture loving but non-wetland) trees. Canopy species commonly include yellow buckeye, sugar maple, white ash, basswood, tuliptree, cucumber tree, and American beech, sometimes in a single stand. Hemlock is sometimes present, mostly in acidic coves. Shrub and herb layers are similarly rich, and calcium-bearing and circumneutral bedrock tends to support the richest examples. This forest is typical of sheltered, shady places in the Blue Ridge and central Appalachian Mountains, forming large patches (tens to hundreds of acres) on concave slopes that accumulate nutrients and moisture.	Found on sheltered coves and concave slopes. Soils are often rocky and may be coarse or fine-textured, and may be residual, alluvial, or colluvial.	39.6	27.0

TABLE Q-1 (cont'd)

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres)	
				Con.	Op.
Palustrine Emergent Wetland (Persistent)	Tidal Salt Marsh, Estuarine Marsh	The vegetation is primarily herbaceous marsh, most of it dominated by black needlerush. Areas near tidal inlets have salt marsh dominated by cordgrass. There are also salt flats dominated by saltgrass and swampfire, as well as salt-tolerant shrublands and a few treed hammocks that occur on small elevated areas closely associated with the marshes.	These brackish to salt intertidal marshes of the embayed region of southeastern Virginia and adjacent North Carolina are distinguished by the extensive brackish water and tidal flooding driven by winds that is characteristic of that region.	3.3	3.2
Scrub-Shrub	Shrubland / grassland; mostly ruderal shrublands, regenerating clearcuts	Upland shrubby, grassy, or mixed cover areas created or maintained in areas that would naturally revert to forest over time.	These shrublands occur primarily in central and southeast Virginia along the ACP.	263.8	139.6
Woody Wetland	Atlantic Coastal Plain Blackwater / Brownwater Stream Floodplain Forest	A complex of wetland and upland vegetation on floodplains of coastal plain streams south of the James river in southeast Virginia. These are narrow but sometimes long dendritic patches of wetland forest dominated by bald cypress and tupelo with oaks and other bottomland hardwoods found in drier areas. Small shrubby sloughs may be present, and shrub and herb layers are generally well developed.	Two variants are recognized. "Blackwater" floodplains originate in sandy soils; their waters are strongly stained by tannins and carry little suspended clay sediment. Depositional landforms are limited. Streams in more nutrient rich and diverse "brownwater" floodplains carry substantial amounts of silt and clay. Natural levees are often distinctly present. Soils in blackwater systems tend to be strongly acidic; finer textured brownwater soils are generally more fertile.	57.8	36.4
Woody Wetland	Central Atlantic Coastal Plain Non-riverine Swamp and Wet Hardwood Forest	A hardwood or mixed forested swamp on poorly drained soils of the outer the acreage of this system. Today this phase is present only in high-quality examples. A mostly nonriverine, non-seepage, non-tidal hydrology is a distinguishing factor for swamps in this system, which is the dominant habitat type in the Great Dismal Swamp in Virginia.	Occurs on poorly drained, organic or mineral soil flats. Largest examples are on broad interfluvial flats. These areas are saturated by rainfall and seasonal high water tables with only secondary influence of river or tidal flooding. Fire is generally infrequent but may be important locally. Sea-level rise will have system-changing impact on near-coastal examples.	97.2	61.2
Woody Wetland	North-Central Appalachian Acidic Swamp	A conifer or mixed conifer-hardwood swamp of poorly drained acidic substrates throughout central New England and the Central Appalachians, encompassing a broad range of basin, seepage, and stream-associated wetland communities. Hemlock is usually present and may be dominant. It is often mixed with deciduous wetland trees such as red maple or black gum. Spruce is rarely present. Basin swamps tend to be more nutrient-poor than seepage swamps; in some settings, the two occur adjacent to each other with the basin swamp vegetation surrounded by seepage swamp vegetation on its upland periphery.	Occurs at low to mid elevations (generally <2,000 feet) in poorly drained depressions that may be in proximity to a stream. The acidic substrate is mineral soil, often with a component of organic muck; if peat is present, it usually forms a thin layer over the mineral soil rather than a true peat substrate.	0.4	0.3

TABLE Q-1 (cont'd)

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres) Con.	Impacts (Acres) Op.
Woody Wetland	North-Central Appalachian Large River Floodplain	A complex of wetland and upland vegetation on floodplains of medium to large rivers in Atlantic drainages. They are typical of larger rivers but they can occur on smaller rivers where the stream gradient is low and a broad floodplain develops. The vegetation complex includes floodplain forests in which silver maple, sycamore, box elder, and cottonwood are characteristic, as well as herbaceous sloughs, shrub wetlands, ice scours, riverside prairies, and woodlands. Most areas are underwater each spring; microtopography determining how long the various habitats are inundated. Depositional and erosional features may both be present depending on the particular floodplain.	Floodplains form on land adjacent to a stream or river that experiences periodic flooding when the river overflows its banks. A variety of microtopographic features form as a result of annual river activity. This broadly-defined system includes vegetation on deep alluvial deposits, on depositional levees and bars, in backwater sloughs, and (rarely) on bedrock where rivers cut through resistant geology.	2.1	1.5
Woody Wetland	North-Central Interior and Appalachian Rich Swamp	A hardwood or occasionally mixed swamp of alkaline wetlands associated with limestone or other calcareous substrate in the southern portion of the region. Red maple and black ash are the dominant deciduous trees in most examples. Conifers may include larch, but typically not northern white cedar, which is characteristic of more northern wetlands. The canopy can be variable, as there may be shrubby or herbaceous openings within the swamp. A diverse ground cover is made up of some combination of herbs indicative of nutrient-rich conditions, ferns, and bryophytes characteristic of fens.	This forested wetland occurs at low to mid elevations. They are found in poorly drained depressions or at the margins of stream valley bottoms, where higher pH and/or nutrient levels are associated with a rich flora. The substrate is primarily mineral soil, but there may be some peat development. Basin settings may still be hydrologically connected to nearby streams.	0.9	0.7
Woody Wetland	Piedmont Upland Depression Swamp	A forested swamp of wetland oaks occurring in small, shallow basins in upland settings where water pools due to limited soil drainage. Most examples are isolated seasonally flooded wetlands dominated by wetland oaks (pin oak, swamp white oak, laurel oak, willow oak, overcup oak), but a few are treeless or open-canopied ponds. Vegetation is zoned with an outer ring of trees, a more interior ring of shrubs (buttonbush, heaths, greenbrier), vines, and wetland graminoids and ferns, and a central area with or without standing water year round depending on precipitation. Sphagnum moss is sometimes extensive in parts of the pools.	Occurs on nearly level Piedmont uplands with clay hardpans and shallow seasonal flooding. Most known examples are on mafic bedrock. Flooding depth is typically shallow (< 25 cm). Soils are typically loamy clays. There is substantial variation among the pools, related to substrate, basin morphology, and geographic location.	2.3	1.7

TABLE Q-1 (cont'd)

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres) Con.	Impacts (Acres) Op.
Woody Wetland	Piedmont-Coastal Plain Large River Floodplain	A complex of wetland and upland vegetation on floodplains along larger rivers, where temporary to seasonal flooding affects vegetation composition and dynamics. Vegetation includes both non-forested bar and scour communities and a diverse group of more extensive forests. Microtopographic heterogeneity is high, and forests tend to be differentiated by depositional landforms such as levees, sloughs, terraces, and abandoned channels. Better drained soils may support wet site oaks, shagbark hickory, and sweetgum. Wettest swamps are often dominated by green ash and red maple. Bald cypress may occur, but does not dominate. Understories are generally open, with sedges and grasses or moisture-loving forbs in the herb layer.	Occurs along large rivers or streams where topography and alluvial processes have resulted in a well-developed floodplain. The alluvial soils are variable in texture.	47.6	30.4
Woody Wetland	Riparian Forest, Southeast Virginia	The vegetation includes both non-forested bar and scour communities, as well as more extensive forested floodplain communities. The vegetation is often a mosaic of forest, woodland, shrubland, and herbaceous communities. Common trees include River birch and American sycamore. Open, flood-scoured rivershore prairies feature Switchgrass and Big bluestem, and Twisted sedge is typical of wetter areas near the channel.	This ecological system consists of vegetated communities along streams and small rivers in the Piedmont of the southeastern United States where flooding and flood-related environmental factors affect vegetation composition and dynamics.	42.3	27.0
Woody Wetland	Southern Piedmont Lake Floodplain Forest	The vegetation includes both non-forested bar and scour communities and the more extensive forested floodplain communities. Forests are generally differentiated by depositional landforms such as levees, sloughs, ridges, terraces, and abandoned channel segments.	This ecological system consists of vegetated communities along Piedmont rivers, south of the James River in Virginia, where flooding and flood-related environmental factors affect vegetation composition and dynamics.	2.6	1.9
			ACP VIRGINIA TOTAL:	**3,665.3**	**2,084.9**
NORTH CAROLINA					
Coniferous (Evergreen) Forest	Atlantic Coastal Plain Upland Longleaf Pine Woodland	Vegetation is a set of associations that are most naturally woodlands or savannas dominated by Longleaf pine and having a well-developed grassy herb layer. A few associations have sparse herb layers due to excessively drained soils, and a few are dominated by scrub oaks. Other pine species may sometimes be present. Scrub oaks (and others) form an understory in most associations, all but the mesic ones. Low shrubs, most ericaceous, are often an important component. In most of the range, Pineland threeawn (wiregrass) is the dominant herb.	These communities occur on a variety of well- to excessively-drained sandy or sandy loam soils. Like other longleaf pine communities, this community is maintained by frequent, low-intensity wildland fire.	393.5	193.2

TABLE Q-1 (cont'd)

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres) Con.	Impacts (Acres) Op.
Deciduous Forest	Southern Atlantic Coastal Plain Dry and Dry-Mesic Oak Forest	Vegetation consists of forests dominated by combinations of upland oaks, particularly White oak, Southern red oak, and Post oak. In the northern part of the range, Red oak may be a component, while in the southern part, evergreen species such as Water oak or Darlington oak become more prominent. Hickories are also prominent, including Mockernut hickory, Pignut hickory, and Sand hickory.	This system occurs in dry-mesic to dry but not xeric sites, generally on upper to midslopes in bluff systems, but occasionally it occurs on broader uplands or on the highest parts of non-flooded river terraces	354.8	170.2
Deciduous Forest	Southern Atlantic Coastal Plain Mesic Hardwood Forest	Stands of this system include a significant component of mesophytic species such as American beech or Florida maple. Upland and bottomland oaks at the mid-range of moisture tolerance are usually also present, particularly White oak, but sometimes also Southern red oak, Swamp chestnut oak, Shumard oak, or Water Oak. Some typical smaller trees and shrubs include Flowering Dogwood, Common sweetleaf, Sourwood tree, Witch hazel, Red mulberry, and Silky camellia. Some typical herbs include Partridge berry and Arrowleaf ginger.	This system occurs in a variety of moist non-wetland sites that are naturally sheltered from frequent fire. Most common are lower slope and bluff examples along streams and rivers in dissected terrain, but some examples occur on mesic flats between drier pine-dominated uplands and floodplains or on local high areas within bottomland terraces or nonriverine wet flats.	33.5	18.9
Grassland / Herbaceous	Clearcut – Grassland / Herbaceous	Modified/managed communities are comprised of vegetation resulting from the management or modification of natural/near-natural vegetation, which produces a structural and floristic combination not clearly known to have a natural analogue. Modified vegetation may be easily restorable by either management, time, or restoration of ecological processes. An example would be unimproved pastures resulting from removal of trees.	Occurs throughout the state along the ACP.	168.7	77.8
Mixed Forest	Managed Tree Plantation	Loblolly pine is the most planted species in North Carolina, followed by longleaf pine, and hardwoods including red and white oak, soft maple, sweetgum, ash, and yellow-poplar.	Occurs throughout the state along the ACP. The coastal plain (north and south) has the largest area of timberland followed by the piedmont and mountains	122.5	59.5
Mixed Forest	Southern Piedmont Dry Oak-(Pine) Forest	Vegetation consists of forests dominated by combinations of upland oaks, particularly White oak, Red oak, Black oak, Post oak, Scarlet oak, and Southern red oak, along with Pignut hickory, Mockernut hickory, and other hickories. Other common tree species include Loblolly pine, Shortleaf pine, Virginia pine, Red maple, American sweetgum, and Tuliptree. A well-developed understory and shrub layer is generally present, and the herb layer is sparse to at most moderate in density.	Occurs on upland ridges and upper to mid slopes, occupying most of the uplands where soils are not rocky or otherwise extreme. Moisture conditions, determined by topography, are dry to dry-mesic. This system may occur on any kind of rock type, with rock chemistry being an important determinant of variation.	<0.1	<0.1
Scrub-Shrub	Successional Shrub/Scrub	Scrub-shrub habitats are areas where the vegetation is dominated by small woody plants such as shrubs and young trees. Successional habitats are ephemeral and will have a limited longevity without repeated disturbance. These habitats often take place within the forest environment where removal of mature trees and natural regeneration of adjacent forest species has occurred.	Occurs throughout the state along the ACP.	12.6	5.8

TABLE Q-1 (cont'd)

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres)	
				Con.	Op.
Scrub-Shrub	Successional Shrub/Scrub (Clear Cut)	Scrub-shrub habitats are areas where the vegetation is dominated by small woody plants such as shrubs and young trees. Successional habitats are ephemeral and will have a limited longevity without repeated disturbance. These habitats often take place within the forest environment where trees have been removed (clear cut) and natural regeneration of adjacent forest species has occurred.	Occurs throughout the state along the ACP.	98.9	55.1
Woody Wetland	Atlantic Coastal Plain Blackwater Stream Floodplain Forest	Vegetation consists almost entirely of forests of wetland trees. Wetter examples are strongly dominated by Baldcypress and Swamp tupelo. Other examples have mixtures of these species with oak and other bottomland hardwoods tolerant of blackwater conditions. Except in the very wet examples, understory, shrub, and herb layers are generally well-developed, and woody vines are also prominent.	Occurs in floodplains of small streams that carry little mineral sediment (blackwater streams). Flooding is an important ecological factor in this system	51.7	29.0
Herbaceous Emergent Wetland	Atlantic Coastal Plain Clay-Based Carolina Bay Wetland	Vegetation includes a series of primarily herbaceous and woodland associations. The wettest sites have open water and floating-leaved aquatic vegetation, or marsh vegetation of tall graminoids. Drier sites often have an open canopy of Pond cypress, with a dense, often fairly species-rich herbaceous layer beneath. A large number of annual species are present.	Occurs in Carolina bays with mineral soils and with seasonal to permanent standing water. Carolina bays are oriented, oval, shallow depressions with nearly flat bottoms	3.1	1.9
Woody Wetland	Atlantic Coastal Plain Peatland Pocosin and Canebrake	A characteristic suite of primarily evergreen shrubs, greenbriars, and Pond pine dominates. Inkberry holly, Fetterbush, Staggerbush, Swamp titi, Large gallberry, and Dusty zenobia are characteristic and usually dominant in some combination, along with Laurel greenbrier. Pond pine is the characteristic tree, and it along with a set of evergreen hardwoods, including Loblolly bay, Sweetbay magnolia, and Swamp bay, are generally the only trees present. Herbs are scarce and largely limited to small open patches.	This system occurs on broad interfluvial flats and in small to large, very gentle basins and swales, largely on the outermost terraces of the Outer Coastal Plain. The communities have in common a dense shrub layer of wetland shrubs tolerant of the organic soils, low nutrient conditions, and fire.	84.4	49.4
Woody Wetland	Atlantic Coastal Plain Small Blackwater River Floodplain Forest	Vegetation consists largely of forests dominated by wetland trees species. Non-forested vegetation is present only on recently deposited bars and in oxbow lakes. The lowest, wettest areas have some combination of Bald cypress, Pond cypress, and Swamp tupelo. Water tupelo is generally scarce or absent. Higher portions of the floodplain have forests with combinations of a small set of wetland oaks and other species, including Laurel oak, Overcup oak, Water oak, American sweetgum, Loblolly pine, Sweetbay magnolia, and other species.	Occurs in floodplains of medium to small Coastal Plain rivers that carry little mineral sediment (blackwater rivers).	81.1	51.9

TABLE Q-1 (cont'd)

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres)	
				Con.	Op.
Woody Wetland	Atlantic Coastal Plain Small Brownwater River Floodplain Forest	The lowest, wettest areas have some combination of Baldcypress and Water tupelo dominating. Natural levees and riverfronts have a diverse mixture of trees that typically includes American sycamore, Sugarberry, Green ash, Boxelder, and other species that benefit from the high light levels and heavy alluvial deposition of these sites. Moderate to high parts of the floodplain away from the levee are usually dominated by bottomland hardwoods, various mixtures of wetland oaks, including Laurel oak, Swamp chestnut oak, Cherrybark oak, and sometimes a number of other oak species, along with American sweetgum, but other species are sometimes codominant.	Occurs in floodplains of medium to small Coastal Plain rivers that carry significant mineral sediment (brownwater or redwater rivers).	55.6	32.9
Woody Wetland	Central Atlantic Coastal Plain Wet Longleaf Pine Savanna and Flatwoods	Vegetation is a set of associations that are naturally woodlands or savannas dominated by Longleaf pine or, less frequently, by Pond pine, Slash pine or some combination. Hardwoods are present in any abundance only in examples altered by fire suppression. The ground cover is a dense combination of herbs and low shrubs. A variety of ericaceous shrubs and hollies is common, with density determined by fire history. Grasses naturally dominate the ground cover. Pineland three-awn often dominates within its range, but Toothache grass, Carolina dropseed, Wireleaf dropseed, or other grasses may dominate. A great diversity of other herbs is often present, including composites, sedges, insectivorous plants, and variety of showy forbs. Communities in this system are often very high in species richness.	This system occurs on wet mineral soil sites. Landforms include low areas in relict beach ridge systems and eolian sand deposits, and poorly drained clayey, loamy, or sandy flats. They occasionally occur on river terraces above current flood levels.	79.7	44.5
Woody Wetland	Southern Atlantic Coastal Plain Nonriverine Swamp and Wet Hardwood Forest	Vegetation is a closed-canopy forest of wetland trees. The wetter sites are dominated by combinations of Baldcypress, Black tupelo, and occasionally Water tupelo, Loblolly pine, Atlantic white-cedar, American sweetgum, and Tuliptree. Less wet sites have canopies of wetland oaks such as Laurel oak, Swamp chestnut oak, and Cherrybark oak. Most communities have a well-developed shrub layer that has more floristic affinities with pocosins or baygalls than with river floodplain communities that have similar canopies. The shrub layer is usually dominated by Summersweet, Coast Leucothoe, or species shared with pocosins. The herb layer is not usually well-developed but may be dense where shrubs are atypically sparse. Wetland ferns, such as Royal fern and Netted chain fern, and sedges usually dominate. The most common subcanopy species are Red maple, Swamp bay, and Sweetbay. Typical shrubs include Inkberry, Large gallberry, Sweetbells leucothoe, Virginia sweetspire, and Fetterbush. Herbs, chiefly ferns and sedges, are typically sparse, but mosses may be common.	This system consists of poorly drained, organic or mineral soil flats of the outer Atlantic Coastal Plain. These areas are saturated by rainfall and seasonal high water tables without influence of river or tidal flooding. The largest areas are on broad interfluvial flats, but substantial areas occur on organic deposits in drowned river valleys in the Embayed Region of North Carolina and Virginia, beyond the reach of the influence of wind tides.	5.7	3.5

TABLE Q-1 (cont'd)

Terrestrial Vegetation Communities Crossed by the Atlantic Coast Pipeline

NLCD Vegetation Community [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres)	
				Con.	Op.
Woody Wetland	Southern Piedmont Small Floodplain and Riparian Forest	Almost all of the extent of the system is naturally forested. The forest canopy is usually a mix of mesophytic and widespread species such as Tuliptree*,* American sweetgum, and Red maple, along with characteristic alluvial and bottomland species such as *Sycamore,* River birch, Boxelder, Sugarberry, Green ash, American sweetgum, Swamp chestnut oak, and Cherrybark oak. American beech may be present in drier portions, mixed with the other species. Successional areas are often strongly dominated by Loblolly pine*,* Virginia pine*,* American sweetgum, or Tuliptree.	Occurs near streams and small rivers, on floodplains and terraces affected by river flooding and on emergent bars and banks within channels. Depositional landforms, including levees, sloughs, ridges, terraces, and abandoned channel segments may be present, but are smaller than the scale of the communities of the floodplain.	<0.1	0.0
			ACP NORTH CAROLINA TOTAL:	**1,545.9**	**793.6**
			ACP CUMULATIVE TOTAL:	**6,878.1**	**3,907.0**

[a] NLCD data for Virginia, West Virginia, and Pennsylvania: Gawler, 2008.
NLCD data for North Carolina: Schafale, 2012.

[b] State Vegetation Community Types for West Virginia: WVDNR, 2015b.
State Vegetation Community Type data for Virginia and Pennsylvania: Nature Conservancy, 2015.
State Vegetation Community Type data for North Carolina: NatureServe. 2014.

[c] Dominant Vegetation Community descriptions were identified by using the NE Terrestrial Habitat Map Guide (Nature Conservancy, 2015), NatureServe Explorer (NatureServe, 2015) and state SWAPs.

[d] Includes 'previous calcareous", which include Calcareous Glades combined with the new Northeastern Interior Calcareous Oak Forest ecological system, and large areas with mostly acidic bedrock.

[e] Unknown wetlands include a few wetlands that do not fall in the floodplain and riparian zones. These included some Laurentian-Acadian and Piedmont types that were renamed "unknown."

TABLE Q-2

Terrestrial Vegetation Communities Crossed by the Supply Header Project

NLCD Vegetation Type [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres) Con.	Impacts (Acres) Op.
PENNSYLVANIA					
Deciduous Forest	Northeastern Interior Dry-Mesic Oak Forest	An oak-dominated, mostly closed canopy forest that occurs as a matrix (dominant) type through the central part of our region. Oak species characteristic of dry to mesic conditions and hickories are dominant in mature stands. With a long history of human habitation, many of the forests are mid-successional, in which pines (typically Virginia or eastern white) or tuliptree may be co-dominant or dominant.	Moderate moisture and heat loading are characteristic for this oak system. It occurs at low- to mid-elevations, where the topography is flat to gently rolling, occasionally steep. Substrate bedrock and soils are commonly, but not always acidic. Chestnut oak was formerly a prominent tree in these forests. A moist-cool subtype of this habitat may occur on north facing slopes with may provide particular habitat conditions for some wildlife species.	9.0	3.4
Deciduous Forest	South-Central Interior Mesophytic Forest	Dominant species include sugar maple, American beech, American basswood, red oak, cucumber tree, and black walnut. Eastern may be a component of some stands. Trees may grow very large in undisturbed areas. The herb layer is rich, often with abundant spring ephemerals.	A high-diversity, predominately hardwood forest that occurs on deep and enriched lowland soils or in somewhat protected landscape positions such as coves or lower slopes.	1.0	0.5
Mixed Forest	Appalachian (Hemlock)-Northern Hardwood Forest	A hardwood forest of sugar maple, American beech, and yellow birch, sometimes mixed with, and sometimes dominated by, eastern hemlock. Northern red oak, and white oak occur commonly, but do not dominate. Black cherry, black birch, white pine, and tuliptree are typical on nutrient rich or historically disturbed sites.	This is the dominant forest system in Pennsylvania. This habitat type is an ecological generalist in much of its range, occupying low- to mid-elevations on a variety of landforms and bedrock types. Drier, typic, and moist/cool variants occur along a gradient from higher, more exposed sites to lower, more protected ones. This habitat can range from dry to typical to moist/cool sites with minor differences in plant species composition among them.	24.5	12.5
			SHP PENNSYLVANIA TOTAL	**34.5**	**16.4**
WEST VIRGINIA					
Deciduous Forest	Dry-Mesic Oak Forests	Red oak, chestnut oak, white oak, black oak, pignut hickory, mockernut hickory, shagbark hickory, red maple, sugar maple, white ash, tuliptree, black gum, American beech, sourwood, witch hazel, hop hornbeam, serviceberry, dogwood, Virginia creeper, and greenbrier.	Upland, mostly deciduous forests at lower and middle elevations throughout the state. Soils are usually somewhat less acidic and more fertile compared to the Dry Oak (-Pine) Forest, but are dryer than the Mixed Mesophytic Forest or Northern Hardwood Forest.	134.2	62.2
Mixed Forest	Dry Oak (-Pine) Forests	Dominant trees include chestnut oak, scarlet oak, black oak, white oak, and red maple. Sourwood is a common small tree, except in the Ridge and Valley Ecoregion, where it is absent. In the eastern counties there are large areas where eastern white pine is codominant with oaks. Understories are usually dominated by heath shrubs, including mountain laurel, black huckleberry, and blueberries.	Upland deciduous and mixed evergreen-deciduous forests on warm, dry topographic positions and soils throughout the state, except at the highest elevations, most extensive in the Ridge and Valley Ecoregion.	328.0	158.2

TABLE Q-2 (cont'd)

Terrestrial Vegetation Communities Crossed by the Supply Header Project

NLCD Vegetation Type [a]	State Vegetation Community Type [b]	Dominant Vegetation Community [c]	Site Characteristics	Impacts (Acres) Con.	Impacts (Acres) Op.
Mixed Forest	Mixed Mesophytic Forests	Sugar maple, American basswood, American beech, red maple, tuliptree, red oak, sweet birch, white ash, yellow buckeye, eastern hemlock, great rhododendron, spicebush, witch hazel, striped maple, wood nettle, ferns, and bryophytes.	Upland deciduous and mixed deciduous-evergreen forests in moist (mesic) habitats at lower to middle elevations throughout the state.	95.2	52.7
Scrub-Shrub	Anthropogenic Shrubland and Grassland	These habitats developed on land that was converted from natural habitats by humans, and then abandoned. Vegetation is highly variable and often includes a mixture of native and non-native plant species.	These habitats occur in small to large patches throughout the state at all elevations.	6.3	3.3
Woody Wetland	River Floodplains	Sycamore, silver maple, river birch, white ash, green ash, sugar maple, pin oak, tuliptree, red spruce, yellow birch, and/or eastern hemlock, smooth alder, buttonbrush, big bluestem, switch grass, bulrushes, burreeds, rushes, sedges, and water lilies.	These habitats occupy a very small area of the state. Because they are along rivers, they are concentrated in the lower elevations, but they also include smaller areas along rivers at higher elevations. Thus they range from the lowest elevations in the state along the Ohio and Potomac rivers up to 3,600 feet elevation along the Shavers Fork River.	1.9	0.9
Woody Wetland	Small Stream Riparian Habitats	Habitats include headwater wetlands and seeps, and wetlands and riparian zones along creeks and other small streams. Beaver-influenced wetlands are common. Common names for these habitats include floodplain forests, swamp forests, riparian forests, riparian zones, forest seeps, shrub swamps, marshes, wet meadows, beaver meadows, and beaver ponds.	These habitats occur in linear zones and small patches throughout the state.	11.6	7.0
			SHP WEST VIRGINIA TOTAL:	**577.2**	**284.3**
			SHP CUMULATIVE TOTAL:	**611.7**	**300.7**

[a] The corresponding National Land Cover Database (NLCD) vegetation communities were identified using the Northeast Terrestrial Wildlife Habitat Classification crosswalk table between each state's SWAP habitats (found in Appendix D of Gawler 2008).

APPENDIX R

FOREST SERVICE MANAGEMENT SPECIES TABLES

TABLE R-1

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
MAMMALS				
West Virginia northern flying squirrel *Glaucomys sabrinus fuscus*	G5T2/S2	Red spruce, fir, spruce-hardwood and northern hardwood forests with well-developed understory. Mostly in moist forests with mature trees and snags or cavity trees (NatureServe, 2015). Field surveys confirmed that AP-1 mainline construction workspace does not cross suitable habitat; however, suitable habitat occurs in proximity to a proposed access road near Gibson Knob.	Proposed access road would require clearing of red spruce trees. Atlantic is currently working with the MNF to finalize the conservation measures for the access road that would impact suitable habitat for this species. Atlantic would realign the access road to minimize direct impacts on red spruce trees, and would relocate red spruce saplings to adjacent NFS forest areas prior to grading.	*Pending consultation with the MNF on the proposed access road realignment and conservation measures.*
Southern Rock Vole *Microtus chrotorrhinus carolinensis*	G4T3/S2	Cool, moist talus slopes and rocky areas above 915 m in elevation within forested streamside riparian areas dominated by rocks greater than 0.2 m in diameter and with abundant woody debris, herbaceous vegetation, and moss (Orrock and Pagels, 2003). Suitable habitat potentially present within the survey corridor based on general habitat conditions; desktop analysis is in progress.	Construction equipment may cause physical injury or mortality to individuals. Construction activities would remove and/or degrade suitable habitat, and would cause disturbance through noise and vibrations, which may disrupt normal activities. Due to abundance of suitable habitat in the MNF, impacts would not be anticipated to be significant.	*Pending additional desktop analysis and consultation with MNF on conservation measures.*
Eastern Small-Footed Myotis *Myotis leibii*	G4/S1	Hibernates in caves and mines; found in mountainous regions in the summer in rocky habitat (e.g., rocky outcrops, talus slopes, ledges), and man-made structures (WVDNR, 2003). Foraging habitat includes riparian forests, upland forests, clearings, strip mines, and ridgPageetops (NatureServe, 2015). Mist-net surveys captured one individual in 2015 and two suitable roosting locations were identified during 2016 habitat surveys.	The two potential roosting locations identified during surveys are located 450 feet and 900 feet downslope of the construction workspace; therefore, direct impacts are not anticipated. Tree clearing on rocky slopes may improve summer habitat for this species by increasing solar radiation on potential summer maternity habitat, making habitat more suitable for roosting; although tree removal would also contribute to loss of foraging habitat (FS et al., 2002). Atlantic intends to conduct tree clearing outside of the active season, although a portion of potential forested habitat may be cleared in October during the active season.	*Pending consultation with MNF on conservation measures.*
Little Brown Myotis *Myotis lucifugus*	G3/S2	Roost in cave, buildings, rocks, trees, mines, tunnels, and other man-made structures and under bridges. Hibernates in caves, tunnels, and mines (NatureServe, 2015). Based on MNF surveys of this area, primary roost trees are present and the MNF has stated that suitable habitat for this species occurs throughout most of the MNF based on past mist-netting surveys. Field surveys confirmed that nine secondary roost trees occur within 150 feet of the pipeline centerline; however, habitat is considered less than ideal. No individuals were detected.	Atlantic would clear forested habitat during the winter season to minimize direct effects on roosting bats, although a portion of forested habitat may need to be cleared in October. Clearing of forested vegetation would reduce available roosting and foraging habitat, and construction through karst features and/or in proximity to bat hibernacula may render hibernacula unsuitable. Disturbance to bats roosting adjacent to access roads or construction activities could also result from noise and/or vibrations generated by these activities. Atlantic would implement the *COM Plan* (see appendix G) and *Karst Mitigation Plan* (see appendix I) to minimize impacts on potential bat hibernacula.	*Pending consultation with MNF on conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Allegheny Woodrat *Neotoma magister*	G3G4/S3	Rocky areas such as caves, deep crevices, and large boulder fields in or around hardwood forests with abundance oaks and other mast-bearing trees. Also known from northern hardwood and oak-pine forests. This species is nocturnal (WVDNR, 2003). Field surveys documented the presence of Allegheny woodrats along two rock formations along Buzzard Ridge within the MNF (Outrcrops #1 and #2), and suitable habitat near Cloverlick Mountain (Outcrop #6); although the habitat is considered small and marginally suitable.	Use of an access road adjacent to and approximately 25 feet from Outcrops #1 and #2 could increase noise levels, disrupting normal activities. Vehicle collisions from increased traffic on the access road would be less likely because woodrats are nocturnal and most construction would occur between 6AM and 6PM. The proposed access roads are existing forest roads that would not require improvements; therefore, additional fragmentation of habitat would not be anticipated. Sedimentation from stormwater runoff during construction could fill underground crevices used as habitat, degrading suitable habitat. The AP-1 mainline construction workspace would cross Outcrop #6, eliminating this suitable habitat. Atlantic would implement the *COM Plan* (see appendix G) to control sediment erosion and restore the right-of-way. Based on MNF correspondence, Allegheny woodrats exhibit a meta-population structure, and as such, fragmentation of suitable forested habitat is a major concern for this species. Species-specific avoidance measures and monitoring during and post-construction is expected to ensure continued viability of local populations of this species.	*Pending consultation with MNF on conservation measures.*
Tri-Colored Bat *Perimyotis subflavus*	G2G3/S2	Roost in caves, rock crevices, trees/foliage, and sometimes buildings in both wooded and cleared areas. Associated with forested landscapes; most foraging occurs along riparian areas. Hibernates in caves, rock crevices, and mines (NatureServe, 2015). The MNF has stated that suitable habitat for this species occurs throughout most of the MNF based on past mist-netting surveys. Field surveys confirmed that nine secondary roost trees occur within 150 feet of the pipeline centerline. No individuals were detected.	Atlantic would clear forested habitat during the winter season to minimize direct effects on roosting bats; although a portion of forested habitat may be cleared in October. Clearing of forested vegetation would reduce available roosting and foraging habitat, and construction through karst features and/or in proximity to bat hibernacula may render hibernacula unsuitable. Disturbance to bats roosting adjacent to access roads or construction activities could also result from noise and/or vibrations generated by these activities. Atlantic would implement the *COM Plan* (see appendix G) and *Karst Mitigation Plan* (see appendix I) to minimize impacts on potential bat hibernacula.	*Pending consultation with MNF on conservation measures.*
Long-tailed Shrew *Sorex dispar*	G4/S2S3	Deciduous or evergreen forest mountainous areas with loose talus; rocky damp areas with deep crevices covered by leaf mold and root are preferred. May also occur along small mountain streams (NatureServe, 2015).	Potential impacts would include temporary to permanent loss of suitable habitat, and potential injury or mortality of individuals if present and unable to move from the area during construction. Construction activities adjacent to suitable habitat would also increase noise levels, which could disrupt normal activities.	*Pending consultation with MNF on conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Southern Water Shrew *Sorex palustris punctulatus*	G5T3/S1	Undercut banks of high gradient and high elevation (above 900 m) first and second order streams with abundant cover from overhanging rocks, roots, logs, and crevices (NatureServe, 2015). Desktop analysis is in progress.	Potential impacts would include temporary to permanent loss of suitable habitat, and potential injury or mortality of individuals if present and unable to move from the area during construction. Construction activities adjacent to suitable habitat would also increase noise levels, which could disrupt normal activities. Increased sedimentation and turbidity from stormwater run-off during construction into suitable stream habitat could negatively impact this species. Atlantic would implement the sediment and erosion control measures identified in the *COM Plan* (appendix G).	*Pending results of desktop analysis.*
Eastern Spotted Skunk *Spilogale putorius*	G4/S1	Prefers forested areas or habitats with significant cover. Occupies dens abandoned by other mammals, under brush piles, in hollow logs or trees, rock crevices, under buildings, or other protected sites. This species is nocturnal (NatureServe, 2015). Suitable habitat potentially present within survey corridor based on general habitat conditions. Species-specific surveys were not conducted; desktop analysis is in progress. The outcrops identified during Allegheny woodrat surveys near Buzzard Ridge is also suitable habitat for the eastern spotted skunk.	Use of access roads adjacent to suitable habitat could increase noise levels, disrupting normal activities. Vehicle collisions causing injury or mortality are also possible; however, unlikely because this species is nocturnal and construction activities would primarily occur between 6AM and 6PM. Sedimentation from stormwater run-off during construction could fill underground dens. Atlantic would implement the *COM Plan* (see appendix G) to control sediment erosion and restore right-of-way. Removal of forested vegetation would also remove foraging habitat for this species.	*Pending additional desktop analysis and consultation with MNF on conservation measures.*
Southern Bog Lemming *Synaptomys cooperi*	G5/S3	Prefers boggy habitat, but also common in marshes, meadows, and upland forests with thick humus layer. Occupies burrows 6-12 inches deep and surface runaways (NatureServe, 2015). Desktop analysis is in progress.	Potential impacts would include temporary to permanent loss of habitat, and potential injury or mortality of individuals if present and unable to move from the area during construction. Construction activities adjacent to suitable habitat would also increase noise levels, which could disrupt normal activities. Sedimentation from stormwater runoff during construction could fill underground burrows. Atlantic would implement the *COM Plan* (appendix G) to control sediment erosion and restore right-of-way.	*Pending results of desktop analysis.*
BIRDS				
Northern Goshawk *Accipiter gentilis*	G5/S1B,S1N	Typically nest in mature or old-growth forests. In eastern U.S., prefer hardwood-hemlock forests where black birch and American birch are preferred nest trees. Forages in both heavily forested and relatively open habitat (NatureServe, 2015). Field surveys confirmed that suitable habitat occurs in the following locations: MNF Area 2 and MNF Area 3. No northern goshawk activity was detected during callback surveys conducted in 2016.	Construction would cause loss of potential nesting and foraging habitat, and potentially cause disturbance to foraging goshawks. Atlantic would adhere to the migratory bird time of year restriction (TOYR) in the MNF as outlined in the *COM Plan* (see appendix G) and *Migratory Bird Plan* (see table 2.3.1-1). If northern goshawks are identified prior to or during construction, an appropriate no-activity buffer, determined in consultation with MNF, would be placed around the active nest. Maintenance of the permanent right-of-way in an herbaceous / scrub-shrub state could increase foraging habitat for this species.	*Pending consultation with MNF on conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Long-Eared Owl *Asio otus*	G5/S1B,S1N	Deciduous and evergreen forests, orchards, wooded parks, farm woodlots, and river woods. Wooded areas with dense vegetation are used for roosting and nesting; open areas are used for hunting (NatureServe, 2015). Present based on known species range. Suitable habitat potentially present within the survey corridor based on general habitat conditions. Species-specific surveys were not conducted.	Construction would cause loss of nesting and roosting habitat and potentially cause disturbance to foraging owls. Atlantic would adhere to the migratory bird TOYR clearing restriction in the MNF as outlined in the *COM Plan* (see appendix G) and *Migratory Bird Plan* (see table 2.3.1-1). If tree clearing is to take place during the nesting season, and an active long-eared owl nest is detected by Biological Monitors, the MNF would be notified and the nest would be left undisturbed. Maintenance of the permanent right-of-way in an herbaceous / scrub-shrub state could increase foraging habitat for this species.	*Pending consultation with MNF on conservation measures.*
American Peregrine Falcon *Falco peregrinus anatum*	G4T4/S2B, S2N	Typically nest on ledges of vertical cliffs with a sheltering overhang; also use river banks, open bogs, large stick nests of other species, tree hollows, and man-made structures (NatureServe, 2015). Suitable habitat potentially present within the survey corridor based on general habitat conditions. No peregrine falcons were observed within a 2-mile-wide aerial survey area during eagle surveys.	Construction would cause loss of potential nesting and foraging habitat, and potentially cause disturbance to foraging falcons. Atlantic would implement the *COM Plan* (see appendix G) and *Migratory Bird Plan* (see table 2.3.1-1).	*Pending consultation with MNF on conservation measures.*
Bald Eagle *Haliaeetus leucocephalus*	G5/S3B, S3N	Nests usually found in tall trees (usually confiers) or on pinnacles or cliffs near water. In winter, bald eagles may associate with waterfowl concentrations, areas with abundant dead fish, or in areas with abundant, readily available upland resources (e.g., rabbit, deer carrion) (NatureServe, 2015). Field surveys confirmed that potentially suitable habitat occurs in much of the analysis area. Three stick nests were identified 4,000 feet from the pipeline centerline, but were not confirmed to be bald eagle nests.	Construction would cause a loss of nesting and roosting habitat and potentially cause disturbance to foraging eagles. Atlantic would implement the *COM Plan* (see appendix G) and *Migratory Bird Plan* (see table 2.3.1-1). For any tree clearing that would occur during the winter roosting season or nesting season, a qualified biological monitor would walk ahead of clearing crews and search for roosting and nesting bald eagles in areas where bald eagles are likely present. If a bald eagle nest is identified, Atlantic would establish a 1,500-foot-wide no-activity buffer around the nest or roost consistent with Forestwide Standards, and would follow the National Bald Eagle Management Guidelines for identified winter roosts as stated in the *Migratory Bird Plan* (see table 2.3.1-1). Impacts and conservation measures related to bald eagles are described in more detail in in section 4.5.3.	*Pending consultation with MNF on conservation measures.*
Migrant Loggerhead Shirke *Lanius ludovicianus migrans*	G4T3Q/S1B, S1N	Open areas, grasslands (often grazed or occasionally mowed), and agricultural landscapes interspersed with forbs, scattered shrubs, and/or small trees. Usually nests in eastern red cedar or hawthorne (VDGIF, 2015a). Species-specific surveys were not conducted. Based on a desktop analysis, there is little open habitat that would support this species (near Gibson Knob).	Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1). Construction activities would cause temporary habitat loss and disturbance to foraging shrikes; however, because this species prefers open grassland habitat (VDGIF, 2015a), clearing the right-of-way could provide additional suitable habitat for this species. Atlantic would mow the permanent right-of-way outside of the nesting season.	*Pending consultation with MNF on conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Red-Headed Woodpecker *Melanerpes erythrocephalus*	G5/S3B,S3N	Open woodland, especially beech or oak, parks, cultivated areas, and gardens (NatureServe, 2015). Species-specific surveys were not conducted.	Construction would cause a loss of potential nesting and foraging habitat and potentially cause disturbance to foraging woodpeckers. Atlantic would implement the *COM Plan* (see appendix G) and *Migratory Bird Plan* (see table 2.3.1-1). Because this species requires open habitat for foraging (NatureServe, 2015), the permanently maintained right-of-way could provide additional suitable foraging habitat for this species.	*Pending consultation with MNF on conservation measures.*
Golden-Winged Warbler *Vermivora chrysoptera*	G4/S1B	Requires brushy early successional habitat. Prefers to nest in areas such as powerline rights-of-way, shrubby fields, abandoned strip mines, alder swamps, beaver-created wetlands, and abandoned orchards (WVDNR, 2003). Field surveys confirmed that there is no potentially suitable habitat on the MNF; however, suitable habitat was found adjacent to the MNF on Gibson Knob. No golden-winged warbler activity was detected on MNF lands, but was detected at one location on private land adjacent to MNF.	Construction would cause a loss of potential foraging habitat. Atlantic would adhere to the migratory bird TOYR clearing restriction in the MNF as outlined in the *COM Plan* (see appendix G) and *Migratory Bird Plan* (see table 2.3.1-1). Based on this species' preference for early successional habitat, Atlantic may create additional suitable habitat for this species within the permanently maintained right-of-way. Atlantic would mow the permanent right-of-way outside of the nesting season.	*Pending consultation with MNF on conservation measures.*
REPTILES				
Timber Rattlesnake *Crotalus horridus*	G4/S3	Hibernates in fissures in rock ledges or talus slopes. Utilizes diverse forests and open habitats when active (WVDNR, 2006b). Field surveys confirmed no potentially suitable denning habitat on the MNF and no individuals were observed; however, six rattlesnakes were observed 1.5 miles from the survey corridor in the Seneca State Forest adjacent to the MNF.	Construction activities would increase noise and vibrations, which disrupt normal activities, displace snakes, or increase stress. Construction would remove foraging habitat and vehicles could cause injury or mortality. Atlantic would maintain low speed limits on the construction right-of-way and access roads to minimize collisions with wildlife. In addition, removal of forested vegetation along the right-of-way could expose rock outcrops that are currently shaded, potentially providing sufficient solar radiation for suitable timber rattlesnake denning or gestating habitat. Atlantic would implement the *Snake Conservation Plan* (see table 2.3.1-1) to minimize disturbance and impacts on timber rattlesnakes during construction.	*Pending consultation with MNF on conservation measures.*
AMPHIBIANS				
Green salamander *Aneides aeneus*	G3G4/S3	Damp crevices in shaded outcrops and ledges, beneath loose bark and in cracks of standing or fallen trees, sometimes under logs on ground. This species is nocturnal (NatureServe, 2015). Surveys conducted in 2016 of potentially suitable habitat within the MNF identified one area of low-quality habitat and no individuals were observed.	If this species is present, use of access roads would increase noise levels, disrupting normal activities. Vehicle collisions would be less likely because green salamanders are nocturnal and most construction would occur between 6AM and 6PM. Sedimentation from stormwater runoff during construction could fill underground crevices used as habitat, degrading suitable habitat. Atlantic would implement the *COM Plan* (see appendix G) to control sediment erosion and restore right-of-way.	*Pending consultation with MNF on conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Eastern Hellbender *Cryptobranchus alleganiensis*	G3G4T3T4/ S2	Permanent streams under flat rocks in the riverbed. Found in all elevation streams west of the Allegheny Front. This species has been documented in the West Fork Greenbrier River (Pauley, 2004).	There is only one crossing of a perennial waterbody on the MNF (unnamed tributary to Shock Run) and Atlantic would use a dry crossing technique (i.e., dam and pump or flume) to cross this waterbody. As such, impacts on water quality would be limited to the time needed to construct the crossing. Atlantic would implement the *COM Plan* (see appendix G), which includes sediment and erosion control measures.	*Pending MNF review of sedimentation analysis and conservation measures.*
FISH				
Candy Darter *Etheostoma osburni*	G3/S1	Riffles and runs of small cool and warm streams and rivers. Adults are typically found in large rubble to boulder substrates in the swiftest portions of their fast-flowing habitat. Endemic to the upper Kanawha River system (WVDNR, 2003). Studies have documented this species in the New River drainage in the MNF, and they are known to occur in the West and East Fork Greenbrier River in the MNF, both upstream and downstream of the ACP project area (Chipps et al., 1993; Burns, 2007).	There is a potential for this species to occur downstream of the ACP project area. Waterbody crossings and access road construction/use would temporarily degrade water quality through increased sedimentation and turbidity during construction, reduced fish passage, disturbance, changes in hydrology, and disturbance and injury or mortality from blasting (see section 4.6 for additional discussion). Removal of riparian habitat may also contribute to increased erosion and sedimentation, and by decreasing shade increase localized water temperatures. Atlantic would implement the measures in the *COM Plan* (see appendix G), and construction and restoration plans (see table 2.3.1-1) to control sedimentation and the introduction of hazardous chemicals, and to restore riparian habitats.	*Pending MNF review of sedimentation analysis and conservation measures.*
New River Shiner *Notropis scabriceps*	G4/S2	Pools and slow runs of cool to warm creeks and small to medium rivers with rocky, gravely, or sand substrates, occasionally with moderate deposits of silt (NatureServe, 2015). Studies have documented this species in the New River drainage in the MNF, and they are known to occur in the West and East Fork Greenbrier River in the MNF, both upstream and downstream of the ACP project area (Chipps et al., 1993; Burns, 2007).	The potential impacts and conservation measures for this species are the same as described for the Candy Darter above.	*Pending MNF review of sedimentation analysis and conservation measures.*
Appalachia Darter *Percina gymnocephala*	G4/S2	Small to medium rivers in gravel and rubble riffles and raceways. Found in deeper waters in fall and winter. Known from the New River system above Kanawha Falls (NatureServe, 2015). A study has documented this species in the New River drainage in the MNF, and they are known to occur in the West and East Fork Greenbrier River in the MNF, both upstream and downstream of the ACP project area (Burns, 2007).	The potential impacts and conservation measures for this species are the same as described for the Candy Darter above.	*Pending MNF review of sedimentation analysis and conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Kanawha Minnow *Phenacobius teretulus*	G3G4/S1	Riffles and runs of gravel, rubble, and boulder in cool to warm, small to medium rivers. Known from the New River drainage (NatureServe, 2015). Studies have documented this species in the New River drainage in the MNF, and they are known to occur in the West and East Fork Greenbrier River in the MNF, both upstream and downstream of the ACP project area (Chipps et al., 1993; Burns, 2007).	The potential impacts and conservation measures for this species are the same as described for the Candy Darter above	*Pending MNF review of sedimentation analysis and conservation measures.*
INVERTEBRATES				
Gastropods (Snails)				
Organ Cavesnail *Fontigens tartarea*	G2/S2	Inhabits caves under flat rocks in streams with moderate current. Limestone rocks are preferred (NatureServe, 2015). This species has been documented from Dreen Cave in Pocahontas County (Nature Conservancy, 2001), located less than one mile from the ACP construction workspace.	Although no caves were identified within the survey corridor on the MNF, there are potential impacts on adjacent or connected cave systems downstream of the construction right-of-way. Construction activities could alter water flow patterns or increase sediment and contaminant loads, which could lead to a reduction or degradation of available habitat. Organ cavesnail habitat is susceptible to contamination due to the porosity of the substrate. Blasting, trenching, and digging can cause shifts in surface and subsurface formations and hydrology, and may crush snails, or alter travel corridors (FWS, 2011i).	*Pending consultation with MNF on conservation measures.*
Bivalves (Freshwater Mussels)				
Elktoe *Alasmidonta marginata*	G4/S1	Found in small, medium and large streams with swift current and gravel, sand, or cobble substrate (NatureServe, 2015).	The potential impacts and conservation measures for this species are the same as described for the Candy Darter above. In addition, Atlantic would implement the West Virginia Mussel Survey Protocol (Clayton et al., 2016) upon authorization from the WVDNR if mussels are present.	*Pending MNF review of sedimentation analysis and conservation measures.*
Green Floater *Lasmigona subviridis*	G3/S2	Canals, rivers, and lakes on gravel, sand, or mud substrates (NatureServe, 2015). A study has documented this species in the New River drainage in the MNF, and they are known to occur in the West and East Fork Greenbrier River in the MNF, both upstream and downstream of the ACP project area (Nature Conservancy, 2001).	This species is currently under review by FWS for listing under the ESA (see section 4.7.1.13). The potential impacts and conservation measures for this species are the same as described for the Candy Darter above. In addition, Atlantic would implement the *West Virginia Mussel Survey Protocol* (Clayton et al., 2016) upon authorization from the WVDNR if mussels are present.	*Pending MNF review of sedimentation analysis and conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Crustaceans (Amphiphods, Isopods, & Decapods)				
Cannulate Cave Isopod *Caecidotea cannula*	G2G3/S1	Subterranean streams and pools under flat rocks. Known from the Cave Hollow System and Red Run Cave on the MNF (NatureServe, 2015; Nature Conservancy, 2001). No caves were identified within the survey corridor on the MNF.	Although no caves were identified within the survey corridor on the MNF, there are potential impacts on adjacent or connected cave systems downstream of the construction right-of-way. Construction activities could alter water flow patterns or increase sediment and contaminant loads, which could lead to a reduction or degradation of available habitat. Isopod habitat is susceptible to contamination due to the porosity of the substrate. Blasting, trenching, and digging can cause shifts in surface and subsurface formations and hydrology, and may crush isopods or alter travel corridors (FWS, 2011i).	*Pending consultation with MNF on conservation measures.*
Holsinger's Cave Isopod *Caecidotea holsingeri*	G5/S3	Caves in riffle area of streams, in stream gravel, under rocks, on decaying wood in streams and occasionally drip pools. Known from 10 caves in Pocahontas County and 5 caves in Randolph County (NatureServe, 2015). No caves were identified within the survey corridor on the MNF.	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*
A cave obligate isopod *Caecidotea simonini*	G1/S1	Subterranean rivers. Known from Flower Pot, Stillhouse, Aquaterra and Commander Adama Killer Bat caves in Randolph County (NatureServe, 2015). No caves were identified within the survey corridor on the MNF.	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*
Elk River Crayfish *Cambarus elkensis*	G2/S1	Low gradient, medium-sized rivers with moderate gradient. Substrate includes sand, gravel, sandstone boulders, and cobbles. Endemic to the upper Elk River basin. Freshwater cave species occurring near entrances to very deep in cave systems (NatureServe, 2015). This species has been documented in Slaty Fork and Old Field Fork in Pocahontas County (Nature Conservancy, 2001).	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*
Greenbrier Cave Crayfish *Cambarus nerterius*	G2/S1?	Subterranean streams, usually in the upper portions of the cave or dry stream beds. Found in one cave in the Elk River Drainage in Pocahontas County on the MNF (NatureServe, 2015; Nature Conservancy, 2001).	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*
Culver's Cave Amphipod *Stygobromus culveri*	G1/S1	Mud-bottom seep and drip pools in caves. Only known from three caves in Tucker and Randolph Counties.	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Greenbrier Cave Amphipod *Stygobromus emarginatus*	G3/S3	Relatively wide-spread obligate subterranean amphipod. Predominantly found in small, gravel bottom cave streams, or pools fed by ceiling drips or seepage water (NatureServe, 2015).	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*
Pocahontas Cave Amphipod *Stygobromus nanus*	G1/S1	Only three specimens known from Piddling Pit Cave in Pocahontas County. Found in mud-bottom drip pools and associated seepage (NatureServe, 2015).	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*
Minute Cave Amphipod *Stygobromus parvus*	G2G3/S1	Known from four cave sites. Found in mud-bottomed, drip, and seep pools in caves (NatureServe, 2015).	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*
Myriapods (Millipedes)				
Greenbrier Valley Cave Millipede *Pseudotremia fulgida*	G3/S3	Subterranean obligate. Reported from 10 caves in Pocahontas County (NatureServe, 2015).	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*
Grand Caverns Blind Cave Millipede *Zygonopus weyeriensis*	G3G4/S2	Subterranean obligate (NatureServe, 2015).	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*
Insects (Springtails)				
Gandy Creek Cove Springtail *Pseudosinella certa*	G1/S1	Subterranean obligate; habitat is poorly known (NatureServe, 2015).	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*
A Springtail *Pseudosinella gisini gisini*	G3G4/S3	Subterranean obligate (NatureServe, 2015).	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*
A Springtail *Sinella agna*	G3G4/S3	Subterranean obligate (NatureServe, 2015).	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*
Insects (Cave Beetles)				
A Cave Beetle *Pseudanophthalmus fuscus*	G4/S2	Subterranean obligate (NatureServe, 2015).	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
A Cave Beetle *Pseudanophthalmus hypertrichosis*	G3/S3	Subterranean obligate. Known from 14 caves in Pocahontas County and 2 caves in Randolph County (NatureServe, 2015). This species has been documented from Cass Cave and Dreen Cave in Pocahontas County (Nature Conservancy, 2001), located 3.8 miles and less than one mile, respectively, from the ACP construction workspace.	The potential impacts and conservation measures for this species are the same as described for the Cannulate Cave Isopod above.	*Pending consultation with MNF on conservation measures.*
Insects (Dragonflies)				
Rapids Clubtail Dragonfly *Gomphus quadricolor*	G3G4/S3	Clear streams and brooks with strong current over clean gravel, cobbles, or bedrock (NatureServe, 2015).	There is only one crossing of a perennial waterbody on the MNF (unnamed tributary to Shock Run). Atlantic would use a dry crossing technique (i.e., dam and pump or flume) to cross this waterbody. Impacts on water quality would be limited to the time needed to construct the waterbody crossing. Atlantic would also remove riparian vegetation that could provide shelter and foraging habitat. Vehicle collisions could cause injury or mortality to adult dragonflies. Atlantic would implement the *COM Plan* (see appendix G), which includes sediment and erosion control measures.	*Pending MNF review of sedimentation analysis and conservation measures.*
Green-Faced Clubtail Dragonfly *Gomphus viridifrons*	G3G4/S3	Clear, rocky rivers and streams. Has also been found in reservoirs and other impoundments (Olcott, 2011).	The potential impacts and conservation measures for this species are the same as described for the Rapids Clubtail Dragonfly above.	*Pending MNF review of sedimentation analysis and conservation measures.*
Brook Snaketail Dragonfly *Ophiogomphus carolus*	G5/S2	Prefers clear, clean, rocky streams. Has been documented from the Greenbrier River (Olcott, 2011).	The potential impacts and conservation measures for this species are the same as described for the Rapids Clubtail Dragonfly above.	*Pending MNF review of sedimentation analysis and conservation measures.*
Insects (Butterflies and Moths)				
Early Hairstreak Butterfly *Erora laeta*	GU/S2	Woodland openings and moist, but well-drained mature American beech (*Fagus grandifolia*) forests. Its main larval host plant is American beech; beaked hazelnut (*Coylus cornuta*) is a secondary larval host plant. Adults are active from late April through May and late June through August (VDCR and VDGIF, 2013). Host plant was identified during botany surveys on the MNF. Individual surveys were not conducted.	Adult butterflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants, and could kill larvae if present. This species may benefit from the presence of woodland clearings, including rights-of-way, by creating additional suitable habitat. Atlantic would minimize use of herbicides and pesticides along the construction and permanent rights-of-way and would allow tree species to regenerate outside the permanent right-of-way after construction is complete.	*Pending MNF review of conservation measures.*
Milne's Euchlaena Moth *Euchlaena milnei*	G2G4/S2	Hardwood and mountain oak woodlands with acidic soil. Its larval host plant is unknown. Adults are active in from early to mid-July (VDCR and VDGIF, 2013). Individual surveys were not conducted.	Adult moths would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present.	*Pending MNF review of conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Starry Campion Moth *Hadena ectypa*	G3G4/S1	Wooded areas or openings. Its larval host plant include species of the genera *Silene*, including starry campion (*Silene stellata)* and bladder campion (*Silene vulgaris)* (NatureServe, 2015). Host plant was identified during botany surveys on the MNF. Individual surveys were not conducted.	Adult moths would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present. This species may benefit from the presence of woodland clearings, including rights-of-way, by creating additional nectaring habitat. In addition, as outlined in the *Restoration and Rehabilitation Plan* (see appendix F), Atlantic committed to incorporate regionally-specific and native forb seeds in its traditionally all-grass seed mix to create pollination habitat, which may reduce impacts on this species. Management of the right-of-way that encourages nectar sources would be beneficial to this species.	*Pending MNF review of conservation measures.*
Bronze Copper Butterfly *Lycaena hyllus*	G5/S2	Low, wet areas such as bogs, marshes, wet meadows, and ponds. Its larval host plants are members of the buckwheat family, including curly dock (*Rumex crispus*). Adults are active June-September in the northern part of their range, and May-November in southern part of their range (Lotts and Naberhaus, 2016). Host plant was identified during botany surveys on the MNF. Individual surveys were not conducted.	ACP would impact a limited amount of emergent wetland habitat in the MNF (<0.1 acre). Adult butterflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present. This species may benefit from the clearing of the right-of-way by encouraging the spread of its larval host plant, curly dock. Curly dock is an introduced species that adapts to disturbed areas, such as roadsides, farm fields, and other weedy habitats (Virginia Botanical Associates, 2016).	*Pending MNF review of conservation measures.*
West Virginia White Butterfly *Pieris virginiensis*	G3?/S3	Moist deciduous woodlands or mixed woods. Its larval host plants are toothworts (*Dentaria diphylla* and *D. laciniata*). Adults are active from April-May (Lotts and Naberhaus, 2016). Individual surveys were not conducted.	This species is a weak flyer and will not fly across open areas including rights-of-way; therefore, if it is present, construction equipment could cause injury or mortality. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present. Tree and shrub species would be allowed to regenerate outside the permanent right-of-way after construction is complete. This species is also sensitive to the spread of invasive species, particularly garlic mustard. Atlantic would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) and *COM Plan* (see appendix G) to mitigate the spread of invasive and noxious plants.	*Pending MNF review of conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Diana Fritillary Butterfly *Speyeria diana*	G3G4/S2S3	Favor wooded areas, particularly in low-lying valleys, pine woods, and cove forests, within or near mountain ranges. Its larval host plants are violets (*Viola* spp.). Adults are active from mid-June to early September (VDCR and VDGIF, 2013). Host plant was identified during botany surveys on the MNF. Individual surveys were not conducted.	Adult butterflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present. This species is known to benefit from the presence of woodland clearings, including rights-of-way, by creating additional nectaring habitat (FS et al., 2002). In addition, as outlined in the *Restoration and Rehabilitation Plan* (see appendix F), Atlantic committed to incorporate regionally-specific and native forb seeds in its traditionally all-grass seed mix to create pollination habitat, which may reduce impacts on this species. Management of the right-of-way that encourages nectar sources would be beneficial to this species.	*Pending MNF review of conservation measures.*
FLATWORMS				
Hoffmaster's Cave Flatworm *Macrocotyla hoffmasteri*	G3G4/S2	Subterranean obligate (NatureServe, 2015).	Although no caves were identified within the survey corridor on the MNF, there are potential impacts on adjacent or connected cave systems downstream of the construction right-of-way. Construction activities could alter water flow patterns, or increase sediment and contaminant loads, which could lead to a reduction or degradation of available habitat. flatworm habitat is susceptible to contamination due to the porosity of the substrate. Blasting, trenching, and digging can cause shifts in surface and subsurface formations and hydrology, and may crush flatworms, or alter travel corridors (FWS, 2011i).	*Pending consultation with MNF on conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
VASCULAR PLANTS				
Plant Species Documented during Surveys				
Roan Mountain Sedge *Carex roanensis*	G2G3/S2	Rich soils of mid- to high-elevation mesic forests in the southern Appalachians (NatureServe, 2015). Field surveys identified three populations of sedge on the MNF covering a total of 3.2 acres and 523 individuals.	Atlantic would remove 2.9 acres of Roan Mountain Sedge populations and suitable habitat, reducing the known populations within the survey corridor by a total of 89 percent. In addition, 1.4 acres of suitable mesic forest habitat would be permanently removed. Degradation of adjacent suitable habitat (e.g., hydrology, soil compaction, light) would also occur, reducing plant health and fecundity of individuals near the forest's edge. Atlantic identified a population of invasive plant species in proximity to the Roan Mountain Sedge populations, which could spread into the disturbed right-of-way. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants. MNF has requested a site-specific avoidance and minimization strategy for this species.	*Pending MNF review of conservation measures.*
Appalachian Oak Fern *Gymnocarpium appalachianum*	G3/S2	Maple-birch-hemlock woods on mountain slopes and summits, in sandstone, talus slopes, or boulder colluvium, typically at elevations above 2,000 feet (NatureServe, 2015). Field survey identified one population of approximately 10,000 individuals near Forest Route 55 adjacent to the ACP project area, covering 0.4 acre.	Atlantic would remove less than 0.1 acre of Appalachian Oak Fern population and suitable habitat, reducing the known populations within the survey corridor by a total of 0.2 percent. Degradation of adjacent suitable habitat (e.g., hydrology, soil compaction, light) would also occur, reducing plant health and fecundity of individuals near the forest's edge. Atlantic identified a population of invasive plant species in proximity to the Appalachian Oak Fern population, which could spread into the disturbed right-of-way. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants. MNF has requested a site-specific avoidance and minimization strategy for this species.	*Pending MNF review of conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
White Alumroot *Heuchera alba*	G2Q/S2	Acid rock outcrops, sandstone, roadsides, high summits, grassy balds, edge of sinkholes, and in hardwood and dwarf pine forests. Found in elevations ranging from 2,205 to 4,200 feet associated with Aquilegia spp., wall-rue, maidenhair spleenwort, and purple-stem cliffbrake (NatureServe, 2015). Field surveys identified one population of 75 individuals covering 0.6 acre on a ridge within an oak-hickory forest, and another individual outside of the ACP project area.	Atlantic would remove 0.4 acre of White Alumroot population and suitable habitat, reducing the known populations within the survey corridor by a total of 77 percent. Degradation of adjacent suitable habitat (e.g., hydrology, soil compaction, light) would also occur, reducing plant health and fecundity of individuals near the forest's edge. Atlantic identified a population of invasive plant species in proximity to the Alumroot population, which could spread into the disturbed right-of-way. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants. MNF has requested a site-specific avoidance and minimization strategy for this species.	*Pending MNF review of conservation measures.*
Bristly Black Currant *Ribes lacustre*	G5/S2	Moist woods and streambanks to drier forest slopes at low to moderate elevations (Burke Museum of Natural History and Culture, 2016). Field surveys identified one population near an old access road; however, fruits were not available at the time of the field surveys and, therefore, identification was not confirmed but is assumed.	The individual identified is located about 24 feet upslope from the construction workspace. Although no individuals would be directly impacted by construction, construction activities could degrade suitable habitat adjacent to the right-of-way (e.g., hydrology, soil compaction, light). Atlantic identified a population of invasive plant species in proximity to the currant population, which could spread into the disturbed right-of-way. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants. MNF has requested a site-specific avoidance and minimization strategy for this species.	*Pending MNF review of conservation measures.*
<u>Plant Species Found in Forested Habitat (Not Documented during Surveys)</u>				
Allegheny Onion *Allium allegheniense*	G3?/S2	Thin soils on high-elevation amphibolite (metamorphic rock) or calcareous rock outcrops (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present in the ACP project area; however, no individuals were observed.	Construction activities would remove forested habitat, which would degrade or make habitat unsuitable for this species. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending MNF review of conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Lanceleaf Grapefern *Botrychium lanceolatum var. angustisegmentum*	G5T4/S1	Mainly found in shady woods; associated with rich maple-yellow birch woods, choke cherry, *Crategus* spp., and *Botrychium matricarifolium* in West Virginia. High elevation forests, rocky stream banks, and grassy balds. Documented in Pocahontas County. (Flora of North America Editorial Committee, eds., 1993+; NatureServe, 2015; Virginia Botanical Associates, 2016). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	Construction activities would remove forested habitat, which would degrade or make habitat unsuitable for this species. If present within the construction right-of-way, individuals would be killed. Because this species is associated with secondary or tertiary forest regrowth, it could recolonize the cleared right-of-way; although recolonization would take many years (NatureServe, 2015). The potential impacts and conservation measures for this species are the same as described above for the Allegheny Onion.	*Pending MNF review of conservation measures.*
Bluntlobe Grapefern *Botrychium oneidense*	G4/S3	Found in moist, shady, acidic woods and swamps. Documented in Randolph and Pocahontas Counties. (Flora of North America Editorial Committee, eds., 1993+; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	Removal of canopy would make habitat for this species unsuitable and recovery potential along the cleared right-of-way would be low (NatureServe, 2015). The potential impacts and conservation measures for this species are the same as described above for the Allegheny Onion.	*Pending MNF review of conservation measures.*
Roundleaf Dogwood *Cornus rugosa*	G5/S1	Rocky forests and boulder fields; rare in the mountains. Not documented in counties crossed by ACP (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Allegheny Onion.	*Pending MNF review of conservation measures.*
Box Huckleberry *Gaylussacia brachycera*	G3/S2	Acidic sandy soils in woodlands and slopes, frequently associated with pine and mountain laurel, or sourwood and black gum. Not documented in counties crossed by ACP (Virginia Botanical Associates, 2016; Flora of North America Editorial Committee, eds., 1993+; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Allegheny Onion.	*Pending MNF review of conservation measures.*
Crested Coralroot *Hexalectris spicata var. spicata*	G5T4T5/S1	Rich mesic forests, dry rocky woodlands over basic and calcareous soils. Not documented in counties crossed by ACP (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Allegheny Onion.	*Pending MNF review of conservation measures.*
Limestone Adder's-tongue *Ophioglossum engelmannii*	G5/S1	Dry, rocky limestone and dolomite woodlands and barrens of the Ridge and Valley province. Not documented in counties crossed by ACP (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Allegheny Onion.	*Pending MNF review of conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Rock Skullcap *Scutellaria saxatilis*	G3/S2	Mesic to dry rocky forests and boulder fields. Documented in Pocahontas and Randolph Counties. (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed..	Creation of forest gaps and openings expose this species to sunlight, drying out the plants. This species is also sensitive to invasive plants and encroachment by woody plants (NatureServe, 2015). The potential impacts and conservation measures for this species are the same as described above for the Allegheny Onion.	*Pending MNF review of conservation measures.*
Canada Yew *Taxus canadensis*	G5/S2S3	Cliffs, bluffs, boulder fields, rocky forests, and seepage swamps, usually on sites underlain by calcareous or mafic rocks. Documented in Pocahontas and Randolph Counties (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Allegheny Onion.	*Pending MNF review of conservation measures.*
Bristle-fern *Trichomanes boschianum*	G4/S1	Deeply sheltered grottoes on non-calcaerous rocks. Documented in Pocahontas County (Flora of North America Editorial Committee, eds., 1993+; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Allegheny Onion.	*Pending MNF review of conservation measures.*
Netted Chainfern *Woodwardia areolata*	G5/S2	Moist to wet, acidic soils of low mesic forests, floodplains, depressions swamps, bogs, and pocosins. Documented in Pocahontas County. Not commin high Appalachians (Virginia Botanical Associates, 2016; Flora of North America Editorial Committee, eds., 1993+; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Allegheny Onion.	*Pending MNF review of conservation measures.*
Plant Species Found in or Tolerant of Open or Edge Habitat (Not Documented during Surveys)				
Lillydale Onion *Allium oxyphilum*	G2/S2	Bare rock, talus, and scree slopes. In West Virginia, a large population was documented on a shale barren, south-facing slope within an open hardwood forest with grass-sedge understory. Occurs on acidic soils. Endemic to west-central Virginia and eastern West Virginia. Not documented in counties crossed by ACP (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	Successful restoration if this species includes minimizing disturbance to shale barren habitat, controlling invasive and noxious weeds, and limiting encroachment of woody vegetation (NatureServe, 2015). Construction activities would remove shale barren habitat, which would degrade or make habitat unsuitable for this species. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending MNF review of conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Bartram Shadbush *Amelanchier bartramiana*	G5/S2	Cool woods, mountain slopes, summits, bogs, poor fens, conifer swamps, acidic soil, sandy lake shores, stream banks, rocky ridges, and roadside thickets. Documented in Pocahontas and Randolph Counties (Flora of North America Editorial Committee, eds., 1993+; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	Construction activities would remove vegetation, which would degrade or make habitat unsuitable for this species. If present within the construction right-of-way, individuals would be killed. Construction activities would remove shale barren habitat, which would degrade or make habitat unsuitable for this species. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending MNF review of conservation measures.*
Purple Clematis *Clematis occidentalis var. occidentalis*	G5T5/S2	Calcareous cliffs, rock ledges, talus slopes, gravelly embankments, rocky woods, and clearings. Documented in Pocahontas County (Flora of North America Editorial Committee, eds., 1993+; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Bartram Shadbush.	*Pending MNF review of conservation measures.*
Bentley's Coralroot *Corallorhiza bentleyi*	G2/S1	Found in Appalachian deciduous forest, often at forest edges in somewhat disturbed sites. Documented in Pocahontas County (Virginia Botanical Associates, 2016; Flora of North America Editorial Committee, eds., 1993+; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	If present within the construction right-of-way, individuals would be killed. Construction activities would remove forested habitat, which would degrade or make habitat unsuitable for this species however, because this species is also known to occur at forest edges in somewhat disturbed sites, the permanent right-of-way could create additional suitable habitat. Because Atlantic would perform maintenance of the permanent right-of-way, this species could benefit from creation of additional suitable habitat. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending MNF review of conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Tall Larkspur *Delphinium exaltatum*	G3/S2	Rich woods and edges of woods, rocky slopes, semi-open woodlands, glades, and prairie openings. Tolerant of a limited amount of disturbance. Not documented in counties crossed by ACP (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed..	If present within the construction right-of-way, individuals would be killed. Construction activities would remove woodland habitat, which would degrade or make habitat unsuitable for this species however, because this species is also known to occur at woodland edges in somewhat disturbed sites, the permanent right-of-way could create additional suitable habitat. This species can be successfully restored through controlled burning and thinning or clearing of understory woody vegetation. Mowing and selective thinning of overstory trees and shrubs has been conducted at a site in North Carolina in early spring before leaf emergence to benefit this and other rare prairie plant species (NatureServe, 2015). Because Atlantic would perform maintenance of the permanent right-of-way outside of the migratory bird nesting season (April 1-August 31) and only every 3 years; this species could benefit from creation of additional suitable habitat. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending MNF review of conservation measures.*
Shriver's Frilly Orchid *Platanthera shriveri*	G1/S1	Mesic forests, seepage swamps, and forest edges at elevations of 2,350 to 4,000 feet. Documented in Pocahontas and Randolph Counties (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Bentley's Coralroot.	*Pending MNF review of conservation measures.*
Beadle's Mountain-mint *Pycnanthemum beadlei*	G2G4/NR	Open forests, forest edges, and roadsides (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Bentley's Coralroot.	*Pending MNF review of conservation measures.*
Mountain Pimpernel *Taenidia montana*	G3/S3	Calcareous shale barrens, limestone, rock outcrops, narrow ridges, and open woods. Not documented in counties crossed by ACP (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	Construction activities would remove barren habitat, which would degrade or make habitat unsuitable for this species. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending MNF review of conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Appalachian Blue Violet *Viola appalachiensis*	G4/S3	Rich, moist forest communities in partially open to open sites generated naturally or by human disturbance, including streambanks, floodplains, glades, clearings, forest edges, and roadsides. Found in habitats that are kept open by mowing. Documented in Pocahontas and Randolph Counties (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Bentley's Coralroot.	*Pending MNF review of conservation measures.*
Plant Species Found in Wetland and Riparian Habitat (Not Documented during Surveys)				
Spreading Rockcress *Arabis patens*	G3/S2	Moist rocky woods, limestone outcrops, and shady riverbanks. Not documented in counties crossed by ACP (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	Riparian habitat crossed by ACP within the MNF is limited. Construction activities would remove woodland and riparian habitat, which would degrade or make habitat unsuitable for this species. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending MNF review of conservation measures.*
Showy Lady's-slipper *Cypripedium reginae*	G4/S1	Swampy thickets, bogs, woodland glades, ravines, stream and lake edges, seepages on limestone or sandstone bluffs, damp calcareous slopes or shores, limestone quarries, wet calcareous meadows, seep springs, forested fens, sandy shorelines, and talus slopes. Not documented in counties crossed by ACP (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	Atlantic would impact <0.1 acre of wetland habitat within the MNF, and riparian habitat is limited. Construction activities would remove wetland and riparian habitat, which would degrade or make habitat unsuitable for this species. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending MNF review of conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Blue Ridge St. John's-wort *Hypericum mitchellianum*	G3/S1	Seepage slopes and spray areas near falls at higher elevations. Also found in grassy balds, grassy openings, and forests. Documented in Pocahontas and Randolph Counties (Virginia Botanical Associates, 2016; NatureServe, 2015).	Construction activities would remove <0.1 acre of wetland habitat, and riparian habitat is limited, which would degrade or make habitat unsuitable for this species. However, because this species is also known to occur in openings, the permanent right-of-way could create additional suitable habitat. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending MNF review of conservation measures.*
Long-stalk Holly *Ilex collina*	G3/S2	Bogs, seeps, and high-elevation stream banks. In West Virginia, it has been found in wetland areas, river edges, high energy and/or scoured riverbanks, sandstone soils, and northern hardwoods. Documented in Pocahontas and Randolph Counties (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Showy Lady's-Slipper.	*Pending MNF review of conservation measures.*
Butternut *Juglans cinerea*	G4/S3	Optimal growth occurs on well-drained soils of bottomlands and floodplains. Found in rich mesophytic forests, lower slopes, ravines, and various types of bottomland. Documented in Pocahontas and Randolph Counties (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	Atlantic would impact <0.1 acre of wetland habitat within the MNF, and floodplain habitat is limited. Construction activities would remove forest habitat, which would degrade or make habitat unsuitable for this species. However, because this species is known to benefit from the creation of canopy gaps and some form of disturbance (NatureServe, 2015), the permanent right-of-way could create additional suitable habitat. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants. This species is primarily threatened by the spread of a canker fungus (NatureServe, 2015).	*Pending MNF review of conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Swamp Lousewort *Pedicularis lanceolata*	G5/S2	Mafic and calcareous fens, wet meadows, and rich open floodplains. Documented in Pocahontas and Randolph Counties (Virginia Botanical Associates, 2016; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	Atlantic would impact <0.1 acre of wetland habitat within the MNF, and floodplain habitat is limited. Construction activities would remove wetland and floodplain habitat, which would degrade or make habitat unsuitable for this species. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending MNF review of conservation measures.*
Bog Bluegrass *Poa paludigena*	G3/S1	Shaded seeps and seepage swamps, usually over calcareous or mafic rocks; rare in the mountains (Virginia Botanical Associates, 2016). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Showy Lady's-Slipper.	*Pending MNF review of conservation measures.*
Pennsylvania Buttercup *Ranunculus pensylvanicus*	G5/S1	Stream banks, bogs, moist clearings, and depressions in woodlands. Documented in Pocahontas County (Flora of North America Editorial Committee, eds., 1993+; NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	Atlantic would impact <0.1 acre of wetland habitat within the MNF, and floodplain habitat is limited. Construction activities would remove wetland and floodplain habitat, which would degrade or make habitat unsuitable for this species. However, because this species is also known to occur in clearings, the permanent right-of-way could create additional suitable habitat. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending MNF review of conservation measures.*
NON-VASCULAR PLANTS				
Ammon's Tortula Moss *Tortula ammonsiana*	G1G3/S1	Rock outrcops in mixed hardwood forests communities. In West Virginia, it has been associated with yellow birch, mountain maple, and striped maple. Documented in Pocahontas County (NatureServe, 2015). Botanical sureys confirmed suitable habitat present; however, no individuals were observed.	Creation of forest gaps and openings expose this species to sunlight, drying out the plants. This species is also sensitive to trampling (NatureServe, 2015). If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending MNF review of conservation measures.*

TABLE R-1 (cont'd)

RFSS with Potential Habitat or Populations within the Monongahela National Forest, West Virginia

Species	Global Rank/ State Rank [a]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects

[a] Global/State Conservation Rank: Global (G) /State (S) Conservation Rank: G1/S1 = Critically imperiled - At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors; G2/S2 = Imperiled - At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors; G3/S3 = Vulnerable - At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors; G4/S4 = Apparently Secure - Uncommon but not rare; some cause for long-term concern due to declines or other factors; G5/S5 = Secure - Common; widespread and abundant; GU/NR = Unranked; Q = Questionable Taxonomy – taxonomic distinctiveness of this entity at the current level is questionable; T = Infraspecific Taxon – for example, subspecies or variety; ? = Inexact Numeric Rank. State Rank (Birds): S_B: breeding status; these species typically inhabit the state only during the breeding season, S_B,S_N: breeding and non-breeding status when they differ. Global Rank is based on NatureServe, 2015 and State Rank is based on WVDNR, 2015a.

TABLE R-2

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
MAMMALS						
Eastern Small-Footed Bat *Myotis leibii*	-	3	G1G3/S2	Generally roost on the ground under rocks, in crevices, and occasionally in buildings and under tree bark. Hibernates in solution and fissure caves and mine tunnels near the entrance (VDGIF, 2015a). No suitable habitat was found in the survey corridor and no individuals were detected.	Based on survey results, no direct impacts on eastern small-footed bat are anticipated. Tree clearing on rocky slopes may improve summer habitat for this species by increasing solar radiation on potential summer maternity habitat, making habitat more suitable for roosting (FS et al., 2002); however, tree clearing would also reduce foraging habitat. Construction activities could also disturb bats in the vicinity, potentially disrupting normal activities.	*Pending GWNF review of survey results and conservation measures*
Southern Water Shrew *Sorex palustris punctulatus*	LE	3	G5T3/S1S2	Undercut banks of high gradient and high elevation (above 900 m) first and second order streams with abundance cover from overhanging rocks, roots, logs, and crevices (NatureServe, 2015). Field surveys identified potential habitat at four streams crossed by the pipeline near the WV-VA state line; presence of water shrew is assumed. 1.0 mile of potentially suitable habitat on GWNF was not surveyed due to access issues and must be surveyed at a later time.	In-stream construction activities could displace shrews, cause stress, and disrupt normal activities. Construction equipment could cause injury or mortality to individuals. Increased sedimentation and turbidity from construction activities and use of access roads into suitable stream habitat could temporarily degrade habitat, and impact forage species. Atlantic would implement the sediment and erosion control measures identified in the *COM Plan* (see appendix G).	*Pending GWNF review of survey results and conservation measures*
BIRDS						
Peregrine Falcon *Falco peregrinus*	LT	6	G4/S1B,S2N	In western Virginia, peregrine falcon nest in natural, open, rocky cliffs in mountainous areas or river gorges, usually associated with water. In eastern Virginia, falcons use man-made structures such as unfinished bridge piers, bridges, or skyscrapers (VDGIF, 2015a). Suitable habitat potentially present within the survey corridor based on general habitat conditions; no, peregrine falcons were observed within a two-mile wide aerial survey area for eagles. Pending review of cliff habitat.	If present in the vicinity of the ACP project area during construction, construction activities could disturb falcons, displacing individuals and disrupting normal activities. If in proximity to a nest during the nesting season, prolonged or frequent disturbance could cause nest abandonment. Construction would also result in the loss of foraging habitat. Atlantic would implement the *COM Plan* (see appendix G) and *Migratory Bird Plan* (see table 2.3.1-1) to mitigate impacts on this species.	*Pending GWNF review of desktop analysis and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Bald Eagle *Haliaeetus leucocephalus*	-	6	G5/S3S4B, S3S4N	Prefers coasts, lakes, and rivers, and seen along mountain ridges during migration. The James, Rappahonnock, and Potomac Rivers provide some of the most important eagle habitats in Virginia. Most nests are found in the midst of large wooded areas adjacent to marshes or bodies of water, or in isolated trees located in marshes, farmland, or in logged areas where scattered trees remain (VDGIF, 2016b). Field survey confirmed that potentially suitable habitat occurs in much of the analysis area, and one unknown stick nest was identified approximately 314 feet from the centerline that had been tended during the season. No bald eagles were observed.	If present in the vicinity of the ACP project area during construction, construction activities could disturb eagles, displacing individuals and disrupting normal activities. If in proximity to a nest during the nesting season, prolonged or frequent disturbance could cause nest abandonment. Construction would cause loss of nesting and foraging habitat. Atlantic would implement the *COM Plan* (see appendix G) and *Migratory Bird Plan* (see table 2.3.1-1). A qualified biological monitor would walk ahead of clearing crews and search for roosting bald eagles and nesting bald eagles. If bald eagle nests or occupied bald eagle winter roosting habitat are identified ahead of or during construction, Atlantic would follow the National Bald Eagle Management Guidelines for work within 660 feet of the active bald eagle nest. Additional information provided in section 4.5.3.	*Pending GWNF review of survey results and conservation measures*
Migrant Loggerhead Shrike *Lanius ludovicianus migrans*	LT	3	G4/S1B,S2N	Open areas, grasslands (often grazed or occasionally mowed) and agricultural landscapes interspersed with forbs, scattered shrubs, and/or small trees. Usually nests in eastern redcedar or hawthorne (VDGIF, 2015a).	Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1). This species prefers open grassland habitat (VDGIF, 2015a); therefore, clearing of the right-of-way during construction could provide suitable habitat for this species. Atlantic would mow the right-of-way outside of the nesting season.	*Beneficial Effect*
AMPHIBIANS						
Cow Knob Salamander *Plethodon punctatus*	-	3	G3/S2	Found at high elevations in mixed deciduous forest interspersed with Virginia pine and hemlock and numerous rock outcrops. Most abundant in old-growth forests with many downed logs and abundant surface rocks, including talus (NatureServe, 2015; VDGIF, 2016k). Field survey confirmed that suitable habitat occurs on Tower Hill Mountain and on Gum Tree Hill within areas with high concentrations of rock cover. No individuals were detected.	Construction activities would contribute to habitat loss and degradation of potentially suitable habitat. Atlantic would implement the *COM Plan* (see appendix G), and Rehabilitation and Restoration Plan (see appendix F) to restore the right-of-way. No direct impacts on individuals are anticipated.	*Pending GWNF review of survey results and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
FISH						
Roughhead Shiner *Notropis semperasper*	-	TBD	G2G3/S2S3	Endemic to the headwaters of the James River. Cool to warm streams of moderate gradient, gravel to boulder substrate, slight siltation, slow to moderate currents or in or just below the head of a pool, or in moderately calm water adjacent to runs (VDGIF, 2016b). This species has been found in the upper James watershed above the town of Buchanan, Botetourt County (FS, 2014). Based on correspondence from the GWNF, this species is known from Back Creek, Jackson River, and Cowpasture River in Bath and Allegheny Counties (FS, 2016c). Atlantic assumed presence at these waterbody crossing locations. Surveys were conducted in 2016 on the GWNF; no roughhead shiner were observed at crossing locations and habitat was considered unsuitable.	Waterbody crossings and access road construction/use would temporarily degrade water quality through increased sedimentation and turbidity during construction, reduced fish passage, potential mortality during fish relocation efforts, disturbance, changes in hydrology, and disturbance and injury or mortality from blasting (see section 4.6 for additional discussion). Removal of riparian habitat may also contribute to increased erosion and sedimentation, and by decreasing shade increase localized water temperatures. Atlantic would implement the *Virginia Fish Relocation Plan* (see table 2.3.1-1) to remove all fish species trapped within areas proposed for dewatering or in-stream work prior to initiating construction. Atlantic would also implement the measures in the *COM Plan* (see appendix G), including implementation of the VDEQ Virginia Erosion and Sediment Control Handbook, and construction and restoration plans (see table 2.3.1-1) to control sedimentation and the introduction of hazardous chemicals, and to restore riparian habitats. Atlantic also committed to adhering to the VDGIF TOYR (March 15 to June 30) (VDGIF, 2016a) at the waterbody crossing locations where this species is assumed to be present, which includes Back Creek, Jackson River, Cowpasture River, Warwick Run, and the unnamed tributaries to Warwick Run and Stuart Run.	*Pending GWNF review of survey results, sedimentation analysis, and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Orangefin Madtom *Noturus gilberti*	LT	TBD	G2/S2	The native population of orange madtom occurs in the Roanoke River drainage, and an introduced population is found in the James River drainage (VDGIF, 2016b). This species has been found in the South Fork Roanoke River watershed, Roanoke River above Salem, Craig Creek, Johns Creek, and Cowpasture River in Bath County (FS, 2014; FS, 2016c). Surveys were conducted in 2016 on the GWNF; no orangefin madtom were observed at crossing locations.	Waterbody crossings and access road construction and use would temporarily degrade water quality through increased sedimentation and turbidity during construction, reduced fish passage, potential mortality during fish relocation efforts, disturbance, changes in hydrology, and disturbance and injury or mortality from blasting (see section 4.6 for additional discussion). Removal of riparian habitat may also contribute to increased erosion and sedimentation, and by decreasing shade increase localized water temperatures. Atlantic would implement the *Virginia Fish Relocation Plan* (see table 2.3.1-1) to remove all fish species trapped within areas proposed for dewatering or in-stream work prior to initiating construction. Atlantic would also implement the measures in the *COM Plan* (see appendix G), including implementation of the VDEQ Virginia Erosion and Sediment Control Handbook, and construction and restoration plans (see table 2.3.1-1) to control sedimentation and the introduction of hazardous chemicals, and to restore riparian habitats. Because only the introduced population of orange madtom may be affected by ACP, the VDGIF TOYR (March 15-May 31) would not apply (VDGIF, 2016a).	*Pending GWNF review of survey results, sedimentation analysis and conservation measures*
INVERTEBRATES						
Gastropods (Snails)						
Round Supercoil Snail *Paravitrea reesei*	-	TBD	G3/SU	Moist environments including damp areas under rocks, leaf litter, river bluffs and other slopes near water (Hotopp et al., 2013). This species was not identified during surveys on the GWNF.	Construction activities could cause mortality to individuals if present in the workspace. This species is known to inhabitat leaf litter in forests, a habitat that is common across the GWNF. Construction and maintenance of the right-of-way would result in conversion to less desirable habitat in some areas. Suitable habitat is very common across the GWNF (FS et al., 2002).	*Pending GWNF review of survey results and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Bivalves (Freshwater Mussels)						
Brook Floater *Alasmidonta varicosa*	LE	TBD	G3/S1	Fast-flowing, clean water in substrates that contain relatively firm rubble, gravel, and substrates swept free from siltation. Buried in the substrate in shallow riffle and shoal areas (VDGIF, 2016b). This species was not identified during mussel surveys on the GWNF and habitat was considered unsuitable.	Neither this species, nor suitable habitat was identified during surveys on the GWNF. Historic data does not indicate presence of this species in waterbodies crossed by ACP on the GWNF; therefore, no impacts are anticipated on this species.	*Pending GWNF review of survey results, sedimentation analysis, and conservation measures*
Yellow Lance *Elliptio lanceolata*	-	TBD	G2G3/S2S3	Slow currents with unsilted sandy substrates; can tolerate various water sizes (NatureServe, 2015). This species has been found in Cowpasture River in Allegheny County (FS, 2016c). Surveys were conducted in 2016 on the GWNF; no yellow lance were observed at crossing locations and habitat was considered unsuitable. Additional surveys on the Cowpasture River are anticipated in 2017.	This species is currently under review by FWS for listing under the ESA (see section 4.7.1.13). Although this species was not detected during surveys, Atlantic assumed presence of this species in the Cowpasture River based on agency data. Atlantic would cross Cowpasture River with the mainline pipeline using a dry technique approximately 0.3 mile upstream and downstream from the GWNF property boundaries. The Cowpasture River would also be crossed by two permanent access roads. The potential impacts and conservation measures for this species are the same as described above for the Roughhead Shiner, with the exception of the TOYR. Atlantic committed to VDGIF TOYR for short-term brooding mussels of May 15-July 31 (VDGIF, 2016a) (see table S-2 in appendix S).	*Pending GWNF review of survey results, sedimentation analysis, and conservation measures*
Atlantic Pigtoe *Fusconaia masoni*	LT	TBD	G2/S2	Clean, swift-moving waters often found in gravel of gravel-sand substrate. Historic data indicates potential presence of this species in the Mill Creek and Calfpasture River drainages (VDGIF, 2016b). This species was not identified during mussel surveys on the GWNF and habitat was considered unsuitable.	This species is currently under review by FWS for listing under the ESA (see section 4.7.1.13). This species, nor suitable habitat for this species, was identified during surveys on the GWNF; however, there is a potential for downstream impacts on this species. The potential impacts and conservation measures for this species are the same as described above for the Roughhead Shiner, with the exception of the TOYR. Atlantic would adhere to TOYR for all in-stream work from May 15-July 31 for waterbodies known or assumed to support Atlantic pigtoe mussels. Consultation with GWNF and FWS is ongoing for this species.	*Pending GWNF review of survey results, sedimentation analysis, and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Green Floater *Lasmigona subviridis*	LT	TBD	G3/S2	Fast-flowing, clean water in firm rubble, gravel and sand substrates swept free from siltation. Found buried in substrate in shallow riffle and shoal areas (VDGIF, 2016b). This species was not identified during mussel surveys on the GWNF and habitat was considered unsuitable.	This species is currently under review by FWS for listing under the ESA (see section 4.7.1.13). This species, nor suitable habitat for this species, was identified during surveys on the GWNF. Historic data does not indicate presence of this species in waterbodies crossed by ACP on the GWNF; therefore, no impacts are anticipated on this species.	*Pending GWNF review of survey results, sedimentation analysis, and conservation measures*
Crustaceans (Amphipods and Isopods)						
Racovitza's Terrestrial Cave Isopod *Miktoniscus racovitzai*	-	TBD	G3G4/S2	Subterrestrial, subterranean obligate species. This species has been documented in the Upper James watershed in Bath County, and South Fork Shenandoah watershed (NatureServe, 2015).	ACP would cross these watershed in Bath, Highland, and Augusta Counties. It has been potentially extirpated from the South Fork Shenandoah watershed (NatureServe, 2015). No caves were identified within the survey corridor on the GWNF; however, there are potential impacts on adjacent or connected cave systems downstream of the construction right-of-way. Construction activities could alter water flow patterns or increase sediment and contaminant loads, which could lead to a reduction or degradation of available habitat. Isopod habitat is susceptible to contamination due to the porosity of the substrate. Blasting, trenching, and digging can cause shifts in surface and subsurface formations and hydrology, and may crush isopods or alter travel corridors (FWS, 2011i).	*Pending GWNF review of conservation measures*
Montgomery County Cave Amphipod *Stygobromus fergusoni*	-	TBD	G2G3/S1	Subaquatic, subterranean obligate species. Full extent of subterranean habitat is unknown. Although this species has not been documented in counties crossed by ACP, it has been documented within the Upper James watershed (NatureServe, 2015) crossed by ACP in Bath and Highland Counties.	The potential impacts and conservation measures for this species are the same as described above for the Racovitza's Terrestrial Cave Isopod.	*Pending GWNF review of conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Shenandoah Valley Cave Amphipod *Stygobromus fergusoni*	-	TBD	G3G4/S3	Subaquatic, subterranean obligate species. Specimens have been collected from 11 caves in the Potomac River drainage in small streams and pools. Full extent of subterranean habitat is unknown. Although this species has not been documented in counties crossed by ACP, it has been documented within the South Fork Shenandoah watershed (NatureServe, 2015) crossed by ACP in Augusta County.	The potential impacts and conservation measures for this species are the same as described above for the Racovitza's Terrestrial Cave Isopod.	*Pending GWNF review of conservation measures*
Allegheny County Cave Amphipod *Stygobromus hoffmani*	-	TBD	G2/S2	Subaquatic, subterranean obligate species. Full extent of subterranean habitat is unknown. Although this species has not been documented in counties crossed by ACP, it has been documented within the Upper James watershed (NatureServe, 2015) crossed by ACP in Bath and Highland Counties.	The potential impacts and conservation measures for this species are the same as described above for the Racovitza's Terrestrial Cave Isopod.	*Pending GWNF review of conservation measures*
Bath County Cave Amphipod *Stygobromus mundus*	-	TBD	G2G3/S1S2	Subaquatic, subterranean obligate species. Has been documented from both cave and surface stream collections. Full extent of subterranean habitat is unknown. This species has been documented in the Upper James watershed in Bath County (NatureServe, 2015) crossed by ACP in Bath and Highland Counties.	The potential impacts and conservation measures for this species are the same as described above for the Racovitza's Terrestrial Cave Isopod.	*Pending GWNF review of conservation measures*
Myriapods (Centipedes and Millipedes)						
Hoffman's Cleidognid Millipede *Cleidogona hoffmani*	-	5	G3/S2S3	Leaf litter in deciduous forest, which is common in the GWNF. Mountaintop species documented from Mt. Rogers, Whitetop Mountain, Elk Garden, and Helton Creek. This species was documented at nine sites during surveys on the GWNF.	There is the potential for mortality of individuals during tree clearing and other construction activities. Construction and maintenance of the right-of-way would result in conversion to less desirable habitat in some areas. Suitable habitat is very common across the GWNF (FS et al., 2002).	*Pending GWNF review of survey results and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Montane Centipede *Escaryus cryptorobius*	-	3	G2/S2	Endemic to the Blue Ridge Mountains of Virginia. Found in the upper soil horizons in mixed hardwood forests in the summer months (May through July); burrows deep into the soil matrix during winter (Pereira and Hoffman, 1993). This species was not documented during surveys.	The potential impacts and conservation measures for this species are the same as described above for the Hoffman's Cleidognid Millipede.	*Pending GWNF review of survey results and conservation measures*
A cave centipede *Nampabius turbator*	-	TBD	G1G2/S1	Subterrestrial, subterranean obligate species. Although this species has not been documented in counties crossed by ACP, it has been documented within the Upper James watershed (NatureServe, 2015) crossed by ACP in Bath and Highland Counties.	The potential impacts and conservation measures for this species are the same as described above for the Racovitza's Terrestrial Cave Isopod.	*Pending GWNF review of conservation measures*
Shenandoah Mountain Xystodesmid Millipede *Nannaria shenandoa*	-	5	G1/S1	Leaf litter in mixed forests, which is common in the GWNF, between 760 to 1,000 meters elevation (Hoffman, 1949). Surveys on the GWNF did not document this species; however, the survey documented six sites with unidentifiable *Nannaria* specimens, which may represent suitable habitat for this species.	Four of the sites where *Nannaria* specimens were identified would be located within the ACP construction workspace. The potential impacts and conservation measures for this species are the same as described above for the Hoffman's Cleidognid Millipede.	*Pending GWNF review of survey results and conservation measures*
Mays Mountain Cave Millipede *Pseudotremia alecto*	-	3	N/A	Leaf litter and detritus in deciduous forests, which is common in the GWNF, at 330 meters elevation; has also been found in caves. Documented in Allegheny and Bath Counties (Shear, 2011). This species was not documented during surveys.	The potential impacts and conservation measures for this species are the same as described above for the Hoffman's Cleidognid Millipede.	*Pending GWNF review of survey results and conservation measures*
Pleasing Xystodesmid Millipede *Semionellus placidus*	-	3	G3/S3	Leaf litter of deciduous forests, which his common in the GWNF, and cove habitats, usually near water (BugGuide, 2016). This species was not documented during surveys.	The potential impacts and conservation measures for this species are the same as described above for the Hoffman's Cleidognid Millipede.	*Pending GWNF review of survey results and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Insects (Springtails)						
A cave springtail *Pygmarrhopalites carolynae*	-	TBD	G4/S3	Subterrestrial, subterranean obligate species. This species has been documented in Bath County and in the South Fork Shenandoah and Upper James River watersheds (NatureServe, 2015), which would be crossed by ACP in Bath, Highland, and Augusta Counties.	The potential impacts and conservation measures for this species are the same as described above for the Racovitza's Terrestrial Cave Isopod.	*Pending GWNF review of conservation measures*
A cave springtail *Pygmarrhopalites sacer*	-	TBD	G1/S2	Subterrestrial, subterranean obligate species. Known from two caves in Bath County. This species has been documented in Bath County and in the Upper James River watershed (NatureServe, 2015), which would be crossed by ACP in Bath and Highland Counties.	The potential impacts and conservation measures for this species are the same as described above for the Racovitza's Terrestrial Cave Isopod.	*Pending GWNF review of conservation measures*
Insects (Beetles)						
Appalachian Tiger Beetle *Cicindela ancocisconensis*	-	3	G3/S2	Prefers open sand or a matrix of sand and cobble along permanent streams or medium-sized rivers; usually found along rocky mountain streams and small rivers in partially shaded areas, such as sand banks and sand bars. Occasionally reported along roads. This species is active April through June and late-July to September, but not always active in fall (NatureServe, 2015). Suitable habitat for this species was observed within the GWNF; however, no individuals were documented.	There is the potential for mortality of individuals during clearing and other construction activities. Construction and maintenance of the right-of-way would temporarily remove suitable habitat; however, based on this species preference of open habitat, right-of-way clearing and maintenance could have a beneficial effect by creating potentially suitable habitat (FS et al., 2002).	*Pending GWNF review of survey results and conservation measures*
Northern Barrens Tiger Beetle *Cicindela patruela*	-	3	G3/S2	Specialized to sandy/coarse gravel or eroding sandstone in pine barrens, open mixed, or deciduous woodlands where open ground exists. This species is active late April to June and mid-August into September, but not always active in fall (NatureServe, 2015). Suitable habitat for this species was observed within the GWNF; however, no individuals were documented.	The potential impacts and conservation measures for this species are the same as described above for the Appalachian Tiger Beetle.	*Pending GWNF review of survey results and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Maureen's Hydraenan minute Moss Beetle *Hydraena maureenae*	-	5	G2?/S2?	Along the edges of smaller, lower gradient streams in clean, fine shale gravels, typically gravel bars. This species is potentially active year-round (NatureServe, 2015). Surveys conducted on the GWNF identified suitable habitat for this species at eight stream locations and documented eight inviduals at six of those stream locations.	This species has been documented along existing FS roads that have been proposed for use as access roads; therefore, construction activities could cause mortality to individuals if present in the workspace. Filing of the interstitial spaces between gravels with sediment, which would occur during construction activities, makes habitat no longer suitable for this species. Atlantic would implement the erosion control and sedimentation measures described in the *COM Plan* (see appendix G), and would minimize disturbance to gravel bars along streams.	*Pending GWNF review of survey results and conservation measures*
Insects (Dragonflies)						
Alleghany Snaketail *Ophiogomphus incurvatus alleghaniensis*	-	3	G3T2T3/S1	Suitable habitat for this species was observed within the GWNF; however, no individuals were documented. This species has the potential to occur in streams within Sulphur Springs Hollow and Dowells Draft, which are crossed or in proximity to ACP (VDCR, 2016b).	Increased sedimentation threatens this species. Adult dragonflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Dowells Draft and two unnamed tributaries to Dowells Draft would be crossed using a dry crossing technique, which would be limited to the time needed to construct the waterbody crossing. Atlantic also proposes to use existing roads that cross Dowells Draft, the East Branch of Dowells Draft, and an unnamed tributary to Dowells Draft as permanent access roads. There is the potential that construction activities could impact nymphs through direct mortality or temporary reduction in water quality. In addition, increased sedimentation could result from use of access roads and stormwater run-off from access roads and the construction workspace. Atlantic would implement the sediment and erosion control measures in the *COM Plan* (appendix G).	*Pending GWNF review of sedimentation analysis, and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Insects (Butterfly, Skippers, and Moths)						
Herodias Underwing Moth *Catocala herodias gerhardi*	-	6	G3T3/S2S3	Prefer pitch pine (*Pinus rigida*)-bear oak (*Quercus ilicifolia*) barrens, or sparse, open woodlands. Food plants plants are bear oak, and blackjack oak (*Quercus marilandica*); larvae feed mostly on bear oak and reared mostly on blackjack oak. Adults are active from July to August (VDCR and VDGIF, 2013). Potential host plants for this species were observed within the GWNF; however, individual surveys were not conducted. Because individual surveys were not conducted, presence is assumed within suitable habitat.	Adult moths would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants, and could kill larvae if present. This species is known to benefit from the presence of woodland clearings, including rights-of-way, by creating additional nectaring habitat (FS et al., 2002). In addition, as outlined in the *Restoration and Rehabilitation Plan* (see appendix F), Atlantic committed to incorporate regionally-specific and native forb seeds in its traditionally all-grass seed mix to create pollination habitat, which may reduce impacts on this species. Management of the right-of-way that encourages nectar sources would be beneficial to this species.	*Pending GWNF review of survey results and conservation measures*
Milne's Euchlaena Moth *Euchlaena milnei*	-	6	G2G4/S2	Hardwood and mountain oak woodlands with acidic soil. Its larval host plant is unknown. Adults are active in from early to mid-July (VDCR and VDGIF, 2013). Individual surveys were not conducted for this species. Because individual surveys were not conducted, presence is assumed within suitable habitat.	Adult moths would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present.	*Pending GWNF review of survey results and conservation measures*
Hebard's Noctuid Moth *Psectrotarsia hebardi*	-	3	GU/SH	Prefers rich, deciduous forests with abundant larval food plants, such as stoneroot (*Collinsonia canadensis*). Larvae are active into September (VDCR and VDGIF, 2013). Individual surveys were not conducted for this species. Because individual surveys were not conducted, presence is assumed within suitable habitat.	This species has not been recently documented in Virginia (prior to 1950). Adult moths would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present.	*Pending GWNF review of survey results and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Appalachian Grizzled Skipper *Pyrgus centaureae wyandot*	LT	6	G5T1T2/S1	Dry, open areas with shaley soils such as shale barrens, and artificially opened habitats such as clearcuts and utility rights-of-way. Its larval host is dwarf cinquefoil (*Potentilla canadensis*). Adults are active from mid-April to early May (VDCR and VDGIF, 2013). Field habitat assessments identified one host plant for this species within the GWNF; however, no caterpillars were observed. Adults could not be sampled as it was outside of their activity period; therefore, presence is assumed in suitable habitat.	The potential impacts and conservation measures for this species are the same as described above for the Herodias Underwing Moth.	*Pending GWNF review of survey results and conservation measures*
Diana Fritillary Butterfly *Speyeria diana*	-	3	G3G4/S3	Favor wooded areas, particularly in low-lying valleys, pine woods, and cove forests, within or near mountain ranges. Its larval host plants are violets (*Viola* spp.) and nectar plants include butterfly bush, milkweeds, and other purple flowers. Adults are active from mid-June to early September (VDCR and VDGIF, 2013). Field habitat assessments identified host plants for this species within the GWNF; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Herodias Underwing Moth.	*Pending GWNF review of survey results and conservation measures*
Regal Fritillary Butterfly *Speyeria idalia*	-	3	G3/S1	Uses violets (*Viola* spp.), especially birdfoot violet (*V. pedata*), as its larval host plants. Prefers tallgrass areas, such as prairies, fields, grasslands, and bogs; may have close ties with undisturbed native grasslands. Adults feed on nectar from thistle (*Cirsium* spp.), milweeks (*Aesclepias* spp.), and red clover (*Trifolium* spp.). Adults are active mid-June through mid-August (VDCR and VDGIF, 2013). Field habitat assessments identified host plants for this species within the GWNF; however, no individuals were observed.	The potential impacts and conservation measures for this species are the same as described above for the Herodias Underwing Moth.	*Pending GWNF review of survey results and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
VASCULAR PLANTS						
Trailing White Monkshood *Aconitum reclinatum*	-	3	G3/S3	Seepage swamps, mafic fens, rocky high-elevation forests, rich cove forests, and periodically wet boulder fields, usually on base-rich substrates at middle to high elevations (Virginia Botanical Associates, 2016). Species not observed during surveys.	Construction activities would remove forested habitat, which would degrade or make habitat unsuitable for this species. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending GWNF review of survey results and conservation measures*
Nodding Onion *Allium oxyphilum*	-	3	G2/S1	Bare rock, talus, and scree slopes. In West Virginia, a large population was documented on a shale barren, south-facing slope within an open hardwood forest with grass-sedge understory. Occurs on acidic soils. Endemic to west-central Virginia and eastern West Virginia. Not documented in counties crossed by ACP (Virginia Botanical Associates, 2016; NatureServe, 2015). Species not observed during surveys.	Successful restoration if this species includes minimizing disturbance to shale barren habitat, controlling invasive and noxious weeds, and limiting encroachment of woody vegetation (NatureServe, 2015). Construction activities would remove shale barren habitat, which would degrade or make habitat unsuitable for this species. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending GWNF review of survey results and conservation measures*
Variable Sedge *Carex polymorpha*	-	3	G3/S2	Dry, usually sandy, open oak/heath forests, pine oak/heath woodlands, clearings, and wetland ecotones (Virginia Botanical Associates, 2016). Species not observed during surveys.	The potential impacts and conservation measures for this species are the same as described above for the Trailing White Monkshood.	*Pending GWNF review of survey results and conservation measures*
Small Spreading Pogonia *Cleistesiopsis bifaria*	-	3	G4?/S2	Dry, acidic soils of oak/heath forests and pine-oak/heath woodlands (Virginia Botanical Associates, 2016). Species not observed during surveys.	The potential impacts and conservation measures for this species are the same as described above for the Trailing White Monkshood.	*Pending GWNF review of survey results and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Virginia White-haired Leatherflower *Clematis coactilis*		3	G3/S3	Barrens, cliffs, and open, rocky woodlands on shale, limestone, dolomite, and calcareous sandstone (Virginia Botanical Associates, 2016). Species not observed during surveys.	Construction activities would remove barren habitat, which would degrade or make habitat unsuitable for this species; however, because this species is also known to occur in openings, the permanent right-of-way could create additional suitable habitat. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending GWNF review of survey results and conservation measures*
Bentley's Coralroot *Corallorhiza bentleyi*	LE	3	G2/S2	Dry-mesic to mesic forests, especially by roadsides. Rare in the mountains (Virginia Botanical Associates, 2016). Species not observed during surveys.	The potential impacts and conservation measures for this species are the same as described above for the Trailing White Monkshood.	*Pending GWNF review of survey results and conservation measures*
Glade Spurge *Euphorbia purpurea*	-	3	G3/S2	Rich cove and floodplain forests, boulder fields, montane oak-hickory forests, seeps, and seepage swamps; usually in habitats over calcareous or mafic rocks (Virginia Botanical Associates, 2016). Species not observed during surveys.	The potential impacts and conservation measures for this species are the same as described above for the Trailing White Monkshood.	*Pending GWNF review of survey results and conservation measures*
White Alumroot *Heuchera alba*		3	G2Q/S1	Moist shale roadside banks, acid rock and calcareous outcrops, mossy talus slopes, and on high summits from 3,250 to 3,920 feet (Virginia Botanical Associates, 2016; NatureServe, 2015). Species not observed during surveys.	Construction activities would remove rock outcrop habitat, which would degrade or make habitat unsuitable for this species. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending GWNF review of survey results and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Butternut *Juglans cinerea*	-	3	G4/S3?	Optimal growth occurs on well-drained soils of bottomlands and floodplains. Found in rich mesophytic forests, lower slopes, ravines, and various types of bottomland (Virginia Botanical Associates, 2016; NatureServe, 2015). Species not observed during surveys.	Construction activities would remove floodplain habitat, which would degrade or make habitat unsuitable for this species however, because this species is known to benefit from the creation of canopy gaps and some form of disturbance (NatureServe, 2015), the permanent right-of-way could create additional suitable habitat. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants. This species is primarily threatened by the spread of a canker fungus (NatureServe, 2015).	*Pending GWNF review of survey results and conservation measures*
Heller's Blazing Star *Liatris helleri*	-	3	GU/S3	Dry, rocky woodlands, barrens, outcrops, and clearings, at middle to high elevations; occur on both acidic and base-rich substrates (Virginia Botanical Associates, 2016). Species not observed during surveys.	Construction activities would remove woodland and barren habitat, which would degrade or make habitat unsuitable for this species; however, because this species is also known to occur in clearings, the permanent right-of-way could create additional suitable habitat. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending GWNF review of survey results and conservation measures*
Carolina Saxifrage *Micranthes caroliniana*	-	3	G3/S3	Moist or dry, shaded, mostly sedimentary rock outcrops and cliffs, often under overhangs or on faces with periodic seepage (Virginia Botanical Associates, 2016). Species not observed during surveys.	Construction activities would remove rock outcrop habitat, which would degrade or make habitat unsuitable for this species. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending GWNF review of survey results and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Sweet Pinesap *Monotropsis odorata*	-	3	G3/S3	Mesic to dry upland forests, typically in acidic humus under oaks, pines, or ericaceous shrubs, but occasionally in base-rich soils (Virginia Botanical Associates, 2016). Species not observed during surveys.	This species is cryptic and very difficult to detect during surveys. The potential impacts and conservation measures for this species are the same as described above for the Trailing White Monkshood.	*Pending GWNF review of survey results and conservation measures*
Sword-leaf Phlox *Phlox buckleyi*	-	3	G2/S2	Dry open forests, woodlands, forest edges, clearings, and road banks on shale and metasiltstone (Virginia Botanical Associates, 2016). Species not observed during surveys.	The potential impacts and conservation measures for this species are the same as described above for the Trailing White Monkshood.	*Pending GWNF review of survey results and conservation measures*
Bog Bluegrass *Poa paludigena*	-	3	G3/S2	Found in shaded seeps and seepage swamps, usually over calcareous or mafic rocks (Virginia Botanical Associates, 2016). Species not observed during surveys.	Atlantic would impact 0.1 acre of wetland habitat within the GWNF. Construction activities would remove wetland habitat, which would degrade or make habitat unsuitable for this species. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending GWNF review of survey results and conservation measures*
Torrey's Mountain-mint *Pycnanthemum torreyi*	-	3	G2/S2	Dry, rocky or sandy woodlands and clearings; calcareous fens, occurs in both extremely acidic and basic soils (Virginia Botanical Associates, 2016). Species not observed during surveys.	The potential impacts and conservation measures for this species are the same as described above for the Trailing White Monkshood.	*Pending GWNF review of survey results and conservation measures*
Rock Skullcap *Scutellaria saxatilis*	-	3	G3/S3	Mesic to dry rocky forests and boulder fields; occasionally in cove forests and on stream banks. Frequent in the mountains (Virginia Botanical Associates, 2016). Species not observed during surveys.	The potential impacts and conservation measures for this species are the same as described above for the Trailing White Monkshood.	*Pending GWNF review of survey results and conservation measures*

TABLE R-2 (cont'd)

RFSS with Potential Habitat or Populations within the George Washington National Forest, Virginia

Species	VA Status [a]	OAR Rank [b]	Global Rank/ State Rank [c]	Suitable Habitat or Species Present?	Potential Impacts and Conservation Measures	Determination of Effects
Mountain Least Trillium *Trillium pusillum var. monticulum*	-	3	G3T2/S2	Montane populations are on acid ridgecrests and in mafic fen (Virginia Botanical Associates, 2016).	Atlantic would impact 0.1 acre of wetland habitat within the GWNF. Construction activities would remove wetland habitat, which would degrade or make habitat unsuitable for this species. If present within the construction right-of-way, individuals would be killed. Construction activities could also potentially introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the *COM Plan* (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement the *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.	*Pending GWNF review of survey results and conservation measures*

[a] LE =State Listed Endangered, LT=State Listed Threatened. VA Status is based on Roble, 2016 and Townsend, 2016.

[b] OAR Rank: 1 = Analysis Area is outside a known species range, 2 = Lack of suitable habitat in the Analysis Area, 3 = Habitat present, but species not found in Analysis Area, 4 = Species occur in Analysis Area, but outside of area where ground disturbance would occur, 5 = Field survey located species in the activity areas, 6 = Species not seen during survey, but possibly occur in the activity area based on suitable habitat, 7 = Aquatic species or habitat known downstream of project or activity area, but outside identified geographic bounds of water resource effects area, 8 = Aquatic species known or assumed to be downstream of project or activity area and within identified geographic bounds of water resource cumulative effects analysis area, 9 = Federally listed mussel and/or fish species known in the 6th level watershed of the Analysis Area.

[c] Global/State Conservation Rank: Conservation status ranks are based on a one to five scale, ranging from critically imperiled (G1) to demonstrably secure (G5). Status is assessed and documented at three distinct geographic scales-global (G), national (N), and state/province (S). Global/State Conservation Rank: G1 = Critically imperiled - At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors; G2 = Imperiled - At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors; G3 = Vulnerable - At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors; G4 = Apparently Secure - Uncommon but not rare; some cause for long-term concern due to declines or other factors; G5 = Secure - Common; widespread and abundant; GU = Unranked; Q = Questionable Taxonomy – taxonomic distinctiveness of this entity at the current level is questionable; T = Infraspecific Taxon – for example, subspecies or variety; ? = Inexact Numeric Rank. State Rank (Birds): S_B: breeding status; these species typically inhabit the state only during the breeding season, S_B,S_N: breeding and non-breeding status when they differ; SH= Possibly Extirpated from State. Global Rank is based on NatureServe, 2015 and State Rank is based on Roble, 2016 and Townsend, 2016.

TABLE R-3

Management Indicator Species in the Atlantic Coast Pipeline Project Area with Potential Habitat or Populations within the Monongahela National Forest and George Washington National Forest

Forest/Species (*Scientific Name*)	MIS / Forest Plan Objectives and Habitat Description	Potential Impacts from ACP Construction and/or Operation	Conservation Measures and Conclusion
MONONGAHELA NATIONAL FOREST AND GEORGE WASHINGTON NATIONAL FOREST			
Eastern Wild Turkey *Meleagris gallopavo*	MNF: High-interest game species. GWNF: High-interest game species. Indicative of effective management of this species in meeting public demand for harvest. Inhabits forest and open woodland, scrub oak, deciduous or mixed-deciduous-coniferous areas, especially in mountainous regions. Feeds on seeds, nuts, fruits, grains, buds, young grass blades, insects, and small vertebrates (NatureServe, 2015).	Temporary modification of habitat and habitat loss, reduction in food availability; potential direct mortality associated with collisions with construction vehicles or equipment; disturbance during construction. This species may benefit from openings and clearings; forest thinning, prescribed burning, and grazing have shown an increase in suitable habitat (NatureServe, 2015). After restoration is complete, the permanent right-of-way may provide additional habitat for this species.	Atlantic would conduct restoration as outlined in the *COM Plan* (see appendix G) and construction and restoration plans (see table 2.3.1-1). Impacts on this species would be temporary; once construction is complete additional habitat would be available. With the implementation of these conservation measures, ACP is not anticipated to have significant long-term, adverse effects on this species or its habitat.
Wild Brook Trout *Salvelinus fontinalis*	MNF: High-interest game fish, and top level predator. Population effects reflect an integration of effects to water quality and stream conditions in aquatic habitats influenced by the management on National Forest System Lands. GWNF: High-interest game fish, and top level predator. Indicative of successful management in mitigating the acidication of streams and meeting public demand for harvest of this species. Found in clear, cool, well-oxygenated creeks, small to medium rivers, and lakes (NatureServe, 2015).	Waterbody crossings and access road construction and improvements would temporarily degrade water quality through increased sedimentation and turbidity during construction, reduced fish passage, potential mortality during fish relocation efforts, disturbance, changes in hydrology, and disturbance and injury from blasting (see section 4.6 for additional discussion). Removal of riparian habitat may also contribute to increased erosion and sedimentation, and by decreasing shade increase localized water temperatures.	Atlantic would cross the unnamed tributary to Slaty Fork on the MNF, which is a CWF HQS supporting trout species. On the GWNF, Atlantic would cross 26 trout streams that are known or have potential to contain wild brook trout. Atlantic would adhere to the WVDNR TOYR of September 15 to March 31 for HQS on the MNF, and the VDGIF TOYR for brown and brook trout in the GWNF of October 1 to March 31, or coordinate with the appropriate agencies if Atlantic cannot adhere to this TOYR. Atlantic would also implement the measures in the COM Plan (see appendix G) and construction and restoration plans (see table 2.3.1-1) to control sedimentation and the introduction of hazardous chemicals, and to restore riparian habitats. The GWNF has expressed concern about the proposed crossings of these waterbodies, in particular the numerous crossings of Laurel Run and the proposed access road that runs parallel to Laurel Run within its riparian corridor. This alignment is inconsistent with Forest Plan standards and BMPs related to soil and water (FS, 2016d). Atlantic committed to eliminate the access road along Laurel Run, and is in the process of re-evaluating proposed stream crossings in the GWNF relative to Forest Plan standards and BMPs. Conclusion pending updated route through the GWNF and sedimentation analysis.

TABLE R-3 (cont'd)

Management Indicator Species in the Atlantic Coast Pipeline Project Area with Potential Habitat or Populations within the Monongahela National Forest and George Washington National Forest

Forest/Species (*Scientific Name*)	MIS / Forest Plan Objectives and Habitat Description	Potential Impacts from ACP Construction and/or Operation	Conservation Measures and Conclusion
MONONGAHELA NATIONAL FOREST			
West Virginia Northern Flying Squirrel *Glaucomys sabrinus fuscus*	High interest endangered species. Associated with certain late successional characteristics in mature spruce forest. Forest Standards require that suitable habitat for this species be identified and considered occupied. Objective WF11 is to maintain at least 20,000 acres of mid-late and late successional (>80 years old) spruce forest to provide optimum habitat for West Virginia northern flying squirrel. The long-term objective is to increase mid-late and late successional spruce forest to at least 40,000 acres.	The ACP mainline construction workspace does not cross suitable habitat for the West Virginia northern flying squirrel; however, a proposed access road on NFS lands near Gibson Knob would require clearing of red spruce trees.	Atlantic is currently working with the MNF to finalize the conservation measures for the proposed access road that would impact suitable habitat for this species. Atlantic would realign the access road to minimize direct impacts on red spruce trees, and would relocate red spruce saplings that would be to adjacent NFS areas prior to grading.
Cerulean Warbler *Setophaga cerulean*	High-interest non-game species. Associated with large trees, gaps, and complex canopy layering characteristic of old-growth forests. Forest interior species sensitive to fragmentation. Forest Plan Objective WF09 is to maintain at 50,000 acres of mid-late and late successional (>80 years old) mixed mesophytic and cove forest to meet habitat needs for cerulean warbler. Current >80 year-old mixed mesophytic and cove forest is estimated at around 320,000 acres.	Construction of the ACP would remove 90.6 acres of mixed forest habitat within the MNF; a smaller percentage of this habitat would likely be old growth. Removal of this habitat would also contribute to habitat fragmentation and degradation. Construction would cause disturbance and potential mortality due to collision with construction vehicles or equipment.	Atlantic would adhere to TOYR for migratory birds in the MNF as outlined in the *Migratory Bird Plan* (see table 2.3.1-1) and *COM Plan* (see appendix G). Pending updated vegetation impacts based on field survey data and according to the MNF vegetation classification, and analysis of impacts on old growth component.
GEORGE WASHINGTON NATIONAL FOREST			
Beaver *Castor canadensis*	Indicative of successful wetland restoration efforts. Inhabit permanent sources of water of almost any type; prefer low gradient streams, ponds, and small mud-bottomed lakes with dimmable outlets (NatureServe, 2015).	Removal and degradation of habitat, fragmentation of wildlife corridors, and disturbance to beaver, potential injury or mortality associated with collision with construction vehicles or equipment. The ACP would not occur at the sites where this species is currently being monitored by the GWNF.	Altantic would impact 0.1 acre of wetlands within the GWNF, and would implement measures in the *COM Plan* (appendix G), and construction and restoration plans (see table 2.3.1-1) when crossing wetlands and restoring the right-of-way. Atlantic committed to low speed limits on all ACP access roads to minimize wildlife collisions. Based on the limited amount of wetlands and natural pond habitats that would be removed within the GWNF, ACP is not anticipated to have significant long-term, adverse effects on this species or its habitat.

TABLE R-3 (cont'd)

Management Indicator Species in the Atlantic Coast Pipeline Project Area with Potential Habitat or Populations within the Monongahela National Forest and George Washington National Forest

Forest/Species (*Scientific Name*)	MIS / Forest Plan Objectives and Habitat Description	Potential Impacts from ACP Construction and/or Operation	Conservation Measures and Conclusion
White-tailed Deer *Odocoileus virginianus*	High-interest game species. Indicative of effective management of this species in meeting public demand for harvest. Occupy many types of habitat in mountains and in lowlands, including various forests, woodlands, forest edges, shrublands, grasslands with shrubs, and residential areas (NatureServe, 2015).	Removal and degradation of habitat, fragmentation of wildlife corridors, and disturbance to foraging deer, potential injury or mortality associated with collision with construction vehicles or equipment. Based on this species preference for early successional habitat, Atlantic may create additional suitable habitat for this species within the permanently maintained right-of-way.	Altantic would implement the measures in the *COM Plan* (see appendix G) and construction and restoration plans (see table 2.3.1-1) to restore the right-of-way. Atlantic committed to maintaining low speed limits on all ACP access roads to minimize wildlife collisions. Based on the short-term nature of impacts on deer habitat, and potential to create additional foraging habitat following construction, the ACP is not anticipated to have significant long-term, adverse effects on this species or its habitat.
Black Bear *Ursus americanus*	High-interest game species. Indicative of effective management of this species in meeting public demand for harvest. In habitat forests and nearby openings, including forested wetlands. Prefer mixed forests with a thick understory. The occupy dens under fallen trees, tree cavities, hollow logs, underground caves, or dense cover when they are inactive (NatureServe, 2015).	Removal and degradation of habitat, fragmentation of wildlife corridors, and disturbance to foraging bears, potential injury or mortality associated with collision with construction vehicles or equipment.	Altantic would implement the measures in the *COM Plan* (see appendix G) and construction and restoration plans (see table 2.3.1-1) to restore the right-of-way. Atlantic committed to maintaining low speed limits on all ACP access roads to minimize wildlife collisions. Impacts associated with construction activities are anticipated to be temporary, and based on the limited amount of habitat removal relative to the available habitat in the surrounding area, the ACP is not anticipated to have significant long-term, adverse effects on this species or its habitat.
Pileated Woodpecker *Dryocopus pileatus*	Indicative of successful maintenance of desired habitat conditions relative to abundance of snags within mature, old growth forest types. Prefers dense deciduous forests in the southeast, but also found in coniferous or mixed forests. Prefers woods with a tall closed canopy and a high basal area. Nests in cavities and feeds on insects, especially carpenter ants and beetle larvae, fruits, and seeds (NatureServe, 2015).	Construction would cause permanent loss of nesting and foraging habitat, and if present, disturbance, removal of the nest, and potential mortality of nesting woodpeckers.	Atlantic would adhere to TOYR for migratory birds in the GWNF as outlined in the *Migratory Bird Plan* (see table 2.3.1-1) and the *COM Plan* (see appendix G), and construction and restoration plans (see table 2.3.1-1). Based on the limited amount of mature forest and snags that would be removed within the GWNF (see table 4.8.9-5), the ACP is not anticipated to have significant long-term, adverse effects on this species or its habitat.

TABLE R-3 (cont'd)

Management Indicator Species in the Atlantic Coast Pipeline Project Area with Potential Habitat or Populations within the Monongahela National Forest and George Washington National Forest

Forest/Species (*Scientific Name*)	MIS / Forest Plan Objectives and Habitat Description	Potential Impacts from ACP Construction and/or Operation	Conservation Measures and Conclusion
Acadian Flycatcher *Empidonax virescens*	Indicative of successful maintenance of desired conditions within mature riparian habitats. Moist deciduouds forests with moderate understory, generally near a stream. Prefers large forests tracts (NatureServe, 2015).	Construction would cause permanent loss of nesting and foraging habitat, and if present, disturbance, removal of the nest, and potential mortality of nesting flycatchers. Because this is a forest interior species, habitat fragmentation would also contribute to loss of habitat loss and increased risk of parasitism and predation.	Atlantic would adhere to TOYR for migratory birds in the GWNF as outlined in the *Migratory Bird Plan* (see table 2.3.1-1) and the *COM Plan* (see appendix G), and construction and restoration plans (see table 2.3.1-1). Based on the limited amount of mature riparian forest that would be removed within the GWNF, the ACP is not anticipated to have significant long-term, adverse effects on this species or its habitat.
Eastern Towhee *Pipilo erythrophthalmus*	Indicative of successful maintenance of desired conditions within early successional habitats. Inhabits forest and swamp edges, regenerating clearcuts, open-canopied forests, mid-late successional fields, riparian thickets, overgrown fencerows, shrub/small-tree thickets, and other brushy habitat (NatureServe, 2015).	Construction would cause temporary loss of nesting and foraging habitat, and if present, disturbance, removal of the nest, and potential mortality of nesting towhees. Based on this species preference for early successional habitat, Atlantic may create additional suitable habitat for this species within the permanently maintained right-of-way.	Atlantic would adhere to TOYR for migratory birds in the GWNF as outlined in the *Migratory Bird Plan* (see table 2.3.1-1) and the *COM Plan* (see appendix G), and construction and restoration plans (see table 2.3.1-1). In addition, Atlantic committed to conducting maintenance mowing outside of the nesting season during operations. Based on the short-term nature of impacts on towhee habitat, and potential to create additional habitat following construction, the ACP is not anticipated to have significant long-term, adverse effects on this species or its habitat.
Scarlet Tanager *Piranga olivacea*	Indicative of successful maintenance of desired conditions within drier mid- and late-successional oak and oak-pine forest habitats. Breeds in deciduous forest and mature deciduous woodland, including deciduous and mixed swamp and floodplain forests and rich moist upland forests, typically where oak is dominant. Common in relatively closed canopy with high diversity of shrubs, and sparse ground cover. They are able to successfully breed in small forest patches (NatureServe, 2015).	Construction would cause permanent loss of nesting and foraging habitat, and if present, disturbance, removal of the nest, and potential mortality of nesting tanagers.	Atlantic would adhere to TOYR for migratory birds in the GWNF as outlined in the *Migratory Bird Plan* (see table 2.3.1-1) and the *COM Plan* (see appendix G), and construction and restoration plans (see table 2.3.1-1). Based on the limited amount of oak and oak-pine forest that would be removed within the GWNF, the ACP is not anticipated to have significant long-term, adverse effects on this species or its habitat.

TABLE R-3 (cont'd)

Management Indicator Species in the Atlantic Coast Pipeline Project Area with Potential Habitat or Populations within the Monongahela National Forest and George Washington National Forest

Forest/Species (*Scientific Name*)	MIS / Forest Plan Objectives and Habitat Description	Potential Impacts from ACP Construction and/or Operation	Conservation Measures and Conclusion
Ovenbird *Seiurus aurocapilla*	Indicative of successful maintenance of desired conditions relative to interior forest habitat within mature mesic deciduous forests. This species is sensitive to forest fragmentation. Breeds in mid- to late-successional closed-canopied deciduous or mixed forests with deep leaf litter and limited understory. Ground-nesting bird; generally found absent in regenerating clearcuts (NatureServe, 2015).	Construction would cause permanent loss of nesting and foraging habitat, and if present, disturbance, removal of the nest, and potential mortality of nesting ovenbirds. Because this is a forest interior species, habitat fragmentation would also contribute to loss of habitat loss and increased risk of parasitism and predation.	Atlantic would adhere to TOYR for migratory birds in the GWNF as outlined in the *Migratory Bird Plan* (see table 2.3.1-1) and the *COM Plan* (see appendix G), and construction and restoration plans (see table 2.3.1-1). Based on the limited amount of mature mesic deciduous forest that would be removed within the GWNF, the ACP is not anticipated to have significant long-term, adverse effects on this species or its habitat.
Hooded Warbler *Setophaga citrina*	Indicative of successful maintenance of providing dense understory and mid-story structure within mature mesic deciduous forests. Nests in the understory of deciduous forests, especially along streams and ravine edges, and thickets in riverine forests. Inhabits yound and mature forest, but is more abundant in mature forests (NatureServe, 2015).	Construction would cause permanent loss of nesting and foraging habitat, and if present, disturbance, removal of the nest, and potential mortality of nesting warblers. Because this is a forest interior species, habitat fragmentation would also contribute to loss of habitat loss and increased risk of parasitism and predation.	Atlantic would adhere to TOYR for migratory birds in the GWNF as outlined in the *Migratory Bird Plan* (see table 2.3.1-1) and the *COM Plan* (see appendix G), and construction and restoration plans (see table 2.3.1-1). Based on the limited amount of mature mesic deciduous forest that would be removed within the GWNF, the ACP is not have significant long-term, adverse effects on this species or its habitat.
Chestnut-sided Warbler *Setophaga pensylvanica*	Indicative of successful maintenance of desired conditions within high elevation early successional habitats. Inhabits second-growth thickets of deciduous trees and shrubs, orchards, pasturelands, forest edges, cut-over forests, roadsides, open deciduous woodlands, and powerline corridors (NatureServe, 2015).	Construction would cause temporary loss of nesting and foraging habitat, and if present, disturbance, removal of the nest, and potential mortality of nesting warblers. Based on this species preference for early successional habitat, Atlantic may create additional suitable habitat for this species within the permanently maintained right-of-way.	Atlantic would adhere to TOYR for migratory birds in the GWNF as outlined in the *Migratory Bird Plan* (see table 2.3.1-1) and the *COM Plan* (see appendix G), and construction and restoration plans (see table 2.3.1-1). In addition, Atlantic committed to conducting maintenance mowing outside of the nesting season during operations. Based on the short-term nature of impacts on warbler habitat, and potential to create additional habitat following construction, the ACP is not anticipated to have significant long-term, adverse effects on this species or its habitat.
Pine Warbler *Setophaga pinus*	Indicative of successful maintenance of mature pine forests. Strongly associated with pine and pine-hardwood forests during breeding and winter seasons. Adapts well to pine plantations (NatureServe, 2015).	Construction would cause loss of nesting and foraging habitat, and if present, disturbance, removal of the nest, and potential mortality of nesting warblers.	Atlantic would adhere to TOYR for migratory birds in the GWNF as outlined in the *Migratory Bird Plan* (see table 2.3.1-1) and the *COM Plan* (see appendix G), and construction and restoration plans (see table 2.3.1-1). Based on the limited amount of pine forest that would be removed within the GWNF, the ACP is not anticipated to have significant long-term, adverse effects on this species or its habitat.

TABLE R-3 (cont'd)

Management Indicator Species in the Atlantic Coast Pipeline Project Area with Potential Habitat or Populations within the Monongahela National Forest and George Washington National Forest

Forest/Species (*Scientific Name*)	MIS / Forest Plan Objectives and Habitat Description	Potential Impacts from ACP Construction and/or Operation	Conservation Measures and Conclusion
Cow Knob Salamander *Plethodon punctatus*	Indicative of successful management activities designed specifically to meet conservation objectives for this species. Standards and desired conditions for this species limit development within cow knob salamander suitable habitat, and limit activies that could cause fragmentation, isolation, edge effects, and invasion of non-native species. Found at high elevations in mixed deciduous forest interspersed with Virginia pine and hemlock and numerous rock outcrops. Most abundant in old-growth forests with many downed logs and abundant surface rocks, including talus (NatureServe, 2015; VDGIF, 2016k). Field survey confirmed that suitable habitat occurs on Tower Hill Mountain and on Gum Tree Hill within areas with high concentrations of rock cover. No individuals were detected.	Construction activities would contribute to habitat loss and degradation of potentially suitable habitat.	Atlantic would implement the *COM Plan* (see appendix G), and *Rehabilitation and Restoration Plan* (see appendix F) to restore the right-of-way. No direct impacts on individuals. Conclusion pending GWNF review of survey results and conservation measures.

Sources: USDA 2011 and 2014

TABLE R-4

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
MAMMALS				
Northern River Otter *Lontra canadensis lataxina*	All Counties Crossed	Semi-aquatic species that occurs in riparian areas; also require some heavy cover (VDGIF, 2016b).	There are 45 pipeline and access road waterbody crossings on the GWNF (some waterbodies may be crossed more than once), including 29 perennial waterbody crossings. All mainline waterbody crossings would be dry crossings (i.e., dam and pump or flume). Potential impacts would include short- to long-term removal of riparian habitat, short-term increase in sedimentation and changes to hydrology, and potential short-term disturbance to foraging habitat and species. Potential mortality or injury from construction equipment could occur; however, it is anticipated that river otters would move out of the construction area.	Impacts on water quality would be limited to the time needed to construct the waterbody crossing. Atlantic would implement the *COM Plan* (see appendix G), which includes sediment and erosion control measures for both the waterbody crossings and access roads. Impacts on forested riparian habitat would be long term to permanent; however, these impacts would be localized and adjacent habitat would be available. Impacts on herbaceous and shrub-scrub riparian habitat would be short- to long-term depending on the species. Atlantic would adhere to the GWNF waterbody buffer requirements, which vary in extent depending upon the waterbody classification and slope, to mitigate potential effects from ground-disturbing activities (see section 4.3).
Fisher *Martes pennanti pennanti*	Highland, Bath, Augusta	Originally occurred in both red spruce and mixed hardwood forests in Virginia; survives best in extensive forest and wilderness areas. Found in high closed canopy spruce-fir, cedar, spruce-aspen, alder, pine, and oak-hickory forests. This species avoids open areas with no overhead cover (VDGIF, 2016b).	Impacts include habitat loss and fragmentation, and introduction of barriers to wildlife corridors. The construction and permanent right-of-way would create an open area, which this species would likely avoid. By fragmenting continuously forested habitat, it may also reduce available foraging habitat. There is potential for mortality or injury during construction; however, it is anticipated that fishers would move out of the construction area.	If present, construction and operation of ACP would result in permanent habitat loss and fragmentation of forested habitat. Although woody species would be allowed to regenerate within the construction right-of-way, the permanent right-of-way would be maintained clear of tree and shrub species.
Least Weasel *Mustela nivalis allegheniensis*	Highland, Bath, Augusta, Nelson, Buckingham	Edge of marshes, grasslands, open forests and woodlands, open grasslands, pastures, forest edges, and residential and urban environments (VDGIF, 2016b).	Impacts would include short term removal of habitat and disturbance. There is potential for mortality or injury during construction; however, it is anticipated that fishers would move out of the construction area.	This species is found in a variety of habitats, including grasslands and forest edges. After completion of construction, the construction right-of-way would be restored as outlined in the *COM Plan* (see appendix G), and least weasels could occupy this habitat.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Allegheny Woodrat *Neotoma magister*	Highland, Bath, Augusta	Blue Ridge to the wet in wooded bottomlands, banks, caves, and cliffs (VDGIF, 2016l). Field surveys documented four rock outcrops that are potentially suitable for woodrat; and a woodrat latrine was documented where Allegheny woodrat presence is assumed.	Direct loss of habitat and habitat fragmentation. Fragmentation isolates populations and eliminates access to food sources. Loss of foraging plants (American chestnut [*Quercus prinus*]). Sedimentation during construction could fill underground crevices used as habitat.	Atlantic would implement the *COM Plan* (see appendix G) to control sediment erosion and restore the right-of-way. Atlantic is currently consulting with the GWNF regarding this species.
BIRDS				
Cooper's Hawk *Accipter cooperii*	All Counties Crossed / uncommon permanent resident	Nests in a wide variety of forest types, including riverine woodlands. Forages in areas mixed with forests and openings. Winters in mostly mixed forests or pine woods; nests in trees and feeds on birds. (VDGIF, 2016b).	Impacts would include long term to permanent removal of nesting habitat. Construction could disturb nesting hawks if it occurs during the nesting season, and potentially result in loss of nest and eggs. Following construction, the permanent right-of-way could be used as foraging habitat.	Atlantic would adhere to TOYR for migratory birds in the GWNF as outlined in the *Migratory Bird Plan* (see table 2.3.1-1) and the *COM Plan* (see appendix G), and construction and restoration plans (see table 2.3.1-1). In areas where clearining outside of the nesting season is not possible, Atlantic committed to implementing activity buffers around active nests, where possible (locations pending). Impacts on forested habitat would be long term to permanent; however, these impacts would be localized and adjacent habitat would be available. Atlantic could create additional foraging habitat within the permanent right-of-way following construction.
Sharp-Shinned Hawk *Accipter striatus velox*	All Counties Crossed / uncommon and permanent resident; common during spring and fall migration	Prefers open woodland, edges of woods, clearings, hedgerows, bushy pastures, and shorelines. More frequently found in conifers in low elevations and in deciduous trees at high elevations. Prefers matures forests and stream habitats for nesting; nests in trees and feeds on birds (VDGIF, 2016b).	Impacts would include short- to long-term impacts on foraging habitat, and long-term to permanent removal of nesting habitat. Construction could disturb nesting hawks if it occurs during the nesting season, and potentially result in loss of nest and eggs. Following construction, the permanent right-of-way could be used as foraging habitat.	The conservation measures for this species are the same as described above for the Cooper's Hawk.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Northern Saw-Whet Owl *Aegolius acadicus*	Highland, Bath, Augusta, Cumberland / probable breeder at high elevations in western Virginia; rare transient and winter visitor statewide; rare and local summer resident at higher elevations.	Blue Ridge and mountains west of Shenandoah River. High elevation, mature, coniferous forests, sometimes mixed or deciduous forest, with open understory, and riverside habitat nearby. Wooded habitat includes coniferous swamps, disturbed deciduous woods, savannas, riverside forest, and shrub-steppe habitat; nests in tree cavities and feeds on small mammals (CLO, 2016b).	Call surveys were conducted on GWNF and no northern saw-whet owls were audibly or visually detected. Impacts would include long term to permanent removal of nesting, foraging, and wintering habitat. Construction could disturb nesting hawks if it occurs during the nesting season, and potentially result in loss of nest and eggs. Following construction, the permanent right-of-way could be used as foraging habitat.	The conservation measures for this species are the same as described above for the Cooper's Hawk.
Golden Eagle *Aquila chrysaetos*	Highland, Augusta, Nelson / sub-population of 200-1,000 individuals winter in Virginia.	Build nests on cliffs or in the largest trees of forested stands. Avoid nesting near urban habitat or densely forested habitat; feeds primarily on small mammals, but is capable of taking large prey such as cranes, wild ungulates, and domestic livestock (FWS, 2011j). Golden eagle surveys were conducted in the GWNF between March 5-8, 2016 and no eagles were observed.	Although golden eagles were not observed along the route during the nesting season within the GWNF, they were observed outside the GWNF and there is a potential for wintering golden eagles to occur in the ACP project area along the Allegheny and Blue Ridge Mountains. Telemetry data collected from 2006-2015 identified 54,382 telemetry locations concentrated on high ridges throughout the GWNF. Construction activities could disturb golden eagles in their winter habitat. Disturbances near areas that are important for roosting or foraging can stress eagles to a degree that leads to reproductive failure or mortality elsewhere (FWS, 2011j).	Atlantic would adhere to TOYR for migratory birds in the GWNF as outlined in the *Migratory Bird Plan* (see table 2.3.1-1) and the *COM Plan* (see appendix G), and construction and restoration plans (see table 2.3.1-1). Atlantic committed to having a qualified biological monitor walk ahead of clearing crews and search for golden eagles. If golden eagle nests or occupied golden eagle winter roosting habitat are identified ahead of or during construction, Atlantic would stop work and notify the FWS within 24 hours. Impacts and conservation measures related to golden eagles are described in more detail in in section 4.5.3.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Hermit Thrush *Catharus guttatus*	All Counties Crossed / common transient and uncommon winter resident; rare and local summer resident at higher elevations. Breeding occurs in Highland County.	Breeds in lowlands, wooded swamps, and damp forests, and uplands in dry brushy clearings in coniferous or mixed forests. Winters in borders of winter swamps in thick hummocks where there are plentiful fruits; ground-nesting and forages on insects, small amphibians and reptiles, and fruits (VDGIF, 2016b).	Impacts would include long term to permanent removal of nesting, foraging, and wintering habitat. Construction could disturb nesting thrush if it occurs during the nesting season, and potentially result in loss of nest and eggs.	Atlantic would adhere to TOYR for migratory birds in the GWNF as outlined in the *Migratory Bird Plan* (see table 2.3.1-1) and the *COM Plan* (see appendix G), and construction and restoration plans (see table 2.3.1-1). Impacts on forested habitat would be long term to permanent; however, these impacts would be localized and adjacent habitat would be available. Atlantic committed to conducting maintenance of the permanent right-of-way outside of the migratory bird nesting season. Atlantic also committed to incorporate regionally-specific and native forb seeds based on GWNF consultation in its traditionally all-grass seed mix during restoration.
Brown Creeper *Certhia americana*	All Counties Crossed / uncommon to common transient and winter visitor; rare summer resident at higher elevations.	Breeds in dense coniferous, deciduous, or mixed woodlands, wooded swamps with standing dead trees and loose bark; nests and forages insects on trees, also forages on seeds and other plant material (VDGIF, 2016b).	Impacts would include long term to permanent removal of nesting, foraging, and wintering habitat. Construction could disturb nesting creepers if it occurs during the nesting season, and potentially result in loss of nest and eggs.	The conservation measures for this species are the same as described above for the Hermit Thrush.
Sedge Wren *Cistothorus platenis*	Augusta, Bath / rare transient; rare and irregular summer visitor/resident; nomadic breeder; breeding occurs in Augusta and Bath Counties.	Breeds in sedge meadows, and shallow sedge marshes with scattered shrubs and little to no standing water. Winters in drier portions of fresh marshes; nests in shrubs and tall sedges or grasses and is an insectivore. Very limited in available habitat in Virginia (VDGIF, 2016b).	ACP would have limited impacts on wetlands (0.1 acre). Impacts would include short term removal of nesting, foraging, and wintering habitat. Construction could disturb nesting wrens if it occurs during the nesting season, and potentially result in loss of nest and eggs.	Atlantic would adhere to TOYR for migratory birds in the GWNF as outlined in the *Migratory Bird Plan* (see table 2.3.1-1) and the *COM Plan* (see appendix G), and construction and restoration plans (see table 2.3.1-1). Impacts on herbaceous habitat would be short term and localized. Atlantic may potentially create additional breeding habitat within the permanent right-of-way following construction. Atlantic also committed to conducting maintenance of the permanent right-of-way outside of the migratory bird nesting season. Atlantic also committed to incorporate regionally-specific and native forb seeds based on GWNF consultation in its traditionally all-grass seed mix during restoration.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Olive-Sided Flycatcher *Contopus cooperi*	Highland / rare transient statewide, possible breeder in extreme northern Virginia along border with West Virginia, mostly above 5,000 feet.	Breeds in coniferous (spruce) forests near edges and clearings, often along wooded streams and borders of northern bogs and muskegs, burned over areas with a few dead trees for perches. Prefers to be near water. Mainly found in spruce-fir forest areas with dead trees and openings; nests in trees and is an insectivore (especially bees) (VDGIF, 2016b).	Impacts would include long term to permanent removal of nesting and foraging habitat. Construction could disturb nesting flycatchers if it occurs during the nesting season, and potentially result in loss of nest and eggs.	The conservation measures for this species are the same as described above for the Hermit Thrush.
Mourning Warbler *Geothlypis philadelphia*	Highland, Bath, Augusta / rare transient; rare summer resident in Highland, Bath, and western Augusta Counties.	Breeds in dense underbrush of the edge of lowland swamp or bog, bushy hillsides, forest clearings grown to brambles, and shrubs and saplings. Prefers blackberry thickets; ground nesting bird and forages on insects and fruits (VDGIF, 2016b).	Impacts would include short term to long term removal of nesting and foraging habitat. Construction could disturb nesting warblers if it occurs during the nesting season, and potentially result in loss of nest and eggs.	Atlantic would adhere to TOYR for migratory birds in the GWNF as outlined in the *Migratory Bird Plan* (see table 2.3.1-1) and the *COM Plan* (see appendix G), and construction and restoration plans (see table 2.3.1-1). Impacts on shrub-scrub habitat would be short- to long-term depending on the species. These impacts would be localized and adjacent habitat would be available. This species occupies forest clearings grown to brambles; therefore, the ACP has the potential to create suitable habitat for this species through regeneration of the cleared right-of-way.
Red Crossbill *Loxia curvirostra*	Highland, Bath, Augusta / rare and irregular transient and winter visitor; rare and irregular summer resident at high elevations	Breeds and winters in coniferous forests; occasionally winters in hardwood forests; tree nesting bird that forages on conifer seeds (VDGIF, 2016b).	Impacts would include long term to permanent removal of nesting, foraging, and wintering habitat. Construction could disturb nesting crossbill if it occurs during the nesting season, and potentially result in loss of nest and eggs.	The conservation measures for this species are the same as described above for the Hermit Thrush.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Swamp Sparrow *Melospiza georgiana*	All Counties Crossed / uncommon to locally common transient and uncommon to rare winter resident; rare summer resident in Highland County.	Breeds in marshes, swamps, bogs, sloughs with bushes, rank grasses, sedges or reeds, low swampy shores of lakes and streambanks, usually near fresh water. Prefer high elevation bogs for breeding; winter in fresh waters with herbaceous cover; nests in shrubs and tall grasses and forages on seeds, fruits, and aquatic vegetation (VDGIF, 2016b).	ACP would have limited impacts on wetlands (0.1 acre). Impacts would include short term removal of nesting, foraging, and wintering habitat. Construction could disturb nesting sparrows if it occurs during the nesting season, and potentially result in loss of nest and eggs.	The conservation measures for this species are the same as described above for the Sedge Wren.
Nashville Warbler *Oreothlypis ruficapilla*	All Counties Crossed / rare to uncommon transient; rare and local summer resident in Bath, Augusta, and Highland Counties	Breeds in moist open deciduous woods, overgrown pastures and fields, swampy areas, edges of woodlands, and clearings with young secondary growth, especially young trees 10-12 feet in height. Found mainly in small- to medium sized spruce or fir trees along edges of high elevation bogs and edges of spruce-fir forests. Prefers forest openings above 4,000 feet; ground-nesting bird that forages on insects and insect larvae (VDGIF, 2016b).	Impacts would include short term, long-term to permanent removal of nesting, foraging, and wintering habitat. Construction could disturb nesting warblers if it occurs during the nesting season, and potentially result in loss of nest and eggs.	The conservation measures for this species are the same as described above for the Hermit Thrush. Atlantic may potentially create additional breeding habitat within the permanent right-of-way following construction. Atlantic also committed to conducting maintenance of the permanent right-of-way outside of the migratory bird nesting season.
Nothern Waterthrush *Parkesia noveborarcensis*	All Counties Crossed / uncommon transient; rare and local summer resident at higher elevations; summer residency recorded in Highland County.	Breeds in wooded swamps and bogs and less frequently occurs along woodland brooks or streams and swampy wooded shores of pond or lakes; ground-nesting bird that forages on insects, snails, and occasionally small fish (VDGIF, 2016b).	ACP would have limited impacts on wetlands (0.1 acre). Impacts would include long term to permanent removal of nesting, foraging, and wintering habitat. Construction could disturb nesting waterthrush if it occurs during the nesting season, and potentially result in loss of nest and eggs.	The conservation measures for this species are the same as described above for the Hermit Thrush.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Cerulean Warbler *Setophaga cerulea*	All Counties Crossed / uncommon to locally common transient and summer resident; rare local summer resident near Blue Ridge and mountains farther west.	Favors open stands of tall trees along riverbanks or dense deciduous forests with little undergrowth. Always found in mature hardwoods; nests in trees and forages on insects and plant material (VDGIF, 2016b).	Impacts would include long term to permanent removal of nesting, foraging, and wintering habitat. Construction could disturb nesting warblers if it occurs during the nesting season, and potentially result in loss of nest and eggs.	The conservation measures for this species are the same as described above for the Hermit Thrush.This species may respond well to disturbances that can contribute to gaps in the canopy; therefore, ACP has the potential to create suitable habitat for this species through regular maintenance of the right-of-way.
Blackburnian Warbler *Setophaga fusca*	Highland, Bath, Augusta, Nelson / rare to uncommon transient; uncommon summer resident above 1,600 feet elevation.	Breeds in mature conifer forests (spruce-fir, hemlock) in northern areas; prefers ridgetop oak forests with closed canopies mixed with conifers in Southern Appalachians. Most prevalent above 3,500 feet and occurs less frequently down to 1,600 feet elevation; nests in trees and forages on insects and spiders (VDGIF, 2016b).	Impacts would include long term to permanent removal of nesting, foraging, and wintering habitat. Construction could disturb nesting warblers if it occurs during the nesting season, and potentially result in loss of nest and eggs.	The conservation measures for this species are the same as described above for the Hermit Thrush.
Magnolia Warbler *Setophaga magnolia*	All Counties Crossed / uncommon spring and common fall transient east of the Blue Ridge; common transient and common resident and breeder in northwest Highland County. Rare to uncommon at other high elevations.	Nests in low conifers, hemlock, larch, spurce, and fir. Favors spruce or fir forests of both mature and fairly young stands. Also found around bogs with spruce and fir present. May occur in mixed forests; rarely occurs in hemlocks and avoids pure hardwood forests; nests in trees and forages on insect larvae, adult insects, and spiders (VDGIF, 2016b).	Impacts would include long term to permanent removal of nesting, foraging, and wintering habitat. Construction could disturb nesting warblers if it occurs during the nesting season, and potentially result in loss of nest and eggs.	The conservation measures for this species are the same as described above for the Hermit Thrush.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Yellow-Bellied Sapsucker *Sphyrapicus varius*	All Counties Crossed / common to uncommon transient and winter resident; rare and local summer resident over 3,500 feet in the mountains.	Breeds in mixed hardwood-conifer forests, especially near fresh water and openings. Also found in woodlots, and orchards. Winters in floodplain forests and mature ornamental conifers. Typically not found in deep, dense woods; nests in tree cavities and forages on tree sap, insects, and fruit (VDGIF, 2016b).	Impacts would include long term to permanent removal of nesting, foraging, and wintering habitat. Construction could disturb nesting sapsuckers if it occurs during the nesting season, and potentially result in loss of nest and eggs.	The conservation measures for this species are the same as described above for the Hermit Thrush.
Winter Wren *Troglodytes troglodytes*	All Counties Crossed / uncommon transient and winter resident. Uncommon to locally common summer resident in spruce-dominated forest in Mt. Rogers area; uncommon to rare in summer in Shenandoah National Park and scattered locations elsewhere, mostly at high elevations, through present in summer at lower elevations in extreme southwest.	Breeds in or near dense undergrowth of damp coniferous forests, in thickets near woodland streams, banks of marshy ditches, piles of slash, boreal bogs, usually with a dead log from which to sing. Winter in dense undergrowth, especially in moist areas. Mainly breed in spruce-fir forests that have tangles, uprooted trees, and other cover. Also use dark ravines, under hermlocks or beneath hardwoods; nests in tree cavities and forages on insects, insect larvae, millipedes, and spiders (VDGIF, 2016b).	Impacts would include long term to permanent removal of nesting, foraging, and wintering habitat. Construction could disturb nesting sapsuckers if it occurs during the nesting season, and potentially result in loss of nest and eggs.	The conservation measures for this species are the same as described above for the Hermit Thrush.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Golden-Winged Warbler *Vermivora chrysoptera*	Bath, Highland, Augusta, Nelson / rare to uncommon transient; very local summer resident in the mountains and valleys.	Prefer shrubby areas with scattered trees, generally near edges of mature forests. Breed in a variety of early-successional or disturbed habitats including shrubby fields, abandoned farmlands, shrubby swamps, successional forest, utility rights-of-ways, clearings within forests, brushy clearcuts, or shelterwood cuts in deciduous woods. Once a disturbed area becomes too old, this species disappears; ground-nesting bird that forages on catepillars, moths, and other insects and spiders (VDGIF, 2015a).	Impacts would include short term, long-term to permanent removal of nesting, foraging, and wintering habitat. Construction could disturb nesting warblers if it occurs during the nesting season, and potentially result in loss of nest and eggs.	The conservation measures for this species are the same as described above for the Hermit Thrush. Because this species prefers early-successional habitats, ACP has the potential to create suitable habitat for this species through maintenance of the right-of-way outside of the nesting season.
REPTILES				
Spotted Turtle *Clemmys guttata*	Augusta, Nelson, Buckingham, Cumberland, Prince Edward, Dinwiddie, Brunswick, Greensville, Southampton, Suffolk, Chesapeake	Shallow fresh water wetlands including vernal pools, sinkhole ponds, ponds, ditches, flooded fields, streams, floodplains, bogs, marshy pastures, and forested wetlands (VDGIF, 2016b).	Atlantic would cross limited wetland habitat within the GWNF (0.1 acre). Potential impacts would include short- to long-term removal of wetland habitat, short-term increase in sedimentation and changes to hydrology; potential short-term disturbance to foraging habitat and species. Potential mortality or injury from construction equipment; however, it is anticipated that turtles would move out of the construction area.	Impacts on water quality would be limited to the time needed to construct through the wetland or waterbody. Atlantic would implement the *COM Plan* (see appendix G), which includes sediment and erosion control measures for both the wetland and waterbody crossings. Impacts on forested habitat would be long term to permanent; however, these impacts would be localized and adjacent habitat would be available. Atlantic would adhere to the the GWNF waterbody buffer requirements, which vary in extent depending upon the waterbody classification and slope, to mitigate potential effects from ground-disturbing activities (see section 4.3).

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Timber Rattlesnake *Crotalus horridus* *(Not currently included on GWNF locally rare list; however, GWNF plans to add this species)*	Highland, Bath, Augusta, Nelson, Buckingham	Hibernates in fissures in rock ledges or talus slopes. Utilizes diverse forests and open habitats when active (VDGIF, 2015a). GWNF has reported an occurrence of the timber rattlesnake within the ACP project area.	Potential impacts on timber rattlesnake suitable denning habitat located within the construction workspace would be permanent, as construction would require the removal of rocky outcrops and boulder slabs. However, removal of forested vegetation along the right-of-way could increase solar radiation of adjacent rocky outcrops, potentially creating more favorable habitat. Based on 2016 surveys on GWNF, no timber rattlesnakes or signs of rattlesnakes were observed; therefore, no direct impacts are anticipated.	Atlantic would implement Atlantic's *Snake Conservation Plan* (see table 2.3.1-1) to minimize impacts on this species and its habitat.
Smooth Greensnake *Opheodrys vernalis*	Highland, Bath, Augusta, Nelson	Found in upper elevations in the Blue Ridge Mountains. Grassy fields, balds, bogs, open woods, and bramble patches. Will take cover under rock piles and logs; sometimes found as road kills. May aggregate in winter months in ant mounds (VDGIF, 2016b).	Potential impacts would include short-to long-term removal of habitat. Potential mortality or injury from construction vehicles and equipment; however, it is anticipated that greensnakes would move out of the construction area.	Impacts on herbaceous habitat would be short term. After completion of construction, the construction right-of-way would be restored as outlined in the *COM Plan* (see appendix G), and smooth greensnake could occupy this habitat. Atlantic committed to maintaining low speed limits on the construction right-of-way and access roads to minimize collisions with wildlife.
Northern Coal Skink *Plestiodon anthrancinus anthracinus*	Highland, Bath, Augusta, Nelson	Rarely encountered in Virginia. Primary habitat are moist or humid wooded hillsides. Found under cover of leaves and rocks (VDGIF, 2016b).	Impacts include long term to permanent habitat loss, degradation of habitat quality (potential change in microclimate habitat), and fragmentation, and potential introduction of barriers to wildlife corridors. There is potential for mortality or injury during construction; however, it is anticipated that skinks would move out of the construction area.	If present, construction and operation of ACP would result in permanent habitat loss and fragmentation of woodland habitat; however, these impacts would be localized and adjacent habitat would be available. Although woody species would be allowed to regenerate within the construction right-of-way, the permanent right-of-way would be maintained clear of tree and shrub species. Atlantic committed to maintaining low speed limits on the construction right-of-way and access roads to minimize collisions with wildlife.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
AMPHIBIANS				
Eastern Tiger Salamander *Ambystoma tigrinum tigrinum*	Augusta, Nelson	Breeding habitat includes limestone sinkhole ponds associated with wetlands. Terrestrial habitat includes mature forests (VDGIF, 2016m). 2016 surveys completed at 59 wetland features; four sites were identified as moderate habitat and one as high; one larval tiger salamander was observed on private land / no adults were observed.	The greatest threat to this species is the loss of breeding ponds and adjacent woodlands. Direct impacts on breeding habitat include temporary sedimentation and potentially long-term alteration of hydrology associated with the sinkhole pond. Removal of adjacent mature forests would reduce terrestrial habitat available to adults. Construction activities could also fragment or isolate salamanders from their breeding or terrestrial habitat.	GWNF recommended additional surveys of sinkhole ponds within the GWNF, and a 1,000-foot buffer of all sinkhole ponds regardless of presence as they may serve as breeding habitat. Atlantic continues to consult with the GWNF with regard to the conservation measures for this species.
FISH				
Potomac Sculpin *Cottus girardi*	Highland, Bath, Augusta	Rocky runs and pools of creeks and small to medium rivers, often near vegetation (Page and Burr, 1991). Surveys were conducted in 2016 on the GWNF; no Potomac sculpin were observed at crossing locations. Per correspondence with the GWNF, this species is known in the Cowpasture River (FS, 2016c).	Atlantic would cross 29 perennial waterbodies in the GWNF. Altantic would also cross the Cowpasture River, where this species has been documented, approximately 0.3 miles upstream and downstream from the GWNF property boundaries. Potential impacts would include short- to long-term removal of riparian habitat, short-term increase in sedimentation and changes to hydrology; potential short-term disturbance to foraging habitat and species. Potential mortality or injury from construction equipment; however, it is anticipated that sculpin would move out of the construction area.	Although the crossing of the Cowpasture River is not located within the GWNF, there is potential for downstream effects. The Cowpasture River would be crossed by the mainline pipeline utilizing a dry crossing technique. Atlantic would implement the *Virginia Fish Relocation Plan* (see table 2.3.1-1) to remove all fish species trapped within areas proposed for dewatering or in-stream work prior to initiating construction. Atlantic would also install two permanent access roads across the Cowpasture River, which could result in increased sedimentation during construction and use. General project mitigation measures would apply, including implementation of the VDEQ Virginia Erosion and Sediment Control Handbook and the *COM Plan* (see appendix G). Pending GWNF review of sedimentation analysis.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
BIVALVES (Freshwater Mussels)				
Notched Rainbow *Villosa constricta*	Bath, Augusta, Buckingham, Cumberland, Nottoway, Dinwiddie, Brunswick, Greensville, Southampton	Fast-flowing, clean water in substrates that contain relatively firm rubble, gravel, and sand substrates swept free from silt. Bury in the substrate in shallow riffle and shoal areas. Known or likely from the Cowpasture, Calfpasture, Stuart Run, Lick Run, and Mill Creek drainages (VDGIF, 2016b).	There are 45 pipeline and access road waterbody crossings in the GWNF (some waterbodies may be crossed more than once), including 29 perennial waterbody crossings. All mainline waterbody crossings would be dry crossings (i.e., dam and pump or flume). Potential impacts would include mortality to mussels located at the waterbody crossing location, and short-term increase in sedimentation and changes to hydrology.	Atlantic would implement the FWS and VDGIF Freshwater Mussel Guidelines for Virginia (FWS and VDGIF, 2008) if mussels found; surveys conducted through 2016 have not identified this species in waterbodies crossed on the GWNF. Impacts on water quality would be limited to the time needed to construct the waterbody crossing. Atlantic would implement the *COM Plan* (see appendix G), which includes implementation of the VDEQ Virginia Erosion and Sediment Control Handbook. Pending GWNF review of sedimentation analysis.
CRUSTACEANS (Amphipods and Isopods)				
Sherando Spinosoid Amphipod *Stygobromus* sp. 7	Augusta	Cave and springs (NatureServe, 2015).	Although no caves were identified within the survey corridor on the GWNF, there are potential impacts on adjacent or connected cave systems downstream of the construction right-of-way. Construction activities could alter water flow patterns or increase sediment and contaminant loads, which could lead to a reduction or degradation of available habitat. Amphipod habitat is susceptible to contamination due to the porosity of the substrate. Blasting, trenching, and digging can cause shifts in surface and subsurface formations and hydrology, and may crush amphipods, or alter travel corridors (FWS, 2011i).	Atlantic would implement sediment and erosion control measures and the *SPCC Plan* (see table 2.3.1-1) to minimize contamination of surface or groundwater systems. Atlantic would also implement the *Karst Mitigation Plan* (see appendix I) to minimize potential impacts on this species and its habitat. Consultation with GWNF is ongoing with regard to impacts on karst and potential impacts on this species.
Big Levels Springs Amphipod *Stygobromus* sp. 18	N/A	Cave and springs.	The potential project impacts on this species are the same as described above for the Sherando Spinosoid Amphipod.	The conservation measures for this species are the same as described above for the Sherando Spinosoid Amphipod.
Greenbrier Valley Cave Isopod *Caecidotea holsingeri*	Bath / Butler Sinking Creek Cave System	Inhabits caves in riffle area of streams, in stream gravel, under rocks, on decaying wood in streams and occasionally drip pools (NatureServe, 2015).	The potential project impacts on this species are the same as described above for the Sherando Spinosoid Amphipod.	The conservation measures for this species are the same as described above for the Sherando Spinosoid Amphipod.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
MYRIAPODS (Centipedes and Millipedes)				
Faithful Millipede *Cleidogona fidelitor*	Augusta / Mt. Torry near Sherando Lake	Leaf litter within mixed hardwoods (NatureServe, 2015).	Construction activities would result in the permanent removal of forested habitat and potential mortality of individuals by construction vehicles or equipment.	This species is known to inhabitat leaf litter in deciduous forests, a habitat that is common across the GWNF. Construction and maintenance of the right-of-way would result in conversion to less desirable habitat in some areas. Suitable habitat is very common across the GWNF (FS et al., 2002).
Grand Caverns Blind Cave Millipede *Zygonopus weyeriensis*	Highland, Bath, Augusta / Butler Sinking Creek Cave System	Cave and springs (NatureServe, 2015).	The potential project impacts on this species are the same as described above for the Sherando Spinosoid Amphipod.	The conservation measures for this species are the same as described above for the Sherando Spinosoid Amphipod.
INSECTS				
Springtails				
A springtail *Cliforga alleganiensis*	Bath / Warm Springs Mountain and James River	Oak forests with predominately rhododendron understory (NatureServe, 2015).	Construction activities would result in the permanent removal of forested habitat and potential mortality of individuals by construction vehicles or equipment.	Atlantic committed to avoidance of potential habitat for this species where occurrences have been documented. Atlantic would cross the James River utilizing the HDD method, therefore, impacts would not be anticipated.
Beetles				
A cave beetle *Pseudanophthalmus hypertrichosis*	No documented occurrences of this species from counties crossed by the ACP.	Damp mud banks and caves (NatureServe, 2015).	The potential project impacts on this species are the same as described above for the Sherando Spinosoid Amphipod.	The conservation measures for this species are the same as described above for the Sherando Spinosoid Amphipod.
Crossroads Cave Beetle *Pseudanophthalmus intersectus*	Bath / 2 cave locations	This species has no means of dispersal from caves. Occur in the twilight zone or deeper in or on moist soil, near streams or drip areas. Found under rocks or debris (NatureServe, 2015).	The potential project impacts on this species are the same as described above for the Sherando Spinosoid Amphipod.	The conservation measures for this species are the same as described above for the Sherando Spinosoid Amphipod.
Maddens Cave Beetle *Pseudanophthalmus limicola*	No documented occurrences of this species from counties crossed by the ACP.	This species has no means of dispersal from caves. Occur in the twilight zone or deeper in or on moist soil, near streams or drip areas. Found under rocks or debris (NatureServe, 2015).	The potential project impacts on this species are the same as described above for the Sherando Spinosoid Amphipod.	The conservation measures for this species are the same as described above for the Sherando Spinosoid Amphipod.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Nelson's Cave Beetle *Pseudanophthalmus nelsoni*	No documented occurrences of this species from counties crossed by the ACP.	This species has no means of dispersal from caves. Occur in the twilight zone or deeper in or on moist soil, near streams or drip areas. Found under rocks or debris (NatureServe, 2015).	The potential project impacts on this species are the same as described above for the Sherando Spinosoid Amphipod.	The conservation measures for this species are the same as described above for the Sherando Spinosoid Amphipod.
Petrunkevitch's Cave Beetle *Pseudanophthalmus petrunkevitchi*	No documented occurrences of this species from counties crossed by the ACP.	This species has no means of dispersal from caves. Occur in the twilight zone or deeper in or on moist soil, near streams or drip areas. Found under rocks or debris (NatureServe, 2015).	The potential project impacts on this species are the same as described above for the Sherando Spinosoid Amphipod.	The conservation measures for this species are the same as described above for the Sherando Spinosoid Amphipod.
Dragonflies				
Comet Darner Dragonfly *Anax longipes*	Augusta, GWNF correspondence indicates this species has been documented in sinkhole ponds in Augusta County.	Shallow, fishless ponds with emergent vegetation, or semi-permanent flooded woodlands. Adults are active May to early June. Desktop habitat assessment of the proposed route within the GWNF identified no potential habitat for these species (VDCR and VDGIF, 2013).	Adult dragonflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. There is the potential that construction activities could impact nymphs through direct mortality or temporary reduction in water quality. Atlantic would also remove suitable sinkhole pond habitat, including emergent vegetation that could provide shelter and foraging habitat; habitat assessment results are pending. Vehicle collisions could cause injury or mortality to adult dragonflies.	Atlantic would implement the *COM Plan* (see appendix G), which includes implementation of the VDEQ Virginia Erosion and Sediment Control Handbook. GWNF has requested that Atlantic conduct surveys for sinkhole ponds; consultation is ongoing for this species.
Martha's Penant Dragonfly *Celithemis martha*	GWNF correspondence indicates this species has been documented in sinkhole ponds in Augusta County.	Vegetated ponds and lakes with sand bottoms and unmowed shoreline vegetation and emergent aquatic vegetation; obligate pond breeder. Adults are active late May through September. Desktop habitat assessment of the proposed route within the GWNF identified no potential habitat for these species (VDCR and VDGIF, 2013).	The potential project impacts on this species are the same as described above for the Comet Darner Dragonfly.	GWNF has requested that Atlantic conduct surveys for sinkhole ponds; consultation is ongoing for this species.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Mustached Clubtail Dragonfly *Gomphus adelphus*	Bath, Augusta	Occurs in and around clean, fast-flowing rivers. Adults are active from May 30-June 28 (VDCR and VDGIF, 2013).	Adult dragonflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. There is the potential that construction activities could impact nymphs through direct mortality or temporary reduction in water quality. Atlantic would also remove suitable riparian habitat that could provide shelter and foraging habitat. Vehicle collisions could cause injury or mortality to adult dragonflies.	There are 45 pipeline and access road waterbody crossings in the GWNF (some waterbodies may be crossed more than once), including 29 perennial waterbody crossings. All mainline waterbody crossings would be dry crossings (i.e., dam and pump or flume). Impacts on water quality would be limited to the time needed to construct the waterbody crossing. Atlantic would implement the *COM Plan* (see appendix G), which includes implementation of the VDEQ Virginia Erosion and Sediment Control Handbook.
Harpoon Clubtail Dragonfly *Gomphus descriptus*	Highland / U.S. 250 near Head Waters	Clean, sandy and rocky rivers with strong current. Adults are active late May to late June (VDCR and VDGIF, 2013).	The potential project impacts on this species are the same as described above for the Mustached Clubtail Dragonfly.	The conservation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.
Midland Clubtail Dragonfly *Gomphus fraternus*	No documented occurrences of this species from counties crossed by the ACP.	Mud-bottomed lakes and rivers. Adults are active late May to mid-July (VDCR and VDGIF, 2013).	The potential project impacts on this species are the same as described above for the Mustached Clubtail Dragonfly.	The conservation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.
Rapids Clubtail Dragonfly *Gomphus quadricolor*	Bath, GWNF correspondence indicates this species has been documented in Cowpasture River.	Inhabits pools of rapid streams and rivers. Adults are active early May to mid-July (VDCR and VDGIF, 2013).	The potential project impacts on this species are the same as described above for the Mustached Clubtail Dragonfly.	The conservation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.
Chalk-fronted Corporal Skimmer Dragonfly *Ladona julia*	Highland, Augusta / Buck Run Ponds	Mud-bottomed lakes and ponds. Adults are active early June to early August (VDCR and VDGIF, 2013).	The potential project impacts on this species are the same as described above for the Mustached Clubtail Dragonfly.	ACP does not cross mud-bottomed lakes or ponds on the GWNF; therefore, impacts on this species are not anticipated.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Northern Pygmy Clubtail Dragonfly *Lanthus parvulus*	Highland	Running waters with strong currents over clean gravel that contains sand and silt deposits. Adults are active May through July (VDCR and VDGIF, 2013). Desktop habitat assessment of the proposed route within the GWNF identified no potential habitat for these species.	The potential project impacts on this species are the same as described above for the Mustached Clubtail Dragonfly.	The conservation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.
Southern sprite Dragonfly *Nahalennia intergricollis*	Augusta, Dinwiddie, Greensville, Brunswick, GWNF correspondence indicates this species has been documented in sinkhole ponds in Augusta County.	Occur near grassy lakes and boggy ponds, usually within dense vegetation. Adults are active June through September (VDCR and VDGIF, 2013). Desktop habitat assessment of the proposed route within the GWNF identified no potential habitat for these species.	The potential project impacts on this species are the same as described above for the Comet Darner Dragonfly.	GWNF has requested that Atlantic conduct surveys for sinkhole ponds; consultation is ongoing for this species.
Stygian Shadowdragon Dragonfly *Neurocordulia yamaskanensis*	No documented occurrences of this species from counties crossed by the ACP.	Medium to large mountain rivers. Adults are active early May to late June (VDCR and VDGIF, 2013).	The potential project impacts on this species are the same as described above for the Mustached Clubtail Dragonfly.	The conservation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.
Spatterdock darner Dragonfly *Rhionaeschna mutata*	Highland, Augusta, GWNF correspondence indicates this species has been documented in sinkhole ponds in Augusta County.	Marshes and shallow lakes or ponds with waterlilies and spatterdock near wooded areas. Adults are active late May to early July (VDCR and VDGIF, 2013). Desktop habitat assessment of the proposed route within the GWNF identified no potential habitat for these species.	The potential project impacts on this species are the same as described above for the Comet Darner Dragonfly.	GWNF has requested that Atlantic conduct surveys for sinkhole ponds; consultation is ongoing for this species.
Williamon's Emerald Dragonfly *Somatochlora williamsoni*	Highland	Slower forest streams or clear-sand or wave washed lake shores. Adults are active May through July (VDCR and VDGIF, 2013).	The potential project impacts on this species are the same as described above for the Mustached Clubtail Dragonfly.	The conservation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Red Saddlebags Dragonfly *Tramea onusta*	Augusta, GWNF correspondence indicates this species has been documented in sinkhole ponds in Augusta County.	Ponds and quiet and still waters. Adults are active mid-May through early October (VDCR and VDGIF, 2013). Desktop habitat assessment of the proposed route within the GWNF identified no potential habitat for these species.	The potential project impacts on this species are the same as described above for the Comet Darner Dragonfly.	GWNF has requested that Atlantic conduct surveys for sinkhole ponds; consultation is ongoing for this species.
Butterflies and Moths				
Silver-Bordered Fritillary Butterfly *Boloria selene*	Bath, Highland, Nelson	Lives in wet meadows and marshes, often at sites with taller vegetation. Larval hosts on various violet species (*Viola* spp.) found in wetlands. Adults are active from June through September (VDCR and VDGIF, 2013). Potential host plants for this species were observed within the GWNF; however, no individuals were documented.	Adult butterflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present. Altantic would remove 0.1 acre of suitable wetland habitat for this species.	Although suitable habitat for this species was observed during surveys on the GWNF, no individuals were observed, therefore, impacts are not anticipated. As outlined in the *COM Plan* (see appendix G), and *Restoration and Rehabilitation Plan* (see appendix F), Atlantic committed to incorporate regionally-specific and native forb seeds in its traditionally all-grass seed mix to create pollination habitat, which may reduce impacts on this species.
Precious Underwing Moth *Catocala prettiosa prettiosa*	N/A; this species is presumed to be extirpated in Virginia.	Restricted to mature swamp forests, forest edges, bog edges, and other habitats with thickets or very large bushes of food plants exceeding 1.5 meters in height. Its larval host plants include serviceberry (*Amelanchier* spp.), and crabapple (*Malus angustifolia*) (VDCR and VDGIF, 2013). A limited number of potential host plants for this species was observed within the GWNF.	Adult moths would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present. Altantic would remove 0.1 acre of suitable wetland habitat for this species.This species has demonstrated sensitivity to herbicide and pesticide use (VDCR and VDGIF, 2013).	Limited suitable habitat for this species was observed during surveys on the GWNF and no individuals were observed; therefore, impacts are not anticipated. Atlantic would minimize use of herbicides and pesticides along the construction and permanent rights-of-way, and would allow tree species to regenerate outside the permanent right-of-way after construction is complete.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Early Hairstreak Butterfly *Erora laeta*	Augusta, Bath, Highland	Woodland openings and moist, but well-drained mature American beech (*Fagus grandifolia*) forests. Its main larval host plant is American beech, and beaked hazelnut (*Coylus cornuta*) is a secondary larval host plant. Adults are active from late April through May and late June through August (VDCR and VDGIF, 2013). Field habitat assessments identified one host plant for this species within the GWNF; however, no individuals were observed.	Adult butterflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present.	Limited suitable habitat for this species was observed during surveys on the GWNF, and no individuals were observed; therefore, impacts are not anticipated. This species may benefit from the presence of woodland clearings, including rights-of-way, by creating additional suitable habitat. In addition, Atlantic would minimize use of herbicides and pesticides along the construction and permanent rights-of-way, and would allow tree species to regenerate outside the permanent right-of-way after construction is complete.
Tawny Crescent Butterfly *Phycoides batesii batesii*	No documented occurrences of this species from counties crossed by the ACP.	Dry habitats, mainly clearings, open woods, and roadsides. Its larval host plants are wavy-leaved asters (*Aster undulatus*) and related species. Adults are active May through early June (VDCR and VDGIF, 2013). Suitable habitat for this species was observed during surveys on the GWNF, however, individuals were not surveyed and therefore are assumed to be present.	Adult butterflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present.	This species may benefit from the presence of woodland clearings, including rights-of-way, by creating additional nectaring habitat. In addition, as outlined in the *Restoration and Rehabilitation Plan* (see appendix F), Atlantic committed to incorporate regionally-specific and native forb seeds in its traditionally all-grass seed mix to create pollination habitat, which may reduce impacts on this species. *Aster* species would be incorporated into some seed mixes. Management of the right-of-way that encourages nectar sources would be beneficial to this species.
Northern Crescent Butterfly *Phycoides cocyta*	Augusta, Bath	Prefers barren habitats, but also associated with streams; more woodland-based than similar species. Its larval host plants are in the genus *Aster* (VDCR and VDGIF, 2013). Adults are active from June through July. Field habitat assessments identified larval host plants for this species within the GWNF; however, no individuals were observed.	The potential project impacts on this species are the same as described above for the Northern Crescent Butterfly.	The potential project impacts on this species are the same as described above for the Northern Crescent Butterfly.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Atlantis Fritillary Butterfly *Speyeria atlantis*		Open habitats including open meadows, bogs, roadside woods, and woodland openings. Its larval host plant are violets (*Viola* spp.). Adults are active mid-June through mid-September (VDCR and VDGIF, 2013). Field habitat assessments identified host plants for this species within the GWNF; however, no individuals were observed.	Adult butterflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present.	Although suitable habitat for this species was observed during surveys on the GWNF, no individuals were observed; therefore, impacts are not anticipated. This species may benefit from the presence of woodland clearings, including rights-of-way, by creating additional nectaring habitat. In addition, as outlined in the *Restoration and Rehabilitation Plan* (see appendix F), Atlantic committed to incorporate regionally-specific and native forb seeds in its traditionally all-grass seed mix to create pollination habitat, which may reduce impacts on this species. Management of the right-of-way that encourages nectar sources would be beneficial to this species.
Chestnut Clearwing Moth *Synanthedon castaneae*	N/A; this species has not been recently documented in Virginia; the only record is from Falls Church.	Its host plant is the American chestnut (*Castanea dentata*) and possibly the chinquapin (*Castanea pumila*) (VDCR and VDGIF, 2013). Potential host plants for this species were observed within the GWNF; however, individual surveys were not conducted. Because individual surveys were not conducted, presence is assumed in suitable habitat.	Adult butterflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present.	Surveys indicate that American chestnut trees were uncommon along the survey corridor in the GWNF. Atlantic would minimize use of herbicides and pesticides along the construction and permanent rights-of-way, and would allow tree species to regenerate outside the permanent right-of-way after construction is complete.
VASCULAR PLANTS				
American Willow-herb *Epilobium ciliatum ssp. ciliatum*	Highland, Bath, Augusta	Bogs, seeps, wet meadows, and wet clearings; usually at higher elevations (Virginia Botanical Associates, 2016). Surveys completed in 2015 identified this species within the GWNF.	Although construction activities would not directly remove individuals, they may encourage the spread of invasive and noxious plants. Regular maintenance of the construction right-of-way would also cause regular disturbance and potential mortality of this species located adjacent to the construction workspace.	Atlantic would implement the *COM Plan* (see appendix G), which includes measures to control the spread of invasive and noxious weeds, and to control erosion and sedimentation. Atlantic would implement dust control as described in the *Fugitive Dust Control and Mitigation Plan* (see table 2.3.1-1). Atlantic is in ongoing consultation with GWNF regarding this species.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Fraser's Marsh St. John's-wort *Hypericum fraseri*	Bath, Highland	Bog, mafic fens, seeps, seepage swamps, depression ponds, and swamps, usually in peaty, nutrient-poor soils (Virginia Botanical Associates, 2016). Surveys identified three populations with a total of approximately 3,815 individuals of this species 1,000 feet downslope from a proposed access road associated with Brown's Pond Conservation Site.	Although construction activities would not directly remove individuals, access road use could contribute to increased dust cover on plants, erosion and sedimentation issues, and may also encourage the spread of invasive and noxious plants.	Atlantic would implement the *COM Plan* (see appendix G), which includes measures to control the spread of invasive and noxious weeds, and to control erosion and sedimentation. Atlantic would implement dust control as described in the *Fugitive Dust Control and Mitigation Plan* (see table 2.3.1-1). Atlantic is in ongoing consultation with GWNF regarding this species.
American Ginseng *Panax quinquefolius (Not a GWNF locally rare species; state-threatened species)*	Highland, Bath, Augusta, Nelson, Buckingham, Cumberland, Prince Edward	Cove forests, and mesic to dry slope forests in base-rich soils (Virginia Botanical Associates, 2016). Identified 20 populations of this species in Highland County within GWNF.	Construction activities would directly remove individuals located within the construction right-of-way, remove or degrade suitable habitat for this species within and adjacent to the construction right-of-way, and disturb the seed bed. Construction activities may also encourage the spread of invasive and noxious plants. Regular maintenance of the construction right-of-way would also cause regular disturbance and potential mortality of this species.	Atlantic would implement the *COM Plan* (see appendix G), which includes measures to control the spread of invasive and noxious weeds, and to control erosion and sedimentation. Atlantic would implement dust control as described in the *Fugitive Dust Control and Mitigation Plan* (see table 2.3.1-1). Atlantic is in ongoing consultation with GWNF regarding this species. GWNF has recommended transplanting if plants cannot be avoided; relocation plan required.
Yellow Nodding Ladies'-tresses *Spiranthes ochroleuca*	Highland, Bath	Open forests, clearings, and meadows often at higher elevations (Virginia Botanical Associates, 2016). Surveys identified 1 individual of this species along a proposed access road.	Construction activities would directly remove individuals located within the access road, remove or degrade suitable habitat for this species within and adjacent to the access road, and disturb the seed bed. Access road use could contribute to increased dust cover on plants, erosion and sedimentation issues, and may also encourage the spread of invasive and noxious plants.	Atlantic would implement the *COM Plan* (see appendix G), which includes measures to control the spread of invasive and noxious weeds, and to control erosion and sedimentation. Atlantic would implement dust control as described in the *Fugitive Dust Control and Mitigation Plan* (see table 2.3.1-1). Atlantic is in ongoing consultation with GWNF regarding this species.

TABLE R-4 (cont'd)

Locally Rare Species with Potential Habitat or Populations within the George Washington National Forest

Species *Scientific Name*	County / Occurrence	Habitat	Potential Project Impacts	Conservation Measures
Three Birds Orchid *Triphora trianthophora ssp. tranthophora*	Bath, Augusta	Mesic slope forests, montane alluvial forests, and large-river floodplain forest. Most often found under hemlocks or in moist soils and moss of old logging roads (Virginia Botanical Associates, 2016). Surveys identified 26 individuals of this species 1,000 feet downslope of a proposed access road associated with Brown's Pond Conservation Site.	Although construction activities would not directly remove individuals, access road use could contribute to increased dust cover on plants, erosion and sedimentation issues, and may also encourage the spread of invasive and noxious plants.	Atlantic would implement the *COM Plan* (see appendix G), which includes measures to control the spread of invasive and noxious weeds, and to control erosion and sedimentation. Atlantic would implement dust control as described in the *Fugitive Dust Control and Mitigation Plan* (see table 2.3.1-1). Atlantic is in ongoing consultation with GWNF regarding this species.
American Vetch *Vicia americana ssp. americana*	Nelson	Dry, shaley or rocky woodlands, forest edges and clearings, riverside prairies and outcrops (Virginia Botanical Associates, 2016). Surveys completed in 2015 identified this species within the GWNF; however, it was not found during re-surveys in 2016.	Construction activities would directly remove individuals located within the construction right-of-way, remove or degrade suitable habitat for this species within and adjacent to the construction right-of-way, and disturb the seed bed. Construction activities may also encourage the spread of invasive and noxious plants. Regular maintenance of the construction right-of-way would also cause regular disturbance and potential mortality of this species.	Atlantic would implement the *COM Plan* (see appendix G), which includes measures to control the spread of invasive and noxious weeds, and to control erosion and sedimentation. Atlantic would implement dust control as described in the *Fugitive Dust Control and Mitigation Plan* (see table 2.3.1-1). Atlantic is in ongoing consultation with GWNF regarding this species.

APPENDIX S

STATE-SENSITIVE SPECIES TABLES

TABLE S-1

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
MAMMALS					
West Virginia northern flying squirrel *Glaucomys sabrinus fuscus*	Priority 1 / S2[b]	Pocahontas, Randolph	Red spruce, fir, spruce-hardwood and northern hardwood forests with well-developed understory. Mostly in moist forests with widely spaced mature trees and an abundance of snags (NatureServe, 2015).	Field surveys confirmed that suitable habitat occurs in proximity to a proposed access road near Gibson Knob on the MNF.	Atlantic would realign the access road to minimize direct impacts on red spruce trees, and would relocate red spruce saplings to adjacent NFS forest areas prior to grading. Atlantic is currently working with the MNF to finalize the conservation measures for the proposed access road that would impact suitable habitat for this species (see table R-1 in appendix R).
Eastern red bat *Lasiurus borealis*	Priority 1/ S4	Pocahontas, Randolph	Wide range of forested and semi-forested habitats, including developed areas with large trees and intensively managed forests. Roost trees are usually large hardwood trees in foliage. Active throughout the year when conditions are suitable (NatureServe, 2015).	Eight individuals of this species were captured during mist-net surveys along the ACP and 19 were captured during mist-net surveys along the SHP.	Clearing of forested vegetation would reduce available roosting and foraging habitat. Because this species is active year round, there is potential for injury or mortality of this species during tree clearing. Disturbance to bats roosting adjacent to access roads or construction activities could also result from noise and/or vibrations generated by these activities.
Hoary bat *Lasiurus cinereus*	Priority 1 / S3	All Counties Crossed	Deciduous and coniferous forests and woodlands, including areas altered by humans. Forages in open areas, including spaces over water and along riparian corridors. Roosts in foliage of large deciduous or coniferous trees, sometimes in rock crevices, rarely in caves. Have been found hibernating in tree trunks, tree cavities, and squirrel's nests. May be found in the southeastern U.S. during the winter months (NatureServe, 2015).	Three individuals of this species were captured during mist-net surveys along the SHP.	Clearing of forested vegetation would reduce available foraging and roosting habitat, although this species is not as common in the southeastern U.S. during the summer months (NatureServe, 2015). Because this species uses trees to hibernate and may be found in the southeastern U.S. during the winter months, there is also potential for injury or mortality of this species during tree clearing.
Snowshoe hare *Lepus americanus*	S3	Pocahontas, Randolph	Prefers the dense cover of coniferous and mixed forests with abundance understory. Also uses coniferous swamps and second-growth areas adjacent to mature forests, alder fens, and conifer bogs (NatureServe, 2015). The WVDNR indicates that this species has the potential to occur in Cheat Mountain and Back Allegheny Mountain.	Surveys were not conducted for this species.	Atlantic has rerouted the ACP to avoid the Cheat Mountain and Back Allegheny Mountain, thus no impacts are anticipated to this species or its habitat.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Southern rock vole *Microtus chrotorrhinus carolinensis*	Priority 1/S2[b]	Pocahontas, Randolph	Cool, moist talus slopes and rocky areas above 915 m elevation within forested streamside riparian areas dominated by rocks greater than 0.2 m diameter and with abundant woody debris, herbaceous vegetation, and moss (Orrock and Pagels, 2003).	Surveys were not conducted for this species; desktop analysis for suitable habitat on the MNF is in progress (see table R-1 in appendix R). Suitable habitat potentially present for this species within the project area.	Potential impacts include temporary to permanent loss or degradation of habitat; potential injury or mortality of individuals if present and unable to move from the area during construction; and increased noise levels that could disrupt normal activities. Atlantic would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1) at waterbody crossings to minimize impacts to this species.
Eastern small-footed bat *Myotis leibii*	Priority 1/S1[b]	Pocahontas, Randolph	Hibernates in caves and mines. Also found in mountainous regions in the summer in rocky habitats (e.g., rocky outcrops, talus slopes, ledges) and man-made structures (WVDNR, 2003). Foraging habitat includes riparian forests, upland forests, clearings, strip mines, and ridgetops (NatureServe, 2015).	Mist-net surveys captured one individual in 2015, and two suitable roosting locations were identified during 2016 habitat surveys along the ACP survey corridor within the MNF.	The two potential roosting locations identified during surveys on the MNF are not located within the ACP construction workspace, and Atlantic intends to construct outside of the active season in most locations; therefore, direct impacts are not anticipated (see table R-1 in appendix R). Some tree clearing may occur in October. Tree clearing on rocky slopes may improve summer habitat for this species by increasing solar radiation on potential summer maternity habitat, making habitat more suitable for roosting; however, tree removal would contribute to loss of foraging habitat (FS et al., 2002).
Little brown bat *Myotis lucifugus*	Priority 1/S2[b]	All Counties Crossed	Roost in cave, buildings, rocks, mines, tunnels, and other man-made structures, and under bridges. Hibernates in caves, tunnels, and mines (NatureServe, 2015).	No bats observed during the 2015 or 2016 surveys on the MNF; however, nine secondary roost trees were identified as potential habitat on the MNF (see table R-1 in appendix R). Additionally, seven individuals were captured during mist-net surveys along the SHP survey corridor.	Atlantic and DTI would clear forested habitat during winter season to minimize direct effects on roosting bats in most locations; however, clearing of forested vegetation reduces available foraging and roosting habitat, and construction through karst features and/or in proximity to bat hibernacula may render hibernacula unsuitable. Disturbance to bats roosting adjacent to access roads or construction activities could also result from noise and/or vibrations generated by these activities. Atlantic would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1) and *Karst Mitigation Plan* (see appendix I) to minimize impacts on potential bat hibernacula.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Allegheny woodrat *Neotoma magister*	Priority 1/S3[b]	Pocahontas, Randolph	Rocky areas such as caves, deep crevices, and large boulder fields in or around hardwood forests with abundance oaks and other mast-bearing trees. Also known from northern hardwood and oak-pine forests (WVDNR, 2003).	Surveys conducted in 2016 on the Lewis Wetzel WMA resulted in no observations of individuals and identified one low quality potentially suitable habitat location outside of the survey corridor. Surveys conducted in 2016 on the MNF documented Allegheny woodrats along two rock formations along Buzzard Ridge,and suitable habitat near Cloverlick Mountain, although the habitat was considered small and marginally suitable.	Because suitable habitat was identified outside SHP project area at Lewis Wetzel WMA, impacts on individuals or suitable habitat are not anticipated at that location. However, suitable habitat for Allegheny woodrats were found within the ACP project area within the MNF. MNF has recommended species-specific conservation measures (see table R-1 in appendix R). Additional suitable habitat for this species may occur outside the MNF and Lewis Wetzel WMA. Construction activities would cause a direct loss of habitat and contribute to habitat fragmentation. Construction activities may also reduce available foraging habitat for this species. Sedimentation during construction could also fill underground crevices used as habitat. Atlantic and DTI would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1) to minimize impacts on this species.
Tri-colored bat *Perimyotis subflavus*	Priority 1/S2[b]	All Counties Crossed	Roost in caves, rock crevices, trees/foliage, and sometimes in buildings in both wooded and cleared areas. Associated with forested landscapes; most foraging occurs along riparian areas. Hibernates in caves, rock crevices, and mines (NatureServe, 2015).	No bats observed during surveys along the ACP; however, nine secondary roost trees were identified as potential habitat on the MNF along the ACP (see table R-1 in appendix R). Additionally, two individuals were captured during mist-net surveys along the SHP.	Atlantic and DTI would clear forested habitat during winter season to minimize direct effects on roosting bats in most locations; however, clearing of forested vegetation reduces available foraging and roosting habitat, and construction through karst features and/or in proximity to bat hibernacula may render hibernacula unsuitable. Atlantic and DTI would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1) and *Karst Mitigation Plan* (see appendix I) to minimize impacts on potential bat hibernacula.
Long-tailed shrew *Sorex dispar*	S2S3[b]	Pocahontas, Randolph, Upshur	Deciduous or evergreen forest mountainous areas with loose talus; rocky damp areas with deep crevices covered by leaf mold and root are preferred. May also occur along small mountain streams (NatureServe, 2015).	Surveys were not conducted for this species. However, suitable habitat potentially present for this species within the ACP project area.	Potential impacts would include temporary to permanent loss of habitat, and potential injury or mortality of individuals if present and unable to move from the area during construction. Construction activities adjacent to suitable habitat would also increase noise levels, which could disrupt normal activities. Atlantic would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1) to minimize impacts to this species.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Southern Water Shrew *Sorex palustris punctulatus*	Priority 1/S1[b]	Pocahontas, Randolph	Undercut banks of high gradient and high elevation (above 900 m) first and second order streams with abundance cover from overhanging rocks, roots, logs, and crevices (NatureServe, 2015).	Surveys were not conducted for this species; desktop analysis for this species is in progress on the MNF (see table R-1 in appendix R).	Potential impacts would include temporary to permanent loss of suitable habitat, and potential injury or mortality of individuals if present and unable to move from the area during construction. Construction activities adjacent to suitable habitat would also increase noise levels, which could disrupt normal activities. Increased sedimentation and turbidity from stormwater run-off during construction into suitable stream habitat could negatively impact this species. Atlantic would implement the sediment and erosion control measures identified in the FERC *Plan* and *Procedures* (see table 2.3.1-1).
Eastern spotted skunk *Spilogale putorius*	Priority 1/S1[b]	Pocahontas	Prefers forested areas or habitats with significant cover. Occupies den in burrow abandoned by other mammals, under brush piles, in hollow logs or trees, rock crevices, under buildings or other protected sites (NatureServe, 2015).	Surveys were not conducted for this species; desktop analysis for this species is in progress on the MNF (see table R-1 in appendix R).	Suitable habitat potentially present for this species within the ACP project area. Use of access road adjacent to suitable habitat could increase noise levels. Fragmentation isolates populations and eliminates access to food sources. Potential injury or mortality if struck by vehicles or equipment using access roads. Sedimentation during construction could fill underground crevices used as habitat. Atlantic would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1) to minimize impacts to this species.
Southern bog lemming *Synaptomys cooperi*	S3[b]	Pocahontas, Randolph, Upshur	Prefers boggy habitat, but also common in marshes, meadows, and upland forests with thick humus layer. Occupies burrows 6-12 inches deep and surface runaways (NatureServe, 2015).	Surveys were not conducted for this species; desktop analysis for this species is in progress on the MNF (see table R-1 in appendix R).	Suitable habitat potentially present for this species within the ACP project area. Potential impacts would include temporary to permanent loss of habitat, and potential injury or mortality of individuals if present and unable to move from the area during construction. Construction activities adjacent to suitable habitat would also increase noise levels, which could disrupt normal activities. Sedimentation from stormwater runoff during construction could fill underground burrows. Atlantic would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1) to minimize impacts to this species.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
BIRDS					
Northern Goshawk *Accipiter gentilis*	Priority 1/S1B/S1N[b]	Randolph, Pocahontas	Typically nest in mature or old-growth forests. In the eastern U.S., prefer hardwood-hemlock forests where black birch and American birch are preferred nest trees. Forages in both heavily forested and relatively open habitats (NatureServe, 2015). Per WVDNR correspondence, this species has been observed at Cheat Mountain and Back Allegheny Mountain, and Rocky Run adjacent to Kumbrabow State Forest, Gauley Mountain, and Middle Fork Williams River.	Potentially suitable habitat identified within the MNF and the Seneca State Forest during 2016 surveys; however, no northern goshawks were observed.	Construction would remove suitable nesting and foraging habitat, and potentially cause disturbance to foraging goshawks. Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1) to minimize impacts to this species. Maintenance of the permanent right-of-way in an herbaceous / scrub-shrub state could increase foraging habitat for this species.
Northern Saw-Whet Owl *Aegolius acadicus*	S2B/S2N	Randolph	Dense coniferous or mixed forests, cedar groves, alder thickets, swamps and tamarack bogs. Often roost in dense evergreens in winter. Forages in heavy shrub habitat (NatureServe, 2015). Per WVDNR correspondence, this species has been observed at Cheat Mountain and Back Allegheny Mountain.	Surveys were not conducted for this species.	Construction would remove suitable nesting habitat, and potentially cause disturbance to foraging owls. Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1) to minimize impacts to this species.
Great Blue Heron *Ardea herodias*	S3B/S4N	Lewis	Nests in colonies in swamps or edges of bodies of waters in the tops of the tallest trees, usually in remote areas. Mature oak-gum-cypress forests are optimal breeding habitat (VDGIF, 2016b).	An active great blue heron rookery was documented with the ACP survey corridor in Lewis County during 2016 bald and golden eagle surveys. The rookery is located 800 feet (0.15 miles) from the ACP centerline.	WVDNR recommends a time of year restriction (TOYR) from February 15 to July 31 for activities within 0.5 mile of a rookery and undisturbed naturally vegetated buffer of at least 500 feet around the rookery be maintained. Atlantic is currently consulting with WVDNR on appropriate mitigation for the rookery located within the 0.5 mile buffer.
Long-Eared Owl *Asio otus*	Priority 1/S1B/S1N[b]	N/A	Deciduous and evergreen forests, orchards, wooded parks, farm woodlots, and river woods. Wooded areas with dense vegetation are used for roosting and nesting; open areas are used for hunting (NatureServe, 2015).	Surveys were not conducted for this species.	Construction would remove suitable nesting and roosting habitat, and potentially cause disturbance to foraging owls. Atlantic and DTI would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1). Maintenance of the permanent right-of-way in an herbaceous / scrub-shrub state could increase foraging habitat for this species.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Ruffed Grouse *Bonasa umbellus*	Priority 1/S3B/S3N	N/A	Dense forest with some deciduous trees in both wet and dry conditions. Young forests provide best conditions. Nests on the ground (NatureServe, 2015). Per WVDNR correspondence, this species has been observed at Cheat Mountain and Back Allegheny Mountain.	Surveys were not conducted for this species.	Suitable habitat for this species is likely to occur in the ACP and SHP project areas. Removal of forested habitat would be long term to permanent, and would also contribute to habitat fragmentation. Construction activities would create noise and vibrations, which could also disrupt normal activities. Atlantic and DTI would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1) to minimize impacts to this species.
Broad-Winged Hawk *Buteo platypterus*	Priority 1/S3B	N/A	Breeds in broadleaf and mixed forests, often near wet areas and forest openings, edges, and woodlands. Migrates along ridges, river valleys, and shorelines (NatureServe, 2015).	This species was incidentally observed during 2016 northern goshawk surveys near the Kumbrabow State Forest survey corridor and within the MNF.	Potential impacts on this species and the proposed mitigation are the same as described above for the Ruffed Grouse.
Canada Warbler *Cardellina canadensis*	Priority 1/S3B	N/A	Breeding habitat consists of moist thickets of woodland undergrowth, bogs, tall shrubbery along streams or near swamps, and deciduous second growth. Nests are on or near the ground (NatureServe, 2015).	Surveys were not conducted for this species.	Potential impacts on this species and the proposed mitigation are the same as described above for the Ruffed Grouse.
Olive-sided Flycatcher *Contopus cooperi*	Priority 1/S1B	Pocahontas	Breeding occurs in forest or woodland areas, especially burned-over areas with standing dead trees. Forage from a variety of forest, woodland, and open habitats with scattered trees (NatureServe, 2015). Per WVDNR correspondence, this species is known from Cheat Mountain and Back Allegheny Mountain.	Surveys were not conducted for this species.	Potential impacts on this species and the proposed mitigation are the same as described above for the Ruffed Grouse.
Alder Flycatcher *Empidonax alnorum*	S3B	No Occurrences in Counties Crossed by SHP or ACP	Brush and shrubby growth, thickets, deciduous forest edge, open second growth, and swamps (NatureServe, 2015). Per WVDNR correspondence, this species is known from Cheat Mountain and Back Allegheny Mountain.	Surveys were not conducted for this species.	Potential impacts on this species and the proposed mitigation are the same as described above for the Ruffed Grouse. Due to this species preference for forest edge and secondary growth, the creation of additional forest edge, and secondary regrowth outside of the permanent right-of-way after restoration could provide additional suitable habitat for this species.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Peregrine Falcon *Falco peregrinus*	Priority 1/S2BS2N[b]	Pocahontas	Typically nest on ledges of vertical cliffs with a sheltering overhang; will also use river banks, open bogs, large stick nests of other species, tree hollows, and man-made structures (NatureServe, 2015).	No peregrine falcons were observed during 2016 bald and golden eagle aerial surveys.	Suitable habitat for this species is likely to occur in the ACP project area. Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1) to minimize impacts to this species.
Migrant Loggerhead Shrike *Lanius ludovicianus migrans*	Priority 1/S1B/S1N[b]	Pocahontas	Open areas, grasslands (often grazed or occasionally mowed) and agricultural landscapes interspersed with forbs, scattered shrubs, and/or small trees. Usually nests in eastern red cedar or hawthorne (VDGIF, 2015a).	Surveys were not conducted for this species.	Suitable habitat for this species is likely to occur in the ACP project area. Construction activities would cause temporary loss of suitable habitat, and could disrupt normal activities. Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1) to minimize impact to this species. Due to this species preference for open herbaceous and occasionally mowed habitats, ACP has the potential to create suitable habitat for this species through maintenance of the right-of-way outside of the nesting season.
Swainson's Warbler *Limnothlypis swainsonii*	Priority 1/S3B	No Occurrences in Counties Crossed by SHP or ACP	Breeding habitat consists of rich, damp, deciduous floodplain and swamp forests. In the mountains, moist lower slopes of mountain ravines at elevations up to 900 meters are preferred (NatureServe, 2015). Per WVDNR correspondence, this species is known from Cheat Mountain and Back Allegheny Mountain.	Surveys were not conducted for this species.	Potential impacts on this species and the proposed mitigation are the same as described above for the Ruffed Grouse.
Red Crossbill *Loxia curvirostra*	S2B/S2N	N/A	Coniferous and mixed coniferous-deciduous forests, pine savanna and pine-oak habitat. Migrate and winter in deciduous forest and more open scrubby areas (NatureServe, 2015). Per WVDNR correspondence, this species is known from Cheat Mountain and Back Allegheny Mountain.	Surveys were not conducted for this species.	Potential impacts on this species and the proposed mitigation are the same as described above for the Ruffed Grouse.
Red-Headed Woodpecker *Melanerpes erythrocephalus*	S3B/S3N[b]	Pocahontas	Open woodland, especially beech or oak, parks, cultivated areas, and gardens (NatureServe, 2015).	Surveys were not conducted for this species.	Potential impacts on this species and the proposed mitigation are the same as described above for the Ruffed Grouse.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Vesper Sparrow *Pooecetes gramineus*	Priority 1/S2B/S2N[b]	No Occurrences in Counties Crossed by SHP or ACP	Ground nesting bird. Found in plains, dry shrubland, savannas, weedy pastures, fields, and woodland clearings (NatureServe, 2015).	Surveys were not conducted for this species.	Suitable habitat for this species is likely to occur in the ACP project area. Construction activities would cause temporary to long term loss of suitable habitat, and could disrupt normal activities. Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1) to minimize impact to this species. Due to this species preference for open herbaceous habitats, the ACP and SHP have the potential to create suitable habitat for this species through maintenance of the right-of-way outside of the nesting season.
American woodcock *Scolopax minor*	Priority 1/S3B	N/A	Associated with young, second-growth hardwoods and other early successional habitats that are a result of periodic forest disturbance. Ideal habitat consists of young forests and abandoned farmland mixed with forested land. Generally considered an edge species (NatureServe, 2015). Per WVDNR correspondence, this species is known from Cheat Mountain and Back Allegheny Mountain.	Surveys were not conducted for this species.	Potential impacts on this species and the proposed mitigation are the same as described above for the Ruffed Grouse. Due to this species preference for early successional, secondary growth, and edge habitat, the secondary regrowth outside of the permanent right-of-way after restoration, and maintenance of the permanent right-of-way outside of the nesting season could provide additional suitable habitat for this species.
Northern waterthrush *Seiurus noveboracensis*	Priority 1/S2B	N/A	Prefers damp woodlands with standing water, thick cover along streams, in marshes, and by stagnant pools, but is also found on lawns and in hedgerows and thickets (NatureServe, 2015).	Surveys were not conducted for this species.	Potential impacts on this species and the proposed mitigation are the same as described above for the Ruffed Grouse.
Golden-winged warbler *Vermivora chrysoptera*	Priority 1/S1B[b], PF	Pocahontas, Randolph	Requires brushy early successional habitat. Prefers to nest in areas such as powerline rights-of-way, shrubby fields, abandoned strip mines, alder swamps, beaver-created wetlands, and abandoned orchards (WVDNR, 2003). Per WVDNR correspondence, this species is known from the vicinity of Gibson Knob and Buzzard Ridge.	Potentially suitable habitat identified within the Kumbrabow State Forest and adjacent to the MNF during 2016 surveys, and one individual was observed on private land adjacent to the MNF (see table R-1 in appendix R).	Suitable habitat for this species is likely to occur in the ACP project area. Construction activities would cause temporary loss of suitable habitat, and could disrupt normal activities. Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1) to minimize impact to this species. Because this species prefers early-successional habitats, the ACP has the potential to create suitable habitat for this species through maintenance of the right-of-way. Atlantic has committed to conducting maintenance mowing outside of the nesting season during operations.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
REPTILES					
Timber rattlesnake *Crotalus horridus*	Priority 1/S3[b]	Pocahontas, Randolph	Hibernates in fissures in rock ledges or talus slopes. Uses diverse forests and open habitats when active (WVDNR, 2006b).	Surveys conducted in 2016 on the Lewis Wetzel WMA along the SHP resulted in no observations of individuals and identified five low quality potentially suitable habitat locations. There is a reported observation from May 2016 within the study corridor in the Lewis Wetzel WMA. Six timber rattlesnakes and suitable habitat were observed within the Seneca State Forest adjoining the MNF about 1.5 miles from the survey corridor for the ACP. No suitable habitat or individuals were observed within the survey corridor in the MNF.	No individuals nor suitable habitat were observed in the area of direct impact for either the SHP or ACP within the Lewis Wetzel WMA or MNF, respectively. However, construction activities would increase noise and vibrations, which may disrupt normal activities, displace snakes, or increase stress for rattlesnakes adjacent to the construction workspace. Suitable habitat for this species is likely to occur outside of the Lewis Wetzel WMA and MNF. Construction would remove foraging habitat, and vehicles could cause injury or mortality. Construction activities could expose rock outcrops that are currently shaded, potentially providing sufficient solar radiation for suitable timber rattlesnake denning or gestating habitat. Atlantic would implement the *Snake Conservation Plan* (see table 2.3.1-1) to provide guidance to construction crews on ways to minimize disturbance and impacts on timber rattlesnake during construction.
Northern ring-necked snake *Diadophis punctatus edwardsii*	S5	All Counties Crossed	Can be found in many habitat types, but seem to prefer wooded areas. Found in rotting logs, piles of dead leaves or under rocks (WVDNR, 2006b).	This species was incidentally observed during 2016 green salamander surveys in the MNF; surveys were not conducted for this species.	Impacts would include temporary habitat loss, disturbance during construction activities, and potential injury or mortality of snakes that are unable to move away from construction equipment or vehicles. Atlantic and DTI would implement the measures in the FERC *Plan* and *Procedures,* and construction and restoration plans (see table 2.3.1-1) to minimize impacts to this species.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
AMPHIBIANS					
Green salamander *Aneides aeneus*	Priority 1/S3[b], PF	All Counties Crossed	Damp crevices in shaded outcrops and ledges, beneath loose bark and in cracks of standing or fallen trees, sometimes under logs on ground (NatureServe, 2015).	Surveys conducted in 2016 along the ACP survey corridor within the MNF; three areas of low quality habitat were identified and no individuals were observed (refer to appendix R). Surveys outside of the MNF were not conducted.	Based on lack of suitable habitat for green salamander within the ACP project area within the MNF, no impacts on this species are anticipated within the MNF. However, there is potentially suitable habitat for this species outside of the MNF. Impacts would include removal of suitable habitat, creation of canopy gaps that could make otherwise shaded habitat unsuitable, injury or mortality resulting from collisions with construction equipment, and noise and vibrations from construction activities could disrupt normal activities. Atlantic and DTI would implement the measures in the FERC *Plan* and *Procedures,* and construction and restoration plans (see table 2.3.1-1) to minimize impacts to this species.
Eastern hellbender *Cryptobranchus alleganiensis*	Priority 1/S2[b]	All Counties Crossed	Found in permanent streams under flat rocks in the riverbed. Found in all elevation streams west of the Allegheny Front.	Surveys were not conducted for this species. This species has been documented in the West Fork Greenbrier River (Pauley, 2004).	There are 112 pipeline and access road perennial stream crossings on ACP, and 95 crossings on SHP (some waterbodies would be crossed more than once) in West Virginia. Waterbody crossings and access road construction/use would temporarily degrade water quality through increased sedimentation and turbidity during construction, disturbance, changes in hydrology, and disturbance and injury or mortality from blasting (see section 4.6 for additional discussion). Removal of riparian habitat may also contribute to increased erosion and sedimentation, and by decreasing shade increase localized water temperatures. Atlantic and DTI would implement the measures in the FERC *Plan* and *Procedures*, and construction and restoration plans (see table 2.3.1-1) to control sedimentation and the introduction of hazardous chemicals, and to restore riparian habitats.
Seal salamander *Desmognathus monticola*	S5	All Counties Crossed	Burrows in banks or under rocks, logs, and leaves in and near small streams (Pauley, 2004).	This species was incidentally observed during 2016 green salamander surveys in the MNF; surveys were not conducted for this species.	Impacts to this species would include temporary habitat loss, potential disruption of normal activities during construction, and potential injury or mortality from construction equipment or vehicles. Atlantic and DTI would implement the measures in the FERC *Plan* and *Procedures,* and construction and restoration plans (see table 2.3.1-1) to minimize impacts to this species.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Allegheny Mountain dusky salamander *Desmognathus ochrophaeus*	S4	Upshur, Randolph, Pocahontas	Found under leaf litter, bark, stones, in crevices of cliffs and rock outcrops. Breeding habitat occurs beneath logs or rocks along small streams or in seepages in stream banks. Found throughout the mountainous areas of West Virginia (Pauley, 2004).	This species was incidentally observed during 2016 green salamander surveys in the MNF; surveys were not conducted for this species.	The potential impacts on and mitigation for this species are the same as those described above for the Seal Salamander.
Mudpuppy *Necturus maculosus*	Priority 1/S4	Wetzel, Harrison, Tyler, Doddridge, Lewis, Upshur	Streams and impoundments under rocks and debris or under bank overhangs. Found throughout the Allegheny Plateau (Pauley, 2004).	This species was incidentally observed during 2015 mussel surveys at one waterbody crossing location along the ACP.	Waterbody crossings and access road construction/use would temporarily degrade water quality through increased sedimentation and turbidity during construction, disturbance, changes in hydrology, and disturbance and injury or mortality from blasting (see section 4.6 for additional discussion). Removal of riparian habitat may also contribute to increased erosion and sedimentation, and by decreasing shade increase localized water temperatures. Atlantic and DTI would implement the measures in the FERC *Plan* and *Procedures*, and construction and restoration plans (see table 2.3.1-1) to control sedimentation and the introduction of hazardous chemicals, and to restore riparian habitats.
Slimy salamander *Plethodon glutinosus*	S5	All Counties Crossed	Wooded slopes, ravines, floodplains, shalebanks, and cave entrances typically within hardwood forests, sometimes pinelands (NatureServe, 2015).	This species was observed during 2016 green salamander surveys in the MNF.	Impacts to this species would include temporary to permanent habitat loss, potential disruption of normal activities during construction, and potential injury or mortality from construction equipment or vehicles. Atlantic and DTI would implement the measures in the FERC *Plan* and *Procedures,* and construction and restoration plans (see table 2.3.1-1) to minimize impacts to this species.
Valley and ridge salamander *Plethodon hoffmani*	S4	All Counties Crossed	Mature hardwood forests with well-drained soils (NatureServe, 2015).	This species was observed during 2016 green salamander surveys in the MNF.	Impacts to this species would include long term to permanent habitat loss, potential disruption of normal activities during construction, and potential injury or mortality from construction equipment or vehicles. Atlantic and DTI would implement the measures in the FERC *Plan* and *Procedures,* and construction and restoration plans (see table 2.3.1-1) to minimize impacts to this species.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Wehrle's salamander *Plethodon wehrlei*	S4	All Counties Crossed	Upland forests and woodlands; found in rock crevices, under rocks, logs, and leaves, and in the twilight zone of caves (NatureServe, 2015).	This species was observed during 2016 green salamander surveys in the MNF.	The potential impacts on and mitigation for this species are the same as those described above for the Seal Salamander.
FISH					
Redside dace *Clinostomus elongatus*	Priority 1/S1S2	All Counties Crossed	Small to medium, cool, clear, rubble and gravel-bottomed streams. Typically occurs in pools with moderate current and overhanging vegetation. Known from the Blackwater River system (NatureServe, 2015).	Surveys were not conducted for this species.	There is a potential for this species to occur within the ACP and SHP project areas. Waterbody crossings and access road construction/use would temporarily degrade water quality through increased sedimentation and turbidity during construction, reduced fish passage, disturbance, changes in hydrology, and disturbance and injury or mortality from blasting (see section 4.6 for additional discussion). Removal of riparian habitat may also contribute to increased erosion and sedimentation, and by decreasing shade increase localized water temperatures. Atlantic would implement the measures in the FERC *Plan* and *Procedures*, and construction and restoration plans (see table 2.3.1-1) to control sedimentation and the introduction of hazardous chemicals, and to restore riparian habitats.
Candy darter *Etheostoma osburni*	Priority 1/S1[b], PF	Pocahontas	Riffles and runs of small cool and warm streams and rivers. Adults are typically found in large rubble to boulder substrates in the swiftest portions of their fast-flowing habitat. Only found in the upper Kanawha River System (WVDNR, 2003). Studies have documented this species in the New River drainage in the MNF, and they are known to occur in the West and East Fork Greenbrier River in the MNF (Chipps et al., 1993; Burns, 2007).	Surveys were not conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Redside Dace.
Allegheny pearl dace *Margariscus margarita*	Priority 1/S2S3[b]	N/A	Found in pools of upland creeks and small rivers, ponds, and lakes over sand or gravel substrate (NatureServe, 2015).	Surveys were not conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Redside Dace.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
New River shiner *Notropis scabriceps*	S2[b]	Pocahontas	Pools and slow runs of cool to warm creeks and small to medium rivers with rocky, gravely, or sand substrates, occasionally with moderate deposits of silt (NatureServe, 2015). Studies have documented this species in the New River drainage in the MNF, and they are known to occur in the West and East Fork Greenbrier River in the MNF (Chipps et al., 1993; Burns, 2007).	Surveys were not conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Redside Dace.
Cheat minnow *Pararhinichthys bowersi*	S1S2[b]	Pocahontas, Randolph, Upshur	Runs and pools of small to medium, un-acidified mountain rivers with moderate current and gravel or cobble substrate (NatureServe, 2015). This species occurs primarily in the Monongahela River Basin, which includes the Cheat River system (Chipps et al., 1993).	Surveys were not conducted for this species. Right Fork Middle Fork River is identified within the extant cheat minnow range.	The potential impacts and mitigation measures for this species are the same as described above for the Redside Dace. In addition, Atlantic would cross the Right Fork Middle Fork River using a dry crossing technique, and because it is also a trout water, would adhere to the TOYR of September 15-March 31.
Appalachia darter *Percina gymnocephala*	S2[b]	Pocahontas	Small to medium rivers in gravel and rubble riffles and raceways; found in deeper waters in fall and winter. Known from the New River system above Kanawha Falls (NatureServe, 2015). A study has documented this species in the New River drainage in the MNF, and they are known to occur in the West and East Fork Greenbrier River in the MNF (Burns, 2007).	Surveys were not conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Redside Dace.
Kanawha minnow *Phenacobius teretulus*	S1[b]	Pocahontas	Riffles and runs of gravel, rubble, and boulder in cool to warm, small to medium rivers. Known from the New River drainage (NatureServe, 2015). Studies have documented this species in the New River drainage in the MNF, and they are known to occur in the West and East Fork Greenbrier River in the MNF, both upstream and downstream of the ACP project area (Chipps et al., 1993; Burns, 2007).	Surveys were not conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Redside Dace.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Brook trout *Salvelinus fontinalis*	Priority 1/S5	Upshur, Pocahontas, Randolph	Clear, cool, well-oxygenated creeks, small to medium rivers, and lakes (NatureServe, 2015). Per WVDNR correspondence, this species is known from the Cheat Mountain and Back Allegheny Mountain area.	Buckhannon River, French Creek, and Right Fork Middle River are designated brook trout waters.	The ACP would cross Buckhannon River, French Creek, Right Fork Middle River, and the unnamed tributaries to these waterbodies using dry crossing techniques or by access roads. Atlantic has committed to adhering to the TOYR of September 15-March 31 for trout waters and adjacent tributaries. SHP does not cross any trout waters. Additional information is provided in section 4.6.
GASTROPODS (Snails)					
Organ cavesnail *Fontigens tartarea*	S2[b]	Pocahontas, Randolph	Inhabits caves under flat rocks in streams with moderate current. Limestone rocks are preferred (NatureServe, 2015). This species has been documented from Dreen Cave in Pocahontas County (Nature Conservancy, 2001), located less than one mile from the ACP construction workspace.	2016 karst surveys identified 64 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way (15 in Randolph County and 49 in Pocahontas County) (see section 4.1.2.3).	Construction activities could alter water flow patterns or increase sediment and contaminant loads, which could lead to a reduction or degradation of available habitat. Organ cavesnail habitat is susceptible to contamination due to the porosity of the substrate. Blasting, trenching, and digging can cause shifts in surface and subsurface formations and hydrology, and may crush snails or alter travel corridors (FWS, 2011i). Atlantic would implement the *Karst Mitigation Plan* (see appendix I) to minimize potential impacts on this species. Consultations are ongoing with the WVDNR with regard to impacts on karst and species habitat.
BIVALVES (Freshwater Mussels)					
Elktoe *Alasmidonta marginata*	Priority 1/S1[b]	Pocahontas	Found in small, medium and large streams with swift current and gravel, sand, or cobble substrate (NatureServe, 2015).	None identified during surveys.	No impacts anticipated on this species. Atlantic would implement the *West Virginia Mussel Survey Protocol* (Clayton et al., 2016) upon authorization from the WVDNR if mussels are present.
Threeridge *Amblema plicata*	S3	All Counties Crossed	Habitat varies from small to large rivers, and lakes with little to no current to areas of swift current. Also found in a variety of substrates including clay, mud, sand, sand-gravel, and gravel (NatureServe, 2015).	None identified during surveys.	No impacts anticipated on this species. Atlantic would implement the *West Virginia Mussel Survey Protocol* (Clayton et al., 2016) upon authorization from the WVDNR if mussels are present.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Spike *Elliptio dilatata*	S3	All Counties Crossed	Medium to large rivers and streams primarily in shoal habitat of unimpounded streams and rivers; also occasionally found in tailwaters of dams or lakes (NatureServe, 2015).	This species was identified at one waterbody crossing location along the ACP.	The waterbody where this species was identified would be crossed using the cofferdam technique. The potential impacts and mitigation measures for this species are the same as described above for the Redside Dace. Atlantic would implement the *West Virginia Mussel Survey Protocol* (Clayton et al., 2016) upon authorization from the WVDNR to relocate non-federally protected mussel species prior to construction.
Wabash pigtoe *Fusconaia flava*	S1	Doddridge	Medium to large rivers at depths up to 15 feet; favored substrate consists of coarse sand and gravel (NatureServe, 2015).	Species was observed during 2015 SHP mussel surveys at one waterbody crossing location.	The waterbody where this species was identified would be crossing using the dam and pump technique for the mainline pipeline, and would also be crossed with a permanent access road. Atlantic has also proposed to withdraw water where this species was found. The potential impacts and mitigation measures for this species are the same as described above for the Redside Dace. Atlantic would implement the *West Virginia Mussel Survey Protocol* (Clayton et al., 2016) upon authorization from the WVDNR prior to construction.
Plain pocketbook *Lampsilis cardium*	S3	All Counties Crossed	Found in medium to large rivers and shallow water lake habitats (Nature Serve 2015).	None identified during surveys.	No impacts anticipated on this species. Atlantic would implement the *West Virginia Mussel Survey Protocol* (Clayton et al., 2016) upon authorization from the WVDNR if mussels present.
Fatmucket clam *Lampsilis siliquoidea*	NR	All Counties Crossed	Medium to large low gradient streams and rivers, and shallow water lake habitat. Found in variety of substrates, but prefers quiet or slow-moving water with mud bottom (NatureServe, 2015).	Species was observed during 2015 SHP mussel surveys at two waterbody crossing locations; and at one waterbody location along the ACP.	The waterbodies where this species was identified along the SHP and ACP would be crossed using dry crossing techniques. One waterbody would also be crossed by a permanent access road. Atlantic has also proposed to withdraw water from both crossing locations where found. The potential impacts and mitigation measures for this species are the same as described above for the Redside Dace. Atlantic would implement the *West Virginia Mussel Survey Protocol* (Clayton et al., 2016) upon authorization from the WVDNR to relocate mussel species prior to construction.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Fluted-shell *Lasmigona costata*	S3	All Counties Crossed	Canals, rivers, and lakes on gravel, sand, or mud substrates (NatureServe, 2015).	None identified during surveys.	No impacts anticipated on this species. Atlantic would implement the *West Virginia Mussel Survey Protocol* (Clayton et al., 2016) upon authorization from the WVDNR if mussels present.
Green floater *Lasmigona subviridis*	Priority 1/S2[a,b]	Pocahontas	Fast-flowing, clean water in firm rubble, gravel and sand substrates swept free from siltation. Found buried in substrate in shallow riffle and shoal areas. Known from the Greenbrier watershed (Cummings and Cordeiro, 2012).	None identified during surveys.	This species is currently under review by USFWS for listing under the ESA (refer to section 4.7.1.13). No impacts anticipated on this species. Atlantic would implement the *West Virginia Mussel Survey Protocol* (Clayton et al., 2016) upon authorization from the FWS and WVDNR if mussels present.
Round hickorynut *Obovaria subrotunda*	Priority 1/S3	All Counties Crossed	Medium to large rivers and streams in sand and gravel substrates with moderate flow and depths up to 2 meters (NatureServe, 2015).	None identified during surveys.	No impacts anticipated on this species. Atlantic would implement the *West Virginia Mussel Survey Protocol* (Clayton et al., 2016) upon authorization from the WVDNR if mussels present.
Creeper (squawfoot) *Strophitus undulatus*	S3	All Counties Crossed	Habitat generalist found in streams and rivers in a variety of flow conditions, and in lakes and ponds (NatureServe, 2015).	Species was observed during 2015 SHP mussel surveys at two waterbody crossing locations.	The waterbodies where this species was identified along the SHP would be crossed using dry crossing techniques. Atlantic has also proposed to withdraw water from one crossing location where found. The potential impacts and mitigation measures for this species are the same as described above for the Redside Dace. Atlantic would implement the *West Virginia Mussel Survey Protocol* (Clayton et al., 2016) upon authorization from the WVDNR to relocate mussel species prior to construction.
CRUSTACEANS (Amphipods, Isopods, and Decapods)					
Cannulate cave isopod *Caecidotea cannula*	Priority 1/S1[b]	Randolph	Inhabits subterranean streams and pools under flat rocks. Known from Alpena Cave No. 1, Glady Cave, Bowden Cave, and Harper Cave in Randolph County (NatureServe, 2015).	2016 karst surveys identified 15 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way in Randolph County (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Greenbrier Valley cave isopod *Caecidotea holsingeri*	S3[b]	Pocahontas, Randolph	Inhabits caves in riffle area of streams, in stream gravel, under rocks, on decaying wood in streams and occasionally drip pools. Known from 10 caves in Pocahontas County and 5 caves in Randolph County (NatureServe, 2015). This species has been documented from Dreen Cave in Pocahontas County (Nature Conservancy, 2001), located less than one mile from the ACP construction workspace.	2016 karst surveys identified 64 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way (15 in Randolph County and 49 in Pocahontas County) (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.
A cave obligate isopod *Caecidotea simonini*	Priority 1/S1[b]	Randolph	Found in subterranean rivers. Known from Flower Pot, Stillhouse, Aquaterra and Commander Adama Killer Bat caves in Randolph County (NatureServe, 2015).	2016 karst surveys identified 15 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way in Randolph County (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.
Elk River crayfish *Camburus elkensis*	G2/S1[b]	Pocahontas	Low gradient, medium-sized rivers with moderate gradient. Substrate includes sand, gravel, sandstone boulders, and cobbles. Endemic to the upper Elk River basin. Freshwater cave species occurring near entrances to very deep in cave systems (NatureServe, 2015). This species has been documented in Slaty Fork and Old Field Fork in Pocahontas County (Nature Conservancy, 2001).	2016 karst surveys identified 49 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way in Pocahontas County (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.
Greenbrier Cave crayfish *Cambarus nerterius*	Priority 1/S1?[b], PF	Pocahontas	Subterranean streams, usually in the upper portions of the cave or dry stream beds. Found in one cave in the Elk River Drainage in Pocahontas County (NatureServe, 2015).	2016 karst surveys identified 49 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way in Pocahontas County (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Culver's Cave amphipod *Stygobromus culveri*	Priority 1/S1[b]	Randolph	Subterranean obligate species found in mud-bottom seep and drip pools in caves. Only known from three caves in Tucker and Randolph Counties.	2016 karst surveys identified 15 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way in Randolph County (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.
Greenbrier cave amphipod *Stygobromus emarginatus*	Priority 1/S3[b]	Pocahontas, Randolph	Relatively wide spread obligate subterranean amphipod. Predominantly found in small, gravel bottom cave streams, or pools fed by ceiling drips or seepage water (NatureServe, 2015). This species has been documented from Dreen Cave in Pocahontas County (Nature Conservancy, 2001), located less than one mile from the ACP construction workspace.	2016 karst surveys identified 64 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way (15 in Randolph County and 49 in Pocahontas County) (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.
Pocahontas cave amphipod *Stygobromus nanus*	Priority 1/S1[b]	Pocahontas	Only three specimens known from Piddling Pit Cave in Pocahontas County. Found in mud-bottom drip pools and associated seepage (NatureServe, 2015).	2016 karst surveys identified 49 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way in Pocahontas County (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.
Minute cave amphipod *Stygobromus parvus*	Priority 1/S1[b], PF	Pocahontas, Randolph	Known from 4 cave sites. Found in mud-bottomed, drip, and seep pools in caves (NatureServe, 2015).	2016 karst surveys identified 64 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way (15 in Randolph County and 49 in Pocahontas County) (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
MYRIAPODS (Millipedes)					
Greenbrier Valley cave millipede *Pseudotremia fulgida*	S3[b]	Pocahontas	Subterranean obligate. Reported from 10 caves in Pocahontas County (NatureServe, 2015).	2016 karst surveys identified 49 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way in Pocahontas County (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.
Grand Caverns blind cave millipede *Zygonopus weyeriensis*	Priority 1/S2[b]	Pocahontas, Randolph	Subterranean obligate. This species has been documented from Cass Cave and Dreen Cave in Pocahontas County (Nature Conservancy, 2011), located 3.8 miles and less than one mile from the ACP construction workspace, respectively.	2016 karst surveys identified 64 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way (15 in Randolph County and 49 in Pocahontas County) (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.
INSECTS					
Cave Beetles					
A cave beetle *Pseudanophthalmus fuscus*	S2[b]	Pocahontas	Subterranean obligate. Documented from the Piddling Pit Cave in Pocahontas County (Nature Conservancy, 2011).	2016 karst surveys identified 49 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way in Pocahontas County (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.
A cave beetle *Pseudanophthalmus hypertrichosis*	S3[b]	Pocahontas, Randolph	Subterranean obligate. Known from 14 caves in Pocahontas County and 2 caves in Randolph County (NatureServe, 2015). This species has been documented from Cass Cave and Dreen Cave in Pocahontas County, and Simmons-Mingo Cave System in Pocahontas and Randolph Counties (Nature Conservancy, 2001), located 3.8 miles, 0.7 mile, and 0.4 mile, respectively from the ACP construction workspace.	2016 karst surveys identified 64 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way (15 in Randolph County and 49 in Pocahontas County) (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Tiger Beetles					
Appalachian tiger beetle *Cicindela ancocisconensis*	Priority 1/S3[b]	Pocahontas, Randolph	Inhabits dry sandy banks and islands along major rivers east of the Allegheny Mountains; found in dry, sandy openings among sparse vegetation above the river shoreline (Allen and Acciavatti, 2002).	Surveys were not conducted for this species.	Construction activities could cause injury or mortality to individuals located in the right-of-way during construction, and would temporarily remove suitable habitat and disrupt normal activities. Based on this species preference of open habitat, right-of-way clearing and maintenance could have a beneficial effect by creating potentially suitable habitat (FS et al., 2002).
Springtails					
Gandy Creek Cove springtail *Pseudosinella certa*	Priority 1/S1[b]	Randolph	Subterranean obligate; habitat is poorly known (NatureServe, 2015).	2016 karst surveys identified 15 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way in Randolph County (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.
A springtail Pseudosinella gisini gisini	Priority 1/S3[b]	Pocahontas, Randolph	Subterranean obligate (NatureServe, 2015).	2016 karst surveys identified 64 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way (15 in Randolph County and 49 in Pocahontas County) (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.
A springtail *Sinella agna*	Priority 1/S3[b]	Pocahontas, Randolph	Subterranean obligate (NatureServe, 2015).	2016 karst surveys identified 64 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way (15 in Randolph County and 49 in Pocahontas County) (see section 4.1.2.3).	The potential impacts and mitigation measures for this species are the same as described above for the Organ Cave Snail.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Dragonflies and Damselflies					
Rapids clubtail dragonfly *Gomphus quadricolor*	Priority 1/S3[b]	Pocahontas, Randolph	Clear streams and brooks with strong current over clean gravel, cobbles, or bedrock (NatureServe, 2015).	Surveys were not conducted for this species.	Adult dragonflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. There is the potential that construction activities could impact nymphs through direct mortality or temporary reduction in water quality. Atlantic would also remove suitable riparian habitat that could provide shelter and foraging habitat; habitat assessment results are pending. Vehicle collisions could cause injury or mortality to adult dragonflies. Atlantic and DTI would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1), which includes sedimentation and erosion control measures and waterbody crossing measures to minimize impacts to this species.
Green-faced clubtail *Gomphus viridifrons*	Priority 1/S3[b]	Pocahontas, Randolph, Marshall	Clear, rocky rivers and streams; has also been found in reservoirs and other impoundments (Olcott, 2011).	Surveys were not conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Rapids Clubtail Dragonfly.
Riffle snaketail *Ophiogomphus carolus*	Priority 1/S2[b]	Pocahontas	Prefers clear, clean, rocky streams. Has been documented from the Greenbrier River (Olcott, 2011).	Surveys were not conducted for this species.	Atlantic would cross the Greenbrier River using a cofferdam, and has proposed in-stream blasting and water withdraw at this location. The potential impacts and mitigation measures for this species are the same as described above for the Rapids Clubtail Dragonfly.
Butterflies, Moths, & Skippers					
Early hairstreak butterfly *Erora laeta*	S2[b]	Randolph	Woodland openings and moist, but well-drained mature American beech (*Fagus grandifolia*) forests. Its main larval host plant is American beech, and beaked hazelnut (*Coylus cornuta*) is a secondary larval host plant. Adults are active from late April through May and late June through August (VDCR and VDGIF, 2013).	Surveys were not conducted for this species.	Adult butterflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present. This species may benefit from the presence of woodland clearings, including rights-of-way, by creating additional suitable habitat. In addition, Atlantic would minimize use of herbicides and pesticides along the construction and permanent rights-of-way, and would allow tree species to regenerate outside the permanent right-of-way after construction is complete.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Milne's euchlaena moth *Euchlaena milnei*	Priority 1/S2[b]	Pocahontas	Hardwood and mountain oak woodlands with acidic soil. Its larval host plant is unknown. Adults are active in from early to mid-July (VDCR and VDGIF, 2013).	Surveys were not conducted for this species.	Adult moths would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present.
Starry campion moth *Hadena ectypa*	Priority 1/S1[b]	Pocahontas	Wooded areas or openings. Its larval host plant include species of the genera *Silene*, including starry campion (*Silene stellata)* and bladder campion (*Silene vulgaris)* (NatureServe, 2015).	Surveys were not conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Early Hairstreak Butterfly.
Bronze copper butterfly *Lycaena hyllus*	Priority 1/S2[b]	Pocahontas	Low, wet areas such as bogs, marshes, wet meadows, and ponds. Its larval host plants are members of the buckwheat family, including curly dock (*Rumex crispus*). Adults are active June-September in the northern part of their range, and May-November in southern part of their range (Lotts and Naberhaus, 2016).	Surveys were not conducted for this species.	Adult butterflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present. This species may benefit from the clearing of the right-of-way by encouraging the spread of its larval host plant, curly dock. Curly dock is an introduced species that adapts to disturbed areas, such as roadsides, farm fields, and other weedy habitats (Virginia Botanical Associates, 2016).
West Virginia white butterfly *Pieris virginiensis*	Priority 1/S3[b]	Pocahontas	Moist deciduous woodlands or mixed woods. Its larval host plants are toothworts (*Dentaria diphylla* and *D. laciniata*). Adults are active from April-May (Lotts and Naberhaus, 2016).	Surveys were not conducted for this species.	This species is a weak flyer and will not fly across open areas including rights-of-way; therefore, if it is present, construction equipment could cause injury or mortality. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present. Tree and shrub species would be allowed to regenerate outside the permanent right-of-way after construction is complete.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Diana fritillary *Speyeria diana*	Priority 1/S2S3[b]	Lewis, Pocahontas, Randolph, Upshur	Favor wooded areas, particularly in low-lying valleys, pine woods, and cove forests, within or near mountain ranges. Its larval host plants are violets (*Viola* spp.). Adults are active from mid-June to early September (VDCR and VDGIF, 2013).	Surveys were not conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Early Hairstreak Butterfly. In addition, as outlined in its *Restoration and Rehabilitation Plan* (see appendix F), Atlantic has committed to incorporate regionally-specific and native forb seeds in its traditionally all-grass seed mix to create pollination habitat, which may reduce impacts on this species. Impacts on this species are anticipated to be localized and minimal; management of the right-of-way that encourages nectar sources would be beneficial to this species.
FLATWORMS					
Hoffmaster's Cave flatworm *Macrocotyla hoffmasteri*	Priority 1/S2[b]	Pocahontas, Randolph	Subterranean obligate (NatureServe, 2015).	2016 karst surveys identified 64 karst features that were located within, adjacent to, would receive drainage from the proposed ACP right-of-way (15 in Randolph County and 49 in Pocahontas County) (see section 4.1.2.3).	Construction activities could alter water flow patterns, or increase sediment and contaminant loads, which could lead to a reduction or degradation of available habitat. Flatworm habitat is susceptible to contamination due to the porosity of the substrate. Blasting, trenching, and digging can cause shifts in surface and subsurface formations and hydrology, and may crush flatworms, or alter travel corridors (FWS, 2011). Atlantic would implement the *Karst Mitigation Plan* (see appendix I) to minimize potential impacts on this species. Consultations are ongoing with the WVDNR with regard to impacts on karst and species habitat.
VASCULAR PLANTS					
Summer sedge *Carex aestivalis*	S3	Pocahontas, Randolph	Dry to mesic forests, seepage slopes, and meadows in the mountains to 1,600 meters (Flora of North America Editorial Committee, eds., 1993+).	Identified during surveys on private land along ACP.	Construction activities would result in direct loss of individuals and degradation of suitable habitat. Construction activities could also introduce or encourage the spread of invasive and noxious plants. Atlantic would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement its *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Brome-like sedge *Carex bromoides ssp. bromoides*	S3	Pocahontas, Randolph, Upshur	Forested floodplains, wet hardwood forests, hardwood swamps, occasionally wet meadows, marsh edges (Flora of North America Editorial Committee, eds., 1993+).	Identified during surveys on private land along ACP.	The potential impacts and mitigation measures for this species are the same as described above for the Summer Sedge.
Troublesome sedge *Carex molesta*	S3	Tyler	Fields, roadsides, bottomlands, open woods, on dry to wet, often heavy, calcareous soils from 100 to 700 meters elevation (Flora of North America Editorial Committee, eds., 1993+).	Last record collected prior to 1977 in Tyler County. This species was observed during 2015 plant surveys along the SHP survey corridor.	The potential impacts and mitigation measures for this species are the same as described above for the Summer Sedge.
Necklace sedge *Carex projecta*	S3	Harrison, Pocahontas	Stream banks, moist depressions in mixed and deciduous forests, moist to wet grasslands, meadows, thickets, shores, ditches from 10 to 400 meters elevation (Flora of North America Editorial Committee, eds., 1993+).	This species was observed during 2015 SHP plant surveys.	The potential impacts and mitigation measures for this species are the same as described above for the Summer Sedge.
Roan Mountain sedge *Carex roanensis*	Priority 1/S2[b]	Randolph, Pocahontas	Rich soils of mid- to high-elevation mesic forests in the southern Appalachians (NatureServe, 2015).	Field surveys identified 4 populations of sedge on private land and 3 populations on the MNF.	On the MNF, Atlantic would remove 2.9 acres of Roan Mountain sedge populations and suitable habitat; reducing the known populations within the survey corridor by a total of 89 percent. In addition, 1.4 acres of suitable mesic forest habitat would be permanently removed. Construction activities would degrade adjacent suitable habitat (e.g., hydrology, soil compaction, light), reducing plant health and fecundity of individuals near the forest's edge. Atlantic has identified a population of invasive plant species in proximity to the Roan Mountain sedge populations, which could spread into the disturbed right-of-way. Atlantic would implement the *COM Plan* on NFS lands (see appendix G), and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement its *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants. MNF has requested a site-specific avoidance and minimization strategy for this species (see table R-1 of appendix R).

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Appalachian oak fern *Gymnocarpium appalachianum*	Priority 1/S2[b]	Pocahontas	Maple-birch-hemlock woods on mountain slopes and summits, in sandstone, talus slopes, or boulder colluvium, typically at elevations above 2,000 feet (NatureServe, 2015)	Field survey identified a population of approximately 10,000 individuals near Forest Route 55 adjacent to the ACP project area in the MNF, covering 0.4 acre.	On the MNF, Atlantic would remove less than 0.1 acre of Appalachian oak fern population and suitable habitat; reducing the known populations within the survey corridor by a total of 0.2 percent. Construction activities would degrade adjacent suitable habitat (e.g., hydrology, soil compaction, light), reducing plant health and fecundity of individuals near the forest's edge. Atlantic has identified a population of invasive plant species in proximity to the Appalachian oak fern population, which could spread into the disturbed right-of-way. Atlantic would implement the *COM Plan* on NFS lands (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement *its Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants. Pending conservation measures in coordination with WVDNR and MNF. MNF has requested as site-specific avoidance and minimization strategy for this species (see table R-1 in appendix R).
False Indian-plantain *Hasteola suaveolens*	S3[b]	Randolph, Tyler	Rich woods, shaded, wet areas bordering streams (Flora of North America Editorial Committee, eds., 1993+).	This species was observed during 2015 SHP plant surveys.	The potential impacts and mitigation measures for this species are the same as described above for the Summer Sedge.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
White alumroot *Heuchera alba*	Priority 1/S2[b]	Pocahontas, Randolph	In West Virginia, this species has been found on acid rock outcrops, sandstone, roadsides, high summits, grassy balds, edge of sinkhole, and in hardwood and dwarf pine forests. Found in elevations ranging from 2,205 to 4,200 feet associated with Aquilegia spp., wall-rue, maidenhair spleenwort, and purple-stem cliffbrake (NatureServe, 2015).	Field survey identified 1 population of 75 individuals covering 0.6 acre on the MNF, and another individual outside of the ACP project area.	On the MNF, Atlantic would remove 0.4 acre of White Alumroot population and suitable habitat; reducing the known populations within the survey corridor by a total of 77 percent. Construction activities would degrade adjacent suitable habitat (e.g., hydrology, soil compaction, light), reducing plant health and fecundity of individuals near the forest's edge. Atlantic has identified a population of invasive plant species in proximity to the Alumroot population, which could spread into the disturbed right-of-way. Atlantic would implement the *COM Plan* on NFS lands (see appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement its *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants. Pending conservation measures in coordination with MNF and WVDNR. MNF has requested as site-specific avoidance and minimization strategy for this species (see table R-1 in appendix R).
Butternut *Juglans cinerea*	S3[b]	Marshall, Wetzel, Tyler, Doddridge, Upshur, Randolph, Pocahontas	Rich mesophytic forests, lower slopes, ravines, and various types of bottomland, including banks and terraces of creeks and streams, and floodplain forests (NatureServe, 2015).	This species was observed during surveys on private land along the ACP.	The potential impacts and mitigation measures for this species are the same as described above for the Summer Sedge.
Four-flowered loosestrife *Lysimachia quadriflora*	S1	Marshall, Tyler, Doddridge, Harrison, Upshur, Randolph, Pocahontas	Moist prairies, meadows, roadsides, springs, swamps, bogs, and other wetlands up to 600 meter elevation (Flora of North America Editorial Committee, eds., 1993+).	This species was observed during 2015 SHP plant surveys.	The potential impacts and mitigation measures for this species are the same as described above for the Summer Sedge.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Bristly black currant *Ribes lacustre*	S2[b]	Pocahontas	Moist woods and streambanks to drier forest slopes at low to moderate elevations (Burke Museum of Natural History and Culture, 2016).	Last record collected prior to 1977 in Pocahontas County. Field surveys identified one population near an old access road on the MNF; however, fruits were not available at the time of the field surveys, and therefore identification was not confirmed, but assumed.	The individual identified would be located approximately 24 feet upslope from the construction workspace. Although no individuals would be directly impacted by construction; construction activities could degrade suitable habitat adjacent to the right-of-way (e.g., hydrology, soil compaction, light). Atlantic has identified a population of invasive plant species in proximity to the currant population, which could spread into the disturbed right-of-way. Atlantic would implement the *COM Plan* on NFS lands (see table appendix G) and *Restoration and Rehabilitation Plan* (see appendix F) to restore the right-of-way, and would implement its *Invasive Plant Species Management Plan* (see table 2.3.1-1) to control the spread of invasive and noxious plants. Pending conservation measures in coordination with WVDNR and MNF. MNF has requested as site-specific avoidance and minimization strategy for this species (see table R-1 in appendix R).
Smooth hedge-nettle *Stachys tenuifolia*	S3	Marshall, Wetzel, Tyler, Randolph	Moist and low woodland, ravines, streambanks, pond margins, swamps, and wet meadows (Missouri Plants, 2007).	Last record collected prior to 1977 in these counties. This species was observed during surveys on private land along ACP and SHP.	The potential impacts and mitigation measures for this species are the same as described above for the Summer Sedge.
Bashful bulrush *Trichophorum planifolium*	Priority 1/S1	Pocahontas	Dry fields, clearings, open woods, and basic ledges. Primary habitat consists of dry, rocky woods; typically hardwoods (NatureServe, 2015).	This species was identified during surveys on the MNF.	The potential impacts and mitigation measures for this species are the same as described above for the Summer Sedge.

TABLE S-1 (cont'd)

West Virginia Species of Greatest Concern With Potential to Occur in the Atlantic Coast Pipeline and Supply Header Project Area

Species/Scientific Name	SGCN Priority/State Status[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation

[a] Species under review for federal listing under the Endangered Species Act.

[b] Species is identified as a Regional Foresters' Sensitive Species or Management Indicator Species in the Monongahela National Forest, see section 4.7.3 and appendix R.

[c] Based on the WVDNR Species by Taxa and Priority updated Tuesday, July 14, 2015 (http://www.wvdnr.gov/Revised%20Appendix%201.pdf).

[d] County Occurrence data for animals is based on sources cited in the Habitat Description column, and information from federal and state agencies. County Occurrence information for vascular plants is based on the Atlas of West Virginia Vascular Flora (Harmon et al., 2006).

State Rank: S1 = Critically Imperiled, S2 = Imperiled, S3 = Vulnerable, S4 = Apparently Secure, S5 = Secure, SH= Possibly Extirpated, ? = Inexact Number Rank

State Rank (Birds): S_B: breeding status; these species typically inhabit the state only during the breeding season, S_B/S_N: breeding and non-breeding status when they differ.

Species of Greatest Conservation Need (SGCN) Prioritization: Priority 1 – Priority for conservation work in the next decade; species that are not identified as Priority 1 species are Priority 2 species.

PF – federally petitioned species

DL – federally delisted species

NR – not ranked

TABLE S-2

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
MAMMALS					
Eastern (Rafinesque's) big-eared bat *Corynorhinus rafinesquii macrotis*	S2/E (Tier Ia)	Greensville, Southampton, Suffolk, Chesapeake	Mature hardwood floodplain forests. Roosts in hollow trees, under loose bark, houses, unoccupied buildings, and culverts (VDGIF, 2015a).	2016 surveys potentially detected this species at one acoustic site in Suffolk County, and four bats were captured during mist-net surveys in Southampton County. A bridge roost was identified within the construction workspace with an emergence count of 82 bats. This species has been documented at Meherrin River; Nottoway River and Sycamore Bend swamps; and Quaker Swamp, which are crossed by or in the vicinity of ACP (VDCR, 2016b).	This species is very sensitive to disturbance, which may play a role in roost abandonment. Removal of suitable habitat (mature forests) and insecticides have also played a role in decline. Atlantic and DTI would clear forested habitat during winter season to minimize direct effects on roosting bats in most locations; however, clearing of forested vegetation reduces available foraging and roosting habitat, and construction through karst features and/or in proximity to bat hibernacula may render hibernacula unsuitable. Disturbance to bats roosting adjacent to access roads or construction activities could also result from noise and/or vibrations generated by these activities. Atlantic would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1) and *Karst Mitigation Plan* (see appendix I) to minimize impacts on potential bat hibernacula. VA SWAP recommended conservation actions include creation of alternative roost sites, protect and increase bottomland habitat, and long-term management to allow forest to mature to size necessary for roost sites (VDGIF, 2015a). Pending VDGIF review of survey results and recommended conservation measures.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Virginia northern flying squirrel *Glaucomys sabrinus fuscus*	S1/E (Tier Ia)	Highland	High-altitude, old growth forest with a significant spruce-fir component. Most common nest trees include Norway spruce (*Picea abies*), American beech (*Fagus grandifolia*), yellow birch (*Betula alleghaniensis*), and black birch (*B. lenta*) (VDGIF, 2015a).	Desktop habitat assessment completed and no suitable habitat has been identified within the ACP project area.	Suitable habitat for this species located within the GWNF has been avoided by reroutes; however, ACP would impact an additional 6.3 acres of red spruce habitat between AP-1 MPs 63.6 and 71.7 outside the GWNF. Clearing of this forested vegetation would remove potentially suitable habitat for the Virginia northern flying squirrel and would be a permanent impact.
Southern rock vole *Microtus chrotorrhinus carolinensis*	S1/E[b] (Tier IIa)	Highland, Bath	Cool, moist talus slopes and rocky areas above 915 m elevation within forested streamside riparian areas dominated by rocks greater than 0.2 m diameter and with abundant woody debris, herbaceous vegetation, and moss (Orrock and Pagels, 2003).	No suitable habitat has been identified within the ACP project area. Additional surveys will be completed in 2017.	No suitable habitat for this species has been identified at this time; therefore no impacts are anticipated to this species. Pending 2017 survey data.
Southeastern myotis *Myotis austroriparius*	S2 (Tier IVa)	Suffolk, Chesapeake, Southampton	In the summer, roosts in caves; in the winter prefers hollow trees, mines, caves, and buildings. Roosting sites are always near permanent waterbodies (VDGIF, 2015a).	No individuals were detected during 2015 or 2016 surveys; however, suitable habitat for this species is available in the ACP project area. This species has been documented at the Meherrin River; Nottoway River and Sycamore Bend swamps; and Quaker Swamp, which are crossed by or in the vicinity of ACP (VDCR, 2016b).	Primary threats to this species appear to be the loss of roost sites and wooded wetland habitats. The potential impacts and mitigation measures for this species are the same as described above for the Eastern (Rafinesque's) Big-Eared Bat.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Eastern small-footed myotis *Myotis leibii*	S2[b] (Tier Ia)	Highland, Bath, Augusta	Generally roost on the ground under rocks, in crevices, and occasionally in buildings and under tree bark. Hibernates in solution and fissure caves and mine tunnels near the entrance (VDGIF, 2015a).	2016 surveys detected eastern small-footed bats at one acoustic site. This species has been documented at the Big Levels-Maple Flats Conservation Site, which is in proximity of ACP (VDCR, 2016b).	Atlantic intends to construct outside of the active season in most locations; therefore, direct impacts are not anticipated, although some tree clearing may occur in October. Tree clearing on rocky slopes may improve summer habitat for this species by increasing solar radiation on potential summer maternity habitat, making habitat more suitable for roosting (FS et al., 2002); however tree clearing would also reduce foraging habitat. Construction activities could also disturb bats in the vicinity, potentially disrupting normal activities. Pending VDGIF review of survey results and recommended conservation measures.
Little brown bat *Myotis lucifugus lucifugus*	S1S3/PE (Tier Ia)	All Counties Crossed	Roost in cave, buildings, rocks, and trees, under bridges, in mines, in tunnels, and other man-made structures (VDGIF, 2015a).	One brown bat was captured during 2016 mist-net surveys in Suffolk County. This species has been documented at the Burnsville Cove Conservation Site, which is in proximity of ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Eastern (Rafinesque's) Big-Eared Bat.
Allegheny woodrat *Neotoma magister*	S3[b] (Tier IVa)	Highland, Bath, Augusta, Nelson	Blue Ridge to the west in wooded bottomlands, banks, caves, and cliffs (VDGIF, 2016l).	Field surveys documented four rock outcrops that are potentially suitable for woodrat; and a woodrat latrine was documented on AP-1 where Allegheny woodrat presence is assumed on the GWNF. Surveys pending at 9.6 miles and are anticipated to be complete in June 2017.	Construction activities would result in direct loss of habitat and habitat fragmentation. Fragmentation isolates populations and eliminates access to food sources. Loss of foraging plants (American chestnut [*Quercus prinus*]). Sedimentation during construction could fill underground crevices used as habitat. Pending VDGIF review of survey results and recommended conservation measures.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Tri-colored bat (eastern pipistrelle) *Perimyotis subflavus*	S1S3/PE/PF (Tier Ia)	All Counties Crossed	Roost in caves, rock crevices, trees/foliage, and sometimes buildings in both wooded and cleared areas (VDGIF, 2016n).	Two tri-colored bats were captured during mist-net surveys in Nelson and Southampton counties during 2016 surveys. This species has been documented at Jewel Box Cave; and the Burnsville Cove Conservation Site, which are in proximity to ACP (VDCR 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Eastern (Rafinesque's) Big-Eared Bat.
Southern water shrew *Sorex palustris punctulatus*	S1S2/E[b] (Tier IIa)	Bath, Highland	Undercut banks of high gradient and high elevation (above 900 m) first and second order streams with abundance cover from overhanging rocks, roots, logs, and crevices (NatureServe, 2015).	Four streams crossed by the pipeline near the Virginia-West Virginia state line on the GWNF were identified as suitable habitat for water shrew.	In-stream construction activities could displace shrews, cause stress, and disrupt normal activities. Construction equipment could cause injury or mortality to individuals. Increased sedimentation and turbidity from construction activities and use of access roads into suitable stream habitat could temporarily degrade habitat, and impact forage species. Atlantic would implement the sediment and erosion control measures identified in the FERC *Plan* and *Procedures* (table 2.3.1-1). Pending VDGIF review of survey results and recommended conservation measures.
American water shrew *Sorex palustris*	E[b] (Tier IIa)	Bath, Highland	Small, cold streams with thick overhanging riparian vegetation; also around lakes, ponds, marshes, bogs, and other lentic habitats (VDGIF, 2016o).	Four streams crossed by the pipeline near the Virginia-West Virginia state line on the GWNF were identified as suitable habitat for water shrew.	The potential impacts and mitigation measures for this species are the same as described above for the Southern Water Shrew.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
BIRDS					
Northern Saw-Whet Owl *Aegolius acadicus*	S1B/S2N[b] (Tier Ic)	Bath, Highland, Augusta, Cumberland, Nottoway	Blue Ridge and mountains west of Shenandoah River. High elevation, mature, coniferous forests, sometimes mixed or deciduous forest, with open understory, and riverside habitat nearby. Wooded habitat includes coniferous swamps, disturbed deciduous woods, savannas, riverside forest, and shrub-steppe habitat (CLO, 2016b).	Call surveys conducted on GWNF; no northern saw-whet owls were audibly or visually detected; surveys were not required for this species outside of the GWNF.	Potentially suitable habitat for this species occurs within the ACP Project area (see appendix Q). Construction would remove suitable nesting and roosting habitat, and potentially cause disturbance to foraging owls. Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1).
Henslow's Sparrow *Ammodramus henslowii*	S1B/T (Tier Ia)	N/A	Dry to wet fields with dense vegetation and no woody plants (e.g., early successional fields), and high marsh, such as black needlerush (*Juncus roemerianus*)-saltmeadow hay (*Spartina patens*)-salt grass (*Distichlis spicata*) communities (VDGIF, 2015a).	No NHI occurrences within the Project area.	Due to the rarity of this species, no direct impacts are anticipated; however, suitable habitat for this species is likely to occur in the ACP project area. Construction activities would cause temporary loss of suitable habitat, and could disrupt normal activities of birds in the vicinity of the project area. Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1) to minimize impact to this species. Because of this species preference for herbaceous communities without woody plants, clearing of the ROW during construction could provide suitable habitat for this species. Atlantic would mow the ROW outside of the nesting season.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Seaside Sparrow *Ammodramus maritimus*	NR (Tier IVa)	Suffolk	Breeds in short grass tidal marshes and meadows with shrubs and mixed vegetation. Strictly found in salt or brackish marshes (VDGIF, 2016b).	No surveys were conducted for this species.	ACP would permanently impact approximately 3.2 acres of salt or brackish marshes in Virginia (see appendix Q) where this species has the potential to occur. Construction activities would cause temporary loss of suitable habitat, and could disrupt normal activities of birds in the vicinity of the project area. Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1) to minimize impact to this species.
Grasshopper Sparrow *Ammodramus savannarum pratensis*	NR (Tier IVa)	All Counties Crossed	Breeds in hayfields, weedy fallow fields, prairies. Favors grass fields for breeding; during winter broomsedge fields are preferred. Also uses grasses, weed fields, and herbs under open pinewoods (VDGIF, 2016b).	No surveys were conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Henslow's Sparrow.
Great Blue Heron *Ardea herodias*	S3B/S5N	All Counties Crossed	Nests in colonies in swamps or edges of bodies of waters in the tops of the tallest trees, usually in remote areas. Mature oak-gum-cypress forests are optimal breeding habitat (VDGIF, 2016b).	An active great blue heron rookery was documented within the ACP survey corridor in Suffolk (ROOK-ACT-02) during 2016 bald and golden eagle surveys. In addition, three rookeries previously documented by NHI and the Center for Conservation Biology (CCB) in Southampton County are located within 0.5-buffer of the workspace; however, no activity in any of these rookeries was observed during 2016 surveys.	VDGIF recommends a TOYR from February 15-July 31 for activities within 0.5-mile of a rookery; maintain undisturbed naturally vegetated buffer of at least 500 feet around the rookery. ROOK-ACT-02 is located 1,974 feet (0.37 miles) from the ACP workspace. The NHI and CCB rookeries are located between 860 (0.16 miles) and 1,050 feet (0.20 miles) from the ACP workspace. Atlantic is currently coordinating with FWS and VDGIF to identify appropriate conservation measures to work within the recommended buffer for ROOK-ACT-02, and to confirm that no additional conservation measures are necessary at the NHI and CCB rookeries.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Black-Billed Cuckoo *Coccyzus erythropthalmus*	NR (Tier IIb)	Highland, Bath, Augusta, Nelson, Buckingham, Dinwiddie, Nottoway, Suffolk, Chesapeake	Breeds in brushy pastures, shrubby hedgerows at edges of fields, dry, open upland woods, and groves. Found primarily in mature and usually extensive deciduous forests where tangles are present; mainly in mountain country (VDGIF, 2016b).	No surveys were conducted for this species.	Potentially suitable habitat for this species occurs in the ACP project area (see appendix Q). Construction activities would cause temporary to long term loss of suitable habitat, and could disrupt normal activities of birds in the vicinity of the project area. Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1) to minimize impact to this species. Based on this species preference for edge and open habitats, the permanent right-of-way could provide additional suitable habitat for this species, once restored.
Peregrine Falcon *Falco peregrinus*	S1B/S2N/T[b] (Tier Ia)	Highland, Augusta, Nelson, Suffolk, Chesapeake	In western Virginia, peregrine falcons nest in natural, open, rocky cliffs in mountainous areas or river gorges, usually associated with water. In eastern Virginia, falcons use man-made structures such as unfinished bridge piers, bridges, or skyscrapers (VDGIF, 2015a).	Suitable habitat potentially present within the survey corridor; however aerial surveys within a 2-mile wide area for eagles did not observe any peregrine falcons. Pending review of cliff habitat.	VDGIF recommends maintaining a 0.5-mile buffer around peregrine falcon choice habitat during nesting season (February 15-July 15); Atlantic would consult with VDGIF if suitable habitat would be impacted by blasting prior to initiation of blasting activities. Pending review of cliff habitat data in the western part of the ACP project area.
Least Bittern *Ixobrychus exilis exilis*	S3B/S3N (Tier IIIa)	Augusta, Dinwiddie, Suffolk, Chesapeake	Prefers marshes with fresh or brackish waters with tall vegetation. Often in cattails or areas where vegetation is at least three feet tall (VDGIF, 2016b).	No surveys were conducted for this species.	ACP would permanently impact approximately 3.6 acres of emergent freshwater or brackish marshes in Virginia (see appendix Q) where this species has the potential to occur. The potential impacts and mitigation measures for this species are the same as described above for the Seaside Sparrow.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Loggerhead Shrike *Lanius ludovicianus*	S1B/S2N/T[b] (Tier Ia)	All Counties Crossed	Open areas, grasslands (often grazed or occasionally mowed) and agricultural landscapes interspersed with forbs, scattered shrubs, and/or small trees. Usually nests in eastern redcedar or hawthorne (VDGIF, 2015a).	Surveys were conducted on a portion of the ACP survey corridor; no loggerhead shrike were observed.	The potential impacts and mitigation measures for this species are the same as described above for the Henslow's Sparrow.
Swainson's Warbler *Limnothlypis swainsonii*	S2B (Tier IIc)	Augusta, Suffolk, Chesapeake, Southampton	In Appalachian Mountain areas found in rhododendron and mountain laurel communities (VDGIF, 2016b).	No surveys were conducted for this species. This species has been documented in the Great Dismal Swamp: Northwest Section Conservation Site, and Tarrara/SR 35 Conservation Site, which are crossed by or in proximity to ACP (VDCR, 2016b).	Potentially suitable habitat for this species occurs in the ACP project area (see appendix Q). Construction activities would cause long term to permanent loss of suitable forested habitat, and could disrupt normal activities of birds in the vicinity of the project area. Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1) to minimize impact to this species.
Black-and-White Warbler *Mniotilta varia*	NR (Tier IVa)	All Counties Crossed	Breeds in mature or second-growth deciduous or mixed woodlands from sea level to mountain peaks. They prefer sapling stage (age 20) of central hardwood forest clearcuts with high stem densities and closed canopies. Nest in the roots of fallen trees (VDGIF, 2016b).	No surveys were conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Swainson's Warbler.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Bachman's Sparrow *Peucaea aestivalis*	S1B/T (Tier Ia)	Dinwiddie, Nottoway, Southampton, Greensville	Dry, open-canopy pine woods with little woody understory, and dense grass/forb layer such as pine savanna. Also uses old fields and pine clearcuts. Associated with broomsedge (*Andropogon virginicus*). This species has been confirmed within the Fort Pickett Military Reservation (VDGIF, 2015a).	NHI Occurrences within 2-miles of Project area in mid- to late-1990s. This species has been documented at the Rt. 63 Uplands Conservation Site and Fort Pickett Impact Area Conservation Site, which is are in proximity to ACP (VDCR, 2016b).	Based on VDGIF assessment, there is not a high level of concern along the pipeline route for this species. The potential impacts and mitigation measures for this species are the same as described above for the Henslow's Sparrow. Thinning of forests and frequent burns to suppress underbrush and encourage grasses promote suitable habitat for this species (VDGIF, 2015a); therefore clearing of the ROW during construction could provide suitable habitat for this species. Atlantic would mow the ROW outside of the nesting season.
Clapper Rail *Rallus crepitans*	NR (Tier IVa)	Suffolk, Chesapeake	Prefers non-timbered wetland with shallow and deep marshes; rarely reported far from salt water marshes (VDGIF, 2016b).	No surveys were conducted for this species.	ACP would permanently impact approximately 3.6 acres of emergent freshwater or brackish marshes in Virginia (see appendix Q) where this species has the potential to occur. The potential impacts and mitigation measures for this species are the same as described above for the Seaside Sparrow.
King Rail *Rallus elegans*	S2B/S3N (Tier IIb)	Nelson, Buckingham, Cumberland, Prince Edward, Nottoway, Dinwiddie, Brunswick, Greensville, Southampton, Suffolk, Chesapeake	Occurs in freshwater or brackish marshes in emergent vegetation or extensive marshes along streams, ponds, and rivers. Occasionally use rice fields and wet meadows (VDGIF, 2016b).	No surveys were conducted for this species.	ACP would permanently impact approximately 3.6 acres of emergent freshwater or brackish marshes in Virginia (see appendix Q) where this species has the potential to occur. The potential impacts and mitigation measures for this species are the same as described above for the Seaside Sparrow.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Virginia Rail *Rallus limicola*	S2B/S3N (Tier IVa)	Chesapeake	Prefers dense marsh areas with cattails as dominant cover type. Found in fresh or brackish marshes, and sometimes salt marshes, year-round (VDGIF, 2016b).	No surveys were conducted for this species.	ACP would permanently impact approximately 3.6 acres of emergent freshwater or brackish marshes in Virginia (see appendix Q) where this species has the potential to occur. The potential impacts and mitigation measures for this species are the same as described above for the Seaside Sparrow.
Golden-Crowned Kinglet *Regulus satrapa*	S2B/S5N	All Counties Crossed	Breeds mainly in dense northern coniferous forests of spruce, but also nests in pine, fir, hemlock woods and cedar bogs. Winter in coniferous mixed or deciduous forests, thickets, and low tangles of weedy growth (VDGIF, 2016b).	No surveys were conducted for this species.	Potentially suitable habitat for this species occurs in the ACP project area (see appendix Q). Atlantic would construct outside of the nesting season, and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1).
American Woodcock Scolopax minor	NR (Tier IIa)	All Counties Crossed	In the summer, this species uses permanent wet areas with alder, dogwood, crab apple, and hawthorne. Nesting occurs in areas of mixed hardwood growth of birch, aspen, conifer, and alder. They forage in fields for insects (VDGIF, 2016b)	No surveys were conducted for this species.	Potentially suitable habitat for this species occurs in the ACP project area (see appendix Q). Atlantic would construct outside of the nesting season, and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1).
Cerulean Warbler *Setophaga cerulea*	S3S4B (Tier IIa)	All Counties Crossed	Breeds in swamps and bottomlands (coastal plain); favors open stands of tall trees along riverbanks or dense deciduous forests with little undergrowth (mountains). Always found in mature hardwoods (VDGIF, 2016b).	No surveys were conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Swainson's Warbler.
Magnolia Warbler *Setophaga magnolia*	S2B	All Counties Crossed	Nests in low conifers, hemlock, larch, spruce, and fir; avoids pure hardwood forests (VDGIF, 2015a).	No surveys were conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Swainson's Warbler.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Black-Throated green Warbler (Wayne's Warbler) *Setophaga virens waynei*	S1B? (Tier Ic)	Chesapeake, Suffolk	Coastal cypress and white-cedar swamps of southeastern Virginia. Also inhabits swamps containing high percentage of red maple. Locally common summer resident in the Great Dismal Swamp National Wildlife Refuge, which is crossed by ACP (VDGIF, 2015a).	No surveys were conducted for this species.	A limited about of potentially suitable habitat for this species occurs in the ACP project area in an area where this species has been known to occur (see appendix Q). Conservation of the Atlantic white cedar (*Chamaecyparis thyoides*) is important to conserve this species (VDGIF, 2015a). Atlantic would permanent remove approximately 1.3 acres of forested vegetation communities that may contain Atlantic white cedar. The potential impacts and mitigation measures for this species are the same as described above for the Swainson's Warbler.
Northern Rough-Winged Swallow *Stelgidopteryx serripennis*	NR (Tier IVc)	All Counties Crossed	Open areas with adequate nest sites and a water supply, usually a stream. Nests are built in burrows in sandy banks, often along a stream, irrigation ditch, and less commonly in rock ledges, crevices in bridges and buildings, or drainage pipes under bridges (VDGIF, 2016b).	No surveys were conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Henslow's Sparrow.
Eastern Meadowlark *Sturnella magna*	NR (Tier IVa)	All Counties Crossed	Breeds in open farmlands, especially pastures, hayfields, and grassy meadows. May use areas with scattered shrubs and may favor moist lowlands; although fairly dense grasslands with low density of shrubs are preferred. Larger (over five hectares) of contiguous fields are also preferred (VDGIF, 2016b).	No surveys were conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Henslow's Sparrow.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Appalachian Bewick's Wren *Thryomanes bewickii altus*	SHB[b]/E	Highland, Bath, Augusta	High elevations in farmyards or overgrown fields with tree cavities or abandoned buildings (VDGIF, 2015a).	This species is very rare and may be extirpated. No suitable habitat was identified within the GWNF during surveys.	Based VDGIF correspondence, due to its rarity, this species is unlikely to occur in the ACP project area. Surveys found a lack of suitable habitat in the GWNF. Therefore, impacts are unlikely and therefore have not been assessed further.
Winter Wren *Trogoldytes hiemalis*	S2B/S4N	All Counties Crossed	Breed in spruce-fir forests with tangles, uprooted trees, and other cover, or dark ravines, under hemlocks or beneath hardwoods. Winter in tangles, fallen logs, uprooted trees, or stream banks that provide cover (VDGIF, 2016b).	No surveys were conducted for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Swainson's Warbler.
Golden-Winged Warbler *Vermivora chrysoptera*	S3B/SW[a] (Tier Ia)	Bath, Highland, Augusta, Nelson	Prefer shrubby areas with scattered trees, generally near forest edge. Breed in a variety of early-successional or disturbed habitats including shrubby fields, abandoned farmlands, shrubby swamps, successional forest, utility ROWs, clearings within forests, brushy clearcuts, or shelterwood cuts in deciduous woods. Once a disturbed area becomes too old, this species disappears (VDGIF, 2016b).	No surveys were conducted for this species.	Potentially suitable habitat for this species occurs in the ACP project area (see appendix Q). Construction activities would cause long term to permanent loss of suitable forested habitat, and could disrupt normal activities of birds in the vicinity of the project area. Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1) to minimize impact to this species. Because this species prefers early-successional habitats (VDGIF, 2015a), the permanent right-of-way and secondary growth outside of the permanent right-of-way have the potential to create additional suitable habitat for this species once restored.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
REPTILES					
Canebrake rattlesnake (Coastal Plain population) *Crotalus horridus*	S1/E (Tier II)	Suffolk, Chesapeake	Mature hardwood and mixed pine-hardwood forests, forested cane thickets, and ridges adjacent to swampy areas (VDGIF, 2011b).	There are numerous observations of this species in Chesapeake and Suffolk. This species has been documented in the Great Dismal Swamp Conservation Site; and Great Dismal Swamp: Northwest Section Conservation Site, which are crossed by ACP (VDCR, 2016b).	Construction would remove foraging habitat, and vehicles could cause injury or mortality. Construction activities would increase noise and vibrations, which may disrupt normal activities, displace snakes, or increase stress. Atlantic would implement the *Snake Conservation Plan* (see table 2.3.1-1) to provide guidance to construction crews on ways to minimize disturbance and impacts on snakes during construction. Atlantic would implement the *Snake Conservation Plan* (see table 2.3.1-1) to provide guidance to construction crews on ways to minimize disturbance and impacts on timber rattlesnake during construction.
Timber rattlesnake *Crotalus horridus*	S4[b] (Tier IV)	Highland, Bath, Augusta, Nelson, Buckingham	Hibernates in fissures in rock ledges or talus slopes. Utilizes diverse forests and open habitats when active (VDGIF, 2015a).	GWNF has reported an occurrence of the timber rattlesnake within the ACP project area.	Construction activities would increase noise and vibrations, which may disrupt normal activities, displace snakes, or increase stress. Construction would remove foraging habitat, and vehicles could cause injury or mortality. Construction activities could expose rock outcrops that are currently shaded, potentially providing sufficient solar radiation for suitable timber rattlesnake denning or gestating habitat. Atlantic would implement the *Snake Conservation Plan* (see table 2.3.1-1) to provide guidance to construction crews on ways to minimize disturbance and impacts on timber rattlesnake during construction.
Scarlet kingsnake *Lampropeltis elapsoides*	S2S4 (Tier IIIc)	Nelson	Prefer pine forests or mixed pine-hardwood forests; hide beneath loose bark of dead pine trees (Roble et al., 2007).	One occurrence noted near Project area.	The potential impacts and mitigation measures for this species are the same as described above for the Canebrake rattlesnake.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
AMPHIBIANS					
Barking treefrog *Hyla gratiosa*	S2/T (Tier IIa)	Greensville, Southampton	Breeds in graminoid-dominated cypress ponds and bays, and in pine barren ponds. Generally pine savanna or low wet woods and swamps surrounding breeding ponds (VDGIF, 2016p).	Reports for this species in Greensville and Southampton counties are unconfirmed. DCR-DNH has documented occurrences in Greensville and Southampton Counties. This species has the potential to occur within the survey corridor between U.S. Route 58 and County Route 644 (VDCR, 2016b).	Potentially suitable habitat for this species occurs in the ACP project area. ACP would impact approximately 757 acres of freshwater wetland in Virginia during construction, of which approximately 248 acres would be maintained in an herbaceous state within the permanent right-of-way. The loss of suitable wetland habitat is the greatest threat to this species. VA SWAP recommended conservation actions include maintaining or restoring forested buffers surrounding occupied wetlands (VDGIF, 2015a). Atlantic would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1) to construct across wetland features, and its *Restoration and Rehabilitation Plan* (see appendix F) to minimize impacts to this species.
Mabee's salamander *Ambystoma mabeei*	S1S2/T (Tier IIa)	Suffolk, Chesapeake	Fish-free vernal ponds or ephemeral coastal plain sinkholes up to 1.5 meters deep, with surrounding forests generally composed of hardwoods mixed with pine. Also found in low areas adjacent to coastal rivers and pine savannas, and in bogs, ponds, low wet woods, and swamps (VDGIF, 2016q).	2016 surveys completed at 118 wetland features; two sites were identified as moderate habitat and none as high; no individuals were observed. Additional surveys are pending at 3.1 miles and are anticipated to be completed in June 2017.	Atlantic has avoided suitable habitat for this species via reroutes; therefore no impacts are anticipated. Pending concurrence from GWNF and VDGIF.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Eastern tiger salamander *Ambystoma tigrinum*	E (Tier IIa)	Augusta, Nelson	Breeding habitat includes limestone sinkhole ponds associated with wetlands. Terrestrial habitat includes mature forests (VDGIF, 2016m).	2016 surveys completed at 59 wetland features; four sites were identified as moderate habitat and one as high; one larval tiger salamander observed / no adults observed. Additional surveys are pending at 1.4 miles and are anticipated to be completed in June 2017. Associated with the Big Levels-Maple Flats Conservation Site and at isolated wetlands in Sherando Quad, which are in proximity to ACP (VDCR, 2016b).	The greatest threat to this species is the loss of breeding ponds and adjacent woodlands. VDGIF has recommended avoidance of occupied wetlands with 300-meter buffer. Pending VDGIF review of survey results and recommended conservation measures. The GWNF has recommended additional surveys of sinkhole ponds on the GWNF (see table R-4 in appendix R).
Dwarf waterdog *Necturus punctatus*	S2S3 (Tier IIIa)	Dinwiddie, Greensville, Southampton, Brunswick	Slow-moving areas of low gradient streams with mud or sand substrates (VDGIF, 2016r).	No surveys for this species were conducted. This species has been documented at the Nottoway River-Fort Pickett SCU; and has the potential to occur at the Meherrin River and swamp forest near the Virginia-North Carolina border; and Fontaine Creek, which are crossed by ACP (VDCR, 2016b).	Potentially suitable habitat occurs in waterbodies that are crossed by ACP. Waterbody crossings and access road construction/use would temporarily degrade water quality through increased sedimentation and turbidity during construction, disturbance, changes in hydrology, and disturbance and injury or mortality from blasting (see section 4.6 for additional discussion). Removal of riparian habitat may also contribute to increased erosion and sedimentation, and by decreasing shade increase localized water temperatures. Atlantic would implement the measures in the FERC *Plan* and *Procedures*, and construction and restoration plans (see table 2.3.1-1) to control sedimentation and the introduction of hazardous chemicals, and to restore riparian habitats, including implementation of the VDEQ Virginia Erosion and Sediment Control Handbook.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Cow Knob salamander *Plethodon punctatus*	S2[a,b] (Tier Ic)	Augusta, Bath	Lives under rocks, logs, and other surface debris where it is moist and cool. Occurs in mixed hardwood stands, hardwood mixed with eastern hemlock (*Tsuga canadensis*) and hemlock stands. Found at elevations greater than 2,400 feet (VDGIF, 2016k).	2016 surveys completed in Bath County within the GWNF. Potentially suitable habitat was identified at two locations; however no individuals were observed.	Impacts to this species would include long term to permanent habitat loss. If present during construction, noise and vibrations generated from construction activities could disrupt normal activities, and could cause injury or mortality from collisions with construction equipment or vehicles. Atlantic and DTI would implement the measures in the FERC *Plan* and *Procedures,* and construction and restoration plans (see table 2.3.1-1) to minimize impacts to this species.
FISH					
Roughhead shiner *Notropis semperasper*	S2S3[b] (Tier Ib)	Highland, Bath, Augusta	Endemic to the headwaters of the James River. Cool to warm streams of moderate gradient, gravel to boulder substrate, slight siltation, slow to moderate currents or in or just below the head of a pool, or in moderately calm water adjacent to runs (VDGIF, 2016b).	Surveys for this species were conducted on the GWNF only (refer to table R-2 in appendix R). This species has been found in upper James River drainage above Buchanan (FS, 2014). Based on correspondence from the GWNF, this species is known specifically from the Back Creek, Jackson River, and Cowpasture River in Bath and Allegheny counties (FS, 2016c) and Atlantic has assumed presence at these waterbody crossing locations.	All waterbodies in the upper James River watershed would be crossed utilizing a dry technique. The potential impacts and mitigation measures for this species are the same as described above for the Slimy Sculpin. Atlantic would also commit to the VDGIF TOYR (March 15-June 30) at waterbody crossings where presence of this species is assumed.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Slimy sculpin *Cottus cognatus*	S2 (Tier IV)	Highland, Augusta	Small rocky brooks, silted vegetated spring runs to large rivers and shallow to deep portions of oligotrophic lakes (VDGIF, 2016b).	No surveys for this species were conducted. This species has the potential to occur in the Middle River, which would be crossed by ACP (VDCR, 2016b).	Potentially suitable habitat occurs in Middle River crossed by ACP. Middle River would be crossed using a dry technique. Atlantic would implement the *Virginia Fish Relocation Plan* (see table 2.3.1-1) to remove all fish species trapped within areas proposed for dewatering or in-stream work prior to initiating construction; mortality may occur during fish relocation. Waterbody crossings and access road construction/use would temporarily degrade water quality through increased sedimentation and turbidity during construction, reduced fish passage, disturbance, changes in hydrology, and disturbance and injury or mortality from blasting (see section 4.6 for additional discussion). Removal of riparian habitat may also contribute to increased erosion and sedimentation, and by decreasing shade increase localized water temperatures. Atlantic would implement the measures in the FERC *Plan* and *Procedures*, and construction and restoration plans (see table 2.3.1-1) to control sedimentation and the introduction of hazardous chemicals, and to restore riparian habitats.
Orangefin madtom *Noturus gilberti*	S2[b]/T (Tier IIb)	Bath	Found beneath shelter or larger gravel, rubble, or boulders in medium to large, cool to warm streams of moderate gradient and with swifter sections with little to no silt (VDGIF, 2016b).	Surveys were conducted in 2016 on the GWNF; no orangefin madtom were observed at crossing locations. This species has been found in the South Fork Roanoke River watershed, Roanoke River above Salem, Craig Creek, Johns Creek, and Cowpasture River in Bath County (FS, 2014; FS, 2016c).	The potential impacts and mitigation measures for this species are the same as described above for the Slimy Sculpin. Because only the introduced population of orange madtom may be affected by ACP, the VDGIF TOYR (March 15-May 31) would not apply.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
GASTROPODS (Snails)					
Virginia springsnail *Fontigens morrisoni*	S2/E (Tier Ia)	Bath, Highland	Endemic only to the Upper James River basin. Confirmed at two springs and two caves in Bath and Highland counties (VDGIF, 2015a).	2016 karst surveys identified two cave entrances and 28 karst features within the study area in Highland County; and 40 karst features in Bath County (see section 4.1.2.3).	Construction activities could alter water flow patterns, or increase sediment and contaminant loads, which could lead to a reduction or degradation of available habitat. Snail habitat is susceptible to contamination due to the porosity of the substrate. Blasting, trenching, and digging can cause shifts in surface and subsurface formations and hydrology, and may crush snails, or alter travel corridors (FWS, 2011i). Atlantic would implement the *Karst Mitigation Plan* (see appendix I) to minimize potential impacts on this species. Consultations are ongoing with the VDGIF with regard to impacts on karst and species habitat.
Round supercoil *Paravitrea reesei*	SU[b] (Tier IIc)	N/A	Moist environments including damp areas under rocks, leaf litter, river bluffs and other slopes near water (Hotopp et al., 2013).	Surveys for this species on the GWNF did not document any occurrences; No surveys for this species were conducted outside the GWNF.	Construction activities could cause mortality to individuals if present in the workspace. This species is known to inhabit leaf litter in forests, a habitat that is common across the ACP Project area. Construction and maintenance of the right-of-way would result in conversion to less desirable habitat in some areas. Because suitable habitat is very common across the ACP Project area, the loss of habitat would be localized and minimal.
BIVALVES (Freshwater Mussels)					
Brook floater *Alasmidonta varicosa*	S1[b]/E (Tier Ib)	Augusta, Buckingham, Nottoway	Fast-flowing, clean water in substrates that contain relatively firm rubble, gravel, and substrates swept free from siltation. Buried in the substrate in shallow riffle and shoal areas (VDGIF, 2016b).	None identified during surveys.	No impacts anticipated to this species; Atlantic would implement the *Freshwater Mussel Guidelines for Virginia* (FWS and VDGIF, 2008) where mussels are documented.
Yellow lance *Elliptio lanceolata*	S2S3[a,b] (Tier IIa)	Nelson, Buckingham, Cumberland, Dinwiddie, Nottoway,	Slow currents with unsilted sandy substrates; can tolerate various water sizes (NatureServe, 2015).	None identified during surveys. This species has been documented in the Nottoway	This species is currently under review by FWS for listing under the ESA (refer to section 4.7.1.13).

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
		Southampton, Brunswick, Greensville		River-Fort Pickett SCU, and James River at Wingina; and has the potential to occur in the Meherrin River and swamp forest at the Virginia-North Carolina border; Nottoway River-Monroe Bridge SCU; downstream of County Pond; and Nottoway River-Sturgeon Creek-Hardwood Creek SCU (VDCR, 2016b). Per GWNF correspondence, this species has also been found in Cowpasture River in Allegheny County (FS, 2016c).	Although not detected during surveys, this species is assumed present in the Nottoway and James Rivers, and their perennial tributaries. The Nottoway (MP 32.6) and James rivers would be crossed utilizing an HDD. Mussels occurring in waterbodies crossed by HDD may be affected if there is an inadvertent release of drilling fluid in or near the waterbody. Atlantic would implement the measures outlined in its *HDD Plan* (see appendix H), and would maintain riparian vegetation at HDD crossings to minimize off road vehicle use and additional sedimentation. Where located in waterbodies crossed by dry crossing technique, individuals would be relocated to suitable habitat per the *Freshwater Mussel Guidelines for Virginia* (FWS and VDGIF, 2008). Waterbody crossings and access road construction/use would temporarily degrade water quality through increased sedimentation and turbidity during construction, reduced fish passage, disturbance, changes in hydrology, and disturbance and injury or mortality from blasting (see section 4.6 for additional discussion). Removal of riparian habitat may also contribute to increased erosion and sedimentation, and by decreasing shade increase localized water temperatures. Atlantic would implement the measures in the FERC *Plan* and *Procedures*, and construction and restoration plans (see table 2.3.1-1) to control sedimentation and the introduction of hazardous chemicals, and to restore riparian habitats. Atlantic is also

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
					proposing to withdraw water from several of these waterbodies. Atlantic has committed to TOYR for short-term brooding mussels of May 15-July 31 for all in-stream activities, including water withdrawal. Additional consultation with the FWS and VDGIF is pending to determine the appropriate conservation measures for water withdrawal.
Atlantic pigtoe *Fusconaia masoni*	S2/T[a,b] (Tier II)	Bath, Prince Edward, Nottoway, Dinwiddie, Buckingham, Greensville, Nelson, Brunswick, Greensville	Clean, swift-moving waters often found in gravel of gravel-sand substrate (VDGIF, 2016b).	This species was observed at two waterbody crossings. This species has been documented in the Nottoway River (VCDR, 2016b; VDGIF, 2016d), Appomattox River, Sturgeon Creek, and Meherrin River (VDGIF, 2016d). However, only one stable population is currently known and it is believed to be almost extirpated form the Nottoway River. Historic data indicates also indicates potential presence of this species in the Mill Creek and Calfpasture River drainages (VDGIF, 2016b).	This species is currently under review by FWS for listing under the ESA (refer to section 4.7.1.13). This species was detected at one waterbody, and is assumed present Nottoway, Appomattox, and Meherrin rivers, Sturgeon Creek, and their perennial tributaries. The Nottoway River (MP 32.6) would be crossed utilizing an HDD. The potential impacts and mitigation measures for this species are the same as described above for the Yellow Lance. Atlantic would also adhere to TOYR for all in-stream work from May 15-July 31 for waterbodies known or assumed to support Atlantic pigtoe mussels.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Yellow lampmussel *Lampsilis cariosa*	S2 (Tier IIa)	Dinwiddie, Southampton, Brunswick, Greensville	Large streams and rivers with low gradient and sand and gravel substrates (VDGIF, 2015a).	This species was observed at one waterbody crossing location. Per VDCR correspondence, this species has been documented in the Nottoway River-Fort Pickett SCU, Nottoway River-Monroe Bridge SCU, and Nottoway River-Sturgeon Creek-Hardwood Creek SCU; and has the potential to occur in the Meherrin River and swamp forest at the Virginia-North Carolina border; and Nottoway River and Sycamore Bend swamps, which are crossed or in proximity to ACP (VDCR, 2016b). However, this species is considered uncommon in the Nottoway and Meherrin rivers.	This species was detected at one waterbody, and is assumed present in the Nottoway River and Sturgeon Creek, and their perennial tributaries. The Nottoway River (MP 32.6) would be crossed utilizing an HDD. The potential impacts and mitigation measures for this species are the same as described above for the Yellow Lance.
Eastern lampussel *Lampsilis radiata*	S2 (Tier IVa)	Nottoway, Dinwiddie, Southampton, Brunswick	Small streams, large rivers, ponds, and lakes in a wide variety of substrates, but prefers sand or gravel (VDGIF, 2015).	This species was observed at one waterbody crossing location. This species has been documented at the Nottoway River-Monroe Bridge SCU; Nottoway River-Sturgeon Creek-Hardwood Creek SCU (VDCR, 2016b). Large populations are known to exist in the main stem of the Nottoway and Meherrin rivers, and may be present in the James and Roanoke rivers (VDGIF, 2015a).	This species was detected at one waterbody, and is assumed present in the Nottoway River and Sturgeon Creek, and their perennial tributaries. The Nottoway River (MP 32.6) would be crossed utilizing an HDD. The potential impacts and mitigation measures for this species are the same as described above for the Yellow Lance.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Green floater *Lasmigona subviridis*	S2/T[a,b] (Tier IIa)	Nelson, Buckingham, Greensville, Southampton, Prince Edward, Greensville, Brunswick	Fast-flowing, clean water in firm rubble, gravel and sand substrates swept free from siltation. Found buried in substrate in shallow riffle and shoal areas (VDGIF, 2016b). This species has been documented in the Nottoway River-Fort Pickett SCU (VDCR, 2016b), James River, (VDCR, 2016b; VDGIF, 2016d), and Meherrin River (VDGIF, 2016d). It has the potential to occur at the Appomattox River crossing south of Stoddert; downstream of County Pond; and swamp forest at the Virginia-North Carolina border, which are crossed or in proximity to ACP (VDCR, 2016b).	None identified during surveys.	This species is currently under review by FWS for listing under the ESA (refer to section 4.7.1.13). Although not detected during surveys, this species is assumed present in the Nottoway, James, and Meherrin rivers, and their perennial tributaries. The Nottoway (MP 32.6) and James rivers would be crossed utilizing an HDD. The potential impacts and mitigation measures for this species are the same as described above for the Yellow Lance. Atlantic would adhere to TOYR for all in-stream work from April 15-June 15 and August 15-September 30 for waterbodies known or assumed to support green floater mussels.
Paper pondshell *Utterbackia imbecillis*	S2S3	Nelson, Nottoway, Dinwiddie, Greensville, Southampton	Occurs in mud and mud sand substrates of slackwater areas of ponds, creeks, or near the banks of large rivers, and reservoirs (NatureServe, 2015).	This species was observed at one waterbody crossing location.	The waterbody where this species was documented would be crossed by a dry crossing technique. The potential impacts and mitigation measures for this species are the same as described above for the Yellow Lance.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
CRUSTACEANS (Amphipods, Isopods, and Decapods)					
Racovitza's terrestrical cave isopod *Miktoniscus racovitzai*	S2 (Tier IIIc)[b]	Bath	Subaquatic, subterranean obligate species. Full extent of subterranean habitat is unknown. Documented in the Upper James watershed in Bath County, and in the South Fork Shenandoah watershed. It has been potentially extirpated from the South Fork Shenandoah watershed (NatureServe, 2015).	2016 karst surveys identified two cave entrances and 28 karst features within the study area in Highland County; and 40 karst features in Bath County. 78 karst features were identified within the study area in Augusta County. Additionally, the surveys identified two notable areas of concentrations of karst development: the Cochran Cave area southwest of Staunton, and area southeast of Stuart's Draft that extends southward towards Sherando Camp (see section 4.1.2.3).	ACP would be cross the Upper James and South Fork Shenandoah watersheds in Bath, Highland, and Augusta Counties. The potential impacts and mitigation measures for this species are the same as described above for the Virginia Springsnail.
Chowanoke crayfish *Orconectes virginiensis*	S2S3[a] (Tier IIIa)	Dinwiddie, Greensville, Nottoway, Brunswick	Sluggish streams and swamps with abundance of dead wood on the bottom (VDGIF, 2015a).	No surveys were conducted for this species in Virginia. This species has been documented in the Nottoway River-Fort Pickett SCU; and has the potential to occur in Waqua Creek, which are crossed or in proximity to ACP (VDCR, 2016b).	This species is currently under review by FWS for listing under the ESA (refer to section 4.7.1.12). The Nottoway River (MP 260.7) and Waqua Creek would be crossed utilizing dry crossing techniques. Atlantic is also proposing in-stream blasting at both locations, and water withdrawal from the Nottoway River for hydrotesting. The potential impacts and mitigation measures for this species are the same as described above for the Slimy Sculpin. Additional consultation with the FWS and VDGIF is pending to determine the appropriate conservation measures for water withdrawal.
Montgomery County cave amphipod *Stygobromus fergusoni*	S1 (Tier IIc)[b]	Not Documented in Counties Crossed by ACP	Subaquatic, subterranean obligate species. Full extent of subterranean habitat is unknown. Documented in the Upper James watershed (NatureServe, 2015).	2016 karst surveys identified two cave entrances and 28 additional karst features within the study area in Highland County; and 40 karst features in Bath County.	ACP would cross the Upper James watershed in Bath and Highland Counties. The potential impacts and mitigation measures for this species are the same as described above for the Virginia Springsnail.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Shenandoah Valley cave amphipod *Stygobromus gracilipes*	S3[b]	Not Documented in Counties Crossed by ACP	Subaquatic, subterranean obligate species. Specimens have been collected from 11 caves in the Potomac River drainage in small streams and pools. Full extent of subterranean habitat is unknown. Documented in the South Fork Shenandoah watershed (NatureServe, 2015).	2016 karst surveys identified 78 karst features within the study area in Augusta County. Additionally, the surveys identified two notable areas of concentrations of karst development: the Cochran Cave area southwest of Staunton, and area southeast of Stuart's Draft that extends southward towards Sherando Camp (see section 4.1.2.3).	ACP would cross the South Fork Shenandoah watershed in Augusta County. The potential impacts and mitigation measures for this species are the same as described above for the Virginia Springsnail.
Allegheny County cave amphipod *Stygobromus hoffmani*	S2 (Tier IIc)[b]	Not Documented in Counties Crossed by ACP	Subaquatic, subterranean obligate species. Full extent of subterranean habitat is unknown. Documented in the Upper James watershed (NatureServe, 2015).	2016 karst surveys identified two cave entrances and 28 additional karst features within the study area in Highland County; and 40 karst features in Bath County.	ACP would cross the Upper James watershed in Bath and Highland Counties. The potential impacts and mitigation measures for this species are the same as described above for the Virginia Springsnail.
Bath County cave amphipod *Stygobromus mundus*	S1S2 (Tier IIc)[b]	Bath	Subaquatic, subterranean obligate species. Has been documented from both cave and surface stream collections. Full extent of subterranean habitat is unknown. Documented in the Upper James River watershed in Bath County (NatureServe, 2015).	2016 karst surveys identified two cave entrances and 28 additional karst features within the study area in Highland County; and 40 karst features in Bath County.	ACP would cross the Upper James watershed in Bath and Highland Counties. The potential impacts and mitigation measures for this species are the same as described above for the Virginia Springsnail.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Madison cave amphipod *Stygobromus stegerorum*	S1/T (Tier Ib)	Augusta	Known and endemic to two cave lakes in Augusta County. Caves with clean abundant water flowing through the system (VDGIF, 2015a).	2016 karst surveys identified 78 karst features within the study area in Augusta County. Additionally, the surveys identified two notable areas of concentrations of karst development: the Cochran Cave area southwest of Staunton, and area southeast of Stuart's Draft that extends southward towards Sherando Camp (see section 4.1.2.3). This species has been documented in the Barterbrook Blue Conservation Site, and has the potential to occur at Churchville Cave, Spring Cave #3, and Shortwave Cave, which are crossed or in proximity to ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Virginia Springsnail.
MYRIAPODS (Centipedes and Millipedes)					
Hoffman's Cleidognid millipede *Cleidogona hoffmani*	S2S3 (Tier IIc)[b]	Not Documented in Counties Crossed by ACP	Leaf litter in deciduous forest. Mountaintop species documented from Mt. Rogers, Whitetop Mountain, Elk Garden, and Helton Creek.	This species was documented at nine sites during surveys on the GWNF (see table R-2 in appendix R).	Based on survey results, this species is within the ACP project area; therefore there is the potential for mortality of individuals during tree clearing and other construction activities. This species is known to inhabit leaf litter in deciduous forests, a habitat that is common across the ACP project area. Construction and maintenance of the right-of-way would result in conversion to less desirable habitat in some areas. Because suitable habitat is very common across the ACP project area, the loss of habitat would be localized and minimal (FS et al., 2002).

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Montane centipede *Escaryus cryptorobius*	S2[b] (Tier IIc)	Nelson	Endemic to the Blue Ridge Mountains of Virginia. Found in the upper soil horizons in mixed hardwood forests in the summer months (May through July); burrows deep into the soil matrix during winter (Pereira and Hoffman, 1993).	This species was not documented during surveys on the GWNF; surveys for this species were not required outside the GWNF.	This species is known to inhabit leaf litter in mixed forests, a habitat that is common across the ACP Project area. Construction and maintenance of the right-of-way would result in conversion to less desirable habitat in some areas. Because suitable habitat is very common across the ACP Project area, the loss of habitat would be localized and minimal.
A cave centipede *Nampabius turbator*	S1 (Tier IIIc)[b]	Not Documented in Counties Crossed by ACP	Subterrestrial, subterranean obligate species. Documented within the Upper James watershed (NatureServe, 2015)	2016 karst surveys identified two cave entrances and 28 additional karst features within the study area in Highland County; and 40 karst features in Bath County.	ACP would cross the Upper James watershed in Bath and Highland Counties. The potential impacts and mitigation measures for this species are the same as described above for the Virginia Springsnail.
Shenandoah Mountain Xystodesmid millipede *Nannaria shenandoah*	S1[b] (Tier IIc)	Augusta	Found in leaf litter in mixed forests between 760 to 1,000 meters elevation (Hoffman, 1949).	Surveys on the GWNF did not document this species; however the survey documented six sites with unidentifiable *Nannaria* specimens, which may represent suitable habitat for this species. Surveys outside the GWNF were not required for this species.	Four of the sites where *Nannaria* specimens were identified would be located within the ACP construction workspace. The potential impacts and mitigation measures for this species are the same as described above for the Montane Centipede.
Mays Mountain Cave Millipede *Pseudotremia alecto*	NR[b] (Tier IIc)	Bath	Found in leaf litter and detritus in deciduous forests at 330 meters elevation; has also been found in caves. Documented in Allegheny and Bath counties (Shear, 2011).	This species was not documented during surveys on the GWNF; surveys outside the GWNF were not required for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Montane Centipede
Pleasing Xystodesmid Millipede *Semionellus placidus*	S3[b] (Tier IIIc)	Augusta	Leaf litter of deciduous forests and cove habitats, usually near water (BugGuide, 2016).	This species was not documented during surveys on the GWNF; surveys outside the GWNF were not required for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Montane Centipede
INSECTS					
Springtails					
A cave springtail *Pygmarrhopalites carolynae*	S3[b]	Bath	Subterrestrial, subterranean obligate species (NatureServe, 2015).	2016 karst surveys identified 40 karst features in Bath County.	The potential impacts and mitigation measures for this species are the same as described above for the Virginia Springsnail.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
A cave springtail *Pygmarrhopalites sacer*	S2[b]	Bath	Subterrestrial, subterranean obligate species. Found in caves; known from two caves in Bath County, Virginia (NatureServe, 2015).	2016 karst surveys identified 40 karst features in Bath County.	The potential impacts and mitigation measures for this species are the same as described above for the Virginia Springsnail.
Beetles					
Appalachian tiger beetle *Cicindela ancocisconensis*	S2[b] (Tier IIIc)	Augusta, Bath, Highland	Prefers open sand or a matrix of sand and cobble along permanent streams or medium-sized rivers; usually found along rocky mountain streams and small rivers in partially shaded areas, such as sand banks and sand bars. Occasionally reported along roads. This species is active April through June and late-July to September, but not always active in fall (NatureServe, 2015).	This species was not documented during surveys on the GWNF; however suitable habitat was observed. Surveys outside the GWNF were not required for this species.	There is the potential for mortality of individuals during clearing and other construction activities. Construction and maintenance of the right-of-way would temporarily remove suitable habitat; however, based on this species preference of open habitat, right-of-way clearing and maintenance could have a beneficial effect by creating potentially suitable habitat (FS et al., 2002).
Northern Barrens tiger beetle *Cicindela partruela*	S2[b] (Tier IIIc)	Augusta	Specialized to sandy/coarse gravel or eroding sandstone in pine barrens, open mixed, or deciduous woodlands where open ground exists. This species is active late April to June and mid-August into September, but not always active in fall (NatureServe, 2015).	This species was not documented during surveys on the GWNF; however suitable habitat was observed. Surveys outside the GWNF were not required for this species.	The potential impacts and mitigation measures for this species are the same as described above for the Appalachian Tiger Beetle.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Maureen's Hydraenan Minute moss beetle *Hydraena maureenae*	S2?[b] (Tier IIc)	Bath	Along the edges of smaller, lower gradient streams in clean, fine shale gravels, typically gravel bars. This species is potentially active year-round (NatureServe, 2015).	Surveys conducted on the GWNF identified suitable habitat for this species at eight stream locations, and documented eight individuals at six of those stream locations. No surveys for this species were conducted outside the GWNF.	This species has been documented within the ACP Project area along existing FS roads that have been proposed for use as access roads; therefore construction activities could cause mortality to individuals if present in the workspace. Filing of the interstitial spaces between gravels with sediment, which would occur during construction activities, makes habitat no longer suitable for this species. Atlantic would implement the erosion control and sedimentation measures described in the FERC *Plan* and *Procedures* (table 2.3.1-1), and would minimize disturbance to gravel bars along streams.
Burnsville Cove Cave beetle *Pseudanophthalmus* sp. 8	S1	Bath, Highland	Cave species known only from Bath County, Virginia (NatureServe, 2015).	2016 karst surveys identified two cave entrances and 28 additional karst features within the study area in Highland County; and 40 karst features in Bath County.	The potential impacts and mitigation measures for this species are the same as described above for the Virginia Springsnail.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Dragonflies					
Comet darner dragonfly *Anax longipes*	S3[b]	Augusta, GWNF correspondence indicates this species has been documented in sinkhole ponds in Augusta County.	Shallow, fishless ponds with emergent vegetation, or semi-permanent flooded woodlands. Adults are active May to early June (NatureServe, 2015).	No surveys for this species were conducted. GWNF has requested that Atlantic conduct surveys for sinkhole ponds; consultation is ongoing for this species.	Adult dragonflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. There is the potential that construction activities could impact nymphs through direct mortality or temporary reduction in water quality. Atlantic would also remove emergent vegetation that could provide shelter and foraging habitat; habitat assessment results are pending. Vehicle collisions could cause injury or mortality to adult dragonflies. Atlantic would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1), which includes implementation of the VDEQ Virginia Erosion and Sediment Control Handbook.
Martha's penant dragonfly *Celithemis martha*	S2[b] (Tier IVc)	GWNF correspondence indicates this species has been documented in sinkhole ponds in Augusta County.	Vegetated ponds and lakes with sand bottoms and unmowed shoreline vegetation and emergent aquatic vegetation; obligate pond breeder. Adults are active late May through September (VDCR and VDGIF, 2013).	No surveys for this species were conducted.	The potential impacts and mitigation measures for this species are the same as described above for the Comet Darner Dragonfly.
Regal darner dragonfly *Coryphaeschna ingens*	S1 (Tier IVc)	Southampton	Found in ponds, lakes, and ditches with aquatic vegetation. Adults are active from June 11-July 26 (VDCR and VDGIF, 2013).	The last observation of this species was in 1975. No surveys for this species were conducted. This species has the potential to occur at the Meherrin River and swamp forest near Virginia-North Carolina border; and Nottoway River and Sycamore Bend swamps, which are crossed by or in proximity to ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Comet Darner Dragonfly.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Robust baskettail dragonfly *Epitheca spinosa*	S3 (Tier IVc)	Southampton, Suffolk	Found in lakes and ponds. Adults are active from March 30-May 1 (VDCR and VDGIF, 2013).	Observations of this species have occurred in both counties after 1990. No surveys for this species were conducted. This species has the potential to occur within the survey corridor at the Nottoway River and Sycamore Bend swamps; Quaker Swamp; Chuckatuck, Lake Drummond NW, Bowers Hill, and Suffolk Quads, which are crossed by or in proximity to ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Comet Darner Dragonfly.
Mustached clubtail dragonfly *Gomphus adelphus*	S1 (Tier IVc)	Bath, Augusta	Occurs in and around clean, fast-flowing rivers. Adults are active from May 30-June 28 (VDCR and VDGIF, 2013).	Observations of this species occurred in both counties between 1950 and 1990. No surveys for this species were conducted. This species has the potential to occur at Calfpasture River, which is crossed by ACP (VDCR, 2016b).	Atlantic would conduct three dry crossings of the Calfpasture River. Adult dragonflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. There is the potential that construction activities could impact nymphs through direct mortality or temporary reduction in water quality. Atlantic would also remove riparian vegetation that could provide shelter and foraging habitat; habitat assessment results are pending. Vehicle collisions could cause injury or mortality to adult dragonflies. Atlantic would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1), which includes implementation of the VDEQ Virginia Erosion and Sediment Control Handbook.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Banner clubtail dragonfly *Gomphus apomyius*	SH (Tier IVc)	Brunswick, Greensville	Clean, slow-flowing sandy rivers in Piedmont and Coastal Plains. Adults are active late-March to late-May (VDCR and VDGIF, 2013).	Observations of this species have not occurred since prior to 1950 and it is possible that it is extirpated. No surveys for this species were conducted. This species has the potential to occur at Meherrin River, which would be crossed in two locations by ACP (VDCR, 2016b).	The Meherrin River would be crossed at two locations using the dry crossing technique. The potential impacts and mitigation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.
Piedmont clubtail dragonfly *Gomphus parvidens*	S1 (Tier IVc)	N/A	Small sandy streams of moderate gradient. Adults are active May 23-June 10 (VDCR and VDGIF, 2013).	No observations of this species in counties crossed by the Project; observations within Virginia occurred between 1950 and 1990. No surveys for this species were conducted. This species has the potential to occur at the Appomattox River crossing south of Stoddert, which is in the vicinity of ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.
Chalk-fronted corporal skimmer dragonfly *Ladona julia*	S2S3 (Tier IVc)	Highland, Augusta	Mud-bottomed lakes and ponds. Adults are active June 4-August 8 (VDCR and VDGIF, 2013).	This species has been observed in both counties more recently than 1990. No surveys for this species were conducted. This species has been documented at the Braley Pond Conservation Site, which is in proximity to ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Comet Darner Dragonfly.
Northern pygmy clubtail dragonfly *Lanthus parvulus*	S2[b] (Tier IVc)	Highland	Running waters with strong currents over clean gravel that contains sand and silt deposits. Adults are active May through July (VDCR and VDGIF, 2013).	This species has been observed more recently than 1990. No surveys for this species were conducted.	The potential impacts and mitigation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Southern sprite dragonfly *Nahalennia intergricollis*	S3[b] (Tier IVc)	Augusta, Dinwiddie, Greensville, Brunswick, GWNF correspondence indicates this species has been documented in sinkhole ponds in Augusta County	Occur near grassy lakes and boggy ponds, usually within dense vegetation. Adults are active June through September (VDCR and VDGIF, 2013).	No recent records from Virginia. No surveys for this species were conducted.	The potential impacts and mitigation measures for this species are the same as described above for the Comet Darner Dragonfly.
Cinnamon shadowdragon dragonfly *Neurocordulia virginiensis*	S2 (Tier IVc)	Buckingham	Medium to large rivers. Adults are active April 28-June 21 (VDCR and VDGIF, 2013).	This species has not been observed since before 1950. No surveys for this species were conducted. This species has been historically documented at James River at Wingina, which is in proximity to ACP (VDCR, 2016b).	James River would be crossed using an HDD; therefore impacts to nymphs would also not be anticipated at this location. The potential impacts and mitigation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.
Riffle snaketail dragonfly *Ophiogomphus carolus*	S1 (Tier IVc)	Highland, Augusta	Fast-flowing streams and small rivers. Adults are active June 4-June 23 (VDCR and VDGIF, 2013).	This species has been observed in both counties between 1950 and 1990. No surveys for this species were conducted. This species has the potential to occur at Calfpasture River, which is crossed by ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.
Appalachian (Allegheny) snaketail dragonfly *Ophiogomphus incurvatus alleghaniensis*	S1[b] (Tier IIc)	Augusta	Breeds in riffle areas of spring-fed Piedmont streams. Prefer areas where gravel overlies soft mud in shallow water. Adults are active April through June (VDCR and VDGIF, 2013).	This species has been observed between 1950 and 1990. No surveys for this species were conducted. This species has the potential to occur in streams within Sulphur Springs Hollow and Dowell's Draft, which are crossed or in proximity to ACP (VDCR, 2016b).	Dowell's Draft and two unnamed tributaries to Dowell's Draft would be crossed using a dry crossing technique. Atlantic also proposes to use existing roads that crosses Dowell's Draft, the East Branch of Dowell's Draft, and an unnamed tributary to Dowell's Draft as permanent access roads. The potential impacts and mitigation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
St. Croix snaketail dragonfly *Ophiogomphus susbehcha*	S1S2	Nelson, Buckingham, Cumberland	Restricted to large, relatively clean to pristine swift rivers with gravel and mud substrates. Adults are active March to May (VDCR and VDGIF, 2013).	This species has been observed in all three counties since 1990. No surveys for this species were conducted. This species has been documented at James River at Wingina (VDCR, 2016b).	James River would be crossed using an HDD; therefore impacts to nymphs would also not be anticipated at that crossing. The potential impacts and mitigation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.
Spatterdock darner dragonfly *Rhionaeshna mutata*	S2[b] (Tier IIIc)	Highland, Augusta, GWNF correspondence indicates this species has been documented in sinkhole ponds in Augusta County.	Marshes and shallow lakes or ponds with waterlilies and spatterdock near wooded areas. Adults are active late May to early July (VDCR and VDGIF, 2013).	No surveys for this species were conducted.	The potential impacts and mitigation measures for this species are the same as described above for the Comet Darner Dragonfly.
Fine-lined emerald dragonfly *Somatochlora filosa*	S2 (Tier IVc)	Southampton, Suffolk	Small, sandy forest streams and seeps or boggy forest trickles or sheet flows. Adults are active June into September (VDCR and VDGIF, 2013).	This species has been observed in both counties since 1990. No surveys for this species were conducted. This species has the potential to occur at Meherrin River and swamp along Virginia-North Carolina border; Nottoway River and Sycamore Bend swamps; and Quaker Swamp, which are crossed or in proximity to ACP (VDCR, 2016b).	Both Meherrin River and Nottoway River would be crossed using a dry crossing technique. The potential impacts and mitigation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.
Coppery emerald dragonfly *Somatochlora georgiana*	SH (Tier IIIc)	N/A	Small, sandy streams and slow-moving creeks, often with acidic waters, in forested area. Adults are active from June to August (VDCR and VDGIF, 2013).	No observations of this species in counties crossed by the Project and it is possible that this species is extirpated. No surveys for this species were conducted. This species has the potential to occur at Winningham Creek and adjacent swamp; and Watson Creek, which are crossed by ACP (VDCR, 2016b).	Both Winningham Creek and Watson Creek would be crossed using a dry crossing technique. The potential impacts and mitigation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Riverine clubtail dragonfly *Stylurus amnicola*	S1 (Tier IVc)	Nelson	Medium to large rivers with varying flow and substrate, in and out of forested areas. Adults are active May through September (VDCR and VDGIF, 2013).	This species has not been observed in this county since before 1950. No surveys for this species were conducted. This species has been documented at James River at Wingina, which is in proximity to ACP (VDCR, 2016b).	James River would be crossed using an HDD; therefore impacts to nymphs would also not be anticipated at this crossing. The potential impacts and mitigation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.
Laura's clubtail dragonfly *Stylurus laurae*	S2 (Tier IVc)	Nelson, Nottoway, Dinwiddie	Clear, shallow streams with rocky riffles and a sand or mud bottom (VDCR and VDGIF, 2013).	This species has been observed in Nottoway County more recently than 1990; however it has not been observed in Nelson County since before 1950. No surveys for this species were conducted. This species has been documented at Nottoway River-Fort Pickett SCU, which is crossed by ACP (VDCR, 2016b).	The Nottoway River at the Nottoway River-Fort Pickett SCU would be crossed using an HDD; therefore impacts to nymphs would also not be anticipated at this crossing. The potential impacts and mitigation measures for this species are the same as described above for the Mustached Clubtail Dragonfly.
Red saddlebags *Tramea onusta*	S1[b]	Augusta, GWNF correspondence indicates this species has been documented in sinkhole ponds in Augusta County.	Ponds and quiet and still waters. Adults are active mid-May through early October (NatureServe, 2015).	No surveys for this species were conducted.	The potential impacts and mitigation measures for this species are the same as described above for the Comet Darner Dragonfly.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Butterflies					
Silver-bordered fritillary butterfly *Boloria selene*	S2[b]	Bath, Highland, Nelson	Lives in wet meadows and marshes, often at sites with taller vegetation. Larval hosts on various violet species (*Viola* spp.) found in wetlands. Adults are active from June through September (VDCR and VDGIF, 2013).	This species has not been observed in Bath or Nelson counties since before 1950; but has been observed in Highland County more recently than 1990. Potential host plants for this species were observed within the GWNF; however, no individuals were documented (see table R-4 of appendix R). No surveys for this species were conducted outside the GWNF. This species been historically documented at the junction of Route 84 and Route 600; and has the potential to occur within wet meadows along Back Creek (VDCR, 2016b).	Adult butterflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. Construction activities could remove suitable larval host plants and foraging plants; and could kill larvae if present. As outlined in its' *Restoration and Rehabilitation Plan* (see appendix F), Atlantic has committed to incorporate regionally-specific and endemic forb seeds in its traditionally all-grass seed mix to create pollination habitat, which may reduce impacts to this species.
Frosted elfin butterfly *Callophrys irus*	S2?[b] (Tier IVc)	Highland, Augusta, Nelson, Suffolk	Most often found in dry areas, especially oak woods, shale barrens, pine forests, sandhills, and coastal shrub. Larval host plants are wild lupine (*Lupinus perennis*) and wild indigo (*Baptisia tinctoria*). Adults active from May to June (VDCR and VDGIF, 2013).	This species has been observed more recently than 1990. Surveys on the GWNF did not identify suitable habitat or individuals of this species. No surveys for this species were conducted.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. Lupine species would be incorporated into some seed mixes.
Hoary elfin butterfly *Callophrys polios*	S1S3[b] (Tier IVc)	Highland, Augusta	Bogs, dunes, pine barrens, ridges, rocky slopes, and woodland edges. Its larval host plants are bearberry (*Arctostaphylos uva-ursi*) and trailing arbutus (*Epigaea repens*). Adults are active mid-May through June (VDCR and VDGIF, 2013).	No surveys for this species were conducted.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. Herbaceous and low shrub species would be allowed to regenerate within the construction and permanent ROW after construction is complete.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Pink-edged sulphur butterfly *Colias interior*	S1S2[b] (Tier IVc)	Highland	Clearings, woodlands, areas that have been managed with fire clearing, bogs, pine barrens, managed ROWs, and alpine forests, often in high elevations. Its larval host plants include blueberry and billberry (*Vaccinium* spp) and members of the heath family (*Ericacea*). Adults are active mid-June to early September (VDCR and VDGIF, 2013).	No surveys for this species were conducted.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. Herbaceous and low shrub species would be allowed to regenerate within the construction and permanent ROW after construction is complete.
Early hairstreak butterfly *Erora laeta*	S2[b] (Tier IVc)	Augusta, Bath, Highland	Woodland openings and moist, but well-drained mature American beech (*Fagus grandifolia*) forests. Its main larval host plant is American beech, and beaked hazelnut (*Coylus cornuta*) is a secondary larval host plant. Adults are active from late April through May and late June through August (VDCR and VDGIF, 2013).	Field habitat assessments identified one host plant for this species within the GWNF; however no individuals were observed (see table R-4 of appendix R). No surveys for this species were conducted outside the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. Tree species would be allowed to regenerate outside the permanent ROW after construction is complete.
Olymbia marble butterfly *Euchloe olympia*	S2[b]	Augusta, Highland	Shale and limestone barrens. Its larval host plant is rock cress (*Cardamine* spp.). Adults are active from April to May (VDCR and VDGIF, 2013).	No surveys for this species were conducted.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. Herbaceous and low shrub species would be allowed to regenerate within the construction and permanent ROW after construction is complete.
Northern crescent butterfly *Phycoides cocyta*	S1S3[b]	Augusta, Bath	Prefers barren habitats, but also associated with streams; more woodland-based than similar species. Its larval host plants are in the genus *Aster*. Adults are active from June through July (VDCR and VDGIF, 2013).	Field habitat assessments identified larval host plants for this species within the GWNF; however no individuals were observed. No surveys for this species were conducted outside the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. *Aster* species would be incorporated into some seed mixes.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Helicta Satyr *Neonympha helicta*	S2	Dinwiddie, Greensville, Nottoway, Southampton, Suffolk	Usually found in grassy wetlands, especially bogs and savannas, but also in grassy pine forests. Likely hosts on various sedges (VDCR and VDGIF, 2013). This species has the potential to occur along the powerline ROW east of Route 674 (VDCR, 2016b).	In all counties except Suffolk, this species has not been observed since prior to 1950. This species has been observed more recently than 1990 in Suffolk.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. *Carex* species would be incorporated into some seed mixes.
Atlantic fritillary butterfly *Speyeria atlantis*	S2[b]	Augusta, Highland	Open habitats including open meadows, bogs, roadside woods, and woodland openings. Its larval host plant are violets (*Viola* spp.). Adults are active mid-June through mid-September (VDCR and VDGIF, 2013).	Field habitat assessments identified host plants for this species within the GWNF; however no individuals were observed. No surveys for this species were conducted outside the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly.
Diana fritillary butterfly *Speyeria diana*	S3[b] (Tier IVc)	Augusta, Bath, Highland, Suffolk	Favor wooded areas, particularly in low-lying valleys, pine woods, and cove forests, within or near mountain ranges. Its larval host plants are violets (*Viola* spp.), and nectar plants include butterfly bush, milkweeds, and other purple flowers. Adults are active from mid-June to early September (VDCR and VDGIF, 2013).	Field habitat assessments identified host plants for this species within the GWNF; however no individuals were observed. No surveys for this species were conducted outside the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. This species is known to benefit from the presence of woodland clearings, including rights-of-way, by creating additional nectaring habitat (FS et al., 2002). Management of the right-of-way that encourages nectar sources would be beneficial to this species.
Regal fritillary butterfly *Speyeria idalia*	S1[b], PF (Tier Ia)	Augusta, Highland, Nelson	Uses violets (*Viola* spp.), especially birdfoot violet (*V. pedata*) as its larval host plants. Prefers tallgrass areas, such as prairies, fields, grasslands, and bogs; may have close ties with undisturbed native grasslands. Adults feed on nectar from thistle (Cirsium spp.), milweeks (Aesclepias spp.) and red clover (Trifolium spp.). Adults are active mid-June through mid-August (VDCR and VDGIF, 2013).	Field habitat assessments identified host plants for this species within the GWNF; however no individuals were observed. No surveys for this species were conducted outside the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. This species is known to benefit from the presence of woodland clearings, including rights-of-way, by creating additional nectaring habitat (FS et al., 2002). Management of the right-of-way that encourages nectar sources would be beneficial to this species.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Skippers					
Mottled duskywing skipper *Erynnis martialis*	S1S3[b] (Tier IIIc)	Bath, Augusta, Highland, Prince Edward, Greensville, Chesapeake	Favors open woods, barrens, sandhills, and brushy fields. Its larval host plant is New Jersey tea (*Ceanothus americana*). Adults are active from April through September (VDCR and VDGIF, 2013).	No surveys for this species were conducted.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. Herbaceous and low shrub species would be allowed to regenerate within the construction and permanent ROW after construction is complete.
Persius duskywing skipper *Erynnis persius persius*	S1[b] (Tier IIc)	Bath, Highland	Found in dry pine-oak forests. Larval host plants include a wide range of legumes, primarily wild lupine (*Lupinus perennis*) or wild indigo (*Baptisia tinctoria*). Adults are active from April to June (VDCR and VDGIF, 2013).	Surveys on the GWNF did not identify suitable habitat or individuals of this species. No surveys for this species were conducted outside the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. Lupine species would be incorporated into some seed mixes.
Two-spotted skipper *Euphyes bimacula*	S2[b] (Tier IVc)	Augusta, Highland, Suffolk	Prefers open bogs, marshes, swamps, and other damp areas. Its larval host plants are sedges, primarily tussock sedge (*Carex stricta*) and hairy fruit sedge (*Carex trichocarpa*). Adults are active from June to July in the south and from April to August in the south (VDCR and VDGIF, 2013).	No surveys for this species were conducted.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. *Carex* species would be incorporated into some seed mixes.
Dukes' skipper *Euphyes dukesi*	S2 (Tier IIIc)	Chesapeake, Suffolk	Wet, marshy areas such as swamps, open marshes, and wet roadside ditches. Prefer expansive estuarine or coastal marshes. Prefer broad-leaved sedges such as shoreline sedge (*Carex hyalinolepis*).	This species has been observed more recently than 1990. No surveys for this species were conducted. This species has been documented at the Great Dismal Swamp Conservation Site, which is crossed by ACP (VDCR and VDGIF, 2013).	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. Herbaceous species would be allowed to regenerate within the construction and permanent ROW after construction is complete.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Appalachian grizzled skipper *Pyrgus centaureae wyandot*	S1[b] (Tier Ia)	Augusta, Bath, Highland	Dry, open areas with shaley soils such as shale barrens, and artificially opened habitats such as clearcuts and utility ROWs. Its larval host is dwarf cinquefoil (*Potentilla canadensis*). Adults are active from mid-April to early May (VDCR and VDGIF, 2013).	Field habitat assessments identified one host plant for this species within the GWNF; however no caterpillars were observed. Adults could not be sampled as it was outside of their activity period; therefore presence is assumed in suitable habitat on the GWNF. No surveys for this species were conducted outside the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. This species is known to benefit from the presence of woodland clearings, including rights-of-way. Herbaceous and low shrub species would be allowed to regenerate within the construction and permanent ROW after construction is complete. Management of the right-of-way that creates suitable habitat would be beneficial to this species.
Moths					
Cane-boring moth *Acrapex relicta*	S2S3	Chesapeake, Suffolk	Only found in patches of cane, or occasionally exotic bamboo stands. This species has been documented at the Great Dismal Swamp Conservation Site, which is crossed by ACP (VDCR and VDGIF, 2013).	This species has been observed more recently than 1990. No surveys for this species were conducted.	Based on state vegetation data (see section 4.4), ACP would not cross vegetation communities consisting of cane in Virginia; therefore, no impacts to this species are anticipated.
Herodias underwing moth *Catocala herodias gerhardi*	S2S3[b] (Tier IIIc)	Augusta, Bath, Highland	Prefer pitch pine (*Pinus rigida*)-bear oak (*Quercus ilicifolia*) barrens, or sparse woodlands. Food plants are bear oak, and blackjack oak (*Quercus marilandica*); larvae feed mostly on bear oak and are reared mostly on blackjack oak. Adults are active from July to August (VDCR and VDGIF, 2013).	Potential host plants for this species were observed within the GWNF; however, individual surveys were not conducted. Because individual surveys were not conducted, presence is assumed within suitable habitat on the GWNF (see table R-2 in appendix R). No surveys for this species were conducted outside the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. This species is known to benefit from the presence of woodland clearings, including rights-of-way, by creating additional nectaring habitat (FS et al., 2002). Management of the right-of-way that encourages nectar sources would be beneficial to this species.
Precious underwing moth *Catocala pretiosa pretiosa*	SH[b] (Tier IIc)	N/A	Restricted to mature swamp forests, forest edges, bog edges, and other habitats with thickets or very large bushes of food plants exceeding 1.5 meters in height. Its larval host plants include serviceberry (*Amelanchier* spp.), and crabapple (*Malus angustifolia*) (VDCR and VDGIF, 2013).	Presumed to extirpated in Virginia. A limited number of potential host plants for this species was observed within the GWNF (see table R-4 of appendix R). No surveys for this species were conducted outside the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. Tree species would be allowed to regenerate outside the permanent ROW after construction is complete.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Unexpected Cycnia moth *Cycnia inopinatus*	S1S3	Dinwiddie, Nottoway	Coastal sand scrub, barrens, and savanna. Feed on milkweed and overwinter in the duff of fallen milkweed leaves (FS, 2005).	Surveys for this species were not required. This species has been documented at the Fort Pickett Impact Area Conservation Site, which is in the vicinity of ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. Milkweed species would be incorporated into some seed mixes.
Milne's Euchlaena moth *Euchlaena milnei*	S2[b] (Tier IVc)	Augusta, Bath	Hardwood and mountain oak woodlands with acidic soil. Its larval host plant is unknown. Adults are active in from early to mid-July (VDCR and VDGIF, 2013).	Individual surveys were not conducted for this species. Because individual surveys were not conducted, presence is assumed within suitable habitat on the GWNF (see table R-2 In appendix R). No surveys for this species were conducted outside the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly.
A bird dropping (noctuid) moth *Protodeltote* sp. 1	S1S2	Chesapeake	N/A	No surveys for this species were conducted. This species has been documented at the Great Dismal Swamp Conservation Site, which is crossed by ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly.
Hebard's noctuid moth *Psectrotarsia hebardi*	SH[b] (Tier IIIc)	Bath	Prefers rich, deciduous forests with abundant larval food plants, such as stoneroot (*Collinsonia canadensis*). Larvae are active into September (VDCR and VDGIF, 2013).	This species has not been recently documented in Virginia (prior to 1950). Individual surveys were not conducted for this species. Because individual surveys were not conducted, presence is assumed within suitable habitat on the GWNF (see table R-2 In appendix R). No surveys for this species were conducted outside the GWNF.	Because there are no recent occurrences of this species in Virginia, it is unlikely that ACP would impact this species.
Aureolaria seed borer moth *Pyrrhia aurantiago*	S1S3	Bath, Nottoway	Associated with false foxglove species (*Aureolaria* spp.) (VDCR and VDGIF, 2013).	No surveys for this species were conducted. This species has been documented at Fort Pickett Impact Area Conservation Site, which is in the vicinity of ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. Herbaceous and low shrub species would be allowed to regenerate within the construction and permanent ROW after construction is complete.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Chestnut clearwing moth *Synanthedon castaneae*	SH[b] (Tier IVc)	N/A	Its host plant is the American chestnut (*Castanea dentata*) and possibly the chinquapin (*Castanea pumila*) (VDCR and VDGIF, 2013).	This species has not been recently documented in Virginia; the only record is from Falls Church. Potential host plants for this species were observed within the GWNF; however, individual surveys were not conducted. Because individual surveys were not conducted, presence is assumed in suitable habitat. No surveys for this species were conducted outside the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Silver-bordered Fritillary Butterfly. Tree species would be allowed to regenerate outside the permanent ROW after construction is complete.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
VASCULAR PLANTS					
Red milkweed *Asclepias rubra*	S2	Dinwiddie, Greensville, Southampton, Suffolk	Bogs, wetlands, or marshy areas, or in moist woodland soil (Virginia Botanical Associates, 2016).	Surveys identified 26 individuals of this species at the Handsom-Gum Powerline Bog Conservation Site.	Construction activities would directly remove individuals located within the construction right-of-way, remove or degrade suitable habitat for this species within and adjacent to the construction right-of-way, and disturb the seed bed. Construction activities may also encourage the spread of invasive and noxious plants. Regular maintenance of the construction right-of-way would also cause regular disturbance and potential mortality of this species. Atlantic would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1), which includes measures to control erosion and sedimentation. Atlantic would control the spread of invasive and noxious weeds through the implementation of its *Invasive Plant Species Management Plan*, and would implement dust control as described in its *Fugitive Dust Control and Mitigation Plan* (see table 2.3.1-1). Restoration of the right-of-way would proceed according to the *Restoration and Rehabilitation Plan* (see appendix F). Atlantic is currently working with VDCR on potential reroute of the Handsom-Gum Powerline Bog Conservation Site pending hydrologic study anticipated in January 2017.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Valley doll's-daisy *Boltonia montana*	S1/E	Augusta	Sinkhole pond habitats and associated river and stream sides (NatureServe, 2015).	Potential habitat for this species identified within the survey corridor. Surveys completed in 2015 identified thousands of individuals of this species at the Lyndhurst Conservation Site in Augusta County. This species has been documented at the Campbells and Grove Farm Ponds Conservation Site, which is crossed by ACP (VDCR, 2016b).	Atlantic has adopted a reroute to avoid the population of this species at the Lyndhurst Conservation Site.
Pine barren sandreed *Calamovilfa brevipilis*	S1	Dinwiddie, Greensville, Suffolk	Bogs (Virginia Botanical Associates, 2016).	Surveys identified 14 individuals of this species in the Emporia Powerline Bog Conservation Site.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Atlantic is currently working with VDCR on potential reroute of the Emporia Bog Powerline Conservation Site pending hydrologic study anticipated in January 2017.
Large spreading pogonia *Cleistesiopsis divaricata*	S1	Greensville, Southampton, Suffolk, Chesapeake	Sphagnous bogs and pocosin openings (Virginia Botanical Associates, 2016).	Surveys completed in 2015 identified this species at the Handsom-Gum Powerline Bog Conservation Site. This species has been documented at the Handsom-Gum Powerline Conservation Site, and the Great Dismal Swamp Conservation Site, which are crossed by ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Atlantic is currently working with VDCR on potential reroute pending hydrologic study anticipated in January 2017.
American willow-herb *Epilobium ciliatum ssp. ciliatum*	SH[b]	Highland, Bath, Augusta	Bogs, seeps, wet meadows, and wet clearings; usually at higher elevations (Virginia Botanical Associates, 2016).	Surveys completed in 2015 identified this species within the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Pending GWNF and VDCR review of survey reports and mitigation measures.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Ten-angled pipewort *Eriocaulon decangulare* var. *decangulare*	S2	Dinwiddie, Southampton, Chesapeake	Bogs, boggy sphagnous clearings, sea-level fens, and mafic fens and seeps (Virginia Botanical Associates, 2016).	Surveys identified 100-500 individuals of this species at the Handsom-Gum Powerline Bog Conservation Site.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Atlantic is currently working with VDCR on potential reroute pending hydrologic study anticipated in January 2017.
Branched hedge-hyssop *Gratiola ramosa*	S1	Greensville	Ruts and pools in powerline ROW; inner edge of Coastal Plain. Only known from Greensville County (Virginia Botanical Associates, 2016).	Surveys identified this species at the Emporia Powerline Bog Conservation Site.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Atlantic is currently working with VDCR on potential reroute of the Emporia Bog Powerline Conservation Site pending hydrologic study anticipated in January 2017.
Fraser's Marsh St. John's-wort *Hypericum fraseri*	S2	Bath, Highland	Bog, mafic fens, seeps, seepage swamps, depression ponds, and swamps, usually in peaty, nutrient-poor soils (Virginia Botanical Associates, 2016).	Surveys identified a population of 1,500+ individuals of this species in Bath County, and an additional 3,800+ individuals 1,000 feet downslope from a proposed access roads associated with Brown's Pond Conservation Site on the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Pending GWNF and VDCR review of survey reports and mitigation measures.
Hairy St. John's-wort *Hypericum setosum*	S1S2	Dinwiddie, Greensville, Southampton, Suffolk	Wet flatwoods, power-line swales, boggy clearings, and ditches (Virginia Botanical Associates, 2016).	Surveys identified 93 individuals of this species at the Handsom-Gum Powerline Bog Conservation Site. This species has been documented at the Radium Flatwoods East Conservation Site; Handsom-Gum Powerline Conservation Site, which is in the vicinity of or crossed by ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Atlantic is currently working with VDCR on potential reroute pending hydrologic study anticipated in January 2017.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Big gallberry *Ilex coriacea*	S1	Suffolk, Chesapeake	Peaty swamps, flatwoods, and pocosins; usually associated with Atlantic white cedar (*Chamaecyparis thyoides)* or pond pine (*Pinus serotina)*. Rare in southeast Coastal Plain, but found frequently within the Great Dismal Swamp (Virginia Botanical Associates, 2016).	Species observed within the construction workspace in Suffolk. This species has been documented at the Izaak Walton League Preserve Conservation Site, which is in the vicinity of ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed.
Rafinesque's seedbox *Ludwigia hirtella*	S2	Nottoway, Dinwiddie, Brunswick, Greensville, Suffolk	Bogs, boggy clearings, power-line swales, and sphagnous ditches (Virginia Botanical Associates, 2016).	Surveys identified 10 individuals of this species in the Emporia Powerline Bog Conservation Site.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Atlantic is currently working with VDCR on potential reroute of the Emporia Bog Powerline Conservation Site pending hydrologic study anticipated in January 2017.
Hairy seedbox *Ludwigia pilosa*	S1	Suffolk	Ditches, and boggy clearings (Virginia Botanical Associates, 2016).	Surveys identified 5,735 individuals of this species at the Great Dismal Swamp (Northwest Section) Conservation Site. This species has been previously documented in the Great Dismal Swamp Conservation Site and Great Dismal Swamp: Northwest Section Conservation Site (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed.
Raven's seedbox *Ludwigia ravenii*	S1	Suffolk	Boggy clearings and ditches in wet flatwoods (Virginia Botanical Associates, 2016).	Species was identified along proposed access roads. This species has been documented at the Lummis Flatwoods Conservation Site (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed.
Slender rattlesnake-root *Nabalus autumnalis*	S1	Dinwiddie, Greensville, Southampton, Suffolk	Boggy powerline clearcuts, and roadside clearings (Virginia Botanical Associates, 2016).	Species not observed during 2015 or 2016 surveys. This species has been documented at the Emporia Powerline Bog Conservation Site, which is crossed by ACP (VDCR, 2016b).	Atlantic is currently working with VDCR on potential reroute of the Emporia Bog Powerline Conservation Site pending hydrologic study anticipated in January 2017.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
American ginseng *Panax quinquefolius*	S3S4/T	Highland, Bath, Augusta, Nelson, Buckingham, Cumberland, Prince Edward	Cove forests, and mesic to dry slope forests in base-rich soils (Virginia Botanical Associates, 2016).	20 populations identified within the GWNF (see table R-4 in appendix R); and 1 population in Augusta County.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. The GWNF has recommended transplanting if plants cannot be avoided; relocation plan required. Discussing avoidance and mitigation for this species with GWNF (see table R-4 in appendix R). Pending GWNF and VDCR review of survey reports and mitigation measures.
Walter's paspalum *Paspalum dissectum*	S2	Augusta, Greensville, Southampton Suffolk, Chesapeake	Seasonally exposed sandy or gravelly river shores and bars, interdune swales and ponds, impoundment edges, depressions and ruts in bottomland or upland clearings (Virginia Botanical Associates, 2016).	Surveys identified 15,000+ individuals of this species in the Great Dismal Swamp Conservation Site, and 186 individuals at the Great Dismal Swamp (Northwest Section) Conservation Site. This species has been documented at the South Meherrin Powerline Conservation Site; Great Dismal Swamp Conservation Site; and South River Meadow Conservation Site, which is in the vicinity of or crossed by ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed.
Small white fringed orchid *Platanthera blephariglottis*	S2	Dinwiddie, Greensville, Suffolk	Bogs and sphagnous seeps (Virginia Botanical Associates, 2016).	Species not observed during 2015 or 2016 surveys. This species has been documented at the Emporia Powerline Bog Conservation Site, which is crossed by ACP (VDCR, 2016b).	Atlantic is currently working with VDCR on potential reroute of the Emporia Bog Powerline Conservation Site pending hydrologic study anticipated in January 2017.
Purple fringeless orchid *Platanthera peramoena*	S1	Highland, Bath, Augusta, Greensville	Fens, wet meadows, clearings, and ditches, usually in base-rich soils (Virginia Botanical Associates, 2016).	Species observed 0.5 mile outside of the environmental survey corridor.	Because the individual observed is more than 0.5 mile outside of the environmental survey corridor, no impacts are anticipated.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Water-plantain crowfoot *Ranunculus ambigens*	S1	Bath, Augusta	Freshwater and tidal marshes, beaver ponds, sluggish streams, and montane depression ponds. Known from fewer than 20 sites (Virginia Botanical Associates, 2016).	Surveys identified 200 individual plants near the South River Wet Meadow Conservation Site in Augusta County.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed.
Fringed meadow beauty *Rhexia petiolata*	S1	Southampton, Greensville, Suffolk	Bogs, wet flatwoods, and boggy powerline clearings (Virginia Botanical Associates, 2016).	Surveys identified 150 individuals of this species at the Handsom-Gum Powerline Bog Conservation Site. This species has been documented at the Emporia Powerline Bog Conservation Site, and Handsom-Gum Powerline Conservation Site, which are crossed by ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Atlantic is currently working with VDCR on potential reroute of Handsom-Gum and Emporia Bog Powerline Conservation Sites pending hydrologic study anticipated in January 2017.
Small bunched beaksedge *Rhynchospora cephalantha* var. *attenuata*	S1	Southampton, Greensville	Bogs, sphagnous seeps, and boggy clearings (Virginia Botanical Associates, 2016).	Surveys identified 2,000+ individuals of this species at the Handsom-Gum Powerline Bog Conservation Site. This species has been documented at the Emporia Powerline Bog Conservation Site, and Handsom-Gum Powerline Conservation Site, which is crossed by ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Atlantic is currently working with VDCR on potential reroute of Handsom-Gum and Emporia Bog Powerline Conservation Sites pending hydrologic study anticipated in January 2017.
Coastal bog beaksedge *Rhynchospora stenophylla*	S1	Southampton	Seeping, sphagnous slopes in powerline ROW (Virginia Botanical Associates, 2016).	Species not observed during 2015 or 2016 surveys. This species has been documented at the Handsom-Gum Powerline Conservation Site, which is crossed by ACP (VDCR, 2016b).	Atlantic is currently working with VDCR on potential reroute of the Handsom-Gum Powerline Conservation Site pending hydrologic study anticipated in January 2017.
Lance-leaved rose-gentian *Sabatia difformis*	S1	Southampton	Powerline clearings in wet flatwoods (Virginia Botanical Associates, 2016).	Species not observed during 2015 or 2016 surveys. This species has been documented at the Handsom-Gum Powerline Conservation Site, which is crossed by ACP (VDCR, 2016b).	Atlantic is currently working with VDCR on potential reroute of the Handsom-Gum Powerline Conservation Site pending hydrologic study anticipated in January 2017.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Northern pitcher plant *Sarracenia purpurea*	S2	Dinwiddie, Greensville, Southampton, Suffolk	Open acidic seepage swamps, streamhead pocosins, boggy depressions in pine flatwoods, sphagnous powerline seeps and other boggy clearings (Virginia Botanical Associates, 2016).	Species not observed during 2015 or 2016 surveys. This species has been documented at the Dahlia Swamps Conservation Site, and Handsom-Gum Powerline Conservation Site, which is the vicinity of or crossed by ACP (VDCR, 2016b).	Atlantic is currently working with VDCR on potential reroute of the Handsom-Gum Powerline Conservation Site pending hydrologic study anticipated in January 2017.
Slender nutrush *Scleria minor*	S2	Dinwiddie, Greensville, Suffolk, Southampton	Bogs and boggy clearings, usually sphagnous, and saturated powerline ROW swales (Virginia Botanical Associates, 2016).	Species not observed during 2015 or 2016 surveys. This species has been documented at the Emporia Powerline Bog Conservation Site, and Handsom-Gum Powerline Conservation Site, which are crossed by ACP (VDCR, 2016b).	Atlantic is currently working with VDCR on potential reroute of the Handsom-Gum and Emporia Bog Powerline Conservation Sites pending hydrologic study anticipated in January 2017.
Southern bog goldenrod *Solidago stricta*	S2	Southampton	Wet pinelands and deciduous flatwoods, swampy woods, and clearing (Virginia Botanical Associates, 2016).	Surveys completed in 2015 identified 24 individuals of this species at the Branchville Powerline Conservation Site.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Pending VDCR review of survey reports and mitigation measures.
Yellow nodding ladies'-tresses *Spiranthes ochroleuca*	S2	Highland, Bath	Open forests, clearings, and meadows often at higher elevations (Virginia Botanical Associates, 2016).	Surveys identified 1 individual of this species along a proposed access road in the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Pending GWNF and VDCR review of survey reports and mitigation measures.
Gaping panic grass *Steinchisma hians*	S1	Greensville, Southampton, Suffolk	Floodplain forests, alluvial swamps, and wet clearings and fields (Virginia Botanical Associates, 2016).	Surveys completed in 2015 identified this 1,000+ individuals of this species at the Branchville Powerline Conservation Site.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Pending VDCR review of survey reports and mitigation measures.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Dense-flowered camas *Stenanthium densum*	S1	Southampton, Greensville	Sphagnous bogs and bog clearings (Virginia Botanical Associates, 2016).	Surveys identified 25-50 individuals of this species at the Emporia Powerline Bog Conservation Site and 600-700 individuals at the Handsom-Gum Powerline Bog Conservation Site. This species has been documented at both the Emporia Powerline Bog Conservation Site, and Handsom-Gum Powerline Conservation Site; and has the potential to occur at the Branchville Powerline Conservation Site, which are all crossed by ACP (VDCR, 2016b).	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Atlantic is currently working with VDCR on potential reroute of the Handsom-Gum and Emporia Bog Powerline Conservation Sites pending hydrologic study anticipated in January 2017.
Three birds orchid *Triphora trianthophora* ssp. *trianthophora*	S1	Bath, Augusta	Mesic slope forests, montane alluvial forests, and large-river floodplain forest. Most often found under hemlocks or in moist soils and moss of old logging roads (Virginia Botanical Associates, 2016).	Surveys identified 26 individuals of this species 1,000 feet downslope of a proposed access road associated with Brown's Pond Conservation Site on the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Pending GWNF and VDCR review of survey reports and mitigation measures.
Southern bladderwort *Utricularia juncea*	S1	Dinwiddie, Southampton, Suffolk	Bog, sea-level fens, pond shores, and wet, disturbed sands (Virginia Botanical Associates, 2016).	Surveys identified 350 individuals of this species at the Handsom-Gum Powerline Bog Conservation Site.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Atlantic is currently working with VDCR on potential reroute of the Handsom-Gum Powerline Conservation Site pending hydrologic study anticipated in January 2017.
American vetch *Vicia americana ssp. americana*	S1[b]	Nelson	Dry, shaley or rocky woodlands, forest edges and clearings, riverside prairies and outcrops (Virginia Botanical Associates, 2016).	Surveys identified this species within the GWNF.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Pending GWNF and VDCR review of survey reports and mitigation measures.

TABLE S-2 (cont'd)

Virginia Listed and Species of Greatest Conservation Need With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Rank / Status[c] (SGCN Tier Rank)[c]	Counties with Documented Occurrences[d]	Habitat Description	Survey / Agency Data	Potential Project Impacts and Mitigation
Fringed yellow-eyed grass *Xyris fimbriata*	S1	Southampton, Suffolk, Chesapeake	Boggy and peaty clearings in wet flatwoods, pocosins, and Atlantic white cedar swamps. All records are from the Great Dismal Swamp (Virginia Botanical Associates, 2016).	Surveys identified 1 individual of this species in the Great Dismal Swamp Conservation Site, and 13 individuals at the Great Dismal Swamp (Northwest Section) Conservation Site.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed.
Tall yellow-eyed grass *Xyris platylepis*	S2	Greensville, Suffolk	Bogs, powerline swales, sphagnous ditches, and sandhill seeps (Virginia Botanical Associates, 2016).	Surveys identified 14 individuals of this species at the Great Dismal Swamp Conservation Site, and individuals at the Handsom-Gum Powerline Bog Conservation Site.	The potential impacts and mitigation measures for this species are the same as described above for the Red Milkweed. Atlantic is currently working with VDCR on potential reroute of the Handsom-Gum Powerline Conservation Site pending hydrologic study anticipated in January 2017.

[a] Species under review for federal listing under the Endangered Species Act.
[b] Species is identified as Regional Foresters' Sensitive Species, Management Indicator Species, or Locally Rare Species in the George Washington National Forest, see Section 4.7.3 and appendix R.
[c] State Rank and Status is based on Roble, 2016 and Townsend, 2016.
[d] County Occurrence information is based on the sources cited in the Habitat Descriptions column, and information provided by federal and state agencies.

State Rank: S1 = Critically Imperiled, S2 = Imperiled, S3 = Vulnerable, S4 = Apparently Secure, S5 = Secure, SH= Possibly Extirpated, SU = Possibly rare, but status uncertain and more data needed, ? = Inexact Numeric Rank.

State Rank (Birds): S_B: breeding status; these species typically inhabit Virginia only during the breeding season, S_B/S_N: breeding and non-breeding status in Virginia when they differ

State Status: E – Endangered, P – Proposed, T – Threatened

Species of Greatest Conservation Need (SGCN) Tier Rank: Tier I – Critical Conservation Need; Tier II – Very High Conservation Need; Tier III – High Conservation Need; Tier IV – Moderate Conservation Need

Conservation Opportunity Ranking (included with SGCN Tier Rank, e.g. Tier Ia, Tier IIIc): a – VDGIF has identified species or habitat management strategies, some of which will be implemented; b – VDGIF has identified species or habitat management strategies; but cannot implement; c – VDGIF has not identified species or habitat management strategies for this species

PF – federally petitioned species

NR – not ranked

TABLE S-3

North Carolina Listed and Special Concern Species With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Status	Counties with Documented Occurrences [a]	Habitat Description	Survey Data / Agency Data	Potential Project Impacts and Mitigation
MAMMALS					
Rafinesque's big-eared bat (Coastal Plain subspecies) *Corynorhinus rafinesquii macrotis*	SC	Northampton, Johnston, Sampson, Robeson	Roosts in hollow trees, old buildings, and beneath bridges usually near water (NCDEQ, 2014d).	NHI Observation within One-Mile of Project Area (Pre-2006); A total of 16 individuals were captured during mist-net surveys in Halifax and Northampton Counties. In addition, telemetry surveys identified three roost trees, and two building roosts. Bat surveys are pending on 2.9 miles in North Carolina, which are anticipated to be completed in August 2017.	One of the roost trees and the two building roosts are located greater than 0.25 mile from the construction workspace; however the distance of the other roost tree was unable to be determined due to denied land access. The third roost tree is located along a proposed existing access road; therefore use of the road could cause disturb roosting bats. Atlantic would avoid and implement a 0.25-mile buffer around positively identified roost trees and only clear suitable habitat during the non-active season (November 16-March 31). Atlantic is currently coordinating with NCWRC to determine appropriate conservation measures for the roost tree located along a proposed existing access road.
Southeastern myotis *Myotis austroriparius*	SC	Halifax, Johnston, Robeson	Roosts in buildings, hollow trees; forages near water mainly in the Coastal Plain (NCDEQ, 2014d).	A total of 15 individuals were captured during mist-net surveys in Halifax, Nash, Wilson, and Northampton counties. In addition, telemetry surveys identified three roost trees, and one bridge roost. Bat surveys are pending on 2.9 miles in North Carolina, which are anticipated to be completed in August 2017.	One of the roost trees and bridge roost are located greater than 0.25 mile from the construction workspace; however the other two roost trees are located 0.1 mile from the construction workspace. Atlantic would avoid and implement a 0.25-mile buffer around positively identified roost trees and only clear suitable habitat during the non-active season (November 16-March 31). Project would remove suitable habitat. Atlantic is currently coordinating with NCWRC to determine appropriate conservation measures for the two roost trees located within 0.5 mile of the construction workspace.
BIRDS					
Bachman's sparrow *Peucaea aestivalis*	SC	Halifax, Cumberland, Sampson, Robeson	Open longleaf pine forests, old fields (NCDEQ, 2014d).	NHI Observation within Project Area (1983). Based on a desktop assessment, Atlantic identified potentially suitable habitat for this species in Halifax, Sampson, and Cumberland counties.	Based on desktop analysis, potentially suitable habitat for this species occurs with the ACP Project area. Construction activities would cause temporary to long term loss of suitable habitat, and could disrupt normal activities. Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1) to minimize impact to this species.

TABLE S-3 (cont'd)

North Carolina Listed and Special Concern Species With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Status	Counties with Documented Occurrences [a]	Habitat Description	Survey Data / Agency Data	Potential Project Impacts and Mitigation
Cerulean warbler *Setophaga cerulea*	SC	Northampton, Halifax, Johnston	Mature hardwood forests; steep slopes and coves in mountains, natural levees in Coastal Plain (NCDEQ, 2014d).	NHI Observation within One-Mile of Project Area (2007). Based on a desktop assessment, Atlantic identified potentially suitable habitat for this species in Northampton and Halifax counties.	Construction activities would cause long term to permanent loss of suitable habitat, and could disrupt normal activities. Atlantic would construct outside of the nesting season and implement the mitigation measures outlined in the *Migratory Bird Plan* (see table 2.3.1-1) to minimize impact to this species.
Little blue heron *Egretta caerulea*	SC	Cumberland, Robeson	Forests or thickets on maritime islands, rarely in swamps or at ponds (NCDEQ, 2014d).	NHI Observation within One-Mile of Project Area (2000). One active rookery (WBC-14) with little blue heron was documented during surveys conducted in 2015 surveys in Robeson County.	Atlantic has committed to maintaining a disturbance buffer distance of 0.5-mile around of rookeries from February 15-July 31, and maintaining an undisturbed, naturally vegetated buffer of at least 500 feet around rookeries at all times. The rookery is located 6,375 feet (1.2 miles) from the ACP 300-foot survey corridor; therefore impacts are not anticipated.
Snowy egret *Egretta thula*	SC	Robeson	Forests or thickets on maritime islands, rarely in swamps or at ponds (NCDEQ, 2014d).	NHI Observation within One-Mile of Project Area (2000). One active rookery with snowy egret was documented during surveys conducted in 2015 surveys in Robeson County.	Atlantic has committed to maintaining a disturbance buffer distance of 0.5-mile around of rookeries from February 15-July 31, and maintaining an undisturbed, naturally vegetated buffer of at least 500 feet around rookeries at all times. The rookery is located 6,375 feet (1.2 miles) from the ACP 300-foot survey corridor; therefore impacts are not anticipated.
REPTILES					
American alligator *Alligator mississippiensis*	T	Cumberland, Sampson, Robeson	Fresh to slightly brackish lakes, ponds, rivers, and marshes (NCDEQ, 2014d).	NHI Observation within One-Mile of Project Area (1990)	This species is unlikely to occur in the Project area (last NHI observance in 1990). Based on consultation with NCWRC, there is no suitable habitat for this species within the Project area.
Eastern diamondback rattlesnake *Crotalus adamanteus*	E	Cumberland, Sampson, Robeson	Pine flatwoods, savannas, pine-oak sandhills (NCDEQ, 2014d).	NHI Observation within One-Mile of Project Area (1934)	This species is unlikely to occur in the Project area (last NHI observance in 1934). Based on consultation with NCWRC, there is no suitable habitat for this species within the Project area.
Southern hognose snake *Heterodon simus*	SC	Cumberland, Sampson, Robeson	Sandy woods, particularly pine-oak sandhills (NCDEQ, 2014d).	NHI Observations within One-Mile of Project Area (1988)	This species is unlikely to occur in the Project area (last NHI observance in 1988). Based on consultation with NCWRC, there is no suitable habitat for this species within the Project area.

TABLE S-3 (cont'd)

North Carolina Listed and Special Concern Species With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Status	Counties with Documented Occurrences [a]	Habitat Description	Survey Data / Agency Data	Potential Project Impacts and Mitigation
Coachwhip *Masticophis flagellum*	SR	Cumberland, Sampson	Dry and sandy woods, mainly in pine/oak sandhills (NCDEQ, 2014d).	NHI Observation within One-Mile of Project Area (pre-1877)	This species is unlikely to occur in the Project area (last NHI observance prior to 1877). Based on consultation with NCWRC, there is no suitable habitat for this species within the Project area.
AMPHIBIANS					
Dwarf salamander *Eurycea quadridigitata*	SC	Robeson	Pocosins, Carolina bays, pine flatwoods, savannas, and other wetland habitats (NCDEQ, 2014d).	Not available.	Based on consultation with NCWRC, there is no suitable habitat for this species within the Project area.
Pine barrens treefrog *Hyla andersonii*	SR	Johnston, Cumberland, Sampson	Pocosins, bay forests, boggy areas (NCDEQ, 2014d).	NHI Observations within One-Mile of Project Area (1974)	This species is unlikely to occur in the Project area (last NHI observance prior to 1974). Based on consultation with NCWRC, there is no suitable habitat for this species within the Project area.
River frog *Lithobates heckscheri*	SC	Cumberland, Sampson, Robeson	River floodplains, such as pools or borrow pit ponds (NCDEQ, 2014d).	NHI Observation within One-Mile of Project Area (1958)	This species is unlikely to occur in the Project area (last NHI observance prior to 1958). Based on consultation with NCWRC, there is no suitable habitat for this species within the Project area.
Neuse river waterdog *Necturus lewisi*	SC*	Halifax, Nash, Johnston, Wilson	Neuse and Tar-Pamlico basins. Clean, moderate to swift-flowing streams, common in streams greater than 15 m wide and 1 m deep. Require relatively high oxygen levels and water quality (NCDEQ, 2014d).	NHI Observations within Project Area (2015). 2016 surveys documented 42 adults at four waterbodies crossed by ACP. Surveys are at one waterbody and are anticipated to be completed in February 2017.	This species is currently under review by USFWS for listing under the ESA (refer to section 4.7.1.7). Waterbodies where Neuse river waterdogs were documented during 2016 surveys would be crossed using the HDD technique to minimize impacts to this species. Waterdogs occurring in waterbodies crossed by HDD may be affected if there is an inadvertent release of drilling fluid in or near the waterbody. Atlantic would implement the measures outlined in its *HDD Plan* (see appendix H), and would maintain riparian vegetation at HDD crossings to minimize off road vehicle use and additional sedimentation. Atlantic is also proposing to withdraw water from these waterbodies. Atlantic would monitor water withdrawals during appropriation to ensure water would not exceed 25 percent of the waterbody's discharge (as measured at the nearest USGS gauging station.

TABLE S-3 (cont'd)

North Carolina Listed and Special Concern Species With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Status	Counties with Documented Occurrences [a]	Habitat Description	Survey Data / Agency Data	Potential Project Impacts and Mitigation
Southern chorus frog *Pseudacris nigrita*	SR	Johnston, Sampson, Cumberland, Robeson	Ditches, Carolina bays, and other temporary shallow ponds (NCDEQ, 2014d).	NHI Observations within One-Mile of Project Area (2014)	Based on consultation with NCWRC, there is no suitable habitat for this species within the Project area.
FISH					
Roanoke bass *Ambloplites cavifrons*	SR	Halifax, Johnston, Nash, Wilson	Found primarily in the Tar and Neuse river drainages, but also found in Chowan, Roanoke, and Cape Fear river drainages (introduced to Cape Fear). Rocky and sandy pools of creeks and small to medium rivers. Most common in clearer, firmer bottomed streams (NatureServe, 2015).	NHI Observations within Project Area & within One-Mile of Project Area (1997)	This species is unlikely to occur in the Project area (last NHI observance in 1997). Where located in waterbodies crossed by dry crossing technique, individuals would be relocated to suitable habitat per the *North Carolina Aquatics Relocation Plan* (in development); mortality could occur during relocation efforts. Waterbody crossings and access road construction/use would temporarily degrade water quality through increased sedimentation and turbidity during construction, reduced fish passage, disturbance, changes in hydrology, and disturbance and injury or mortality from blasting (see section 4.6 for additional discussion). Removal of riparian habitat may also contribute to increased erosion and sedimentation, and by decreasing shade increase localized water temperatures. Atlantic would implement the measures in the FERC *Plan* and *Procedures*, and construction and restoration plans (see table 2.3.1-1) to control sedimentation and the introduction of hazardous chemicals, and to restore riparian habitats. Atlantic is also proposing to withdraw water from several of these waterbodies.
Quillback *Carpiodes cyprinus*	SR	Northampton, Halifax	Roanoke river drainages. Pools, backwaters and main channels of creeks and small to large rivers. Also occurs in lakes (NatureServe, 2015).	NHI Observation within One-Mile of Project Area (2007)	This species is unlikely to occur in the Project area (last NHI observance in 2007). The potential impacts on and mitigation for this species are the same as those described above for the Roanoke Bass.
Thinlip chub *Cyprinella* sp. 1	SC	Cumberland, Sampson, Robeson	Lumber and Cape Fear rivers and their tributaries. Sandy and rocky runs and flowing pools of creeks and small rivers with clear to turbid warm waters (NatureServe, 2015).	NHI Observation within One-Mile of Project Area (1962)	This species is unlikely to occur in the Project area (last NHI observance in 1962). The potential impacts on and mitigation for this species are the same as those described above for the Roanoke Bass.

TABLE S-3 (cont'd)

North Carolina Listed and Special Concern Species With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Status	Counties with Documented Occurrences [a]	Habitat Description	Survey Data / Agency Data	Potential Project Impacts and Mitigation
Blackbanded sunfish *Enneacanthus chaetodon*	SR	Johnston, Nash, Sampson, Cumberland, Robeson	Many river drainages, especially the Lumber drainage. Vegetated lakes, ponds, sand and mud-bottomed pools and backwaters of creeks, and small to medium rivers (NatureServe, 2015).	NHI Observations within Project Area (1961) & within One-Mile of Project Area (2012)	The potential impacts on and mitigation for this species are the same as those described above for the Roanoke Bass.
Banded sunfish *Enneacanthus obesus*	SR	Northampton, Johnston, Sampson, Cumberland, Robeson	Found in most Atlantic drainages. Small ponds and backwaters of creeks to small and large rivers and boggy brooks over sand or mud in sluggish, acidic, heavily vegetated waters (NatureServe, 2015).	NHI Observations within Project Area (2006) & within One-Mile of Project Area (2012); this species was incidentally observed during aquatic species surveys at the Tar River and Little Buffalo Creek.	The potential impacts on and mitigation for this species are the same as those described above for the Roanoke Bass.
Mimic shiner *Notropis volucellus*	SR	Halifax, Nash, Johnston	Tar and Neuse river drainages. Clear streams from medium-sized creeks to small rivers. Also found in moderately weedy lakes (NatureServe, 2015).	NHI Observation within One-Mile of Project Area (1966)	The potential impacts on and mitigation for this species are the same as those described above for the Roanoke Bass.
Carolina madtom *Noturus furiosus*	T*	Halifax, Nash, Johnston, Wilson	Endemic to the Neuse and Tar river drainages. Free-flowing streams with clean sand or gravel bottoms (NatureServe, 2015).	NHI Observations within Project Area (2014); this species was identified at three waterbody crossing locations. Based on historic data, this species is known from the Tar River, Fishing Creek, Little River, and Contentnea Creek (FWS, 2015a). Surveys are pending at five waterbodies and are anticipated to be completed in June 2017.	This species is currently under review by USFWS for listing under the ESA (refer to section 4.7.1.10). The potential impacts on and mitigation for this species are the same as those described above for the Neuse River Waterdog. Atlantic would use wet and dry crossing techniques to cross waterbodies with suitable habitat, but where madtoms were not documented. Atlantic would implement the *North Carolina Aquatic Relocation Plan* (in development) at those waterbodies. Consultations regarding conservation measures to mitigate the potential impacts of water withdrawal on this species is ongoing with the FWS and NCWRC.

TABLE S-3 (cont'd)

North Carolina Listed and Special Concern Species With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Status	Counties with Documented Occurrences [a]	Habitat Description	Survey Data / Agency Data	Potential Project Impacts and Mitigation
MOLLUSKS: FRESHWATER BIVALVES					
Triangle floater *Alasmidonta undulata*	T	Northampton, Halifax, Nash, Johnston, Wilson	Roanoke, Chowan, Tar, Neuse, and Cape Fear river drainages. Habitat generalist; has been found in silt/sand in slower moving waters, gravel/sand in riffles and runs, and from crevices in bedrock (NCWRC, 2016a).	NHI Observations within Project Area (2011); this species was observed at two waterbody crossing locations**.**	One of the streams where this species has been identified would be crossed using the HDD technique. Atlantic would implement its *HDD Plan* (appendix H) in the event of an inadvertent return. The other stream would be crossed utilizing the open-cut method. Atlantic would remove and relocate all mussel species (regardless of status) to suitable habitat upstream, pending approval from NCWRC according to the *North Carolina Aquatics Relocation Plan* (in development) prior to construction. Waterbody crossings and access road construction/use would temporarily degrade water quality through increased sedimentation and turbidity during construction, disturbance, changes in hydrology, and disturbance and injury or mortality from blasting (see section 4.6 for additional discussion). Removal of riparian habitat may also contribute to increased erosion and sedimentation, and by decreasing shade increase localized water temperatures. Atlantic would implement the measures in the FERC *Plan* and *Procedures*, and construction and restoration plans (see table 2.3.1-1) to control sedimentation and the introduction of hazardous chemicals, and to restore riparian habitats. Atlantic is also proposing to withdraw water from both of these waterbodies. Additional consultation with the NCWRC is pending to determine the appropriate conservation measures for water withdrawal.
Alewife floater *Anodonta implicata*	T	Halifax, Northampton, Sampson	Chowan, Roanoke, and Cape Fear drainages. Clean sand/gravel substrates in relatively fast flowing water (NCWRC, 2016a).	NHI Observations within Project Area (2004); this species was not observed during surveys.	This species was not observed at any waterbody crossing locations, therefore direct impacts are not anticipated. However, downstream impacts are possible. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater.

TABLE S-3 (cont'd)

North Carolina Listed and Special Concern Species With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Status	Counties with Documented Occurrences [a]	Habitat Description	Survey Data / Agency Data	Potential Project Impacts and Mitigation
Pod lance *Elliptio folliculata*	SC	Sampson, Cumberland	Cape Fear and Lumber drainages. Sand and clay substrates in small creeks to large rivers, including canals (NCWRC, 2016a).	NHI Observation within One-Mile of Project Area (1998); this species was not observed during surveys.	This species was not observed at any waterbody crossing locations, therefore direct impacts are not anticipated. However, downstream impacts are possible. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater..
Yellow lance *Elliptio lanceolata*	E*	Halifax, Nash, Johnston	Tar and Neuse river drainages. Clean, coarse to medium-sized sands; occasionally found in gravel substrates. Main channels to small streams (NCWRC, 2016a).	NHI Observations within Project Area (2010); this species was not observed during surveys.	This species is currently under review by USFWS for listing under the ESA (refer to section 4.7.1.13). This species was not observed at any waterbody crossing locations, therefore direct impacts are not anticipated. However, downstream impacts are possible. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater.
Cape Fear spike *Elliptio marsupiobesa*	SC	Johnston, Sampson, Cumberland, Robeson	Cape Fear and Neuse drainages (endemic to North Carolina). Has been found in both muddy / loose sandy, and firm sandy substrates (NCWRC, 2016a).	This species was not observed during surveys.	This species was not observed at any waterbody crossing locations, therefore direct impacts are not anticipated. However, downstream impacts are possible. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater.
Roanoke slabshell *Elliptio roanokensis*	T	Cumberland, Johnston, Nash, Halifax, Northampton	Roanoke, Tar, Neuse, Cape Fear, and Lumber drainages. Deeper channels near shore in relatively fast flowing water. Coarse to medium sized sands and small gravel (NCWRC, 2016a).	NHI Observations within Project Area (2009); this species was observed at two waterbody crossing locations.	One of the streams where this species has been identified would be crossed using the HDD technique. The other stream would be crossed utilizing the open-cut method. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater.
Atlantic pigtoe *Fusconaia masoni*	E*	Northampton, Halifax, Nash, Wilson, Johnston, Sampson, Cumberland	Roanoke, Tar, Neuse, and Cape Fear river drainages. Medium to large streams; clean, swift waters with stable gravel, or sand and gravel substrate. Downstream edge of riffle areas (NCWRC, 2016a).	NHI Observations within Project Area (2012); this species was observed at four waterbody crossing locations.	This species is currently under review by USFWS for listing under the ESA (refer to section 4.7.1.13). All waterbodies where this species has been documented during surveys would be crossed utilizing the HDD technique. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater. Atlantic is also proposing to withdraw water from all of these waterbodies. Additional consultation with the FWS and NCWRC is pending to determine the appropriate conservation measures for water withdrawal.

TABLE S-3 (cont'd)

North Carolina Listed and Special Concern Species With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Status	Counties with Documented Occurrences [a]	Habitat Description	Survey Data / Agency Data	Potential Project Impacts and Mitigation
Yellow lampmussel *Lampsilis cariosa*	E	Northampton, Halifax, Nash, Johnston, Sampson, Cumberland	Chowan, Roanoke, Tar, Neuse, and Cape Fear river drainages. Habitat generalist; appears to prefer shifting sands downstream from large boulders in relatively fast flowing, medium sized rivers / creeks to large creeks (NCWRC, 2016a).	NHI Observations within Project Area (2012); this species was observed at two waterbody crossing locations.	Both waterbodies where this species has been documented during surveys would be crossed utilizing the HDD technique The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater. Atlantic is also proposing to withdraw water from both of these waterbodies. Additional consultation with the FWS and NCWRC is pending to determine the appropriate conservation measures for water withdrawal.
Carolina fatmucket *Lampsilis radiata conspicua*	T	Johnston	Neuse River basin. Prefers gravel, cobble, or boulder substrates, as well as impounded habitats (NCWRC, 2016a)	This species was observed at one waterbody crossing location.	The waterbody where this species was identified would be crossed utilizing the open-cut method. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater. Atlantic is also proposing to withdraw water from the waterbody where this species was observed. Additional consultation with the FWS and NCWRC is pending to determine the appropriate conservation measures for water withdrawal.
Eastern lampmussel *Lampsilis radiata radiata*	T	Northampton, Halifax, Johnston, Nash, Sampson	Tar River, Swift, and Fishing creek subbasins. Medium to coarse sand substrates (NCWRC, 2016a).	NHI Observations within Project Area (2012); this species was observed at two waterbody crossing locations.	One of the streams where this species has been identified would be crossed using the HDD technique. The other stream would be crossed utilizing the open-cut method. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater. Atlantic is also proposing to withdraw water from both of these waterbodies. Additional consultation with the FWS and NCWRC is pending to determine the appropriate conservation measures for water withdrawal.

TABLE S-3 (cont'd)

North Carolina Listed and Special Concern Species With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Status	Counties with Documented Occurrences [a]	Habitat Description	Survey Data / Agency Data	Potential Project Impacts and Mitigation
Green floater *Lasmigona subviridis*	E*	Northampton, Halifax, Nash, Johnston	Roanoke, Tar, and Neuse river drainages. Small to medium sized streams in quite pools and eddies with gravel and sand substrate. Generally associated with good to excellent water quality (NCWRC, 2016a).	NHI Observations within Project Area (2010); this species was not observed during surveys; however, per FWS correspondence this species has been documented in Swift Creek, Tar River, and Little River (FWS, 2015a).	This species is currently under review by USFWS for listing under the ESA (refer to section 4.7.1.13). This species was not observed at any waterbody crossing locations, therefore direct impacts are not anticipated. However, downstream impacts are possible. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater. Atlantic is also proposing to withdraw water from Swift Creek, Tar River, and Little River. Additional consultation with the FWS and NCWRC is pending to determine the appropriate conservation measures for water withdrawal.
Tidewater mucket *Leptodea ochracea*	T	Northampton, Halifax	Chowan, Roanoke, and Tar River drainages. Habitat generalist; most often found in sand/silt substrates (NCWRC, 2016a).	This species was not observed during surveys.	This species was not observed at any waterbody crossing locations, therefore direct impacts are not anticipated. However, downstream impacts are possible. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater.
Eastern pondmussel *Ligumia nasuta*	T	Northampton, Halifax, Nash	Chowan, Roanoke, Neuse, Tar, and Cape Fear river drainages. Silt and sandy substrates with limited currents (NCWRC, 2016a).	This species was not observed during surveys.	This species was not observed at any waterbody crossing locations, therefore direct impacts are not anticipated. However, downstream impacts are possible. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater.
Creeper / Squawfoot *Strophitus undulatus*	T	Halifax, Nash, Johnston, Wilson	Roanoke, Tar, Neuse, and Cape Fear river drainages. Habitat generalist; found in variety of substrates and waterbodies (NCWRC, 2016a).	NHI Observations within Project Area (2011); this species was observed at two waterbody crossing locations.	One of the streams where this species has been identified would be crossed using the HDD technique. The other stream would be crossed utilizing the open-cut method. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater. Atlantic is also proposing to withdraw water from both of these waterbodies. Additional consultation with the FWS and NCWRC is pending to determine the appropriate conservation measures for water withdrawal.

TABLE S-3 (cont'd)

North Carolina Listed and Special Concern Species With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Status	Counties with Documented Occurrences [a]	Habitat Description	Survey Data / Agency Data	Potential Project Impacts and Mitigation
Notched rainbow *Villosa constricta*	SC	Halifax, Nash, Johnston, Wilson	Roanoke, Tar, and Neuse river drainages. Sand/gravel substrates; often in stable banks among tree root mats (NCWRC, 2016a).	NHI Observations within Project Area (2012); this species was not observed during surveys.	This species was not observed at any waterbody crossing locations, therefore direct impacts are not anticipated. However, downstream impacts are possible. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater.
Eastern creekshell *Villosa delumbis*	SR	Cumberland, Sampson	Cape Fear and Lumber drainages. Mud or soft sand substrates in small rivers and creeks rich in vegetable detritus (NCWRC, 2016a).	NHI Observation within One-Mile of Project Area (1990); this species was not observed during surveys.	This species was not observed at any waterbody crossing locations, therefore direct impacts are not anticipated. However, downstream impacts are possible. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater.
CRUSTACEANS					
North Carolina spiny crayfish *Orconectes carolinensis*	SC	Halifax, Nash, Wilson, Johnston	Chowan, Roanoke, Neuse and Tar river drainages. Small to large streams with rock substrates (NCWRC, 2016a).	NHI Observations within Project Area (2010); this species was observed at five waterbody crossing locations.	All waterbodies where this species has been documented during surveys would be crossed utilizing the HDD technique. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater. Atlantic is also proposing to withdraw water from all of these waterbodies. Additional consultation with the NCWRC is pending to determine the appropriate conservation measures for water withdrawal.
Chowanoke crayfish *Orconectes (Crockerinus) virginiensis*	SC*	Halifax, Northampton	Chowan and Roanoke river drainages. Slow flowing streams or swamps within woodland habitats with sand or gravel substrates (NCWRC, 2016a).	No observations of this species was recorded during surveys. Per FWS correspondence this species is known from the Roanoke River (FWS, 2015a).	This species is currently under review by USFWS for listing under the ESA (refer to section 4.7.1.12). The Roanoke River would be crossed using the HDD method. This species was not observed at any waterbody crossing locations, therefore direct impacts are not anticipated. However, downstream impacts are possible. The potential impacts on and mitigation for this species are the same as those described above for the Triangle Floater. In addition, Atlantic is also proposing to withdraw water from the Roanoke River. Additional consultation with the FWS and NCWRC is pending to determine the appropriate conservation measures for water withdrawal.

TABLE S-3 (cont'd)

North Carolina Listed and Special Concern Species With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Status	Counties with Documented Occurrences [a]	Habitat Description	Survey Data / Agency Data	Potential Project Impacts and Mitigation
INSECTS					
Mayflies					
Mayfly *Baetisca becki*	SR	Halifax, Nash	Swift Creek and Fishing Creek. Swift, clear, sand-bottomed streams and adjacent mesophytic forests (NatureServe, 2015).	NHI Observation within One-Mile of Project Area (1996)	Impacts to this species would not be anticipated because both Swift and Fishing creeks would be crossed using the HDD technique, which would minimize impacts to the waterbody and stream banks where this species could be encountered.
Mayfly *Macdunnoa brunnea*	SR	Nash	Swift Creek. Swift, deep areas of streams and adjacent mesic forests (NatureServe, 2015).	NHI Observation within One-Mile of Project Area (1990)	Impacts to this species would not be anticipated because Swift Creek would be crossed using the HDD technique, which would minimize impacts to the waterbody and stream banks where this species could be encountered.
Dragonflies and Damselflies					
Septima's clubtail dragonfly *Gomphus septima*	SR	Cumberland	Small to medium rivers with rapid current and gravel bottom (NatureServe, 2015).	NHI Observations within Project Area & within One-Mile of Project Area (2012)	Adult dragonflies would be able to disperse away from disturbance; however, reduced fitness and/or mortality could result if the individual is unable to find other suitable habitat. There is the potential that construction activities could impact nymphs through direct mortality or temporary reduction in water quality. Atlantic would also remove suitable riparian habitat that could provide shelter and foraging habitat; habitat assessment results are pending. Vehicle collisions could cause injury or mortality to adult dragonflies. Atlantic and DTI would implement the FERC *Plan* and *Procedures* (see table 2.3.1-1), which includes sedimentation and erosion control measures and waterbody crossing measures to minimize impacts to this species.
Carolina spreadwing damselfly *Lestes vidua*	SR	Sampson	Temporary or permanent ponds and pools with emergent grasses (BugGuide, 2016).	NHI Observation within One-Mile of Project Area (pre-2004)	This species is unlikely to occur in the Project area (last NHI observance prior to 2004). All recorded occurrences in Sampson County for this species are either extirpated, have not been found in recent surveys, or have not been surveyed recently enough to be confident if this species is still present. No impacts anticipated.

TABLE S-3 (cont'd)

North Carolina Listed and Special Concern Species With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Status	Counties with Documented Occurrences [a]	Habitat Description	Survey Data / Agency Data	Potential Project Impacts and Mitigation
Coppery emerald dragonfly *Somatochlora georgiana*	SR	Northampton, Halifax, Nash, Johnston, Sampson, Cumberland, Robeson	Creeks and other slow-moving acidic streams in forested areas (NCDEQ, 2014d).	NHI Observation within One-Mile of Project Area (pre-2004)	This species is unlikely to occur in the ACP project area (last NHI observance prior to 2004). All recorded occurrences in Northampton, Halifax, Johnston, Sampson, Cumberland, and Robeson counties for this species are either extirpated, have not been found in recent surveys, or have not been surveyed recently enough to be confident if this species is still present. No impacts anticipated in these counties. For Nash County, the potential impacts on and mitigation for this species are the same as those described above for the Septima's Clubtail Dragonfly.
Shining clubtail dragonfly *Stylurus ivae*	SR	Cumberland, Sampson, Robeson	Sandy creeks or small rivers, where waters are clean (NCDEQ, 2014d).	NHI Observation within One-Mile of Project Area (pre-2004)	This species is unlikely to occur in the ACP project area (last NHI observance prior to 2004). All recorded occurrences in Sampson and Cumberland counties for this species are either extirpated, have not been found in recent surveys, or have not been surveyed recently enough to be confident if this species is still present. No impacts anticipated in these counties. For Robeson County, the potential impacts on and mitigation for this species are the same as those described above for the Septima's Clubtail Dragonfly.
Phantom darner dragonfly *Triacanthagyna trifida*	SR	Robeson	Slow-flowing streams (NCDEQ, 2014d).	NHI Observation within One-Mile of Project Area (pre-2004)	This species is unlikely to occur in the ACP project area (last NHI observance prior to 2004). All recorded occurrences in Robeson County for this species are either extirpated, have not been found in recent surveys, or have not been surveyed recently enough to be confident if this species is still present. No impacts anticipated.
Grasshoppers					
Weldon short-wing grasshopper *Melanoplus mirus*	SR	Halifax	Open woodlands (endemic to North Carolina) (NCDEQ, 2014d).	NHI Observation within One-Mile of Project Area (1913)	This species is unlikely to occur in the ACP project area (last NHI observance in 1913). All recorded occurrences in Halifax County for this species are either extirpated, have not been found in recent surveys, or have not been surveyed recently enough to be confident if this species is still present. No impacts anticipated.

TABLE S-3 (cont'd)

North Carolina Listed and Special Concern Species With Potential to Occur in the Atlantic Coast Pipeline Project Area

Species/Scientific Name	State Status	Counties with Documented Occurrences [a]	Habitat Description	Survey Data / Agency Data	Potential Project Impacts and Mitigation
PLANTS					
Running oak *Quercus elliottii*	SR-P	Robeson	Mesic pine flatwoods and dry, silty sites (NCDEQ, 2014e).	NHI Observation within Project Area (2008); One occurrence documented during 2015 field surveys.	Atlantic is currently discussing rerouting and/or minimization options with NCEDNR.

[a] County Occurrence data is based on sources cited in the Habitat Description column, and information from federal and state agencies.

North Carolina Status: E – Endangered, T – Threatened, SC – special concern, SC-V – special concern-vulnerable, SR – significantly rare, SR-O – significantly rare other, SR-P – significantly rare peripheral, SR-T – significantly rare throughout,

Federal Status: *species under review for federal listing under the Endangered Species Act, PF – federally petitioned species

NHI = Natural Heritage Information

FEDERAL ENERGY REGULATORY COMMISSION
Routing Code PJ 11.4
Washington, DC 20426

Official Business
Penalty for Private Use