



May 24, 2017

U.S. Forest Service
ATTN: Joby P. Timm
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: Forest Service letter Service Maps and Figures Showing National Forest
Ownership in the Vicinity of the Proposed Mountain Valley Pipeline Project
on Peter's Mountain dated April 24, 2017
OEP/DG2E/Gas3
Mountain Valley Pipeline, LLC
Docket No. CP16-10-000

Dear Mr. Timm:

Please see the following response by Mountain Valley Pipeline, LLC (Mountain Valley or MVP) in regards to the United States Forest Service's (USFS) April 24, 2017 Maps and Figures Showing National Forest Ownership in the Vicinity of the Proposed Mountain Valley Pipeline letter:

USFS Recommendation: The Forest Service had requested that MVP file with the Federal Energy Regulatory Commission (FERC) the report of tree surveys within the JNF, dated April 6, 2016, in order to complete the FERC record. MVP filed the report as part of MVP's April 7, 2017 response to FERC's environmental information request issued on March 20, 2017. In the report, MVP's GIS maps do not show the correct national forest ownership in the vicinity of the proposed MVP Project on Peters Mountain.

Mountain Valley Response: Mountain Valley has included figures (Attachment A) that show the change of ownership for tracts J-1725, J-1730 a and b from private to U.S. Forest Service (National Forest) Lands. In addition, all applicable figures in the Tree Surveys within the Jefferson National Forest for the Mountain Valley Pipeline Project Report have been updated to reflect the ownership change. An updated report is included as Attachment B.

USFS Recommendation: The following comments appear in the Forest Service's comments on the Draft Environmental Impact Statement, filed December 20, 2016:

- Referencing Figures 3.5.1-6, 3.5.1-7 on pages 3-44, 3-48, Download the most current GIS coverages for national forest ownership and the ANST. The private inholding of Land within the 3.5.1-7 national forest on the southeast side of Peters Mountain near and west of MP 196 was acquired by the Forest Service in 2015 and is now NFS land. The ANST location shown is also incorrect near the west side of the map. The ANST was relocated in this area in March 2016.

Mountain Valley Response: Mountain Valley filed updated figures 3.5.1-6, 3.5.1-7 with FERC on March 2, 2017. Additional copies are included as Attachment C.

Following consultation with the USFS and Appalachian Trail Conservancy, Mountain Valley was made aware of several relocations of the Appalachian National Scenic Trail. Mountain Valley verified these relocations with the Appalachian Trail Conservancy on March 21, 2017 with the figure included as Attachment D.

- Referencing Map 28 of Appendix B, The Appalachian National Scenic Trail (ANST) is not shown in the correct location. Download the latest ANST ESRI shapefiles from AppalachianTrail.org. A segment of the trail on Peters Mountain was relocated in March 2016. A portion of the ANST is now located on Pocahontas Road near the intersection of Clendenin Road. 1-16 Figure 1-3 Figure 1-3: "National Park Service Land" should be changed to "National Forest System Land (NPS Transfer)."

Mountain Valley Response: Although DEIS Map 28 of Appendix B, was developed by FERC, Mountain Valley has replicated that figure (Attachment E) and included the updated Appalachian National Scenic Trail with the relocations incorporated.

- Referencing Figure 1-3, "National Forest Land" should be labeled "National Forest System Land." The figure is important and highlights the areas on Peters Mountain where oil and gas pipeline authorizations would be subject to NPS authorities rather than Forest Service authorities.

Mountain Valley Response: Mountain Valley has also updated Figure 1-3 to correct labels from "National Park Service Land" to "National Forest System Land (NPS Transfer)" (Attachment F). Figure 1-3 was also updated to include the updated Appalachian National Scenic Trail with the relocations incorporated.

USFS Recommendation: The Forest Service made the following statement in comments on MVP's final resource reports, filed May 9, 2016:

Most of the maps do not graphically indicate lands owned by the national forest. For people interested in potential impacts to the Jefferson NF, these maps are not very informative. NF ownership should be delineated or displayed graphically on the maps at (in the .pdf document as page# of 151) pages 87-90, 92, 96, 116-117.

Mountain Valley Response: In a letter filed March 24, 2017 (Attachment G), the United States Forest Service confirmed that the letter referenced above dated March 9, 2016 and was actually filed on March 11, 2016 rather than May 9, 2016. Mountain Valley has updated the mapping from pages 87-90, 92, and 96 and included them as Attachment H. Pages 116 and 117 in the referenced PDF represent screen shots and photographs of the Mountain Valley Appalachian National Scenic Trail Crossing that have since been updated in various documents including the May 10, 2017 filing of the Jefferson National Forest Visual Impact Analysis.

USFS Recommendation: The Forest Service made the following statement in scoping comments filed June 16, 2015:

The proposed route of MVP crosses the Appalachian National Scenic Trail on the crest of Peter's Mountain on lands that appear to be privately owned. However, this 107-acre tract, along with a limited easement on JNF lands to its southeast, is formally in the process of being donated to the JNF by Appalachian Power Company. This donation is partial mitigation for an earlier energy project, and completion is expected within the next few months. This land should be analyzed in this proposal as if it is JNF land.

Mountain Valley Response: Mountain Valley has incorporated the previously owned Appalachian Power Company parcel into mapping as National Forest Service Lands. Mountain Valley does not anticipate any impacts to this recently acquired property during construction or operations of the pipeline.

USFS Recommendation: The Forest Service requests that MVP revise the April 6, 2016 tree survey report to include maps and figures showing correct and current National Forest ownership on the JNF, and file the revised report to correct the record.

Mountain Valley Response: Mountain Valley has updated the figures in the Tree Surveys within the Jefferson National Forest for the Mountain Valley Pipeline Project and included an updated report as Attachment B.

USFS Recommendation: MPV should also revise any other report containing maps and figures of the JNF to ensure correct National Forest ownership data is shown, and if revisions are necessary, MVP should file the revised reports with FERC.

Mountain Valley Response: Mountain Valley has included additional alternative maps that have been updated with the correct USFS ownership information and Appalachian National Scenic Trail route (Attachment I). In addition, Mountain Valley expects that the United States Forest Service will provide additional comments on the Plan of Development filed on March 3, 2017. At that time, Mountain Valley will ensure that all reports and figures associated with the Plan of Development have been updated with the correct United States Forest Service Ownership and Appalachian National Scenic Trail Boundary.

Please feel free to contact me if you have questions or need any additional information. Thank you for your time and consideration.

Sincerely,



Megan Neylon

Supervisor – Environmental Permitting

(724) 873-3645

MNeylon@egt.com

Attachment A

Mountain Valley Pipeline Project

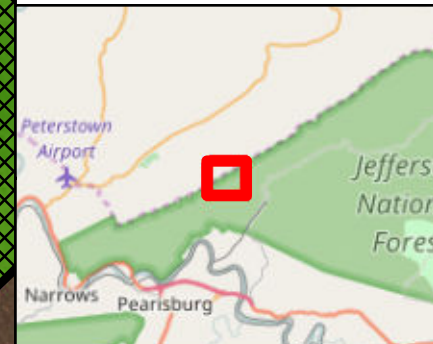


Jefferson National Forest Ownership Figure 1

May 2017

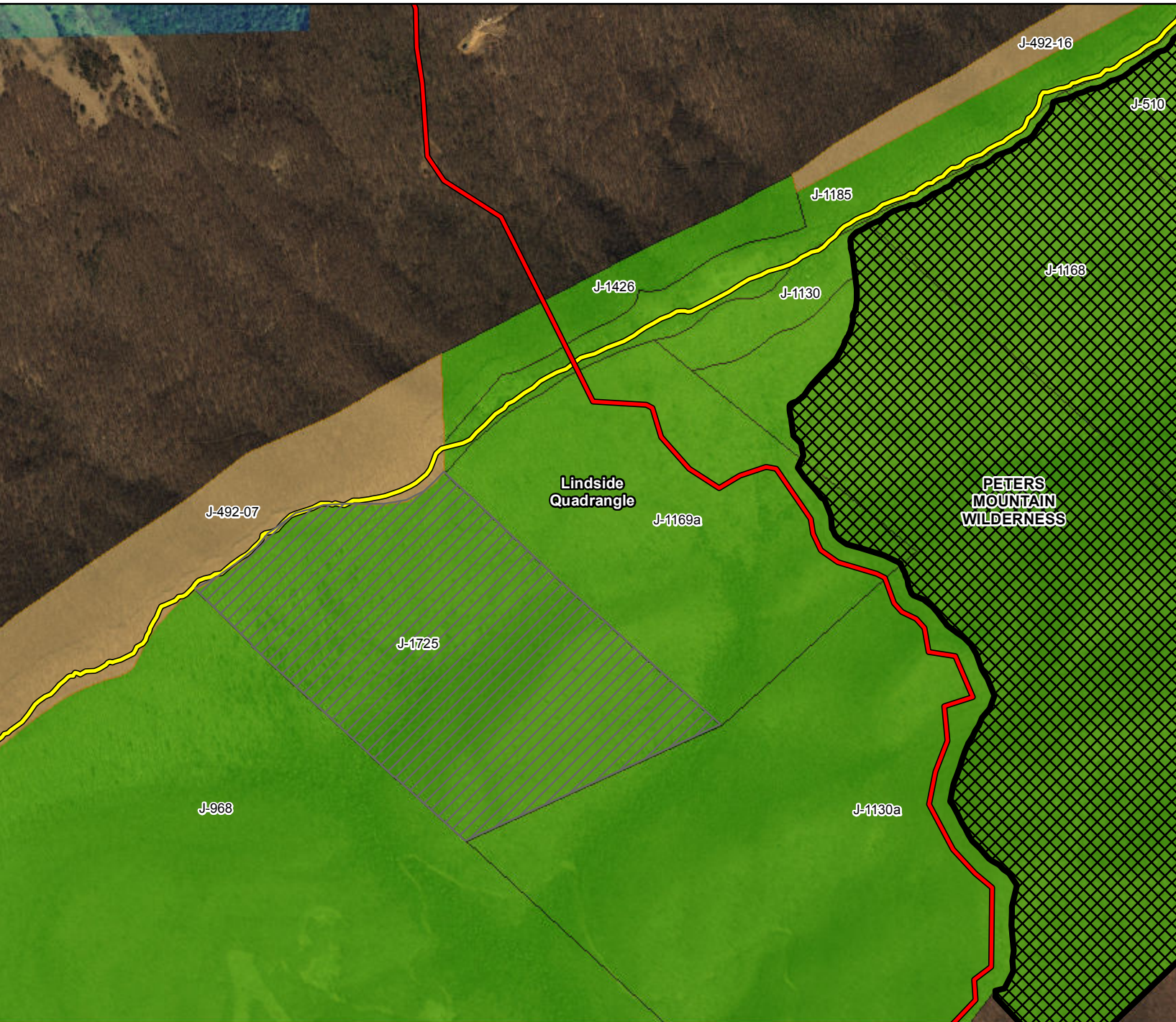
Legend

- Proposed Pipeline Route
- Appalachian National Scenic Trail
- Peters Mountain Wilderness
- Newly Acquired U.S Forest Service
(National Forest owned in fee by
the USA) Lands
- U.S. Forest Service (National
Forest) Lands
- NPS Transferred Lands



Data Sources: Appalachian Trail Conservancy 3/21/2017, VA DCR, USDA, ESRI Streaming Data.

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Mountain Valley Pipeline Project

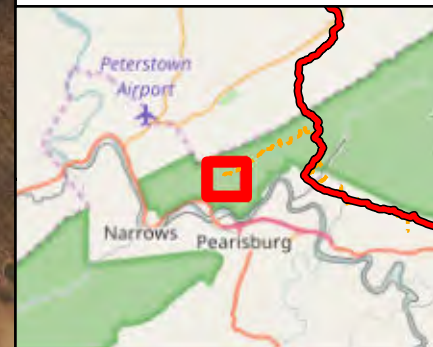
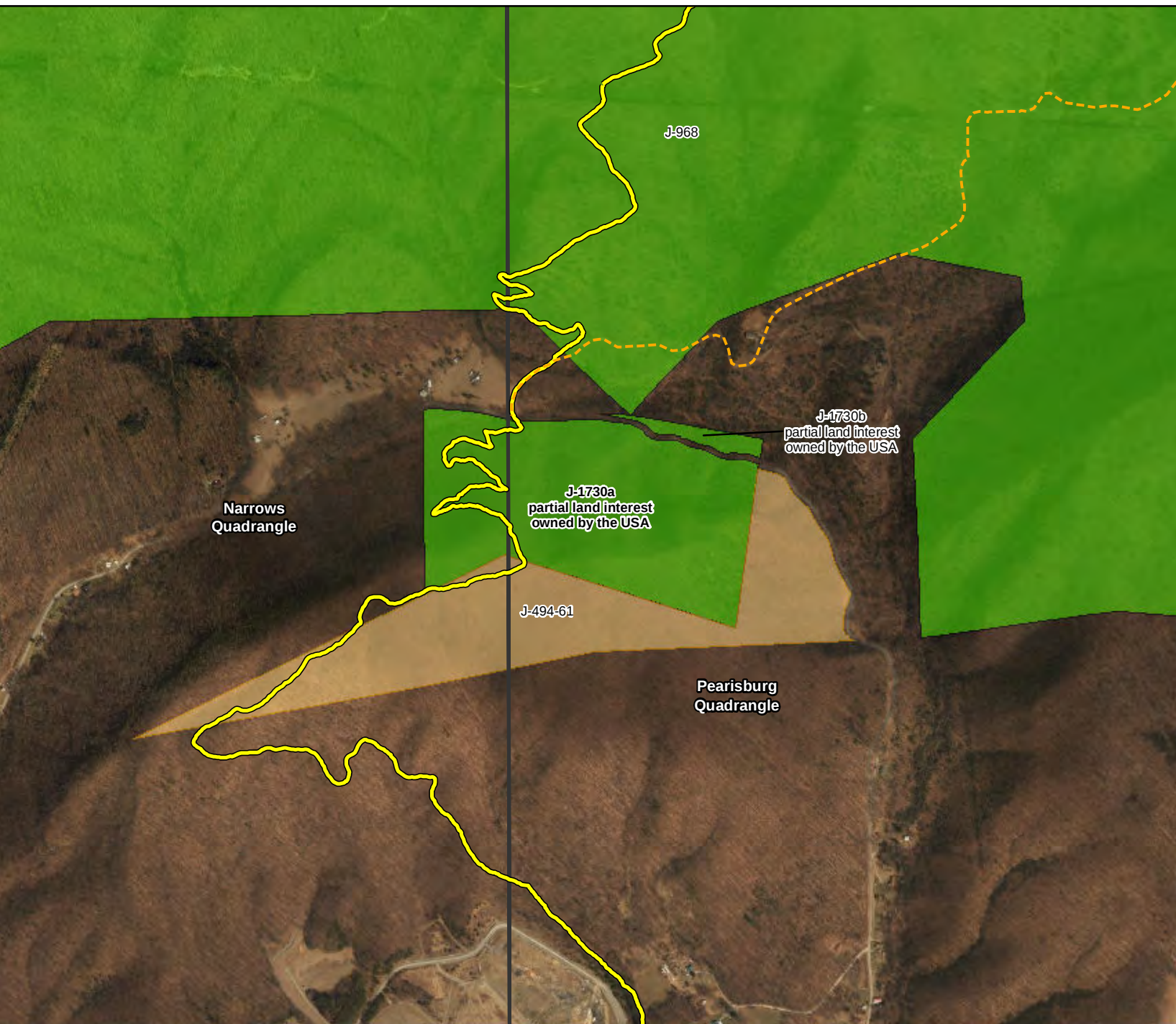


Jefferson National Forest Ownership Figure 2

May 2017

Legend

- Proposed Access Road
- Appalachian National Scenic Trail
- U.S. Forest Service (National Forest) Lands
- NPS Transferred Lands



Data Sources: Appalachian Trail Conservancy 3/21/2017, VA DCR, USDA, ESRI Streaming Data.

1:12,000

NAD 1983 UTM 17N

0 500 1,000 2,000 Feet

Attachment B

TREE SURVEYS WITHIN THE JEFFERSON NATIONAL FOREST FOR THE
MOUNTAIN VALLEY PIPELINE PROJECT
IN MONROE COUNTY, WEST VIRGINIA AND
GILES, AND MONTGOMERY COUNTIES, VIRGINIA

6 April 2016

Revised 3 May 2017

Submitted To:

Mr. Russ MacFarlane
George Washington and Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, Virginia 24019

Prepared for:



Prepared by:



Environmental Solutions & Innovations, Inc.

4525 Este Ave
Cincinnati, OH 45232
Phone: (513) 451-1777
Fax: (513) 451-3321

Syracuse, NY • Kent, OH • Indianapolis, IN • Orlando, FL • Springfield, MO • Pittsburgh, PA

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Appendices

Appendix A: Data Sheets

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1.0 Introduction

Mountain Valley Pipeline, LLC (MVP) is a joint venture between affiliates of EQT Midstream Partners, LP, NextEra Energy, Inc., Con Edison Gas Midstream, LLC, WGL Holdings, Inc., Vega Energy Partners, Ltd., and RGC Midstream, LLC. MVP is seeking a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission (FERC) pursuant to Section 7(c) of the Natural Gas Act authorizing it to construct and operate the proposed Mountain Valley Pipeline (Project) located in 17 counties in West Virginia and Virginia. MVP plans to construct an approximate 301-mile, 42-inch diameter natural gas pipeline to provide timely, cost-effective access to the growing demand for natural gas for use by local distribution companies, industrial users and power generation in the Mid-Atlantic and southeastern markets, as well as potential markets in the Appalachian region.

Approximately 3.43 miles of the proposed alignment crosses Jefferson National Forest lands in Monroe County, West Virginia and Giles and Montgomery counties, Virginia. Additionally, the 6-mile Pocahontas Road (Forest Road 972) in Giles County, Virginia is currently proposed to provide access to portions of the alignment near Peters Mountain (Figure 1). As such, the United States Forest Service (USFS) requested infield preliminary estimates of volume and value of any wood products impacted by Project's construction workspaces on national forest land. This report provides details regarding tree survey and site index efforts at predetermined variable radius sample plots along the Project's currently proposed route within the Jefferson National Forest.

2.0 Survey Methods

2.1 Desktop Habitat Assessment

A GIS desktop habitat assessment was completed using aerial imagery acquired within the last year to identify areas where tree removal is likely to occur during Project development within the Jefferson National Forest. The pipeline is proposed to cross approximately 3.43 miles of the Jefferson National Forest with a permanent right-of-way (ROW) 50 feet wide and encompassing a total of 20.76 acres. The 125-foot wide construction ROW will temporarily impact an additional 31.91 acres within Jefferson National Forest. The 6-mile Pocahontas Road (Forest Road 972) in Giles County, Virginia is currently proposed to provide access to portions of the alignment near Peters Mountain and will be upgraded in sections and extended to the Project ROW. Road modifications will temporarily impact 27.72 acres and permanently impact

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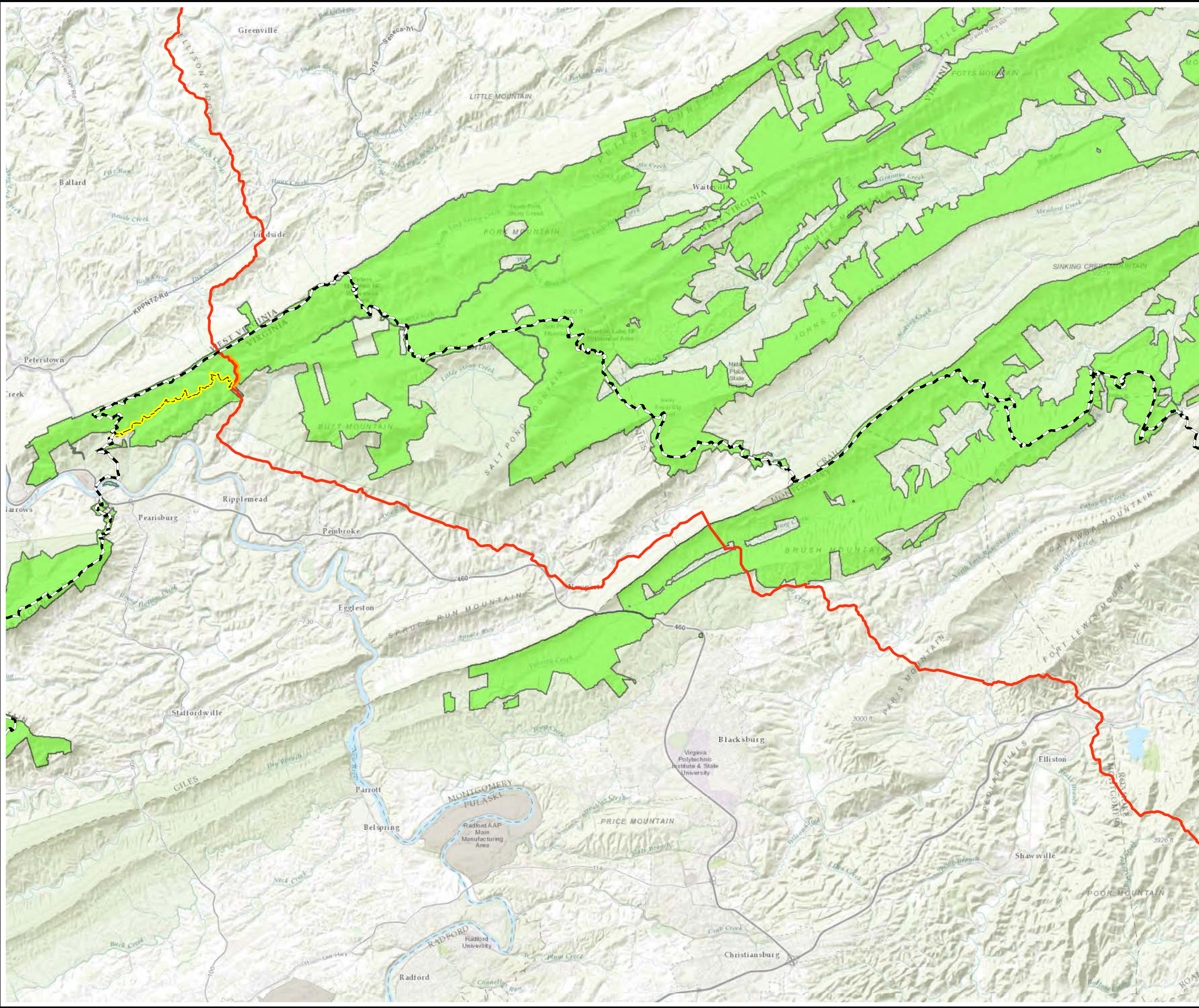


Figure 1. MVP's proposed Mountain Valley Pipeline Project within the Jefferson National Forest in Virginia and West Virginia.

- Appalachian National Scenic Trail (ANST)
- Pocahontas Road
- Mystery Ridge Road
- Proposed Route
- National Forest (Forest Service) Lands

NOTE: Appalachian Trail Conservancy provided an updated GIS layer on March 21, 2017.



0 2.5 5 Miles

Date: 6 April 2016 Revised 1 May 2017

Base Map: ESRI ArcGIS Web service - "US TOPO MAPS" accessed - 5/3/2017

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Project No. 593.02

17.34 acres. Four additional temporary workspaces (ATWS), used to provide a greater turn radius for tractor trailers during construction activities, are also associated with Pocahontas Road and will temporarily impact 0.48 acre.

One plot for every 750 feet of the proposed alignment (approximately 28 plots) within the Jefferson National Forest was placed using GIS. In addition, seven plots were also placed in association with Pocahontas Road (including three in its associated ATWS) in areas where tree clearing is anticipated to occur. A total of 35 plots were surveyed (Figure 2).

2.2 Field Assessment

USFS recommended variable radius plot sampling to collect tree data which will be used to extrapolate potential forested impacts within the Project area on Jefferson National Forest. This sampling method is based on a tree's size rather than its frequency of occurrence and is not based on a fixed plot. The radius of the plot may vary among trees that are surveyed and determining whether or not a tree is included in the plot depends on the tree's DBH or diameter at root collar (DRC) in combination with its distance from the plot center.

Using handheld GPS units, surveyors navigated to the center of a plot using the initial locations from the desktop GIS analysis. Once at the center of the plot, one surveyor used a wedge prism with a basal area factor (BAF) of 10 to determine which trees were to be included in the plot while the other surveyor marked the included trees with biodegradable paint.

Inclusion of trees at the outer limits of the plot radius were determined as follows:

- the DBH of the tree was multiplied by the plot radius factor (PRF) of the prism (2.75ft/in for a 10BAF prism)
- the distance of the nearest face of the tree at breast height to the center of the plot was measured at increments of one-tenth inch using an open reel fiberglass measuring tape
- the questionable tree was included in the plot if the horizontal distance from the tree at breast height to the center of the plot was equal to or less than the product of multiplying its DBH by the PRF

2.2.1 Measurements

Data recorded for trees within each plot included DBH (0.10 inch increments), unique tree identification number, species, and height (using a clinometer and measured in increments of 10 feet). As each tree was measured, it was marked with non-toxic, biodegradable tree marking paint to ensure trees were not counted multiple times. Trees were further categorized into 2-inch diameter classes. Representative dominant and co-dominant trees within each stand were aged in order to estimate a stand's age. Slope was estimated at the plot center using a clinometer. Trees per acre and a site index for each plot were calculated following collection of all tree measurements.

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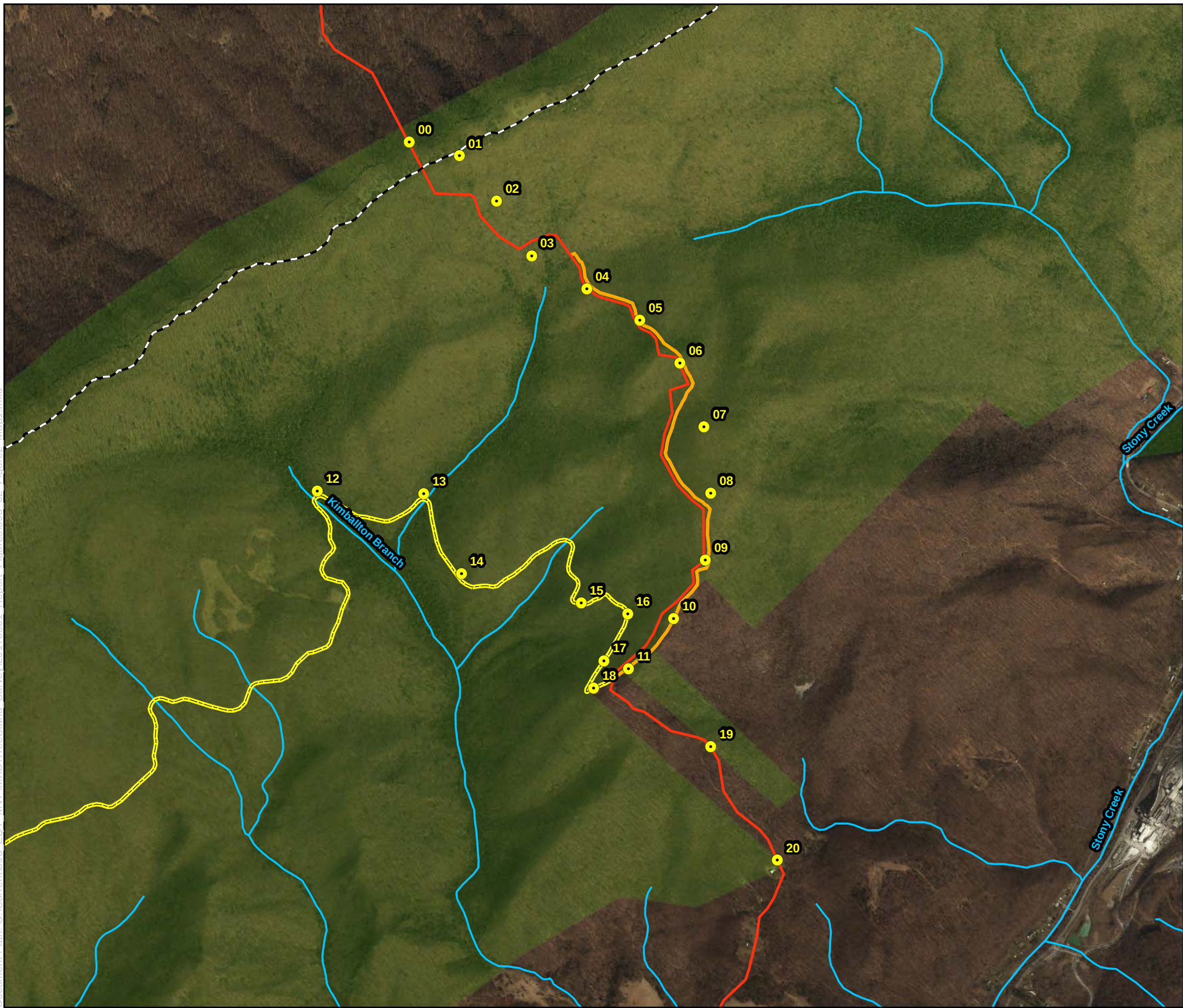


Figure 2. Location of variable radius sample plots within the Jefferson National Forest in West Virginia and Virginia.

Map 1

- Plot Center
- Appalachian National Scenic Trail (ANST)
- Stream
- Mystery Ridge Road
- Pocahontas Road
- Proposed Route
- National Forest (Forest Service) Lands

NOTE: Appalachian Trail Conservancy provided an updated GIS layer on March 21, 2017.



Miles
0 0.175 0.35

Date: 6 April 2016 Revised 1 May 2017

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

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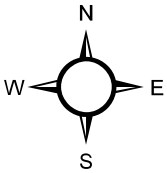
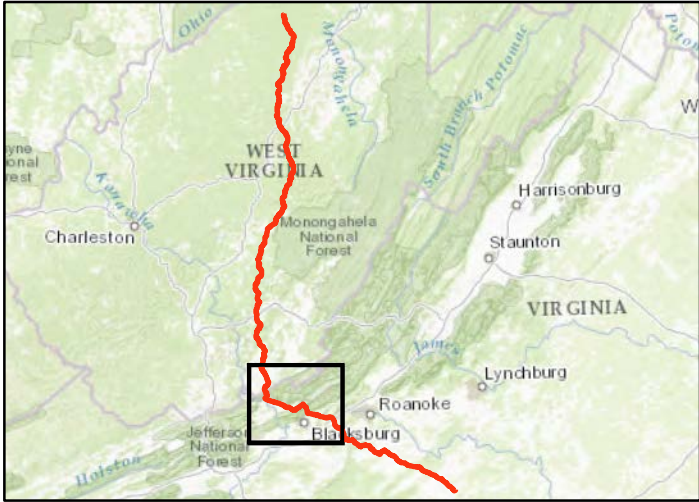


Figure 2. Location of variable radius sample plots within the Jefferson National Forest in West Virginia and Virginia.

Map 2

- Plot Center
- Access Road
- Proposed Route
- Stream
- National Forest (Forest Service) Lands

NOTE: Appalachian Trail Conservancy provided an updated GIS layer on March 21, 2017.



0 0.15 0.3 Miles

Date: 6 April 2016 Revised 1 May 2017

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,



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Project No. 593.02

2.2.1.1 Tree Age

Tree age was determined by counting annual growth rings from tree core samples obtained using an increment borer. Boring techniques followed standard USFS and silviculture practices (USDA 1979; 2013). A 16-inch long, 0.200-inch diameter, three thread increment borer was used to minimize tree damage and ensure trees up to 30 inches DBH are aged without extrapolation. Prior to use, increment borer blades were sharpened and thoroughly cleaned. Between core samples, increment borers were inspected and cleaned to minimize excess damage and spread of disease among trees (USDA 1979). Trees were bored at breast height (4.5 feet above ground level) facing plot center using techniques to maximize the probability of reaching the pith or heartwood. One to two individuals of the dominant or codominant tree species per stand were cored using these techniques. Stand age is determined using the average age of these cores and these data are also used for the site index and old growth determination (described below). Cored trees were georeferenced and core samples were mounted and sanded before growth rings were counted. In the lab, a standard 10X magnifying glass or a dissecting microscope was used to count growth rings on each core. Following the techniques in the USFS Common Stand Exam (USDA 2013), ages of trees greater than 30 inches DBH were extrapolated using the number of growth rings in the inner most inch of the obtained core.

2.2.1.2 Trees Per Acre

For each diameter class recorded in the survey, the number of trees per acre was calculated. A per-acre expansion factor must be found for each diameter class of tree as well as the basal area (BA) for the tree. The BA was calculated by multiplying the DBH² by 0.005454. The per-acre expansion factor was calculated by dividing the BAF (10 in this case) by the BA. The per-acre expansion factor was multiplied by the average number of trees per plot to calculate the trees per acre.

2.2.2 Site Index

Site index (SI) is commonly used by foresters to describe a site's productivity and was calculated for each plot. The SI is the average height of the dominant and codominant trees on a site at a base age. The base age for hardwoods and white pine in Virginia is considered 50 years (USDA 1989, Yancey 2014). In order to complete this calculation, representative dominant and codominant trees at a specific site were identified, their height measured, and age determined using techniques described in Section 2.2.1.1 above. For this survey, site index curves compiled by the USFS for tree species in the eastern United States were used (USDA 1989). The logarithmic line most closely intersecting the point associated with the average height and age of the dominant and codominant trees is considered the SI. A larger SI indicates greater site productivity.

2.3 Old Growth Forest

Habitat within each stand was assessed to determine whether or not old growth forest conditions exist. As outlined in the Guidance for Conserving and Restoring Old-Growth Forest Communities on National Forests in the Southern Region (USDA 1997), this determination was based on age, past disturbance, basal area, and tree size. There are a variety of old growth forest community types and the minimum requirements for these attributes vary among them (Table 1). If a tree stand meets all four criteria, it is considered existing old growth.

Table 1. Example criteria for determining existing old growth forest

Old Growth Forest Community Type	Minimum Age of the Oldest Age Class (years)	Minimum Basal Area (square feet/acre)	DBH of Largest Trees (inches)
Northern Hardwood	100	40	≥ 14
Conifer Northern Hardwood	140	40	≥ 20
Mixed Mesophytic	140	40	≥ 30
River Floodplain-Eastern Riverfront	100	40	≥ 16
Dry-Mesic Oak	130	40	≥ 20
Dry and Xeric Oak Forest, Woodland and Savannah	110	10	≥ 16
Dry and Dry-Mesic Oak-Pine	120	40	≥ 19
Xeric Pine and Pine-Oak Forest and Woodland	100	20	≥ 20

SOURCE: Adapted from USDA 1997

2.3.1 Age

The minimum age for a stand to be considered old growth forest varies widely depending on the forest type, climate, site conditions, and level of disturbance. Age criteria typically applies when at least 10 trees per acre for pine forest community types or at least 30 trees per acre for deciduous community types are present.

2.3.2 Basal Area

Numerous ecological conditions can create variability among old growth forest types. The intent of the minimum basal area criteria is to ensure tree stands are not excluded due to this variability.

2.3.3 Tree Size

Large trees are a key attribute for identification of old growth forests. This criteria is applicable when at least 6 to 10 trees per acre for all old growth forest types are present; however, there may be instances where a fewer number of large trees per acre are present in the field.

2.3.4 Past Disturbance

Old growth forest should exhibit no obvious signs of past human disturbance. Such signs would not necessarily include vegetative management activities such as commercial thinning, prescribed fire, or trails.

3.0 Results and Conclusion

Surveys were conducted from March 1 to March 6, 2016. Measurements were taken at a total of 363 trees within the 35 sample plots, and 25 separate stands were determined along the Project route (Table 2). Forty core samples were taken with age ranging from 35 to 250 years. Plot and stand specific data are summarized in Table 3. Slope at plot centers ranged from 2 to 30 degrees, and site indices indicated stands 18 and 19 to be the most productive of the 25 sampled. Completed data sheets containing representative photos are provided in Appendix A.

Stands 01 – 04, 06, 07, 10, 12 – 14, and 17 – 18 met all minimum characteristics of old growth conditions based on the criteria listed in Table 1. Also, lungwort (*Lobaria pulmonaria*) was observed growing on several chestnut oaks (*Quercus montana*) within Stand 17. This lichen is an indicator for rich, healthy ecosystems including old growth forests.

Table 2. Tree measurements recorded at variable radius sample plots within the Jefferson National Forest in West Virginia and Virginia.

Stand	Plot	Tree ID	Tree Species	2-inch DBH Class	Height (ft)	Basal Area (ft²)	Trees per Acre	Age (years)	Comments
01	00	00-0001	<i>Quercus coccinea</i>	22	53	2.64	3.79	130	
01	00	00-0002	<i>Quercus coccinea</i>	20	55	2.18	4.58	n/a	
01	00	00-0003	<i>Quercus coccinea</i>	20	50	2.18	4.58	n/a	
01	00	00-0004	<i>Quercus montana</i>	14	40	1.07	9.35	n/a	
01	00	00-0005	<i>Quercus coccinea</i>	22	50	2.64	3.79	n/a	
01	00	00-0006	<i>Quercus coccinea</i>	22	55	2.64	3.79	n/a	
01	00	00-0007	<i>Quercus alba</i>	10	35	0.55	18.34	n/a	
01	00	00-0008	<i>Quercus montana</i>	18	45	1.77	5.66	n/a	
01	00	00-0009	<i>Quercus montana</i>	16	45	1.40	7.16	n/a	
01	00	00-0010	<i>Quercus montana</i>	14	25	1.07	9.35	n/a	Snag
02	01	01-0001	<i>Quercus alba</i>	18	40	1.77	5.66	n/a	
02	01	01-0002	<i>Quercus alba</i>	18	40	1.77	5.66	n/a	
02	01	01-0003	<i>Quercus alba</i>	18	40	1.77	5.66	n/a	Snag
02	01	01-0004	<i>Quercus alba</i>	18	45	1.77	5.66	250	
02	01	01-0005	<i>Quercus alba</i>	18	40	1.77	5.66	n/a	Snag
02	01	01-0006	<i>Quercus coccinea</i>	20	50	2.18	4.58	n/a	
02	01	01-0007	<i>Quercus coccinea</i>	12	45	0.79	12.73	n/a	
02	01	01-0008	<i>Carya ovata</i>	14	45	1.07	9.35	n/a	
02	01	01-0009	<i>Quercus coccinea</i>	38	45	7.88	1.27	n/a	

Stand	Plot	Tree ID	Tree Species	2-inch DBH Class	Height (ft)	Basal Area (ft²)	Trees per Acre	Age (years)	Comments
02	01	01-0010	<i>Betula lenta</i>	12	40	0.79	12.73	n/a	
03	02	02-0001	<i>Quercus montana</i>	20	50	2.18	4.58	n/a	
03	02	02-0002	<i>Acer rubrum</i>	10	40	0.55	18.34	n/a	
03	02	02-0003	<i>Quercus montana</i>	22	50	2.64	3.79	n/a	Leaning
03	02	02-0004	<i>Quercus montana</i>	20	55	2.18	4.58	n/a	
03	02	02-0005	<i>Quercus montana</i>	18	50	1.77	5.66	n/a	
03	02	02-0006	<i>Quercus alba</i>	14	45	1.07	9.35	n/a	
03	02	02-0007	<i>Pinus echinata</i>	18	20	1.77	5.66	n/a	Snag
03	02	02-0008	<i>Quercus alba</i>	10	35	0.55	18.34	n/a	
03	02	02-0009	<i>Nyssa sylvatica</i>	12	35	0.79	12.73	n/a	
03	02	02-0010	<i>Quercus montana</i>	14	40	1.07	9.35	n/a	
03	02	02-0011	<i>Quercus montana</i>	10	40	0.55	18.34	105	
03	02	02-0012	<i>Quercus montana</i>	10	35	0.55	18.34	n/a	
03	02	02-0013	<i>Quercus montana</i>	8	40	0.35	28.65	n/a	
03	02	02-0014	<i>Quercus alba</i>	4	25	0.09	114.59	n/a	
04	03	03-0001	<i>Quercus coccinea</i>	16	70	1.40	7.16	n/a	
04	03	03-0002	<i>Quercus alba</i>	16	70	1.40	7.16	n/a	
04	03	03-0003	<i>Quercus montana</i>	14	70	1.07	9.35	n/a	
04	03	03-0004	<i>Quercus montana</i>	10	65	0.55	18.34	n/a	
04	03	03-0005	<i>Quercus montana</i>	12	65	0.79	12.73	n/a	
04	03	03-0006	<i>Sassafras albidum</i>	8	35	0.35	28.65	n/a	
04	03	03-0007	<i>Sassafras albidum</i>	8	35	0.35	28.65	n/a	Partially alive
04	03	03-0008	<i>Quercus montana</i>	14	60	1.07	9.35	n/a	
04	03	03-0009	<i>Quercus montana</i>	14	65	1.07	9.35	n/a	
04	03	03-0010	<i>Quercus alba</i>	20	65	2.18	4.58	n/a	
04	03	03-0011	<i>Acer rubrum</i>	8	55	0.35	28.65	n/a	
04	03	03-0012	<i>Quercus alba</i>	14	55	1.07	9.35	127	
04	03	03-0013	<i>Quercus montana</i>	12	55	0.79	12.73	82	
04	03	03-0014	<i>Sassafras albidum</i>	12	40	0.79	12.73	n/a	
04	03	03-0015	<i>Sassafras albidum</i>	12	35	0.79	12.73	n/a	Snag
04	03	03-0016	<i>Sassafras albidum</i>	8	35	0.35	28.65	n/a	
05	04	04-0001	<i>Quercus coccinea</i>	14	66	1.07	9.35	n/a	
05	04	04-0002	<i>Quercus montana</i>	14	60	1.07	9.35	n/a	
05	04	04-0003	<i>Quercus montana</i>	12	55	0.79	12.73	n/a	
05	04	04-0004	<i>Quercus montana</i>	12	60	0.79	12.73	88	
05	04	04-0005	<i>Acer rubrum</i>	8	40	0.35	28.65	n/a	
05	04	04-0006	<i>Quercus montana</i>	10	50	0.55	18.34	n/a	
06	05	05-0001	<i>Quercus montana</i>	20	68	2.18	2.29	n/a	
06	05	05-0002	<i>Quercus montana</i>	18	65	1.77	2.83	141	
06	05	05-0003	<i>Pinus virginiana</i>	12	60	0.79	6.37	116	
06	05	05-0004	<i>Pinus virginiana</i>	10	50	0.55	9.17	n/a	
06	05	05-0005	<i>Nyssa sylvatica</i>	6	30	0.20	25.47	n/a	

Stand	Plot	Tree ID	Tree Species	2-inch DBH Class	Height (ft)	Basal Area (ft²)	Trees per Acre	Age (years)	Comments
06	05	05-0006	<i>Pinus virginiana</i>	14	55	1.07	4.68	n/a	
06	05	05-0007	<i>Pinus virginiana</i>	12	55	0.79	6.37	n/a	
06	05	05-0008	<i>Quercus montana</i>	12	60	0.79	6.37	n/a	
06	06	06-0001	<i>Quercus montana</i>	16	53	1.40	3.58	n/a	
06	06	06-0002	<i>Quercus montana</i>	14	50	1.07	4.68	n/a	
06	06	06-0003	<i>Pinus virginiana</i>	16	50	1.40	3.58	n/a	
06	06	06-0004	<i>Quercus montana</i>	20	60	2.18	2.29	n/a	
06	06	06-0005	<i>Quercus montana</i>	12	55	0.79	6.37	n/a	
06	06	06-0006	<i>Quercus montana</i>	14	55	1.07	4.68	n/a	
06	06	06-0007	<i>Quercus montana</i>	20	60	2.18	2.29	n/a	
06	06	06-0008	<i>Quercus montana</i>	16	55	1.40	3.58	n/a	
06	06	06-0009	<i>Quercus montana</i>	12	50	0.79	6.37	n/a	
06	06	06-0010	<i>Quercus montana</i>	8	35	0.35	14.32	n/a	
06	06	06-0011	<i>Quercus montana</i>	6	25	0.20	25.47	n/a	
07	07	07-0001	<i>Quercus coccinea</i>	12	54	0.79	12.73	95	
07	07	07-0002	<i>Quercus montana</i>	8	45	0.35	28.65	n/a	
07	07	07-0003	<i>Quercus alba</i>	16	60	1.40	7.16	n/a	
07	07	07-0004	<i>Quercus montana</i>	12	50	0.79	12.73	100	
07	07	07-0005	<i>Quercus coccinea</i>	16	55	1.40	7.16	n/a	
07	07	07-0006	<i>Acer rubrum</i>	6	40	0.20	50.93	n/a	
07	07	07-0007	<i>Acer rubrum</i>	6	25	0.20	50.93	n/a	
07	07	07-0008	<i>Acer rubrum</i>	6	35	0.20	50.93	n/a	
07	07	07-0009	<i>Acer rubrum</i>	6	40	0.20	50.93	n/a	
07	07	07-0010	<i>Nyssa sylvatica</i>	6	40	0.20	50.93	n/a	
07	07	07-0012	<i>Nyssa sylvatica</i>	4	25	0.09	114.59	n/a	
08	08	08-0001	<i>Quercus coccinea</i>	18	67	1.77	5.66	n/a	
08	08	08-0002	<i>Quercus coccinea</i>	10	50	0.55	18.34	n/a	
08	08	08-0003	<i>Quercus alba</i>	14	65	1.07	9.35	90	
08	08	08-0004	<i>Quercus coccinea</i>	16	60	1.40	7.16	n/a	
08	08	08-0005	<i>Oxydendrum arboreum</i>	6	25	0.20	50.93	n/a	
08	08	08-0006	<i>Carya tomentosa</i>	6	25	0.20	50.93	n/a	
08	08	08-0007	<i>Quercus coccinea</i>	12	60	0.79	12.73	76	
08	08	08-0008	<i>Carya tomentosa</i>	12	70	0.79	12.73	n/a	
08	08	08-0009	<i>Quercus alba</i>	18	70	1.77	5.66	n/a	
08	08	08-0010	<i>Quercus coccinea</i>	16	65	1.40	7.16	n/a	
09	09	09-0001	<i>Quercus coccinea</i>	20	75	2.18	1.53	62	
09	09	09-0002	<i>Quercus alba</i>	22	75	2.64	1.26	n/a	
09	09	09-0003	<i>Quercus coccinea</i>	18	70	1.77	1.89	n/a	
09	09	09-0004	<i>Betula lenta</i>	12	55	0.79	4.24	n/a	
09	09	09-0005	<i>Quercus rubra</i>	28	75	4.28	0.78	n/a	
09	09	09-0006	<i>Quercus velutina</i>	22	75	2.64	1.26	n/a	

Stand	Plot	Tree ID	Tree Species	2-inch DBH Class	Height (ft)	Basal Area (ft²)	Trees per Acre	Age (years)	Comments
09	09	09-0007	<i>Betula lenta</i>	8	40	0.35	9.55	n/a	
09	09	09-0008	<i>Quercus rubra</i>	20	65	2.18	1.53	n/a	Dead/snag
09	09	09-0009	<i>Quercus alba</i>	14	65	1.07	3.12	n/a	
09	09	09-0010	<i>Quercus rubra</i>	14	65	1.07	3.12	n/a	
09	09	09-0011	<i>Quercus rubra</i>	18	70	1.77	1.89	95	
09	10	10-0001	<i>Quercus coccinea</i>	26	70	3.69	0.90	n/a	Dead/snag
09	10	10-0002	<i>Quercus coccinea</i>	28	65	4.28	0.78	n/a	Dead/snag
09	10	10-0003	<i>Acer rubrum</i>	12	55	0.79	4.24	n/a	
09	10	10-0004	<i>Quercus rubra</i>	14	55	1.07	3.12	n/a	Dead/snag
09	10	10-0005	<i>Carya glabra</i>	14	65	1.07	3.12	n/a	
09	10	10-0006	<i>Quercus rubra</i>	26	65	3.69	0.90	n/a	Dead/snag
09	10	10-0007	<i>Quercus coccinea</i>	22	70	2.64	1.26	n/a	
09	10	10-0008	<i>Quercus coccinea</i>	24	65	3.14	1.06	n/a	Dead/snag
09	11	11-0001	<i>Quercus coccinea</i>	26	95	3.69	0.90	n/a	
09	11	11-0002	<i>Quercus coccinea</i>	26	90	3.69	0.90	n/a	
09	11	11-0003	<i>Quercus montana</i>	14	70	1.07	3.12	n/a	
09	11	11-0004	<i>Quercus montana</i>	10	65	0.55	6.11	n/a	
09	11	11-0005	<i>Acer pensylvanicum</i>	8	25	0.35	9.55	n/a	
09	11	11-0006	<i>Quercus coccinea</i>	24	75	3.14	1.06	n/a	Dead/snag
09	11	11-0007	<i>Quercus coccinea</i>	36	70	7.07	0.47	n/a	
09	11	11-0008	<i>Quercus montana</i>	16	70	1.40	2.39	n/a	
09	11	11-0009	<i>Acer rubrum</i>	6	30	0.20	16.98	n/a	
09	11	11-0010	<i>Quercus coccinea</i>	16	75	1.40	2.39	n/a	
10	12	12-0001	<i>Tsuga canadensis</i>	14	75	1.07	4.68	62	
10	12	12-0002	<i>Acer rubrum</i>	8	35	0.35	14.32	n/a	leaning
10	12	12-0003	<i>Quercus velutina</i>	18	75	1.77	2.83	105	
10	12	12-0004	<i>Quercus velutina</i>	18	70	1.77	2.83	n/a	
10	12	12-0005	<i>Acer rubrum</i>	8	55	0.35	14.32	n/a	
10	12	12-0006	<i>Quercus velutina</i>	10	55	0.55	9.17	n/a	
10	12	12-0007	<i>Tsuga canadensis</i>	14	50	1.07	4.68	n/a	Top broken
10	12	12-0008	<i>Tsuga canadensis</i>	8	40	0.35	14.32	n/a	Snag
10	13	13-0001	<i>Acer rubrum</i>	6	30	0.20	25.47	n/a	
10	13	13-0002	<i>Quercus alba</i>	18	75	1.77	2.83	n/a	
10	13	13-0003	<i>Acer rubrum</i>	8	25	0.35	14.32	n/a	
10	13	13-0004	<i>Quercus velutina</i>	24	55	3.14	1.59	n/a	Top broken
10	13	13-0005	<i>Tsuga canadensis</i>	6	20	0.20	25.47	n/a	
10	13	13-0006	<i>Quercus montana</i>	14	55	1.07	4.68	n/a	
11	14	14-0001	<i>Quercus montana</i>	22	75	2.64	3.79	n/a	
11	14	14-0002	<i>Quercus velutina</i>	16	70	1.40	7.16	95	
11	14	14-0003	<i>Nyssa sylvatica</i>	10	50	0.55	18.34	n/a	
11	14	14-0004	<i>Nyssa sylvatica</i>	8	40	0.35	28.65	n/a	

Stand	Plot	Tree ID	Tree Species	2-inch DBH Class	Height (ft)	Basal Area (ft²)	Trees per Acre	Age (years)	Comments
11	14	14-0005	<i>Nyssa sylvatica</i>	6	30	0.20	50.93	n/a	
11	14	14-0006	<i>Oxydendrum arboreum</i>	8	40	0.35	28.65	n/a	
12	15	15-0001	<i>Quercus montana</i>	20	80	2.18	4.58	100	
12	15	15-0002	<i>Quercus alba</i>	14	65	1.07	9.35	n/a	
12	15	15-0003	<i>Quercus alba</i>	12	55	0.79	12.73	n/a	
12	15	15-0004	<i>Acer rubrum</i>	10	55	0.55	18.34	n/a	
12	15	15-0005	<i>Quercus montana</i>	8	40	0.35	28.65	n/a	
12	15	15-0006	<i>Quercus coccinea</i>	20	70	2.18	4.58	n/a	
12	15	15-0007	<i>Quercus coccinea</i>	16	80	1.40	7.16	95	
12	15	15-0008	<i>Quercus montana</i>	24	75	3.14	3.18	n/a	
12	15	15-0009	<i>Quercus coccinea</i>	16	70	1.40	7.16	n/a	
12	15	15-0010	<i>Quercus coccinea</i>	16	30	1.40	7.16	n/a	Snag
12	15	15-0011	<i>Quercus montana</i>	14	70	1.07	9.35	n/a	
13	16	16-0002	<i>Quercus rubra</i>	34	130	6.30	1.59	n/a	
13	16	16-0003	<i>Quercus montana</i>	24	110	3.14	3.18	n/a	
13	16	16-0004	<i>Betula lenta</i>	14	90	1.07	9.35	n/a	
13	16	16-0005	<i>Magnolia acuminata</i>	20	110	2.18	4.58	n/a	
13	16	16-0006	<i>Quercus rubra</i>	24	100	3.14	3.18	120	
13	16	16-0007	<i>Quercus rubra</i>	28	90	4.28	2.34	88	
13	16	16-0008	<i>Quercus rubra</i>	16	75	1.40	7.16	n/a	
13	16	16-0009	<i>Quercus rubra</i>	22	80	2.64	3.79	n/a	
13	16	16-0010	<i>Magnolia acuminata</i>	20	95	2.18	4.58	n/a	
13	16	16-0011	<i>Quercus rubra</i>	28	125	4.28	2.34	n/a	
14	17	17-0001	<i>Quercus coccinea</i>	16	80	1.40	3.58	n/a	
14	17	17-0002	<i>Quercus montana</i>	14	60	1.07	4.68	n/a	
14	17	17-0003	<i>Quercus montana</i>	10	55	0.55	9.17	n/a	
14	17	17-0004	<i>Quercus montana</i>	12	60	0.79	6.37	n/a	
14	17	17-0005	<i>Acer rubrum</i>	8	60	0.35	14.32	n/a	
14	17	17-0006	<i>Quercus montana</i>	12	70	0.79	6.37	n/a	
14	17	17-0007	<i>Quercus montana</i>	14	75	1.07	4.68	n/a	
14	17	17-0008	<i>Quercus montana</i>	20	80	2.18	2.29	n/a	
14	17	17-0009	<i>Quercus montana</i>	10	60	0.55	9.17	n/a	
14	17	17-0010	<i>Quercus montana</i>	10	60	0.55	9.17	n/a	
14	17	17-0011	<i>Quercus montana</i>	12	70	0.79	6.37	n/a	
14	17	17-0012	<i>Oxydendrum arboreum</i>	12	65	0.79	6.37	n/a	
14	18	18-0001	<i>Quercus coccinea</i>	34	85	6.30	0.79	n/a	
14	18	18-0002	<i>Quercus velutina</i>	20	85	2.18	2.29	n/a	
14	18	18-0003	<i>Quercus montana</i>	12	65	0.79	6.37	n/a	
14	18	18-0004	<i>Quercus velutina</i>	12	70	0.79	6.37	n/a	
14	18	18-0005	<i>Quercus velutina</i>	18	75	1.77	2.83	90	

Stand	Plot	Tree ID	Tree Species	2-inch DBH Class	Height (ft)	Basal Area (ft²)	Trees per Acre	Age (years)	Comments
14	18	18-0006	<i>Quercus montana</i>	24	80	3.14	1.59	n/a	
14	18	18-0007	<i>Quercus montana</i>	32	85	5.58	0.90	n/a	
14	18	18-0008	<i>Quercus montana</i>	20	75	2.18	2.29	n/a	
14	18	18-0009	<i>Quercus montana</i>	14	70	1.07	4.68	n/a	
14	18	18-0010	<i>Quercus montana</i>	18	75	1.77	2.83	130	
14	18	18-0011	<i>Quercus coccinea</i>	16	75	1.40	3.58	n/a	
15	19	19-0001	<i>Acer rubrum</i>	10	55	0.55	18.34	n/a	
15	19	19-0002	<i>Nyssa sylvatica</i>	4	20	0.09	114.59	n/a	
15	19	19-0003	<i>Quercus montana</i>	14	55	1.07	9.35	n/a	Dead/snag
15	19	19-0004	<i>Quercus montana</i>	10	50	0.55	18.34	n/a	Dead/snag
15	19	19-0005	<i>Acer rubrum</i>	6	20	0.20	50.93	n/a	
15	19	19-0006	<i>Quercus montana</i>	6	10	0.20	50.93	n/a	Dead/snag
15	19	19-0007	<i>Quercus velutina</i>	14	35	1.07	9.35	n/a	Dead/snag
15	19	19-0008	<i>Oxydendrum arboreum</i>	6	25	0.20	50.93	n/a	
15	19	19-0009	<i>Acer rubrum</i>	8	40	0.35	28.65	n/a	
15	19	19-0010	<i>Quercus montana</i>	12	60	0.79	12.73	n/a	Dead/snag
15	19	19-0011	<i>Quercus montana</i>	12	55	0.79	12.73	n/a	Dead/snag
15	19	19-0012	<i>Acer rubrum</i>	12	60	0.79	12.73	50	
15	19	19-0013	<i>Acer rubrum</i>	14	65	1.07	9.35	n/a	
16	20	20-0001	<i>Quercus alba</i>	18	80	1.77	5.66	67	
16	20	20-0002	<i>Quercus velutina</i>	20	80	2.18	4.58	82	
16	20	20-0003	<i>Quercus montana</i>	12	80	0.79	12.73	60	
16	20	20-0004	<i>Acer rubrum</i>	18	70	1.77	5.66	n/a	
16	20	20-0005	<i>Quercus alba</i>	28	85	4.28	2.34	n/a	
16	20	20-0006	<i>Liriodendron tulipifera</i>	8	55	0.35	28.65	n/a	
16	20	20-0007	<i>Liriodendron tulipifera</i>	12	65	0.79	12.73	n/a	
16	20	20-0008	<i>Prunus serotina</i>	6	40	0.20	50.93	n/a	
16	20	20-0009	<i>Prunus serotina</i>	6	45	0.20	50.93	n/a	
16	20	20-0010	<i>Prunus serotina</i>	4	25	0.09	114.59	n/a	
17	21	21-0001	<i>Quercus velutina</i>	22	75	2.64	1.89	147	
17	21	21-0002	<i>Quercus velutina</i>	20	75	2.18	2.29	n/a	
17	21	21-0003	<i>Quercus montana</i>	14	70	1.07	4.68	n/a	
17	21	21-0004	<i>Quercus velutina</i>	10	55	0.55	9.17	n/a	
17	21	21-0005	<i>Quercus velutina</i>	10	55	0.55	9.17	n/a	
17	21	21-0006a	<i>Carya tomentosa</i>	18	40	1.77	2.83	n/a	
17	21	21-0006b	<i>Nyssa sylvatica</i>	14	45	1.07	4.68	n/a	leaning
17	21	21-0007	<i>Carya tomentosa</i>	26	65	3.69	1.36	n/a	
17	21	21-0008	<i>Quercus montana</i>	14	30	1.07	4.68	n/a	Snag
17	21	21-0009	<i>Quercus montana</i>	10	45	0.55	9.17	n/a	Snag

Stand	Plot	Tree ID	Tree Species	2-inch DBH Class	Height (ft)	Basal Area (ft²)	Trees per Acre	Age (years)	Comments
17	21	21-0010	<i>Quercus montana</i>	12	45	0.79	6.37	n/a	
17	21	21-0011	<i>Carya tomentosa</i>	22	60	2.64	1.89	125	
17	22	22-0001	<i>Quercus velutina</i>	18	75	1.77	2.83	n/a	
17	22	22-0002	<i>Pinus virginiana</i>	20	85	2.18	2.29	n/a	
17	22	22-0003	<i>Quercus velutina</i>	12	80	0.79	6.37	n/a	
17	22	22-0004	<i>Carya tomentosa</i>	8	65	0.35	14.32	n/a	
17	22	22-0005	<i>Oxydendrum arboreum</i>	10	30	0.55	9.17	n/a	
17	22	22-0006	<i>Acer rubrum</i>	8	55	0.35	14.32	n/a	
17	22	22-0007	<i>Quercus montana</i>	12	45	0.79	6.37	n/a	
17	22	22-0008	<i>Quercus montana</i>	20	60	2.18	2.29	n/a	
17	22	22-0009	<i>Quercus montana</i>	18	70	1.77	2.83	n/a	
17	22	22-0010	<i>Pinus virginiana</i>	26	80	3.69	1.36	n/a	Bear claw marks
17	22	22-0011	<i>Quercus alba</i>	22	75	2.64	1.89	n/a	
18	23	23-0001	<i>Liriodendron tulipifera</i>	24	130	3.14	3.18	n/a	
18	23	23-0002	<i>Liriodendron tulipifera</i>	20	125	2.18	4.58	n/a	
18	23	23-0003	<i>Liriodendron tulipifera</i>	42	125	9.62	1.04	n/a	
18	23	23-0004	<i>Quercus montana</i>	30	70	4.91	2.04	n/a	snag
18	23	23-0005	<i>Quercus montana</i>	32	90	5.58	1.79	n/a	
18	23	23-0006	<i>Quercus montana</i>	18	80	1.77	5.66	137	
18	23	23-0007	<i>Quercus montana</i>	20	80	2.18	4.58	n/a	
18	23	23-0008	<i>Liriodendron tulipifera</i>	16	120	1.40	7.16	n/a	
18	23	23-0009	<i>Liriodendron tulipifera</i>	24	130	3.14	3.18	n/a	
18	23	23-0010	<i>Liriodendron tulipifera</i>	24	125	3.14	3.18	83	
19	24	24-0001	<i>Quercus coccinea</i>	14	80	1.07	9.35	n/a	
19	24	24-0002	<i>Quercus montana</i>	14	75	1.07	9.35	n/a	
19	24	24-0003	<i>Quercus velutina</i>	12	70	0.79	12.73	n/a	
19	24	24-0004	<i>Quercus velutina</i>	12	70	0.79	12.73	n/a	
19	24	24-0005	<i>Quercus velutina</i>	12	75	0.79	12.73	n/a	
19	24	24-0006	<i>Quercus montana</i>	8	70	0.35	28.65	n/a	
19	24	24-0007	<i>Quercus velutina</i>	12	75	0.79	12.73	35	
19	24	24-0008	<i>Quercus velutina</i>	8	65	0.35	28.65	n/a	
19	24	24-0009	<i>Acer rubrum</i>	12	70	0.79	12.73	n/a	
19	24	24-0010	<i>Acer rubrum</i>	10	70	0.55	18.34	n/a	
19	24	24-0011	<i>Betula lenta</i>	4	40	0.09	114.59	n/a	
20	25	25-0001	<i>Liriodendron tulipifera</i>	10	80	0.55	18.34	40	
20	25	25-0002	<i>Quercus montana</i>	12	75	0.79	12.73	n/a	
20	25	25-0003	<i>Carya glabra</i>	8	70	0.35	28.65	n/a	

Stand	Plot	Tree ID	Tree Species	2-inch DBH Class	Height (ft)	Basal Area (ft²)	Trees per Acre	Age (years)	Comments
20	25	25-0004	<i>Liriodendron tulipifera</i>	12	90	0.79	12.73	n/a	
20	25	25-0005	<i>Liriodendron tulipifera</i>	8	70	0.35	28.65	n/a	
20	25	25-0006	<i>Liriodendron tulipifera</i>	10	90	0.55	18.34	n/a	
20	25	25-0007	<i>Liriodendron tulipifera</i>	14	95	1.07	9.35	n/a	
20	25	25-0008	<i>Quercus coccinea</i>	10	80	0.55	18.34	n/a	
20	25	25-0009	<i>Liriodendron tulipifera</i>	8	80	0.35	28.65	n/a	
20	25	25-0010	<i>Liriodendron tulipifera</i>	12	85	0.79	12.73	n/a	
20	25	25-0011	<i>Quercus coccinea</i>	12	85	0.79	12.73	n/a	
21	26	26-0001	<i>Pinus strobus</i>	12	75	0.79	12.73	35	
21	26	26-0002	<i>Quercus coccinea</i>	10	70	0.55	18.34	43	
21	26	26-0003	<i>Quercus coccinea</i>	12	75	0.79	12.73	n/a	
21	26	26-0004	<i>Liriodendron tulipifera</i>	8	70	0.35	28.65	n/a	
21	26	26-0005	<i>Liriodendron tulipifera</i>	10	80	0.55	18.34	n/a	
21	26	26-0006	<i>Liriodendron tulipifera</i>	8	70	0.35	28.65	n/a	
21	26	26-0007	<i>Pinus strobus</i>	16	85	1.40	7.16	n/a	
21	26	26-0008	<i>Quercus coccinea</i>	12	85	0.79	12.73	n/a	
21	26	26-0009	<i>Quercus coccinea</i>	6	45	0.20	50.93	n/a	
21	26	26-0010	<i>Quercus coccinea</i>	10	50	0.55	18.34	n/a	
22	27	27-0001	<i>Pinus strobus</i>	20	90	2.18	4.58	50	
22	27	27-0002	<i>Quercus coccinea</i>	22	90	2.64	3.79	n/a	
22	27	27-0003	<i>Pinus strobus</i>	22	100	2.64	3.79	n/a	
22	27	27-0004	<i>Quercus alba</i>	8	55	0.35	28.65	n/a	
22	27	27-0005	<i>Pinus strobus</i>	18	70	1.77	5.66	n/a	
22	27	27-0006	<i>Quercus coccinea</i>	12	60	0.79	12.73	n/a	
22	27	27-0007	<i>Liriodendron tulipifera</i>	14	90	1.07	9.35	n/a	
22	27	27-0008	<i>Quercus coccinea</i>	14	90	1.07	9.35	n/a	
22	27	27-0009	<i>Pinus strobus</i>	18	90	1.77	5.66	n/a	
22	27	27-0010	<i>Pinus strobus</i>	6	45	0.20	50.93	n/a	
22	27	27-0011	<i>Pinus strobus</i>	12	60	0.79	12.73	n/a	
22	27	27-0012	<i>Pinus strobus</i>	8	50	0.35	28.65	n/a	
22	27	27-0013	<i>Pinus strobus</i>	10	50	0.55	18.34	n/a	
22	27	27-0014	<i>Pinus virginiana</i>	10	50	0.55	18.34	n/a	Snag
22	27	27-0015	<i>Quercus coccinea</i>	18	70	1.77	5.66	n/a	
22	27	27-0016	<i>Pinus strobus</i>	22	100	2.64	3.79	n/a	
23	28	28-0001	<i>Quercus coccinea</i>	16	75	1.40	7.16	n/a	
23	28	28-0002	<i>Quercus coccinea</i>	14	60	1.07	9.35	n/a	Snag
23	28	28-0003	<i>Acer rubrum</i>	4	25	0.09	114.59	n/a	Snag

Stand	Plot	Tree ID	Tree Species	2-inch DBH Class	Height (ft)	Basal Area (ft²)	Trees per Acre	Age (years)	Comments
23	28	28-0004	<i>Quercus coccinea</i>	14	55	1.07	9.35	n/a	
23	28	28-0005	<i>Quercus alba</i>	8	40	0.35	28.65	n/a	
23	28	28-0006	<i>Quercus coccinea</i>	18	65	1.77	5.66	n/a	
23	29	29-0001	<i>Quercus coccinea</i>	20	70	2.18	4.58	81	
23	29	29-0002	<i>Quercus montana</i>	10	35	0.55	18.34	n/a	
23	29	29-0003	<i>Quercus coccinea</i>	18	70	1.77	5.66	n/a	
23	29	29-0004	<i>Quercus montana</i>	10	60	0.55	18.34	n/a	
23	29	29-0005	<i>Quercus montana</i>	10	60	0.55	18.34	n/a	
23	29	29-0006	<i>Quercus coccinea</i>	22	70	2.64	3.79	n/a	
23	29	29-0007	<i>Quercus coccinea</i>	18	80	1.77	5.66	n/a	
23	29	29-0008	<i>Quercus coccinea</i>	12	65	0.79	12.73	n/a	
23	29	29-0009	<i>Quercus coccinea</i>	18	70	1.77	5.66	n/a	
23	29	29-0010	<i>Quercus montana</i>	8	50	0.35	28.65	n/a	
24	30	30-0001	<i>Pinus pungens</i>	8	25	0.35	28.65	n/a	
24	30	30-0002	<i>Quercus montana</i>	6	25	0.20	50.93	n/a	
24	30	30-0003	<i>Quercus montana</i>	6	25	0.20	50.93	n/a	
24	30	30-0004	<i>Quercus montana</i>	4	25	0.09	114.59	n/a	
24	30	30-0005	<i>Quercus montana</i>	8	30	0.35	28.65	75	
24	30	30-0006	<i>Quercus montana</i>	8	30	0.35	28.65	n/a	
24	30	30-0007	<i>Quercus montana</i>	8	30	0.35	28.65	n/a	
24	30	30-0008	<i>Quercus montana</i>	4	15	0.09	114.59	n/a	
24	30	30-0009	<i>Quercus coccinea</i>	8	35	0.35	28.65	n/a	
24	30	30-0010	<i>Quercus montana</i>	4	20	0.09	114.59	n/a	
25	31	31-0001	<i>Pinus pungens</i>	12	40	0.79	3.18	n/a	
25	31	31-0002	<i>Pinus pungens</i>	12	45	0.79	3.18	n/a	
25	31	31-0003	<i>Quercus coccinea</i>	10	50	0.55	4.58	n/a	
25	31	31-0004	<i>Quercus coccinea</i>	8	50	0.35	7.16	n/a	
25	31	31-0005	<i>Pinus pungens</i>	6	30	0.20	12.73	n/a	
25	31	31-0006	<i>Pinus pungens</i>	14	50	1.07	2.34	n/a	
25	31	31-0007	<i>Pinus pungens</i>	12	50	0.79	3.18	n/a	
25	31	31-0008	<i>Pinus pungens</i>	8	40	0.35	7.16	n/a	
25	31	31-0009	<i>Nyssa sylvatica</i>	4	15	0.09	28.65	n/a	
25	31	31-0010	<i>Quercus coccinea</i>	6	15	0.20	12.73	n/a	
25	31	31-0011	<i>Pinus pungens</i>	10	50	0.55	4.58	n/a	
25	31	31-0012	<i>Pinus pungens</i>	10	50	0.55	4.58	n/a	
25	31	31-0013	<i>Quercus montana</i>	12	50	0.79	3.18	n/a	
25	31	31-0014	<i>Quercus montana</i>	12	50	0.79	3.18	n/a	
25	31	31-0015	<i>Quercus montana</i>	10	50	0.55	4.58	n/a	
25	31	31-0016	<i>Quercus montana</i>	10	50	0.55	4.58	n/a	
25	32	32-0001	<i>Pinus pungens</i>	10	20	0.55	4.58	n/a	Snag
25	32	32-0002	<i>Quercus montana</i>	4	20	0.09	28.65	n/a	
25	32	32-0003	<i>Quercus montana</i>	4	15	0.09	28.65	n/a	

Stand	Plot	Tree ID	Tree Species	2-inch DBH Class	Height (ft)	Basal Area (ft²)	Trees per Acre	Age (years)	Comments
25	32	32-0004	<i>Quercus montana</i>	12	35	0.79	3.18	n/a	
25	32	32-0005	<i>Quercus coccinea</i>	8	35	0.35	7.16	n/a	
25	32	32-0006	<i>Nyssa sylvatica</i>	2	15	0.02	114.59	n/a	
25	32	32-0007	<i>Quercus montana</i>	8	30	0.35	7.16	n/a	
25	32	32-0008	<i>Quercus montana</i>	8	30	0.35	7.16	n/a	
25	32	32-0009	<i>Quercus montana</i>	12	35	0.79	3.18	n/a	
25	33	33-0001	<i>Pinus pungens</i>	12	25	0.79	3.18	62	
25	33	33-0002	<i>Pinus pungens</i>	10	30	0.55	4.58	n/a	
25	33	33-0003	<i>Quercus montana</i>	12	25	0.79	3.18	n/a	
25	33	33-0004	<i>Quercus montana</i>	8	25	0.35	7.16	n/a	
25	33	33-0005a	<i>Quercus montana</i>	14	15	1.07	2.34	n/a	
25	33	33-0005b	<i>Quercus montana</i>	4	15	0.09	28.65	n/a	
25	33	33-0006	<i>Quercus montana</i>	8	10	0.35	7.16	n/a	
25	33	33-0007	<i>Quercus montana</i>	8	20	0.35	7.16	n/a	
25	33	33-0008	<i>Quercus montana</i>	12	15	0.79	3.18	n/a	
25	34	34-0001	<i>Quercus montana</i>	10	50	0.55	4.58	75	
25	34	34-0002	<i>Quercus montana</i>	10	50	0.55	4.58	n/a	
25	34	34-0003	<i>Quercus montana</i>	12	20	0.79	3.18	n/a	
25	34	34-0004	<i>Quercus montana</i>	14	50	1.07	2.34	n/a	
25	34	34-0005	<i>Quercus montana</i>	20	55	2.18	1.15	n/a	
25	34	34-0006	<i>Quercus montana</i>	6	55	0.20	12.73	n/a	
25	34	34-0007	<i>Quercus montana</i>	8	25	0.35	7.16	n/a	
25	34	34-0008	<i>Quercus montana</i>	16	30	1.40	1.79	n/a	
25	34	34-0009	<i>Quercus montana</i>	10	50	0.55	4.58	n/a	
25	34	34-0010	<i>Pinus pungens</i>	12	50	0.79	3.18	n/a	

Table 3. Plot and stand specific data collected on the Jefferson National Forest in West Virginia and Virginia.

Stand #	Plot #	Latitude	Longitude	Slope (degrees)	Trees per Acre ¹	Site Index ²	Comments
1	00	37° 24' 12.430" N	80° 41' 25.535" W	30	70.40	<40	
2	01	37° 24' 10.797" N	80° 41' 18.760" W	15	68.97	<20	Located on ridge
3	02	37° 24' 5.816" N	80° 41' 13.807" W	25	272.30	<30	
4	03	37° 23' 59.796" N	80° 41' 9.199" W	18	240.19	30 – 42	
5	04	37° 23' 56.071" N	80° 41' 1.778" W	15	91.16	45	
6	05	37° 23' 52.567" N	80° 40' 54.646" W	12	140.74	40 – 55	No tree cores taken; same stand as plot 05
	06	37° 23' 47.820" N	80° 40' 49.284" W	10			
7	07	37° 23' 40.803" N	80° 40' 46.194" W	15	437.69	35 – 40	
8	08	37° 23' 33.602" N	80° 40' 45.452" W	10	180.66	43 – 47	
9	09	37° 23' 26.329" N	80° 40' 46.354" W	15	89.43	50 – 60	No cores taken; mostly snags and same stand composition as 09 Similar stand composition to plot 10; no cores taken
	10	37° 23' 20.031" N	80° 40' 50.845" W	15			
	11	37° 23' 14.678" N	80° 40' 57.131" W	20			
10	12	37° 23' 34.693" N	80° 41' 39.045" W	20	141.51	50 – 60	Sparse remnant mixed oak canopy; hemlock canopy and subcanopy present along stream; thick rhododendron understory No cores taken; Thick rhododendron in understory; uneven-aged stand with mixed oak canopy and mixed mesophytic subcanopy
	13	37° 23' 34.177" N	80° 41' 24.546" W	25			
11	14	37° 23' 25.406" N	80° 41' 19.635" W	20	137.51	51	
12	15	37° 23' 21.959" N	80° 41' 3.405" W	10	112.26	57 – 58	
13	16	37° 23' 20.653" N	80° 40' 57.102" W	15	42.10	73	
14	17	37° 23' 15.620" N	80° 41' 0.448" W	20	117.03	50	No cores taken; similar stand composition to plot 18
	18	37° 23' 12.658" N	80° 41' 1.921" W	20			
15	19	37° 23' 6.067" N	80° 40' 46.151" W	15	398.97	60	
16	20	37° 22' 53.551" N	80° 40' 37.383" W	20	288.81	63 – 72	
17	21	37° 19' 26.864" N	80° 24' 54.750" W	30	120.31	37 – 50	Plot moved downslope to avoid boulders; also moved eastward to match centerline flagging No cores taken; similar stand composition to plot 21
	22	37° 19' 21.132" N	80° 24' 51.472" W	20			
18	23	37° 19' 15.208" N	80° 24' 45.881" W	15	36.41	55 – 111	Spring/stream through plot

Stand #	Plot #	Latitude	Longitude	Slope (degrees)	Trees per Acre ¹	Site Index ²	Comments
19	24	37° 19' 9.284" N	80° 24' 40.291" W	20	272.60	92	
20	25	37° 19' 3.360" N	80° 24' 34.702" W	15	201.24	86	
21	26	37° 18' 57.436" N	80° 24' 29.112" W	2	208.59	61 – 76	
22	27	37° 18' 52.618" N	80° 24' 24.522" W	2	222.00	70	Core taken: plot moved to centerline flagging
23	28	37° 18' 50.646" N	80° 24' 3.155" W	10	296.51	55	Moved to centerline flagging
	29	37° 18' 50.304" N	80° 23' 55.951" W	15			
24	30	37° 18' 43.239" N	80° 23' 50.689" W	2	588.89	< 30	Moved to where flagging occurs
25	31	37° 18' 33.792" N	80° 23' 50.732" W	15	422.65	40	No cores taken; similar stand conditions to plot 34
	32	37° 18' 24.430" N	80° 23' 51.031" W	25			No cores taken; same stand
	33	37° 18' 16.031" N	80° 23' 45.498" W	30			Plot moved to reflect centerline flagging
	34	37° 18' 13.220" N	80° 23' 41.730" W	15			Moved based on centerline flagging

1 Trees per Acre calculated for stand, not individual plot

2 Site Index determined for stand, not individual plot. A range is provided when more than one dominant tree species occurred within stand.

4.0 Literature Cited

- USDA. 1979. Increment cores- how to collect, handle, and use them. U.S. Department of Agriculture, Forest Service.
- USDA. 1989. Site index curves for forest tree species in the eastern United States. U.S. Department of Agriculture, Forest Service.
- USDA. 1997. Guidance for conserving and restoring old-growth forest communities on national forests in the southern region. U.S. Department of Agriculture, Forest Service.
- USDA. 2013. Common stand exam region 8 field guide. U.S. Department of Agriculture, Forest Service.
- Yancey, M. 2014. Measuring site index. Virginia Cooperative Extension, Virginia Tech - Virginia State University.

**APPENDIX A
DATA SHEETS**





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: West Virginia County: Monroe

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 1 Plot ID: 00 Percent Slope: 30 Trees Per Acre: 70.40 Site Index: <40

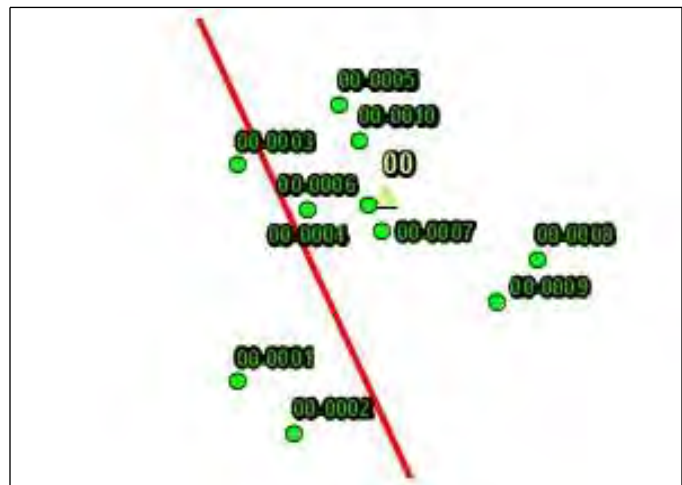
Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/01/2016	00-0009	<i>Quercus montana</i>	15	Alive	45	n/a	1.23	
03/01/2016	00-0003	<i>Quercus coccinea</i>	19	Alive	50	n/a	1.97	
03/01/2016	00-0005	<i>Quercus coccinea</i>	21	Alive	50	n/a	2.41	
03/01/2016	00-0002	<i>Quercus coccinea</i>	20	Alive	55	n/a	2.18	
03/01/2016	00-0007	<i>Quercus alba</i>	10	Alive	35	n/a	0.55	
03/01/2016	00-0001	<i>Quercus coccinea</i>	21	Alive	53	130	2.41	Core Sample Taken
03/01/2016	00-0010	<i>Quercus montana</i>	14	Dead	25	n/a	1.07	Snag
03/01/2016	00-0008	<i>Quercus montana</i>	17	Alive	45	n/a	1.58	
03/01/2016	00-0004	<i>Quercus montana</i>	13	Alive	40	n/a	0.92	
03/01/2016	00-0006	<i>Quercus coccinea</i>	21	Alive	55	n/a	2.41	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

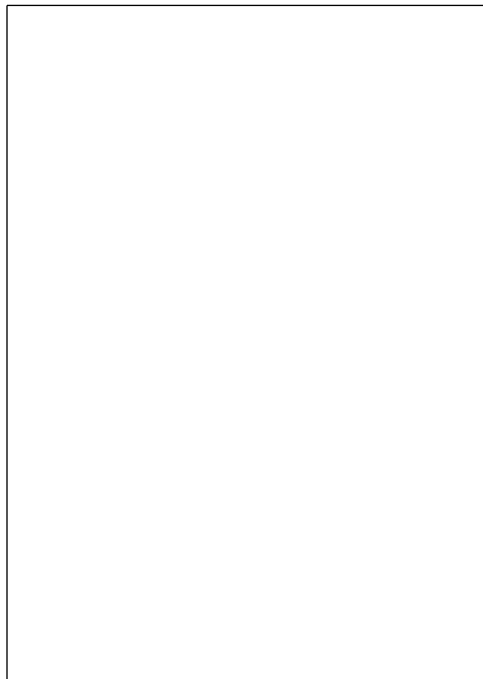
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 2 Plot ID: 01 Percent Slope: 15 Trees Per Acre: 68.97 Site Index: <20

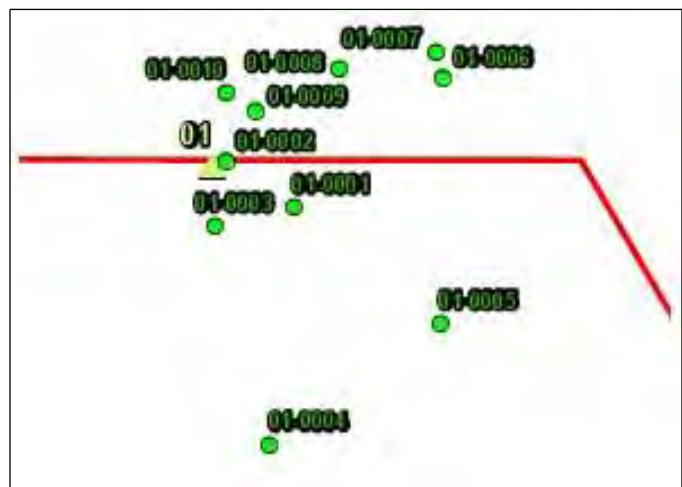
Comments: Located on ridge

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/01/2016	01-0002	<i>Quercus alba</i>	17	Alive	40	n/a	1.58	
03/01/2016	01-0010	<i>Betula lenta</i>	12	Alive	40	n/a	0.79	
03/01/2016	01-0001	<i>Quercus alba</i>	18	Alive	40	n/a	1.77	
03/01/2016	01-0009	<i>Quercus coccinea</i>	38	Alive	45	n/a	7.88	
03/01/2016	01-0008	<i>Carya ovata</i>	14	Alive	45	n/a	1.07	
03/01/2016	01-0007	<i>Quercus coccinea</i>	12	Alive	45	n/a	0.79	
03/01/2016	01-0006	<i>Quercus coccinea</i>	19	Alive	50	n/a	1.97	
03/01/2016	01-0005	<i>Quercus alba</i>	18	Dead	40	n/a	1.77	Snag
03/01/2016	01-0004	<i>Quercus alba</i>	17	Alive	45	250	1.58	Core Sample Taken
03/01/2016	01-0003	<i>Quercus alba</i>	17	Dead	40	n/a	1.58	Snag

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 3 Plot ID: 02 Percent Slope: 25 Trees Per Acre: 272.30 Site Index: <30

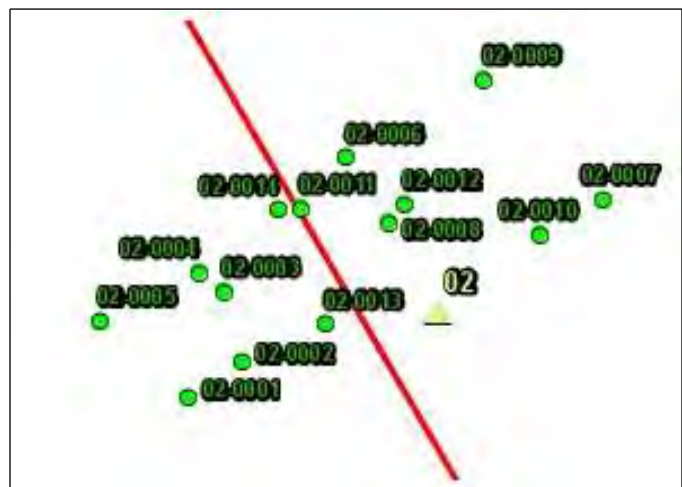
Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/01/2016	02-0013	<i>Quercus montana</i>	7	Alive	40	n/a	0.27	
03/01/2016	02-0012	<i>Quercus montana</i>	9	Alive	35	n/a	0.44	
03/01/2016	02-0010	<i>Quercus montana</i>	13	Alive	40	n/a	0.92	
03/01/2016	02-0009	<i>Nyssa sylvatica</i>	12	Alive	35	n/a	0.79	
03/01/2016	02-0008	<i>Quercus alba</i>	9	Alive	35	n/a	0.44	
03/01/2016	02-0014	<i>Quercus alba</i>	4	Alive	25	n/a	0.09	
03/01/2016	02-0007	<i>Pinus echinata</i>	17	Dead	20	n/a	1.58	Snag
03/01/2016	02-0006	<i>Quercus alba</i>	14	Alive	45	n/a	1.07	
03/01/2016	02-0005	<i>Quercus montana</i>	17	Alive	50	n/a	1.58	
03/01/2016	02-0011	<i>Quercus montana</i>	9	Alive	40	105	0.44	Core Sample Taken
03/01/2016	02-0004	<i>Quercus montana</i>	20	Alive	55	n/a	2.18	
03/01/2016	02-0003	<i>Quercus montana</i>	21	Alive	50	n/a	2.41	Leaning
03/01/2016	02-0002	<i>Acer rubrum</i>	9	Alive	40	n/a	0.44	
03/01/2016	02-0001	<i>Quercus montana</i>	19	Alive	50	n/a	1.97	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 4 Plot ID: 03 Percent Slope: 18 Trees Per Acre: 240.19 Site Index: 30 - 40

Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/01/2016	03-0015	<i>Sassafras albidum</i>	11	Dead	35	n/a	0.66	Snag
03/01/2016	03-0011	<i>Acer rubrum</i>	8	Alive	55	n/a	0.35	
03/01/2016	03-0013	<i>Quercus montana</i>	12	Alive	55	82	0.79	Core Sample Taken
03/01/2016	03-0010	<i>Quercus alba</i>	20	Alive	65	n/a	2.18	
03/01/2016	03-0014	<i>Sassafras albidum</i>	11	Alive	40	n/a	0.66	
03/01/2016	03-0009	<i>Quercus montana</i>	14	Alive	65	n/a	1.07	
03/01/2016	03-0008	<i>Quercus montana</i>	13	Alive	60	n/a	0.92	
03/01/2016	03-0007	<i>Sassafras albidum</i>	7	Partially alive	35	n/a	0.27	
03/01/2016	03-0006	<i>Sassafras albidum</i>	7	Alive	35	n/a	0.27	
03/01/2016	03-0001	<i>Quercus coccinea</i>	15	Alive	70	n/a	1.23	
03/01/2016	03-0005	<i>Quercus montana</i>	12	Alive	65	n/a	0.79	
03/01/2016	03-0004	<i>Quercus montana</i>	10	Alive	65	n/a	0.55	
03/01/2016	03-0012	<i>Quercus alba</i>	13	Alive	55	127	0.92	Core Sample Taken
03/01/2016	03-0003	<i>Quercus montana</i>	13	Alive	70	n/a	0.92	
03/01/2016	03-0016	<i>Sassafras albidum</i>	8	Alive	35	n/a	0.35	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 5 Plot ID: 04 Percent Slope: 15 Trees Per Acre: 91.16 Site Index: 45

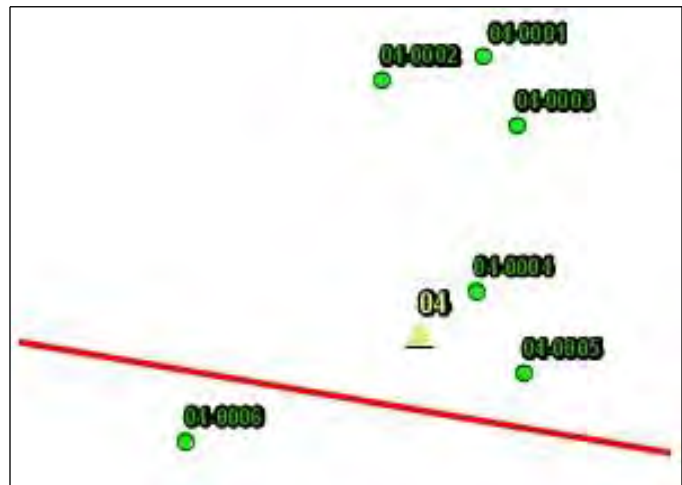
Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/01/2016	04-0006	<i>Quercus montana</i>	10	Alive	50	n/a	0.55	
03/01/2016	04-0005	<i>Acer rubrum</i>	7	Alive	40	n/a	0.27	
03/01/2016	04-0004	<i>Quercus montana</i>	11	Alive	60	88	0.66	Core Sample Taken
03/01/2016	04-0003	<i>Quercus montana</i>	12	Alive	55	n/a	0.79	
03/01/2016	04-0002	<i>Quercus montana</i>	13	Alive	60	n/a	0.92	
03/01/2016	04-0001	<i>Quercus coccinea</i>	14	Alive	66	n/a	1.07	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 6 Plot ID: 05 Percent Slope: 12 Trees Per Acre: 140.74 Site Index: 40 - 55

Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/01/2016	05-0008	<i>Quercus montana</i>	12	Alive	60	n/a	0.79	
03/01/2016	05-0007	<i>Pinus virginiana</i>	12	Alive	55	n/a	0.79	
03/01/2016	05-0006	<i>Pinus virginiana</i>	13	Alive	55	n/a	0.92	
03/01/2016	05-0005	<i>Nyssa sylvatica</i>	5	Alive	30	n/a	0.14	
03/01/2016	05-0004	<i>Pinus virginiana</i>	9	Alive	50	n/a	0.44	
03/01/2016	05-0003	<i>Pinus virginiana</i>	12	Alive	60	116	0.79	Core Sample Taken
03/01/2016	05-0002	<i>Quercus montana</i>	17	Alive	65	141	1.58	Core Sample Taken
03/01/2016	05-0001	<i>Quercus montana</i>	19	Alive	68	n/a	1.97	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 6 Plot ID: 06 Percent Slope: 10 Trees Per Acre: 140.74 Site Index: n/a

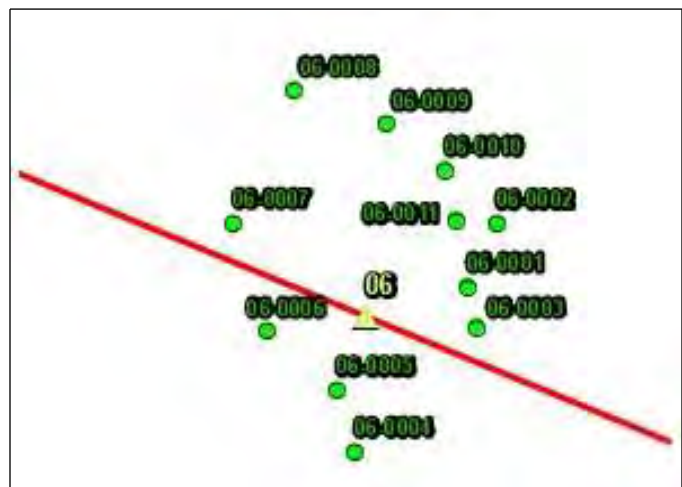
Comments: No tree cores taken; same stand as plot 05

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/02/2016	06-0011	<i>Quercus montana</i>	6	Alive	25	n/a	0.20	
03/02/2016	06-0010	<i>Quercus montana</i>	7	Alive	35	n/a	0.27	
03/02/2016	06-0009	<i>Quercus montana</i>	12	Alive	50	n/a	0.79	
03/02/2016	06-0008	<i>Quercus montana</i>	16	Alive	55	n/a	1.40	
03/02/2016	06-0007	<i>Quercus montana</i>	20	Alive	60	n/a	2.18	
03/02/2016	06-0006	<i>Quercus montana</i>	13	Alive	55	n/a	0.92	
03/02/2016	06-0005	<i>Quercus montana</i>	12	Alive	55	n/a	0.79	
03/02/2016	06-0004	<i>Quercus montana</i>	20	Alive	60	n/a	2.18	
03/02/2016	06-0003	<i>Pinus virginiana</i>	15	Alive	50	n/a	1.23	
03/02/2016	06-0002	<i>Quercus montana</i>	13	Alive	50	n/a	0.92	
03/02/2016	06-0001	<i>Quercus montana</i>	16	Alive	53	n/a	1.40	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 7 Plot ID: 07 Percent Slope: 15 Trees Per Acre: 437.69 Site Index: 35 - 40

Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/02/2016	07-0012	<i>Nyssa sylvatica</i>	3	Alive	25	n/a	0.05	
03/02/2016	07-0008	<i>Acer rubrum</i>	5	Alive	35	n/a	0.14	
03/02/2016	07-0007	<i>Acer rubrum</i>	5	Alive	25	n/a	0.14	
03/02/2016	07-0006	<i>Acer rubrum</i>	6	Alive	40	n/a	0.20	
03/02/2016	07-0005	<i>Quercus coccinea</i>	16	Alive	55	n/a	1.40	
03/02/2016	07-0010	<i>Nyssa sylvatica</i>	6	Alive	40	n/a	0.20	
03/02/2016	07-0004	<i>Quercus montana</i>	11	Alive	50	100	0.66	Core Sample Taken
03/02/2016	07-0003	<i>Quercus alba</i>	15	Alive	60	n/a	1.23	
03/02/2016	07-0002	<i>Quercus montana</i>	7	Alive	45	n/a	0.27	
03/02/2016	07-0001	<i>Quercus coccinea</i>	11	Alive	54	95	0.66	Core Sample Taken
03/02/2016	07-0009	<i>Acer rubrum</i>	6	Alive	40	n/a	0.20	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

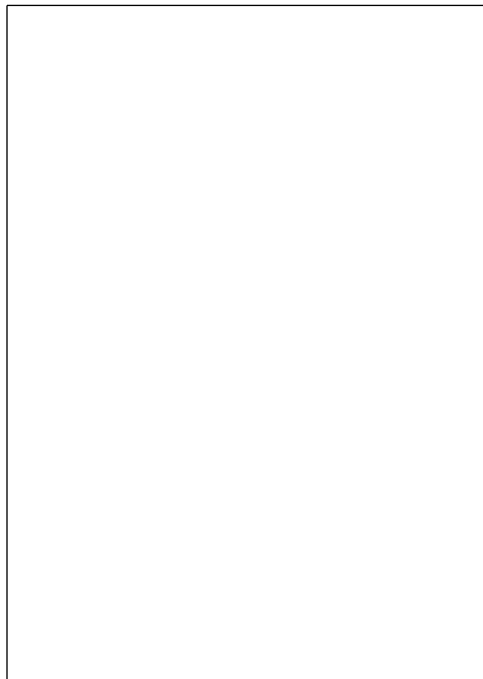
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 8 Plot ID: 08 Percent Slope: 10 Trees Per Acre: 180.66 Site Index: 40 - 50

Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/02/2016	08-0010	<i>Quercus coccinea</i>	15	Alive	65	n/a	1.23	
03/02/2016	08-0009	<i>Quercus alba</i>	17	Alive	70	n/a	1.58	
03/02/2016	08-0008	<i>Carya tomentosa</i>	11	Alive	70	n/a	0.66	
03/02/2016	08-0007	<i>Quercus coccinea</i>	12	Alive	60	76	0.79	Core Sample Taken
03/02/2016	08-0006	<i>Carya tomentosa</i>	5	Alive	25	n/a	0.14	
03/02/2016	08-0005	<i>Oxydendrum arboreum</i>	5	Alive	25	n/a	0.14	
03/02/2016	08-0004	<i>Quercus coccinea</i>	16	Alive	60	n/a	1.40	
03/02/2016	08-0003	<i>Quercus alba</i>	14	Alive	65	90	1.07	Core Sample Taken
03/02/2016	08-0002	<i>Quercus coccinea</i>	9	Dead	50	n/a	0.44	Snag
03/02/2016	08-0001	<i>Quercus coccinea</i>	17	Alive	67	n/a	1.58	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 9 Plot ID: 09 Percent Slope: 15 Trees Per Acre: 89.43 Site Index: 50 - 60

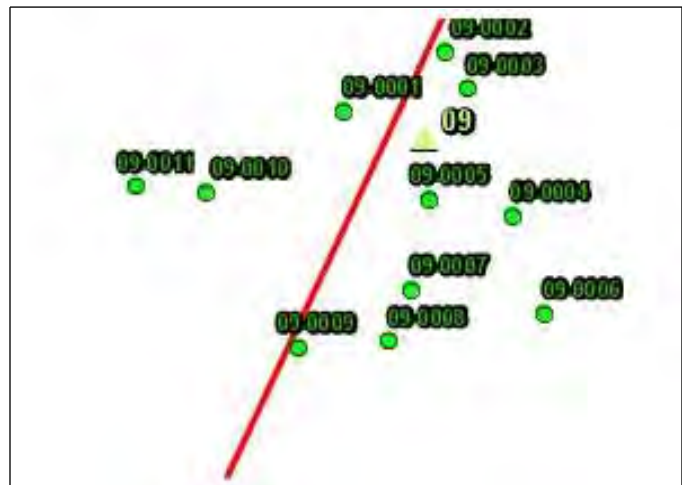
Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/02/2016	09-0003	<i>Quercus coccinea</i>	18	Alive	70	n/a	1.77	
03/02/2016	09-0009	<i>Quercus alba</i>	13	Alive	65	n/a	0.92	
03/02/2016	09-0001	<i>Quercus coccinea</i>	20	Alive	75	62	2.18	Core Sample Taken
03/02/2016	09-0008	<i>Quercus rubra</i>	19	Dead	65	n/a	1.97	Snag
03/02/2016	09-0007	<i>Betula lenta</i>	7	Alive	40	n/a	0.27	
03/02/2016	09-0002	<i>Quercus alba</i>	22	Alive	75	n/a	2.64	
03/02/2016	09-0006	<i>Quercus velutina</i>	21	Alive	75	n/a	2.41	
03/02/2016	09-0010	<i>Quercus rubra</i>	14	Alive	65	n/a	1.07	
03/02/2016	09-0011	<i>Quercus rubra</i>	18	Alive	70	95	1.77	Core Sample Taken
03/02/2016	09-0005	<i>Quercus rubra</i>	27	Alive	75	n/a	3.98	
03/02/2016	09-0004	<i>Betula lenta</i>	12	Alive	55	n/a	0.79	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

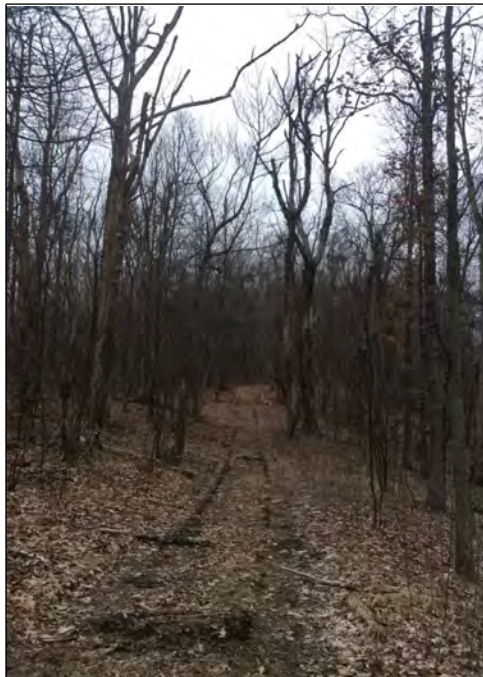
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 9 Plot ID: 10 Percent Slope: 15 Trees Per Acre: 89.43 Site Index: n/a

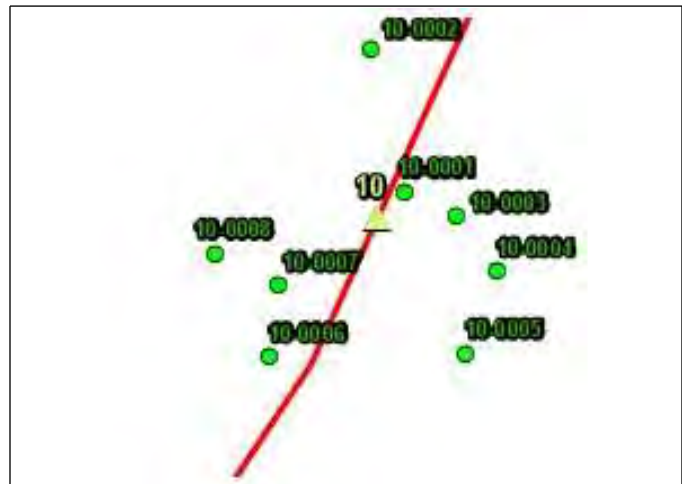
Comments: No cores taken; mostly snags and same stand composition as 09

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/02/2016	10-0008	<i>Quercus coccinea</i>	24	Dead	65	n/a	3.14	Snag
03/02/2016	10-0007	<i>Quercus coccinea</i>	22	Alive	70	n/a	2.64	
03/02/2016	10-0006	<i>Quercus rubra</i>	26	Dead	65	n/a	3.69	Snag
03/02/2016	10-0005	<i>Carya glabra</i>	13	Alive	65	n/a	0.92	
03/02/2016	10-0004	<i>Quercus rubra</i>	14	Dead	55	n/a	1.07	Snag
03/02/2016	10-0003	<i>Acer rubrum</i>	11	Alive	55	n/a	0.66	
03/02/2016	10-0002	<i>Quercus coccinea</i>	27	Dead	65	n/a	3.98	Snag
03/02/2016	10-0001	<i>Quercus coccinea</i>	25	Dead	70	n/a	3.41	Snag

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 9 Plot ID: 11 Percent Slope: 20 Trees Per Acre: 89.43 Site Index: n/a

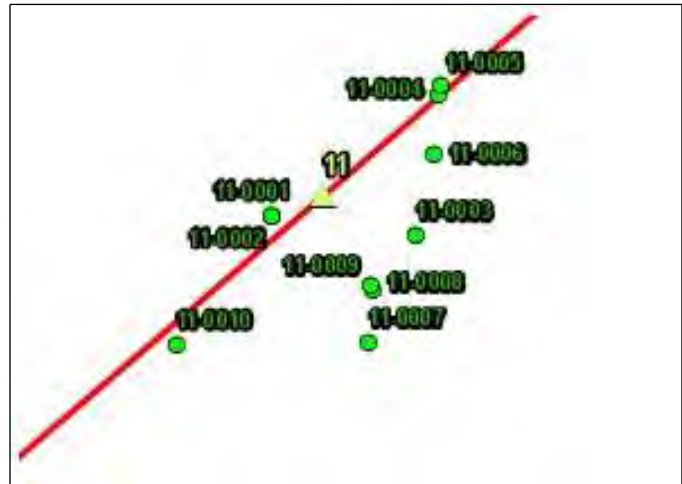
Comments: Similar stand composition to plot 10; no cores taken

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/03/2016	11-0010	<i>Quercus coccinea</i>	15	Alive	75	n/a	1.23	
03/03/2016	11-0009	<i>Acer rubrum</i>	5	Alive	30	n/a	0.14	
03/03/2016	11-0008	<i>Quercus montana</i>	15	Alive	70	n/a	1.23	
03/03/2016	11-0002	<i>Quercus coccinea</i>	26	Alive	90	n/a	3.69	
03/03/2016	11-0001	<i>Quercus coccinea</i>	26	Alive	95	n/a	3.69	
03/03/2016	11-0007	<i>Quercus coccinea</i>	36	Alive	70	n/a	7.07	
03/03/2016	11-0006	<i>Quercus coccinea</i>	23	Dead	75	n/a	2.89	Snag
03/03/2016	11-0005	<i>Acer pensylvanicum</i>	8	Alive	25	n/a	0.35	
03/03/2016	11-0004	<i>Quercus montana</i>	9	Alive	65	n/a	0.44	
03/03/2016	11-0003	<i>Quercus montana</i>	14	Alive	70	n/a	1.07	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 10 Plot ID: 12 Percent Slope: 20 Trees Per Acre: 141.51 Site Index: 50 - 60

Comments: Sparse remnant mixed oak canopy; hemlock canopy and subcanopy present along stream; thick rhododendron understory

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/04/2016	12-0008	<i>Tsuga canadensis</i>	8	Dead	40	n/a	0.35	Snag
03/04/2016	12-0007	<i>Tsuga canadensis</i>	14	Alive	50	n/a	1.07	Top broken
03/04/2016	12-0006	<i>Quercus velutina</i>	9	Alive	55	n/a	0.44	
03/04/2016	12-0005	<i>Acer rubrum</i>	7	Alive	55	n/a	0.27	
03/04/2016	12-0004	<i>Quercus velutina</i>	18	Alive	70	n/a	1.77	
03/04/2016	12-0003	<i>Quercus velutina</i>	17	Alive	75	105	1.58	Core Sample Taken
03/04/2016	12-0002	<i>Acer rubrum</i>	7	Alive	35	n/a	0.27	Leaning
03/04/2016	12-0001	<i>Tsuga canadensis</i>	14	Alive	75	62	1.07	Core Sample Taken

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 10 Plot ID: 13 Percent Slope: 25 Trees Per Acre: 141.51 Site Index: n/a

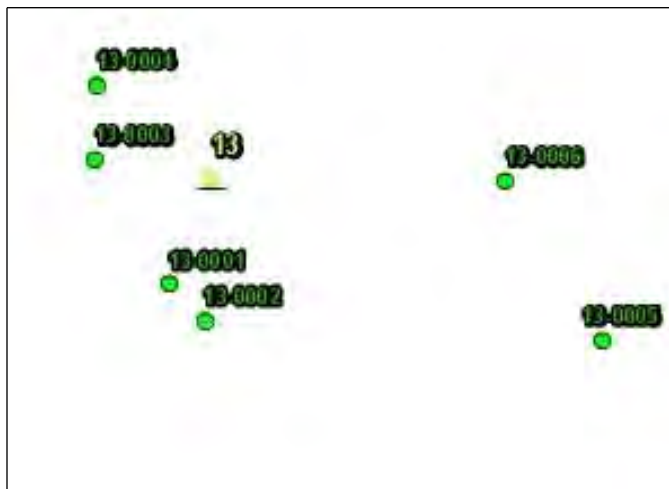
Comments: No cores taken; Thick rhododendron in understory; uneven-aged stand with mixed oak canopy and mixed mesophytic subcanopy

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/04/2016	13-0006	<i>Quercus montana</i>	13	Alive	55	n/a	0.92	
03/04/2016	13-0005	<i>Tsuga canadensis</i>	5	Alive	20	n/a	0.14	
03/04/2016	13-0004	<i>Quercus velutina</i>	24	Alive	55	n/a	3.14	Top broken
03/04/2016	13-0003	<i>Acer rubrum</i>	7	Alive	25	n/a	0.27	
03/04/2016	13-0002	<i>Quercus alba</i>	18	Alive	75	n/a	1.77	
03/04/2016	13-0001	<i>Acer rubrum</i>	5	Alive	30	n/a	0.14	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 11 Plot ID: 14 Percent Slope: 20 Trees Per Acre: 137.51 Site Index: 51

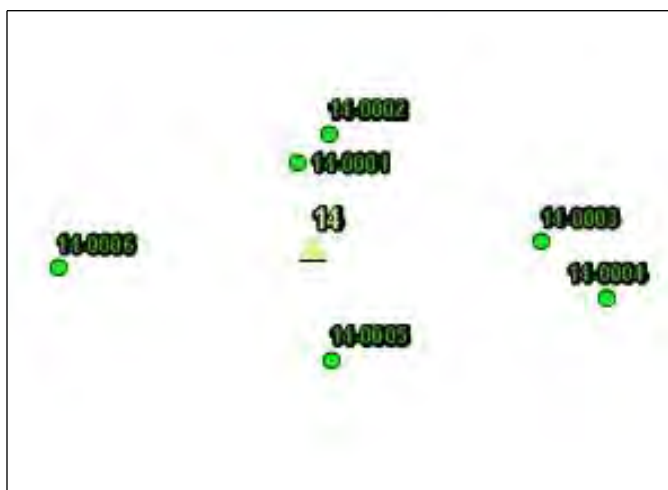
Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/04/2016	14-0006	<i>Oxydendrum arboreum</i>	8	Alive	40	n/a	0.35	
03/04/2016	14-0005	<i>Nyssa sylvatica</i>	5	Alive	30	n/a	0.14	
03/04/2016	14-0004	<i>Nyssa sylvatica</i>	8	Alive	40	n/a	0.35	
03/04/2016	14-0003	<i>Nyssa sylvatica</i>	10	Alive	50	n/a	0.55	
03/04/2016	14-0002	<i>Quercus velutina</i>	15	Alive	70	95	1.23	Core Sample Taken
03/04/2016	14-0001	<i>Quercus montana</i>	21	Alive	75	n/a	2.41	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 12 Plot ID: 15 Percent Slope: 10 Trees Per Acre: 112.26 Site Index: 57 - 58

Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/04/2016	15-0011	<i>Quercus montana</i>	14	Alive	70	n/a	1.07	
03/04/2016	15-0006	<i>Quercus coccinea</i>	19	Alive	70	n/a	1.97	
03/04/2016	15-0005	<i>Quercus montana</i>	7	Alive	40	n/a	0.27	
03/04/2016	15-0004	<i>Acer rubrum</i>	10	Alive	55	n/a	0.55	
03/04/2016	15-0003	<i>Quercus alba</i>	11	Alive	55	n/a	0.66	
03/04/2016	15-0002	<i>Quercus alba</i>	14	Alive	65	n/a	1.07	
03/04/2016	15-0009	<i>Quercus coccinea</i>	15	Alive	70	n/a	1.23	
03/04/2016	15-0008	<i>Quercus montana</i>	23	Alive	75	n/a	2.89	
03/04/2016	15-0007	<i>Quercus coccinea</i>	16	Alive	80	95	1.40	Core Sample Taken
03/04/2016	15-0010	<i>Quercus coccinea</i>	15	Dead	30	n/a	1.23	Snag
03/04/2016	15-0001	<i>Quercus montana</i>	20	Alive	80	100	2.18	Core Sample Taken

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 13 Plot ID: 16 Percent Slope: 15 Trees Per Acre: 42.10 Site Index: 73

Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/04/2016	16-0011	<i>Quercus rubra</i>	28	Alive	125	n/a	4.28	
03/04/2016	16-0010	<i>Magnolia acuminata</i>	19	Alive	95	n/a	1.97	
03/04/2016	16-0009	<i>Quercus rubra</i>	21	Alive	80	n/a	2.41	
03/04/2016	16-0006	<i>Quercus rubra</i>	23	Alive	100	88	2.89	Core Sample Taken
03/04/2016	16-0005	<i>Magnolia acuminata</i>	20	Alive	110	120	2.18	Core Sample Taken
03/04/2016	16-0003	<i>Quercus montana</i>	23	Alive	110	n/a	2.89	
03/04/2016	16-0002	<i>Quercus rubra</i>	34	Alive	130	n/a	6.30	
03/04/2016	16-0004	<i>Betula lenta</i>	13	Alive	90	n/a	0.92	
03/04/2016	16-0007	<i>Quercus rubra</i>	27	Alive	90	n/a	3.98	
03/04/2016	16-0008	<i>Quercus rubra</i>	15	Alive	75	n/a	1.23	

Plot Photo



Tree Location Map





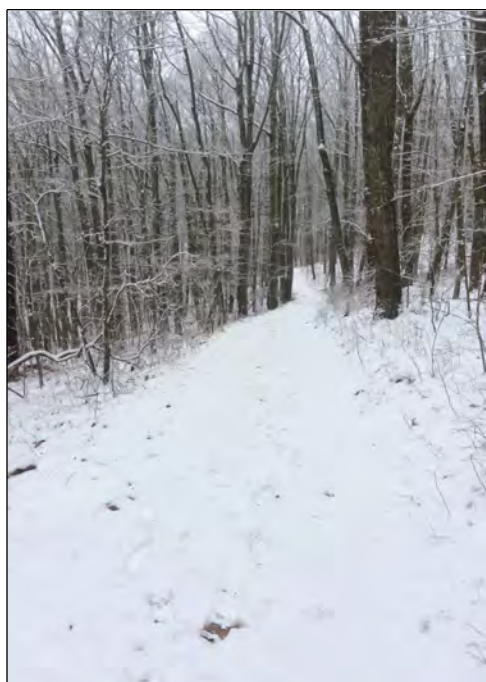
Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 14 Plot ID: 17 Percent Slope: 20 Trees Per Acre: 117.03 Site Index: n/a

Comments: No cores taken; similar stand composition to plot 18

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/04/2016	17-0010	<i>Quercus montana</i>	9	Alive	60	n/a	0.44	
03/04/2016	17-0009	<i>Quercus montana</i>	9	Alive	60	n/a	0.44	
03/04/2016	17-0008	<i>Quercus montana</i>	20	Alive	80	n/a	2.18	
03/04/2016	17-0007	<i>Quercus montana</i>	13	Alive	75	n/a	0.92	
03/04/2016	17-0006	<i>Quercus montana</i>	12	Alive	70	n/a	0.79	
03/04/2016	17-0005	<i>Acer rubrum</i>	8	Alive	60	n/a	0.35	
03/04/2016	17-0004	<i>Quercus montana</i>	11	Alive	60	n/a	0.66	
03/04/2016	17-0003	<i>Quercus montana</i>	9	Alive	55	n/a	0.44	
03/04/2016	17-0011	<i>Quercus montana</i>	12	Alive	70	n/a	0.79	
03/04/2016	17-0002	<i>Quercus montana</i>	13	Alive	60	n/a	0.92	
03/04/2016	17-0001	<i>Quercus coccinea</i>	15	Alive	80	n/a	1.23	
03/04/2016	17-0012	<i>Oxydendrum arboreum</i>	12	Alive	65	n/a	0.79	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 14 Plot ID: 18 Percent Slope: 20 Trees Per Acre: 117.03 Site Index: 50

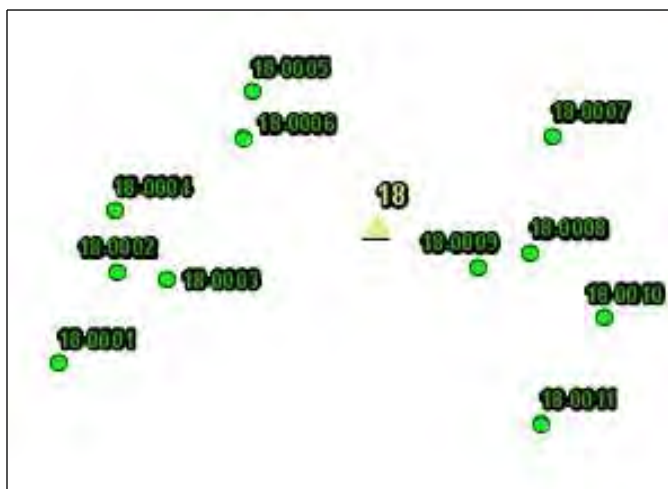
Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/03/2016	18-0009	<i>Quercus montana</i>	14	Alive	70	n/a	1.07	
03/03/2016	18-0008	<i>Quercus montana</i>	19	Alive	75	n/a	1.97	
03/03/2016	18-0007	<i>Quercus montana</i>	32	Alive	85	n/a	5.58	
03/03/2016	18-0006	<i>Quercus montana</i>	23	Alive	80	n/a	2.89	
03/03/2016	18-0005	<i>Quercus velutina</i>	17	Alive	75	90	1.58	Core Sample Taken
03/03/2016	18-0004	<i>Quercus velutina</i>	12	Alive	70	n/a	0.79	
03/03/2016	18-0003	<i>Quercus montana</i>	12	Alive	65	n/a	0.79	
03/03/2016	18-0010	<i>Quercus montana</i>	17	Alive	75	130	1.58	Core Sample Taken
03/03/2016	18-0002	<i>Quercus velutina</i>	19	Alive	85	n/a	1.97	
03/03/2016	18-0001	<i>Quercus coccinea</i>	34	Alive	85	n/a	6.30	
03/03/2016	18-0011	<i>Quercus coccinea</i>	16	Alive	75	n/a	1.40	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 15 Plot ID: 19 Percent Slope: 15 Trees Per Acre: 398.97 Site Index: 60

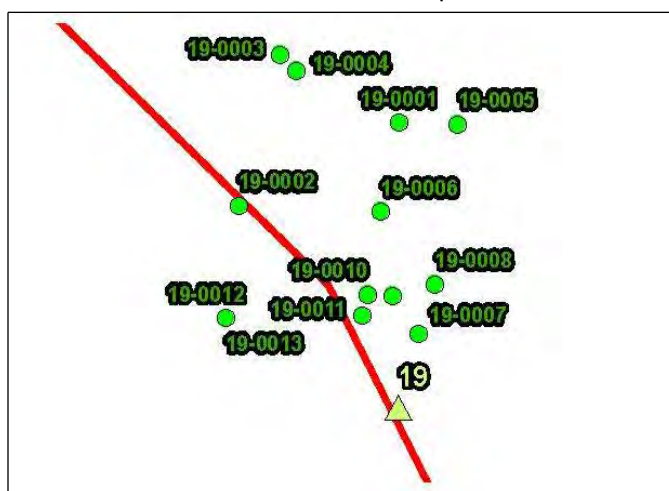
Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/03/2016	19-0011	<i>Quercus montana</i>	11	Dead	55	n/a	0.66	Snag
03/03/2016	19-0010	<i>Quercus montana</i>	11	Dead	60	n/a	0.66	Snag
03/03/2016	19-0009	<i>Acer rubrum</i>	7	Alive	40	n/a	0.27	
03/03/2016	19-0008	<i>Oxydendrum arboreum</i>	5	Alive	25	n/a	0.14	
03/03/2016	19-0007	<i>Quercus velutina</i>	14	Dead	35	n/a	1.07	Snag
03/03/2016	19-0006	<i>Quercus montana</i>	6	Dead	10	n/a	0.20	Snag
03/03/2016	19-0005	<i>Acer rubrum</i>	5	Alive	20	n/a	0.14	
03/03/2016	19-0004	<i>Quercus montana</i>	10	Dead	50	n/a	0.55	Snag
03/03/2016	19-0012	<i>Acer rubrum</i>	11	Alive	60	50	0.66	Core Sample Taken
03/03/2016	19-0003	<i>Quercus montana</i>	14	Dead	55	n/a	1.07	Snag
03/03/2016	19-0013	<i>Acer rubrum</i>	13	Alive	65	n/a	0.92	
03/03/2016	19-0002	<i>Nyssa sylvatica</i>	4	Alive	20	n/a	0.09	
03/03/2016	19-0001	<i>Acer rubrum</i>	10	Alive	55	n/a	0.55	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 16 Plot ID: 20 Percent Slope: 20 Trees Per Acre: 288.81 Site Index: 63 - 72

Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/03/2016	20-0001	<i>Quercus alba</i>	17	Alive	80	67	1.58	Core Sample Taken
03/03/2016	20-0010	<i>Prunus serotina</i>	4	Alive	25	n/a	0.09	
03/03/2016	20-0009	<i>Prunus serotina</i>	6	Alive	45	n/a	0.20	
03/03/2016	20-0008	<i>Prunus serotina</i>	6	Alive	40	n/a	0.20	
03/03/2016	20-0007	<i>Liriodendron tulipifera</i>	11	Alive	65	n/a	0.66	
03/03/2016	20-0006	<i>Liriodendron tulipifera</i>	8	Alive	55	n/a	0.35	
03/03/2016	20-0005	<i>Quercus alba</i>	27	Alive	85	n/a	3.98	
03/03/2016	20-0002	<i>Quercus velutina</i>	19	Alive	80	82	1.97	Core Sample Taken
03/03/2016	20-0004	<i>Acer rubrum</i>	17	Alive	70	n/a	1.58	
03/03/2016	20-0003	<i>Quercus montana</i>	11	Alive	80	60	0.66	Core Sample Taken

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 17 Plot ID: 21 Percent Slope: 30 Trees Per Acre: 120.31 Site Index: 37 - 50

Comments: Plot moved downslope to avoid boulders; also moved eastward to match centerline flagging

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/05/2016	21-0009	<i>Quercus montana</i>	13	Dead	45	n/a	0.92	Snag
03/05/2016	21-0008	<i>Quercus montana</i>	25	Dead	30	n/a	3.41	Snag
03/05/2016	21-0007	<i>Carya tomentosa</i>	13	Alive	65	n/a	0.92	
03/05/2016	21-0006b	<i>Nyssa sylvatica</i>	8	Alive	45	n/a	0.35	
03/05/2016	21-0006a	<i>Carya tomentosa</i>	10	Alive	40	n/a	0.55	Leaning
03/05/2016	21-0005	<i>Quercus velutina</i>	10	Alive	55	n/a	0.55	
03/05/2016	21-0004	<i>Quercus velutina</i>	10	Alive	55	n/a	0.55	
03/05/2016	21-0003	<i>Quercus montana</i>	14	Alive	70	n/a	1.07	
03/05/2016	21-0002	<i>Quercus velutina</i>	19	Alive	75	n/a	1.97	
03/05/2016	21-0001	<i>Quercus velutina</i>	21	Alive	75	147	2.41	Core Sample Taken
03/05/2016	21-0011	<i>Carya tomentosa</i>	12	Alive	60	125	0.79	Core Sample Taken
03/05/2016	21-0010	<i>Quercus montana</i>	10	Alive	45	n/a	0.55	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 17 Plot ID: 22 Percent Slope: 20 Trees Per Acre: 120.31 Site Index: n/a

Comments: No cores taken; similar stand composition to plot 21

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/05/2016	22-0009	<i>Quercus montana</i>	19	Alive	70	n/a	1.97	
03/05/2016	22-0008	<i>Quercus montana</i>	11	Alive	60	n/a	0.66	
03/05/2016	22-0007	<i>Quercus montana</i>	7	Alive	45	n/a	0.27	
03/05/2016	22-0006	<i>Acer rubrum</i>	10	Alive	55	n/a	0.55	
03/05/2016	22-0005	<i>Oxydendrum arboreum</i>	8	Alive	30	n/a	0.35	
03/05/2016	22-0004	<i>Carya tomentosa</i>	11	Alive	65	n/a	0.66	
03/05/2016	22-0003	<i>Quercus velutina</i>	19	Alive	80	n/a	1.97	
03/05/2016	22-0010	<i>Pinus virginiana</i>	18	Alive	80	n/a	1.77	Bear claw marks
03/05/2016	22-0002	<i>Pinus virginiana</i>	18	Alive	85	n/a	1.77	
03/05/2016	22-0001	<i>Quercus velutina</i>	21	Alive	75	n/a	2.41	
03/05/2016	22-0011	<i>Quercus alba</i>	25	Alive	75	n/a	3.41	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 18 Plot ID: 23 Percent Slope: 15 Trees Per Acre: 36.41 Site Index: 55 - 111

Comments: Spring/stream through plot

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/05/2016	23-0010	<i>Liriodendron tulipifera</i>	23	Alive	125	83	2.89	Core Sample Taken
03/05/2016	23-0009	<i>Liriodendron tulipifera</i>	24	Alive	130	n/a	3.14	
03/05/2016	23-0008	<i>Liriodendron tulipifera</i>	15	Alive	120	n/a	1.23	
03/05/2016	23-0007	<i>Quercus montana</i>	19	Alive	80	n/a	1.97	
03/05/2016	23-0006	<i>Quercus montana</i>	18	Alive	80	137	1.77	Core Sample Taken
03/05/2016	23-0005	<i>Quercus montana</i>	32	Alive	90	n/a	5.58	
03/05/2016	23-0004	<i>Quercus montana</i>	29	Dead	70	n/a	4.59	Snag
03/05/2016	23-0003	<i>Liriodendron tulipifera</i>	41	Alive	125	n/a	9.17	
03/05/2016	23-0002	<i>Liriodendron tulipifera</i>	19	Alive	125	n/a	1.97	
03/05/2016	23-0001	<i>Liriodendron tulipifera</i>	23	Alive	130	n/a	2.89	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 19 Plot ID: 24 Percent Slope: 20 Trees Per Acre: 272.60 Site Index: 92

Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/05/2016	24-0010	<i>Acer rubrum</i>	10	Alive	70	n/a	0.55	
03/05/2016	24-0009	<i>Acer rubrum</i>	11	Alive	70	n/a	0.66	
03/05/2016	24-0008	<i>Quercus velutina</i>	8	Alive	65	n/a	0.35	
03/05/2016	24-0007	<i>Quercus velutina</i>	12	Alive	75	35	0.79	Core Sample Taken
03/05/2016	24-0006	<i>Quercus montana</i>	8	Alive	70	n/a	0.35	
03/05/2016	24-0005	<i>Quercus velutina</i>	12	Alive	75	n/a	0.79	
03/05/2016	24-0004	<i>Quercus velutina</i>	12	Alive	70	n/a	0.79	
03/05/2016	24-0011	<i>Betula lenta</i>	4	Alive	40	n/a	0.09	
03/05/2016	24-0003	<i>Quercus velutina</i>	11	Alive	70	n/a	0.66	
03/05/2016	24-0002	<i>Quercus montana</i>	14	Alive	75	n/a	1.07	
03/05/2016	24-0001	<i>Quercus coccinea</i>	14	Alive	80	n/a	1.07	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 20 Plot ID: 25 Percent Slope: 15 Trees Per Acre: 201.24 Site Index: 86

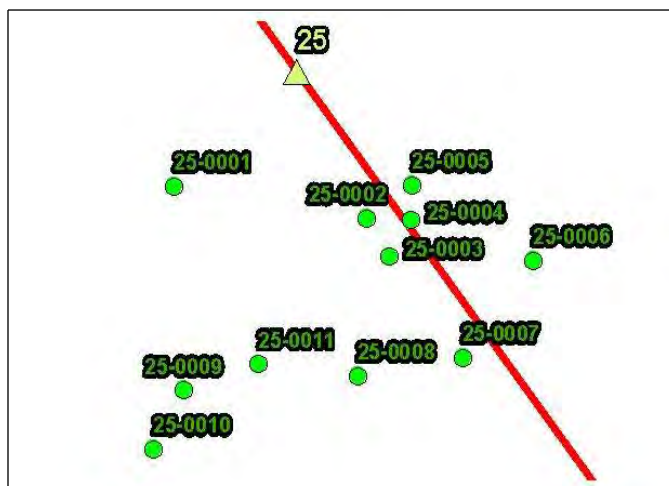
Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/05/2016	25-0009	<i>Liriodendron tulipifera</i>	8	Alive	80	n/a	0.35	
03/05/2016	25-0010	<i>Liriodendron tulipifera</i>	11	Alive	85	n/a	0.66	
03/05/2016	25-0008	<i>Quercus coccinea</i>	9	Alive	80	n/a	0.44	
03/05/2016	25-0007	<i>Liriodendron tulipifera</i>	13	Alive	95	n/a	0.92	
03/05/2016	25-0006	<i>Liriodendron tulipifera</i>	9	Alive	90	n/a	0.44	
03/05/2016	25-0005	<i>Liriodendron tulipifera</i>	8	Alive	70	n/a	0.35	
03/05/2016	25-0004	<i>Liriodendron tulipifera</i>	11	Alive	90	n/a	0.66	
03/05/2016	25-0003	<i>Carya glabra</i>	8	Alive	70	n/a	0.35	
03/05/2016	25-0002	<i>Quercus montana</i>	12	Alive	75	n/a	0.79	
03/05/2016	25-0001	<i>Liriodendron tulipifera</i>	10	Alive	80	40	0.55	Core Sample Taken
03/05/2016	25-0011	<i>Quercus coccinea</i>	11	Alive	85	n/a	0.66	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 21 Plot ID: 26 Percent Slope: 2 Trees Per Acre: 208.59 Site Index: 61 - 76

Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/05/2016	26-0010	<i>Quercus coccinea</i>	10	Dead	50	n/a	0.55	Snag
03/05/2016	26-0009	<i>Quercus coccinea</i>	5	Alive	45	n/a	0.14	
03/05/2016	26-0008	<i>Quercus coccinea</i>	12	Alive	85	n/a	0.79	
03/05/2016	26-0007	<i>Pinus strobus</i>	15	Alive	85	n/a	1.23	
03/05/2016	26-0006	<i>Liriodendron tulipifera</i>	8	Alive	70	n/a	0.35	
03/05/2016	26-0005	<i>Liriodendron tulipifera</i>	10	Alive	80	n/a	0.55	
03/05/2016	26-0004	<i>Liriodendron tulipifera</i>	7	Alive	70	n/a	0.27	
03/05/2016	26-0003	<i>Quercus coccinea</i>	11	Alive	75	n/a	0.66	
03/05/2016	26-0002	<i>Quercus coccinea</i>	10	Alive	70	43	0.55	Core Sample Taken
03/05/2016	26-0001	<i>Pinus strobus</i>	11	Alive	75	35	0.66	Core Sample Taken

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 22 Plot ID: 27 Percent Slope: 2 Trees Per Acre: 222.00 Site Index: 70

Comments: Core taken: plot moved to centerline flagging

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	27-0016	<i>Pinus strobus</i>	21	Alive	100	n/a	2.41	
03/06/2016	27-0011	<i>Pinus strobus</i>	11	Alive	60	n/a	0.66	
03/06/2016	27-0013	<i>Pinus strobus</i>	10	Alive	50	n/a	0.55	
03/06/2016	27-0010	<i>Pinus strobus</i>	6	Alive	45	n/a	0.20	
03/06/2016	27-0009	<i>Pinus strobus</i>	18	Alive	90	n/a	1.77	
03/06/2016	27-0008	<i>Quercus coccinea</i>	14	Alive	90	n/a	1.07	
03/06/2016	27-0007	<i>Liriodendron tulipifera</i>	13	Alive	90	n/a	0.92	
03/06/2016	27-0006	<i>Quercus coccinea</i>	11	Alive	60	n/a	0.66	
03/06/2016	27-0015	<i>Quercus coccinea</i>	18	Alive	70	n/a	1.77	
03/06/2016	27-0005	<i>Pinus strobus</i>	18	Alive	70	n/a	1.77	
03/06/2016	27-0004	<i>Quercus alba</i>	8	Alive	55	n/a	0.35	
03/06/2016	27-0003	<i>Pinus strobus</i>	22	Alive	100	n/a	2.64	
03/06/2016	27-0002	<i>Quercus coccinea</i>	21	Alive	90	n/a	2.41	
03/06/2016	27-0014	<i>Pinus virginiana</i>	9	Dead	50	n/a	0.44	Snag
03/06/2016	27-0012	<i>Pinus strobus</i>	8	Alive	50	n/a	0.35	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 23 Plot ID: 28 Percent Slope: 10 Trees Per Acre: 296.51 Site Index: n/a

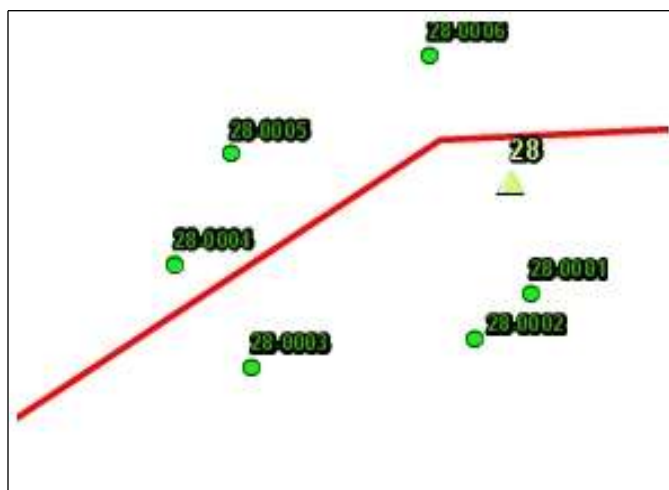
Comments: Moved to centerline flagging

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	28-0006	<i>Quercus coccinea</i>	18	Alive	65	n/a	1.77	
03/06/2016	28-0005	<i>Quercus alba</i>	7	Alive	40	n/a	0.27	
03/06/2016	28-0004	<i>Quercus coccinea</i>	13	Alive	55	n/a	0.92	
03/06/2016	28-0003	<i>Acer rubrum</i>	3	Dead	25	n/a	0.05	
03/06/2016	28-0002	<i>Quercus coccinea</i>	13	Dead	60	n/a	0.92	
03/06/2016	28-0001	<i>Quercus coccinea</i>	16	Alive	75	n/a	1.40	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 23 Plot ID: 29 Percent Slope: 15 Trees Per Acre: 296.51 Site Index: 55

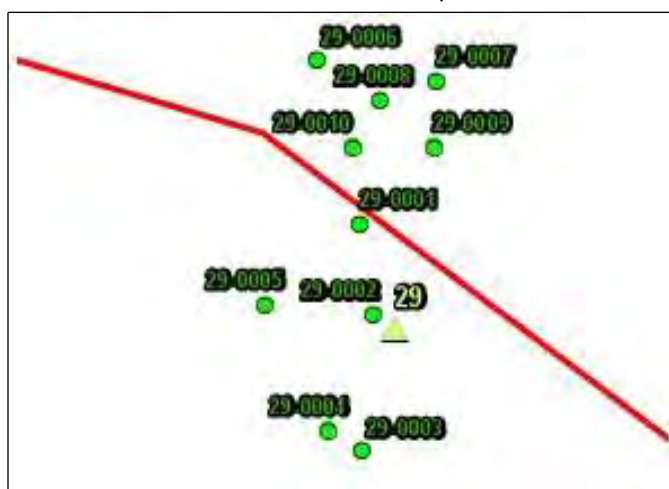
Comments: _____

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	29-0006	<i>Quercus coccinea</i>	21	Alive	70	n/a	2.41	
03/06/2016	29-0004	<i>Quercus montana</i>	10	Alive	60	n/a	0.55	
03/06/2016	29-0003	<i>Quercus coccinea</i>	17	Alive	70	n/a	1.58	
03/06/2016	29-0005	<i>Quercus montana</i>	10	Alive	60	n/a	0.55	
03/06/2016	29-0002	<i>Quercus montana</i>	9	Alive	35	n/a	0.44	
03/06/2016	29-0001	<i>Quercus coccinea</i>	19	Alive	70	81	1.97	Core Sample Taken
03/06/2016	29-0010	<i>Quercus montana</i>	7	Alive	50	n/a	0.27	
03/06/2016	29-0009	<i>Quercus coccinea</i>	18	Alive	70	n/a	1.77	
03/06/2016	29-0008	<i>Quercus coccinea</i>	12	Alive	65	n/a	0.79	
03/06/2016	29-0007	<i>Quercus coccinea</i>	17	Alive	80	n/a	1.58	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 24 Plot ID: 30 Percent Slope: 2 Trees Per Acre: 588.89 Site Index: <30

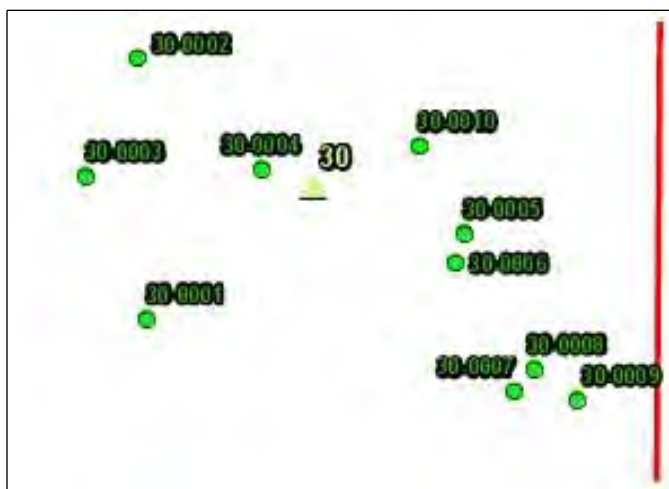
Comments: Moved to where flagging occurs

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	30-0007	<i>Quercus montana</i>	7	Alive	30	n/a	0.27	
03/06/2016	30-0005	<i>Quercus montana</i>	8	Alive	30	75	0.35	Core Sample Taken
03/06/2016	30-0004	<i>Quercus montana</i>	4	Alive	25	n/a	0.09	
03/06/2016	30-0003	<i>Quercus montana</i>	5	Alive	25	n/a	0.14	
03/06/2016	30-0002	<i>Quercus montana</i>	6	Alive	25	n/a	0.20	
03/06/2016	30-0001	<i>Pinus pungens</i>	7	Alive	25	n/a	0.27	
03/06/2016	30-0006	<i>Quercus montana</i>	7	Alive	30	n/a	0.27	
03/06/2016	30-0010	<i>Quercus montana</i>	4	Alive	20	n/a	0.09	
03/06/2016	30-0009	<i>Quercus coccinea</i>	7	Alive	35	n/a	0.27	
03/06/2016	30-0008	<i>Quercus montana</i>	4	Alive	15	n/a	0.09	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 25 Plot ID: 31 Percent Slope: 15 Trees Per Acre: 422.65 Site Index: n/a

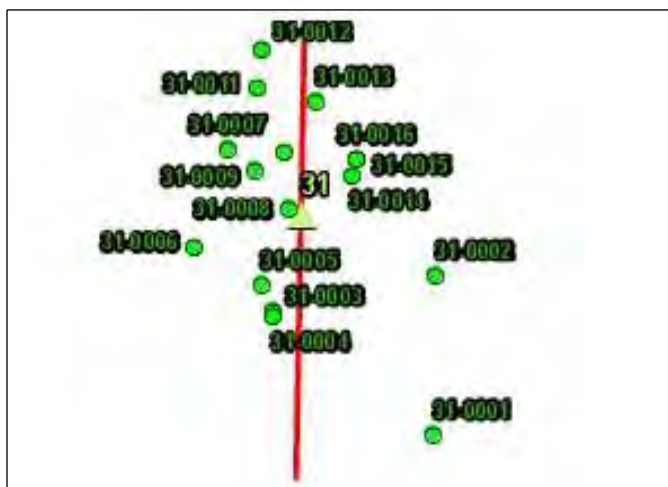
Comments: No cores taken; similar stand conditions to plot 34

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	31-0009	<i>Nyssa sylvatica</i>	4	Alive	15	n/a	0.09	
03/06/2016	31-0008	<i>Pinus pungens</i>	8	Alive	40	n/a	0.35	
03/06/2016	31-0007	<i>Pinus pungens</i>	12	Alive	50	n/a	0.79	
03/06/2016	31-0006	<i>Pinus pungens</i>	13	Alive	50	n/a	0.92	
03/06/2016	31-0005	<i>Pinus pungens</i>	5	Alive	30	n/a	0.14	
03/06/2016	31-0004	<i>Quercus coccinea</i>	8	Alive	50	n/a	0.35	
03/06/2016	31-0003	<i>Quercus coccinea</i>	9	Alive	50	n/a	0.44	
03/06/2016	31-0016	<i>Quercus montana</i>	10	Alive	50	n/a	0.55	
03/06/2016	31-0015	<i>Quercus montana</i>	10	Alive	50	n/a	0.55	
03/06/2016	31-0014	<i>Quercus montana</i>	11	Alive	50	n/a	0.66	
03/06/2016	31-0002	<i>Pinus pungens</i>	11	Alive	45	n/a	0.66	
03/06/2016	31-0013	<i>Quercus montana</i>	11	Alive	50	n/a	0.66	
03/06/2016	31-0011	<i>Pinus pungens</i>	10	Alive	50	n/a	0.55	
03/06/2016	31-0001	<i>Pinus pungens</i>	11	Alive	40	n/a	0.66	
03/06/2016	31-0012	<i>Pinus pungens</i>	10	Alive	50	n/a	0.55	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 25 Plot ID: 32 Percent Slope: 25 Trees Per Acre: 422.65 Site Index: n/a

Comments: No cores taken; same stand

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	32-0008	<i>Quercus montana</i>	8	Alive	30	n/a	0.35	
03/06/2016	32-0007	<i>Quercus montana</i>	8	Alive	30	n/a	0.35	
03/06/2016	32-0006	<i>Nyssa sylvatica</i>	2	Alive	15	n/a	0.02	
03/06/2016	32-0005	<i>Quercus coccinea</i>	8	Alive	35	n/a	0.35	
03/06/2016	32-0004	<i>Quercus montana</i>	12	Alive	35	n/a	0.79	
03/06/2016	32-0003	<i>Quercus montana</i>	3	Alive	15	n/a	0.05	
03/06/2016	32-0002	<i>Quercus montana</i>	4	Alive	20	n/a	0.09	
03/06/2016	32-0001	<i>Pinus pungens</i>	10	Dead	20	n/a	0.55	Snag
03/06/2016	32-0009	<i>Quercus montana</i>	12	Alive	35	n/a	0.79	

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 25 Plot ID: 33 Percent Slope: 30 Trees Per Acre: 422.65 Site Index: n/a

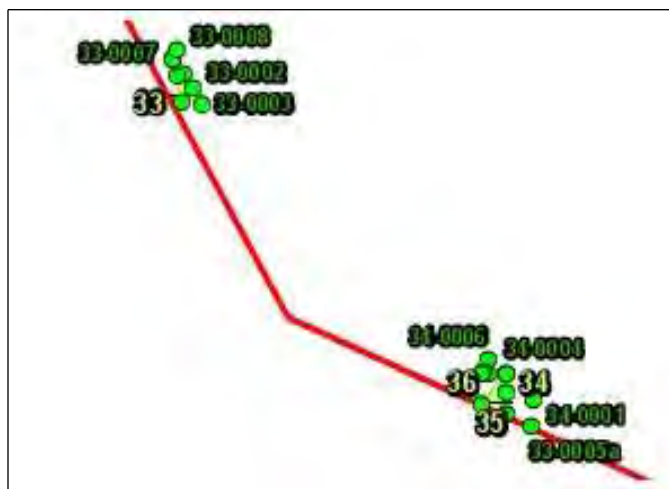
Comments: Plot moved to reflect centerline flagging

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	33-0008	<i>Quercus montana</i>	8	Alive	15	n/a	0.35	
03/06/2016	33-0007	<i>Quercus montana</i>	8	Alive	20	n/a	0.35	
03/06/2016	33-0006	<i>Quercus montana</i>	4	Alive	10	n/a	0.09	
03/06/2016	33-0005b	<i>Quercus montana</i>	7	Alive	15	n/a	0.27	
03/06/2016	33-0005a	<i>Quercus montana</i>	6	Alive	15	n/a	0.20	
03/06/2016	33-0004	<i>Quercus montana</i>	7	Alive	25	n/a	0.27	
03/06/2016	33-0003	<i>Quercus montana</i>	11	Alive	25	n/a	0.66	
03/06/2016	33-0002	<i>Pinus pungens</i>	10	Alive	30	n/a	0.55	
03/06/2016	33-0001	<i>Pinus pungens</i>	11	Alive	25	62	0.66	Core Sample Taken

Plot Photo



Tree Location Map





Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery
Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert
Stand ID: 25 Plot ID: 34 Percent Slope: 15 Trees Per Acre: 422.65 Site Index: 40

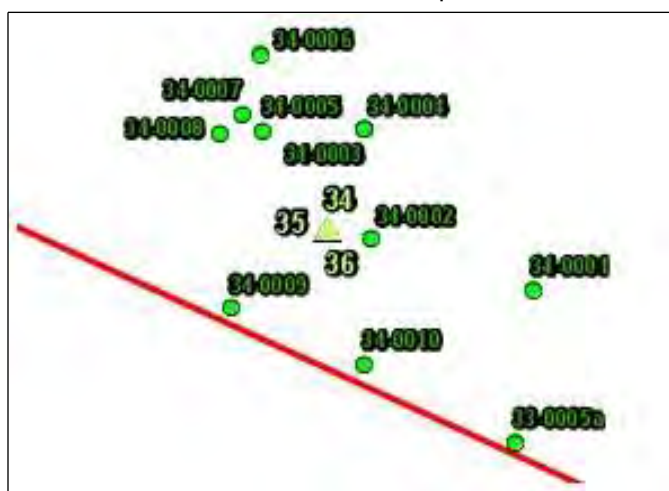
Comments: Moved based on centerline flagging

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	34-0009	<i>Quercus montana</i>	16	Alive	50	n/a	1.40	
03/06/2016	34-0008	<i>Quercus montana</i>	7	Alive	30	n/a	0.27	
03/06/2016	34-0007	<i>Quercus montana</i>	5	Alive	25	n/a	0.14	
03/06/2016	34-0006	<i>Quercus montana</i>	19	Alive	55	n/a	1.97	
03/06/2016	34-0005	<i>Quercus montana</i>	14	Alive	55	n/a	1.07	
03/06/2016	34-0004	<i>Quercus montana</i>	11	Alive	50	n/a	0.66	
03/06/2016	34-0003	<i>Quercus montana</i>	9	Alive	20	n/a	0.44	
03/06/2016	34-0002	<i>Quercus montana</i>	10	Alive	50	n/a	0.55	
03/06/2016	34-0001	<i>Quercus montana</i>	11	Alive	50	75	0.66	Core Sample Taken
03/06/2016	34-0010	<i>Pinus pungens</i>	9	Alive	50	n/a	0.44	

Plot Photo



Tree Location Map



Attachment 2-a

Mountain Valley Pipeline Project



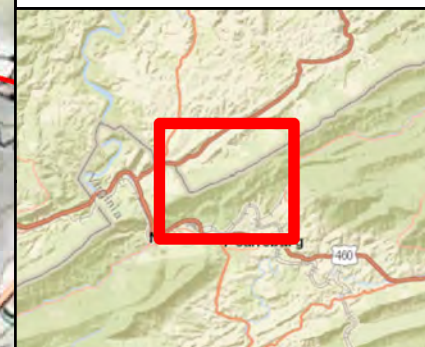
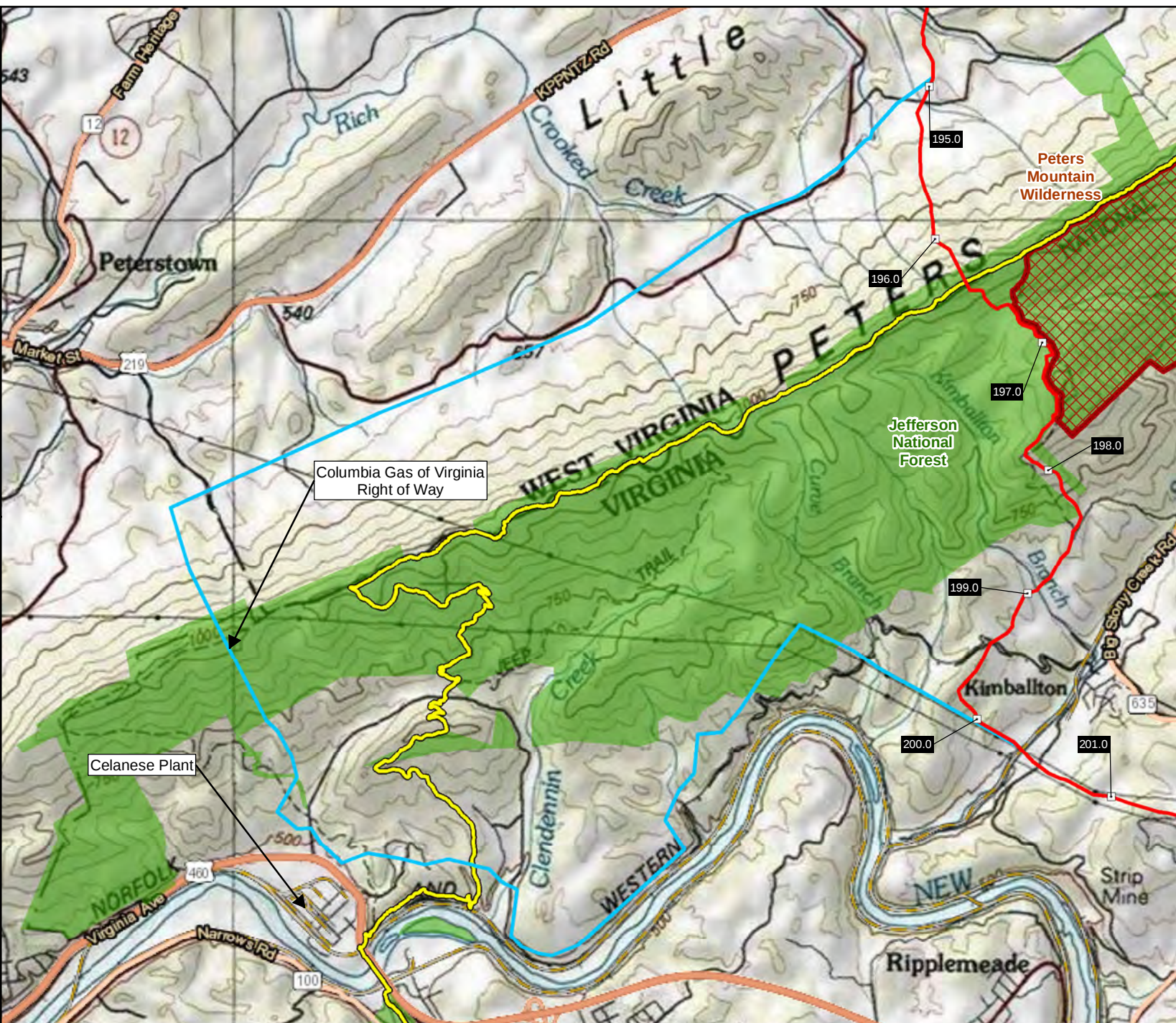
Figure 3.5.1-6
Columbia Gas of Virginia
Peters Mountain Variation

October 2015
(Revised February 2017)

Legend

- Milepost
- Proposed Route
- Columbia Gas of Virginia Peters Mountain Variation
- Appalachian National Scenic Trail
- Peters Mountain Wilderness
- National Forest (Forest Service) Lands

Document Path: P:\EQ\TransMVP\Project\GIS\Spatial\XDO5_Resource_Reports\DEIS_Feb2017_Figures\Figure_3_5_1_6_CGV_PetersMountainVariation.mxd



Data Sources: ESRI Streaming Data, 2014. United States Department of Agriculture, National Park Service, Virginia Department of Conservation and Recreation.



1:55,000

NAD 1983 UTM 17N

0 0.5 1 2 Miles

Mountain Valley Pipeline Project

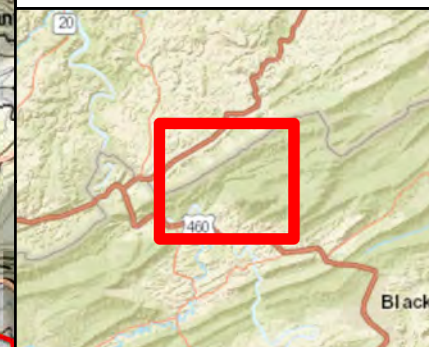
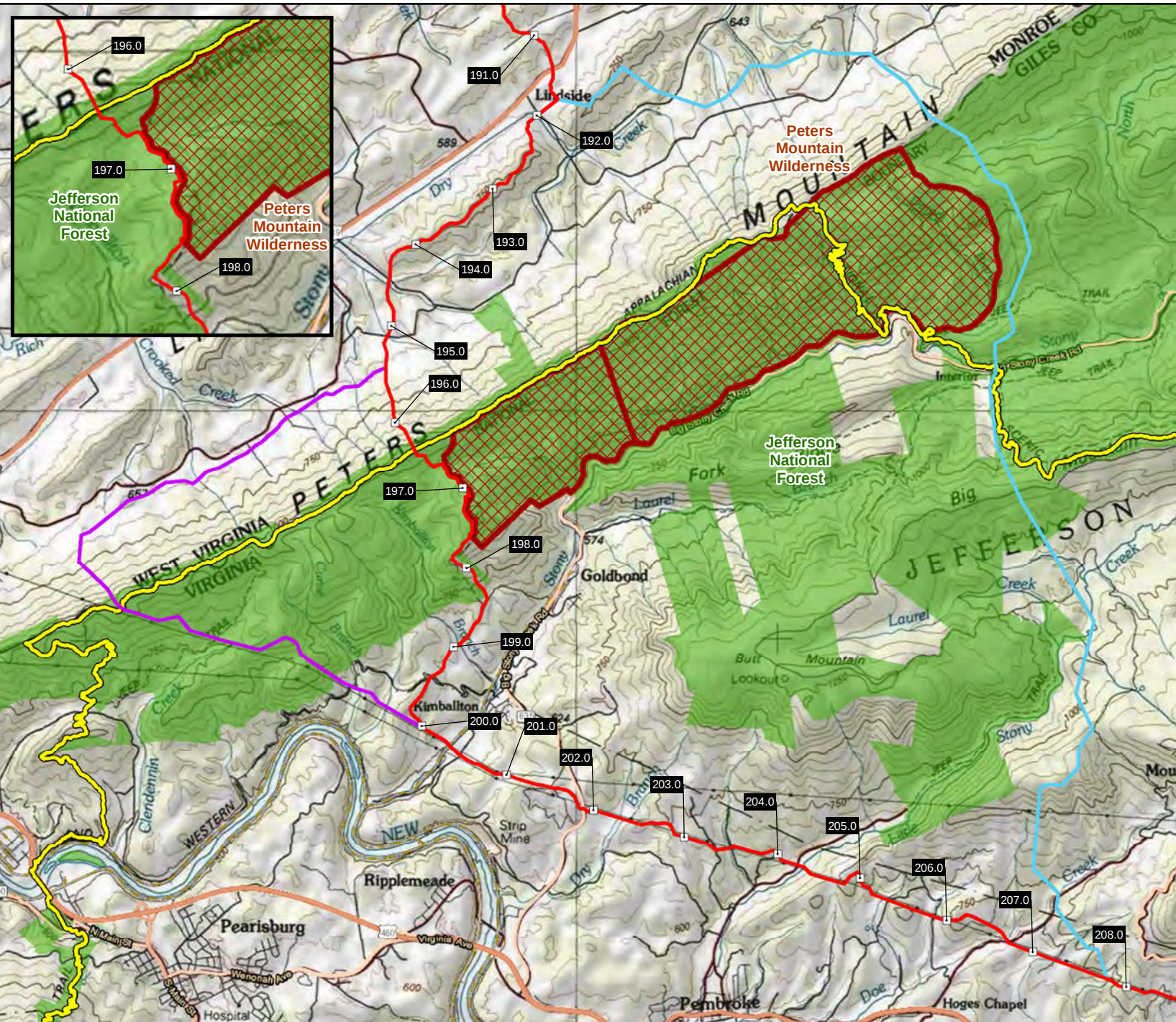


Figure 3.5.1-7
Near Field Alternative Crossing
Locations for the Appalachian
National Scenic Trail

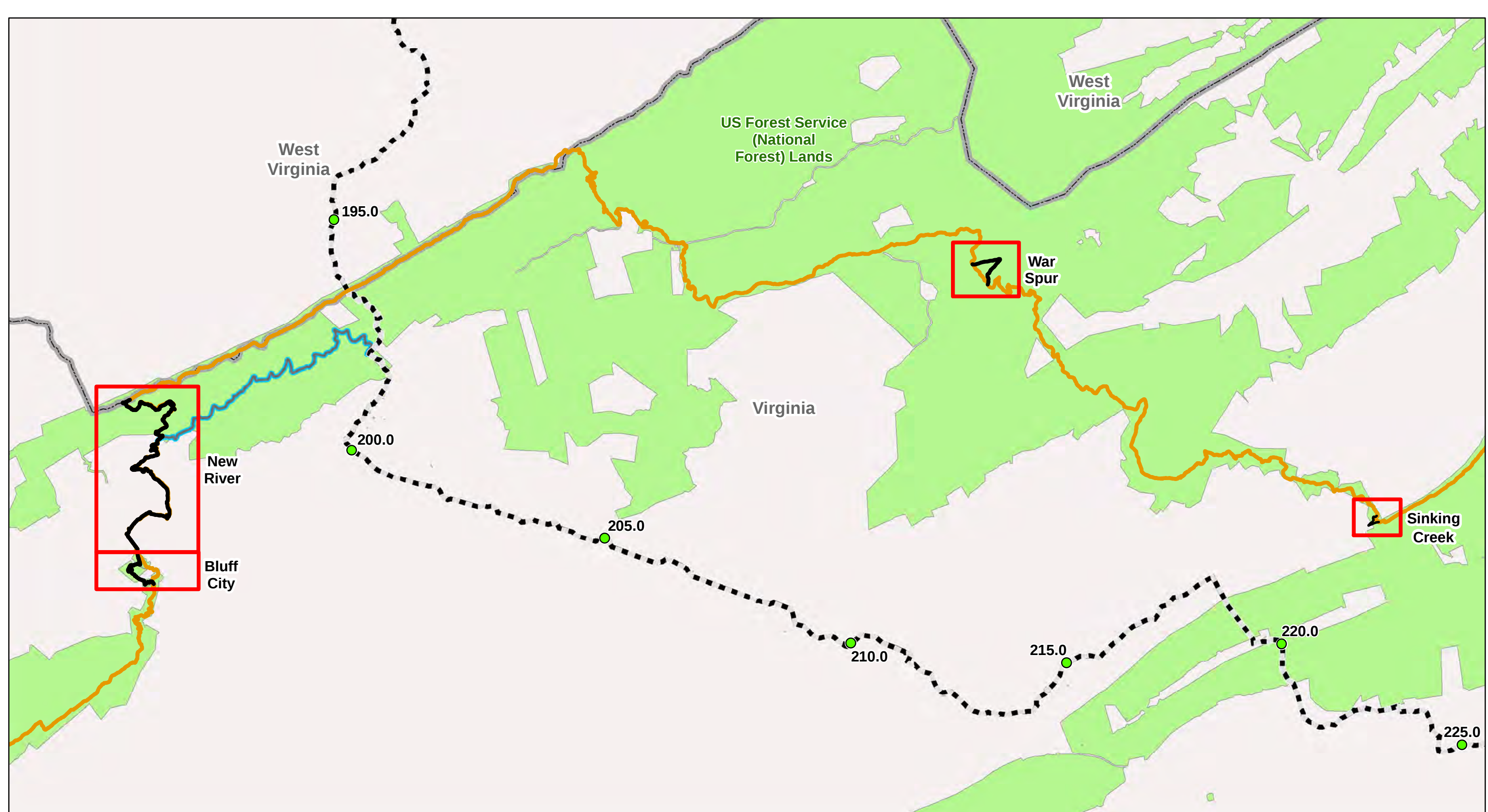
October 2016
(Revised February 2017)

Legend

- Milepost
- Proposed Route
- AEP - Appalachian Trail Route Variation
- State Route 635 - Appalachian Trail Route Variation
- Appalachian National Scenic Trail
- Peters Mountain Wilderness
- National Forest (Forest Service) Lands



Attachment D



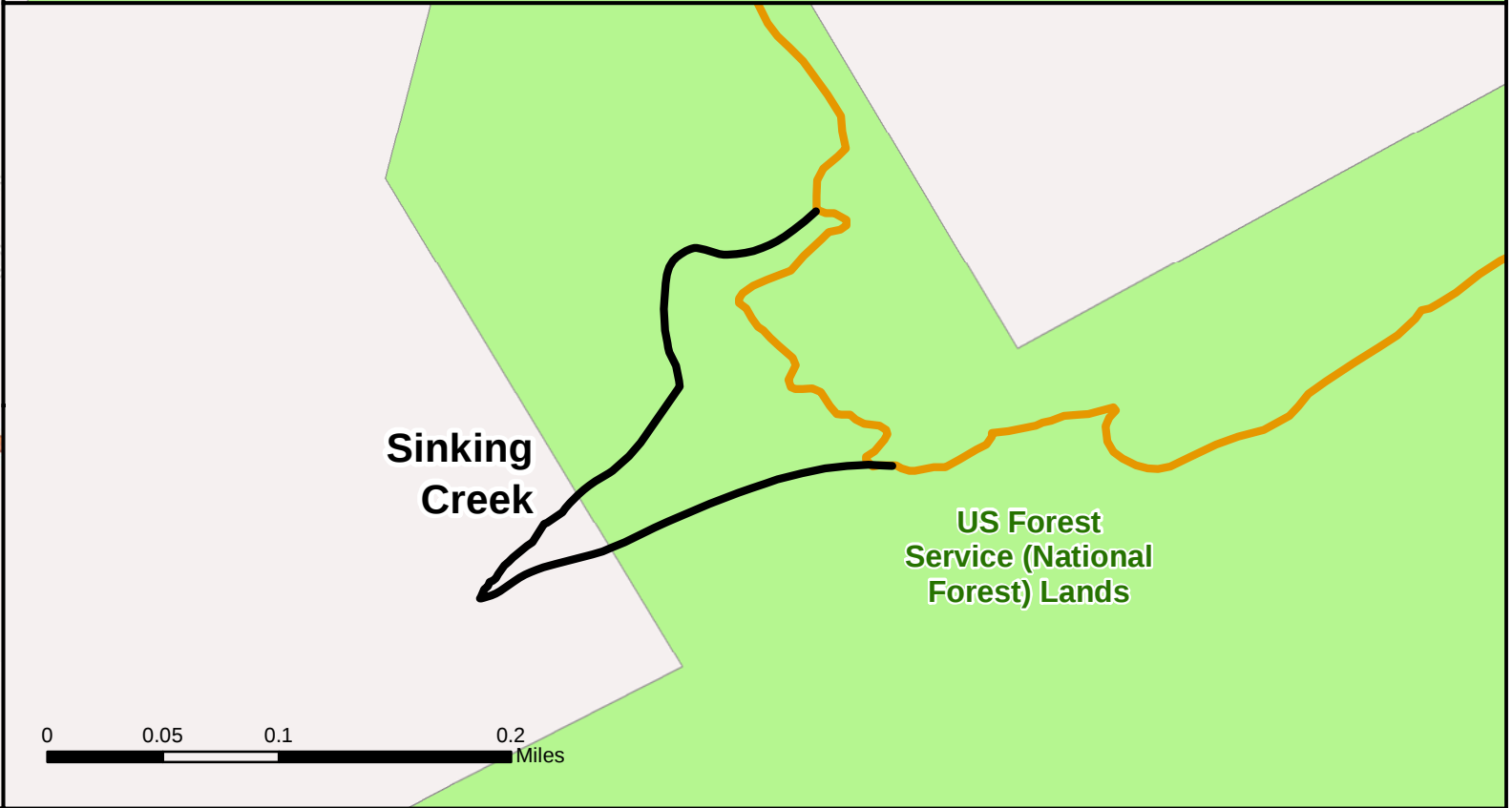
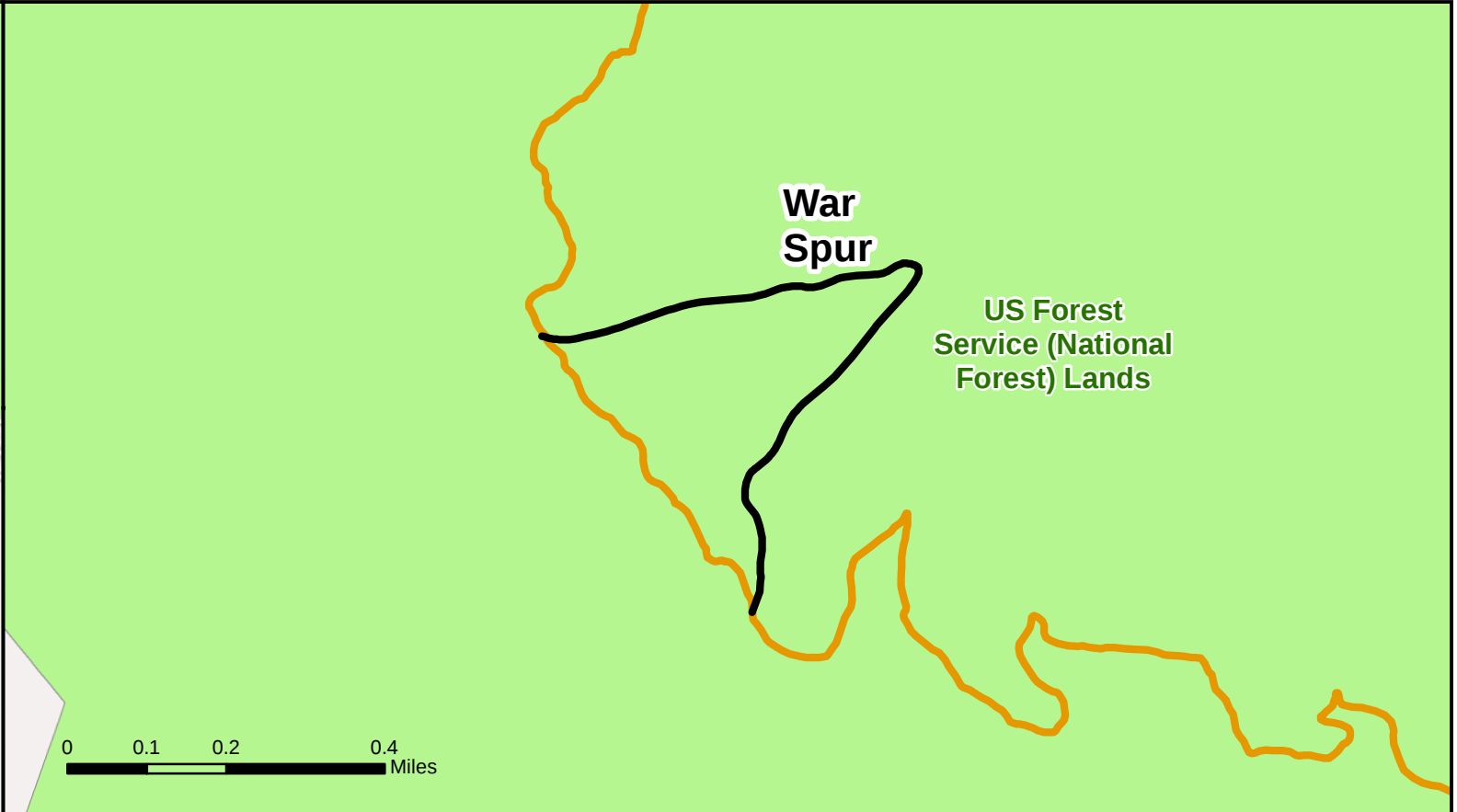
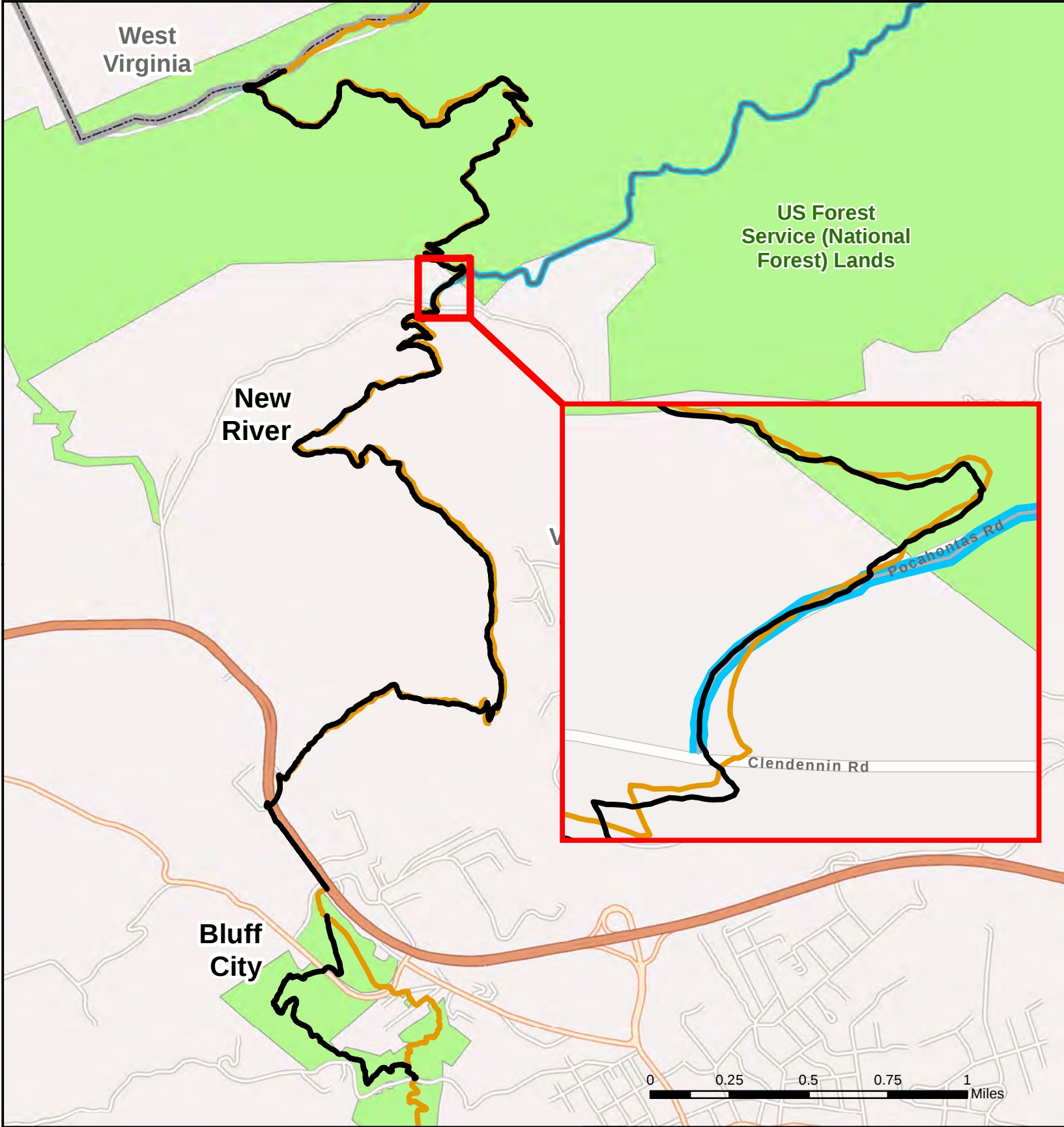
**MOUNTAIN VALLEY PIPELINE
JEFFERSON NATIONAL FOREST
APPALACHIAN TRAIL RELOCATION AREAS**



LEGEND

- Appalachian Trail Relocation Section
- AT Centerline - Appalachian Trail Conservancy Site
- Proposed Route
- Permanent Access Road
- US Forest Service (National Forest) Lands

0 1 2 3 4 Miles



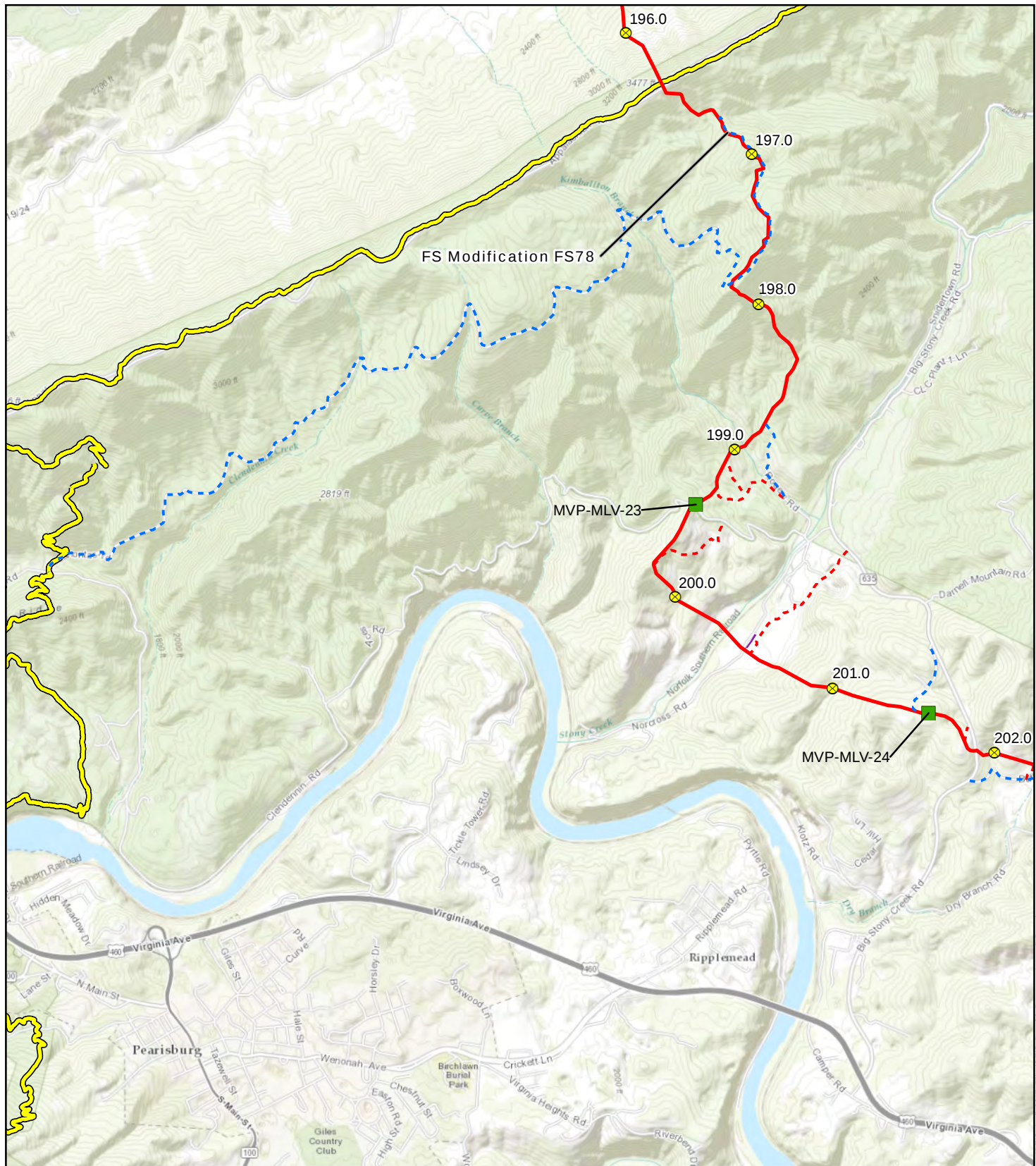
**MOUNTAIN VALLEY PIPELINE
JEFFERSON NATIONAL FOREST
APPALACHIAN TRAIL RELOCATION AREAS**



LEGEND

- Appalachian Trail Relocation Section
- AT Centerline - Appalachian Trail Conservancy Site
- Proposed Route
- Permanent Access Road
- US Forest Service (National Forest) Lands

Attachment E



Mountain Valley Pipeline Project



NAD 1983 UTM 17N

1:46,000

0

1

2 Miles



Appendix B Mountain Valley & Equitrans Expansion Projects

Project Overview Map
Page 28 of 50
October 2016
(Revised April 2017)

Data Sources: ESRI Streaming Data, 2014; Ventyx 2014; Appalachian Trail Conservancy, United States Department of Agriculture, National Park Service.

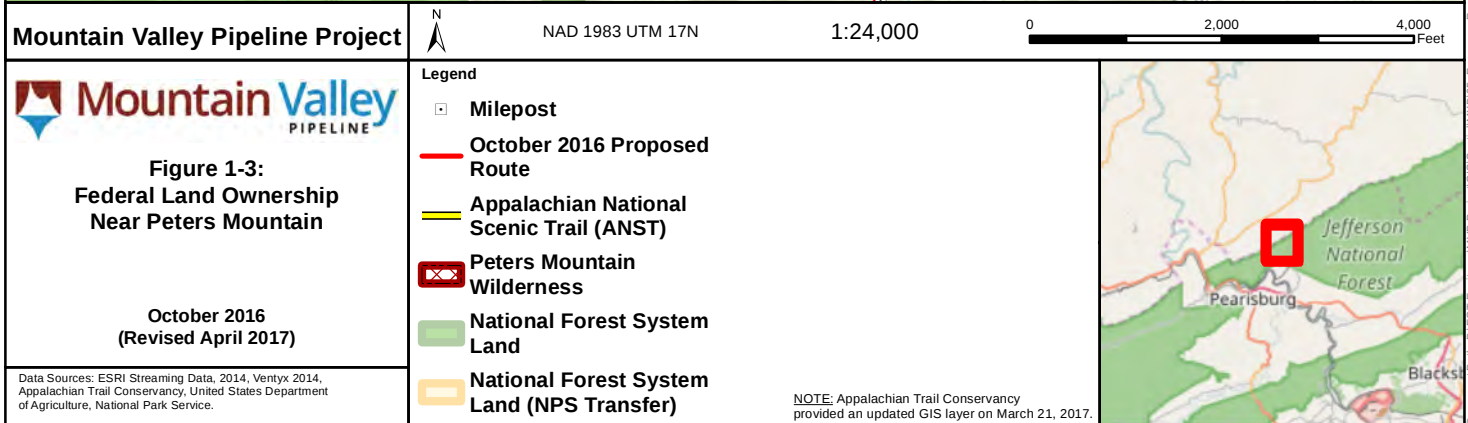
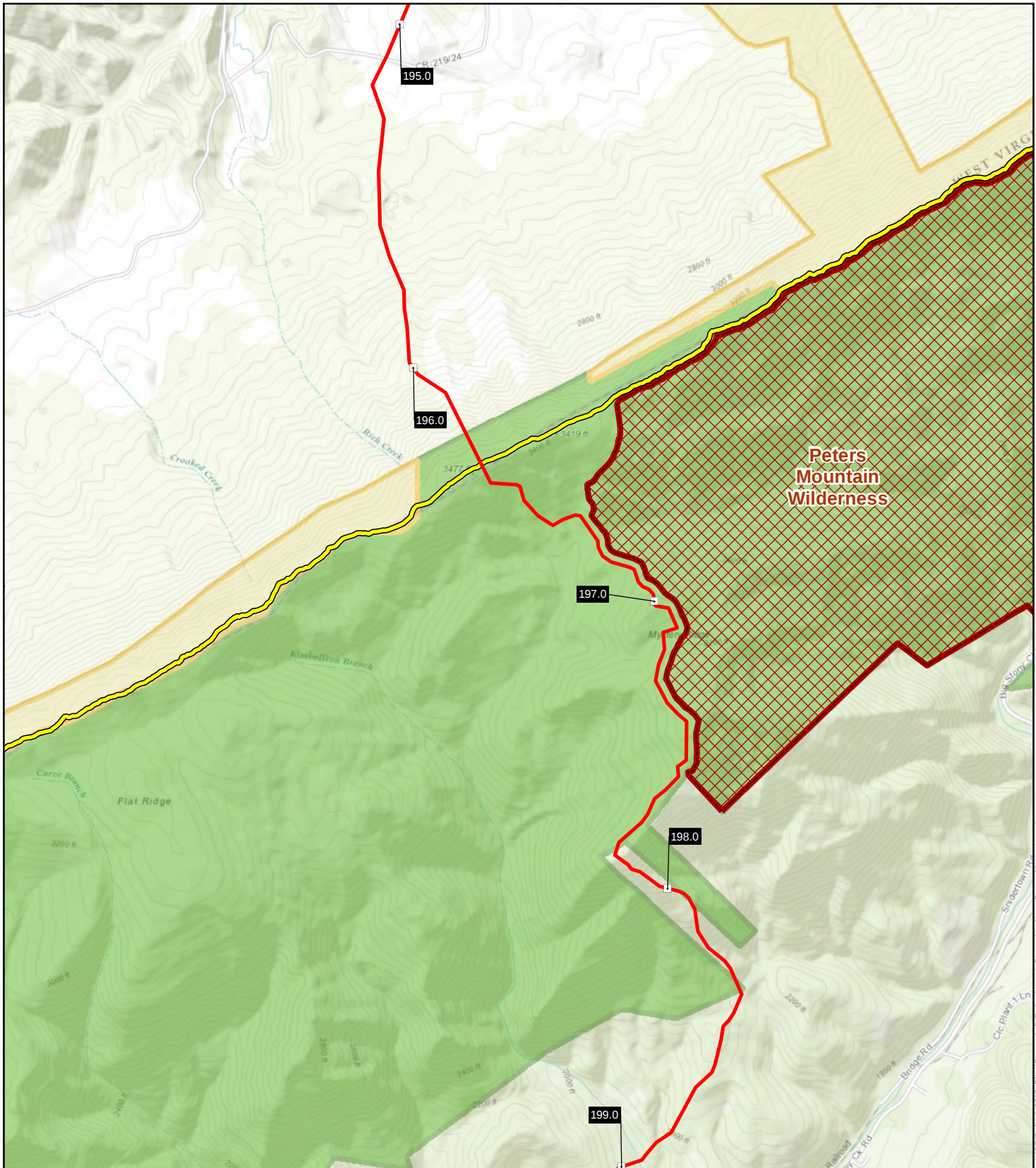
Legend

- Milepost
- Proposed Pipeline Route
- Permanent Access
- Temporary Access
- Gas Tap
- Mainline Valve
- Meter Station/Interconnect
- Proposed Compressor Station Location
- Cathodic Protection Groundbed
- Yard
- Appalachian National Scenic Trail (ANST)

NOTE: Appalachian Trail Conservancy provided an updated GIS layer on March 21, 2017.



Attachment F



Attachment G



United States
Department of
Agriculture

Forest
Service

George Washington and Jefferson
National Forests

5162 Valleypointe Parkway
Roanoke, VA 24019
540-265-5100

File Code: 1900; 2700
Date: March 24, 2017

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St., N.E., Room 1A
Washington, DC 20426

Dear Ms. Bose:

Subject: Correction to Accession No. 20170324-5024
Mountain Valley Pipeline Project
Docket No. CP16-10-000

The Forest Service corrects a letter submitted to Nicholas Tackett of the Federal Energy Regulatory Commission (FERC) on March 23, 2017 and filed in the FERC docket (accession no. 20170324-5024) on March 24, 2017. In Section I of the letter, the statement, *FERC's draft Appendix correctly identifies the "U.S. Forest Service, Monongahela NF" as the responsible agency*, should correctly read *FERC's draft Appendix correctly identifies the "U.S. Forest Service, Jefferson National Forest" as the responsible agency*.

For questions, please contact Jennifer Adams, Special Project Coordinator, by phone at 540-265-5114 or by email at jenniferpadams@fs.fed.us.

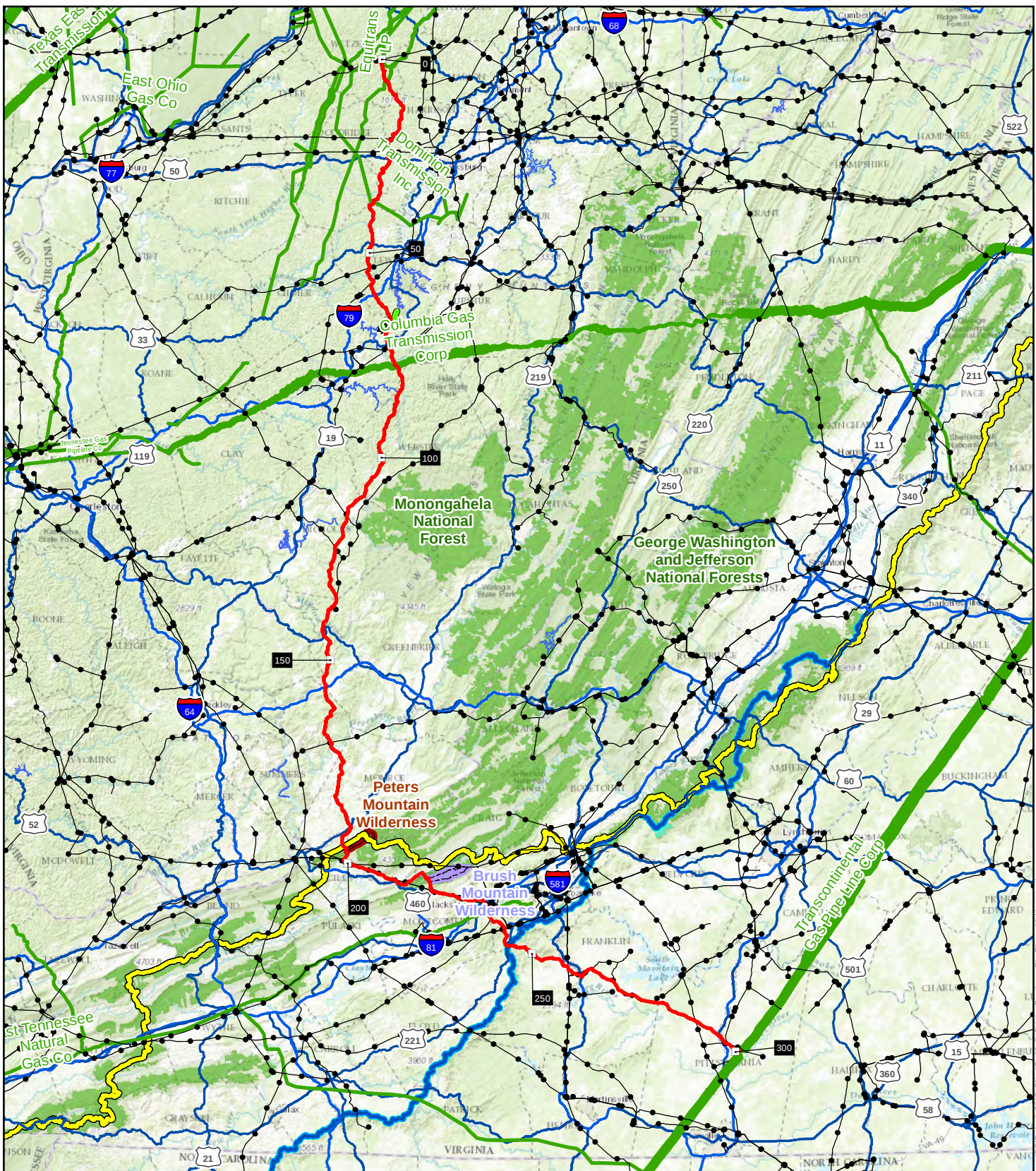
Sincerely,

JOBY P. TIMM
Forest Supervisor

cc: Mountain Valley Pipeline, LLC



Attachment H



Mountain Valley Pipeline Project



NAD 1983 UTM 17N

1:1,625,000

0 25 50 Miles



Figure 10.5
Existing Pipeline Systems, Electric
Transmission Lines, and Major
Highways in the Project Area

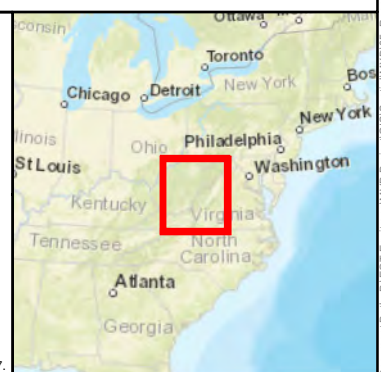
October 2015
(Revised May 2017)

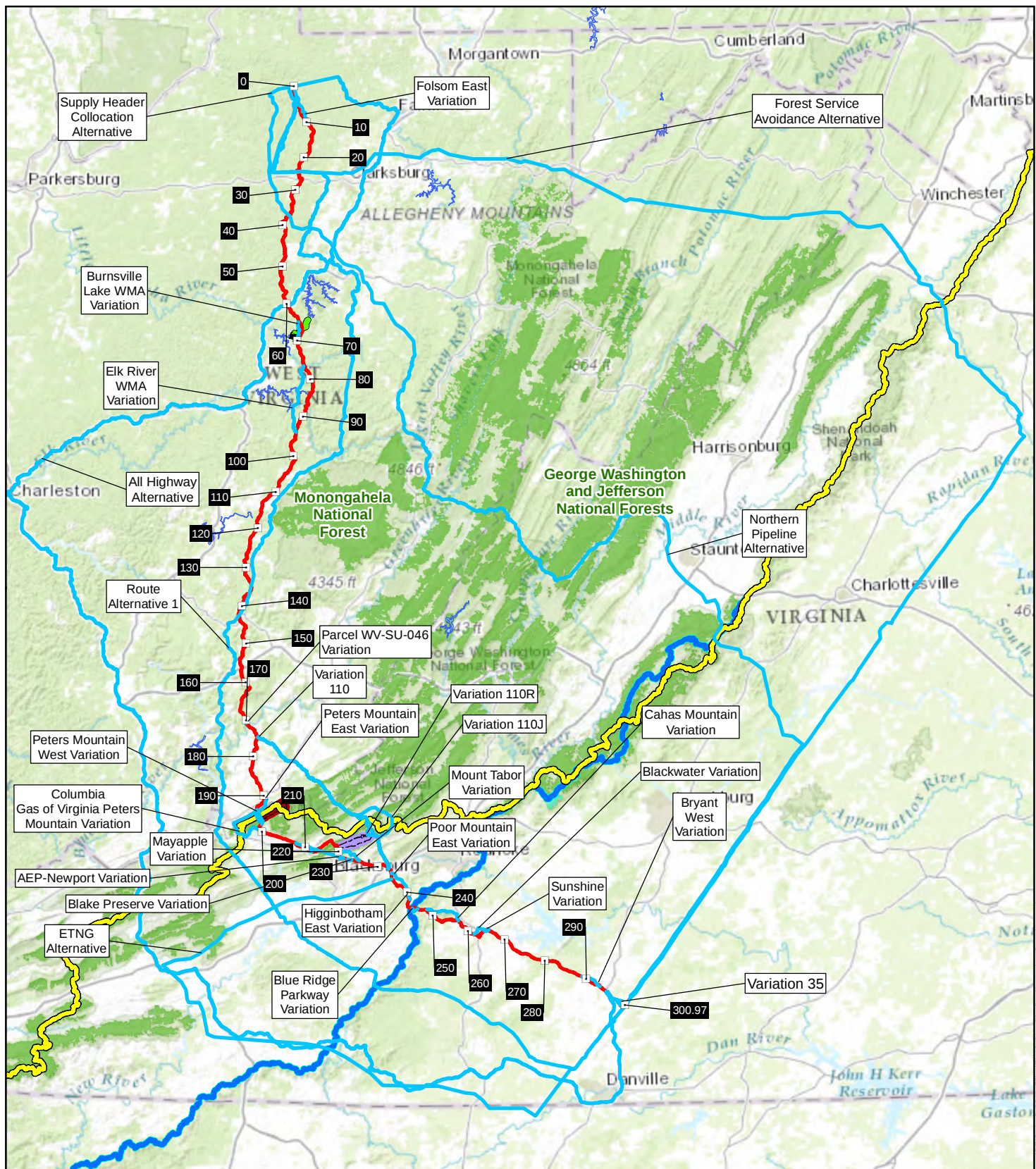
Data Sources: ESRI Streaming Data, 2014,
Ventix 2014, NPS, 2017.

Legend

- Milepost
- Proposed Route
- Electric Transmission Line
- Existing Pipeline System
- Primary Limited Access or Interstate
- Primary US and State Highway
- Weston Gauley Turnpike Trail
- Appalachian National Scenic Trail (ANST)
- Blue Ridge Parkway
- Brush Mountain Wilderness
- Peters Mountain Wilderness
- Army Corps of Engineers Reservoir
- National Forest System Land
- Blue Ridge Parkway National Park Boundary

NOTE: Appalachian Trail Conservancy
provided an updated GIS layer on March 21, 2017.





Mountain Valley Pipeline Project



NAD 1983 UTM 17N

1:1,750,000

0 5 10 20 30 40 Miles



**Figure 10.5-a
Pipeline Alternatives
Overview Map**

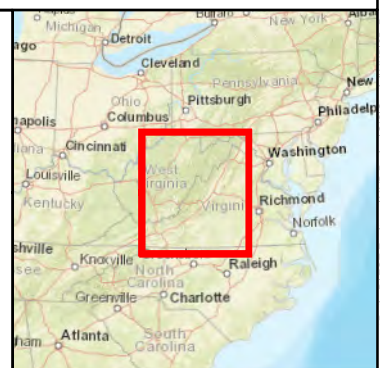
October 2015
(Revised May 2017)

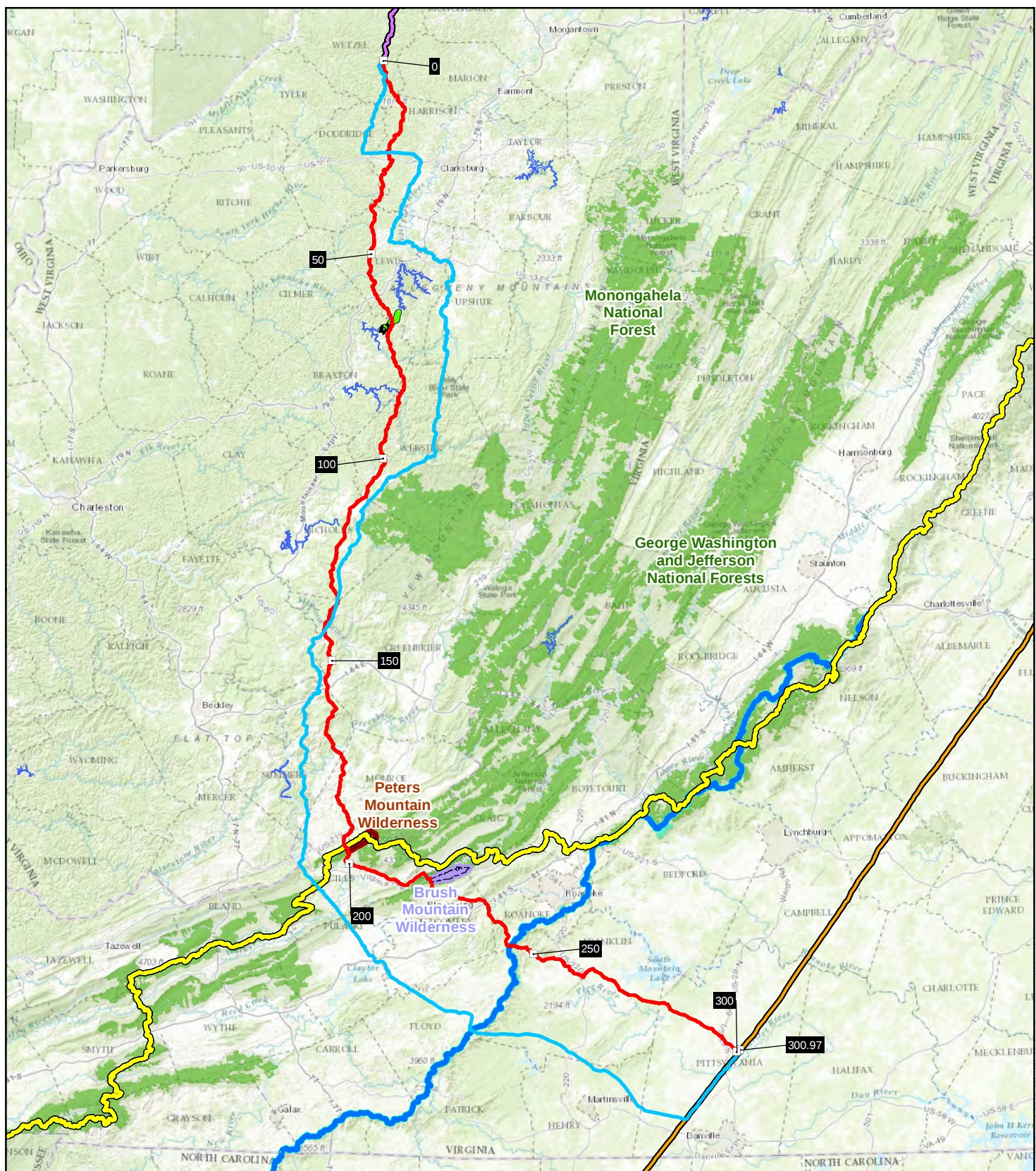
Data Sources: ESRI Streaming Data, 2014,
Ventix 2014, NPS, 2017.

Legend

- Milepost
- Alternative Route
- Proposed Route
- Weston Gauley Turnpike Trail
- Appalachian National Scenic Trail (ANST)
- Blue Ridge Parkway
- Brush Mountain Wilderness
- Peters Mountain Wilderness
- Army Corps of Engineers Reservoir
- National Forest System Land
- Blue Ridge Parkway National Park Boundary

NOTE: Appalachian Trail Conservancy provided an updated GIS layer on March 21, 2017.





Mountain Valley Pipeline Project



NAD 1983 UTM 17N

1:1,625,000

0 25 50 Miles



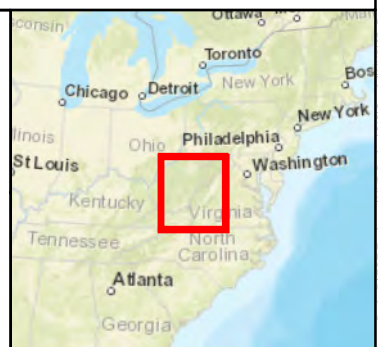
**Figure 10.5-1
Route Alternative 1**

October 2015
(Revised May 2017)

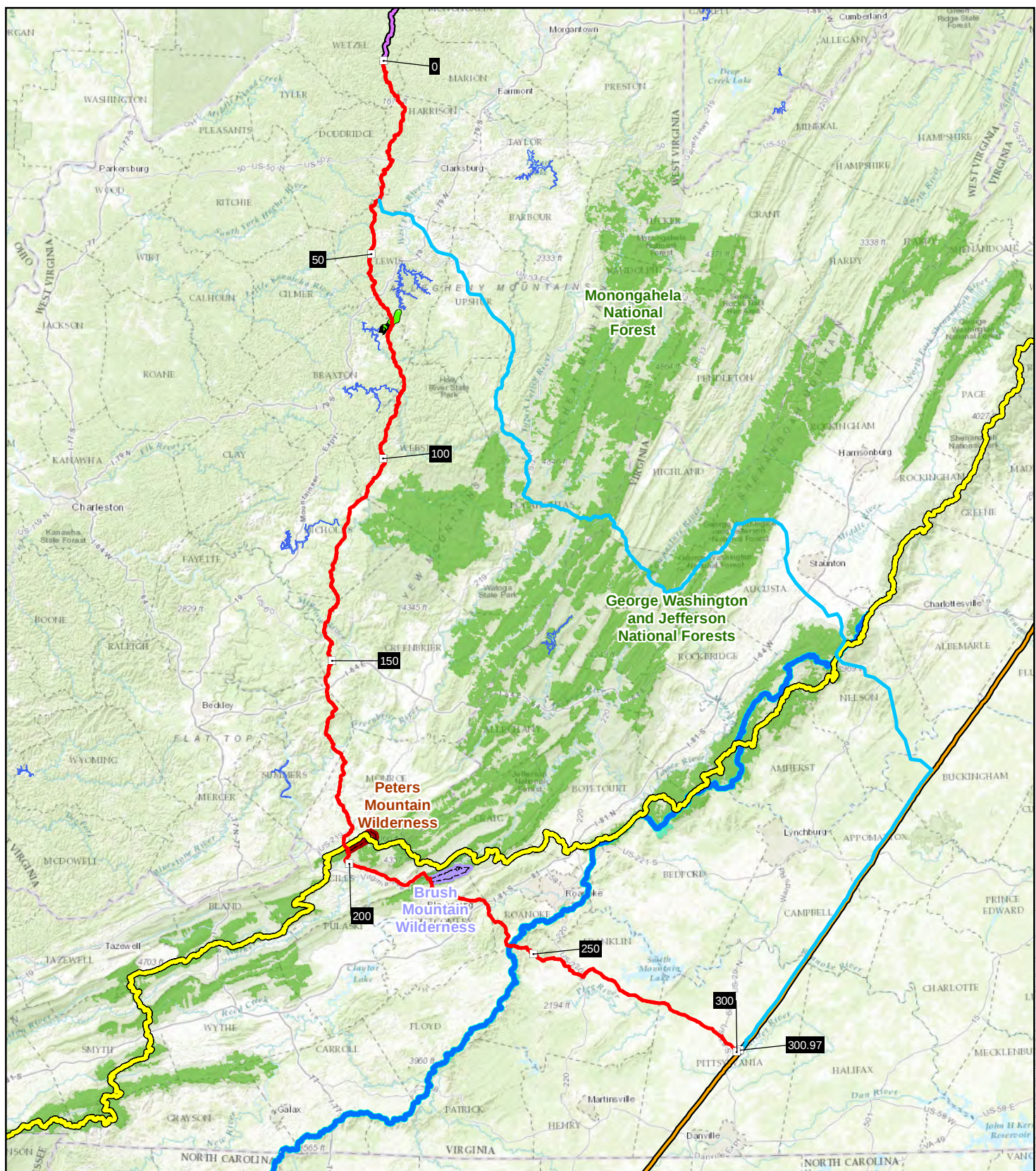
Data Sources: ESRI Streaming Data, 2014,
Ventix 2014, NPS, 2017.

Legend

- Milepost
- Route Alternative 1
- Proposed Route
- Existing Equitrans H-302 Line
- Existing Transco Pipeline
- Weston Gauley Turnpike Trail
- Appalachian National Scenic Trail (ANST)
- Blue Ridge Parkway
- Brush Mountain Wilderness
- Peters Mountain Wilderness
- Army Corps of Engineers Reservoir
- National Forest System Land
- Blue Ridge Parkway National Park Boundary



NOTE: Appalachian Trail Conservancy
provided an updated GIS layer on March 21, 2017.



Mountain Valley Pipeline Project



NAD 1983 UTM 17N

1:1,625,000

0 25 50 Miles



**Figure 10.5-2
Northern Pipeline Alternative**

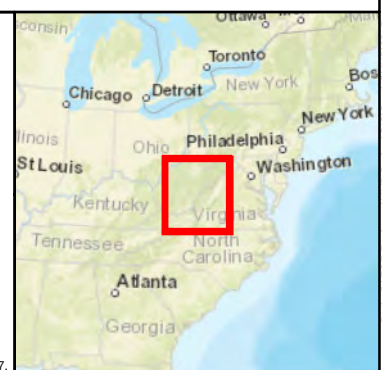
October 2015
(Revised May 2017)

Data Sources: ESRI Streaming Data, 2014,
Ventix 2014, NPS, 2017.

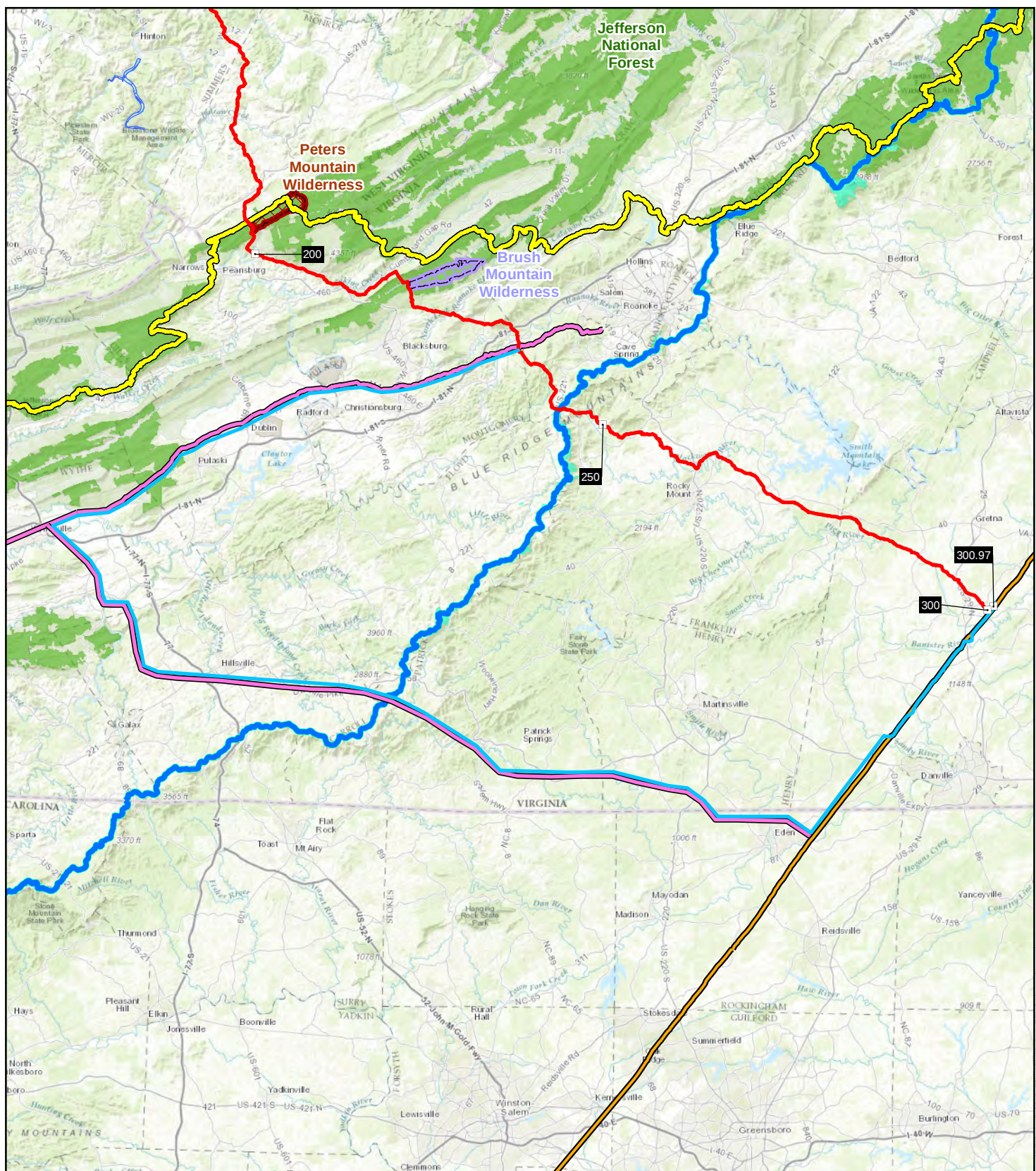
Legend

- Milepost
- Northern Pipeline
- Proposed Route
- Existing Equitrans H-302 Line
- Existing Transco Pipeline
- Weston Gauley Turnpike Trail
- Appalachian National Scenic Trail (ANST)
- Blue Ridge Parkway
- Brush Mountain Wilderness
- Peters Mountain Wilderness
- Army Corps of Engineers Reservoir
- National Forest System Land
- Blue Ridge Parkway National Park Boundary

NOTE: Appalachian Trail Conservancy provided an updated GIS layer on March 21, 2017.



Document Path: P:\EQ-Regulations\VP-Project\GIS\Spatial\MapDocs\VP_Resource_Regions\US_April_2017_Filing\10_5_2_NorthernPipelineAlternative.mxd



Mountain Valley Pipeline Project



NAD 1983 UTM 17N

1:860,000

0 15 30 Miles



**Figure 10.5-4
ETNG Alternative**

October 2015
(Revised May 2017)

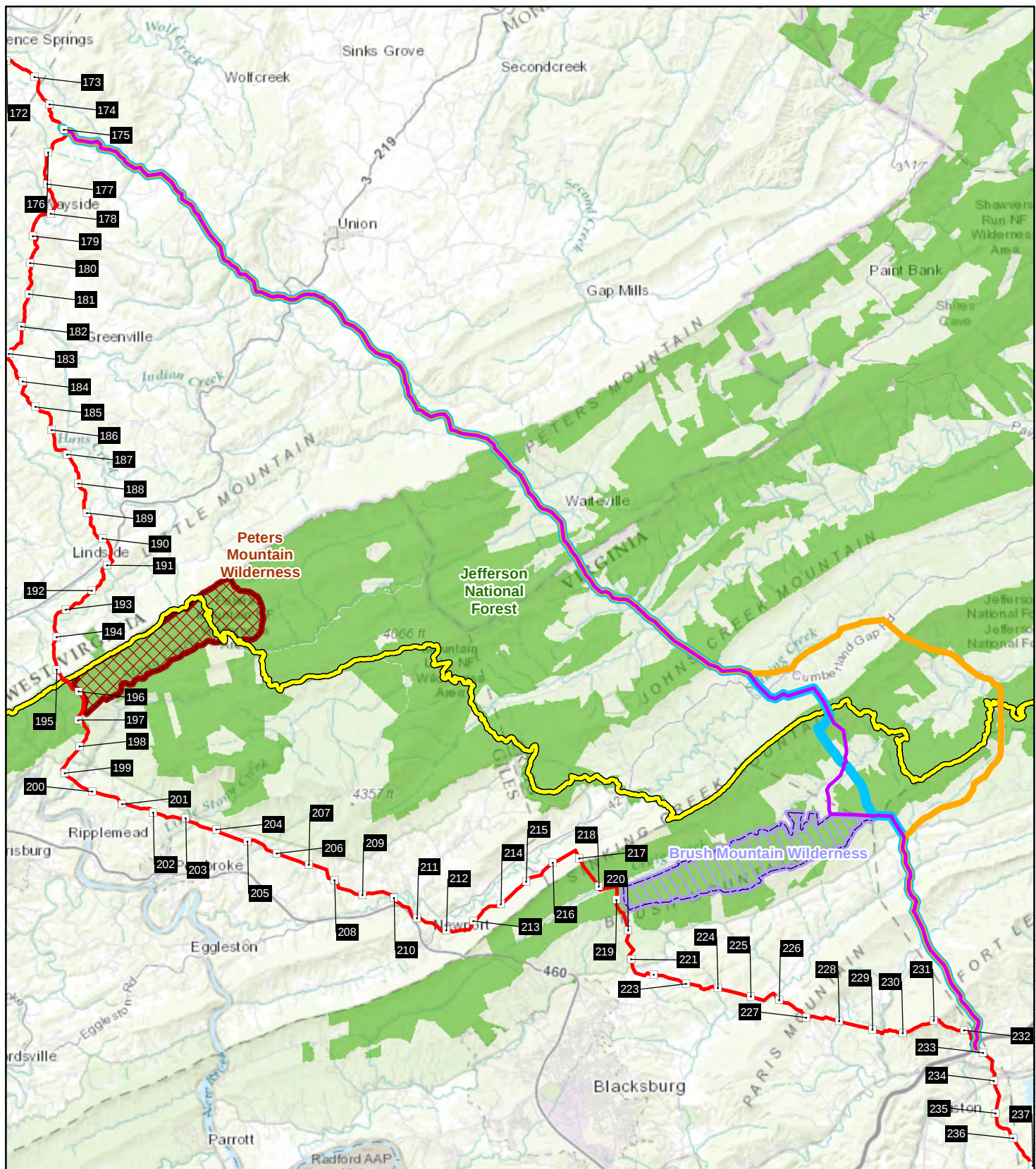
Data Sources: ESRI Streaming Data, 2014,
Ventix 2014, NPS, 2017.

Legend

- Milepost
- ETNG
- Proposed Route
- Existing Transco Pipeline
- Existing East Tennessee Natural Gas Pipeline
- Appalachian National Scenic Trail (ANST)
- Blue Ridge Parkway
- Brush Mountain Wilderness
- Peters Mountain Wilderness
- Army Corps of Engineers Reservoir
- National Forest System Land
- Blue Ridge Parkway National Park Boundary

NOTE: Appalachian Trail Conservancy provided an updated GIS layer on March 21, 2017.





Mountain Valley Pipeline Project



NAD 1983 UTM 17N 1:250,000

0 2.5 5 10 Miles



**Figure 10.6-4
Variation 110, 110R & 110J**

October 2015
(Revised May 2017)

Data Sources: ESRI Streaming Data, 2014,
Ventyx 2014, National Park Service, Protected Areas
Database.

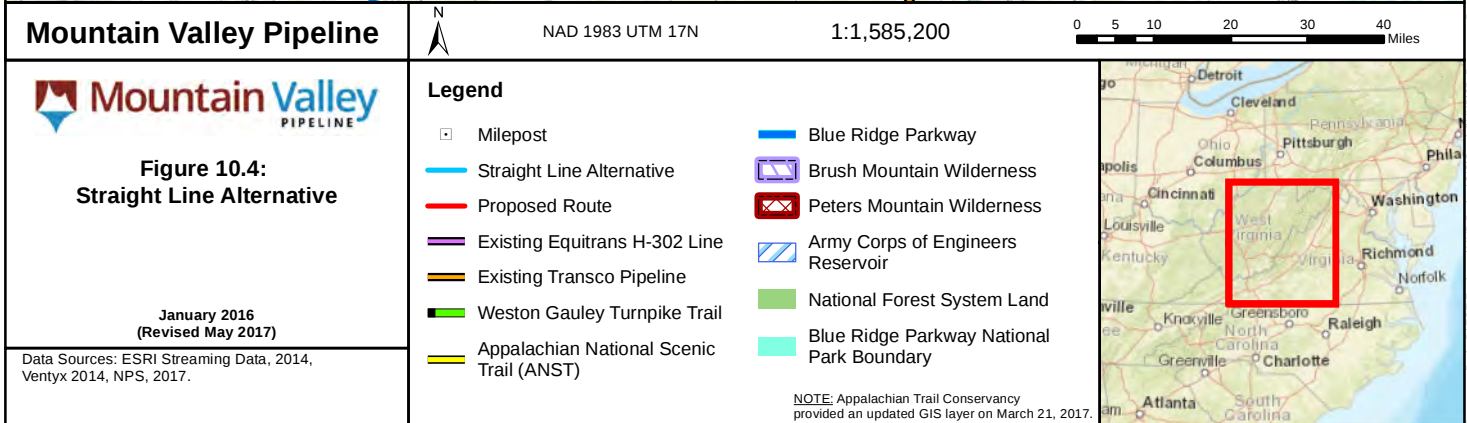
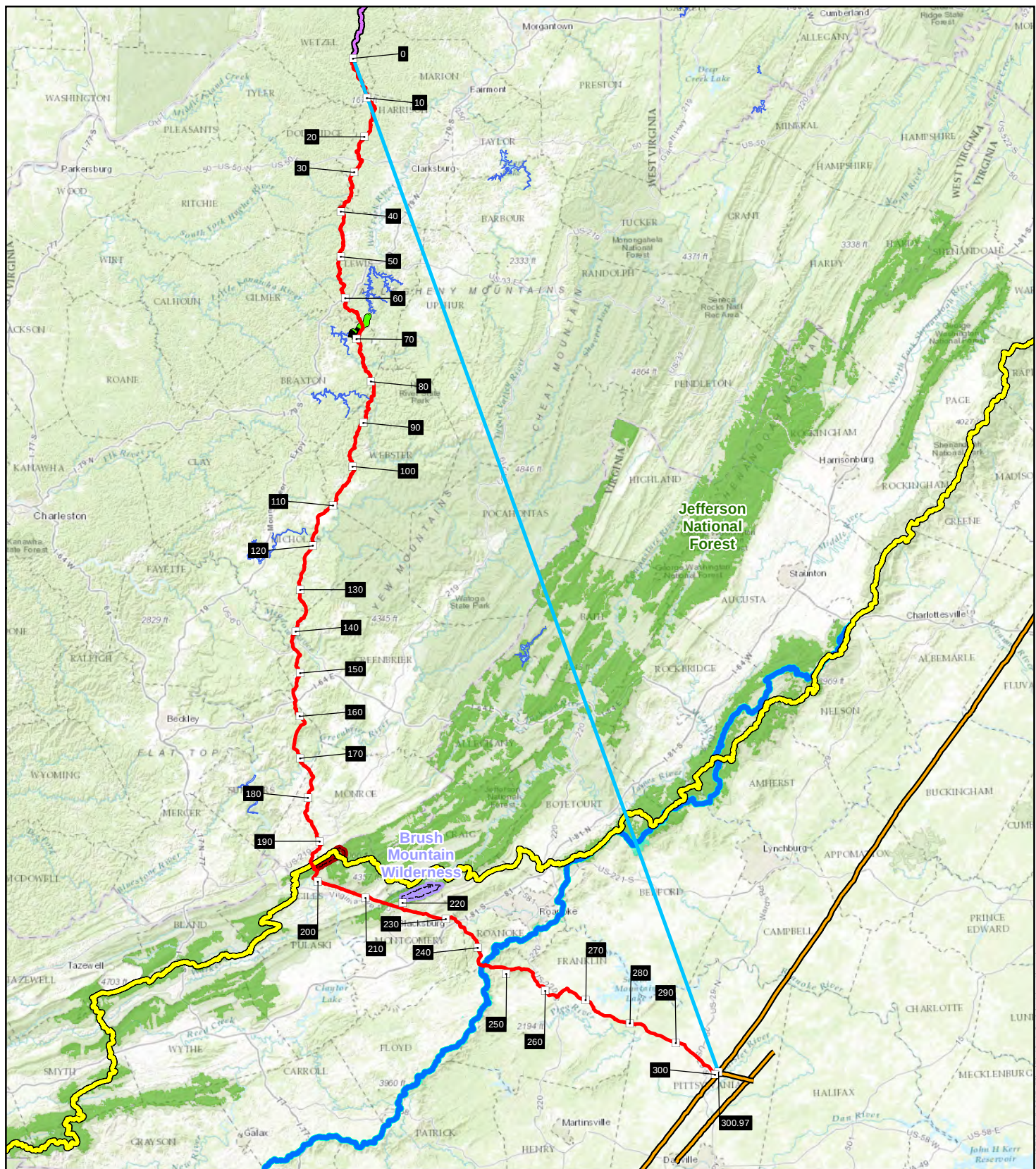
Legend

- Milepost
- Variation 110
- Variation 110J
- Variation 110R
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- Brush Mountain Wilderness
- Peters Mountain Wilderness
- National Forest System Land

NOTE: Appalachian Trail Conservancy
provided an updated GIS layer on March 21, 2017.



Attachment I



Mountain Valley Pipeline Project



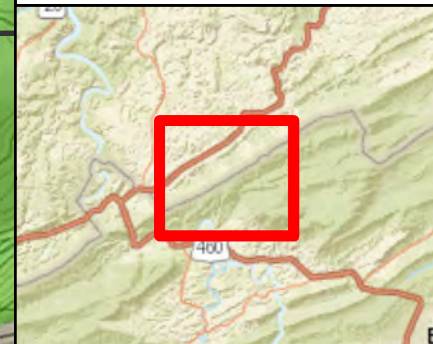
**Figure 10.6-5
Peters Mountain East Variation**

October 2015
(Revised May 2017)

Legend

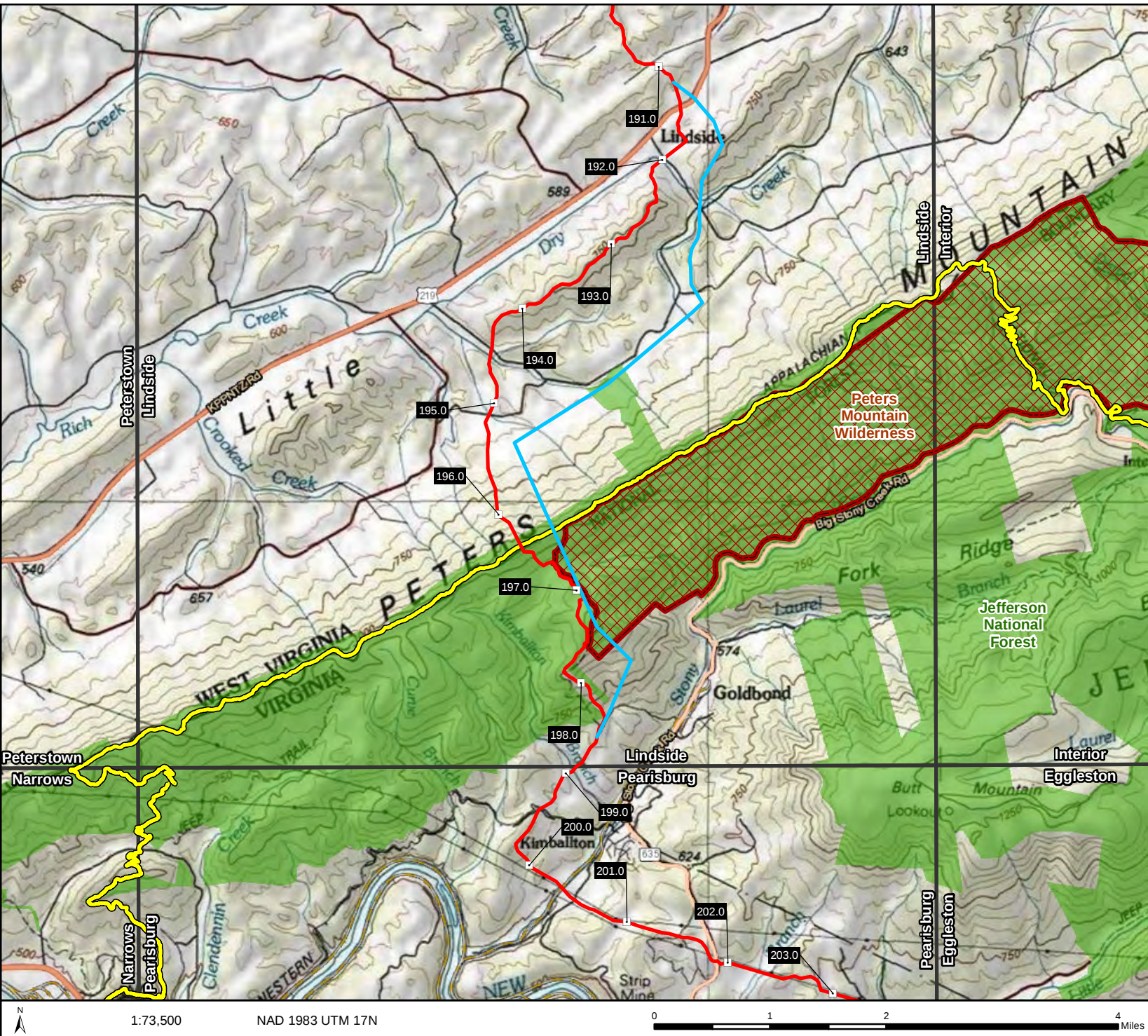
- Milepost
- Peters Mountain East Variation
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- Peters Mountain Wilderness
- USGS 7.5 Minute Topographic Map Boundary
- National Forest System Land

NOTE: Appalachian Trail Conservancy provided an updated GIS layer on March 21, 2017.



Data Sources: ESRI Streaming Data, 2014. United States Department of Agriculture, National Park Service, Virginia Department of Conservation and Recreation.

Document Path: P:\EQ\TransMWP Project\GIS\SpatialMXD\05_Resource_Reprints\DEIS_April_2017_Filing\Fig10_6_5_PetersMountainEastVariation.mxd



1:73,500

NAD 1983 UTM 17N

0 1 2 4 Miles

Mountain Valley Pipeline Project



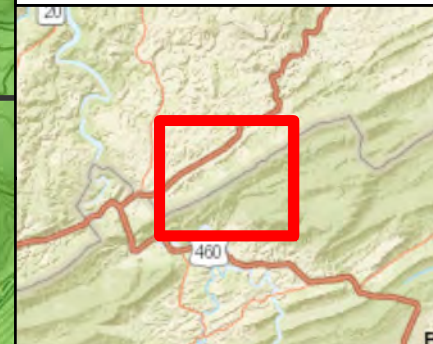
**Figure 10.6-6
Peters Mountain West Variation**

October 2015
(Revised May 2017)

Legend

- Milepost
- Peters Mountain West Variation
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- Peters Mountain Wilderness
- USGS 7.5 Minute Topographic Map Boundary
- National Forest System Land

NOTE: Appalachian Trail Conservancy provided an updated GIS layer on March 21, 2017.



Data Sources: ESRI Streaming Data, 2014; United States Department of Agriculture, National Park Service, Virginia Department of Conservation and Recreation.

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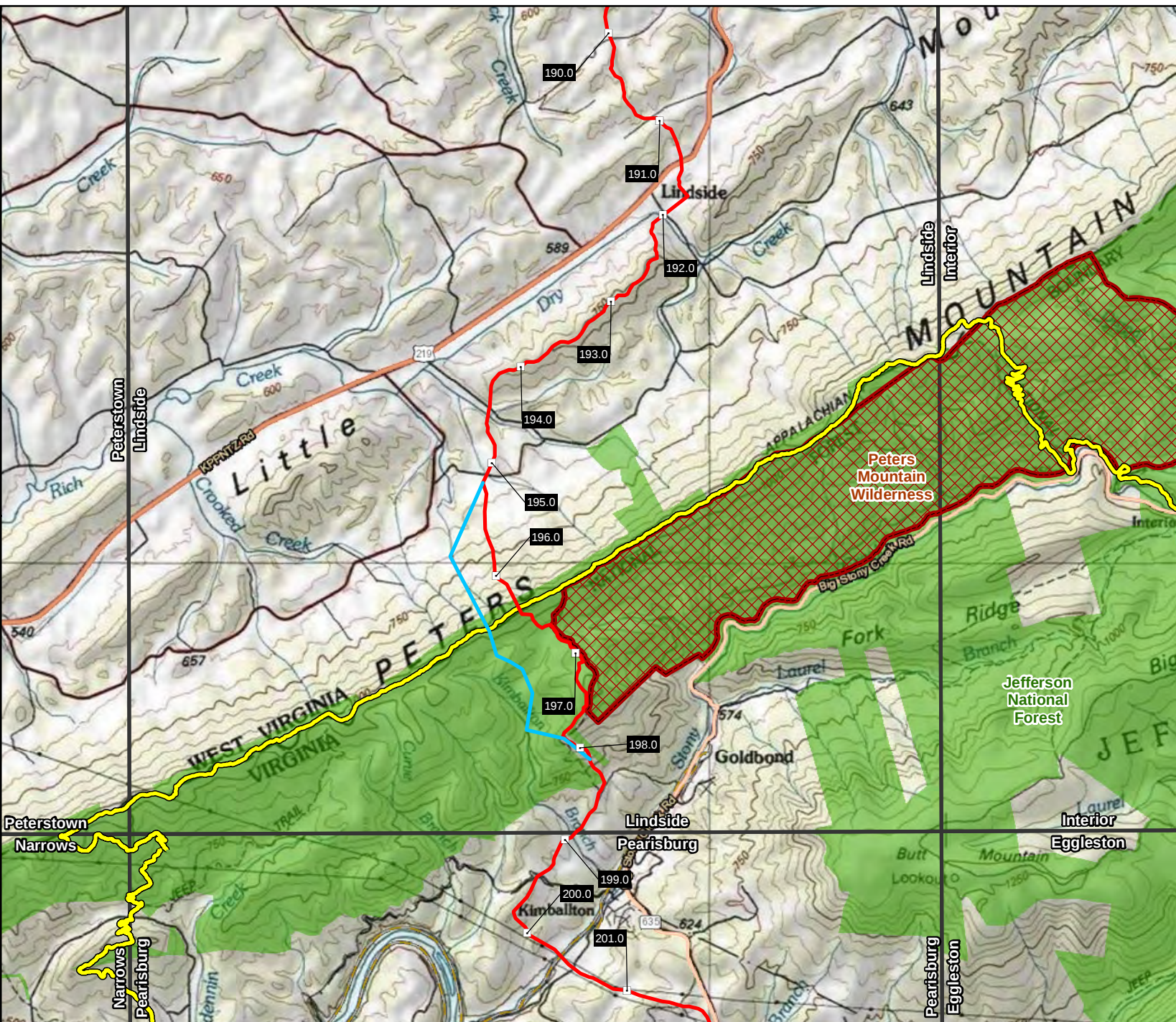




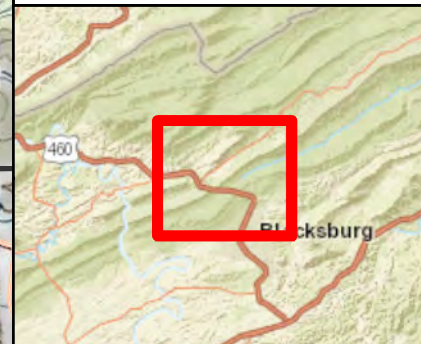
Figure 10.6-7
AEP-Newport Variation

October 2015
(Revised May 2017)

Legend

-  Milepost
-  AEP-Newport Alternative
-  Proposed Route
-  Appalachian National Scenic Trail (ANST)
-  USGS 7.5 Minute Topographic Map Boundary
-  Brush Mountain Wilderness
-  National Forest System Land

NOTE: Appalachian Trail Conservancy provided an updated GIS layer on March 21, 2017.



Data Sources: ESRI Streaming Data, 2014. United States Department of Agriculture, National Park Service, Virginia Department of Conservation and Recreation.



Mountain Valley Pipeline Project



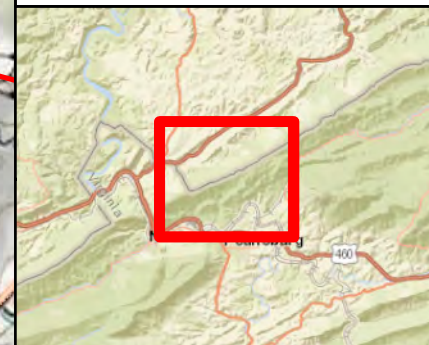
Figure 10.6-16
Columbia Gas of Virginia
Peters Mountain Variation

October 2015
(Revised May 2017)

Legend

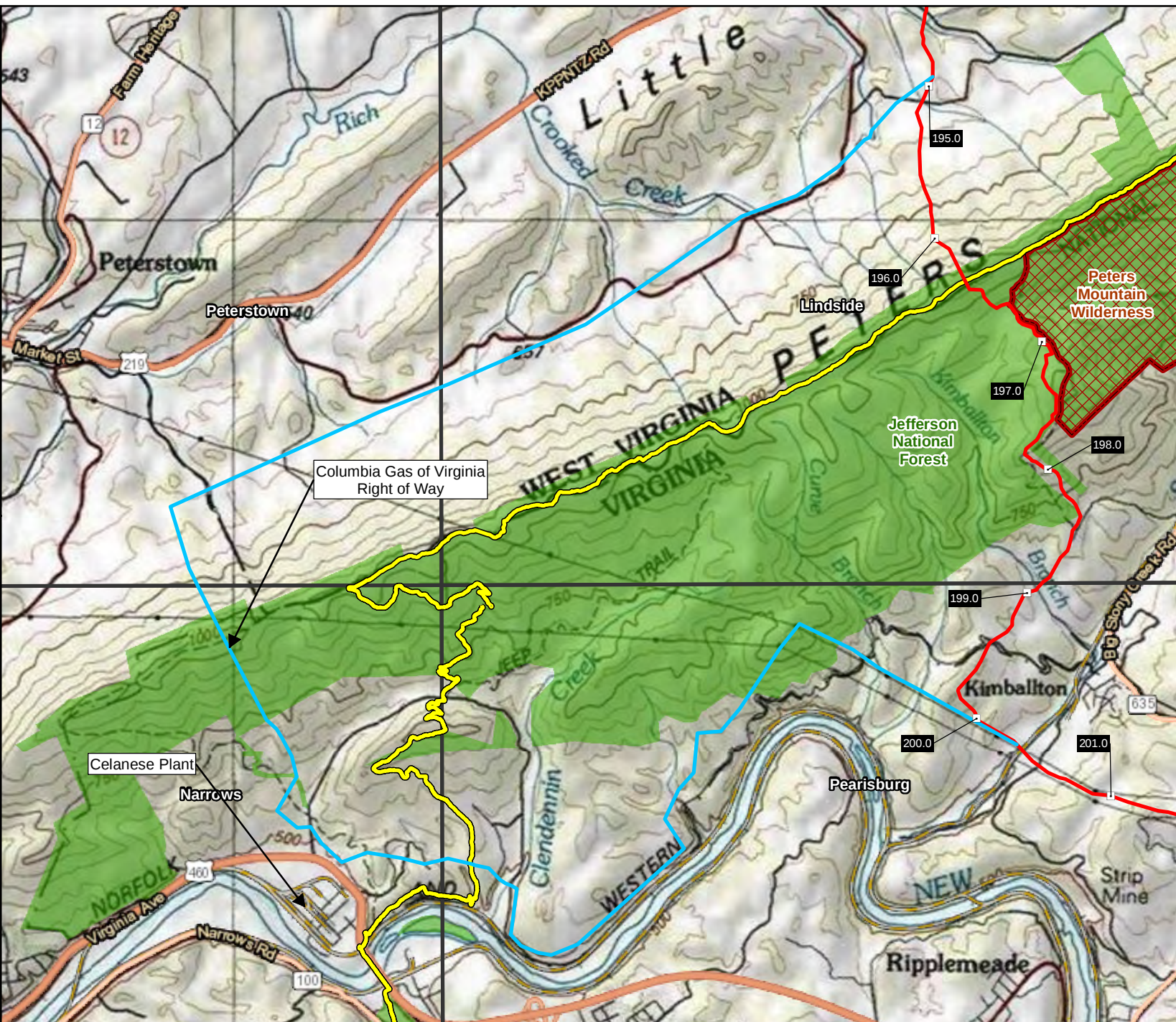
- Milepost
- Columbia Gas of Virginia Peters Mountain Variation
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- USGS 7.5 Minute Topographic Map Boundary
- Peters Mountain Wilderness
- National Forest System Land

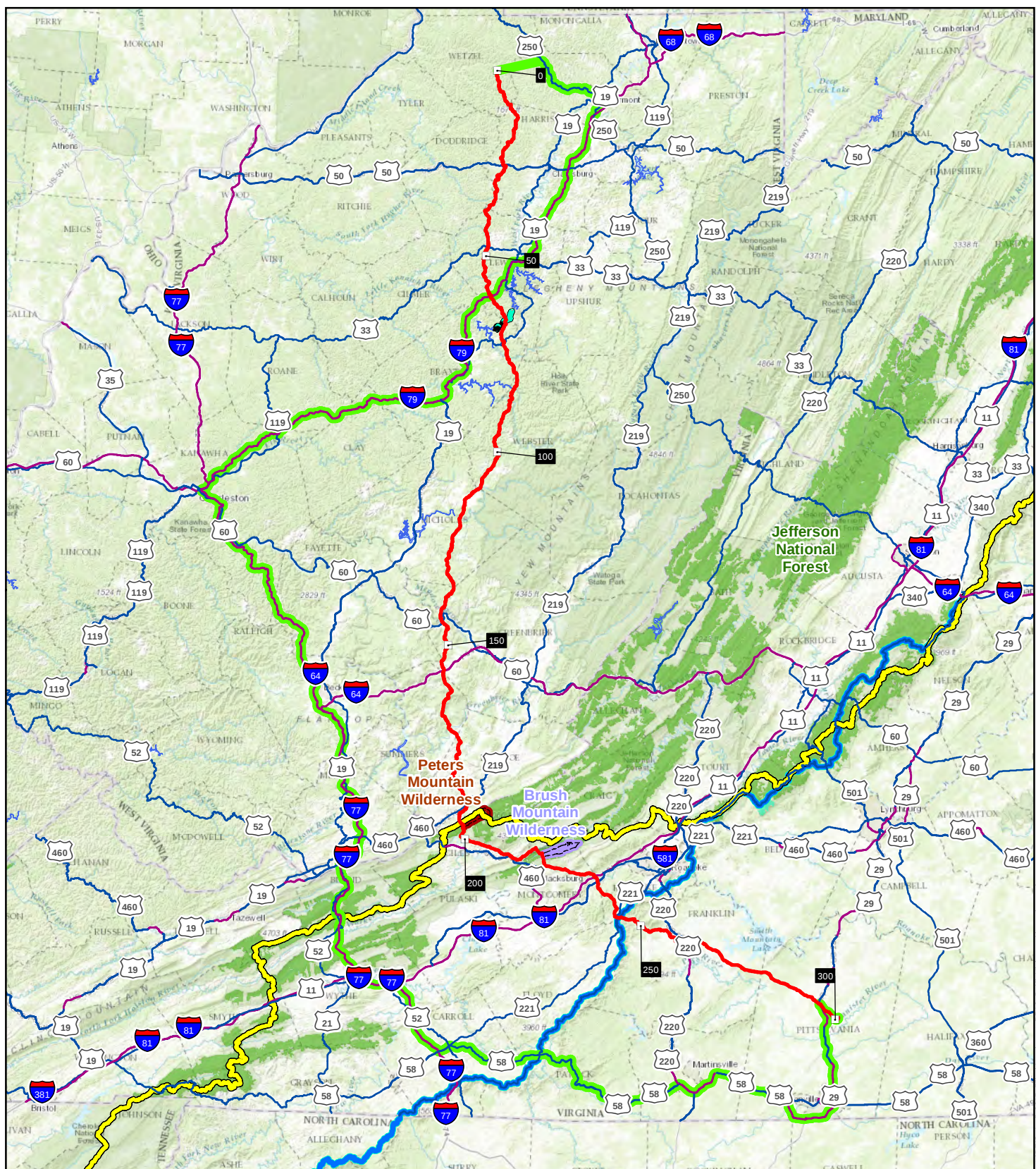
NOTE: Appalachian Trail Conservancy provided an updated GIS layer on March 21, 2017.



Data Sources: ESRI Streaming Data, 2014; United States Department of Agriculture, National Park Service, Virginia Department of Conservation and Recreation.

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Mountain Valley Pipeline Project



**Attachment RR10-5
All Highway Alternative**

January 2016
(Revised May 2017)

Data Sources: ESRI Streaming Data, 2014, Ventyx 2014, NPS, 2017.

Legend

- | | | | |
|---|--|---|---|
|  | Milepost |  | Blue Ridge Parkway |
|  | Proposed Route |  | Brush Mountain Wilderness |
|  | All Highway |  | Peters Mountain Wilderness |
|  | Primary Limited Access or Interstate |  | Army Corps of Engineers Reservoir |
|  | Primary US and State Highway |  | National Forest System Land |
|  | Weston Gauley Turnpike Trail |  | Blue Ridge Parkway National Park Boundary |
|  | Appalachian National Scenic Trail (ANST) | | |

NOTE: Appalachian Trail Conservancy provided an updated GIS layer on March 21, 2017

