

Legend

Water Quality Monitoring Station

1 inch = 1,000 feet

NAD 1983 UTM 17N

1,000 500 0 1,000 Feet



Mountain Valley Pipeline Project

Mountain Valley PIPELINE

Figure 1-2
Stations 08M, 08T & 08U
Aquatic Resource Report
USACE Norfolk District

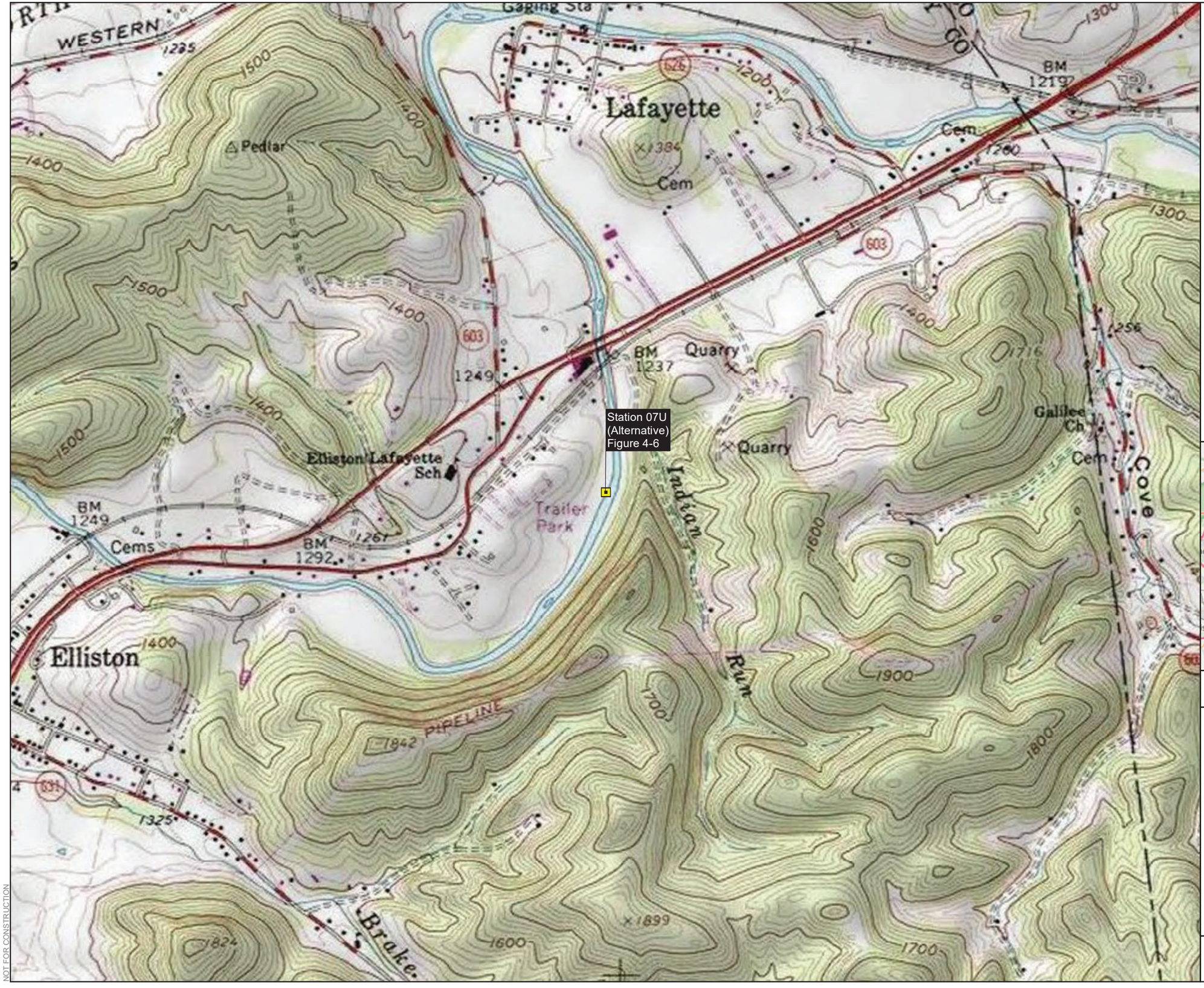
Montgomery County, Virginia

January 2021

Data Sources:ESRI Streaming Data, 2019. MVP 2020.

NOT FOR CONSTRUCTION

Document Path: P:\EQT-Equitrans\MVP Project\GIS\SpatialMXD\03_Wetlands\20210104_VA_WQM_Wetland_Report\Figure_1_USGS_Topo_Proj_Location_Map_USACE_Norfolk_District.mxd



Legend

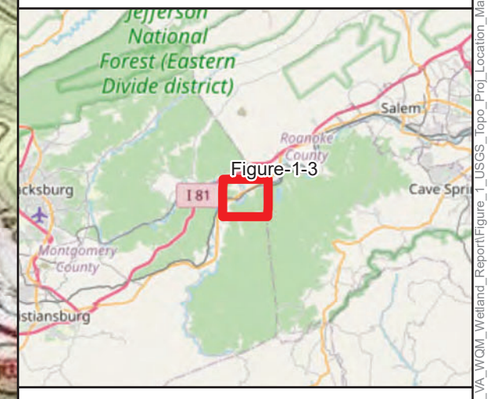
Water Quality Monitoring Station

1 inch = 1,000 feet

NAD 1983 UTM 17N

1,000 500 0 1,000 Feet

N W E S



Mountain Valley Pipeline Project

Mountain Valley PIPELINE

Figure 1-3
Stations 07U (Alternative)
Aquatic Resource Report
USACE Norfolk District

Montgomery County, Virginia

January 2021

Data Sources:ESRI Streaming Data, 2019. MVP 2020.

NOT FOR CONSTRUCTION

Document Path: P:\EQT-Equitrans\MVP Project\GIS\SpatialMXD\03_Wetlands\20210104_VA_WOM_Wetland_Report\Figure_1_USGS_Topo_Proj_Location_Map_USACE_Norfolk_District.mxd

Nationwide Permit (5) Scientific Measurement Devices
Effective 3/19/2017
Expires 3/18/2022

Devices, whose purpose is to measure and record scientific data, such as staff gages, tide and current gages, meteorological stations, water recording and biological observation devices, water quality testing and improvement devices, and similar structures. Small weirs and flumes constructed primarily to record water quantity and velocity are also authorized provided the discharge is limited to 25 cubic yards. Upon completion of the use of the device to measure and record scientific data, the measuring device and any other structures or fills associated with that device (e.g., foundations, anchors, buoys, lines, etc.) must be removed to the maximum extent practicable and the site restored to pre-construction elevations.

Authority: Section 10 of the Rivers and Harbors Act of 1899 and section 404 of the Clean Water Act (Sections 10 and 404)

REGIONAL CONDITIONS:

1. **Conditions for Waters Containing Submerged Aquatic Vegetation (SAV) Beds:** This condition applies to: NWPs 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 25, 27, 28, 29, 31, 32, 33, 35, 36, 37, 38, 39, 44, 45, 48, 52, 53 and 54. A pre-construction notification (PCN) is required if work will occur in areas that contain submerged aquatic vegetation (SAV). Information about SAV habitat can be found at the Virginia Institute of Marine Science's website http://web.vims.edu/bio/sav/. Additional avoidance and minimization measures, such as relocating a structure or time-of-year restrictions (TOYR), may be required to reduce impacts to SAV habitat.

2. **Conditions for Anadromous Fish Use Areas:** To ensure that activities authorized by any NWP do not impact documented spawning habitat or a migratory pathway for anadromous fish, a check for anadromous fish use areas must be conducted via the Norfolk District's Regulatory GIS (for reporting permits) and/or the Virginia Department of Game and Inland Fisheries (VDGIF) Information System (by applicant for non-reporting permits) at http://vafwis.org/fwis/ . For any proposed NWP, if the project is located in an area documented as an anadromous fish use area (confirmed or potential), a time-of-year restriction (TOYR) prohibiting all in-water work will be required from February 15 to June 30 of any given year or any TOYR specified by VDGIF and/or Virginia Marine Resources Commission (VMRC). For permits requiring a PCN, if the Norfolk District determines that the work is minimal and the TOYR is unnecessary, informal consultation will be conducted with NOAA Fisheries Service (NOAA) to obtain concurrence that the TOYR would not be required for the proposed activity. For dredging in the Elizabeth River upstream of the Mid-Town Tunnel on the mainstem and the West Norfolk Bridge (Route 164, Western Freeway) on the Western Branch of the Elizabeth River, a TOYR is not required.

3. **Conditions for Federally Listed Species and Designated Critical Habitat:** For ALL NWPs, notification is required for any project that may affect a federally listed threatened or endangered species or designated critical habitat. The U.S. Fish and Wildlife Service (Service) has developed an online system that allows users to find information about sensitive resources that may occur within the vicinity of a proposed project. This system is named "Information, Planning and Conservation System," (IPaC), and is located at: http://ecos.fws.gov/ipac/ . The applicant may use IPaC to determine if any federally listed species or designated critical habitat may be affected by their proposed project. If your Official Species List from IPaC identifies any federally listed endangered or threatened species, you are required to submit a PCN for the proposed activity, unless the project clearly does not impact a listed species or suitable habitat for the listed species. If you are unsure about whether your project will impact listed species, please submit a PCN, so the Norfolk District may review the action. Further information about the Virginia Field Office "Project Review Process" may be found at: http://www.fws.gov/northeast/virginiafield/endangered/projectreviews.html. Additional consultation may also be required with National Marine Fisheries Service for species or critical habitat under their jurisdiction, including sea turtles, marine mammals, shortnose sturgeon, and Atlantic sturgeon. For additional information about their jurisdiction in Virginia, please see https://www.greateratlantic.fisheries.noaa.gov/protected/index.html . Additional resources to assist in determining compliance with this condition can be found on our webpage: http://www.nao.usace.army.mil/Missions/Regulatory/USFWS.aspx

4. **Conditions for Waters with Federally Listed Endangered or Threatened Species, Waters Federally Designated as Critical Habitat, and One-mile Upstream (including tributaries) of Any Such Waters:** Any work proposed in critical habitat, as designated in the previous regional condition, requires a PCN.

5. **Conditions for Designated Trout Waters:** Notification is required for work in the areas listed below for NWPs 3, 4, 5, 6, 7, 12, 13, 14, 16, 17, 18, 19, 21, 23, 25, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 49, 50, 51, 52, 53, and 54. This condition applies to activities occurring in two categories of waters; Class V (Put and Take Trout Waters) and Class VI (Natural Trout Waters), as defined by the Virginia State Water Control Board Regulations, Water Quality Standards (VR-680-21-00), dated January 1, 1991, or the most recently updated publication. The Virginia Department of Game and Inland Fisheries (VDGIF) designated these same trout streams into six classes. Classes I-IV are considered wild trout streams. Classes V and VI are considered stockable trout streams. Information on designated trout streams can be obtained via their Virginia Fish and Wildlife Information Service's (VAFWIS's) Cold Water Stream Survey database. Basic access to the VAFWIS is available via http://vafwis.org/fwis/.
The waters, occurring specifically within the mountains of Virginia, are within the following river basins:
   1) Potomac-Shenandoah River Basins
   2) James River Basin
   3) Roanoke River Basin
   4) New River Basin
   5) Tennessee and Big Sandy River Basins
   6) Rappahannock River Basin

VDGIF recommends the following time-of-year restrictions (TOYRs) for any in-stream work within streams identified as wild trout waters in its Cold Water Stream Survey database. The recommended TOYRs for trout species are:

- Brook Trout: October 1 through March 31
- Brown Trout: October 1 through March 31
- Rainbow Trout: March 15 through May 15

This condition applies to the following counties and cities: Albemarle, Allegheny, Amherst, Augusta, Bath, Bedford, Bland, Botetourt, Bristol, Buchanan, Buena Vista, Carroll, Clarke, Covington, Craig, Dickenson, Floyd, Franklin, Frederick, Giles, Grayson, Greene, Henry, Highland, Lee, Loudoun, Madison, Montgomery, Nelson, Page, Patrick, Pulaski, Rappahannock, Roanoke City, Roanoke Co., Rockbridge, Rockingham, Russell, Scott, Shenandoah, Smyth, Staunton, Tazewell, Warren, Washington, Waynesboro, Wise, and Wythe. Any discharge of dredged and/or fill material authorized by the NWPs listed above, which would occur in the designated waterways or adjacent wetlands of the specified counties, requires notification to the appropriate Corps of Engineers field office, and written approval from that office prior to performing the work. The Norfolk District recommends that prospective permittees first contact the applicable Norfolk District Field Office, found at this web link: http://www.nao.usace.army.mil/Missions/Regulatory/Contacts.aspx, to determine if the PCN procedures would apply. The notification must be in writing and include the following information (the standard Joint Permit Application may also be used):

- Name, address, and telephone number of the prospective permittee.
- Name, address, email, and telephone number of the property owner.
- Location of the proposed project.
- Vicinity map and project drawings on 8.5-inch by 11-inch paper (plan view, profile, & cross-sectional view).
- Brief description of the proposed project and the project purpose.
- Where required by the terms of the nationwide permit, a delineation of affected special aquatic sites, including wetlands.

When all required information is received by the appropriate field office, the Corps will notify the prospective permittee within 45 days whether the project can proceed under the NWP or whether an individual permit is required. If, after reviewing the PCN, the District Commander determines that the proposed activity would have more than minimal individual or cumulative adverse impacts on the aquatic environment or otherwise may be contrary to the public interest, then he/she will either condition the nationwide permit authorization to reduce or eliminate the adverse impacts, or notify the prospective permittee that the activity is not authorized by the NWP and provide instructions on how to seek authorization under an individual permit. If the prospective permittee is not notified otherwise within the 45-day period, the prospective permittee may assume that the project can proceed under the NWP.

6. **Conditions Regarding Invasive Species:** Plant species listed by the most current *Virginia Department of Conservation and Recreation's Invasive Alien Plant List* shall not be used for re-vegetation for activities authorized by any NWP. The list of invasive plants in Virginia may be found at: http://www.dcr.virginia.gov/natural-heritage/invsppdflist. DCR recommends the use of regional native species for re-vegetation as identified in the DCR *Native Plants for Conservation, Restoration and Landscaping* brochures for the coastal, piedmont and mountain regions http://www.dcr.virginia.gov/natural-heritage/nativeplants#brochure .

7. **Condition for Temporary Impacts:** All temporarily disturbed waters and wetlands must be restored to their pre-construction contours within 12 months of commencing the temporary impacts' construction. Impacts that will not be restored within 12 months (calculated from the start of the temporary impacts' construction) will be considered permanent, unless otherwise approved by the Corps, and mitigation may be required. Once restored to their natural contours, soil in these areas must be mechanically loosened to a depth of 12 inches and wetland areas must be seeded or sprigged with appropriate native vegetation.

8. **Condition for Projects Requiring Coordination Under Section 408:** General Condition 31 of the NWPs requires that prospective permittees submit a pre-construction notification (PCN) if an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a US Army Corps of Engineers (USACE) federally authorized civil works project. For information on the location of Norfolk District projects, prospective permittees are directed to the maps showing the locations of Norfolk District projects located at: http://www.nao.usace.army.mil/Portals/31/docs/regulatory/RPSPdocs/RP-17_Corps_Project_Maps.pdf. If the prospective permittee is uncertain whether the proposed activity might alter or temporarily or permanently occupy or use a Norfolk District federally authorized civil works project, the prospective permittee shall submit a PCN.

9. **Condition for Construction or Installation of Subaqueous Turbines:** A pre-construction notification (PCN) is required if a prospective permittee proposes the construction or installation of subaqueous turbines because this work may have more than minimal impacts and the work will need to be coordinated with appropriate federal, state, and/or local agencies.

GENERAL CONDITIONS:

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR §§ 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR § 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation.
   (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects from Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers.

(a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed

NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. Tribal Rights. No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. Endangered Species.

(a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(e) Authorization of an activity by an NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their World Wide Web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties.

(a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to

demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed.

(d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless

the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)).

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____
(Transferee)

_____
(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission is not authorized by NWP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification.

(a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical

habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the applicable information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) Agency Coordination:

(1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.
(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.
(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.
(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.
(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

DISTRICT ENGINEER'S DECISION:

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the individual crossings of waters of the United States to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51, 52, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects. For those NWPs that have a waivable 300 linear foot limit for losses of intermittent and ephemeral stream bed and a 1/2-acre limit (i.e., NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52), the loss of intermittent and ephemeral stream bed, plus any other losses of jurisdictional waters and wetlands, cannot exceed 1/2-acre.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.
3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters (e.g., streams). The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and

include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31, or to evaluate PCNs for activities authorized by NWPs 21, 49, and 50), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

Further Information:

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

SECTION 401 WATER QUALITY CERTIFICATION (4/7/17)

The State Water Control Board has provided unconditional §401 Water Quality Certification for all of the Norfolk District Regional Conditions and for the following Nationwide Permits, as meeting the requirements of the Virginia Water Protection Permit Regulation, which serves as the Commonwealth's §401 Water Quality Certification: Nationwide Permits 1, 2, 4, 5, 6, 8, 9, 10, 11, 15, 20, 22, 28, 30, 31, 33, 34, 35, 36, 37, 38, 45, 46, 49, 50, 53, and 54.

COASTAL ZONE MANAGEMENT ACT CONSISTENCY DETERMINATION (4/5/17):

Based on the comments submitted by the agencies administering the enforceable policies of the Virginia CZM Program, DEQ concurs that the 2017 NWPs and Virginia Regional Conditions as proposed, are consistent with the Virginia CZM Program provided the following conditions, discussed below, are satisfied:

1) Prior to construction, applicants shall obtain all required permits and approvals for activities to be performed that are applicable to the Virginia CZM Program's enforceable policies, and that applicants adhere to all the conditions contained therein.

The Virginia Marine Resources Commission's (VMRC) concurrence of consistency with regard to the fisheries management, subaqueous lands management, wetlands management, and dunes management enforceable policies is based on the recognition that prospective permittees may be required to obtain additional state and/or local approvals from the VMRC and/or the local wetlands board prior to commencement of work in both tidal and nontidal waters under the agency's jurisdiction. Such approvals must precede implementation of the projects.

2) The DEQ Office of Wetlands and Stream Protection (OWSP) has provided §401 Clean Water Act (CWA) Water Quality Certification for the 2017 NWPs and Regional Conditions, applicable to the wetlands management and point source pollution control enforceable policies of the Virginia CZM Program. The activities that qualify for the NWPs must meet the requirements of DEQ's Virginia Water Protection Permit Regulation (9 VAC 25-210-130) and the permittee must abide by the conditions of the NWP. DEQ-OWSP has identified specific NWP exceptions. DEQ will process an individual application for a permit or a certificate or otherwise take action pursuant to 9 VAC 25-210-80 et seq. for those activities covered by an NWPs that have not received blanket §401 CWA Water Quality Certification.

The Corps should forward pre-construction notifications to DEQ for applicants that do not comply with or cannot meet the conditions of the §401 CWA Water Quality Certification. Further, the Commonwealth reserves its right to require an individual application for a permit or a certificate or otherwise take action on any specific project that could otherwise be covered under any of the NWPs when it determines on a case-by-case basis that concerns for water quality and the aquatic environment so indicate.

In accordance with the Federal Consistency Regulations at 15 CFR Part 930, section 930. 4, this conditional concurrence is based on the applicants demonstrating to the

Corps that they have obtained, or will obtain, all necessary authorizations prior to implementing a project which qualifies for a NWP. If the requirements of section 930. 4, sub-paragraphs (a)(1) through (a)(3) are not met, this conditional concurrence becomes an objection under 15 CFR Part 930, section 940.43.

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

March 3, 2021

Western Virginia Regulatory Section
NAO-2015-0898 (North and South Fork Roanoke River)

Mountain Valley Pipeline, LLC
Attn: Cory Chalmers
2200 Energy Drive
Canonsburg, Pennsylvania 15317

Dear Mr. Chalmers:

This is in regard to your Department of the Army permit application number NAO-2015-0898 to impact navigable waters of the U.S. The work consists of installing 12 water quality monitoring stations within different waterways in 4 different counties. The work will occur at multiple locations within Pittsylvania, Franklin, Roanoke and Montgomery Counties, Virginia. Of the 12 locations 9 do not require authorization to be constructed pursuant to 33 CFR § 323.3(c)(2). The remaining 3 monitoring stations will be placed in waters subject to jurisdiction under Section 10 of the Rivers and Harbors Act of 1899 and as such will require a Department of the Army Permit. These impacts are detailed on the enclosed drawings entitled "Stations 08M, 08T & 08U Aquatic Resource Report USACE Norfolk District" Figure 1-2, and "Stations 07U (Alternative) Aquatic Resource Report USACE Norfolk District" Figure 1-3, prepared and submitted by the applicant Mountain Valley Pipeline, LLC and dated January 2021, and received by this office on February 1, 2021 (attached).

Your proposed work as outlined above satisfies the criteria contained in the Corps Nationwide Permit 5, attached. The Corps Nationwide Permits were published in the January 6, 2017, Federal Register notice (82 FR 1860) and the regulations governing their use can be found in 33 CFR 330 published in Volume 56, Number 226 of the Federal Register dated November 22, 1991.

This nationwide permit verification is contingent upon the following project specific conditions:

Special Conditions:

The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work

or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

Provided the project specific conditions (above), Regional Conditions, and the Nationwide Permit General Conditions (enclosed) are met, an individual Department of the Army Permit will not be required. In addition, the Virginia Department of Environmental Quality has provided an unconditional §401 Water Quality Certification for Nationwide Permit Number 5. A permit may be required from the Virginia Marine Resources Commission and/or your local wetlands board, and this verification is not valid until you obtain their approval, if necessary. This authorization does not relieve your responsibility to comply with local requirements pursuant to the Chesapeake Bay Preservation Act (CBPA), nor does it supersede local government authority and responsibilities pursuant to the Act. You should contact your local government before you begin work to find out how the CBPA applies to your project.

Enclosed is a "compliance certification" form, which must be signed and returned within 30 days of completion of the project, including any required mitigation. Your signature on this form certifies that you have completed the work in accordance with the Nationwide permit terms and conditions.

This verification is valid until the Nationwide Permit is modified, reissued, or revoked. All of the existing Nationwide Permits are scheduled to be modified, reissued, or revoked prior to March 18, 2022. It is incumbent upon you to remain informed of changes to the Nationwide Permits. We will issue a public notice when the Nationwide Permits are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the Nationwide Permit to complete the activity under the present terms and conditions of this Nationwide Permit unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 CFR 330.4(e) and 33 CFR 330.5 (c) or (d). Project specific conditions listed in this letter continue to remain in effect after the Nationwide Permit verification expires, unless the district engineer removes those conditions. Activities completed under the authorization of a Nationwide Permit which was in effect at the time the activity was completed continue to be authorized by that Nationwide Permit.

In granting an authorization pursuant to this permit, the Norfolk District has relied on the information and data provided by the permittee. If, subsequent to notification by the Corps that a project qualifies for this permit, such information and data prove to be materially false or materially incomplete, the authorization may be suspended or revoked, in whole or in part, and the Government may institute appropriate legal proceedings.

If you have any questions and/or concerns about this permit authorization, please contact me via telephone at (804) 323-3782 or via email at todd.m.miller@usace.army.mil.

Sincerely,

Todd M. Miller

Todd Miller
Chief, Southern Virginia
Regulatory Section

Enclosure(s)

Cc: Randy Owen - Virginia Marine Resources Commission
Steven Hardwick - Department of Environmental Quality

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

March 3, 2021

Western Virginia Regulatory Section
NAO-2015-0898 (North and South Fork Roanoke River, Roanoke River)

Mountain Valley Pipeline, LLC
Attn: Cory Chalmers
2200 Energy Drive
Canonsburg, Pennsylvania 15317

Dear Mr. Chalmers:

This is in regard to your Department of the Army permit application number NAO-2015-0898 to impact navigable waters of the U.S. The work consists of installing 44 water quality monitoring stations within different waterways in 5 different counties. The work will occur at multiple locations within Giles, Montgomery, Roanoke, Pittsylvania, and Franklin Counties, Virginia. Of the 44 locations 32 do not require authorization to be constructed pursuant to 33 CFR § 323.3(c)(2). The remaining 12 monitoring stations will be placed in waters subject to jurisdiction under Section 10 of the Rivers and Harbors Act of 1899 and as such will require a Department of the Army Permit. These impacts are detailed on the enclosed drawings entitled "Figure 1 USGS Topo Project Location Map USACE Norfolk District" Figures 1-5 thru 1-11, prepared and submitted by the applicant Mountain Valley Pipeline, LLC and dated November 2021, and received by this office on November 23, 2021 (attached).

Your proposed work as outlined above satisfies the criteria contained in the Corps Nationwide Permit 5, attached. The Corps Nationwide Permits were published in the January 6, 2017, Federal Register notice (82 FR 1860) and the regulations governing their use can be found in 33 CFR 330 published in Volume 56, Number 226 of the Federal Register dated November 22, 1991.

This nationwide permit verification is contingent upon the following project specific conditions:

Special Conditions:

The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim

shall be made against the United States on account of any such removal or alteration.

Provided the project specific conditions (above), Regional Conditions, and the Nationwide Permit General Conditions (enclosed) are met, an individual Department of the Army Permit will not be required. In addition, the Virginia Department of Environmental Quality has provided an unconditional §401 Water Quality Certification for Nationwide Permit Number 5. A permit may be required from the Virginia Marine Resources Commission and/or your local wetlands board, and this verification is not valid until you obtain their approval, if necessary. This authorization does not relieve your responsibility to comply with local requirements pursuant to the Chesapeake Bay Preservation Act (CBPA), nor does it supersede local government authority and responsibilities pursuant to the Act. You should contact your local government before you begin work to find out how the CBPA applies to your project.

Enclosed is a "compliance certification" form, which must be signed and returned within 30 days of completion of the project, including any required mitigation. Your signature on this form certifies that you have completed the work in accordance with the Nationwide permit terms and conditions.

This verification is valid until the Nationwide Permit is modified, reissued, or revoked. All of the existing Nationwide Permits are scheduled to be modified, reissued, or revoked prior to March 18, 2022. It is incumbent upon you to remain informed of changes to the Nationwide Permits. We will issue a public notice when the Nationwide Permits are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the Nationwide Permit to complete the activity under the present terms and conditions of this Nationwide Permit unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 CFR 330.4(e) and 33 CFR 330.5 (c) or (d). Project specific conditions listed in this letter continue to remain in effect after the Nationwide Permit verification expires, unless the district engineer removes those conditions. Activities completed under the authorization of a Nationwide Permit which was in effect at the time the activity was completed continue to be authorized by that Nationwide Permit.

In granting an authorization pursuant to this permit, the Norfolk District has relied on the information and data provided by the permittee. If, subsequent to notification by the Corps that a project qualifies for this permit, such information and data prove to be materially false or materially incomplete, the authorization may be suspended or revoked, in whole or in part, and the Government may institute appropriate legal proceedings.

If you have any questions and/or concerns about this permit authorization, please contact me via telephone at (804) 323-3782 or via email at todd.m.miller@usace.army.mil.

Sincerely,

Todd M. Miller

Todd Miller
Chief, Southern Virginia
Regulatory Section

Enclosure(s)

Cc: Randy Owen - Virginia Marine Resources Commission
Steven Hardwick - Department of Environmental Quality

U.S. Army Corps
Of Engineers
Norfolk District

CERTIFICATE OF COMPLIANCE
WITH
ARMY CORPS OF ENGINEERS PERMIT

Permit Number: NAO-2015-0898
VMRC Number: 20-V2125

Corps Contact: Todd Miller

Name of Permittee: Mountain Valley Pipeline, LLC

Date of Verification: March 3, 2021

Permit Type: Nationwide Permit 5

Within 30 days of completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US Army Corps of Engineers - Norfolk District
Richmond Field Office
Attn: Todd Miller
9100 Arboretum Pkwy, Ste 235
Richmond, Virginia 23236

Or scan and send via email to todd.m.miller@usace.army.mil

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit and required mitigation has been completed in accordance with the permit conditions.

_____ _____
Signature of Permittee Date

2200 Energy Drive | Canonsburg, PA 15317
844-MVP-TALK | mail@mountainvalleypipeline.info
www.mountainvalleypipeline.info

By Email and FTP Site

February 19, 2021

Adam Fannin
Senior Project Manager
Huntington District
U.S. Army Corps of Engineers
502 Eighth Street
Huntington, West Virginia 27501

Steven Hardwick
VWP Coordinator
Va. Dep. of Environmental Quality
1111 E. Main Street
Suite 1400
Richmond, Virginia 23219

Jared Pritts
Regulatory Specialist
Pittsburgh District
U.S. Army Corps of Engineers
2200 William S. Moore Federal Building
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222

Randy Owen
Deputy Chief, Habitat Management
Virginia Marine Resources Commission
Building 96
380 Fenwick Road
Fort Monroe, Virginia 23651

Todd Miller
Chief, Southern Section
Norfolk District
U.S. Army Corps of Engineers
803 Front Street
Norfolk, Virginia 23510

Re: Mountain Valley Pipeline Project
USACE Nos: LRH-2015-00592-GBR; LPR-2015-798; NAO-2017-0898
VMRC No: 2017-1609

Dear Messrs. Fannin, Pritts, Miller, Hardwick, and Owen:

Mountain Valley Pipeline is pleased to submit enclosed application package to your respective agencies.

Firstly, the package provides an application to the U.S. Army Corps of Engineers (USACE) for an Individual Permit under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. This application is submitted jointly to the Huntington, Pittsburgh, and Norfolk Districts.

Second, Virginia law requires that applicants seeking a Clean Water Act Section 404 permit from the USACE submit a joint permit application to the USACE and to the state resource agencies

with jurisdiction over state waters. To comply with that requirement, the package includes (1) an application to the Virginia Department of Environmental Quality (VDEQ) for a Virginia Water Protection Permit and (2) an application to the Virginia Marine Resources Commission (VMRC) to modify the Project's existing subaqueous lands permit.

Please be advised that requests for water quality certification will be submitted to VDEQ and WVDEP at a later date.

Due to the large size of the application package, it is being provided to the USACE through the DoD SAFE system. The materials are provided to VDEQ and VMRC through the VitaShare system. Hard copies of all or any portion of the application package will be provided at your request.

The Mountain Valley Pipeline project team looks forward to working with you through the respective permitting processes. We welcome any comments or questions you may have regarding the enclosed information. Please feel free to contact me at (724) 873-3009 or MHoover@equitransmidstream.com.

Respectfully submitted,
MOUNTAIN VALLEY PIPELINE, LLC
by and through its operator,
EQM Gathering Opco, LLC
By:



Matthew S. Hoover
Environmental Permitting Supervisor

Enclosure (as stated)

cc: Teresa Spagna, USACE
Kayla Osborne, USACE
Kathy Emery, WVDEP
Scott Mandirola, WVDEP
Brian Bridgewater, WVDEP
Melanie Davenport, VDEQ
Dave Davis, VDEQ
FERC Docket CP21-57

2200 Energy Drive | Canonsburg, PA 15317
844-MVP-TALK | mail@mountainvalleypipeline.info
www.mountainvalleypipeline.info

By Email

March 4, 2021

Adam Fannin
Senior Project Manager
Huntington District
U.S. Army Corps of Engineers
502 Eighth Street
Huntington, West Virginia 27501

Steven Hardwick
VWP Coordinator
Va. Dep. of Environmental Quality
1111 E. Main Street
Suite 1400
Richmond, Virginia 23219

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380 Fenwick Road
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Todd Miller
Chief, Southern Section
Norfolk District
U.S. Army Corps of Engineers
803 Front Street
Norfolk, Virginia 23510

Re: Mountain Valley Pipeline Project
USACE Nos: LRH-2015-00592-GBR; LPR-2015-798; NAO-2017-0898
VMRC No: 2017-1609
Information Update

Dear Messrs. Fannin, Pritts, Miller, Hardwick, and Owen:

On February 19 Mountain Valley provided an application to the U.S. Army Corps of Engineers (USACE) for an Individual Permit under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. This application was submitted jointly to the Huntington, Pittsburgh, and Norfolk Districts.

Mountain Valley also provided an application to the Virginia Department of Environmental Quality (VDEQ) for a Virginia Water Protection Permit and an application to the Virginia Marine Resources Commission (VMRC) to modify the Project's existing subaqueous lands permit.

Since the submission, Mountain Valley identified several updates to the tables listed below. The information is intended to completely replace the identified Tables in the applications.

- Table 2 (Stream Impacts)
- Table 3 (Wetland Impacts)
- Table 4 (Stream Impacts Summary)
- Table 5 (Wetland Impacts Summary)
- Table 8 (List of Affected Landowners): Mountain Valley is requesting that this Table is not subject to FOIA under Exemption 6.
- Table 15 (Crossing Method Determination Summary)
- Table 17 (Compensatory Wetland Mitigation)
- Table 18 (Compensatory Stream Mitigation)
- Table A-1 (West Virginia Stream Impacts)
- Table A-2 (West Virginia Wetland Impacts)
- Table A-3 (West Virginia Stream Impact Summary)
- Table A-4 (West Virginia Wetland Impact Summary)
- Table B-1 (Virginia Stream Impacts)
- Table B-2 (Virginia Wetland Impacts)
- Table B-3 (Virginia Stream Impact Summary)
- Table B-4 (Virginia Wetland Impact Summary)

The Mountain Valley Pipeline project team looks forward to working with you through the respective permitting processes. We welcome any comments or questions you may have regarding the enclosed information. Please feel free to contact me at (724) 873-3009 or MHoover@equitransmidstream.com.

Respectfully submitted,
MOUNTAIN VALLEY PIPELINE, LLC
by and through its operator,
EQM Gathering Opco, LLC
By:



Matthew S. Hoover
Environmental Permitting Supervisor

Enclosure (as stated)

cc: Teresa Spagna, USACE
Kayla Osborne, USACE
Kathy Emery, WVDEP

Scott Mandirola, WVDEP
Brian Bridgewater, WVDEP
Melanie Davenport, VDEQ
Dave Davis, VDEQ

Mountain Valley PIPELINE LLC

Table 2 (Stream Impacts)

Table 2. Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-J62	Right Fork Big Elk Creek	Harrison	Pittsburgh	39.445033	-80.482635	Perennial	RPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0037	-	18	-	4-35
S-B75/F49	UNT to Goose Run	Harrison	Pittsburgh	39.436571	-80.475198	Intermittent	RPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0028	-	13		4-36
S-B74	Goose Run	Harrison	Pittsburgh	39.436245	-80.474976	Intermittent	RPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0018	-	9	-	4-36
S-B79	UNT to Big Elk Creek	Harrison	Pittsburgh	39.423571	-80.476278	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Temporary Access Road	11	-	0.0004	-	2	-	4-39
S-B79	UNT to Big Elk Creek	Harrison	Pittsburgh	39.423499	-80.476392	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Permanent Access Road	-	60	-	0.0021	-	7	4-39
S-B79	UNT to Big Elk Creek	Harrison	Pittsburgh	39.423434	-80.476486	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Temporary Access Road	24	-	0.0008	-	4	-	4-39
S-J54	UNT to Little Tenmile Creek	Harrison	Pittsburgh	39.400324	-80.479967	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Permanent Access Road	-	26	-	0.0048	-	23	4-43
S-J51	Little Tenmile Creek	Harrison	Pittsburgh	39.398116	-80.477174	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Timber Mat Crossing	20	-	0.0138	-	67	-	4-43
S-A10a	Little Rockcamp Run	Harrison	Pittsburgh	39.370005	-80.484974	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Timber Mat Crossing	20	-	0.0055	-	27		4-49
S-B2a	UNT to Rockcamp Run	Harrison	Pittsburgh	39.359262	-80.493290	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	115	-	0.0211	-	341	-	4-51
S-B3a	Rockcamp Run	Harrison	Pittsburgh	39.358871	-80.493707	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Pipeline ROW	97	-	0.0445	-	719	-	4-51
S-A128	Rockcamp Run	Harrison	Pittsburgh	39.355569	-80.4901	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Permanent Access Road	-	29	-	0.032	-	155	4-51
S-RR22	UNT to Grass Run	Harrison	Pittsburgh	39.342166	-80.512422	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Timber Mat Crossing	20	-	0.0055	-	27		4-55
S-A11a	Grass Run	Harrison	Pittsburgh	39.335511	-80.522421	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Pipeline ROW	113	-	0.0311	-	502	-	4-56
S-A11a-Braid-1	Grass Run	Harrison	Pittsburgh	39.335500	-80.522502	Intermittent	RPW	Warmwater Fishery, Tier 1	05020002	Pipeline ROW	11	-	0.0015	-	7	-	4-56
S-A11a-Braid-2	Grass Run	Harrison	Pittsburgh	39.335410	-80.522360	Intermittent	RPW	Warmwater Fishery, Tier 1	05020002	Pipeline ROW	77	-	0.0088	-	143	-	4-56
S-OP8	UNT to Indian Run	Harrison	Pittsburgh	39.320959	-80.526445	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Temporary Access Road	-	41	-	0.0047	-	23	4-59
S-OP9	UNT to Indian Run	Harrison	Pittsburgh	39.320682	-80.526449	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Temporary Access Road	-	36	-	0.0025	-	12	4-59
S-B6a	Indian Run	Harrison	Pittsburgh	39.317309	-80.527175	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Temporary Access Road	30	-	0.0207	-	100	-	4-59
S-B6a	Indian Run	Harrison	Pittsburgh	39.317023	-80.526157	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Timber Mat Crossing	20	-	0.0138	-	67	-	4-59
S-B7a	UNT to Indian Run	Harrison	Pittsburgh	39.316755	-80.526222	Intermittent	RPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0018	-	9	-	4-59
S-UU3	Salem Fork	Harrison	Pittsburgh	39.289870	-80.517903	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Pipeline ROW	76	-	0.1047	-	1,689	-	4-66
S-UU5	Halls Run	Harrison	Pittsburgh	39.253041	-80.540508	Perennial	RPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	79	-	0.0073	-	117	-	4-74
S-K73	Coburn Fork	Harrison	Pittsburgh	39.243691	-80.553966	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Pipeline ROW	110	-	0.0126	-	204	-	4-77
S-K74	UNT to Coburn Fork	Harrison	Pittsburgh	39.243647	-80.553903	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	36	-	0.0021	-	10	-	4-77
S-K75	UNT to Coburn Fork	Harrison	Pittsburgh	39.243509	-80.554028	Intermittent	RPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	96	-	0.0066	-	107	-	4-77
S-K80	UNT to Turtletree Fork	Harrison	Pittsburgh	39.225747	-80.550164	Intermittent	RPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0014	-	7		4-80
S-CV9	UNT to Turtletree Fork	Harrison	Pittsburgh	39.22369	-80.548273	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0009	-	4		4-81
S-K81	Turtletree Fork	Harrison	Pittsburgh	39.223263	-80.547928	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Timber Mat Crossing	30	-	0.0028	-	13		4-81
S-CV10	UNT to Turtletree Fork	Harrison	Pittsburgh	39.221719	-80.546951	Perennial	RPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0014	-	7		4-81
S-A106	UNT to Kincheloe Creek	Harrison	Pittsburgh	39.168435	-80.577625	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	168	-	0.001	-	47	-	4-92
S-A105	UNT to Kincheloe Creek	Harrison	Pittsburgh	39.168266	-80.577815	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0018	-	9	-	4-92
S-K94	Kincheloe Creek	Lewis	Pittsburgh	39.167831	-80.578867	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Temporary Access Road	18	-	0.0083	-	40	-	4-92
S-K82	UNT to Kincheloe Creek	Harrison	Pittsburgh	39.167753	-80.578181	Perennial	RPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	110	-	0.0101	-	49	-	4-92
S-K94	Kincheloe Creek	Lewis	Pittsburgh	39.167575	-80.578144	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Pipeline ROW	79	-	0.0363	-	585	-	4-92
S-I67	Smoke Camp Run	Lewis	Pittsburgh	39.137145	-80.577026	Perennial	RPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	22	-	0.0040	-	20	-	4-99
S-J43	Right Fork Freemans Creek	Lewis	Pittsburgh	39.120579	-80.581328	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Timber Mat Crossing	22	-	0.0126	-	61	-	4-102
S-J44	UNT to Right Fork Freemans Creek	Lewis	Pittsburgh	39.114730	-80.586203	Perennial	RPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	79	-	0.0073	-	117	-	4-103
S-K46	UNT to Left Fork Freemans Creek	Lewis	Pittsburgh	39.080252	-80.581430	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	93	-	0.0043	-	21	-	4-109
S-B67	Left Fork Freemans Creek	Lewis	Pittsburgh	39.079556	-80.581346	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Timber Mat Crossing	22	-	0.0061	-	29	-	4-110
S-B69	UNT to Left Fork Freemans Creek	Lewis	Pittsburgh	39.077790	-80.582932	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Temporary Access Road	86	-	0.0030	-	14	-	4-110
S-H184	UNT to Left Fork Freemans Creek	Lewis	Pittsburgh	39.069684	-80.580583	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	22	-	0.0051	-	24	-	4-111
S-H184a	UNT to Left Fork Freemans Creek	Lewis	Pittsburgh	39.069645	-80.580591	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	22	-	0.0051	-	24	-	4-111
S-H180	UNT to Left Fork Freemans Creek	Lewis	Pittsburgh	39.068217	-80.581025	Intermittent	RPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	68	-	0.0203	-	327	-	4-111
S-ST18	UNT to Mobley Run	Wetzel	Huntington	39.561766	-80.540136	Intermittent	RPW	Warmwater Fishery, Tier 1	05030201	Permanent Access Road	21	-	0.0049	-	23	-	4-2
S-WX3	UNT to Mobley Run	Wetzel	Huntington	39.560611	-80.545823	Intermittent	RPW	Warmwater Fishery, Tier 1	05030201	ATWS	21	-	0.0024	-	12	-	4-1
S-A1a	North Fork Fishing Creek	Wetzel	Huntington	39.553946	-80.545046	Perennial	RPW	Warmwater Fishery, Tier 1	05030201	Pipeline ROW	80	-	0.0641	-	1,034	-	4-3
S-A3a	UNT to North Fork Fishing Creek	Wetzel	Huntington	39.551814	-80.545633	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	80	-	0.0166	-	267	-	4-4
S-J66	UNT to North Fork Fishing Creek	Wetzel	Huntington	39.546030	-80.544314	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	20	-	0.0014		7		4-5
S-A5a	UNT to Fallen Timber Run	Wetzel	Huntington	39.534241	-80.540995	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	30	-	0.0028	-	13	-	4-8
S-A6a	Fallen Timber Run	Wetzel	Huntington	39.534023	-80.540889	Perennial	RPW	Warmwater Fishery, Tier 1	05030201	Timber Mat Crossing	20	-	0.0092	-	44	-	4-9
S-A125	Price Run	Wetzel	Huntington	39.503477	-80.532902	Perennial	RPW	Warmwater Fishery, Tier 1	05030201	Timber Mat Crossing	20	-	0.0161	-	78	-	4-19
S-A124	UNT to Price Run	Wetzel	Huntington	39.503288	-80.532680	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	100	-	0.0276	-	445	-	4-19
S-A118	UNT to Price Run	Wetzel	Huntington	39.502399	-80.523520	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	79	-	0.0109	-	176	-	4-20
S-A120	Stout Run	Wetzel	Huntington	39.489914	-80.522135	Intermittent	RPW	Warmwater Fishery, Tier 1	05030201	Temporary Access Road	8	-	0.0011	-	5	-	4-23
S-A120	Stout Run	Wetzel	Huntington	39.489890	-80.522083	Intermittent	RPW	Warmwater Fishery, Tier 1	05030201	Permanent Access Road	-	26	-	0.0036	-	15	4-23
S-A120	Stout Run	Wetzel	Huntington	39.489866	-80.522029	Intermittent	RPW	Warmwater Fishery, Tier 1	05030201	Temporary Access Road	9	-	0.0012	-	6	-	4-23
S-A120	Stout Run	Wetzel	Huntington	39.489712	-80.520728	Intermittent	RPW	Warmwater Fishery, Tier 1	05030201	Timber Mat Crossing	20	-	0.0028	-	13	-	4-23
S-A119	UNT to Stout Run	Wetzel	Huntington	39.489589	-80.520532	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	134	-	0.0154	-	74	-	4-23

Table 2. Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-QR34	UNT to Stout Run	Wetzel	Huntington	39.489140	-80.520658	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030201	Permanent Access Road	-	125	-	0.0072	-	24	4-23
S-QR34	UNT to Stout Run	Wetzel	Huntington	39.489062	-80.520519	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030201	Temporary Access Road	8	-	0.0004	-	2	-	4-23
S-J60	Sams Run	Wetzel	Huntington	39.474354	-80.511825	Perennial	RPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	20	-	0.0064	-	31	-	4-26
S-J56	Manion Run	Wetzel	Huntington	39.464315	-80.502077	Perennial	RPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	20	-	0.0046	-	22	-	4-28
S-J56	Manion Run	Wetzel	Huntington	39.464105	-80.502318	Perennial	RPW	Warmwater Fishery, Tier 2	05030201	Temporary Access Road	23	-	0.0054	-	26	-	4-28
S-J56	Manion Run	Wetzel	Huntington	39.463899	-80.502594	Perennial	RPW	Warmwater Fishery, Tier 2	05030201	Permanent Access Road	-	41	-	0.0095	-	46	4-28
S-J59	UNT to Manion Run	Wetzel	Huntington	39.462705	-80.504726	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Permanent Access Road	-	7	-	0.0005	-	2	4-28
S-J59	UNT to Manion Run	Wetzel	Huntington	39.462684	-80.504736	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Temporary Access Road	10	-	0.0007	-	3	-	4-28
S-J58	UNT to Manion Run	Wetzel	Huntington	39.462546	-80.505386	Perennial	RPW	Warmwater Fishery, Tier 2	05030201	Permanent Access Road	26	-	0.0030	-	14	-	4-28
S-K77	Traugh Fork	Doddridge	Huntington	39.229029	-80.552534	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	37	-	0.0034	-	54	-	4-80
S-K77	Traugh Fork	Doddridge	Huntington	39.228942	-80.552437	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	93	-	0.0085	-	137	-	4-80
S-K67	UNT to Big Issac Creek	Doddridge	Huntington	39.210269	-80.553179	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	77	-	0.0177	-	285	-	4-84
S-K65	UNT to Big Issac Creek	Doddridge	Huntington	39.209813	-80.552450	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	90	-	0.0165	-	267	-	4-84
S-K54	UNT to Big Issac Creek	Doddridge	Huntington	39.207673	-80.552957	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	20	-	0.0032	-	16	-	4-84
S-K58	UNT to Big Issac Creek	Doddridge	Huntington	39.205595	-80.553224	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	20	-	0.0011	-	6	-	4-84
S-K59	UNT to Big Issac Creek	Doddridge	Huntington	39.204704	-80.553272	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	20	-	0.0011	-	6	-	4-84
S-K60	UNT to Big Issac Creek	Doddridge	Huntington	39.203779	-80.553410	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	20	-	0.0018	-	9	-	4-84
S-A110/K62	UNT to Laural Run	Doddridge	Huntington	39.201316	-80.553306	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Permanent Access Road	-	25	-	0.0040	-	13	4-85
S-A110/K62	UNT to Laural Run	Doddridge	Huntington	39.201286	-80.553425	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	59	-	0.0095	-	154	-	4-85
S-A111	Laural Run	Doddridge	Huntington	39.200749	-80.553190	Perennial	RPW	Warmwater Fishery, Tier 1	05030201	Pipeline ROW	77	-	0.0247	-	399	-	4-85
S-J46	Fink Creek	Lewis	Huntington	39.094778	-80.584826	Perennial	RPW	Warmwater Fishery, Tier 1	05030203	Timber Mat Crossing	22	-	0.0076	-	37	-	4-106
S-J47b	UNT to Fink Creek	Lewis	Huntington	39.094003	-80.585481	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0015	-	7	-	4-106
S-I64	Leading Creek	Lewis	Huntington	39.052748	-80.582213	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0020	-	10	-	4-114
S-KK3a	UNT to Laurel Run	Lewis	Huntington	39.019605	-80.597895	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0010	-	5	-	4-119
S-KK5	UNT to Laurel Run	Lewis	Huntington	39.017783	-80.596853	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0015	-	7	-	4-119
S-KK5	UNT to Laurel Run	Lewis	Huntington	39.017738	-80.597017	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0015	-	7	-	4-119
S-KK5	UNT to Laurel Run	Lewis	Huntington	39.017718	-80.597027	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0015	-	7	-	4-119
S-KK6	UNT Laurel Run	Lewis	Huntington	39.017621	-80.596939	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0015	-	7	-	4-119
S-KK7	Laurel Run	Lewis	Huntington	39.017519	-80.597010	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0030	-	15	-	4-119
S-K45	UNT to Cove Lick	Lewis	Huntington	39.002598	-80.595591	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	ATWS	50	-	0.0011	-	6	-	4-121
S-K43	Cove Lick	Lewis	Huntington	39.002111	-80.595843	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Permanent Access Road	-	27	-	0.0043	-	21	4-121
S-K43	Cove Lick	Lewis	Huntington	39.002045	-80.596098	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0035	-	17	-	4-121
S-K38	UNT to Rock Run	Lewis	Huntington	38.992357	-80.592929	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0015	-	7	-	4-123
S-I63	Sand Fork	Lewis	Huntington	38.969369	-80.593138	Perennial	RPW	Non-listed mussels, Warmwater Fishery, Tier 1	05030203	Pipeline ROW	60	-	0.0275	-	444	-	4-128
S-I63	Sand Fork	Lewis	Huntington	38.969290	-80.593203	Perennial	RPW	Non-listed mussels, Warmwater Fishery, Tier 1	05030203	Permanent Access Road	-	26	-	0.0119	-	58	4-128
S-I63	Sand Fork	Lewis	Huntington	38.969239	-80.593244	Perennial	RPW	Non-listed mussels, Warmwater Fishery, Tier 1	05030203	Temporary Access Road	8	-	0.0037	-	18	-	4-128
S-H160	Indian Fork	Lewis	Huntington	38.933179	-80.584562	Perennial	RPW	Warmwater Fishery, Tier 1	05030203	Timber Mat Crossing	23	-	0.0106	-	59	-	4-135
S-L76	Indian Fork	Lewis	Huntington	38.929761	-80.575251	Perennial	RPW	Warmwater Fishery, Tier 1	05030203	Permanent Access Road	33	-	0.0115	-	56	-	4-137
S-H153	UNT to Sugar Camp Run	Lewis	Huntington	38.922846	-80.579227	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	76	-	0.0262	-	423	-	4-136
S-H145	UNT to Indian Fork	Lewis	Huntington	38.918986	-80.573838	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	91	-	0.0313	-	505	-	4-140
S-H165	UNT to Indian Fork	Lewis	Huntington	38.918602	-80.573256	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	144	-	0.0198	-	320	-	4-140
S-CV3	Threelick Run	Lewis	Huntington	38.913415	-80.571854	Perennial	RPW	Warmwater Fishery, Tier 1	05030203	Timber Mat Crossing	22	-	0.0030	-	15	-	4-142
S-CD16	UNT to Second Big Run	Lewis	Huntington	38.904135	-80.563719	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	173	-	0.0318	-	154	-	4-144
S-VV13	Second Big Run	Lewis	Huntington	38.903930	-80.563537	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	80	-	0.0275	-	133	-	4-144
S-VV11	UNT to Second Big Run	Lewis	Huntington	38.903610	-80.563186	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	7	-	0.0007	-	3	-	4-144
S-VV12	UNT to Second Big Run	Lewis	Huntington	38.903575	-80.563308	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	77	-	0.0211	-	341	-	4-144
S-VV13d	Second Big Run	Lewis	Huntington	38.902549	-80.564778	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	61	-	0.0210	-	102	-	4-144
S-VV20	UNT to Second Big Run	Lewis	Huntington	38.900233	-80.563491	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	40	-	0.0028	-	13	-	4-145
S-VV19	UNT to Second Big Run	Lewis	Huntington	38.899505	-80.563925	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	62	-	0.0043	-	21	-	4-146
S-VV13b	Second Big Run	Lewis	Huntington	38.898431	-80.568250	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	42	-	0.0143	-	69	-	4-146
S-VV18	UNT to Second Big Run	Lewis	Huntington	38.897028	-80.567634	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	41	-	0.0075	-	36	-	4-146
S-VV16	UNT to Second Big Run	Lewis	Huntington	38.896271	-80.566551	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	293	-	0.0202	-	98	-	4-146
S-VV16	UNT to Second Big Run	Lewis	Huntington	38.895455	-80.566432	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	211	-	0.0145	-	70	-	4-146
S-UV11	Oil Creek	Lewis	Huntington	38.893014	-80.556192	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	51	-	0.0351	-	567	-	4-148
S-UV11	Oil Creek	Lewis	Huntington	38.893014	-80.556192	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Permanent Access Road	-	25	-	-	0	-	4-148
S-VV22	UNT to Oil Creek	Lewis	Huntington	38.890411	-80.550986	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	43	-	0.0029	-	12	-	4-148
S-VV21	UNT to Oil Creek	Lewis	Huntington	38.890221	-80.553817	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	18	-	0.0012	-	5	-	4-148
S-L61	Crooked Run	Lewis	Huntington	38.880040	-80.563579	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Permanent Access Road	-	30	-	0.0069	-	33	4-151
S-L61	Crooked Run	Lewis	Huntington	38.879034	-80.564307	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Permanent Access Road	-	28	-	0.0064	-	31	4-151

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Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-VV9	UNT to Clover Fork	Lewis	Huntington	38.863254	-80.525763	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0051	-	24	-	4-158
S-VV2	Clover Fork	Braxton	Huntington	38.862730	-80.525128	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	90	-	0.0412	-	664	-	4-159
S-L51	Barbecue Run	Braxton	Huntington	38.839355	-80.519693	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0101	-	49	-	4-161
S-J37	UNT to Barbecue Run	Braxton	Huntington	38.839133	-80.519716	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0015	-	7	-	4-162
S-L57	UNT to Barbecue Run	Braxton	Huntington	38.828310	-80.525753	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	-	26	-	0.0024	-	12	4-165
S-L57	UNT to Barbecue Run	Braxton	Huntington	38.828300	-80.525691	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road/ATWS	25	-	0.0023	-	11	-	4-165
S-L60	Left Fork Knawl Creek	Braxton	Huntington	38.824034	-80.524988	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	75	-	0.0517	-	833	-	4-165
S-LL1	Knawl Creek	Braxton	Huntington	38.823595	-80.525342	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	88	-	0.0607	-	980	-	4-165
S-IJ27	Little Knawl Creek	Braxton	Huntington	38.809593	-80.541252	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Permanent Access Road	-	34	-	0.0156	-	76	4-168
S-IJ32	UNT to Little Knawl Creek	Braxton	Huntington	38.809568	-80.537319	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Permanent Access Road	-	26	-	0.0030	-	14	4-168
S-IJ27	Little Knawl Creek	Braxton	Huntington	38.808878	-80.543272	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Permanent Access Road	-	50	-	0.0230	-	111	4-168
S-QR30	UNT to Little Knawl Creek	Braxton	Huntington	38.807940	-80.535715	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	79	-	0.0274	-	442	-	4-168
S-JJ1	UNT to Keith Run	Braxton	Huntington	38.786930	-80.530028	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0071	-	34	-	4-172
S-I60	UNT to Falls Run	Braxton	Huntington	38.781068	-80.524577	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0020	-	10	-	4-174
S-J70	Falls Run	Braxton	Huntington	38.778955	-80.525862	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	77	-	0.0530	-	854	-	4-174
S-K34	Hemp Patch Run	Braxton	Huntington	38.766123	-80.520308	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0025	-	12	-	4-178
S-K33	UNT to Hemp Patch Run	Braxton	Huntington	38.765714	-80.520032	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0010	-	5	-	4-178
S-H123	UNT to Elliott Run	Braxton	Huntington	38.761197	-80.514887	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	82	-	0.0113	-	183	-	4-178
S-H123	UNT to Elliott Run	Braxton	Huntington	38.760426	-80.513624	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	82	-	0.0113	-	182	-	4-178
S-H127	UNT to Elliott Run	Braxton	Huntington	38.755029	-80.513692	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0020	-	10	-	4-180
S-H132	Little Kanawha River	Braxton	Huntington	38.751499	-80.514919	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	120	-	0.0606	-	293	-	4-180
S-H129	UNT to Little Kanawha River	Braxton	Huntington	38.749321	-80.514337	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0010	-	5	-	4-183
S-H131	UNT to Little Kanawha River	Braxton	Huntington	38.749215	-80.514370	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0010	-	5	-	4-183
S-H117	Stonecoal Run	Braxton	Huntington	38.731020	-80.506280	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	82	-	0.0283	-	456	-	4-188
S-L46	UNT to Laurel Run	Braxton	Huntington	38.721880	-80.499258	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	78	-	0.0267	-	431	-	4-190
S-L44	UNT to Laurel Run	Braxton	Huntington	38.716945	-80.494589	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	81	-	0.0185	-	298	-	4-193
S-I57	Mudlick Run	Braxton	Huntington	38.697413	-80.489560	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	77	-	0.0528	-	852	-	4-196
S-A96/A103	UNT to Left Fork Holly River	Webster	Huntington	38.688706	-80.478590	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	83	-	0.0114	-	185	-	4-198
S-A97	UNT to Left Fork Holly River	Webster	Huntington	38.688329	-80.478406	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	125	-	0.0229	-	370	-	4-198
S-A99	UNT to Left Fork Holly River	Webster	Huntington	38.688120	-80.478371	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	34	-	0.0039	-	19	-	4-198
S-A98	UNT to Left Fork Holly River	Webster	Huntington	38.687906	-80.478024	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW/Temporary Access Road	392	-	0.0629	-	1015	-	4-198
S-A100	Left Fork Holly River	Webster	Huntington	38.676643	-80.477940	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Timber Mat Crossing	22	-	0.0404	-	196	-	4-200
S-E78/E82/R1	UNT to Left Fork Holly River	Webster	Huntington	38.676223	-80.477663	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	102	-	0.0094	-	151	-	4-200
S-E76	UNT to Left Fork Holly River	Webster	Huntington	38.674988	-80.477360	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0015	-	7	-	4-200
S-KK2	UNT to Left Fork Holly River	Webster	Huntington	38.672226	-80.476315	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	75	-	0.0052	-	84	-	4-200
S-KK3b	UNT to Left Fork Holly River	Webster	Huntington	38.672110	-80.476515	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	100	-	0.0069	-	111	-	4-201
S-KK4b	UNT to Left Fork Holly River	Webster	Huntington	38.671976	-80.476825	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	88	-	0.0061	-	98	-	4-201
S-E74	UNT to Left Fork Holly River	Webster	Huntington	38.671971	-80.476990	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	68	-	0.0062	-	30	-	4-200
S-F40	Oldlick Creek	Webster	Huntington	38.667943	-80.479023	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Timber Mat Crossing	22	-	0.0126	-	61	-	4-201
S-S1	UNT to Oldlick Creek	Webster	Huntington	38.667020	-80.478624	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	21	-	0.0010	-	5	-	4-201
S-S4	UNT to Oldlick Creek	Webster	Huntington	38.664389	-80.484709	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	45	-	0.0021	-	10	-	4-204
S-F43	UNT to Oldlick Creek	Webster	Huntington	38.663706	-80.478644	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	101	-	0.0232	-	375	-	4-202
S-E67	Right Fork Holly Creek	Webster	Huntington	38.648021	-80.489704	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	92	-	0.1803	-	2910	-	4-206
S-B62	Narrows Run	Webster	Huntington	38.646185	-80.486813	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	ATWS	15	-	0.0103	-	50	-	4-215
S-B62	Narrows Run	Webster	Huntington	38.643910	-80.485213	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Permanent Access Road	-	29	-	0.0200	-	97	4-215
S-E71	UNT to Elk River	Webster	Huntington	38.614405	-80.506004	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	44	-	0.0020	-	33	-	4-218
S-H111	UNT to Elk River	Webster	Huntington	38.613367	-80.504620	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0020	-	10	-	4-218
S-H111	UNT to Elk River	Webster	Huntington	38.613341	-80.504620	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0020	-	10	-	4-218
S-H114	UNT to Elk River	Webster	Huntington	38.613259	-80.504243	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0010	-	5	-	4-218
S-H112	UNT to Elk River	Webster	Huntington	38.613163	-80.504012	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0015	-	7	-	4-218
S-H113	UNT to Elk River	Webster	Huntington	38.612982	-80.503647	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	74	-	0.0203	-	327	-	4-218
S-H113	UNT to Elk River	Webster	Huntington	38.612878	-80.503687	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	9	-	0.0026	-	42	-	4-218
S-H113	UNT to Elk River	Webster	Huntington	38.612874	-80.503682	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	9	-	0.0026	-	41	-	4-218
S-H110	UNT to Houston Run	Webster	Huntington	38.587200	-80.509634	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0015	-	7	-	4-222
S-T29	Houston Run	Webster	Huntington	38.579092	-80.525620	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	76		0.0525	-	847	-	4-230
S-A83/A91	UNT to Camp Creek	Webster	Huntington	38.557064	-80.535592	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	75	-	0.0518	-	835	-	4-235
S-A93	UNT to Camp Creek	Webster	Huntington	38.556823	-80.535751	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050007	Temporary Access Road	13	-	0.0025	-	12	-	4-235
S-A93	UNT to Camp Creek	Webster	Huntington	38.556682	-80.535572	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	105	-	0.0193	-	312	-	4-235
S-A92	UNT to Camp Creek	Webster	Huntington	38.556658	-80.535607	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	59	-	0.0175	-	282	-	4-235

Table 2. Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-H108	Lower Laurel Fork	Webster	Huntington	38.549358	-80.539260	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	78	-	0.0251	-	405	-	4-236
S-H105	UNT to Camp Creek	Webster	Huntington	38.548824	-80.539644	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	121	-	0.0083	-	135	-	4-236
S-H107	UNT to Camp Creek	Webster	Huntington	38.548467	-80.540073	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	10	-	0.0003	-	5	-	4-236
S-H107	UNT to Camp Creek	Webster	Huntington	38.548463	-80.540050	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050007	Permanent Access Road	-	30	-	0.0010	-	3	4-236
S-H107	UNT to Camp Creek	Webster	Huntington	38.548378	-80.539980	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	90	-	0.0031	-	50	-	4-236
S-H104	Camp Creek	Webster	Huntington	38.548121	-80.540431	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	104	-	0.0360	-	580	-	4-236
S-H103	UNT to Camp Creek	Webster	Huntington	38.545817	-80.542972	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	37	-	0.0034	-	16	-	4-248
S-B34	Amos Run	Webster	Huntington	38.493956	-80.560990	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	81	-	0.0561	-	904	-	4-260
S-B35	UNT to Amos Run	Webster	Huntington	38.493884	-80.560969	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	80	-	0.0037	-	59	-	4-260
S-B36	UNT to Amos Run	Webster	Huntington	38.493819	-80.560919	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	72	-	0.0033	-	53	-	4-260
S-B37	UNT to Amos Run	Webster	Huntington	38.493750	-80.560898	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	82	-	0.0038	-	61	-	4-260
S-B38	UNT to Amos Run	Webster	Huntington	38.493723	-80.560843	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	43	-	0.0020	-	32	-	4-260
S-B42	UNT to Amos Run	Webster	Huntington	38.493645	-80.560892	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	101	-	0.0046	-	75	-	4-260
S-B39b	UNT to Amos Run	Webster	Huntington	38.493532	-80.560792	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	142	-	0.0008	-	13	-	4-260
S-B45	UNT to Amos Run	Webster	Huntington	38.493394	-80.560786	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	177	-	0.0122	-	196	-	4-260
S-B39a/B46	UNT to Amos Run	Webster	Huntington	38.493363	-80.560657	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	110	-	0.0076	-	122	-	4-260
S-B39b	UNT to Amos Run	Webster	Huntington	38.493352	-80.560574	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	3	-	0.0002	-	0	-	4-260
S-B39a/B46	UNT to Amos Run	Webster	Huntington	38.493227	-80.560529	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	11	-	0.0007	-	12	-	4-260
S-O4	Lost Run	Webster	Huntington	38.483002	-80.556464	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	92	-	0.0379	-	612	-	4-263
S-O5	UNT to Laurel Creek	Webster	Huntington	38.482251	-80.555499	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050007	Timber Mat Crossing	22	-	0.0010	-	5	-	4-263
S-A81	UNT to Laurel Creek	Webster	Huntington	38.481219	-80.554668	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050007	Temporary Access Road	81	-	0.0037	-	18	-	4-263
S-A79	Laurel Creek	Webster	Huntington	38.480782	-80.554682	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Timber Mat Crossing	55	-	0.0278	-	134	-	4-263
S-A80	UNT to Laurel Creek	Webster	Huntington	38.480687	-80.554061	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050007	Temporary Access Road	104	-	0.0096	-	46	-	4-263
S-E58	Little Glade Run	Webster	Huntington	38.443669	-80.551989	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0040	-	20	-	4-269
S-E55	UNT to Laurel Creek	Webster	Huntington	38.440270	-80.559955	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050007	Timber Mat Crossing	22	-	0.0010	-	5	-	4-271
S-F35	UNT to Birch River	Webster	Huntington	38.424082	-80.570710	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0025	-	12	-	4-278
S-F34	UNT to Birch River	Webster	Huntington	38.423988	-80.570680	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0025	-	12	-	4-278
S-F36a	UNT to Birch River	Webster	Huntington	38.422056	-80.569457	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	5	-	0.0006	-	11	-	4-278
S-F36a	UNT to Birch River	Webster	Huntington	38.421474	-80.570012	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	23	-	0.0027	-	13	-	4-278
S-F36a	UNT to Birch River	Webster	Huntington	38.418662	-80.573898	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	23	-	0.0027	-	13	-	4-278
S-F36a	UNT to Birch River	Webster	Huntington	38.418122	-80.574566	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	20	-	0.0023	-	3	-	4-278
S-F36b	UNT to Birch River	Webster	Huntington	38.417934	-80.576775	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	65	-	0.0300	-	145	-	4-279
S-F36b	UNT to Birch River	Webster	Huntington	38.417774	-80.576635	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	78	-	0.0359	-	580	-	4-279
S-F36b	UNT to Birch River	Webster	Huntington	38.417693	-80.576495	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	16	-	0.0074	-	36	-	4-279
S-F37	UNT to Birch River	Webster	Huntington	38.417651	-80.576431	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	20	-	0.0018	-	9	-	4-279
S-C49	UNT to Birch River	Webster	Huntington	38.416587	-80.577890	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0015	-	7	-	4-279
S-B33	UNT to Meadow Fork	Webster	Huntington	38.408941	-80.589063	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0051	-	24	-	4-281
S-B32-Braid	UNT to Meadow Fork	Webster	Huntington	38.405871	-80.591069	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0035	-	17	-	4-281
S-B32	UNT to Meadow Fork	Webster	Huntington	38.405683	-80.591116	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0035	-	17	-	4-281
S-EF40	UNT to Meadow Fork	Webster	Huntington	38.400883	-80.597787	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Anode Bed	52	-	0.0084	-	41	-	4-282
S-B30	UNT to Meadow Fork	Webster	Huntington	38.399733	-80.597536	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Anode Bed	27	-	0.0024	-	12	-	4-282
S-B29	Meadow Fork	Webster	Huntington	38.399618	-80.597332	Perennial	RPW	Warmwater Fishery, Tier 1	05050007	Pipeline ROW	85	-	0.0136	-	220	-	4-282
S-E50	UNT to Gauley River	Webster	Huntington	38.370597	-80.611921	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	93	-	0.0085	-	138	-	4-289
S-E52	UNT to Gauley River	Webster	Huntington	38.369110	-80.611761	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0015	-	7	-	4-290
S-E50	UNT to Gauley River	Webster	Huntington	38.367280	-80.612317	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	82	-	0.0075	-	122	-	4-289
S-E49	UNT to Gauley River	Nicholas	Huntington	38.365574	-80.613141	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	88	-	0.0020	-	33	-	4-290
S-E46	Strouds Creek	Webster	Huntington	38.363374	-80.617277	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0152	-	73	-	4-291
S-E46	Strouds Creek	Webster	Huntington	38.363326	-80.616955	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Temporary Access Road	43	-	0.0296	-	143	-	4-291
S-F21	Barn Run	Nicholas	Huntington	38.355859	-80.633328	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0020	-	10	-	4-293
S-F20	Barn Run	Nicholas	Huntington	38.355800	-80.633223	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0051	-	24	-	4-293
S-IJ57	UNT to Barn Run	Nicholas	Huntington	38.352362	-80.636401	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	82	-	0.0094	-	152	-	4-293
S-IJ59	UNT to Barn Run	Nicholas	Huntington	38.348372	-80.641152	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0035	-	17	-	4-295
S-IJ60	UNT to Rockcamp Run	Nicholas	Huntington	38.343699	-80.644721	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	77	-	0.0141	-	227	-	4-296
S-IJ62	UNT to Cherry Run	Nicholas	Huntington	38.343547	-80.647035	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	79	-	0.0054	-	88	-	4-296
S-B28	Cherry Run	Nicholas	Huntington	38.340083	-80.655413	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0051	-	24	-	4-298
S-B26	UNT to Cherry Run	Nicholas	Huntington	38.339012	-80.659609	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Temporary Access Road	43	-	0.0039	-	19	-	4-299
S-J32	Big Beaver Creek	Nicholas	Huntington	38.331763	-80.670342	Perennial	RPW	Warmwater Fishery, Tier 1	05050005	Timber Mat Crossing	22	-	0.0177	-	86	-	4-301
S-A76	UNT to Big Beaver Creek	Nicholas	Huntington	38.329126	-80.671211	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	77	-	0.0106	-	172	-	4-301
S-A75	UNT to Big Beaver Creek	Nicholas	Huntington	38.326001	-80.670358	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	84	-	0.0193	-	311	-	4-302

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S-A74	UNT to Big Beaver Creek	Nicholas	Huntington	38.325540	-80.670150	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	75	-	0.0069	-	112	-	4-302
S-A73	UNT to Big Beaver Creek	Nicholas	Huntington	38.323815	-80.670069	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	83	-	0.0114	-	184	-	4-302
S-A72	UNT to Big Beaver Creek	Nicholas	Huntington	38.321687	-80.670952	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0020	-	10	-	4-302
S-A71	UNT to Big Beaver Creek	Nicholas	Huntington	38.321572	-80.670958	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0020	-	10	-	4-302
S-A71-Braid	UNT to Big Beaver Creek	Nicholas	Huntington	38.321548	-80.670969	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0040	-	20	-	4-302
S-A67	UNT to Big Beaver Creek	Nicholas	Huntington	38.317575	-80.671553	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	76	-	0.0121	-	196	-	4-303
S-A69	UNT to Big Beaver Creek	Nicholas	Huntington	38.317217	-80.671495	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	82	-	0.0113	-	183	-	4-303
S-A69	UNT to Big Beaver Creek	Nicholas	Huntington	38.317089	-80.671565	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	16	-	0.0022	-	36	-	4-303
S-H99	UNT to Big Beaver Creek	Nicholas	Huntington	38.312952	-80.673145	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	96		0.0088	-	142	-	4-304
S-H96	UNT to Big Beaver Creek	Nicholas	Huntington	38.309759	-80.675706	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Temporary Access Road	39	-	0.0018	-	9	-	4-304
S-H95	UNT to Big Beaver Creek	Nicholas	Huntington	38.309738	-80.675733	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Temporary Access Road	259	-	0.0178	-	86	-	4-304
S-A65	Big Beaver Creek	Nicholas	Huntington	38.308183	-80.675347	Perennial	RPW	Warmwater Fishery, Tier 1	05050005	Pipeline ROW	77	-	0.1240	-	2000	-	4-304
S-A64	UNT to Granny Run	Nicholas	Huntington	38.304538	-80.673827	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	54	-	0.0086	-	139	-	4-306
S-N15	UNT to Granny Run	Nicholas	Huntington	38.301571	-80.674776	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0061	-	29	-	4-306
S-N14	Granny Run	Nicholas	Huntington	38.297014	-80.676341	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0040	-	20	-	4-307
S-N14	Granny Run	Nicholas	Huntington	38.296646	-80.676258	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0040	-	20	-	4-307
S-I43	UNT to Big Run	Nicholas	Huntington	38.293473	-80.677158	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0051	-	24	-	4-308
S-I44	Big Run	Nicholas	Huntington	38.291332	-80.679265	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0040	-	20	-	4-308
S-I45	UNT to Big Run	Nicholas	Huntington	38.290061	-80.680304	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0030	-	15	-	4-308
S-I47	UNT to Gauley River	Nicholas	Huntington	38.284291	-80.685885	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	80	-	0.0037	-	59	-	4-310
S-I48	UNT to Gauley River	Nicholas	Huntington	38.280116	-80.687738	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0051	-	22	-	4-310
S-J28	UNT to Little Laurel Creek	Nicholas	Huntington	38.263235	-80.687908	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	79	-	0.0091	-	147	-	4-315
S-J25	UNT to Little Laurel Creek	Nicholas	Huntington	38.256682	-80.687348	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	77	-	0.0089	-	143	-	4-317
S-J24	UNT to Little Laurel Creek	Nicholas	Huntington	38.256302	-80.687350	Perennial	RPW	Category B-2 Trout Waters, Tier 1	05050005	Pipeline ROW	76	-	0.0261	-	422	-	4-317
S-J24	UNT to Little Laurel Creek	Nicholas	Huntington	38.256248	-80.687358	Perennial	RPW	Category B-2 Trout Waters, Tier 1	05050005	Pipeline ROW	76	-	0.0261	-	421	-	4-317
S-J23-EPH	UNT to Little Laurel Creek	Nicholas	Huntington	38.234331	-80.707513	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	109	-	0.0025	-	41	-	4-326
S-J22	UNT to Little Laurel Creek	Nicholas	Huntington	38.233718	-80.708268	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	85	-	0.0058	-	94	-	4-326
S-N10	Skelt Run	Nicholas	Huntington	38.231025	-80.710633	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	78	-	0.0071	-	115	-	4-327
S-N10-Braid	Skelt Run	Nicholas	Huntington	38.230934	-80.710804	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	101	-	0.0069	-	112	-	4-327
S-EE1	UNT to Skelt Run	Nicholas	Huntington	38.228924	-80.713076	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050005	Timber Mat Crossing	22	-	0.0020	-	10	-	4-327
S-N13-Braid	UNT to Skelt Run	Nicholas	Huntington	38.226869	-80.715487	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	37	-	0.0050	-	24	-	4-328
S-N13	UNT to Skelt Run	Nicholas	Huntington	38.226851	-80.715393	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	89	-	0.0041	-	66	-	4-328
S-L41	Jims Creek	Nicholas	Huntington	38.220793	-80.717100	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	76	-	0.0349	-	564	-	4-328
S-L38	UNT to Riley Branch	Nicholas	Huntington	38.205534	-80.718246	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	75	-	0.0052	-	83	-	4-340
S-L35	Riley Branch	Nicholas	Huntington	38.204372	-80.719778	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Temporary Access Road	52	-	0.0048	-	31	-	4-341
S-L35	Riley Branch	Nicholas	Huntington	38.203887	-80.719122	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	86	-	0.0079	-	128	-	4-341
S-L35	Riley Branch	Nicholas	Huntington	38.203097	-80.719248	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	87	-	0.0080	-	129	-	4-341
S-L35	Riley Branch	Nicholas	Huntington	38.200338	-80.717177	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	79	-	0.0072	-	117	-	4-341
S-I37	UNT to Hominy Creek	Nicholas	Huntington	38.196644	-80.718856	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	40	-	0.0056	-	27	-	4-342
S-I38	UNT to Hominy Creek	Nicholas	Huntington	38.194221	-80.719357	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	77	-	0.0089	-	143	-	4-342
S-I39	UNT to Hominy Creek	Nicholas	Huntington	38.194025	-80.719298	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	79	-	0.0126	-	204	-	4-342
S-I40	UNT to Hominy Creek	Nicholas	Huntington	38.187582	-80.723025	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	82	-	0.0133	-	214	-	4-343
S-I41	UNT to Hominy Creek	Nicholas	Huntington	38.179384	-80.729497	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	78	-	0.0143	-	231	-	4-344
S-I36	Hominy Creek	Nicholas	Huntington	38.178889	-80.729790	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	77	-	0.0976	-	1575	-	4-347
S-I31	UNT to Hominy Creek	Nicholas	Huntington	38.163802	-80.730743	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	73	-	0.0033	-	54	-	4-355
S-N8a	UNT to Hominy Creek	Nicholas	Huntington	38.162363	-80.733602	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Timber Mat Crossing	22	-	0.0020	-	10	-	4-355
S-VV1	UNT to Hominy Creek	Nicholas	Huntington	38.161064	-80.735022	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Timber Mat Crossing	22	-	0.0020	-	10	-	4-355
S-H88	Sugar Branch	Nicholas	Huntington	38.136744	-80.730560	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	76	-	0.0697	-	1125	-	4-359
S-H71	UNT to Hominy Creek	Nicholas	Huntington	38.124315	-80.735783	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	93	-	0.0257	-	415	-	4-362
S-H67	UNT to Hominy Creek	Nicholas	Huntington	38.120580	-80.736772	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	85	-	0.0235	-	379	-	4-363
S-H64	UNT to Hominy Creek	Nicholas	Huntington	38.116279	-80.735319	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	87	-	0.0060	-	96	-	4-364
S-V3	UNT to Hominy Creek	Nicholas	Huntington	38.115823	-80.730960	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Timber Mat Crossing	22	-	0.0061	-	29	-	4-365
S-EF41	UNT to Hominy Creek	Nicholas	Huntington	38.107549	-80.726284	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	82	-	0.0038	-	61	-	4-366
S-J19	UNT to Meadow Creek	Greenbrier	Huntington	38.028599	-80.743623	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0010	-	5	-	4-382
S-J20	UNT to Meadow Creek	Greenbrier	Huntington	38.023801	-80.747266	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0152	-	73	-	4-385
S-I25	UNT to Meadow Creek	Greenbrier	Huntington	38.020430	-80.753194	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	75	-	0.0086	-	139	-	4-390
S-I26	UNT to Meadow Creek	Greenbrier	Huntington	38.019129	-80.755220	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	78	-	0.0090	-	145	-	4-390
S-I27	UNT to Meadow Creek	Greenbrier	Huntington	38.018031	-80.755999	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0025	-	12	-	4-390
S-L26	UNT to Meadow River	Greenbrier	Huntington	37.981900	-80.755213	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	205	-	0.0141	-	227	-	4-397

Table 2. Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-L26	UNT to Meadow River	Greenbrier	Huntington	37.980598	-80.754872	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	166	-	0.0114	-	184	-	4-397
S-EF38	UNT to Little Sewell Creek	Greenbrier	Huntington	37.963259	-80.733162	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0015	-	7	-	4-400
S-L24	UNT to Little Sewell Creek	Greenbrier	Huntington	37.963068	-80.733141	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0020	-	10	-	4-400
S-L27	UNT to Little Sewell Creek	Greenbrier	Huntington	37.960725	-80.732852	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0010	-	5	-	4-401
S-L30	UNT to Little Sewell Creek	Greenbrier	Huntington	37.954276	-80.739708	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	136	-	0.0093	-	151	-	4-402
S-L22	Little Sewell Creek	Greenbrier	Huntington	37.954035	-80.739868	Perennial	RPW	Warmwater Fishery, Tier 1	05050005	Pipeline ROW	75	-	0.0517	-	834	-	4-402
S-L20	UNT to Little Sewell Creek	Greenbrier	Huntington	37.949579	-80.742646	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	96	-	0.0111	-	179	-	4-403
S-L10	UNT to Boggs Creek	Greenbrier	Huntington	37.938308	-80.747009	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	103	-	0.0071	-	115	-	4-405
S-L11	UNT to Boggs Creek	Greenbrier	Huntington	37.938229	-80.746912	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	26	-	0.0018	-	9	-	4-405
S-I21	UNT to Boggs Creek	Greenbrier	Huntington	37.918228	-80.736774	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	30	-	0.0034	-	55	-	4-409
S-I21	UNT to Boggs Creek	Greenbrier	Huntington	37.918164	-80.736852	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	77	-	0.0089	-	143	-	4-409
S-I22	UNT to Boggs Creek	Greenbrier	Huntington	37.918041	-80.736833	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	94	-	0.0043	-	70	-	4-409
S-I23a	UNT to Boggs Creek	Greenbrier	Huntington	37.917347	-80.738534	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Permanent Access Road	-	33	-	0.0030	-	10	4-409
S-IJ54	UNT to Boggs Creek	Greenbrier	Huntington	37.917125	-80.742425	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Permanent Access Road	-	31	-	0.0036	-	17	4-410
S-IJ53	UNT to Boggs Creek	Greenbrier	Huntington	37.916234	-80.744156	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Permanent Access Road	-	20	-	0.0055	-	27	4-410
S-HH8	UNT to Buffalo Creek	Greenbrier	Huntington	37.865308	-80.753802	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	ATWS	15		0.0007		3		4-421
S-K25/K18	UNT to Buffalo Creek	Greenbrier	Huntington	37.863772	-80.756993	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	ATWS	70		0.0096		156		4-421
S-K17	Buffalo Creek	Greenbrier	Huntington	37.863065	-80.757391	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	75	-	0.0432	-	698	-	4-420
S-K19	UNT to Buffalo Creek	Greenbrier	Huntington	37.860940	-80.757825	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	93	-	0.0107	-	172	-	4-421
S-K21	UNT to Buffalo Creek	Greenbrier	Huntington	37.858566	-80.755584	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	82	-	0.0189	-	304	-	4-422
S-K22	UNT to Buffalo Creek	Greenbrier	Huntington	37.858315	-80.755546	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	78	-	0.0125	-	202	-	4-422
S-UV6	UNT to Morris Fork	Greenbrier	Huntington	37.854386	-80.754981	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	88	-	0.0161	-	260	-	4-422
S-UV2	Morris Fork	Greenbrier	Huntington	37.851318	-80.751436	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Permanent Access Road	-	28	-	0.0103	-	50	4-423
S-UV2	Morris Fork	Greenbrier	Huntington	37.851099	-80.752978	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	88	-	0.0324	-	523	-	4-423
S-U22	UNT to Meadow River	Greenbrier	Huntington	37.839558	-80.748496	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	80	-	0.0221	-	356	-	4-425
S-FF1	UNT to Meadow River	Greenbrier	Huntington	37.837560	-80.751903	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Permanent Access Road	11	-	0.0008	-	4	-	4-425
S-FF1	UNT to Meadow River	Greenbrier	Huntington	37.837519	-80.751898	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Permanent Access Road	-	31	-	0.0021	-	10	4-425
S-EE4	UNT to Red Spring Branch	Summers	Huntington	37.813881	-80.748817	Intermittent	RPW	Warmwater Fishery, Tier 2	05050004	Pipeline ROW	137	-	0.0079	-	127	-	4-429
S-M6	UNT to Red Spring Branch	Summers	Huntington	37.807650	-80.746173	Intermittent	RPW	Warmwater Fishery, Tier 2	05050004	Pipeline ROW	110		0.0101	-	163	-	4-430
S-J13	UNT to Patterson Creek	Summers	Huntington	37.797484	-80.733605	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	92	-	0.0085	-	137	-	4-432
S-J13	UNT to Patterson Creek	Summers	Huntington	37.796572	-80.732397	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	96	-	0.0088	-	142	-	4-432
S-J13	UNT to Patterson Creek	Summers	Huntington	37.795915	-80.731850	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	124	-	0.0114	-	183	-	4-432
S-M5	Red Spring Branch	Summers	Huntington	37.792243	-80.728802	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050004	Timber Mat Crossing	22	-	0.0030	-	15	-	4-433
S-M4	UNT to Red Spring Branch	Summers	Huntington	37.786834	-80.728719	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050004	Temporary Access Road	47	-	0.0032	-	16	-	4-434
S-I13	UNT to Lick Creek	Summers	Huntington	37.782534	-80.719085	Intermittent	RPW	Warmwater Fishery, Tier 2	05050004	Timber Mat Crossing	22	-	0.0076	-	37	-	4-437
S-I14	UNT to Lick Creek	Summers	Huntington	37.781099	-80.719318	Intermittent	RPW	Warmwater Fishery, Tier 2	05050004	Timber Mat Crossing	22	-	0.0035	-	17	-	4-437
S-I15	UNT to Lick Creek	Summers	Huntington	37.779878	-80.720470	Intermittent	RPW	Warmwater Fishery, Tier 2	05050004	Timber Mat Crossing	22	-	0.0051	-	24	-	4-437
S-I16	UNT to Lick Creek	Summers	Huntington	37.779381	-80.721388	Intermittent	RPW	Warmwater Fishery, Tier 2	05050004	Timber Mat Crossing	22	-	0.0020	-	10	-	4-440
S-I12	Lick Creek	Summers	Huntington	37.775891	-80.710797	Intermittent	RPW	Warmwater Fishery, Tier 1	05050004	Permanent Access Road	-	38	-	0.0035	-	11	4-438
S-I17	UNT to Lick Creek	Summers	Huntington	37.775160	-80.728058	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050004	Pipeline ROW	78	-	0.0045	-	72	-	4-441
S-I10	UNT to Lick Creek	Summers	Huntington	37.772437	-80.713781	Intermittent	RPW	Warmwater Fishery, Tier 2	05050004	Permanent Access Road	-	26	-	0.0018	-	9	4-439
S-I19	Lick Creek	Summers	Huntington	37.772089	-80.732901	Perennial	RPW	Warmwater Fishery, Tier 1	05050004	Pipeline ROW	77	-	0.0265	-	428	-	4-441
S-I20	UNT to Lick Creek	Summers	Huntington	37.771406	-80.733241	Perennial	RPW	Warmwater Fishery, Tier 2	05050004	Pipeline ROW	92	-	0.0212	-	342	-	4-441
S-N5	UNT to Hungard Creek	Summers	Huntington	37.704240	-80.744827	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	87	-	0.0040	-	65	-	4-459
S-K14	UNT to Righthand Fork Hungard Creek	Summers	Huntington	37.696788	-80.739242	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	97	-	0.0089	-	143	-	4-460
S-N3	UNT to Hungard Creek	Summers	Huntington	37.694776	-80.736952	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0025	-	12	-	4-461
S-N2	Hungard Creek	Summers	Huntington	37.694507	-80.736682	Perennial	RPW	Warmwater Fishery, Tier 1	05050003	Timber Mat Crossing	22	-	0.0101	-	49	-	4-461
S-CD23	UNT to Hungard Creek	Summers	Huntington	37.694228	-80.736099	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0045	-	22	-	4-461
S-N4	UNT to Hungard Creek	Summers	Huntington	37.693961	-80.735841	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0015	-	7	-	4-461
S-KL29	Right Fork Hungard Creek	Summers	Huntington	37.692932	-80.733839	Perennial	RPW	Warmwater Fishery, Tier 1	05050003	Pipeline ROW	75	-	0.0863	-	1392	-	4-461
S-M3	Hungard Creek	Summers	Huntington	37.692868	-80.734247	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	80	-	0.0183	-	295	-	4-461
S-CV17	UNT to Greenbrier River	Summers	Huntington	37.681865	-80.730095	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	76	-	0.0070	-	34	-	4-464
S-EF53	UNT to Greenbrier River	Summers	Huntington	37.681323	-80.729672	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Temporary Access Road	51	-	0.0095	-	46	-	4-464
S-I9	UNT to Greenbrier River	Summers	Huntington	37.675977	-80.732822	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0035	-	17	-	4-465
S-K10	UNT to Greenbrier River	Summers	Huntington	37.675079	-80.734384	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Temporary Access Road	9	-	0.0013	-	6	-	4-465
S-K10	UNT to Greenbrier River	Summers	Huntington	37.675070	-80.734447	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Permanent Access Road	-	31	-	0.0043	-	21	4-465
S-K10	UNT to Greenbrier River	Summers	Huntington	37.675058	-80.734522	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Temporary Access Road	9	-	0.0013	-	6	-	4-465
S-L4	UNT to Greenbrier River	Summers	Huntington	37.673213	-80.729772	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	77	-	0.0176	-	284	-	4-465
S-L2	UNT to Greenbrier River	Summers	Huntington	37.671392	-80.728311	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	88	-	0.0081	-	130	-	4-467

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Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-L1	UNT to Kelly Creek	Summers	Huntington	37.668076	-80.723470	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	76	-	0.0104	-	168	-	4-468
S-J5	Kelly Creek	Summers	Huntington	37.666864	-80.721794	Perennial	RPW	Warmwater Fishery, Tier 1	05050003	Pipeline ROW	103	-	0.0471	-	759	-	4-468
S-K4	UNT to Keller Creek	Summers	Huntington	37.665806	-80.725709	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Temporary Access Road	-	22	-	0.0010	-	4	4-468
S-J4	UNT to Keller Creek	Summers	Huntington	37.663926	-80.715460	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0025	-	12	-	4-469
S-G47	UNT to Wind Creek	Summers	Huntington	37.654112	-80.702579	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0010	-	5	-	4-471
S-G52	UNT to Wind Creek	Monroe	Huntington	37.627537	-80.695593	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0010	-	5	-	4-479
S-G49	UNT to Wind Creek	Monroe	Huntington	37.627381	-80.695679	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0101	-	49	-	4-479
S-G48	Wind Creek	Monroe	Huntington	37.627308	-80.695759	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0101	-	49	-	4-479
S-H61	UNT to Stoney Creek	Monroe	Huntington	37.618426	-80.699138	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0126	-	61	-	4-483
S-OP1	Stony Creek	Monroe	Huntington	37.600003	-80.700509	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	78	-	0.0090	-	145	-	4-487
S-IJ64	UNT to Little Stony Creek	Monroe	Huntington	37.591822	-80.705874	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0030	-	15	-	4-488
S-A63	Slate Run	Monroe	Huntington	37.560706	-80.709825	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Permanent Access Road	-	25	-	0.0057	-	28	4-492
S-A63	Slate Run	Monroe	Huntington	37.560460	-80.710233	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	88	-	0.0203	-	327	-	4-492
S-A61	UNT to Slate Run	Monroe	Huntington	37.559351	-80.709683	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Temporary Access Road	8	-	0.0012	-	6	-	4-493
S-A61	UNT to Slate Run	Monroe	Huntington	37.559334	-80.709736	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Permanent Access Road	-	26	-	0.0041	-	14	4-493
S-A61	UNT to Slate Run	Monroe	Huntington	37.559328	-80.709792	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Temporary Access Road	8	-	0.0013	-	6	-	4-493
S-A61	UNT to Slate Run	Monroe	Huntington	37.559320	-80.710037	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	81	-	0.0131	-	211	-	4-493
S-A60	Slate Run	Monroe	Huntington	37.558698	-80.709966	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	87	-	0.0358	-	578	-	4-492
S-CV26	UNT to Slate Run	Monroe	Huntington	37.556445	-80.708883	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Permanent Access Road	-	32	-	0.0044		21	4-493
S-D31	Indian Creek	Monroe	Huntington	37.554163	-80.710853	Perennial	RPW	Warmwater Fishery, Tier 1	05050002	Pipeline ROW	75	-	0.1120	-	1807	-	4-493
S-D29	UNT to Hans Creek	Monroe	Huntington	37.547394	-80.712099	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Timber Mat Crossing	22	-	0.0020	-	10	-	4-494
S-D25	UNT to Hans Creek	Monroe	Huntington	37.538768	-80.718855	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Timber Mat Crossing	22	-	0.0020	-	10	-	4-496
S-F18	UNT to Hans Creek	Monroe	Huntington	37.538273	-80.719070	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Permanent Access Road	-	26	-	0.0107	-	52	4-496
S-F18	UNT to Hans Creek	Monroe	Huntington	37.536872	-80.716923	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Timber Mat Crossing	22	-	0.0091	-	44	-	4-496
S-Z5	UNT to Hans Creek	Monroe	Huntington	37.524333	-80.711450	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	75	-	0.0034	-	56	-	4-499
S-Z4	UNT to Hans Creek	Monroe	Huntington	37.524302	-80.711444	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	75	-	0.0043	-	69	-	4-499
S-MN2	UNT to Hans Creek	Monroe	Huntington	37.520012	-80.707606	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	81		0.0130	-	210	-	4-500
S-CV19	Hans Creek	Monroe	Huntington	37.500284	-80.691498	Perennial	RPW	Warmwater Fishery, Tier 1	05050002	Pipeline ROW	77	-	0.0619	-	998	-	4-505
S-MN39	UNT to Blue Lick Creek	Monroe	Huntington	37.487733	-80.681765	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	22	-	0.0010	-	16	-	4-510
S-MN38	UNT to Blue Lick Creek	Monroe	Huntington	37.487721	-80.681929	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	22		0.0030	-	48	-	4-510
S-MN37	UNT to Blue Lick Creek	Monroe	Huntington	37.487584	-80.681992	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	95		0.0040	-	65	-	4-510
S-MN40	UNT to Blue Lick Creek	Monroe	Huntington	37.487519	-80.681996	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	37		0.0010	-	16	-	4-510
S-G44	UNT to Hans Creek	Monroe	Huntington	37.474870	-80.676267	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	86	-	0.0079	-	128	-	4-511
S-G43	UNT to Hans Creek	Monroe	Huntington	37.473139	-80.675738	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Timber Mat Crossing	22	-	0.0025	-	12	-	4-511
S-G42	UNT to Hans Creek	Monroe	Huntington	37.472602	-80.675456	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	79	-	0.0055	-	88	-	4-512
S-MN45	UNT to Hans Creek	Monroe	Huntington	37.462878	-80.670284	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	87		0.0040	-	65	-	4-513
S-CV27	UNT to Hans Creek	Monroe	Huntington	37.462850	-80.669582	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	37	-	0.0017	-	8	-	4-513
S-E43	UNT to Dry Creek	Monroe	Huntington	37.453834	-80.664417	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	92	-	0.0147	-	237	-	4-515
S-E45	UNT to Dry Creek	Monroe	Huntington	37.453798	-80.664266	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	108	-	0.0074	-	120	-	4-515
S-E40	Dry Creek	Monroe	Huntington	37.451003	-80.667795	Perennial	RPW	Warmwater Fishery, Tier 1	05050002	Temporary Access Road	43	-	0.0117	-	57	-	4-515
S-E40	Dry Creek	Monroe	Huntington	37.450757	-80.667719	Perennial	RPW	Warmwater Fishery, Tier 1	05050002	Pipeline ROW	82	-	0.0227	-	366	-	4-515
S-E41	UNT to Dry Creek	Monroe	Huntington	37.450692	-80.667650	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	23	-	0.0010	-	5	-	4-516
S-C38	UNT to Painter Run	Monroe	Huntington	37.426915	-80.694499	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	89	-	0.0143	-	231	-	4-521
S-C39	Painter Run	Monroe	Huntington	37.426686	-80.694499	Perennial	RPW	Warmwater Fishery, Tier 1	05050002	Pipeline ROW	109	-	0.0125	-	202	-	4-521
S-C41	UNT to Painter Run	Monroe	Huntington	37.426161	-80.694592	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	143	-	0.0100	-	161	-	4-521
S-C40	UNT to Painter Run	Monroe	Huntington	37.425372	-80.693417	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Temporary Access Road	77	-	0.0053	-	26	-	4-521
S-Q12	UNT to Kimballton Branch	Giles	Norfolk	37.375311	-80.680878	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	86	-	0.0079	-	127	-	4-531
S-Q13	Kimballton Branch	Giles	Norfolk	37.374377	-80.682038	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	90	-	0.0310	-	500	-	4-532
S-P6	UNT to Stony Creek	Giles	Norfolk	37.362202	-80.688092	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	78	-	0.0107	-	173	-	4-535
S-S5-Braid-2	Stony Creek	Giles	Norfolk	37.360325	-80.684214	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	0.0028	-	13	-	4-536
S-S5-Braid-1	Stony Creek	Giles	Norfolk	37.360276	-80.684193	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	0.0032	-	16	-	4-536
S-S5	Stony Creek	Giles	Norfolk	37.360071	-80.683960	Perennial	RPW	Candy darter, Green floater, pistol grip, Natural Trout, Coldwater Fishery, Stockable Trout	05050002	Timber Mat Crossing	40	-	0.0184	-	178	-	4-536
S-G29	UNT to Dry Branch	Giles	Norfolk	37.350430	-80.658259	Ephemeral	NRPW	-	05050002	Pipeline ROW	30	-	0.0028	-	13	-	4-541
S-G30	UNT to Dry Branch	Giles	Norfolk	37.350373	-80.658230	Ephemeral	NRPW	-	05050002	Pipeline ROW	85	-	0.0156	-	252	-	4-541
S-G32	Dry Branch	Giles	Norfolk	37.349095	-80.652040	Intermittent	RPW	-	05050002	Pipeline ROW	110	-	0.0152	-	244	-	4-542
S-G33	UNT to Dry Branch	Giles	Norfolk	37.348641	-80.647225	Perennial	RPW	-	05050002	Pipeline ROW	99	-	0.0182	-	293	-	4-542
S-G35	UNT to Little Stony Creek	Giles	Norfolk	37.344876	-80.633426	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	25	-	0.0115	-	69	-	4-544
S-SS4	UNT to Little Stony Creek	Giles	Norfolk	37.344859	-80.631295	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	0.0014	-	7	-	4-544
S-G35	UNT to Little Stony Creek	Giles	Norfolk	37.344779	-80.633379	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	25	-	0.0115	-	69	-	4-544

Table 2. Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-Z7	UNT to Little Stony Creek	Giles	Norfolk	37.344278	-80.626185	Intermittent	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	0.0014	-	7	-	4-545
S-Z7-Braid-1	UNT to Little Stony Creek	Giles	Norfolk	37.344277	-80.626113	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	0.0014	-	7	-	4-545
S-Z9	UNT to Little Stony Creek	Giles	Norfolk	37.344163	-80.628400	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	0.0018	-	9	-	4-544
S-Z10	UNT to Little Stony Creek	Giles	Norfolk	37.342351	-80.620823	Intermittent	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	0.0055	-	27	-	4-545
S-Z11	UNT to Little Stony Creek	Giles	Norfolk	37.342236	-80.620542	Perennial	RPW	Natural Trout, Coldwater Fishery, Stockable Trout	05050002	Timber Mat Crossing	20	-	0.0023	-	11	-	4-545
S-Z12-EPH	UNT to Little Stony Creek	Giles	Norfolk	37.342214	-80.620312	Ephemeral	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	0.0028	-	13	-	4-545
S-Z13	Little Stony Creek	Giles	Norfolk	37.342172	-80.620090	Perennial	RPW	Natural Trout, Coldwater Fishery, Stockable Trout	05050002	Timber Mat Crossing	25	-	0.0115	-	69	-	4-545
S-Z14	UNT to Little Stony Creek	Giles	Norfolk	37.340977	-80.618031	Intermittent	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	0.0018	-	9	-	4-545
S-YZ1	Doe Creek	Giles	Norfolk	37.338952	-80.614618	Intermittent	RPW	-	05050002	Temporary Access Road	102	-	0.0234	-	113	-	4-546
S-A34	UNT to Doe Creek	Giles	Norfolk	37.337763	-80.606008	Ephemeral	NRPW	-	05050002	Pipeline ROW	86	-	0.0138	-	223	-	4-548
S-A33	UNT to Doe Creek	Giles	Norfolk	37.337639	-80.605571	Ephemeral	NRPW	-	05050002	Pipeline ROW	111	-	0.0178	-	288	-	4-548
S-YZ1	Doe Creek	Giles	Norfolk	37.337562	-80.614711	Intermittent	RPW	-	05050002	Temporary Access Road	92	-	0.0211	-	102	-	4-546
S-YZ1	Doe Creek	Giles	Norfolk	37.337048	-80.614625	Intermittent	RPW	-	05050002	Temporary Access Road	121	-	0.0278	-	134	-	4-546
S-A32	UNT to Doe Creek	Giles	Norfolk	37.335094	-80.596868	Perennial	RPW	-	05050002	Pipeline ROW	78	-	0.0287	-	462	-	4-549
S-QQ2	Sinking Creek	Craig	Norfolk	37.333152	-80.429438	Perennial	RPW	Natural Trout, Coldwater Fishery, Stockable Trout	05050002	Temporary Access Road	40	-	0.0321	-	156	-	4-581
S-MN11-Upstream	UNT to Sinking Creek	Giles	Norfolk	37.332869	-80.559168	Ephemeral	NRPW	-	05050002	Temporary Access Road	15	-	0.0014	-	7	-	4-554
S-MN11-Upstream	UNT to Sinking Creek	Giles	Norfolk	37.332191	-80.559979	Ephemeral	NRPW	-	05050002	Temporary Access Road	30	-	0.0028	-	13	-	4-554
S-MN11-Downstream	UNT to Sinking Creek	Giles	Norfolk	37.332146	-80.560079	Ephemeral	NRPW	-	05050002	Temporary Access Road	37	-	0.0042	-	21	-	4-554
S-Y3	UNT to Doe Creek	Giles	Norfolk	37.331748	-80.583355	Ephemeral	NRPW	-	05050002	Timber Mat Crossing	20	-	0.0046	-	22	-	4-551
S-Y2	Doe Creek	Giles	Norfolk	37.331332	-80.583047	Perennial	RPW	-	05050002	Timber Mat Crossing	25	-	0.0115	-	69	-	4-551
S-PP4	UNT to Sinking Creek	Craig	Norfolk	37.328329	-80.422810	Intermittent	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	84	-	0.0039	-	62	-	4-579
S-PP3	UNT to Sinking Creek	Craig	Norfolk	37.326705	-80.425803	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	82	-	0.0056	-	91	-	4-579
S-RR4	UNT to Sinking Creek	Giles	Norfolk	37.326015	-80.556831	Perennial	RPW	-	05050002	Temporary Access Road	85	-	0.0059	-	28	-	4-556
S-E24	UNT to Sinking Creek	Giles	Norfolk	37.325728	-80.565082	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	81	-	0.0372	-	600	-	4-553
S-E25-Downstream	UNT to Sinking Creek	Giles	Norfolk	37.325638	-80.564680	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	0.0037	-	18	-	4-553
S-E25-Upstream	UNT to Sinking Creek	Giles	Norfolk	37.325607	-80.564373	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	15	-	0.0034	-	17	-	4-553
S-E25-Downstream	UNT to Sinking Creek	Giles	Norfolk	37.325566	-80.564634	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	0.0037	-	18	-	4-553
S-PP1	UNT to Sinking Creek	Craig	Norfolk	37.324781	-80.431446	Intermittent	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	86	-	0.0059	-	96	-	4-578
S-RR5	UNT to Sinking Creek	Giles	Norfolk	37.323702	-80.555627	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	83	-	0.0191	-	307	-	4-555
S-PA07	UNT to Sinking Creek	Giles	Norfolk	37.323533	-80.555257	Intermittent	RPW	-	05050002	Pipeline ROW	115	-	0.0053	-	85	-	4-555
S-IJ18-EPH	UNT to Sinking Creek	Giles	Norfolk	37.322737	-80.552396	Ephemeral	NRPW	-	05050002	Pipeline ROW	74	-	0.0102	-	164	-	4-555
S-IJ19	UNT to Sinking Creek	Giles	Norfolk	37.322194	-80.553058	Ephemeral	NRPW	-	05050002	Temporary Access Road	43	-	0.0039	-	19	-	4-555
S-IJ19	UNT to Sinking Creek	Giles	Norfolk	37.321823	-80.55311	Ephemeral	NRPW	-	05050002	Temporary Access Road	9	-	0.0008	-	4	-	4-555
S-IJ18-INT	UNT to Sinking Creek	Giles	Norfolk	37.321756	-80.553011	Intermittent	RPW	-	05050002	Temporary Access Road	44	-	0.0040	-	20	-	4-555
S-PP22	UNT to Craig Creek	Montgomery	Norfolk	37.321090	-80.412831	Intermittent	RPW	Atlantic Pigtoe, Coldwater Fishery	02080201	Timber Mat Crossing	44	-	0.0040	-	20	-	4-584
S-OO12	UNT to Sinking Creek	Giles	Norfolk	37.318956	-80.440648	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	25	-	0.0011	-	6	-	4-577
S-OO13	UNT to Sinking Creek	Giles	Norfolk	37.318930	-80.440930	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	77	-	0.0354	-	570	-	4-577
S-OO14	UNT to Sinking Creek	Giles	Norfolk	37.318647	-80.441619	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	86	-	0.0079	-	127	-	4-577
S-IJ17	UNT to Sinking Creek	Giles	Norfolk	37.318324	-80.547720	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	31	-	0.0057	-	28	-	4-558
S-IJ16-b	UNT to Sinking Creek	Giles	Norfolk	37.318246	-80.547711	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	78	-	0.0179	-	289	-	4-558
S-PP21	UNT to Craig Creek	Montgomery	Norfolk	37.317187	-80.409235	Perennial	RPW	Atlantic Pigtoe, Coldwater Fishery	02080201	Timber Mat Crossing	20	-	0.0018	-	9	-	4-584
S-PP20	UNT to Craig Creek	Montgomery	Norfolk	37.316523	-80.408646	Perennial	RPW	Atlantic Pigtoe, Coldwater Fishery	02080201	Timber Mat Crossing	20	-	0.0028	-	13	-	4-584
S-RR13	Craig Creek	Montgomery	Norfolk	37.314504	-80.402613	Perennial	RPW	Atlantic Pigtoe, Stockable Trout, Coldwater Fishery	02080201	Temporary Access Road	41	-	0.0329	-	159	-	4-585
S-HH18	UNT to Craig Creek	Montgomery	Norfolk	37.313910	-80.398683	Perennial	RPW	Atlatnic pigtoe, orangefin madtom Coldwater Fishery	02080201	Timber Mat Crossing	20	-	0.0028	-	13	-	4-586
S-RR14	UNT to Craig Creek	Montgomery	Norfolk	37.313615	-80.402521	Ephemeral	NRPW	Atlantic Pigtoe, Coldwater Fishery	02080201	Timber Mat Crossing	20	-	0.0032	-	16	-	4-585
S-OO6	Craig Creek	Montgomery	Norfolk	37.313511	-80.404606	Perennial	RPW	Atlantic Pigtoe, Stockable Trout, Coldwater Fishery	02080201	Timber Mat Crossing	35	-	0.0161	-	136	-	4-585
S-QQ3	UNT to Sinking Creek	Giles	Norfolk	37.311869	-80.532365	Ephemeral	NRPW	-	05050002	Temporary Access Road	15	-	0.0007	-	3	-	4-560
S-IJ16-a	UNT to Sinking Creek	Giles	Norfolk	37.311730	-80.544091	Ephemeral	NRPW	-	05050002	Permanent Access Road	6	-	0.0010	-	5	-	4-559
S-IJ16-a	UNT to Sinking Creek	Giles	Norfolk	37.311730	-80.544091	Ephemeral	NRPW	-	05050002	Permanent Access Road	-	45	-	0.0072	-	35	4-559
S-NN17	Sinking Creek	Giles	Norfolk	37.311616	-80.515786	Perennial	RPW	Green floater, Non-listed mussels, Natural Trout, Coldwater Fishery, Stockable Trout	05050002	Timber Mat Crossing	55	-	0.0253	-	336	-	4-564
S-KL43	UNT to Sinking Creek	Giles	Norfolk	37.307524	-80.466665	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	75	-	0.0172	-	278	-	4-573
S-NN11	UNT to Sinking Creek	Giles	Norfolk	37.305508	-80.467231	Intermittent	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	84	-	0.0096	-	156	-	4-573
S-NN12	UNT to Sinking Creek	Giles	Norfolk	37.300454	-80.472911	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	88	-	0.0040	-	65	-	4-571
S-MN21	UNT to Mill Creek	Montgomery	Norfolk	37.299397	-80.391243	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	80	-	0.0129	-	207	-	4-588
S-MM17	UNT to Sinking Creek	Giles	Norfolk	37.298226	-80.480624	Perennial	RPW	-	05050002	Temporary Access Road	49	-	0.0022	-	11	-	4-569
S-MN22	UNT to Mill Creek	Montgomery	Norfolk	37.297166	-80.386612	Ephemeral	NRPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	96	-	0.0044	-	71	-	4-589
S-RR2	Greenbriar Branch	Giles	Norfolk	37.296666	-80.494174	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	0.0037	-	18	-	4-567
S-YZ6	UNT to Greenbriar Branch	Giles	Norfolk	37.296612	-80.494165	Intermittent	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	0.0028	-	13	-	4-567
S-EF62	UNT to Mill Creek	Montgomery	Norfolk	37.296356	-80.375118	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	76	-	0.0192	-	310	-	4-590

Table 2. Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-MM18	UNT to Sinking Creek	Giles	Norfolk	37.296226	-80.481455	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	88	-	0.0101	-	163	-	4-569
S-IJ52	UNT to Mill Creek	Montgomery	Norfolk	37.296153	-80.367510	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	84	-	0.0309	-	498	-	4-591
S-EF65	Mill Creek	Montgomery	Norfolk	37.295743	-80.375921	Intermittent	RPW	Orangefin madtom, Non-listed mussels, Natural Trout, Coldwater Fishery, Stockable Trout	03010101	Pipeline ROW	152	-	0.0209	-	338	-	4-590
S-G36	North Fork Roanoke River	Montgomery	Norfolk	37.268586	-80.313161	Perennial	RPW	Roanoke logperch, Orangefin madtom, Non-listed mussels, Natural Trout, Coldwater Fishery	03010101	Temporary Access Road	26	-	0.0119	-	58	-	4-602
S-G38	UNT to North Fork Roanoke River	Montgomery	Norfolk	37.267002	-80.312898	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0014	-	7	-	4-603
S-G40	UNT to North Fork Roanoke River	Montgomery	Norfolk	37.264882	-80.307302	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0014	-	7	-	4-603
S-PP23	UNT to North Fork Roanoke River	Montgomery	Norfolk	37.264858	-80.307151	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0011	-	6	-	4-604
S-G39	UNT to North Fork Roanoke River	Montgomery	Norfolk	37.264817	-80.308486	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	82	-	0.0113	-	182	-	4-604
S-MM14	UNT to Flatwoods Branch	Montgomery	Norfolk	37.258717	-80.293210	Ephemeral	NRPW	-	03010101	Pipeline ROW	105	-	0.0169	-	272	-	4-608
S-MM15	UNT to Flatwoods Branch	Montgomery	Norfolk	37.258673	-80.296446	Intermittent	RPW	-	03010101	Pipeline ROW	82	-	0.0113	-	182	-	4-608
S-MM11	UNT to Flatwoods Branch	Montgomery	Norfolk	37.258403	-80.288186	Ephemeral	NRPW	-	03010101	Pipeline ROW	80	-	0.0147	-	237	-	4-609
S-F15	UNT to Flatwoods Branch	Montgomery	Norfolk	37.258198	-80.286029	Intermittent	RPW	-	03010101	Pipeline ROW	129	-	0.0178	-	287	-	4-609
S-MM13	UNT to Flatwoods Branch	Montgomery	Norfolk	37.258176	-80.289222	Ephemeral	NRPW	-	03010101	Pipeline ROW	85	-	0.0098	-	157	-	4-608
S-F16a/F16b	UNT to Flatwoods Branch	Montgomery	Norfolk	37.257998	-80.284735	Ephemeral	NRPW	-	03010101	Pipeline ROW	81	-	0.0056	-	90	-	4-609
S-C36	UNT to Flatwoods Branch	Montgomery	Norfolk	37.257260	-80.281611	Intermittent	RPW	-	03010101	Pipeline ROW	96	-	0.0066	-	107	-	4-609
S-C36	UNT to Flatwoods Branch	Montgomery	Norfolk	37.257133	-80.281475	Intermittent	RPW	-	03010101	Pipeline ROW	36	-	0.0025	-	40	-	4-609
S-MM31	UNT to Flatwoods Branch	Montgomery	Norfolk	37.256959	-80.280329	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	0.0018	-	9	-	4-609
S-C29	Flatwoods Branch	Montgomery	Norfolk	37.256387	-80.278021	Ephemeral	NRPW	-	03010101	Pipeline ROW	46	-	0.0013	-	20	-	4-610
S-C25	UNT to Bradshaw Creek	Montgomery	Norfolk	37.254342	-80.267895	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	115	-	0.0079	-	128	-	4-611
S-C24	UNT to Bradshaw Creek	Montgomery	Norfolk	37.254135	-80.266743	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	108	-	0.0074	-	120	-	4-611
S-C21	Bradshaw Creek	Montgomery	Norfolk	37.251791	-80.258990	Perennial	RPW	Roanoke logperch, Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	25	-	0.0115	-	69	-	4-613
S-NN19	UNT to Roanoke River	Montgomery	Norfolk	37.244319	-80.206995	Intermittent	RPW	-	03010101	Pipeline ROW	76	-	0.0061	-	99	-	4-627
S-AB16	UNT to Roanoke River	Montgomery	Norfolk	37.231693	-80.198778	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	0.0023	-	11	-	4-631
S-I1	UNT to Roanoke River	Montgomery	Norfolk	37.231179	-80.198460	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	0.0064	-	31	-	4-631
S-CD12b	UNT to South Fork Roanoke River	Montgomery	Norfolk	37.229764	-80.201144	Perennial	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0028	-	13	-	4-631
S-EF19	UNT to Indian Run	Montgomery	Norfolk	37.216102	-80.197390	Ephemeral	NRPW	Warmwater Fishery, Tier 2	03010101	Pipeline ROW	79	-	0.0091	-	146	-	4-634
S-EF20a	UNT to Roanoke River	Montgomery	Norfolk	37.210922	-80.193318	Perennial	RPW	Orangefin madtom, Non-listed mussels	03010101	Pipeline ROW	80	-	0.0110	-	178	-	4-635
S-MM22	UNT to Roanoke River	Montgomery	Norfolk	37.205284	-80.187282	Perennial	RPW	Orangefin madtom, Non-listed mussels	03010101	Pipeline ROW	175	-	0.0603	-	972	-	4-637
S-IJ50	UNT to Roanoke River	Roanoke	Norfolk	37.194064	-80.167933	Perennial	RPW	Orangefin madtom, Non-listed mussels	03010101	Pipeline ROW	77	-	0.0442	-	713	-	4-641
S-Y13	UNT to Bottom Creek	Roanoke	Norfolk	37.187687	-80.151146	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	85	-	0.0156	-	252	-	4-644
S-Y14	UNT to Bottom Creek	Roanoke	Norfolk	37.187568	-80.151049	Perennial	RPW	Orangefin madtom, Non-listed mussels, Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	77	-	0.0247	-	399	-	4-644
S-EF57	UNT to Bottom Creek	Roanoke	Norfolk	37.181736	-80.148948	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Temporary Access Road	42	-	0.0077	-	37	-	4-645
S-EF55	UNT to Bottom Creek	Roanoke	Norfolk	37.181506	-80.149497	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	33	-	0.0061	-	98	-	4-645
S-EF34b	UNT to Bottom Creek	Roanoke	Norfolk	37.181385	-80.149140	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	81	-	0.0186	-	300	-	4-645
S-EF33	UNT to Bottom Creek	Roanoke	Norfolk	37.179186	-80.141000	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	148	-	0.0306	-	493	-	4-647
S-IJ82	UNT to Bottom Creek	Roanoke	Norfolk	37.170458	-80.138216	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0069	-	33	-	4-648
S-IJ85	UNT to Bottom Creek	Roanoke	Norfolk	37.169474	-80.130356	Perennial	RPW	Natural Trout, Coldwater Fishery	03010101	Permanent Access Road	-	50	-	0.0092	-	44	4-650
S-IJ83	UNT to Bottom Creek	Roanoke	Norfolk	37.169211	-80.138258	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	148	-	0.0170	-	82	-	4-649
S-IJ88	Bottom Creek	Roanoke	Norfolk	37.168395	-80.138295	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	30	-	0.0450	-	726	-	4-649
S-IJ84	UNT to Bottom Creek	Roanoke	Norfolk	37.168361	-80.138381	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	35	-	0.0121	-	58	-	4-649
S-IJ89	UNT to Bottom Creek	Roanoke	Norfolk	37.165862	-80.139317	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0046	-	22	-	4-649
S-IJ90	UNT to Bottom Creek	Roanoke	Norfolk	37.165685	-80.139378	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0023	-	11	-	4-649
S-KL25	UNT to Mill Creek	Roanoke	Norfolk	37.160173	-80.134799	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	82	-	0.0094	-	152	-	4-651
S-ST9b	UNT to Mill Creek	Roanoke	Norfolk	37.154424	-80.129179	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0069	-	33	-	4-652
S-KL55	UNT to Mill Creek	Roanoke	Norfolk	37.150009	-80.13246	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0069	-	33	-	4-653
S-IJ12	UNT to Mill Creek	Roanoke	Norfolk	37.148333	-80.133919	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0060	-	29	-	4-653
S-EF44	UNT to Bottom Creek	Roanoke	Norfolk	37.143003	-80.138399	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0032	-	16	-	4-654
S-IJ43	Mill Creek	Roanoke	Norfolk	37.138636	-80.139715	Perennial	RPW	Orangefin madtom, Stockable Trout, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0083	-	40	-	4-655
S-Y9	UNT to Mill Creek	Roanoke	Norfolk	37.134576	-80.137649	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	44	-	0.0040	-	20	-	4-656
S-Y7	UNT to Mill Creek	Roanoke	Norfolk	37.134481	-80.137622	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	32	-	0.0029	-	14	-	4-656
S-Y8	UNT to Mill Creek	Roanoke	Norfolk	37.134176	-80.137484	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0018	-	9	-	4-656
S-B22	UNT to Mill Creek	Roanoke	Norfolk	37.128922	-80.133769	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0018	-	9	-	4-659
S-B23	UNT to Mill Creek	Roanoke	Norfolk	37.128853	-80.133910	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	14	-	0.0006	-	3	-	4-659
S-B25	UNT to Mill Creek	Roanoke	Norfolk	37.128490	-80.132601	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	76	-	0.0087	-	42	-	4-659
S-B21	UNT to Mill Creek	Roanoke	Norfolk	37.128484	-80.130943	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	92	-	0.0084	-	136	-	4-659
S-H1	Green Creek	Franklin	Norfolk	37.127733	-80.116787	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	0.0046	-	22	-	4-661
S-G26	UNT to Green Creek	Franklin	Norfolk	37.127077	-80.111387	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	0.0032	-	16	-	4-662
S-G27	UNT to Green Creek	Franklin	Norfolk	37.126962	-80.111052	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0032	-	16	-	4-662
S-G24	UNT to Green Creek	Franklin	Norfolk	37.126412	-80.121398	Intermittent	RPW	-	03010101	Pipeline ROW	75	-	0.0103	-	167	-	4-661

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Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-G25	UNT to Green Creek	Franklin	Norfolk	37.125398	-80.121401	Intermittent	RPW	-	03010101	Pipeline ROW	42	-	0.0067	-	33	-	4-661
S-RR18	UNT to Green Creek	Franklin	Norfolk	37.125055	-80.113578	Intermittent	RPW	-	03010101	Permanent Access Road	8	-	0.0004	-	2	-	4-662
S-D11	UNT to North Fork Blackwater River	Franklin	Norfolk	37.124137	-80.086182	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0046	-	22	-	4-666
S-D8	North Fork Blackwater River	Franklin	Norfolk	37.123098	-80.074673	Perennial	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	78	-	0.0216	-	349	-	4-667
S-D12	UNT to North Fork Blackwater River	Franklin	Norfolk	37.121558	-80.085642	Intermittent	RPW	-	03010101	Pipeline ROW	54	-	0.0074	-	120	-	4-666
S-D13	UNT to North Fork Blackwater River	Franklin	Norfolk	37.121513	-80.085680	Intermittent	RPW	-	03010101	Pipeline ROW	117	-	0.0107	-	173	-	4-666
S-D14	UNT to North Fork Blackwater River	Franklin	Norfolk	37.121473	-80.088457	Intermittent	RPW	-	03010101	Pipeline ROW	234	-	0.0161	-	260	-	4-666
S-II4	UNT to North Fork Blackwater River	Franklin	Norfolk	37.115679	-80.060300	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0069	-	33	-	4-670
S-GH7	UNT to North Fork Blackwater River	Franklin	Norfolk	37.106614	-80.054219	Perennial	RPW	-	03010101	Timber Mat Crossing	20	-	0.0041	-	20	-	4-672
S-GH15	UNT to North Fork Blackwater River	Franklin	Norfolk	37.106177	-80.050105	Intermittent	RPW	-	03010101	Pipeline ROW	75	-	0.0069	-	111	-	4-674
S-GH14	UNT to North Fork Blackwater River	Franklin	Norfolk	37.105883	-80.048861	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	76	-	0.0070	-	113	-	4-674
S-GH11	UNT to North Fork Blackwater River	Franklin	Norfolk	37.104707	-80.046220	Intermittent	RPW	-	03010101	Pipeline ROW	77	-	0.0053	-	86	-	4-674
S-GH9	UNT to North Fork Blackwater River	Franklin	Norfolk	37.104329	-80.045343	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	78	-	0.0072	-	116	-	4-674
S-RR08	UNT to North Fork Blackwater River	Franklin	Norfolk	37.103290	-80.041868	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	0.0032	-	16	-	4-674
S-RR09	UNT to North Fork Blackwater River	Franklin	Norfolk	37.102491	-80.041046	Ephemeral	NRPW	-	03010101	Pipeline ROW	77	-	0.0159	-	257	-	4-675
S-RR11	UNT to North Fork Blackwater River	Franklin	Norfolk	37.101127	-80.039653	Ephemeral	NRPW	-	03010101	Pipeline ROW	77	-	0.0124	-	200	-	4-675
S-IJ1	UNT to North Fork Blackwater River	Franklin	Norfolk	37.093062	-80.027724	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	107	-	0.0295	-	476	-	4-677
S-IJ2	UNT to North Fork Blackwater River	Franklin	Norfolk	37.092891	-80.027593	Intermittent	RPW	-	03010101	Pipeline ROW	40	-	0.0023	-	37	-	4-677
S-II6	UNT to Little Creek	Franklin	Norfolk	37.092697	-79.978402	Intermittent	NRPW	-	03010101	Timber Mat Crossing	20	-	0.0014	-	7	-	4-685
S-IJ3	UNT to North Fork Blackwater River	Franklin	Norfolk	37.092600	-80.027231	Intermittent	RPW	-	03010101	Pipeline ROW	77	-	0.0088	-	143	-	4-677
S-GH6	UNT to Little Creek	Franklin	Norfolk	37.092397	-79.983227	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0014	-	7	-	4-684
S-II12	UNT to Little Creek	Franklin	Norfolk	37.091608	-79.987839	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	0.0009	-	4	-	4-684
S-II11	UNT to Little Creek	Franklin	Norfolk	37.091564	-79.988051	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0018	-	9	-	4-684
S-II8	UNT to Little Creek	Franklin	Norfolk	37.091413	-79.993944	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	0.0009	-	4	-	4-683
S-II9	UNT to Little Creek	Franklin	Norfolk	37.091382	-79.990620	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0092	-	44	-	4-683
S-II7	UNT to Little Creek	Franklin	Norfolk	37.091354	-79.992013	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	0.0018	-	9	-	4-683
S-IJ4	UNT to North Fork Blackwater River	Franklin	Norfolk	37.091189	-80.024366	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0018	-	9	-	4-677
S-KL2	UNT to Little Creek	Franklin	Norfolk	37.090361	-79.996354	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0017	-	8	-	4-682
S-GH2	UNT to Teels Creek	Franklin	Norfolk	37.090153	-79.953936	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	0.0009	-	4	-	4-689
S-GH4	UNT to Teels Creek	Franklin	Norfolk	37.089812	-79.956077	Perennial	RPW	-	03010101	Timber Mat Crossing	20	-	0.0023	-	11	-	4-688
S-GH3	UNT to Teels Creek	Franklin	Norfolk	37.089745	-79.956042	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0028	-	13	-	4-688
S-IJ10	Little Creek	Franklin	Norfolk	37.089179	-80.005026	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0014	-	7	-	4-681
S-E29	UNT to Teels Creek	Franklin	Norfolk	37.089178	-79.950110	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	80	-	0.0147	-	237	-	4-689
S-E28	Teels Creek	Franklin	Norfolk	37.089047	-79.9613	Perennial	RPW	-	03010101	Pipeline ROW	82	-	0.0226	-	364	-	4-687
S-E28	Teels Creek	Franklin	Norfolk	37.085247	-79.948057	Perennial	RPW	-	03010101	Pipeline ROW	76	-	0.0209	-	338	-	4-687
S-E28	Teels Creek	Franklin	Norfolk	37.082875	-79.945556	Perennial	RPW	-	03010101	Pipeline ROW	101	-	0.0278	-	449	-	4-687
S-EF4	UNT to Teels Creek	Franklin	Norfolk	37.078963	-79.941911	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	80	-	0.0202	-	326	-	4-691
S-EF7	UNT to Teels Creek	Franklin	Norfolk	37.074664	-79.941123	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	0.0009	-	4	-	4-692
S-EF7	UNT to Teels Creek	Franklin	Norfolk	37.074636	-79.941336	Ephemeral	NRPW	-	03010101	ATWS	22	-	0.0010	-	5	-	4-692
S-EF12	Teels Creek	Franklin	Norfolk	37.073367	-79.939865	Perennial	RPW	-	03010101	Pipeline ROW	79	-	0.0363	-	585	-	4-692
S-MM42	UNT to Teels Creek	Franklin	Norfolk	37.070703	-79.937069	Ephemeral	NRPW	-	03010101	Pipeline ROW	81	-	0.0037	-	60	-	4-693
S-D23	Teels Creek	Franklin	Norfolk	37.070322	-79.931039	Perennial	RPW	-	03010101	Pipeline ROW	92	-	0.0479	-	772	-	4-694
S-D22	UNT to Teels Creek	Franklin	Norfolk	37.070101	-79.929732	Intermittent	RPW	-	03010101	Pipeline ROW	83	-	0.0152	-	246	-	4-694
S-D18	UNT to Teels Creek	Franklin	Norfolk	37.069560	-79.926213	Ephemeral	NRPW	-	03010101	Pipeline ROW	30	-	0.0014	-	7	-	4-694
S-RR15	UNT to Teels Creek	Franklin	Norfolk	37.069542	-79.933892	Perennial	RPW	-	03010101	Timber Mat Crossing	20	-	0.0006	-	31	-	4-694
S-D20	UNT to Teels Creek	Franklin	Norfolk	37.069485	-79.926230	Intermittent	RPW	-	03010101	Pipeline ROW	76	-	0.0140	-	225	-	4-694
S-EF48	UNT to Blackwater River	Franklin	Norfolk	37.064748	-79.874420	Intermittent	RPW	-	03010101	Pipeline ROW	86	-	0.0039	-	64	-	4-705
S-YZ4	UNT to Blackwater River	Franklin	Norfolk	37.064723	-79.878190	Ephemeral	NRPW	-	03010101	Pipeline ROW	84	-	0.0058	-	93	-	4-704
S-C14	Teels Creek	Franklin	Norfolk	37.063956	-79.921985	Perennial	RPW	-	03010101	Pipeline ROW	90	-	0.0839	-	1,353	-	4-696
S-YZ5	UNT to Blackwater River	Franklin	Norfolk	37.063464	-79.878281	Ephemeral	NRPW	-	03010101	Pipeline ROW	86	-	0.0079	-	127	-	4-704
S-KL41	UNT to Blackwater River	Franklin	Norfolk	37.062262	-79.862639	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	75	-	0.0207	-	333	-	4-706
S-KL39	UNT to Blackwater River	Franklin	Norfolk	37.061193	-79.880018	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	121	-	0.0181	-	291	-	4-704
S-C16	UNT to Teels Creek	Franklin	Norfolk	37.060610	-79.921179	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0069	-	33	-	4-696
S-KL54	UNT to Maggodee Creek	Franklin	Norfolk	37.059535	-79.840624	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	76	-	0.0174	-	281	-	4-710
S-C8	UNT to Blackwater River	Franklin	Norfolk	37.059098	-79.853595	Intermittent	RPW	-	03010101	Pipeline ROW	86	-	0.0099	-	159	-	4-708
S-F4	UNT to Blackwater River	Franklin	Norfolk	37.059060	-79.853379	Ephemeral	NRPW	-	03010101	Pipeline ROW	82	-	0.0188	-	91	-	4-708
S-C17	Teels Creek	Franklin	Norfolk	37.058390	-79.918015	Perennial	RPW	-	03010101	Timber Mat Crossing	30	-	0.0138	-	100	-	4-696
S-KL52	UNT to Maggodee Creek	Franklin	Norfolk	37.058165	-79.844877	Ephemeral	NRPW	-	03010101	Pipeline ROW	105	-	0.0024	-	39	-	4-709
S-S11	UNT to Maggodee Creek	Franklin	Norfolk	37.057776	-79.838583	Perennial	RPW	-	03010101	Temporary Access Road	41	-	0.0104	-	50	-	4-710

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Individual Permit Application
Mountain Valley Pipeline Project

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S-F8	UNT to Maggodee Creek	Franklin	Norfolk	37.057724	-79.836406	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	83	-	0.0572	-	922	-	4-710
S-CD6	Little Creek	Franklin	Norfolk	37.057584	-79.913921	Perennial	RPW	-	03010101	Pipeline ROW	77	-	0.1016	-	1,639	-	4-698
S-HH4	UNT to Maggodee Creek	Franklin	Norfolk	37.056594	-79.835785	Intermittent	RPW	-	03010101	Pipeline ROW	97	-	0.0200	-	323	-	4-711
S-KL51	UNT to Blackwater River	Franklin	Norfolk	37.056084	-79.850384	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	67	-	0.0085	-	136	-	4-708
S-KL38	UNT to Blackwater River	Franklin	Norfolk	37.055912	-79.883177	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	78	-	0.0125	-	202	-	4-702
S-C20	UNT to Maggodee Creek	Franklin	Norfolk	37.055193	-79.833881	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	0.0018	-	9	-	4-711
S-C19	Maggodee Creek	Franklin	Norfolk	37.055147	-79.830098	Perennial	RPW	-	03010101	Pipeline ROW	75	-	0.0690	-	1,113	-	4-711
S-KL36	UNT to Blackwater River	Franklin	Norfolk	37.053336	-79.884604	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0034	-	17	-	4-702
S-F11	Blackwater River	Franklin	Norfolk	37.052843	-79.825711	Perennial	TNW	Non-listed mussels	03010101	Pipeline ROW	91	-	0.1553	-	2,506	-	4-712
S-KL35	UNT to Blackwater River	Franklin	Norfolk	37.052125	-79.886182	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	35	-	0.0020	-	10	-	4-702
S-F9b	UNT to Blackwater River	Franklin	Norfolk	37.049238	-79.817223	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	76	-	0.0262	-	422	-	4-713
S-II2	Little Creek	Franklin	Norfolk	37.049219	-79.908513	Perennial	RPW	-	03010101	Pipeline ROW	76	-	0.0745	-	1,203	-	4-699
S-F10	UNT to Blackwater River	Franklin	Norfolk	37.048037	-79.813934	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	0.0041	-	20	-	4-713
S-CD1	UNT to Blackwater River	Franklin	Norfolk	37.047765	-79.897636	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	104	-	0.0084	-	135	-	4-701
S-F9a	UNT to Blackwater River	Franklin	Norfolk	37.047172	-79.813000	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	0.0069	-	33	-	4-713
S-MM29	UNT to Maple Branch	Franklin	Norfolk	37.043871	-79.822898	Perennial	RPW	-	03010101	Temporary Access Road	42	-	0.0145	-	70	-	4-714
S-MM23	Maple Branch	Franklin	Norfolk	37.043854	-79.822974	Perennial	RPW	-	03010101	Temporary Access Road	78	-	0.0358	-	173	-	4-714
S-GG4	UNT to Blackwater River	Franklin	Norfolk	37.042742	-79.809015	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	0.0046	-	22	-	4-716
S-A36	UNT to Foul Ground Creek	Franklin	Norfolk	37.037916	-79.804237	Ephemeral	NRPW	-	03010101	Pipeline ROW	77	-	0.0071	-	114	-	4-717
S-A38	UNT to Foul Ground Creek	Franklin	Norfolk	37.036271	-79.799442	Intermittent	RPW	-	03010101	Timber Mat Crossing	30	-	0.0062	-	30	-	4-718
S-A40	UNT to Foul Ground Creek	Franklin	Norfolk	37.036173	-79.799240	Intermittent	RPW	-	03010101	Timber Mat Crossing	13	-	0.0017	-	8	-	4-718
S-A41	Foul Ground Creek	Franklin	Norfolk	37.031714	-79.788213	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	76	-	0.0209	-	338	-	4-720
S-GH36	UNT to Foul Ground Creek	Franklin	Norfolk	37.031063	-79.778588	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	0.0014	-	7	-	4-721
S-KL17	UNT to Foul Ground Creek	Franklin	Norfolk	37.031011	-79.778435	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	0.0023	-	11	-	4-721
S-GH37	UNT to Foul Ground Creek	Franklin	Norfolk	37.030974	-79.778190	Intermittent	RPW	-	03010101	Pipeline ROW	46	-	0.0032	-	15	-	4-721
S-GH38	UNT to Foul Ground Creek	Franklin	Norfolk	37.030972	-79.778083	Intermittent	RPW	-	03010101	Pipeline ROW	7	-	0.0005	-	2	-	4-721
S-GH39	UNT to Foul Ground Creek	Franklin	Norfolk	37.030861	-79.778069	Intermittent	RPW	-	03010101	Pipeline ROW	103	-	0.0095	-	153	-	4-721
S-GH40	UNT to Foul Ground Creek	Franklin	Norfolk	37.028893	-79.774785	Ephemeral	NRPW	-	03010101	Pipeline ROW	89	-	0.0061	-	99	-	4-721
S-GH44	UNT to Foul Ground Creek	Franklin	Norfolk	37.028392	-79.773359	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	103	-	0.0142	-	69	-	4-721
S-G22	UNT to Poplar Camp Creek	Franklin	Norfolk	37.019612	-79.761958	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	80	-	0.0220	-	356	-	4-723
S-G23	UNT to Poplar Camp Creek	Franklin	Norfolk	37.019526	-79.762002	Intermittent	RPW	-	03010101	Pipeline ROW	42	-	0.0029	-	14	-	4-723
S-G21	UNT to Poplar Camp Creek	Franklin	Norfolk	37.019359	-79.761643	Intermittent	RPW	-	03010101	Pipeline ROW	54	-	0.0037	-	18	-	4-723
S-G20	Poplar Camp Creek	Franklin	Norfolk	37.017364	-79.760000	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0046	-	22	-	4-724
S-G18	UNT to Blackwater River	Franklin	Norfolk	37.009236	-79.754238	Intermittent	RPW	-	03010101	Pipeline ROW	81	-	0.0037	-	60	-	4-725
S-G17	UNT to Blackwater River	Franklin	Norfolk	37.005496	-79.752655	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	0.0023	-	11	-	4-726
S-E18	UNT to Blackwater River	Franklin	Norfolk	37.001271	-79.747749	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	94	-	0.0151	-	244	-	4-727
S-E17	UNT to Blackwater River	Franklin	Norfolk	37.000529	-79.742760	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	95	-	0.0174	-	281	-	4-727
S-E14	UNT to Blackwater River	Franklin	Norfolk	36.995814	-79.735144	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	82	-	0.0376	-	607	-	4-728
S-H38	UNT to Jacks Creek	Franklin	Norfolk	36.989430	-79.722366	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0055	-	27	-	4-730
S-H32	UNT to Jacks Creek	Franklin	Norfolk	36.988273	-79.708199	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0046	-	22	-	4-732
S-H37	UNT to Jacks Creek	Franklin	Norfolk	36.988031	-79.717450	Ephemeral	NRPW	-	03010101	Pipeline ROW	82	-	0.0113	-	182	-	4-731
S-H34	UNT to Jacks Creek	Franklin	Norfolk	36.988009	-79.711881	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0014	-	7	-	4-732
S-H36	UNT to Jacks Creek	Franklin	Norfolk	36.988008	-79.714922	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0014	-	7	-	4-731
S-H30	UNT to Jacks Creek	Franklin	Norfolk	36.987961	-79.702711	Intermittent	RPW	-	03010101	Pipeline ROW	4	-	0.0001	-	1	-	4-734
S-A18	UNT to Jacks Creek	Franklin	Norfolk	36.987818	-79.700634	Intermittent	RPW	-	03010101	Pipeline ROW	87	-	0.0052	-	84	-	4-734
S-A19/H26	UNT to Jacks Creek	Franklin	Norfolk	36.987719	-79.698901	Intermittent	RPW	-	03010101	Pipeline ROW	212	-	0.0341	-	550	-	4-734
S-A20	UNT to Jacks Creek	Franklin	Norfolk	36.987715	-79.698555	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0032	-	16	-	4-734
S-H28	UNT to Jacks Creek	Franklin	Norfolk	36.985174	-79.692272	Ephemeral	NRPW	-	03010101	Pipeline ROW	16	-	0.0022	-	11	-	4-735
S-H27	UNT to Jacks Creek	Franklin	Norfolk	36.985124	-79.692272	Ephemeral	NRPW	-	03010101	Pipeline ROW	36	-	0.0083	-	40	-	4-735
S-A22	UNT to Jacks Creek	Franklin	Norfolk	36.984846	-79.691870	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	0.0037	-	18	-	4-735
S-MM44	UNT to Little Jacks Creek	Franklin	Norfolk	36.982507	-79.687818	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0018	-	9	-	4-735
S-MM46	UNT to Little Jacks Creek	Franklin	Norfolk	36.982240	-79.687500	Intermittent	RPW	-	03010101	Timber Mat Crossing	9	-	0.0006	-	3	-	4-735
S-MM45	UNT to Little Jacks Creek	Franklin	Norfolk	36.981971	-79.686901	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	33	-	0.0030	-	15	-	4-735
S-MM48	UNT to Little Jacks Creek	Franklin	Norfolk	36.979223	-79.684192	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	25	-	0.0040	-	19	-	4-736
S-H25	Little Jacks Creek	Franklin	Norfolk	36.978529	-79.682186	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0032	-	16	-	4-736
S-H24	UNT to Little Jacks Creek	Franklin	Norfolk	36.978025	-79.680682	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0046	-	22	-	4-736
S-H23	UNT to Turkey Creek	Franklin	Norfolk	36.976421	-79.677525	Ephemeral	NRPW	-	03010101	Pipeline ROW	92	-	0.0106	-	170	-	4-738
S-HH1	UNT to Turkey Creek	Franklin	Norfolk	36.974647	-79.674453	Ephemeral	NRPW	-	03010101	Pipeline ROW	18	-	0.0021	-	10	-	4-738
S-A13	Turkey Creek	Franklin	Norfolk	36.973282	-79.673075	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0037	-	18	-	4-738

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S-A11	UNT to Turkey Creek	Franklin	Norfolk	36.973237	-79.669898	Ephemeral	NRPW	-	03010101	Pipeline ROW	55	-	0.0038	-	18	-	4-740
S-H17	Dinner Creek	Franklin	Norfolk	36.972125	-79.662987	Intermittent	RPW	-	03010101	Pipeline ROW	101	-	0.0185	-	299	-	4-741
S-A7	UNT to Dinner Creek	Franklin	Norfolk	36.972032	-79.662504	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0028	-	13	-	4-741
S-SS8	Polecat Creek	Franklin	Norfolk	36.970904	-79.657370	Perennial	RPW	Orangefin madtom,	03010101	Timber Mat Crossing	20	-	0.0037	-	18	-	4-741
S-CD8	UNT to Owens Creek	Franklin	Norfolk	36.970522	-79.653726	Intermittent	RPW	-	03010101	Pipeline ROW	78	-	0.0081	-	130	-	4-742
S-AB8	UNT to Owens Creek	Franklin	Norfolk	36.970133	-79.651328	Intermittent	RPW	-	03010101	Pipeline ROW	84	-	0.0077	-	124	-	4-742
S-DD3	Owens Creek	Franklin	Norfolk	36.969118	-79.645042	Intermittent	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0069	-	33	-	4-743
S-G16	Strawfield Creek	Franklin	Norfolk	36.968640	-79.642174	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	30	-	0.0138	-	100	-	4-743
S-G15	UNT to Parrot Branch	Franklin	Norfolk	36.967711	-79.636590	Intermittent	RPW	-	03010101	Pipeline ROW	88	-	0.0182	-	293	-	4-744
S-G13	Parrot Branch	Franklin	Norfolk	36.967025	-79.630747	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0037	-	18	-	4-744
S-D3	UNT to Jonnikin Creek	Pittsylvania	Norfolk	36.965631	-79.605542	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0046	-	22	-	4-747
S-D4	UNT to Jonnikin Creek	Pittsylvania	Norfolk	36.965600	-79.604894	Intermittent	RPW	-	03010101	Pipeline ROW	105	-	0.0145	-	233	-	4-747
S-D2	Jonnikin Creek	Pittsylvania	Norfolk	36.965405	-79.599130	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0083	-	40	-	4-748
S-D7	UNT to Jonnikin Creek	Franklin	Norfolk	36.964763	-79.617043	Intermittent	RPW	-	03010101	Pipeline ROW	80	-	0.0147	-	237	-	4-746
S-D1-EPH	UNT to Jonnikin Creek	Pittsylvania	Norfolk	36.964430	-79.595691	Ephemeral	NRPW	-	03010101	Pipeline ROW	61	-	0.0140	-	226	-	4-748
S-D1-INT	UNT to Jonnikin Creek	Pittsylvania	Norfolk	36.964407	-79.595841	Intermittent	RPW	-	03010101	Pipeline ROW	29	-	0.0067	-	32	-	4-748
S-G11	UNT to Jonnikin Creek	Pittsylvania	Norfolk	36.962420	-79.590500	Intermittent	RPW	-	03010101	Pipeline ROW	77	-	0.0106	-	171	-	4-749
S-G9	UNT to Jonnikin Creek	Pittsylvania	Norfolk	36.959361	-79.586437	Intermittent	RPW	-	03010101	Pipeline ROW	79	-	0.0073	-	117	-	4-751
S-G8	UNT to Jonnikin Creek	Pittsylvania	Norfolk	36.957805	-79.583545	Intermittent	RPW	-	03010101	Pipeline ROW	90	-	0.0083	-	133	-	4-751
S-Q15	UNT to Jonnikin Creek	Pittsylvania	Norfolk	36.957580	-79.583492	Ephemeral	NRPW	-	03010101	Pipeline ROW	103	-	0.0118	-	191	-	4-751
S-A6	UNT to Rocky Creek	Pittsylvania	Norfolk	36.952275	-79.580460	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0023	-	11	-	4-750
S-H11-Braid	UNT to Rocky Creek	Pittsylvania	Norfolk	36.949615	-79.579553	Ephemeral	NRPW	-	03010101	Pipeline ROW	85	-	0.0039	-	19	-	4-750
S-F2	UNT to Rocky Creek	Pittsylvania	Norfolk	36.944049	-79.571442	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	0.0032	-	16	-	4-753
S-C7	UNT to Rocky Creek	Pittsylvania	Norfolk	36.944016	-79.571517	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0092	-	44	-	4-753
S-C3	Harpen Creek	Pittsylvania	Norfolk	36.929762	-79.526109	Perennial	RPW	Roanoke logperch, Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0083	-	40	-	4-758
S-C4	UNT to Harpen Creek	Pittsylvania	Norfolk	36.929745	-79.526290	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	58	-	0.0053	-	26	-	4-758
S-H13	Harpen Creek	Pittsylvania	Norfolk	36.925105	-79.517350	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	77	-	0.0354	-	570	-	4-759
S-G6	UNT to Harpen Creek	Pittsylvania	Norfolk	36.920737	-79.505898	Intermittent	RPW	-	03010101	Pipeline ROW	80	-	0.0110	-	178	-	4-761
S-G5	UNT to Harpen Creek	Pittsylvania	Norfolk	36.917694	-79.496604	Ephemeral	NRPW	-	03010101	Pipeline ROW	77	-	0.0106	-	171	-	4-762
S-G4	Harpen Creek	Pittsylvania	Norfolk	36.916463	-79.492669	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	30	-	0.0138	-	100	-	4-762
S-G3	UNT to Harpen Creek	Pittsylvania	Norfolk	36.915658	-79.490029	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0041	-	20	-	4-762
S-CC16	UNT to Harpen Creek	Pittsylvania	Norfolk	36.913003	-79.487838	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	0.0051	-	24	-	4-763
S-CC14	UNT to Cherrystone Creek	Pittsylvania	Norfolk	36.905329	-79.471492	Intermittent	RPW	-	03010105	Timber Mat Crossing	20	-	0.0037	-	18	-	4-765
S-CC13	UNT to Cherrystone Creek	Pittsylvania	Norfolk	36.905307	-79.471574	Intermittent	RPW	-	03010105	Timber Mat Crossing	20	-	0.0032	-	16	-	4-765
S-MM8	UNT to Cherrystone Creek	Pittsylvania	Norfolk	36.902991	-79.468220	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	0.0028	-	13	-	4-766
S-CC15	UNT to Cherrystone Creek	Pittsylvania	Norfolk	36.901941	-79.466535	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	0.0028	-	13	-	4-766
S-CC8	UNT to Cherrystone Creek	Pittsylvania	Norfolk	36.899437	-79.462685	Intermittent	RPW	-	03010105	Timber Mat Crossing	20	-	0.0037	-	18	-	4-766
S-CC5	UNT to Cherrystone Creek	Pittsylvania	Norfolk	36.899411	-79.462483	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	0.0055	-	27	-	4-766
S-CC5	UNT to Cherrystone Creek	Pittsylvania	Norfolk	36.899248	-79.462396	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	54	-	0.0149	-	240	-	4-766
S-CC9	UNT to Cherrystone Creek	Pittsylvania	Norfolk	36.897740	-79.458046	Ephemeral	NRPW	-	03010105	Pipeline ROW	81	-	0.0102	-	165	-	4-767
S-CC10	UNT to Cherrystone Creek	Pittsylvania	Norfolk	36.897315	-79.456119	Intermittent	RPW	-	03010105	Pipeline ROW	78	-	0.0161	-	260	-	4-767
S-MM10	UNT to Cherrystone Creek	Pittsylvania	Norfolk	36.895915	-79.452960	Intermittent	RPW	-	03010105	Pipeline ROW	9	-	0.0014	-	7	-	4-768
S-CC11	UNT to Cherrystone Creek	Pittsylvania	Norfolk	36.895808	-79.452920	Perennial	RPW	Orangefin madtom	03010105	Pipeline ROW	87	-	0.0160	-	258	-	4-768
S-CC1	Cherrystone Creek	Pittsylvania	Norfolk	36.894043	-79.445744	Perennial	RPW	Orangefin madtom	03010105	Pipeline ROW	82	-	0.0282	-	456	-	4-769
S-CC3	UNT to Cherrystone Creek	Pittsylvania	Norfolk	36.893727	-79.444763	Ephemeral	NRPW	-	03010105	Pipeline ROW	91	-	0.0167	-	270	-	4-769
S-P5	UNT to Cherrystone Creek	Pittsylvania	Norfolk	36.892751	-79.440053	Ephemeral	NRPW	-	03010105	Timber Mat Crossing	20	-	0.0023	-	11	-	4-769
S-IJ35-EPH	UNT to Pole Bridge Branch	Pittsylvania	Norfolk	36.891451	-79.433781	Ephemeral	NRPW	-	03010105	Pipeline ROW	171	-	0.0157	-	253	-	4-770
S-Q4	UNT to Pole Bridge Branch	Pittsylvania	Norfolk	36.886114	-79.430914	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	0.0023	-	11	-	4-771
S-Q3	Pole Bridge Branch	Pittsylvania	Norfolk	36.884444	-79.428220	Perennial	RPW	Orangefin madtom	03010105	Pipeline ROW	75	-	0.0430	-	694	-	4-771
S-Q2	UNT to Pole Bridge Branch	Pittsylvania	Norfolk	36.884284	-79.427914	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	0.0032	-	16	-	4-771
S-B6	UNT to Pole Bridge Branch	Pittsylvania	Norfolk	36.879063	-79.420189	Ephemeral	NRPW	-	03010105	Pipeline ROW	84	-	0.0193	-	311	-	4-772
S-B8	UNT to Pole Bridge Branch	Pittsylvania	Norfolk	36.877937	-79.417992	Intermittent	RPW	-	03010105	Pipeline ROW	82	-	0.0075	-	121	-	4-773
S-B9	UNT to Pole Bridge Branch	Pittsylvania	Norfolk	36.877416	-79.416255	Perennial	RPW	Orangefin madtom	03010105	Pipeline ROW	78	-	0.0125	-	202	-	4-773
S-DD4-Braid-1	UNT to Mill Creek	Pittsylvania	Norfolk	36.871651	-79.404061	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010105	Pipeline ROW	67	-	0.0092	-	149	-	4-775
S-DD4	UNT to Mill Creek	Pittsylvania	Norfolk	36.871478	-79.403907	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010105	Pipeline ROW	147	-	0.0202	-	327	-	4-775
S-KL27	UNT to Mill Creek	Pittsylvania	Norfolk	36.866534	-79.400511	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	03010105	Pipeline ROW	84	-	0.0019	-	31	-	4-776
S-C1	Mill Creek	Pittsylvania	Norfolk	36.863513	-79.397914	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010105	Pipeline ROW	92	-	0.0127	-	204	-	4-777
S-G2	Little Cherrystone Creek	Pittsylvania	Norfolk	36.851931	-79.386051	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	0.0032	-	16	-	4-779
S-B2	UNT to Little Cherrystone Creek	Pittsylvania	Norfolk	36.849394	-79.377780	Ephemeral	NRPW	-	03010105	Timber Mat Crossing	20	-	0.0023	-	11	-	4-780

Table 2. Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-H55	UNT to Little Cherrystone Creek	Pittsylvania	Norfolk	36.843486	-79.369222	Ephemeral	NRPW	-	03010105	Timber Mat Crossing	20	-	0.0014	-	7	-	4-781
S-H54	UNT to Little Cherrystone Creek	Pittsylvania	Norfolk	36.841112	-79.366848	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	0.0055	-	27	-	4-781
S-GG11	UNT to Little Cherrystone Creek	Pittsylvania	Norfolk	36.841093	-79.366942	Perennial	RPW	-	03010105	Timber Mat Crossing	46	-	0.0084	-	41	-	4-781
S-H3	UNT to Little Cherrystone Creek	Pittsylvania	Norfolk	36.834501	-79.360244	Intermittent	RPW	-	03010105	Pipeline ROW	18	-	0.0025	-	12	-	4-783
S-H5	UNT to Little Cherrystone Creek	Pittsylvania	Norfolk	36.833412	-79.359823	Perennial	RPW	Orangefin madtom	03010105	Pipeline ROW	83	-	0.0152	-	246	-	4-783
S-OO1	UNT to Little Cherrystone Creek	Pittsylvania	Norfolk	36.830285	-79.356618	Intermittent	RPW	-	03010105	Pipeline ROW	84	-	0.0096	-	156	-	4-783
S-H44	UNT to Little Cherrystone Creek	Pittsylvania	Norfolk	36.829823	-79.346016	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	33	-	0.0061	-	29	-	4-785
S-H42	UNT to Little Cherrystone Creek	Pittsylvania	Norfolk	36.828993	-79.344442	Perennial	RPW	Orangefin madtom	03010105	Permanent Access Road	-	15	-	0.0017	-	11	4-785
S-H42	UNT to Little Cherrystone Creek	Pittsylvania	Norfolk	36.828958	-79.344315	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	0.0032	-	16	-	4-785
S-OO2	UNT to Little Cherrystone Creek	Pittsylvania	Norfolk	36.828831	-79.353849	Intermittent	RPW	-	03010105	Pipeline ROW	78	-	0.0090	-	144	-	4-784
S-EF26	Little Cherrystone Creek	Pittsylvania	Norfolk	36.828207	-79.349814	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	0.0092	-	44	-	4-784

Notes:

1 - For identified streams without a NHD (National Hydrography Dataset) name, the identified stream was given the name, "Unidentified Tributary (UNT)", of the first named receiving waterbody

2 - In decimal degrees

3 - RPW = Relatively Permanent Waters
- NRPW = Non-Relatively Permanent Waters
- TNW = Traditional Navigable Waters

4 - See Section 1.9.2 and Section 4.2 for more information

5 - Acres are rounded to four decimal places.

6 - Temporary fill discharge into waters of the U.S. Cubic yards are rounded to the nearest whole number.

7 - Permanent fill associated with the construction of Permanent access road and facilities. Cubic yards are rounded to the nearest whole number.

Mountain Valley PIPELINE LLC

Table 3 (Wetland Impacts)

Table 3. Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Figure
W-B55	Harrison	Pittsburgh	39.436246	-80.474973	PEM	RPWWD	05020002	Timber Mat Crossing	0.0054	-	-	26	-	4-36
W-J32-PEM-1	Harrison	Pittsburgh	39.391614	-80.477085	PEM	RPWWN	05020002	Temporary Access Road	0.0417	-	-	202	-	4-44
W-A10a	Harrison	Pittsburgh	39.369569	-80.485054	PEM	RPWWD	05020002	Timber Mat Crossing	0.0153	-	-	74	-	4-49
W-B1a	Harrison	Pittsburgh	39.360192	-80.492766	PEM	NRPWW	05020002	Pipeline ROW	0.0119	-	-	192	-	4-50
W-A40	Harrison	Pittsburgh	39.358924	-80.493367	PEM	RPWWN	05020002	Pipeline ROW/ATWS	0.3111	-	-	1,506	-	4-51
W-A39	Harrison	Pittsburgh	39.358865	-80.490797	PEM	RPWWN	05020002	Permanent Access Road	0.0280	-	-	136	-	4-51
W-ST11	Harrison	Pittsburgh	39.338239	-80.519656	PEM	NRPWW	05020002	Temporary Access Road/ATWS	0.0228	-	-	110	-	4-56
W-ST12-PEM	Harrison	Pittsburgh	39.337471	-80.522128	PEM	RPWWD	05020002	Temporary Access Road/ATWS	0.0582	-	-	282	-	4-56
W-ST12-PSS	Harrison	Pittsburgh	39.337457	-80.522185	PSS	RPWWD	05020002	Temporary Access Road/ATWS	-	0.1444	-	699	-	4-56
W-B2a	Harrison	Pittsburgh	39.316856	-80.525315	PEM	RPWWD	05020002	ATWS	0.1953	-	-	945	-	4-59
W-B4a	Harrison	Pittsburgh	39.316784	-80.526129	PEM	RPWWD	05020002	Timber Mat Crossing	0.0214	-	-	104	-	4-59
W-UU1	Harrison	Pittsburgh	39.290258	-80.518898	PFO	RPWWD	05020002	Pipeline ROW	-	0.0045	-	22	-	4-66
W-UU3	Harrison	Pittsburgh	39.289750	-80.518517	PFO	RPWWN	05020002	Pipeline ROW	-	0.0065	-	105	-	4-66
W-UU4a	Harrison	Pittsburgh	39.253101	-80.540498	PEM	RPWWD	05020002	Pipeline ROW/ATWS	0.1268	-	-	2,046	-	4-74
W-F52	Harrison	Pittsburgh	39.250487	-80.551891	PEM	NRPWW	05020002	Temporary Access Road	0.0625	-	-	302	-	4-76
W-F54	Harrison	Pittsburgh	39.249640	-80.550121	PEM	NRPWW	05020002	Timber Mat Crossing	0.0042	-	-	20	-	4-76
W-F53	Harrison	Pittsburgh	39.249629	-80.549909	PEM	NRPWW	05020002	Timber Mat Crossing	0.0080	-	-	39	-	4-76
W-F55	Harrison	Pittsburgh	39.249464	-80.551040	PEM	NRPWW	05020002	Timber Mat Crossing	0.0173	-	-	84	-	4-76
W-K43	Harrison	Pittsburgh	39.243915	-80.553961	PEM	RPWWD	05020002	Pipeline ROW	0.2086	-	-	3,365	-	4-77
W-K44	Harrison	Pittsburgh	39.243493	-80.554033	PEM	RPWWD	05020002	Pipeline ROW	0.0671	-	-	1,083	-	4-77
W-CV15	Harrison	Pittsburgh	39.223490	-80.548109	PEM	RPWWD	05020002	Timber Mat Crossing	0.0512	-		248	-	4-81
W-J40	Lewis	Pittsburgh	39.167631	-80.578355	PEM	RPWWD	05020002	Pipeline ROW	0.2931	-	-	4,729	-	4-92
W-J40	Lewis	Pittsburgh	39.167564	-80.578800	PEM	RPWWD	05020002	Temporary Access Road	0.1812	-	-	877	-	4-92
W-A24	Harrison	Pittsburgh	39.165608	-80.569523	PEM	NRPWW	05020002	Temporary Access Road	0.0002	-	-	1	-	4-91
W-VV5	Lewis	Pittsburgh	39.137820	-80.576075	PEM	RPWWD	05020002	ATWS	0.0202	-	-	98	-	4-99
W-IJ23	Lewis	Pittsburgh	39.131093	-80.572126	PEM	RPWWN	05020002	Temporary Access Road	0.0065	-	-	31	-	4-100
W-IJ24	Lewis	Pittsburgh	39.130718	-80.571966	PEM	RPWWN	05020002	Temporary Access Road	0.0041	-	-	20	-	4-100
W-J20	Lewis	Pittsburgh	39.116053	-80.589196	PEM	NRPWW	05020002	Permanent Access Road	0.0081	-	-	39	-	4-103
W-J23	Lewis	Pittsburgh	39.114118	-80.586522	PEM	RPWWN	05020002	Pipeline ROW	0.0130	-	-	210	-	4-103
W-K31	Lewis	Pittsburgh	39.080555	-80.581362	PEM	NRPWW	05020002	Pipeline ROW/Temporary Access Road	0.1135	-	-	549	-	4-109
W-ST14	Lewis	Pittsburgh	39.079947	-80.583108	PEM	RPWWD	05020002	Anode Bed	0.0394	-	-	191	-	4-110
W-ST15	Lewis	Pittsburgh	39.079855	-80.582499	PEM	RPWWN	05020002	Anode Bed	0.0711	-	-	344	-	4-110
W-B46	Lewis	Pittsburgh	39.079854	-80.581439	PEM	RPWWD	05020002	Pipeline ROW/Temporary Access Road	0.1255	-	-	607	-	4-110
W-B47	Lewis	Pittsburgh	39.079451	-80.581349	PEM	RPWWD	05020002	Timber Mat Crossing	0.0682	-	-	330	-	4-110
W-B51	Lewis	Pittsburgh	39.078107	-80.581235	PEM	NRPWW	05020002	Timber Mat Crossing	0.0035	-	-	17	-	4-110
W-B54	Lewis	Pittsburgh	39.073907	-80.581491	PEM	NRPWW	05020002	Timber Mat Crossing	0.0101	-	-	49	-	4-110
W-H112	Lewis	Pittsburgh	39.066480	-80.581624	PEM	NRPWW	05020002	Pipeline ROW	0.0231	-	-	373	-	4-111
W-ME1	Wetzel	Huntington	39.561837	-80.544176	PEM	RPWWD	05030201	ATWS	0.0382	-	-	185	-	4-1
W-ME2	Wetzel	Huntington	39.559744	-80.546756	PEM	RPWWN	05030201	ATWS	0.1036	-	-	501	-	4-1
W-ME3	Wetzel	Huntington	39.559075	-80.547489	PEM	RPWWN	05030201	ATWS	0.0869	-	-	421	-	4-1
W-A1a	Wetzel	Huntington	39.553912	-80.544941	PEM	RPWWD	05030201	Pipeline ROW	0.0038	-	-	18	-	4-3
W-A2a	Wetzel	Huntington	39.553508	-80.545518	PEM	RPWWN	05030201	Timber Mat Crossing	0.0424	-	-	205	-	4-3
W-A4a	Wetzel	Huntington	39.544642	-80.542833	PEM	NRPWW	05030201	Timber Mat Crossing	0.0070	-	-	34	-	4-5
W-IJ31	Wetzel	Huntington	39.505764	-80.541781	PEM	RPWWN	05030201	ATWS	0.0992	-	-	480	-	4-18
W-IJ31	Wetzel	Huntington	39.505612	-80.541681	PEM	RPWWN	05030201	Permanent Access Road	-	-	0.0082	-	40	4-18
W-A27-PFO	Wetzel	Huntington	39.502389	-80.523497	PFO	RPWWD	05030201	Pipeline ROW	-	0.0547	-	882	-	4-20
W-A27-PEM	Wetzel	Huntington	39.502356	-80.523420	PEM	RPWWD	05030201	Pipeline ROW	0.0497	-	-	802	-	4-20
W-A35	Wetzel	Huntington	39.491159	-80.520537	PEM	NRPWW	05030201	Pipeline ROW	0.0066	-	-	107	-	4-23
W-A34	Wetzel	Huntington	39.489742	-80.520750	PEM	RPWWD	05030201	Timber Mat Crossing	0.0296	-	-	143	-	4-23
W-WX5	Wetzel	Huntington	39.463909	-80.502672	PEM	RPWWD	05030201	Temporary Access Road	0.0011	-	-	5	-	4-28
W-WX4	Wetzel	Huntington	39.463864	-80.502581	PEM	RPWWD	05030201	Temporary Access Road	0.0095	-	-	46	-	4-28
W-K52	Doddridge	Huntington	39.236762	-80.558524	PEM	RPWWN	05030201	Permanent Access Road	0.0021	-	-	10	-	4-78
W-K52	Doddridge	Huntington	39.236727	-80.558550	PEM	RPWWN	5030201	Permanent Access Road	-	-	0.0115	-	56	4-78
W-K45	Doddridge	Huntington	39.228900	-80.552328	PEM	RPWWD	05030201	Pipeline ROW	0.0401	-	-	648	-	4-80
W-K41	Doddridge	Huntington	39.208990	-80.551957	PEM	RPWWD	05030201	Timber Mat Crossing	0.0109	-	-	53	-	4-84
W-A23	Doddridge	Huntington	39.201188	-80.552996	PEM	RPWWD	05030201	Pipeline ROW	0.2701	-	-	4,358	-	4-85
W-A23	Doddridge	Huntington	39.201157	-80.553264	PEM	RPWWD	05030201	Permanent Access Road	-	-	0.0579	-	280	4-85
W-B57	Lewis	Huntington	39.111745	-80.587352	PEM	NRPWW	05030203	Pipeline ROW/Temporary Access Road	0.0336	-	-	163	-	4-104
W-K33-PSS	Lewis	Huntington	39.095059	-80.585064	PSS	RPWWD	05030203	Pipeline ROW	-	0.0024	-	12	-	4-106
W-K33-PEM	Lewis	Huntington	39.095056	-80.584787	PEM	RPWWD	05030203	Pipeline ROW	0.1544	-	-	2,490	-	4-106
W-K34-PEM	Lewis	Huntington	39.093945	-80.585460	PEM	RPWWD	05030203	Timber Mat Crossing	0.0253	-	-	122	-	4-106

Table 3. Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Figure
W-H109	Lewis	Huntington	39.053324	-80.582020	PEM	NRPWW	05030203	Pipeline ROW	-	-	0.0027	-	13	4-114
W-I22-PEM	Lewis	Huntington	39.052952	-80.582437	PEM	RPWWD	05030203	ATWS	0.0018	-	-	9	-	4-114
W-I22-PEM	Lewis	Huntington	39.052768	-80.582196	PEM	RPWWD	05030203	Timber Mat Crossing	0.0162	-	-	78	-	4-114
W-I22-PEM	Lewis	Huntington	39.052760	-80.582147	PEM	RPWWD	05030203	Permanent Access Road	-	-	0.0059	-	28	4-114
W-KK6	Lewis	Huntington	39.017820	-80.596977	PEM	RPWWD	05030203	Timber Mat Crossing	0.0212	-	-	103	-	4-119
W-I15	Lewis	Huntington	38.968609	-80.592042	PEM	RPWWN	05030203	Pipeline ROW	0.0631	-	-	1,018	-	4-128
W-I16	Lewis	Huntington	38.964758	-80.590881	PEM	NRPWW	05030203	Timber Mat Crossing	0.0177	-	-	86	-	4-129
W-I17	Lewis	Huntington	38.964195	-80.590961	PEM	NRPWW	05030203	Timber Mat Crossing	0.0017		-	8	-	4-129
W-I20	Lewis	Huntington	38.962362	-80.590607	PEM	NRPWW	05030203	Timber Mat Crossing	0.0379	-	-	183	-	4-129
W-I21	Lewis	Huntington	38.962126	-80.590741	PEM	NRPWW	05030203	Timber Mat Crossing	0.0631	-	-	306	-	4-129
W-UU7	Lewis	Huntington	38.933646	-80.585074	PEM	NRPWW	05030203	Pipeline ROW	0.0038	-	-	19	-	4-135
W-H103	Lewis	Huntington	38.933290	-80.584765	PEM	RPWWN	05030203	ATWS	0.0037	-	-	18	-	4-135
W-H103	Lewis	Huntington	38.933290	-80.584765	PEM	RPWWN	05030203	Timber Mat Crossing	0.0050	-	-	24	-	4-135
W-H102	Lewis	Huntington	38.933168	-80.584990	PEM	RPWWN	05030203	ATWS	0.0129	-	-	62	-	4-135
W-H107	Lewis	Huntington	38.932901	-80.584200	PEM	RPWWD	05030203	Timber Mat Crossing	0.0328	-	-	159	-	4-135
W-H98	Lewis	Huntington	38.925976	-80.578373	PEM	NRPWW	05030203	Permanent Access Road	-	-	0.0331	-	160	4-136
W-H98	Lewis	Huntington	38.925868	-80.578367	PEM	NRPWW	05030203	Temporary Access Road	0.0032	-	-	15	-	4-136
W-H108	Lewis	Huntington	38.918766	-80.573564	PEM	RPWWN	05030203	Timber Mat Crossing	0.0278	-	-	134	-	4-140
W-H96	Lewis	Huntington	38.913939	-80.571910	PEM	RPWWD	05030203	Timber Mat Crossing	0.0039		-	19	-	4-142
W-H95	Lewis	Huntington	38.913311	-80.571953	PEM	RPWWD	05030203	Timber Mat Crossing	0.0414	-	-	200	-	4-142
W-VV9	Lewis	Huntington	38.904701	-80.563951	PEM	RPWWD	05030203	Pipeline ROW	0.0534	-	-	259	-	4-144
W-CD17	Lewis	Huntington	38.904074	-80.563709	PEM	RPWWD	05030203	Timber Mat Crossing	0.0335		-	162	-	4-144
W-CD16	Lewis	Huntington	38.903722	-80.563418	PEM	RPWWN	05030203	Temporary Access Road/ ATWS	0.0023	-	-	11	-	4-144
W-CD16	Lewis	Huntington	38.903722	-80.563418	PEM	RPWWN	05030203	Pipeline ROW	0.0226	-	-	365	-	4-144
W-VV8	Lewis	Huntington	38.903514	-80.563258	PEM	RPWWD	05030203	Pipeline ROW	0.0708	-	-	1,143	-	4-144
W-CD18	Lewis	Huntington	38.902751	-80.564644	PEM	RPWWD	05030203	Temporary Access Road	0.0322	-	-	156	-	4-144
W-CD19	Lewis	Huntington	38.902618	-80.564694	PEM	RPWWD	05030203	Temporary Access Road	0.0080	-	-	39	-	4-144
W-CD21	Lewis	Huntington	38.901049	-80.566582	PEM	RPWWN	05030203	Temporary Access Road	0.0161	-	-	78	-	4-146
W-CD23	Lewis	Huntington	38.898699	-80.568306	PEM	RPWWD	05030203	Temporary Access Road	0.0349	-	-	169	-	4-146
W-CD24	Lewis	Huntington	38.898648	-80.568238	PEM	RPWWD	05030203	Temporary Access Road	0.0094	-	-	45	-	4-146
W-CD36	Lewis	Huntington	38.898177	-80.568287	PEM	RPWWN	05030203	Temporary Access Road	0.0049	-	-	24	-	4-146
W-CD25	Lewis	Huntington	38.898021	-80.568159	PEM	RPWWN	05030203	Temporary Access Road	0.0100	-	-	48	-	4-146
W-CD26	Lewis	Huntington	38.897805	-80.568155	PEM	RPWWN	05030203	Temporary Access Road	0.0114	-	-	55	-	4-146
W-VV10	Lewis	Huntington	38.897282	-80.567014	PEM	NRPWW	05030203	Temporary Access Road	0.0091	-	-	44	-	4-146
W-UV17	Lewis	Huntington	38.893199	-80.556196	PFO	RPWWN	05030203	Pipeline ROW	-	0.0055	-	27	-	4-148
W-ST16	Lewis	Huntington	38.892534	-80.556680	PEM	RPWWN	05030203	Temporary Anode Bed	0.0711	-	-	344	-	4-148
W-VV11	Lewis	Huntington	38.890576	-80.554852	PEM	NRPWW	05030203	Temporary Access Road	0.0246	-	-	119	-	4-148
W-VV12	Lewis	Huntington	38.890309	-80.553784	PEM	NRPWW	05030203	Temporary Access Road	0.0277	-	-	134	-	4-148
W-VV4-PEM	Lewis	Huntington	38.863280	-80.525705	PEM	RPWWD	05030203	Timber Mat Crossing	0.0131	-	-	64	-	4-158
W-VV4-PFO	Lewis	Huntington	38.863238	-80.525813	PFO	RPWWD	05030203	Timber Mat Crossing	-	0.0263	-	127	-	4-158
W-VV3-PEM	Lewis	Huntington	38.862795	-80.525190	PEM	RPWWD	05030203	Pipeline ROW	0.0447	-	-	721	-	4-158
W-VV3-PFO	Braxton	Huntington	38.862691	-80.525163	PFO	RPWWD	05030203	Pipeline ROW	-	0.0160	-	259	-	4-158
W-H90	Braxton	Huntington	38.760419	-80.513602	PEM	RPWWD	05030203	Pipeline ROW	0.0388	-	-	627	-	4-179
W-QR13	Braxton	Huntington	38.751445	-80.516905	PEM	RPWWN	05030203	Temporary Access Road	0.0618	-	-	299	-	4-180
W-QR12	Braxton	Huntington	38.749364	-80.522081	PEM	RPWWN	05030203	Temporary Access Road	0.0881	-	-	426	-	4-181
W-QR11	Braxton	Huntington	38.747846	-80.521602	PEM	RPWWN	05030203	Temporary Access Road	0.0559	-	-	271	-	4-181
W-I11b	Braxton	Huntington	38.708869	-80.489369	PEM	NRPWW	05050007	Timber Mat Crossing	0.0098	-	-	47	-	4-194
W-R2	Webster	Huntington	38.667178	-80.480225	PEM	RPWWD	05050007	Temporary Access Road	0.0620	-	-	300	-	4-201
W-KK3	Webster	Huntington	38.667027	-80.478547	PEM	RPWWD	05050007	Pipeline ROW	0.0222	-	-	357	-	4-201
W-R3	Webster	Huntington	38.666869	-80.480889	PEM	NRPWW	05050007	Temporary Access Road	0.0155	-	-	75	-	4-201
W-F46	Webster	Huntington	38.664132	-80.479008	PEM	RPWWN	05050007	Timber Mat Crossing	0.0039		-	19	-	4-202
W-R4	Webster	Huntington	38.664021	-80.483434	PEM	NRPWW	05050007	Temporary Access Road	0.0432	-	-	209	-	4-204
W-H75	Webster	Huntington	38.607280	-80.504722	PEM	RPWWN	05050007	Pipeline ROW	0.0108	-	-	174	-	4-219
W-H79	Webster	Huntington	38.602069	-80.508493	PEM	NRPWW	05050007	Timber Mat Crossing	0.0077		-	125	-	4-220
W-H81	Webster	Huntington	38.599491	-80.506376	PEM	NRPWW	05050007	Timber Mat Crossing	0.0237	-	-	115	-	4-220
W-H82	Webster	Huntington	38.598415	-80.505238	PEM	NRPWW	05050007	Timber Mat Crossing	0.0128		-	62	-	4-221
W-H86	Webster	Huntington	38.591803	-80.508481	PEM	NRPWW	05050007	Pipeline ROW	0.0013	-	-	6	-	4-222
W-H83	Webster	Huntington	38.591372	-80.508904	PEM	NRPWW	05050007	Pipeline ROW/Temporary Access Road	0.0177	-	-	86	-	4-222
W-T4	Webster	Huntington	38.586855	-80.518697	PEM	NRPWW	05050007	Temporary Access Road	0.0403	-	-	195	-	4-224
W-H85	Webster	Huntington	38.586644	-80.510350	PEM	NRPWW	05050007	Pipeline ROW	0.0069	-	-	33	-	4-222
W-A20-PFO	Webster	Huntington	38.566923	-80.529968	PFO	NRPWW	05050007	Timber Mat Crossing	-	0.0298	-	144	-	4-232
W-A20-PEM	Webster	Huntington	38.566910	-80.530098	PEM	NRPWW	05050007	Timber Mat Crossing	0.0117		-	57	-	4-232

Table 3. Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Figure
W-A19	Webster	Huntington	38.557156	-80.538578	PEM	RPWWD	05050007	Temporary Access Road	0.0265	-	-	128	-	4-235
W-H70	Webster	Huntington	38.557097	-80.526293	PEM	NRPWW	05050007	Permanent Access Road	-	-	0.0057	-	28	4-238
W-H71	Webster	Huntington	38.556454	-80.526913	PEM	NRPWW	05050007	Permanent Access Road	-	-	0.0205	-	99	4-238
W-H72	Webster	Huntington	38.553783	-80.527760	PEM	NRPWW	05050007	Permanent Access Road	-	-	0.0064	-	31	4-237
W-H73	Webster	Huntington	38.553085	-80.528148	PEM	NRPWW	05050007	Permanent Access Road	-	-	0.0061	-	29	4-237
W-H74	Webster	Huntington	38.552748	-80.533585	PEM	NRPWW	05050007	Permanent Access Road	-	-	0.0115	-	56	4-237
W-H67	Webster	Huntington	38.549313	-80.539242	PFO	RPWWD	05050007	Pipeline ROW/Temporary Access Road	-	0.0908	-	1,465	-	4-236
W-H66	Webster	Huntington	38.548873	-80.539592	PFO	RPWWD	05050007	Pipeline ROW	-	0.2496	-	4,026	-	4-236
W-H64-PEM	Webster	Huntington	38.548175	-80.540709	PEM	RPWWD	05050007	Pipeline ROW	0.0276	-	-	133	-	4-236
W-H64-PSS	Webster	Huntington	38.548099	-80.540896	PSS	RPWWD	05050007	Pipeline ROW	-	0.0422	-	681	-	4-236
W-H64-PEM-2	Webster	Huntington	38.548058	-80.540847	PEM	RPWWD	05050007	Pipeline ROW	0.0289	-	-	466	-	4-236
W-H56	Webster	Huntington	38.545807	-80.542983	PEM	RPWWD	05050007	Pipeline ROW	0.0206	-	-	100	-	4-248
W-O13	Webster	Huntington	38.533655	-80.513682	PEM	RPWWN	05050007	Permanent Access Road	-	-	0.0405	-	196	4-244
W-KL8	Webster	Huntington	38.519565	-80.545076	PEM	NRPWW	05050007	Pipeline ROW	0.0976	-	-	472	-	4-252
W-H60	Webster	Huntington	38.517850	-80.544693	PEM	NRPWW	05050007	Timber Mat Crossing	0.0495	-	-	240	-	4-253
W-H61	Webster	Huntington	38.517345	-80.545025	PEM	NRPWW	05050007	Timber Mat Crossing	0.0094		-	151	-	4-253
W-H62	Webster	Huntington	38.517147	-80.545591	PEM	NRPWW	05050007	Pipeline ROW	0.0335	-	-	162	-	4-253
W-B39	Webster	Huntington	38.508151	-80.559329	PEM	NRPWW	05050007	Pipeline ROW	0.0906	-	-	1,462	-	4-255
W-B31	Webster	Huntington	38.494322	-80.561155	PEM	RPWWD	05050007	Pipeline ROW	0.0515	-	-	831	-	4-260
W-B35	Webster	Huntington	38.493757	-80.560962	PSS	RPWWD	05050007	Pipeline ROW	-	0.0108	-	174	-	4-260
W-A18	Webster	Huntington	38.481237	-80.555783	PEM	RPWWD	05050007	Temporary Access Road	0.2038	-	-	986	-	4-263
W-E28	Webster	Huntington	38.443010	-80.551309	PSS	RPWWD	05050007	Permanent Access Road	-	-	0.0084	-	40	4-269
W-E30	Webster	Huntington	38.441535	-80.550864	PEM	RPWWN	05050007	Temporary Access Road	-	-	0.0316	-	153	4-269
W-F26	Webster	Huntington	38.428623	-80.567054	PEM	NRPWW	05050007	Timber Mat Crossing	0.0045		-	22	-	4-277
W-F29	Webster	Huntington	38.424050	-80.570711	PEM	RPWWD	05050007	Timber Mat Crossing	0.0071	-	-	34	-	4-278
W-F28	Webster	Huntington	38.423890	-80.570659	PEM	RPWWD	05050007	Timber Mat Crossing	0.0071	-	-	34	-	4-278
W-F40	Webster	Huntington	38.421461	-80.570007	PSS	RPWWD	05050007	Temporary Access Road	-	0.0188	-	91	-	4-278
W-F41	Webster	Huntington	38.417599	-80.576458	PEM	RPWWD	05050007	Temporary Access Road	0.0002	-	-	1	-	4-279
W-B30	Webster	Huntington	38.405713	-80.591171	PEM	RPWWD	05050007	Timber Mat Crossing	0.0429	-	-	208	-	4-281
W-B28	Webster	Huntington	38.399940	-80.597527	PEM	RPWWD	05050007	Pipeline ROW/Anode Bed	0.2983	-	-	4,812	-	4-282
W-E21	Webster	Huntington	38.370595	-80.611923	PEM	RPWWD	05050005	Pipeline ROW	0.0389	-	-	627	-	4-289
W-E18-PEM	Webster	Huntington	38.367359	-80.612334	PEM	RPWWD	05050005	Pipeline ROW	0.0208	-	-	101	-	4-290
W-E18-PSS	Webster	Huntington	38.367284	-80.612248	PSS	RPWWD	05050005	Pipeline ROW	-	0.0538	-	868	-	4-290
W-E16	Nicholas	Huntington	38.364427	-80.614459	PEM	NRPWW	05050005	Timber Mat Crossing	0.0091	-	-	44	-	4-291
W-E13	Webster	Huntington	38.364017	-80.616570	PFO	RPWWN	05050005	Timber Mat Crossing	-	0.0107	-	52	-	4-291
W-F13	Nicholas	Huntington	38.356737	-80.631888	PEM	RPWWN	05050005	Timber Mat Crossing	0.0394	-	-	191	-	4-293
W-F12	Nicholas	Huntington	38.356528	-80.632264	PEM	RPWWD	05050005	Timber Mat Crossing	0.0576	-	-	279	-	4-293
W-F11	Nicholas	Huntington	38.355680	-80.633383	PEM	RPWWN	05050005	Timber Mat Crossing	0.0652	-	-	315	-	4-293
W-K23	Nicholas	Huntington	38.355273	-80.633811	PEM	RPWWN	05050005	Pipeline ROW	0.0489	-	-	789	-	4-293
W-K20	Nicholas	Huntington	38.354644	-80.634586	PEM	RPWWD	05050005	Timber Mat Crossing	0.0100		-	48	-	4-293
W-IJ51	Nicholas	Huntington	38.352366	-80.636369	PEM	RPWWD	05050005	Pipeline ROW	0.0410	-	-	662	-	4-293
W-IJ50	Nicholas	Huntington	38.350787	-80.637226	PEM	RPWWN	05050005	Pipeline ROW	0.0528	-	-	852	-	4-294
W-IJ55	Nicholas	Huntington	38.343568	-80.646491	PEM	RPWWN	05050005	Pipeline ROW	0.0218	-	-	352	-	4-296
W-B27	Nicholas	Huntington	38.339713	-80.655364	PEM	RPWWD	05050005	Timber Mat Crossing	0.0874	-	-	423	-	4-299
W-B26-PEM-1	Nicholas	Huntington	38.339034	-80.659282	PEM	RPWWD	05050005	Temporary Access Road	0.0273	-	-	132	-	4-299
W-B26-PEM-2	Nicholas	Huntington	38.338935	-80.659254	PEM	RPWWD	05050005	Temporary Access Road	0.0060	-	-	29	-	4-299
W-FF6-PSS	Nicholas	Huntington	38.337803	-80.658933	PSS	RPWWN	05050005	Timber Mat Crossing	-	0.0333	-	161	-	4-299
W-FF6-PEM	Nicholas	Huntington	38.337774	-80.658995	PEM	RPWWN	05050005	Timber Mat Crossing	0.0793	-	-	384	-	4-299
W-FF3	Nicholas	Huntington	38.332776	-80.669068	PEM	RPWWN	05050005	Pipeline ROW	0.0444	-	-	716	-	4-301
W-FF4	Nicholas	Huntington	38.329122	-80.671098	PEM	RPWWD	05050005	Pipeline ROW	0.0037	-	-	18	-	4-301
W-A17	Nicholas	Huntington	38.327813	-80.670776	PEM	NRPWW	05050005	Pipeline ROW	0.1300	-	-	2,098	-	4-301
W-A15	Nicholas	Huntington	38.323735	-80.670118	PSS	RPWWD	05050005	Pipeline ROW	-	0.0891	-	1,437	-	4-302
W-A14	Nicholas	Huntington	38.321643	-80.670901	PFO	RPWWD	05050005	Timber Mat Crossing	-	0.0374	-	181	-	4-302
W-H53	Nicholas	Huntington	38.313047	-80.673265	PEM	RPWWD	05050005	Pipeline ROW	0.0039	-	-	63	-	4-304
W-H50	Nicholas	Huntington	38.309707	-80.676585	PEM	NRPWW	05050005	Temporary Access Road	0.0114	-	-	55	-	4-304
W-N25	Nicholas	Huntington	38.302028	-80.674533	PEM	RPWWD	05050005	Timber Mat Crossing	0.0104		-	50	-	4-306
W-N24	Nicholas	Huntington	38.299148	-80.675928	PEM	RPWWN	05050005	Timber Mat Crossing	0.0031		-	15	-	4-307
W-N22	Nicholas	Huntington	38.296941	-80.676479	PEM	RPWWN	05050005	Timber Mat Crossing	0.0030		-	14	-	4-307
W-I7	Nicholas	Huntington	38.293453	-80.677084	PFO	RPWWD	05050005	Timber Mat Crossing	-	0.0333	-	161	-	4-308
W-CV13	Nicholas	Huntington	38.273139	-80.686452	PEM	RPWWN	05050005	Permanent Access Road	0.0159	-	-	77	-	4-312
W-CV12	Nicholas	Huntington	38.271829	-80.685245	PEM	RPWWD	05050005	Temporary Access Road	0.0098	-	-	47	-	4-312
W-RS04	Nicholas	Huntington	38.264804	-80.683146	PEM	NRPWW	05050005	Temporary Access Road	0.0254	-	-	123	-	4-316

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Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Figure
W-J8	Nicholas	Huntington	38.263168	-80.687930	PFO	RPWWD	05050005	Pipeline ROW	-	0.0533	-	860	-	4-315
W-MN4	Nicholas	Huntington	38.262968	-80.683949	PEM	RPWWD	05050005	Temporary Access Road	0.0463	-	-	224	-	4-316
W-J7	Nicholas	Huntington	38.233731	-80.708250	PFO	RPWWD	05050005	Pipeline ROW	-	0.0693	-	1,119	-	4-326
W-N18	Nicholas	Huntington	38.224246	-80.716448	PEM	NRPWW	05050005	Pipeline ROW	0.0075	-	-	36	-	4-328
W-L28	Nicholas	Huntington	38.203621	-80.719372	PEM	RPWWD	05050005	Pipeline ROW	0.0064	-	-	31	-	4-341
W-L27	Nicholas	Huntington	38.202610	-80.718505	PEM	RPWWN	05050005	Timber Mat Crossing	0.0029		-	14	-	4-341
W-I11a	Nicholas	Huntington	38.179434	-80.729511	PEM	RPWWD	05050005	Pipeline ROW	0.0579	-	-	934	-	4-344
W-U7	Nicholas	Huntington	38.178298	-80.729744	PEM	RPWWN	05050005	ATWS	0.0666	-	-	322	-	4-347
W-I5	Nicholas	Huntington	38.175595	-80.730736	PEM	RPWWN	05050005	Pipeline ROW	0.0082	-	-	133	-	4-347
W-VV2	Nicholas	Huntington	38.161072	-80.735000	PEM	RPWWD	05050005	Timber Mat Crossing	0.0136	-	-	66	-	4-355
W-N16	Nicholas	Huntington	38.157063	-80.738304	PEM	NRPWW	05050005	Timber Mat Crossing	0.0232	-	-	112	-	4-356
W-H41	Nicholas	Huntington	38.127873	-80.733868	PEM	RPWWN	05050005	Timber Mat Crossing	0.0151		-	73	-	4-362
W-H33	Nicholas	Huntington	38.124326	-80.735761	PEM	RPWWD	05050005	Pipeline ROW	0.0590	-	-	952	-	4-362
W-H35	Nicholas	Huntington	38.124117	-80.736018	PEM	RPWWN	05050005	Pipeline ROW	-	-	0.0177	-	285	4-362
W-H31	Nicholas	Huntington	38.116376	-80.735285	PEM	RPWWN	05050005	Pipeline ROW	0.0139	-	-	67	-	4-364
W-EF31	Nicholas	Huntington	38.107483	-80.726303	PEM	RPWWD	05050005	Pipeline ROW/ATWS	0.0208	-	-	336	-	4-366
W-M18	Greenbrier	Huntington	38.061194	-80.720732	PEM	NRPWW	05050005	Timber Mat Crossing	0.0364	-	-	176	-	4-374
W-M20	Greenbrier	Huntington	38.060869	-80.723064	PEM	NRPWW	05050005	Pipeline ROW	0.0031	-	-	15	-	4-374
W-M23	Greenbrier	Huntington	38.060683	-80.722348	PEM	NRPWW	05050005	Pipeline ROW	0.0616	-	-	994	-	4-374
W-M22	Greenbrier	Huntington	38.060661	-80.722616	PSS	NRPWW	05050005	Pipeline ROW	-	0.0039	-	19	-	4-374
W-J6	Greenbrier	Huntington	38.053361	-80.732198	PFO	RPWWD	05050005	Pipeline ROW	-	0.0744	-	1,201	-	4-376
W-ST27	Greenbrier	Huntington	38.029124	-80.742585	PEM	NRPWW	05050005	Temporary Access Road	0.0075	-	-	36	-	4-382
W-KL40	Greenbrier	Huntington	38.029060	-80.736807	PEM	RPWWD	05050005	Temporary Access Road	0.0312	-	-	151	-	4-388
W-ST28	Greenbrier	Huntington	38.028800	-80.743155	PEM	NRPWW	05050005	Temporary Access Road	0.0310	-	-	150	-	4-382
W-IJ60	Greenbrier	Huntington	38.024335	-80.739643	PEM	RPWWN	05050005	Temporary Access Road	0.0174	-	-	84	-	4-387
W-IJ59	Greenbrier	Huntington	38.022031	-80.743027	PEM	RPWWN	05050005	Temporary Access Road	0.0024	-	-	12	-	4-387
W-IJ58-PEM-3	Greenbrier	Huntington	38.021808	-80.743351	PEM	RPWWD	05050005	Temporary Access Road	0.0056	-	-	27	-	4-387
W-V6	Greenbrier	Huntington	37.993269	-80.756363	PEM	RPWWN	05050005	Temporary Access Road	0.0422	-	-	204	-	4-394
W-HS1	Greenbrier	Huntington	37.986454	-80.758418	PEM	NRPWW	05050005	Pipeline ROW	-	-	0.0360	-	581	4-395
W-QR2	Greenbrier	Huntington	37.983978	-80.756817	PEM	RPWWD	05050005	Permanent Access Road	-	-	0.0010	-	5	4-397
W-QR2	Greenbrier	Huntington	37.983212	-80.756099	PEM	RPWWD	05050005	Pipeline ROW/Temporary Access Road	0.2435	-	-	3,929	-	4-397
W-L16	Greenbrier	Huntington	37.980653	-80.754908	PEM	RPWWD	05050005	Pipeline ROW	0.0247	-	-	398	-	4-397
W-L19	Greenbrier	Huntington	37.954250	-80.739757	PEM	RPWWD	05050005	Pipeline ROW/Temporary Access Road	0.1060	-	-	1,711	-	4-402
W-L13	Greenbrier	Huntington	37.953825	-80.740037	PEM	RPWWN	05050005	Pipeline ROW	0.0316	-	-	509	-	4-402
W-L12	Greenbrier	Huntington	37.953736	-80.739892	PEM	RPWWN	05050005	Pipeline ROW	0.0075	-	-	36	-	4-402
W-L11	Greenbrier	Huntington	37.949563	-80.742715	PEM	RPWWD	05050005	Pipeline ROW	0.0194	-	-	94	-	4-403
W-L4	Greenbrier	Huntington	37.938675	-80.746774	PEM	RPWWN	05050005	Pipeline ROW	0.0404	-	-	196	-	4-405
W-L2	Greenbrier	Huntington	37.938326	-80.746878	PEM	RPWWD	05050005	Pipeline ROW/Temporary Access Road	0.0393	-	-	635	-	4-405
W-IJ47-PEM	Greenbrier	Huntington	37.916423	-80.743551	PEM	RPWWD	05050005	Permanent Access Road	-	-	0.0113	-	55	4-410
W-IJ47-PEM	Greenbrier	Huntington	37.916255	-80.743867	PEM	RPWWD	05050005	Permanent Access Road	-	-	0.0520	-	252	4-410
W-W10	Greenbrier	Huntington	37.911495	-80.727880	PEM	NRPWW	05050005	Temporary Access Road	0.0488	-	-	236	-	4-412
W-K7	Greenbrier	Huntington	37.863700	-80.757095	PEM	RPWWN	05050005	Pipeline ROW	0.0078	-	-	126	-	4-421
W-K7	Greenbrier	Huntington	37.863527	-80.757286	PEM	RPWWN	05050005	Pipeline ROW	0.3206	-	-	5,173	-	4-421
W-IJ30	Greenbrier	Huntington	37.862357	-80.757476	PEM	RPWWD	05050005	Pipeline ROW	0.3236	-	-	5,221	-	4-421
W-UV9	Greenbrier	Huntington	37.862309	-80.757756	PEM	RPWWN	05050005	Pipeline ROW	0.1090	-	-	1,759	-	4-421
W-UV11	Greenbrier	Huntington	37.861173	-80.757726	PEM	RPWWN	05050005	Pipeline ROW	0.0285	-	-	138	-	4-421
W-UV10	Greenbrier	Huntington	37.861066	-80.757954	PEM	RPWWN	05050005	Pipeline ROW	0.0035	-	-	17	-	4-421
W-K9-PEM-1	Greenbrier	Huntington	37.860916	-80.757817	PEM	RPWWD	05050005	Pipeline ROW	0.0354	-	-	572	-	4-421
W-K10	Greenbrier	Huntington	37.858743	-80.755724	PEM	RPWWN	05050005	Pipeline ROW	0.0068	-	-	33	-	4-422
W-UV4	Greenbrier	Huntington	37.854391	-80.755038	PSS	RPWWD	05050005	Pipeline ROW	-	0.0885	-	1,427	-	4-422
W-UV8	Greenbrier	Huntington	37.851590	-80.752937	PEM	RPWWD	05050005	Pipeline ROW	0.4913	-	-	7,926	-	4-423
W-EE4	Summers	Huntington	37.813845	-80.748769	PEM	RPWWD	05050004	Pipeline ROW	0.0453	-	-	730	-	4-429
W-M2	Summers	Huntington	37.807721	-80.746088	PEM	RPWWD	05050004	Pipeline ROW	0.1064	-	-	1,717	-	4-430
W-I10	Summers	Huntington	37.783907	-80.718899	PEM	NRPWW	05050005	Permanent Access Road	-	-	0.0550	-	266	4-437
W-EF40	Summers	Huntington	37.693888	-80.735663	PEM	RPWWD	05050003	Timber Mat Crossing	0.0889	-	-	430	-	4-461
W-MM20-PFO	Summers	Huntington	37.681648	-80.730225	PFO	RPWWD	05050003	Pipeline ROW, Temporary Access Road, ATWS	-	0.2990	-	3,773	-	4-464
W-EF36	Summers	Huntington	37.675423	-80.732001	PEM	RPWWN	05050003	Timber Mat Crossing	0.0035	-	-	17	-	4-465
W-K2-PEM	Summers	Huntington	37.668130	-80.723493	PEM	RPWWD	05050003	Pipeline ROW	0.0140	-	-	225	-	4-468
W-G7	Summers	Huntington	37.654106	-80.702592	PEM	NRPWW	05050003	Timber Mat Crossing	0.0121	-	-	59	-	4-471
W-OP1	Monroe	Huntington	37.600067	-80.700400	PEM	RPWWD	05050003	Pipeline ROW	0.1359	-	-	2,193	-	4-487

Table 3. Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Figure
W-A13	Monroe	Huntington	37.559410	-80.710082	PEM	RPWWD	05050002	Pipeline ROW/Temporary Access Road	0.2991	-	-	4,826	-	4-493
W-A13	Monroe	Huntington	37.559332	-80.709734	PEM	RPWWD	05050002	Permanent Access Road	-	-	0.0228	-	110	4-493
W-MN14	Monroe	Huntington	37.520227	-80.707365	PEM	RPWWD	05050002	Pipeline ROW/Access Road/ATWS	0.0390	-	-	313	-	4-500
W-MN15	Monroe	Huntington	37.520166	-80.707532	PEM	RPWWN	05050002	Pipeline ROW	0.0070	-	-	113	-	4-500
W-MN18-PEM	Monroe	Huntington	37.487662	-80.681791	PEM	RPWWD	05050002	Pipeline ROW	0.0510	-	-	823	-	4-510
W-MN18-PFO	Monroe	Huntington	37.487474	-80.681854	PFO	RPWWD	05050002	Pipeline ROW	-	0.1750	-	2,823	-	4-510
W-MN1	Monroe	Huntington	37.473153	-80.675740	PEM	RPWWD	05050002	Timber Mat Crossing	0.0187	-	-	90	-	4-512
W-G6	Monroe	Huntington	37.472534	-80.675718	PEM	RPWWD	05050002	Pipeline ROW	0.0684	-	-	1,103	-	4-512
W-CV25-PSS-1	Monroe	Huntington	37.462852	-80.669557	PSS	RPWWD	05050002	Pipeline ROW	-	0.0270	-	436	-	4-513
W-MN24	Monroe	Huntington	37.462833	-80.670273	PEM	NRPWW	05050002	Pipeline ROW	0.0100	-	-	161	-	4-513
W-CV25-PEM-2	Monroe	Huntington	37.462746	-80.669518	PEM	RPWWD	05050002	Pipeline ROW	0.0200	-	-	323	-	4-513
W-E12	Monroe	Huntington	37.450761	-80.667516	PEM	RPWWD	05050002	Pipeline ROW	0.0041	-	-	20	-	4-516
W-C14	Monroe	Huntington	37.427083	-80.694569	PEM	RPWWN	05050002	Pipeline ROW	0.0113	-	-	55	-	4-521
W-C13	Monroe	Huntington	37.426734	-80.694534	PEM	RPWWD	05050002	Pipeline ROW	0.2172	-	-	3,503	-	4-521
W-C17	Monroe	Huntington	37.425547	-80.693481	PEM	RPWWD	05050002	Temporary Access Road	0.0306	-	-	148	-	4-521
W-Z11	Giles	Norfolk	37.346591	-80.641713	PEM	NRPWW	05050002	Pipeline ROW	0.0262	-	-	423	-	4-543
W-Z3	Giles	Norfolk	37.342244	-80.620612	PSS	RPWWD	05050002	Timber Mat Crossing	-	0.0136	-	66	-	4-545
W-CD12	Giles	Norfolk	37.318644	-80.441717	PEM	RPWWD	05050002	Pipeline ROW	0.0208	-	-	335	-	4-577
W-MM10	Giles	Norfolk	37.298219	-80.480617	PEM	RPWWD	05050002	Temporary Access Road	0.0254	-	-	123	-	4-569
W-RR1b	Giles	Norfolk	37.296670	-80.494042	PEM	RPWWD	05050002	Timber Mat Crossing	0.0056	-	-	27	-	4-567
W-IJ46-PEM	Montgomery	Norfolk	37.296153	-80.367508	PEM	RPWWD	03010101	Pipeline ROW	0.0294	-	-	474	-	4-591
W-AD4	Montgomery	Norfolk	37.286984	-80.330124	PEM	RPWWD	03010101	Temporary Access Road	0.0069	-	-	33	-	4-596
W-NN6	Montgomery	Norfolk	37.268174	-80.316468	PEM	RPWWN	03010101	Timber Mat Crossing	0.0083	-	-	40	-	4-603
W-F9-PFO	Montgomery	Norfolk	37.258109	-80.285892	PFO	RPWWD	03010101	Pipeline ROW	-	0.0169	-	82	-	4-609
W-C12-PEM	Montgomery	Norfolk	37.257265	-80.281667	PEM	RPWWD	03010101	Pipeline ROW	0.2066	-	-	3,333	-	4-609
W-C12	Montgomery	Norfolk	37.257192	-80.281649	PFO	RPWWD	03010101	Pipeline ROW	-	0.0523	-	253	-	4-609
W-C11	Montgomery	Norfolk	37.257107	-80.281351	PSS	RPWWD	03010101	Pipeline ROW	-	0.0461	-	223	-	4-609
W-C6	Montgomery	Norfolk	37.255860	-80.275715	PEM	NRPWW	03010101	Timber Mat Crossing	0.0139	-	-	67	-	4-610
W-C5	Montgomery	Norfolk	37.255606	-80.274237	PEM	NRPWW	03010101	Pipeline ROW	0.0454	-	-	732	-	4-610
W-AB7	Montgomery	Norfolk	37.231426	-80.198615	PEM	RPWWD	03010101	Timber Mat Crossing	0.0040	-	-	19	-	4-631
W-KL58	Montgomery	Norfolk	37.229183	-80.203106	PEM	RPWWD	03010101	Permanent Access Road	-	-	0.0392	-	190	4-631
W-EF5-PFO	Montgomery	Norfolk	37.210948	-80.193359	PFO	RPWWD	03010101	Pipeline ROW	-	0.0852	-	1,374	-	4-635
W-EF18	Roanoke	Norfolk	37.179449	-80.140665	PSS	RPWWD	03010101	Temporary Access Road	-	0.0052	-	25	-	4-647
W-EF17	Roanoke	Norfolk	37.179402	-80.140600	PFO	RPWWD	03010101	Temporary Access Road	-	0.0224	-	108	-	4-647
W-IJ94-PEM	Roanoke	Norfolk	37.170092	-80.138294	PEM	RPWWD	03010101	Timber Mat Crossing	0.0202	-	-	98	-	4-649
W-IJ96-PEM	Roanoke	Norfolk	37.169461	-80.130376	PEM	RPWWD	03010101	Permanent Access Road	-	-	0.0133	-	63	4-650
W-IJ96-PEM	Roanoke	Norfolk	37.169461	-80.130376	PEM	RPWWD	03010101	Permanent Access Road	0.0028	-	-	14	-	4-650
W-IJ97	Roanoke	Norfolk	37.169197	-80.129448	PEM	RPWWD	03010101	Permanent Access Road	-	-	0.0005	-	2	4-650
W-IJ95-PSS	Roanoke	Norfolk	37.169068	-80.138278	PSS	RPWWD	03010101	Timber Mat Crossing	-	0.0254	-	123	-	4-649
W-IJ102	Roanoke	Norfolk	37.168289	-80.138375	PFO	RPWWD	03010101	Timber Mat Crossing	-	0.0100	-	48	-	4-649
W-KL17	Roanoke	Norfolk	37.160152	-80.134774	PSS	RPWWD	03010101	Pipeline ROW	-	0.0435	-	702	-	4-651
W-EF42	Roanoke	Norfolk	37.157611	-80.133722	PEM	RPWWD	03010101	Pipeline ROW	0.0083	-	-	40	-	4-652
W-HS02	Roanoke	Norfolk	37.157427	-80.133413	PEM	RPWWD	03010101	Pipeline ROW	0.2893	-	-	4,668	-	4-652
W-AB6-PEM-2	Roanoke	Norfolk	37.156825	-80.131998	PEM	RPWWD	03010101	Pipeline ROW	0.3271	-	-	5,277	-	4-652
W-AB6-PFO-1	Roanoke	Norfolk	37.156713	-80.131681	PFO	RPWWD	03010101	Pipeline ROW	-	0.0618	-	997	-	4-652
W-AB6-PEM-1	Roanoke	Norfolk	37.156170	-80.130794	PEM	RPWWD	03010101	Pipeline ROW	0.0647	-	-	1,044	-	4-652
W-AB6-PSS	Roanoke	Norfolk	37.156034	-80.130603	PSS	RPWWD	03010101	Pipeline ROW	-	0.0061	-	30	-	4-652
W-AB5	Roanoke	Norfolk	37.155840	-80.130227	PFO	RPWWN	03010101	Pipeline ROW	-	0.0042	-	20	-	4-652
W-AB3-PEM-2	Roanoke	Norfolk	37.155664	-80.129569	PEM	RPWWD	03010101	Pipeline ROW	0.1547	-	-	2,495	-	4-652
W-EF46	Roanoke	Norfolk	37.154575	-80.129122	PSS	RPWWD	03010101	Timber Mat Crossing	-	0.0682	-	330	-	4-652
W-KL48-PSS-1	Roanoke	Norfolk	37.152292	-80.130022	PSS	RPWWD	03010101	Pipeline ROW	-	0.0454	-	733	-	4-653
W-KL48-PEM	Roanoke	Norfolk	37.151965	-80.130049	PEM	RPWWD	03010101	Pipeline ROW	0.0063	-	-	31	-	4-653
W-KL48-PSS-2	Roanoke	Norfolk	37.150926	-80.131271	PSS	RPWWD	03010101	Pipeline ROW	-	0.0264	-	128	-	4-653
W-KL50	Roanoke	Norfolk	37.150728	-80.131537	PEM	RPWWN	03010101	Pipeline ROW	0.0408	-	-	658	-	4-653
W-KL49	Roanoke	Norfolk	37.150297	-80.132193	PEM	RPWWN	03010101	Timber Mat Crossing	0.0152	-	-	74	-	4-653
W-KL51-PEM	Roanoke	Norfolk	37.150006	-80.132403	PEM	RPWWD	03010101	Timber Mat Crossing	0.0063	-	-	30	-	4-653
W-KL51-PSS	Roanoke	Norfolk	37.149975	-80.132476	PSS	RPWWD	03010101	Timber Mat Crossing	-	0.0080	-	39	-	4-653
W-MN7-PEM	Roanoke	Norfolk	37.148328	-80.133901	PEM	RPWWD	03010101	Timber Mat Crossing	0.0116	-	-	56	-	4-653
W-EF44	Roanoke	Norfolk	37.142977	-80.138322	PEM	RPWWD	03010101	Timber Mat Crossing	0.0085	-	-	41	-	4-654
W-IJ36	Roanoke	Norfolk	37.138922	-80.139845	PSS	RPWWD	03010101	Timber Mat Crossing	-	0.1237	-	599	-	4-655
W-Z7	Roanoke	Norfolk	37.136601	-80.128216	PSS	RPWWD	03010101	Temporary Access Road	-	0.0003	-	1	-	4-657
W-Z6	Roanoke	Norfolk	37.136466	-80.128238	PFO	RPWWD	03010101	Temporary Access Road	-	0.0028	-	14	-	4-657

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Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Figure
W-IJ62	Roanoke	Norfolk	37.135529	-80.134044	PEM	RPWWD	03010101	Temporary Access Road	0.0001	-	-	1	-	4-656
W-Y2	Roanoke	Norfolk	37.134284	-80.137448	PEM	RPWWD	03010101	Timber Mat Crossing	0.0189	-	-	91	-	4-656
W-IJ10	Roanoke	Norfolk	37.132561	-80.131744	PEM	RPWWD	03010101	Permanent Access Road	0.0020	-	-	10	-	4-656
W-Q11	Roanoke	Norfolk	37.132470	-80.131638	PEM	RPWWD	03010101	Permanent Access Road	0.0130	-	-	63	-	4-656
W-KL1	Roanoke	Norfolk	37.132456	-80.131463	PEM	RPWWN	03010101	Permanent Access Road	0.0018	-	-	9	-	4-656
W-B25-PEM-4	Roanoke	Norfolk	37.128942	-80.133774	PEM	RPWWD	03010101	Timber Mat Crossing	0.0093	-	-	45	-	4-659
W-B25-PEM-1	Roanoke	Norfolk	37.128645	-80.133283	PEM	RPWWD	03010101	Pipeline ROW	0.1934	-	-	3,120	-	4-659
W-B24-PSS	Roanoke	Norfolk	37.128540	-80.130794	PSS	RPWWD	03010101	Pipeline ROW	-	0.1637	-	2,641	-	4-659
W-B24-PEM	Roanoke	Norfolk	37.128530	-80.131060	PEM	RPWWD	03010101	Pipeline ROW	0.1031	-	-	1,663	-	4-659
W-B25-PSS-2	Roanoke	Norfolk	37.128527	-80.132335	PSS	RPWWD	03010101	Timber Mat Crossing	-	0.0830	-	402	-	4-659
W-B25-PEM-1	Roanoke	Norfolk	37.128449	-80.132802	PEM	RPWWD	03010101	Timber Mat Crossing	0.0140	-	-	68	-	4-659
W-B25-PEM-2	Roanoke	Norfolk	37.128436	-80.132646	PEM	RPWWD	03010101	Timber Mat Crossing	0.0048	-	-	78	-	4-659
W-ST2-PEM	Franklin	Norfolk	37.125329	-80.121460	PEM	RPWWD	03010101	Pipeline ROW	0.1142	-	-	1,842	-	4-661
W-RR4	Franklin	Norfolk	37.125117	-80.113530	PEM	RPWWD	03010101	Permanent Access Road	0.0216	-	-	105	-	4-662
W-RR3	Franklin	Norfolk	37.124214	-80.114746	PEM	RPWWD	03010101	Permanent Access Road	0.0019	-	-	9	-	4-662
W-KL41	Franklin	Norfolk	37.123851	-80.115802	PEM	RPWWD	03010101	Permanent Access Road	0.0229	-	-	111	-	4-661
W-D4	Franklin	Norfolk	37.122629	-80.076102	PEM	RPWWN	03010101	Permanent Access Road	0.0031	-	-	15	-	4-667
W-D4	Franklin	Norfolk	37.122625	-80.076071	PEM	RPWWN	03010101	Permanent Access Road	-	-	0.0009	-	4	4-667
W-D7-PEM	Franklin	Norfolk	37.121559	-80.085750	PEM	RPWWD	03010101	Pipeline ROW	0.0159	-	-	77	-	4-666
W-EF3	Franklin	Norfolk	37.117734	-80.095992	PEM	RPWWD	03010101	Permanent Access Road	0.0265	-	-	128	-	4-665
W-IJ1	Franklin	Norfolk	37.092927	-80.027568	PEM	RPWWD	03010101	Pipeline ROW	0.0416	-	-	671	-	4-677
W-IJ2-PSS	Franklin	Norfolk	37.092645	-80.027176	PSS	RPWWD	03010101	Pipeline ROW	-	0.0080	-	129	-	4-677
W-IJ2-PEM	Franklin	Norfolk	37.092596	-80.027214	PEM	RPWWD	03010101	Pipeline ROW	0.0168	-	-	271	-	4-677
W-GH2	Franklin	Norfolk	37.092404	-79.983182	PSS	RPWWD	03010101	Timber Mat Crossing	-	0.0130	-	63	-	4-684
W-II8	Franklin	Norfolk	37.091357	-79.992006	PEM	RPWWD	03010101	Timber Mat Crossing	0.0088	-	-	43	-	4-683
W-IJ6	Franklin	Norfolk	37.089156	-80.005036	PEM	RPWWD	03010101	Timber Mat Crossing	0.0046	-	-	22	-	4-681
W-E7	Franklin	Norfolk	37.084557	-79.947595	PEM	RPWWD	03010101	Pipeline ROW	0.2522	-	-	4,068	-	4-690
W-E8	Franklin	Norfolk	37.082843	-79.946100	PEM	RPWWD	03010101	Pipeline ROW	0.0691	-	-	1,114	-	4-690
W-EF51	Franklin	Norfolk	37.064781	-79.874460	PEM	RPWWD	03010101	Pipeline ROW	0.0133	-	-	64	-	4-705
W-KL43b	Franklin	Norfolk	37.059608	-79.840707	PEM	RPWWD	03010101	Pipeline ROW	0.0004	-	-	2	-	4-710
W-CD6	Franklin	Norfolk	37.057586	-79.915232	PEM	RPWWN	03010101	Timber Mat Crossing	0.0934	-	-	452	-	4-698
W-CD5	Franklin	Norfolk	37.055438	-79.910624	PFO	RPWWN	03010101	Pipeline ROW	-	0.1136	-	1,833	-	4-698
W-EF48	Franklin	Norfolk	37.052142	-79.886197	PEM	RPWWD	03010101	Timber Mat Crossing	0.0080	-	-	39	-	4-702
W-CD1	Franklin	Norfolk	37.047767	-79.897568	PFO	RPWWD	03010101	Pipeline ROW	-	0.1106	-	1,785	-	4-701
W-DD1	Franklin	Norfolk	37.031961	-79.788589	PEM	RPWWN	03010101	Pipeline ROW	0.0813	-	-	1,312	-	4-720
W-A12-PFO	Franklin	Norfolk	37.031754	-79.788099	PFO	RPWWD	03010101	Pipeline ROW	-	0.0040	-	19	-	4-720
W-A12-PEM	Franklin	Norfolk	37.031643	-79.788111	PEM	RPWWD	03010101	Pipeline ROW	0.0651	-	-	1,050	-	4-720
W-GH16	Franklin	Norfolk	37.028394	-79.773243	PFO	RPWWD	03010101	Timber Mat Crossing	-	0.0657	-	318	-	4-722
W-H17	Franklin	Norfolk	36.989390	-79.722090	PFO	RPWWD	03010101	Timber Mat Crossing	-	0.0369	-	179	-	4-730
W-H11	Franklin	Norfolk	36.988077	-79.702803	PEM	RPWWD	03010101	Pipeline ROW	0.0468	-	-	755	-	4-734
W-H16	Franklin	Norfolk	36.988073	-79.714967	PEM	RPWWD	03010101	Timber Mat Crossing	0.0232	-	-	112	-	4-731
W-H14	Franklin	Norfolk	36.988069	-79.711841	PEM	RPWWD	03010101	Timber Mat Crossing	0.0061	-	-	30	-	4-732
W-A8	Franklin	Norfolk	36.987947	-79.700844	PEM	RPWWD	03010101	Pipeline ROW	0.0154	-	-	75	-	4-734
W-H15	Franklin	Norfolk	36.987938	-79.714829	PSS	RPWWD	03010101	Timber Mat Crossing	-	0.0071	-	35	-	4-731
W-H9	Franklin	Norfolk	36.978536	-79.682057	PEM	RPWWN	03010101	Timber Mat Crossing	0.0085	-	-	41	-	4-736
W-H6	Franklin	Norfolk	36.972189	-79.663042	PEM	RPWWD	03010101	Pipeline ROW	0.0057	-	-	28	-	4-741
W-D3	Pittsylvania	Norfolk	36.965318	-79.598760	PFO	RPWWN	03010101	Timber Mat Crossing	-	0.0285	-	138	-	4-748
W-MM17	Franklin	Norfolk	36.964731	-79.617067	PEM	RPWWD	03010101	Pipeline ROW	0.0068	-	-	110	-	4-746
W-B5	Pittsylvania	Norfolk	36.959293	-79.586201	PEM	RPWWN	03010101	Pipeline ROW	0.0048	-	-	23	-	4-751
W-B4-PSS	Pittsylvania	Norfolk	36.957884	-79.583666	PSS	RPWWD	03010101	Pipeline ROW	-	0.0047	-	23	-	4-751
W-C1	Pittsylvania	Norfolk	36.929954	-79.526831	PEM	RPWWN	03010101	Timber Mat Crossing	0.0182	-	-	88	-	4-758
W-H5	Pittsylvania	Norfolk	36.924983	-79.517159	PEM	RPWWD	03010101	Pipeline ROW	0.2067	-	-	3,335	-	4-759
W-B3	Pittsylvania	Norfolk	36.916508	-79.492360	PEM	RPWWN	03010101	Timber Mat Crossing	0.0013	-	-	6	-	4-762
W-CC2-PEM	Pittsylvania	Norfolk	36.905418	-79.471566	PEM	RPWWD	03010105	Timber Mat Crossing	0.0272	-	-	132	-	4-765
W-MM5	Pittsylvania	Norfolk	36.903012	-79.468192	PSS	RPWWD	03010105	Timber Mat Crossing	-	0.0390	-	189	-	4-766
W-MM9	Pittsylvania	Norfolk	36.894087	-79.446110	PEM	RPWWN	03010105	Timber Mat Crossing	0.0108	-	-	52	-	4-769
W-MM8-PEM	Pittsylvania	Norfolk	36.894034	-79.445486	PEM	RPWWN	03010105	Pipeline ROW	0.0553	-	-	893	-	4-769
W-MM8-PFO	Pittsylvania	Norfolk	36.893930	-79.445461	PFO	RPWWN	03010105	Pipeline ROW	-	0.0421	-	679	-	4-769
W-Q2	Pittsylvania	Norfolk	36.884674	-79.428607	PFO	RPWWD	03010105	Pipeline ROW	-	0.3770	-	6,082	-	4-771
W-Q1	Pittsylvania	Norfolk	36.883985	-79.427305	PEM	RPWWD	03010105	Pipeline ROW	0.0146	-	-	236	-	4-771
W-G2	Pittsylvania	Norfolk	36.851816	-79.385930	PEM	RPWWD	03010105	Timber Mat Crossing	0.0346	-	-	167	-	4-779
W-H1	Pittsylvania	Norfolk	36.836097	-79.360895	PEM	RPWWN	03010105	Pipeline ROW	0.0110	-	-	53	-	4-782
W-EF6	Pittsylvania	Norfolk	36.835004	-79.339128	PFO	RPWWD	03010105	Pipeline ROW	-	0.0667	-	323	-	4-786

Table 3. Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Figure
W-H2	Pittsylvania	Norfolk	36.834817	-79.360479	PEM	RPWWD	03010105	Pipeline ROW	0.7987	-	-	12,886	-	4-782
W-IJ21	Pittsylvania	Norfolk	36.834623	-79.338527	PFO	RPWWN	03010105	Timber Mat Crossing	-	0.0106	-	51	-	4-786
W-H3	Pittsylvania	Norfolk	36.833741	-79.360081	PEM	RPWWN	03010105	Pipeline ROW	0.0509	-	-	821	-	4-783
W-MM3	Pittsylvania	Norfolk	36.830361	-79.356631	PSS	RPWWD	03010105	Pipeline ROW	-	0.0340	-	548	-	4-783
W-IJ22-PEM	Pittsylvania	Norfolk	36.827780	-79.350264	PEM	RPWWD	03010105	Timber Mat Crossing	0.0390	-	-	189	-	4-784
W-IJ22-PFO	Pittsylvania	Norfolk	36.827748	-79.350295	PFO	RPWWD	03010105	Timber Mat Crossing	-	0.0785	-	380	-	4-784

Notes:

1 - In decimal degrees.

2 - PEM = Palustrine Emergent
- PSS = Palustrine Scrub-Shrub
- PFO = Palustrine Forested

3 - RPWWD = Wetlands directly abutting Relatively Permanent Waters (RPWs) that flow directly or indirectly into Traditional Navigable Waterways (TNWs)
- RPWWN = Wetlands adjacent but not directly abutting RPWs that flow directly or indirectly into TNWs
- NRPWW = Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

4 - Construction of access roads will not result in impacts to tidal wetlands or wetlands adjacent to tidal waters. Construction, maintenance, or expansion of substation facilities will not result in discharges to non-tidal wetlands adjacent to tidal waters of the United States.
- Acres are rounded to four decimal places.

5 - Temporary fill discharge into waters of the U.S. Cubic yards are rounded to the nearest whole number.

6 - Permanent fill associated with the construction of permanent access road and facilities. Cubic yards are rounded to the nearest whole number.

Mountain Valley PIPELINE LLC

Table 4 (Stream Impacts Summary)

Table 4. Stream Impacts Summary *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

USACE District	Cowardin Class	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Fill (cubic yards)	Permanent Fill (cubic yards)
Pittsburgh District	Ephemeral	617	137	500	42
	Intermittent	332	0	622	0
	Perennial	1,007	55	4,458	178
	Pittsburgh District Total	**1,956**	**192**	**5,580**	**220**
Huntington District	Ephemeral	4,944	265	4,745	92
	Intermittent	5,624	296	8,511	152
	Perennial	8,518	335	42,208	536
	Huntington District Total	**19,086**	**896**	**55,464**	**780**
Norfolk District	Ephemeral	3,966	45	6,274	35
	Intermittent	6,383	0	10,478	0
	Perennial	6,921	65	30,294	55
	Norfolk District Total	**17,270**	**110**	**47,046**	**90**
All District	Ephemeral	9,527	447	11,519	169
	Intermittent	12,339	296	19,611	152
	Perennial	16,446	455	76,960	769
	All Districts Grand total	**38,312**	**1,198**	**108,090**	**1,090**

Mountain Valley PIPELINE LLC

Table 5 (Wetland Impacts Summary)

Table 5. Wetland Impacts Summary *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

USACE District	Cowardin Class	Temporary Impacts (acres)	Permanent Conversion Impacts (acres)	Permanent Fill Impacts (acres)	Temporary Fill (cubic yards)	Permanent Fill (cubic yards)
Pittsburgh District	PEM	2.0423	0.0000	0.0000	18,284	0
	PSS	0.0000	0.1444	0.0000	699	0
	PFO	0.0000	0.0110	0.0000	127	0
	Pittsburgh District Total	**2.0423**	**0.1554**	**0.0000**	**19,110**	**0**
Huntington District	PEM	7.9213	0.0000	0.4374	90,147	2,723
	PSS	0.0000	0.3698	0.0084	5,306	40
	PFO	0.0000	1.2251	0.0000	17,100	0
	Huntington District Total	**7.9213**	**1.5949**	**0.4458**	**112,553**	**2,763**
Norfolk District	PEM	3.9550	0.0000	0.0539	56,707	259
	PSS	0.0000	0.7644	0.0000	7,029	0
	PFO	0.0000	1.1898	0.0000	14,683	0
	Norfolk District Total	**3.9550**	**1.9542**	**0.0539**	**78,419**	**259**
All District	PEM	13.9186	0.0000	0.4913	165,138	2,982
	PSS	0.0000	1.2786	0.0084	13,034	40
	PFO	0.0000	2.4259	0.0000	31,910	0
	All Districts Grand Total	**13.9186**	**3.7045**	**0.4997**	**210,082**	**3,022**

Table 8 (List of Affected Landowners):

Mountain Valley is requesting that this Table is not subject to FOIA under Exemption 6.

Table 8. List of Affected Landowners (revised 2/26/2021)
Individual Permit Application
Mountain Valley Pipeline Project

The information included in this table is exempt from disclosure pursuant to Exemption 6 to FOIA.

Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
A. Maxine Mason	90 Davis Lane	Salem	WV	26426-1221	Harrison	'18-341-9'	WV-HA-139	Pittsburgh
Adam L. Matheny	303 Maken Road	Salem	WV	26426-8054	Harrison	'18-282-108'	WV-HA-107	Pittsburgh
Agnes Karen Cunningham	1001 26th Street	Parkersburg	WV	26104-2555	Harrison	'18-282-102'	WV-HA-103	Pittsburgh
	105 Franklin Lane	Sistersville	WV	26175-9762	Harrison	'18-302-49'	WV-HA-108	Pittsburgh
Amber Nichole and David Moyers	415 Dogwood Lane	Carey	OH	43316-1373	Lewis	'03-4D-42'	WV-LE-3948	Pittsburgh
American Mountaineer Energy Inc. Mason Smith	46226 National Road	Saint Clairsville	OH	43950-8742	Harrison	'14-183-51'	WV-HA-3917	Pittsburgh
Arnet L. and Ophelia B. Thompson	10736 Arnez Road	Jacksonville	FL	32218-4502	Harrison	'18-341-3'	WV-HA-138	Pittsburgh
Barbara J. Jackson	866 West River Road North	Elyria	OH	44035-3557	Lewis	'03-4B-26.1'	WV-LE-5812	Pittsburgh
Barry G. Pallay	124 Diamond Court	Morgantown	WV	26505-2512	Harrison	'18-242-23.1'	WV-HA-076	Pittsburgh
Bernadette H. Law	5096 US Highway 33 West	Camden	WV	26338-8216	Lewis	'03-4F-20'	WV-LE-054	Pittsburgh
Bernard Sachs	567 Smoke Camp Road	Weston	WV	26452-7937	Lewis	'03-4B-16'	WV-LE-027	Pittsburgh
Bertha Virginia Bland	1676 Traugh Fork Road	Bristol	WV	26426-7203	Doddridge	'04-8-24'	WV-DO-005	Pittsburgh
Betty L. Arbogast	148 Cedar Ridge Drive	Daleville	VA	24083-3073	Lewis	'03-4C-9'	WV-LE-035	Pittsburgh
Blackrock Enterprises, LLC Michael L.. Benedum	PO Box 342	Salem	WV	26426-0342	Harrison	'18-302-78'	WV-HA-122	Pittsburgh
Bonita A. Meredith	132 Hillshire Drive	Salem	WV	26426-8037	Harrison	'18-282-77'	WV-HA-3930	Pittsburgh
Brian K. and Holley W. Ramsay	215 Mill Race Drive	Winchester	VA	22602-6935	Harrison	'14-164-15'	WV-HA-034	Pittsburgh
Brian K. Swiger	344 De Land Drive	Wallace	WV	26448-8569	Harrison	'14-144-34'	WV-HA-023	Pittsburgh
					Harrison	'14-164-1'	WV-HA-026	Pittsburgh
C. Lynn Frame	412 Big Elk Road	Wallace	WV	26448-8520	Harrison	'14-163-47.2'	WV-HA-036	Pittsburgh
Carl Ray Swiger Estate Carl R. Swiger	3795 State Route 49	Arcanum	OH	45304-9797	Harrison	'14-183-26'	WV-HA-3916	Pittsburgh
Carol D Dennison	554 Cherry Camp Road	Salem	WV	26426-8636	Harrison	'18-282-36.1'	WV-HA-6232	Pittsburgh
Carol Lynn Bailey	925 West Main Street	Bridgeport	WV	26330-1650	Harrison	'14-203-18'	WV-HA-051	Pittsburgh
Chad W. Johnson	70 Professional Place	Bridgeport	WV	26330-1996	Harrison	'14-163-86'	WV-HA-039	Pittsburgh
					Harrison	'18-242-21'	WV-HA-077	Pittsburgh
					Harrison	'18-242-24'	WV-HA-077.01	Pittsburgh
					Harrison	'18-242-42'	WV-HA-078	Pittsburgh
Charles F. and Rebecca Ann Eneix- Chong	1839 Halls Run Road	Bristol	WV	26426-7350	Harrison	'18-322-14'	WV-HA-126	Pittsburgh
Cheryl L. Morgan	257 Sharon Lane	Bridgeport	WV	26330-7147	Harrison	'14-203-16'	WV-HA-049	Pittsburgh
					Harrison	'14-203-17.2'	WV-HA-051.01	Pittsburgh
					Harrison	'14-203-17'	WV-HA-051.02	Pittsburgh
Chester J. and Charlene D. Monesky	2176 Forest Oak Avenue	Akron	OH	44312-2228	Harrison	'14-123-28'	WV-HA-010	Pittsburgh
Clarence Owen Ferguson	10030 Round Mountain Road	Bakersfield	CA	93308-9773	Lewis	'03-4B-17'	WV-LE-025	Pittsburgh
Clarice Mondell Edwards	93 Sierra Lane	Salem	WV	26426-8474	Harrison	'18-2611-2'	WV-HA-097.01	Pittsburgh
Clifford A. and Leighanne D. Webb	251 Webb Road	Salem	WV	26426-8522	Harrison	'18-282-24'	WV-HA-094	Pittsburgh
Coastal Forest Resources Company	c/o Matthew F. Cornett, PO Box 709	Buckhannon	WV	26201-0709	Harrison	'14-163-87'	WV-HA-037	Pittsburgh
Consolidation Coal Company, CNX Land, LLC, Consol Mining Company, LLC	1000 Consol Energy Drive	Canonsburg	PA	15317-6506	Wetzel	'04-36-29'	WV-WE-5971	Pittsburgh
					Wetzel	'04-36-33'	WV-WE-5972	Pittsburgh
					Marion	'12-52-21'	WV-MA-004	Pittsburgh
Craig and Joan Powers	24520 Peachtree Road	Clarksburg	MD	20871-9109	Lewis	'03-4B-29'	WV-LE-018	Pittsburgh
Cummings Properties, LLC, an Ohio LLC	c/o Mark F. Cummings, 4200 Boomer Road	Cincinnati	OH	45247-7912	Lewis	'03-4G-2'	WV-LE-059	Pittsburgh
Cynthia M. Roberts, f/k/a Cynthia M. Bostick	1081 Llama Fork Road	Wallace	WV	26448-8621	Harrison	'14-123-14'	WV-HA-007	Pittsburgh
Daniel K. and Rachel E. Tucker	2534 Raccoon Run Road	Salem	WV	26426-8457	Harrison	'18-321-19'	WV-HA-130	Pittsburgh
Danny and Tina Martin	3621 Raccoon Run Road	Bristol	WV	26426-7307	Harrison	'18-321-40.5'	WV-HA-4337	Pittsburgh
					Harrison	'18-321-41'	WV-HA-4338	Pittsburgh
David A. and Marcia A. Mires	6 Monroe Street	Salem	WV	26426-1313	Harrison	'18-322-7.1'	WV-HA-5674	Pittsburgh
David A. and Roni Kurtz	606 Homewood Drive	Pittsburgh	PA	15235-4439	Harrison	'20-401-11'	WV-HA-151	Pittsburgh
David A. Davis	PO Box 53	Salem	WV	26426-0053	Doddridge	'04-8-15'	WV-DO-002	Pittsburgh
David Bissell	3801 Coburn Fork Road	Bristol	WV	26426-7308	Harrison	'18-341-5'	WV-HA-141	Pittsburgh
David L. and Dorothy J. Cochran	1075 Raccoon Run Road	Salem	WV	26426-8464	Harrison	'18-302-80.1'	WV-HA-118	Pittsburgh
					Harrison	'18-302-79'	BHA-4	Pittsburgh
David Lee and Juanita C. Davis	6174 Rock Camp Road	Wallace	WV	26448-8678	Harrison	'14-223-1'	WV-HA-061	Pittsburgh
David R. Abruzzino	425 Raccoon Run Road	Salem	WV	26426-8469	Harrison	'18-302-60'	WV-HA-115	Pittsburgh
Dawn Ann Lozina	485 Seal Run Road	Salem	WV	26426-8275	Harrison	'18-243-1'	WV-HA-065.01	Pittsburgh

Table 8. List of Affected Landowners (revised 2/26/2021)
Individual Permit Application
Mountain Valley Pipeline Project
The information included in this table is exempt from disclosure pursuant to Exemption 6 to FOIA.

Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
Deborah Susan Barnes	18607 Park Circle East	Amarillo	TX	79108-4906	Lewis	'03-4C-10'	WV-LE-032	Pittsburgh
Derrick G. and Judy L. Carter	14483 North State Road 121	MacClenny	FL	32063-4359	Harrison	'18-223-20'	WV-HA-065	Pittsburgh
Donald J. and Carole D. Kniceley	600 Brushy Fork Road	Bridgeport	WV	26330-6724	Harrison	'20-421-7'	WV-HA-153	Pittsburgh
Donald L. and Sandra J. Cutler	1546 Big Elk Road	Wallace	WV	26448	Harrison	'14-143-40.3'	WV-HA-024	Pittsburgh
Donald W. McDougal	4887 Big Elk Road	Wallace	WV	26448-4811	Harrison	'14-103-1'	WV-HA-001	Pittsburgh
Dorothy L. Whiteman	655 Trouser Leg Road	Wallace	WV	26448	Harrison	'14-183-38.2'	WV-HA-044	Pittsburgh
Douglas A. and Catherine S. Mazer	146 Rainbow Ranch Road	Salem	WV	26426	Harrison	'18-242-16'	WV-HA-065.02	Pittsburgh
Douglas A. and Catherine S. Mazer	434 Rainbow Ranch Road	Salem	WV	26426-8605	Harrison	'18-262-14.3'	WV-HA-086	Pittsburgh
					Harrison	'18-262-20'	WV-HA-087	Pittsburgh
Edna Jean Davis	66 Rustic Lane	Salem	WV	26426-8646	Harrison	'18-2611-5'	WV-HA-099.01	Pittsburgh
					Harrison	'18-302-48'	WV-HA-102.01	Pittsburgh
Edward Earl and Debbie Garrett	2151 Rush Run Road	Weston	WV	26452	Lewis	'03-4A-5'	WV-LE-008	Pittsburgh
					Lewis	'03-4A-8'	WV-LE-009	Pittsburgh
					Lewis	'03-4A-9'	WV-LE-010	Pittsburgh
					Lewis	'03-4A-21'	WV-LE-012	Pittsburgh
					Lewis	'03-4A-12'	WV-LE-014	Pittsburgh
					Lewis	'03-4B-43'	WV-LE-017	Pittsburgh
Edwin Ross Marple, Jr. and James Edwin Marple, as joint tenants with rights of survivorship	2467 Indian Run Road	Salem	WV	26426-8589	Harrison	'18-262-21.1'	WV-HA-085	Pittsburgh
Eileen Hayhurst	64 Llama Fork Road	Wallace	WV	26448-8617	Harrison	'14-123-7'	WV-HA-004	Pittsburgh
					Harrison	'14-123-6'	WV-HA-006	Pittsburgh
					Harrison	'14-143-11'	WV-HA-015	Pittsburgh
					Harrison	'14-143-10'	WV-HA-017	Pittsburgh
Emax Gas Company	c/o Anthony A. Valente, PO Box 7844	Charlottesville	VA	22906-7844	Harrison	'18-341-4'	WV-HA-140	Pittsburgh
Eric L. Cochran	1203 Raccoon Run Road	Salem	WV	26426-8463	Harrison	'18-322-8'	WV-HA-123	Pittsburgh
					Harrison	'18-322-1'	WV-HA-129	Pittsburgh
Eric William Nicholas	PO Box 231	Salem	WV	26426-0231	Harrison	'18-282-99'	WV-HA-102	Pittsburgh
					Harrison	'18-302-46'	BHA-13	Pittsburgh
Erich S. and Savannah Rodeheaver	1228 East Pike Street	Shinnston	WV	26431	Harrison	'14-123-42'	WV-HA-013	Pittsburgh
Ernest L. and Diana J. Breitung	5277 Tulane Avenue	Jacksonville	FL	32207-7717	Harrison	'14-163-31'	WV-HA-032	Pittsburgh
Estate of William J. Brown	c/o Mary Carolyn Brown, 136 High Street	Charles Town	WV	25414-1243	Doddridge	'04-11-14'	WV-DO-007	Pittsburgh
Eva Hall	4444 Big Elk Road	Wallace	WV	26448	Harrison	'14-103-3'	WV-HA-002	Pittsburgh
f/k/a Gail M. Swiger Gail M. Bristow	275 Southmoor Circle	Stockbridge	GA	30281-4969	Harrison	'14-222-2.2'	WV-HA-063	Pittsburgh
Frank A. and Darletta Gulas	2548 Indian Run Road	Salem	WV	26426-8677	Harrison	'18-262-4.1'	WV-HA-081	Pittsburgh
					Harrison	'18-262-4'	WV-HA-082	Pittsburgh
					Harrison	'18-262-21'	WV-HA-083	Pittsburgh
Gene B. Fahey	1099 Marshville Road	Salem	WV	26426-8658	Harrison	'18-242-11.1'	WV-HA-065.04	Pittsburgh
					Harrison	'18-242-26'	WV-HA-065.05	Pittsburgh
Gerald Wayne Corder	c/o Teresea D. Erickson, POA, 109 Columbus Street	Elyria	OH	44035-5130	Harrison	'20-362-20'	WV-HA-144	Pittsburgh
Gloria Dare Woofter	1055 Churchville Road	Camden	WV	26338-8036	Lewis	'03-4E-23'	WV-LE-048	Pittsburgh
Greg R. McConnell	403 Power Road	Salem	WV	26426-8508	Harrison	'18-302-47'	WV-HA-102.02	Pittsburgh
Harrison County Coal Resources, Inc., a Delaware corporation	46226 National Road West	St. Clairsville	OH	43950	Marion	'12-52-6.1'	WV-MA-001	Pittsburgh
					Marion	'12-52-1'	WV-MA-002	Pittsburgh
					Marion	'12-52-20'	WV-MA-003	Pittsburgh
High Mountain Timber, LLC Matt Hall	PO Box 587	Elkins	WV	26241-0587	Harrison	'14-203-29'	WV-HA-053	Pittsburgh
Hilary Heights, Ltd.	142 Valley Street, c/o Beth Arnold Taylor	Salem	WV	26426-1018	Harrison	'18-302-80'	WV-HA-117	Pittsburgh
					Harrison	'18-302-81'	WV-HA-119	Pittsburgh
Hilry Gordon	299 Llama Fork Road	Wallace	WV	26448-8817	Harrison	'14-123-41'	WV-HA-012	Pittsburgh
Hubert and Suzette Lorraine Modispaugh	167 Seal Run Road	Salem	WV	26426-8231	Harrison	'18-242-25'	WV-HA-065.06	Pittsburgh
					Harrison	'18-242-29'	WV-HA-072	Pittsburgh
J. Robert Bennett	5944 US Highway 19 North	Jane Lew	WV	26378-8391	Lewis	'03-4B-31'	WV-LE-019	Pittsburgh
					Lewis	'03-4B-26'	WV-LE-020.02	Pittsburgh
					Lewis	'03-4B-19'	WV-LE-3943	Pittsburgh

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Mountain Valley Pipeline Project

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Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
Jacob M. and Laura K. Johnson	4852 RT Freeman Creek Road	Weston	WV	26452-7992	Lewis	'03-4B-6'	WV-LE-6194	Pittsburgh
James A. and Gail M. Hilley	603 Flinderation Road	Salem	WV	26426-8482	Harrison	'18-282-77.3'	WV-HA-3929	Pittsburgh
James A. Varner	2743 Halls Run Road	Salem	WV	26426-7340	Harrison	'18-322-18'	WV-HA-132	Pittsburgh
					Harrison	'18-322-20'	WV-HA-134	Pittsburgh
					Harrison	'18-322-22.2'	WV-HA-4224	Pittsburgh
					Harrison	'18-322-22.1'	WV-HA-4225	Pittsburgh
					Harrison	'18-322-22.5'	WV-HA-4226	Pittsburgh
					Harrison	'18-322-22.3'	WV-HA-4227	Pittsburgh
					Harrison	'18-322-21'	WV-HA-135	Pittsburgh
James Barna	1525 N Preston Highway	Kingwood	WV	26537-7637	Harrison	'14-224-61.1'	WV-HA-6212	Pittsburgh
James E. and Karen R. Tucker	11110 Wallace Pike	Wallace	WV	26448-8788	Harrison	'14-123-1.1'	WV-HA-3907	Pittsburgh
James Edward Gifford	2145 Big Elk Road	Wallace	WV	26448-8528	Harrison	'14-143-13'	WV-HA-018	Pittsburgh
James G Acker	1233 Big Elk Road	Wallace	WV	26448-8523	Harrison	'14-163-8.4'	WV-HA-027	Pittsburgh
					Harrison	'14-163-9.1'	WV-HA-029	Pittsburgh
James J. Hitt Trust Nancy N. Salvetti	3211 Jesse Run Road	Jane Lew	WV	26378-8398	Lewis	'03-4B-7'	WV-LE-3941	Pittsburgh
James L. Yankel	216 Kuehn Drive	Trafford	PA	15085-1604	Wetzel	'04-40-65'	WV-WE-047.03	Pittsburgh
James M. Barna	1525 North Preston Highway	Kingwood	WV	26537-7675	Harrison	'14-224-59.1'	WV-HA-6211	Pittsburgh
James M. Ritter	447 Stillhouse Road	Salem	WV	26426-8615	Harrison	'18-282-6'	WV-HA-090	Pittsburgh
Jaron D. and Julia B. Ard	11208 Prospect Hill Road	Glenn Dale	MD	20769-9455	Harrison	'14-164-57'	WV-HA-030	Pittsburgh
Jeddy L. Nicholas	447 Bristol Road	Bristol	WV	26426-8009	Harrison	'18-302-36'	WV-HA-112	Pittsburgh
Jeff Burnside	55 Main Street	West Newbury	MA	01985-1803	Harrison	'20-401-10'	WV-HA-152	Pittsburgh
					Harrison	'20-421-9'	WV-HA-4409	Pittsburgh
Jefferson L. Richards	1025 Alcovy Trestle Road	Social Circle	GA	30025-4820	Doddridge	'04-15-12'	WV-DO-017	Pittsburgh
Jeffery and Reva Carder	268 Cherry Camp Road	Salem	WV	26426-8637	Harrison	'18-282-37'	MVP-ATWS-041A	Pittsburgh
				26426-8637	Harrison	'18-282-61'	WV-HA-096	Pittsburgh
Jesse and Amber Shackleford	3414 Freemans Creek Road	Camden	WV	26338-8062	Lewis	'03-4D-43.1'	WV-LE-044	Pittsburgh
John A. Marshok Revocable Living Trust	c/o John A. Marshok, Jr., PO Box 83	Wallace	WV	26448	Harrison	'14-123-2'	WV-HA-3906	Pittsburgh
John A. Marshok, Jr. Revocable Living Trust	c/o John A. Marshok, Jr., PO Box 83	Wallace	WV	26448	Harrison	'14-123-4'	WV-HA-003	Pittsburgh
					Harrison	'14-123-5'	WV-HA-005	Pittsburgh
John and Teresa Dennison	600 Big Elk Road	Wallace	WV	26448	Harrison	'14-183-40'	WV-HA-042	Pittsburgh
					Harrison	'14-183-39'	WV-HA-043	Pittsburgh
John J. and Nancy L. Sargent	438 Camden Hill Drive	Camden	WV	26338-8230	Lewis	'03-4E-14'	WV-LE-050	Pittsburgh
					Lewis	'03-4F-25.1'	WV-LE-052	Pittsburgh
John L. Perri	102 Rebrook Street	Clarksburg	WV	26301-9518	Harrison	'14-143-28'	WV-HA-020	Pittsburgh
John Leland and Florence Mae Johnston	476 Dry Fork Road	Salem	WV	26426-5606	Doddridge	'04-15-19'	WV-DO-020	Pittsburgh
John Michael Tyler	8314 Elk Avenue	Stonewood	WV	26301-8030	Lewis	'03-4A-26'	WV-LE-003	Pittsburgh
John W. Morgan	549 Kelley Lane	Jane Lew	WV	26378-7845	Lewis	'03-4A-22'	WV-LE-011	Pittsburgh
					Lewis	'03-4A-20'	WV-LE-015	Pittsburgh
					Lewis	'03-4A-14'	WV-LE-016	Pittsburgh
Joseph A. Kyer	2380 Sassafras Run Road	Weston	WV	26452-7243	Lewis	'02-4G-19.1'	WV-LE-3466	Pittsburgh
Joseph E. James	207 Raccoon Run Road	Salem	WV	26426-8470	Harrison	'18-302-35.3'	WV-HA-5962	Pittsburgh
Joseph J. Piala	c/o Enid M. Piala, 4811 Cumberland Avenue	Chevy Chase	MD	20815-5455	Harrison	'18-342-1'	WV-HA-136	Pittsburgh
Joseph W. Jordan	107 Flinderation Road	Salem	WV	26426-8476	Harrison	'18-282-77.4'	WV-HA-3927	Pittsburgh
Joshua A Wagner	104 Emerson Road	Clarksburg	WV	26301-9727	Harrison	'18-282-36'	WV-HA-6231	Pittsburgh
Joshua Michael Layfield	1256 Beech Lick of Laurel Road	Weston	WV	26452-7291	Lewis	'03-4F-7'	WV-LE-060	Pittsburgh
					Lewis	'03-4G-24'	WV-LE-061	Pittsburgh
Julie A. DiSabatino	3056 Big Elk Road	Wallace	WV	26448-8531	Harrison	'14-123-43'	WV-HA-014	Pittsburgh
Karl Hanson and Theresa Barfield Skaggs	1289 Smoke Camp Road	Weston	WV	26452-7940	Lewis	'03-4B-23'	WV-LE-022	Pittsburgh
					Lewis	'03-4B-22'	WV-LE-023	Pittsburgh
Kathryn Pertz Carpenter	250 Simpson Run Road	Weston	WV	26452-8142	Lewis	'03-4A-6.1'	WV-LE-005	Pittsburgh
Kathy V. Shreves	3749 Trouser Leg Road	Wallace	WV	26448-8852	Harrison	'14-203-30'	WV-HA-054	Pittsburgh
					Harrison	'14-203-38'	WV-HA-055	Pittsburgh
					Harrison	'14-203-38.3'	WV-HA-056	Pittsburgh
					Harrison	'14-203-38.1'	WV-HA-057	Pittsburgh

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Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
Kenneth Ashcraft	864 Stillhouse Road	Salem	WV	26426-8694	Harrison	'18-262-25'	WV-HA-5757	Pittsburgh
Kenneth Ashcraft	723 Holden Hollow Road	Salem	WV	26426	Harrison	'18-262-28'	WV-HA-089	Pittsburgh
Kenneth E. and Iona C. Stout	129 Deer Run Road	Camden	WV	26338-8247	Lewis	'03-4E-6'	WV-LE-047.001	Pittsburgh
Kenneth E. Ashcraft	723 Holden Hollow Road	Salem	WV	26426-8519	Harrison	'18-262-29'	WV-HA-088	Pittsburgh
Kevin J. and Sharon L. Wagner	104 Emerson Road	Clarksburg	WV	26302-9722	Harrison	'18-282-36.2'	WV-HA-093	Pittsburgh
Kevin L. and Margaret A. Byrd	712 Seal Run Road	Salem	WV	26426-8214	Harrison	'18-242-17'	WV-HA-065.03	Pittsburgh
Kimberly Ann Harrison	212 East 5th Street	Weston	WV	26452- 2027	Lewis	'03-4F-6'	WV-LE-058	Pittsburgh
Kincheloe Mitigation Holdings LLC, a Delaware limited liability company	23 South Main Street, 3rd Floor	Hanover	NH	3755	Harrison	'20-421-8'	WV-HA-154	Pittsburgh
					Harrison	'20-421-5'	WV-HA-155	Pittsburgh
					Harrison	'20-421-4'	WV-HA-3933	Pittsburgh
					Lewis	'03-4A-27'	WV-LE-001	Pittsburgh
					Lewis	'03-4A-29'	WV-LE-002	Pittsburgh
					Harrison	'20-421-6'	WV-HA-5682	Pittsburgh
Lake Floyd Club Inc. Amy Gay	581 Lake Floyd Circle	Bristol	WV	26426-7375	Harrison	'18-303-1'	WV-HA-110	Pittsburgh
					Harrison	'18-302-74'	WV-HA-114	Pittsburgh
Larry Cutright	4126 Right Freeman's Creek Road	Weston	WV	26452-7925	Lewis	'03-4C-14.2'	WV-LE-028	Pittsburgh
Lawrence E. and R. June Boswell	14 Rustic Lane	Salem	WV	26426-8646	Harrison	'18-2611-4'	WV-HA-099	Pittsburgh
Leslie Gray and Jimmy Lee Baker	PO Box 3190	Beckley	WV	25801-1970	Harrison	'20-401-6'	WV-HA-150	Pittsburgh
Linda Kirby	1201 East Avenue	Shinnston	WV	26431-1503	Lewis	'03-4E-5.1'	WV-LE-047	Pittsburgh
Louis W. and Judy A. Seamon	RR 2 Box 122A	Bristol	WV	26426-7314	Harrison	'18-322-11.1'	WV-HA-121	Pittsburgh
Lowell P. and Sharon D. Bee	9844 Meathouse Fork Road	Salem	WV	26426-5554	Doddridge	'04-15-30'	WV-DO-021	Pittsburgh
					Doddridge	'04-15-29'	WV-DO-022	Pittsburgh
					Doddridge	'04-15-26'	WV-DO-023	Pittsburgh
Mark Maurice Benedum	2098 Raccoon Run Road	Salem	WV	26426-8283	Harrison	'18-322-7'	WV-HA-124	Pittsburgh
					Harrison	'18-322-5'	WV-HA-127	Pittsburgh
					Harrison	'18-322-2'	WV-HA-128	Pittsburgh
Marvin Lynn Simons	1806 Webster Road	Summersville	WV	26651-1048	Lewis	'03-4B-14'	WV-LE-024	Pittsburgh
Mary K. Post	249 Stillhouse Road	Salem	WV	26426-8618	Harrison	'18-282-35'	WV-HA-097	Pittsburgh
Mary Lou Swiger	1508 Big Elk Road	Wallace	WV	26448-8525	Harrison	'14-143-40.1'	WV-HA-025	Pittsburgh
Mary Merceline and Ronald M Murphy	618 Pearl Street	Belmont	WV	26134-0193	Harrison	'14-223-13'	WV-HA-060	Pittsburgh
Mary R. and John N. Leonard	549 Raccoon Run Road	Salem	WV	26426-8468	Harrison	'18-302-73'	WV-HA-116	Pittsburgh
Mary Short	176 Orchard Street	Salem	WV	26426-8026	Harrison	'18-242-24.1'	WV-HA-075	Pittsburgh
Melvin L. James	1818 Smith Run Road	Weston	WV	26452-6901	Lewis	'03-4A-6'	WV-LE-006	Pittsburgh
Michael and Chelsie E. Cantarelli	2427 Halls Run Road	Bristol	WV	26426-7341	Harrison	'18-302-35'	WV-HA-113	Pittsburgh
Michael Benedum	PO Box 342	Salem	WV	26426-0342	Harrison	'18-322-9'	WV-HA-125	Pittsburgh
Michael G. Miller	106 North Wade Avenue	Washington	PA	15301-3553	Harrison	'14-163-19'	WV-HA-031	Pittsburgh
Michael Oday Shreves	3233 Big Elk Road	Wallace	WV	26448	Harrison	'14-123-30'	WV-HA-011	Pittsburgh
Michael V. Howard	224 Sterling Road	Fairmont	WV	26554	Harrison	'14-123-16.3'	WV-HA-008	Pittsburgh
Mike Ross, Inc.	c/o Mike Ross, PO Box 219	Coalton	WV	26257-0219	Harrison	'18-222-12.4'	WV-HA-064	Pittsburgh
					Lewis	'03-4B-33'	WV-LE-020.01	Pittsburgh
N. Jean Ash f/k/a Naomi Jean Arciprete	556 Spring Hollow Road	Salem	WV	26426-8603	Harrison	'18-262-2'	WV-HA-080	Pittsburgh
Nicholas K. and Elizabeth D. Cumberledge	163 Shaw Hollow Road	Wallace	WV	26448-8843	Harrison	'14-164-32'	WV-HA-035	Pittsburgh
Olive Branch Baptist Church	5763 Rock Camp Road	Wallace	WV	26448-8677	Harrison	'14-224-58'	WV-HA-6210	Pittsburgh
Paul D. and Duska R. Davis	287 Spring Hollow Road	Salem	WV	26426-8602	Harrison	'18-262-3'	WV-HA-081.01	Pittsburgh
Phillip S. Leinbach	304 Stillhouse Road	Salem	WV	26426-8617	Harrison	'18-282-23'	WV-HA-092	Pittsburgh
Pueblo and Tresa Bianco	859 Battle Run Road	Wallace	WV	26448-8510	Harrison	'14-203-17.1'	WV-HA-050	Pittsburgh
Randall C. and Pamela M. Moore	1059 Jobs Lick Road	Salem	WV	26426-4505	Harrison	'18-223-21'	WV-HA-066	Pittsburgh
Randall N. Corder	c/o Lorena B. Krafft-POA, 720 Park Avenue	Elyria	OH	44035-6608	Harrison	'20-362-21'	WV-HA-145	Pittsburgh
Rankin W. and Luwana L. Nicholas	2796 Grass Run Road	Salem	WV	26426-8230	Harrison	'18-242-29.1'	WV-HA-072.01	Pittsburgh
					Harrison	'18-242-30'	WV-HA-074	Pittsburgh
Richard A. and Mary Margaret Post	553 Buckskin Run Road	Salem	WV	26426-8220	Harrison	'18-242-41'	WV-HA-079	Pittsburgh
Richard G. Shuman	104 Spyglass Hill Drive	Charles Town	WV	25414-3963	Harrison	'14-123-44'	WV-HA-014.01	Pittsburgh
Richard V. and Rebecca Cantarelli	1095 Halls Run Road	Bristol	WV	26426-7357	Harrison	'18-322-11.2'	WV-HA-120	Pittsburgh
Ricky L. and Peggy Bowen	RR 2 Box 194B	Bristol	WV	26332-7326	Harrison	'18-341-6'	WV-HA-142	Pittsburgh
Robert Bruce and Angela R. Watson	204 Caboose Lane	Salem	WV	26426-8030	Doddridge	'04-8-23'	WV-DO-005.01	Pittsburgh

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Robert M. and Tracey L. Mussey	3419 Big Elk Creek Road	Wallace	WV	26448-8534	Harrison	'14-123-29'	WV-HA-009.02	Pittsburgh
Robert R. Paugh	2657 Big Isaac Road	Salem	WV	26426-5519	Doddridge	'04-11-15'	WV-DO-006	Pittsburgh
Robert W. Tipton	327 Battle Run Road	Wallace	WV	26448-8508	Harrison	'14-203-30.1'	WV-HA-052	Pittsburgh
Rodney O. and Donna M. Kestner	PO Box 244	Amissville	VA	20106-0244	Doddridge	'04-15-15'	WV-DO-019	Pittsburgh
Roger Dale and Sherry Lynn Starkey	3973 Trouser Leg Road	Wallace	WV	26448-8737	Harrison	'14-203-39'	WV-HA-058	Pittsburgh
Roger L. and Ruth A. Dennison	555 Big Elk Road	Wallace	WV	26448-8521	Harrison	'14-163-48'	WV-HA-033	Pittsburgh
Roger M. and Debbie Corder	RR 2 Box 187	Bristol	WV	26426	Harrison	'20-361-11'	WV-HA-146	Pittsburgh
Roger Palacio	89 Livingston Avenue	Edison	NJ	08820-2216	Harrison	'14-183-56'	WV-HA-048	Pittsburgh
Roger S. Golden	PO Box 246	Annamore	WV	26323-0246	Harrison	'14-164-3'	WV-HA-028	Pittsburgh
Ronald P. and Frances Zeni	PO Box 51	Barrackville	WV	26559-0051	Harrison	'14-144-20'	WV-HA-021	Pittsburgh
Ross Allen and Brenda L. White	2489 Halls Run Road	Bristol	WV	26426-7341	Harrison	'18-322-23.14'	WV-HA-4222	Pittsburgh
					Harrison	'18-322-23.7'	WV-HA-4223	Pittsburgh
Rossco, LLC Mike Ross	PO Box 397	Coalton	WV	26257-0397	Harrison	'14-223-6'	WV-HA-059	Pittsburgh
					Harrison	'14-223-24'	WV-HA-3922	Pittsburgh
					Harrison	'14-223-12'	WV-HA-062	Pittsburgh
					Harrison	'14-223-15'	WV-HA-3919	Pittsburgh
					Harrison	'14-223-14'	WV-HA-3921	Pittsburgh
Roy A. and Kimberly J. Fisher	3871 Right Freemans Creek Road	Weston	WV	26452-7971	Lewis	'03-4C-14'	WV-LE-030	Pittsburgh
Roy Lee Bowen	146 Crummitt Lane	Clarksburg	WV	26301	Harrison	'18-302-39'	WV-HA-111	Pittsburgh
Sara R. Owens	955 Robey Hollow Road	Lumberport	WV	26386-8080	Harrison	'14-183-49'	WV-HA-046	Pittsburgh
Sharon A. Davisson	230 Bristol Road	Salem	WV	26426-8010	Harrison	'18-302-41'	WV-HA-109	Pittsburgh
Simeon M. Layfield	PO Box 364	Buckhannon	WV	26201-0364	Lewis	'02-4G-9'	WV-LE-062	Pittsburgh
					Lewis	'02-4G-17.3'	WV-LE-063	Pittsburgh
Sperry Hardwoods, Inc.	PO Box 289	Salem	WV	26426-0289	Harrison	'14-183-37'	WV-HA-045	Pittsburgh
					Harrison	'18-282-38'	WV-HA-095	Pittsburgh
					Harrison	'18-282-41'	WV-HA-3925	Pittsburgh
					Harrison	'18-282-40'	WV-HA-3926	Pittsburgh
					Harrison	'18-282-39'	WV-HA-3928	Pittsburgh
					Harrison	'18-282-101'	WV-HA-101	Pittsburgh
					Harrison	'18-282-62'	WV-HA-100	Pittsburgh
					Harrison	'18-282-103'	WV-HA-104	Pittsburgh
					Harrison	'18-282-106'	WV-HA-106	Pittsburgh
Stacey J. Postus	45207 Dory Lane	Piney Point	MD	20674-3021	Harrison	'18-321-40'	WV-HA-137	Pittsburgh
Sterling E. and Gladys M. Sullivan	800 Beaverton Drive	York	PA	17402-4407	Lewis	'03-4A-2'	WV-LE-007	Pittsburgh
Steve C. Kovar	2203 Turtletree Fork Road	Bristol	WV	26426-7435	Harrison	'20-361-5'	WV-HA-143	Pittsburgh
Steven C. and Elizabeth A. Holden	2654 Bear Fork Road	Weston	WV	26452-7943	Lewis	'03-4C-15'	WV-LE-031	Pittsburgh
Steven Cole Smith	51920 Fishpot Road	Clarington	OH	43915-9751	Harrison	'14-123-15'	WV-HA-008.01	Pittsburgh
Steven J. and Linda G. Huff	3627 Schalk Road Number 1	Manchester	MD	21102-1607	Wetzel	'04-40-64'	WV-WE-3904	Pittsburgh
Steven W. and Sandra M. Sendling	1302 Big Elk Road	Wallace	WV	26448-8524	Harrison	'14-163-9'	WV-HA-3909	Pittsburgh
Sue E. Hall	2699 Horse Run Road	Weston	WV	26452-8109	Lewis	'03-4B-25'	WV-LE-021	Pittsburgh
Susan A. White	727 Little Elk Road	Wallace	WV	26448-8603	Harrison	'14-164-47'	WV-HA-038	Pittsburgh
The Butterfly Evolution Trust	c/o Donald Paul McCollom, 260 Traugh Fork Road	Salem	WV	26426-7207	Doddridge	'04-8-4'	WV-DO-001	Pittsburgh
The Cross Family Trust Gregory N. Cross	PO Box 44	Friendly	WV	26146-0044	Lewis	'03-4F-17'	WV-LE-056	Pittsburgh
					Lewis	'03-4F-16'	WV-LE-057	Pittsburgh
The Estate of Jewell S. Coffindaffer Larry K. Coffindaffer	300 Stratton Street	Logan	WV	25601-3924	Lewis	'03-4B-32'	WV-LE-020	Pittsburgh
The Harrison County Commission	301 West Main Street	Clarksburg	WV	26301	Harrison	'14-2202-70'	WV-HA-6169	Pittsburgh
The Land Agreement Dated April 19, 2006 J.R. Garrett II and Edward Earl Garrett II	2151 Rush Run Road	Weston	WV	26452-7947	Lewis	'03-4A-11'	WV-LE-013	Pittsburgh
The Maryella D. Hitt Trust Maryella D. Hitt	3211 Jesse Run Road	Jane Lew	WV	26378-8398	Lewis	'03-4B-15'	WV-LE-026	Pittsburgh
Tillman Richard Gifford	311 Goose Run Road	Wallace	WV	26448-8580	Harrison	'14-143-14'	WV-HA-016	Pittsburgh
					Harrison	'14-143-15'	BW-HA-5	Pittsburgh
					Harrison	'14-143-27'	WV-HA-019	Pittsburgh

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Timothy Gerald and Nancy Jo Hughes	349 Fraggle Drive	Jane Lew	WV	26378	Harrison	'20-401-1.2'	WV-HA-147	Pittsburgh
					Harrison	'20-401-1.1'	WV-HA-148	Pittsburgh
					Harrison	'20-401-5.1'	WV-HA-149	Pittsburgh
Trustees of Bristol Methodist Church	PO Box 228	Salem	WV	26426-0228	Harrison	'18-2611-3'	WV-HA-098	Pittsburgh
Trustees, Smith Baptist Church Brian K. Price	PO Box 217	Wallace	WV	26448-0217	Harrison	'14-183-27'	WV-HA-4217	Pittsburgh
Victoria Hine	86 Hampden Road	Stafford Springs	CT	06076-3150	Doddridge	'04-12-1'	BDO-2	Pittsburgh
Virginia Bott f/k/a Virginia Fauley	2443 Little Elk Road	Wallace	WV	26448-8612	Harrison	'14-144-33'	WV-HA-022	Pittsburgh
Wallace Volunteer Fire Department, Inc.	PO Box 216	Wallace	WV	26448-0216	Harrison	'14-183-28'	WV-HA-040	Pittsburgh
We-R-Farmers, LLC, a West Virginia limited liability company	PO Box 219	Coalton	WV	26257	Harrison	'14-183-30'	WV-HA-041	Pittsburgh
					Harrison	'14-183-50'	WV-HA-047	Pittsburgh
William Blake	683 Llama Fork Road	Wallace	WV	26448-8619	Harrison	'14-123-27.1'	WV-HA-009	Pittsburgh
William Gary Flint	312 Fairwood Boulevard	Union	SC	29379-7943	Lewis	'03-4A-25'	WV-LE-004	Pittsburgh
William Howard Webb	40 Lochmere Lane	Salem	WV	26426-8433	Harrison	'18-282-7.1'	WV-HA-091	Pittsburgh
2 Franks LLC	c/o F James Waugh, 60 Pilsner Place	Charleston	WV	25312-9465	Greenbrier	'11-54C-43'	WV-GR-5897	Huntington
3 Pond Valley, LLC	289 Crowfield Circle	Lewisburg	WV	24901-1262	Monroe	'09-13-3.16'	WV-MO-0860	Huntington
a/k/a Barbara June DePriest- Brunty Barbara June DePriest	HC 73 Box 52-E	Alderson	WV	24910-9730	Summers	'7-11-5.2'	WV-SU-036.02	Huntington
a/k/a Colleen A. Thompson Colleen and Robert Connell Thompson	804 Hickory Lane	Milford	DE	19963-1318	Lewis	'02-4K-20'	WV-LE-104	Huntington
a/k/a Elizabeth A. Wynes Elizabeth A. Stewart	138 Boom Hollow Road	Alderson	WV	24910-7090	Summers	'7-11-5.4'	WV-SU-036.01	Huntington
a/k/a Leslie P. Harley Leslie M. Harley	PO Box 743	Pineville	WV	24874-0743	Lewis	'02-4L-13'	WV-LE-114	Huntington
a/k/a Leslie P. Harley Leslie M. Hurley	PO Box 743	Pineville	WV	24874-0743	Lewis	'02-4L-14'	WV-LE-3469	Huntington
Advent Christian Church Clyde Sparks	c/o Clyde Sparks, 4048 Russellville Road	Quinwood	WV	25981-7007	Greenbrier	'11-22-17'	WV-GR-004.02	Huntington
Albert D. a/k/a Dale Singleton	317 Cherokee Hill Road	Camden	WV	26338-8056	Lewis	'03-4D-40'	WV-LE-039	Huntington
Albert Frank Shanta	HC 65 Box 10A	Wayside	WV	24985-9104	Monroe	'05-5-26'	WV-MO-3507	Huntington
Alfred Lake and Amy Carol Wykle	PO Box 277	Nimitz	WV	25978-0277	Summers	'7-19-87.2'	WV-SU-059.01	Huntington
	PO Box 277	Nimitz	WV	25978	Monroe	'09-13-3.18'	WV-MO-004	Huntington
Alice Knight	PO Box 1127	Cowen	WV	26206-1127	Webster	'4-4Q-18'	WV-WB-045	Huntington
Alice M. and John J. King	1109 Alderson Church Road	Summersville	WV	26651	Nicholas	'1-18-62'	WV-NI-022	Huntington
Alice M. Proper	RR 3 Box 71	Salem	WV	26426	Doddridge	'04-15-6'	WV-DO-018	Huntington
Allan Walter Lehr	536 Allters Way	Alderson	WV	24910-0079	Summers	'3-12-22'	WV-SU-006	Huntington
Alleghany Country Farms	PO Box 40	Sinks Grove	WV	24976-0040	Monroe	'05-5-12.9'	WV-MO-3501	Huntington
					Monroe	'05-5-12'	WV-MO-012.060	Huntington
Allegheny Wood Products, Inc., a West Virginia corporation	PO Box 867	Petersburg	WV	26847	Summers	'7-10-46'	WV-SU-031	Huntington
Allen Clay	1140 Meadow Fork Road	Camden On Gauley	WV	26208-8740	Webster	'4-3R-31.1'	WV-WB-062.06	Huntington
Allen David Ailstock	277 Deegan Drive	Charmco	WV	25958-7081	Greenbrier	'11-54-10'	WV-GR-024	Huntington
Allen Tackett	1537 Glenwood Road	Milton	WV	25541-8623	Webster	'6-6E-3.3'	WV-WB-001.23	Huntington
Alvin Suttle	4402 Leivasy Road	Leivasy	WV	26676-4011	Nicholas	'5-40-19'	WV-NI-4051	Huntington
Amanda G. Crawford	PO Box 277	Lindside	WV	24951-0277	Monroe	'03-18-1'	WV-MO-012.240	Huntington
Amber Tharp	2411 Richdale Road	Richmond	VA	23224	Webster	'4-4M-39'	WV-WB-028	Huntington
Andrew H. and Theresa G. Gwinn	1578 Lowell Road	Pence Springs	WV	24962-9431	Summers	'7-15-51'	WV-SU-055	Huntington
Annabeth J. Riffle	80 Emory Drive	Cowen	WV	26206-2510	Webster	'4-4Q-14'	WV-WB-048	Huntington
Anthony Scott and Lisa D. Toms	4330 Churchville Road	Camden	WV	26338-8142	Lewis	'03-4C-6'	WV-LE-037	Huntington
					Lewis	'03-4D-5.1'	WV-LE-038	Huntington
Arthur C. and Judy D. Roberts	158 Point Lick Drive	Charleston	WV	25306-6784	Lewis	'02-4L-19'	WV-LE-111	Huntington
					Lewis	'02-4L-12'	WV-LE-112	Huntington
Arthur D. and Leah A. Williams	636 Spruce Run	Lindside	WV	24951-7369	Monroe	'03-24-18'	WV-MO-012.295	Huntington
					Monroe	'03-24-30'	WV-MO-012.305	Huntington
Arthur Lee and Patricia Weese	3921 Erbacon Road	Erbacon	WV	26203	Webster	'4-4N-22'	WV-WB-032	Huntington
Athelene P. Cunningham Langdon	563 Richmond Drive	Pataskala	OH	43062	Braxton	'7-13J-33'	WV-BR-041.01	Huntington
Averal Todd Casto	PO Box 12	Craigsville	WV	26205-0012	Lewis	'02-4J-39.1'	WV-LE-097.02	Huntington

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B L Farm Brian Sparks	684 Silo Road	Summersville	WV	26651-4616	Greenbrier	'11-54G-20'	WV-GR-029	Huntington
Beckwith Lumber Company, Inc.	PO Box 39	Slatyfork	WV	26291-0039	Lewis	'02-4H-3'	WV-LE-077	Huntington
					Lewis	'02-4H-4'	WV-LE-079	Huntington
					Lewis	'02-4H-5'	WV-LE-080	Huntington
					Webster	'6-5F-3'	WV-WB-001.27	Huntington
					Webster	'6-5F-4'	WV-WB-001.28	Huntington
					Webster	'6-6F-1'	WV-WB-001.29	Huntington
					Webster	'6-5F-5'	WV-WB-001.31	Huntington
					Webster	'4-4P-1.1'	WV-WB-044	Huntington
					Webster	'4-4Q-15'	WV-WB-047	Huntington
					Webster	'4-4Q-13.1'	WV-WB-049	Huntington
Bernadette H. Law	5096 US Highway 33 West	Camden	WV	26338-8216	Lewis	'03-4F-19'	WV-LE-053	Huntington
Bernard Mathes	793 Erbacon Road	Cowen	WV	26206-8531	Webster	'4-3R-36'	WV-WB-062.02	Huntington
Bernard R. Elliott	104 White Road	Wellsburg	WV	26070	Wetzel	'04-35-4'	WV-WE-037.01	Huntington
Bernell and Louise Morris	637 Ritchie Farm Road	Summersville	WV	26651-4527	Nicholas	'1-24-9'	WV-NI-031.01	Huntington
					Nicholas	'1-24-8.2'	WV-NI-032	Huntington
Bert Andrew and Allison Michelle Groves	2208 Quarry Road	Bunker Hill	WV	25413	Braxton	'7-13J-16.1'	WV-BR-5213	Huntington
Bertha Marie Mollohan	1447 Poling Road	Hacker Valley	WV	26222-8852	Webster	'5-6D-9'	WV-WB-001.09	Huntington
Betty and Gilbert Eugene Thomas	350 Valley Grove Lane	Craigsville	WV	26205-2615	Nicholas	'1-13-72'	WV-NI-5321	Huntington
					Nicholas	'1-13-67'	WV-NI-008	Huntington
Betty Jo Smith	4086 Guardian Drive	Diana	WV	26217-8764	Webster	'6-6E-3.4'	WV-WB-001.211	Huntington
Betty L. Smith	PO Box 386	Whitesville	WV	25209-3086	Lewis	'02-4H-8'	WV-LE-082	Huntington
Betty Maxine Coen	PO Box 24	Folsom	WV	26348-0024	Wetzel	'04-19-21'	WV-WE-3880	Huntington
Beverly Perrine Shelton	2214 Highland Road	Parkersburg	WV	26101-6440	Webster	'4-4R-1.2'	WV-WB-059.001	Huntington
Beverly Sue Meadows	PO Box 1670	Craigsville	WV	26205-1670	Nicholas	'1-14-12'	WV-NI-002	Huntington
Big Wolf, LLC	PO Box 390	Gassaway	WV	26624-0390	Braxton	'7-13H-21'	WV-BR-4404	Huntington
					Braxton	'7-13H-8'	WV-BR-5856	Huntington
Bill Martin	1579 State Route 511	Ashland	OH	44805-9247	Nicholas	'1-24-11'	WV-NI-031	Huntington
Bittner Farm Trust Barbara Ann Bittner	636 May Apple Trail	Lewisburg	WV	24901-5144	Nicholas	'9-24-39.1'	WV-NI-079	Huntington
Black's Chapel Cemetery, Inc., a non-profit corporation	c/o Peggy Sue WIlliams, VP, Box 571	Cowen	WV	26206	Nicholas	'1-10-12'	WV-NI-094.011	Huntington
Bradley G. and Shauna F. Lewis	9862 Frederick Circle	Huntington Beach	CA	92646-3640	Webster	'4-4M-45'	WV-WB-027	Huntington
				92646-3640	Webster	'4-4M-45.2'	WV-WB-029	Huntington
Brandi N. Skinner	4516 Clover Fork Road	Orlando	WV	26412-3017	Braxton	'7-13D-13'	WV-BR-002	Huntington
Brandy Bloom	10 Bitternut Trail	Weaverville	NC	28787-8596	Wetzel	'04-30-52'	WV-WE-037	Huntington
Brenda DeRolf	7416 Grand Avenue	Hammond	IN	46323	Webster	'4-4M-42.1'	WV-WB-023	Huntington
					Webster	'4-4M-42.2'	WV-WB-023.02	Huntington
Brenda K. Eddy	429 Sams Run Road	Folsom	WV	26348-6038	Wetzel	'04-40-15'	WV-WE-6179	Huntington
Brenda L. Smith	179 Page Avenue	Craigsville	WV	26205-8028	Nicholas	'1-14-22.3'	WV-NI-5316	Huntington
Brenda Nelson	166 Creamery Road	Pence Springs	WV	24962-9418	Summers	'7-15-33'	WV-SU-050	Huntington
					Summers	'7-15-51.2'	WV-SU-056	Huntington
					Summers	'7-19-87'	WV-SU-059	Huntington
Brian and Beth Armstrong	312 Ritchie Farm Road	Summersville	WV	26651-4521	Nicholas	'1-18-86'	WV-NI-027	Huntington
					Nicholas	'1-18-84'	WV-NI-028	Huntington
Brian Van Nostrand and Helen Montague Van Nostrand	PO Box 111	Hacker Valley	WV	26222-0111	Webster	'6-6D-10'	WV-WB-001.13	Huntington
Brown Mist Fuel Company	PO Box 545	Summersville	WV	26651-0545	Nicholas	'1-24-29'	WV-NI-033	Huntington
Bruce A. and Kimberly Roberts	PO Box 321	Nettie	WV	26681-0321	Nicholas	'5-34-2'	WV-NI-065	Huntington
Bryan Charles Simmons	11 Red Fox Trail	Euharlee	GA	30145	Braxton	'7-13D-15'	WV-BR-002.03	Huntington
					Braxton	'7-13D-11'	WV-BR-002.04	Huntington
Buck Ridge Farm	c/o Melvin Carlos Huffman, 7227 Johnson Crossroads Road	Wayside	WV	24985	Monroe	'09-13-10.3'	WV-MO-012	Huntington
Bush Family Living Trust Gertrude G. Bush	1165 South Blue Creek Road	Coeur d'Alene	ID	83814-9575	Lewis	'02-4J-13'	WV-LE-093	Huntington

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C. Suzette Steele	1126 Browns Run Road	Burnsville	WV	26335-8524	Braxton	'7-13J-38'	WV-BR-5631	Huntington
C.A. McClung Cemetery	c/o Timothy McClung, 3721 Snow Hill Road	Mount Nebo	WV	26679-8129	Nicholas	'9-35-12'	WV-NI-6125	Huntington
Cadles of Grassy Meadows, II, LLC	100 North Center Street	Newton Falls	OH	44444-1321	Summers	'3-19-7'	WV-SU-4078	Huntington
Callie D. Carpenter	PO Box 1144	Craigsville	WV	26205-8508	Nicholas	'1-18-46'	WV-NI-4234	Huntington
					Nicholas	'1-18-53'	WV-NI-4235	Huntington
Callie D. Thayer	PO Box 1144	Craigsville	WV	26205-8508	Nicholas	'1-18-45'	WV-NI-4233	Huntington
Carl C. Bosely Family Trust	c/o Brenda Hicks, 172 Court Street	Jane Lew	WV	26378-8549	Braxton	'7-13J-26'	WV-BR-038	Huntington
					Braxton	'7-13J-23'	WV-BR-039	Huntington
					Braxton	'7-13J-24'	WV-BR-040	Huntington
Carl L. and Annie P. Willey	570 Bottle Plant Road	Craigsville	WV	26205-8773	Nicholas	'1-31-5'	WV-NI-041	Huntington
					Nicholas	'1-31-6.1'	BW-NI-8	Huntington
Carol J. Henline Mathes	PO Box 405	Cowen	WV	26206-0405	Braxton	'7-13H-26'	WV-BR-035	Huntington
					Braxton	'7-13H-20'	WV-BR-036	Huntington
Carol L. and Gary A. Dale	209 Trout Trail	Crescent City	FL	32112-4170	Greenbrier	'11-31-47.2'	WV-GR-5888	Huntington
Carol M. and Kenneth L. Vass	9315 Seneca Trail South	Lindside	WV	24951-7103	Monroe	'03-18-23.4'	WV-MO-012.280	Huntington
Carroll W. Thompson Revocable Living Trust Mary Lou Thompson	PO Box 4068	North Parkersburg	WV	26104-4068	Webster	'6-6E-2'	WV-WB-001.21	Huntington
Cecil B. Mick	115 Little Bear Run Road	Roanoke	WV	26447-8350	Lewis	'01-5N-10'	WV-LE-140	Huntington
Cecil J. and Velma Swartz	1154 Spruce Grove Road	Mount Nebo	WV	26679-9727	Nicholas	'9-35-6.3'	WV-NI-0685	Huntington
Cecil W. and Joan D. Crawford	PO Box 277	Lindside	WV	24951-0277	Monroe	'03-17-5'	WV-MO-012.245	Huntington
Chad W. Johnson	70 Professional Place	Bridgeport	WV	26330-1996	Doddridge	'04-11-32'	WV-DO-013	Huntington
Charles and Annice Crist	919 Old Wormley Creek Road	Yorktown	VA	23692-4959	Greenbrier	'11-74-12'	WV-GR-049	Huntington
Charles B White	364 Mountain Meadow Ln	Greenville	WV	24945-1104	Monroe	'05-14-21'	WV-MO-012.120	Huntington
Charles D. and Barbara Nikolaus	966 Wayside Talcott Road	Ballengee	WV	24981-7066	Monroe	'05-5-11'	WV-MO-012.040	Huntington
Charles J. and Etta Carol Wilson	RR 2 Box 94	Sinks Grove	WV	24976	Monroe	'09-13-10'	WV-MO-010	Huntington
Charles L. and Alvy Conrad	1116 Red Lick Road	Roanoke	WV	26447-8366	Lewis	'01-5P-43.1'	WV-LE-147	Huntington
Charles L. and Donice J. McElwain	PO Box 66	Cowen	WV	26206-0066	Webster	'4-4Q-5'	WV-WB-053	Huntington
					Webster	'4-3Q-12'	WV-WB-058	Huntington
Charles L. Lively	5030 Durrett Road	Orient	OH	43146	Monroe	'09-13-3.3'	WV-MO-006	Huntington
					Monroe	'09-13-3.20'	WV-MO-007	Huntington
					Monroe	'09-13-3.2'	WV-MO-008	Huntington
Charles Leslie and Wanda Lee Given	PO Box 692	Craigsville	WV	26205-0692	Nicholas	'1-31-12'	WV-NI-5330	Huntington
Charles Martin	PO Box 331	Webster Springs	WV	26288-0331	Webster	'4-3R-43'	WV-WB-062.02.2	Huntington
Charles Roger Lester	230 Slayton Drive	Alderson	WV	24910-1134	Summers	'7-15-82'	WV-SU-043.01	Huntington
					Summers	'7-15-82.2'	WV-SU-4086	Huntington
					Summers	'7-15-82.1'	WV-SU-046.001	Huntington
Charles Thomas	392 Valley Grove Lane	Craigsville	WV	26205-9615	Nicholas	'1-13-71'	WV-NI-009	Huntington
Christopher Lee Bates	742 Sixth Street	New Martinsville	WV	26155-2002	Wetzel	'04-40-81'	WV-WE-6190	Huntington
Cindy A. Ford	308 Mount View Church Road	Meadow Bridge	WV	25976-0019	Greenbrier	'3-13-25'	WV-GR-071	Huntington
Clarence Frank (Chip) and Kelley Anne Sandell Sills	PO Box 37	Greenville	WV	24945-0037	Monroe	'05-25-1'	WV-MO-012.165	Huntington
Clarence Frank (Chip) and Kelley Anne Sandell Sills	PO Box 37	Greenville	WV	24945-0037	Monroe	'05-25-1.6'	WV-MO-012.170	Huntington
Clint Peterson	351 Green Rock Place	Monument	CO	80132-7942	Summers	'3-12-16'	WV-SU-002.02	Huntington

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Coastal Forest Resources Company	c/o Matthew F. Cornett, PO Box 709	Buckhannon	WV	26201-0709	Wetzel	'04-24-35'	WV-WE-018.03.1	Huntington
					Lewis	'02-3H-20'	WV-LE-074	Huntington
					Lewis	'02-4K-14'	WV-LE-103	Huntington
					Lewis	'01-5N-1'	WV-LE-129	Huntington
					Lewis	'01-5P-1'	WV-LE-141	Huntington
					Lewis	'01-5P-2'	WV-LE-137	Huntington
					Lewis	'01-5P-3'	WV-LE-3966	Huntington
					Braxton	'7-13E-14'	WV-BR-002.13	Huntington
					Webster	'5-6D-7'	WV-WB-001.08	Huntington
					Webster	'6-6E-11'	WV-WB-001.16	Huntington
					Webster	'6-5E-3'	BW-WB-1	Huntington
					Webster	'4-4M-46'	WV-WB-026	Huntington
					Webster	'4-4N-25'	WV-WB-033	Huntington
					Webster	'4-4N-13'	WV-WB-033.01	Huntington
					Webster	'4-4N-27'	WV-WB-035	Huntington
					Webster	'4-4N-34'	WV-WB-037	Huntington
					Webster	'4-4N-30'	WV-WB-040	Huntington
					Webster	'4-4N-12'	BWB-12	Huntington
					Webster	'4-4P-3'	WV-WB-041	Huntington
					Braxton	'7-13E-11'	WV-BR-007	Huntington
					Wetzel	'04-30-68'	WV-WE-027.02	Huntington
Coastal Forest Resources Company	c/o Matthew F. Cornett, PO Box 709	Buckhannon	WV	26201-0709	Wetzel	'04-24-37'	WV-WE-018.03	Huntington
					Wetzel	'04-24-43'	BW-WE-2	Huntington
					Wetzel	'04-29-44'	WV-WE-027.01	Huntington
					Wetzel	'04-34-26'	WV-WE-3894	Huntington
Columbia West Virginia Corporation	c/o Chris Groves, PO Box 160	Craigsville	WV	26205-0160	Webster	'4-4N-29'	WV-WB-039	Huntington
Conrad A. and Cheryl S. Boggs	1889 Crag Road	Rainelle	WV	25962-9779	Greenbrier	'11-74-11'	WV-GR-048	Huntington
Consolidation Coal Company, CNX Land, LLC, Consol Mining Company, LLC	1000 Consol Energy Drive	Canonsburg	PA	15317-6506	Wetzel	'04-36-27.1'	WV-WE-5970	Huntington
Crestwood Marcellus Midstream LLC, a Delaware limited liability company	811 Main Street, Suite 3400	Houston	TX	77002	Doddridge	'04-11-21.1'	WV-DO-6235	Huntington
Crystal J. Woods Flanagan	133 Callahan Road	Craigsville	WV	26205-8579	Nicholas	'1-13-66'	WV-NI-011	Huntington
CSX Realty Development, LLC	500 Water Street, Suite C 160	Jacksonville	FL	32202-4423	Webster	'6-5F-1'	WV-WB-001	Huntington
Cynthia A. Amick	PO Box 126	Nettie	WV	26681-0126	Nicholas	'5-40-20'	WV-NI-4052	Huntington
D. Craig and Lee S. Chapman	50 Stonewall Drive	Summersville	WV	26651-4199	Nicholas	'1-31-3'	WV-NI-040.01	Huntington
D. Lane McMillion	PO Box 633	Craigsville	WV	26205-0633	Nicholas	'1-14-3.3'	WV-NI-5759	Huntington
					Nicholas	'1-14-2'	WV-NI-004	Huntington
					Nicholas	'1-14-3.1'	WV-NI-005	Huntington
					Nicholas	'1-13-49'	WV-NI-006	Huntington
Dakota B. Lowther	427 Cherry Run Road	Craigsville	WV	26205-9626	Nicholas	'1-19-1.2'	WV-NI-5667	Huntington
Dale L. and Alicia D. McMillion	PO Box 633	Craigsville	WV	26205-0633	Nicholas	'1-13-68'	WV-NI-007	Huntington
Dale William Treadway, Kevin Lee Treadway and Lydia Marie Treadway, his wife	4114 Farmdale Road	Meadow Bridge	WV	25976-7069	Greenbrier	'11-84-11'	WV-GR-063	Huntington
Dallison Lumber, Inc.	PO Box 159	Jacksonburg	WV	26377-0159	Wetzel	'04-29-12'	WV-WE-018.11	Huntington
					Wetzel	'04-40-79'	BWE-R6	Huntington
Daniel and Victoria Hall	6259 Elk River Road	Webster Springs	WV	26288-8400	Webster	'4-4P-4'	WV-WB-5622	Huntington
Danny R. and Deborah Lynn Stover	191 Ruskin Drive	Beckley	WV	25801-8547	Summers	'7-15-80.27'	WV-SU-5875	Huntington
Danny W. Booth	PO Box 189	Lindside	WV	24951-0189	Monroe	'03-30-18.2'	WV-MO-012.340	Huntington
Darlene Bales	6282 Malibu Ridge	Flowery Branch	GA	30542-3400	Wetzel	'04-19-22'	WV-WE-007	Huntington
					Wetzel	'04-19-24'	WV-WE-007.01	Huntington
Darris and Nuetulia Huffman	HC 75 Box 54-A-A	Alderson	WV	24910-9125	Monroe	'09-17-5'	WV-MO-012.010	Huntington
David A. Smith	414 Calvin Road	Nettie	WV	26681-4113	Nicholas	'5-34-1'	WV-NI-4237	Huntington
David A. and Lanna J. Brown	176 Little Creek Hollow Road	Rainelle	WV	25962-9737	Greenbrier	'11-74-31'	WV-GR-055	Huntington
David A. Smith	414 Calvin Road	Nettie	WV	26681-4113	Nicholas	'5-27-10'	WV-NI-064	Huntington
David A. Taylor	4621 Midland Trail West	Charmco	WV	25962	Greenbrier	'11-54-32'	BW-GR-9	Huntington
David Allen Ash	593 Sams Run Road	Folsom	WV	26348-6040	Wetzel	'04-35-26.2'	WV-WE-5833	Huntington

Table 8. List of Affected Landowners (revised 2/26/2021)
Individual Permit Application
Mountain Valley Pipeline Project

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Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
David Allen Johnson	255 Honey Locust Road	Union	WV	24983-6121	Monroe	'05-19-9'	WV-MO-012.155	Huntington
David and Regina Kincaid	256 Campbell Road	Quinwood	WV	25981-3815	Greenbrier	'11-22-73'	WV-GR-007.02	Huntington
David E. Taylor, David Z. Taylor and Regina L. Taylor	691 Gee Lick Road	Weston	WV	26452-7866	Lewis	'02-4J-14'	WV-LE-084	Huntington
David Harmon	2929 Dawson Road	Meadow Bridge	WV	25976-7049	Greenbrier	'11-22-75'	WV-GR-008	Huntington
David L. Cutlip	18 Second Avenue	Webster Springs	WV	26288-1272	Webster	'6-6E-9.2'	WV-WB-5643	Huntington
David Lane Robinson	5907 Ward Road	Nettie	WV	26681-4563	Nicholas	'5-14-22'	WV-NI-4042	Huntington
David O. and Margaret Holz	693 Horse Run Road	Greenville	WV	24945-7057	Monroe	'03-17-42'	WV-MO-012.260	Huntington
David R. and Theresa Jane Beckett	PO Box 99	Pine Grove	WV	26419-0099	Wetzel	'04-19-26.1'	WV-WE-5751	Huntington
David R. Hughes	P.O. Box 122	Greenville	WV	24945-0122	Monroe	'03-12-9'	WV-MO-012.215	Huntington
David Robinson	309 Mid Avenue	Weston	WV	26452-1863	Lewis	'02-4H-6'	WV-LE-081	Huntington
Dayton W. and Doris J. Williams	16624 Webster Road	Craigsville	WV	26205-8602	Nicholas	'1-18-37.4'	WV-NI-018	Huntington
Deborah L. Ralls	Via Giovanni Piesiello, 40	Rome, Italy		198	Nicholas	'9-36-16.6'	WV-NI-100	Huntington
Debra Ross	114 Raccoon Run Road	Salem	WV	26426-8471	Doddridge	'04-8-14'	WV-DO-003	Huntington
					Doddridge	'04-8-22'	WV-DO-004	Huntington
Debra Tomey	294 Rag Run Road	Roanoke	WV	26447-8353	Lewis	'01-4P-29.2'	WV-LE-5207	Huntington
Dempsey Blankenship	597 Ritchie Farm Road	Summersville	WV	26651-4528	Nicholas	'1-24-11.1'	WV-NI-6149	Huntington
Dennis F. and Carla D. Fountain	609 Hurd Hollow Road	Blackwater	VA	24221-8208	Monroe	'05-19-36'	WV-MO-3551	Huntington
					Monroe	'05-19-24'	WV-MO-5307	Huntington
Denvil D. Knight	229 Park Avenue	Craigsville	WV	26205-9630	Nicholas	'1-18S-14'	WV-NI-5326	Huntington
Derris C. and Amanda Hunter	150 Chestnut Street	Rainelle	WV	25962-1006	Greenbrier	'11-54C-48'	WV-GR-5944	Huntington
Diocese of Wheeling-Charleston	1311 Byron Street	Wheeling	WV	26003-3314	Lewis	'02-4J-3'	WV-LE-085	Huntington
Donald F. Curtis	4585 Three Lick Road	Roanoke	WV	26447-8319	Lewis	'02-4M-22'	WV-LE-126	Huntington
					Lewis	'02-4M-22.2'	WV-LE-1631	Huntington
Donald J. and Nancy N. D'Lusky	PO Box 495	Farmington	WV	26571-0495	Wetzel	'04-14-40'	WV-WE-004	Huntington
Donald R. and Mary Whittington	615 Meeting Street	Statesville	NC	28677-3868	Greenbrier	'11-79-11'	WV-GR-057	Huntington
Donald Ray O'Dell	10818 River Drive	Conroe	TX	77385-4017	Nicholas	'9-24-45'	WV-NI-082	Huntington
Donna M. Huffman-Midcap	61 Grassy Meadow Lane	Alderson	WV	24910-1143	Monroe	'09-13-10.1'	WV-MO-012.001	Huntington
Donnie A. Workman	2745 Woodbine Road	Craigsville	WV	26205-8708	Nicholas	'1-13-70'	WV-NI-009.01	Huntington
Doris J. Winans	3227 Tenmile Road	Wallace	WV	26448-8828	Wetzel	'04-35-26'	WV-WE-037.03	Huntington
Doris Sanford	929 Lorenza Ridge Road	Smoot	WV	24977-7002	Summers	'3-12-23'	WV-SU-008	Huntington
Dorothy Marie Boone Fogle	159 Locust Tree Lane	Front Royal	VA	22630-5512	Summers	'7-7-27.3'	WV-SU-028	Huntington
Douglas Hovelson	370 Pitts School Road Northwest	Concord	NC	28027-2823	Greenbrier	'11-75-1'	WV-GR-050	Huntington
Douglas L. and April Petersen	2760 29th Avenue	Sacramento	CA	95820-6323	Webster	'4-3R-35'	WV-WB-062.03	Huntington
Douglas N. and Debbie F. Tinnel	97 Wales Lane	Nettie	WV	26681	Nicholas	'5-27-6.6'	WV-NI-058.01	Huntington
					Nicholas	'5-27-6.5'	WV-NI-059	Huntington
Doyle L. and JoAnn H. Coakley	PO Box 245	Cowen	WV	26206-0245	Webster	'4-4M-50'	WV-WB-022	Huntington
Earl and Comella Stevens Family Trust E. Earl Stevens	301 8th Avenue	Sterling	IL	61081-3863	Summers	'3-12-35'	WV-SU-5154	Huntington
					Summers	'3-12-27.1'	WV-SU-5891	Huntington
Eddie D. and Sandra K. Stout	131 Stout Run Road	Smithfield	WV	26347-8660	Wetzel	'04-34-24.1'	WV-WE-6173	Huntington
Edna Lilly	510 Main Street	Quinwood	WV	25981-4400	Greenbrier	'11-54C-44'	WV-GR-5895	Huntington
Edward C. and Dorothy Hatcher	6119 Centerville Road	Williamsburg	VA	23188-7313	Monroe	'09-13-3.17'	WV-MO-5199	Huntington
Edward Lockwood	PO Box 685	Alderson	WV	24910-0685	Greenbrier	'11-22-16'	WV-GR-007	Huntington
Elana Dawn Nagy (Burnett)	9189 Coon Club Road	Medina	OH	44256-9190	Webster	'6-6E-3.1'	WV-WB-001.24	Huntington
Elizabeth A. Krafft	17955 Calle Central	Morgan Hill	CA	95037-3179	Braxton	'7-13J-35'	WV-BR-046.02.001	Huntington
Elma Grace Westfall	200 Days Drive	Sutton	WV	26601-6255	Braxton	'7-13F-3'	WV-BR-014.02	Huntington
Elsie D. Metz	1446 Loveberry Run Road	Weston	WV	26452-7131	Lewis	'02-4J-15'	WV-LE-088	Huntington
					Lewis	'02-4J-16'	WV-LE-089	Huntington
Elvin N. and Edith R. Zimmerman	2567 Crag Road	Rainelle	WV	25962-7008	Greenbrier	'11-74-16'	WV-GR-4066	Huntington
Emma Virnia Snider	954 Bens Run Road	Orlando	WV	26412-3042	Lewis	'02-4M-8.1'	WV-LE-5811	Huntington
Enzie Wyatt	2029 Fallen Timber Road	Smithfield	WV	26437-8604	Wetzel	'04-19-39'	WV-WE-5679	Huntington
Equitrans, LP	625 Liberty Avenue, Suite 1700	Pittsburgh	PA	15222-3110	Wetzel	'04-14-36'	WV-WE-001	Huntington
					Wetzel	'04-19-16'	WV-WE-005	Huntington
Eric P. Thompson	1070 Crag Road	Rainelle	WV	25962-9816	Greenbrier	'11-61-92'	WV-GR-038	Huntington
Erma Laws	9164 Seneca Trail South	Lindside	WV	24951-7338	Monroe	'03-18-23'	WV-MO-012.285	Huntington
Erma Surbaugh	8838 Grassy Meadows Road	Grassy Meadows	WV	24943-9408	Greenbrier	'3-19-1 (GR)'	WV-GR-074	Huntington

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Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
Ernest D. and Martha Jean Smith	115 Dusty Lane	Camden-on-Gauley	WV	26208-9403	Webster	'4-3S-19'	WV-WB-083	Huntington
Ernest Lee and Celia Christine Hickman	1093 Meadow Fork Road	Camden on Gauley	WV	26208-8744	Webster	'4-3R-31.3'	WV-WB-062.05	Huntington
Estate of Ann O'Dell Bailard	c/o Linda R. Chapman, Administrator, 605 Woodmont Drive	Staunton	VA	24401-2170	Nicholas	'9-36-16.3'	WV-NI-101	Huntington
					Nicholas	'9-36-16.2'	WV-NI-102	Huntington
Estate of Betty Lou Parmer Smith, Ralph B. Smith II, Executor	PO Box 386	Whitesville	WV	25209-0386	Lewis	'02-4H-7'	WV-LE-078	Huntington
Estate of Diana Wimer f/k/a Diana Finster Michael Wimer	4102 US Highway 19 South	Weston	WV	26452-7192	Lewis	'02-4L-25'	WV-LE-5754	Huntington
Estate of Ella Susan Houchins	c/o Laura Bowen-Coffelt, 2724 Edmond Road	Lookout	WV	25868-6266	Monroe	'09-17-10'	WV-MO-4438	Huntington
Estate of Hester Slaughter	240 Mannington Rd	Smithfield	WV	26537	Wetzel	'04-29A-1.15'	WV-WE-037.005	Huntington
Estate of James Humphrey Buskirk Nancy M. Dowling	1500 District Avenue, Suite 1096	Burlington	MA	01803-5069	Nicholas	'1-31-9'	WV-NI-044	Huntington
Estate of Joetta Fazenbaker Meadows, Penny M Sloan	125 Thompson Lane	Vine Grove	KY	40175	Nicholas	'5-20-38.6'	WV-NI-051.01	Huntington
Estate of Matilda Tharp	c/o David R. and Theresa Jane Beckett, PO Box 99	Pine Grove	WV	26419-0099	Wetzel	'04-19-37'	WV-WE-5749	Huntington
Estate of Othella Grace Legg	c/o William Buster Legg, 3679 Farmdale Road	Meadow Bridge	WV	25976-9409	Greenbrier	'11-79-29'	WV-GR-060	Huntington
Estate of Thomas P. Long Anne C. Chambers	3681 Wolf Creek Road	Narrows	VA	24124-2609	Monroe	'03-18-23.3'	WV-MO-012.275	Huntington
Eugene Franklin Finster	c/o Tim Finster, 347 Indian Fork Road	Orlando	WV	26412-3053	Lewis	'02-4L-15'	WV-LE-115	Huntington
					Lewis	'02-4L-27'	WV-LE-117	Huntington
Eugene Ray and Tina Robin Tuckwiller	627 Crosier Road	Rainelle	WV	25962-1060	Greenbrier	'11-54-13'	WV-GR-025	Huntington
Evelyn Sue Ash-Cutright	514 Benedum Road	Bridgeport	WV	26330-7278	Wetzel	'04-35-44'	WV-WE-045.02.1	Huntington
Everett and Edith Haught	28569 Shortline Highway	Folsom	WV	26348-6045	Wetzel	'04-35-17'	WV-WE-037.02	Huntington
f/k/a Debra Lea Morris Debra Lea Boone	134 Woodbine Road	Craigsville	WV	26205	Nicholas	'5-34-4.5'	WV-NI-068.01	Huntington
Florence E. Kilcoyne	c/o Molly S Kilcoyne-Delaney, 12289 North Fork Road	Smithfield	WV	26437-8678	Wetzel	'04-19-7'	WV-WE-001.02	Huntington
Florence E. Kilcoyne	c/o Molly S. Kilcoyne-Delaney, 12289 North Fork Road	Smithfield	WV	26434-8678	Wetzel	'04-19-27'	WV-WE-5750	Huntington
Forrest H. Taylor	1452 Millstone Run Road	Napier	WV	26631-7102	Braxton	'7-12F-12'	WV-BR-5629	Huntington
Francis C. and Twila M. Carpenter	PO Box 4	Erbacon	WV	26203-0004	Webster	'4-4J-10'	WV-WB-001.40	Huntington
Fred Golden	3618 Three Lick Road	Orlando	WV	26412-9603	Lewis	'01-4M-10.1'	WV-LE-128	Huntington
Fred L. Golden	3618 Three Lick Road	Orlando	WV	26412-3060	Lewis	'01-4M-10'	WV-LE-126.01	Huntington
Freda Armentrout	690 Meadow Fork Road	Cowen	WV	26206-8569	Webster	'4-3R-40'	WV-WB-062	Huntington
					Webster	'4-3R-30'	WV-WB-062.04	Huntington
Freddie D. and Linda S. Farley	PO Box 822	Sophia	WV	225921-0822	Greenbrier	'11-30-5.1'	WV-GR-4058	Huntington
Frederick M and Cathy D Osborne	350 Eighty Fifth Ln	Rainelle	WV	25962	Greenbrier	'11-68-10.1'	WV-GR-6241	Huntington
Frederick R. Keiser	645 Little Gap Road	Palmerton	PA	18071-5017	Lewis	'02-4H-17'	WV-LE-083	Huntington
Garland E. Meadows and Clara Jeanette Meadows	PO Box 366	Rupert	WV	25984-0366	Greenbrier	'11-54C-22'	WV-GR-4184	Huntington
Garry and Anna Berg	7 Church Street	Richwood	WV	26261-1211	Nicholas	'5-27-6.9'	WV-NI-060	Huntington
Gary and Rebecca Eisenman	RR 1 Box 148	Meadow Bridge	WV	25976-9413	Greenbrier	'11-84-12'	WV-GR-066	Huntington
Gary D. and Cindy M. Adkins	416 Rag Run Road	Walkersville	WV	26447-8403	Lewis	'01-4P-29'	WV-LE-5205	Huntington
Gary Lynn and Judy Carol Hartwell	697 War Ridge Road	Wayside	WV	24985-9307	Monroe	'05-5-32'	WV-MO-3511	Huntington
Geneva M. Kerr	395 Big Knawl Road	Walkersville	WV	26447-7015	Braxton	'7-13E-21'	WV-BR-002.10	Huntington
George Allen Greene	981 Alderson Church Road	Summersville	WV	26651-4536	Nicholas	'1-18-63'	WV-NI-021	Huntington
George Furphy	8359 Nettie Fenwick Road	Nettie	WV	26681-4500	Nicholas	'5-27-100'	WV-NI-4047	Huntington
George Mac Wilson	456 Adam Steele Road	Webster Springs	WV	26288-8932	Braxton	'7-13H-24'	WV-BR-037	Huntington
George Robert Callison	2403 Brices Creek Road	New Bern	NC	28562-8517	Greenbrier	'3-6-6.4'	WV-GR-067.005	Huntington
Geraldine Ann Spinks	711 Ritchie Farm Road	Summersville	WV	26651-4525	Nicholas	'1-24-8'	WV-NI-4031	Huntington
Glen and Loretta Swartz	1674 Coggins Knob Road	Mount Nebo	WV	26639-8122	Nicholas	'9-35-6.2'	WV-NI-095.01	Huntington
Glendon Wayne Treadway	7291 Covingtons Corner Road	Bealeton	VA	22712-7917	Greenbrier	'11-84-3'	WV-GR-6183	Huntington
Glenn Lowe	1818 Feather Road	Vinton	VA	24179-4604	Summers	'7-7-16'	BW-SU-3	Huntington
Glenn V. Longacre	2120 Willow Lakes Drive	Plainfield	IL	60586-6615	Webster	'4-4N-46'	WV-WB-036	Huntington
Glenna S. Boggs	c/o Paul R. Boggs, Jr., RR 60 Box 41	Crawley	WV	24931-0041	Greenbrier	'11-54G-12'	WV-GR-026.01	Huntington
				24931-0041	Greenbrier	'11-54G-11'	WV-GR-027	Huntington
				24931-0041	Greenbrier	'11-54G-10'	WV-GR-027.01	Huntington

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Greenbrier County Commission	912 Court Street North	Lewisburg	WV	24901-2591	Greenbrier	'11-22-29.2'	WV-GR-004.01	Huntington
Greenbrier County Public Service District #2, a statutory public service district	PO Box 673	Rainelle	WV	25962-0673	Greenbrier	'11-31-47.1'	WV-GR-5777	Huntington
Gregory L. Berry	1211 New River Road	Hinton	WV	25951-8125	Summers	'7-15-80.7-80.13'	WV-SU-5876	Huntington
Gregory W. Chenoweth	5572 Copley Road	Weston	WV	26452-7114	Lewis	'02-4K-17'	WV-LE-3955	Huntington
					Lewis	'02-4K-16'	WV-LE-3956	Huntington
					Lewis	'02-4K-15'	WV-LE-3957	Huntington
Hampton Farms LLC, a West Virginia limited liability company	6673 Crag Road	Meadow Bridge	WV	25976-7043	Greenbrier	'11-79-26'	WV-GR-062	Huntington
Hampton Farms, LLC	6673 Crag Road	Meadow Bridge	WV	25976-7043	Greenbrier	'11-79-24'	WV-GR-061	Huntington
Harley D. and Judith A. McClung	PO Box 381	Craigsville	WV	26205-0381	Nicholas	'1-18-43'	WV-NI-016	Huntington
					Nicholas	'1-18-42'	WV-NI-017	Huntington
Harold D. Simmons	PO Box 65	Lester	WV	25865-0065	Braxton	'7-13D-9.1'	WV-BR-002.11	Huntington
Harold R. and Laura J. Osborne	529 Brown School Road	Rainelle	WV	25962-9715	Greenbrier	'11-75-22.2'	WV-GR-051.02	Huntington
					Greenbrier	'11-75-22.1'	WV-GR-053	Huntington
Harvey H. and Shelba J. Jones	331 Cherry Run Road	Craigsville	WV	26205-9624	Nicholas	'1-19-1'	WV-NI-5322	Huntington
Heartwood Forestland Fund II, III, IV, VII, VIII	PO Box 9162	Chapel Hill	NC	27515-9162	Wetzel	'04-40-43'	WV-WE-047.01	Huntington
					Wetzel	'04-40-44'	WV-WE-047.02	Huntington
					Lewis	'02-4M-18'	WV-LE-119	Huntington
					Lewis	'02-4M-17'	WV-LE-120	Huntington
					Webster	'6-6G-21'	WV-WB-001.29.1	Huntington
					Nicholas	'1-24-30'	WV-NI-4033	Huntington
					Summers	'7-2-7'	WV-SU-014	Huntington
Heather L Johnson	513 Hunters Ridge Road	Fayetteville	WV	25840	Monroe	'05-25-2'	WV-MO-012.175	Huntington
Hector Montgomery Smith	1103 Johnson Mill Road	Lewisburg	PA	17837-6936	Lewis	'01-5P-54'	WV-LE-154.02	Huntington
					Lewis	'01-5P-55'	WV-LE-154.03	Huntington
Hightop Properties, LLC, a West Virginia limited liability company David Upton	2716 Fourth Avenue	Huntington	WV	25702-1308	Monroe	'05-9-13'	WV-MO-012.080	Huntington
Hilltop Methodist Church Edith Huffman	5623 Snow Hill Road	Mount Nebo	WV	26679-8139	Nicholas	'9-36-12'	WV-NI-99.5	Huntington
Howard E. Bonnett	PO Box 86	Horner	WV	26372-0086	Lewis	'02-4L-11'	WV-LE-113	Huntington
Hubert S. and Rachel K. Tracey	PO Box 94	Bayard	WV	26707-0094	Lewis	'01-5P-52.1'	WV-LE-154	Huntington
					Lewis	'01-5Q-10'	WV-LE-1661	Huntington
					Lewis	'01-5P-53'	WV-LE-154.01	Huntington
Huffman Family Living Trust Francis D. and Lydia B. Huffman	1275 Hillsdale Road	Sinks Grove	WV	24976-9741	Monroe	'09-13-10.5'	WV-MO-012.005	Huntington
Hunter L. and Donna M. Beall	2906 Sassafras Run Road	Weston	WV	26452-7246	Lewis	'02-4G-11'	WV-LE-067	Huntington
ICG Eastern, LLC	300 Corporate Center Drive	Scott Depot	WV	25560	Webster	'4-4Q-16'	WV-WB-046	Huntington
ICG Eastern, LLC	c/o Sheldon Sanders, PO Box 49	Eccles	WV	25836-0049	Webster	'4-4P-1'	WV-WB-5973	Huntington
Ion Mocco	PO Box 544	Meadow Bridge	WV	25976-0544	Summers	'3-12-21'	WV-SU-5334	Huntington
Ira Hickman Harrah	PO Box 161	Meadow Bridge	WV	25976-0161	Summers	'3-18-15'	WV-SU-009	Huntington
J.C. Baker & Sons, Inc.	PO Box 369	Gassaway	WV	26624-0369	Braxton	'7-13G-21'	WV-BR-025	Huntington
					Braxton	'7-13G-21.2'	BW-BR-9	Huntington
					Braxton	'7-13G-21.1'	WV-BR-026	Huntington
					Braxton	'7-13H-35'	WV-BR-3980	Huntington
					Braxton	'7-13H-36'	WV-BR-3981	Huntington
					Braxton	'7-13J-32'	WV-BR-041	Huntington
Jackie Davisson Skinner	13432 Gauley Turnpike	Irland	WV	26376-8022	Braxton	'7-13G-13.1'	WV-BR-1269	Huntington
Jacqueline McLaughlin	1033 Loveberry Run Road	Weston	WV	26452-7129	Lewis	'02-4J-18'	WV-LE-092	Huntington
James A. and Cynthia Argabrite	304 Rebecca Lane	Beaver	WV	25813-9523	Greenbrier	'11-79-23'	WV-GR-059	Huntington
James A. Townsend	3802 Carfax Avenue	Long Beach	CA	90808-2207	Braxton	'7-13G-29'	WV-BR-3975	Huntington
					Braxton	'7-13H-28'	WV-BR-4219	Huntington
					Braxton	'7-13G-30'	WV-BR-3977	Huntington
James David and Avanelle Metzgar	1219 Crescent Drive	Cookeville	TN	38501-1510	Lewis	'03-4D-33'	WV-LE-043	Huntington
James E. and Nina E. Mathes	793 Erbacon Road	Cowen	WV	26206-8531	Webster	'4-3Q-11'	WV-WB-059.002	Huntington

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James E. Robinson	274 Florence Avenue	Wilmington	OH	45177-1421	Greenbrier	'11-68-32'	WV-GR-042	Huntington
					Greenbrier	'11-68-29.3'	WV-GR-044	Huntington
James Elmer Heater	427 Old Route 33	Weston	WV	26452-7778	Lewis	'02-4M-9'	WV-LE-3953	Huntington
James Eugene and Freda M. Haught	43 Fawn Lane	Smithfield	WV	26437-8002	Wetzel	'04-29A-1.6'	WV-WE-037.001	Huntington
					Wetzel	'04-29A-1.11'	WV-WE-3883	Huntington
James F. and Opal N. Gibson	723 Gibson Road	Flatwoods	WV	26612-8107	Braxton	'7-13J-21'	WV-BR-046.001	Huntington
James G."Greg" and Melissa E. Bryant	2777 Smoot Road	Smoot	WV	24977-9610	Greenbrier	'11-39-6'	WV-GR-014	Huntington
James H. Robison	861 Terrace Avenue	Weston	WV	26452-1541	Braxton	'7-13G-17.1'	WV-BR-020.02	Huntington
James Henry Kelley III	PO Box 536	Athens	WV	24712-0536	Monroe	'03-35-7'	WV-MO-230.01	Huntington
James Lewis Clowers	2326 Wolf Creek Road	Narrows	VA	24124-2645	Monroe	'03-24-19.1'	WV-MO-0931	Huntington
James McAllister	2703 Curry Ridge Road	Napier	WV	26631-7026	Braxton	'7-13F-2'	WV-BR-014	Huntington
James O. Gore	49 Fairview Drive	Peterstown	WV	24963-1116	Monroe	'03-12-7'	WV-MO-012.210	Huntington
					Monroe	'03-12-8'	WV-MO-012.220	Huntington
James P. and Debra J. Bennett	191 Bennett Farm Lane	Rainelle	WV	25962	Greenbrier	'11-79-7'	WV-GR-056	Huntington
James R. and Barbara Losch Nickell	PO Box 352	Rupert	WV	25984-0352	Braxton	'7-12F-9.3'	WV-BR-6245	Huntington
James Robert and Lillian Sue Persinger	121 Watson Avenue	Belle	WV	25015-1925	Monroe	'03-12-19'	WV-MO-012.230	Huntington
James T. and Crystal D. Nutter	8983 Rich Creek Road	Jodie	WV	26690	Nicholas	'9-31-7'	WV-NI-2620	Huntington
					Nicholas	'9-30-30'	WV-NI-090	Huntington
Jammy A. and Amanda J. Haught	PO Box 173	Smithfield	WV	26437-0173	Wetzel	'04-29A-1.7'	WV-WE-037.002	Huntington
					Wetzel	'04-29A-1.2'	WV-WE-037.003	Huntington
					Wetzel	'04-29A-1.3'	WV-WE-037.004	Huntington
Jane Ellen Hudson, nee Jane Ellen Reed	20008 North 17th Drive	Phoenix	AZ	85027-4205	Braxton	'7-13E-13'	WV-BR-002.12.01	Huntington
Janet Larew Haag	540 Hillcrest Estates Road	Peterstown	WV	24963-5010	Monroe	'05-14-25'	WV-MO-5625	Huntington
Jason A Collins	8 Station Road, PO Box 176	Deepwater	WV	25057	Greenbrier	'11-75-23'	WV-GR-054	Huntington
Jason C. and Christi L. Sloan	1692 Bingham Road	Charmco	WV	25958-7076	Greenbrier	'11-39-27.1'	WV-GR-016	Huntington
Jason Wayne Skaggs	2939 Big Isaac Road	Salem	WV	26426-5633	Doddridge	'04-11-20.3'	WV-DO-008.01	Huntington
Jean Alice Matney Hall	602 North Victoria Road, Lot 238	Donna	TX	78537-9749	Monroe	'03-23-63'	WV-MO-012.330	Huntington
Jean Alice Matney Hall	926 Roxalana Hills Drive	Dunbar	WV	25064-1957	Monroe	'03-23-62'	WV-MO-3654	Huntington
Jean C. Mills	HC 73 Box 88	Alderson	WV	24910-9744	Summers	'7-4-6'	WV-SU-4085	Huntington
Jefferson L. Richards	1025 Alcovy Trestle Road	Social Circle	GA	30025-4820	Doddridge	'04-15-8'	WV-DO-016	Huntington
Jeffery L. Stewart	449 Boom Hollow Road	Alderson	WV	24910	Summers	'7-11-5.3'	WV-SU-037	Huntington
Jeffery Scott Finch	125 Grove Road	Prosperity	PA	15329-2027	Wetzel	'04-29-11'	WV-WE-018.10	Huntington
Jeffrey Adam and Anita J. Richmond	HC 73 Box 15	Alderson	WV	24910-9714	Summers	'7-11-30'	WV-SU-5669	Huntington
					Summers	'7-11-30.6'	WV-SU-5671	Huntington
Jeffrey Dewayne Osborne	110 Goddard Mountain Road	Rainelle	WV	25962-6860	Greenbrier	'11-68-33'	WV-GR-046.01	Huntington
Jeffrey Douglas and Amanda Marie Bryant	869 Brown School Road	Rainelle	WV	25962-9741	Greenbrier	'11-75-20'	WV-GR-051	Huntington
					Greenbrier	'11-75-19'	WV-GR-051.01	Huntington
					Greenbrier	'11-75-19.1'	WV-GR-4069	Huntington
Jeffrey J. Ford	118 Utica Street	Ithaca	NY	14850-3652	Doddridge	'04-11-36'	WV-DO-014	Huntington
Jeffrey L Darago, Executor of the Estate of Oscar D Darago	1218 Venido Drive	Knoxville	TN	37932-2597	Monroe	'05-18-11'	WV-MO-012.140	Huntington
Jeffrey M. Saff	201 North Charles Street, Suite 1504	Baltimore	MD	21201-4119	Nicholas	'1-30-4'	WV-NI-5158	Huntington
Jeffrey Skinner	880 Red Lick Road	Walkersville	WV	26447-8401	Lewis	'01-5N-45'	WV-LE-148	Huntington
Jeremy A. Thomas	6372 Cathedral Drive	Hickory	NC	28601-8852	Nicholas	'9-36-11'	WV-NI-099	Huntington
					Nicholas	'9-36-11.1'	BW-NI-14	Huntington
Jeremy Hanna	13 Poplar Street	Richwood	WV	26261-1254	Nicholas	'5-15-27.4'	WV-NI-5171	Huntington
Jerry Reese	584 Liberty Church Road	Gray	TN	37615-2228	Monroe	'03-30-19'	WV-MO-012.325	Huntington
Jerry Allen and Mary E. Hammons	354 Crupperneck Road	Craigsville	WV	26205-8711	Nicholas	'1-24-35'	WV-NI-036	Huntington
Jerry and Kimberly Salisbury	38 Forest Road	Camden On Gauley	WV	26208	Webster	'4-4M-44'	WV-WB-4010	Huntington
Jerry Andrew Butcher	2183 Brush Run Road,	Weston	WV	26452-7144	Lewis	'02-4K-26'	WV-LE-106	Huntington
Jerry D. Simms	1651 Wahoo Road	Mt. Nebo	WV	26679-8108	Nicholas	'9-24-42'	WV-NI-077	Huntington
Jessica A. Haselden	124 Mankin Avenue	Beckley	WV	25801-4850	Webster	'4-3S-36'	WV-WB-090	Huntington
Jessica Renee and Joshua Michael Dunivan	2532 Georges Road	Powhatan	VA	23139-5930	Monroe	'05-14-22.3'	WV-MO-012.115	Huntington

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Individual Permit Application
Mountain Valley Pipeline Project

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Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
Jessie F. Moul	1785 Odell Town Road	Nettie	WV	26681-4105	Nicholas	'5-34-4.4'	WV-NI-068.02	Huntington
					Nicholas	'5-34-4.1'	WV-NI-068.03	Huntington
Jim Simmons	9261 Guilford Road	Seville	OH	44273-9345	Webster	'6-6D-9'	WV-WB-001.14	Huntington
Jimmie and Connie Morris	PO Box 265	Craigsville	WV	26205-0265	Nicholas	'1-24-6.5'	WV-NI-4034	Huntington
Joan Marie Paisant	328 Greenwood Drive	Laplace	LA	70068-2520	Lewis	'02-4K-23'	BW-LE-5	Huntington
Joan Stiltner	733 Big Coal Fork Drive	Charleston	WV	25306-6703	Lewis	'01-4M-8'	WV-LE-130	Huntington
Job B. Douglas and Katlin E. Cahill	1727 Wilson Mill Road	Lindside	WV	24951-4503	Monroe	'03-30-34.5'	WV-MO-012.355	Huntington
John A. Bright Revocable Living Trust dated November 5, 1997	909 4th Street SE	Roanoke	VA	24013-2351	Webster	'6-6E-1'	WV-WB-001.26.1	Huntington
John and Julie L. Reese	20230 Lappans Road	Boonsboro	MD	21713-2039	Lewis	'01-5P-37'	WV-LE-153	Huntington
John and Shellie G. White	PO Box 120	Greenville	WV	24945-0120	Monroe	'05-18-3.1'	WV-MO-012.125	Huntington
					Monroe	'05-19-11.2'	WV-MO-012.145	Huntington
John B. Taylor	5180 Oil Creek Road	Roanoke	WV	26447-8331	Lewis	'01-5N-12'	WV-LE-4231	Huntington
John D and Jacqueline B Glidden	7077 Cabin Branch Road	Marshall	VA	20115	Webster	'4-3S-35'	WV-WB-088	Huntington
John D. and Emilee L. Von Elling	PSC 2 Box 11816	APO	AE	09012-0119	Monroe	'09-13-3.19'	WV-MO-001	Huntington
					Monroe	'09-13-3.7'	WV-MO-002	Huntington
John D. Wooton	201 North Kanawha Street	Beckley	WV	25801-4716	Lewis	'01-5P-16'	WV-LE-143.01	Huntington
John Detamore	17334 Webster Road	Craigsville	WV	26205-8882	Nicholas	'1-18-43.1'	WV-NI-4232	Huntington
John E. and Carolyn S. Determan	302 Copley Road	Weston	WV	26452-7175	Lewis	'02-4J-5'	WV-LE-090	Huntington
John E. and Linda L. Spencer	PO Box 303	Craigsville	WV	26205-0303	Nicholas	'1-13-69'	WV-NI-010	Huntington
John H. and Kimberly L. Frazier	484 Red Lick Road	Roanoke	WV	26447-8362	Lewis	'01-5N-31'	WV-LE-144	Huntington
John H. and Pamela Melvin	PO Box 103	Smithfield	WV	26437-0103	Wetzel	'04-29A-1.14'	WV-WE-5831	Huntington
John H. Gornik	1164 South Green Road	South Euclid	OH	44121-3953	Greenbrier	'11-54C-74'	WV-GR-5896	Huntington
John P. Cox	1900 Massey Circle	Charleston	WV	25303-2623	Webster	'5-6C-9'	WV-WB-001.06	Huntington
					Webster	'5-6C-8'	WV-WB-001.07	Huntington
John W. Perrine	PO Box 1079	Cowen	WV	26206-1079	Webster	'4-4R-1'	WV-WB-059.01	Huntington
John W. Preece	PO Box 400	Delbarton	WV	25670-0400	Greenbrier	'11-54-30'	WV-GR-029.01	Huntington
Jon Cottrill	3492 Rocky Ridge Lane	Harrisburg	NC	28075-8602	Webster	'5-6C-3'	WV-WB-001.01	Huntington
					Webster	'5-6C-2'	WV-WB-3985	Huntington
Jonna Mullins Life Estate Lionel J. Mullins	714 Stoney Creek School Road	Alderson	WV	24910-1117	Monroe	'09-17-8.4'	WV-MO-4436	Huntington
Joseph H. Dyer	PO Box 476	Cowen	WV	26206-0476	Webster	'4-3Q-10'	WV-WB-059	Huntington
Joseph Hicks	4843 State Route 225	Diamond	OH	44412-9759	Summers	'3-12-20'	WV-SU-005	Huntington
Joseph L. and Jennifer N. Stephenson	1928 Harrison Avenue	Saint Albans	WV	25177-1917	Braxton	'5-14L-5.1'	WV-BR-046.17	Huntington
Joshua David Morris	PO Box 1205	Craigsville	WV	26205-1205	Nicholas	'5-34-4.8'	WV-NI-068	Huntington
Joshua Michael Layfield	1256 Beech Lick of Laurel Road	Weston	WV	26452-7291	Lewis	'02-4G-17'	WV-LE-065	Huntington
Joshua S Comer	9696 Kellers Creek Road	Alderson	WV	24910	Summers	'7-15-40'	WV-SU-051	Huntington
					Summers	'7-15-41.1'	WV-SU-052	Huntington
Joyce Ann Bishop	7730 Seneca Trail South	Peterstown	WV	24963-9715	Monroe	'03-23-70'	WV-MO-012.300	Huntington
Joyce Ann Richards Revocable Trust Joyce Ann Richards	5017 East Le Marche Avenue	Scottsdale	AZ	85254-1666	Doddridge	'04-11-37'	WV-DO-015	Huntington
Joyce Norman	710 Red Lick Road	Roanoke	WV	26447-8364	Lewis	'01-5N-45.2'	WV-LE-146	Huntington
Juanita Mollohan	753 Browns Mountain Road	Hacker Valley	WV	26222-8837	Webster	'5-6C-5'	WV-WB-001.02	Huntington
					Webster	'5-6C-6'	WV-WB-001.04	Huntington
					Webster	'5-6C-6.1'	WV-WB-001.05	Huntington
Justin Matthew Layfield	1256 Beech Lick of Laurel Road	Weston	WV	26452-7291	Lewis	'02-4G-5'	WV-LE-070	Huntington
Justina H. Ball	3614 Hawk Highway	Lost Creek	WV	26385-7590	Braxton	'7-13C-1'	WV-BR-001	Huntington
Kathryn E.S. Robertson	2690 Pleasant Hill Road	Ireland	WV	26376-8094	Braxton	'7-13H-26.2'	WV-BR-032	Huntington
Keith A. and Phyllis I. Morris	734 Ritchie Farm Road	Summersville	WV	26651-4524	Nicholas	'1-24-6.6'	WV-NI-5634	Huntington
Keith Randal White	157 Arrowhead Drive	Camden on Gauley	WV	26208-8732	Webster	'4-3S-24'	WV-WB-078	Huntington
					Webster	'4-3S-25'	WV-WB-079	Huntington
Kenneth A. and Beverly Brazerol	2416 Wahoo Road	Mount Nebo	WV	26679-8175	Nicholas	'9-17-14'	WV-NI-072	Huntington
Kenneth and Angela D. Barron	1917 James River and Kanawha Turnpike	Rainelle	WV	25962-9795	Greenbrier	'11-61-42'	WV-GR-4186	Huntington
Kenneth and Freda Hollandsworth	6096 Webster Road	Cowen	WV	26206-8634	Nicholas	'5-14-54'	WV-NI-0658	Huntington
					Nicholas	'5-14-54.1'	WV-NI-5172 (ATWS-218A)	Huntington
Kenneth and Shelia Kay McCord	158 Red Lick Road	Walkersville	WV	26447-8360	Lewis	'01-5N-31.1'	WV-LE-143	Huntington

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Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
Kenneth B. and Laurie D. Starcher	PO Box 34	Quinwood	WV	25981-0034	Greenbrier	'11-31-47'	WV-GR-5775	Huntington
Kenneth C. Lambert	150 Piedra Lane	Princeton	WV	24739-9584	Monroe	'05-5-15'	WV-MO-012.055	Huntington
Kenneth Cowger	PO Box 100	Four States	WV	26572-0100	Webster	'5-6D-10'	WV-WB-001.10	Huntington
					Webster	'5-6D-6'	WV-WB-001.11	Huntington
Kenneth D. and Diana Levy	27 Big Knawl Road	Walkersville	WV	26447-7019	Braxton	'7-13E-20'	WV-BR-002.12	Huntington
Kenneth G. and Phyllis A. Groves	PO Box 143	Heaters	WV	26627-0143	Braxton	'7-13H-13'	WV-BR-031	Huntington
Kenneth J. and Vella B. Brown	876 Browns Mountain Road	Hacker Valley	WV	26222-8838	Braxton	'5-14L-5'	WV-BR-001.061	Huntington
Kenneth Timothy and Mary Jane Oiler	117 Virginia Lane	Bridgeport	WV	26330	Lewis	'02-4J-10'	WV-LE-099	Huntington
					Lewis	'02-4J-8'	WV-LE-097.03	Huntington
					Lewis	'02-4J-7'	WV-LE-100	Huntington
Kerry N. and Cheryl L. Boone	110 Perry Boone Lane	Alderson	WV	24910-1501	Summers	'7-7-27.2'	WV-SU-027	Huntington
Kevin and Lisa Ann Gaver	12476 Loy Wolfe Road	Myersville	MD	21773-9507	Lewis	'01-5P-35'	WV-LE-151	Huntington
					Lewis	'01-5P-39'	WV-LE-153.01	Huntington
Kevin Fred Cain	2832 Toledo Avenue	Lorain	OH	44055-1427	Wetzel	'04-24-19'	WV-WE-016.01	Huntington
					Wetzel	'04-24-30'	WV-WE-018.02.1	Huntington
Kevin S. and Mindy D. Amick	6245 Ward Road	Nettie	WV	26681-4694	Nicholas	'5-14-34.1'	WV-NI-050	Huntington
Kimberly Kay Brown	HC 73 Box 58	Alderson	WV	24910-9730	Summers	'7-11-14'	WV-SU-040	Huntington
Kiranasa Swami	RR 1 Box 278B	Meadow Bridge	WV	25976-9514	Summers	'3-18-17.1'	WV-SU-5854	Huntington
Kristopher R. Stanley	5753 Mallard Lake Drive	Hoover	AL	35244-4315	Braxton	'7-13J-25'	WV-BR-043	Huntington
					Braxton	'7-13J-30'	WV-BR-044	Huntington
Lance and Ashley Wimer	16394 Gauley Turnpike	Ireland	WV	26376-8004	Braxton	'7-13G-13'	WV-BR-020	Huntington
Landcey Ragland	163 Slate Run Road	Greenville	WV	24945-7163	Monroe	'05-14-1'	WV-MO-012.085	Huntington
					Monroe	'05-14-19.2'	WV-MO-012.095	Huntington
					Monroe	'05-14-24'	WV-MO-3524	Huntington
Lanty H. and Donna Kay Scott	222 Russell Avenue	Craigsville	WV	26205-8640	Nicholas	'1-14-3.2'	WV-NI-5813	Huntington
					Nicholas	'1-14-3'	WV-NI-5814	Huntington
Larry Allen and Sandra Lou Kirby	1760B Central Drive	Culloden	WV	25510-9782	Webster	'6-6E-3.2'	WV-WB-001.212	Huntington
Larry E. and Pamela G. Taylor	PO Box 806	Cowen	WV	26206-0806	Webster	'4-3R-44'	WV-WB-062.02.3	Huntington
Larry G. and Nancy L. Robinson	2579 Graham Avenue	Akron	OH	44312-1553	Braxton	'7-14K-2'	WV-BR-046.07	Huntington
Larry Jason Statts	966 Gabe Road	Clendenin	WV	25045-9118	Lewis	'01-5N-32.2'	WV-LE-145	Huntington
Larry Rex Elliott	328 Northpoint Avenue	Huntington	IN	46750-8442	Summers	'7-11-29'	WV-SU-5673	Huntington
Larry T. and Carolyn S. Hammons	PO Box 7	Craigsville	WV	26205-0007	Nicholas	'1-24-102'	WV-NI-036.011	Huntington
					Nicholas	'1-31-14'	WV-NI-5332	Huntington
Larry T. and Roberta Hammons	PO Box 7	Craigsville	WV	26205-0007	Nicholas	'1-24-28'	WV-NI-034	Huntington
					Nicholas	'1-24-36'	WV-NI-036.01	Huntington
					Nicholas	'1-24-37'	WV-NI-4036	Huntington
					Nicholas	'1-24-38'	WV-NI-4037	Huntington
					Nicholas	'1-31-13'	WV-NI-4038	Huntington
					Nicholas	'1-24-33'	WV-NI-037	Huntington
					Nicholas	'1-24-32'	WV-NI-038	Huntington
Larry Wallace Perrine	247 White Fox Drive	Cowen	WV	26206	Webster	'4-4Q-12'	WV-WB-6165	Huntington
					Webster	'4-4Q-5.3'	WV-WB-052	Huntington
Laurel Creek Hardwoods, Inc. James W. Glasscock	PO Box 786	Richwood	WV	26261-0786	Nicholas	'9-30-37'	WV-NI-084.01	Huntington
Leann N. Kerr	395 Big Knawl Road	Walkersville	WV	26447-7015	Braxton	'7-13E-34'	WV-BR-002.07	Huntington
					Braxton	'7-13E-34.1'	WV-BR-002.09	Huntington
Lee Filmore Dobbs	412 Fairhaven Drive	Taylors	SC	29687-2831	Monroe	'05-18-3'	WV-MO-012.130	Huntington
Leo McMann	PO Box 47	Quinwood	WV	25981-0047	Greenbrier	'11-22-13'	WV-GR-3568	Huntington
Leslie L. and Willa C. Hunter	13755 Wolf Creek Road	Alderson	WV	24910	Summers	'7-15-45'	WV-SU-055.01	Huntington
Leslie Randall and Fonda Fay Ratliff	632 Higgins Drive	Jeffersonville	IN	47130-5628	Nicholas	'5-40-20.1'	WV-NI-4053	Huntington
Lewis and Annabelle Clevenger	61 Strouds Creek Road	Camden-on-Gauley	WV	26208-7731	Webster	'4-3T-5'	WV-WB-095	Huntington
Lewis and Margaret A. Adams	204 West 6th Street	Weston	WV	26452-1653	Braxton	'7-13D-9'	WV-BR-002.08	Huntington
Liberi, LLC	PO Box 344	Mineral	VA	23117-0344	Summers	'3-19-18'	WV-SU-015	Huntington
Linda Parker	PO Box 280	Rainelle	WV	25962	Greenbrier	'11-74-9.1'	WV-GR-5959	Huntington
Linda and Bernard Lindsey	1 Riverview Place	Richmond	WV	26261-1252	Nicholas	'1-31-10'	WV-NI-039	Huntington

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Linda Joyce Faith	325 May Road	Follansbee	WV	26037-1600	Webster	'4-3S-16'	WV-WB-091	Huntington
Lisa Marie Schmidt	PO Box 247	Cedar Grove	WV	25039-0247	Nicholas	'1-13-73.1'	WV-NI-4027	Huntington
Lisa Marie Schmidt	PO Box 247	Cedar Grove	WV	25039-0247	Nicholas	'1-13-72.1'	WV-NI-5320	Huntington
Lisa Michelle Ramirez	2828 Pennsylvania Avenue	Halethorpe	MD	21227-3633	Greenbrier	'3-6-6.2'	WV-GR-067.002	Huntington
Lisa R. Pianta	27 Audubon Pond Road	Hilton Head Island	SC	29928-4153	Lewis	'02-4H-1'	WV-LE-075	Huntington
					Lewis	'02-4H-2'	WV-LE-076	Huntington
Lloyd M. and Cindy Kniceley	8718 Snapptown Road	Quincy	OH	43343-9516	Braxton	'5-14K-5'	WV-BR-046.09	Huntington
					Braxton	'5-14K-1'	WV-BR-046.10	Huntington
					Braxton	'5-14L-1'	WV-BR-046.15	Huntington
					Braxton	'5-14L-2'	WV-BR-046.14	Huntington
LMS Enterprises, Inc. Kenneth C. Lambert	150 Piedra Lane	Princeton	WV	24739-9548	Monroe	'05-5-16'	WV-MO-3504	Huntington
Loren M. Wimer	Gauley Turnpike Road	Ireland	WV	26376	Braxton	'7-13H-37'	WV-BR-3982	Huntington
Loretta S. Hudkins	8382 Airport Road	Sutton	WV	26601-6278	Braxton	'5-13K-13.2'	WV-BR-046.051	Huntington
Lowell P. and Sharon D. Bee	9844 Meathouse Fork Road	Salem	WV	26426-5554	Doddridge	'04-15-22'	WV-DO-020.01	Huntington
Lucien J. and Violet L. (Akers) Daigneault	1671 Morris Branch Road	Meadow Bridge	WV	25976-7063	Greenbrier	'3-13-26.1'	WV-GR-070	Huntington
Magnolia Land Partners, LLC, a Delaware limited liability corporation John Yarchoan	160 North Franklin Street, Suite 301	Chicago	IL		Wetzel	'04-29A-1X2'	WV-WE-6219	Huntington
					Wetzel	'04-29A-1X4'	WV-WE-6218	Huntington
Maida B. Ritterbeck	530 Narragansett Drive	Tallmadge	OH	44278-3013	Webster	'4-3R-31.2'	BW-WB-3	Huntington
Mamie Helen O'Dell Irrevocable Trust dated January 13, 2015 Charles Keith O'Dell	702 East Street	Summersville	WV	26651-1508	Nicholas	'5-20-35'	WV-NI-053	Huntington
Marcia J. James	4510 Lancaster Avenue	Charleston	WV	25304	Braxton	'7-13J-36'	WV-BR-046.01	Huntington
Margaret A. Tincher	168 Hunter Road	Rainelle	WV	25962-1322	Greenbrier	'11-68-30'	WV-GR-045	Huntington
					Greenbrier	'11-68-30.1'	WV-GR-5159	Huntington
					Greenbrier	'11-68-30.2'	WV-GR-046	Huntington
Marie A. Shrewsbury	PO Box 283	Talcott	WV	24981-0283	Monroe	'09-17-3'	WV-MO-012.015	Huntington
					Monroe	'09-17-12'	WV-MO-012.020	Huntington
Marjorie L. Maciunas Revocable Trust Marjorie L. Maciunas	2237 Old Leetown Pike	Kearneyville	WV	25430-5530	Nicholas	'5-27-5'	WV-NI-058	Huntington
Mark Grey Smith	1036 Ficklen Road	Fredericksburg	VA	22405-2102	Summers	'7-15A-5'	WV-SU-045	Huntington
Mark Miller	484 Bell Street	Webster Springs	WV	26288-1106	Webster	'6-6D-12'	WV-WB-001.15	Huntington
Markwest Liberty Midstream & Resources, LLC	4600 J. Barry Court, Suite 5600	Canonsburg	PA	15317-5854	Wetzel	'04-19-6'	WV-WE-002	Huntington
Martha Jannette Gelderman	HC 76 Box 70	Union	WV	24983-9716	Summers	'3-12-15'	WV-SU-001.02	Huntington
Martha S. Cochran	2110 Millstone Run Road	Napier	WV	26631-7108	Braxton	'7-12F-10'	WV-BR-5676	Huntington
Mary and William Harlow	217 South Street	Summersville	WV	26651-1023	Nicholas	'9-17-16'	WV-NI-074	Huntington
Mary Ann Milam and the Estate of Donald R Milam	180 Doc Miller Lane	Alderson	WV	24910-9746	Summers	'7-7-17'	WV-SU-029	Huntington
Mary Lynn Cavell (Callahan)	7075 Clubview Drive	Bridgeville	PA	15017-3600	Nicholas	'1-14-11'	WV-NI-001	Huntington
Mary Ruth and Jim Wayne	606 Dennison Run Road	Cowen	WV	26206-8539	Webster	'4-4Q-13'	WV-WB-050	Huntington
Mary V. Parker Trust Wilbur B. Parker	316 Senate Court	Herndon	VA	20170-5487	Monroe	'05-9-9'	WV-MO-012.070	Huntington
Matthew A and Jamie L Ford	325 Falls Lane	Rainelle	WV	25962-6207	Greenbrier	'11-61-40'	WV-GR-035.01	Huntington
					Greenbrier	'11-61-42.1'	BGR-18	Huntington
Matthew R. and Connie S. Halstead	27 Rose of Sharon Lane	Charleston	WV	25306-6588	Braxton	'5-13K-14.1'	WV-BR-3984	Huntington
Maury W. Johnson	3227 Ellison Ridge	Greenville	WV	24945-7023	Monroe	'05-19-8'	WV-MO-012.150	Huntington
					Monroe	'05-19-10'	WV-MO-012.160	Huntington
McKenzie & McKenzie LLC Thomas J. McKenzie	6230 North Camino Pimeria Alta	Tucson	AZ	85718-3609	Nicholas	'9-35-7'	WV-NI-096.01	Huntington
Meadow Creek Coal Corporation	263 White Oak Drive	Beckley	WV	25801-8133	Summers	'7-4-20.1'	WV-SU-4410	Huntington
Melinda Fox	308 Jasper Wood Road	Hurt	VA	24563-3727	Greenbrier	'11-30-5'	WV-GR-009	Huntington
Melody Lu Fulks Bennett	538 Court Avenue	Weston	WV	26452-2125	Lewis	'02-4J-11'	WV-LE-097	Huntington
Michael A Baker	PO Box 93	Smithfield	WV	264370093	Wetzel	'04-29A-1X6'	WV-WE-6217	Huntington
Michael A. and Anna Lee Determan	369 Copley Road	Weston	WV	26452-7175	Lewis	'02-4J-4'	WV-LE-3949	Huntington
Michael Hicks	216 Jones Circle	Thomasville	NC	27360-4524	Summers	'3-18-14'	WV-SU-007	Huntington
Michael J. and Doris L. Cegelski	446 Moon Clinton Road	Coraopolis	PA	15108-3824	Wetzel	'04-18-31'	WV-WE-3881	Huntington
Michael Ross	PO Box 219	Coalton	WV	26257-0219	Braxton	'7-13D-1'	WV-BR-154.001 (AR LE-84)	Huntington

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Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
Michael Vanpelt	750 Ritchie Farm Road	Summersville	WV	26651-4524	Nicholas	'1-24-6.8'	WV-NI-5681	Huntington
Michael W and Angie Lee Coen	RR 1 Box 48	Folsom	WV	26348-6048	Wetzel	'04-35-50'	WV-WE-6182	Huntington
					Wetzel	'04-40-76'	WV-WE-6180	Huntington
Michael W. and Angie Lee Coen	732 Sams Run Road	Folsom	WV	26348-6048	Wetzel	'04-35-25'	WV-WE-045.01	Huntington
					Wetzel	'04-35-43'	WV-WE-045.02	Huntington
					Wetzel	'04-35-42'	BWE-R3	Huntington
					Wetzel	'04-35-61'	BWE-R5	Huntington
Mike Ross, Inc.	c/o Mike Ross, PO Box 219	Coalton	WV	26257-0219	Lewis	'02-4M-16'	WV-LE-120.01	Huntington
Mildred Christine Kraft, f/k/a Mildred Christine (Butcher) Goldsmith	c/o Jerry Butcher, 2183 Brush Run Road	Weston	WV	26452-7144	Lewis	'02-4K-26.1'	WV-LE-105	Huntington
Monte G. and Elora McKenzie	3503 Wayside Talcott Road	Talcott	WV	24981-7030	Monroe	'09-17-21'	WV-MO-4440	Huntington
Mountain Creek Land Co., LLC	221 Mountain Lane	Shady Spring	WV	25918-8712	Monroe	'05-3-15'	WV-MO-012.030	Huntington
					Monroe	'09-17-17'	WV-MO-012.035	Huntington
					Monroe	'09-21-1.1'	WV-MO-012.045	Huntington
					Monroe	'05-5-11.2'	WV-MO-012.037	Huntington
Mountain Lair, LLC Robert Allen	2044 Wilson Mill Road	Lindside	WV	24951-4517	Monroe	'03-30-38'	WV-MO-012.360	Huntington
Mountain Valley Pipeline LLC, a Delaware limited liability company	2200 Energy Drive	Canonsburg	PA	15317	Wetzel	'04-19-32'	WV-WE-008	Huntington
					Wetzel	'04-24-47'	WV-WE-6357	Huntington
					Monroe	'03-31-7.1'	WV-MO-6355	Huntington
					Monroe	'03-31-13'	WV-MO-6239	Huntington
					Monroe	'03-31-14'	WV-MO-6238	Huntington
					Monroe	'03-31-15.2'	WV-MO-6356	Huntington
					Summers	'7-15A-13'	WV-SU-046	Huntington
					Summers	'7-15A-13.1'	WV-SU-046.01	Huntington
Mountain Valley Pipeline LLC	625 Liberty Avenue, Suite 1700	Pittsburgh	PA	15222	Wetzel	'04-19-23'	WV-WE-005.01	Huntington
					Wetzel	'04-19-23.2'	WV-WE-006	Huntington
					Wetzel	'04-19-23.1'	WV-WE-5740	Huntington
					Wetzel	'04-14-39'	WV-WE-001.01	Huntington
					Wetzel	'04-14-39.2'	WV-WE-4820	Huntington
					Wetzel	'04-14-39.4'	WV-WE-4821	Huntington
					Wetzel	'04-14-39.1'	WV-WE-5163	Huntington
					Wetzel	'04-19-35'	WV-WE-010	Huntington
					Wetzel	'04-19-31'	WV-WE-3443	Huntington
					Wetzel	'04-24-20'	WV-WE-016	Huntington
					Wetzel	'04-24-21'	WV-WE-017	Huntington
					Wetzel	'04-24-22'	WV-WE-018	Huntington
					Wetzel	'04-25-1'	WV-WE-4215	Huntington
					Wetzel	'04-24-14'	WV-WE-4272	Huntington
					Wetzel	'04-24-13'	WV-WE-4271	Huntington
					Wetzel	'04-24-12'	WV-WE-4270	Huntington
					Wetzel	'04-24-11'	WV-WE-5825	Huntington
					Wetzel	'04-24-46'	WV-WE-018.08	Huntington
					Braxton	'7-12F-14'	WV-BR-014.01	Huntington
					Braxton	'7-13H-21.1'	WV-BR-6236	Huntington
					Braxton	'7-13J-35.1'	WV-BR-046.02	Huntington
					Braxton	'7-13K-15.1'	WV-BR-046.03	Huntington
					Braxton	'7-14K-7'	WV-BR-0457.01	Huntington
					Greenbrier	'11-54-12'	WV-GR-025.001	Huntington
					Greenbrier	'11-54G-21'	WV-GR-6164	Huntington
					Fayette	'1-130-15'	WV-FA-001	Huntington
					Fayette	'1-130-14'	WV-FA-002	Huntington
					Fayette	'1-130-6.1'	WV-FA-5946	Huntington
					Greenbrier	'11-54-28.1'	WV-GR-032	Huntington
Mt. View Missionary Baptist Church	c/o Ruby Holiday, 13395 Midland Trail West	Crawley	WV	24931-7009	Greenbrier	'3-13-43'	WV-GR-4071	Huntington

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Mullooly Series M Trust	c/o Lisa J. Chambers, Trustee, 1 Woodvale Heights	Hurricane	WV	25526-8424	Lewis	'02-4K-34'	WV-LE-109	Huntington
Nancy L. Gibson	37846 Lorie Blvd	Avon	OH	44011-1152	Braxton	'7-13J-27'	WV-BR-046	Huntington
Nicholas County Building Commission, a statutory corporation	603 Holly Drive	Summersville	WV	26651-1015	Nicholas	'1-13-64'	WV-NI-013	Huntington
Nina Ruth Barnette	40 Charles Williston Drive	Ireland	WV	26376-9521	Braxton	'7-13G-22.1'	WV-BR-026.001	Huntington
Noble Ray and Carol A. Sims	232 Lost Run Road	Cowen	WV	26206	Webster	'4-4N-14'	WV-WB-3487	Huntington
Nora E Bennett	525 Deepwell Road	Nettie	WV	26681-4665	Nicholas	'5-27-6.7'	WV-NI-4048	Huntington
Norman Lenzy and Janet Leigh Fleshman	558 Joe Hege Road	Clemmons	NC	27012-7361	Greenbrier	'11-79-22'	WV-GR-058	Huntington
Norvel P. and Jean M. Mann	3330 Cooks Run Road	Lindside	WV	24951-7341	Monroe	'05-25-32'	WV-MO-012.190	Huntington
Norvell P. and Jean M. Mann	3330 Cooks Run Road	Lindside	WV	24951-7341	Monroe	'03-12-4.1'	WV-MO-012.195	Huntington
Oley H. and Wilma V. Curtis	4591 Three Lick Road	Roanoke	WV	26447-8319	Lewis	'02-4M-22.1'	WV-LE-1630	Huntington
Paco Land, Inc.	196 Middletown Road	Richwood	WV	26261-1028	Nicholas	'1-18-69'	WV-NI-014	Huntington
Pardee & Curtin Realty LLC, as Trustee of the Pardee & Curtin Inter Vivos Trust Under Trust Agreement Dated July 22, 2015. Steve Harp	702 Professional Park Drive, Suite 104	Summersville	WV	26651	Braxton	'5-13M-11'	WV-BR-046.18	Huntington
Pardee & Curtin Realty, LLC Dee Curtin	702 Professional Park Drive, Suite 104	Summersville	WV	26651	Braxton	'5-14L-3'	WV-BR-046.16	Huntington
					Webster	'6-5J-5'	WV-WB-4007	Huntington
					Webster	'6-5K-1'	WV-WB-4008	Huntington
					Webster	'6-5K-2'	WV-WB-4009	Huntington
					Nicholas	'9-18-1'	WV-NI-4054	Huntington
Patricia J. Williams	964 Casey Creek Lane	Greenville	WV	24945-7037	Monroe	'05-25-1.13'	WV-MO-5198	Huntington
Patrick H. Boland	6822 Silassie Court	Lorton	VA	22079-1360	Monroe	'05-18-10'	WV-MO-012.135	Huntington
Patrick Pete Heater	407 Bens Run Road	Orlando	WV	26412-3040	Lewis	'02-4M-10'	WV-LE-3958	Huntington
Paul B. and Susan B. Ciciora	323 Raven View Lane	Lewisburg	WV	24901	Monroe	'05-3-9'	WV-MO-012.025	Huntington
					Monroe	'05-3-11.1'	WV-MO-4441	Huntington
Paul Finster	5900 Homedale Street	Dayton	OH	45449-2922	Lewis	'02-4L-16'	WV-LE-5753	Huntington
Paul T. Callison	3554 Dawson Road	Meadow Bridge	WV	25976-7051	Greenbrier	'3-6-6'	WV-GR-067	Huntington
Paula and Jerome K. Janiga	10944 Frankfort	Pinckney	MI	48169-9328	Greenbrier	'11-74-30'	WV-GR-052	Huntington
Paulette A. Sears Family Trust Bill Sears	222 Navajo Street	Tavernier	FL	33070-2119	Monroe	'03-18-32'	WV-MO-012.250	Huntington
					Monroe	'03-18-4'	WV-MO-012.255	Huntington
Peter Ray O'Dell	568 Southest Maple Terrace	Port Saint Lucie	FL	34983-2655	Nicholas	'5-20-35.3'	WV-NI-055	Huntington
					Nicholas	'5-20-36'	WV-NI-0643	Huntington
					Nicholas	'5-20-35.4'	WV-NI-057	Huntington
Philip J. Harrah	78 Starling Lane	Sandstone	WV	25985-9419	Summers	'3-23-12.4'	WV-SU-4084	Huntington
Phillip J. Harrah	78 Starling Lane	Sandstone	WV	25985-9419	Summers	'3-23-12.3'	WV-SU-4081	Huntington
Phyllis Boone Wykle	61 Boom Hollow Road	Alderson	WV	24910-7166	Summers	'7-11-6'	WV-SU-038	Huntington
Polino Enterprises, Inc., a West Virginia corporation	PO Box 230	Elkins	WV	26241-0230	Braxton	'7-13H-32'	WV-BR-034	Huntington
					Webster	'6-5G-6'	WV-WB-001.32	Huntington
Quinwood Coal Company, LLC, a Texas limited liability company	1415 Louisiana Street, Suite 2400	Houston	TX	77002-7361	Nicholas	'5-15-28'	WV-NI-046	Huntington
					Nicholas	'5-20-48'	WV-NI-4044	Huntington
					Greenbrier	'11-30-19'	WV-GR-4061	Huntington
R.V. White	PO Box 69	Belva	WV	26556-0069	Webster	'6-6E-1.1'	WV-WB-001.20	Huntington
Rainelle Community Development Corporation Andrea Pendleton	PO Box 674	Rainelle	WV	25962-0674	Greenbrier	'11-54-15'	WV-GR-026	Huntington
					Greenbrier	'11-54G-1'	WV-GR-5893	Huntington
					Greenbrier	'11-54C-41'	WV-GR-5894	Huntington
Ralph E. Miller	247 White Fox Drive	Cowen	WV	26206	Webster	'4-4Q-12.1'	WV-WB-051	Huntington
Ralph T. Smoot	PO Box 125	Camden-On-Gauley	WV	26208-0125	Webster	'4-3S-15'	WV-WB-092	Huntington
					Webster	'4-3T-11'	WV-WB-093	Huntington
					Webster	'4-3T-5.1'	WV-WB-094	Huntington
					Webster	'4-3T-12'	WV-WB-3552	Huntington
					Webster	'4-3T-13'	WV-WB-094.01	Huntington
Randall B. Nichols	6753 North Ridge Road	Madison	OH	44057-2656	Wetzel	'04-35-18'	WV-WE-042	Huntington
					Wetzel	'04-35-19'	WV-WE-044	Huntington
Randall Lee Harris	172 Beaver Street	Daniels	WV	35832	Greenbrier	'3-13-24'	WV-GR-072	Huntington

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Randolph H. Simms	2058 Wahoo Road	Mount Nebo	WV	26679-8112	Nicholas	'9-17-15'	WV-NI-073	Huntington
Randy Forren	RR 1 Box 110E	Meadow Bridge	WV	25976	Greenbrier	'3-13-44'	WV-GR-4072	Huntington
Randy L. and Jessica L. Swiger	PO Box 44	Lumberport	WV	26385-0044	Lewis	'02-4J-17'	WV-LE-091	Huntington
Rannie G. and Dacie Mae McClung	3748 Snow Hill Road	Mount Nebo	WV	26679-8130	Nicholas	'9-35-10'	BW-NI-13	Huntington
					Nicholas	'9-35-10.1'	WV-NI-4057	Huntington
					Nicholas	'9-35-9'	WV-NI-096	Huntington
Ray William Wiseman	119 Beechwood Drive	Beaver	WV	25813-9063	Summers	'7-4-20.2'	WV-SU-019	Huntington
					Summers	'7-4-20.3'	WV-SU-020	Huntington
Rebecca K. Bragg	1007 War Ridge Road	Wayside	WV	24985-9301	Monroe	'05-5-27'	WV-MO-012.065	Huntington
Reclaim Company, LLC, a West Virginia limited liability company R. J. Wiliams	PO Box 2162	Fairmont	WV	26555-2162	Greenbrier	'11-21-11.3'	WV-GR-5960	Huntington
Reclaim Company, LLC, a West Virginia limited liability company R. J. Williams	PO Box 2162	Fairmont	WV	26555-2162	Greenbrier	'11-21-11.4'	WV-GR-5961	Huntington
Red Hawk Trust Robert C. and Vicki Pierson	PO Box 131	Walkersville	WV	26447-0131	Braxton	'7-13E-10'	WV-BR-008	Huntington
Reinhard and Ashofteh Assad- Bouman	282 Ashwood Drive	Meadow Bridge	WV	25976	Summers	'3-23-12.5'	WV-SU-5855	Huntington
					Summers	'3-23-12.2'	WV-SU-5336	Huntington
					Summers	'3-18-17'	WV-SU-4189	Huntington
					Summers	'3-18-16'	WV-SU-5853	Huntington
					Summers	'3-23-24'	WV-SU-5724	Huntington
Renford and Kathy Marie Smith	9 33 Ranch Road	Riverton	WY	82501-8828	Greenbrier	'11-68-29'	WV-GR-045.01	Huntington
Rex Coal Land Company	PO Box 564	Lewisburg	WV	24901-0564	Greenbrier	'11-39-7'	WV-GR-022	Huntington
Rex M. Patterson	PO Box 848	Lewisburg	WV	24901-0848	Summers	'3-18-10'	WV-SU-4075	Huntington
					Summers	'3-18-11'	WV-SU-4076	Huntington
Richard and Anne M. Berkley	133 Montclair Circle	Durham	NC	27713-2516	Summers	'7-4-20'	WV-SU-021	Huntington
Richard and Gayle Allen	PO Box 257	Lindside	WV	24951-0257	Monroe	'03-23-69'	WV-MO-012.315	Huntington
Richard and Twila Heffelfinger	2118 Presidential Drive	Charleston	WV	25314-2369	Lewis	'02-4J-6'	WV-LE-097.01	Huntington
Richard D. and Linda Nettles	623 West Main Street	Sutton	WV	26601-1027	Braxton	'7-13J-31'	WV-BR-042	Huntington
Richard Dean Ward	PO Box 301	Alcoa	TN	37701-0301	Summers	'7-4-19'	WV-SU-022	Huntington
Richard L. and Marie R. Debias	PO Box 43	Coalton	WV	26257-0043	Nicholas	'1-18-87'	WV-NI-025	Huntington
Richard M. and Mary G. Underwood	RR 1 Box 36-A	Smithfield	WV	26437	Wetzel	'04-19-38'	WV-WE-4216	Huntington
Richard M. and Sharon Clendenin	PO Box 263	Craigsville	WV	26205-0263	Nicholas	'1-18S-15'	WV-NI-5327	Huntington
Richard M. and Sharon S. Clendenin	PO Box 263	Craigsville	WV	26205-0263	Nicholas	'1-18S-11'	WV-NI-5325	Huntington
Richard Roby	1905 Edgeworth Avenue	Dayton	OH	45414-5503	Braxton	'5-14K-2'	WV-BR-046.13	Huntington
Rickey Dale and Teresa Lynn Hickman	1080 Meadowfork Road	Camden-on-Gauley	WV	26208-8741	Webster	'4-3R-31'	WV-WB-062.08	Huntington
Robert Allen and Patricia Gale White	157 Arrowhead Drive	Camden-On-Gauley	WV	26208-8732	Webster	'4-3S-26'	WV-WB-081	Huntington
					Webster	'4-3S-27'	WV-WB-082	Huntington
					Webster	'4-3S-28'	WV-WB-084	Huntington
					Webster	'4-3S-29'	WV-WB-085	Huntington
					Webster	'4-3S-30'	WV-WB-086	Huntington
					Webster	'4-3S-31'	WV-WB-6162	Huntington
					Webster	'4-3S-32'	WV-WB-6163	Huntington
					Webster	'4-3S-34'	WV-WB-087	Huntington
Robert and Mahala Lively	5422 Alpine Drive	Charleston	WV	25313-1665	Webster	'4-3S-21'	WV-WB-080	Huntington
Robert Berry	7660 Gem Road	Heaters	WV	26627-8174	Braxton	'7-13D-20'	WV-BR-002.02	Huntington
Robert C. and Arlene A. Pope	5872 US Highway 33 West	Camden	WV	26338-8224	Lewis	'03-4F-18'	WV-LE-051	Huntington
Robert Conrad	1159 Meadow Run Road	Orlando	WV	26412-3099	Lewis	'01-5P-34'	WV-LE-149	Huntington
Robert Enos Carpenter	380 Grande Pines Vista	Jackson Springs	NC	27281-9613	Webster	'4-4L-14'	WV-WB-019	Huntington
Robert G. and Janis M. Hayden Fleener	312 Oak Leaf Circle	Lake Mary	FL	32746-3059	Nicholas	'9-35-6.1'	WV-NI-084.04	Huntington
Robert G. Fleener	312 Oak Leaf Circle	Lake Mary	FL	32746-3059	Nicholas	'9-35-6'	WV-NI-084.03	Huntington
Robert Jackson Holt	1611 Smithbridge Road	Chadds Ford	PA	19317-9765	Summers	'3-23-16'	WV-SU-4079	Huntington
					Summers	'3-23-15'	WV-SU-5624	Huntington
					Summers	'3-23-12'	WV-SU-4083	Huntington

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Robert Joseph Blake	400 Cherry Run Road	Craigsville	WV	26205-9625	Nicholas	'1-14-115'	WV-NI-6244	Huntington
					Nicholas	'1-14-113'	WV-NI-5323	Huntington
Robert L. and Linda A. Lance	PO Box 280	Rainelle	WV	25962-0280	Greenbrier	'11-74-10'	WV-GR-4062	Huntington
					Greenbrier	'11-74-49'	WV-GR-4065	Huntington
					Greenbrier	'11-74-9'	WV-GR-4063	Huntington
					Greenbrier	'11-74-13'	WV-GR-4067	Huntington
Robert M. Jarrell	482 West Clayton Road	Alderson	WV	24910-7295	Summers	'7-11-15'	WV-SU-041	Huntington
Rodger L. and Marjorie Boothe	337 Cooks Run Road	Lindside	WV	24951-9415	Monroe	'03-18-3'	WV-MO-5215	Huntington
Roger A. and Betty J. Flanagan	467 Ritchie Farm Road	Summersville	WV	26651-4529	Nicholas	'1-24-101'	WV-NI-029	Huntington
					Nicholas	'1-24-12'	WV-NI-030	Huntington
Roger Allen Stricker	895 Fudges Branch Road	Elkview	WV	25071-7070	Lewis	'02-4J-39.5'	WV-LE-097.04	Huntington
Roger D. and Martha J. Hall	6231 Elk River Road	Webster Springs	WV	26288-8400	Webster	'6-5J-3'	WV-WB-4006	Huntington
Roger D. and Rebecca H. Crabtree	2050 Wilson Mill Road	Lindside	WV	24951-4517	Monroe	'03-30-18.8'	WV-MO-5202	Huntington
Roger Fitzwater	77 Woodcrest Drive	Ephrata	PA	17522-9393	Greenbrier	'3-13-48'	WV-GR-073	Huntington
Roger K. and Shirley K. Hinerman	71 Northgate Drive	New Martinsville	WV	26155	Wetzel	'04-19-5'	WV-WE-003	Huntington
Roger L. and Ellouise Cutlip	3993 Guardian Drive	Diana	WV	26217-8779	Webster	'6-6E-9'	WV-WB-001.18	Huntington
Roger Lee Williams	197 Rag Run Road	Roanoke	WV	26447	Lewis	'01-4P-26'	WV-LE-5206	Huntington
Roger Michael Ware	c/o Vera J. Marple Dick, 4263 Pleasant Hill Road	Ireland	WV	26376-8107	Braxton	'7-13G-10'	WV-BR-028	Huntington
Ronald and Elisabeth Tobey	2544 Springdgdale Road	Meadow Bridge	WV	25976-6952	Greenbrier	'11-84-10'	WV-GR-065	Huntington
Ronald J. and Dee Krafft	4633 Arrowhead Drive	Apex	NC	27539-9384	Braxton	'5-14K-3'	WV-BR-046.11	Huntington
Ronald Keith Shoemaker	69644 Crestview Lane	St. Clairsville	OH	43950-8335	Greenbrier	'3-13-8_9_10'	WV-GR-068	Huntington
Rondal R. Roby	6811 Winthrop Court	Fredericksburg	VA	22407-2568	Braxton	'5-13K-17'	WV-BR-046.12	Huntington
Ronnie G. Myers and Sally J. Myers, (aka Sarah J. Myers), Living Trust Ronnie G. and Sarah J. Myers, (aka Sally J. Myers), Myers	948 West Steels Corners Road	Cuyahoga Falls	OH	44223-3110	Lewis	'02-4K-22'	WV-LE-107	Huntington
					Lewis	'02-4K-21'	WV-LE-110	Huntington
Ronnie R. Roby	164 Bailey Drive	Louisa	VA	23093-5407	Braxton	'7-14K-1'	WV-BR-046.05	Huntington
					Braxton	'7-13K-16.1'	WV-BR-3983	Huntington
					Braxton	'5-13K-13.3'	WV-BR-5741	Huntington
					Braxton	'5-13K-13.1'	WV-BR-5742	Huntington
					Braxton	'7-13K-16.3'	WV-BR-046.06	Huntington
Roy D. and Linda May Young	705 Ritchie Farm Road	Summersville	WV	26651-4525	Nicholas	'1-24-8.1'	WV-NI-5816	Huntington
Roy E. and Debra D. Morgan	77 Monas Way	Salem	WV	26426-5587	Doddridge	'04-11-21'	WV-DO-009	Huntington
					Doddridge	'04-11-20'	WV-DO-010	Huntington
					Doddridge	'04-11-19.1'	WV-DO-3934	Huntington
					Doddridge	'04-11-26.2'	WV-DO-012	Huntington
					Doddridge	'04-11-26'	WV-DO-011	Huntington
Roy Franklin Woods	50 Woodside Drive	Cowen	WV	26206-8728	Webster	'4-4Q-9'	WV-WB-053.01	Huntington
Roy L. and Debra K. Keaton	68 Keaton Farm Road	Cowen	WV	26206-2608	Webster	'4-4P-15'	WV-WB-4011 (AR WB-130)	Huntington
Roy P. and Joyce A. Reese	1606 Adair Ridge Road	Ballard	WV	24918-5005	Monroe	'03-30-20'	WV-MO-012.320	Huntington
Ruby Gore Johnson	49 Fairview Drive	Peterstown	WV	24963	Monroe	'03-12-17'	WV-MO-4432	Huntington
Russell James and Nancy Kay Rockhold	279 Amy Lane	Calvin	WV	26660-4043	Webster	'6-6E-7'	WV-WB-2416	Huntington
					Webster	'6-6E-2.1'	WV-WB-5734	Huntington
Russell L. and April D. Bradford	PO Box 487	Craigsville	WV	26205-0487	Nicholas	'1-18S-9'	WV-NI-5324	Huntington
Rutilo Soto Penaloza	126 Beaumont Avenue	Kannapolis	NC	28083-6501	Greenbrier	'11-54C-45'	WV-GR-5923	Huntington
S.W. Vance Trust Suzanne W. Vance	1190 Buck Mountain Ford Lane	Earlysville	VA	22936	Lewis	'01-4N-29'	WV-LE-133	Huntington
Sallie Murphy	PO Box 106	Flatwoods	WV	26621-0106	Braxton	'7-13J-16'	WV-BR-5214	Huntington
Salvador Olvera and Ranell Valdez	PO Box 203	Rainelle	WV	25962-0203	Greenbrier	'11-54-28'	WV-GR-030	Huntington
					Greenbrier	'11-54-28.3'	WV-GR-031.01	Huntington
Sammy H. Donaldson	PO Box 171	Upperglade	WV	26260-0171	Nicholas	'1-14-13'	WV-NI-003	Huntington
Samuel Gregory Thomas	713 North Newport Avenue , Unit-B	Tampa	FL	33606-1350	Monroe	'05-14-22.2'	WV-MO-012.105	Huntington

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Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
Samuel M. Jasper	474 Stonehenge Road	Fayetteville	WV	25840-6672	Greenbrier	'11-61-47'	WV-GR-039	Huntington
					Greenbrier	'11-68-11'	WV-GR-040	Huntington
					Greenbrier	'11-68-12'	WV-GR-041	Huntington
					Greenbrier	'11-68-31'	WV-GR-043	Huntington
Sandra Claypoole	859 McChord Run Road	Walkersville	WV	26447-8526	Braxton	'7-13G-14'	WV-BR-014.03	Huntington
Scott and Kelly Morrison	4781 Guardian Drive	Diana	WV	26217-8801	Webster	'6-5E-5'	WV-WB-5174	Huntington
Scott B. and Tracy C. Mason	PO Box 27	Lindside	WV	24951-0027	Monroe	'05-25-28.6'	WV-MO-012.183	Huntington
Scott B. and Tracy C. Mason	PO Box 27	Lindside	WV	24951-0027	Monroe	'05-25-28.4'	WV-MO-012.180	Huntington
Scott L. and Cathy Keith Temple	993 Chime Bell Church Road	Aiken	SC	29803-9369	Lewis	'01-5P-42'	WV-LE-150	Huntington
Scott S. Osborne	377 Dark Hollow Lane	Rainelle	WV	25962-7021	Greenbrier	'11-68-10.2'	WV-GR-6240	Huntington
Scronce, Inc., a West Virginia corporation	PO Box 244	Frankford	WV	24938	Summers	'7-7-29'	WV-SU-030	Huntington
Shania Nicole Spears	53 Windtree Lane	Winter Garden	FL	34787-4301	Webster	'6-6E-9.1'	WV-WB-001.19	Huntington
Sharon A. Stewart	216 Boom Hollow Rd	Alderson	WV	24910-9729	Summers	'7-11-5.1'	WV-SU-036	Huntington
Sharon Clendenin	215 Cherry Run Road	Craigsville	WV	26205-9622	Nicholas	'1-18S-13'	WV-NI-5328	Huntington
Sharon S. Clendenin	181 Cherry Run Road	Craigsville	WV	26205-9606	Nicholas	'1-18S-13.1'	WV-NI-5329	Huntington
Shelia Ann Trollinger	5021 Laburch Lane	Annandale	VA	22003-6049	Nicholas	'5-14-34'	WV-NI-049	Huntington
Sherman and Mary Gamble	PO Box 268	Kistler	WV	25628-0268	Lewis	'01-5P-5'	WV-LE-3967	Huntington
Sherry Darlene Bennett	2809 Big Isaac Road	Salem	WV	26426-5615	Doddridge	'04-11-20.2'	WV-DO-008	Huntington
Shirley Berry Oravec	PO Box 15	Reynoldsburg	OH	43068-0015	Braxton	'7-13G-11'	WV-BR-024	Huntington
Shirley R and Ricky L Carpenter	97 Rocky Hollow Road	Webster Springs	WV	26288-8353	Braxton	'7-13G-15.1'	WV-BR-014.04	Huntington
Simeon M. Layfield	PO Box 364	Buckhannon	WV	26201-0364	Lewis	'02-4G-10'	WV-LE-066	Huntington
					Lewis	'02-4G-6'	WV-LE-069	Huntington
					Lewis	'02-4G-3'	WV-LE-071	Huntington
Southern Country Farms, Inc.	PO Box 40	Sinks Grove	WV	24976-0040	Wetzel	'04-29A-1'	WV-WE-027	Huntington
Sparvin Energy, LLC	PO Box 6	Webster Springs	WV	26288-0006	Nicholas	'5-15-27'	WV-NI-4041	Huntington
Sperry Hardwoods, Inc.	PO Box 289	Salem	WV	26426-0289	Braxton	'7-12F-9.2'	WV-BR-009	Huntington
					Braxton	'7-12F-9'	WV-BR-5630	Huntington
					Braxton	'7-13F-1'	WV-BR-013	Huntington
Stacy L and Carrie A Eisenman	280 Double E Drive	Meadow Bridge	WV	25976	Greenbrier	'3-6-6.5'	WV-GR-067.004	Huntington
Stacy L and Carrie A Eisenman	280 Double E Drive	Meadow Bridge	WV	25976	Greenbrier	'3-6-6.3'	WV-GR-067.003	Huntington
Stacy Rockford and Theresa Dawn Bates	293 Sams Run Road	Folsom	WV	26348-6036	Wetzel	'04-40-16'	WV-WE-6178	Huntington
Stanley and Cheri Morris	828 Foxfield Farms Road	Summersville	WV	26651-1876	Nicholas	'9-24-47'	WV-NI-083	Huntington
Stanley C. and Michelle L. Mathis	RR 2 Box 107A	Grassy Meadows	WV	24943-9524	Summers	'3-7-14'	WV-GR-074.001	Huntington
Stanley Ricottilli	6555 Seneca Trail	Mill Creek	WV	26280-5030	Lewis	'02-4G-2'	WV-LE-072	Huntington
Stephen C. and Lorrie P. Broyles	549 Cooks Run Road	Lindside	WV	24951-9481	Monroe	'05-31-25.3'	WV-MO-012.235	Huntington
Stephen Dale and Karen Showalter	9539 Hawbottom Road	Frederick	MD	21702-1561	Wetzel	'04-24-31'	WV-WE-018.01	Huntington
					Wetzel	'04-24-45'	WV-WE-018.06	Huntington
					Wetzel	'04-24-44'	BW-WE-3	Huntington
Stephen E. and Rhonda Henline	PO Box 534	Cowen	WV	26206-0534	Webster	'4-4N-23'	WV-WB-029.01	Huntington
Stephen Graham	68 Fern Drive	Weston	WV	26452-7717	Lewis	'02-4M-23'	WV-LE-127	Huntington
Stephen M. Miller	88 Monroe Avenue	Peterstown	WV	24963-6720	Monroe	'03-18-8'	WV-MO-012.265	Huntington
					Monroe	'03-18-9'	WV-MO-012.270	Huntington
Stephen Medina	235 Medina Drive	Mt. Clare	WV	26408-6964	Webster	'4-4M-36'	WV-WB-028.01	Huntington
Stephen T. and Jean Gatto	1341 Meadow Fork Road	Camden-on-Gauley	WV	26208	Webster	'4-3R-33'	WV-WB-075	Huntington
					Webster	'4-3S-52'	WV-WB-076	Huntington
Stephonie Chapman	142 Hurd Road	Nettie	WV	26681-4032	Nicholas	'5-20-42'	WV-NI-057.01	Huntington
Steve and Patsy Bond	438 Carpenter Road	Craigsville	WV	26205-8754	Nicholas	'5-34-37.10'	WV-NI-069.01	Huntington
Steven A Murphy	6292 Snow Hill Road	Mount Nebo	WV	26679	Nicholas	'9-30-29'	WV-NI-089	Huntington
Steven S. Pumphrey	4619 Three Lick Rd	Roanoke	VA	26447-8313	Lewis	'02-4M-24'	WV-LE-3959	Huntington
Stonewall Gas Gathering, LLC	c/o Mike Pitzer, 1100 Frederick Lane	Morgantown	WV	26508-9441	Braxton	'7-13D-14.1'	WV-BR-002.01	Huntington
Stuart and Cary S. Dameron	2017 Farmdale Road	Rainelle	WV	25962-9789	Greenbrier	'11-62-1'	WV-GR-034	Huntington
Stuart Wayne and Carrie S. Brown	1729 O'Dell Town Road	Nettie	WV	26681-4106	Nicholas	'5-34-39'	WV-NI-068.04	Huntington
Sun Lumber Company	22 Main Avenue	Weston	WV	26452-1943	Webster	'6-6D-8'	WV-WB-001.17	Huntington
					Webster	'6-6E-4'	WV-WB-001.26	Huntington
					Webster	'6-6E-6'	WV-WB-5396	Huntington

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Susan D. Thompson	883 McClung Branch Road	Summersville	WV	26651-9409	Webster	'4-3T-4'	WV-WB-096	Huntington
Susan Jarvis	18 Birch River Road	Cowen	WV	26206-8560	Webster	'4-3R-41'	WV-WB-059.02	Huntington
Sylvia J. Brooks	540 Cherry Run Road	Craigsville	WV	26205-9627	Nicholas	'1-13-76'	WV-NI-4026	Huntington
T. Michael and Julie A. Hewitt	3 Riverview Place	Richwood	WV	26261-1252	Nicholas	'1-30-8'	WV-NI-043	Huntington
T.C. Lands, Inc.	PO Box 545	Summersville	WV	26651-0545	Nicholas	'9-24-53'	WV-NI-086	Huntington
Tall Trees & Land, LLC	PO Box 39	Slatyfork	WV	26291	Webster	'6-5F-6'	WV-WB-001.30	Huntington
Tamara L. White Delong	5345 Germaine CT	Colorado Springs	CO	80919-7935	Nicholas	'5-34-4'	WV-NI-066	Huntington
Tammy A. Capaldo	PO Box 58	Alderson	WV	24910-0058	Summers	'7-15-125'	WV-SU-048	Huntington
Ted L. and Shirley M. Meadows	1183 Alderson Church Road	Summersville	WV	26651-4534	Nicholas	'1-18-61'	WV-NI-023	Huntington
					Nicholas	'1-18-61.1'	WV-NI-024	Huntington
Teresa A. Lucas	113 Bruce Road	Mount Nebo	WV	26679-8036	Nicholas	'9-35-11'	WV-NI-6124	Huntington
The Estate of Edith Naomi Stewart	c/o Jeffery L. Stewart, 449 Boom Hollow Road	Alderson	WV	24910	Summers	'7-11-5'	WV-SU-035	Huntington
The Estate of Edward W. Breit	c/o Norma Breit, PO Box 28	Smoot	WV	24977-0028	Greenbrier	'11-84-1'	WV-GR-064	Huntington
The Estate of Wanda P. Longacre, a.k.a. Wanda Jane Longacre, a.k.a. Wanda J. Longacre Tonia L. Chismar	1110 Northwood Lane	Castle Rock	CO	80108-9181	Webster	'4-4P-2'	WV-WB-042	Huntington
The Jorge N. Fernandez Trust	c/o Mark V Kuntz, PO Box 4549	Bridgeport	WV	26330-4549	Wetzel	'04-19-15'	WV-WE-0006	Huntington
The Judy Real Estate Trust Edward L. and Joette L. Judy	73 Keeney Fire Tower Road	Alderson	WV	24910-7136	Summers	'7-7-23'	WV-SU-024	Huntington
The Lacy H. Toney Farm Trust	c/o Lacy Comer, PO Box 895	Peterstown	WV	24963-0895	Monroe	'03-30-18'	WV-MO-012.345	Huntington
The Marian D. Mittler and William V. Mittler Family Trust	728 Flagstone Circle	Brunswick	OH	44212-5505	Wetzel	'04-24-10'	WV-WE-015	Huntington
The Mark Czaja 2015 Revocable Trust	826 Crest View Drive	Greenville	WV	24945-7008	Monroe	'05-13-9'	WV-MO-012.090	Huntington
The Paugh Family Trust II	224 Hurd Road	Nettie	WV	26681-4030	Nicholas	'5-27-175'	WV-NI-062	Huntington
The Sun Lumber Company	22 Main Avenue	Weston	WV	26452-1943	Webster	'6-6D-6'	WV-WB-001.12	Huntington
					Webster	'6-6D-7'	WV-WB-3989	Huntington
					Braxton	'7-14J-12'	WV-BR-046.04	Huntington
					Webster	'6-6F-10'	WV-WB-3995	Huntington
					Braxton	'7-13K-15'	WV-BR-046.03.001	Huntington
The William S. Broyles Revocable Trust & The Virginia B. Broyles Revocable Trust Cynthia A. Broyles Morris	PO Box 137	Lindside	WV	24951-0137	Monroe	'03-24-39'	WV-MO-012.310	Huntington
Theadore Calvin O'Dell	12592 Foremost Court	Nokesville	VA	20181-2739	Nicholas	'9-36-16.1'	WV-NI-103.01	Huntington
				20181-2739	Nicholas	'9-36-15'	WV-NI-103.02	Huntington
Thomas and Linda Harvey	1872 Lowell Road	Pence Springs	WV	24962-9411	Summers	'7-19-43'	WV-SU-6147	Huntington
Thomas B. and Hannah G. Mann	2115 Coles Knob Road Northeast	Lindside	WV	24951-3175	Monroe	'05-25-31'	WV-MO-3576	Huntington
Thomas David O'Dell	2517 Julian Street, Apartment 3	Houston	TX	77009-7455	Nicholas	'9-24-44'	WV-NI-081	Huntington
Thomas E. and Nancy K. Richmond	PO Box 761	Lewisburg	WV	24901-0761	Summers	'7-11-4'	WV-SU-034	Huntington
Thomas E. Toney	48 Sun View Drive	Peterstown	WV	24963-5015	Monroe	'03-12-6'	WV-MO-4431	Huntington
Thomas F. Booth	72 Pine Grove Road	Lindside	WV	24951-7012	Monroe	'03-30-18.6'	MVP-ATWS-658	Huntington
Thomas M. and Linda L. Kelley	PO Box 9	Lindside	WV	24951-0009	Monroe	'03-23-72'	WV-MO-6122	Huntington
Thomas Max and Shirley M. Walker	1894 Leivasy Road	Nettie	WV	26681-4048	Nicholas	'5-27-102'	WV-NI-4045	Huntington
					Nicholas	'5-27-101'	WV-NI-4046	Huntington
Thornton Orndorff, Barbara Bittner, Life Estate Tenant	292 Sewell Creek Road	Rainelle	WV	25962-6826	Nicholas	'9-17-17'	WV-NI-075	Huntington
Thurman and Glenna Christian	PO Box 898	Cowen	WV	26206-0898	Webster	'4-4PA-9'	WV-WB-4013 (AR WB-130)	Huntington
Timothy A. and Marion F. McClung	3721 Snow Hill Road	Mount Nebo	WV	26679-8129	Nicholas	'9-35-14'	WV-NI-6123	Huntington
Timothy S. and Shannon L. Brammer	1607 Teagarden Fork Road	Metz	WV	26585-6436	Wetzel	'04-19-31.1'	WV-WE-3882	Huntington
					Wetzel	'04-19-26'	WV-WE-009	Huntington
					Wetzel	'04-19-40'	WV-WE-5680	Huntington
Timothy W Eagle	PO Box 475	Weston	WV	26452-0475	Lewis	'02-4K-18'	WV-LE-101	Huntington
Timothy W. Clendenin	PO Box 1675	Craigsville	WV	26205-1675	Nicholas	'1-31-4'	WV-NI-040	Huntington
Todd Edward Smith	2055 Scenic Drive NE	Lancaster	OH	43130	Wetzel	'04-14-39.3'	WV-WE-3877	Huntington
Tommy A. Neal	PO Box 181	Rupert	WV	25984-0181	Greenbrier	'11-22-12'	WV-GR-007.03	Huntington
Tommy Steele	PO Box 796	Oceana	WV	24870-0796	Lewis	'02-4L-32'	WV-LE-116	Huntington
					Lewis	'02-4M-19'	WV-LE-118	Huntington
Travis Frost Goodnight	4743 Willesden Road	North Chesterfield	VA	23234-3827	Monroe	'05-14-22.4'	WV-MO-012.110	Huntington

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Tribune Resources Minerals, LLC, an Oklahoma limited liability company fka Ascent Resources Marcellus Minerals, LLC	c/o Dan Garwood, PO Box 13678	Oklahoma City	OK	73113-1678	Wetzel	'04-29A-1.1'	WV-WE-4329	Huntington
Tribune Resources Minerals, LLC, an Oklahoma limited liability company fka Ascent Resources Marcellus Minerals, LLC, an Oklahoma limited liability company	c/o Dan Garwood, PO Box 13678	Oklahoma City	OK	73113-1678	Wetzel	'04-29-34'	WV-WE-4328	Huntington
Troy A. and Maryline George	4458 Leivasy Road	Leivasy	WV	26676-4011	Nicholas	'5-40-16'	WV-NI-4050	Huntington
Trust Fund B under the Last Will & Testament of Woodrow Trent Ottaway Trent	PO Box 369	Laeger	WV	24844-0369	Webster	'4-4N-28'	WV-WB-038	Huntington
					Webster	'4-4N-32'	WV-WB-040.01	Huntington
Tunis W. McElwain	2808 Schooley Drive	Alexandria	VA	22306-1638	Webster	'4-4M-44.8'	WV-WB-023.01	Huntington
					Webster	'4-4M-44.7'	WV-WB-024	Huntington
					Webster	'4-4M-44.6'	WV-WB-025	Huntington
					Webster	'4-4M-44.5'	WV-WB-025.01	Huntington
					Webster	'4-4M-44.10'	WV-WB-5675	Huntington
					Webster	'4-4M-44.2'	WV-WB-5648	Huntington
Twila Kay and Gary Wilfong	417 Falls Lane	Rainelle	WV	25962-9750	Greenbrier	'11-61-44'	WV-GR-035	Huntington
					Greenbrier	'11-61-45'	WV-GR-036	Huntington
United States (Sutton Dam Recreation Area)	c/o Corp of Engineers, Burnsville Lake, 2550 South Main Street	Burnsville	WV	26335	Braxton	'5-12N-1'	WV-BR-064	Huntington
United States of America	c/o Corp of Engineers, Burnsville Lake, 2550 South Main Street	Burnsville	WV	26335	Braxton	'7-13D-11USA1'	WV-BR-6126	Huntington
United States of America	110 Southpark Drive	Blacksburg	VA	24060	Giles	'16-3B'	VA-GI-001	Huntington
					Giles	'JEFFERSON NATIONAL FOREST 968'	VA-GI-002.02	Huntington
USA - Jefferson National Forest	210 Franklin Road	SW Roanoke	VA	24001-2209	Monroe	'03-35-7.1'	WV-MO-074	Huntington
					Monroe	'03-35-12'	WV-MO-5950	Huntington
Vera Midkiff	6986 Crag Road	Meadow Bridge	WV	25976-8819	Greenbrier	'11-84-5'	WV-GR-062.01	Huntington
Vergie Roberts	117 Alleghany Baptist Church Road	Lindside	WV	24951-7143	Monroe	'05-25-28'	WV-MO-6192	Huntington
Vernon Howard Burdine	1954 Sun Valley Road	Clarksburg	WV	26301-7245	Wetzel	'04-25-13'	WV-WE-4214	Huntington
Virginia Carol Jarvis	HC 35 Box 8	Napier	WV	26631-9701	Braxton	'7-13H-26.3'	WV-BR-033	Huntington
Virginia D. McClung	453 Power Plant Road	Summersville	WV	26651-2031	Nicholas	'1-24-7'	WV-NI-4032	Huntington
W. Elton Dolan	50 Emmondale Drive	Huntington	WV	25705	Greenbrier	'11-54G-5'	WV-GR-027.02	Huntington
W. Elton Dolan	1416 Main Street	Rainelle	WV	25962-0000	Greenbrier	'11-54G-22'	WV-GR-029.001	Huntington
Waco Oil & Gas Co., Inc.	PO Box 397	Glenville	WV	26351-0397	Nicholas	'9-30-39'	WV-NI-094	Huntington
Walter H. and Deborah Sebert	197 Wahoo Road	Mount Nebo	WV	26679-8073	Nicholas	'9-24-54'	WV-NI-087	Huntington
Walter Joseph Seabolt	1074 East Webster Road	Summersville	WV	26651-4594	Nicholas	'1-18-60.3'	BNI-7	Huntington
					Nicholas	'1-18-60.6'	WV-NI-023.01	Huntington
Warren and Judy Bee	3076 Big Isaac Road	Salem	WV	26426-5522	Doddridge	'04-11-30'	MVP-ATWS-776	Huntington
					Doddridge	'04-11-25'	WV-DO-010.001	Huntington
Wayne Gregoire	150 Roma Lane	Elkins	WV	26241	Webster	'4-3S-23'	WV-WB-077	Huntington
Webster County Lumber Co., Inc. Robert and G. B. Nalley Dodson	1207 Pelham Road	Greenville	SC	29615-3643	Webster	'4-5J-1'	WV-WB-001.36	Huntington
					Webster	'4-4J-5'	WV-WB-001.37	Huntington
					Webster	'4-5J-2'	WV-WB-001.38	Huntington
					Webster	'4-4J-8.2'	WV-WB-001.38.1	Huntington
					Webster	'4-5K-1'	WV-WB-001.39	Huntington
					Webster	'4-5L-1'	WV-WB-018	Huntington
					Webster	'4-4L-15'	WV-WB-020	Huntington
					Webster	'4-4L-16'	WV-WB-021	Huntington
					Webster	'4-4N-26'	WV-WB-034	Huntington
Western Pocahontas Properties Limited Partnership Doug Toothman	5260 Irwin Road	Huntington	WV	25705	Nicholas	'5-26-2'	WV-NI-061.001	Huntington
Western Pocahontas Properties Limited Partnership, a Texas limited partnership	5620 Irwin Road	Huntington	WV	25705-3247	Braxton	'5-12P-64'	WV-BR-069	Huntington

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Weyerhaeuser Company, A Washington corporation	220 Occidental Avenue South	Seattle	WA	98104-3120	Nicholas	'5-35-18.1'	WV-NI-048	Huntington
					Nicholas	'5-26-10'	WV-NI-061	Huntington
					Nicholas	'5-13-5'	WV-NI-4221	Huntington
					Nicholas	'5-27-156'	WV-NI-063	Huntington
					Nicholas	'5-40-21'	WV-NI-070	Huntington
					Nicholas	'9-24-37'	WV-NI-071	Huntington
					Nicholas	'9-18-6'	WV-NI-076	Huntington
					Nicholas	'9-30-45'	WV-NI-084	Huntington
					Nicholas	'9-35-8'	WV-NI-098	Huntington
					Nicholas	'9-36-18'	WV-NI-103	Huntington
					Nicholas	'9-35-44'	WV-NI-104	Huntington
					Nicholas	'9-40-14'	WV-NI-105	Huntington
					Nicholas	'9-40-18'	WV-NI-106	Huntington
					Nicholas	'9-39-10'	WV-NI-108	Huntington
					Greenbrier	'11-21-1'	WV-GR-001	Huntington
					Greenbrier	'11-22-29'	WV-GR-003	Huntington
					Greenbrier	'11-22-93'	WV-GR-002	Huntington
					Greenbrier	'11-22-70'	WV-GR-005	Huntington
					Greenbrier	'11-21-11'	WV-GR-006	Huntington
					Greenbrier	'11-30-7'	WV-GR-010	Huntington
					Greenbrier	'11-30-9'	WV-GR-011	Huntington
					Greenbrier	'11-39-4.1'	WV-GR-012	Huntington
					Greenbrier	'11-31-48'	WV-GR-5776	Huntington
					Greenbrier	'11-39-5'	WV-GR-013	Huntington
					Greenbrier	'11-39-4'	WV-GR-015	Huntington
					Greenbrier	'11-47-1'	WV-GR-023	Huntington
					Greenbrier	'11-54-22'	WV-GR-028	Huntington
					Greenbrier	'11-54-29'	WV-GR-031	Huntington
					Greenbrier	'11-62-2'	WV-GR-033	Huntington
					Greenbrier	'11-61-48'	WV-GR-037	Huntington
					Greenbrier	'11-68-7'	MVP-ATWS-282A	Huntington
White Pine, Inc.	PO Box 748	Lewisburg	WV	24091-0748	Nicholas	'9-30-36'	WV-NI-084.001	Huntington
Wilbur Wayne and Tammy S. Beckett	370 Riverside Drive	Camden On Gauley	WV	26208-9710	Webster	'4-3S-18'	WV-WB-083.01	Huntington
					Webster	'4-3S-10'	WV-WB-6153	Huntington
					Webster	'4-3S-11'	WV-WB-6154	Huntington
					Webster	'4-3S-12'	WV-WB-6155	Huntington
					Webster	'4-3S-17'	WV-WB-089	Huntington
Wilda Lee Haldeman	PO Box 403	Craigsville	WV	26205-0403	Nicholas	'1-18-88'	WV-NI-025.01	Huntington
Willard Allan Groves	1797 Little Beaver Road	Calvin	WV	26660-4007	Nicholas	'1-18-87.1'	WV-NI-026	Huntington
William B. and Polly Ann Chamberlain	222 Forrest Drive	Elkview	WV	25071-9457	Greenbrier	'11-74-4'	WV-GR-047	Huntington
William D. Armstrong	361 Gregory Road	Falls Mill	WV	26631-8005	Braxton	'7-13H-25.1'	WV-BR-3979	Huntington
William E. and Arvada L. Woods	670 Birch River Road	Cowen	WV	26206-8790	Webster	'4-4R-30'	WV-WB-053.02	Huntington
William E. Butcher	772 Crooked Fork Road	Weston	WV	26452	Lewis	'02-4K-33'	BW-LE-7	Huntington
William G. Lloyd	4350 Sutton Lane	Sutton	WV	26601-6213	Braxton	'7-12F-11'	WV-BR-009.01	Huntington
William J. and Cynthia H. Laws	PO Box 192	Lindside	WV	24951-0192	Monroe	'03-24-11.2'	WV-MO-012.290	Huntington
William L. and Martha Sue Gum	3558 Churchville Road	Camden	WV	26338-8171	Lewis	'03-4C-7'	WV-LE-036	Huntington
					Lewis	'03-4D-40.1'	WV-LE-039.01	Huntington
					Lewis	'03-4D-40.2'	WV-LE-040	Huntington
					Lewis	'03-4D-40.3'	WV-LE-041	Huntington
					Lewis	'03-4D-41.2'	WV-LE-042	Huntington
					Lewis	'03-4D-41'	WV-LE-3947	Huntington
William M. Dillon	290 Thad Childers Road	Taylorsville	NC	28681-7494	Webster	'4-3R-39'	WV-WB-062.01	Huntington
William Paul Fowler	2679 Sissonville Drive	Charleston	WV	25312-9761	Lewis	'01-5N-4'	WV-LE-4229	Huntington
					Lewis	'01-5N-3'	WV-LE-4230	Huntington
William Paul Fowler	2679 Sissonville Drive	Charleston	WV	25312-9761	Lewis	'01-5N-11'	WV-LE-142	Huntington

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William Rebert	1750 South Henkel Circle	Mesa	AZ	85202-5712	Braxton	'7-13G-15'	WV-BR-0419	Huntington
William S. Grove	125 Riverside Drive	Weston	WV	26452-8226	Lewis	'01-5P-40'	WV-LE-152	Huntington
William V. Mittler	4575 Sleepy Hollow Road	Medina	OH	44256-8334	Wetzel	'04-19-34'	WV-WE-011	Huntington
					Wetzel	'04-24-9'	WV-WE-012	Huntington
					Wetzel	'04-24-7'	WV-WE-014	Huntington
					Wetzel	'04-24-8'	WV-WE-013	Huntington
					Wetzel	'04-19-36'	MVP-ATWS-004	Huntington
Wiseman Living Trust Gene B. and Phyllis Wiseman	7507 Walton Lane	Annandale	VA	22003-2558	Summers	'7-15-25'	WV-SU-049	Huntington
Woody Lumber Company, Inc. Delmas M. Woody	201 Vicksburg Road, Suite 101	Buckhannon	WV	26201-2592	Lewis	'02-4K-19'	WV-LE-102	Huntington
Zane R. Lawhorn	366 Old Bluefield Road	Princeton	WV	24739-8923	Monroe	'03-12-18'	WV-MO-012.225	Huntington
a/k/a Christine S. Payne, a/k/a Christine Gibson Payne, f/k/a Christine Gibson Shelton Christine Margaret Payne	19808 US Highway 29	Chatham	VA	24531-3649	Pittsylvania	'2427-16-2148'	VA-PI-088	Norfolk
a/k/a Donald Everett Melton Don E. Melton	7391 Cove Hollow Road	Elliston	VA	24087-2609	Montgomery	'003911'	VA-MO-021	Norfolk
					Roanoke	'082.00-01-16.00-0000'	VA-RO-5226	Norfolk
					Roanoke	'082.00-01-15.00-0000'	VA-RO-5227	Norfolk
a/k/a Rinda G. Brewbaker Rinda Gay Brewbaker	6615 Lorna Drive	Columbus	GA	31909-3117	Pittsylvania	'2436-95-5098'	VA-PI-3415	Norfolk
Adam Kendrick and Connie Z. Stump	423 Zeigler Lane	Union Hall	VA	24176-4137	Franklin	'0660011300'	VA-FR-181	Norfolk
Agnes M. Duncan	10450 Russwood Road	Bent Mountain	VA	24059-2322	Roanoke	'102.00-01-11.00-0000'	VA-RO-1150.02	Norfolk
					Roanoke	'102.00-01-10.00-0000'	VA-RO-1150.03	Norfolk
Al N. and Sharon M. Angle	PO Box 160	Rocky Mount	VA	24151-0160	Franklin	'0660003802'	VA-FR-162.01	Norfolk
Alan R. and Diane L. Hartman	422 Wades Gap Road	Callaway	VA	24067-2208	Franklin	'0250002500'	VA-FR-017.04	Norfolk
Albert Furrow	3805 Old Town Road	Shawsville	VA	24162-2043	Montgomery	'210206'	VA-MO-5835	Norfolk
Alex C. Rhudy	3315 Clara Avenue Southwest	Roanoke	VA	24018-1301	Franklin	'0250003700'	VA-FR-017.09	Norfolk
Alexander B. and Emily M. Phillips	1260 Lakewood Drive Southwest	Roanoke	VA	24015-3722	Roanoke	'111.00-01-62.00-0000'	VA-RO-4123	Norfolk
Alfred L. and Doris Ann Quinn Brown	555 Flanders Road	Callaway	VA	24067-2105	Franklin	'0240000900'	VA-FR-016	Norfolk
Alice K. Mills Revocable Trust	c/o Robert Mills, PO Box 368	Rocky Mount	VA	24151-0368	Franklin	'0530001700'	VA-FR-147	Norfolk
Allen R. and Robin B. Austin	10513 Bottom Creek Road	Bent Mountain	VA	24059-2311	Roanoke	'110.00-01-45.00-0000'	VA-RO-5222	Norfolk
Alvin E. and Linda L. Wray	638 Rhododendron Road	Callaway	VA	24067-2712	Franklin	'0250002100'	VA-FR-017	Norfolk
Anderea Jones	220 Madison Avenue Northwest	Roanoke	VA	24016-1354	Pittsylvania	'2427-30-5719'	VA-PI-095	Norfolk
Andrew Archie Poindexter	3326 McNeil Place	Pittsburgh	PA	15219	Franklin	'0660010500'	VA-FR-174	Norfolk
					Franklin	'0660010300'	VA-FR-5746	Norfolk
Angle Living Trust Agreement Dated October 5, 2015 Edward M. and Helene S. Angle	411 Flint Hill Road	Rocky Mount	VA	24151-5545	Franklin	'0450006900'	VA-FR-119.01	Norfolk
					Franklin	'0450006802A'	VA-FR-5958	Norfolk
Ann Elizabeth Andrews	81 Shore Drive	Roanoke	VA	24012-9061	Roanoke	'082.00-01-40.00-0000'	VA-RO-036	Norfolk
Ann Yeatts Bryant Woodson	2515 Franklin Turnpike #2	Danville	VA	24540-5383	Pittsylvania	'2418-04-3295'	VA-PI-064	Norfolk
					Pittsylvania	'2418-04-1120'	VA-PI-065	Norfolk
					Pittsylvania	'2418-03-9452'	VA-PI-066	Norfolk
Annegret Wiegmann	3216 Climax Road	Chatham	VA	24531-3747	Pittsylvania	'2417-78-3175'	VA-PI-075	Norfolk
Anthony Duane Saul	6258 Grassy Hill Road	Rocky Mount	VA	24151	Franklin	'0430003400'	VA-FR-059.01	Norfolk
Anthony E. and Carmella Hess	3211 Flatwoods Road	Elliston	VA	24087-2809	Montgomery	'003368'	VA-MO-5357	Norfolk
Anthony Earl Wimmer	56 Signal Hill Drive	Callaway	VA	24067-1530	Franklin	'0240002100'	VA-FR-001.01	Norfolk
					Franklin	'0240002700'	VA-FR-005	Norfolk
Anthony Edward and Carmella Hess	3211 Flatwoods Road	Elliston	VA	24087-2809	Montgomery	'003365'	VA-MO-5885	Norfolk
Anthony L. and Carol Ann Bowman	PO Box 483	Pembroke	VA	24136-0483	Giles	'28-10A'	VA-GI-017	Norfolk
Anthony T. and Sonia L. Carr	137 Texas Hollow Road	Salem	VA	24153-1453	Montgomery	'003364'	VA-MO-4257	Norfolk

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Antonio Montuori Family Trust U/A Dated November 20, 2001 Kristina Montuori	540 109th Avenue N	Naples	FL	34018	Roanoke	'117.00-01-43.01-0000'	VA-RO-065	Norfolk
					Roanoke	'117.00-01-42.00-0000'	VA-RO-066	Norfolk
Antonio Montuori Family Trust U/A Dated November 20, 2001 Kristina Montuori	616 Camilla Avenue Southeast	Roanoke	VA	24014	Roanoke	'117.00-01-45.00-0000'	VA-RO-067	Norfolk
					Roanoke	'117.00-01-43.02-0000'	VA-RO-062	Norfolk
					Roanoke	'117.00-01-43.00-0000'	VA-RO-063	Norfolk
					Roanoke	'117.00-01-41.00-0000'	BVRO-12	Norfolk
					Roanoke	'117.00-01-41.02-0000'	VA-RO-4125	Norfolk
					Roanoke	'117.00-01-41.01-0000'	VA-RO-4124	Norfolk
					Roanoke	'117.00-01-46.00-0000'	VA-RO-064	Norfolk
Ava Pope	579 Zells Mill Road	Newport	VA	24128-4121	Giles	'45-46'	VA-GI-073	Norfolk
Bailey & Glasser, LLP	209 Capitol Street	Charleston	WV	25301-2210	Giles	'44A-1-34'	VA-GI-051	Norfolk
Barbara A. Fitzgerald	440 Long Road	Penn Hills	PA	15235-4327	Pittsylvania	'2427-30-4184'	VA-PI-5156	Norfolk
					Pittsylvania	'2427-30-5083'	VA-PI-4157	Norfolk
BD Investments of Roanoke LLC, a Virginia limited liability company	3655 Brambleton Avenue	Roanoke	VA	24018-3611	Roanoke	'111.00-01-63.00-0000'	VA-RO-5231	Norfolk
Ben J. Davenport	PO Box 1069	Chatham	VA	24531-1069	Pittsylvania	'2417-78-3227'	VA-PI-074	Norfolk
Benny G. and Betty H. Maxey	31 Upland Drive	Salem	VA	24153-7128	Montgomery	'120706'	VA-MO-4260	Norfolk
Benny L. Huffman	606 Blue Grass Trail	Newport	VA	24128-3556	Giles	'46-25B'	VA-GI-5779	Norfolk
Benton D. and Kourtney D. Williams	206 Rogers Road	Ripplemead	VA	24150	Giles	'27-16A'	VA-GI-010.5	Norfolk
Bert E. and Lisa A. Collins	c/o Danny Ray Lee, 3704 Meadowbrook Drive	Blacksburg	VA	24060-1524	Giles	'16-11'	VA-GI-005	Norfolk
BETS, Inc. Ben Hodnett	64 Charlotte Lane	Hardy	VA	24101-3060	Franklin	'0660100100'	VA-FR-5436	Norfolk
Betty E. McCoy	10538 Green Hollow Drive, c/o Edward Conner - POA	Bent Mountain	VA	24059-2160	Roanoke	'111.00-01-56.03-0000'	VA-RO-5217	Norfolk
Beverly O. McLaughlin Testamentary Trust Thomas O. White Jr.	4513 Boonsboro Road	Lynchburg	VA	24503-2305	Pittsylvania	'1489-86-7542'	VA-PI-029.05	Norfolk
Blackshoe Farm, LLC, a Virginia limited liability company	4608 Hazel Dr	Roanoke	VA	24018	Montgomery	'003363'	VA-MO-068	Norfolk
Bob and Evelyn Wells	7770 Old Franklin Turnpike	Glade Hill	VA	24092	Franklin	'0530000603'	VA-FR-4143.001	Norfolk
Bobby W. Hubbard	2370 Jacks Mountain Road	Glade Hill	VA	24092-3836	Franklin	'0660011100'	VA-FR-180	Norfolk
Brenda Ann Johnson Aveline	248 Ayers Road	Glade Hill	VA	24092-3763	Franklin	'0530012500'	VA-FR-150	Norfolk
Brenda Lynn Williams	261 Winding Way Drive	Newport	VA	24128-4036	Giles	'46-15'	VA-GI-200.019	Norfolk
Brenda Zook	3053 Bradshaw Road	Elliston	VA	24087-2831	Montgomery	'023092'	VA-MO-077	Norfolk
Brian Keith Zeigler	250 Zeigler Lane	Union Hall	VA	24176-3792	Franklin	'0660011302'	VA-FR-5438	Norfolk
Briarwood Development, LLC Shannon Lucas	650 Lucas Road	Newport	VA	24128-4115	Giles	'45-36'	VA-GI-200.015	Norfolk
Briarwood Development, LLC Shannon Lucas	650 Lucas Road	Newport	VA	24128-4115	Giles	'46-2-B'	VA-GI-200.024	Norfolk
Bruce M. and Jennifer M. Wood	5412 Neuse Planters Court	Raleigh	NC	27616-7985	Franklin	'0440200600'	VA-FR-5791	Norfolk
Bruce M. and Mary E. Coffey	10303 Russwood Road	Bent Mountain	VA	24059-2321	Roanoke	'102.00-01-13.00-0000'	BVRO-05	Norfolk
Calvin B. and Virginia C. Lucas	112 Tawneys Cave Lane	Newport	VA	24128-4123	Giles	'45-39E'	VA-GI-200.012	Norfolk
Calvin Clements	3113 E. 116th	Cleveland	OH	44120	Pittsylvania	'1580-00-8311'	VA-PI-026.02	Norfolk
Carey D. and Donna P. Zeigler	153 Zeigler Lane	Union Hall	VA	24176-3791	Franklin	'0660011304'	VA-FR-5439	Norfolk
Carey E. and Betty C. Custer	7565 Grassy Hill Road	Boones Mill	VA	24065-4400	Franklin	'0370009303'	VA-FR-048	Norfolk
Carl E. Lester	2019 Ramsey Memorial Road	Penhook	VA	24137-1118	Franklin	'0680005000'	VA-FR-195	Norfolk
Carl Keith Cochran	3610 Herbert Faucette Road	Bullock	NC	27507-9523	Giles	'16-12'	VA-GI-008.05.5	Norfolk
Carolyn M. Wray	440 Saint Clair Lane	Boones Mill	VA	24065-4154	Franklin	'0370001607'	BVA-FR-10	Norfolk
Carolyn M. Wray	440 Saint Clair Lane	Boones Mill	VA	24065-4154	Franklin	'0370001600'	VA-FR-017.47	Norfolk
Catherine R. Beckner	724 Kin Vale Road	Rocky Mount	VA	24151-5622	Franklin	'0440020401'	VA-FR-5508	Norfolk
Celanese Acetate, LLC	222 Las Colinas Boulevard West, Suite 900N	Irving	TX	75039-5467	Giles	'25-69K'	VA-GI-4239.5	Norfolk

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Charis SML LLC	1623 Sunberry Circle	Roanoke	VA	24018-7689	Franklin	'0680005300'	VA-FR-189	Norfolk
Charles E. and Susan C. Hogan	PO Box 928	Salem	VA	24153-0928	Montgomery	'008440'	VA-MO-083	Norfolk
Charles Frederick and Stephanie M. Flora	1906 Arden Road	Roanoke	VA	24015-2728	Franklin	'0380002002'	VA-FR-017.20	Norfolk
Charles Galen Fisher	5535 Grassy Hill Road	Rocky Mount	VA	24151-3990	Franklin	'0430004900'	VA-FR-068	Norfolk
Charles William Reynolds	185 Emerald Boulevard	Christiansburg	VA	24073-5829	Giles	'47-7'	VA-GI-200.039	Norfolk
Cheryl D. Williams	1475 Cascade Drive	Pembroke	VA	24136-3322	Giles	'29-21A'	BVGI-7	Norfolk
Chestnut Mill Ranch, LLC, Kevin Browne	30 Franklin Road Southwest, Suite 302	Roanoke	VA	24011-2424	Giles	'45-72'	VA-GI-061	Norfolk
					Giles	'45-70'	VA-GI-200.003	Norfolk
					Giles	'45-71'	VA-GI-062	Norfolk
					Giles	'45-66'	VA-GI-066	Norfolk
Christopher E. and Jodi E. Lambert	PO Box 12	Union Hall	VA	24176-0012	Franklin	'0660010400'	VA-FR-5747	Norfolk
					Franklin	'0660010600'	VA-FR-175	Norfolk
Cletus W. and Beverly A. Bohon	6210 Yellow Finch Lane	Elliston	VA	24087-2625	Montgomery	'017761'	VA-MO-022	Norfolk
					Montgomery	'030271'	VA-MN-5233	Norfolk
Commonwealth of Virginia, Dept. of Highways, Right of Way Division Ashley Smith	5375 North Fork Road	Elliston	VA	24087-3107	Montgomery	'070806'	VA-MO-5393	Norfolk
Cooper Contractors, Inc. Dennis Cooper	260 Four Branch Drive	Hardy	VA	24101-4306	Franklin	'0660101200'	VA-FR-5146	Norfolk
Cooper Contractors, Inc. Dennis Cooper	260 Four Branch Drive	Hardy	VA	24101-4306	Franklin	'0660100200'	VA-FR-5433	Norfolk
Cora Evelyn R. Perdue	PO Box 288	Elliston	VA	24087-0288	Montgomery	'014249'	VA-MO-061	Norfolk
Cornell F. Goad	PO Box 901	Rocky Mount	VA	24151-0901	Franklin	'0450012200'	VA-FR-5148	Norfolk
Countryside Land Company LC Franklin Root	28 Imperial Drive	Staunton	VA	24401-6654	Franklin	'0650401500'	VA-FR-155	Norfolk
County of Franklin, a political subdivision of the Commonwealth of Virginia Brent Robertson	1255 Franklin Street	Rocky Mount	VA	24151-1290	Franklin	'0370005400'	VA-FR-063	Norfolk
Craig-Botetourt Electric Cooperative Shawn C. Hildabrand	PO Box 265	New Castle	VA	24127-0265	Montgomery	'034187'	VA-MO-075	Norfolk
Cristopher G. and Lizbeth H. Nauta	1824 Green Bay Road	Chatham	VA	24531-5581	Pittsylvania	'2408-66-8225'	BVPI-13	Norfolk
Crystal Diane Edwards	552 Rutherford Avenue Northwest	Roanoke	VA	24016-1202	Franklin	'0660009602'	VA-FR-5437	Norfolk
Dale E. and Mary A. Angle	1116 Iron Ridge Road	Rocky Mount	VA	24151	Franklin	'0440006501'	VA-FR-078	Norfolk
Dale E. and Mary A. Angle Joint Revocable Trust Dale E. and Mary A. Angle	1116 Iron Ridge Road	Rocky Mount	VA	24151-3969	Franklin	'0440006400'	VA-FR-077.01	Norfolk
					Franklin	'0440006500'	VA-FR-079	Norfolk
Daniel A. and Sherri O. Gallagher	279 Rogers Road	Ripplemead	VA	24150-3028	Giles	'27-6-5'	VA-GI-008	Norfolk
					Giles	'27-6-4'	VA-GI-009	Norfolk
					Giles	'27-6-3'	VA-GI-008.01	Norfolk
Daniel Curtis Campbell	905 Greenway Road	Glade Hill	VA	24092-1742	Franklin	'0450012100'	VA-FR-4279	Norfolk
Daniel G. and Deborah L. Myers	1120 Bonbrook Mill Road	Rocky Mount	VA	24151-2964	Franklin	'0440019801'	VA-FR-5502	Norfolk
Daniel Paige Toney	21021 Erwin Street, Apartment 143	Woodland Hills	CA	91367-3831	Pittsylvania	'1499-53-3686'	VA-PI-041.02	Norfolk
David and Rita Bower	529 Redwood Road	Glade Hill	VA	24092	Franklin	'0690000900'	VA-FR-186	Norfolk
David Bryan and Donna Rogers Altizer	3993 Gravely Hill Road	Ripplemead	VA	24150-3025	Giles	'27-18'	VA-GI-008.05	Norfolk
David E. and Kari D. Ross	201 Old Mill Creek Lane	Rocky Mount	VA	24151-4197	Franklin	'0440004302A'	BVFR-26	Norfolk
David G. and Karen M. Yolton	8165 Virginia Avenue	Newport	VA	24128-4041	Giles	'45-39D'	VA-GI-075	Norfolk
David G. Robertson	8931 Old Franklin Turnpike	Union Hall	VA	24176-3958	Franklin	'0680004600'	VA-FR-196	Norfolk
David J. Neuhs	PO Box 649	Vinton	VA	24179-0649	Montgomery	'080578'	VA-MO-007	Norfolk
					Montgomery	'034153'	VA-MO-008	Norfolk
David Logan Kauffelt	PO Box 302	Pembroke	VA	24136-0302	Giles	'28-32'	VA-GI-022	Norfolk
					Giles	'28-32A'	VA-GI-023	Norfolk
David M. and Nancy G. Craighead	6744 Truman Hill Road	Hardy	VA	24101	Franklin	'0240000200'	VA-FR-008.01	Norfolk
David Matthew and Elizabeth Ann Altizer	3868 Gravely Hill Road	Ripplemead	VA	24150-3122	Giles	'27-18A'	VA-GI-5339	Norfolk
David Michael and Joyce L. Wingfield	5656 Bethlehem Road	Boones Mill	VA	24065-2319	Franklin	'0370001301'	VA-FR-017.39	Norfolk
					Franklin	'0370011112'	VA-FR-017.35	Norfolk
					Franklin	'0370011113'	VA-FR-017.36	Norfolk
					Franklin	'0370011114'	VA-FR-017.30	Norfolk
David Smith	585 Conifer Drive	Evergreen	CO	80439-4342	Montgomery	'120001'	VA-MO-084	Norfolk

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David W. and Julie P. Craun	905 Kenwood Road	Glade Hill	VA	24092-3856	Franklin	'0650005102'	VA-FR-160	Norfolk
Davy Louis Dillon	4250 Brooks Mill Road	Glade Hill	VA	24092	Franklin	'0540020701'	VA-FR-141	Norfolk
Dawn E. Cisek	402 Steele Acres Road	Newport	VA	24128-3590	Craig	'120-A-9'	VA-CR-4445	Norfolk
					Giles	'47-12A'	VA-GI-5673	Norfolk
Dean A. and Betty Denise Angle	1770 Iron Ridge Road	Rocky Mount	VA	24151-3966	Franklin	'0440006600'	VA-FR-080	Norfolk
Dean M. and Annette S. Powell	PO Box 923	Chatham	VA	24531-0923	Pittsylvania	'2417-49-1304'	VA-PI-072	Norfolk
Deanna S. Robinson	100 Coombs Road	Moxee	WA	98936-9329	Roanoke	'102.00-01-12.00-0000'	BVRO-04	Norfolk
Debbie Mary Lynn	1354 Novelty Road	Penhook	VA	24137-3378	Franklin	'0660012100'	VA-FR-4147	Norfolk
Deborah Webb	PO Box 97	Pembroke	VA	24136-0097	Giles	'28-10E1'	VA-GI-5308	Norfolk
					Giles	'28-10E'	VA-GI-020	Norfolk
Debra Flora Altice	133 Windswept Lane	Boones Mill	VA	24065-3777	Franklin	'0370015400'	VA-FR-058	Norfolk
Debra J. Osborne	207 Mahogany Drive	Seffner	FL	33584-6011	Giles	'27-74B1'	VA-GI-4413	Norfolk
Delmer Wayne Howard	2740 Reese Mountain Road	Elliston	VA	24087-3132	Montgomery	'020405'	VA-MO-5368	Norfolk
Denis R. and Leslie M. Auger	1388 Riddle Road	Chatham	VA	24531-3641	Pittsylvania	'2418-12-7175'	VA-PI-068	Norfolk
Dennis G. and Dixie L. Berube	PO Box 386	Elliston	VA	24087-0386	Montgomery	'021080'	VA-MO-019	Norfolk
Denny R. and Tammy K. Scott	PO Box 314	Elliston	VA	24087-0314	Montgomery	'030035'	VA-MO-4261	Norfolk
					Montgomery	'012030'	VA-MO-071	Norfolk
Derek T. and Marion C. Hanes	7681 Grassy Hill Road	Boones Mill	VA	24065-4152	Franklin	'0370009305A'	VA-FR-047	Norfolk
Dexter R. Valentine	PO Box 862	Pembroke	VA	24136-0862	Giles	'29-18'	VA-GI-034	Norfolk
Diana M. Perkinson	PO Box 145	Roanoke	VA	24002-0145	Franklin	'0370009600'	VA-FR-5416	Norfolk
Dianne B. Brown	1567 Webster Road	Glade Hill	VA	24092-3657	Franklin	'0530000606'	VA-FR-143.01	Norfolk
Doe Creek Farm, Incorporated, a Virginia corporation Georgia Lou Haverty	412 Doe Creek Farm Road	Pembroke	VA	24136-3042	Giles	'30-4'	VA-GI-049	Norfolk
Donald B. Barnhart	3743 Kenwick Trail	Roanoke	VA	24018-4945	Franklin	'0440007300'	VA-FR-081	Norfolk
Donald L. Meador	5040 Dillons Mill Road	Callaway	VA	24067-2120	Franklin	'0240001001'	VA-FR-015.04	Norfolk
Donald W. and Deborah R. Martin	204 Seven Oaks Road	Newport	VA	24128-3557	Giles	'46-19A'	VA-GI-5830	Norfolk
					Giles	'46-12'	VA-GI-200.025	Norfolk
					Giles	'46-22'	VA-GI-5780	Norfolk
					Giles	'46-2-A'	VA-GI-200.023	Norfolk
					Giles	'46-2-C'	VA-GI-200.024.01	Norfolk
Donald W. and Evelyn W. Long	3239 Half Acre of Rocks Road	Elliston	VA	24087-2431	Montgomery	'021559'	VA-MO-062	Norfolk
					Montgomery	'021560'	BVMO-25	Norfolk
Donald Wayne Wright	17008 Poncho Springs Lane	Austin	TX	78717-2963	Franklin	'0660007700'	VA-FR-5441	Norfolk
Doris Marie Henry	10578 Bottom Creek Road	Bent Mountain	VA	24059-2310	Roanoke	'110.00-01-46.00-0000'	VA-RO-055	Norfolk
Dottie Jean Stump	342 Farm View Road	Glade Hill	VA	24092-1747	Franklin	'0450013506'	VA-FR-133	Norfolk
Doug Dalton Trust U/A Dated December 1, 2009 A. Douglas Dalton	202 River Oaks Drive	Altavista	VA	24517-2016	Pittsylvania	'2417-58-4539'	VA-PI-073	Norfolk
Douglas A. and Constance A. Holt	PO Box 3	Union Hall	VA	24176-0003	Franklin	'0660003804'	VA-FR-162	Norfolk
Douglas Jack and April Dawn Connel	161 Price Lane	Rocky Mount	VA	24151-6688	Franklin	'0440016000'	VA-FR-5485	Norfolk
Dowdy Farm LLC Mike Williams	302 Horseshoe Farm Road	Pembroke	VA	24136-3478	Giles	'46-52'	VA-GI-4250	Norfolk
Dowdy Farm, LLC Mike Williams	302 Horseshoe Farm Road	Pembroke	VA	24136-3478	Giles	'46-52A'	VA-GI-5790	Norfolk
Drema Kay Stevers Thompson	159 Evergreen Road	Pearisburg	VA	24134-2164	Giles	'28-29N'	VA-GI-024	Norfolk
Dwight A. Towler	80 Keel Court	Heathsville	VA	22473-4504	Pittsylvania	'2408-26-8209'	VA-PI-3398	Norfolk
Dyer Living Trust Dated April 26, 2002 Delwyn A. Dyer	4180 Dori Del Hills	Blacksburg	VA	24060	Montgomery	'005668'	VA-MO-3369	Norfolk
Eagle's Nest Ministries, Inc. Richard A. and Paula C. Sizemore	PO Box 8	Pembroke	VA	24136-0008	Giles	'29-25'	VA-GI-035.01	Norfolk
Earnest A. and Eleanor V. Link	425 Mountain Lake Road	Newport	VA	24128-4063	Giles	'45-48'	VA-GI-068	Norfolk
Edwards Properties, Ltd.	9384 Old Franklin Turnpike	Union Hall	VA	24176-3997	Franklin	'0660004300'	VA-FR-170	Norfolk
Eldon R. Strike	5044 Alean Road	Boones Mill	VA	24065-4754	Franklin	'0680000600'	VA-FR-192	Norfolk
Elijah D. and Kristin Howard	2219 Willis Hollow Road	Shawsville	VA	24162-1724	Montgomery	'031305'	VA-MO-5364	Norfolk
					Montgomery	'006496'	VA-MO-5366	Norfolk

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Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
Elizabeth Lee Terry	934 Stonegate Drive	Salem	VA	24153-2608	Roanoke	'093.00-01-46.00-0000'	VA-RO-5228	Norfolk
					Roanoke	'102.00-01-02.00-0000'	VA-RO-046	Norfolk
					Roanoke	'110.00-01-44.00-0000'	VA-RO-054	Norfolk
Elizabeth Rogers Harrison	337 Crile Lane	Pearisburg	VA	24134-1844	Giles	'27-19'	VA-GI-5340	Norfolk
Elizabeth Smith Beamer	894 Smith Road	Charles Town	WV	25414-4633	Giles	'27-8'	VA-GI-008.03	Norfolk
Ellen C. Walton	135 Beech Tree Lane	Callaway	VA	24067-2829	Franklin	'0380000201D'	VA-FR-017.12	Norfolk
					Franklin	'0380000201B'	VA-FR-017.13	Norfolk
Elton W. Law	PO Box 2	Glade Hill	VA	24092-0002	Franklin	'0650003402'	VA-FR-157.01	Norfolk
Enrique and Pamela M. Perez	2032 Lee Hi Road Southwest	Roanoke	VA	24018-2157	Montgomery	'000951'	VA-MO-059	Norfolk
Estate of Dorothy Ruth Hendrickson Simmons, Jeanne Simmons Armentrout	6524 Olde Savannah Road	Charlotte	NC	28227-0645	Giles	'28-16'	VA-GI-021	Norfolk
Estate of Galen Detric Motley, Archie Wayne Motley	7393 Chalk Level Road	Chatham	VA	24531-4539	Pittsylvania	'2426-69-3980'	VA-PI-096.001	Norfolk
Estate of Jerre C. Lumsden	50 Bernard Road	Rocky Mount	VA	24151-6733	Franklin	'0530000603X'	VA-FR-5832	Norfolk
Estate of Lacy F. Dudley, Mark F. Dudley	6338 Stonecroft Court	Roanoke	VA	24018-7604	Franklin	'0440200500'	VA-FR-5490	Norfolk
Estate of Lowell T. Hypes, Mark A. Mills	2004 Twin Oaks Avenue	Pulaski	VA	24301-3026	Montgomery	'009482'	VA-MO-200.056	Norfolk
Estial Earl and Edith Fern Echols	PO Box 83	Newport	VA	24128-0083	Giles	'46-20A'	VA-GI-4420	Norfolk
					Giles	'46-19B'	VA-GI-4419	Norfolk
Evangel Foursquare Church Arthur Eugene Blankenship Charles A. Wright	2360 Hardy Road	Vinton	VA	24179-2320	Roanoke	'093.00-01-47.00-0000'	VA-RO-039	Norfolk
Evelana Grubbs Rouse	c/o Earl Anderson, 3036 Grace Avenue	Bronx	NY	10469-3229	Pittsylvania	'2436-05-4452'	VA-PI-104	Norfolk
Everette A. and Debbie L. Coons- Richards	PO Box 645	Pembroke	VA	24136	Giles	'28-10D'	VA-GI-5341	Norfolk
f/k/a Catherine B. Quinn Catherine Boitnott Hodges	PO Box 103	Rocky Mount	VA	24151-0103	Franklin	'0440206500'	VA-FR-5497	Norfolk
f/k/a Frances D. Williams Frances D. W. Collins	3361 Torrey Pines Circle	Riner	VA	24149-2578	Giles	'46-51'	VA-GI-200.035	Norfolk
f/k/a Jessica Kathryn Carter Jessica Pritt	950 West Warm Springs Drive	Warm Springs	VA	24484-2108	Giles	'29-37'	VA-GI-037	Norfolk
f/k/a Kimberly Hale Price Kimberly Hale Powell	1444 Cascade Drive	Pembroke	VA	24136-3330	Giles	'29-19'	VA-GI-033	Norfolk
f/k/a Tracy Lynn Taylor Travis Scott and Tracy Lynn Lancaster	3421 Flatwoods Road	Elliston	VA	24087-2413	Montgomery	'033280'	VA-MO-064	Norfolk
Field Family Trust Jewell Cardwell Field	3134 Bacchus Lane	Elliston	VA	24087-2910	Montgomery	'023554'	VA-MO-059.01	Norfolk
Floyd Clayton and Rita Smith Hodges	484 Teel Brooke Road	Rocky Mount	VA	24151-3997	Franklin	'0430104900'	VA-FR-074	Norfolk
Frank H. Terry	8815 Poor Mountain Road	Bent Mountain	VA	24059-2439	Roanoke	'103.00-02-01.00-0000'	VA-RO-4118	Norfolk
Frank S. and Katherine A. Quinn	215 Zells Mill Road	Newport	VA	24128-4126	Giles	'45-30A'	VA-GI-200.017	Norfolk
Frank W. and Flossie I. Hale	PO Box 161	Bent Mountain	VA	24059-0161	Roanoke	'110.00-01-56.01-0000'	VA-RO-5748	Norfolk
Franklin Real Estate Company	c/o Jay Divers, 40 Franklin Road Southwest	Roanoke	VA	24011	Franklin	'0530012101'	VA-FR-148	Norfolk
					Franklin	'0530012600'	VA-FR-151	Norfolk
Fred W. and Heather R. Heatwole	487 Teel Brooke Road	Rocky Mount	VA	24151	Franklin	'0430105200'	VA-FR-070.01	Norfolk
Fred W. Vest	PO Box 131	Bent Mountain	VA	24059-0131	Roanoke	'110.00-01-56.00-0000'	VA-RO-056	Norfolk
Frith Living Trust Glenn C. and Linda K. Frith	PO Box 48	Boones Mill	VA	24065-0048	Franklin	'0380001900'	VA-FR-017.24	Norfolk
Frith Living Trust Glenn C. and Linda K. Frith	PO Box 48	Boones Mill	VA	24065-0048	Franklin	'0380002500'	VA-FR-017.26	Norfolk
Gail Dudley Smithers	3175 Booker T. Washington Highway	Rocky Mount	VA	24151-5602	Franklin	'0450001500'	VA-FR-5151	Norfolk
Gary and Allison Hollopter	PO Box 985	Pembroke	VA	24136-0985	Giles	'30-4B'	VA-GI-5310	Norfolk
Gary Richard and Janet Elizabeth Difablo Buss	901 Draper Road Southwest	Blacksburg	VA	24060-5119	Craig	'120-A-16'	VA-CR-4443	Norfolk
Gary W. and Helen J. Rutrough Joint Revocable Trust Dated June 9, 2003 Gary W. Rutrough	6360 Grassy Hill Road	Boones Mill	VA	24065-3776	Franklin	'0370015601'	VA-FR-5423	Norfolk
					Franklin	'0370015600'	VA-FR-5424	Norfolk
					Franklin	'0370015300'	VA-FR-5425	Norfolk

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George Lee Jones	1928 Kiska Road	Salem	VA	24153-2343	Giles	'47-1-1'	VA-GI-200.044	Norfolk
					Giles	'47-1-2'	VA-GI-200.045	Norfolk
George Robert and Dana Michelle Ferguson	10575 Bent Mountain Road	Bent Mountain	VA	24059-2115	Roanoke	'111.00-01-56.00-0000'	VA-RO-5221	Norfolk
Gerald W. and Ruth M. Duncan	139 Brookside Lane	Newport	VA	24128-3904	Giles	'46-19'	VA-GI-200.026	Norfolk
Gerald W. and Sandra L. Deacon	3227 Flatwoods Road	Elliston	VA	24087-2809	Montgomery	'008023'	VA-MO-5356	Norfolk
Giles Russell and Janice Turner Perdue	26 Novelty Road	Union Hall	VA	24176-3702	Franklin	'0660008100'	VA-FR-5442	Norfolk
Ginger K. Smithers	3175 Booker T. Washington Highway	Rocky Mount	VA	24151	Franklin	'0450000902'	VA-FR-114	Norfolk
					Franklin	'0450008100'	VA-FR-113	Norfolk
					Franklin	'0450001600'	VA-FR-117	Norfolk
					Franklin	'0450006800'	VA-FR-119	Norfolk
Glen H. and Nancy B. Poindexter	1130 Novelty Road	Union Hall	VA	24176-3707	Franklin	'0660011800'	VA-FR-4351	Norfolk
Glenn L. Berger	PO Box 298	Altavista	VA	24517-0298	Pittsylvania	'2427-06-1292'	VA-PI-089	Norfolk
Glenn R. and Dorothy B. Teaman	11434 Tropic Court	Moreno Valley	CA	92557-5746	Pittsylvania	'1560-69-1403'	VA-PI-012	Norfolk
					Pittsylvania	'1560-69-4077'	VA-PI-012.01	Norfolk
Glenn W. and June S. Loveless	255 Monty Road	Boones Mill	VA	24065-4396	Franklin	'0370011106'	VA-FR-017.37	Norfolk
Gloria Marie Freeman-Martin	256 Holiday Lane	Union Hall	VA	24176-1100	Franklin	'0660009505'	VA-FR-5744	Norfolk
Goldenview Properties, LLC	540 Richards Way	Wirtz	VA	24184-3938	Franklin	'0540021400'	VA-FR-140	Norfolk
Gordon Wayne and Donna W. Jones	641 Stevers Gap Trail	Newport	VA	24128-4219	Craig	'120-A-13'	VA-CR-200.049	Norfolk
Grace M. Terry	4718 Wembley Place Southwest	Roanoke	VA	24018-1985	Roanoke	'102.00-01-01.02-0000'	VA-RO-5149	Norfolk
Greg A. and Lynette V. Wehrend	10585 Green Hollow Drive	Bent Mountain	VA	24059-2161	Roanoke	'111.00-01-56.01-0000'	VA-RO-5219	Norfolk
					Roanoke	'111.00-01-56.06-0000'	VA-RO-5220	Norfolk
Gregory B. and Patricia F. Switzer	333 Cloverdale Lane	Rocky Mount	VA	24151-4007	Franklin	'0430005009'	VA-FR-070	Norfolk
Guy H. Bryant	13201 Lady Ashley Road	Midlothian	VA	23114-4563	Pittsylvania	'2408-75-4535'	VA-PI-057.01	Norfolk
Guy W. Buford	985 Iron Ridge Road	Rocky Mount	VA	24151-2647	Franklin	'0440004400'	VA-FR-077	Norfolk
H. Ronald Shelton	327 Simmons Creek Road	Union Hall	VA	24176	Pittsylvania	'1560-94-0683'	VA-PI-017	Norfolk
Hancock Timberland XII, Inc. Al Bayme	c/o Hancock Natural Resource Group, Inc. , 197 Clarendon Street, C-08-99	Boston	MA	02116-5010	Pittsylvania	'2417-89-1099'	VA-PI-081.01	Norfolk
					Pittsylvania	'2417-87-1135'	VA-PI-085	Norfolk
Harry B. and Mildred O. Doss	1816 Armstrong Road	Penhook	VA	24137-2834	Pittsylvania	'1561-22-1144'	VA-PI-006.01	Norfolk
Heatherwood Properties, Inc. Glenn C. Frith	PO Box 48	Boones Mill	VA	24065-0048	Franklin	'0370010900'	VA-FR-017.40	Norfolk
Helena Delaney Teekel Trust	553 Stevers Gap Trail	Newport	VA	24128	Craig	'120-A-12'	VA-CR-200.048	Norfolk
Helena Delaney Teekell Trust	4105 West McKay Avenue	Tampa	FL	33609-4324	Craig	'120-A-14A'	VA-CR-5343	Norfolk
Henry Marion and Kathy H. Shelhorse	1537 Climax Road	Chatham	VA	24531-3735	Pittsylvania	'1499-07-3292'	VA-PI-029.06	Norfolk
Henry S. Keuling-Stout	17 Wyandotte Avenue West	Big Stone Gap	VA	24219-2645	Montgomery	'005370'	VA-MO-4266	Norfolk
Henry Ward English	510 Freedom Lane	Wirtz	VA	24184-4492	Franklin	'0690000800'	VA-FR-185	Norfolk
Herbert W. and Sally R. Linthicum	144 Chippewa Lane	Chatham	VA	24531-3924	Pittsylvania	'1499-24-4022'	VA-PI-029.08	Norfolk
					Pittsylvania	'1499-42-2337'	VA-PI-3389	Norfolk
Herman F. and Mitzie L. Smith	2076 Golden View Lane	Glade Hill	VA	24092-3584	Franklin	'0450013601'	VA-FR-136.01	Norfolk
					Franklin	'0540021200'	VA-FR-140.01	Norfolk
Howard D. Perdue	PO Box 599	Elliston	VA	24087-0599	Montgomery	'014256'	VA-MO-070	Norfolk
Howard J. Greever	124 Spring Valley Drive	Winchester	VA	22603-2946	Giles	'44-21'	VA-GI-200.001	Norfolk
					Giles	'44-26'	VA-GI-200.002	Norfolk
Howard M. and Christine W. Thompson	PO Box 133	Bent Mountain	VA	24059-0133	Roanoke	'118.00-01-09.00-0000'	VA-RO-068	Norfolk

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HS Tejas, Ltd.	PO Box 1350	Santa Rosa Beach	FL	32459-1350	Montgomery	'002853'	VA-MO-080	Norfolk
					Montgomery	'160248'	VA-MO-081	Norfolk
					Montgomery	'160247'	BVMO-29	Norfolk
					Montgomery	'160246'	VA-MO-5358	Norfolk
					Montgomery	'160244'	VA-MO-5359	Norfolk
					Montgomery	'160245'	VA-MO-5360	Norfolk
					Montgomery	'160243'	VA-MO-5361	Norfolk
					Montgomery	'160242'	VA-MO-5362	Norfolk
					Montgomery	'210207'	VA-MO-5834	Norfolk
					Montgomery	'160241'	VA-MO-5365	Norfolk
					Montgomery	'160240'	VA-MO-5636	Norfolk
Irene D. Carner	5263 Fordwick Drive	Roanoke	VA	24018-4615	Franklin	'0450006400'	VA-FR-127	Norfolk
Iris M. Mason	120 Dual Track Road	Chatham	VA	24531-3646	Pittsylvania	'2417-96-2930'	VA-PI-087	Norfolk
					Pittsylvania	'2417-86-6218'	VA-PI-087.01	Norfolk
Isaiah R. Snider	227 Snidertown Road	Goldbond	VA	24150-7707	Giles	'16-11A'	VA-GI-002.03	Norfolk
J & J Energy, Inc., a Virginia corporation Mel Richardson	PO Box 12426	Roanoke	VA	24025-2426	Franklin	'0240002300'	VA-FR-001	Norfolk
J & M Grants, Inc.	5531 Bethlehem Road	Boones Mill	VA	24065-2321	Franklin	'0370011115'	VA-FR-017.31	Norfolk
					Franklin	'0370011110'	VA-FR-017.33	Norfolk
					Franklin	'0370011111'	VA-FR-017.34	Norfolk
J. Clark and Shirley Bowman Jamison	4753 Dillons Mill Road	Callaway	VA	24067-2115	Franklin	'0240004400'	VA-FR-009	Norfolk
					Franklin	'0240000400'	VA-FR-013.01	Norfolk
					Franklin	'0240001300'	VA-FR-013	Norfolk
					Franklin	'0240001100'	VA-FR-014	Norfolk
Jacob W. and Amanda M . Dyer	349 Honeybee Trail	Boones Mill	VA	24065-3937	Franklin	'0370001511'	VA-FR-017.45	Norfolk
Jacqueline J. Lucki	PO Box 203	Bent Mountain	VA	24059	Roanoke	'102.00-01-13.01-0000'	VA-RO-50	Norfolk
					Roanoke	'102.00-01-14.00-0000'	VA-RO-052	Norfolk
Jacqueline M. Kessler	38335 Canal Street	Ocean View	DE	19970-4169	Giles	'44-3-1D'	VA-GI-055	Norfolk
				19970-4169	Giles	'44-3-1B'	VA-GI-4245	Norfolk
Jacqueline M. Martin	181 Lanier Lane	Chatham	VA	24531-4438	Pittsylvania	'2427-30-9081'	VA-PI-4158	Norfolk
James A. Hankins	2561 Chalk Level Road	Chatham	VA	24531-3248	Pittsylvania	'2426-88-4949'	VA-PI-099	Norfolk
James Barry Link	100 Covered Bridge Lane	Newport	VA	24128-4061	Giles	'45-43'	VA-GI-069	Norfolk
					Giles	'45-44'	VA-GI-070	Norfolk
					Giles	'45-40A'	VA-GI-071	Norfolk
James Cabel and Carolyn D. Law	6175 Yellow Finch Lane	Ellison	VA	24087-2622	Montgomery	'002833'	VA-MO-5626	Norfolk
					Montgomery	'032431'	VA-MN-5234	Norfolk
					Montgomery	'011673'	VA-MO-025	Norfolk
James Cabel and Carolyn Diana Eanes Law	6175 Yellow Finch Lane	Elliston	VA	24087-2622	Montgomery	'018808'	VA-MO-024	Norfolk
James Clinton Mills	2760 Paris Mountain Road	Elliston	VA	24087-3322	Montgomery	'032745'	VA-MO-4423	Norfolk
James D. and Karen B. Scott	8443 Poor Mountain Road	Bent Mountain	VA	24059	Roanoke	'093.00-01-33.01-0000'	VA-RO-043	Norfolk
James D. and Karen B. Scott	8443 Poor Mountain Road	Bent Mountain	VA	24059-2437	Roanoke	'093.00-01-34.00-0000'	VA-RO-040	Norfolk
					Roanoke	'093.00-01-34.01-0000'	VA-RO-030	Norfolk
					Roanoke	'093.00-01-33.00-0000'	VA-RO-042	Norfolk
James D. Mattox	PO Box 211	Newport	VA	24128	Giles	'46-49A'	VA-GI-5883	Norfolk
					Giles	'46-49'	VA-GI-098	Norfolk
James Edwin Falls	1049 Blankenship Mountain Road	Narrows	VA	24124-2512	Giles	'29-36'	VA-GI-5309	Norfolk
James Glynwood Haynes	526 Marshall Avenue Southwest	Roanoke	VA	24016-3943	Franklin	'0440020001'	VA-FR-5504	Norfolk
					Franklin	'0440019500'	VA-FR-5505	Norfolk
					Franklin	'0440019300'	VA-FR-5507	Norfolk
James H. and Lisa K. Korb	3491 Flatwoods Road	Elliston	VA	24087-2413	Montgomery	'005578'	BVMO-26	Norfolk
James Harrison Williams	4405 Walkers Well Road	Chatham	VA	24531-3944	Pittsylvania	'2408-06-7831'	VA-PI-3394.001	Norfolk

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James Howe Brown	10404 Stratford Avenue	Fairfax	VA	22030-3219	Montgomery	'002599'	VA-MO-3710	Norfolk
James R. and Michelle A. Fike	445 Coles Knob Lane	Rocky Mount	VA	24151-7229	Franklin	'0370011000'	VA-FR-017.38	Norfolk
James R. Craddock	1312 Riddle Road	Chatham	VA	24531	Pittsylvania	'2418-22-3036'	VA-PI-069	Norfolk
					Pittsylvania	'2418-21-5984'	VA-PI-070	Norfolk
James Ray and Charlotte P. Wright	2606 Lusters Gate Road	Blacksburg	VA	24060-9222	Montgomery	'003433'	VA-MO-5531	Norfolk
James T. and Kathy E. Chandler	PO Box 20638	Roanoke	VA	24018-0064	Roanoke	'111.00-01-62.01-0000'	VA-RO-060	Norfolk
					Roanoke	'117.00-01-38.00-0000'	VA-RO-061	Norfolk
James T. and Mary P. Riddle	1733 Webster Road	Glade Hill	VA	24092-3654	Franklin	'0530000300'	VA-FR-143.02	Norfolk
					Franklin	'0530000200'	VA-FR-143.03	Norfolk
James W. Sink and Edith G. Sink Trust, dated the 18th day of June, 2003; Susan E. Sink, Leigh A. Sink, James W. Sink, Jr., as Substitute Co-Trustees	3020 Riner Road	Christiansburg	VA	24073	Franklin	'0440011700'	VA-FR-5475	Norfolk
James Walter Wray	2000 Iron Ridge Road	Rocky Mount	VA	24151-3964	Franklin	'0440006701'	VA-FR-4138.001	Norfolk
Jane Self Ellis	c/o Sharon Ellis, 3095 Cattail Drive	Tipp City	OH	45371	Pittsylvania	'2427-12-7949'	VA-PI-5985	Norfolk
Janet DeGroff	3030 Mt. Tabor Road	Blacksburg	VA	24060	Montgomery	'001262'	VA-MO-5519	Norfolk
					Montgomery	'032870'	VA-MO-5520	Norfolk
Janet Elizabeth Difabio	901 Draper Road Southwest	Blacksburg	VA	24060-5119	Craig	'121-A-1'	VA-CR-4444	Norfolk
Janet M. Martin	103 Cruse Circle	Salisbury	NC	28146-8861	Giles	'26-1D1'	VA-GI-5698	Norfolk
Janie Webb	13 Sunset Drive, Apartment D	Alexandria	VA	22301-2648	Giles	'27-72'	VA-GI-015.01	Norfolk
Janis E. Waller	504 Harrison Avenue Northwest	Roanoke	VA	24016-1735	Franklin	'0660009504'	VA-FR-5431	Norfolk
Jason A. Crook	PO Box 1345	Princeton	WV	24740-1345	Giles	'28-10'	VA-GI-018	Norfolk
Jason K. and Beth C. Keesee	821 Dual Track Road	Chatham	VA	24531-3648	Pittsylvania	'2417-99-5129'	VA-PI-4167	Norfolk
Jay H. Poindexter	1150 Novelty Road	Union Hall	VA	24176-3707	Franklin	'0660011703'	VA-FR-4352	Norfolk
Jeffery L. Conner	141 Conner Lane Southeast	Copper Hill	VA	24079-2622	Roanoke	'117.00-01-40.00-0000'	VA-RO-5230	Norfolk
Jeffrey A. and Rebecca F. Bartlett	2530 Cannery Road	Elliston	VA	24087-3002	Montgomery	'021098'	VA-MO-006	Norfolk
Jeffrey B. Draper	855 Leaning Oak Road	Boones Mill	VA	24065-3944	Franklin	'0370001606'	BV-FR-11	Norfolk
					Franklin	'0370001803'	VA-FR-017.48	Norfolk
Jeffrey D. King	PO Box 175	Elliston	VA	24087	Montgomery	'000538'	VA-MO-5390	Norfolk
Jeffrey L. and Dana A. Moran	2779 Green Level Road	Rocky Mount	VA	24151-4126	Franklin	'0370017302'	VA-FR-051	Norfolk
Jennifer L. Fraley	10812 Green Hollow Drive	Bent Mountain	VA	24059-2176	Roanoke	'117.00-01-39.00-0000'	BVRO-11	Norfolk
Jennifer M. Webb	1051 Kow Camp Road	Pembroke	VA	24136-3605	Giles	'29-40E'	VA-GI-039.01	Norfolk
Jeremy Joseph and Michelle Renee Rice	10627 Bent Mountain Road	Bent Mountain	VA	24059-2117	Roanoke	'111.00-01-58.00-0000'	VA-RO-5627	Norfolk
JeRena A. Handy	713 Woodcrest Way	Murrells Inlet	SC	29576-7163	Franklin	'0450001300'	VA-FR-5940	Norfolk
Jerry J. and Jerolyn K. Deplazes	291 Seven Oaks Road	Newport	VA	24128-3558	Giles	'46-66'	VA-GI-4249	Norfolk
Jerry W. Bush	240 Wycombe Drive	Hardy	VA	24101	Pittsylvania	'1561-30-7767'	VA-PI-006.02	Norfolk
					Pittsylvania	'1561-50-7957'	VA-PI-009	Norfolk
Jesse Albert Webster	306 North Broad Street	Salem	VA	24153-3730	Franklin	'0250002800'	VA-FR-017.06	Norfolk
					Franklin	'0250002400'	VA-FR-017.07	Norfolk
Jesse D. and Melanie J. Couch	7034 Southerland Circle	Salem	VA	24153-8202	Roanoke	'072.02-01-43.00-0000'	VA-RO-5720	Norfolk
Jesse E. Owen	4741 Climax Road	Chatham	VA	24531-3937	Pittsylvania	'1499-51-8899'	VA-PI-3390	Norfolk
					Pittsylvania	'2408-09-7078'	VA-PI-3394	Norfolk
Jessica Danielle Hall	157 Dove Lane	Floyd	VA	24219	Craig	'121-A-11_12_13'	VA-CR-200.052	Norfolk
					Craig	'121-A-14'	VA-CR-200.054	Norfolk
Jimmy L. and Dolly C. Martin	110 Bridge Rd	Ripplemead	VA	24150	Giles	'16-24'	VA-GI-4242 (AR MO-233)	Norfolk
Jimmy Lowe and Dolly Carter Martin	110 Bridge Rd	Ripplemead	VA	24150-3035	Giles	'16-26'	VA-GI-4241 (AR MO-233)	Norfolk
Jo Mills Sowers	3750 Bradshaw Road	Elliston	VA	24087-2210	Montgomery	'032744'	VA-MO-4424	Norfolk
Joanne H. Draper	1360 Leaning Oak Road	Boones Mill	VA	24065-4173	Franklin	'0370001803A'	VA-FR-5938	Norfolk
John and Deborah F. Robinson	390 Farm View Road	Glade Hill	VA	24092-1747	Franklin	'0450013502'	VA-FR-135	Norfolk
John C. Hale, Sr. and John C. Hale, Jr.	4341 Green Level Road	Rocky Mount	VA	24151	Franklin	'0450003300'	VA-FR-125	Norfolk

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Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
John Coles Terry	8741 Poor Mountain Road	Bent Mountain	VA	24059-2413	Roanoke	'102.00-01-08.00-0000'	VA-RO-045	Norfolk
John E. and Louise T. Castleman	186 Cloverdale Lane	Rocky Mount	VA	24151-4005	Franklin	'0430005007'	VA-FR-3871	Norfolk
					Franklin	'0430005008'	VA-FR-4136	Norfolk
John Erik Smith	4316 North Fork Road	Elliston	VA	24087	Montgomery	'017721'	VA-MO-5381	Norfolk
John F. and Margaret A. Meade	144 Royal Pointe Way	Mooresville	NC	28117-7559	Giles	'38A-6-G-L1'	VA-GI-5930	Norfolk
John Garrett and Suzanne Jane Baker	8210 Reynard Road	Chapel Hill	NC	27516-9279	Montgomery	'019482'	VA-MO-5523	Norfolk
John Wesley Hilton	PO Box 804	Pembroke	VA	24136-0804	Giles	'28-28'	VA-GI-027	Norfolk
Johnny and Penny Lynn Shelton Mason	596 Andrew Road	Gretna	VA	24557-2621	Pittsylvania	'2408-46-2609'	VA-PI-3399	Norfolk
Joseph B. and Aleshia V. Phelps	831 Webster Road	Glade Hill	VA	24092-3721	Franklin	'0530200100'	VA-FR-4143	Norfolk
Joseph D. and Nancy C. David	14693 West Gretna Road	Penhook	VA	24137-2711	Pittsylvania	'1561-23-4459'	VA-PI-005	Norfolk
Joseph E. and Mary I. Lambert	PO Box 43	Union Hall	VA	24176-0043	Franklin	'0660010601'	VA-FR-177	Norfolk
Joseph L. Sink Living Trust Lynn Sink Allen	13826 Crosstimbers Road	Midlothian	VA	23112	Franklin	'0440009000'	VA-FR-081.001	Norfolk
Joseph L. Sink Living Trust, Lynn Sink Allen, Trustee	13826 Crosstimbers Road	Midlothian	VA	23112	Franklin	'0440008900'	VA-FR-5474	Norfolk
Joseph Patrick Tomelty	3401 Half Acre of Rocks Road	Elliston	VA	24087-2435	Montgomery	'013819'	VA-MO-060	Norfolk
Joseph Wyatt and Susan Hogan Brown	955 Greenway Road	Glade Hill	VA	24092	Franklin	'0450005900'	VA-FR-130	Norfolk
					Franklin	'0450013000'	VA-FR-131	Norfolk
Joshua David and Sheila Wise Wingfield	729 Monty Road	Boones Mill	VA	24065	Franklin	'0370011116'	VA-FR-017.32	Norfolk
Juana Garcia Gonzalez	1864 Golden View Road	Glade Hill	VA	24092-3935	Franklin	'0540021600'	VA-FR-139	Norfolk
Julian Adams Stewart	3042 Bradshaw Road	Elliston	VA	24087-2830	Montgomery	'170229'	VA-MN-5175	Norfolk
Julie A. Poindexter	89 Saint Clair Lane	Boones Mill	VA	24065-4155	Franklin	'0370001605'	VA-FR-5936	Norfolk
Justin L. Arrington	1345 Bonbrook Mill Road	Rocky Mount	VA	24151-2936	Franklin	'0440018701'	VA-FR-5494	Norfolk
Karen E. Brennalt	2765 Spinnaker Drive	Reno	NV	89519-5759	Montgomery	'008493'	VA-MO-079	Norfolk
Karl N. Hubbard	1697 Golden View Road	Glade Hill	VA	24121-1801	Franklin	'0540020601'	VA-FR-137	Norfolk
Karolyn W. Givens	2311 North Main Street	Blacksburg	VA	24060-1307	Giles	'47-9'	VA-GI-200.041	Norfolk
Kathleen D. Gray	7561 Cove Hollow Road	Elliston	VA	24087-2613	Roanoke	'082.00-01-37.00-0000'	VA-RO-5805	Norfolk
Kay D. Potter	93 Tobacco Road	Glade Hill	VA	24092-3812	Franklin	'0650003200'	VA-FR-158	Norfolk
Keith L. Hunt	2056 Novelty Road	Penhook	VA	24137-3357	Franklin	'0680000700'	VA-FR-191	Norfolk
Keith M. and Mary K. Wilson	887 Labellevue Drive	Boones Mill	VA	24065-3837	Franklin	'0370009906'	VA-FR-017.44	Norfolk
Kelvin D. and Debra D. Linkous	495 Teel Brooke Road	Rocky Mount	VA	24151-3998	Franklin	'0430105100'	VA-FR-072	Norfolk
Kenneth Eugene Radford	1029 Van Buren Road	Maurertown	VA	22644-1823	Montgomery	'004910'	VA-MO-5363	Norfolk
Kenneth L. and Christine Haskins	1589 Old Mine Road	Chatham	VA	24531-3580	Pittsylvania	'2418-06-9860'	BVPI-17	Norfolk
Kenney C. and Patricia B. Cox	1309 North Old Mill Drive	Deltona	FL	24087	Montgomery	'170027'	VA-MO-063	Norfolk
Kenney C. and Patricia B. Cox	1309 North Old Mill Drive	Deltona	FL	32725--2859	Montgomery	'170028'	VA-MO-066	Norfolk
Keri Shea Robertson Altice	753 Simmons Creek Road	Union Hall	VA	24176-3954	Franklin	'0650004200'	VA-FR-161	Norfolk
Kermit C. and Alva T. Crowe	8227 Bent Mountain Road	Bent Mountain	VA	24018-5869	Roanoke	'111.00-01-56.02-0000'	VA-RO-5216	Norfolk
Kevin E. and Christi S. Owen	4612 Climax Road	Chatham	VA	24531-3936	Pittsylvania	'1499-90-9788'	VA-PI-3393	Norfolk
Kevin E. and Christi S. Owen	4612 Climax Road	Chatham	VA	24531-3936	Pittsylvania	'1499-72-3859'	VA-PI-046.01	Norfolk
Kevin P. and Celena G. Bowman	1733 Adney Gap Road	Callaway	VA	24067-2006	Franklin	'0240001900'	VA-FR-011	Norfolk
					Franklin	'0240001400'	VA-FR-012	Norfolk
Kevin P. Bowman	1733 Adney Gap Road	Callaway	VA	24067-2006	Franklin	'0240001700'	VA-FR-4128	Norfolk
Kevin S. and Dana T. Teaford	7487 Cove Hollow Road	Elliston	VA	24087-2611	Roanoke	'082.00-01-38.00-0000'	VA-RO-5806	Norfolk
Kitty P. Martin	105 Lightfoots Run	Pearisburg	VA	24134-2296	Giles	'45-64'	VA-GI-063	Norfolk
L. Benton and Diane S. Wray	3567 Dillons Mill Road	Callaway	VA	24067-2623	Franklin	'0250002200'	VA-FR-017.02	Norfolk
Lake Anna Investments, LC	PO Box 7000	Lynchburg	VA	24505-7000	Pittsylvania	'2418-50-8820'	VA-PI-072.01	Norfolk
Lane and Lisa Dellinger	411 Flint Hill Road	Rocky Mount	VA	24151-5545	Franklin	'0450006802'	VA-FR-120	Norfolk
Larry and Loreen Thompson	538 Eggleston Road	Pembroke	VA	24136-3148	Giles	'47-8'	VA-GI-200.040	Norfolk
Larry D. and Carolyn S. Zeigler	145 Ziegler Lane	Union Hall	VA	24176-3791	Franklin	'0660011301'	VA-FR-5440	Norfolk
Larry W. and Patricia P. Martin	262 Celestial Heights Road	Pembroke	VA	24136-3047	Giles	'29-40l1'	VA-GI-041	Norfolk
					Giles	'29-39'	VA-GI-043	Norfolk
Larry W. Saunders	8804 Chestnut Avenue	Bowie	MD	20720-3675	Pittsylvania	'2427-21-9255'	VA-PI-094	Norfolk
Laurene Pitney	278 Pocahontas Road	Narrows	VA	24124-2252	Giles	'26-1D'	VA-GI-4240	Norfolk

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Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
LDS Holdings, LC	c/o Leonard Deshano, 1620 Merriman Way Road	Moneta	VA	24121-3179	Franklin	'0440015800'	VA-FR-5482	Norfolk
Lee Duncan Croy	2599 Kensington Drive	Duluth	GA	30096-3627	Giles	'43-53'	VA-GI-048	Norfolk
Leigh Ann Kauffelt	463 Mountain Lake Road	Newport	VA	24128-4063	Giles	'45-53'	VA-GI-064	Norfolk
					Giles	'45-51'	VA-GI-065	Norfolk
					Giles	'45-54'	VA-GI-4248	Norfolk
					Giles	'45-52'	VA-GI-067	Norfolk
Leonard C. and Deborah L. Steiner	2247 Stockton Drive	Schwenksville	PA	19473-1466	Montgomery	'008906'	VA-MO-4259.001	Norfolk
Lester Lee and Edna H. Terry	756 Mill Creek Road	Chatham	VA	24531-4449	Pittsylvania	'2427-22-4237'	VA-PI-092	Norfolk
LHoist North America of Virginia, Inc. Valerie Robbins	PO Box 985004	Fort Worth	TX	76185-5004	Giles	'27-73'	VA-GI-008.06	Norfolk
					Giles	'27-75'	VA-GI-013	Norfolk
Lighthouse Deliverance Center Stephen R. Scott	2048 Taylors Mill Road	Gretna	VA	24557	Pittsylvania	'2417-78-3420'	VA-PI-73.031	Norfolk
Linda Mills	32 Parkdale Drive	Salem	VA	24153-4025	Pittsylvania	'1561-32-4812'	VA-PI-006	Norfolk
Lisa Darlene Zeigler	245 Zeigler Lane	Union Hall	VA	24176-3798	Franklin	'0660011305'	VA-FR-182	Norfolk
Lisa J. Tincher	145 Oak Garden Drive	Boones Mill	VA	24065	Franklin	'0440206600'	VA-FR-5500	Norfolk
Lloyd E. Arnold	3588 Flatwoods Road	Elliston	VA	24087-2414	Montgomery	'014257'	VA-MO-4259	Norfolk
Lloyd R. and Roxie S. Clingenpeel	20 York Street	Roanoke	VA	24019-8361	Franklin	'0240001001B'	VA-FR-015	Norfolk
Lois Mabel Waldron Martin	10808 Bottom Creek Road	Bent Mountain	VA	24059-0000	Roanoke	'110.00-01-50.00-0000'	VA-RO-057	Norfolk
Longview Holsteins, Inc. Galen Fisher	5535 Grassy Hill Road	Rocky Mount	VA	24151-3990	Franklin	'0430021500'	VA-FR-075	Norfolk
Lonnie L. and Judith P. Lester	10701 Bent Mountain Road	Bent Mountain	VA	24059-2119	Roanoke	'111.00-01-61.01-0000'	VA-RO-5229	Norfolk
Loretta M. Tickle	PO Box 157	Pembroke	VA	24136-0157	Giles	'29-30'	VA-GI-036	Norfolk
Louis W. and Florence Bryant	3321 Anderson Hill Road	Chatham	VA	24531-4309	Pittsylvania	'2408-55-6668'	VA-PI-3402	Norfolk
Lucas R. Owen	8673 Chalk Level Road	Gretna	VA	24557-2061	Pittsylvania	'2427-11-5178'	VA-PI-4156	Norfolk
Lucas R. Owen	8673 Chalk Level Road	Gretna	VA	24557-2061	Pittsylvania	'2427-21-1168'	VA-PI-093	Norfolk
Lucy A. Price	17140 Callaway Road	Callaway	VA	24067-1500	Franklin	'0240003400'	VA-FR-008	Norfolk
Lydia LaVerne Brown, a/k/a LaVerne A. Brown	195 Bonbrook Mill Road	Rocky Mount	VA	24151-2956	Franklin	'0440015700'	VA-FR-5483	Norfolk
Lynn R. and Cynthia D. Flora	75 Hayfield Drive	Boones Mill	VA	24065-3991	Franklin	'0370009301'	VA-FR-049	Norfolk
					Franklin	'0370008500'	VA-FR-050	Norfolk
Mad Dog Property Management, LLC	c/o George C. Martin, Jr., 1080 Whitehouse Road	Moneta	VA	24121-4400	Franklin	'0680003600'	VA-FR-196.03	Norfolk
Marc W. Graham	21375 Oakview Drive	Noblesville	IN	46062-9408	Giles	'44A-1-32'	VA-GI-053	Norfolk
					Giles	'44A-1-31'	VA-GI-054	Norfolk
Margaret B. Pinckney	2100 Birchleaf Lane	Blacksburg	VA	24060	Montgomery	'030449'	VA-MO-5521	Norfolk
Margaret McGraw Slayton Living Trust Dated December 14, 2001 Michael Edward Slayton	2626 Mount Tabor Road	Blacksburg	VA	24060-8920	Montgomery	'024590'	VA-MO-3371	Norfolk
Margaret T. Osborne	4612 Toshes Road	Chatham	VA	24531-3795	Pittsylvania	'1489-39-5745'	VA-PI-029.01	Norfolk
Margie S. Conner	3266 Green Level Road	Rocky Mount	VA	24151-4062	Franklin	'0370018000'	VA-FR-057	Norfolk
Marie Hoge-Perkins	PO Box 50	Prospect	VA	23960-0050	Giles	'44-23'	VA-GI-058	Norfolk
					Giles	'44-22'	VA-GI-059	Norfolk
					Giles	'44-22A'	VA-GI-5446	Norfolk
Marie Katherine Flora Jamison Goggin	2744 Dillons Mill Road	Callaway	VA	24067-2728	Franklin	'0380001300'	VA-FR-017.16	Norfolk
					Franklin	'0380005100'	VA-FR-017.19	Norfolk
Mark A. and Marie P. Divers	765 Beaver Creek Drive	Wirtz	VA	24184-4234	Franklin	'0440019801A'	VA-FR-5501	Norfolk
Mark A. and Teresa J. Pettipiece	5236 Carriage Drive	Roanoke	VA	24018-2214	Giles	'47-1-3'	VA-GI-200.046	Norfolk
Mark Clatts	331 Monty Road	Boones Mill	VA	24065-3541	Franklin	'0370011003'	BV-FR-8	Norfolk
Mark E. and Angela D. Daniel	18925 Virgil H. Goode Highway	Rocky Mount	VA	24151-6796	Franklin	'0440011600'	VA-FR-5476	Norfolk
Mark Eliott and Laura Neff- Henderson	3760 Mill Creek Road	Blacksburg	VA	24060-9046	Montgomery	'110940'	VA-MO-5529	Norfolk
Mark Flinchum	9932 Floyd Highway N	Copper Hill	VA	24079	Franklin	'0250003300'	VA-FR-017.08	Norfolk
Mark W. and Allison G. Cronk	170 Virginia Key Drive	Union Hall	VA	24176-2225	Roanoke	'093.00-01-44.00-0000'	VA-RO-038	Norfolk
Mark W. and Judith M. Angle	30 Flint Hill Road	Rocky Mount	VA	24151-5543	Franklin	'0450006801'	VA-FR-119.02	Norfolk
Martha A. McDearmon	1643 Kingsmill Drive	Salem	VA	24153-4692	Franklin	'0250003801'	VA-FR-017.10	Norfolk
Mary Alice Rogers Dunbar	40 Lakeview	Stansbury Park	UT	84074-9668	Giles	'27-6-2'	VA-GI-008.02	Norfolk

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Mary Arrington Clements	148 Newtown Avenue	Norwalk	CT	06851-2314	Franklin	'0660011000'	VA-FR-179	Norfolk
Mary Ellen Rives	10239 Bottom Creek Road	Bent Mountain	VA	24059-2305	Roanoke	'103.00-02-43.00-0000'	VA-RO-051	Norfolk
Mary Lee Riddle	PO Box 265	Gretna	VA	24557-0265	Pittsylvania	'1560-68-9630'	VA-PI-013	Norfolk
					Pittsylvania	'1560-77-0258'	VA-PI-014	Norfolk
Mary Poindexter Morris	634 Novelty Road	Union Hall	VA	24176-2800	Franklin	'0660011700'	VA-FR-184	Norfolk
Matthew A. and Alisha M. Wagle	119 Croy Lane	Pembroke	VA	24136-3664	Giles	'28-25C'	BVGI-4	Norfolk
Melvin and Bonnie M. Caudle	3604 Mount Tabor Road	Blacksburg	VA	24060-0420	Montgomery	'007708'	VA-MO-5527	Norfolk
Melvin L. and Sharon F. Linkous	1795 Dry Run Road	Blacksburg	VA	24060-0405	Montgomery	'011191'	VA-MO-5758	Norfolk
Meredith C. Novak	511 Tennessee Street	Salem	VA	24153-5002	Montgomery	'002902'	VA-MO-009	Norfolk
Michael A. and Elizabeth A. Deems	1864 Timber Ridge Road	Glade Hill	VA	24092-3806	Franklin	'0650402500'	VA-FR-155.02	Norfolk
					Franklin	'0650402600'	VA-FR-156	Norfolk
Michael Anthony and Elizabeth A. Deems	1864 Timber Ridge Road	Glade Hill	VA	24092-3806	Franklin	'0650402300'	VA-FR-156.01	Norfolk
Michael D. Bobbitt	2728 Parview Way	Glen Allen	VA	23059-7470	Pittsylvania	'1561-12-9077'	VA-PI-003	Norfolk
Michael Epperly	3189 Half Acre of Rocks Road	Elliston	VA	24087-2429	Montgomery	'014919'	VA-MO-5788	Norfolk
Michael Guy and Karen Martin Tosh	581 Star Land Drive	Sandy Level	VA	24161-2809	Pittsylvania	'1570-23-1867'	VA-PI-019	Norfolk
Michael L. and Marilyn R. Starkey	751 Little Mountain Circle	Rocky Mount	VA	24151	Franklin	'0450006404'	VA-FR-122	Norfolk
					Franklin	'0450006403'	VA-FR-121	Norfolk
					Franklin	'0450006600'	VA-FR-124	Norfolk
Michael L. and Teresa A. Lester	10700 Green Hollow Drive	Bent Mountain	VA	24059-2162	Roanoke	'111.00-01-61.02-0000'	VA-RO-5223	Norfolk
Michael Lafon	299 Deer Run Drive	Pearisburg	VA	24134-2381	Giles	'16-9'	VA-GI-004	Norfolk
Michael S. and Kelly O. Lambert	PO Box 123	Union Hall	VA	24176-0123	Franklin	'0660010200'	VA-FR-5745	Norfolk
Michael S. and Mary Frances K. Hurt	694 Wildwood Road	Boones Mill	VA	24065-3560	Franklin	'0380002203'	VA-FR-017.25	Norfolk
Michael Thomas Scott	8469 Poor Mountain Road	Bent Mountain	VA	24059-2437	Roanoke	'102.00-01-05.00-0000'	VA-RO-044	Norfolk
Michelle McClellan	58 Hope Place	High View	WV	26808-9418	Giles	'28-29G'	VA-GI-025	Norfolk
Michelle R. Lester	10660 Green Hollow Drive	Bent Mountain	VA	24059-2190	Roanoke	'111.00-01-61.03-0000'	VA-RO-5224	Norfolk
Mildred K. Wingfield	c/o Brenda McManaway, POA, 5616 Bethlehem Road	Boones Mill	VA	24065-2319	Franklin	'0370010701'	VA-FR-017.41	Norfolk
Mildred M. Apgar	5575 Lafayette Road	Lafayette	VA	24087-3039	Montgomery	'000843'	VA-MO-012	Norfolk
Moncie Edgar Mease	11495 West Gretna Road	Sandy Level	VA	24161-2951	Pittsylvania	'1570-44-2557'	VA-PI-023	Norfolk
					Pittsylvania	'1570-60-6981'	VA-PI-025	Norfolk
Motley Dairy, Inc. Judith Ramsey Motley	3309 Chalk Level Road	Chatham	VA	24531	Pittsylvania	'2427-50-0255'	VA-PI-096	Norfolk
Motley Family Revocable Trust Joan C. Motley	PO Box 3	Chatham	VA	24531-0003	Pittsylvania	'2417-86-4372'	BVPI-28	Norfolk
Mountain Valley Pipeline LLC	625 Liberty Avenue, Suite 1700	Pittsburgh	PA	15222	Giles	'25-53'	VA-GI-4239	Norfolk
					Giles	'25-54'	VA-GI-7567	Norfolk
					Giles	'25-53A'	VA-GI-7568	Norfolk
					Montgomery	'033209'	VA-MO-067	Norfolk
					Montgomery	'034186'	VA-MO-074	Norfolk
					Montgomery	'035861'	BV-MN-0053	Norfolk
					Montgomery	'016298'	VA-MO-011	Norfolk
					Franklin	'0440004300'	VA-FR-076.01	Norfolk
					Pittsylvania	'2436-53-9983'	VA-PI-112	Norfolk
					Pittsylvania	'2436-64-3488'	VA-PI-5717	Norfolk
					Pittsylvania	'2436-60-3630'	VA-PI-112.01	Norfolk
Mses. Juliana Bernholz and Irina Bernholz Siegrist	300 Bunn Drive , Apartment E409	Princeton	NJ	08540-2884	Montgomery	'015895'	VA-MO-5526	Norfolk
My Five Acres, LLC	PO Box 985	Pembroke	VA	24136	Giles	'30-4A'	BVGI-10	Norfolk
n/k/a Frances Elnora Law Pasley Elnora P. Law	PO Box 43	Redwood	VA	24146-0043	Franklin	'0650003400'	VA-FR-157	Norfolk
Nancy Board Flora	80 Board Lane	Glade Hill	VA	24092-1733	Franklin	'0450006100'	VA-FR-128	Norfolk
					Franklin	'0450012003'	VA-FR-4141	Norfolk
					Franklin	'0450012001'	VA-FR-4278	Norfolk
Nancye B. Motley	1000 Westover Drive	Danville	VA	24541-5102	Pittsylvania	'2418-41-9409'	VA-PI-071.01	Norfolk

Table 8. List of Affected Landowners (revised 2/26/2021)
Individual Permit Application
Mountain Valley Pipeline Project

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Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
Naomi S. Merrix	196 Camper Road	Ripplemead	VA	24150-3009	Giles	'27-21'	VA-GI-006	Norfolk
Nathan Hancock	130 Old Shop Road	Bluefield	VA	24605-7023	Giles	'29-17'	VA-GI-032	Norfolk
National Gypsum Company	2001 Rexford Road	Charlotte	NC	28211-3415	Giles	'16-X'	VA-GI-5449	Norfolk
Newport Development Company, LLC	291 Seven Oaks Road	Newport	VA	24128-3558	Giles	'45-33I'	VA-GI-200.016	Norfolk
Nina Renee Tyler	407 Cobbler Drive	Berryville	VA	22611-1176	Giles	'28-29H'	BVGI-3	Norfolk
Norfolk Southern Railway Company	ATTN: Real Estate Department, 1200 Peachtree Street Northeast, 12th Floor	Atlanta	GA	30309	Montgomery	'009048'	VA-MO-5668	Norfolk
					Montgomery	'160410'	VA-MO-3717	Norfolk
Norma Jean Poindexter	2201 Bar Ridge Road	Penhook	VA	24137-3388	Franklin	'0680000200'	VA-FR-188	Norfolk
Norman Kent and Tammy Mitchell Owen	6940 Climax Road	Gretna	VA	24557	Pittsylvania	'2408-27-4519'	VA-PI-3396	Norfolk
Norman Kent Owen	6940 Climax Road	Gretna	VA	24557-2672	Pittsylvania	'1499-80-0532'	VA-PI-3392	Norfolk
Novelty Land Holdings, LLC	c/o James M. Cook, 14128 Old Franklin Turnpike	Penhook	VA	24137	Franklin	'0680000900'	VA-FR-193	Norfolk
Oak Grove Christian Church	572 Robertson Lane	Danville	VA	24540-6074	Pittsylvania	'2417-68-8838'	VA-PI-4155	Norfolk
Occanneechi, Inc.	PO Box 469	Boones Mill	VA	24065-0469	Franklin	'0250004100'	VA-FR-017.11	Norfolk
					Franklin	'0380001501'	VA-FR-017.15	Norfolk
Old Shepherd, LLC	PO Box 10009	Goldsboro	NC	27532-0009	Roanoke	'082.00-01-41.00-0000'	VA-RO-037	Norfolk
Orr Living Trust Kennett R. Orr	1788 Springwood Road	Fincastle	VA	24090	Montgomery	'013872'	VA-MO-053	Norfolk
Orren Richard and Geneva Bell Anderson	3387 Green Level Road	Rocky Mount	VA	24151-4064	Franklin	'0370018101'	VA-FR-054.002	Norfolk
Othelier Smith	10561 Old Franklin Turnpike	Union Hall	VA	24176-3966	Franklin	'0660009400'	VA-FR-4145	Norfolk
					Franklin	'0660009200'	VA-FR-178	Norfolk
Oxford Road Farms LLC	2625 Oxford Road	Chatham	VA	24531	Pittsylvania	'1489-07-4261'	VA-PI-4150	Norfolk
Oxford Road Farms, LLC	2625 Oxford Road	Chatham	VA	24531	Pittsylvania	'1489-29-4509'	VA-PI-029	Norfolk
Oyler Land And Leasing, LLC	243 Plymouth Drive	Roanoke	VA	24019-4125	Franklin	'0240004000'	VA-FR-4126	Norfolk
Patricia Ann Robertson	2621 Ogleton Road	Annapolis	MD	21403-4259	Pittsylvania	'2436-21-9771'	VA-PI-104.001	Norfolk
Patrick Butler	15425 Tully House Court	Charlotte	NC	28277-2982	Giles	'27-21C'	VA-GI-5445	Norfolk
Patsy S. Lumsden	50 Bernard Road	Rocky Mount	VA	24151-6733	Franklin	'0540200300'	VA-FR-5429	Norfolk
					Franklin	'0540020700'	VA-FR-143	Norfolk
Paul A. and Teresa A. Crawford	575 Three Brooks Lane	Rocky Mount	VA	24151-6691	Franklin	'0440016301A'	VA-FR-5489	Norfolk
Paul D. and Lucy H. Erwin	416 Riddle Road	Chatham	VA	24531-5298	Pittsylvania	'2418-22-5946'	VA-PI-067	Norfolk
Paul F. Crawford	c/o Allison Crawford Vest, POA, PO Box 760	Rocky Mount	VA	24151-0760	Franklin	'0440016301'	VA-FR-5488	Norfolk
Paul L. and Peggy M. Wilson	54 Cloverdale Lane, #99	Rocky Mount	VA	24151-4006	Franklin	'0430005005'	BVFR-24	Norfolk
Paul R. Field	3128 Bacchus Lane	Elliston	VA	24087-2910	Montgomery	'010558'	VA-MO-5355	Norfolk
Peggie A. Foster Trust U/A	c/o Peter G. Foster, 2100 Stuart Avenue	Richmond	VA	23220-3440	Pittsylvania	'1561-00-0394'	VA-PI-001	Norfolk
Penhook UM Church Trustees	c/o Jennifer Marlowe, PO Box 215	Penhook	VA	24137-0215	Franklin	'0660012101'	VA-FR-4146	Norfolk
Penny Edwards Blue	10440 Old Franklin Turnpike	Union Hall	VA	24176	Franklin	'0660010100'	VA-FR-172	Norfolk
					Franklin	'0660009502'	VA-FR-5434	Norfolk
Peter A. and Debra Lynn Barney	102 Boswell Boulevard	Smithburg	MD	21783-1634	Giles	'44-26C'	VA-GI-5447	Norfolk
Peter A. and Debra Lynn Barney	102 Boswell Boulevard	Smithburg	MD	21783-1634	Giles	'44-26A'	VA-GI-4417	Norfolk
Philip Wayne Young	341 Albert Merideth Ln.	Newport	VA	24126-3956	Giles	'28-32B'	VA-GI-022.01	Norfolk
Phyllis J. Legge	3928 Solstice Lane	Dumfries	VA	22025	Giles	'44-3-3A'	VA-GI-057	Norfolk
Phyllis M. Hutton	305 Hemlock Drive Southeast	Blacksburg	VA	24060-5229	Montgomery	'026945'	VA-MO-5516	Norfolk
Phyllis M. Hutton	305 Hemlock Drive Southeast	Blacksburg	VA	24060-5229	Montgomery	'009443'	VA-MO-5515	Norfolk
Predelma O'Neal Hall	c/o Tameka Hall, 2473 Roosevelt Avenue	Springfield	MA	01104-1641	Franklin	'0660004400'	VA-FR-4144	Norfolk
Ralph E. and Gale D. Williams	171 Sinking Creek Road	Pembroke	VA	24136 -3067	Giles	'29-40B'	VA-GI-040	Norfolk
Ramon A. Arellano	2091 Peakland Way	Christiansburg	VA	24073-4299	Craig	'120-A-8'	VA-GI-200.047	Norfolk
Randall Keith and Joanne Alice Epperly	6110 Yellow Finch Lane	Elliston	VA	24087-2623	Montgomery	'029056'	VA-MN-5235	Norfolk
					Roanoke	'082.00-01-17.00-0000'	VA-RO-5225	Norfolk
Ray A. Kinsey	1360 Leaning Oak Road	Boones Mill	VA	24065-4173	Franklin	'0370001800'	VA-FR-017.46	Norfolk
					Franklin	'0370001900'	VA-FR-045	Norfolk
Raymond H. and Kelly L. Novak	939 Farm View Road	Glade Hill	VA	24092-1755	Franklin	'0450005500'	VA-FR-129	Norfolk
Raymond Thomas and Linda D. Worrell	320 Honeybee Trail	Boones Mill	VA	24065-3596	Franklin	'0370001510'	VA-FR-017.42	Norfolk
Reba K. Wood	351 House Rock Road	Boones Mill	VA	24065-4165	Franklin	'0380002602'	VA-FR-017.27	Norfolk
					Franklin	'0380002600'	VA-FR-017.28	Norfolk

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Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
Rebecca Jane Dameron	10721 Bent Mountain Road	Bent Mountain	VA	24059-2119	Roanoke	'111.00-01-61.00-0000'	VA-RO-5383	Norfolk
Reebbit Farms, LLC	PO Box 545	Sunapee	NH	03782-0545	Pittsylvania	'2426-97-2787'	VA-PI-100	Norfolk
					Pittsylvania	'2426-87-3293'	VA-PI-101	Norfolk
					Pittsylvania	'2426-95-2849'	VA-PI-102	Norfolk
Reese Family Limited Partnership Lynn J. and Mary D. Reese	4289 North Fork Road	Elliston	VA	24087-3225	Montgomery	'140569'	VA-MO-4262	Norfolk
					Montgomery	'025398'	VA-MO-072	Norfolk
					Montgomery	'001478'	VA-MO-4263	Norfolk
					Montgomery	'001477'	VA-MO-073	Norfolk
Richard Arthur Heslep	821 Stonegate Drive, Apt. 32	Salem	VA	24153-2621	Montgomery	'008619'	VA-MO-088.04	Norfolk
Richard Clark Owen	9423 Stone Spring Drive	Mechanicsville	VA	23116-5866	Franklin	'0380002204B'	VA-FR-4129	Norfolk
Richard E. Flint	567 Hawk Ridge Lane	Boones Mill	VA	24065	Franklin	'0370010100'	BV-FR-9	Norfolk
					Franklin	'0370009906A'	VA-FR-017.43	Norfolk
Rickie D. and Maxine A. Casey	1009 South Pollard Street	Vinton	VA	24179-3446	Giles	'44-13A'	VA-GI-3673	Norfolk
Ricky James Cooke	346 Powells Store Road	Glade Hill	VA	24092-3963	Franklin	'0530011900'	VA-FR-149	Norfolk
Roanoke Gas Company, a Virginia corporation	519 Kimball Avenue, PO Box 13007	Roanoke	VA	24030	Franklin	'0370005302'	VA-FR-6289	Norfolk
Roanoke Valley 4 Wheelers Association	c/o Beth Deaton, 125 Plymouth Drive	Roanoke	VA	24019-4123	Montgomery	'016068'	VA-MO-4265	Norfolk
					Montgomery	'031198'	VA-MO-4264	Norfolk
Roanoke Valley Resource Authority	1020 Hollins Road NE	Roanoke	VA	24012	Montgomery	'030946'	VA-MO-078	Norfolk
					Montgomery	'030927'	VA-MO-5712	Norfolk
					Montgomery	'030954'	VA-MO-4402	Norfolk
Roanoke Valley Resource Authority Steve Barger	1020 Hollins Road Northeast	Roanoke	VA	24012-8011	Montgomery	'015957'	VA-MO-5373	Norfolk
Robbie J. and Michele L. Vandyke	3451 Flatwoods Road	Elliston	VA	24087-2413	Montgomery	'008743'	VA-MO-065	Norfolk
Robert Alan Pegram	1705 Timber Ridge Road	Glade Hill	VA	24092-4097	Franklin	'0650401600'	VA-FR-155.01	Norfolk
Robert B. and Joan M. Workman	PO Box 2197	Richmond	KY	40476-2197	Franklin	'0680007000'	VA-FR-196.02	Norfolk
Robert C. McClanahan	PO Box 662	Elliston	VA	24087-0662	Montgomery	'003025'	VA-MO-5371	Norfolk
Robert E. Mills	PO Box 191	Salem	VA	24153	Montgomery	'021549'	VA-MO-5391	Norfolk
Robert E. Mills	PO Box 191	Salem	VA	24153-0191	Montgomery	'021547'	VA-MO-020	Norfolk
Robert Edward and Patsy W. Nuckols	1193 Double Bridge Road	Chatham	VA	24531-4373	Pittsylvania	'1499-14-5945'	VA-PI-029.07	Norfolk
Robert F. and Karen V. Brown	1708 Coachlite Drive	Henrico	VA	23238-4440	Pittsylvania	'2436-75-1295'	VA-PI-3414	Norfolk
Robert G. Ikenberry	1215 Prestwould Drive	Clarksville	VA	23927-2547	Franklin	'0370017700'	VA-FR-053	Norfolk
Robert H. Smith	428 Steele Acres Road	Newport	VA	24128-3590	Giles	'47-12C'	VA-GI-200.043	Norfolk
Robert M. and Donna Thomas Jones	PO Box 10698	Blacksburg	VA	24062-0698	Montgomery	'024591'	VA-MO-5512	Norfolk
					Montgomery	'024588'	VA-MO-5511	Norfolk
Robert W. Stevenson	PO Box 748	Roanoke	VA	24004-0748	Roanoke	'072.02-01-46.00-0000'	VA-RO-4268	Norfolk
Robert Wayne and Patricia Ann Morgan	1295 Bonbrook Mill Road	Rocky Mount	VA	24151-2937	Franklin	'0440018700'	VA-FR-5493	Norfolk
Rodney L. Croy	982 Sugar Run Road	Staffordsville	VA	24167-3527	Giles	'28-25'	VA-GI-026	Norfolk
Roger L. and Beverly S. Hilton	PO Box 608	Pembroke	VA	24136-0608	Giles	'28-10C'	VA-GI-019	Norfolk
Roger M. and Vicki S. Powell	417 Steele Acres Road	Newport	VA	24128-3630	Craig	'120-A-8A'	VA-CR-5778	Norfolk
Ronald B. Edwards	280 Edwardsway Road	Union Hall	VA	24176-4050	Franklin	'0660003900'	VA-FR-171	Norfolk
					Franklin	'0660009503'	VA-FR-5432	Norfolk
					Franklin	'0660009501A'	VA-FR-5435	Norfolk
Ronald C. Carroll	1620 Wildwood Drive	Salem	VA	24153-1643	Montgomery	'013565'	VA-MO-026	Norfolk
Ronald L. and Linda R. Perkins	3532 Flatwoods Road	Elliston	VA	24087-2414	Montgomery	'120705'	VA-MO-4258	Norfolk
Ronda Diane Roope Osborne	934 Grosvenor Drive	Bel Air	MD	21014-5467	Franklin	'0450003200'	VA-FR-4276	Norfolk
Ronnie Allen Angle	1691 Angle Plantation Road	Rocky Mount	VA	24151-5618	Franklin	'0440020300'	VA-FR-5892	Norfolk
Ronnie Toney	PO Box 544	Pembroke	VA	24136-0544	Giles	'28-10E2'	VA-GI-5342	Norfolk
Rosemary Williams Revocable Trust Dated January 12, 2006 Rosemary Williams	PO Box 112	Union Hall	VA	24176-0112	Franklin	'0660004100'	VA-FR-169	Norfolk
Roy A. Stevens	1315 Bonbrook Mill Road	Rocky Mount	VA	24151-2936	Franklin	'0440018800'	VA-FR-5496	Norfolk
Roy Henry and Vera R. Witcher	13685 West Gretna Road	Sandy Level	VA	24161-2629	Pittsylvania	'1561-52-5438'	VA-PI-008.002	Norfolk
					Pittsylvania	'1561-52-5640'	VA-PI-008.003	Norfolk
					Pittsylvania	'1561-52-6704'	VA-PI-4275	Norfolk

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Ruby H. Dillon	753 Greenway Road	Glade Hill	VA	24092-1738	Franklin	'0530000800'	VA-FR-146	Norfolk
Ruby Norris Hodges	c/o Ruby H. Marshall, POA, 364 Laurel Woods Drive	Danville	VA	24540-5203	Pittsylvania	'1560-95-4718'	VA-PI-016	Norfolk
Russell E. and Heide K. Callaway	366 G.W. Liles Parkway Northwest	Concord	NC	28027-2406	Franklin	'0240005400'	VA-FR-015.02	Norfolk
Ruth Foley	432 Doe Run Road	Rocky Mount	VA	24151-6174	Franklin	'0240001800'	VA-FR-010	Norfolk
Ruth H. Motley	505 S. Huron Avenue	Columbus	OH	43204-2563	Pittsylvania	'2417-97-1683'	VA-PI-086	Norfolk
Samuel C. and Jane R. Roseberry	44 Spring Lawn Drive	Boones Mill	VA	24065-4729	Franklin	'0440203800'	VA-FR-5481	Norfolk
Samuel Hale and Mary Sutton Reynolds	1067 Blue Grass Trail	Newport	VA	24128-3573	Giles	'46-1-2A'	VA-GI-5922	Norfolk
					Giles	'46-1-3'	VA-GI-097.01	Norfolk
Sandra Altice	730 Farm View Road	Glade Hill	VA	24092	Franklin	'0450013500'	VA-FR-132	Norfolk
Sandra Townes Powell	6005 Grey Fox Lane	Salem	VA	24153-8305	Montgomery	'015900'	VA-MO-3370	Norfolk
Sandra Y. Jeffcoat	120 Junction Peak Avenue	North Las Vegas	NV	89031-6845	Pittsylvania	'2427-12-7078'	VA-PI-091	Norfolk
Sandy Ridge Baptist Church, a/k/a Sandy Ridge Missionary Baptist Church	1444 Bonbrook Mill Road	Rocky Mount	VA	24151-2965	Franklin	'0440019900'	VA-FR-5499	Norfolk
Sara Kay Scott	PO Box 314	Elliston	VA	24087-0314	Montgomery	'190165'	VA-MN-5176	Norfolk
Sarah Goodwin	29 Chestnut Street	Stamford	CT	06902-2211	Pittsylvania	'2436-42-6652'	VA-PI-111	Norfolk
Sarah Marie Denton	238 Snowdrift Lane	Rocky Mount	VA	24151-4966	Franklin	'0430004300'	VA-FR-062	Norfolk
					Franklin	'0430004400'	VA-FR-4135	Norfolk
Scott W. and Wendy H. Kane	526 Shamrock Farm Lane	Boones Mill	VA	24065-3910	Franklin	'0380000904'	VA-FR-017.14	Norfolk
Sean L. and Michelle S. Hall	6670 Stones Keep Lane	Elliston	VA	24087-2620	Montgomery	'220076'	VA-MO-3715	Norfolk
Self Farm, LLC, a Virginia limited liability company	5914 Forest Ridge Drive	Durham	NC	27713	Pittsylvania	'2427-23-5940'	VA-PI-090	Norfolk
Sharon E. Lambert	PO Box 107	Glade Hill	VA	24092-0107	Franklin	'0660010602'	VA-FR-176	Norfolk
Sharon Fugate Linkous	1795 Dry Run Road	Blacksburg	VA	24060-0405	Montgomery	'006739'	VA-MO-5528	Norfolk
Shelby A. Law	155 Sink Drive	Rocky Mount	VA	24151-2939	Franklin	'0440200400'	VA-FR-5492	Norfolk
Shelby S. Dudley	30 Wendover Avenue	Rocky Mount	VA	24151-2123	Franklin	'0530013100'	VA-FR-152	Norfolk
Sherman E. Craighead	PO Box 590	Huddleston	VA	24104-0590	Franklin	'0240000500'	VA-FR-015.01	Norfolk
Sisson & Ryan, Incorporated Tom Dunkenverger	PO Box 128	Shawsville	VA	24162-0128	Montgomery	'009063'	VA-MO-3718	Norfolk
Sizemore Incorporated of Virginia, a Virginia corporation fka Sizemore, Inc. Richard A. and Paula C. Sizemore	PO Box 8	Pembroke	VA	24136-0008	Giles	'29-25B'	VA-GI-035	Norfolk
SonaBank	70 Main Street, Suite 34	Warrenton	VA	20186-3346	Montgomery	'013751'	VA-MO-4321	Norfolk
Southern Finds, LLC	2625 Oxford Road	Chatham	VA	24531-5292	Pittsylvania	'1489-47-0499'	VA-PI-029.02	Norfolk
					Pittsylvania	'1489-65-9830'	VA-PI-029.04	Norfolk
Southern Finds, LLC Roger P. Jefferson	2625 Oxford Road	Chatham	VA	24531	Pittsylvania	'1489-58-3782'	VA-PI-029.03	Norfolk
Southern Region Industrial Realty, Inc.	ATTN: Real Estate Department, 1200 Peachtree Street NE, 12th Floor	Atlanta	GA	30309	Montgomery	'009065'	BVMO-33	Norfolk
Stacy Smith	10244 Bethesda Church Road	Damascus	MD	20872-1712	Craig	'121-A-2_3_4_5_6'	VA-CR-200.051	Norfolk
Stanley W. and Bobbie K. Taylor	3147 Half Acre of Rocks Road	Elliston	VA	24087-2429	Montgomery	'020506'	VA-MO-5787	Norfolk
Steele Acres, LLC	c/o Timothy S. Steele, 1696 Blue Grass Trail	Newport	VA	24128-3579	Giles	'47-11'	VA-GI-200.042	Norfolk
Stephen D. King	54 Claybrook Road	Rocky Mount	VA	24151-2928	Franklin	'0440015200'	VA-FR-5479	Norfolk
Stephen G. and Laura L. A. Weigand	PO Box 350	Penhook	VA	24137	Pittsylvania	'1561-40-5710'	VA-PI-008	Norfolk
Stephen H. and Betty H. Garber	1321 Angle Plantation Road	Rocky Mount	VA	24151-5615	Franklin	'0440020400'	VA-FR-5506	Norfolk
Stephen W. and Anne W. Bernard	7879 Grassy Hill Road	Boones Mill	VA	24065-3851	Franklin	'0370001901'	BVA-FR-13	Norfolk
Steven A. and Rachel A. Bowman	3520 Flatwoods Road	Elliston	VA	24087-2414	Montgomery	'120708'	VA-MO-069	Norfolk
Steven C. and Judy R. Hodges	508 Stevers Gap Trail	Newport	VA	24128-4218	Craig	'120-A-10A'	VA-CR-200.047	Norfolk
Steven D. Kessler	1815 Mountain Lake Road	Newport	VA	24128-3997	Giles	'44-3-1C'	VA-GI-056	Norfolk
Steven D. Kinsey	3479 Bethlehem Road	Boones Mill	VA	24065-3202	Franklin	'0380003402E'	VA-FR-5392	Norfolk
Steven D. Manning	830 Washboard Road	Rocky Mount	VA	24151	Franklin	'0530000400'	VA-FR-6243	Norfolk
					Franklin	'0530000100'	VA-FR-145	Norfolk
Steven L. Conner	108 Cloverdale Lane	Rocky Mount	VA	24151-4005	Franklin	'0430005006'	VA-FR-5427	Norfolk
Susan Elizabeth Glock Buch	8759 Hillview Drive East	Saint Bonifacius	MN	55375-1199	Montgomery	'000844'	VA-MO-013	Norfolk
Tamara N. Hodsden Trust Tamara N. Hodsden	PO Box 174	Newport	VA	24128	Giles	'46-11'	VA-GI-200.018	Norfolk
Tammy Y. Horsley	1912 Novelty Road	Penhook	VA	24137-3358	Franklin	'0680000301'	VA-FR-190	Norfolk
Tanner E. and Kristen R. Spencer	492 Teel Brooke Road	Rocky Mount	VA	24151	Franklin	'0430105000'	VA-FR-073	Norfolk

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Tartle, LLC	2101 Winston Avenue Southwest	Roanoke	VA	24014-1124	Montgomery	'002152'	VA-MO-5369	Norfolk
Teddy D. and Susan F. Crowe	10577 Green Hollow Drive	Bent Mountain	VA	24059-2161	Roanoke	'111.00-01-56.05-0000'	VA-RO-5218	Norfolk
Teel Creek Farm Partnership, a Virginia General Partnership	75 Hayfield Drive	Boones Mill	VA	24065-3991	Franklin	'0370008400'	BVFR-12	Norfolk
Terescita M. Davis	9603 Cochise Way	Louisville	KY	40258-1867	Franklin	'0660010700'	VA-FR-173	Norfolk
Terri P. Doss	PO Box 100	Gretna	VA	24557-0100	Pittsylvania	'1499-44-5858'	VA-PI-041.01	Norfolk
Terry Carmon Bennett	350 Angle Plantation Road	Rocky Mount	VA	24151-5606	Franklin	'0450001100'	VA-FR-5829	Norfolk
Terry L. and June R. Jones	PO Box 564	Pembroke	VA	24136-0564	Giles	'29-13A'	VA-GI-4415	Norfolk
Terry L. and June R. Jones	PO Box 564	Pembroke	VA	24136-0564	Giles	'28-28A'	VA-GI-027.01	Norfolk
Terry Lee Ingram	2348 Anderson Mill Road	Chatham	VA	24531-3693	Pittsylvania	'2408-95-3503'	BVPI-15	Norfolk
Terry Wayne Wolfe Revocable Trust Terry Wayne and Linda B. Wolfe	636 Lake Edge Drive	Moneta	VA	24121-2777	Franklin	'0450013602'	BVFR-43	Norfolk
The Catherine R. Beckner Trust Richard A. Lynch	724 Kin Vale Road	Rocky Mount	VA	24151-5622	Franklin	'0450008000'	VA-FR-115	Norfolk
The Estate of J. W. Sink	c/o Edith Sink, 18863 Virgil H. Goode Highway	Rocky Mount	VA	24151-3477	Franklin	'0440008702'	VA-FR-089	Norfolk
The Estate of Roy Dowdy					Giles	'46-66X'	VA-GI-5884	Norfolk
The Nancy Lorraine and Kenith Dwain Britton, Sr. Living Trust	c/o Kenith Dwain Bitton, Sr. and Nancy Lorriane, 266 Flint Hill Road	Rocky Mount	VA	24151-5899	Franklin	'0450006402'	VA-FR-5388	Norfolk
The Robert E. Daniels Revocable Trust Dated September 24, 1997, As Amended Robert E. Daniels	85 Blackwater Circle	Penhook	VA	24137-3547	Pittsylvania	'1561-42-8793'	BVPI-1	Norfolk
The Ruth S. Pritchard Trust Ruth S. Pritchard	568 Smithfield Lane	Berryville	VA	22611-3004	Giles	'27-8A'	BGI-0	Norfolk
Theresa C. Hrubec	249 Brookside Lane	Newport	VA	24128	Giles	'61-12B'	VA-GI-200.028	Norfolk
Thomas Cundiff	c/o Dorothy Ramsey Cundiff, 769 Listening Hill Road	Penhook	VA	24137-3361	Franklin	'0690001000'	VA-FR-187	Norfolk
Thomas E. and Denise M. Lester	3999 Gravely Hill Road	Ripplemead	VA	24150-3025	Giles	'27-16C'	VA-GI-4412	Norfolk
Thomas S. and Kathryn F. Stump	1842 Chalk Level Road	Chatham	VA	24531-5414	Pittsylvania	'2436-03-5489'	VA-PI-105	Norfolk
Thomas W. and Bonnie B. Triplett	2664 Mount Tabor Road	Blacksburg	VA	24060-8920	Montgomery	'024589'	VA-MO-5514	Norfolk
Thomas, Ltd.	130 East Main Street	Salem	VA	24153-3805	Roanoke	'072.02-01-45.00-0000'	VA-RO-004	Norfolk
Thomas, Ltd. Joe Thomas	494 Glenmore Drive	Salem	VA	24153-5418	Roanoke	'063.03-01-04.00-0000'	VA-RO-034	Norfolk
Thurman Dawson	c/o Shirley Bowman Jamison, 4753 Dillons Mill Road	Callaway	VA	24067-2115	Franklin	'0240001500'	VA-FR-5945	Norfolk
Timmy C. and Connie L. Jarrell	2701 Reese Mountain Road	Elliston	VA	24087-3133	Montgomery	'160239'	VA-MO-5367	Norfolk
Timothy E. and Lisa A. Ratliff	2902 Bacchus Lane	Elliston	VA	24087-2906	Montgomery	'005774'	VA-MO-3711	Norfolk
Timothy L. and Amy S. Dye	1338 Bonbrook Mill Road	Rocky Mount	VA	24151-2969	Franklin	'0440206400'	VA-FR-5498	Norfolk
Timothy Scott and Mallory A. Fralin	175 Farmview Road	Glade Hill	VA	24092	Franklin	'0540021800'	VA-FR-5918	Norfolk
					Franklin	'0540021700'	VA-FR-138	Norfolk
Timothy Shawn Hughes	6657 Chilton Court	McLean	VA	22101	Craig	'121-A-15'	VA-CR-200.053	Norfolk
Tolbert O. and Julia P. Hilton	PO Box 141	Pembroke	VA	24136-0141	Giles	'29-14'	VA-GI-030	Norfolk
Tony W. and Tamera Q. Kelly	230 Hill Drive	Fincastle	VA	24090	Franklin	'0680005203'	VA-FR-194	Norfolk
Tonya Allen Clements	120 Reflection Court	Winston Salem	NC	27105	Pittsylvania	'1489-09-2901'	VA-PI-026	Norfolk
					Pittsylvania	'1580-00-0360'	VA-PI-026.01	Norfolk
Town of Chatham	PO Box 370	Chatham	VA	24531	Pittsylvania	'2436-05-4217'	VA-PI-103.02	Norfolk
Town of Chatham Richard Cocke	16 Court Place	Chatham	VA	24531	Pittsylvania	'2436-05-4817'	VA-PI-103.01	Norfolk
Turman Lumber Company, Inc.	c/o Douglas R. Philips, PO Box 485	Floyd	VA	24091-0485	Montgomery	'009688'	VA-MO-5530	Norfolk
					Montgomery	'013432'	VA-MO-5532	Norfolk
United States of America	110 Southpark Drive	Blacksburg	VA	24060	Giles	'16-2'	VA-GI-002	Norfolk
					Montgomery	'070756'	VA-MO-001	Norfolk
United States of America	c/o Department of the Interior, 2551 Mountain View Road	Vinton	VA	21850	Roanoke	'118.00-01-10.00-0000'	VA-RO-070	Norfolk
					Roanoke	'118.00-01-16.00-0000'	VA-RO-5637	Norfolk
					Roanoke	'061.02-02-16.01-0000'	VA-RO-069	Norfolk

Table 8. List of Affected Landowners (revised 2/26/2021)
Individual Permit Application
Mountain Valley Pipeline Project

The information included in this table is exempt from disclosure pursuant to Exemption 6 to FOIA.

Owner	Address	City	State	ZIP Code	Parcel County	APN	Parcel Number	USACE District
Valerie Helton Helms	633 Leaning Oak Road	Boones Mill	VA	24065-3529	Franklin	'0370013801'	VA-FR-5939	Norfolk
Van Leslie Flora	388 Buzzard Rock Lane	Rocky Mount	VA	24151-4998	Franklin	'0370015500'	VA-FR-5422	Norfolk
Venkat and Anitha Reddy	1535 Links View Drive	Salem	VA	24153-8905	Roanoke	'110.00-01-54.00-0000'	VA-RO-058	Norfolk
					Roanoke	'110.00-01-55.00-0000'	VA-RO-059	Norfolk
Vernon V. Beacham	276 Simmental Lane	Pembroke	VA	24136-3158	Giles	'44A-1-33'	VA-GI-052	Norfolk
Virginia S. Starkey	313 Longwood Road	Rocky Mount	VA	24151-5561	Franklin	'0450003400'	VA-FR-126	Norfolk
W. Lynn and Rhonda S. Marstin	2136 Midway Road	Gretna	VA	24557-3198	Pittsylvania	'2408-56-0919'	VA-PI-3401	Norfolk
Walter and Jennifer H. Lucas	2572 Anderson Mill Road	Chatham	VA	24531-3626	Pittsylvania	'2408-86-7068'	BVPI-14	Norfolk
Walter H. Shelton	1058 Andrew Road	Gretna	VA	24557-2216	Pittsylvania	'2418-30-2966'	VA-PI-071	Norfolk
Walter L. and Betty W. Hodges	PO Box 62	Glade Hill	VA	24092	Franklin	'0650401400'	VA-FR-154	Norfolk
Walter L. and Betty W. Hodges	PO Box 62	Glade Hill	VA	24092	Franklin	'0530011400'	VA-FR-153	Norfolk
Wayne J. and Margie Shively Bowling	2280 Cahas Mountain Road	Boones Mill	VA	24065-3926	Franklin	'0380001400'	VA-FR-017.17	Norfolk
Wayne M. Hewitt	11341 Woodland Pond Parkway	Chesterfield	VA	23838-8936	Montgomery	'020824'	VA-MO-082	Norfolk
Wayne W. and Amy B. Davis	1918 Mill Creek Road	Chatham	VA	24531-4472	Pittsylvania	'2427-71-7879'	VA-PI-098	Norfolk
Wendell Wray and Mary McNeil Flora	150 Floradale Farms Lane	Boones Mill	VA	24065-3798	Franklin	'0380002000'	VA-FR-017.21	Norfolk
Wesley Witcher	1025 Keystone Lane	Clemson	SC	29631-2027	Franklin	'0680006800'	VA-FR-196.01	Norfolk
Westbrook Living Trust Dated September 3, 2003 Elizabeth R. Westbrook	200 The Glebe Boulevard, Apt. 3017	Daleville	VA	24083	Pittsylvania	'2417-86-1458'	BVPI-27	Norfolk
Weyerhaeuser Company, A Washington corporation	220 Occidental Avenue South	Seattle	WA	98104-3120	Franklin	'0690000700'	VA-FR-183	Norfolk
					Pittsylvania	'1570-14-2618'	VA-PI-018	Norfolk
					Pittsylvania	'1570-12-1595'	VA-PI-020	Norfolk
					Pittsylvania	'1570-23-5176'	VA-PI-021	Norfolk
Wheatland, LLC	204 West Main Street	Floyd	VA	24091-2304	Giles	'43-60'	VA-GI-050	Norfolk
Willard Construction of Smith Mountain Lake, LLC	PO Box 540	Wirtz	VA	24184-0540	Franklin	'0660009001'	BVFR-56	Norfolk
William C. Martin	110 Three Brooks Lane	Rocky Mount	VA	24151-6690	Franklin	'0440016300'	VA-FR-5486	Norfolk
William Carroll Phlegar Revocable Land Trust	2790 Old Fort Road	Blacksburg	VA	24060-3780	Giles	'27-69'	VA-GI-015	Norfolk
William David Board	80 Board Lane	Glade Hill	VA	24092-1733	Franklin	'0450012005'	VA-FR-4277	Norfolk
William E. and Beverly S. Williams	PO Box 164	Pembroke	VA	24136-0164	Giles	'29-38'	VA-GI-039	Norfolk
William E. Conklin	424 Kow Camp Road	Pembroke	VA	24136-3255	Giles	'29-40'	VA-GI-038	Norfolk
William H. Foster Trust Peter G. Foster	1602 Helmsdale Drive	Henrico	VA	23238-4724	Pittsylvania	'1570-53-1873'	VA-PI-024.01	Norfolk
William H. Foster Trust Peter G. Foster	2100 Stuart Avenue	Richmond	VA	23220-3440	Pittsylvania	'1570-62-9766'	VA-PI-024	Norfolk
William Hurbert Wray	140 Adney Gap Road	Callaway	VA	24067-2002	Franklin	'0240004100'	VA-FR-4127	Norfolk
William K. Pearson	808 Piney Road	Chatham	VA	24531-4313	Pittsylvania	'1499-36-6136'	VA-PI-041	Norfolk
William Ralph Cumbee	1350 Cascade Drive	Pembroke	VA	24136-3331	Giles	'29-15A'	VA-GI-031	Norfolk
William Robert Lee and Tammy Barnett Craft	PO Box 330	Christiansburg	VA	24068-0330	Montgomery	'007636'	VA-MO-057	Norfolk
					Montgomery	'007635'	VA-MO-058	Norfolk
William T. and Janie M. Payne	95 Price Lane	Rocky Mount	VA	24151-6687	Franklin	'0440016100'	VA-FR-5487	Norfolk
William T. and Jessica R. Gardner	231 Holliday Lane	Union Hall	VA	24176-1100	Franklin	'0660009300'	BVFR-54	Norfolk
Willie E. Redd, Jr. Irrevocable Trust Agreement Dated August 25, 2015 Willie E. Redd	1673 Chalk Level Road	Chatham	VA	24531-3252	Pittsylvania	'2436-06-0273'	VA-PI-103	Norfolk
Wingo Living Trust Carolyn H. Wingo	924 Craig Creek Road	Blacksburg	VA	24060	Montgomery	'021156'	VA-MO-200.058	Norfolk
Wolfe Living Trust Dated November 26, 2003 Terry Wayne and Linda Wolfe	636 Lake Edge Drive	Moneta	VA	24121-2777	Franklin	'0450013600'	VA-FR-136	Norfolk

Mountain Valley PIPELINE LLC

Table 15 (Crossing Method Determination Summary)

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	A-001	W-A1a, S-A1a	Dry-Ditch Open-Cut	69	-	N	106	51	648	N	N	$178,577	Dry-Ditch Open-Cut	This crossing is situated on a long and steep slope on one side that would create logistically difficult construction conditions and provide insufficient area for a bore pit spoils. Additionally, the presence of existing utilities and a completed road crossing do not allow sufficient workspace for excavation of a bore pit and operation of conventional boring or tunneling equipment.
			Conventional Bore	69	28	N	106	51	648	N	N	$451,592		
Huntington	A-003	S-A3a	Dry-Ditch Open-Cut	47	-	N	71	49	932	N	N	$64,909	Dry-Ditch Open-Cut	This crossing is situated on a long and steep slope on one side that would involve logistically difficult construction conditions and provide insufficient area for a bore pit spoils. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	47	34	N	71	49	932	N	N	$754,544		
Huntington	A-005	S-A124	Dry-Ditch Open-Cut	203	-	N	59	44	1432	N	N	$188,752	Dry-Ditch Open-Cut	This one foot wide stream is situated on a long and steep slope that would involve logistically difficult construction conditions and would require an excessively deep bore pit for a trenchless crossing. An already completed stream crossing is located near this resource which further reduces the available work space and creates an insufficient area for a bore pit soil stockpile. Furthermore, the time to complete a trenchless crossing is nearly four times as long and the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	203	48	N	59	44	1432	N	N	$3,194,292		
Huntington	A-006	W-A27-PFO, W-A27-PEM, S-A118	Dry-Ditch Open-Cut	95	-	N	74	62	1268	N	N	$90,372	Dry-Ditch Open-Cut	This crossing is located in a valley that has long and steep slopes on both sides which would require a technically and logistically challenging winching system. In addition, the deep bore pits would require additional areas to stockpile soils which may require additional tree clearing in known use Indiana Bat habitat. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	95	36	N	74	62	1268	N	N	$927,306		
Huntington	A-008	S-A120, S-A119, W-A34	Dry-Ditch Open-Cut	85	-	N	36	20	629	N	Y	$102,339	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	85	29	N	36	20	629	N	Y	$506,135		
Pittsburgh	A-009	W-B1a	Dry-Ditch Open-Cut	40	-	N	57	47	350	N	N	$28,000	Dry-Ditch Open-Cut	This small wetland is located on a steep slope would create logistically difficult construction conditions on both sides of the crossing and provide insufficient room for the spoils from the excessively deep bore pits. The bore duration is estimated to be twice as long and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	40	49	N	57	47	350	N	N	$2,786,247		
Pittsburgh	A-010/011	S-B2a, W-A40, S-B3a	Dry-Ditch Open-Cut	243	-	N	58	47	711	N	N	$198,323	Dry-Ditch Open-Cut	This crossing is located on a long and steep slope on one side that would create logistically difficult construction conditions and would require an excessively deep bore pit for a trenchless crossing. Furthermore, the estimated time to complete a trenchless crossing is nearly five times as long and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	243	49	N	58	47	711	N	N	$3,362,357		
Pittsburgh	A-012	S-A11a, S-A11a-Braid-1, S-A11a-Braid-2	Dry-Ditch Open-Cut	96	-	N	79	59	375	N	N	$114,692	Dry-Ditch Open-Cut	This crossing is located at the base of a steep slope that would involve logistically difficult construction conditions and would require an excessively deep bore pit for a trenchless crossing. Furthermore, the estimated time to complete a trenchless crossing is nearly four times as long and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	96	43	N	79	59	375	N	N	$2,617,901		
Pittsburgh	A-013	W-UU3	Dry-Ditch Open-Cut	30	-	N	38	7	0	N	Y	$21,000	Dry-Ditch Open-Cut	This narrow wetland (less than five feet wide at the pipeline crossing) would be excessively expensive to complete as a trenchless bore. In addition, the bore pits are of such depth (nearly 40-feet) that benching would be required, thereby increasing the amount of spoils created at the crossing and reducing the amount of available workspace.
			Conventional Bore	30	17	N	38	7	0	N	Y	$162,784		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Pittsburgh	A-014	S-UU3	Dry-Ditch Open-Cut	73	-	N	55	45	808	N	N	$264,165	Dry-Ditch Open-Cut	This crossing is located adjacent to long and steep slope that would involve logistically difficult construction conditions, an extensive equipment winching system, and an excessively deep bore pit for a trenchless crossing.
			Conventional Bore	73	36	N	55	45	808	N	N	$864,870		
Pittsburgh	A-015	S-UU5, W-UU4	Dry-Ditch Open-Cut	190	-	N	48	32	412	N	Y	$148,124	Dry-Ditch Open-Cut	This crossing is located on long and steep slope that would involve logistically difficult construction conditions, an extensive equipment winching system, and an excessively deep bore pit (37') that would require benching for a trenchless crossing. Furthermore, the estimated time to complete a trenchless crossing is nearly twice as long and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	190	37	N	48	32	412	N	Y	$1,215,184		
Pittsburgh	A-016	W-K43, S-K73, S-K74, S-K75, W-K44	Dry-Ditch Open-Cut	286	-	N	58	36	453	N	N	$222,731	Dry-Ditch Open-Cut	This crossing is located in a valley that has long and steep slopes on both sides which would require an extensive equipment winching system. In addition, the deep bore pits would require benching, which increases the total volume of material to be excavated. The lack of sufficient space to stockpile the material further complicates a trenchless crossing. The estimated time to complete a trenchless crossing is nearly double and the cost is excessively expensive.
			Conventional Bore	286	36	N	58	36	453	N	N	$1,469,361		
Huntington	A-017	W-K45, S-K77	Dry-Ditch Open-Cut	38	-	N	70	35	645	N	N	$41,532	Dry-Ditch Open-Cut	This crossing is located adjacent to a long and steep slope that would involve logistically difficult construction conditions, a winching system that is beyond standard procedures and a deep bore pit for a trenchless crossing. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	38	28	N	70	35	645	N	N	$363,615		
Huntington	A-018	S-K67	Dry-Ditch Open-Cut	36	-	N	77	51	341	N	N	$60,206	Dry-Ditch Open-Cut	This crossing is located adjacent to a steep slope that would involve logistically difficult construction conditions, an extensive winching system and a deep bore pit for a trenchless crossing. In addition, the excessively deep bore pits (nearly 40 feet) would create a large volume of material to be excavated and stockpile. The lack of sufficient space to stockpile the material further complicates a trenchless crossing. The estimated time to complete a trenchless crossing is more than double and the cost is unreasonably high relative to the proposed construction method.
			Conventional Bore	36	39	N	77	51	341	N	N	$814,673		
Huntington	A-019A	S-K65	Dry-Ditch Open-Cut	37	-	N	64	49	148	N	Y	$55,234	Dry-Ditch Open-Cut	This crossing is located adjacent to a steep slope that would involve logistically difficult construction conditions and a deep bore pit for a trenchless crossing. In addition, the excessively deep bore pits (over 40 feet) would create a large volume of material to be excavated and stockpiled. The lack of sufficient space to stockpile the material further complicates a trenchless crossing. The estimated time to complete a trenchless crossing is more than four times longer than an open cut and the cost is unreasonably high relative to the proposed construction method.
			Conventional Bore	37	41	N	64	49	148	N	Y	$2,341,369		
Huntington	B-001	S-A110/K62, W-A23, S-A109	Dry-Ditch Open-Cut	238	-	N	73	33	0	N	Y	$194,600	Dry-Ditch Open-Cut	The estimated time to complete a trenchless crossing is nearly three times and the cost is excessively expensive. In addition, the bore pits are nearly 40-feet deep which requires benching, trench shoring, and sufficient room to create the bench and store the stockpiled material.
			Conventional Bore	238	39	N	73	33	0	N	Y	$1,387,946		
Huntington	B-001A	S-A111	Dry-Ditch Open-Cut	38	-	N	75	58	667	N	N	$77,982	Dry-Ditch Open-Cut	This crossing is located adjacent to a long and steep slope on one side that would involve logistically difficult construction conditions, an extensive winching system and a deep bore pit for a trenchless crossing. The proximity of adjacent resources reduces the available amount of room to store the excavated material. Furthermore, the time to complete the trenchless crossing is more than double and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	38	37	N	75	58	667	N	N	$783,810		
Pittsburgh	B-002	W-J40, S-K82, S-K94	Dry-Ditch Open-Cut	223	-	N	43	29	291	N	N	$228,434	Dry-Ditch Open-Cut	The pipeline is already installed through a portion of the wetland at this crossing. The layout of a conventional bore would require excavation of a bore pit unacceptably close to the installed pipe. Boring also would not avoid or minimize impacts to the resources because it would require excavation of a bore pit within the wetland.
			Conventional Bore	223	25	N	43	29	291	N	N	$861,237		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Pittsburgh	B-003	S-J44	Dry-Ditch Open-Cut	46	-	N	70	44	1017	N	N	$50,537	Dry-Ditch Open-Cut	This stream is approximately five feet wide where the pipeline crosses. It is located a steep valley, with extremely long slopes that would create logistically difficult construction conditions, require extensive winching systems, and bore pits would be approximately 40 feet deep. The lack of sufficient space to stockpile the material further complicates a trenchless crossing. The estimated time to complete a trenchless crossing is three times longer than an open cut and the cost is excessively expensive.
			Conventional Bore	46	39	N	70	44	1017	N	N	$843,053		
Huntington	B-005	W-K33-PEM	Dry-Ditch Open-Cut	117	-	N	75	57	496	N	N	$81,900	Dry-Ditch Open-Cut	This crossing is located adjacent to a long and steep slope that would involve logistically difficult construction conditions, an extensive winching system and a deep bore pit (48-feet) for a trenchless crossing. In addition, the excessively deep bore pits would create a large volume of material to be excavated and stockpiled. The lack of sufficient space to stockpile the material further complicates a trenchless crossing. Furthermore, the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	117	48	N	75	57	496	N	N	$2,950,226		
Pittsburgh	B-006	W-K31	Dry-Ditch Open-Cut	96	-	N	62	55	220	N	N	$67,200	Dry-Ditch Open-Cut	This crossing is situated on a steep slope that would involve logistically difficult construction conditions, deep bore pits (nearly 40-feet), and provide insufficient area for a bore pit soil stockpile. Furthermore, the time to complete the trenchless crossing is nearly double of an open cut and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	96	39	N	62	55	220	N	N	$984,952		
Pittsburgh	B-007	W-B46	Dry-Ditch Open-Cut	143	-	N	56	21	417	N	N	$100,100	Dry-Ditch Open-Cut	This crossing is situated on a long and steep slope that would involve logistically difficult construction conditions, extensive winching systems, deep bore pits, and provides insufficient area for a bore pit soil stockpile. Furthermore, the time to complete the trenchless crossing is double of an open cut and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	143	30	N	56	21	417	N	N	$953,913		
Pittsburgh	B-008	S-H180	Dry-Ditch Open-Cut	45	-	N	32	20	0	N	Y	$78,375	Dry-Ditch Open-Cut	The trenchless crossing would require bore pits that are 39-feet deep, which minimizes the available area to complete an efficient crossing. Furthermore, the time to complete the trenchless crossing is more than double of an open cut and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	45	39	N	32	20	0	N	Y	$840,215		
Pittsburgh	B-009	W-H112	Dry-Ditch Open-Cut	260	-	N	9	4	0	N	Y	$182,000	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to 0.02 acre of PEM. Avoiding/minimizing this minor impact through a conventional bore would require a 20 feet deep bore pit - possibly requiring the operator to work from a shallow bench within the pit. Furthermore, the conventional bore crossing cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method and take nearly triple the amount of time to complete.
			Conventional Bore	260	20	N	9	4	0	N	Y	$920,569		
Huntington	B-010	S-I63	Dry-Ditch Open-Cut	74	-	N	100	59	341	N	N	$122,275	Dry-Ditch Open-Cut	This crossing is located in a valley that has long and steep slopes on both sides which would require an extensive equipment winching system and excessively deep bore pits. The available area to store the excess material is extremely limited due to the narrowed ROW and county road. Furthermore, the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	74	52	N	100	59	341	N	N	$3,046,374		
Huntington	B-011	W-I15	Dry-Ditch Open-Cut	56	-	N	66	43	661	N	N	$39,200	Dry-Ditch Open-Cut	This crossing is situated on a long and steep slope that would involve logistically difficult construction conditions, extensive winching systems, deep bore pits, and provides insufficient area for a bore pit soil stockpile. Furthermore the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	56	30	N	66	43	661	N	N	$707,008		
Huntington	B-012	W-H103, S-H160	Dry-Ditch Open-Cut	148	-	N	33	14	462	N	Y	$187,175	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	148	24	N	33	14	462	N	Y	$639,254		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	B-013	S-H153	Dry-Ditch Open-Cut	42	-	N	58	41	567	N	N	$82,922	Dry-Ditch Open-Cut	This crossing is situated in a valley with steep slopes on both sides of the resource. The topographical constraints complicate the limits of the winching system, creating a logistically difficult construction condition and deep bore pits. In addition there is insufficient area to store the bore pit stockpile in the immediate area. Furthermore the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	42	36	N	58	41	567	N	N	$776,893		
Huntington	B-014A	S-H145	Dry-Ditch Open-Cut	32	-	N	76	39	520	N	N	$85,448	Dry-Ditch Open-Cut	This crossing is adjacent to a long and steep slope that would involve logistically difficult construction conditions, deep bore pits (nearly 40-feet), and provide insufficient area for a bore pit soil stockpile. Furthermore, the time to complete the trenchless crossing is nearly five times the duration of an open cut and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method
			Conventional Bore	32	39	N	76	39	520	N	N	$803,321		
Huntington	B-014B	S-H165	Dry-Ditch Open-Cut	17	-	N	61	55	599	N	N	$35,892	Dry-Ditch Open-Cut	This small stream (less than 10-feet wide) is situated on a long and steep slope that would involve logistically difficult construction conditions, 31-feet deep bore pits, and provide insufficient area for a bore pit soil stockpile. Furthermore, the time to complete the trenchless crossing is nearly six times the duration of an open cut and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	17	31	N	61	55	599	N	N	$614,596		
Huntington	B-015A	S-CD16, S-VV13	Dry-Ditch Open-Cut	193	-	N	17	6	0	N	N	$206,271	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	193	25	N	17	6	0	N	N	$776,098		
Huntington	B-015B	S-VV12, W-CD16, W-VV8	Dry-Ditch Open-Cut	132	-	N	63	40	873	N	Y	$162,400	Dry-Ditch Open-Cut	This multiple resource crossing present several factors that support an open-cut crossing. The resources are located on a steep slope that is extremely long, which would require a winching system of nearly 900-feet. In addition, the bore pits would be 35-feet deep, resulting in an excessive amount of soil, with limited area for storage. The cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	132	35	N	63	40	873	N	Y	$1,014,042		
Huntington	B-016	S-UV11	Dry-Ditch Open-Cut	54	-	N	71	45	782	N	N	$90,653	Dry-Ditch Open-Cut	Stream S-UV11 is a perennial stream located adjacent to a steep slope that is extremely long, nearly 800 feet in length with an average slope exceed 45%. The bore pits are estimated to be over 20 feet which would require benching and additional area for spoil storage.
			Conventional Bore	54	23	N	71	45	782	N	N	$363,349		
Huntington	B-017	W-VV3-PEM, W-VV3-PFO, S-VV2	Dry-Ditch Open-Cut	145	-	N	40	32	439	N	N	$179,415	Dry-Ditch Open-Cut	This crossing is immediately adjacent to a mainline valve. Trenchless crossing methods are logistically difficult because they would require the pipe to be installed too deeply to facilitate connection to the valve site. An open cut crossing is necessary to facilitate connection to the mainline valve. Furthermore, the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	145	30	N	40	32	439	N	N	$959,589		
Huntington	C-001	S-L60	Dry-Ditch Open-Cut	42	-	N	60	32	189	N	N	$134,876	Dry-Ditch Open-Cut	The pipeline has already been installed under Big Knawl Road and there is a fully restored steep hill adjacent to the pipe tie-in. Trenchless methods are technically and logistically difficult for this crossing because they would require the removal of the completed road bore and are not less environmentally damaging than this temporary stream impact because the steep hill adjacent to the crossing, which has been fully restored, would have to be re-disturbed to complete a bore. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	42	16	N	60	32	189	N	N	$192,273		
Huntington	C-002	S-LL1	Dry-Ditch Open-Cut	66	-	N	57	48	420	N	N	$171,170	Dry-Ditch Open-Cut	This crossing is located adjacent to a steep slope that is extremely long, approximately 420-feet in length with an average slope exceeding 45%. The bore pits are estimated to be nearly 30 feet. These factors create logistically difficult construction conditions, complicated winching systems, and excessive spoils. Furthermore, the time to complete the trenchless crossing is nearly double the duration a.
			Conventional Bore	66	30	N	57	48	420	N	N	$735,388		

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				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	C-003	S-QR30	Dry-Ditch Open-Cut	47	-	N	79	52	609	N	N	$58,173	Dry-Ditch Open-Cut	This small stream (less than 10-feet wide) is situated in a valley with long and steep slopes on both approaches. The bore pits are projected to be nearly 50-feet deep, which creates logistically difficult construction conditions and insufficient area for a bore pit soil stockpile. Furthermore, the time to complete the trenchless crossing is five times the duration and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	47	50	N	79	52	609	N	N	$2,860,658		
Huntington	C-004	S-J70	Dry-Ditch Open-Cut	62	-	N	70	57	886	N	N	$149,548	Dry-Ditch Open-Cut	This stream is located in a valley with long and steep slopes on both approaches. The bore pits are projected to be nearly 50-feet deep, which creates logistically difficult construction conditions and insufficient area for a bore pit soil stockpile. Furthermore, and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	62	49	N	70	57	886	N	N	$2,848,682		
Huntington	C-005	S-H123	Dry-Ditch Open-Cut	130	-	N	36	22	431	N	N	$115,859	Dry-Ditch Open-Cut	This small stream (less than 10-feet wide) is located adjacent to a steep slope, creating an extremely difficult construction procedure due to the winching requirements, bore pit depths (nearly 50-feet deep), and lack of sufficient work space. Furthermore, the time to complete the trenchless crossing is nearly four times the duration of an open cut and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	130	48	N	36	22	431	N	N	$2,987,120		
Huntington	C-006	W-H90, S-H123	Dry-Ditch Open-Cut	135	-	N	63	37	413	N	N	$119,359	Dry-Ditch Open-Cut	These resources are located adjacent to a long and steep slopes. The bore pits are projected to be over 50-feet deep and the winch hill length is greater than 400 feet, which creates logistically difficult construction conditions and insufficient area for a bore pit soil stockpile. Furthermore, the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method and the construction time is greater than six times an open cut.
			Conventional Bore	135	54	N	63	37	413	N	N	$3,328,582		
Huntington	C-007	S-H117	Dry-Ditch Open-Cut	146	-	N	87	66	571	N	N	$159,225	Dry-Ditch Open-Cut	This stream is located in a valley with steep slopes on both approaches. The steep slopes, extremely deep bore pits (67-feet), extreme winch hill conditions and lack of sufficient work space create a situation that is conducive to an open cut. Furthermore, the time to complete the trenchless crossing is nearly three times the duration of an open cut and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	146	67	N	87	66	571	N	N	$4,068,891		
Huntington	C-008	S-L46	Dry-Ditch Open-Cut	95	-	N	47	40	617	N	N	$119,663	Dry-Ditch Open-Cut	This stream is located in a valley with steep slopes on both approaches. The steep slopes, extremely deep bore pits (65-feet), extreme winch hill conditions and lack of sufficient work space create a situation that is conducive to an open cut. Furthermore, the time to complete the trenchless crossing is more than double the duration of an open cut and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	95	65	N	47	40	617	N	N	$3,815,063		
Huntington	C-009	S-L44	Dry-Ditch Open-Cut	57	-	N	38	27	52	N	Y	$75,133	Dry-Ditch Open-Cut	Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit - creating excessive spoil piles, with limited area for storage. Furthermore, the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	57	36	N	38	27	52	N	Y	$819,463		
Huntington	C-010	S-I57	Dry-Ditch Open-Cut	78	-	N	51	34	690	N	N	$160,343	Dry-Ditch Open-Cut	This stream is located on a steep slope. The steep slope, extremely deep bore pits (49-feet), extreme winch hill conditions and lack of sufficient work space create a situation that is conducive to an open cut. Furthermore, the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	78	49	N	51	34	690	N	N	$2,894,090		
Huntington	C-011	S-A96/A103	Dry-Ditch Open-Cut	80	-	N	43	38	201	N	N	$75,460	Dry-Ditch Open-Cut	This small stream (less than 10-feet wide) is located on a steep slope, creating an extremely difficult construction procedure due to bore pit depths (nearly 40-feet deep), steep slopes, and lack of sufficient work space. Furthermore, the time to complete the trenchless crossing is nearly three times the duration of an open cut and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	80	37	N	43	38	201	N	N	$903,006		

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				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	C-012	S-A97, S-A98	Dry-Ditch Open-Cut	121	-	N	41	35	334	N	N	$133,056	Dry-Ditch Open-Cut	These small streams are less than 10-feet wide and are located on a steep slope, creating an extremely difficult construction procedure due to bore pit depths (64-feet deep), steep slopes, and lack of sufficient work space. Furthermore, the time to complete the trenchless crossing is nearly 5 times the duration of an open cut and the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	121	64	N	41	35	334	N	N	$3,834,305		
Huntington	C-013A	S-A100	Dry-Ditch Open-Cut	124	-	Y	42	22	460	N	N	$366,800	Conventional Bore	There are multiple complicating factors at this crossing location that necessitated the development of a unique solution. The Left Fork Holly River at this location is both wide and deep, and it is bounded on one side by a steep slope. Dealing with high water and unfavorable flow conditions, combined with the need to use winched equipment on one side of the river, make an open cut crossing at this location extraordinarily challenging. Mountain Valley's engineering and construction staff developed a plan to complete this crossing with a conventional bore. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	124	24	Y	42	22	460	N	N	$571,142		
Huntington	C-013B	S-E78/E82/R1	Dry-Ditch Open-Cut	84	-	N	27	7	0	N	Y	$340,499	Dry-Ditch Open-Cut	The stream is located next to a steep slope and would require a bore pit exceeding 20 feet which creates excessive spoils in a limited area for storage. The duration of the trenchless crossing is nearly three times longer than the open-cut process, thereby increasing the noise, aesthetic, and other impacts on nearby persons. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside.
			Conventional Bore	84	21	N	27	7	0	N	Y	$430,219		
Huntington	C-015	S-KK2, S-KK3b, S-KK4b	Dry-Ditch Open-Cut	220	-	N	50	30	396	N	N	$168,097	Dry-Ditch Open-Cut	The open cut method would result in a temporary impacts to three small UNTs to Left Fork Holly River, each less than three feet wide. Avoiding/minimizing these minor impacts through a conventional bore would require a relatively deep bore pit of nearly 40 feet on the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. The construction time for the bore is estimated to be five times as long as the open cut and the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	220	38	N	50	30	396	N	N	$1,318,593		
Huntington	C-018	S-F40	Dry-Ditch Open-Cut	92	-	N	42	24	11	N	N	$165,892	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	92	29	N	42	24	11	N	N	$526,000		
Huntington	C-019	W-KK3	Dry-Ditch Open-Cut	51	-	N	60	26	296	N	N	$35,700	Dry-Ditch Open-Cut	Avoiding/minimizing this minor impact through a conventional bore would require an extensive winching system on a long steep slope in an already reduced area of work. In addition the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	51	16	N	60	26	296	N	N	$217,815		
Huntington	C-020	S-F43	Dry-Ditch Open-Cut	74	-	N	45	28	53	N	N	$100,144	Dry-Ditch Open-Cut	A trenchless crossing on this hillside would require bore pits that are greater than thirty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. The construction time for the bore is nearly twice as long as the open cut and the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	74	32	N	45	28	53	N	N	$794,631		
Huntington	C-021	S-E67	Dry-Ditch Open-Cut	147	-	N	62	45	284	N	N	$426,366	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact Right Fork Holly River. Avoiding/minimizing these minor impacts through a conventional bore would require a relatively deep bore pit of nearly 30 feet on the edge of a long steep slope and the excavation of an interim ramp/bench. The additional equipment and excess spoil materials will greatly limit the available space in a work area that has already been minimized. The construction time for the bore is nearly three times as long as the open cut.
			Conventional Bore	147	34	N	62	45	284	N	N	$1,038,342		
Huntington	C-022	S-E68	Dry-Ditch Open-Cut	296	-	Y	47	12	63	N	Y	$860,247	Guided Conventional Bore	The Elk River will be crossed using Microtunnel trenchless methodology. While Mountain Valley will typically avoid crossings with bore pits of this depth, several logistical constraints complicate the open cut methodology. There are numerous large boulders within the proposed crossing - removing and restoring these to preconstruction contours would be extremely difficult to accomplish. In addition, the stream depth complicates the constructability since a larger instream diversion would be required thereby reducing the available space in a work area that has already been minimized. The Elk River is also classified by the WVDNR as Group 1 mussel stream. While mussel survey and relocation efforts were completed in 2019, completing a trenchless crossing will further minimize any potential impacts to mussel species.
			Guided Conventional Bore	296	49	Y	47	12	63	N	Y	$3,112,112		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	C-023	S-E71	Dry-Ditch Open-Cut	84	-	N	26	18	0	N	Y	$66,476	Dry-Ditch Open-Cut	This small UNT to the Elk River (less than five feet wide) would require a bore pit that is a minimum of 20 feet deep. Due to this depth, it is likely that the use of a bench and interim access ramp would be required which would create a large volume of material to be excavated and stockpile. The lack of sufficient space to stockpile the material further complicates a trenchless crossing. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	84	20	N	26	18	0	N	Y	$421,084		
Huntington	C-024	S-H111, S-H114, S-H112	Dry-Ditch Open-Cut	272	-	N	36	12	10	N	N	$221,802	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	272	18	N	36	12	10	N	N	$854,144		
Huntington	C-025	S-H113	Dry-Ditch Open-Cut	53	-	N	14	9	0	N	Y	$82,656	Dry-Ditch Open-Cut	This UNT to the Elk River is located in an area that would require a bore pit depth of nearly 30 feet. The excavation to this depth would require the use of a bench and interim access ramp would be required which would create a large volume of material to be excavated and stockpile. The lack of sufficient space to stockpile the material in a work area that has already been minimized further complicates a trenchless crossing. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	53	29	N	14	9	0	N	Y	$415,319		
Huntington	C-026	W-H75	Dry-Ditch Open-Cut	45	-	N	59	47	369	N	N	$31,500	Dry-Ditch Open-Cut	Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit, with an excavator operating from a bench within the pit, at the edge of a steep slope. Furthermore, the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	45	29	N	59	47	369	N	N	$392,615		
Huntington	C-027	W-H86	Dry-Ditch Open-Cut	78	-	N	13	9	0	N	Y	$54,600	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact of approximately 0.001 acre of a PEM wetland. Avoiding/minimizing this minor impact through a conventional bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	78	16	N	13	9	0	N	Y	$294,440		
Huntington	C-028	S-H110	Dry-Ditch Open-Cut	267	-	N	12	9	0	N	Y	$251,373	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	267	22	N	12	9	0	N	Y	$958,705		
Huntington	C-029	S-T29	Dry-Ditch Open-Cut	78	-	N	32	13	1903	N	N	$162,380	Dry-Ditch Open-Cut	The stream (Houston Run) is located in a valley with extremely steep and long approaches. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit of nearly 20 feet at the edge of long steep slopes. The additional equipment and excess spoil materials will greatly limit the available space in a work area that has already been minimized, which increases the construction difficulty.
			Conventional Bore	78	17	N	32	13	1903	N	N	$299,008		
Huntington	C-030	S-A83/A91	Dry-Ditch Open-Cut	72	-	N	56	39	866	N	N	$138,108	Dry-Ditch Open-Cut	This UNT to Camp Creek is adjacent to a steep long slope . A trenchless crossing on this hillside would require bore pits that are nearly 50-feet deep which would necessitate the use of a bench and interim ramp to access the bore pit and a winching system that is technically and logistically difficult. The construction time for the bore is nearly three times as long as the open cut and the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	72	47	N	56	39	866	N	N	$2,767,971		
Huntington	C-031	S-A93, S-A92	Dry-Ditch Open-Cut	120	-	N	78	39	1190	N	N	$121,741	Dry-Ditch Open-Cut	These two very small UNTs to Camp Creek are located on a long steep slope. Both streams are less than 10 feet wide. A trenchless crossing on this hillside would require bore pits that are over 60-feet deep which would generate a significant amount of spoils and require a significant winching system to be located on the reduced LOD. The construction time for the bore is nearly twice as long as the open cut and the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	120	63	N	78	39	1190	N	N	$3,776,922		

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				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	C-032	S-H108, W-H67, W-H66, S-H105	Dry-Ditch Open-Cut	367	-	N	57	34	1371	N	N	$307,728	Dry-Ditch Open-Cut	Avoiding/minimizing these minor impacts through a conventional bore would require a relatively deep bore pit of nearly 40 feet on the edge of a very long and steep slope, thereby requiring and extensive winching system and the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. The excess spoils and winching system would need to be located on the already reduced LOD. The cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	367	36	N	57	34	1371	N	N	$1,699,237		
Huntington	C-033	S-H107	Dry-Ditch Open-Cut	45	-	N	7	3	0	N	Y	$39,885	Dry-Ditch Open-Cut	This crossing is immediately adjacent to a mainline valve. Trenchless crossing methods are logistically difficult due to the connection to the valve site. An open cut crossing is necessary to facilitate the connection to the mainline valve.
			Conventional Bore	45	13	N	7	3	0	N	Y	$187,085		
Huntington	C-034	W-H64-PEM, W-H64-PEM-2, W-H64-PSS, S-H104	Dry-Ditch Open-Cut	172	-	N	48	20	0	N	Y	$173,907	Dry-Ditch Open-Cut	This crossing is adjacent to a mainline valve. Trenchless crossing methods are logistically difficult because they would require the pipe to be installed too deeply to facilitate connection to the valve site. An open cut crossing is necessary to facilitate connection to the mainline valve.
			Conventional Bore	172	20	N	48	20	0	N	Y	$670,827		
Huntington	C-035	W-H60, W-H61	Dry-Ditch Open-Cut	312	-	N	20	8	0	N	Y	$218,400	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	312	16	N	20	8	0	N	Y	$958,528		
Huntington	C-036	W-B39	Dry-Ditch Open-Cut	101	-	N	36	23	288	N	N	$70,700	Dry-Ditch Open-Cut	Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit - creating excessive spoil piles, with limited area for storage. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	101	24	N	36	23	288	N	N	$505,869		
Huntington	C-037	W-B31	Dry-Ditch Open-Cut	99	-	N	36	31	1103	N	Y	$69,300	Dry-Ditch Open-Cut	Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit on an extremely long and steep slope which would create excessive spoil piles in a topographical setting that requires an extensive winching system, all while being located within an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	99	25	N	36	31	1103	N	Y	$509,328		
Huntington	C-038	S-B34, S-B35, S-B36, S-B37, S-B38, W-B35, S-B42, S-B39b, S-B39a/B46, S-B45	Dry-Ditch Open-Cut	339	-	N	54	32	54	N	N	$345,189	Dry-Ditch Open-Cut	These crossings are located along steep slopes and would require the installation of bore pits nearly 40 feet deep requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. The bore pits would need to be located on a steep slope that would require a logistically difficult winching process. The duration of the trenchless crossing is nearly five times longer than the open-cut process, thereby increasing the noise, aesthetic, and other impacts on nearby persons. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside.
			Conventional Bore	339	38	N	54	32	54	N	N	$1,656,313		
Huntington	C-039	S-O4	Dry-Ditch Open-Cut	79	-	N	54	35	1723	N	N	$137,791	Dry-Ditch Open-Cut	This crossing is situated on a long steep slope leading into the resource. The topographical constraints would create an extreme winching system, creating a logistically difficult construction condition and deep bore pits. In addition there is insufficient area to store the bore pit stockpile in the immediate area. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	79	33	N	54	35	1723	N	N	$827,090		
Huntington	D-002	S-F36b	Dry-Ditch Open-Cut	38	-	N	27	11	0	N	Y	$97,221	Dry-Ditch Open-Cut	A trenchless crossing method at this location could not be completed without excavating a bore pit within a landowner's driveway and blocking access to their home. This situation would continue for several weeks. Accordingly, a trenchless crossing of this resource has been deemed logistically impracticable. Additionally, boring is not "appropriate and practicable" for this crossing of a perennial UNT to Birch River because the temporary impacts to be avoided are minor, especially when considered in light of the significant adverse impacts on the homeowner.
			Conventional Bore	38	26	N	27	11	0	N	Y	$345,345		

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				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	D-004	S-B32, W-B30	Dry-Ditch Open-Cut	59	-	N	39	26	188	N	N	$74,406	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	59	20	N	39	26	188	N	N	$350,135		
Huntington	D-005	W-B28, S-B29	Dry-Ditch Open-Cut	112	-	N	52	40	262	N	N	$103,401	Dry-Ditch Open-Cut	This crossing is located on a slope that would require bore pits greater than 30 feet deep which would create excessive spoil piles, all while being located within an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	112	34	N	52	40	262	N	N	$939,013		
Huntington	D-006	S-E50, W-E21	Dry-Ditch Open-Cut	50	-	N	35	32	197	N	N	$57,357	Dry-Ditch Open-Cut	This crossing is located on a slope that would require bore pits that are 30 feet deep which would create excessive spoil piles, all while being located within an already reduced LOD. Furthermore, the time to bore the resources is nearly three times the duration of the open cut and the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	50	30	N	35	32	197	N	N	$689,980		
Huntington	D-007	S-E50, W-E18-PSS, W-E18-PEM	Dry-Ditch Open-Cut	54	-	N	49	39	136	N	N	$60,157	Dry-Ditch Open-Cut	This crossing is located on a slope that would require bore pits that are nearly 30 feet deep which would create excessive spoil piles, all while being located within an already reduced LOD. Because the pipeline ROW must remain free of woody vegetation to protect the pipe coating, a conversion impact is unavoidable. Furthermore, the time to bore the resources is nearly double and the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	54	26	N	49	39	136	N	N	$390,753		
Huntington	D-008	S-E49	Dry-Ditch Open-Cut	29	-	N	44	31	74	N	N	$23,805	Dry-Ditch Open-Cut	The UNT to Gauley River is approximately one foot in width, creating less than 0.01 acre of temporary impact. This crossing is located on a slope that would require bore pits that are nearly 30 feet deep which would create excessive spoil piles, all while being located within an already reduced LOD. Furthermore, the time to bore the resources is nearly double and the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	29	26	N	44	31	74	N	N	$319,803		
Huntington	D-010	S-E46	Dry-Ditch Open-Cut	59	-	N	35	27	371	N	N	$151,288	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	59	27	N	35	27	371	N	N	$414,078		
Huntington	D-011	W-F12, W-F13, W-F15	Dry-Ditch Open-Cut	174	-	N	7	4	0	N	Y	$121,800	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	174	15	N	7	4	0	N	Y	$562,319		
Huntington	D-012	S-F20, W-F11	Dry-Ditch Open-Cut	104	-	N	8	4	0	N	Y	$109,699	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	104	19	N	8	4	0	N	Y	$381,930		
Huntington	D-013	W-K23	Dry-Ditch Open-Cut	77	-	N	42	26	32	N	Y	$53,900	Dry-Ditch Open-Cut	This crossing is located adjacent to a slope that would require bore pits that are nearly 20 feet deep which would create excessive spoil piles, all while being located within an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	77	17	N	42	26	32	N	Y	$296,170		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	D-014	S-IJ57, W-IJ51	Dry-Ditch Open-Cut	37	-	N	54	32	92	N	N	$38,154	Dry-Ditch Open-Cut	The open cut would result in approximately 0.05 acre of temporary impacts to the wetland and stream system. This crossing is located adjacent to a slope that would require bore pits that are over 30 feet deep requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method and is estimated to take twice as long.
			Conventional Bore	37	33	N	54	32	92	N	N	$707,895		
Huntington	D-015	W-IJ50	Dry-Ditch Open-Cut	48	-	N	24	17	0	N	Y	$33,600	Dry-Ditch Open-Cut	This crossing is located on a slope that would require bore pits that are nearly 20 feet deep which would create excessive spoil piles, all while being located within an already reduced LOD. Furthermore, the time to complete the bore is nearly double and the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	48	19	N	24	17	0	N	Y	$223,003		
Huntington	D-016	S-IJ60	Dry-Ditch Open-Cut	40	-	N	62	45	119	N	N	$48,516	Dry-Ditch Open-Cut	The crossing of this small UNT to Rockcamp Run (less than 10 feet in width) open cut would result in less than 0.02 acre of temporary impact. This crossing is located adjacent to a steep slope that would require bore pits that are over 40 feet deep which would create excessive spoil piles, all while being located within an already reduced LOD. Furthermore, the time to complete the bore is nearly six times the open cut method and the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	40	42	N	62	45	119	N	N	$2,404,428		
Huntington	D-017	W-IJ55	Dry-Ditch Open-Cut	49	-	N	40	23	0	N	Y	$34,300	Dry-Ditch Open-Cut	The crossing of the small PEM system would result in approximately 0.02 acre of temporary impacts. This crossing is located on a slope that would require bore pits that are over 30 feet deep which would create excessive spoil piles, all while being located within an already reduced LOD. Furthermore, the time to complete the bore is nearly double the time of the open cut method and the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	49	32	N	40	23	0	N	Y	$723,681		
Huntington	D-018	S-IJ62	Dry-Ditch Open-Cut	18	-	N	54	28	74	N	N	$20,473	Dry-Ditch Open-Cut	The crossing of this small UNT to Cherry Run (less than 5 feet in width) open cut would result in less than 0.01 acre of temporary impact. This crossing is located adjacent to a steep slope that would require bore pits that are nearly 30 feet deep which would create excessive spoil piles, all while being located within an already reduced LOD. Furthermore, the time to complete the bore is nearly double the time of the open cut method and the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	18	32	N	54	28	74	N	N	$635,704		
Huntington	D-019	S-B28, W-B27	Dry-Ditch Open-Cut	47	-	N	6	3	0	N	Y	$70,318	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	47	18	N	6	3	0	N	Y	$215,597		
Huntington	D-020	W-FF6-PEM, W-FF6-PSS	Dry-Ditch Open-Cut	158	-	N	22	11	0	N	Y	$110,600	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	158	19	N	22	11	0	N	Y	$535,181		
Huntington	D-021	W-FF3	Dry-Ditch Open-Cut	37	-	N	23	11	0	N	Y	$25,900	Dry-Ditch Open-Cut	The crossing of the small PEM system would result in approximately 0.04 acre of temporary impacts. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	37	14	N	23	11	0	N	Y	$168,948		
Huntington	D-022	S-J32	Dry-Ditch Open-Cut	117	-	N	28	19	10	N	N	$207,247	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	117	23	N	28	19	10	N	N	$542,142		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	D-023	S-A76, W-FF4	Dry-Ditch Open-Cut	43	-	N	35	16	21	N	N	$51,257	Dry-Ditch Open-Cut	The crossing of the small PEM system and UNT to Big Beaver Creek would result in less than 0.02 acre of temporary impacts. The stream is less than ten feet in width. The bore pits associated with this crossing are 20 feet deep, which may require the use of a ramp and benching thereby creating excessive spoil piles, all while being located within an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	43	20	N	35	16	21	N	N	$304,727		
Huntington	D-024	W-A17	Dry-Ditch Open-Cut	79	-	N	16	9	0	N	Y	$55,300	Dry-Ditch Open-Cut	The duration of the trenchless crossing would take longer to complete than the open-cut process, thereby increasing the noise, aesthetic, and other impacts on nearby persons. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside. In addition, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	79	15	N	16	9	0	N	Y	$292,711		
Huntington	D-025	S-A75	Dry-Ditch Open-Cut	25	-	N	31	13	0	N	Y	$47,961	Dry-Ditch Open-Cut	Stream S-A75 is an UNT to Big Beaver Creek and would have approximately 0.02 acre of temporary impact. The resource is located adjacent to a slope that would require a bore pit exceeding 20 feet. Bore pits of this depth require an interim ramp and benching to successfully reach the required depth. The deep excavation will create an excessive amount of spoil material that will be difficult to store within the already reduced LOD. In addition, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	25	22	N	31	13	0	N	Y	$271,913		
Huntington	D-026	S-A74	Dry-Ditch Open-Cut	29	-	N	31	14	0	N	Y	$32,194	Dry-Ditch Open-Cut	An open cut crossing would create approximately 0.007 acre of temporary impact. However the resource is located on a slope that would require a bore pit nearing 20 feet. Bore pits of this depth may require an interim ramp and benching to successfully reach the required depth. The deep excavation will create an excessive amount of spoil material that will be difficult to store within the already reduced LOD. In addition, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	29	19	N	31	14	0	N	Y	$169,081		
Huntington	D-027	S-A73, W-A15	Dry-Ditch Open-Cut	59	-	N	18	13	0	N	Y	$64,472	Dry-Ditch Open-Cut	The open cut would result in approximately 0.10 acre of temporary impacts to the wetland and stream. This crossing is located on a slope requiring bore pits that are over 20 feet deep which necessitate the use of a ramp and benching, resulting in excessive spoil piles, all while being located within an already reduced LOD. Because the pipeline ROW must remain free of woody vegetation to protect the pipe coating, a conversion impact to the wetland is unavoidable. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	59	23	N	18	13	0	N	Y	$377,539		
Huntington	D-028	W-A14, S-A72, S-A71, S-A71-Braid	Dry-Ditch Open-Cut	92	-	N	35	25	20	N	N	$94,208	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	92	22	N	35	25	20	N	N	$462,058		
Huntington	D-029	S-A67	Dry-Ditch Open-Cut	24	-	N	40	27	50	N	N	$37,518	Dry-Ditch Open-Cut	Crossings D-029 and D-30 are immediately adjacent to each other and have been evaluated in concert. A trenchless crossing method at this location could not be completed without excavating a bore pit within a landowner's driveway and blocking access to their home. This situation would continue for several weeks. Accordingly, a trenchless crossing of these resources has been deemed logistically impracticable. Additionally, boring is not "appropriate and practicable" for these crossings (a small perennial and intermittent UNT to Big Beaver Creek) because the temporary impacts to be avoided are minor, especially when considered in light of the significant adverse impacts on the homeowner. Furthermore, the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	24	23	N	40	27	50	N	N	$278,209		
Huntington	D-030	S-A69	Dry-Ditch Open-Cut	53	-	N	30	24	0	N	Y	$62,886	Dry-Ditch Open-Cut	Crossings D-029 and D-30 are immediately adjacent to each other and have been evaluated in concert. A trenchless crossing method at this location could not be completed without excavating a bore pit within a landowner's driveway and blocking access to their home. This situation would continue for several weeks. Accordingly, a trenchless crossing of these resources has been deemed logistically impracticable. Additionally, boring is not "appropriate and practicable" for these crossings (a small perennial and intermittent UNT to Big Beaver Creek) because the temporary impacts to be avoided are minor, especially when considered in light of the significant adverse impacts on the homeowner. Furthermore, the cost to avoid the temporary impacts is unreasonably high relative to the proposed construction method.
			Conventional Bore	53	23	N	30	24	0	N	Y	$360,511		
Huntington	D-031	W-H53, S-H99	Dry-Ditch Open-Cut	37	-	N	24	14	11	N	N	$40,220	Dry-Ditch Open-Cut	The open cut would result in approximately 0.01 acre of temporary impacts to the wetland and stream. The stream is extremely small, less than five feet in width and the wetland barely enters the LOD. However, the trenchless crossing would require bore pits that are approximately 20 feet deep. Bore pits of this depth may necessitate the use of a ramp and benching, resulting in excessive spoil piles that would need to be located within an already reduced LOD. The minimized LOD is insufficient to stockpile the material. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	37	20	N	24	14	11	N	N	$287,699		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	D-032	S-A65	Dry-Ditch Open-Cut	99	-	N	58	45	441	N	N	$321,268	Dry-Ditch Open-Cut	The crossing of Big Beaver Creek using a trenchless method would require bore pits up to 40-feet deep. The crossing is also located adjacent to a long steep slope. The combination of deep bore pits and steep slopes would require excessive excavation, the need for significant stock pile storage, and a using an extensive winching system. Furthermore, the time to complete the bore is nearly six times the open cut method and the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	99	40	N	58	45	441	N	N	$2,462,779		
Huntington	D-034	S-N15	Dry-Ditch Open-Cut	40	-	N	39	33	132	N	N	$70,014	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	40	23	N	39	33	132	N	N	$323,617		
Huntington	D-035	S-N14	Dry-Ditch Open-Cut	44	-	N	12	6	0	N	Y	$65,040	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	44	17	N	12	6	0	N	Y	$202,516		
Huntington	D-036	S-I43, W-I7	Dry-Ditch Open-Cut	73	-	N	26	16	0	N	Y	$87,745	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	73	20	N	26	16	0	N	Y	$389,867		
Huntington	D-037	S-I44	Dry-Ditch Open-Cut	32	-	N	28	19	0	N	Y	$52,288	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	32	19	N	28	19	0	N	Y	$177,595		
Huntington	D-038	S-I45	Dry-Ditch Open-Cut	20	-	N	51	21	10	N	N	$33,704	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	20	19	N	51	21	10	N	N	$143,539		
Huntington	D-039	S-I47	Dry-Ditch Open-Cut	27	-	N	15	12	0	N	Y	$24,803	Dry-Ditch Open-Cut	Stream S-I47 is an UNT to Gauley River and is very small - less than five feet in width. The temporary impact associated with an open cut is less than 0.01 acre. The cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	27	14	N	15	12	0	N	Y	$140,568		
Huntington	D-040	S-I48	Dry-Ditch Open-Cut	35	-	N	33	16	41	N	N	$59,850	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	35	14	N	33	16	41	N	N	$163,272		
Huntington	D-041	S-J29	Dry-Ditch Open-Cut	420	-	N	54	0	1732	N	Y	$1,389,500	Dry-Ditch Open-Cut	Mountain Valley has committed to the USFWS that the Gauley River would be bored to prevent possible impacts to potential Candy Darter habitat.
			Microtunnel	420	57	N	54	0	1732	N	Y	$7,309,091		

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				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	D-042	W-J8, S-J28	Dry-Ditch Open-Cut	87	-	N	43	27	306	N	N	$78,505	Dry-Ditch Open-Cut	The open cut would result in approximately 0.06 acre of temporary impacts to the wetland and stream. This crossing is located on a slope that would require bore pits that are nearly 30 feet deep which would create excessive spoil piles and require multiple winching equipment, all while being located within an already reduced LOD. Because the pipeline ROW must remain free of woody vegetation to protect the pipe coating, a conversion impact to the wetland is unavoidable. Furthermore, the time to bore the resources is double and the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	87	26	N	43	27	306	N	N	$484,406		
Huntington	D-043	S-J25	Dry-Ditch Open-Cut	73	-	N	29	18	0	N	Y	$69,641	Dry-Ditch Open-Cut	The temporary impact associated with an open cut is less than 0.01 acre. However, the trenchless crossing would require bore pits that are approximately 20 feet deep. Bore pits of this depth may necessitate the use of a ramp and benching, resulting in excessive spoil piles that would need to be located within an already reduced LOD. The minimized LOD is insufficient to stockpile the material. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	73	21	N	29	18	0	N	Y	$399,001		
Huntington	D-044	S-J24	Dry-Ditch Open-Cut	73	-	N	31	9	0	N	Y	$103,246	Dry-Ditch Open-Cut	This area has been subject to frequent flooding from adjacent streams, which previously caused Mountain Valley to relocate a mainline valve to a different location. These conditions present an unacceptable risk for crews and equipment completing a bore at this location over an extended duration. Completing this crossing of a small UNT to Little Laurel Creek with an open cut minimizes the time construction crews and equipment must be onsite, thereby greatly reducing risks to the safety of the crew, the environment, and the success of the crossing installation.
			Conventional Bore	73	17	N	31	9	0	N	Y	$284,818		
Huntington	D-045	S-J23-EPH	Dry-Ditch Open-Cut	25	-	N	23	14	0	N	Y	$20,978	Dry-Ditch Open-Cut	Stream S-J23 is an UNT to Little Laurel Creek and is very small - less than two feet in width. The temporary impact associated with an open cut is less than 0.01 acre. However, the trenchless crossing would require bore pits that are approximately 20 feet deep. Bore pits of this depth may necessitate the use of a ramp and benching, resulting in excessive spoil piles that would need to be located within an already reduced LOD. The minimized LOD is insufficient to stockpile the material. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	25	17	N	23	14	0	N	Y	$148,594		
Huntington	D-046	S-J22, W-J7	Dry-Ditch Open-Cut	58	-	N	23	18	0	N	Y	$52,396	Dry-Ditch Open-Cut	The trenchless crossing would require bore pits that are approximately 20 feet deep. Bore pits of this depth may necessitate the use of a ramp and benching, resulting in excessive spoil piles that would need to be located within an already reduced LOD. The minimized LOD is insufficient to stockpile the material. Because the pipeline ROW must remain free of woody vegetation to protect the pipe coating, a conversion impact is unavoidable. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	58	21	N	23	18	0	N	Y	$356,431		
Huntington	D-047	S-N10, S-N10-Braid	Dry-Ditch Open-Cut	84	-	N	25	18	0	N	Y	$78,469	Dry-Ditch Open-Cut	The resources are very small (less than five feet in width) UNT to Skelt Run. The trenchless crossing would require bore pits that are approximately 20 feet deep. Bore pits of this depth may necessitate the use of a ramp and benching, resulting in excessive spoil piles that would need to be located within an already reduced LOD. The minimized LOD is insufficient to stockpile the material. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	84	20	N	25	18	0	N	Y	$421,084		
Huntington	D-048	S-EE1	Dry-Ditch Open-Cut	30	-	N	17	11	0	N	Y	$33,872	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	30	15	N	17	11	0	N	Y	$153,650		
Huntington	D-049	S-N13	Dry-Ditch Open-Cut	27	-	N	38	18	0	N	Y	$26,485	Dry-Ditch Open-Cut	The stream is a very small (less than five feet in width) UNT to Skelt Run. The trenchless crossing would require bore pits that are approximately 20 feet deep. Bore pits of this depth may necessitate the use of a ramp and benching, resulting in excessive spoil piles that would need to be located within an already reduced LOD. The minimized LOD is insufficient to stockpile the material. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	27	18	N	38	18	0	N	Y	$158,838		
Huntington	D-050	S-L41	Dry-Ditch Open-Cut	88	-	N	77	63	644	N	N	$132,036	Dry-Ditch Open-Cut	The crossing of the Jims Creek (S-L41) using a trenchless method would require bore pits that are nearly 60 feet deep. In addition, the crossing is at the base of an extremely long and steep approach. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method and would take more than twice as long to complete.
			Conventional Bore	88	58	N	77	63	644	N	N	$3,413,379		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	D-051	S-L38	Dry-Ditch Open-Cut	66	-	N	34	29	21	N	N	$56,701	Dry-Ditch Open-Cut	Stream S-L38 is an UNT to Riley Branch and is very small - less than five feet in width. The crossing is located adjacent to a steep slope. The temporary impact associated with an open cut is less than 0.01 acre. The trenchless crossing would require bore pits that are approximately 30 feet deep. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	66	32	N	34	29	21	N	N	$771,927		
Huntington	D-052	S-L35	Dry-Ditch Open-Cut	28	-	N	29	21	10	N	N	$34,350	Dry-Ditch Open-Cut	S-L35 is Riley Branch is less than four feet wide through the project area. Crossing #D-052, 053, and 054 are discussed together since the requirements associated with a trenchless crossing are applicable to all three crossings. Each of these crossings would require a bore pit exceeding 20 feet, with D-054 exceeding 30 feet. Bore pits of this depth result in a significant amount of excavated material that must be stockpiled. The excess material is not only associated with the depth of the bore, but also the access ramps and associated benching that would be required to reach depths greater than 20 feet. Each of these crossings is also located near a steep slope which reduces the available area to stockpile soils without compromising worker safety. In addition to the deep bore pits and limited operating room, the costs to bore these crossings is unreasonably high relative to the proposed construction method.
			Conventional Bore	28	21	N	29	21	10	N	N	$271,292		
Huntington	D-053	S-L35	Dry-Ditch Open-Cut	42	-	N	30	16	0	N	Y	$46,900	Dry-Ditch Open-Cut	S-L35 is Riley Branch is less than four feet wide through the project area. Crossing #D-052, 053, and 054 are discussed together since the requirements associated with a trenchless crossing are applicable to all three crossings. Each of these crossings would require a bore pit exceeding 20 feet, with D-054 exceeding 30 feet. Bore pits of this depth result in a significant amount of excavated material that must be stockpiled. The excess material is not only associated with the depth of the bore, but also the access ramps and associated benching that would be required to reach depths greater than 20 feet. Each of these crossings is also located near a steep slope which reduces the available area to stockpile soils without compromising worker safety. In addition to the deep bore pits and limited operating room, the costs to bore these crossings is unreasonably high relative to the proposed construction method.
			Conventional Bore	42	21	N	30	16	0	N	Y	$311,024		
Huntington	D-054	S-L35	Dry-Ditch Open-Cut	51	-	N	32	25	20	N	N	$53,200	Dry-Ditch Open-Cut	S-L35 is Riley Branch is less than four feet wide through the project area. Crossing #D-052, 053, and 054 are discussed together since the requirements associated with a trenchless crossing are applicable to all three crossings. Each of these crossings would require a bore pit exceeding 20 feet, with D-054 exceeding 30 feet. Bore pits of this depth result in a significant amount of excavated material that must be stockpiled. The excess material is not only associated with the depth of the bore, but also the access ramps and associated benching that would be required to reach depths greater than 20 feet. Each of these crossings is also located near a steep slope which reduces the available area to stockpile soils without compromising worker safety. In addition to the deep bore pits and limited operating room, the costs to bore these crossings is unreasonably high relative to the proposed construction method.
			Conventional Bore	51	33	N	32	25	20	N	N	$747,627		
Huntington	D-055	S-I37	Dry-Ditch Open-Cut	36	-	N	38	25	32	N	Y	$46,550	Dry-Ditch Open-Cut	This resource is an extremely small UNT to Hominy Creek. The width of the stream is less than 10 feet. Due to the location on steep slopes, the bore pits for this stream are nearly 20 feet in depth. Avoiding/minimizing this minor impact through a conventional bore would create excessively deep bore pits and spoil piles. Furthermore the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	36	20	N	38	25	32	N	Y	$284,861		
Huntington	D-056	S-I38, S-I39	Dry-Ditch Open-Cut	142	-	N	63	45	436	N	N	$126,985	Dry-Ditch Open-Cut	Both of these resources are UNT to Hominy Creek and each is less than 10 feet in width. Due to the location on steep slopes, the bore pits for this crossing are nearly 50 feet in depth. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	142	47	N	63	45	436	N	N	$2,966,630		
Huntington	D-057	S-I40	Dry-Ditch Open-Cut	24	-	N	59	27	104	N	N	$39,183	Dry-Ditch Open-Cut	Stream S-I40 is an UNT to Hominy Creek and is very small - less than ten feet in width. The trenchless crossing would require bore pits that are more than 20 feet deep. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit near a steep slope which would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	24	26	N	59	27	104	N	N	$305,614		
Huntington	D-058	W-I11a, S-I41	Dry-Ditch Open-Cut	47	-	N	42	10	489	N	Y	$62,159	Dry-Ditch Open-Cut	D-058 and D-059 are adjacent crossings are discussed together due to their proximity. These crossings present multiple confounding constructability challenges that limit the available options and necessitated the development of a unique solution. The access to the location of these crossings is severely limited by long steep slopes, and there is insufficient suitable workspace available for construction equipment and spoil piles necessary to complete a trenchless crossing. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	47	13	N	42	10	489	N	Y	$192,761		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	D-059	S-I36	Dry-Ditch Open-Cut	116	-	Y	16	7	840	N	N	$279,787	Dry-Ditch Open-Cut	D-058 and D-059 are adjacent crossings are discussed together due to their proximity. These crossings present multiple confounding constructability challenges that limit the available options and necessitated the development of a unique solution. The access to the location of these crossings is severely limited by long steep slopes, and there is insufficient suitable workspace available for construction equipment and spoil piles necessary to complete a trenchless crossing. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	116	26	Y	16	7	840	N	N	$566,708		
Huntington	D-061	S-I31	Dry-Ditch Open-Cut	25	-	N	38	32	424	N	N	$26,015	Dry-Ditch Open-Cut	The bore pits for this crossing are greater than 20 feet in depth and the crossing is located on a long steep slope. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	25	22	N	38	32	424	N	N	$271,913		
Huntington	E-001	S-H88	Dry-Ditch Open-Cut	37	-	N	45	35	122	N	N	$167,104	Dry-Ditch Open-Cut	A trenchless crossing method at this location could not be completed without excavating a bore pit within proximity to a landowner private drive. Completing an open cut in this location greatly reduces the construction duration and access can be maintained using road plates. A trenchless crossing of this resource has been deemed logistically impracticable due to the need to maintain the landowner's access over an extended duration and the safety risk of operating heavy equipment for an extended time with a private landowner in close proximity and traversing the site.
			Conventional Bore	37	32	N	45	35	122	N	N	$689,625		
Huntington	E-002	S-H71, W-H33, W-H35	Dry-Ditch Open-Cut	150	-	N	75	46	282	N	N	$157,500	Dry-Ditch Open-Cut	This group of resources are located adjacent to a steep slope with bore pits to be 80 feet deep. Avoiding/minimizing this minor impact through a conventional bore would create extremely excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	150	80	N	75	46	282	N	N	$4,789,334		
Huntington	E-003	S-H67	Dry-Ditch Open-Cut	30	-	N	39	24	31	N	N	$60,392	Dry-Ditch Open-Cut	The trenchless crossing would require bore pits that are more than 20 feet deep. Avoiding/minimizing this minor impact (approximately 0.02 acre) through a conventional bore would require a deep bore pit creating excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	30	24	N	39	24	31	N	N	$304,372		
Huntington	E-004	S-H64, W-H31	Dry-Ditch Open-Cut	54	-	N	26	10	0	N	Y	$52,782	Dry-Ditch Open-Cut	The trenchless crossing would require bore pits that are more than 20 feet deep. Avoiding/minimizing this minor impact (approximately 0.03 acre) through a conventional bore would require a deep bore pit creating excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	54	24	N	26	10	0	N	Y	$372,484		
Huntington	E-005	S-V3	Dry-Ditch Open-Cut	56	-	N	47	26	342	N	N	$240,231	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	56	23	N	47	26	342	N	N	$369,025		
Huntington	E-006	W-EF31, S-EF41	Dry-Ditch Open-Cut	55	-	N	20	9	0	N	Y	$44,212	Dry-Ditch Open-Cut	The trenchless crossing would require bore pits that are more than 20 feet deep, which would necessitate benching and stockpiling significant amounts of spoil material. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	55	21	N	20	9	0	N	Y	$347,918		
Huntington	E-009	W-M18	Dry-Ditch Open-Cut	223	-	N	35	10	0	N	Y	$156,100	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	223	17	N	35	10	0	N	Y	$710,515		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	E-010	W-M22, W-M23	Dry-Ditch Open-Cut	86	-	N	26	16	0	N	Y	$60,200	Dry-Ditch Open-Cut	The trenchless crossing would require bore pits that are nearly 20 feet deep, which may necessitate benching and stockpiling significant amounts of spoil material. Because the pipeline ROW must remain free of woody vegetation to protect the pipe coating, a conversion impact is unavoidable. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method and would take twice as long to complete.
			Conventional Bore	86	17	N	26	16	0	N	Y	$321,711		
Huntington	E-011	W-J6	Dry-Ditch Open-Cut	101	-	N	26	10	0	N	Y	$70,700	Dry-Ditch Open-Cut	The trenchless crossing would require bore pits that are nearly 20 feet deep, which may necessitate benching and stockpiling significant amounts of spoil material. Because the pipeline ROW must remain free of woody vegetation to protect the pipe coating, a conversion impact is unavoidable. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method .
			Conventional Bore	101	15	N	26	10	0	N	Y	$355,146		
Huntington	E-012	S-J20	Dry-Ditch Open-Cut	255	-	N	43	16	327	N	N	$298,496	Conventional Bore	FERC has approved the variance for this crossing which will be completed during the boring of the adjacent rail line.
			Conventional Bore	255	37	N	43	16	327	N	N	$1,399,653		
Huntington	E-013	S-I25	Dry-Ditch Open-Cut	89	-	N	34	24	10	N	N	$79,837	Dry-Ditch Open-Cut	Stream S-I25 is an UNT to Meadow Creek and is very small - less than ten feet in width. The trenchless crossing would require bore pits that are more than 20 feet deep. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	89	26	N	34	24	10	N	N	$490,082		
Huntington	E-014	S-I26	Dry-Ditch Open-Cut	26	-	N	31	20	10	N	N	$33,826	Dry-Ditch Open-Cut	Stream S-I26 is an UNT to Meadow Creek and is very small - less than ten feet in width. The trenchless crossing would require bore pits that are more than 20 feet deep. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	26	20	N	31	20	10	N	N	$256,481		
Huntington	E-015	S-I27	Dry-Ditch Open-Cut	41	-	N	17	13	0	N	Y	$46,828	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	41	18	N	17	13	0	N	Y	$198,570		
Huntington	E-016	W-HS1	Dry-Ditch Open-Cut	41	-	N	54	33	724	N	N	$28,700	Dry-Ditch Open-Cut	The bore pits for this crossing are greater than 30 feet in depth . Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit on an extremely long and steep slope which would create excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	41	32	N	54	33	724	N	N	$700,977		
Huntington	E-017	W-QR2	Dry-Ditch Open-Cut	322	-	N	10	8	0	N	Y	$225,400	Dry-Ditch Open-Cut	A trenchless crossing in this location would require bore pits that are nearly thirty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	322	27	N	10	8	0	N	Y	$1,160,467		
Huntington	E-018	S-L26, W-L16	Dry-Ditch Open-Cut	42	-	N	27	9	0	N	Y	$42,210	Dry-Ditch Open-Cut	This crossing is immediately adjacent to a mainline valve. Trenchless crossing methods are logistically difficult because they would require the pipe to be installed too deeply to facilitate connection to the valve site. An open cut crossing is necessary to facilitate connection to the mainline valve. Furthermore, using a conventional bore method to avoid a temporary impact to this small intermittent stream and wetland would be unreasonably high relative to the proposed construction method.
			Conventional Bore	42	23	N	27	9	0	N	Y	$329,293		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	E-019	S-L27	Dry-Ditch Open-Cut	90	-	N	18	11	0	N	Y	$70,012	Dry-Ditch Open-Cut	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	90	19	N	18	11	0	N	Y	$342,198		
Huntington	E-020	S-L30, W-L19, W-L12, W-L13, S-L22	Dry-Ditch Open-Cut	315	-	N	77	46	1723	N	N	$325,500	Dry-Ditch Open-Cut	Due to the location on steep slopes, the bore pits for this crossing are greater than sixty feet in depth which would create extremely excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method and would take nearly 60 days as long to complete.
			Conventional Bore	315	62	N	77	46	1723	N	N	$4,275,783		
Huntington	E-021	W-L11, S-L20	Dry-Ditch Open-Cut	53	-	N	76	43	765	N	N	$54,697	Dry-Ditch Open-Cut	Due to the location, the bore pits for this crossing are greater than thirty feet in depth. Avoiding/minimizing this minor impact (approximately 0.03 acre) through a conventional bore would require a deep bore pit which would create excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	53	31	N	76	43	765	N	N	$716,764		
Huntington	E-022	W-L4, S-L10, S-L11, W-L2	Dry-Ditch Open-Cut	92	-	N	32	20	0	N	Y	$85,538	Dry-Ditch Open-Cut	A trenchless crossing in this location would require bore pits that are greater than twenty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	92	25	N	32	20	0	N	Y	$489,462		
Huntington	E-023	S-I21, S-I22	Dry-Ditch Open-Cut	70	-	N	37	28	249	N	N	$66,994	Dry-Ditch Open-Cut	A trenchless crossing in this location would require bore pits that are greater than twenty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	70	28	N	37	28	249	N	N	$454,430		
Huntington	F-001	W-K7, S-K17, W-IJ30, W-UV9, W-UV11, W-UV10, W-K9-PEM-1, S-K19	Dry-Ditch Open-Cut	1168	-	N	28	20	92	N	Y	$887,600	Dry-Ditch Open-Cut	A trenchless crossing in this location would require bore pits that are nearly twenty feet deep. Numerous cultural resources have been avoided by the current alignment. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. The trenchless crossing method would take nearly 160 days to complete, while the proposed method would take approximately 24 days to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Direct Pipe	1168	15	N	28	20	92	N	Y	$9,412,510		
Huntington	F-002	S-K21, S-K22	Dry-Ditch Open-Cut	123	-	N	78	32	185	N	N	$125,156	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to two small UNTs to Buffalo Creek. Avoiding/minimizing this minor impact through a conventional bore would require an excessively deep bore pit greater than 40 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and two benches and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take twice as long to complete.
			Conventional Bore	123	48	N	78	32	185	N	N	$2,967,254		
Huntington	F-003	S-UV6, W-UV4	Dry-Ditch Open-Cut	70	-	N	49	27	52	N	N	$75,861	Dry-Ditch Open-Cut	A trenchless crossing of this small UNT to Morris Fork and wetlands system would require bore pits that are nearly thirty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Because the pipeline ROW must remain free of woody vegetation to protect the pipe coating, a conversion impact is unavoidable. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	70	27	N	49	27	52	N	N	$445,295		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	F-004	W-UV8, S-UV2	Dry-Ditch Open-Cut	345	-	N	65	52	371	N	N	$290,616	Dry-Ditch Open-Cut	This crossing of a small UNT to Morris Fork presents multiple challenges that limit the available options and necessitate the development of a unique solution. A bore pit depth just short of 40 feet would required the excavation of an interim ramp and bench and dramatically increases the space occupied by the bore pit and spoil pile. Steep slopes (greater than 30%) adjacent to this waterbody also increase the complexity of a bored crossing, increase safety risk to personnel, and add risk of impact to the waterbody from upland work during a bore. In addition, this crossing is in close proximity to residences, and a trenchless crossing of this location would take longer than six weeks to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration thereby minimizing the disruption the affected residences and businesses. Accordingly, a trenchless crossing of this resource has been deemed logistically difficult due to the compounding constructability constraints.
			Guided Conventional Bore	345	36	N	65	52	371	N	N	$1,169,818		
Huntington	F-004A	S-U22	Dry-Ditch Open-Cut	593	-	N	52	35	293	N	Y	$461,800	Dry-Ditch Open-Cut	This crossing presents multiple challenges that limit the available options and necessitated the development of a site-specific solution. The proximity of this stream to the adjacent bore of Interstate-64 makes it difficult to tie-in a bore of this resource. A bore pit depth nearing 40 feet at this location requires the excavation of an interim ramp and bench and dramatically increases the space occupied by the bore pit and spoil pile. Steep slopes (greater than 30%) adjacent to the waterbody increases the complexity of this crossing if bored, increases safety risk to personnel, and adds risk of impact to the waterbody from upland work during a bore. A trenchless crossing would take more than six weeks to be completed. Use of the open-cut method would reduce the construction duration and minimize noise and other disruptions to nearby persons due to construction activities. Accordingly, a trenchless crossing of this resource has been deemed logistically difficult due to the compounding constructability constraints.
			Guided Conventional Bore	593	37	N	52	35	293	N	Y	$1,556,221		
Huntington	F-005	W-EE4, S-EE4	Dry-Ditch Open-Cut	154	-	N	19	12	0	N	Y	$120,716	Dry-Ditch Open-Cut	A trenchless crossing of this small UNT to Red Spring Branch and wetland system would require bore pits greater than thirty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	154	32	N	19	12	0	N	Y	$1,021,669		
Huntington	F-006	S-M6, W-M2	Dry-Ditch Open-Cut	163	-	N	47	32	51	N	N	$130,313	Dry-Ditch Open-Cut	A trenchless crossing of this small UNT to Red Spring Branch and wetland system would require bore pits that are nearly forty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method and would also take three times as long to complete.
			Conventional Bore	163	38	N	47	32	51	N	N	$1,156,828		
Huntington	F-007	S-J13	Dry-Ditch Open-Cut	37	-	N	25	15	0	N	Y	$43,400	Dry-Ditch Open-Cut	S-J13 is an UNT to Patterson Creek, a very small stream, and is crossed three times by the project. Crossing # F-007, 008, and 009 are discussed together since the requirements associated with a trenchless crossing are applicable to all three crossings. Each of these crossings would require a bore pit exceeding 20 feet, with F-009 being nearly thirty feet deep. Bore pits of this depth result in a significant amount of excavated material that must be stockpiled. The excess material is not only associated with the depth of the bore, but also the access ramps and associated benching that would be required to reach depths greater than 20 feet. Crossing F-009 is in a topographical setting that would require a technically and logistically difficult winching system. In addition to the deep bore pits and limited operating room, the costs to bore these crossings is unreasonably high relative to the proposed construction method.
			Conventional Bore	37	22	N	25	15	0	N	Y	$305,969		
Huntington	F-008	S-J13	Dry-Ditch Open-Cut	45	-	N	32	21	21	N	Y	$49,000	Dry-Ditch Open-Cut	S-J13 is an UNT to Patterson Creek, a very small stream, and is crossed three times by the project. Crossing # F-007, 008, and 009 are discussed together since the requirements associated with a trenchless crossing are applicable to all three crossings. Each of these crossings would require a bore pit exceeding 20 feet, with F-009 being nearly thirty feet deep. Bore pits of this depth result in a significant amount of excavated material that must be stockpiled. The excess material is not only associated with the depth of the bore, but also the access ramps and associated benching that would be required to reach depths greater than 20 feet. Crossing F-009 is in a topographical setting that would require a technically and logistically difficult winching system. In addition to the deep bore pits and limited operating room, the costs to bore these crossings is unreasonably high relative to the proposed construction method.
			Conventional Bore	45	21	N	32	21	21	N	Y	$319,538		

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				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	F-009	S-J13	Dry-Ditch Open-Cut	75	-	N	42	34	419	N	Y	$70,000	Dry-Ditch Open-Cut	S-J13 is an UNT to Patterson Creek, a very small stream, and is crossed three times by the project. Crossing # F-007, 008, and 009 are discussed together since the requirements associated with a trenchless crossing are applicable to all three crossings. Each of these crossings would require a bore pit exceeding 20 feet, with F-009 being nearly thirty feet deep. Bore pits of this depth result in a significant amount of excavated material that must be stockpiled. The excess material is not only associated with the depth of the bore, but also the access ramps and associated benching that would be required to reach depths greater than 20 feet. Crossing F-009 is in a topographical setting that would require a technically and logistically difficult winching system. In addition to the deep bore pits and limited operating room, the costs to bore these crossings is unreasonably high relative to the proposed construction method.
			Conventional Bore	75	27	N	42	34	419	N	Y	$459,485		
Huntington	F-010	S-I17	Dry-Ditch Open-Cut	43	-	N	56	44	1538	N	N	$38,855	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small UNT to Lick Creek. The crossing is located at the base of an extremely long and steep slope and require bore pits exceeding forty feet. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take twice as long to complete.
			Conventional Bore	43	31	N	56	44	1538	N	N	$688,384		
Huntington	F-011	S-I19	Dry-Ditch Open-Cut	66	-	N	50	36	1200	N	N	$101,669	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to Lick Creek. The crossing is located at the base of an extremely long and steep slope and require bore pits exceeding forty feet. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take twice as long to complete.
			Conventional Bore	66	44	N	50	36	1200	N	N	$2,587,307		
Huntington	F-011A	S-I20	Dry-Ditch Open-Cut	39	-	N	78	57	735	N	N	$76,000	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small UNT to Lick Creek. The crossing is located on an extremely long and steep slope and require bore pits that are nearly forty feet deep. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit on which would create excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take twice as long to complete.
			Conventional Bore	39	35	N	78	57	735	N	N	$750,110		
Huntington	F-012	S-N5	Dry-Ditch Open-Cut	63	-	N	33	24	10	N	N	$52,226	Dry-Ditch Open-Cut	A trenchless crossing of this small UNT to Hungard Creek would require bore pits greater than 20 feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	63	24	N	33	24	10	N	N	$398,025		
Huntington	F-013	S-K14	Dry-Ditch Open-Cut	35	-	N	40	34	252	N	N	$44,164	Dry-Ditch Open-Cut	A trenchless crossing of this small UNT to Hungard Creek would require bore pits greater than twenty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	35	22	N	40	34	252	N	N	$300,293		
Huntington	F-014	S-N3	Dry-Ditch Open-Cut	106	-	N	6	3	0	N	Y	$97,922	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	106	15	N	6	3	0	N	Y	$369,336		
Huntington	F-015	S-N2	Dry-Ditch Open-Cut	48	-	N	36	10	0	N	Y	$107,232	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	48	15	N	36	10	0	N	Y	$204,733		

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				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	F-016	S-CD23	Dry-Ditch Open-Cut	128	-	N	8	3	0	N	Y	$98,350	Conventional Bore	This crossing is adjacent to planned bored, which will allow the existing bore pits to be utilized to avoid/minimize the aquatic impact at this location by boring. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	128	15	N	8	3	0	N	Y	$431,772		
Huntington	F-017	S-N4, W-EF40	Dry-Ditch Open-Cut	99	-	N	9	4	0	N	Y	$83,735	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	99	16	N	9	4	0	N	Y	$354,038		
Huntington	F-019	S-KL29	Dry-Ditch Open-Cut	208	-	N	46	0	0	N	Y	$299,600	Dry-Ditch Open-Cut	The pipeline has already been installed under an adjacent road (East Clayton Rd). There is no feasible way to tie the two sections of pipe together if a trenchless method is used to install this crossing. Lastly, substantial increase in cost and lost time (four weeks to complete bore) to avoid a temporary impact to this small, one-foot-wide stream is not appropriate and practicable.
			Conventional Bore	208	35	N	46	0	0	N	Y	$1,229,729		
Huntington	F-020	W-MM20-PFO, S-CV17	Dry-Ditch Open-Cut	0	-	N	0	0	0	N	Y	-$700	Dry-Ditch Open-Cut	Crossing these resources requires the pipeline to negotiate a bend that cannot be completed with any available trenchless crossing technology.
			Conventional Bore	0	0	N	0	0	0	N	Y	$0		
Huntington	F-021	S-I8	Dry-Ditch Open-Cut	1250	-	Y	9	3	0	N	Y	$2,287,563	Direct Pipe	The Greenbrier River will be crossed using the Direct Pipe trenchless methodology. The stream depth would require an instream diversion system that would severely limit the amount of usable workspace in an already reduced LOD. The Greenbrier River is also classified by the WVDNR as Group 1 mussel stream. While mussel survey and relocation efforts were completed in 2020, completing a trenchless crossing will further minimize any potential impacts to mussel species.
			Direct Pipe	1250	13	Y	9	3	0	N	Y	$10,059,375		
Huntington	F-022	S-I9	Dry-Ditch Open-Cut	91	-	N	14	6	0	N	Y	$124,405	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	91	18	N	14	6	0	N	Y	$340,469		
Huntington	F-023	S-L4	Dry-Ditch Open-Cut	30	-	N	42	33	293	N	N	$51,375	Dry-Ditch Open-Cut	A trenchless crossing of this small UNT to Greenbrier River would require bore pits greater than thirty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	30	33	N	42	33	293	N	N	$688,029		
Huntington	F-024	S-L2	Dry-Ditch Open-Cut	41	-	N	37	35	105	N	N	$42,713	Dry-Ditch Open-Cut	A trenchless crossing of this small UNT to Greenbrier River would require bore pits greater that are nearly 30 feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	41	29	N	37	35	105	N	N	$381,263		
Huntington	F-025	W-K2-PEM, S-L1	Dry-Ditch Open-Cut	40	-	N	60	41	146	N	N	$49,003	Dry-Ditch Open-Cut	A trenchless crossing of this small wetland and small UNT to Kelly Creek would require bore pits greater than thirty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method.
			Conventional Bore	40	32	N	60	41	146	N	N	$698,139		

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				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	F-026	S-J5	Dry-Ditch Open-Cut	42	-	N	82	57	240	N	N	$100,783	Dry-Ditch Open-Cut	This crossing presents multiple challenges that limit the available options and necessitated the development of a unique solution. A bore pit depth greater than 20 feet requires the excavation of an interim ramp and bench and increases the space occupied by the bore pit and spoil pile. Steep slopes (greater than 30%) adjacent to these waterbodies increase the complexity of a bored crossing, increase safety risk to personnel, and add risk of impact to the waterbody from upland work during a bore. In addition, this crossing is on a property with a well or spring. The open cut method reduces the construction duration near the well/spring.
			Conventional Bore	42	24	N	82	57	240	N	N	$338,428		
Huntington	F-027	S-J4	Dry-Ditch Open-Cut	30	-	N	47	34	173	N	N	$37,647	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	30	19	N	47	34	173	N	N	$171,919		
Huntington	F-028	W-OP1-PEM, S-OP1	Dry-Ditch Open-Cut	104	-	N	72	25	228	N	N	$83,831	Dry-Ditch Open-Cut	The pipeline is already installed through a portion of the wetland at this crossing. The layout of a conventional bore would require excavation of a bore pit unacceptably close to the installed pipe. Additionally, a trenchless method would require excavation of a bore pit within the wetland, meaning that that a longer-duration bore pit in the wetland is not less environmentally damaging than a much shorter duration impact associated with an open cut through the wetland and adjacent stream. Lastly, the cost to avoid a temporary impact to these resources is unreasonably high relative to the proposed construction method, especially in light of the fact that boring does not materially avoid or minimize the impact at this location.
			Conventional Bore	104	19	N	72	25	228	N	N	$381,930		
Huntington	F-029-030	S-A63, W-A13, S-A61, S-A60	Dry-Ditch Open-Cut	742	-	N	20	9	0	N	Y	$554,400	Dry-Ditch Open-Cut	A trenchless crossing in this area would require bore pits that are nearly 20 feet deep. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method. A trenchless crossing of this area would take approximately three times longer to complete than the proposed construction method -- compounding the noise, aesthetic, and other impacts on nearby persons. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside.
			Direct Pipe	742	15	N	20	9	0	N	Y	$6,004,510		
Huntington	F-031	S-D31	Dry-Ditch Open-Cut	81	-	N	55	42	99	N	N	$284,433	Dry-Ditch Open-Cut	This crossing presents multiple challenges that limit the available options and necessitated the development of a unique solution. A bore pit depth of nearly 40 feet will require the excavation of an interim ramp and bench and dramatically increase the space occupied by the bore pit and spoil pile. Steep slopes (greater than 30%) adjacent to stream increases the complexity of a bored crossing, increases safety risk to personnel, and adds risk of impact to the waterbody from upland work during a bore. In addition, this crossing is in close proximity to residences and/or businesses, which would cause increased noise and other impacts to persons nearby for the approximately seven weeks that would be required to complete a trenchless crossing. The open-cut method would reduce construction duration and minimize disruptions to persons due to construction activities.
			Conventional Bore	81	38	N	55	42	99	N	N	$924,113		
Huntington	F-032	S-D25	Dry-Ditch Open-Cut	32	-	N	23	11	74	N	Y	$36,432	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	32	19	N	23	11	74	N	Y	$177,595		
Huntington	F-034	S-Z5, S-Z4	Dry-Ditch Open-Cut	31	-	N	32	25	10	Y	N	$30,454	Dry-Ditch Open-Cut	Site conditions do not allow sufficient space to stockpile spoils from bore pits. Karst terrain increases the risk of bore failure and environmental impact. Furthermore, avoiding this temporary impact to this small stream with a conventional bore crossing would be unreasonably expensive.
			Conventional Bore	31	26	N	32	25	10	Y	N	$325,479		
Huntington	F-035	W-MN15, W-MN14, S-MN2	Dry-Ditch Open-Cut	88	-	N	51	33	191	N	N	$86,108	Dry-Ditch Open-Cut	A trenchless crossing of these small wetlands and small UNT to Hans Creek would require bore pits that are 20 feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method. The proposed crossing method is also shorter in duration, which reduces the noise, aesthetic, and other impacts on nearby persons. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside.
			Conventional Bore	88	20	N	51	33	191	N	N	$432,436		

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				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	F-036	S-CV19	Dry-Ditch Open-Cut	84	-	N	53	28	536	N	N	$148,571	Dry-Ditch Open-Cut	This crossing presents multiple challenges that limit the available options and necessitated the development of a unique solution. A bore pit depth of nearly 30 feet will require the excavation of an interim ramp and bench and dramatically increase the space occupied by the bore pit and spoil pile. Steep slopes (greater than 30%) adjacent to stream increases the complexity of a bored crossing, increases safety risk to personnel, and adds risk of impact to the waterbody from upland work during a bore. In addition, the topographical constraints create a technical and logistical limit on a winching system further increasing the worker safety risk. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method. The proposed crossing method is also shorter in duration, which reduces the noise, aesthetic, and other impacts on nearby persons. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside. Accordingly, a trenchless crossing of this resource has been deemed logistically difficult due to the multiple compounding constraints.
			Conventional Bore	84	33	N	53	28	536	N	N	$841,280		
Huntington	F-037	S-MN39, S-MN40, W-CV24, S-MN38, S-MN37, W-MN18-PFO, W-MN18-PEM, W-MN1	Dry-Ditch Open-Cut	180	-	N	64	54	254	N	N	$140,000	Dry-Ditch Open-Cut	This crossing presents multiple challenges that limit the available options and necessitated the development of a unique solution. Installing a trenchless crossing at this location would require a deep bore pit (38 feet) at the bottom of a steep hill that would require winched equipment. There is insufficient space available at this location to stockpile spoils from the bore pit. Avoiding/minimize impacts to this cluster of small aquatic resources would require an extended construction period greater than six weeks and triple the total greenhouse gas emissions associated with completed the crossing. Lastly, the cost to avoid a temporary impact to these resources is unreasonably high relative to the proposed construction method
			Conventional Bore	180	38	N	64	54	254	N	N	$1,205,073		
Huntington	F-038	S-G44	Dry-Ditch Open-Cut	34	-	N	30	23	0	N	Y	$38,869	Dry-Ditch Open-Cut	A trenchless crossing of this small UNT to Hans Creek would require bore pits that are greater than 20 feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method. The proposed crossing method is shorter in duration, which reduces the noise, aesthetic, and other impacts on nearby persons. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside.
			Conventional Bore	34	24	N	30	23	0	N	Y	$315,724		
Huntington	F-039	S-G43, W-MN1	Dry-Ditch Open-Cut	52	-	N	40	27	73	N	N	$56,420	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	52	19	N	40	27	73	N	N	$234,355		
Huntington	F-040	W-G6, S-G42	Dry-Ditch Open-Cut	83	-	N	61	51	312	N	N	$69,021	Dry-Ditch Open-Cut	A trenchless crossing of this small wetland and UNT to Hans Creek would require bore pits that are greater than thirty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method. The proposed crossing method is also shorter in duration, which reduces the noise, aesthetic, and other impacts on nearby persons. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside.
			Conventional Bore	83	34	N	61	51	312	N	N	$856,711		
Huntington	F-041	S-MN45, W-MN24	Dry-Ditch Open-Cut	42	-	N	45	33	342	N	N	$36,464	Dry-Ditch Open-Cut	A trenchless crossing of this small wetland and UNT to Hans Creek would require bore pits that are thirty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. In addition the crossing is located at the bottom of a long, steep slope, further complicating construction and worker safety. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method. The proposed crossing method is also shorter in duration, which reduces the noise, aesthetic, and other impacts on nearby persons. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside.
			Conventional Bore	42	30	N	45	33	342	N	N	$667,277		
Huntington	F-042	W-CV25-PEM-2, W-CV25-PSS-1, S-CV27	Dry-Ditch Open-Cut	50	-	N	27	13	0	N	Y	$40,250	Dry-Ditch Open-Cut	A trenchless crossing of these small wetlands and UNT to Hans Creek would require bore pits that are approximately twenty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method. The proposed crossing method is shorter in duration, which reduces the noise, aesthetic, and other impacts on nearby persons. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside.
			Conventional Bore	50	20	N	27	13	0	N	Y	$324,593		
Huntington	F-043	S-E43, S-E45	Dry-Ditch Open-Cut	42	-	N	34	30	210	Y	N	$58,269	Dry-Ditch Open-Cut	Site conditions do not allow sufficient space to stockpile spoils from bore pits. Karst terrain presents greater logistical and technical challenges. Furthermore, avoiding this temporary impact to this small stream with a conventional bore crossing would be unreasonably expensive.
			Conventional Bore	42	28	N	34	30	210	Y	N	$374,967		

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				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Huntington	F-044	W-E12, S-E40, S-E41	Dry-Ditch Open-Cut	48	-	N	41	25	295	Y	N	$78,651	Dry-Ditch Open-Cut	Site conditions reduce the available space to stockpile spoils from bore pits. Karst terrain presents greater logistical and technical challenges.
			Conventional Bore	48	14	N	41	25	295	Y	N	$200,166		
Huntington	F-045	W-C14, W-C13, S-C38, S-C39	Dry-Ditch Open-Cut	181	-	N	31	19	10	N	Y	$151,803	Dry-Ditch Open-Cut	A trenchless crossing of these small wetlands and Painters Run would require bore pits that are approximately thirty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. In addition, the presence of steep slopes logistical and technical challenges. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method. The time to complete the proposed crossing method is also shorter in duration (nearly half), which reduces the noise, aesthetic, and other impacts on nearby persons. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside.
			Conventional Bore	181	29	N	31	19	10	N	Y	$778,581		
Huntington	F-046	S-C41	Dry-Ditch Open-Cut	72	-	N	56	46	295	N	N	$61,161	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to this small UNT to Painters Run. The crossing is located on a steep slope and require bore pits nearly 30 feet. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles, all while being located within an already reduced LOD. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take over forty days to complete.
			Conventional Bore	72	29	N	56	46	295	N	N	$469,241		
Norfolk	G-001	S-Q12	Dry-Ditch Open-Cut	42	-	N	64	44	75	Y	N	$43,449	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to this small UNT to Kimballton Branch. The crossing is located on a steep slope and require bore pits exceeding fifty feet. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles. Karst terrain presents greater logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take six times longer to complete.
			Conventional Bore	42	55	N	64	44	75	Y	N	$3,119,195		
Norfolk	G-002	S-Q13	Dry-Ditch Open-Cut	69	-	N	45	29	331	Y	N	$118,248	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to Kimballton Branch. The crossing is located on a steep slope and require bore pits exceeding thirty feet. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles. Karst terrain increases the risk of bore failure and environmental impact. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take three times longer to complete.
			Conventional Bore	69	33	N	45	29	331	Y	N	$798,710		
Norfolk	G-003	S-P6	Dry-Ditch Open-Cut	44	-	N	42	32	84	Y	N	$51,841	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to UNT to Stony Creek. The crossing is located adjacent to a steep slope and require bore pits nearly thirty feet deep. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles. Karst terrain increases the logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take nearly twice as long to complete.
			Conventional Bore	44	29	N	42	32	84	Y	N	$389,777		
Norfolk	G-004	S-S5-Braid-1, S-S5-Braid-2, S-S5	Dry-Ditch Open-Cut	300	-	N	21	5	66	N	N	$356,008	Dry-Ditch Open-Cut	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Guided Conventional Bore	300	0	N	21	5	66	N	N	$445,322		
Norfolk	G-005	S-G30, S-G29	Dry-Ditch Open-Cut	58	-	N	49	38	110	Y	N	$70,917	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to two UNT to Dry Branch. Both streams are very small - less than ten feet in width. The crossing is located adjacent to a steep slope and require bore pits nearly forty feet deep. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles. Karst terrain increases the logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take three times longer to complete.
			Conventional Bore	58	38	N	49	38	110	Y	N	$858,839		
Norfolk	G-006	S-G32	Dry-Ditch Open-Cut	100	-	N	46	28	607	Y	N	$100,749	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to Dry Branch. The crossing is located adjacent to a steep slope and require bore pits greater than twenty feet. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit adjacent to an extremely long and steep slope which would create excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Karst terrain increases the logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would take twice as long to complete.
			Conventional Bore	100	24	N	46	28	607	Y	N	$503,031		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	G-007	S-G33	Dry-Ditch Open-Cut	90	-	N	38	34	289	N	N	$93,649	Dry-Ditch Open-Cut	A trenchless crossing of this small UNT to Dry Branch (less than 10 feet) would require bore pits that are approximately thirty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method. The proposed crossing method is also shorter in duration, which reduces the noise, aesthetic, and other impacts on nearby persons. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside.
			Conventional Bore	90	30	N	38	34	289	N	N	$803,500		
Norfolk	G-008	W-Z11	Dry-Ditch Open-Cut	60	-	N	39	26	220	N	N	$42,000	Dry-Ditch Open-Cut	A trenchless crossing of this small wetland would require bore pits that are greater than twenty feet deep, which necessitates the use of a bench and interim ramp to access the bore pit. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method. The proposed crossing method is shorter in duration, which reduces the noise, aesthetic, and other impacts on nearby persons. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside.
			Conventional Bore	60	21	N	39	26	220	N	N	$362,107		
Norfolk	G-009	S-G35	Dry-Ditch Open-Cut	139	-	N	38	34	608	N	N	$225,223	Conventional Bore	Mountain Valley must use a conventional bore to cross an adjacent road (Big Branch Hollow Road). The bore can be extended to avoid this resource.
			Conventional Bore	139	30	N	38	34	608	N	N	$942,561		
Norfolk	G-010	S-SS4	Dry-Ditch Open-Cut	30	-	N	22	16	0	N	Y	$30,059	Conventional Bore	This stream is listed as trout water. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	30	27	N	22	16	0	N	Y	$331,776		
Norfolk	G-011	S-Z9	Dry-Ditch Open-Cut	48	-	N	45	29	21	N	N	$49,564	Conventional Bore	This stream is listed as trout water. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	48	27	N	45	29	21	N	N	$382,860		
Norfolk	G-012	S-Z7, S-Z7-Braid-1	Dry-Ditch Open-Cut	47	-	N	24	14	0	N	Y	$44,128	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	47	19	N	24	14	0	N	Y	$220,165		
Norfolk	G-013	S-Z10, S-Z11, S-Z12-EPH, W-Z3, S-Z13	Dry-Ditch Open-Cut	331	-	N	9	4	0	N	Y	$322,599	Guided Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Guided Conventional Bore	331	23	N	9	4	0	N	Y	$701,437		
Norfolk	G-014	S-Z14	Dry-Ditch Open-Cut	53	-	N	37	32	292	N	N	$53,882	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	53	15	N	37	32	292	N	N	$218,923		
Norfolk	G-015A	S-A34	Dry-Ditch Open-Cut	77	-	N	36	32	330	Y	N	$74,900	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small UNT to Doe Creek. The stream is very small - less than ten feet in width and would require bore pits nearly thirty feet deep. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles. Karst terrain increases the logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take twice as along to complete.
			Conventional Bore	77	29	N	36	32	330	Y	N	$483,431		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	G-015B	S-A33	Dry-Ditch Open-Cut	58	-	N	36	30	388	Y	Y	$68,849	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small UNT to Doe Creek. The stream is very small - less than ten feet in width and would require bore pits greater than twenty feet deep on a steep slope. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles, with limited room for stockpiling. Karst terrain increases the logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take twice as along to complete.
			Conventional Bore	58	24	N	36	30	388	Y	Y	$383,836		
Norfolk	G-016	S-A32	Dry-Ditch Open-Cut	103	-	N	36	32	975	Y	N	$130,827	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to an UNT to Doe Creek. The crossing is located adjacent to a steep slope and require bore pits up to forty feet in depth. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit adjacent to an extremely long and steep slope which would create excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Karst terrain increases the logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take eight times longer to complete. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside.
			Conventional Bore	103	40	N	36	32	975	Y	N	$2,474,130		
Norfolk	G-017	S-Y3, S-Y2	Dry-Ditch Open-Cut	246	-	N	52	25	328	Y	N	$263,200	Conventional Bore	Mountain Valley must use a conventional bore to cross an adjacent road (Doe Creek Road). The bore can be extended to avoid this resource.
			Conventional Bore	246	37	N	52	25	328	Y	N	$1,374,111		
Norfolk	G-019A	S-E24	Dry-Ditch Open-Cut	69	-	N	28	13	0	N	Y	$120,466	Dry-Ditch Open-Cut	This crossing is immediately adjacent to another crossing (G-019B) that will be bored. A significant change in elevation between the two crossing locations does not allow the pipeline to be tied-in together unless this crossing is completed with an open cut. Furthermore, avoiding this temporary impact to a UNT to Sinking Creek with a conventional bore crossing would be unreasonably expensive.
			Conventional Bore	69	32	N	28	13	0	N	Y	$780,441		
Norfolk	G-019B	S-E25-Downstream	Dry-Ditch Open-Cut	92	-	N	48	20	450	N	Y	$99,400	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	92	19	N	48	20	450	N	Y	$347,874		
Norfolk	G-020	S-RR5	Dry-Ditch Open-Cut	154	-	N	56	45	400	N	N	$146,371	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to an UNT to Sinking Creek. The crossing is located adjacent to a steep slope and require bore pits nearly forty feet deep. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit adjacent to an extremely long and steep slope which would create excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take longer to complete.
			Conventional Bore	154	35	N	56	45	400	N	N	$1,076,478		
Norfolk	G-020A	S-IJ18	Dry-Ditch Open-Cut	22	-	N	41	13	11	N	N	$21,300	Dry-Ditch Open-Cut	A trenchless crossing of this small stream (UNT to Sinking Creek) would require bore pits that are nearly twenty feet deep. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in an already reduced LOD. Furthermore, the cost to bore is unreasonably high relative to the proposed construction method. The proposed crossing method is shorter in duration, which reduces the noise, aesthetic, and other impacts on nearby persons. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside.
			Conventional Bore	22	19	N	41	13	11	N	N	$149,215		
Norfolk	G-022	S-IJ16-b	Dry-Ditch Open-Cut	50	-	N	70	42	537	Y	N	$52,912	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to an UNT to Sinking Creek. The crossing is located adjacent to a steep slope and require bore pits up to thirty feet in depth. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles in a topographical setting that would require a technically and logistically difficult winching system, all while being located within an already reduced LOD. Karst terrain increases the logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take nearly twice as long to complete. Reducing the time at the crossing and permanently stabilizing this area will reduce the potential for sedimentation and erosion along the hillside.
			Conventional Bore	50	33	N	70	42	537	Y	N	$744,789		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	G-023	S-NN17	Dry-Ditch Open-Cut	140	-	N	62	40	372	Y	N	$296,363	Conventional Bore	Mountain Valley must use a conventional bore to cross an adjacent road (Rt. 604). The bore can be extended to avoid this resource.
			Conventional Bore	140	23	N	62	40	372	Y	N	$607,416		
Norfolk	G-024	S-RR2, S-YZ6, W-RR1b	Dry-Ditch Open-Cut	133	-	N	63	42	702	Y	N	$129,388	Conventional Bore	Mountain Valley must use a conventional bore to cross an adjacent road (Rt. 42). The bore can be extended to avoid this resource.
			Conventional Bore	133	28	N	63	42	702	Y	N	$633,223		
Norfolk	G-025	S-MM18	Dry-Ditch Open-Cut	35	-	N	45	41	349	Y	N	$43,253	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small UNT to Sinking Creek. The stream is very small - less than ten feet in width and would require bore pits approximately twenty feet deep. Avoiding/minimizing this minor impact through a conventional bore would require creating excessive spoil piles, with limited room for stockpiling. Karst terrain increases the logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take three times as along to complete.
			Conventional Bore	35	20	N	45	41	349	Y	N	$282,023		
Norfolk	G-026	S-NN12	Dry-Ditch Open-Cut	41	-	N	41	28	276	Y	N	$37,317	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small UNT to Sinking Creek. The stream is very small - less than five feet in width and would require bore pits that are twenty feet deep. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles, with limited room for stockpiling. Karst terrain increases the logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take longer to complete.
			Conventional Bore	41	20	N	41	28	276	Y	N	$299,051		
Norfolk	G-027	S-NN11	Dry-Ditch Open-Cut	147	-	N	38	26	43	Y	N	$121,499	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small UNT to Sinking Creek. The stream is very small - less than five feet in width and would require bore pits greater than twenty feet deep. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit which would create excessive spoil piles, with limited room for stockpiling. Karst terrain increases the logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take longer to complete.
			Conventional Bore	147	24	N	38	26	43	Y	N	$636,416		
Norfolk	G-028	S-KL43	Dry-Ditch Open-Cut	48	-	N	43	28	102	Y	N	$61,648	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small UNT to Sinking Creek. The stream is very small - less than ten feet in width and would require bore pits greater than twenty feet deep. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles, with limited room for stockpiling. Karst terrain increases the logistical and technical challenges.
			Conventional Bore	48	19	N	43	28	102	Y	N	$223,003		
Norfolk	G-029	W-CD12, S-OO14	Dry-Ditch Open-Cut	70	-	N	23	11	0	Y	Y	$63,367	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small wetland and small UNT to Sinking Creek. The stream is very small - less than ten feet in width and would require bore pits greater than twenty feet deep. Avoiding/minimizing this minor impact through a conventional bore would create excessive spoil piles, with limited room for stockpiling. Karst terrain increases the logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive and would take longer to complete.
			Conventional Bore	70	22	N	23	11	0	Y	Y	$399,622		
Norfolk	G-030	S-OO12, S-OO13	Dry-Ditch Open-Cut	45	-	N	41	21	73	Y	N	$101,903	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to two small UNTs to Sinking Creek. This crossing is in proximity to a residence, and a trenchless crossing of this location would take nearly three times as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Karst terrain increases the logistical and technical challenges.
			Conventional Bore	45	18	N	41	21	73	Y	N	$209,921		
Norfolk	G-031	S-PP1	Dry-Ditch Open-Cut	46	-	N	16	8	0	Y	Y	$43,348	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (three-feet wide) intermittent UNT to Sinking Creek. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take four times as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Karst terrain increases the logistical and technical challenges.
			Conventional Bore	46	15	N	16	8	0	Y	Y	$199,057		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	G-032	S-PP3	Dry-Ditch Open-Cut	25	-	N	17	12	0	Y	Y	$26,364	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (three-feet wide) UNT to Sinking Creek. Karst terrain increases the logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	25	17	N	17	12	0	Y	Y	$148,594		
Norfolk	G-033	S-PP4	Dry-Ditch Open-Cut	38	-	N	22	11	0	Y	Y	$34,742	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (two-feet wide) intermittent UNT to Sinking Creek. Karst terrain increases the logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	38	11	N	22	11	0	Y	Y	$158,084		
Norfolk	G-034	S-PP22	Dry-Ditch Open-Cut	48	-	N	57	48	203	N	N	$44,100	Conventional Bore	Mountain Valley has only been authorized to boring the streams in this section of the project.
			Conventional Bore	48	19	N	57	48	203	N	N	$223,003		
Norfolk	G-035	S-PP21	Dry-Ditch Open-Cut	35	-	N	33	26	0	N	N	$38,975	Conventional Bore	Mountain Valley has only been authorized to boring the streams in this section of the project.
			Conventional Bore	35	22	N	33	26	0	N	N	$300,293		
Norfolk	G-036	S-PP20	Dry-Ditch Open-Cut	48	-	N	26	9	0	N	Y	$58,844	Conventional Bore	Mountain Valley has only been authorized to boring the streams in this section of the project.
			Conventional Bore	48	18	N	26	9	0	N	Y	$218,435		
Norfolk	G-037	S-OO6	Dry-Ditch Open-Cut	61	-	N	20	8	0	N	Y	$166,001	Conventional Bore	Mountain Valley has only been authorized to boring the streams in this section of the project.
			Conventional Bore	61	11	N	20	8	0	N	Y	$223,358		
Norfolk	G-038	S-RR14	Dry-Ditch Open-Cut	38	-	N	33	19	21	N	N	$52,813	Conventional Bore	Mountain Valley has only been authorized to boring the streams in this section of the project.
			Conventional Bore	38	13	N	33	19	21	N	N	$167,219		
Norfolk	G-039	S-HH18	Dry-Ditch Open-Cut	55	-	N	42	24	216	N	N	$59,609	Conventional Bore	Mountain Valley has only been authorized to boring the streams in this section of the project.
			Conventional Bore	55	29	N	42	24	216	N	N	$420,995		
Norfolk	G-040	S-MN21	Dry-Ditch Open-Cut	32	-	N	53	42	287	N	N	$40,296	Dry-Ditch Open-Cut	Access to this crossing location is extremely limited and requires removal and replacement of approximately 200 waterbars per day during period of active construction. Operating a boring operation at this location is logistically and technically challenging. Furthermore, avoiding this temporary impact to this small stream with a conventional bore crossing would be unreasonably expensive.
			Conventional Bore	32	28	N	53	42	287	N	N	$346,587		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	G-041	S-MN22	Dry-Ditch Open-Cut	40	-	N	30	24	0	N	Y	$43,706	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (four-feet wide) stream. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of 20 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	40	20	N	30	24	0	N	Y	$296,213		
Norfolk	G-042	S-EF65	Dry-Ditch Open-Cut	88	-	N	43	27	560	Y	N	$166,301	Dry-Ditch Open-Cut	Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 20 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. The stream is also located on a steep slope that would require logistically and technically challenging winching system in an already reduced work area. Karst terrain increases the logistical and technical challenges.
			Conventional Bore	88	22	N	43	27	560	Y	N	$450,706		
Norfolk	G-043	S-EF62	Dry-Ditch Open-Cut	38	-	N	28	17	293	Y	N	$58,103	Dry-Ditch Open-Cut	The stream is located on a steep slope that would require logistically and technically challenging winching system in an already reduced work area. Karst terrain increases the logistical and technical challenges.
			Conventional Bore	38	16	N	28	17	293	Y	N	$180,921		
Norfolk	G-044	S-IJ52, W-IJ46-PEM	Dry-Ditch Open-Cut	46	-	N	63	35	178	Y	N	$57,673	Dry-Ditch Open-Cut	Site conditions do not allow sufficient space to stockpile spoils from bore pits. Karst terrain increases the logistical and technical challenges. Furthermore, avoiding this temporary impact to this small stream with a conventional bore crossing would be unreasonably expensive and would take longer to complete.
			Conventional Bore	46	24	N	63	35	178	Y	N	$349,780		
Norfolk	H-001	S-G39	Dry-Ditch Open-Cut	301	-	N	74	46	1576	N	N	$232,364	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (six-feet wide) intermittent UNT to Roanoke River. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit of nearly 40 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. The slope adjacent to the crossing is steep and excessively long, requiring equipment operating within and around the bore pit to be winched to other equipment. That increases the complexity of this crossing if bored, increases safety risk to personnel, and adds risk of impact to the waterbody from upland work during a bore. There is insufficient space at this location for spoil piles from a bore pit. A conventional bore crossing would extend the duration of this crossing from 6 to 79 days, thereby increasing the greenhouse gas emissions associated with the crossing by nearly 1,400%. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	301	36	N	74	46	1576	N	N	$1,511,931		
Norfolk	H-002	S-MM15	Dry-Ditch Open-Cut	37	-	N	39	29	74	N	N	$47,979	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (six-feet wide) intermittent UNT to Flatwoods Branch. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit of nearly 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	37	33	N	39	29	74	N	N	$707,895		
Norfolk	H-003	S-MM14	Dry-Ditch Open-Cut	100	-	N	42	33	243	N	N	$104,394	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a UNT to Flatwoods Branch. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit of nearly 40 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	100	37	N	42	33	243	N	N	$959,765		
Norfolk	H-004	S-MM13	Dry-Ditch Open-Cut	33	-	N	59	34	33	N	N	$41,924	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (five-feet wide) UNT to Flatwoods Branch. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take more than twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	33	32	N	59	34	33	N	N	$678,274		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	H-005	S-MM11	Dry-Ditch Open-Cut	34	-	N	46	24	33	N	N	$54,178	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (nine-feet wide) UNT to Flatwoods Branch. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 20 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to residences, and a trenchless crossing of this location would take more than twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	34	25	N	46	24	33	N	N	$324,859		
Norfolk	H-006	W-F9-PFO, S-F15	Dry-Ditch Open-Cut	55	-	N	56	17	0	N	Y	$85,276	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to an intermittent UNT to Flatwoods Branch and an adjacent PFO wetland (0.02 ac). Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in proximity to residences, and a trenchless crossing of this location would take twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize these minor temporary impacts would be unreasonably expensive.
			Conventional Bore	55	35	N	56	17	0	N	Y	$795,517		
Norfolk	H-007	S-F16a/F16b	Dry-Ditch Open-Cut	32	-	N	30	15	0	N	Y	$32,899	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (three-feet wide) UNT to Flatwoods Branch. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of nearly 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to residences, and a trenchless crossing of this location would take nearly twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	32	27	N	30	15	0	N	Y	$337,452		
Norfolk	H-008	~~S-C33,~~ S-C36, W-C11	Dry-Ditch Open-Cut	313	-	N	21	15	0	N	Y	$240,100	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a UNT to Flatwoods Branch. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit more than 20 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. A conventional bore crossing would extend the duration of this crossing from 2 to 30 days, thereby increasing the greenhouse gas emissions associated with the crossing by over 1500%.
			Conventional Bore	313	23	N	21	15	0	N	Y	$1,098,387		
Norfolk	H-009	S-MM31	Dry-Ditch Open-Cut	40	-	N	5	3	0	N	Y	$43,566	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	40	11	N	5	3	0	N	Y	$163,760		
Norfolk	H-010	S-C29	Dry-Ditch Open-Cut	44	-	N	21	16	0	N	Y	$35,326	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (one-foot wide) Flatwoods Branch. A conventional bore crossing would extend the duration of this crossing from 2 to 9 days, thereby increasing the greenhouse gas emissions associated with the crossing by over 450%. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	44	17	N	21	16	0	N	Y	$202,516		
Norfolk	H-012	W-C5	Dry-Ditch Open-Cut	68	-	N	31	19	0	N	Y	$47,600	Dry-Ditch Open-Cut	The open cut method would result in a small temporary impact to a PEM wetland (0.05 ac). Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit of nearly 20 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. A conventional bore crossing would extend the duration of this crossing from 2 to 8 days, thereby increasing the greenhouse gas emissions associated with the crossing by over 400%. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	68	23	N	31	19	0	N	Y	$403,081		
Norfolk	H-013	S-C25	Dry-Ditch Open-Cut	65	-	N	39	29	52	N	N	$62,093	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (five-feet wide) UNT to Bradshaw Creek. Avoiding/minimizing this minor impact through a conventional bore would require a deep bore pit of nearly 40 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. A conventional bore crossing would extend the duration of this crossing from 2 to 18 days, thereby increasing the greenhouse gas emissions associated with the crossing by over 900%. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	65	38	N	39	29	52	N	N	$878,705		
Norfolk	H-014	S-C24	Dry-Ditch Open-Cut	67	-	N	38	20	21	N	N	$64,412	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a UNT to Bradshaw Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. A conventional bore crossing would extend the duration of this crossing from 2 to 18 days, thereby increasing the greenhouse gas emissions associated with the crossing by over 900%. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	67	34	N	38	20	21	N	N	$811,304		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	H-015	S-C21	Dry-Ditch Open-Cut	90	-	N	18	6	21	N	N	$168,191	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	90	26	N	18	6	21	N	N	$492,920		
Norfolk	H-017	S-OO16	Dry-Ditch Open-Cut	360	-	N	45	36	282	Y	N	$266,002	Conventional Bore	Mountain Valley must use a conventional bore to cross an adjacent road (I-81). The bore can be extended to avoid this resource.
			Conventional Bore	360	39	N	45	36	282	Y	N	$1,734,180		
Norfolk	H-018	S-NN19	Dry-Ditch Open-Cut	34	-	N	53	27	11	Y	N	$36,153	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (four-feet wide) UNT to Roanoke River. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take three weeks to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Karst terrain increases the logistical and technical challenges. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	34	33	N	53	27	11	Y	N	$699,381		
Norfolk	H-019	S-NN16, W-NN8	Dry-Ditch Open-Cut	316	-	N	23	14	0	Y	Y	$504,735	Dry-Ditch Open-Cut	Mountain Valley must use microtunneling to cross an adjacent road (Rt. 11). The bore can be extended to avoid this resource.
			Microtunnel	316	31	N	23	14	0	Y	Y	$3,726,351		
Norfolk	H-020	S-I1, S-AB16, W-AB7	Dry-Ditch Open-Cut	280	-	N	4	3	74	Y	Y	$244,999	Conventional Bore	Mountain Valley must use microtunneling to cross an adjacent road (Rt. 11). The bore can be extended to avoid this resource.
			Conventional Bore	280	16	N	4	3	74	Y	Y	$867,713		
Norfolk	H-021	S-CD12b	Dry-Ditch Open-Cut	38	-	N	3	2	0	N	Y	$37,100	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	38	11	N	3	2	0	N	Y	$158,084		
Norfolk	H-022	W-KL58	Dry-Ditch Open-Cut	114	-	N	1	0	0	N	Y	$79,800	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	114	12	N	1	0	0	N	Y	$378,338		
Norfolk	H-023	S-EF19	Dry-Ditch Open-Cut	30	-	N	76	60	647	N	N	$24,179	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (one-foot wide) UNT to Indian Run. Avoiding/minimizing this minor impact through a trenchless crossing would require an excessively deep bore pit exceeding 50 feet, thereby requiring the excavation of an interim ramp and up to three benches and dramatically increasing the space occupied by the bore pit and spoil pile. The slope adjacent to the crossing is steep and excessively long, requiring equipment operating within and around the bore pit to be winched to other equipment. That increases the complexity of this crossing if bored, increases safety risk to personnel, and adds risk of impact to the waterbody from upland work during a bore. There is insufficient space at this location for spoil piles from a bore pit. Using a trenchless method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Microtunnel	30	51	N	76	60	647	N	N	$3,081,818		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	H-024	W-EF5-PFO, S-EF20a	Dry-Ditch Open-Cut	83	-	N	63	52	768	N	N	$80,005	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (five-feet wide) UNT to Roanoke River and an adjacent PFO wetland (0.11 ac). Avoiding/minimizing these minor impacts through a conventional bore would require an excessively deep bore pit greater than 40 feet, thereby requiring the excavation of an interim ramp and two benches and dramatically increasing the space occupied by the bore pit and spoil pile. The slope adjacent to the crossing is steep and excessively long, requiring equipment operating within and around the bore pit to be winched to other equipment. That increases the complexity of this crossing if bored, increases safety risk to personnel, and adds risk of impact to the waterbody from upland work during a bore. There is insufficient space at this location for spoil piles from a bore pit. In forested wetlands, a 30-foot corridor generally must be maintained free of trees. Accordingly, conversion impacts to the PFO wetland are unavoidable, even if a bore is used. This crossing also is in close proximity to a residence, and a trenchless crossing of this location would take 27 days -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize these minor temporary impacts would be unreasonably expensive.
			Conventional Bore	83	44	N	63	52	768	N	N	$2,635,553		
Norfolk	H-025	S-MM22	Dry-Ditch Open-Cut	200	-	N	33	25	2582	N	N	$192,500	Dry-Ditch Open-Cut	The stream is located on a slope that will increase the logistical and technical difficulty of crossing this small stream. The bore pits are nearly 20 feet deep which makes stockpiling the spoils on such steep slope and logistical challenge.
			Conventional Bore	200	17	N	33	25	2582	N	N	$645,242		
Norfolk	H-026	S-IJ50	Dry-Ditch Open-Cut	88	-	N	74	66	2681	N	N	$96,784	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small UNT to Roanoke River. Avoiding/minimizing this minor impact through a trenchless crossing would require an excessively deep bore pit of nearly 60 feet, thereby requiring the excavation of an interim ramp and up to three benches and dramatically increasing the space occupied by the bore pit and spoil pile. The slope adjacent to the crossing is steep and excessively long, requiring equipment operating within and around the bore pit to be winched to other equipment. That increases the complexity of this crossing if bored, increases safety risk to personnel, and adds risk of impact to the waterbody from upland work during a bore. There is insufficient space at this location for spoil piles from a bore pit. Using a trenchless method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Microtunnel	88	59	N	74	66	2681	N	N	$4,098,182		
Norfolk	H-027	S-Y13, S-Y14	Dry-Ditch Open-Cut	104	-	N	66	45	670	N	N	$124,613	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to two small UNTs to Bottom Creek. The slope adjacent to the crossing is steep and excessively long, requiring equipment operating within and around the bore pit to be winched to other equipment. That increases the complexity of this crossing if bored, increases safety risk to personnel, and adds risk of impact to the waterbody from upland work during a bore. There is insufficient space at this location for spoil piles from a bore pit. Using a conventional bore crossing method to avoid/minimize these minor temporary impacts would be unreasonably expensive.
			Conventional Bore	104	38	N	66	45	670	N	N	$989,387		
Norfolk	H-028	S-EF34b, S-EF55	Dry-Ditch Open-Cut	100	-	N	63	51	508	N	N	$105,000	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to two small UNTs to Bottom Creek. Avoiding/minimizing these minor impacts through a conventional bore would require an excessively deep bore pit greater than 40 feet, thereby requiring the excavation of an interim ramp and two benches and dramatically increasing the space occupied by the bore pit and spoil pile. The slope adjacent to the crossing is steep and excessively long, requiring equipment operating within and around the bore pit to be winched to other equipment. That increases the complexity of this crossing if bored, increases safety risk to personnel, and adds risk of impact to the waterbody from upland work during a bore. There is insufficient space at this location for spoil piles from a bore pit. Using a conventional bore crossing method to avoid/minimize these minor temporary impacts would be unreasonably expensive.
			Conventional Bore	100	45	N	63	51	508	N	N	$2,738,344		
Norfolk	H-029	S-EF33	Dry-Ditch Open-Cut	43	-	N	42	19	560	N	N	$48,809	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (five-feet wide) intermittent UNT to Bottom Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of nearly 30 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	43	31	N	42	19	560	N	N	$688,384		
Norfolk	H-030	S-IJ82	Dry-Ditch Open-Cut	73	-	N	25	14	0	N	Y	$70,275	Conventional Bore	The stream is a trout water and the direct aquatic impact will be avoided/minimized by use of the conventional bore method.
			Conventional Bore	73	27	N	25	14	0	N	Y	$453,809		
Norfolk	H-031	W-IJ94-PEM, W-IJ95-PSS, S-IJ83, S-IJ88, S-IJ84, W-IJ102	Dry-Ditch Open-Cut	362	-	N	25	12	0	N	Y	$292,224	Conventional Bore	Orangefin madtom habitat may be present in this stream and it is a trout water. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	362	28	N	25	12	0	N	Y	$1,283,121		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	H-032	S-IJ89, S-IJ90	Dry-Ditch Open-Cut	108	-	N	34	22	212	N	N	$94,134	Conventional Bore	Orangefin madtom habitat may be present in this stream and it is a trout water. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	108	22	N	34	22	212	N	N	$507,465		
Norfolk	H-033	W-KL17, S-KL25	Dry-Ditch Open-Cut	59	-	N	14	9	521	N	N	$53,001	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (three-feet wide) intermittent UNT to Mill Creek and a PSS wetland (0.04 ac). The slope adjacent to the crossing is steep and excessively long, requiring equipment operating within and around the bore pit to be winched to other equipment. That increases the complexity of this crossing if bored, increases safety risk to personnel, and adds risk of impact to the waterbody from upland work during a bore. There is insufficient space at this location for spoil piles from a bore pit. This crossing also is in close proximity to a residence, and a trenchless crossing of this location increases the duration of the crossing work -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents.
			Conventional Bore	59	16	N	14	9	521	N	N	$240,519		
Norfolk	H-035	W-KL15	Dry-Ditch Open-Cut	59	-	N	15	12	0	N	Y	$41,300	Dry-Ditch Open-Cut	The open cut method would result in a small temporary impact to a PEM wetland (0.03 ac). This crossing is in close proximity to residences, and a trenchless crossing of this location nearly triples the duration of the crossing work -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize the impact to this PEM would be unreasonably expensive.
			Conventional Bore	59	16	N	15	12	0	N	Y	$240,519		
Norfolk	H-036	W-EF42, W-HS02, W-AB6-PEM-2, W-AB6-PFO-1, W-AB6-PEM-1, W-AB6-PSS, W-AB5, W-AB3-PEM-2	Dry-Ditch Open-Cut	1600	-	N	4	2	0	N	Y	$1,120,000	Dry-Ditch Open-Cut	The open cut method would result in a small temporary impacts several closely grouped wetland features. To avoid excavating bore pits in wetland areas, Direct Pipe would be necessary to span the excessively long crossing distance. The trenchless crossing would take more than one month to complete (as opposed to three days for an open cut crossing). The greenhouse gas footprint of the crossing would therefore increase by over 1,400%. Furthermore, using a Direct Pipe crossing method to avoid/minimize the temporary impacts to these features would be unreasonably expensive. A minor temporary impact associated with the bore to maintain access will be required.
			Direct Pipe	1600	10	N	4	2	0	N	Y	$12,845,673		
Norfolk	H-040	W-EF46, S-ST9b	Dry-Ditch Open-Cut	179	-	N	31	17	10	N	N	$152,132	Conventional Bore	Orangefin madtom habitat may be present in this stream and it is a trout water. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	179	21	N	31	17	10	N	N	$699,827		
Norfolk	H-041	W-KL48-PSS-1	Dry-Ditch Open-Cut	70	-	N	10	5	0	N	Y	$49,000	Dry-Ditch Open-Cut	The open cut method would result in a small temporary impact to PSS wetland. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	70	17	N	10	5	0	N	Y	$276,304		
Norfolk	H-042	W-KL49-PEM, W-KL51-PEM, S-KL55, W-KL51-PSS	Dry-Ditch Open-Cut	202	-	N	17	13	0	N	Y	$181,156	Conventional Bore	Orangefin madtom habitat may be present in this stream and it is a trout water. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	202	22	N	17	13	0	N	Y	$774,236		
Norfolk	H-043	W-MN7-PEM, S-IJ12	Dry-Ditch Open-Cut	87	-	N	31	22	340	N	N	$74,999	Conventional Bore	Orangefin madtom habitat may be present in this stream and it is a trout water. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	87	25	N	31	22	340	N	N	$475,272		
Norfolk	H-044	S-EF44, W-EF44	Dry-Ditch Open-Cut	45	-	N	45	33	84	N	N	$49,054	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method.
			Conventional Bore	45	21	N	45	33	84	N	N	$319,538		

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				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	H-045	W-IJ36, S-IJ43	Dry-Ditch Open-Cut	282	-	N	43	26	230	N	N	$251,003	Conventional Bore	Orangefin madtom habitat may be present in this stream and it is a trout water. The direct aquatic impact will be avoided/minimized by use of the conventional bore method.
			Conventional Bore	282	30	N	43	26	230	N	N	$1,348,393		
Norfolk	H-046	S-Y7, W-Y2, S-Y8	Dry-Ditch Open-Cut	140	-	N	44	24	43	N	N	$117,275	Conventional Bore	Orangefin madtom habitat may be present in this stream and it is a trout water. The direct aquatic impact will be avoided/minimized by use of the conventional bore method.
			Conventional Bore	140	25	N	44	24	43	N	N	$625,685		
Norfolk	H-047A	S-B22	Dry-Ditch Open-Cut	64	-	N	9	5	0	N	Y	$59,056	Conventional Bore	Orangefin madtom habitat may be present in this stream and it is a trout water. The direct aquatic impact will be avoided/minimized by use of the conventional bore method.
			Conventional Bore	64	14	N	9	5	0	N	Y	$245,574		
Norfolk	H-047B	W-B25-PEM-1	Dry-Ditch Open-Cut	154	-	N	9	4	0	N	Y	$107,800	Dry-Ditch Open-Cut	The open cut method would result in a small (0.19 ac) temporary impact to PEM wetland. This crossing is in close proximity to several residences, and a trenchless crossing of this location would take 30 days to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents.
			Conventional Bore	154	13	N	9	4	0	N	Y	$496,425		
Norfolk	H-048A	W-B25-PSS-2, S-B25	Dry-Ditch Open-Cut	253	-	N	3	1	0	N	Y	$202,035	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method.
			Conventional Bore	253	11	N	3	1	0	N	Y	$768,251		
Norfolk	H-048B	W-B24-PEM, W-B24-PSS, S-B21	Dry-Ditch Open-Cut	228	-	N	9	6	0	N	Y	$176,494	Dry-Ditch Open-Cut	The pipeline is already installed through a portion of the wetland at this crossing. The layout of a conventional bore would require excavation of a bore pit unacceptably close to the installed pipe. Additionally, a trenchless method would require excavation of a bore pit within the wetland, meaning that that a longer-duration bore pit in the wetland (3 to 4 weeks) is not less environmentally damaging than a much shorter duration impact associated with an open cut through the wetlands and adjacent four-foot-wide UNT to Mill Creek.
			Conventional Bore	228	20	N	9	6	0	N	Y	$829,754		
Norfolk	H-051	W-ST2-PEM, S-G24, S-G25	Dry-Ditch Open-Cut	96	-	N	57	48	130	N	N	$95,320	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to two small UNTs to Green Creek and a PEM wetland. Avoiding/minimizing these minor impacts through a conventional bore would require a deep bore pit of nearly 40 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to a residence, and a trenchless crossing of this location increases the duration of the crossing from 2 to 19 days -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize these minor temporary impacts would be unreasonably expensive.
			Conventional Bore	96	36	N	57	48	130	N	N	$930,144		
Norfolk	H-052	S-D14	Dry-Ditch Open-Cut	79	-	N	34	24	729	N	N	$65,800	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (three-feet wide) UNT. The slope adjacent to the crossing is steep and excessively long, requiring equipment operating within and around the bore pit to be winched to other equipment. That increases the complexity of this crossing if bored, increases safety risk to personnel, and adds risk of impact to the waterbody from upland work during a bore. There is insufficient space at this location for spoil piles from a bore pit.
			Conventional Bore	79	19	N	34	24	729	N	N	$310,980		
Norfolk	H-053	W-D7-PEM, S-D13, S-D12	Dry-Ditch Open-Cut	89	-	N	27	20	83	N	N	$84,077	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to two small intermittent UNTs to North Fork Blackwater River and a PEM wetland. Avoiding/minimizing these minor impacts through a conventional bore would require a relatively deep bore pit exceeding 20 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize these minor temporary impacts would be unreasonably expensive.
			Conventional Bore	89	24	N	27	20	83	N	N	$471,813		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	H-054	S-D11	Dry-Ditch Open-Cut	81	-	N	33	10	51	N	N	$119,688	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	81	22	N	33	10	51	N	N	$430,840		
Norfolk	H-055	S-D8	Dry-Ditch Open-Cut	60	-	N	43	37	585	N	N	$107,791	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (four-feet wide) UNT to North Fork Blackwater River. Avoiding/minimizing these minor impacts through a conventional bore would require a deep bore pit exceeding 30 feet, thereby requiring the excavation of an interim ramp and two benches and dramatically increasing the space occupied by the bore pit and spoil pile. The slope adjacent to the crossing is steep and excessively long, requiring equipment operating within and around the bore pit to be winched to other equipment. That increases the complexity of this crossing if bored, increases safety risk to personnel, and adds risk of impact to the waterbody from upland work during a bore. There is insufficient space at this location for spoil piles from a bore pit. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	60	35	N	43	37	585	N	N	$809,707		
Norfolk	H-056	S-GH15	Dry-Ditch Open-Cut	35	-	N	62	54	148	N	N	$38,526	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (four-feet wide) intermittent UNT to North Fork Blackwater River. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 20 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	35	24	N	62	54	148	N	N	$318,562		
Norfolk	H-057	S-GH14	Dry-Ditch Open-Cut	54	-	N	48	34	109	N	N	$52,050	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (four-feet wide) UNT to North Fork Blackwater River. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	54	36	N	48	34	109	N	N	$810,949		
Norfolk	H-058	S-GH11	Dry-Ditch Open-Cut	31	-	N	54	42	231	N	N	$32,688	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (three-feet wide) intermittent UNT to Blackwater River. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take longer to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near private drinking water wells on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	31	32	N	54	42	231	N	N	$672,598		
Norfolk	H-059	S-GH9	Dry-Ditch Open-Cut	48	-	N	47	24	62	N	N	$48,203	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (four-feet wide) UNT to North Fork Blackwater River. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take nearly twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	48	34	N	47	24	62	N	N	$757,382		
Norfolk	H-060	S-RR08	Dry-Ditch Open-Cut	43	-	N	20	12	0	N	Y	$54,799	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	43	15	N	20	12	0	N	Y	$190,543		
Norfolk	H-061	S-RR09	Dry-Ditch Open-Cut	30	-	N	56	34	64	N	N	$48,428	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (nine-feet wide) UNT to North Fork Blackwater River. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take nearly twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	30	31	N	56	34	64	N	N	$651,490		
Norfolk	H-062	S-RR11	Dry-Ditch Open-Cut	38	-	N	39	26	136	N	N	$51,125	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (seven-feet wide) UNT to North Fork Blackwater River Blackwater River. Avoiding/minimizing this minor impact through a conventional bore would require an excessively deep bore pit greater than 20 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and two benches and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	38	27	N	39	26	136	N	N	$354,480		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	H-063	S-IJ1, W-IJ1, S-IJ2	Dry-Ditch Open-Cut	133	-	N	44	37	928	N	N	$135,744	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to two small UNTs to North Fork Blackwater River and a PEM wetland (0.002 ac). Avoiding/minimizing these minor impacts through a conventional bore would require an excessively deep bore pit greater than 40 feet, thereby requiring the excavation of an interim ramp and two benches and dramatically increasing the space occupied by the bore pit and spoil pile. The slope adjacent to the crossing is steep and excessively long, requiring equipment operating within and around the bore pit to be winched to other equipment. That increases the complexity of this crossing if bored, increases safety risk to personnel, and adds risk of impact to the waterbody from upland work during a bore. There is insufficient space at this location for spoil piles from a bore pit. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take nearly three times as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize these minor temporary impacts would be unreasonably expensive.
			Conventional Bore	133	41	N	44	37	928	N	N	$2,613,815		
Norfolk	I-001	S-E28	Dry-Ditch Open-Cut	56	-	N	46	18	0	N	Y	$95,200	Dry-Ditch Open-Cut	This crossing is immediately adjacent to a mainline valve. Trenchless crossing methods are logistically difficult because they would require the pipe to be installed too deeply to facilitate connection to the valve site. An open cut crossing is necessary to facilitate connection to the mainline valve.
			Conventional Bore	56	16	N	46	18	0	N	Y	$232,005		
Norfolk	I-001A	S-GH3	Dry-Ditch Open-Cut	22	-	N	41	19	31	N	N	$33,100	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	22	14	N	41	19	31	N	N	$126,378		
Norfolk	I-002	S-E29	Dry-Ditch Open-Cut	52	-	N	4	2	0	N	Y	$65,383	Dry-Ditch Open-Cut	This UNT to Teels Creek is in an area with highly erodible solids. The stream banks at the crossing location are rapidly eroding due to natural conditions unrelated to pipeline construction. Instream work will be necessary to permanently restore and stabilize the banks, which will provide greater protection for the pipeline and have the benefit of reducing long-term sediment loads in the stream. That work can be done efficiently and effectively after completion of an open-cut crossing. Therefore, temporary stream impacts are unavoidable at this location.
			Conventional Bore	52	14	N	4	2	0	N	Y	$211,518		
Norfolk	I-003	S-E28	Dry-Ditch Open-Cut	45	-	N	15	3	0	N	Y	$87,500	Dry-Ditch Open-Cut	Teels Creek in an area with highly erodible solids. The stream banks at the crossing location are rapidly eroding due to natural conditions unrelated to pipeline construction. Instream work will be necessary to permanently restore and stabilize the banks, which will provide greater protection for the pipeline and have the benefit of reducing long-term sediment loads in the stream. That work can be done efficiently and effectively after completion of an open-cut crossing. Therefore, temporary stream impacts are unavoidable at this location.
			Conventional Bore	45	15	N	15	3	0	N	Y	$196,219		
Norfolk	I-004	W-E7	Dry-Ditch Open-Cut	298	-	N	18	6	0	N	Y	$208,600	Dry-Ditch Open-Cut	Avoiding/minimizing these minor impacts through a conventional bore would require a relatively deep bore pit of nearly 30 feet, thereby requiring the excavation of an interim ramp and two benches and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to residences, and a trenchless crossing of this location would take 14 days to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near private drinking water wells on the property. Using a conventional bore crossing method to avoid/minimize the impact to this PEM would be unreasonably expensive.
			Conventional Bore	298	21	N	18	6	0	N	Y	$1,037,547		
Norfolk	I-005A	W-E8	Dry-Ditch Open-Cut	150	-	N	37	29	0	N	Y	$105,000	Dry-Ditch Open-Cut	The open cut method would result in a small temporary impact (0.07 ac) to a PEM wetland. Avoiding/minimizing these minor impacts through a conventional bore would require a relatively deep bore pit of nearly 30 feet on the edge of a steep slope, thereby requiring the excavation of an interim ramp and two benches and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to residences, and a trenchless crossing of this location would take 19 days to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize the impact to this PEM would be unreasonably expensive.
			Conventional Bore	150	27	N	37	29	0	N	Y	$672,334		
Norfolk	I-005B	S-E28	Dry-Ditch Open-Cut	67	-	N	24	18	0	N	Y	$102,900	Dry-Ditch Open-Cut	This Section of Teels Creek is in an area with highly erodible solids. The stream banks at the crossing location are rapidly eroding due to natural conditions unrelated to pipeline construction. Instream work will be necessary to permanently restore and stabilize the banks, which will provide greater protection for the pipeline and have the benefit of reducing long-term sediment loads in the stream. That work can be done efficiently and effectively after completion of an open-cut crossing. Therefore, temporary stream impacts are unavoidable at this location.
			Conventional Bore	67	23	N	24	18	0	N	Y	$400,243		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-006	S-EF4	Dry-Ditch Open-Cut	59	-	N	48	29	62	N	N	$81,979	Dry-Ditch Open-Cut	This intermittent UNT to Teels Creek is in an area with highly erodible solids. The stream banks at the crossing location are rapidly eroding due to natural conditions unrelated to pipeline construction. Instream work will be necessary to permanently restore and stabilize the banks, which will provide greater protection for the pipeline and have the benefit of reducing long-term sediment loads in the stream. That work can be done efficiently and effectively after completion of an open-cut crossing. Therefore, temporary stream impacts are unavoidable at this location. Furthermore, it would be unreasonably expensive to use a trenchless crossing to avoid only a fraction of the aquatic impact to this small (three-foot wide) stream.
			Conventional Bore	59	34	N	48	29	62	N	N	$788,600		
Norfolk	I-007	S-EF12	Dry-Ditch Open-Cut	68	-	N	8	2	124	N	N	$123,232	Dry-Ditch Open-Cut	This UNT to Teels Creek is in an area with highly erodible solids. The stream banks at the crossing location are rapidly eroding due to natural conditions unrelated to pipeline construction. Instream work will be necessary to permanently restore and stabilize the banks, which will provide greater protection for the pipeline and have the benefit of reducing long-term sediment loads in the stream. That work can be done efficiently and effectively after completion of an open-cut crossing. Therefore, temporary stream impacts are unavoidable at this location.
			Conventional Bore	68	16	N	8	2	124	N	N	$266,060		
Norfolk	I-008	S-MM42	Dry-Ditch Open-Cut	43	-	N	25	18	0	N	Y	$37,690	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (two-feet wide) UNT to Teels Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 20 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to residences, and a trenchless crossing of this location would take nearly twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near private drinking water wells on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	43	23	N	25	18	0	N	Y	$332,131		
Norfolk	I-009	S-RR15	Dry-Ditch Open-Cut	60	-	N	25	12	30	N	N	$102,185	Conventional Bore	Although the bore pits associated with this crossing are 20 feet deep, the relatively flat approaches are reasonable for winching equipment and the excessive spoils associated with deeper bore pits can be managed appropriately.
			Conventional Bore	60	20	N	25	12	30	N	N	$352,973		
Norfolk	I-010	S-D23	Dry-Ditch Open-Cut	71	-	N	39	19	87	N	N	$136,216	Dry-Ditch Open-Cut	The stream banks at the crossing location are rapidly eroding due to natural conditions unrelated to pipeline construction. Instream work will be necessary to permanently restore and stabilize the banks, which will provide greater protection for the pipeline and have the benefit of reducing long-term sediment loads in the stream. That work can be done efficiently and effectively after completion of an open-cut crossing. Therefore, temporary stream impacts are unavoidable at this location. This location has construction constraints, including winch-hill construction and limited space for soil stockpiles. The open cut method also reduces the construction duration near a private drinking water well on the property.
			Conventional Bore	71	28	N	39	19	87	N	N	$457,268		
Norfolk	I-011	S-D22	Dry-Ditch Open-Cut	42	-	N	31	21	0	N	Y	$61,662	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (eight-feet wide) intermittent UNT to Teels Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit nearly 20 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	42	21	N	31	21	0	N	Y	$311,024		
Norfolk	I-012	S-D20	Dry-Ditch Open-Cut	29	-	N	35	27	113	N	N	$43,964	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (eight-feet wide) intermittent UNT to Teels Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit nearly 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take more than twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	29	28	N	35	27	113	N	N	$338,073		
Norfolk	I-013	S-C14	Dry-Ditch Open-Cut	90	-	N	40	28	53	N	N	$271,204	Dry-Ditch Open-Cut	Teels Creek is in an area with highly erodible solids. The stream banks at the crossing location are rapidly eroding due to natural conditions unrelated to pipeline construction. Instream work will be necessary to permanently restore and stabilize the banks, which will provide greater protection for the pipeline and have the benefit of reducing long-term sediment loads in the stream. That work can be done efficiently and effectively after completion of an open-cut crossing. Therefore, temporary stream impacts are unavoidable at this location. Construction constraints at this location include a bore pit depth of nearly 40 feet and steep slopes on both sides of the creek, one of which would require winched equipment. The open cut method also reduces the construction duration near a private drinking water well on the property.
			Conventional Bore	90	38	N	40	28	53	N	N	$949,655		
Norfolk	I-014	S-C17	Dry-Ditch Open-Cut	62	-	N	21	16	0	N	Y	$187,051	Conventional Bore	Roanoke logperch habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method.
			Conventional Bore	62	20	N	21	16	0	N	Y	$358,649		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-015	S-CD6	Dry-Ditch Open-Cut	109	-	N	4	1	0	N	Y	$276,201	Dry-Ditch Open-Cut	Teels Creek is in an area with highly erodible solids. The stream banks at the crossing location are rapidly eroding due to natural conditions unrelated to pipeline construction. Instream work will be necessary to permanently restore and stabilize the banks, which will provide greater protection for the pipeline and have the benefit of reducing long-term sediment loads in the stream. That work can be done efficiently and effectively after completion of an open-cut crossing. Therefore, temporary stream impacts are unavoidable at this location.
			Conventional Bore	109	20	N	4	1	0	N	Y	$492,034		
Norfolk	I-016	W-CD6	Dry-Ditch Open-Cut	94	-	N	4	1	0	N	Y	$65,800	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	94	11	N	4	1	0	N	Y	$317,011		
Norfolk	I-017	W-CD5	Dry-Ditch Open-Cut	88	-	N	67	54	122	N	N	$61,600	Dry-Ditch Open-Cut	The open cut method would result in a small temporary impact (0.11 ac) to a PFO wetland. Avoiding/minimizing these minor impacts through a conventional bore would require an excessively deep bore pit exceeding 50 feet on the edge of a very steep slope, thereby requiring the excavation of an interim ramp and two benches and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in proximity to a residence, and a trenchless crossing of this location would increase the duration of the crossing from 4 to 35 days -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Because the pipeline ROW must remain free of woody vegetation to protect the pipe coating, a conversion impact is unavoidable with any crossing method. Using a conventional bore crossing method to avoid/minimize a portion of the impact to this PFO would be unreasonably expensive.
			Conventional Bore	88	52	N	67	54	122	N	N	$3,086,106		
Norfolk	I-018	S-II2	Dry-Ditch Open-Cut	98	-	N	13	3	0	N	Y	$278,804	Dry-Ditch Open-Cut	Little Creek is in an area with highly erodible solids. The stream banks at the crossing location are rapidly eroding due to natural conditions unrelated to pipeline construction. Instream work will be necessary to permanently restore and stabilize the banks, which will provide greater protection for the pipeline and have the benefit of reducing long-term sediment loads in the stream. That work can be done efficiently and effectively after completion of an open-cut crossing. Therefore, temporary stream impacts are unavoidable at this location. The open cut method also reduces the construction duration near a private drinking water wells on the property.
			Conventional Bore	98	20	N	13	3	0	N	Y	$460,816		
Norfolk	I-019	S-CD1, W-CD1	Dry-Ditch Open-Cut	110	-	N	22	12	0	N	Y	$89,800	Dry-Ditch Open-Cut	This crossing is in close proximity to a residence, and a trenchless crossing of this location would take nearly four times longer to long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents.
			Conventional Bore	110	18	N	22	12	0	N	Y	$394,390		
Norfolk	I-020	S-KL35, W-EF48	Dry-Ditch Open-Cut	72	-	N	32	14	106	N	N	$62,773	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	72	16	N	32	14	106	N	N	$277,412		
Norfolk	I-021	S-KL36	Dry-Ditch Open-Cut	39	-	N	34	18	32	N	Y	$55,130	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	39	17	N	34	18	32	N	Y	$188,326		
Norfolk	I-022	S-KL38	Dry-Ditch Open-Cut	200	-	N	54	24	0	N	Y	$165,254	Dry-Ditch Open-Cut	The pipeline has already been installed under an adjacent road (Hwy. 220). There is no feasible way to tie the two sections of pipe together if a trenchless method is used to install this crossing. Furthermore, avoiding this temporary impact to this small UNT to the Blackwater River with a conventional bore crossing would be unreasonably expensive.
			Conventional Bore	200	35	N	54	24	0	N	Y	$1,207,025		
Norfolk	I-023	S-KL39	Dry-Ditch Open-Cut	98	-	N	40	31	85	N	N	$92,713	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (seven-feet wide) UNT to Blackwater River. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take nearly twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open cut method would reduce the construction duration near private drinking water wells on the property. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	98	32	N	40	31	85	N	N	$862,742		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-024	S-YZ5	Dry-Ditch Open-Cut	40	-	N	31	19	0	N	Y	$43,080	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (four-feet wide) UNT to Blackwater River. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit nearly 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to several residences, and a trenchless crossing of this location would take more than twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	40	28	N	31	19	0	N	Y	$369,291		
Norfolk	I-025	S-YZ4	Dry-Ditch Open-Cut	32	-	N	37	28	52	N	N	$33,182	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (three-feet wide) UNT to Blackwater River. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit nearly 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to several residences, and a trenchless crossing of this location would take longer to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near private drinking water wells on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	32	22	N	37	28	52	N	N	$291,779		
Norfolk	I-026	S-EF48, W-EF51	Dry-Ditch Open-Cut	42	-	N	32	29	0	N	Y	$36,404	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (two-feet wide) intermittent UNT to Blackwater River and an adjacent PEM wetland (0.01 ac). Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit nearly 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to several residences, and a trenchless crossing of this location would take twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	42	28	N	32	29	0	N	Y	$374,967		
Norfolk	I-027	S-KL41	Dry-Ditch Open-Cut	48	-	N	41	32	83	N	N	$75,690	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a UNT to Blackwater River. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing from 8 to 33 days. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	48	33	N	41	32	83	N	N	$739,113		
Norfolk	I-028	S-C8	Dry-Ditch Open-Cut	44	-	N	32	23	31	N	N	$48,854	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (five-feet wide) intermittent UNT to Blackwater River. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of nearly 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing from 5 to 11 days. The open cut method would reduce the construction duration near several private drinking water wells on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	44	28	N	32	23	31	N	N	$380,643		
Norfolk	I-029	S-KL51	Dry-Ditch Open-Cut	45	-	N	36	27	105	N	N	$50,762	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (six-feet wide) stream. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 20 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take more than twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	45	24	N	36	27	105	N	N	$346,942		
Norfolk	I-030	S-KL52	Dry-Ditch Open-Cut	59	-	N	23	18	0	N	Y	$45,967	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (one-foot wide) stream. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 20 feet, thereby requiring the excavation of an interim ramp and a bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open-cut method would reduce the construction duration near private drinking water wells on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	59	23	N	23	18	0	N	Y	$377,539		
Norfolk	I-031	S-KL54	Dry-Ditch Open-Cut	32	-	N	29	21	0	N	Y	$57,639	Dry-Ditch Open-Cut	The open-cut method would result in a temporary impact to a small (one-foot wide) stream. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit that is nearly 20 feet deep, potentially requiring the excavation of an interim ramp and a bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in proximity to a residence, and a trenchless crossing of this location would take twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open-cut method would reduce the construction duration near private drinking water wells on the property.
			Conventional Bore	32	20	N	29	21	0	N	Y	$273,509		
Norfolk	I-032	S-F8	Dry-Ditch Open-Cut	206	-	N	32	26	0	N	Y	$257,327	Dry-Ditch Open-Cut	The pipeline has already been installed under an adjacent road (Rt. 122). There is no feasible way to tie the two sections of pipe together if a trenchless method is used to install this crossing. If a trenchless crossing were attempted, it would require a bore pit depth exceeding 40 feet, which would require the excavation of an interim ramp and bench and dramatically increase the space occupied by the bore pit and spoil pile. Lastly, avoiding this temporary impact to this small UNT to the Maggodee Creek with a conventional bore crossing would be unreasonably expensive.
			Conventional Bore	206	41	N	32	26	0	N	Y	$2,820,988		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-033	S-HH4	Dry-Ditch Open-Cut	63	-	N	29	18	20	N	N	$77,464	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to an intermittent UNT to Maggodee Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to residences, and a trenchless crossing of this location would take 17 days to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	63	32	N	29	18	20	N	N	$763,413		
Norfolk	I-034	S-C20	Dry-Ditch Open-Cut	52	-	N	20	13	0	N	Y	$50,437	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	52	17	N	20	13	0	N	Y	$225,220		
Norfolk	I-035	S-C19	Dry-Ditch Open-Cut	100	-	N	49	41	234	N	N	$227,598	Dry-Ditch Open-Cut	The open-cut method would result in a temporary impact to Maggodee Creek. Avoiding/minimizing this minor impact through a conventional bore would require an excessively deep bore pit of greater than 40 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and two benches and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to residences, and a trenchless crossing of this location would take 34 days to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a microtunnel crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Microtunnel	100	46	N	49	41	234	N	N	$3,509,091		
Norfolk	I-036	S-F11	Dry-Ditch Open-Cut	139	-	N	56	40	100	N	N	$415,926	Dry-Ditch Open-Cut	The Blackwater River's banks at the crossing location are rapidly eroding due to natural conditions unrelated to pipeline construction. Instream work will be necessary to permanently restore and stabilize the banks, which will provide greater protection for the pipeline and have the benefit of reducing long-term sediment loads in the stream. That work can be done efficiently and effectively after completion of an open-cut crossing. Therefore, temporary stream impacts are unavoidable at this location. A trenchless crossing at this location also faces significant constructability constraints. The bore pits for this crossing would be just short of 40-feet deep. Site conditions do not allow sufficient space to stockpile spoils from bore pits of that size.
			Conventional Bore	139	39	N	56	40	100	N	N	$1,106,985		
Norfolk	I-037	S-F9b	Dry-Ditch Open-Cut	56	-	N	37	30	62	N	N	$92,048	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a UNT to Blackwater River. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet at the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to residences, and a trenchless crossing of this location would take 16 days to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near several private drinking water wells on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	56	31	N	37	30	62	N	N	$725,278		
Norfolk	I-038	S-F10	Dry-Ditch Open-Cut	47	-	N	16	9	0	N	Y	$72,699	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	47	16	N	16	9	0	N	Y	$206,463		
Norfolk	I-039	S-F9a	Dry-Ditch Open-Cut	66	-	N	20	12	0	N	Y	$98,700	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	66	20	N	20	12	0	N	Y	$370,001		
Norfolk	I-040	S-GG4	Dry-Ditch Open-Cut	53	-	N	18	13	0	N	Y	$56,010	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	53	17	N	18	13	0	N	Y	$228,058		
Norfolk	I-041	S-A36	Dry-Ditch Open-Cut	51	-	N	21	10	0	N	Y	$49,896	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (four-feet wide) UNT to Foul Ground Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 20 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to several residences, and a trenchless crossing of this location would take nearly twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	51	22	N	21	10	0	N	Y	$345,700		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-042	S-A38	Dry-Ditch Open-Cut	78	-	N	20	16	0	N	Y	$92,243	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	78	20	N	20	16	0	N	Y	$404,056		
Norfolk	I-043A	S-A41	Dry-Ditch Open-Cut	114	-	N	14	10	0	N	Y	$121,800	Dry-Ditch Open-Cut	Foul Ground Creek is in an area with highly erodible solids. The stream banks at the crossing location are rapidly eroding due to natural conditions unrelated to pipeline construction. Instream work will be necessary to permanently restore and stabilize the banks, which will provide greater protection for the pipeline and have the benefit of reducing long-term sediment loads in the stream. That work can be done efficiently and effectively after completion of an open-cut crossing. Therefore, temporary stream impacts are unavoidable at this location. Lastly, it would be unreasonably expensive to use a trenchless crossing to avoid only a fraction of the aquatic impact to this resource.
			Conventional Bore	114	17	N	14	10	0	N	Y	$401,175		
Norfolk	I-043B	W-DD1	Dry-Ditch Open-Cut	110	-	N	14	7	0	N	Y	$77,000	Dry-Ditch Open-Cut	The open cut method would result in a small (0.05 ac) temporary impact to PEM wetland. The open cut method would reduce construction time for this crossing by 11 days. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	110	18	N	14	7	0	N	Y	$394,390		
Norfolk	I-044A	S-GH36, S-KL17	Dry-Ditch Open-Cut	103	-	N	21	9	0	N	Y	$89,600	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	103	19	N	21	9	0	N	Y	$379,092		
Norfolk	I-044B	S-GH39	Dry-Ditch Open-Cut	61	-	N	27	23	0	N	Y	$56,700	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (four-feet wide) intermittent UNT to Foul Ground Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of nearly 30 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing from 8 to 25 days. The open cut method would reduce the construction duration near several private drinking water wells on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	61	26	N	27	23	0	N	Y	$410,619		
Norfolk	I-045	S-GH40	Dry-Ditch Open-Cut	57	-	N	17	13	0	N	Y	$50,751	Dry-Ditch Open-Cut	The open-cut method would result in a temporary impact to a small (three-feet wide) UNT to Foul Ground Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of exceeding 20 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would double the duration of the crossing. The open-cut method would reduce the construction duration near several private drinking water wells on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	57	22	N	17	13	0	N	Y	$362,728		
Norfolk	I-046	S-GH44, S-GH38, S-IJ47, W-GH16	Dry-Ditch Open-Cut	217	-	N	11	7	0	N	Y	$181,597	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	217	20	N	11	7	0	N	Y	$798,536		
Norfolk	I-047	S-G22	Dry-Ditch Open-Cut	48	-	N	50	38	87	N	N	$76,133	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a UNT to Poplar Camp Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of nearly 40 feet on the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing from 4 to 44 days. The open cut method would reduce the construction duration near two private drinking water wells on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	48	37	N	50	38	87	N	N	$812,190		
Norfolk	I-048	S-G20	Dry-Ditch Open-Cut	62	-	N	39	18	93	N	N	$81,267	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	62	15	N	39	18	93	N	N	$244,465		

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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-049	S-G18	Dry-Ditch Open-Cut	37	-	N	35	18	10	N	N	$33,422	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (two-feet wide) intermittent UNT to the Blackwater River. The open cut method would reduce by half the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	37	19	N	35	18	10	N	N	$191,785		
Norfolk	I-050	S-E18	Dry-Ditch Open-Cut	38	-	N	27	18	0	N	Y	$54,216	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (eight-feet wide) UNT to Blackwater River. Avoiding/minimizing these minor impacts through a conventional bore would require a relatively deep bore pit of exceeding 20 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	38	21	N	27	18	0	N	Y	$299,672		
Norfolk	I-051	S-E17	Dry-Ditch Open-Cut	77	-	N	35	16	32	N	Y	$88,594	Dry-Ditch Open-Cut	The open-cut method would result in a temporary impact to a UNT to the Blackwater River. This crossing is in proximity to a residence, and a trenchless crossing of this location would take twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open-cut method would reduce the construction duration near a private drinking water well on the property.
			Conventional Bore	77	16	N	35	16	32	N	Y	$291,602		
Norfolk	I-052	S-E14	Dry-Ditch Open-Cut	60	-	N	25	18	0	N	Y	$117,336	Dry-Ditch Open-Cut	The open-cut method would result in a temporary impact to a UNT to the Blackwater River. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 20 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in proximity to a residence, and a trenchless crossing of this location would take twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near a private drinking water well on the property.
			Conventional Bore	60	25	N	25	18	0	N	Y	$398,646		
Norfolk	I-053	S-H38, W-H17	Dry-Ditch Open-Cut	169	-	N	18	6	0	N	Y	$164,668	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method.
			Conventional Bore	169	22	N	18	6	0	N	Y	$680,582		
Norfolk	I-054	S-H37	Dry-Ditch Open-Cut	35	-	N	47	23	31	N	N	$45,685	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (six-feet wide) UNT to Jacks Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet on the edge of a steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take 15 days to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	35	33	N	47	23	31	N	N	$702,219		
Norfolk	I-055	S-H36, W-H16	Dry-Ditch Open-Cut	84	-	N	31	25	10	N	N	$168,404	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method.
			Conventional Bore	84	30	N	31	25	10	N	N	$786,472		
Norfolk	I-056	S-H34	Dry-Ditch Open-Cut	32	-	N	40	24	32	N	N	$33,003	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method.
			Conventional Bore	32	24	N	40	24	32	N	N	$310,048		
Norfolk	I-057	S-H32	Dry-Ditch Open-Cut	46	-	N	38	29	74	N	N	$68,296	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method.
			Conventional Bore	46	26	N	38	29	74	N	N	$368,049		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-058	W-H11	Dry-Ditch Open-Cut	83	-	N	32	18	0	N	Y	$58,100	Dry-Ditch Open-Cut	The open cut method would result in a small temporary impact to a PEM wetland. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of 30 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to several residences, and a trenchless crossing of this location would take 17 days to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	83	30	N	32	18	0	N	Y	$783,634		
Norfolk	I-059	S-A18	Dry-Ditch Open-Cut	92	-	N	26	17	0	N	Y	$80,003	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (four-feet wide) intermittent UNT to Jacks Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of nearly 20 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in proximity to a residence, and a trenchless crossing of this location would take 13 days to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	92	24	N	26	17	0	N	Y	$480,327		
Norfolk	I-060A	S-A19/H26	Dry-Ditch Open-Cut	93	-	N	39	28	52	N	Y	$149,100	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to an intermittent UNT to Jacks Creek. Avoiding/minimizing this minor impact through a conventional bore would require an excessively deep bore pit of greater than 40 feet, thereby requiring the excavation of an interim ramp and two benches and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	93	41	N	39	28	52	N	Y	$2,500,296		
Norfolk	I-060B	S-A20	Dry-Ditch Open-Cut	82	-	N	39	23	0	N	Y	$81,900	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method.
			Conventional Bore	82	39	N	39	23	0	N	Y	$945,220		
Norfolk	I-061A	S-A22	Dry-Ditch Open-Cut	52	-	N	27	18	0	N	Y	$67,900	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	52	16	N	27	18	0	N	Y	$220,653		
Norfolk	I-061B	S-H27	Dry-Ditch Open-Cut	60	-	N	28	14	0	N	Y	$77,000	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small UNT to Jacks Creek. Avoiding/minimizing these minor impacts through a conventional bore would require a relatively deep bore pit of nearly 30 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	60	29	N	28	14	0	N	Y	$435,185		
Norfolk	I-062	S-MM44	Dry-Ditch Open-Cut	54	-	N	36	24	0	N	Y	$54,544	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	54	36	N	36	24	0	N	Y	$810,949		
Norfolk	I-063	S-MM48	Dry-Ditch Open-Cut	83	-	N	29	18	0	N	Y	$91,845	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	83	29	N	29	18	0	N	Y	$500,459		
Norfolk	I-064	S-H25, W-H9	Dry-Ditch Open-Cut	31	-	N	40	21	31	N	N	$53,320	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	31	26	N	40	21	31	N	N	$325,479		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-065	S-H24	Dry-Ditch Open-Cut	79	-	N	31	21	0	N	Y	$216,378	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	79	28	N	31	21	0	N	Y	$479,972		
Norfolk	I-066	S-H23	Dry-Ditch Open-Cut	45	-	N	30	23	0	N	Y	$49,679	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (five-feet wide) intermittent UNT to Turkey Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of nearly 30 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take more than twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	45	27	N	30	23	0	N	Y	$374,346		
Norfolk	I-067	S-A13	Dry-Ditch Open-Cut	54	-	N	21	16	0	N	Y	$81,560	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	54	20	N	21	16	0	N	Y	$335,945		
Norfolk	I-069A	S-A7	Dry-Ditch Open-Cut	61	-	N	23	10	0	N	Y	$74,200	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	61	19	N	23	10	0	N	Y	$259,897		
Norfolk	I-069B	S-H17	Dry-Ditch Open-Cut	90	-	N	27	20	0	N	Y	$86,898	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (seven-feet wide) intermittent Dinner Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit nearing 30 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in proximity to a residence, and a trenchless crossing of this location would take 22 days to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method would reduce the construction duration near several private drinking water wells on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	90	28	N	27	20	0	N	Y	$511,190		
Norfolk	I-070	S-SS8	Dry-Ditch Open-Cut	51	-	N	31	24	0	N	Y	$77,803	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	51	26	N	31	24	0	N	Y	$382,239		
Norfolk	I-071	S-CD8	Dry-Ditch Open-Cut	38	-	N	27	24	0	N	Y	$43,598	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (five-feet wide) intermittent UNT to Owens Creek. Avoiding/minimizing these minor impacts through a conventional bore would require a relatively deep bore pit of nearly 30 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	38	27	N	27	24	0	N	Y	$354,480		
Norfolk	I-072	S-AB8	Dry-Ditch Open-Cut	44	-	N	35	24	11	N	N	$49,580	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (five-feet wide) intermittent UNT to Owens Creek. Avoiding/minimizing these minor impacts through a conventional bore would require a relatively deep bore pit exceeding 30 feet on the edge of a short but steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	44	34	N	35	24	11	N	N	$746,030		
Norfolk	I-073	S-DD3	Dry-Ditch Open-Cut	81	-	N	10	8	91	N	Y	$121,514	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	81	16	N	10	8	91	N	Y	$302,954		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-074	S-G16	Dry-Ditch Open-Cut	53	-	N	34	23	0	N	Y	$142,157	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	53	31	N	34	23	0	N	Y	$716,764		
Norfolk	I-075	S-G15	Dry-Ditch Open-Cut	54	-	N	31	20	10	N	Y	$72,205	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small intermittent UNT to Parrott Branch. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet on the edge of a short but steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would more than double the duration of the crossing. The open cut method would reduce the construction duration near several private drinking water wells on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	54	33	N	31	20	10	N	Y	$756,141		
Norfolk	I-076	S-G13	Dry-Ditch Open-Cut	42	-	N	57	36	107	N	N	$57,417	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	42	26	N	57	36	107	N	N	$356,697		
Norfolk	I-077	S-D7, W-MM17	Dry-Ditch Open-Cut	39	-	N	36	20	21	N	N	$57,474	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (nine-feet wide) intermittent UNT to Jonnikin Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 20 feet on the edge of a short but steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take more than twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near several private drinking water wells on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	39	25	N	36	20	21	N	N	$339,049		
Norfolk	I-078	S-D3	Dry-Ditch Open-Cut	43	-	N	28	16	0	N	Y	$65,776	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	43	16	N	28	16	0	N	Y	$195,111		
Norfolk	I-079	S-D4	Dry-Ditch Open-Cut	62	-	N	35	20	10	N	N	$73,648	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small (six-feet wide) intermittent UNT to Jonnikin Creek. Avoiding/minimizing these minor impacts through a conventional bore would require a relatively deep bore pit of nearly 40 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	62	38	N	35	20	10	N	N	$870,191		
Norfolk	I-080	S-D2, W-D3	Dry-Ditch Open-Cut	54	-	N	41	21	96	N	N	$102,144	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	54	19	N	41	21	96	N	N	$240,031		
Norfolk	I-081	S-D1-EPH	Dry-Ditch Open-Cut	82	-	N	28	19	0	N	Y	$95,632	Dry-Ditch Open-Cut	Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of nearly 30 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. The stream banks at the crossing location are rapidly eroding due to natural conditions unrelated to pipeline construction. Instream work will be necessary to permanently restore and stabilize the banks, which will provide greater protection for the pipeline and have the benefit of reducing long-term sediment loads in the stream. That work can be done efficiently and effectively after completion of an open-cut crossing. Therefore, temporary stream impacts are unavoidable at this location. It would be unreasonably expensive to use a trenchless crossing to avoid only a fraction of the aquatic impact to this UNT to Jonnikin Creek.
			Conventional Bore	82	29	N	28	19	0	N	Y	$497,621		
Norfolk	I-082	S-G11	Dry-Ditch Open-Cut	55	-	N	35	16	0	N	Y	$59,983	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (six-feet wide) intermittent UNT to Jonnikin Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take more than twice as long to complete -- compounding the noise, aesthetic, and other impacts on nearby persons. The open-cut method reduces construction duration to minimize disruption due to construction activities on the affected residents. The open cut method would reduce the construction duration near several private drinking water wells on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	55	33	N	35	16	0	N	Y	$758,979		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-083	S-G9, W-B5	Dry-Ditch Open-Cut	44	-	N	24	14	10	N	N	$45,226	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (four-feet wide) intermittent UNT to Jonnikin Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 20 feet on the edge of a short slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing by one week. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	44	20	N	24	14	10	N	N	$307,565		
Norfolk	I-084A	S-G8	Dry-Ditch Open-Cut	41	-	N	24	16	0	N	Y	$42,700	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (four-feet wide) intermittent UNT to Jonnikin Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 20 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing from 5 to 17 days. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	41	21	N	24	16	0	N	Y	$308,186		
Norfolk	I-084B	S-Q15	Dry-Ditch Open-Cut	48	-	N	26	22	0	N	Y	$54,600	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (six-feet wide) UNT to Jonnikin Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 20 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing from 5 to 17 days. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	48	25	N	26	22	0	N	Y	$364,590		
Norfolk	I-085	S-A6	Dry-Ditch Open-Cut	44	-	N	28	21	0	N	Y	$51,308	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	44	22	N	28	21	0	N	Y	$325,834		
Norfolk	I-086	S-C7	Dry-Ditch Open-Cut	65	-	N	42	19	96	N	N	$115,499	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	65	19	N	42	19	96	N	N	$271,248		
Norfolk	I-087	S-C4, S-C3	Dry-Ditch Open-Cut	126	-	N	34	27	115	N	N	$153,189	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	126	27	N	34	27	115	N	N	$604,222		
Norfolk	I-088	S-H13, W-H5	Dry-Ditch Open-Cut	173	-	N	33	25	21	N	N	$191,262	Dry-Ditch Open-Cut	The stream banks at the crossing location are rapidly eroding due to natural conditions unrelated to pipeline construction. Instream work will be necessary to permanently restore and stabilize the banks, which will provide greater protection for the pipeline and have the benefit of reducing long-term sediment loads in the stream. That work can be done efficiently and effectively after completion of an open-cut crossing. Therefore, temporary stream impacts are unavoidable at this location. Lastly, it would be unreasonably expensive to use a trenchless crossing to avoid only a fraction of the aquatic impact to this UNT to Little Cherrystone Creek and adjacent wetland.
			Conventional Bore	173	35	N	33	25	21	N	N	$1,130,399		
Norfolk	I-089	S-G6	Dry-Ditch Open-Cut	60	-	N	30	23	0	N	Y	$63,951	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (six-feet wide) UNT to Harpen Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would more than double the duration of the crossing. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	60	34	N	30	23	0	N	Y	$791,438		
Norfolk	I-090	S-G5	Dry-Ditch Open-Cut	50	-	N	26	17	0	N	Y	$56,003	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (six-feet wide) UNT to Harpen Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing from 4 to 10 days. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	50	26	N	26	17	0	N	Y	$379,401		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-091	S-G4	Dry-Ditch Open-Cut	74	-	N	30	18	0	N	Y	$167,471	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	74	32	N	30	18	0	N	Y	$794,631		
Norfolk	I-092	S-G3	Dry-Ditch Open-Cut	39	-	N	31	17	0	N	Y	$61,935	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	39	20	N	31	17	0	N	Y	$293,375		
Norfolk	I-093	S-CC16	Dry-Ditch Open-Cut	52	-	N	18	11	0	N	Y	$75,678	Conventional Bore	Orangefin madtom habitat may be present in this stream. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	52	16	N	18	11	0	N	Y	$220,653		
Norfolk	I-094	S-CC13, S-CC14	Dry-Ditch Open-Cut	110	-	N	25	18	0	N	Y	$105,108	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	110	23	N	25	18	0	N	Y	$522,276		
Norfolk	I-095	S-MM8, W-MM5	Dry-Ditch Open-Cut	39	-	N	20	14	0	N	Y	$48,302	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	39	19	N	20	14	0	N	Y	$197,461		
Norfolk	I-096	S-CC15	Dry-Ditch Open-Cut	33	-	N	18	14	0	N	Y	$45,144	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	33	18	N	18	14	0	N	Y	$175,866		
Norfolk	I-097	S-CC8, S-CC5	Dry-Ditch Open-Cut	78	-	N	32	11	10	N	N	$128,994	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	78	14	N	32	11	10	N	N	$285,306		
Norfolk	I-098	S-CC9	Dry-Ditch Open-Cut	42	-	N	45	26	21	N	N	$48,685	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (six-feet wide) UNT to Cherrystone Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing from 4 to 10 days. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	42	35	N	45	26	21	N	N	$758,623		
Norfolk	I-099	S-CC10	Dry-Ditch Open-Cut	38	-	N	38	20	21	N	N	$58,726	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (nine-feet wide) intermittent UNT to Cherrystone Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing from 4 to 10 days. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	38	32	N	38	20	21	N	N	$692,463		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-100	S-CC11	Dry-Ditch Open-Cut	42	-	N	44	19	0	N	Y	$60,039	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (nine-feet wide) UNT to Cherrystone Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of nearly 30 feet on the edge of a short but steep slope, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing from 4 to 10 days. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	42	27	N	44	19	0	N	Y	$365,832		
Norfolk	I-101A	W-MM9	Dry-Ditch Open-Cut	35	-	N	44	26	52	N	N	$83,561	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	35	18	N	44	26	52	N	N	$181,542		
Norfolk	I-101B	W-MM8-PFO, W-MM8-PEM, S-CC1	Dry-Ditch Open-Cut	161	-	N	20	8	32	N	Y	$172,200	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small intermittent UNT to Cherrystone Creek and two adjacent wetland features (PEM and PFO). Avoiding/minimizing these minor impacts through a conventional bore would require a relatively deep bore pit of nearly 40 feet , thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing from 4 to 60 days. The open cut method would reduce the construction duration near a private drinking water well on the property. Because the pipeline ROW must remain free of woody vegetation to protect the pipe coating, a conversion impact is unavoidable with any crossing method. Using a conventional bore crossing method to avoid/minimize these minor temporary impacts would be unreasonably expensive.
			Conventional Bore	161	38	N	20	8	32	N	Y	$1,151,152		
Norfolk	I-102	S-CC3	Dry-Ditch Open-Cut	38	-	N	40	21	0	N	Y	$56,288	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (eight-feet wide) UNT to Cherrystone Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of nearly 30 feet on the edge, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing from 4 to 10 days. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	38	30	N	40	21	0	N	Y	$655,925		
Norfolk	I-103	S-P5	Dry-Ditch Open-Cut	47	-	N	12	10	0	N	Y	$56,790	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	47	11	N	12	10	0	N	Y	$183,626		
Norfolk	I-104	S-IJ35-EPH	Dry-Ditch Open-Cut	32	-	N	23	16	0	N	Y	$36,895	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (five-feet wide) UNT to Pole Bridge Branch. Avoiding/minimizing this minor impact through a conventional bore would increase the duration of the crossing from 4 to 11 days. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	32	23	N	23	16	0	N	Y	$300,913		
Norfolk	I-105	S-Q4	Dry-Ditch Open-Cut	48	-	N	22	7	0	N	Y	$56,601	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	48	19	N	22	7	0	N	Y	$223,003		
Norfolk	I-106A	S-Q2	Dry-Ditch Open-Cut	51	-	N	17	15	0	N	Y	$123,204	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	51	16	N	17	15	0	N	Y	$217,815		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-106B	W-Q2, S-Q3	Dry-Ditch Open-Cut	319	-	N	17	6	0	N	Y	$253,621	Dry-Ditch Open-Cut	This crossing presents multiple challenges that limit the available options and necessitated the development of a site-specific solution. A bore pit depth exceeding 20 feet at this location requires the excavation of an interim ramp and bench and dramatically increases the space occupied by the bore pit and spoil pile. Steep slopes (greater than 30%) adjacent to the waterbody increases the complexity of this crossing if bored, increases safety risk to personnel, and adds risk of impact to the waterbody from upland work during a bore. The open cut method also reduces the construction duration near private drinking water wells on the property. Attempting a conventional bore would extend the duration of this crossing from 5 days for an open cut to 60 days for a guided conventional bore -- which also would increase the total greenhouse gas emissions associated with this crossing by 15 times. Furthermore, the other significant environmental impacts associated with a trenchless crossing method at this location outweigh the minimized temporary impact to Pole Bridge Branch.
			Guided Conventional Bore	319	26	N	17	6	0	N	Y	$711,028		
Norfolk	I-107	W-Q1	Dry-Ditch Open-Cut	55	-	N	10	8	0	N	Y	$38,500	Dry-Ditch Open-Cut	The open cut method would result in a small temporary impact to a PEM wetland. Avoiding/minimizing this minor impact through a conventional bore would increase the duration of the crossing from 4 to 43 days. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	55	16	N	10	8	0	N	Y	$229,167		
Norfolk	I-108	S-B6	Dry-Ditch Open-Cut	55	-	N	42	19	0	N	Y	$80,024	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (five-feet wide) intermittent UNT to Pole Bridge Branch. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of nearly 40 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing from 4 to 11 days. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	55	36	N	42	19	0	N	Y	$813,787		
Norfolk	I-109	S-B8	Dry-Ditch Open-Cut	43	-	N	31	16	0	N	Y	$46,214	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (five-feet wide) intermittent UNT to Pole Bridge Branch. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of nearly 30 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. It also would increase the duration of the crossing from 4 to 44 days. The open cut method would reduce the construction duration near a private drinking water well on the property. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	43	29	N	31	16	0	N	Y	$386,939		
Norfolk	I-110	S-B9	Dry-Ditch Open-Cut	41	-	N	19	13	0	N	Y	$53,226	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (seven-feet wide) UNT to Pole Bridge Branch. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 20 feet, thereby requiring the excavation of an interim ramp and bench and dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	41	22	N	19	13	0	N	Y	$317,320		
Norfolk	I-111	S-DD4	Dry-Ditch Open-Cut	230	-	N	9	5	0	N	Y	$213,500	Dry-Ditch Open-Cut	The pipeline has already been installed under an adjacent railroad. There is no feasible way to tie the two sections of pipe together if a trenchless method is used to install this crossing. Furthermore, the railroad bore encountered difficult conditions, which indicates that completing another crossing at this location has a higher degree of potential failure.
			Conventional Bore	230	17	N	9	5	0	N	Y	$730,381		
Norfolk	I-111A	S-DD4	Dry-Ditch Open-Cut	33	-	N	23	13	0	N	Y	$75,600	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	33	15	N	23	13	0	N	Y	$162,164		
Norfolk	I-112	S-KL27	Dry-Ditch Open-Cut	33	-	N	12	7	0	N	Y	$27,032	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small (one-foot wide) UNT to Mill Creek. It also would double the duration of the crossing. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	33	15	N	12	7	0	N	Y	$162,164		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
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USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-113	S-C1	Dry-Ditch Open-Cut	61	-	N	38	11	0	N	Y	$64,849	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to the small intermittent Mill Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet with an excavator operating from a bench within the pit, at the edge of short but steep slope, and nearly triple the duration of the crossing. It also would require the excavation of an interim ramp and bench, thereby dramatically increasing the space occupied by the bore pit and spoil pile. Using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	61	31	N	38	11	0	N	Y	$739,468		
Norfolk	I-114	S-G2, W-G2	Dry-Ditch Open-Cut	122	-	N	35	16	11	N	Y	$111,010	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	122	21	N	35	16	11	N	Y	$538,062		
Norfolk	I-115	S-B2	Dry-Ditch Open-Cut	40	-	N	21	12	0	N	Y	$46,015	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	40	18	N	21	12	0	N	Y	$195,732		
Norfolk	I-116	S-H55	Dry-Ditch Open-Cut	40	-	N	13	8	0	N	Y	$38,950	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	40	16	N	13	8	0	N	Y	$186,597		
Norfolk	I-117	S-H54	Dry-Ditch Open-Cut	56	-	N	15	9	0	N	Y	$88,685	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	56	16	N	15	9	0	N	Y	$232,005		
Norfolk	I-118	S-H5, W-H1, W-H2, S-H3, W-H3	Dry-Ditch Open-Cut	835	-	N	22	7	0	N	Y	$616,507	Dry-Ditch Open-Cut	Due a close cluster of wetlands that would be crossed in one undertaking, this crossing is unusually long at over 800 feet. The direct pipe method would be necessary to cross these features. That crossing would method would extend the duration of this crossing from seven days for an open cut to 99 days for the trenchless method (increasing greenhouse gas emissions associated with the crossing by nearly 1,900%). The open cut method would reduce the construction duration near multiple private drinking water wells on the property. Using a Direct Pipe crossing method to avoid/minimize these minor temporary impacts two a small (6-foot wide) intermittent stream, small (8-foot wide) perennial stream, and two small PEM wetlands would be unreasonably expensive.
			Direct Pipe	835	0	N	22	7	0	N	Y	$6,680,000		
Norfolk	I-119	S-OO1, W-MM3	Dry-Ditch Open-Cut	59	-	N	35	20	10	N	N	$58,931	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small intermittent UNT to Little Cherrystone Creek and an adjacent PSS wetland. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit of nearly 30 feet, with equipment operating within a bore pit at the edge of short but steep slope, as well as more than quadrupling the duration of the crossing and the relevant greenhouse gas emissions. The open cut method would reduce the construction duration near multiple private drinking water wells on the property. Lastly, using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	59	27	N	35	20	10	N	N	$414,078		
Norfolk	I-120	S-OO2	Dry-Ditch Open-Cut	37	-	N	40	22	0	N	Y	$44,417	Dry-Ditch Open-Cut	The open cut method would result in a temporary impact to a small intermittent UNT to Little Cherrystone Creek. Avoiding/minimizing this minor impact through a conventional bore would require a relatively deep bore pit exceeding 30 feet with an excavator operating from a bench within the pit, at the edge of short but steep slope, and more than double the duration of the crossing. Furthermore, using a conventional bore crossing method to avoid/minimize this minor temporary impact would be unreasonably expensive.
			Conventional Bore	37	31	N	40	22	0	N	Y	$671,356		
Norfolk	I-121	S-EF26, W-IJ22-PFO, W-IJ22-PEM	Dry-Ditch Open-Cut	405	-	N	18	9	0	N	Y	$357,812	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	405	19	N	18	9	0	N	Y	$1,236,163		

Table 15. Crossing Method Determination Summary *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

USACE District	Crossing #	Waterbody	Crossing Methods Evaluated	Evaluation Factors									Proposed Crossing Method	Crossing Method Decision Rationale
				Crossing Length	Pit Depth	Deep Stream	Maximum Steep Slope (%)	Maximum Average Slope (%)	Maximum Winch Hill Length (feet)	Karst Terrain Present	Sufficient Stockpile Storage Available	Total Cost ($)		
Norfolk	I-122	S-H44	Dry-Ditch Open-Cut	68	-	N	10	8	0	N	Y	$87,003	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	68	17	N	10	8	0	N	Y	$270,628		
Norfolk	I-123	S-H42	Dry-Ditch Open-Cut	43	-	N	20	8	0	N	Y	$68,600	Conventional Bore	There are no significant constraints on available crossing methods or significant environmental impacts relevant to the available methods. The direct aquatic impact will be avoided/minimized by use of the conventional bore method. A minor temporary impact associated with the bore to maintain access will be required.
			Conventional Bore	43	23	N	20	8	0	N	Y	$332,131		
Norfolk	I-124	W-EF6	Dry-Ditch Open-Cut	155	-	N	5	3	30	N	N	$108,500	Dry-Ditch Open-Cut	To protect the integrity of the pipeline coating, woody vegetation cannot be allowed to grow close to the pipe. In forested wetlands, a 30-foot corridor generally must be maintained free of trees. Accordingly, conversion impacts to this wetland are unavoidable. The conventional bore method also entails significant environmental consequences at this location. This crossing is in close proximity to a residence, and a trenchless crossing of this location would take nearly four weeks to complete -- compounding the noise, aesthetic, and other impacts on nearby residents. The longer-duration bore also nearly quadruples the greenhouse gas emissions associated with the crossing.
			Conventional Bore	155	13	N	5	3	30	N	N	$499,263		

Mountain Valley PIPELINE LLC

Table 17 (Compensatory Wetland Mitigation)

Table 17. ***(revised 3/2/2021)***
Compensatory Wetland Mitigation
Individual Permit Application
Mountain Valley Pipeline Project

Feature	USACE District	HUC 8 Name	HUC 8 #	Cowardin Class[1]	Impact (acres)	Impact Type	Mitigation Evaluation Method[2]	Projected Mitigation Requirement	Proposed Mitigation Type[3]
W-IJ31	Huntington	Middle Ohio	05030201	PEM	0.0082	Permanent Fill	SWVM	0.0082	Kincheloe
W-A27-PFO	Huntington	Middle Ohio	05030201	PFO	0.0547	Permanent Conversion	SWVM	0.0547	Kincheloe
W-A23	Huntington	Middle Ohio	05030201	PEM	0.0579	Permanent Fill	SWVM	0.0579	Kincheloe
W-H109	Huntington	Little Kanawha	05030203	PEM	0.0027	Permanent Fill	SWVM	0.0027	Kincheloe
W-K33-PSS	Huntington	Little Kanawha	05030203	PSS	0.0024	Permanent Conversion	SWVM	0.0024	Kincheloe
W-I22-PEM	Huntington	Little Kanawha	05030203	PEM	0.0059	Permanent Fill	SWVM	0.0059	Kincheloe
W-H98	Huntington	Little Kanawha	05030203	PEM	0.0331	Permanent Fill	SWVM	0.0331	Kincheloe
W-UV17	Huntington	Little Kanawha	05030203	PFO	0.0055	Permanent Conversion	SWVM	0.0055	Kincheloe
W-VV4-PFO	Huntington	Little Kanawha	05030203	PFO	0.0263	Permanent Conversion	SWVM	0.0263	Kincheloe
W-VV3-PFO	Huntington	Little Kanawha	05030203	PFO	0.0160	Permanent Conversion	SWVM	0.0160	Kincheloe
W-A20-PFO	Huntington	Elk	05050007	PFO	0.0298	Permanent Conversion	SWVM	0.0298	Beverly
W-H70	Huntington	Elk	05050007	PEM	0.0057	Permanent Fill	SWVM	0.0057	Beverly
W-H71	Huntington	Elk	05050007	PEM	0.0205	Permanent Fill	SWVM	0.0205	Beverly
W-H72	Huntington	Elk	05050007	PEM	0.0064	Permanent Fill	SWVM	0.0064	Beverly
W-H73	Huntington	Elk	05050007	PEM	0.0061	Permanent Fill	SWVM	0.0061	Beverly
W-H74	Huntington	Elk	05050007	PEM	0.0115	Permanent Fill	SWVM	0.0115	Beverly
W-H67	Huntington	Elk	05050007	PFO	0.0908	Permanent Conversion	SWVM	0.0908	Beverly
W-H66	Huntington	Elk	05050007	PFO	0.2496	Permanent Conversion	SWVM	0.2496	Beverly
W-H64-PSS	Huntington	Elk	05050007	PSS	0.0422	Permanent Conversion	SWVM	0.0422	Beverly
W-O13	Huntington	Elk	05050007	PEM	0.0405	Permanent Fill	SWVM	0.0405	Beverly
W-B35	Huntington	Elk	05050007	PSS	0.0108	Permanent Conversion	SWVM	0.0108	Beverly
W-E28	Huntington	Elk	05050007	PSS	0.0084	Permanent Fill	SWVM	0.0084	Beverly
W-E30	Huntington	Elk	05050007	PEM	0.0316	Permanent Fill	SWVM	0.0316	Beverly
W-F40	Huntington	Elk	05050007	PSS	0.0188	Permanent Conversion	SWVM	0.0188	Beverly
W-E18-PSS	Huntington	Gauley	05050005	PSS	0.0538	Permanent Conversion	SWVM	0.0538	Spanishburg
W-E13	Huntington	Gauley	05050005	PFO	0.0107	Permanent Conversion	SWVM	0.0107	Spanishburg
W-FF6-PSS	Huntington	Gauley	05050005	PSS	0.0333	Permanent Conversion	SWVM	0.0333	Spanishburg
W-A15	Huntington	Gauley	05050005	PSS	0.0891	Permanent Conversion	SWVM	0.0891	Spanishburg
W-A14	Huntington	Gauley	05050005	PFO	0.0374	Permanent Conversion	SWVM	0.0374	Spanishburg
W-I7	Huntington	Gauley	05050005	PFO	0.0333	Permanent Conversion	SWVM	0.0333	Spanishburg
W-J8	Huntington	Gauley	05050005	PFO	0.0533	Permanent Conversion	SWVM	0.0533	Spanishburg
W-J7	Huntington	Gauley	05050005	PFO	0.0693	Permanent Conversion	SWVM	0.0693	Spanishburg
W-H35	Huntington	Gauley	05050005	PEM	0.0177	Permanent Fill	SWVM	0.0177	Spanishburg
W-M22	Huntington	Gauley	05050005	PSS	0.0039	Permanent Conversion	SWVM	0.0039	Spanishburg
W-J6	Huntington	Gauley	05050005	PFO	0.0744	Permanent Conversion	SWVM	0.0744	Spanishburg
W-HS1	Huntington	Gauley	05050005	PEM	0.0360	Permanent Fill	SWVM	0.0360	Spanishburg
W-QR2	Huntington	Gauley	05050005	PEM	0.0010	Permanent Fill	SWVM	0.0010	Spanishburg
W-IJ47-PEM	Huntington	Gauley	05050005	PEM	0.0633	Permanent Fill	SWVM	0.0633	Spanishburg
W-UV4	Huntington	Gauley	05050005	PSS	0.0885	Permanent Conversion	SWVM	0.0885	Spanishburg
W-I10	Huntington	Gauley	05050005	PEM	0.0550	Permanent Fill	SWVM	0.0550	Spanishburg
W-MM20-PFO	Huntington	Greenbrier	05050003	PFO	0.2990	Permanent Conversion	SWVM	0.2990	Spanishburg
W-A13	Huntington	Upper New	05050002	PEM	0.0228	Permanent Fill	SWVM	0.0228	Spanishburg
W-MN18-PFO	Huntington	Upper New	05050002	PFO	0.1750	Permanent Conversion	SWVM	0.1750	Spanishburg
W-CV25-PSS-1	Huntington	Upper New	05050002	PSS	0.0270	Permanent Conversion	SWVM	0.0270	Spanishburg
W-UU1	Pittsburgh	West Fork	05020002	PFO	0.0045	Permanent Conversion	SWVM	0.0045	Kincheloe
W-UU3	Pittsburgh	West Fork	05020002	PFO	0.0065	Permanent Conversion	SWVM	0.0065	Kincheloe
W-ST12-PSS	Pittsburgh	West Fork	05020002	PSS	0.1444	Permanent Conversion	SWVM	0.1444	Kincheloe
W-K52	Pittsburgh	West Fork	05020002	PEM	0.0115	Permanent Fill	SWVM	0.0115	Kincheloe
W-Z3	Norfolk	Middle New	05050002	PSS	0.0136	Permanent Conversion	1 : 1	0.01360	No Mitigation Proposed[4]
W-F9-PFO	Norfolk	Upper Roanoke	03010101	PFO	0.0169	Permanent Conversion	1 : 1	0.01690	Banister Bend
W-C12	Norfolk	Upper Roanoke	03010101	PFO	0.0523	Permanent Conversion	1 : 1	0.0523	Banister Bend
W-C11	Norfolk	Upper Roanoke	03010101	PSS	0.0461	Permanent Conversion	1 : 1	0.04610	Banister Bend
W-KL58	Norfolk	Upper Roanoke	03010101	PEM	0.0392	Permanent Fill	1 : 1	0.0392	Banister Bend

Mountain Valley PIPELINE LLC

Table 18 (Compensatory Stream Mitigation)

Table 17. ***(revised 3/2/2021)***
Compensatory Wetland Mitigation
Individual Permit Application
Mountain Valley Pipeline Project

Feature	USACE District	HUC 8 Name	HUC 8 #	Cowardin Class[1]	Impact (acres)	Impact Type	Mitigation Evaluation Method[2]	Projected Mitigation Requirement	Proposed Mitigation Type[3]
W-EF5-PFO	Norfolk	Upper Roanoke	03010101	PFO	0.0852	Permanent Conversion	1 : 1	0.0852	Banister Bend
W-EF18	Norfolk	Upper Roanoke	03010101	PSS	0.0052	Permanent Conversion	1 : 1	0.0052	Banister Bend
W-EF17	Norfolk	Upper Roanoke	03010101	PFO	0.0224	Permanent Conversion	1 : 1	0.0224	Banister Bend
W-IJ96-PEM	Norfolk	Upper Roanoke	03010101	PEM	0.0133	Permanent Fill	1 : 1	0.0133	Banister Bend
W-IJ97	Norfolk	Upper Roanoke	03010101	PEM	0.0005	Permanent Fill	1 : 1	0.0005	Banister Bend
W-IJ95-PSS	Norfolk	Upper Roanoke	03010101	PSS	0.0254	Permanent Conversion	1 : 1	0.0254	Banister Bend
W-IJ102	Norfolk	Upper Roanoke	03010101	PFO	0.0100	Permanent Conversion	1 : 1	0.0100	Banister Bend
W-KL17	Norfolk	Upper Roanoke	03010101	PSS	0.0435	Permanent Conversion	1 : 1	0.0435	Banister Bend
W-AB6-PFO-1	Norfolk	Upper Roanoke	03010101	PFO	0.0618	Permanent Conversion	1 : 1	0.0618	Banister Bend
W-AB6-PSS	Norfolk	Upper Roanoke	03010101	PSS	0.0061	Permanent Conversion	1 : 1	0.0061	Banister Bend
W-AB5	Norfolk	Upper Roanoke	03010101	PFO	0.0042	Permanent Conversion	1 : 1	0.0042	Banister Bend
W-EF46	Norfolk	Upper Roanoke	03010101	PSS	0.0682	Permanent Conversion	1 : 1	0.0682	Banister Bend
W-KL48-PSS-1	Norfolk	Upper Roanoke	03010101	PSS	0.0454	Permanent Conversion	1 : 1	0.04540	Banister Bend
W-KL48-PSS-2	Norfolk	Upper Roanoke	03010101	PSS	0.0264	Permanent Conversion	1 : 1	0.0264	Banister Bend
W-KL51-PSS	Norfolk	Upper Roanoke	03010101	PSS	0.0080	Permanent Conversion	1 : 1	0.00800	Banister Bend
W-IJ36	Norfolk	Upper Roanoke	03010101	PSS	0.1237	Permanent Conversion	1 : 1	0.1237	Banister Bend
W-Z7	Norfolk	Upper Roanoke	03010101	PSS	0.0003	Permanent Conversion	1 : 1	0.0003	Banister Bend
W-Z6	Norfolk	Upper Roanoke	03010101	PFO	0.0028	Permanent Conversion	1 : 1	0.0028	Banister Bend
W-B24-PSS	Norfolk	Upper Roanoke	03010101	PSS	0.1637	Permanent Conversion	1 : 1	0.1637	Banister Bend
W-B25-PSS-2	Norfolk	Upper Roanoke	03010101	PSS	0.0830	Permanent Conversion	1 : 1	0.08300	Banister Bend
W-D4	Norfolk	Upper Roanoke	03010101	PEM	0.0009	Permanent Fill	1 : 1	0.0009	Banister Bend
W-IJ2-PSS	Norfolk	Upper Roanoke	03010101	PSS	0.0080	Permanent Conversion	1 : 1	0.0080	Banister Bend
W-GH2	Norfolk	Upper Roanoke	03010101	PSS	0.0130	Permanent Conversion	1 : 1	0.0130	Banister Bend
W-CD5	Norfolk	Upper Roanoke	03010101	PFO	0.1136	Permanent Conversion	1 : 1	0.1136	Banister Bend
W-CD1	Norfolk	Upper Roanoke	03010101	PFO	0.1106	Permanent Conversion	1 : 1	0.1106	Banister Bend
W-A12-PFO	Norfolk	Upper Roanoke	03010101	PFO	0.0040	Permanent Conversion	1 : 1	0.00400	Banister Bend
W-GH16	Norfolk	Upper Roanoke	03010101	PFO	0.0657	Permanent Conversion	1 : 1	0.06570	Banister Bend
W-H17	Norfolk	Upper Roanoke	03010101	PFO	0.0369	Permanent Conversion	1 : 1	0.03690	Banister Bend
W-H15	Norfolk	Upper Roanoke	03010101	PSS	0.0071	Permanent Conversion	1 : 1	0.0071	Banister Bend
W-D3	Norfolk	Upper Roanoke	03010101	PFO	0.0285	Permanent Conversion	1 : 1	0.02850	Banister Bend
W-B4-PSS	Norfolk	Upper Roanoke	03010101	PSS	0.0047	Permanent Conversion	1 : 1	0.0047	Banister Bend
W-MM5	Norfolk	Banister	03010105	PSS	0.0390	Permanent Conversion	1 : 1	0.03900	Banister Bend
W-MM8-PFO	Norfolk	Banister	03010105	PFO	0.0421	Permanent Conversion	1 : 1	0.04210	Banister Bend
W-Q2	Norfolk	Banister	03010105	PFO	0.3770	Permanent Conversion	1 : 1	0.3770	Banister Bend
W-EF6	Norfolk	Banister	03010105	PFO	0.0667	Permanent Conversion	1 : 1	0.06670	Banister Bend
W-IJ21	Norfolk	Banister	03010105	PFO	0.0106	Permanent Conversion	1 : 1	0.0106	Banister Bend
W-MM3	Norfolk	Banister	03010105	PSS	0.0340	Permanent Conversion	1 : 1	0.03400	Banister Bend
W-IJ22-PFO	Norfolk	Banister	03010105	PFO	0.0785	Permanent Conversion	1 : 1	0.07850	Banister Bend
				TOTAL	**4.2042**	**-**	**-**	**4.2042**	**-**

Notes:

1 - Field classification

2 - In WV, the SWVM (Stream and Wetland Valuation Metric) was used to determine mitigation credit requirements
- In VA, per VDEQ and USACE guidance, mitigation ratios are 1:1 for PEM fill, PSS conversion, and PFO conversion impacts.

3 - Proposed mitigation bank based on the location of the impact and availability of mitigation credits in the impact area.
- Kincheloe - Kincheloe Mitigation Bank
- Beverly - Beverly Mitigation Bank
- Spanishburg - Spanishburg Mitigation Bank
- Banister Bend - Banister Bend Mitigation Bank

4 - Mountain Valley does not propose to purchase credits for impacts associated with wetland W-Z3. The proposed impact is 0.0136 acre conversion from PSS to PEM in the Middle New watershed. No wetland credits are available as no mitigation banks provide coverage within the river basin in which the impacts occur. As a result, Mountain Valley requested use of credits from VARTF that was denied without comment by The Nature Conservancy (TNC) on November 1, 2017. Permittee-responsible mitigation for this minimal impact is not practicable. Because compensatory mitigation is not required for this de minimis wetland impact, and there are no practicable options to provide such mitigation, MVP does not propose to provide any additional individual compensatory mitigation for the impact to W-Z3.

Table 18. ***(revised 3/2/2021)***
Compensatory Stream Mitigation
Individual Permit Application
Mountain Valley Pipeline Project

Feature	USACE District	HUC 8 Name	HUC 8 #	Flow Regime	Impact (LF)	Mitigation Evaluation Method[1]	Projected Mitigation Requirement	Proposed Mitigation Type[2]
S-A128	Pittsburgh	West Fork	05020002	Perennial	29	SWVM	24	Kincheloe
S-OP9	Pittsburgh	West Fork	05020002	Ephemeral	36	SWVM	30	Kincheloe
S-OP8	Pittsburgh	West Fork	05020002	Ephemeral	41	SWVM	29	Kincheloe
S-B79	Pittsburgh	West Fork	05020002	Ephemeral	60	SWVM	23	Kincheloe
S-J54	Pittsburgh	West Fork	05020002	Perennial	26	SWVM	17	Kincheloe
S-A120	Huntington	Middle Ohio	05030201	Intermittent	26	SWVM	13	Foster Run
S-QR34	Huntington	Middle Ohio	05030201	Ephemeral	125	SWVM	65	Foster Run
S-J56	Huntington	Middle Ohio	05030201	Perennial	41	SWVM	32	Foster Run
S-J59	Huntington	Middle Ohio	05030201	Intermittent	7	SWVM	4	Foster Run
S-A110/K62	Huntington	Middle Ohio	05030201	Intermittent	25	SWVM	10	Foster Run
S-K43	Huntington	Little Kanawha	05030203	Perennial	27	SWVM	18	Hayes Run
S-I63	Huntington	Little Kanawha	05030203	Perennial	26	SWVM	18	Hayes Run
S-UV11	Huntington	Little Kanawha	05030203	Perennial	25	SWVM	18	Hayes Run
S-L61	Huntington	Little Kanawha	05030203	Intermittent	58	SWVM	40	Hayes Run
S-L57	Huntington	Little Kanawha	05030203	Ephemeral	26	SWVM	13	Hayes Run
S-IJ27	Huntington	Little Kanawha	05030203	Perennial	84	SWVM	63	Hayes Run
S-IJ32	Huntington	Little Kanawha	05030203	Ephemeral	26	SWVM	17	Hayes Run
S-B62	Huntington	Elk	05050007	Perennial	29	SWVM	24	Spanishburg
S-H107	Huntington	Elk	05050007	Intermittent	30	SWVM	12	Spanishburg
S-I23a	Huntington	Gauley	05050005	Intermittent	33	SWVM	18	Spanishburg
S-IJ54	Huntington	Gauley	05050005	Ephemeral	31	SWVM	17	Spanishburg
S-IJ53	Huntington	Gauley	05050005	Perennial	20	SWVM	12	Spanishburg
S-FF1	Huntington	Gauley	05050005	Ephemeral	31	SWVM	31	Spanishburg
S-UV2	Huntington	Gauley	05050005	Perennial	28	SWVM	17	Spanishburg
S-I12	Huntington	Lower New	05050004	Intermittent	38	SWVM	22	Spanishburg
S-I10	Huntington	Lower New	05050004	Intermittent	26	SWVM	18	Spanishburg
S-K10	Huntington	Greenbrier	05050003	Intermittent	31	SWVM	11	Spanishburg
S-K4	Huntington	Greenbrier	05050003	Intermittent	22	SWVM	8	Spanishburg
S-A63	Huntington	Upper New	05050002	Perennial	25	SWVM	16	Spanishburg
S-A61	Huntington	Upper New	05050002	Ephemeral	26	SWVM	14	Spanishburg
S-CV26	Huntington	Upper New	05050002	Perennial	32	SWVM	20	Spanishburg
S-F18	Huntington	Upper New	5050002	Perennial	26	SWVM	17	Spanishburg
S-IJ16-a	Norfolk	Middle New	05050002	Ephemeral	45	USM	23	Graham and David
S-IJ85	Norfolk	Upper Roanoke	03010101	Perennial	50	1:1*	50	Graham and David
S-H42	Norfolk	Banister	03010105	Perennial	15	USM	21	Graham and David
				TOTAL	**1,226**	**-**	**785**	

Notes:

1 - In WV, the SWVM (Stream and Wetland Valuation Metric) was used to determine mitigation credit requirements
- In VA, mitigation ratio values for stream impacts were calculated using Unified Stream Methodology (USM), except where noted.

2 - Proposed mitigation bank based on the location of the impact and availability of mitigation credits in the impact area.
- Kincheloe - Kincheloe Wetland and Stream Mitigation Bank
- Foster Run - Foster Run Mitigation Bank
- Hayes Run - Hayes Run Stream and Wetland Mitigation Bank
- Spanishburg - Spanishburg Mitigation Bank
-Graham and David - Graham and David Mitigation Bank

* - Unified Stream Methodology field evaluation has not been performed for S-IJ85. Compensatory mitigation requirement ratio of impacts : credits is assumed to be 1:1.

Mountain Valley PIPELINE LLC

Table A-1 (West Virginia Stream Impacts)

Table A-1. West Virginia Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-J62	Right Fork Big Elk Creek	Harrison	Pittsburgh	39.445033	-80.482635	Perennial	RPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0037	-	18	-	4-35
S-B75/F49	UNT to Goose Run	Harrison	Pittsburgh	39.436571	-80.475198	Intermittent	RPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0028	-	13		4-36
S-B74	Goose Run	Harrison	Pittsburgh	39.436245	-80.474976	Intermittent	RPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0018	-	9	-	4-36
S-B79	UNT to Big Elk Creek	Harrison	Pittsburgh	39.423571	-80.476278	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Temporary Access Road	11	-	0.0004	-	2	-	4-39
S-B79	UNT to Big Elk Creek	Harrison	Pittsburgh	39.423499	-80.476392	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Permanent Access Road	-	60	-	0.0021	-	7	4-39
S-B79	UNT to Big Elk Creek	Harrison	Pittsburgh	39.423434	-80.476486	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Temporary Access Road	24	-	0.0008	-	4	-	4-39
S-J54	UNT to Little Tenmile Creek	Harrison	Pittsburgh	39.400324	-80.479967	Perennial	RPW	Warmwater Fishery, Tier 2	05020002	Permanent Access Road	-	26	-	0.0048	-	23	4-43
S-J51	Little Tenmile Creek	Harrison	Pittsburgh	39.398116	-80.477174	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Timber Mat Crossing	20	-	0.0138	-	67	-	4-43
S-A10a	Little Rockcamp Run	Harrison	Pittsburgh	39.370005	-80.484974	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Timber Mat Crossing	20	-	0.0055	-	27		4-49
S-B2a	UNT to Rockcamp Run	Harrison	Pittsburgh	39.359262	-80.493290	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	115	-	0.0211	-	341	-	4-51
S-B3a	Rockcamp Run	Harrison	Pittsburgh	39.358871	-80.493707	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Pipeline ROW	97	-	0.0445	-	719	-	4-51
S-A128	Rockcamp Run	Harrison	Pittsburgh	39.355569	-80.4901	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Permanent Access Road	-	29	-	0.032	-	155	4-51
S-RR22	UNT to Grass Run	Harrison	Pittsburgh	39.342166	-80.512422	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Timber Mat Crossing	20	-	0.0055	-	27		4-55
S-A11a	Grass Run	Harrison	Pittsburgh	39.335511	-80.522421	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Pipeline ROW	113	-	0.0311	-	502	-	4-56
S-A11a-Braid-1	Grass Run	Harrison	Pittsburgh	39.335500	-80.522502	Intermittent	RPW	Warmwater Fishery, Tier 1	05020002	Pipeline ROW	11	-	0.0015	-	7	-	4-56
S-A11a-Braid-2	Grass Run	Harrison	Pittsburgh	39.335410	-80.522360	Intermittent	RPW	Warmwater Fishery, Tier 1	05020002	Pipeline ROW	77	-	0.0088	-	143	-	4-56
S-OP8	UNT to Indian Run	Harrison	Pittsburgh	39.320959	-80.526445	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Temporary Access Road	-	41	-	0.0047	-	23	4-59
S-OP9	UNT to Indian Run	Harrison	Pittsburgh	39.320682	-80.526449	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Temporary Access Road	-	36	-	0.0025	-	12	4-59
S-B6a	Indian Run	Harrison	Pittsburgh	39.317309	-80.527175	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Temporary Access Road	30	-	0.0207	-	100	-	4-59
S-B6a	Indian Run	Harrison	Pittsburgh	39.317023	-80.526157	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Timber Mat Crossing	20	-	0.0138	-	67	-	4-59
S-B7a	UNT to Indian Run	Harrison	Pittsburgh	39.316755	-80.526222	Intermittent	RPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0018	-	9	-	4-59
S-UU3	Salem Fork	Harrison	Pittsburgh	39.289870	-80.517903	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Pipeline ROW	76	-	0.1047	-	1,689	-	4-66
S-UU5	Halls Run	Harrison	Pittsburgh	39.253041	-80.540508	Perennial	RPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	79	-	0.0073	-	117	-	4-74
S-K73	Coburn Fork	Harrison	Pittsburgh	39.243691	-80.553966	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Pipeline ROW	110	-	0.0126	-	204	-	4-77
S-K74	UNT to Coburn Fork	Harrison	Pittsburgh	39.243647	-80.553903	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	36	-	0.0021	-	10	-	4-77
S-K75	UNT to Coburn Fork	Harrison	Pittsburgh	39.243509	-80.554028	Intermittent	RPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	96	-	0.0066	-	107	-	4-77
S-K80	UNT to Turtletree Fork	Harrison	Pittsburgh	39.225747	-80.550164	Intermittent	RPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0014	-	7		4-80
S-CV9	UNT to Turtletree Fork	Harrison	Pittsburgh	39.22369	-80.548273	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0009	-	4		4-81
S-K81	Turtletree Fork	Harrison	Pittsburgh	39.223263	-80.547928	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Timber Mat Crossing	30	-	0.0028	-	13		4-81
S-CV10	UNT to Turtletree Fork	Harrison	Pittsburgh	39.221719	-80.546951	Perennial	RPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0014	-	7		4-81
S-A106	UNT to Kincheloe Creek	Harrison	Pittsburgh	39.168435	-80.577625	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	168	-	0.001	-	47	-	4-92
S-A105	UNT to Kincheloe Creek	Harrison	Pittsburgh	39.168266	-80.577815	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	20	-	0.0018	-	9	-	4-92
S-K94	Kincheloe Creek	Lewis	Pittsburgh	39.167831	-80.578867	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Temporary Access Road	18	-	0.0083	-	40	-	4-92
S-K82	UNT to Kincheloe Creek	Harrison	Pittsburgh	39.167753	-80.578181	Perennial	RPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	110	-	0.0101	-	49	-	4-92
S-K94	Kincheloe Creek	Lewis	Pittsburgh	39.167575	-80.578144	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Pipeline ROW	79	-	0.0363	-	585	-	4-92
S-I67	Smoke Camp Run	Lewis	Pittsburgh	39.137145	-80.577026	Perennial	RPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	22	-	0.0040	-	20	-	4-99
S-J43	Right Fork Freemans Creek	Lewis	Pittsburgh	39.120579	-80.581328	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Timber Mat Crossing	22	-	0.0126	-	61	-	4-102
S-J44	UNT to Right Fork Freemans Creek	Lewis	Pittsburgh	39.114730	-80.586203	Perennial	RPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	79	-	0.0073	-	117	-	4-103
S-K46	UNT to Left Fork Freemans Creek	Lewis	Pittsburgh	39.080252	-80.581430	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	93	-	0.0043	-	21	-	4-109
S-B67	Left Fork Freemans Creek	Lewis	Pittsburgh	39.079556	-80.581346	Perennial	RPW	Warmwater Fishery, Tier 1	05020002	Timber Mat Crossing	22	-	0.0061	-	29	-	4-110
S-B69	UNT to Left Fork Freemans Creek	Lewis	Pittsburgh	39.077790	-80.582932	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Temporary Access Road	86	-	0.0030	-	14	-	4-110
S-H184	UNT to Left Fork Freemans Creek	Lewis	Pittsburgh	39.069684	-80.580583	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	22	-	0.0051	-	24	-	4-111
S-H184a	UNT to Left Fork Freemans Creek	Lewis	Pittsburgh	39.069645	-80.580591	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05020002	Timber Mat Crossing	22	-	0.0051	-	24	-	4-111
S-H180	UNT to Left Fork Freemans Creek	Lewis	Pittsburgh	39.068217	-80.581025	Intermittent	RPW	Warmwater Fishery, Tier 2	05020002	Pipeline ROW	68	-	0.0203	-	327	-	4-111
S-ST18	UNT to Mobley Run	Wetzel	Huntington	39.561766	-80.540136	Intermittent	RPW	Warmwater Fishery, Tier 1	05030201	Permanent Access Road	21	-	0.0049	-	23	-	4-2
S-WX3	UNT to Mobley Run	Wetzel	Huntington	39.560611	-80.545823	Intermittent	RPW	Warmwater Fishery, Tier 1	05030201	ATWS	21	-	0.0024	-	12	-	4-1
S-A1a	North Fork Fishing Creek	Wetzel	Huntington	39.553946	-80.545046	Perennial	RPW	Warmwater Fishery, Tier 1	05030201	Pipeline ROW	80	-	0.0641	-	1,034	-	4-3
S-A3a	UNT to North Fork Fishing Creek	Wetzel	Huntington	39.551814	-80.545633	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	80	-	0.0166	-	267	-	4-4
S-J66	UNT to North Fork Fishing Creek	Wetzel	Huntington	39.546030	-80.544314	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	20	-	0.0014		7		4-5
S-A5a	UNT to Fallen Timber Run	Wetzel	Huntington	39.534241	-80.540995	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	30	-	0.0028	-	13	-	4-8
S-A6a	Fallen Timber Run	Wetzel	Huntington	39.534023	-80.540889	Perennial	RPW	Warmwater Fishery, Tier 1	05030201	Timber Mat Crossing	20	-	0.0092	-	44	-	4-9
S-A125	Price Run	Wetzel	Huntington	39.503477	-80.532902	Perennial	RPW	Warmwater Fishery, Tier 1	05030201	Timber Mat Crossing	20	-	0.0161	-	78	-	4-19
S-A124	UNT to Price Run	Wetzel	Huntington	39.503288	-80.532680	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	100	-	0.0276	-	445	-	4-19
S-A118	UNT to Price Run	Wetzel	Huntington	39.502399	-80.523520	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	79	-	0.0109	-	176	-	4-20
S-A120	Stout Run	Wetzel	Huntington	39.489914	-80.522135	Intermittent	RPW	Warmwater Fishery, Tier 1	05030201	Temporary Access Road	8	-	0.0011	-	5	-	4-23
S-A120	Stout Run	Wetzel	Huntington	39.489890	-80.522083	Intermittent	RPW	Warmwater Fishery, Tier 1	05030201	Permanent Access Road	-	26	-	0.0036	-	15	4-23
S-A120	Stout Run	Wetzel	Huntington	39.489866	-80.522029	Intermittent	RPW	Warmwater Fishery, Tier 1	05030201	Temporary Access Road	9	-	0.0012	-	6	-	4-23
S-A120	Stout Run	Wetzel	Huntington	39.489712	-80.520728	Intermittent	RPW	Warmwater Fishery, Tier 1	05030201	Timber Mat Crossing	20	-	0.0028	-	13	-	4-23
S-A119	UNT to Stout Run	Wetzel	Huntington	39.489589	-80.520532	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	134	-	0.0154	-	74	-	4-23

Table A-1. West Virginia Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-QR34	UNT to Stout Run	Wetzel	Huntington	39.489140	-80.520658	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030201	Permanent Access Road	-	125	-	0.0072	-	24	4-23
S-QR34	UNT to Stout Run	Wetzel	Huntington	39.489062	-80.520519	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030201	Temporary Access Road	8	-	0.0004	-	2	-	4-23
S-J60	Sams Run	Wetzel	Huntington	39.474354	-80.511825	Perennial	RPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	20	-	0.0064	-	31	-	4-26
S-J56	Manion Run	Wetzel	Huntington	39.464315	-80.502077	Perennial	RPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	20	-	0.0046	-	22	-	4-28
S-J56	Manion Run	Wetzel	Huntington	39.464105	-80.502318	Perennial	RPW	Warmwater Fishery, Tier 2	05030201	Temporary Access Road	23	-	0.0054	-	26	-	4-28
S-J56	Manion Run	Wetzel	Huntington	39.463899	-80.502594	Perennial	RPW	Warmwater Fishery, Tier 2	05030201	Permanent Access Road	-	41	-	0.0095	-	46	4-28
S-J59	UNT to Manion Run	Wetzel	Huntington	39.462705	-80.504726	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Permanent Access Road	-	7	-	0.0005	-	2	4-28
S-J59	UNT to Manion Run	Wetzel	Huntington	39.462684	-80.504736	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Temporary Access Road	10	-	0.0007	-	3	-	4-28
S-J58	UNT to Manion Run	Wetzel	Huntington	39.462546	-80.505386	Perennial	RPW	Warmwater Fishery, Tier 2	05030201	Permanent Access Road	26	-	0.0030	-	14	-	4-28
S-K77	Traugh Fork	Doddridge	Huntington	39.229029	-80.552534	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	37	-	0.0034	-	54	-	4-80
S-K77	Traugh Fork	Doddridge	Huntington	39.228942	-80.552437	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	93	-	0.0085	-	137	-	4-80
S-K67	UNT to Big Issac Creek	Doddridge	Huntington	39.210269	-80.553179	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	77	-	0.0177	-	285	-	4-84
S-K65	UNT to Big Issac Creek	Doddridge	Huntington	39.209813	-80.552450	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	90	-	0.0165	-	267	-	4-84
S-K54	UNT to Big Issac Creek	Doddridge	Huntington	39.207673	-80.552957	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	20	-	0.0032	-	16	-	4-84
S-K58	UNT to Big Issac Creek	Doddridge	Huntington	39.205595	-80.553224	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	20	-	0.0011	-	6	-	4-84
S-K59	UNT to Big Issac Creek	Doddridge	Huntington	39.204704	-80.553272	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	20	-	0.0011	-	6	-	4-84
S-K60	UNT to Big Issac Creek	Doddridge	Huntington	39.203779	-80.553410	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030201	Timber Mat Crossing	20	-	0.0018	-	9	-	4-84
S-A110/K62	UNT to Laural Run	Doddridge	Huntington	39.201316	-80.553306	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Permanent Access Road	-	25	-	0.0040	-	13	4-85
S-A110/K62	UNT to Laural Run	Doddridge	Huntington	39.201286	-80.553425	Intermittent	RPW	Warmwater Fishery, Tier 2	05030201	Pipeline ROW	59	-	0.0095	-	154	-	4-85
S-A111	Laural Run	Doddridge	Huntington	39.200749	-80.553190	Perennial	RPW	Warmwater Fishery, Tier 1	05030201	Pipeline ROW	77	-	0.0247	-	399	-	4-85
S-J46	Fink Creek	Lewis	Huntington	39.094778	-80.584826	Perennial	RPW	Warmwater Fishery, Tier 1	05030203	Timber Mat Crossing	22	-	0.0076	-	37	-	4-106
S-J47b	UNT to Fink Creek	Lewis	Huntington	39.094003	-80.585481	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0015	-	7	-	4-106
S-I64	Leading Creek	Lewis	Huntington	39.052748	-80.582213	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0020	-	10	-	4-114
S-KK3a	UNT to Laurel Run	Lewis	Huntington	39.019605	-80.597895	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0010	-	5	-	4-119
S-KK5	UNT to Laurel Run	Lewis	Huntington	39.017783	-80.596853	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0015	-	7	-	4-119
S-KK5	UNT to Laurel Run	Lewis	Huntington	39.017738	-80.597017	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0015	-	7	-	4-119
S-KK5	UNT to Laurel Run	Lewis	Huntington	39.017718	-80.597027	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0015	-	7	-	4-119
S-KK6	UNT Laurel Run	Lewis	Huntington	39.017621	-80.596939	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0015	-	7	-	4-119
S-KK7	Laurel Run	Lewis	Huntington	39.017519	-80.597010	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0030	-	15	-	4-119
S-K45	UNT to Cove Lick	Lewis	Huntington	39.002598	-80.595591	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	ATWS	50	-	0.0011	-	6	-	4-121
S-K43	Cove Lick	Lewis	Huntington	39.002111	-80.595843	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Permanent Access Road	-	27	-	0.0043	-	21	4-121
S-K43	Cove Lick	Lewis	Huntington	39.002045	-80.596098	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0035	-	17	-	4-121
S-K38	UNT to Rock Run	Lewis	Huntington	38.992357	-80.592929	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0015	-	7	-	4-123
S-I63	Sand Fork	Lewis	Huntington	38.969369	-80.593138	Perennial	RPW	Non-listed mussels, Warmwater Fishery, Tier 1	05030203	Pipeline ROW	60	-	0.0275	-	444	-	4-128
S-I63	Sand Fork	Lewis	Huntington	38.969290	-80.593203	Perennial	RPW	Non-listed mussels, Warmwater Fishery, Tier 1	05030203	Permanent Access Road	-	26	-	0.0119	-	58	4-128
S-I63	Sand Fork	Lewis	Huntington	38.969239	-80.593244	Perennial	RPW	Non-listed mussels, Warmwater Fishery, Tier 1	05030203	Temporary Access Road	8	-	0.0037	-	18	-	4-128
S-H160	Indian Fork	Lewis	Huntington	38.933179	-80.584562	Perennial	RPW	Warmwater Fishery, Tier 1	05030203	Timber Mat Crossing	23	-	0.0106	-	59	-	4-135
S-L76	Indian Fork	Lewis	Huntington	38.929761	-80.575251	Perennial	RPW	Warmwater Fishery, Tier 1	05030203	Permanent Access Road	33	-	0.0115	-	56	-	4-137
S-H153	UNT to Sugar Camp Run	Lewis	Huntington	38.922846	-80.579227	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	76	-	0.0262	-	423	-	4-136
S-H145	UNT to Indian Fork	Lewis	Huntington	38.918986	-80.573838	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	91	-	0.0313	-	505	-	4-140
S-H165	UNT to Indian Fork	Lewis	Huntington	38.918602	-80.573256	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	144	-	0.0198	-	320	-	4-140
S-CV3	Threelick Run	Lewis	Huntington	38.913415	-80.571854	Perennial	RPW	Warmwater Fishery, Tier 1	05030203	Timber Mat Crossing	22	-	0.0030	-	15	-	4-142
S-CD16	UNT to Second Big Run	Lewis	Huntington	38.904135	-80.563719	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	173	-	0.0318	-	154	-	4-144
S-VV13	Second Big Run	Lewis	Huntington	38.903930	-80.563537	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	80	-	0.0275	-	133	-	4-144
S-VV11	UNT to Second Big Run	Lewis	Huntington	38.903610	-80.563186	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	7	-	0.0007	-	3	-	4-144
S-VV12	UNT to Second Big Run	Lewis	Huntington	38.903575	-80.563308	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	77	-	0.0211	-	341	-	4-144
S-VV13d	Second Big Run	Lewis	Huntington	38.902549	-80.564778	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	61	-	0.0210	-	102	-	4-144
S-VV20	UNT to Second Big Run	Lewis	Huntington	38.900233	-80.563491	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	40	-	0.0028	-	13	-	4-145
S-VV19	UNT to Second Big Run	Lewis	Huntington	38.899505	-80.563925	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	62	-	0.0043	-	21	-	4-146
S-VV13b	Second Big Run	Lewis	Huntington	38.898431	-80.568250	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	42	-	0.0143	-	69	-	4-146
S-VV18	UNT to Second Big Run	Lewis	Huntington	38.897028	-80.567634	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	41	-	0.0075	-	36	-	4-146
S-VV16	UNT to Second Big Run	Lewis	Huntington	38.896271	-80.566551	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	293	-	0.0202	-	98	-	4-146
S-VV16	UNT to Second Big Run	Lewis	Huntington	38.895455	-80.566432	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	211	-	0.0145	-	70	-	4-146
S-UV11	Oil Creek	Lewis	Huntington	38.893014	-80.556192	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	51	-	0.0351	-	567	-	4-148
S-UV11	Oil Creek	Lewis	Huntington	38.893014	-80.556192	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Permanent Access Road	-	25	-	-	0	-	4-148
S-VV22	UNT to Oil Creek	Lewis	Huntington	38.890411	-80.550986	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	43	-	0.0029	-	12	-	4-148
S-VV21	UNT to Oil Creek	Lewis	Huntington	38.890221	-80.553817	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	18	-	0.0012	-	5	-	4-148
S-L61	Crooked Run	Lewis	Huntington	38.880040	-80.563579	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Permanent Access Road	-	30	-	0.0069	-	33	4-151
S-L61	Crooked Run	Lewis	Huntington	38.879034	-80.564307	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Permanent Access Road	-	28	-	0.0064	-	31	4-151

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Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-VV2	Clover Fork	Braxton	Huntington	38.862730	-80.525128	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	90	-	0.0412	-	664	-	4-159
S-VV9	UNT to Clover Fork	Lewis	Huntington	38.863254	-80.525763	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0051	-	24	-	4-158
S-L51	Barbecue Run	Braxton	Huntington	38.839355	-80.519693	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0101	-	49	-	4-161
S-J37	UNT to Barbecue Run	Braxton	Huntington	38.839133	-80.519716	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0015	-	7	-	4-162
S-L57	UNT to Barbecue Run	Braxton	Huntington	38.828310	-80.525753	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road	-	26	-	0.0024	-	12	4-165
S-L57	UNT to Barbecue Run	Braxton	Huntington	38.828300	-80.525691	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Temporary Access Road/ATWS	25	-	0.0023	-	11	-	4-165
S-L60	Left Fork Knawl Creek	Braxton	Huntington	38.824034	-80.524988	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	75	-	0.0517	-	833	-	4-165
S-LL1	Knawl Creek	Braxton	Huntington	38.823595	-80.525342	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	88	-	0.0607	-	980	-	4-165
S-IJ27	Little Knawl Creek	Braxton	Huntington	38.809593	-80.541252	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Permanent Access Road	-	34	-	0.0156	-	76	4-168
S-IJ32	UNT to Little Knawl Creek	Braxton	Huntington	38.809568	-80.537319	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Permanent Access Road	-	26	-	0.0030	-	14	4-168
S-IJ27	Little Knawl Creek	Braxton	Huntington	38.808878	-80.543272	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Permanent Access Road	-	50	-	0.0230	-	111	4-168
S-QR30	UNT to Little Knawl Creek	Braxton	Huntington	38.807940	-80.535715	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	79	-	0.0274	-	442	-	4-168
S-JJ1	UNT to Keith Run	Braxton	Huntington	38.786930	-80.530028	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0071	-	34	-	4-172
S-I60	UNT to Falls Run	Braxton	Huntington	38.781068	-80.524577	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0020	-	10	-	4-174
S-J70	Falls Run	Braxton	Huntington	38.778955	-80.525862	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	77	-	0.0530	-	854	-	4-174
S-K34	Hemp Patch Run	Braxton	Huntington	38.766123	-80.520308	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0025	-	12	-	4-178
S-K33	UNT to Hemp Patch Run	Braxton	Huntington	38.765714	-80.520032	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0010	-	5	-	4-178
S-H123	UNT to Elliott Run	Braxton	Huntington	38.761197	-80.514887	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	82	-	0.0113	-	183	-	4-178
S-H123	UNT to Elliott Run	Braxton	Huntington	38.760426	-80.513624	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	82	-	0.0113	-	182	-	4-178
S-H127	UNT to Elliott Run	Braxton	Huntington	38.755029	-80.513692	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0020	-	10	-	4-180
S-H132	Little Kanawha River	Braxton	Huntington	38.751499	-80.514919	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	120	-	0.0606	-	293	-	4-180
S-H129	UNT to Little Kanawha River	Braxton	Huntington	38.749321	-80.514337	Intermittent	RPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0010	-	5	-	4-183
S-H131	UNT to Little Kanawha River	Braxton	Huntington	38.749215	-80.514370	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05030203	Timber Mat Crossing	22	-	0.0010	-	5	-	4-183
S-H117	Stonecoal Run	Braxton	Huntington	38.731020	-80.506280	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	82	-	0.0283	-	456	-	4-188
S-L46	UNT to Laurel Run	Braxton	Huntington	38.721880	-80.499258	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	78	-	0.0267	-	431	-	4-190
S-L44	UNT to Laurel Run	Braxton	Huntington	38.716945	-80.494589	Perennial	RPW	Warmwater Fishery, Tier 2	05030203	Pipeline ROW	81	-	0.0185	-	298	-	4-193
S-I57	Mudlick Run	Braxton	Huntington	38.697413	-80.489560	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	77	-	0.0528	-	852	-	4-196
S-A96/A103	UNT to Left Fork Holly River	Webster	Huntington	38.688706	-80.478590	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	83	-	0.0114	-	185	-	4-198
S-A97	UNT to Left Fork Holly River	Webster	Huntington	38.688329	-80.478406	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	125	-	0.0229	-	370	-	4-198
S-A99	UNT to Left Fork Holly River	Webster	Huntington	38.688120	-80.478371	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	34	-	0.0039	-	19	-	4-198
S-A98	UNT to Left Fork Holly River	Webster	Huntington	38.687906	-80.478024	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW/Temporary Access Road	392	-	0.0629	-	1015	-	4-198
S-A100	Left Fork Holly River	Webster	Huntington	38.676643	-80.477940	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Timber Mat Crossing	22	-	0.0404	-	196	-	4-200
S-E78/E82/R1	UNT to Left Fork Holly River	Webster	Huntington	38.676223	-80.477663	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	102	-	0.0094	-	151	-	4-200
S-E76	UNT to Left Fork Holly River	Webster	Huntington	38.674988	-80.477360	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0015	-	7	-	4-200
S-KK2	UNT to Left Fork Holly River	Webster	Huntington	38.672226	-80.476315	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	75	-	0.0052	-	84	-	4-200
S-KK3b	UNT to Left Fork Holly River	Webster	Huntington	38.672110	-80.476515	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	100	-	0.0069	-	111	-	4-201
S-KK4b	UNT to Left Fork Holly River	Webster	Huntington	38.671976	-80.476825	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	88	-	0.0061	-	98	-	4-201
S-E74	UNT to Left Fork Holly River	Webster	Huntington	38.671971	-80.476990	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	68	-	0.0062	-	30	-	4-200
S-F40	Oldlick Creek	Webster	Huntington	38.667943	-80.479023	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Timber Mat Crossing	22	-	0.0126	-	61	-	4-201
S-S1	UNT to Oldlick Creek	Webster	Huntington	38.667020	-80.478624	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	21	-	0.0010	-	5	-	4-201
S-S4	UNT to Oldlick Creek	Webster	Huntington	38.664389	-80.484709	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	45	-	0.0021	-	10	-	4-204
S-F43	UNT to Oldlick Creek	Webster	Huntington	38.663706	-80.478644	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	101	-	0.0232	-	375	-	4-202
S-E67	Right Fork Holly Creek	Webster	Huntington	38.648021	-80.489704	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	92	-	0.1803	-	2910	-	4-206
S-B62	Narrows Run	Webster	Huntington	38.646185	-80.486813	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	ATWS	15	-	0.0103	-	50	-	4-215
S-B62	Narrows Run	Webster	Huntington	38.643910	-80.485213	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Permanent Access Road	-	29	-	0.0200	-	97	4-215
S-E71	UNT to Elk River	Webster	Huntington	38.614405	-80.506004	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	44	-	0.0020	-	33	-	4-218
S-H111	UNT to Elk River	Webster	Huntington	38.613367	-80.504620	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0020	-	10	-	4-218
S-H111	UNT to Elk River	Webster	Huntington	38.613341	-80.504620	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0020	-	10	-	4-218
S-H114	UNT to Elk River	Webster	Huntington	38.613259	-80.504243	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0010	-	5	-	4-218
S-H112	UNT to Elk River	Webster	Huntington	38.613163	-80.504012	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0015	-	7	-	4-218
S-H113	UNT to Elk River	Webster	Huntington	38.612982	-80.503647	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	74	-	0.0203	-	327	-	4-218
S-H113	UNT to Elk River	Webster	Huntington	38.612878	-80.503687	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	9	-	0.0026	-	42	-	4-218
S-H113	UNT to Elk River	Webster	Huntington	38.612874	-80.503682	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	9	-	0.0026	-	41	-	4-218
S-H110	UNT to Houston Run	Webster	Huntington	38.587200	-80.509634	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0015	-	7	-	4-222
S-T29	Houston Run	Webster	Huntington	38.579092	-80.525620	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	76		0.0525	-	847	-	4-230
S-A83/A91	UNT to Camp Creek	Webster	Huntington	38.557064	-80.535592	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	75	-	0.0518	-	835	-	4-235
S-A93	UNT to Camp Creek	Webster	Huntington	38.556823	-80.535751	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050007	Temporary Access Road	13	-	0.0025	-	12	-	4-235
S-A93	UNT to Camp Creek	Webster	Huntington	38.556682	-80.535572	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	105	-	0.0193	-	312	-	4-235
S-A92	UNT to Camp Creek	Webster	Huntington	38.556658	-80.535607	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	59	-	0.0175	-	282	-	4-235

Table A-1. West Virginia Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-H108	Lower Laurel Fork	Webster	Huntington	38.549358	-80.539260	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	78	-	0.0251	-	405	-	4-236
S-H105	UNT to Camp Creek	Webster	Huntington	38.548824	-80.539644	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	121	-	0.0083	-	135	-	4-236
S-H107	UNT to Camp Creek	Webster	Huntington	38.548467	-80.540073	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	10	-	0.0003	-	5	-	4-236
S-H107	UNT to Camp Creek	Webster	Huntington	38.548463	-80.540050	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050007	Permanent Access Road	-	30	-	0.0010	-	3	4-236
S-H107	UNT to Camp Creek	Webster	Huntington	38.548378	-80.539980	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	90	-	0.0031	-	50	-	4-236
S-H104	Camp Creek	Webster	Huntington	38.548121	-80.540431	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	104	-	0.0360	-	580	-	4-236
S-H103	UNT to Camp Creek	Webster	Huntington	38.545817	-80.542972	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050007	Pipeline ROW	37	-	0.0034	-	16	-	4-248
S-B34	Amos Run	Webster	Huntington	38.493956	-80.560990	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	81	-	0.0561	-	904	-	4-260
S-B35	UNT to Amos Run	Webster	Huntington	38.493884	-80.560969	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	80	-	0.0037	-	59	-	4-260
S-B36	UNT to Amos Run	Webster	Huntington	38.493819	-80.560919	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	72	-	0.0033	-	53	-	4-260
S-B37	UNT to Amos Run	Webster	Huntington	38.493750	-80.560898	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	82	-	0.0038	-	61	-	4-260
S-B38	UNT to Amos Run	Webster	Huntington	38.493723	-80.560843	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	43	-	0.0020	-	32	-	4-260
S-B42	UNT to Amos Run	Webster	Huntington	38.493645	-80.560892	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	101	-	0.0046	-	75	-	4-260
S-B39b	UNT to Amos Run	Webster	Huntington	38.493532	-80.560792	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	142	-	0.0008	-	13	-	4-260
S-B45	UNT to Amos Run	Webster	Huntington	38.493394	-80.560786	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	177	-	0.0122	-	196	-	4-260
S-B39a/B46	UNT to Amos Run	Webster	Huntington	38.493363	-80.560657	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	110	-	0.0076	-	122	-	4-260
S-B39b	UNT to Amos Run	Webster	Huntington	38.493352	-80.560574	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	3	-	0.0002	-	0	-	4-260
S-B39a/B46	UNT to Amos Run	Webster	Huntington	38.493227	-80.560529	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	11	-	0.0007	-	12	-	4-260
S-O4	Lost Run	Webster	Huntington	38.483002	-80.556464	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	92	-	0.0379	-	612	-	4-263
S-O5	UNT to Laurel Creek	Webster	Huntington	38.482251	-80.555499	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050007	Timber Mat Crossing	22	-	0.0010	-	5	-	4-263
S-A81	UNT to Laurel Creek	Webster	Huntington	38.481219	-80.554668	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050007	Temporary Access Road	81	-	0.0037	-	18	-	4-263
S-A79	Laurel Creek	Webster	Huntington	38.480782	-80.554682	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050007	Timber Mat Crossing	55	-	0.0278	-	134	-	4-263
S-A80	UNT to Laurel Creek	Webster	Huntington	38.480687	-80.554061	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050007	Temporary Access Road	104	-	0.0096	-	46	-	4-263
S-E58	Little Glade Run	Webster	Huntington	38.443669	-80.551989	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0040	-	20	-	4-269
S-E55	UNT to Laurel Creek	Webster	Huntington	38.440270	-80.559955	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050007	Timber Mat Crossing	22	-	0.0010	-	5	-	4-271
S-F35	UNT to Birch River	Webster	Huntington	38.424082	-80.570710	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0025	-	12	-	4-278
S-F34	UNT to Birch River	Webster	Huntington	38.423988	-80.570680	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0025	-	12	-	4-278
S-F36a	UNT to Birch River	Webster	Huntington	38.422056	-80.569457	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	5	-	0.0006	-	11	-	4-278
S-F36a	UNT to Birch River	Webster	Huntington	38.421474	-80.570012	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	23	-	0.0027	-	13	-	4-278
S-F36a	UNT to Birch River	Webster	Huntington	38.418662	-80.573898	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	23	-	0.0027	-	13	-	4-278
S-F36a	UNT to Birch River	Webster	Huntington	38.418122	-80.574566	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	20	-	0.0023	-	3	-	4-278
S-F36b	UNT to Birch River	Webster	Huntington	38.417934	-80.576775	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	65	-	0.0300	-	145	-	4-279
S-F36b	UNT to Birch River	Webster	Huntington	38.417774	-80.576635	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Pipeline ROW	78	-	0.0359	-	580	-	4-279
S-F36b	UNT to Birch River	Webster	Huntington	38.417693	-80.576495	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	16	-	0.0074	-	36	-	4-279
S-F37	UNT to Birch River	Webster	Huntington	38.417651	-80.576431	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Temporary Access Road	20	-	0.0018	-	9	-	4-279
S-C49	UNT to Birch River	Webster	Huntington	38.416587	-80.577890	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0015	-	7	-	4-279
S-B33	UNT to Meadow Fork	Webster	Huntington	38.408941	-80.589063	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0051	-	24	-	4-281
S-B32-Braid	UNT to Meadow Fork	Webster	Huntington	38.405871	-80.591069	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0035	-	17	-	4-281
S-B32	UNT to Meadow Fork	Webster	Huntington	38.405683	-80.591116	Perennial	RPW	Warmwater Fishery, Tier 2	05050007	Timber Mat Crossing	22	-	0.0035	-	17	-	4-281
S-EF40	UNT to Meadow Fork	Webster	Huntington	38.400883	-80.597787	Intermittent	RPW	Warmwater Fishery, Tier 2	05050007	Anode Bed	52	-	0.0084	-	41	-	4-282
S-B30	UNT to Meadow Fork	Webster	Huntington	38.399733	-80.597536	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050007	Anode Bed	27	-	0.0024	-	12	-	4-282
S-B29	Meadow Fork	Webster	Huntington	38.399618	-80.597332	Perennial	RPW	Warmwater Fishery, Tier 1	05050007	Pipeline ROW	85	-	0.0136	-	220	-	4-282
S-E50	UNT to Gauley River	Webster	Huntington	38.370597	-80.611921	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	93	-	0.0085	-	138	-	4-289
S-E52	UNT to Gauley River	Webster	Huntington	38.369110	-80.611761	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0015	-	7	-	4-290
S-E50	UNT to Gauley River	Webster	Huntington	38.367280	-80.612317	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	82	-	0.0075	-	122	-	4-289
S-E49	UNT to Gauley River	Nicholas	Huntington	38.365574	-80.613141	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	88	-	0.0020	-	33	-	4-290
S-E46	Strouds Creek	Webster	Huntington	38.363374	-80.617277	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0152	-	73	-	4-291
S-E46	Strouds Creek	Webster	Huntington	38.363326	-80.616955	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Temporary Access Road	43	-	0.0296	-	143	-	4-291
S-F21	Barn Run	Nicholas	Huntington	38.355859	-80.633328	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0020	-	10	-	4-293
S-F20	Barn Run	Nicholas	Huntington	38.355800	-80.633223	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0051	-	24	-	4-293
S-IJ57	UNT to Barn Run	Nicholas	Huntington	38.352362	-80.636401	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	82	-	0.0094	-	152	-	4-293
S-IJ59	UNT to Barn Run	Nicholas	Huntington	38.348372	-80.641152	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0035	-	17	-	4-295
S-IJ60	UNT to Rockcamp Run	Nicholas	Huntington	38.343699	-80.644721	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	77	-	0.0141	-	227	-	4-296
S-IJ62	UNT to Cherry Run	Nicholas	Huntington	38.343547	-80.647035	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	79	-	0.0054	-	88	-	4-296
S-B28	Cherry Run	Nicholas	Huntington	38.340083	-80.655413	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0051	-	24	-	4-298
S-B26	UNT to Cherry Run	Nicholas	Huntington	38.339012	-80.659609	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Temporary Access Road	43	-	0.0039	-	19	-	4-299
S-J32	Big Beaver Creek	Nicholas	Huntington	38.331763	-80.670342	Perennial	RPW	Warmwater Fishery, Tier 1	05050005	Timber Mat Crossing	22	-	0.0177	-	86	-	4-301
S-A76	UNT to Big Beaver Creek	Nicholas	Huntington	38.329126	-80.671211	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	77	-	0.0106	-	172	-	4-301
S-A75	UNT to Big Beaver Creek	Nicholas	Huntington	38.326001	-80.670358	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	84	-	0.0193	-	311	-	4-302

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Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-A74	UNT to Big Beaver Creek	Nicholas	Huntington	38.325540	-80.670150	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	75	-	0.0069	-	112	-	4-302
S-A73	UNT to Big Beaver Creek	Nicholas	Huntington	38.323815	-80.670069	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	83	-	0.0114	-	184	-	4-302
S-A72	UNT to Big Beaver Creek	Nicholas	Huntington	38.321687	-80.670952	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0020	-	10	-	4-302
S-A71	UNT to Big Beaver Creek	Nicholas	Huntington	38.321572	-80.670958	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0020	-	10	-	4-302
S-A71-Braid	UNT to Big Beaver Creek	Nicholas	Huntington	38.321548	-80.670969	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0040	-	20	-	4-302
S-A67	UNT to Big Beaver Creek	Nicholas	Huntington	38.317575	-80.671553	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	76	-	0.0121	-	196	-	4-303
S-A69	UNT to Big Beaver Creek	Nicholas	Huntington	38.317217	-80.671495	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	82	-	0.0113	-	183	-	4-303
S-A69	UNT to Big Beaver Creek	Nicholas	Huntington	38.317089	-80.671565	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	16	-	0.0022	-	36	-	4-303
S-H99	UNT to Big Beaver Creek	Nicholas	Huntington	38.312952	-80.673145	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	96		0.0088	-	142	-	4-304
S-H96	UNT to Big Beaver Creek	Nicholas	Huntington	38.309759	-80.675706	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Temporary Access Road	39	-	0.0018	-	9	-	4-304
S-H95	UNT to Big Beaver Creek	Nicholas	Huntington	38.309738	-80.675733	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Temporary Access Road	259	-	0.0178	-	86	-	4-304
S-A65	Big Beaver Creek	Nicholas	Huntington	38.308183	-80.675347	Perennial	RPW	Warmwater Fishery, Tier 1	05050005	Pipeline ROW	77	-	0.1240	-	2000	-	4-304
S-A64	UNT to Granny Run	Nicholas	Huntington	38.304538	-80.673827	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	54	-	0.0086	-	139	-	4-306
S-N15	UNT to Granny Run	Nicholas	Huntington	38.301571	-80.674776	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0061	-	29	-	4-306
S-N14	Granny Run	Nicholas	Huntington	38.297014	-80.676341	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0040	-	20	-	4-307
S-N14	Granny Run	Nicholas	Huntington	38.296646	-80.676258	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0040	-	20	-	4-307
S-I43	UNT to Big Run	Nicholas	Huntington	38.293473	-80.677158	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0051	-	24	-	4-308
S-I44	Big Run	Nicholas	Huntington	38.291332	-80.679265	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0040	-	20	-	4-308
S-I45	UNT to Big Run	Nicholas	Huntington	38.290061	-80.680304	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0030	-	15	-	4-308
S-I47	UNT to Gauley River	Nicholas	Huntington	38.284291	-80.685885	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	80	-	0.0037	-	59	-	4-310
S-I48	UNT to Gauley River	Nicholas	Huntington	38.280116	-80.687738	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0051	-	22	-	4-310
S-J28	UNT to Little Laurel Creek	Nicholas	Huntington	38.263235	-80.687908	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	79	-	0.0091	-	147	-	4-315
S-J25	UNT to Little Laurel Creek	Nicholas	Huntington	38.256682	-80.687348	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	77	-	0.0089	-	143	-	4-317
S-J24	UNT to Little Laurel Creek	Nicholas	Huntington	38.256302	-80.687350	Perennial	RPW	Category B-2 Trout Waters, Tier 1	05050005	Pipeline ROW	76	-	0.0261	-	422	-	4-317
S-J24	UNT to Little Laurel Creek	Nicholas	Huntington	38.256248	-80.687358	Perennial	RPW	Category B-2 Trout Waters, Tier 1	05050005	Pipeline ROW	76	-	0.0261	-	421	-	4-317
S-J23-EPH	UNT to Little Laurel Creek	Nicholas	Huntington	38.234331	-80.707513	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	109	-	0.0025	-	41	-	4-326
S-J22	UNT to Little Laurel Creek	Nicholas	Huntington	38.233718	-80.708268	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	85	-	0.0058	-	94	-	4-326
S-N10	Skelt Run	Nicholas	Huntington	38.231025	-80.710633	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	78	-	0.0071	-	115	-	4-327
S-N10-Braid	Skelt Run	Nicholas	Huntington	38.230934	-80.710804	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	101	-	0.0069	-	112	-	4-327
S-EE1	UNT to Skelt Run	Nicholas	Huntington	38.228924	-80.713076	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050005	Timber Mat Crossing	22	-	0.0020	-	10	-	4-327
S-N13-Braid	UNT to Skelt Run	Nicholas	Huntington	38.226869	-80.715487	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	37	-	0.0050	-	24	-	4-328
S-N13	UNT to Skelt Run	Nicholas	Huntington	38.226851	-80.715393	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	89	-	0.0041	-	66	-	4-328
S-L41	Jims Creek	Nicholas	Huntington	38.220793	-80.717100	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	76	-	0.0349	-	564	-	4-328
S-L38	UNT to Riley Branch	Nicholas	Huntington	38.205534	-80.718246	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	75	-	0.0052	-	83	-	4-340
S-L35	Riley Branch	Nicholas	Huntington	38.204372	-80.719778	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Temporary Access Road	52	-	0.0048	-	31	-	4-341
S-L35	Riley Branch	Nicholas	Huntington	38.203887	-80.719122	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	86	-	0.0079	-	128	-	4-341
S-L35	Riley Branch	Nicholas	Huntington	38.203097	-80.719248	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	87	-	0.0080	-	129	-	4-341
S-L35	Riley Branch	Nicholas	Huntington	38.200338	-80.717177	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	79	-	0.0072	-	117	-	4-341
S-I37	UNT to Hominy Creek	Nicholas	Huntington	38.196644	-80.718856	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	40	-	0.0056	-	27	-	4-342
S-I38	UNT to Hominy Creek	Nicholas	Huntington	38.194221	-80.719357	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	77	-	0.0089	-	143	-	4-342
S-I39	UNT to Hominy Creek	Nicholas	Huntington	38.194025	-80.719298	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	79	-	0.0126	-	204	-	4-342
S-I40	UNT to Hominy Creek	Nicholas	Huntington	38.187582	-80.723025	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	82	-	0.0133	-	214	-	4-343
S-I41	UNT to Hominy Creek	Nicholas	Huntington	38.179384	-80.729497	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	78	-	0.0143	-	231	-	4-344
S-I36	Hominy Creek	Nicholas	Huntington	38.178889	-80.729790	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	77	-	0.0976	-	1575	-	4-347
S-I31	UNT to Hominy Creek	Nicholas	Huntington	38.163802	-80.730743	Ephemeral	NRPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	73	-	0.0033	-	54	-	4-355
S-N8a	UNT to Hominy Creek	Nicholas	Huntington	38.162363	-80.733602	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Timber Mat Crossing	22	-	0.0020	-	10	-	4-355
S-VV1	UNT to Hominy Creek	Nicholas	Huntington	38.161064	-80.735022	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Timber Mat Crossing	22	-	0.0020	-	10	-	4-355
S-H88	Sugar Branch	Nicholas	Huntington	38.136744	-80.730560	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	76	-	0.0697	-	1125	-	4-359
S-H71	UNT to Hominy Creek	Nicholas	Huntington	38.124315	-80.735783	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	93	-	0.0257	-	415	-	4-362
S-H67	UNT to Hominy Creek	Nicholas	Huntington	38.120580	-80.736772	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	85	-	0.0235	-	379	-	4-363
S-H64	UNT to Hominy Creek	Nicholas	Huntington	38.116279	-80.735319	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	87	-	0.0060	-	96	-	4-364
S-V3	UNT to Hominy Creek	Nicholas	Huntington	38.115823	-80.730960	Perennial	RPW	Category B-2 Trout Waters, Tier 2	05050005	Timber Mat Crossing	22	-	0.0061	-	29	-	4-365
S-EF41	UNT to Hominy Creek	Nicholas	Huntington	38.107549	-80.726284	Intermittent	RPW	Category B-2 Trout Waters, Tier 2	05050005	Pipeline ROW	82	-	0.0038	-	61	-	4-366
S-J19	UNT to Meadow Creek	Greenbrier	Huntington	38.028599	-80.743623	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0010	-	5	-	4-382
S-J20	UNT to Meadow Creek	Greenbrier	Huntington	38.023801	-80.747266	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0152	-	73	-	4-385
S-I25	UNT to Meadow Creek	Greenbrier	Huntington	38.020430	-80.753194	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	75	-	0.0086	-	139	-	4-390
S-I26	UNT to Meadow Creek	Greenbrier	Huntington	38.019129	-80.755220	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	78	-	0.0090	-	145	-	4-390
S-I27	UNT to Meadow Creek	Greenbrier	Huntington	38.018031	-80.755999	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0025	-	12	-	4-390
S-L26	UNT to Meadow River	Greenbrier	Huntington	37.981900	-80.755213	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	205	-	0.0141	-	227	-	4-397

Table A-1. West Virginia Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-L26	UNT to Meadow River	Greenbrier	Huntington	37.980598	-80.754872	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	166	-	0.0114	-	184	-	4-397
S-EF38	UNT to Little Sewell Creek	Greenbrier	Huntington	37.963259	-80.733162	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0015	-	7	-	4-400
S-L24	UNT to Little Sewell Creek	Greenbrier	Huntington	37.963068	-80.733141	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0020	-	10	-	4-400
S-L27	UNT to Little Sewell Creek	Greenbrier	Huntington	37.960725	-80.732852	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Timber Mat Crossing	22	-	0.0010	-	5	-	4-401
S-L30	UNT to Little Sewell Creek	Greenbrier	Huntington	37.954276	-80.739708	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	136	-	0.0093	-	151	-	4-402
S-L22	Little Sewell Creek	Greenbrier	Huntington	37.954035	-80.739868	Perennial	RPW	Warmwater Fishery, Tier 1	05050005	Pipeline ROW	75	-	0.0517	-	834	-	4-402
S-L20	UNT to Little Sewell Creek	Greenbrier	Huntington	37.949579	-80.742646	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	96	-	0.0111	-	179	-	4-403
S-L10	UNT to Boggs Creek	Greenbrier	Huntington	37.938308	-80.747009	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	103	-	0.0071	-	115	-	4-405
S-L11	UNT to Boggs Creek	Greenbrier	Huntington	37.938229	-80.746912	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	26	-	0.0018	-	9	-	4-405
S-I21	UNT to Boggs Creek	Greenbrier	Huntington	37.918228	-80.736774	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	30	-	0.0034	-	55	-	4-409
S-I21	UNT to Boggs Creek	Greenbrier	Huntington	37.918164	-80.736852	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	77	-	0.0089	-	143	-	4-409
S-I22	UNT to Boggs Creek	Greenbrier	Huntington	37.918041	-80.736833	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	94	-	0.0043	-	70	-	4-409
S-I23a	UNT to Boggs Creek	Greenbrier	Huntington	37.917347	-80.738534	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Permanent Access Road	-	33	-	0.0030	-	10	4-409
S-IJ54	UNT to Boggs Creek	Greenbrier	Huntington	37.917125	-80.742425	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Permanent Access Road	-	31	-	0.0036	-	17	4-410
S-IJ53	UNT to Boggs Creek	Greenbrier	Huntington	37.916234	-80.744156	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Permanent Access Road	-	20	-	0.0055	-	27	4-410
S-HH8	UNT to Buffalo Creek	Greenbrier	Huntington	37.865308	-80.753802	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	ATWS	15		0.0007		3		4-421
S-K25/K18	UNT to Buffalo Creek	Greenbrier	Huntington	37.863772	-80.756993	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	ATWS	70		0.0096		156		4-421
S-K17	Buffalo Creek	Greenbrier	Huntington	37.863065	-80.757391	Perennial	RPW	Warmwater Fishery, Tier 1	05050005	Pipeline ROW	75	-	0.0432	-	698	-	4-420
S-K19	UNT to Buffalo Creek	Greenbrier	Huntington	37.860940	-80.757825	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	93	-	0.0107	-	172	-	4-421
S-K21	UNT to Buffalo Creek	Greenbrier	Huntington	37.858566	-80.755584	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	82	-	0.0189	-	304	-	4-422
S-K22	UNT to Buffalo Creek	Greenbrier	Huntington	37.858315	-80.755546	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	78	-	0.0125	-	202	-	4-422
S-UV6	UNT to Morris Fork	Greenbrier	Huntington	37.854386	-80.754981	Perennial	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	88	-	0.0161	-	260	-	4-422
S-UV2	Morris Fork	Greenbrier	Huntington	37.851318	-80.751436	Perennial	RPW	Warmwater Fishery, Tier 1	05050005	Permanent Access Road	-	28	-	0.0103	-	50	4-423
S-UV2	Morris Fork	Greenbrier	Huntington	37.851099	-80.752978	Perennial	RPW	Warmwater Fishery, Tier 1	05050005	Pipeline ROW	88	-	0.0324	-	523	-	4-423
S-U22	UNT to Meadow River	Greenbrier	Huntington	37.839558	-80.748496	Intermittent	RPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	80	-	0.0221	-	356	-	4-425
S-FF1	UNT to Meadow River	Greenbrier	Huntington	37.837560	-80.751903	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Permanent Access Road	11	-	0.0008	-	4	-	4-425
S-FF1	UNT to Meadow River	Greenbrier	Huntington	37.837519	-80.751898	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Permanent Access Road	-	31	-	0.0021	-	10	4-425
S-EE4	UNT to Red Spring Branch	Summers	Huntington	37.813881	-80.748817	Intermittent	RPW	Warmwater Fishery, Tier 2	05050004	Pipeline ROW	137	-	0.0079	-	127	-	4-429
S-M6	UNT to Red Spring Branch	Summers	Huntington	37.807650	-80.746173	Intermittent	RPW	Warmwater Fishery, Tier 2	05050004	Pipeline ROW	110		0.0101	-	163	-	4-430
S-J13	UNT to Patterson Creek	Summers	Huntington	37.797484	-80.733605	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	92	-	0.0085	-	137	-	4-432
S-J13	UNT to Patterson Creek	Summers	Huntington	37.796572	-80.732397	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	96	-	0.0088	-	142	-	4-432
S-J13	UNT to Patterson Creek	Summers	Huntington	37.795915	-80.731850	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050005	Pipeline ROW	124	-	0.0114	-	183	-	4-432
S-M5	Red Spring Branch	Summers	Huntington	37.792243	-80.728802	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050004	Timber Mat Crossing	22	-	0.0030	-	15	-	4-433
S-M4	UNT to Red Spring Branch	Summers	Huntington	37.786834	-80.728719	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050004	Temporary Access Road	47	-	0.0032	-	16	-	4-434
S-I13	UNT to Lick Creek	Summers	Huntington	37.782534	-80.719085	Intermittent	RPW	Warmwater Fishery, Tier 2	05050004	Timber Mat Crossing	22	-	0.0076	-	37	-	4-437
S-I14	UNT to Lick Creek	Summers	Huntington	37.781099	-80.719318	Intermittent	RPW	Warmwater Fishery, Tier 2	05050004	Timber Mat Crossing	22	-	0.0035	-	17	-	4-437
S-I15	UNT to Lick Creek	Summers	Huntington	37.779878	-80.720470	Intermittent	RPW	Warmwater Fishery, Tier 2	05050004	Timber Mat Crossing	22	-	0.0051	-	24	-	4-437
S-I16	UNT to Lick Creek	Summers	Huntington	37.779381	-80.721388	Intermittent	RPW	Warmwater Fishery, Tier 2	05050004	Timber Mat Crossing	22	-	0.0020	-	10	-	4-440
S-I12	Lick Creek	Summers	Huntington	37.775891	-80.710797	Intermittent	RPW	Warmwater Fishery, Tier 1	05050004	Permanent Access Road	-	38	-	0.0035	-	11	4-438
S-I17	UNT to Lick Creek	Summers	Huntington	37.775160	-80.728058	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050004	Pipeline ROW	78	-	0.0045	-	72	-	4-441
S-I10	UNT to Lick Creek	Summers	Huntington	37.772437	-80.713781	Intermittent	RPW	Warmwater Fishery, Tier 2	05050004	Permanent Access Road	-	26	-	0.0018	-	9	4-439
S-I19	Lick Creek	Summers	Huntington	37.772089	-80.732901	Perennial	RPW	Warmwater Fishery, Tier 1	05050004	Pipeline ROW	77	-	0.0265	-	428	-	4-441
S-I20	UNT to Lick Creek	Summers	Huntington	37.771406	-80.733241	Perennial	RPW	Warmwater Fishery, Tier 2	05050004	Pipeline ROW	92	-	0.0212	-	342	-	4-441
S-N5	UNT to Hungard Creek	Summers	Huntington	37.704240	-80.744827	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	87	-	0.0040	-	65	-	4-459
S-K14	UNT to Righthand Fork Hungard Creek	Summers	Huntington	37.696788	-80.739242	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	97	-	0.0089	-	143	-	4-460
S-N3	UNT to Hungard Creek	Summers	Huntington	37.694776	-80.736952	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0025	-	12	-	4-461
S-N2	Hungard Creek	Summers	Huntington	37.694507	-80.736682	Perennial	RPW	Warmwater Fishery, Tier 1	05050003	Timber Mat Crossing	22	-	0.0101	-	49	-	4-461
S-CD23	UNT to Hungard Creek	Summers	Huntington	37.694228	-80.736099	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0045	-	22	-	4-461
S-N4	UNT to Hungard Creek	Summers	Huntington	37.693961	-80.735841	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0015	-	7	-	4-461
S-KL29	Right Fork Hungard Creek	Summers	Huntington	37.692932	-80.733839	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	75	-	0.0863	-	1392	-	4-461
S-M3	Hungard Creek	Summers	Huntington	37.692868	-80.734247	Perennial	RPW	Warmwater Fishery, Tier 1	05050003	Pipeline ROW	80	-	0.0183	-	295	-	4-461
S-CV17	UNT to Greenbrier River	Summers	Huntington	37.681865	-80.730095	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	76	-	0.0070	-	34	-	4-464
S-EF53	UNT to Greenbrier River	Summers	Huntington	37.681323	-80.729672	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Temporary Access Road	51	-	0.0095	-	46	-	4-464
S-I9	UNT to Greenbrier River	Summers	Huntington	37.675977	-80.732822	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0035	-	17	-	4-465
S-K10	UNT to Greenbrier River	Summers	Huntington	37.675079	-80.734384	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Temporary Access Road	9	-	0.0013	-	6	-	4-465
S-K10	UNT to Greenbrier River	Summers	Huntington	37.675070	-80.734447	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Permanent Access Road	-	31	-	0.0043	-	21	4-465
S-K10	UNT to Greenbrier River	Summers	Huntington	37.675058	-80.734522	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Temporary Access Road	9	-	0.0013	-	6	-	4-465
S-L4	UNT to Greenbrier River	Summers	Huntington	37.673213	-80.729772	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	77	-	0.0176	-	284	-	4-465
S-L2	UNT to Greenbrier River	Summers	Huntington	37.671392	-80.728311	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	88	-	0.0081	-	130	-	4-467

Table A-1. West Virginia Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	USACE District	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (acres)[5]	Permanent Impact Area (acres)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-L1	UNT to Kelly Creek	Summers	Huntington	37.668076	-80.723470	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	76	-	0.0104	-	168	-	4-468
S-J5	Kelly Creek	Summers	Huntington	37.666864	-80.721794	Perennial	RPW	Warmwater Fishery, Tier 1	05050003	Pipeline ROW	103	-	0.0471	-	759	-	4-468
S-K4	UNT to Keller Creek	Summers	Huntington	37.665806	-80.725709	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Temporary Access Road	-	22	-	0.0010	-	4	4-468
S-J4	UNT to Keller Creek	Summers	Huntington	37.663926	-80.715460	Intermittent	RPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0025	-	12	-	4-469
S-G47	UNT to Wind Creek	Summers	Huntington	37.654112	-80.702579	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0010	-	5	-	4-471
S-G52	UNT to Wind Creek	Monroe	Huntington	37.627537	-80.695593	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0010	-	5	-	4-479
S-G49	UNT to Wind Creek	Monroe	Huntington	37.627381	-80.695679	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0101	-	49	-	4-479
S-G48	Wind Creek	Monroe	Huntington	37.627308	-80.695759	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0101	-	49	-	4-479
S-H61	UNT to Stoney Creek	Monroe	Huntington	37.618426	-80.699138	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0126	-	61	-	4-483
S-OP1	Stony Creek	Monroe	Huntington	37.600003	-80.700509	Perennial	RPW	Warmwater Fishery, Tier 2	05050003	Pipeline ROW	78	-	0.0090	-	145	-	4-487
S-IJ64	UNT to Little Stony Creek	Monroe	Huntington	37.591822	-80.705874	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050003	Timber Mat Crossing	22	-	0.0030	-	15	-	4-488
S-A63	Slate Run	Monroe	Huntington	37.560706	-80.709825	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Permanent Access Road	-	25	-	0.0057	-	28	4-492
S-A63	Slate Run	Monroe	Huntington	37.560460	-80.710233	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	88	-	0.0203	-	327	-	4-492
S-A61	UNT to Slate Run	Monroe	Huntington	37.559351	-80.709683	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Temporary Access Road	8	-	0.0012	-	6	-	4-493
S-A61	UNT to Slate Run	Monroe	Huntington	37.559334	-80.709736	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Permanent Access Road	-	26	-	0.0041	-	14	4-493
S-A61	UNT to Slate Run	Monroe	Huntington	37.559328	-80.709792	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Temporary Access Road	8	-	0.0013	-	6	-	4-493
S-A61	UNT to Slate Run	Monroe	Huntington	37.559320	-80.710037	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	81	-	0.0131	-	211	-	4-493
S-A60	Slate Run	Monroe	Huntington	37.558698	-80.709966	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	87	-	0.0358	-	578	-	4-492
S-CV26	UNT to Slate Run	Monroe	Huntington	37.556445	-80.708883	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Permanent Access Road	-	32	-	0.0044		21	4-493
S-D31	Indian Creek	Monroe	Huntington	37.554163	-80.710853	Perennial	RPW	Warmwater Fishery, Tier 1	05050002	Pipeline ROW	75	-	0.1120	-	1807	-	4-493
S-D29	UNT to Hans Creek	Monroe	Huntington	37.547394	-80.712099	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Timber Mat Crossing	22	-	0.0020	-	10	-	4-494
S-D25	UNT to Hans Creek	Monroe	Huntington	37.538768	-80.718855	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Timber Mat Crossing	22	-	0.0020	-	10	-	4-496
S-F18	UNT to Hans Creek	Monroe	Huntington	37.538273	-80.719070	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Permanent Access Road	-	26	-	0.0107	-	52	4-496
S-F18	UNT to Hans Creek	Monroe	Huntington	37.536872	-80.716923	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Timber Mat Crossing	22	-	0.0091	-	44	-	4-496
S-Z5	UNT to Hans Creek	Monroe	Huntington	37.524333	-80.711450	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	75	-	0.0034	-	56	-	4-499
S-Z4	UNT to Hans Creek	Monroe	Huntington	37.524302	-80.711444	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	75	-	0.0043	-	69	-	4-499
S-MN2	UNT to Hans Creek	Monroe	Huntington	37.520012	-80.707606	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	81		0.0130	-	210	-	4-500
S-CV19	Hans Creek	Monroe	Huntington	37.500284	-80.691498	Perennial	RPW	Warmwater Fishery, Tier 1	05050002	Pipeline ROW	77	-	0.0619	-	998	-	4-505
S-MN39	UNT to Blue Lick Creek	Monroe	Huntington	37.487733	-80.681765	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	22	-	0.0010	-	16	-	4-510
S-MN38	UNT to Blue Lick Creek	Monroe	Huntington	37.487721	-80.681929	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	22		0.0030	-	48	-	4-510
S-MN37	UNT to Blue Lick Creek	Monroe	Huntington	37.487584	-80.681992	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	95		0.0040	-	65	-	4-510
S-MN40	UNT to Blue Lick Creek	Monroe	Huntington	37.487519	-80.681996	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	37		0.0010	-	16	-	4-510
S-G44	UNT to Hans Creek	Monroe	Huntington	37.474870	-80.676267	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	86	-	0.0079	-	128	-	4-511
S-G43	UNT to Hans Creek	Monroe	Huntington	37.473139	-80.675738	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Timber Mat Crossing	22	-	0.0025	-	12	-	4-511
S-G42	UNT to Hans Creek	Monroe	Huntington	37.472602	-80.675456	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	79	-	0.0055	-	88	-	4-512
S-MN45	UNT to Hans Creek	Monroe	Huntington	37.462878	-80.670284	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	87		0.0040	-	65	-	4-513
S-CV27	UNT to Hans Creek	Monroe	Huntington	37.462850	-80.669582	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	37	-	0.0017	-	8	-	4-513
S-E43	UNT to Dry Creek	Monroe	Huntington	37.453834	-80.664417	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	92	-	0.0147	-	237	-	4-515
S-E45	UNT to Dry Creek	Monroe	Huntington	37.453798	-80.664266	Ephemeral	NRPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	108	-	0.0074	-	120	-	4-515
S-E40	Dry Creek	Monroe	Huntington	37.451003	-80.667795	Perennial	RPW	Warmwater Fishery, Tier 1	05050002	Temporary Access Road	43	-	0.0117	-	57	-	4-515
S-E40	Dry Creek	Monroe	Huntington	37.450757	-80.667719	Perennial	RPW	Warmwater Fishery, Tier 1	05050002	Pipeline ROW	82	-	0.0227	-	366	-	4-515
S-E41	UNT to Dry Creek	Monroe	Huntington	37.450692	-80.667650	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	23	-	0.0010	-	5	-	4-516
S-C38	UNT to Painter Run	Monroe	Huntington	37.426915	-80.694499	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	89	-	0.0143	-	231	-	4-521
S-C39	Painter Run	Monroe	Huntington	37.426686	-80.694499	Perennial	RPW	Warmwater Fishery, Tier 1	05050002	Pipeline ROW	109	-	0.0125	-	202	-	4-521
S-C41	UNT to Painter Run	Monroe	Huntington	37.426161	-80.694592	Intermittent	RPW	Warmwater Fishery, Tier 2	05050002	Pipeline ROW	143	-	0.0100	-	161	-	4-521
S-C40	UNT to Painter Run	Monroe	Huntington	37.425372	-80.693417	Perennial	RPW	Warmwater Fishery, Tier 2	05050002	Temporary Access Road	77	-	0.0053	-	26	-	4-521

Notes:
1 - For identified streams without a NHD (National Hydrography Dataset) name, the identified stream was given the name, "Unidentified Tributary (UNT)", of the first named receiving waterbody
2 - In decimal degrees
3 - RPW = Relatively Permanent Waters
- NRPW = Non-Relatively Permanent Waters
- TNW = Traditional Navigable Waters
4 - See Section 1.9.2 and Section 4.2 for more information
5 - Acres are rounded to four decimal places.
6 - Temporary fill discharge into waters of the U.S. Cubic yards are rounded to the nearest whole number.
7 - Permanent fill associated with the construction of Permanent access road and facilities. Cubic yards are rounded to the nearest whole number.

Mountain Valley PIPELINE LLC

Table A-2 (West Virginia Wetland Impacts)

Table A-2. West Virginia Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Wetland Functions and Values[7]	Figure
W-B55	Harrison	Pittsburgh	39.436246	-80.474973	PEM	RPWWD	05020002	Timber Mat Crossing	0.0054	-	-	26	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation, Floodflow Alteration	4-36
W-J32-PEM-1	Harrison	Pittsburgh	39.391614	-80.477085	PEM	RPWWN	05020002	Temporary Access Road	0.0417	-	-	202	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Sediment/Shoreline Stabilization	4-44
W-A10a	Harrison	Pittsburgh	39.369569	-80.485054	PEM	RPWWD	05020002	Timber Mat Crossing	0.0153	-	-	74	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention	4-49
W-B1a	Harrison	Pittsburgh	39.360192	-80.492766	PEM	NRPWW	05020002	Pipeline ROW	0.0119	-	-	192	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Floodflow Alteration	4-50
W-A40	Harrison	Pittsburgh	39.358924	-80.493367	PEM	RPWWN	05020002	Pipeline ROW/ATWS	0.3111	-	-	1,506	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation, Floodflow Alteration	4-51
W-A39	Harrison	Pittsburgh	39.358865	-80.490797	PEM	RPWWN	05020002	Permanent Access Road	0.0280	-	-	136	-	Sediment/Toxicant/Pathogen Retention	4-51
W-ST11	Harrison	Pittsburgh	39.338239	-80.519656	PEM	NRPWW	05020002	Temporary Access Road/ATWS	0.0228	-	-	110	-	Sediment/Toxicant/Pathogen Retention	4-56
W-ST12-PEM	Harrison	Pittsburgh	39.337471	-80.522128	PEM	RPWWD	05020002	Temporary Access Road/ATWS	0.0582	-	-	282	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Wildlife Habitat; Production Export	4-56
W-ST12-PSS	Harrison	Pittsburgh	39.337457	-80.522185	PSS	RPWWD	05020002	Temporary Access Road/ATWS	-	0.1444	-	699	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Wildlife Habitat; Production Export	4-56
W-B2a	Harrison	Pittsburgh	39.316856	-80.525315	PEM	RPWWD	05020002	ATWS	0.1953	-	-	945	-	Sediment/Toxicant Retention, Nutrient Removal	4-59
W-B4a	Harrison	Pittsburgh	39.316784	-80.526129	PEM	RPWWD	05020002	Timber Mat Crossing	0.0214	-	-	104	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Sediment/Shoreline Stabilization	4-59
W-UU1	Harrison	Pittsburgh	39.290258	-80.518898	PFO	RPWWD	05020002	Pipeline ROW	-	0.0045	-	22	-	Sediment/Toxicant/Pathogen Retention	4-66
W-UU3	Harrison	Pittsburgh	39.289750	-80.518517	PFO	RPWWN	05020002	Pipeline ROW	-	0.0065	-	105	-	Sediment/Toxicant/Pathogen Retention	4-66
W-UU4a	Harrison	Pittsburgh	39.253101	-80.540498	PEM	RPWWD	05020002	Pipeline ROW/ATWS	0.1268	-	-	2,046	-	Groundwater Recharge/Discharge; Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-74
W-F52	Harrison	Pittsburgh	39.250487	-80.551891	PEM	NRPWW	05020002	Temporary Access Road	0.0625	-	-	302	-	Sediment/Toxicant/Pathogen Retention	4-76
W-F54	Harrison	Pittsburgh	39.249640	-80.550121	PEM	NRPWW	05020002	Timber Mat Crossing	0.0042	-	-	20	-	Sediment/Toxicant/Pathogen Retention	4-76
W-F53	Harrison	Pittsburgh	39.249629	-80.549909	PEM	NRPWW	05020002	Timber Mat Crossing	0.0080	-	-	39	-	Sediment/Toxicant/Pathogen Retention	4-76
W-F55	Harrison	Pittsburgh	39.249464	-80.551040	PEM	NRPWW	05020002	Timber Mat Crossing	0.0173	-	-	84	-	Sediment/Toxicant/Pathogen Retention	4-76

Table A-2. West Virginia Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Wetland Functions and Values[7]	Figure
W-K43	Harrison	Pittsburgh	39.243915	-80.553961	PEM	RPWWD	05020002	Pipeline ROW	0.2086	-	-	3,365	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-77
W-K44	Harrison	Pittsburgh	39.243493	-80.554033	PEM	RPWWD	05020002	Pipeline ROW	0.0671	-	-	1,083	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration	4-77
W-CV15	Harrison	Pittsburgh	39.223490	-80.548109	PEM	RPWWD	05020002	Timber Mat Crossing	0.0512	-		248	-	Groundwater Recharge/Discharge; Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-81
W-J40	Lewis	Pittsburgh	39.167631	-80.578355	PEM	RPWWD	05020002	Pipeline ROW	0.2931	-	-	4,729	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration; Sediment/Shoreline Stabilization	4-92
W-J40	Lewis	Pittsburgh	39.167564	-80.578800	PEM	RPWWD	05020002	Temporary Access Road	0.1812	-	-	877	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration; Sediment/Shoreline Stabilization	4-92
W-A24	Harrison	Pittsburgh	39.165608	-80.569523	PEM	NRPWW	05020002	Temporary Access Road	0.0002	-	-	1	-	Sediment/Toxicant/Pathogen Retention	4-91
W-VV5	Lewis	Pittsburgh	39.137820	-80.576075	PEM	RPWWD	05020002	ATWS	0.0202	-	-	98	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Sediment/Shoreline Stabilization; Nutrient Removal/Retention/Transformation	4-99
W-IJ23	Lewis	Pittsburgh	39.131093	-80.572126	PEM	RPWWN	05020002	Temporary Access Road	0.0065	-	-	31	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-100
W-IJ24	Lewis	Pittsburgh	39.130718	-80.571966	PEM	RPWWN	05020002	Temporary Access Road	0.0041	-	-	20	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-100
W-J20	Lewis	Pittsburgh	39.116053	-80.589196	PEM	NRPWW	05020002	Permanent Access Road	0.0081	-	-	39	-	Sediment/Toxicant/Pathogen Retention	4-103
W-J23	Lewis	Pittsburgh	39.114118	-80.586522	PEM	RPWWN	05020002	Pipeline ROW	0.0130	-	-	210	-	Sediment/Toxicant/Pathogen Retention	4-103
W-K31	Lewis	Pittsburgh	39.080555	-80.581362	PEM	NRPWW	05020002	Pipeline ROW/Temporary Access Road	0.1135	-	-	549	-	Sediment/Toxicant/Pathogen Retention	4-109
W-ST14	Lewis	Pittsburgh	39.079947	-80.583108	PEM	RPWWD	05020002	Anode Bed	0.0394	-	-	191	-	Sediment/Toxicant/Pathogen Retention	4-110
W-ST15	Lewis	Pittsburgh	39.079855	-80.582499	PEM	RPWWN	05020002	Anode Bed	0.0711	-	-	344	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-110
W-B46	Lewis	Pittsburgh	39.079854	-80.581439	PEM	RPWWD	05020002	Pipeline ROW/Temporary Access Road	0.1255	-	-	607	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-110
W-B47	Lewis	Pittsburgh	39.079451	-80.581349	PEM	RPWWD	05020002	Timber Mat Crossing	0.0682	-	-	330	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-110
W-B51	Lewis	Pittsburgh	39.078107	-80.581235	PEM	NRPWW	05020002	Timber Mat Crossing	0.0035	-	-	17	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-110
W-B54	Lewis	Pittsburgh	39.073907	-80.581491	PEM	NRPWW	05020002	Timber Mat Crossing	0.0101	-	-	49	-	Sediment/Toxicant/Pathogen Retention	4-110

Table A-2. West Virginia Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Wetland Functions and Values[7]	Figure
W-H112	Lewis	Pittsburgh	39.066480	-80.581624	PEM	NRPWW	05020002	Pipeline ROW	0.0231	-	-	373	-	Sediment/Toxicant/Pathogen Retention	4-111
W-ME1	Wetzel	Huntington	39.561837	-80.544176	PEM	RPWWD	05030201	ATWS	0.0382	-	-	185	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Floodflow Alteration	4-1
W-ME2	Wetzel	Huntington	39.559744	-80.546756	PEM	RPWWN	05030201	ATWS	0.1036	-	-	501	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention	4-1
W-ME3	Wetzel	Huntington	39.559075	-80.547489	PEM	RPWWN	05030201	ATWS	0.0869	-	-	421	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention	4-1
W-A1a	Wetzel	Huntington	39.553912	-80.544941	PEM	RPWWD	05030201	Pipeline ROW	0.0038	-	-	18	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation, Floodflow Alteration	4-3
W-A2a	Wetzel	Huntington	39.553508	-80.545518	PEM	RPWWN	05030201	Timber Mat Crossing	0.0424	-	-	205	-	Sediment/Toxicant/Pathogen Retention	4-3
W-A4a	Wetzel	Huntington	39.544642	-80.542833	PEM	NRPWW	05030201	Timber Mat Crossing	0.0070	-	-	34	-	Sediment/Toxicant/Pathogen Retention	4-5
W-IJ31	Wetzel	Huntington	39.505764	-80.541781	PEM	RPWWN	05030201	ATWS	0.0992	-	-	480	-	Sediment/Toxicant/Pathogen Retention	4-18
W-IJ31	Wetzel	Huntington	39.505612	-80.541681	PEM	RPWWN	05030201	Permanent Access Road	-	-	0.0082	-	40	Sediment/Toxicant/Pathogen Retention	4-18
W-A27-PFO	Wetzel	Huntington	39.502389	-80.523497	PFO	RPWWD	05030201	Pipeline ROW	-	0.0547	-	882	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Floodflow Alteration	4-20
W-A27-PEM	Wetzel	Huntington	39.502356	-80.523420	PEM	RPWWD	05030201	Pipeline ROW	0.0497	-	-	802	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Floodflow Alteration	4-20
W-A35	Wetzel	Huntington	39.491159	-80.520537	PEM	NRPWW	05030201	Pipeline ROW	0.0066	-	-	107	-	Sediment/Toxicant/Pathogen Retention	4-23
W-A34	Wetzel	Huntington	39.489742	-80.520750	PEM	RPWWD	05030201	Timber Mat Crossing	0.0296	-	-	143	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Floodflow Alteration	4-23
W-WX5	Wetzel	Huntington	39.463909	-80.502672	PEM	RPWWD	05030201	Temporary Access Road	0.0011	-	-	5	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-28
W-WX4	Wetzel	Huntington	39.463864	-80.502581	PEM	RPWWD	05030201	Temporary Access Road	0.0095	-	-	46	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-28
W-K52	Doddridge	Huntington	39.236762	-80.558524	PEM	RPWWN	05030201	Permanent Access Road	0.0021	-	-	10	-	Sediment/Toxicant/Pathogen Retention	4-78
W-K52	Doddridge	Huntington	39.236727	-80.558550	PEM	RPWWN	5030201	Permanent Access Road	-	-	0.0115	-	56	Sediment/Toxicant/Pathogen Retention	4-78
W-K45	Doddridge	Huntington	39.228900	-80.552328	PEM	RPWWD	05030201	Pipeline ROW	0.0401	-	-	648	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-80

Table A-2. West Virginia Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Wetland Functions and Values[7]	Figure
W-K41	Doddridge	Huntington	39.208990	-80.551957	PEM	RPWWD	05030201	Timber Mat Crossing	0.0109	-	-	53	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-84
W-A23	Doddridge	Huntington	39.201188	-80.552996	PEM	RPWWD	05030201	Pipeline ROW	0.2701	-	-	4,358	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration; Sediment/Shoreline Stabilization	4-85
W-A23	Doddridge	Huntington	39.201157	-80.553264	PEM	RPWWD	05030201	Permanent Access Road	-	-	0.0579	-	280	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration; Sediment/Shoreline Stabilization	4-85
W-B57	Lewis	Huntington	39.111745	-80.587352	PEM	NRPWW	05030203	Pipeline ROW/Temporary Access Road	0.0336	-	-	163	-	Sediment/Toxicant/Pathogen Retention	4-104
W-K33-PSS	Lewis	Huntington	39.095059	-80.585064	PSS	RPWWD	05030203	Pipeline ROW	-	0.0024	-	12	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-106
W-K33-PEM	Lewis	Huntington	39.095056	-80.584787	PEM	RPWWD	05030203	Pipeline ROW	0.1544	-	-	2,490	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-106
W-K34-PEM	Lewis	Huntington	39.093945	-80.585460	PEM	RPWWD	05030203	Timber Mat Crossing	0.0253	-	-	122	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-106
W-H109	Lewis	Huntington	39.053324	-80.582020	PEM	NRPWW	05030203	Pipeline ROW	-	-	0.0027	-	13	Sediment/Toxicant/Pathogen Retention	4-114
W-I22-PEM	Lewis	Huntington	39.052952	-80.582437	PEM	RPWWD	05030203	ATWS	0.0018	-	-	9	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration	4-114
W-I22-PEM	Lewis	Huntington	39.052768	-80.582196	PEM	RPWWD	05030203	Timber Mat Crossing	0.0162	-	-	78	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration	4-114
W-I22-PEM	Lewis	Huntington	39.052760	-80.582147	PEM	RPWWD	05030203	Permanent Access Road	-	-	0.0059	-	28	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration	4-114
W-KK6	Lewis	Huntington	39.017820	-80.596977	PEM	RPWWD	05030203	Timber Mat Crossing	0.0212	-	-	103	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-119
W-I15	Lewis	Huntington	38.968609	-80.592042	PEM	RPWWN	05030203	Pipeline ROW	0.0631	-	-	1,018	-	Sediment/Toxicant/Pathogen Retention	4-128
W-I16	Lewis	Huntington	38.964758	-80.590881	PEM	NRPWW	05030203	Timber Mat Crossing	0.0177	-	-	86	-	Sediment/Toxicant/Pathogen Retention	4-129
W-I17	Lewis	Huntington	38.964195	-80.590961	PEM	NRPWW	05030203	Timber Mat Crossing	0.0017		-	8	-	Sediment/Toxicant/Pathogen Retention	4-129
W-I20	Lewis	Huntington	38.962362	-80.590607	PEM	NRPWW	05030203	Timber Mat Crossing	0.0379	-	-	183	-	Sediment/Toxicant/Pathogen Retention; Wildlife Habitat	4-129
W-I21	Lewis	Huntington	38.962126	-80.590741	PEM	NRPWW	05030203	Timber Mat Crossing	0.0631	-	-	306	-	Sediment/Toxicant/Pathogen Retention	4-129
W-UU7	Lewis	Huntington	38.933646	-80.585074	PEM	NRPWW	05030203	Pipeline ROW	0.0038	-	-	19	-	Sediment/Toxicant/Pathogen Retention	4-135

Table A-2. West Virginia Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Wetland Functions and Values[7]	Figure
W-H103	Lewis	Huntington	38.933290	-80.584765	PEM	RPWWN	05030203	ATWS	0.0037	-	-	18	-	Sediment/Toxicant/Pathogen Retention	4-135
W-H103	Lewis	Huntington	38.933290	-80.584765	PEM	RPWWN	05030203	Timber Mat Crossing	0.0050	-	-	24	-	Sediment/Toxicant/Pathogen Retention	4-135
W-H102	Lewis	Huntington	38.933168	-80.584990	PEM	RPWWN	05030203	ATWS	0.0129	-	-	62	-	Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-135
W-H107	Lewis	Huntington	38.932901	-80.584200	PEM	RPWWD	05030203	Timber Mat Crossing	0.0328	-	-	159	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-135
W-H98	Lewis	Huntington	38.925976	-80.578373	PEM	NRPWW	05030203	Permanent Access Road	-	-	0.0331	-	160	Sediment/Toxicant/Pathogen Retention	4-136
W-H98	Lewis	Huntington	38.925868	-80.578367	PEM	NRPWW	05030203	Temporary Access Road	0.0032	-	-	15	-	Sediment/Toxicant/Pathogen Retention	4-136
W-H108	Lewis	Huntington	38.918766	-80.573564	PEM	RPWWN	05030203	Timber Mat Crossing	0.0278	-	-	134	-	Sediment/Toxicant/Pathogen Retention	4-140
W-H96	Lewis	Huntington	38.913939	-80.571910	PEM	RPWWD	05030203	Timber Mat Crossing	0.0039		-	19	-	Sediment/Toxicant/Pathogen Retention	4-142
W-H95	Lewis	Huntington	38.913311	-80.571953	PEM	RPWWD	05030203	Timber Mat Crossing	0.0414	-	-	200	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-142
W-VV9	Lewis	Huntington	38.904701	-80.563951	PEM	RPWWD	05030203	Pipeline ROW	0.0534	-	-	259	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Sediment/Shoreline Stabilization	4-144
W-CD17	Lewis	Huntington	38.904074	-80.563709	PEM	RPWWD	05030203	Timber Mat Crossing	0.0335		-	162	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-144
W-CD16	Lewis	Huntington	38.903722	-80.563418	PEM	RPWWN	05030203	Temporary Access Road/ ATWS	0.0023	-	-	11	-	Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-144
W-CD16	Lewis	Huntington	38.903722	-80.563418	PEM	RPWWN	05030203	Pipeline ROW	0.0226	-	-	365	-	Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-144
W-VV8	Lewis	Huntington	38.903514	-80.563258	PEM	RPWWD	05030203	Pipeline ROW	0.0708	-	-	1,143	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Sediment/Shoreline Stabilization	4-144
W-CD18	Lewis	Huntington	38.902751	-80.564644	PEM	RPWWD	05030203	Temporary Access Road	0.0322	-	-	156	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-144
W-CD19	Lewis	Huntington	38.902618	-80.564694	PEM	RPWWD	05030203	Temporary Access Road	0.0080	-	-	39	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-144
W-CD21	Lewis	Huntington	38.901049	-80.566582	PEM	RPWWN	05030203	Temporary Access Road	0.0161	-	-	78	-	Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-146
W-CD23	Lewis	Huntington	38.898699	-80.568306	PEM	RPWWD	05030203	Temporary Access Road	0.0349	-	-	169	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-146

Table A-2. West Virginia Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Wetland Functions and Values[7]	Figure
W-CD24	Lewis	Huntington	38.898648	-80.568238	PEM	RPWWD	05030203	Temporary Access Road	0.0094	-	-	45	-	Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-146
W-CD36	Lewis	Huntington	38.898177	-80.568287	PEM	RPWWN	05030203	Temporary Access Road	0.0049	-	-	24	-	Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-146
W-CD25	Lewis	Huntington	38.898021	-80.568159	PEM	RPWWN	05030203	Temporary Access Road	0.0100	-	-	48	-	Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-146
W-CD26	Lewis	Huntington	38.897805	-80.568155	PEM	RPWWN	05030203	Temporary Access Road	0.0114	-	-	55	-	Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-146
W-VV10	Lewis	Huntington	38.897282	-80.567014	PEM	NRPWW	05030203	Temporary Access Road	0.0091	-	-	44	-	Sediment/Toxicant/Pathogen Retention	4-146
W-UV17	Lewis	Huntington	38.893199	-80.556196	PFO	RPWWN	05030203	Pipeline ROW	-	0.0055	-	27	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-148
W-ST16	Lewis	Huntington	38.892534	-80.556680	PEM	RPWWN	05030203	Temporary Anode Bed	0.0711	-	-	344	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-148
W-VV11	Lewis	Huntington	38.890576	-80.554852	PEM	NRPWW	05030203	Temporary Access Road	0.0246	-	-	119	-	Sediment/Toxicant/Pathogen Retention	4-148
W-VV12	Lewis	Huntington	38.890309	-80.553784	PEM	NRPWW	05030203	Temporary Access Road	0.0277	-	-	134	-	Sediment/Toxicant/Pathogen Retention	4-148
W-VV4-PEM	Lewis	Huntington	38.863280	-80.525705	PEM	RPWWD	05030203	Timber Mat Crossing	0.0131	-	-	64	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Sediment/Shoreline Stabilization	4-158
W-VV4-PFO	Lewis	Huntington	38.863238	-80.525813	PFO	RPWWD	05030203	Timber Mat Crossing	-	0.0263	-	127	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Sediment/Shoreline Stabilization	4-158
W-VV3-PEM	Lewis	Huntington	38.862795	-80.525190	PEM	RPWWD	05030203	Pipeline ROW	0.0447	-	-	721	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Sediment/Shoreline Stabilization	4-158
W-VV3-PFO	Braxton	Huntington	38.862691	-80.525163	PFO	RPWWD	05030203	Pipeline ROW	-	0.0160	-	259	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Sediment/Shoreline Stabilization	4-158
W-H90	Braxton	Huntington	38.760419	-80.513602	PEM	RPWWD	05030203	Pipeline ROW	0.0388	-	-	627	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-179
W-QR13	Braxton	Huntington	38.751445	-80.516905	PEM	RPWWN	05030203	Temporary Access Road	0.0618	-	-	299	-	Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-180
W-QR12	Braxton	Huntington	38.749364	-80.522081	PEM	RPWWN	05030203	Temporary Access Road	0.0881	-	-	426	-	Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-181
W-QR11	Braxton	Huntington	38.747846	-80.521602	PEM	RPWWN	05030203	Temporary Access Road	0.0559	-	-	271	-	Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-181
W-I11b	Braxton	Huntington	38.708869	-80.489369	PEM	NRPWW	05050007	Timber Mat Crossing	0.0098	-	-	47	-	Sediment/Toxicant/Pathogen Retention	4-194

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Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Wetland Functions and Values[7]	Figure
W-R2	Webster	Huntington	38.667178	-80.480225	PEM	RPWWD	05050007	Temporary Access Road	0.0620	-	-	300	-	Sediment/Toxicant/Pathogen Retention	4-201
W-KK3	Webster	Huntington	38.667027	-80.478547	PEM	RPWWD	05050007	Pipeline ROW	0.0222	-	-	357	-	Sediment/Toxicant/Pathogen Retention	4-201
W-R3	Webster	Huntington	38.666869	-80.480889	PEM	NRPWW	05050007	Temporary Access Road	0.0155	-	-	75	-	Sediment/Toxicant/Pathogen Retention	4-201
W-F46	Webster	Huntington	38.664132	-80.479008	PEM	RPWWN	05050007	Timber Mat Crossing	0.0039		-	19	-	Sediment/Toxicant/Pathogen Retention	4-202
W-R4	Webster	Huntington	38.664021	-80.483434	PEM	NRPWW	05050007	Temporary Access Road	0.0432	-	-	209	-	Sediment/Toxicant/Pathogen Retention	4-204
W-H75	Webster	Huntington	38.607280	-80.504722	PEM	RPWWN	05050007	Pipeline ROW	0.0108	-	-	174	-	Sediment/Toxicant/Pathogen Retention	4-219
W-H79	Webster	Huntington	38.602069	-80.508493	PEM	NRPWW	05050007	Timber Mat Crossing	0.0077		-	125	-	Sediment/Toxicant/Pathogen Retention	4-220
W-H81	Webster	Huntington	38.599491	-80.506376	PEM	NRPWW	05050007	Timber Mat Crossing	0.0237	-	-	115	-	Sediment/Toxicant/Pathogen Retention	4-220
W-H82	Webster	Huntington	38.598415	-80.505238	PEM	NRPWW	05050007	Timber Mat Crossing	0.0128		-	62	-	Sediment/Toxicant/Pathogen Retention	4-221
W-H86	Webster	Huntington	38.591803	-80.508481	PEM	NRPWW	05050007	Pipeline ROW	0.0013	-	-	6	-	Sediment/Toxicant/Pathogen Retention	4-222
W-H83	Webster	Huntington	38.591372	-80.508904	PEM	NRPWW	05050007	Pipeline ROW/Temporary Access Road	0.0177	-	-	86	-	Sediment/Toxicant/Pathogen Retention	4-222
W-T4	Webster	Huntington	38.586855	-80.518697	PEM	NRPWW	05050007	Temporary Access Road	0.0403	-	-	195	-	Sediment/Toxicant/Pathogen Retention	4-224
W-H85	Webster	Huntington	38.586644	-80.510350	PEM	NRPWW	05050007	Pipeline ROW	0.0069	-	-	33	-	Sediment/Toxicant/Pathogen Retention	4-222
W-A20-PFO	Webster	Huntington	38.566923	-80.529968	PFO	NRPWW	05050007	Timber Mat Crossing	-	0.0298	-	144	-	Sediment/Toxicant/Pathogen Retention; Production Export; Wildlife Habitat	4-232
W-A20-PEM	Webster	Huntington	38.566910	-80.530098	PEM	NRPWW	05050007	Timber Mat Crossing	0.0117		-	57	-	Sediment/Toxicant/Pathogen Retention; Production Export; Wildlife Habitat	4-232
W-A19	Webster	Huntington	38.557156	-80.538578	PEM	RPWWD	05050007	Temporary Access Road	0.0265	-	-	128	-	Groundwater Recharge/Discharge, Floodflow Alteration, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-235
W-H70	Webster	Huntington	38.557097	-80.526293	PEM	NRPWW	05050007	Permanent Access Road	-	-	0.0057	-	28	Sediment/Toxicant/Pathogen Retention	4-238
W-H71	Webster	Huntington	38.556454	-80.526913	PEM	NRPWW	05050007	Permanent Access Road	-	-	0.0205	-	99	Sediment/Toxicant/Pathogen Retention; Wildlife Habitat	4-238

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Individual Permit Application
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Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Wetland Functions and Values[7]	Figure
W-H72	Webster	Huntington	38.553783	-80.527760	PEM	NRPWW	05050007	Permanent Access Road	-	-	0.0064	-	31	Sediment/Toxicant/Pathogen Retention	4-237
W-H73	Webster	Huntington	38.553085	-80.528148	PEM	NRPWW	05050007	Permanent Access Road	-	-	0.0061	-	29	Sediment/Toxicant/Pathogen Retention	4-237
W-H74	Webster	Huntington	38.552748	-80.533585	PEM	NRPWW	05050007	Permanent Access Road	-	-	0.0115	-	56	Sediment/Toxicant/Pathogen Retention	4-237
W-H67	Webster	Huntington	38.549313	-80.539242	PFO	RPWWD	05050007	Pipeline ROW/Temporary Access Road	-	0.0908	-	1,465	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Production Export; Wildlife Habitat	4-236
W-H66	Webster	Huntington	38.548873	-80.539592	PFO	RPWWD	05050007	Pipeline ROW	-	0.2496	-	4,026	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Production Export; Wildlife Habitat	4-236
W-H64-PEM	Webster	Huntington	38.548175	-80.540709	PEM	RPWWD	05050007	Pipeline ROW	0.0276	-	-	133	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-236
W-H64-PSS	Webster	Huntington	38.548099	-80.540896	PSS	RPWWD	05050007	Pipeline ROW	-	0.0422	-	681	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-236
W-H64-PEM-2	Webster	Huntington	38.548058	-80.540847	PEM	RPWWD	05050007	Pipeline ROW	0.0289	-	-	466	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-236
W-H56	Webster	Huntington	38.545807	-80.542983	PEM	RPWWD	05050007	Pipeline ROW	0.0206	-	-	100	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Wildlife Habitat	4-248
W-O13	Webster	Huntington	38.533655	-80.513682	PEM	RPWWN	05050007	Permanent Access Road	-	-	0.0405	-	196	Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-244
W-KL8	Webster	Huntington	38.519565	-80.545076	PEM	NRPWW	05050007	Pipeline ROW	0.0976	-	-	472	-	Sediment/Toxicant/Pathogen Retention	4-252
W-H60	Webster	Huntington	38.517850	-80.544693	PEM	NRPWW	05050007	Timber Mat Crossing	0.0495	-	-	240	-	Sediment/Toxicant/Pathogen Retention	4-253
W-H61	Webster	Huntington	38.517345	-80.545025	PEM	NRPWW	05050007	Timber Mat Crossing	0.0094		-	151	-	Sediment/Toxicant/Pathogen Retention; Wildlife Habitat	4-253
W-H62	Webster	Huntington	38.517147	-80.545591	PEM	NRPWW	05050007	Pipeline ROW	0.0335	-	-	162	-	Sediment/Toxicant/Pathogen Retention; Wildlife Habitat	4-253
W-B39	Webster	Huntington	38.508151	-80.559329	PEM	NRPWW	05050007	Pipeline ROW	0.0906	-	-	1,462	-	Sediment/Toxicant/Pathogen Retention	4-255
W-B31	Webster	Huntington	38.494322	-80.561155	PEM	RPWWD	05050007	Pipeline ROW	0.0515	-	-	831	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-260
W-B35	Webster	Huntington	38.493757	-80.560962	PSS	RPWWD	05050007	Pipeline ROW	-	0.0108	-	174	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-260
W-A18	Webster	Huntington	38.481237	-80.555783	PEM	RPWWD	05050007	Temporary Access Road	0.2038	-	-	986	-	Sediment/Toxicant/Pathogen Retention	4-263

Table A-2. West Virginia Wetland Impacts *(revised 3/1/2021)*
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Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Wetland Functions and Values[7]	Figure
W-E28	Webster	Huntington	38.443010	-80.551309	PSS	RPWWD	05050007	Permanent Access Road	-	-	0.0084	-	40	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration; Wildlife Habitat	4-269
W-E30	Webster	Huntington	38.441535	-80.550864	PEM	RPWWN	05050007	Temporary Access Road	-	-	0.0316	-	153	Sediment/Toxicant/Pathogen Retention	4-269
W-F26	Webster	Huntington	38.428623	-80.567054	PEM	NRPWW	05050007	Timber Mat Crossing	0.0045		-	22	-	Sediment/Toxicant/Pathogen Retention	4-277
W-F29	Webster	Huntington	38.424050	-80.570711	PEM	RPWWD	05050007	Timber Mat Crossing	0.0071	-	-	34	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-278
W-F28	Webster	Huntington	38.423890	-80.570659	PEM	RPWWD	05050007	Timber Mat Crossing	0.0071	-	-	34	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-278
W-F40	Webster	Huntington	38.421461	-80.570007	PSS	RPWWD	05050007	Temporary Access Road	-	0.0188	-	91	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-278
W-F41	Webster	Huntington	38.417599	-80.576458	PEM	RPWWD	05050007	Temporary Access Road	0.0002	-	-	1	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-279
W-B30	Webster	Huntington	38.405713	-80.591171	PEM	RPWWD	05050007	Timber Mat Crossing	0.0429	-	-	208	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-281
W-B28	Webster	Huntington	38.399940	-80.597527	PEM	RPWWD	05050007	Pipeline ROW/Anode Bed	0.2983	-	-	4,812	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-282
W-E21	Webster	Huntington	38.370595	-80.611923	PEM	RPWWD	05050005	Pipeline ROW	0.0389	-	-	627	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-289
W-E18-PEM	Webster	Huntington	38.367359	-80.612334	PEM	RPWWD	05050005	Pipeline ROW	0.0208	-	-	101	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-290
W-E18-PSS	Webster	Huntington	38.367284	-80.612248	PSS	RPWWD	05050005	Pipeline ROW	-	0.0538	-	868	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration; Production Export; Wildlife Habitat	4-290
W-E16	Nicholas	Huntington	38.364427	-80.614459	PEM	NRPWW	05050005	Timber Mat Crossing	0.0091	-	-	44	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-291
W-E13	Webster	Huntington	38.364017	-80.616570	PFO	RPWWN	05050005	Timber Mat Crossing	-	0.0107	-	52	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-291
W-F13	Nicholas	Huntington	38.356737	-80.631888	PEM	RPWWN	05050005	Timber Mat Crossing	0.0394	-	-	191	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-293
W-F12	Nicholas	Huntington	38.356528	-80.632264	PEM	RPWWD	05050005	Timber Mat Crossing	0.0576	-	-	279	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-293
W-F11	Nicholas	Huntington	38.355680	-80.633383	PEM	RPWWN	05050005	Timber Mat Crossing	0.0652	-	-	315	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-293
W-K23	Nicholas	Huntington	38.355273	-80.633811	PEM	RPWWN	05050005	Pipeline ROW	0.0489	-	-	789	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-293

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Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Wetland Functions and Values[7]	Figure
W-K20	Nicholas	Huntington	38.354644	-80.634586	PEM	RPWWD	05050005	Timber Mat Crossing	0.0100		-	48	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-293
W-IJ51	Nicholas	Huntington	38.352366	-80.636369	PEM	RPWWD	05050005	Pipeline ROW	0.0410	-	-	662	-	Groundwater Recharge/Discharge, Floodflow Alteration, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-293
W-IJ50	Nicholas	Huntington	38.350787	-80.637226	PEM	RPWWN	05050005	Pipeline ROW	0.0528	-	-	852	-	Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-294
W-IJ55	Nicholas	Huntington	38.343568	-80.646491	PEM	RPWWN	05050005	Pipeline ROW	0.0218	-	-	352	-	Sediment/Toxicant/Pathogen Retention	4-296
W-B27	Nicholas	Huntington	38.339713	-80.655364	PEM	RPWWD	05050005	Timber Mat Crossing	0.0874	-	-	423	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-299
W-B26-PEM-1	Nicholas	Huntington	38.339034	-80.659282	PEM	RPWWD	05050005	Temporary Access Road	0.0273	-	-	132	-	Groundwater Recharge/Discharge, Floodflow Alteration, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-299
W-B26-PEM-2	Nicholas	Huntington	38.338935	-80.659254	PEM	RPWWD	05050005	Temporary Access Road	0.0060	-	-	29	-	Groundwater Recharge/Discharge, Floodflow Alteration, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-299
W-FF6-PSS	Nicholas	Huntington	38.337803	-80.658933	PSS	RPWWN	05050005	Timber Mat Crossing	-	0.0333	-	161	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Wildlife Habitat	4-299
W-FF6-PEM	Nicholas	Huntington	38.337774	-80.658995	PEM	RPWWN	05050005	Timber Mat Crossing	0.0793	-	-	384	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-299
W-FF3	Nicholas	Huntington	38.332776	-80.669068	PEM	RPWWN	05050005	Pipeline ROW	0.0444	-	-	716	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-301
W-FF4	Nicholas	Huntington	38.329122	-80.671098	PEM	RPWWD	05050005	Pipeline ROW	0.0037	-	-	18	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-301
W-A17	Nicholas	Huntington	38.327813	-80.670776	PEM	NRPWW	05050005	Pipeline ROW	0.1300	-	-	2,098	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-301
W-A15	Nicholas	Huntington	38.323735	-80.670118	PSS	RPWWD	05050005	Pipeline ROW	-	0.0891	-	1,437	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Production Export; Wildlife Habitat	4-302
W-A14	Nicholas	Huntington	38.321643	-80.670901	PFO	RPWWD	05050005	Timber Mat Crossing	-	0.0374	-	181	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Production Export; Wildlife Habitat	4-302
W-H53	Nicholas	Huntington	38.313047	-80.673265	PEM	RPWWD	05050005	Pipeline ROW	0.0039	-	-	63	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-304
W-H50	Nicholas	Huntington	38.309707	-80.676585	PEM	NRPWW	05050005	Temporary Access Road	0.0114	-	-	55	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-304
W-N25	Nicholas	Huntington	38.302028	-80.674533	PEM	RPWWD	05050005	Timber Mat Crossing	0.0104		-	50	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-306
W-N24	Nicholas	Huntington	38.299148	-80.675928	PEM	RPWWN	05050005	Timber Mat Crossing	0.0031		-	15	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-307

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Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Wetland Functions and Values[7]	Figure
W-N22	Nicholas	Huntington	38.296941	-80.676479	PEM	RPWWN	05050005	Timber Mat Crossing	0.0030		-	14	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-307
W-I7	Nicholas	Huntington	38.293453	-80.677084	PFO	RPWWD	05050005	Timber Mat Crossing	-	0.0333	-	161	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Production Export; Wildlife Habitat	4-308
W-CV13	Nicholas	Huntington	38.273139	-80.686452	PEM	RPWWN	05050005	Permanent Access Road	0.0159	-	-	77	-	Sediment/Toxicant/Pathogen Retention	4-312
W-CV12	Nicholas	Huntington	38.271829	-80.685245	PEM	RPWWD	05050005	Temporary Access Road	0.0098	-	-	47	-	Sediment/Toxicant/Pathogen Retention	4-312
W-RS04	Nicholas	Huntington	38.264804	-80.683146	PEM	NRPWW	05050005	Temporary Access Road	0.0254	-	-	123	-	Sediment/Toxicant/Pathogen Retention	4-316
W-J8	Nicholas	Huntington	38.263168	-80.687930	PFO	RPWWD	05050005	Pipeline ROW	-	0.0533	-	860	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Production Export; Wildlife Habitat	4-315
W-MN4	Nicholas	Huntington	38.262968	-80.683949	PEM	RPWWD	05050005	Temporary Access Road	0.0463	-	-	224	-	Sediment/Toxicant/Pathogen Retention	4-316
W-J7	Nicholas	Huntington	38.233731	-80.708250	PFO	RPWWD	05050005	Pipeline ROW	-	0.0693	-	1,119	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration; Wildlife Habitat; Production Export	4-326
W-N18	Nicholas	Huntington	38.224246	-80.716448	PEM	NRPWW	05050005	Pipeline ROW	0.0075	-	-	36	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-328
W-L28	Nicholas	Huntington	38.203621	-80.719372	PEM	RPWWD	05050005	Pipeline ROW	0.0064	-	-	31	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-341
W-L27	Nicholas	Huntington	38.202610	-80.718505	PEM	RPWWN	05050005	Timber Mat Crossing	0.0029		-	14	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-341
W-I11a	Nicholas	Huntington	38.179434	-80.729511	PEM	RPWWD	05050005	Pipeline ROW	0.0579	-	-	934	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration	4-344
W-U7	Nicholas	Huntington	38.178298	-80.729744	PEM	RPWWN	05050005	ATWS	0.0666	-	-	322	-	Sediment/Toxicant/Pathogen Retention; Wildlife Habitat	4-347
W-I5	Nicholas	Huntington	38.175595	-80.730736	PEM	RPWWN	05050005	Pipeline ROW	0.0082	-	-	133	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-347
W-VV2	Nicholas	Huntington	38.161072	-80.735000	PEM	RPWWD	05050005	Timber Mat Crossing	0.0136	-	-	66	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Floodflow Alteration; Sediment/Shoreline Stabilization	4-355
W-N16	Nicholas	Huntington	38.157063	-80.738304	PEM	NRPWW	05050005	Timber Mat Crossing	0.0232	-	-	112	-	Sediment/Toxicant/Pathogen Retention	4-356
W-H41	Nicholas	Huntington	38.127873	-80.733868	PEM	RPWWN	05050005	Timber Mat Crossing	0.0151		-	73	-	Sediment/Toxicant/Pathogen Retention	4-362

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W-H33	Nicholas	Huntington	38.124326	-80.735761	PEM	RPWWD	05050005	Pipeline ROW	0.0590	-	-	952	-	Groundwater Recharge/Discharge, Floodflow Alteration, Fish and Shellfish Habitat, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation, Wildlife Habitat, Sediment/Shoreline Stabilization, Production Export	4-362
W-H35	Nicholas	Huntington	38.124117	-80.736018	PEM	RPWWN	05050005	Pipeline ROW	-	-	0.0177	-	285	Sediment/Toxicant/Pathogen Retention	4-362
W-H31	Nicholas	Huntington	38.116376	-80.735285	PEM	RPWWN	05050005	Pipeline ROW	0.0139	-	-	67	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-364
W-EF31	Nicholas	Huntington	38.107483	-80.726303	PEM	RPWWD	05050005	Pipeline ROW/ATWS	0.0208	-	-	336	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-366
W-M18	Greenbrier	Huntington	38.061194	-80.720732	PEM	NRPWW	05050005	Timber Mat Crossing	0.0364	-	-	176	-	Sediment/Toxicant/Pathogen Retention	4-374
W-M20	Greenbrier	Huntington	38.060869	-80.723064	PEM	NRPWW	05050005	Pipeline ROW	0.0031	-	-	15	-	Sediment/Toxicant/Pathogen Retention	4-374
W-M23	Greenbrier	Huntington	38.060683	-80.722348	PEM	NRPWW	05050005	Pipeline ROW	0.0616	-	-	994	-	Sediment/Toxicant/Pathogen Retention	4-374
W-M22	Greenbrier	Huntington	38.060661	-80.722616	PSS	NRPWW	05050005	Pipeline ROW	-	0.0039	-	19	-	Sediment/Toxicant/Pathogen Retention; Wildlife Habitat; Production Export	4-374
W-J6	Greenbrier	Huntington	38.053361	-80.732198	PFO	RPWWD	05050005	Pipeline ROW	-	0.0744	-	1,201	-	Sediment/Toxicant/Pathogen Retention; Wildlife Habitat; Production Export	4-376
W-ST27	Greenbrier	Huntington	38.029124	-80.742585	PEM	NRPWW	05050005	Temporary Access Road	0.0075	-	-	36	-	Sediment/Toxicant/Pathogen Retention	4-382
W-KL40	Greenbrier	Huntington	38.029060	-80.736807	PEM	RPWWD	05050005	Temporary Access Road	0.0312	-	-	151	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-388
W-ST28	Greenbrier	Huntington	38.028800	-80.743155	PEM	NRPWW	05050005	Temporary Access Road	0.0310	-	-	150	-	Sediment/Toxicant/Pathogen Retention	4-382
W-IJ60	Greenbrier	Huntington	38.024335	-80.739643	PEM	RPWWN	05050005	Temporary Access Road	0.0174	-	-	84	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-387
W-IJ59	Greenbrier	Huntington	38.022031	-80.743027	PEM	RPWWN	05050005	Temporary Access Road	0.0024	-	-	12	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-387
W-IJ58-PEM-3	Greenbrier	Huntington	38.021808	-80.743351	PEM	RPWWD	05050005	Temporary Access Road	0.0056	-	-	27	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-387
W-V6	Greenbrier	Huntington	37.993269	-80.756363	PEM	RPWWN	05050005	Temporary Access Road	0.0422	-	-	204	-	Sediment/Toxicant/Pathogen Retention	4-394
W-HS1	Greenbrier	Huntington	37.986454	-80.758418	PEM	NRPWW	05050005	Pipeline ROW	-	-	0.0360	-	581	Sediment/Toxicant/Pathogen Retention	4-395

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Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Wetland Functions and Values[7]	Figure
W-QR2	Greenbrier	Huntington	37.983978	-80.756817	PEM	RPWWD	05050005	Permanent Access Road	-	-	0.0010	-	5	Groundwater Recharge/Discharge, Floodflow Alteration, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation, Wildlife Habitat, Production Export	4-397
W-QR2	Greenbrier	Huntington	37.983212	-80.756099	PEM	RPWWD	05050005	Pipeline ROW/Temporary Access Road	0.2435	-	-	3,929	-	Groundwater Recharge/Discharge, Floodflow Alteration, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation, Wildlife Habitat, Production Export	4-397
W-L16	Greenbrier	Huntington	37.980653	-80.754908	PEM	RPWWD	05050005	Pipeline ROW	0.0247	-	-	398	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-397
W-L19	Greenbrier	Huntington	37.954250	-80.739757	PEM	RPWWD	05050005	Pipeline ROW/Temporary Access Road	0.1060	-	-	1,711	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-402
W-L13	Greenbrier	Huntington	37.953825	-80.740037	PEM	RPWWN	05050005	Pipeline ROW	0.0316	-	-	509	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Wildlife Habitat	4-402
W-L12	Greenbrier	Huntington	37.953736	-80.739892	PEM	RPWWN	05050005	Pipeline ROW	0.0075	-	-	36	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-402
W-L11	Greenbrier	Huntington	37.949563	-80.742715	PEM	RPWWD	05050005	Pipeline ROW	0.0194	-	-	94	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-403
W-L4	Greenbrier	Huntington	37.938675	-80.746774	PEM	RPWWN	05050005	Pipeline ROW	0.0404	-	-	196	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-405
W-L2	Greenbrier	Huntington	37.938326	-80.746878	PEM	RPWWD	05050005	Pipeline ROW/Temporary Access Road	0.0393	-	-	635	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Floodflow Alteration	4-405
W-IJ47-PEM	Greenbrier	Huntington	37.916423	-80.743551	PEM	RPWWD	05050005	Permanent Access Road	-	-	0.0113	-	55	Groundwater Recharge/Discharge, Floodflow Alteration, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation, Wildlife Habitat, Production Export	4-410
W-IJ47-PEM	Greenbrier	Huntington	37.916255	-80.743867	PEM	RPWWD	05050005	Permanent Access Road	-	-	0.0520	-	252	Groundwater Recharge/Discharge, Floodflow Alteration, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation, Wildlife Habitat, Production Export	4-410
W-W10	Greenbrier	Huntington	37.911495	-80.727880	PEM	NRPWW	05050005	Temporary Access Road	0.0488	-	-	236	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-412
W-K7	Greenbrier	Huntington	37.863700	-80.757095	PEM	RPWWN	05050005	Pipeline ROW	0.0078	-	-	126	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-421
W-K7	Greenbrier	Huntington	37.863527	-80.757286	PEM	RPWWN	05050005	Pipeline ROW	0.3206	-	-	5,173	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-421
W-IJ30	Greenbrier	Huntington	37.862357	-80.757476	PEM	RPWWD	05050005	Pipeline ROW	0.3236	-	-	5,221	-	Floodflow Alteration, Sediment/Toxicant/Pathogen Retention	4-421
W-UV9	Greenbrier	Huntington	37.862309	-80.757756	PEM	RPWWN	05050005	Pipeline ROW	0.1090	-	-	1,759	-	Floodflow Alteration, Sediment/Toxicant/Pathogen Retention	4-421
W-UV11	Greenbrier	Huntington	37.861173	-80.757726	PEM	RPWWN	05050005	Pipeline ROW	0.0285	-	-	138	-	Sediment/Toxicant/Pathogen Retention	4-421
W-UV10	Greenbrier	Huntington	37.861066	-80.757954	PEM	RPWWN	05050005	Pipeline ROW	0.0035	-	-	17	-	Sediment/Toxicant/Pathogen Retention	4-421

Table A-2. West Virginia Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Wetland Functions and Values[7]	Figure
W-K9-PEM-1	Greenbrier	Huntington	37.860916	-80.757817	PEM	RPWWD	05050005	Pipeline ROW	0.0354	-	-	572	-	Groundwater Recharge/Discharge, Floodflow Alteration, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation, Wildlife Habitat, Production Export	4-421
W-K10	Greenbrier	Huntington	37.858743	-80.755724	PEM	RPWWN	05050005	Pipeline ROW	0.0068	-	-	33	-	Sediment/Toxicant/Pathogen Retention	4-422
W-UV4	Greenbrier	Huntington	37.854391	-80.755038	PSS	RPWWD	05050005	Pipeline ROW	-	0.0885	-	1,427	-	Groundwater Recharge/Discharge, Floodflow Alteration, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation, Wildlife Habitat, Production Export	4-422
W-UV8	Greenbrier	Huntington	37.851590	-80.752937	PEM	RPWWD	05050005	Pipeline ROW	0.4913	-	-	7,926	-	Groundwater Recharge/Discharge, Floodflow Alteration, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-423
W-EE4	Summers	Huntington	37.813845	-80.748769	PEM	RPWWD	05050004	Pipeline ROW	0.0453	-	-	730	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Wildlife Habitat	4-429
W-M2	Summers	Huntington	37.807721	-80.746088	PEM	RPWWD	05050004	Pipeline ROW	0.1064	-	-	1,717	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation; Wildlife Habitat	4-430
W-I10	Summers	Huntington	37.783907	-80.718899	PEM	NRPWW	05050005	Permanent Access Road	-	-	0.0550	-	266	Sediment/Toxicant/Pathogen Retention	4-437
W-EF40	Summers	Huntington	37.693888	-80.735663	PEM	RPWWD	05050003	Timber Mat Crossing	0.0889	-	-	430	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention	4-461
W-MM20-PFO	Summers	Huntington	37.681648	-80.730225	PFO	RPWWD	05050003	Pipeline ROW, Temporary Access Road, ATWS	-	0.2990	-	3,773	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation, Floodflow Alteration	4-464
W-EF36	Summers	Huntington	37.675423	-80.732001	PEM	RPWWN	05050003	Timber Mat Crossing	0.0035	-	-	17	-	Sediment/Toxicant/Pathogen Retention	4-465
W-K2-PEM	Summers	Huntington	37.668130	-80.723493	PEM	RPWWD	05050003	Pipeline ROW	0.0140	-	-	225	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention	4-468
W-G7	Summers	Huntington	37.654106	-80.702592	PEM	NRPWW	05050003	Timber Mat Crossing	0.0121	-	-	59	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-471
W-OP1	Monroe	Huntington	37.600067	-80.700400	PEM	RPWWD	05050003	Pipeline ROW	0.1359	-	-	2,193	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation, Sediment/Shoreline Stabilization	4-487
W-A13	Monroe	Huntington	37.559410	-80.710082	PEM	RPWWD	05050002	Pipeline ROW/Temporary Access Road	0.2991	-	-	4,826	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-493
W-A13	Monroe	Huntington	37.559332	-80.709734	PEM	RPWWD	05050002	Permanent Access Road	-	-	0.0228	-	110	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-493
W-MN14	Monroe	Huntington	37.520227	-80.707365	PEM	RPWWD	05050002	Pipeline ROW/Access Road/ATWS	0.0390	-	-	313	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-500
W-MN15	Monroe	Huntington	37.520166	-80.707532	PEM	RPWWN	05050002	Pipeline ROW	0.0070	-	-	113	-	Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-500
W-MN18-PEM	Monroe	Huntington	37.487662	-80.681791	PEM	RPWWD	05050002	Pipeline ROW	0.0510	-	-	823	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention	4-510

Table A-2. West Virginia Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (acres)[4]	Permanent Conversion Impacts (acres)[4]	Permanent Fill Impacts (acres)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Wetland Functions and Values[7]	Figure
W-MN18-PFO	Monroe	Huntington	37.487474	-80.681854	PFO	RPWWD	05050002	Pipeline ROW	-	0.1750	-	2,823	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention	4-510
W-MN1	Monroe	Huntington	37.473153	-80.675740	PEM	RPWWD	05050002	Timber Mat Crossing	0.0187	-	-	90	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal, Sediment/Shoreline Stabilization	4-512
W-G6	Monroe	Huntington	37.472534	-80.675718	PEM	RPWWD	05050002	Pipeline ROW	0.0684	-	-	1,103	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-512
W-CV25-PSS-1	Monroe	Huntington	37.462852	-80.669557	PSS	RPWWD	05050002	Pipeline ROW	-	0.0270	-	436	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-513
W-MN24	Monroe	Huntington	37.462833	-80.670273	PEM	NRPWW	05050002	Pipeline ROW	0.0100	-	-	161	-	Sediment/Toxicant Retention, Nutrient Removal/Retention/Transformation	4-513
W-CV25-PEM-2	Monroe	Huntington	37.462746	-80.669518	PEM	RPWWD	05050002	Pipeline ROW	0.0200	-	-	323	-	Groundwater Recharge/Discharge, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation	4-513
W-E12	Monroe	Huntington	37.450761	-80.667516	PEM	RPWWD	05050002	Pipeline ROW	0.0041	-	-	20	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-516
W-C14	Monroe	Huntington	37.427083	-80.694569	PEM	RPWWN	05050002	Pipeline ROW	0.0113	-	-	55	-	Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-521
W-C13	Monroe	Huntington	37.426734	-80.694534	PEM	RPWWD	05050002	Pipeline ROW	0.2172	-	-	3,503	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-521
W-C17	Monroe	Huntington	37.425547	-80.693481	PEM	RPWWD	05050002	Temporary Access Road	0.0306	-	-	148	-	Groundwater Recharge/Discharge; Sediment/Toxicant/Pathogen Retention; Nutrient Removal/Retention/Transformation	4-521

Notes:
1 - In decimal degrees.
2 - PEM = Palustrine Emergent
- PSS = Palustrine Scrub-Shrub
- PFO = Palustrine Forested
3 - RPWWD = Wetlands directly abutting Relatively Permanent Waters (RPWs) that flow directly or indirectly into Traditional Navigable Waterways (TNWs)
- RPWWN = Wetlands adjacent but not directly abutting RPWs that flow directly or indirectly into TNWs
- NRPWW = Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
4 - Construction of access roads will not result in impacts to tidal wetlands or wetlands adjacent to tidal waters. Construction, maintenance, or expansion of substation facilities will not result in discharges to non-tidal wetlands adjacent to tidal waters of the United States. Acres are rounded to four decimal places.
5 - Temporary fill discharge into waters of the U.S. Cubic yards are rounded to the nearest whole number.
6 - Permanent fill associated with the construction of permanent access road and facilities. Cubic yards are rounded to the nearest whole number.
7 - Functions and Values were determined using *The Highway Methodology Workbook Supplement: Wetland Functions and Values; A Descriptive Approach* , NAEEP-360-1-30a. New England District: USACE, 1999.

Mountain Valley PIPELINE LLC

Table A-3 (West Virginia Stream Impact Summary)

Table A-3. West Virginia Stream Impacts Summary *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

USACE District	Cowardin Class	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Fill (cubic yards)	Permanent Fill (cubic yards)
Pittsburgh District	Ephemeral	617	137	500	42
	Intermittent	332	0	622	0
	Perennial	1,007	55	4,458	178
	Pittsburgh District Total	**1,956**	**192**	**5,580**	**220**
Huntington District	Ephemeral	4,966	265	4,761	92
	Intermittent	5,599	296	8,445	152
	Perennial	8,586	363	42,750	586
	Huntington District Total	**19,151**	**924**	**55,956**	**830**
All District	Ephemeral	5,583	402	5,261	134
	Intermittent	5,931	296	9,067	152
	Perennial	9,593	418	47,208	764
	All Districts Grand total	**21,107**	**1,116**	**61,536**	**1,050**

Mountain Valley PIPELINE LLC

Table A-4 (West Virginia Wetland Impact Summary)

Table A-4. West Virginia Wetland Impacts Summary *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

USACE District	Cowardin Class	Temporary Impacts (acres)	Permanent Conversion Impacts (acres)	Permanent Fill Impacts (acres)	Temporary Fill (cubic yards)	Permanent Fill (cubic yards)
Pittsburgh District	PEM	2.2376	0.0000	0.0000	19,229	0
	PSS	0.0000	0.1444	0.0000	699	0
	PFO	0.0000	0.0110	0.0000	127	0
	Pittsburgh District Total	**2.2376**	**0.1554**	**0.0000**	**20,055**	**0**
Huntington District	PEM	7.9213	0.0000	0.4374	90,148	2,723
	PSS	0.0000	0.3698	0.0084	5,306	40
	PFO	0.0000	1.2251	0.0000	17,100	0
	Huntington District Total	**7.9213**	**1.5949**	**0.4458**	**112,554**	**2,763**
All District	PEM	10.1589	0.0000	0.4374	109,377	2,723
	PSS	0.0000	0.5142	0.0084	6,005	40
	PFO	0.0000	1.2361	0.0000	17,227	0
	All Districts Grand Total	**10.1589**	**1.7503**	**0.4458**	**132,609**	**2,763**

Mountain Valley PIPELINE LLC

Table B-1 (Virginia Stream Impacts)

Table B-1. Virginia Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (square feet)[5]	Permanent Impact Area (square feet)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-Q12	UNT to Kimballton Branch	Giles	37.375311	-80.680878	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	86	-	344	-	127	-	4-531
S-Q13	Kimballton Branch	Giles	37.374377	-80.682038	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	90	-	1350	-	500	-	4-532
S-P6	UNT to Stony Creek	Giles	37.362202	-80.688092	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	78	-	466	-	173	-	4-535
S-S5-Braid-2	Stony Creek	Giles	37.360325	-80.684214	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	122	-	13	-	4-536
S-S5-Braid-1	Stony Creek	Giles	37.360276	-80.684193	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	139	-	16	-	4-536
S-S5	Stony Creek	Giles	37.360071	-80.683960	Perennial	RPW	Candy darter, Green floater, pistol grip, Natural Trout, Coldwater Fishery, Stockable Trout	05050002	Timber Mat Crossing	40	-	802	-	178	-	4-536
S-G29	UNT to Dry Branch	Giles	37.350430	-80.658259	Ephemeral	NRPW	-	05050002	Pipeline ROW	30	-	122	-	13	-	4-541
S-G30	UNT to Dry Branch	Giles	37.350373	-80.658230	Ephemeral	NRPW	-	05050002	Pipeline ROW	85	-	680	-	252	-	4-541
S-G32	Dry Branch	Giles	37.349095	-80.652040	Intermittent	RPW	-	05050002	Pipeline ROW	110	-	662	-	244	-	4-542
S-G33	UNT to Dry Branch	Giles	37.348641	-80.647225	Perennial	RPW	-	05050002	Pipeline ROW	99	-	793	-	293	-	4-542
S-G35	UNT to Little Stony Creek	Giles	37.344876	-80.633426	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	25	-	501	-	69	-	4-544
S-SS4	UNT to Little Stony Creek	Giles	37.344859	-80.631295	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	61	-	7	-	4-544
S-G35	UNT to Little Stony Creek	Giles	37.344779	-80.633379	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	25	-	501	-	69	-	4-544
S-Z7	UNT to Little Stony Creek	Giles	37.344278	-80.626185	Intermittent	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	61	-	7	-	4-545
S-Z7-Braid-1	UNT to Little Stony Creek	Giles	37.344277	-80.626113	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	61	-	7	-	4-545
S-Z9	UNT to Little Stony Creek	Giles	37.344163	-80.628400	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	78	-	9	-	4-544
S-Z10	UNT to Little Stony Creek	Giles	37.342351	-80.620823	Intermittent	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	240	-	27	-	4-545
S-Z11	UNT to Little Stony Creek	Giles	37.342236	-80.620542	Perennial	RPW	Natural Trout, Coldwater Fishery, Stockable Trout	05050002	Timber Mat Crossing	20	-	100	-	11	-	4-545
S-Z12-EPH	UNT to Little Stony Creek	Giles	37.342214	-80.620312	Ephemeral	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	122	-	13	-	4-545
S-Z13	Little Stony Creek	Giles	37.342172	-80.620090	Perennial	RPW	Natural Trout, Coldwater Fishery, Stockable Trout	05050002	Timber Mat Crossing	25	-	501	-	69	-	4-545
S-Z14	UNT to Little Stony Creek	Giles	37.340977	-80.618031	Intermittent	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	78	-	9	-	4-545
S-YZ1	Doe Creek	Giles	37.338952	-80.614618	Intermittent	RPW	-	05050002	Temporary Access Road	102	-	1019	-	113	-	4-546
S-A34	UNT to Doe Creek	Giles	37.337763	-80.606008	Ephemeral	NRPW	-	05050002	Pipeline ROW	86	-	601	-	223	-	4-548
S-A33	UNT to Doe Creek	Giles	37.337639	-80.605571	Ephemeral	NRPW	-	05050002	Pipeline ROW	111	-	775	-	288	-	4-548
S-YZ1	Doe Creek	Giles	37.337562	-80.614711	Intermittent	RPW	-	05050002	Temporary Access Road	92	-	919	-	102	-	4-546
S-YZ1	Doe Creek	Giles	37.337048	-80.614625	Intermittent	RPW	-	05050002	Temporary Access Road	121	-	1211	-	134	-	4-546
S-A32	UNT to Doe Creek	Giles	37.335094	-80.596868	Perennial	RPW	-	05050002	Pipeline ROW	78	-	1250	-	462	-	4-549
S-QQ2	Sinking Creek	Craig	37.333152	-80.429438	Perennial	RPW	Natural Trout, Coldwater Fishery, Stockable Trout	05050002	Temporary Access Road	40	-	1398	-	156	-	4-581
S-MN11-Upstream	UNT to Sinking Creek	Giles	37.332869	-80.559168	Ephemeral	NRPW	-	05050002	Temporary Access Road	15	-	61	-	7	-	4-554
S-MN11-Upstream	UNT to Sinking Creek	Giles	37.332191	-80.559979	Ephemeral	NRPW	-	05050002	Temporary Access Road	30	-	122	-	13	-	4-554
S-MN11-Downstream	UNT to Sinking Creek	Giles	37.332146	-80.560079	Ephemeral	NRPW	-	05050002	Temporary Access Road	37	-	183	-	21	-	4-554
S-Y3	UNT to Doe Creek	Giles	37.331748	-80.583355	Ephemeral	NRPW	-	05050002	Timber Mat Crossing	20	-	200	-	22	-	4-551
S-Y2	Doe Creek	Giles	37.331332	-80.583047	Perennial	RPW	-	05050002	Timber Mat Crossing	25	-	501	-	69	-	4-551
S-PP4	UNT to Sinking Creek	Craig	37.328329	-80.422810	Intermittent	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	84	-	170	-	62	-	4-579
S-PP3	UNT to Sinking Creek	Craig	37.326705	-80.425803	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	82	-	244	-	91	-	4-579
S-RR4	UNT to Sinking Creek	Giles	37.326015	-80.556831	Perennial	RPW	-	05050002	Temporary Access Road	85	-	257	-	28	-	4-556
S-E24	UNT to Sinking Creek	Giles	37.325728	-80.565082	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	81	-	1620	-	600	-	4-553
S-E25-Downstream	UNT to Sinking Creek	Giles	37.325638	-80.564680	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	161	-	18	-	4-553
S-E25-Upstream	UNT to Sinking Creek	Giles	37.325607	-80.564373	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	15	-	148	-	17	-	4-553
S-E25-Downstream	UNT to Sinking Creek	Giles	37.325566	-80.564634	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	161	-	18	-	4-553
S-PP1	UNT to Sinking Creek	Craig	37.324781	-80.431446	Intermittent	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	86	-	257	-	96	-	4-578
S-RR5	UNT to Sinking Creek	Giles	37.323702	-80.555627	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	83	-	832	-	307	-	4-555
S-PA07	UNT to Sinking Creek	Giles	37.323533	-80.555257	Intermittent	RPW	-	05050002	Pipeline ROW	115	-	231	-	85	-	4-555
S-IJ18-EPH	UNT to Sinking Creek	Giles	37.322737	-80.552396	Ephemeral	NRPW	-	05050002	Pipeline ROW	74	-	444	-	164	-	4-555
S-IJ19	UNT to Sinking Creek	Giles	37.322194	-80.553058	Ephemeral	NRPW	-	05050002	Temporary Access Road	43	-	170	-	19	-	4-555
S-IJ19	UNT to Sinking Creek	Giles	37.321823	-80.55311	Ephemeral	NRPW	-	05050002	Temporary Access Road	9	-	35	-	4	-	4-555
S-IJ18-INT	UNT to Sinking Creek	Giles	37.321756	-80.553011	Intermittent	RPW	-	05050002	Temporary Access Road	44	-	174	-	20	-	4-555
S-PP22	UNT to Craig Creek	Montgomery	37.321090	-80.412831	Intermittent	RPW	Atlantic Pigtoe, Coldwater Fishery	02080201	Timber Mat Crossing	44	-	174	-	20	-	4-584
S-OO12	UNT to Sinking Creek	Giles	37.318956	-80.440648	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	25	-	48	-	6	-	4-577
S-OO13	UNT to Sinking Creek	Giles	37.318930	-80.440930	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	77	-	1542	-	570	-	4-577
S-OO14	UNT to Sinking Creek	Giles	37.318647	-80.441619	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	86	-	344	-	127	-	4-577
S-IJ17	UNT to Sinking Creek	Giles	37.318324	-80.547720	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	31	-	248	-	28	-	4-558
S-IJ16-b	UNT to Sinking Creek	Giles	37.318246	-80.547711	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	78	-	780	-	289	-	4-558
S-PP21	UNT to Craig Creek	Montgomery	37.317187	-80.409235	Perennial	RPW	Atlantic Pigtoe, Coldwater Fishery	02080201	Timber Mat Crossing	20	-	78	-	9	-	4-584

Table B-1. Virginia Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (square feet)[5]	Permanent Impact Area (square feet)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-PP20	UNT to Craig Creek	Montgomery	37.316523	-80.408646	Perennial	RPW	Atlantic Pigtoe, Coldwater Fishery	02080201	Timber Mat Crossing	20	-	122	-	13	-	4-584
S-RR13	Craig Creek	Montgomery	37.314504	-80.402613	Perennial	RPW	Atlantic Pigtoe, Stockable Trout, Coldwater Fishery	02080201	Temporary Access Road	41	-	1433	-	159	-	4-585
S-HH18	UNT to Craig Creek	Montgomery	37.313910	-80.398683	Perennial	RPW	Atlatnic pigtoe, orangefin madtom Coldwater Fishery	02080201	Timber Mat Crossing	20	-	122	-	13	-	4-586
S-RR14	UNT to Craig Creek	Montgomery	37.313615	-80.402521	Ephemeral	NRPW	Atlantic Pigtoe, Coldwater Fishery	02080201	Timber Mat Crossing	20	-	139	-	16	-	4-585
S-OO6	Craig Creek	Montgomery	37.313511	-80.404606	Perennial	RPW	Atlantic Pigtoe, Stockable Trout, Coldwater Fishery	02080201	Timber Mat Crossing	35	-	701	-	136	-	4-585
S-QQ3	UNT to Sinking Creek	Giles	37.311869	-80.532365	Ephemeral	NRPW	-	05050002	Temporary Access Road	15	-	30	-	3	-	4-560
S-IJ16-a	UNT to Sinking Creek	Giles	37.311730	-80.544091	Ephemeral	NRPW	-	05050002	Permanent Access Road	6	-	44	-	5	-	4-559
S-IJ16-a	UNT to Sinking Creek	Giles	37.311730	-80.544091	Ephemeral	NRPW	-	05050002	Permanent Access Road	-	45	-	314	-	35	4-559
S-NN17	Sinking Creek	Giles	37.311616	-80.515786	Perennial	RPW	Green floater, Non-listed mussels, Natural Trout, Coldwater Fishery, Stockable Trout	05050002	Timber Mat Crossing	55	-	1102	-	336	-	4-564
S-KL43	UNT to Sinking Creek	Giles	37.307524	-80.466665	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	75	-	749	-	278	-	4-573
S-NN11	UNT to Sinking Creek	Giles	37.305508	-80.467231	Intermittent	RPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	84	-	418	-	156	-	4-573
S-NN12	UNT to Sinking Creek	Giles	37.300454	-80.472911	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	88	-	174	-	65	-	4-571
S-MN21	UNT to Mill Creek	Montgomery	37.299397	-80.391243	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	80	-	562	-	207	-	4-588
S-MM17	UNT to Sinking Creek	Giles	37.298226	-80.480624	Perennial	RPW	-	05050002	Temporary Access Road	49	-	96	-	11	-	4-569
S-MN22	UNT to Mill Creek	Montgomery	37.297166	-80.386612	Ephemeral	NRPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	96	-	192	-	71	-	4-589
S-RR2	Greenbriar Branch	Giles	37.296666	-80.494174	Perennial	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	161	-	18	-	4-567
S-YZ6	UNT to Greenbriar Branch	Giles	37.296612	-80.494165	Intermittent	RPW	Natural Trout, Coldwater Fishery	05050002	Timber Mat Crossing	20	-	122	-	13	-	4-567
S-EF62	UNT to Mill Creek	Montgomery	37.296356	-80.375118	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	76	-	836	-	310	-	4-590
S-MM18	UNT to Sinking Creek	Giles	37.296226	-80.481455	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	05050002	Pipeline ROW	88	-	440	-	163	-	4-569
S-IJ52	UNT to Mill Creek	Montgomery	37.296153	-80.367510	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	84	-	1346	-	498	-	4-591
S-EF65	Mill Creek	Montgomery	37.295743	-80.375921	Intermittent	RPW	Orangefin madtom, Non-listed mussels, Natural Trout, Coldwater Fishery, Stockable Trout	03010101	Pipeline ROW	152	-	910	-	338	-	4-590
S-G36	North Fork Roanoke River	Montgomery	37.268586	-80.313161	Perennial	RPW	Roanoke logperch, Orangefin madtom, Non-listed mussels, Natural Trout, Coldwater Fishery	03010101	Temporary Access Road	26	-	518	-	58	-	4-602
S-G38	UNT to North Fork Roanoke River	Montgomery	37.267002	-80.312898	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	61	-	7	-	4-603
S-G40	UNT to North Fork Roanoke River	Montgomery	37.264882	-80.307302	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	61	-	7	-	4-603
S-PP23	UNT to North Fork Roanoke River	Montgomery	37.264858	-80.307151	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	48	-	6	-	4-604
S-G39	UNT to North Fork Roanoke River	Montgomery	37.264817	-80.308486	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	82	-	492	-	182	-	4-604
S-MM14	UNT to Flatwoods Branch	Montgomery	37.258717	-80.293210	Ephemeral	NRPW	-	03010101	Pipeline ROW	105	-	736	-	272	-	4-608
S-MM15	UNT to Flatwoods Branch	Montgomery	37.258673	-80.296446	Intermittent	RPW	-	03010101	Pipeline ROW	82	-	492	-	182	-	4-608
S-MM11	UNT to Flatwoods Branch	Montgomery	37.258403	-80.288186	Ephemeral	NRPW	-	03010101	Pipeline ROW	80	-	640	-	237	-	4-609
S-F15	UNT to Flatwoods Branch	Montgomery	37.258198	-80.286029	Intermittent	RPW	-	03010101	Pipeline ROW	129	-	775	-	287	-	4-609
S-MM13	UNT to Flatwoods Branch	Montgomery	37.258176	-80.289222	Ephemeral	NRPW	-	03010101	Pipeline ROW	85	-	427	-	157	-	4-608
S-F16a/F16b	UNT to Flatwoods Branch	Montgomery	37.257998	-80.284735	Ephemeral	NRPW	-	03010101	Pipeline ROW	81	-	244	-	90	-	4-609
S-C36	UNT to Flatwoods Branch	Montgomery	37.257260	-80.281611	Intermittent	RPW	-	03010101	Pipeline ROW	96	-	287	-	107	-	4-609
S-C36	UNT to Flatwoods Branch	Montgomery	37.257133	-80.281475	Intermittent	RPW	-	03010101	Pipeline ROW	36	-	109	-	40	-	4-609
S-MM31	UNT to Flatwoods Branch	Montgomery	37.256959	-80.280329	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	78	-	9	-	4-609
S-C29	Flatwoods Branch	Montgomery	37.256387	-80.278021	Ephemeral	NRPW	-	03010101	Pipeline ROW	46	-	57	-	20	-	4-610
S-C25	UNT to Bradshaw Creek	Montgomery	37.254342	-80.267895	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	115	-	344	-	128	-	4-611
S-C24	UNT to Bradshaw Creek	Montgomery	37.254135	-80.266743	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	108	-	322	-	120	-	4-611
S-C21	Bradshaw Creek	Montgomery	37.251791	-80.258990	Perennial	RPW	Roanoke logperch, Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	25	-	501	-	69	-	4-613
S-NN19	UNT to Roanoke River	Montgomery	37.244319	-80.206995	Intermittent	RPW	-	03010101	Pipeline ROW	76	-	266	-	99	-	4-627
S-AB16	UNT to Roanoke River	Montgomery	37.231693	-80.198778	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	100	-	11	-	4-631
S-I1	UNT to Roanoke River	Montgomery	37.231179	-80.198460	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	279	-	31	-	4-631
S-CD12b	UNT to South Fork Roanoke River	Montgomery	37.229764	-80.201144	Perennial	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	122	-	13	-	4-631
S-EF19	UNT to Indian Run	Montgomery	37.216102	-80.197390	Ephemeral	NRPW	Warmwater Fishery, Tier 2	03010101	Pipeline ROW	79	-	396	-	146	-	4-634
S-EF20a	UNT to Roanoke River	Montgomery	37.210922	-80.193318	Perennial	RPW	Orangefin madtom, Non-listed mussels	03010101	Pipeline ROW	80	-	479	-	178	-	4-635
S-MM22	UNT to Roanoke River	Montgomery	37.205284	-80.187282	Perennial	RPW	Orangefin madtom, Non-listed mussels	03010101	Pipeline ROW	175	-	2627	-	972	-	4-637
S-IJ50	UNT to Roanoke River	Roanoke	37.194064	-80.167933	Perennial	RPW	Orangefin madtom, Non-listed mussels	03010101	Pipeline ROW	77	-	1925	-	713	-	4-641
S-Y13	UNT to Bottom Creek	Roanoke	37.187687	-80.151146	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	85	-	680	-	252	-	4-644
S-Y14	UNT to Bottom Creek	Roanoke	37.187568	-80.151049	Perennial	RPW	Orangefin madtom, Non-listed mussels, Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	77	-	1076	-	399	-	4-644
S-EF57	UNT to Bottom Creek	Roanoke	37.181736	-80.148948	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Temporary Access Road	42	-	335	-	37	-	4-645
S-EF55	UNT to Bottom Creek	Roanoke	37.181506	-80.149497	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	33	-	266	-	98	-	4-645
S-EF34b	UNT to Bottom Creek	Roanoke	37.181385	-80.149140	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	81	-	810	-	300	-	4-645
S-EF33	UNT to Bottom Creek	Roanoke	37.179186	-80.141000	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	148	-	1333	-	493	-	4-647
S-IJ82	UNT to Bottom Creek	Roanoke	37.170458	-80.138216	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	301	-	33	-	4-648

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S-IJ85	UNT to Bottom Creek	Roanoke	37.169474	-80.130356	Perennial	RPW	Natural Trout, Coldwater Fishery	03010101	Permanent Access Road	-	50	-	401	-	44	4-650
S-IJ83	UNT to Bottom Creek	Roanoke	37.169211	-80.138258	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	148	-	741	-	82	-	4-649
S-IJ88	Bottom Creek	Roanoke	37.168395	-80.138295	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	30	-	1960	-	726	-	4-649
S-IJ84	UNT to Bottom Creek	Roanoke	37.168361	-80.138381	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	35	-	527	-	58	-	4-649
S-IJ89	UNT to Bottom Creek	Roanoke	37.165862	-80.139317	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	200	-	22	-	4-649
S-IJ90	UNT to Bottom Creek	Roanoke	37.165685	-80.139378	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	100	-	11	-	4-649
S-KL25	UNT to Mill Creek	Roanoke	37.160173	-80.134799	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	82	-	409	-	152	-	4-651
S-ST9b	UNT to Mill Creek	Roanoke	37.154424	-80.129179	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	301	-	33	-	4-652
S-KL55	UNT to Mill Creek	Roanoke	37.150009	-80.13246	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	301	-	33	-	4-653
S-IJ12	UNT to Mill Creek	Roanoke	37.148333	-80.133919	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	261	-	29	-	4-653
S-EF44	UNT to Bottom Creek	Roanoke	37.143003	-80.138399	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	139	-	16	-	4-654
S-IJ43	Mill Creek	Roanoke	37.138636	-80.139715	Perennial	RPW	Orangefin madtom, Stockable Trout, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	362	-	40	-	4-655
S-Y9	UNT to Mill Creek	Roanoke	37.134576	-80.137649	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	44	-	174	-	20	-	4-656
S-Y7	UNT to Mill Creek	Roanoke	37.134481	-80.137622	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	32	-	126	-	14	-	4-656
S-Y8	UNT to Mill Creek	Roanoke	37.134176	-80.137484	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	78	-	9	-	4-656
S-B22	UNT to Mill Creek	Roanoke	37.128922	-80.133769	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	78	-	9	-	4-659
S-B23	UNT to Mill Creek	Roanoke	37.128853	-80.133910	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	14	-	26	-	3	-	4-659
S-B25	UNT to Mill Creek	Roanoke	37.128490	-80.132601	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	76	-	379	-	42	-	4-659
S-B21	UNT to Mill Creek	Roanoke	37.128484	-80.130943	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	92	-	366	-	136	-	4-659
S-H1	Green Creek	Franklin	37.127733	-80.116787	Perennial	RPW	Orangefin madtom, Natural Trout, Coldwater Fishery	03010101	Timber Mat Crossing	20	-	200	-	22	-	4-661
S-G26	UNT to Green Creek	Franklin	37.127077	-80.111387	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	139	-	16	-	4-662
S-G27	UNT to Green Creek	Franklin	37.126962	-80.111052	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	139	-	16	-	4-662
S-G24	UNT to Green Creek	Franklin	37.126412	-80.121398	Intermittent	RPW	-	03010101	Pipeline ROW	75	-	449	-	167	-	4-661
S-G25	UNT to Green Creek	Franklin	37.125398	-80.121401	Intermittent	RPW	-	03010101	Pipeline ROW	42	-	292	-	33	-	4-661
S-RR18	UNT to Green Creek	Franklin	37.125055	-80.113578	Intermittent	RPW	-	03010101	Permanent Access Road	8	-	17	-	2	-	4-662
S-D11	UNT to North Fork Blackwater River	Franklin	37.124137	-80.086182	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	200	-	22	-	4-666
S-D8	North Fork Blackwater River	Franklin	37.123098	-80.074673	Perennial	RPW	Natural Trout, Coldwater Fishery	03010101	Pipeline ROW	78	-	941	-	349	-	4-667
S-D12	UNT to North Fork Blackwater River	Franklin	37.121558	-80.085642	Intermittent	RPW	-	03010101	Pipeline ROW	54	-	322	-	120	-	4-666
S-D13	UNT to North Fork Blackwater River	Franklin	37.121513	-80.085680	Intermittent	RPW	-	03010101	Pipeline ROW	117	-	466	-	173	-	4-666
S-D14	UNT to North Fork Blackwater River	Franklin	37.121473	-80.088457	Intermittent	RPW	-	03010101	Pipeline ROW	234	-	701	-	260	-	4-666
S-II4	UNT to North Fork Blackwater River	Franklin	37.115679	-80.060300	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	301	-	33	-	4-670
S-GH7	UNT to North Fork Blackwater River	Franklin	37.106614	-80.054219	Perennial	RPW	-	03010101	Timber Mat Crossing	20	-	179	-	20	-	4-672
S-GH15	UNT to North Fork Blackwater River	Franklin	37.106177	-80.050105	Intermittent	RPW	-	03010101	Pipeline ROW	75	-	301	-	111	-	4-674
S-GH14	UNT to North Fork Blackwater River	Franklin	37.105883	-80.048861	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	76	-	305	-	113	-	4-674
S-GH11	UNT to North Fork Blackwater River	Franklin	37.104707	-80.046220	Intermittent	RPW	-	03010101	Pipeline ROW	77	-	231	-	86	-	4-674
S-GH9	UNT to North Fork Blackwater River	Franklin	37.104329	-80.045343	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	78	-	314	-	116	-	4-674
S-RR08	UNT to North Fork Blackwater River	Franklin	37.103290	-80.041868	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	139	-	16	-	4-674
S-RR09	UNT to North Fork Blackwater River	Franklin	37.102491	-80.041046	Ephemeral	NRPW	-	03010101	Pipeline ROW	77	-	693	-	257	-	4-675
S-RR11	UNT to North Fork Blackwater River	Franklin	37.101127	-80.039653	Ephemeral	NRPW	-	03010101	Pipeline ROW	77	-	540	-	200	-	4-675
S-IJ1	UNT to North Fork Blackwater River	Franklin	37.093062	-80.027724	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	107	-	1285	-	476	-	4-677
S-IJ2	UNT to North Fork Blackwater River	Franklin	37.092891	-80.027593	Intermittent	RPW	-	03010101	Pipeline ROW	40	-	100	-	37	-	4-677
S-II6	UNT to Little Creek	Franklin	37.092697	-79.978402	Intermittent	NRPW	-	03010101	Timber Mat Crossing	20	-	61	-	7	-	4-685
S-IJ3	UNT to North Fork Blackwater River	Franklin	37.092600	-80.027231	Intermittent	RPW	-	03010101	Pipeline ROW	77	-	383	-	143	-	4-677
S-GH6	UNT to Little Creek	Franklin	37.092397	-79.983227	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	61	-	7	-	4-684
S-II12	UNT to Little Creek	Franklin	37.091608	-79.987839	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	39	-	4	-	4-684
S-II11	UNT to Little Creek	Franklin	37.091564	-79.988051	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	78	-	9	-	4-684
S-II8	UNT to Little Creek	Franklin	37.091413	-79.993944	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	39	-	4	-	4-683
S-II9	UNT to Little Creek	Franklin	37.091382	-79.990620	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	401	-	44	-	4-683
S-II7	UNT to Little Creek	Franklin	37.091354	-79.992013	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	78	-	9	-	4-683
S-IJ4	UNT to North Fork Blackwater River	Franklin	37.091189	-80.024366	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	78	-	9	-	4-677
S-KL2	UNT to Little Creek	Franklin	37.090361	-79.996354	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	74	-	8	-	4-682
S-GH2	UNT to Teels Creek	Franklin	37.090153	-79.953936	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	39	-	4	-	4-689
S-GH4	UNT to Teels Creek	Franklin	37.089812	-79.956077	Perennial	RPW	-	03010101	Timber Mat Crossing	20	-	100	-	11	-	4-688
S-GH3	UNT to Teels Creek	Franklin	37.089745	-79.956042	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	122	-	13	-	4-688

Table B-1. Virginia Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (square feet)[5]	Permanent Impact Area (square feet)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-IJ10	Little Creek	Franklin	37.089179	-80.005026	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	61	-	7	-	4-681
S-E29	UNT to Teels Creek	Franklin	37.089178	-79.950110	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	80	-	640	-	237	-	4-689
S-E28	Teels Creek	Franklin	37.089047	-79.9613	Perennial	RPW	-	03010101	Pipeline ROW	82	-	984	-	364	-	4-687
S-E28	Teels Creek	Franklin	37.085247	-79.948057	Perennial	RPW	-	03010101	Pipeline ROW	76	-	910	-	338	-	4-687
S-E28	Teels Creek	Franklin	37.082875	-79.945556	Perennial	RPW	-	03010101	Pipeline ROW	101	-	1211	-	449	-	4-687
S-EF4	UNT to Teels Creek	Franklin	37.078963	-79.941911	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	80	-	880	-	326	-	4-691
S-EF7	UNT to Teels Creek	Franklin	37.074664	-79.941123	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	39	-	4	-	4-692
S-EF7	UNT to Teels Creek	Franklin	37.074636	-79.941336	Ephemeral	NRPW	-	03010101	ATWS	22	-	44	-	5	-	4-692
S-EF12	Teels Creek	Franklin	37.073367	-79.939865	Perennial	RPW	-	03010101	Pipeline ROW	79	-	1581	-	585	-	4-692
S-MM42	UNT to Teels Creek	Franklin	37.070703	-79.937069	Ephemeral	NRPW	-	03010101	Pipeline ROW	81	-	161	-	60	-	4-693
S-D23	Teels Creek	Franklin	37.070322	-79.931039	Perennial	RPW	-	03010101	Pipeline ROW	92	-	2087	-	772	-	4-694
S-D22	UNT to Teels Creek	Franklin	37.070101	-79.929732	Intermittent	RPW	-	03010101	Pipeline ROW	83	-	662	-	246	-	4-694
S-D18	UNT to Teels Creek	Franklin	37.069560	-79.926213	Ephemeral	NRPW	-	03010101	Pipeline ROW	30	-	61	-	7	-	4-694
S-RR15	UNT to Teels Creek	Franklin	37.069542	-79.933892	Perennial	RPW	-	03010101	Timber Mat Crossing	20	-	26	-	31	-	4-694
S-D20	UNT to Teels Creek	Franklin	37.069485	-79.926230	Intermittent	RPW	-	03010101	Pipeline ROW	76	-	610	-	225	-	4-694
S-EF48	UNT to Blackwater River	Franklin	37.064748	-79.874420	Intermittent	RPW	-	03010101	Pipeline ROW	86	-	170	-	64	-	4-705
S-YZ4	UNT to Blackwater River	Franklin	37.064723	-79.878190	Ephemeral	NRPW	-	03010101	Pipeline ROW	84	-	253	-	93	-	4-704
S-C14	Teels Creek	Franklin	37.063956	-79.921985	Perennial	RPW	-	03010101	Pipeline ROW	90	-	3655	-	1,353	-	4-696
S-YZ5	UNT to Blackwater River	Franklin	37.063464	-79.878281	Ephemeral	NRPW	-	03010101	Pipeline ROW	86	-	344	-	127	-	4-704
S-KL41	UNT to Blackwater River	Franklin	37.062262	-79.862639	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	75	-	902	-	333	-	4-706
S-KL39	UNT to Blackwater River	Franklin	37.061193	-79.880018	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	121	-	788	-	291	-	4-704
S-C16	UNT to Teels Creek	Franklin	37.060610	-79.921179	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	301	-	33	-	4-696
S-KL54	UNT to Maggodee Creek	Franklin	37.059535	-79.840624	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	76	-	758	-	281	-	4-710
S-C8	UNT to Blackwater River	Franklin	37.059098	-79.853595	Intermittent	RPW	-	03010101	Pipeline ROW	86	-	431	-	159	-	4-708
S-F4	UNT to Blackwater River	Franklin	37.059060	-79.853379	Ephemeral	NRPW	-	03010101	Pipeline ROW	82	-	819	-	91	-	4-708
S-C17	Teels Creek	Franklin	37.058390	-79.918015	Perennial	RPW	-	03010101	Timber Mat Crossing	30	-	601	-	100	-	4-696
S-KL52	UNT to Maggodee Creek	Franklin	37.058165	-79.844877	Ephemeral	NRPW	-	03010101	Pipeline ROW	105	-	105	-	39	-	4-709
S-S11	UNT to Maggodee Creek	Franklin	37.057776	-79.838583	Perennial	RPW	-	03010101	Temporary Access Road	41	-	453	-	50	-	4-710
S-F8	UNT to Maggodee Creek	Franklin	37.057724	-79.836406	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	83	-	2492	-	922	-	4-710
S-CD6	Little Creek	Franklin	37.057584	-79.913921	Perennial	RPW	-	03010101	Pipeline ROW	77	-	4426	-	1,639	-	4-698
S-HH4	UNT to Maggodee Creek	Franklin	37.056594	-79.835785	Intermittent	RPW	-	03010101	Pipeline ROW	97	-	871	-	323	-	4-711
S-KL51	UNT to Blackwater River	Franklin	37.056084	-79.850384	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	67	-	370	-	136	-	4-708
S-KL38	UNT to Blackwater River	Franklin	37.055912	-79.883177	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	78	-	545	-	202	-	4-702
S-C20	UNT to Maggodee Creek	Franklin	37.055193	-79.833881	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	78	-	9	-	4-711
S-C19	Maggodee Creek	Franklin	37.055147	-79.830098	Perennial	RPW	-	03010101	Pipeline ROW	75	-	3006	-	1,113	-	4-711
S-KL36	UNT to Blackwater River	Franklin	37.053336	-79.884604	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	148	-	17	-	4-702
S-F11	Blackwater River	Franklin	37.052843	-79.825711	Perennial	TNW	Non-listed mussels	03010101	Pipeline ROW	91	-	6765	-	2,506	-	4-712
S-KL35	UNT to Blackwater River	Franklin	37.052125	-79.886182	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	35	-	87	-	10	-	4-702
S-F9b	UNT to Blackwater River	Franklin	37.049238	-79.817223	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	76	-	1141	-	422	-	4-713
S-II2	Little Creek	Franklin	37.049219	-79.908513	Perennial	RPW	-	03010101	Pipeline ROW	76	-	3245	-	1,203	-	4-699
S-F10	UNT to Blackwater River	Franklin	37.048037	-79.813934	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	179	-	20	-	4-713
S-CD1	UNT to Blackwater River	Franklin	37.047765	-79.897636	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	104	-	366	-	135	-	4-701
S-F9a	UNT to Blackwater River	Franklin	37.047172	-79.813000	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	301	-	33	-	4-713
S-MM29	UNT to Maple Branch	Franklin	37.043871	-79.822898	Perennial	RPW	-	03010101	Temporary Access Road	42	-	632	-	70	-	4-714
S-MM23	Maple Branch	Franklin	37.043854	-79.822974	Perennial	RPW	-	03010101	Temporary Access Road	78	-	1559	-	173	-	4-714
S-GG4	UNT to Blackwater River	Franklin	37.042742	-79.809015	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	200	-	22	-	4-716
S-A36	UNT to Foul Ground Creek	Franklin	37.037916	-79.804237	Ephemeral	NRPW	-	03010101	Pipeline ROW	77	-	309	-	114	-	4-717
S-A38	UNT to Foul Ground Creek	Franklin	37.036271	-79.799442	Intermittent	RPW	-	03010101	Timber Mat Crossing	30	-	270	-	30	-	4-718
S-A40	UNT to Foul Ground Creek	Franklin	37.036173	-79.799240	Intermittent	RPW	-	03010101	Timber Mat Crossing	13	-	74	-	8	-	4-718
S-A41	Foul Ground Creek	Franklin	37.031714	-79.788213	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	76	-	910	-	338	-	4-720
S-GH36	UNT to Foul Ground Creek	Franklin	37.031063	-79.778588	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	61	-	7	-	4-721
S-KL17	UNT to Foul Ground Creek	Franklin	37.031011	-79.778435	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	100	-	11	-	4-721
S-GH37	UNT to Foul Ground Creek	Franklin	37.030974	-79.778190	Intermittent	RPW	-	03010101	Pipeline ROW	46	-	139	-	15	-	4-721
S-GH38	UNT to Foul Ground Creek	Franklin	37.030972	-79.778083	Intermittent	RPW	-	03010101	Pipeline ROW	7	-	22	-	2	-	4-721

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Stream ID	NHD Stream Name[1]	County	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (square feet)[5]	Permanent Impact Area (square feet)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-GH39	UNT to Foul Ground Creek	Franklin	37.030861	-79.778069	Intermittent	RPW	-	03010101	Pipeline ROW	103	-	414	-	153	-	4-721
S-GH40	UNT to Foul Ground Creek	Franklin	37.028893	-79.774785	Ephemeral	NRPW	-	03010101	Pipeline ROW	89	-	266	-	99	-	4-721
S-GH44	UNT to Foul Ground Creek	Franklin	37.028392	-79.773359	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	103	-	619	-	69	-	4-721
S-G22	UNT to Poplar Camp Creek	Franklin	37.019612	-79.761958	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	80	-	958	-	356	-	4-723
S-G23	UNT to Poplar Camp Creek	Franklin	37.019526	-79.762002	Intermittent	RPW	-	03010101	Pipeline ROW	42	-	126	-	14	-	4-723
S-G21	UNT to Poplar Camp Creek	Franklin	37.019359	-79.761643	Intermittent	RPW	-	03010101	Pipeline ROW	54	-	161	-	18	-	4-723
S-G20	Poplar Camp Creek	Franklin	37.017364	-79.760000	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	200	-	22	-	4-724
S-G18	UNT to Blackwater River	Franklin	37.009236	-79.754238	Intermittent	RPW	-	03010101	Pipeline ROW	81	-	161	-	60	-	4-725
S-G17	UNT to Blackwater River	Franklin	37.005496	-79.752655	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	100	-	11	-	4-726
S-E18	UNT to Blackwater River	Franklin	37.001271	-79.747749	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	94	-	658	-	244	-	4-727
S-E17	UNT to Blackwater River	Franklin	37.000529	-79.742760	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	95	-	758	-	281	-	4-727
S-E14	UNT to Blackwater River	Franklin	36.995814	-79.735144	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	82	-	1638	-	607	-	4-728
S-H38	UNT to Jacks Creek	Franklin	36.989430	-79.722366	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	240	-	27	-	4-730
S-H32	UNT to Jacks Creek	Franklin	36.988273	-79.708199	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	200	-	22	-	4-732
S-H37	UNT to Jacks Creek	Franklin	36.988031	-79.717450	Ephemeral	NRPW	-	03010101	Pipeline ROW	82	-	492	-	182	-	4-731
S-H34	UNT to Jacks Creek	Franklin	36.988009	-79.711881	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	61	-	7	-	4-732
S-H36	UNT to Jacks Creek	Franklin	36.988008	-79.714922	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	61	-	7	-	4-731
S-H30	UNT to Jacks Creek	Franklin	36.987961	-79.702711	Intermittent	RPW	-	03010101	Pipeline ROW	4	-	4	-	1	-	4-734
S-A18	UNT to Jacks Creek	Franklin	36.987818	-79.700634	Intermittent	RPW	-	03010101	Pipeline ROW	87	-	227	-	84	-	4-734
S-A19/H26	UNT to Jacks Creek	Franklin	36.987719	-79.698901	Intermittent	RPW	-	03010101	Pipeline ROW	212	-	1485	-	550	-	4-734
S-A20	UNT to Jacks Creek	Franklin	36.987715	-79.698555	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	139	-	16	-	4-734
S-H28	UNT to Jacks Creek	Franklin	36.985174	-79.692272	Ephemeral	NRPW	-	03010101	Pipeline ROW	16	-	96	-	11	-	4-735
S-H27	UNT to Jacks Creek	Franklin	36.985124	-79.692272	Ephemeral	NRPW	-	03010101	Pipeline ROW	36	-	362	-	40	-	4-735
S-A22	UNT to Jacks Creek	Franklin	36.984846	-79.691870	Intermittent	RPW	-	03010101	Timber Mat Crossing	20	-	161	-	18	-	4-735
S-MM44	UNT to Little Jacks Creek	Franklin	36.982507	-79.687818	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	78	-	9	-	4-735
S-MM46	UNT to Little Jacks Creek	Franklin	36.982240	-79.687500	Intermittent	RPW	-	03010101	Timber Mat Crossing	9	-	26	-	3	-	4-735
S-MM45	UNT to Little Jacks Creek	Franklin	36.981971	-79.686901	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	33	-	131	-	15	-	4-735
S-MM48	UNT to Little Jacks Creek	Franklin	36.979223	-79.684192	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	25	-	174	-	19	-	4-736
S-H25	Little Jacks Creek	Franklin	36.978529	-79.682186	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	139	-	16	-	4-736
S-H24	UNT to Little Jacks Creek	Franklin	36.978025	-79.680682	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	200	-	22	-	4-736
S-H23	UNT to Turkey Creek	Franklin	36.976421	-79.677525	Ephemeral	NRPW	-	03010101	Pipeline ROW	92	-	462	-	170	-	4-738
S-HH1	UNT to Turkey Creek	Franklin	36.974647	-79.674453	Ephemeral	NRPW	-	03010101	Pipeline ROW	18	-	91	-	10	-	4-738
S-A13	Turkey Creek	Franklin	36.973282	-79.673075	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	161	-	18	-	4-738
S-A11	UNT to Turkey Creek	Franklin	36.973237	-79.669898	Ephemeral	NRPW	-	03010101	Pipeline ROW	55	-	166	-	18	-	4-740
S-H17	Dinner Creek	Franklin	36.972125	-79.662987	Intermittent	RPW	-	03010101	Pipeline ROW	101	-	806	-	299	-	4-741
S-A7	UNT to Dinner Creek	Franklin	36.972032	-79.662504	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	122	-	13	-	4-741
S-SS8	Polecat Creek	Franklin	36.970904	-79.657370	Perennial	RPW	Orangefin madtom,	03010101	Timber Mat Crossing	20	-	161	-	18	-	4-741
S-CD8	UNT to Owens Creek	Franklin	36.970522	-79.653726	Intermittent	RPW	-	03010101	Pipeline ROW	78	-	353	-	130	-	4-742
S-AB8	UNT to Owens Creek	Franklin	36.970133	-79.651328	Intermittent	RPW	-	03010101	Pipeline ROW	84	-	335	-	124	-	4-742
S-DD3	Owens Creek	Franklin	36.969118	-79.645042	Intermittent	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	301	-	33	-	4-743
S-G16	Strawfield Creek	Franklin	36.968640	-79.642174	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	30	-	601	-	100	-	4-743
S-G15	UNT to Parrot Branch	Franklin	36.967711	-79.636590	Intermittent	RPW	-	03010101	Pipeline ROW	88	-	793	-	293	-	4-744
S-G13	Parrot Branch	Franklin	36.967025	-79.630747	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	161	-	18	-	4-744
S-D3	UNT to Jonnikin Creek	Pittsylvania	36.965631	-79.605542	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	200	-	22	-	4-747
S-D4	UNT to Jonnikin Creek	Pittsylvania	36.965600	-79.604894	Intermittent	RPW	-	03010101	Pipeline ROW	105	-	632	-	233	-	4-747
S-D2	Jonnikin Creek	Pittsylvania	36.965405	-79.599130	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	362	-	40	-	4-748
S-D7	UNT to Jonnikin Creek	Franklin	36.964763	-79.617043	Intermittent	RPW	-	03010101	Pipeline ROW	80	-	640	-	237	-	4-746
S-D1-EPH	UNT to Jonnikin Creek	Pittsylvania	36.964430	-79.595691	Ephemeral	NRPW	-	03010101	Pipeline ROW	61	-	610	-	226	-	4-748
S-D1-INT	UNT to Jonnikin Creek	Pittsylvania	36.964407	-79.595841	Intermittent	RPW	-	03010101	Pipeline ROW	29	-	292	-	32	-	4-748
S-G11	UNT to Jonnikin Creek	Pittsylvania	36.962420	-79.590500	Intermittent	RPW	-	03010101	Pipeline ROW	77	-	462	-	171	-	4-749
S-G9	UNT to Jonnikin Creek	Pittsylvania	36.959361	-79.586437	Intermittent	RPW	-	03010101	Pipeline ROW	79	-	318	-	117	-	4-751
S-G8	UNT to Jonnikin Creek	Pittsylvania	36.957805	-79.583545	Intermittent	RPW	-	03010101	Pipeline ROW	90	-	362	-	133	-	4-751
S-Q15	UNT to Jonnikin Creek	Pittsylvania	36.957580	-79.583492	Ephemeral	NRPW	-	03010101	Pipeline ROW	103	-	514	-	191	-	4-751
S-A6	UNT to Rocky Creek	Pittsylvania	36.952275	-79.580460	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	100	-	11	-	4-750

Table B-1. Virginia Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (square feet)[5]	Permanent Impact Area (square feet)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-H11-Braid	UNT to Rocky Creek	Pittsylvania	36.949615	-79.579553	Ephemeral	NRPW	-	03010101	Pipeline ROW	85	-	170	-	19	-	4-750
S-F2	UNT to Rocky Creek	Pittsylvania	36.944049	-79.571442	Ephemeral	NRPW	-	03010101	Timber Mat Crossing	20	-	139	-	16	-	4-753
S-C7	UNT to Rocky Creek	Pittsylvania	36.944016	-79.571517	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	401	-	44	-	4-753
S-C3	Harpen Creek	Pittsylvania	36.929762	-79.526109	Perennial	RPW	Roanoke logperch, Orangefin madtom	03010101	Timber Mat Crossing	20	-	362	-	40	-	4-758
S-C4	UNT to Harpen Creek	Pittsylvania	36.929745	-79.526290	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	58	-	231	-	26	-	4-758
S-H13	Harpen Creek	Pittsylvania	36.925105	-79.517350	Perennial	RPW	Orangefin madtom	03010101	Pipeline ROW	77	-	1542	-	570	-	4-759
S-G6	UNT to Harpen Creek	Pittsylvania	36.920737	-79.505898	Intermittent	RPW	-	03010101	Pipeline ROW	80	-	479	-	178	-	4-761
S-G5	UNT to Harpen Creek	Pittsylvania	36.917694	-79.496604	Ephemeral	NRPW	-	03010101	Pipeline ROW	77	-	462	-	171	-	4-762
S-G4	Harpen Creek	Pittsylvania	36.916463	-79.492669	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	30	-	601	-	100	-	4-762
S-G3	UNT to Harpen Creek	Pittsylvania	36.915658	-79.490029	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	179	-	20	-	4-762
S-CC16	UNT to Harpen Creek	Pittsylvania	36.913003	-79.487838	Perennial	RPW	Orangefin madtom	03010101	Timber Mat Crossing	20	-	222	-	24	-	4-763
S-CC14	UNT to Cherrystone Creek	Pittsylvania	36.905329	-79.471492	Intermittent	RPW	-	03010105	Timber Mat Crossing	20	-	161	-	18	-	4-765
S-CC13	UNT to Cherrystone Creek	Pittsylvania	36.905307	-79.471574	Intermittent	RPW	-	03010105	Timber Mat Crossing	20	-	139	-	16	-	4-765
S-MM8	UNT to Cherrystone Creek	Pittsylvania	36.902991	-79.468220	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	122	-	13	-	4-766
S-CC15	UNT to Cherrystone Creek	Pittsylvania	36.901941	-79.466535	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	122	-	13	-	4-766
S-CC8	UNT to Cherrystone Creek	Pittsylvania	36.899437	-79.462685	Intermittent	RPW	-	03010105	Timber Mat Crossing	20	-	161	-	18	-	4-766
S-CC5	UNT to Cherrystone Creek	Pittsylvania	36.899411	-79.462483	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	240	-	27	-	4-766
S-CC5	UNT to Cherrystone Creek	Pittsylvania	36.899248	-79.462396	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	54	-	649	-	240	-	4-766
S-CC9	UNT to Cherrystone Creek	Pittsylvania	36.897740	-79.458046	Ephemeral	NRPW	-	03010105	Pipeline ROW	81	-	444	-	165	-	4-767
S-CC10	UNT to Cherrystone Creek	Pittsylvania	36.897315	-79.456119	Intermittent	RPW	-	03010105	Pipeline ROW	78	-	701	-	260	-	4-767
S-MM10	UNT to Cherrystone Creek	Pittsylvania	36.895915	-79.452960	Intermittent	RPW	-	03010105	Pipeline ROW	9	-	61	-	7	-	4-768
S-CC11	UNT to Cherrystone Creek	Pittsylvania	36.895808	-79.452920	Perennial	RPW	Orangefin madtom	03010105	Pipeline ROW	87	-	697	-	258	-	4-768
S-CC1	Cherrystone Creek	Pittsylvania	36.894043	-79.445744	Perennial	RPW	Orangefin madtom	03010105	Pipeline ROW	82	-	1228	-	456	-	4-769
S-CC3	UNT to Cherrystone Creek	Pittsylvania	36.893727	-79.444763	Ephemeral	NRPW	-	03010105	Pipeline ROW	91	-	727	-	270	-	4-769
S-P5	UNT to Cherrystone Creek	Pittsylvania	36.892751	-79.440053	Ephemeral	NRPW	-	03010105	Timber Mat Crossing	20	-	100	-	11	-	4-769
S-IJ35-EPH	UNT to Pole Bridge Branch	Pittsylvania	36.891451	-79.433781	Ephemeral	NRPW	-	03010105	Pipeline ROW	171	-	684	-	253	-	4-770
S-Q4	UNT to Pole Bridge Branch	Pittsylvania	36.886114	-79.430914	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	100	-	11	-	4-771
S-Q3	Pole Bridge Branch	Pittsylvania	36.884444	-79.428220	Perennial	RPW	Orangefin madtom	03010105	Pipeline ROW	75	-	1873	-	694	-	4-771
S-Q2	UNT to Pole Bridge Branch	Pittsylvania	36.884284	-79.427914	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	139	-	16	-	4-771
S-B6	UNT to Pole Bridge Branch	Pittsylvania	36.879063	-79.420189	Ephemeral	NRPW	-	03010105	Pipeline ROW	84	-	841	-	311	-	4-772
S-B8	UNT to Pole Bridge Branch	Pittsylvania	36.877937	-79.417992	Intermittent	RPW	-	03010105	Pipeline ROW	82	-	327	-	121	-	4-773
S-B9	UNT to Pole Bridge Branch	Pittsylvania	36.877416	-79.416255	Perennial	RPW	Orangefin madtom	03010105	Pipeline ROW	78	-	545	-	202	-	4-773
S-DD4-Braid-1	UNT to Mill Creek	Pittsylvania	36.871651	-79.404061	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010105	Pipeline ROW	67	-	401	-	149	-	4-775
S-DD4	UNT to Mill Creek	Pittsylvania	36.871478	-79.403907	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010105	Pipeline ROW	147	-	880	-	327	-	4-775
S-KL27	UNT to Mill Creek	Pittsylvania	36.866534	-79.400511	Ephemeral	NRPW	Natural Trout, Coldwater Fishery	03010105	Pipeline ROW	84	-	83	-	31	-	4-776
S-C1	Mill Creek	Pittsylvania	36.863513	-79.397914	Intermittent	RPW	Natural Trout, Coldwater Fishery	03010105	Pipeline ROW	92	-	553	-	204	-	4-777
S-G2	Little Cherrystone Creek	Pittsylvania	36.851931	-79.386051	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	139	-	16	-	4-779
S-B2	UNT to Little Cherrystone Creek	Pittsylvania	36.849394	-79.377780	Ephemeral	NRPW	-	03010105	Timber Mat Crossing	20	-	100	-	11	-	4-780
S-H55	UNT to Little Cherrystone Creek	Pittsylvania	36.843486	-79.369222	Ephemeral	NRPW	-	03010105	Timber Mat Crossing	20	-	61	-	7	-	4-781
S-H54	UNT to Little Cherrystone Creek	Pittsylvania	36.841112	-79.366848	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	240	-	27	-	4-781
S-GG11	UNT to Little Cherrystone Creek	Pittsylvania	36.841093	-79.366942	Perennial	RPW	-	03010105	Timber Mat Crossing	46	-	366	-	41	-	4-781
S-H3	UNT to Little Cherrystone Creek	Pittsylvania	36.834501	-79.360244	Intermittent	RPW	-	03010105	Pipeline ROW	18	-	109	-	12	-	4-783
S-H5	UNT to Little Cherrystone Creek	Pittsylvania	36.833412	-79.359823	Perennial	RPW	Orangefin madtom	03010105	Pipeline ROW	83	-	662	-	246	-	4-783
S-OO1	UNT to Little Cherrystone Creek	Pittsylvania	36.830285	-79.356618	Intermittent	RPW	-	03010105	Pipeline ROW	84	-	418	-	156	-	4-783
S-H44	UNT to Little Cherrystone Creek	Pittsylvania	36.829823	-79.346016	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	33	-	266	-	29	-	4-785
S-H42	UNT to Little Cherrystone Creek	Pittsylvania	36.828993	-79.344442	Perennial	RPW	Orangefin madtom	03010105	Permanent Access Road	-	15	-	74	-	11	4-785
S-H42	UNT to Little Cherrystone Creek	Pittsylvania	36.828958	-79.344315	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	139	-	16	-	4-785

Table B-1. Virginia Stream Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Stream ID	NHD Stream Name[1]	County	Latitude[2]	Longitude[2]	Flow Regime	Water Type[3]	Stream Designation[4]	HUC 8	Impact Type	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Impact Area (square feet)[5]	Permanent Impact Area (square feet)[5]	Temporary Fill (cubic yard)[6]	Permanent Fill (cubic yard)[7]	Figure
S-OO2	UNT to Little Cherrystone Creek	Pittsylvania	36.828831	-79.353849	Intermittent	RPW	-	03010105	Pipeline ROW	78	-	392	-	144	-	4-784
S-EF26	Little Cherrystone Creek	Pittsylvania	36.828207	-79.349814	Perennial	RPW	Orangefin madtom	03010105	Timber Mat Crossing	20	-	401	-	44	-	4-784

Notes:

1 - For identified streams without a NHD (National Hydrography Dataset) name, the identified stream was given the name, "Unidentified Tributary (UNT)", of the first named receiving waterbody

2 - In decimal degrees

3 - RPW = Relatively Permanent Waters
- NRPW = Non-Relatively Permanent Waters
- TNW = Traditional Navigable Waters

4 - See Section 1.9.2 and Section 4.2 for more information

5 - Impact square feet are rounded to the nearest whole number.

6 - Temporary fill discharge into waters of the U.S. Cubic yards are rounded to the nearest whole number.

7 - Permanent fill associated with the construction of Permanent access road and facilities. Cubic yards are rounded to the nearest whole number.

Mountain Valley PIPELINE LLC

Table B-2 (Virginia Wetland Impacts)

Table B-2. Virginia Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (square feet)[4]	Permanent Conversion Impacts (square feet)[4]	Permanent Fill Impacts (square feet)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Figure
W-Z11	Giles	Norfolk	37.346591	-80.641713	PEM	NRPWW	05050002	Pipeline ROW	1,141	-	-	423	-	4-543
W-Z3	Giles	Norfolk	37.342244	-80.620612	PSS	RPWWD	05050002	Timber Mat Crossing	-	592	-	66	-	4-545
W-CD12	Giles	Norfolk	37.318644	-80.441717	PEM	RPWWD	05050002	Pipeline ROW	906	-	-	335	-	4-577
W-MM10	Giles	Norfolk	37.298219	-80.480617	PEM	RPWWD	05050002	Temporary Access Road	1,106	-	-	123	-	4-569
W-RR1b	Giles	Norfolk	37.296670	-80.494042	PEM	RPWWD	05050002	Timber Mat Crossing	244	-	-	27	-	4-567
W-IJ46-PEM	Montgomery	Norfolk	37.296153	-80.367508	PEM	RPWWD	03010101	Pipeline ROW	1,281	-	-	474	-	4-591
W-AD4	Montgomery	Norfolk	37.286984	-80.330124	PEM	RPWWD	03010101	Temporary Access Road	301	-	-	33	-	4-596
W-NN6	Montgomery	Norfolk	37.268174	-80.316468	PEM	RPWWN	03010101	Timber Mat Crossing	362	-	-	40	-	4-603
W-F9-PFO	Montgomery	Norfolk	37.258109	-80.285892	PFO	RPWWD	03010101	Pipeline ROW	-	736	-	82	-	4-609
W-C12-PEM	Montgomery	Norfolk	37.257265	-80.281667	PEM	RPWWD	03010101	Pipeline ROW	8,999	-	-	3,333	-	4-609
W-C12	Montgomery	Norfolk	37.257192	-80.281649	PFO	RPWWD	03010101	Pipeline ROW	-	2,278	-	253	-	4-609
W-C11	Montgomery	Norfolk	37.257107	-80.281351	PSS	RPWWD	03010101	Pipeline ROW	-	2,008	-	223	-	4-609
W-C6	Montgomery	Norfolk	37.255860	-80.275715	PEM	NRPWW	03010101	Timber Mat Crossing	605	-	-	67	-	4-610
W-C5	Montgomery	Norfolk	37.255606	-80.274237	PEM	NRPWW	03010101	Pipeline ROW	1,978	-	-	732	-	4-610
W-AB7	Montgomery	Norfolk	37.231426	-80.198615	PEM	RPWWD	03010101	Timber Mat Crossing	174	-	-	19	-	4-631
W-KL58	Montgomery	Norfolk	37.229183	-80.203106	PEM	RPWWD	03010101	Permanent Access Road	-	-	1,707	-	190	4-631
W-EF5-PFO	Montgomery	Norfolk	37.210948	-80.193359	PFO	RPWWD	03010101	Pipeline ROW	-	3,711	-	1,374	-	4-635
W-EF18	Roanoke	Norfolk	37.179449	-80.140665	PSS	RPWWD	03010101	Temporary Access Road	-	227	-	25	-	4-647
W-EF17	Roanoke	Norfolk	37.179402	-80.140600	PFO	RPWWD	03010101	Temporary Access Road	-	976	-	108	-	4-647
W-IJ94-PEM	Roanoke	Norfolk	37.170092	-80.138294	PEM	RPWWD	03010101	Timber Mat Crossing	880	-	-	98	-	4-649
W-IJ96-PEM	Roanoke	Norfolk	37.169461	-80.130376	PEM	RPWWD	03010101	Permanent Access Road	-	-	579	-	63	4-650
W-IJ96-PEM	Roanoke	Norfolk	37.169461	-80.130376	PEM	RPWWD	03010101	Permanent Access Road	122	-	-	14	-	4-650
W-IJ97	Roanoke	Norfolk	37.169197	-80.129448	PEM	RPWWD	03010101	Permanent Access Road	-	-	22	-	2	4-650
W-IJ95-PSS	Roanoke	Norfolk	37.169068	-80.138278	PSS	RPWWD	03010101	Timber Mat Crossing	-	1,106	-	123	-	4-649
W-IJ102	Roanoke	Norfolk	37.168289	-80.138375	PFO	RPWWD	03010101	Timber Mat Crossing	-	436	-	48	-	4-649
W-KL17	Roanoke	Norfolk	37.160152	-80.134774	PSS	RPWWD	03010101	Pipeline ROW	-	1,895	-	702	-	4-651
W-KL16*	Roanoke	Norfolk	37.159927	-80.134257	PEM	ISOLATE	03010101	Timber Mat Crossing	618	-	-	69		4-651
W-KL15*	Roanoke	Norfolk	37.158853	-80.133802	PEM	ISOLATE	03010101	Pipeline ROW	1,451	-	-	537	-	4-651
W-EF42	Roanoke	Norfolk	37.157611	-80.133722	PEM	RPWWD	03010101	Pipeline ROW	362	-	-	40	-	4-652
W-HS02	Roanoke	Norfolk	37.157427	-80.133413	PEM	RPWWD	03010101	Pipeline ROW	12,602	-	-	4,668	-	4-652
W-AB6-PEM-2	Roanoke	Norfolk	37.156825	-80.131998	PEM	RPWWD	03010101	Pipeline ROW	14,248	-	-	5,277	-	4-652
W-AB6-PFO-1	Roanoke	Norfolk	37.156713	-80.131681	PFO	RPWWD	03010101	Pipeline ROW	-	2,692	-	997	-	4-652
W-AB6-PEM-1	Roanoke	Norfolk	37.156170	-80.130794	PEM	RPWWD	03010101	Pipeline ROW	2,818	-	-	1,044	-	4-652
W-AB6-PSS	Roanoke	Norfolk	37.156034	-80.130603	PSS	RPWWD	03010101	Pipeline ROW	-	266	-	30	-	4-652
W-AB5	Roanoke	Norfolk	37.155840	-80.130227	PFO	RPWWN	03010101	Pipeline ROW	-	183	-	20	-	4-652
W-AB3-PEM-2	Roanoke	Norfolk	37.155664	-80.129569	PEM	RPWWD	03010101	Pipeline ROW	6,739	-	-	2,495	-	4-652
W-EF46	Roanoke	Norfolk	37.154575	-80.129122	PSS	RPWWD	03010101	Timber Mat Crossing	-	2,971	-	330	-	4-652
W-KL48-PSS-1	Roanoke	Norfolk	37.152292	-80.130022	PSS	RPWWD	03010101	Pipeline ROW	-	1,978	-	733	-	4-653
W-KL48-PEM	Roanoke	Norfolk	37.151965	-80.130049	PEM	RPWWD	03010101	Pipeline ROW	274	-	-	31	-	4-653
W-KL48-PSS-2	Roanoke	Norfolk	37.150926	-80.131271	PSS	RPWWD	03010101	Pipeline ROW	-	1,150	-	128	-	4-653
W-KL50	Roanoke	Norfolk	37.150728	-80.131537	PEM	RPWWN	03010101	Pipeline ROW	1,777	-	-	658	-	4-653
W-KL49	Roanoke	Norfolk	37.150297	-80.132193	PEM	RPWWN	03010101	Timber Mat Crossing	662	-	-	74	-	4-653
W-KL51-PEM	Roanoke	Norfolk	37.150006	-80.132403	PEM	RPWWD	03010101	Timber Mat Crossing	274	-	-	30	-	4-653
W-KL51-PSS	Roanoke	Norfolk	37.149975	-80.132476	PSS	RPWWD	03010101	Timber Mat Crossing	-	348	-	39	-	4-653
W-MN7-PEM	Roanoke	Norfolk	37.148328	-80.133901	PEM	RPWWD	03010101	Timber Mat Crossing	505	-	-	56	-	4-653
W-EF44	Roanoke	Norfolk	37.142977	-80.138322	PEM	RPWWD	03010101	Timber Mat Crossing	370	-	-	41	-	4-654
W-IJ36	Roanoke	Norfolk	37.138922	-80.139845	PSS	RPWWD	03010101	Timber Mat Crossing	-	5,388	-	599	-	4-655
W-Z7	Roanoke	Norfolk	37.136601	-80.128216	PSS	RPWWD	03010101	Temporary Access Road	-	13	-	1	-	4-657
W-Z6	Roanoke	Norfolk	37.136466	-80.128238	PFO	RPWWD	03010101	Temporary Access Road	-	122	-	14	-	4-657
W-IJ62	Roanoke	Norfolk	37.135529	-80.134044	PEM	RPWWD	03010101	Temporary Access Road	4	-	-	1	-	4-656
W-Y2	Roanoke	Norfolk	37.134284	-80.137448	PEM	RPWWD	03010101	Timber Mat Crossing	823	-	-	91	-	4-656
W-IJ10	Roanoke	Norfolk	37.132561	-80.131744	PEM	RPWWD	03010101	Permanent Access Road	87	-	-	10	-	4-656
W-Q11	Roanoke	Norfolk	37.132470	-80.131638	PEM	RPWWD	03010101	Permanent Access Road	566	-	-	63	-	4-656
W-KL1	Roanoke	Norfolk	37.132456	-80.131463	PEM	RPWWN	03010101	Permanent Access Road	78	-	-	9	-	4-656
W-B25-PEM-4	Roanoke	Norfolk	37.128942	-80.133774	PEM	RPWWD	03010101	Timber Mat Crossing	405	-	-	45	-	4-659
W-B25-PEM-1	Roanoke	Norfolk	37.128645	-80.133283	PEM	RPWWD	03010101	Pipeline ROW	8,425	-	-	3,120	-	4-659
W-B24-PSS	Roanoke	Norfolk	37.128540	-80.130794	PSS	RPWWD	03010101	Pipeline ROW	-	7,131	-	2,641	-	4-659
W-B24-PEM	Roanoke	Norfolk	37.128530	-80.131060	PEM	RPWWD	03010101	Pipeline ROW	4,491	-	-	1,663	-	4-659
W-B25-PSS-2	Roanoke	Norfolk	37.128527	-80.132335	PSS	RPWWD	03010101	Timber Mat Crossing	-	3,615	-	402	-	4-659
W-B25-PEM-1	Roanoke	Norfolk	37.128449	-80.132802	PEM	RPWWD	03010101	Timber Mat Crossing	610	-	-	68	-	4-659
W-B25-PEM-2	Roanoke	Norfolk	37.128436	-80.132646	PEM	RPWWD	03010101	Timber Mat Crossing	209	-	-	78	-	4-659
W-ST2-PEM	Franklin	Norfolk	37.125329	-80.121460	PEM	RPWWD	03010101	Pipeline ROW	4,975	-	-	1,842	-	4-661
W-RR4	Franklin	Norfolk	37.125117	-80.113530	PEM	RPWWD	03010101	Permanent Access Road	941	-	-	105	-	4-662

Table B-2. Virginia Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (square feet)[4]	Permanent Conversion Impacts (square feet)[4]	Permanent Fill Impacts (square feet)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Figure
W-RR3	Franklin	Norfolk	37.124214	-80.114746	PEM	RPWWD	03010101	Permanent Access Road	83	-	-	9	-	4-662
W-KL41	Franklin	Norfolk	37.123851	-80.115802	PEM	RPWWD	03010101	Permanent Access Road	998	-	-	111	-	4-661
W-D4	Franklin	Norfolk	37.122629	-80.076102	PEM	RPWWN	03010101	Permanent Access Road	135	-	-	15	-	4-667
W-D4	Franklin	Norfolk	37.122625	-80.076071	PEM	RPWWN	03010101	Permanent Access Road	-	-	39	-	4	4-667
W-D7-PEM	Franklin	Norfolk	37.121559	-80.085750	PEM	RPWWD	03010101	Pipeline ROW	693	-	-	77	-	4-666
W-EF3	Franklin	Norfolk	37.117734	-80.095992	PEM	RPWWD	03010101	Permanent Access Road	1,154	-	-	128	-	4-665
W-IJ1	Franklin	Norfolk	37.092927	-80.027568	PEM	RPWWD	03010101	Pipeline ROW	1,812	-	-	671	-	4-677
W-IJ2-PSS	Franklin	Norfolk	37.092645	-80.027176	PSS	RPWWD	03010101	Pipeline ROW	-	348	-	129	-	4-677
W-IJ2-PEM	Franklin	Norfolk	37.092596	-80.027214	PEM	RPWWD	03010101	Pipeline ROW	732	-	-	271	-	4-677
W-GH2	Franklin	Norfolk	37.092404	-79.983182	PSS	RPWWD	03010101	Timber Mat Crossing	-	566	-	63	-	4-684
W-II8	Franklin	Norfolk	37.091357	-79.992006	PEM	RPWWD	03010101	Timber Mat Crossing	383	-	-	43	-	4-683
W-IJ6	Franklin	Norfolk	37.089156	-80.005036	PEM	RPWWD	03010101	Timber Mat Crossing	200	-	-	22	-	4-681
W-E7	Franklin	Norfolk	37.084557	-79.947595	PEM	RPWWD	03010101	Pipeline ROW	10,986	-	-	4,068	-	4-690
W-E8	Franklin	Norfolk	37.082843	-79.946100	PEM	RPWWD	03010101	Pipeline ROW	3,010	-	-	1,114	-	4-690
W-EF51	Franklin	Norfolk	37.064781	-79.874460	PEM	RPWWD	03010101	Pipeline ROW	579	-	-	64	-	4-705
W-KL43b	Franklin	Norfolk	37.059608	-79.840707	PEM	RPWWD	03010101	Pipeline ROW	17	-	-	2	-	4-710
W-CD6	Franklin	Norfolk	37.057586	-79.915232	PEM	RPWWN	03010101	Timber Mat Crossing	4,069	-	-	452	-	4-698
W-CD5	Franklin	Norfolk	37.055438	-79.910624	PFO	RPWWN	03010101	Pipeline ROW	-	4,948	-	1,833	-	4-698
W-EF48	Franklin	Norfolk	37.052142	-79.886197	PEM	RPWWD	03010101	Timber Mat Crossing	348	-	-	39	-	4-702
W-CD1	Franklin	Norfolk	37.047767	-79.897568	PFO	RPWWD	03010101	Pipeline ROW	-	4,818	-	1,785	-	4-701
W-DD1	Franklin	Norfolk	37.031961	-79.788589	PEM	RPWWN	03010101	Pipeline ROW	3,541	-	-	1,312	-	4-720
W-A12-PFO	Franklin	Norfolk	37.031754	-79.788099	PFO	RPWWD	03010101	Pipeline ROW	-	174	-	19	-	4-720
W-A12-PEM	Franklin	Norfolk	37.031643	-79.788111	PEM	RPWWD	03010101	Pipeline ROW	2,836	-	-	1,050	-	4-720
W-GH16	Franklin	Norfolk	37.028394	-79.773243	PFO	RPWWD	03010101	Timber Mat Crossing	-	2,862	-	318	-	4-722
W-H17	Franklin	Norfolk	36.989390	-79.722090	PFO	RPWWD	03010101	Timber Mat Crossing	-	1,607	-	179	-	4-730
W-H11	Franklin	Norfolk	36.988077	-79.702803	PEM	RPWWD	03010101	Pipeline ROW	2,039	-	-	755	-	4-734
W-H16	Franklin	Norfolk	36.988073	-79.714967	PEM	RPWWD	03010101	Timber Mat Crossing	1,011	-	-	112	-	4-731
W-H14	Franklin	Norfolk	36.988069	-79.711841	PEM	RPWWD	03010101	Timber Mat Crossing	266	-	-	30	-	4-732
W-A8	Franklin	Norfolk	36.987947	-79.700844	PEM	RPWWD	03010101	Pipeline ROW	671	-	-	75	-	4-734
W-H15	Franklin	Norfolk	36.987938	-79.714829	PSS	RPWWD	03010101	Timber Mat Crossing	-	309	-	35	-	4-731
W-H9	Franklin	Norfolk	36.978536	-79.682057	PEM	RPWWN	03010101	Timber Mat Crossing	370	-	-	41	-	4-736
W-H6	Franklin	Norfolk	36.972189	-79.663042	PEM	RPWWD	03010101	Pipeline ROW	248	-	-	28	-	4-741
W-D3	Pittsylvania	Norfolk	36.965318	-79.598760	PFO	RPWWN	03010101	Timber Mat Crossing	-	1,241	-	138	-	4-748
W-MM17	Franklin	Norfolk	36.964731	-79.617067	PEM	RPWWD	03010101	Pipeline ROW	296	-	-	110	-	4-746
W-B5	Pittsylvania	Norfolk	36.959293	-79.586201	PEM	RPWWN	03010101	Pipeline ROW	209	-	-	23	-	4-751
W-B4-PSS	Pittsylvania	Norfolk	36.957884	-79.583666	PSS	RPWWD	03010101	Pipeline ROW	-	205	-	23	-	4-751
W-C1	Pittsylvania	Norfolk	36.929954	-79.526831	PEM	RPWWN	03010101	Timber Mat Crossing	793	-	-	88	-	4-758
W-H5	Pittsylvania	Norfolk	36.924983	-79.517159	PEM	RPWWD	03010101	Pipeline ROW	9,004	-	-	3,335	-	4-759
W-B3	Pittsylvania	Norfolk	36.916508	-79.492360	PEM	RPWWN	03010101	Timber Mat Crossing	57	-	-	6	-	4-762
W-CC2-PEM	Pittsylvania	Norfolk	36.905418	-79.471566	PEM	RPWWD	03010105	Timber Mat Crossing	1,185	-	-	132	-	4-765
W-MM5	Pittsylvania	Norfolk	36.903012	-79.468192	PSS	RPWWD	03010105	Timber Mat Crossing	-	1,699	-	189	-	4-766
W-MM9	Pittsylvania	Norfolk	36.894087	-79.446110	PEM	RPWWN	03010105	Timber Mat Crossing	470	-	-	52	-	4-769
W-MM8-PEM	Pittsylvania	Norfolk	36.894034	-79.445486	PEM	RPWWN	03010105	Pipeline ROW	2,409	-	-	893	-	4-769
W-MM8-PFO	Pittsylvania	Norfolk	36.893930	-79.445461	PFO	RPWWN	03010105	Pipeline ROW	-	1,834	-	679	-	4-769
W-Q2	Pittsylvania	Norfolk	36.884674	-79.428607	PFO	RPWWD	03010105	Pipeline ROW	-	16,422	-	6,082	-	4-771
W-Q1	Pittsylvania	Norfolk	36.883985	-79.427305	PEM	RPWWD	03010105	Pipeline ROW	636	-	-	236	-	4-771
W-G2	Pittsylvania	Norfolk	36.851816	-79.385930	PEM	RPWWD	03010105	Timber Mat Crossing	1,507	-	-	167	-	4-779
W-H1	Pittsylvania	Norfolk	36.836097	-79.360895	PEM	RPWWN	03010105	Pipeline ROW	479	-	-	53	-	4-782
W-EF6	Pittsylvania	Norfolk	36.835004	-79.339128	PFO	RPWWD	03010105	Pipeline ROW	-	2,905	-	323	-	4-786
W-H2	Pittsylvania	Norfolk	36.834817	-79.360479	PEM	RPWWD	03010105	Pipeline ROW	34,791	-	-	12,886	-	4-782

Table B-2. Virginia Wetland Impacts *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Wetland ID	County	USACE District	Latitude[1]	Longitude[1]	Cowardin Class[2]	USACE Water Type[3]	HUC 8	Impact Type	Temporary Impacts (square feet)[4]	Permanent Conversion Impacts (square feet)[4]	Permanent Fill Impacts (square feet)[4]	Temporary Fill (cubic yards)[5]	Permanent Fill (cubic yards)[6]	Figure
W-IJ21	Pittsylvania	Norfolk	36.834623	-79.338527	PFO	RPWWN	03010105	Timber Mat Crossing	-	462	-	51	-	4-786
W-H3	Pittsylvania	Norfolk	36.833741	-79.360081	PEM	RPWWN	03010105	Pipeline ROW	2,217	-	-	821	-	4-783
W-MM3	Pittsylvania	Norfolk	36.830361	-79.356631	PSS	RPWWD	03010105	Pipeline ROW	-	1,481	-	548	-	4-783
W-IJ22-PEM	Pittsylvania	Norfolk	36.827780	-79.350264	PEM	RPWWD	03010105	Timber Mat Crossing	1,699	-	-	189	-	4-784
W-IJ22-PFO	Pittsylvania	Norfolk	36.827748	-79.350295	PFO	RPWWD	03010105	Timber Mat Crossing	-	3,419	-	380	-	4-784

Notes:

1 - In decimal degrees.

2 - PEM = Palustrine Emergent
- PSS = Palustrine Scrub-Shrub
- PFO = Palustrine Forested

3 - RPWWD = Wetlands directly abutting Relatively Permanent Waters (RPWs) that flow directly or indirectly into Traditional Navigable Waterways (TNWs)
- RPWWN = Wetlands adjacent but not directly abutting RPWs that flow directly or indirectly into TNWs
- NRPWW = Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

4 - Construction of access roads will not result in impacts to tidal wetlands or wetlands adjacent to tidal waters. Construction, maintenance, or expansion of substation facilities will not result in discharges to non-tidal wetlands adjacent to tidal waters of the United States.
- Impact square feet are rounded to the nearest whole number.

5 - Temporary fill discharge into waters of the U.S. Cubic yards are rounded to the nearest whole number.

6 - Permanent fill associated with the construction of permanent access road and facilities. Cubic yards are rounded to the nearest whole number.

* - VDEQ does not require a VWPP for W-KL15 or W-KL16 per the VDEQ 1/23/2018 IWOMEV Determination

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Table B-3 (Virginia Stream Impact Summary)

Table B-3. Virginia Stream Impacts Summary *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Cowardin Class	Temporary Impact (linear ft)	Permanent Impact (linear ft)	Temporary Fill (cubic yards)	Permanent Fill (cubic yards)
Ephemeral	3,966	45	6,274	35
Intermittent	6,383	0	10,478	0
Perennial	6,921	65	30,294	55
Norfolk District Total	**17,270**	**110**	**47,046**	**90**

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Table B-4 (Virginia Wetland Impact Summary)

Table B-4. Virginia Wetland Impacts Summary *(revised 3/1/2021)*
Individual Permit Application
Mountain Valley Pipeline Project

Cowardin Class	Temporary Impacts (square feet)[1]	Permanent Conversion Impacts (square feet)	Permanent Fill Impacts (square feet)	Temporary Fill (cubic yards)	Permanent Fill (cubic yards)
PEM	174,346	0	2,347	57,313	259
PSS	0	33,296	0	7,029	0
PFO	0	51,826	0	14,683	0
Norfolk District Total	**174,346**	**85,122**	**2,347**	**78,419**	**259**

Notes:

1 - Includes temporary impacts to W-KL15 and W-KL16, two isolated wetland that VDEQ does not require a VWPP for per the VDEQ 1/23/2018 IWOMEV Determination.

MVP Pipeline Project

Riparian Property Owners

Mountain Valley PIPELINE



½ Mile Downstream Points

RPO Parcels[1]

Stream Location Centroid

Wetland Location

NHD Flowline

MVP Implementation MP Centerline

MVP Implementation Milepost

Parcel owner information provided by MVP and is based on tax map, county assessor, and title research data. This information was verified and updated accordingly per County records, citation below.

[1] Additional parcel owner information verified 2/10/2021 at:

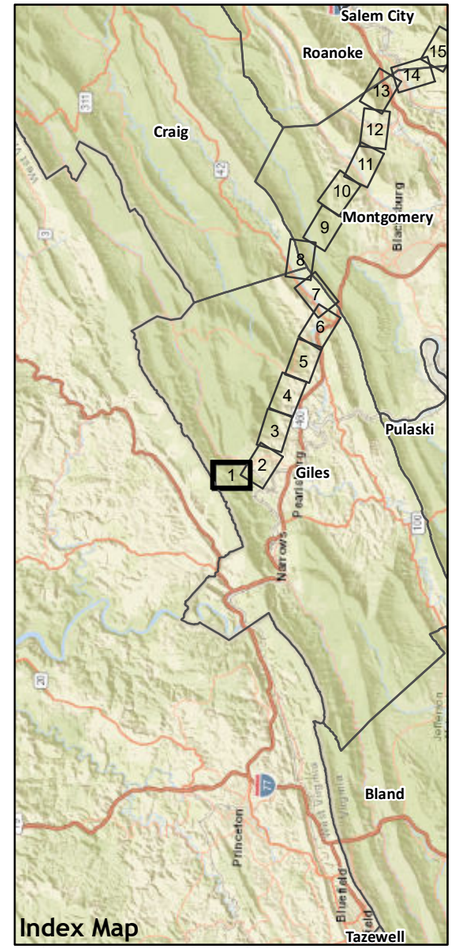
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NORTH

Imagery Source: VGIN
Centerline/Parcel/Impact Source: MVP. January 2021.
Hydrology Source: National Hydrography Dataset (NHD)
Friday, February 19, 2021

0 1,000 2,000 Feet

1 inch = 1,000 feet

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Mountain Valley PIPELINE



- ½ Mile Downstream Points
- RPO Parcels[1]
- Stream Location Centroid
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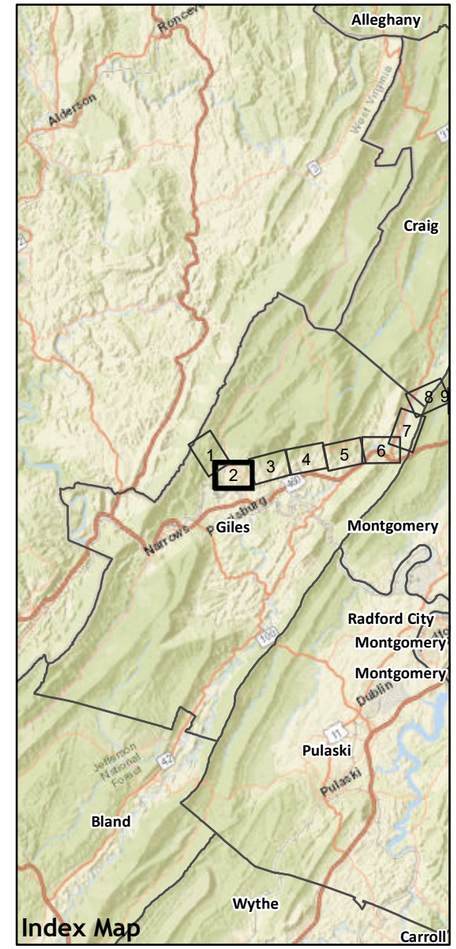
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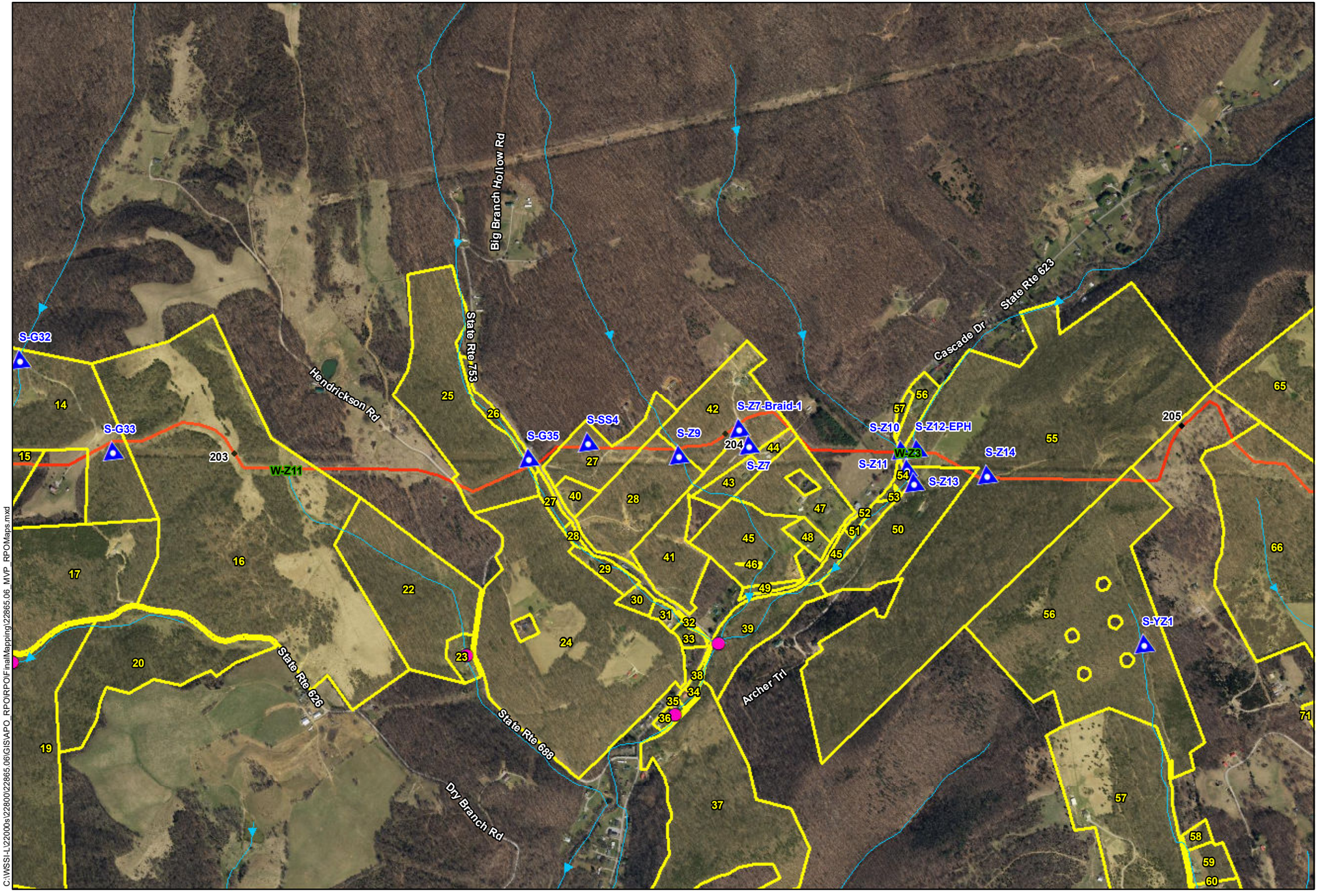
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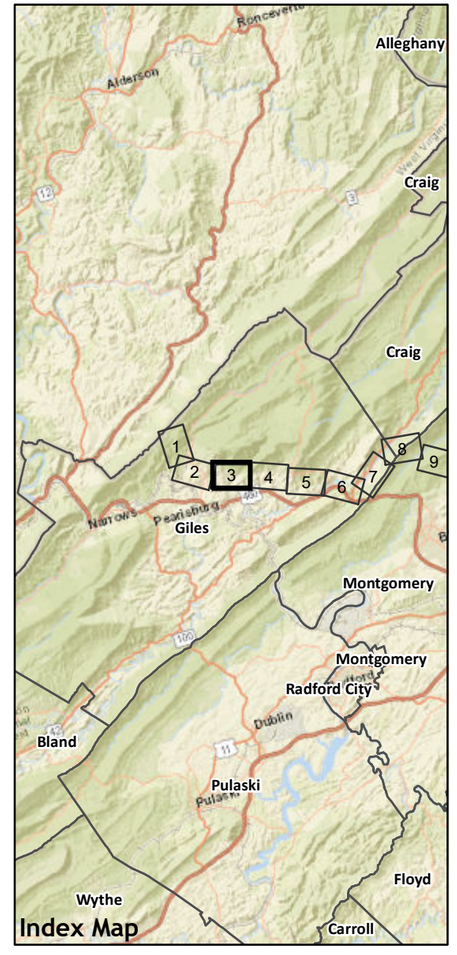
Mountain Valley PIPELINE



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RPO Parcels[1]
Stream Location Centroid
Wetland Location
NHD Flowline
MVP Implementation MP Centerline
MVP Implementation Milepost

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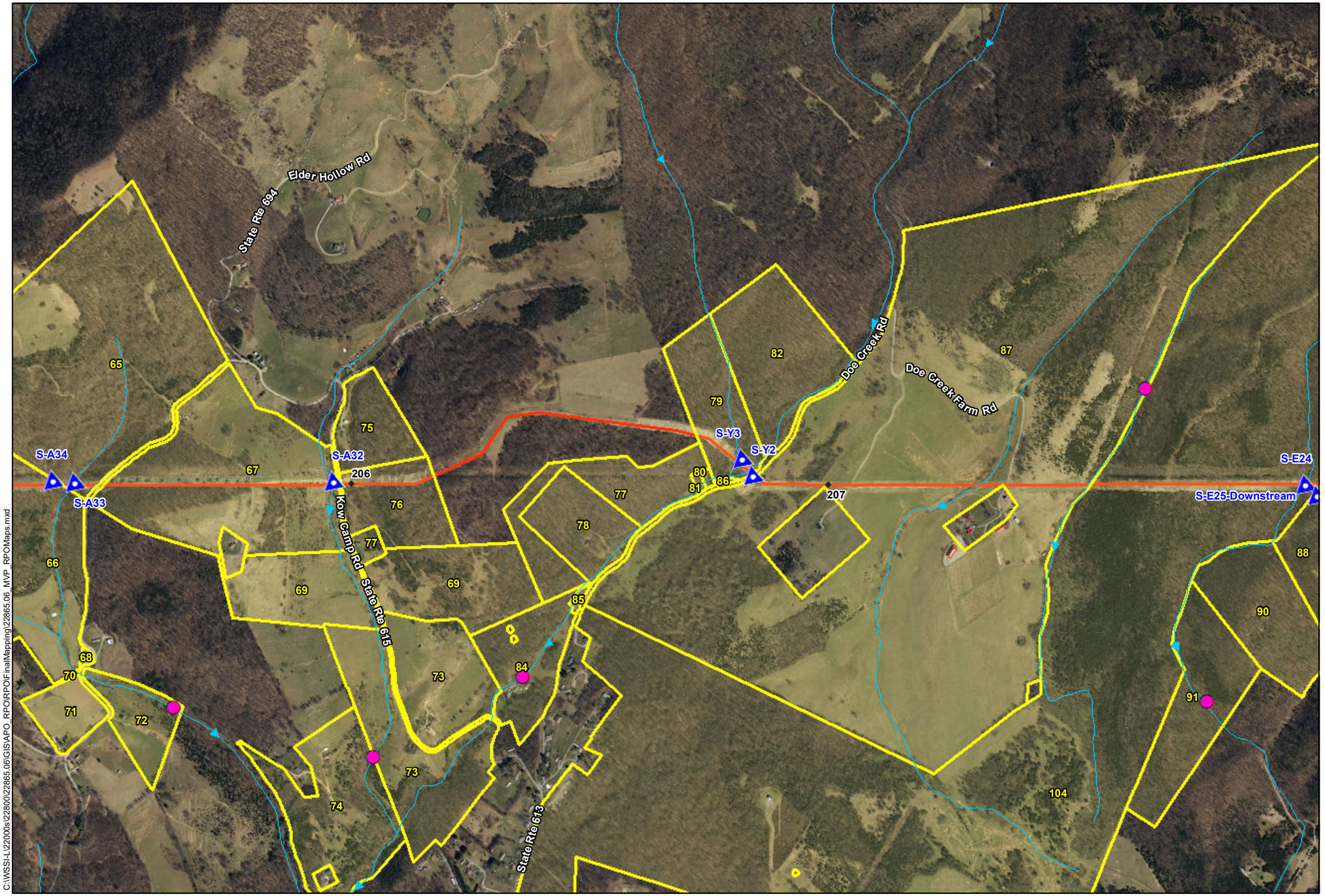
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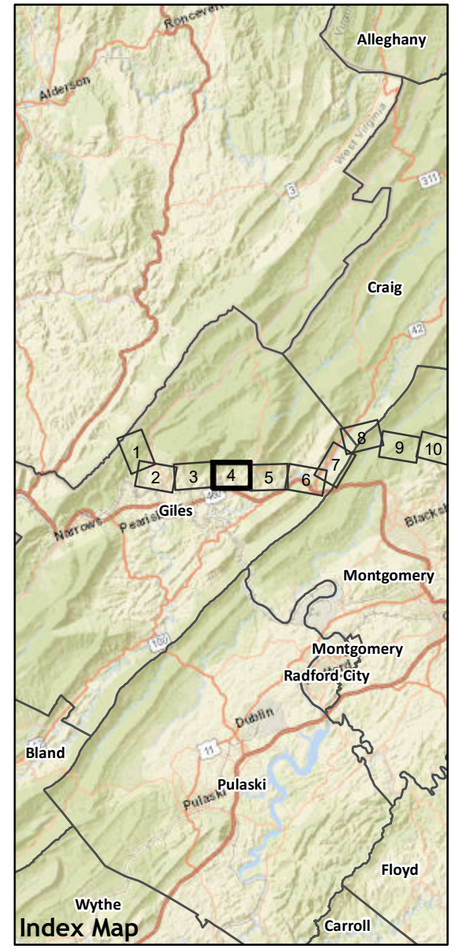
Mountain Valley PIPELINE



- ½ Mile Downstream Points
- RPO Parcels[1]
- Stream Location Centroid
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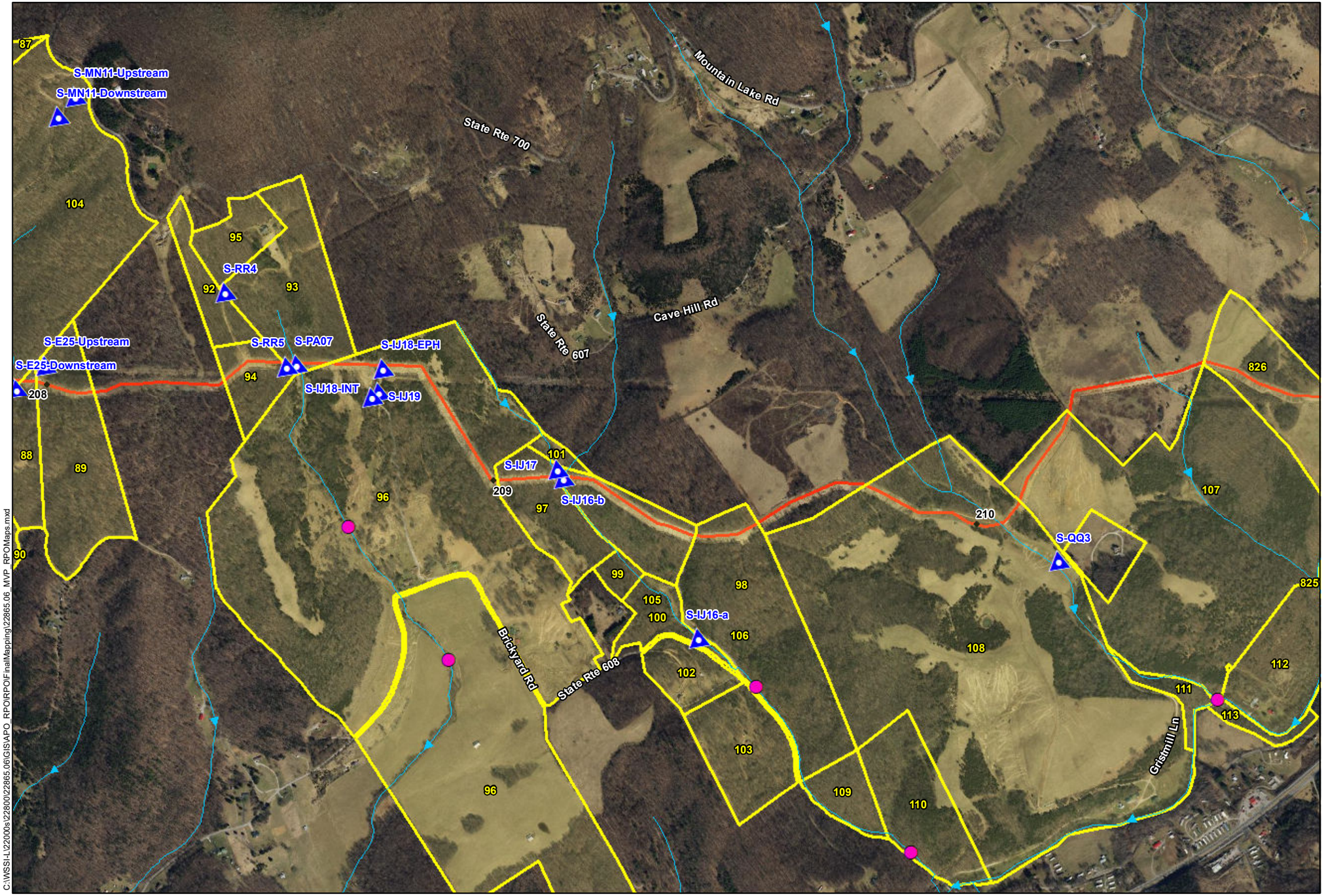
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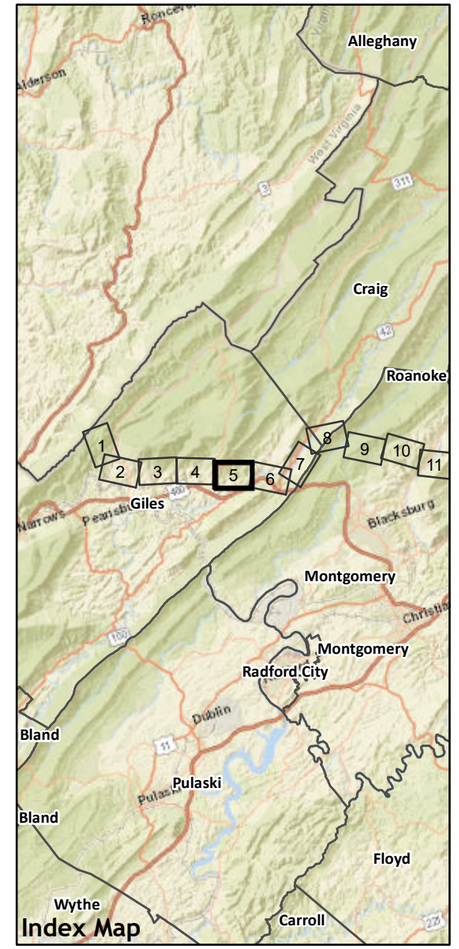
Mountain Valley PIPELINE



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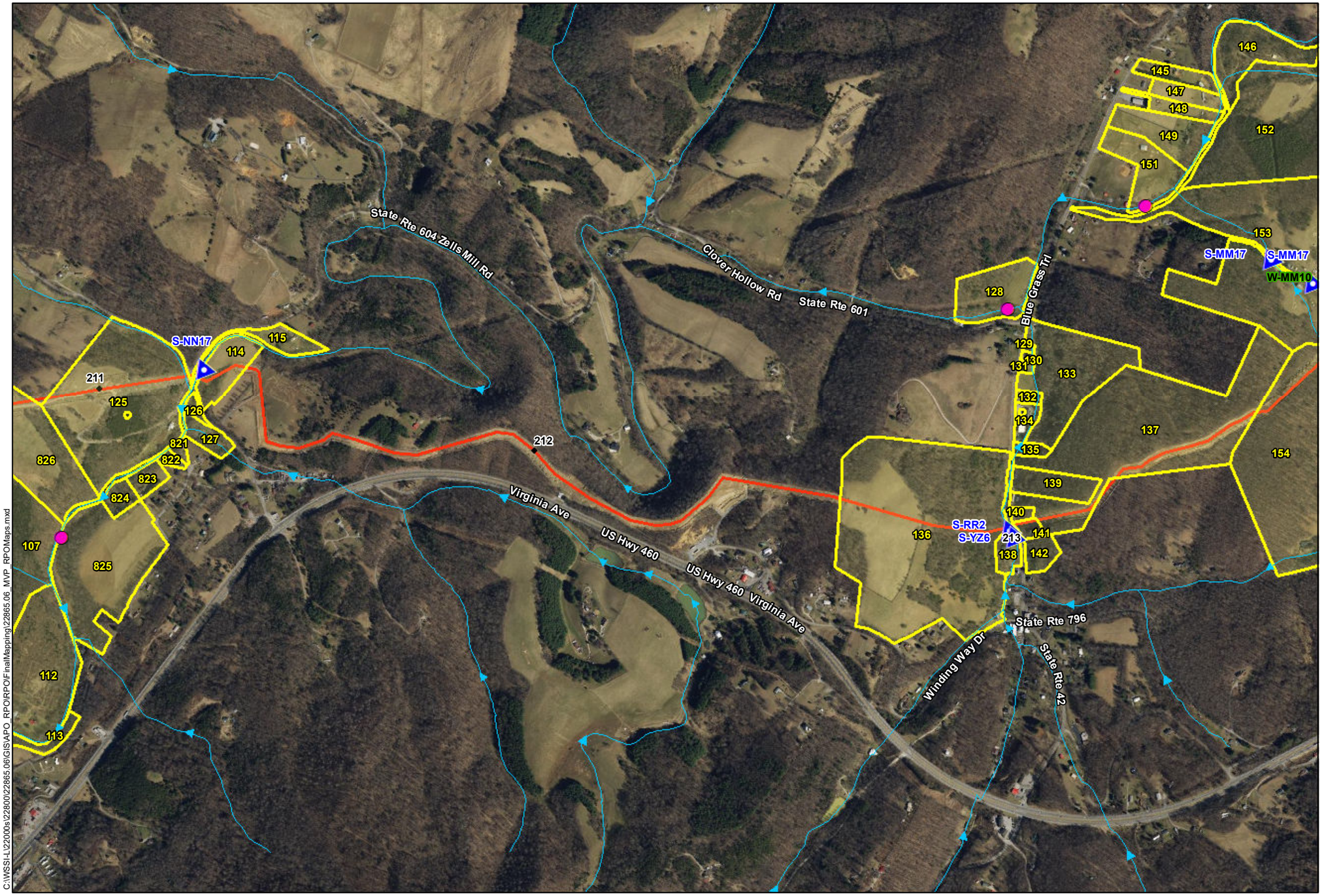
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Mountain Valley PIPELINE



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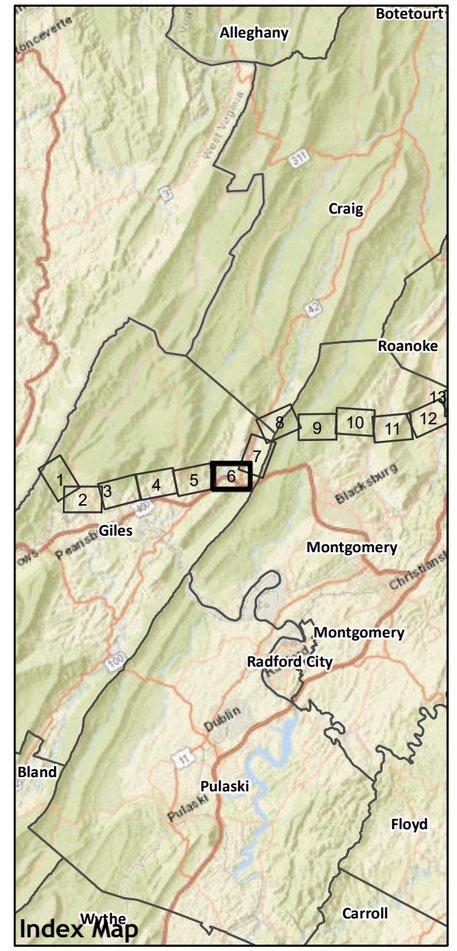
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Index Map

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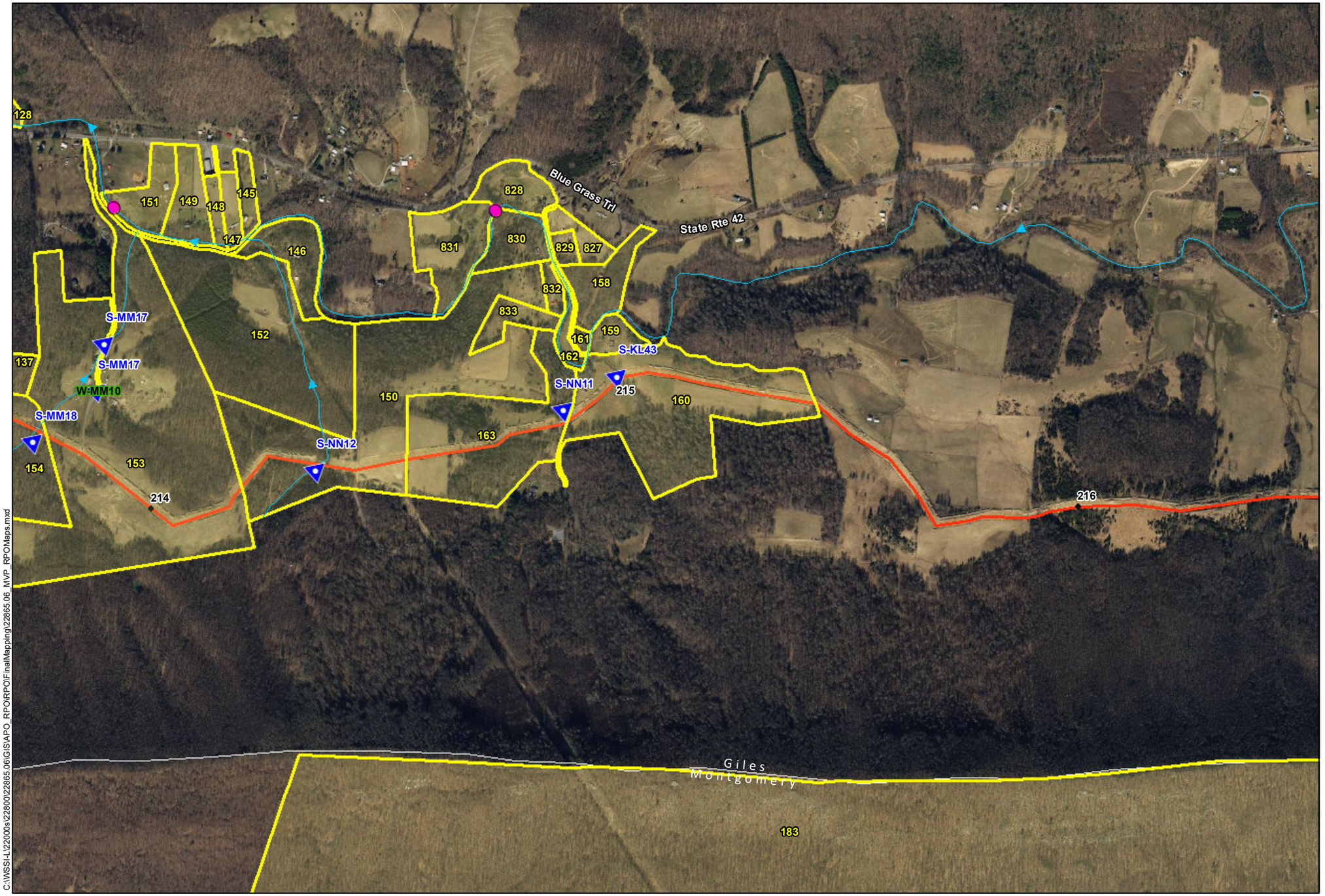
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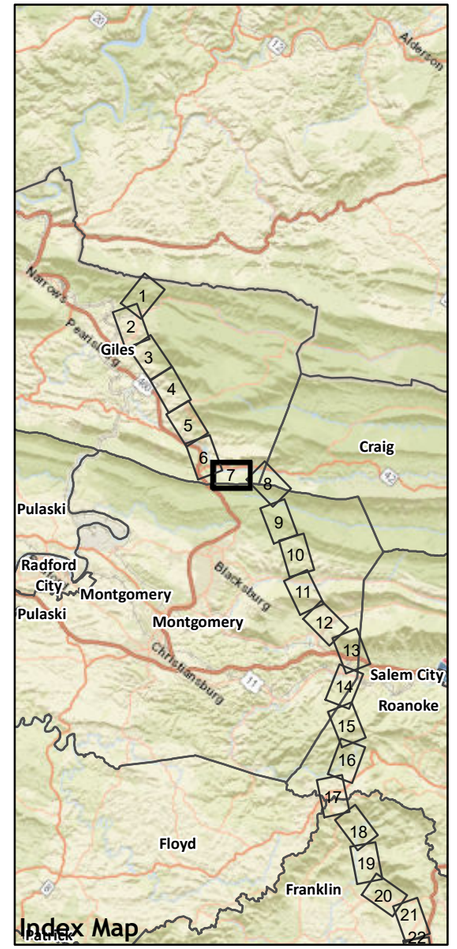
Mountain Valley PIPELINE



- ½ Mile Downstream Points
- RPO Parcels[1]
- Stream Location Centroid
- Wetland Location
- NHD Flowline
- MVP Implementation MP Centerline
- MVP Implementation Milepost

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NORTH

Imagery Source: VGIN
Centerline/Parcel/Impact Source: MVP. January 2021.
Hydrology Source: National Hydrography Dataset (NHD)
Friday, February 19, 2021

0 1,000 2,000 Feet

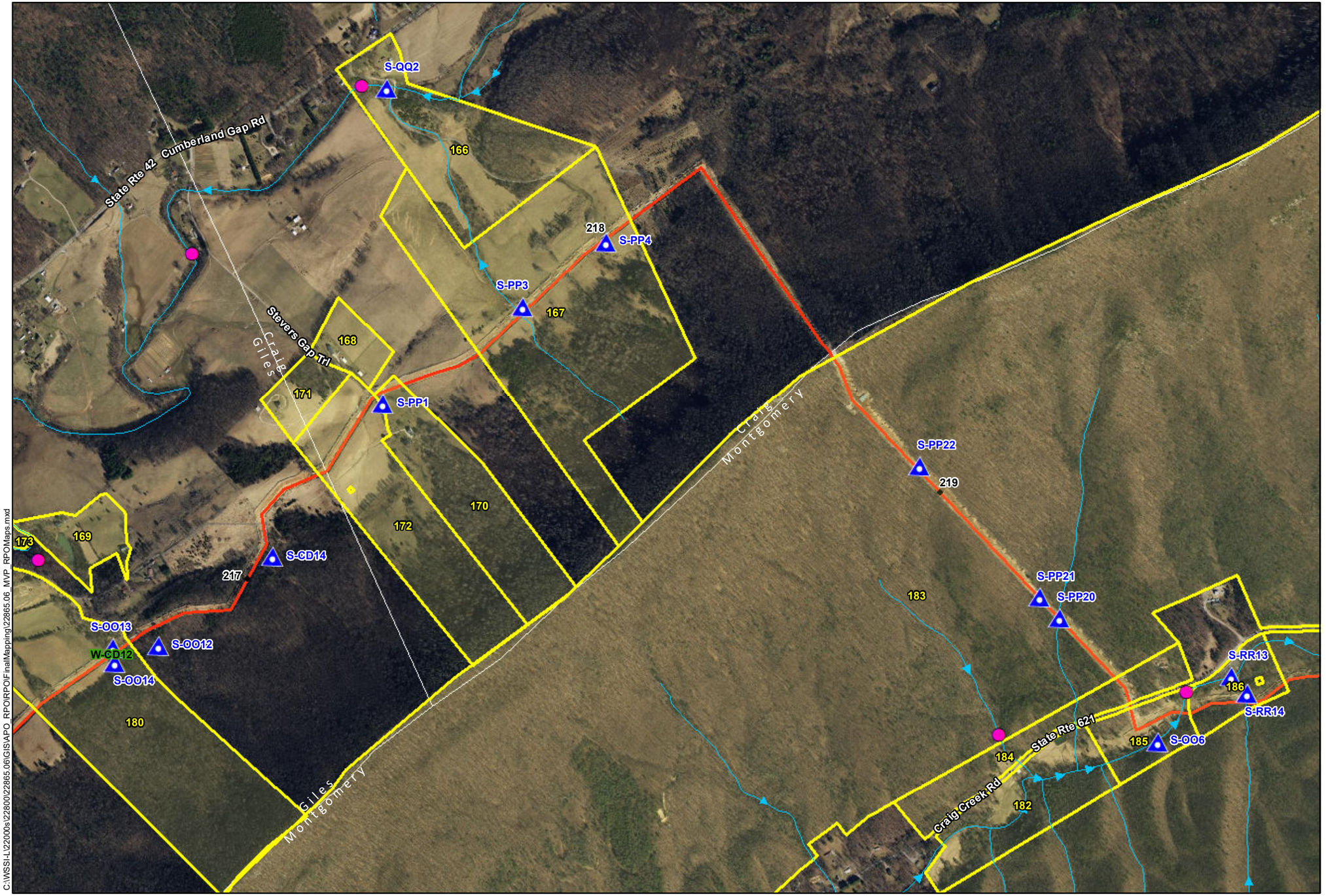
1 inch = 1,000 feet

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a DAVEY company

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Mountain Valley PIPELINE



½ Mile Downstream Points

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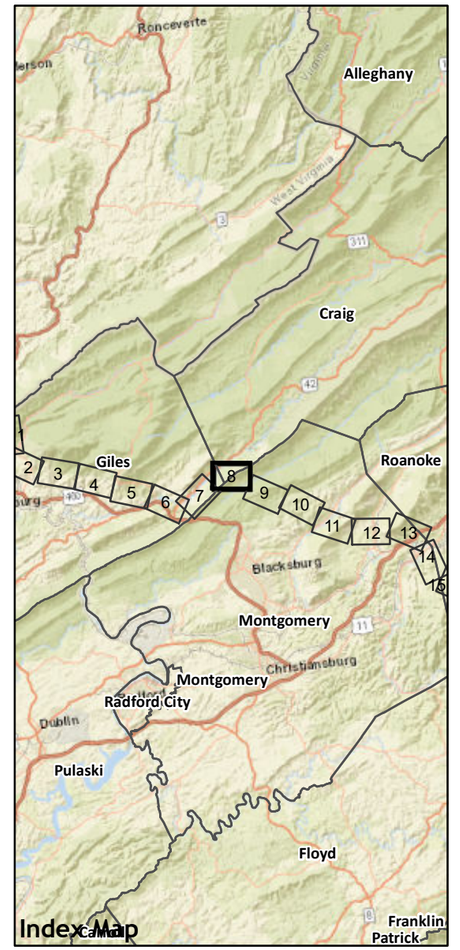
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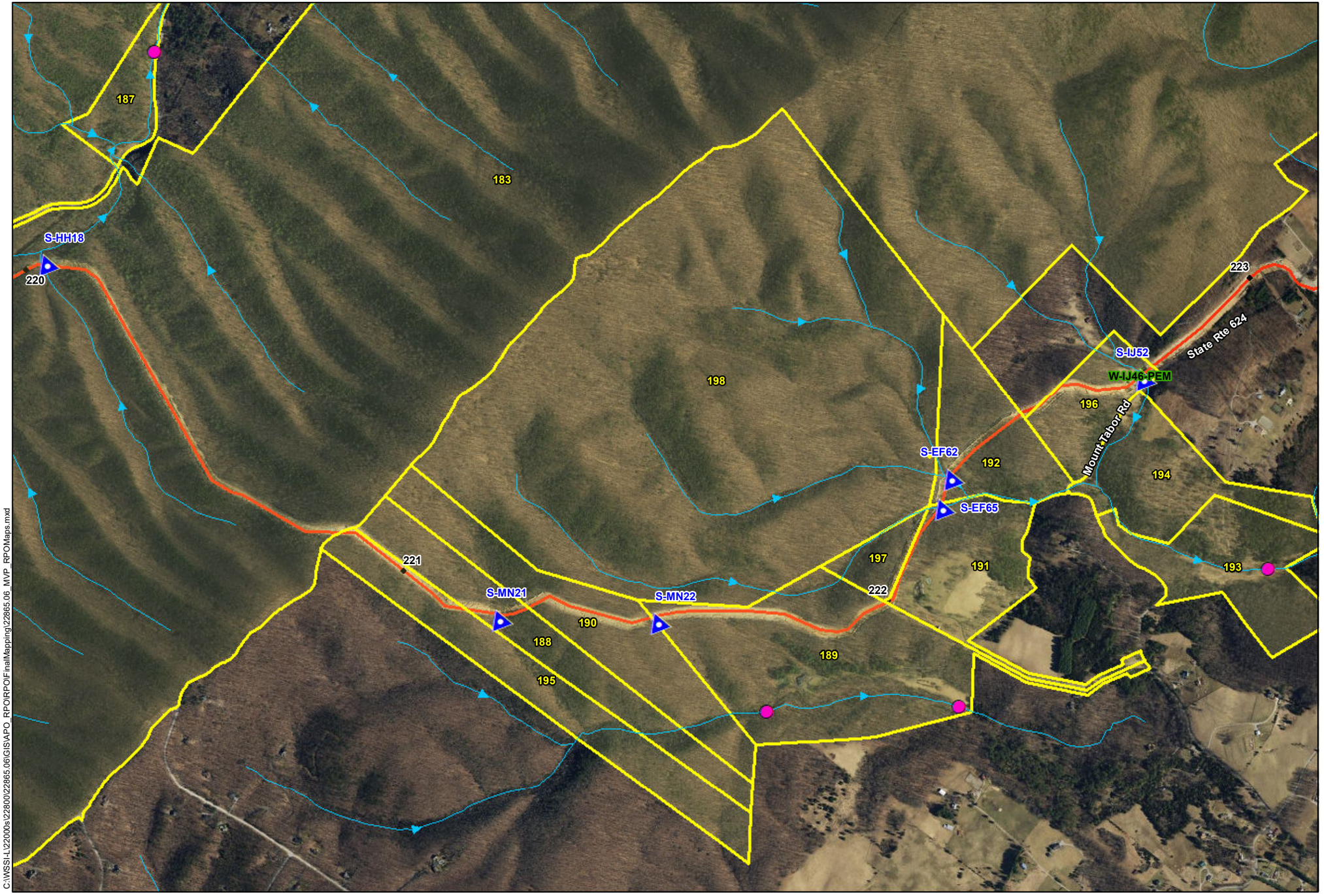
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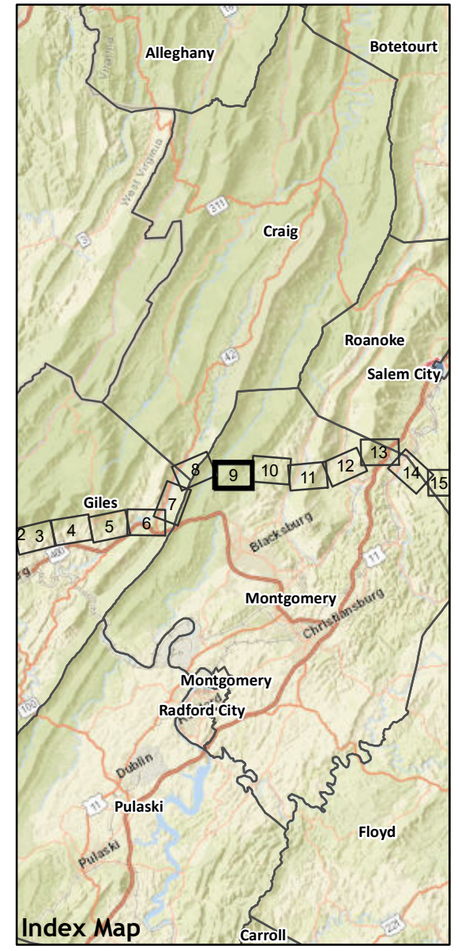
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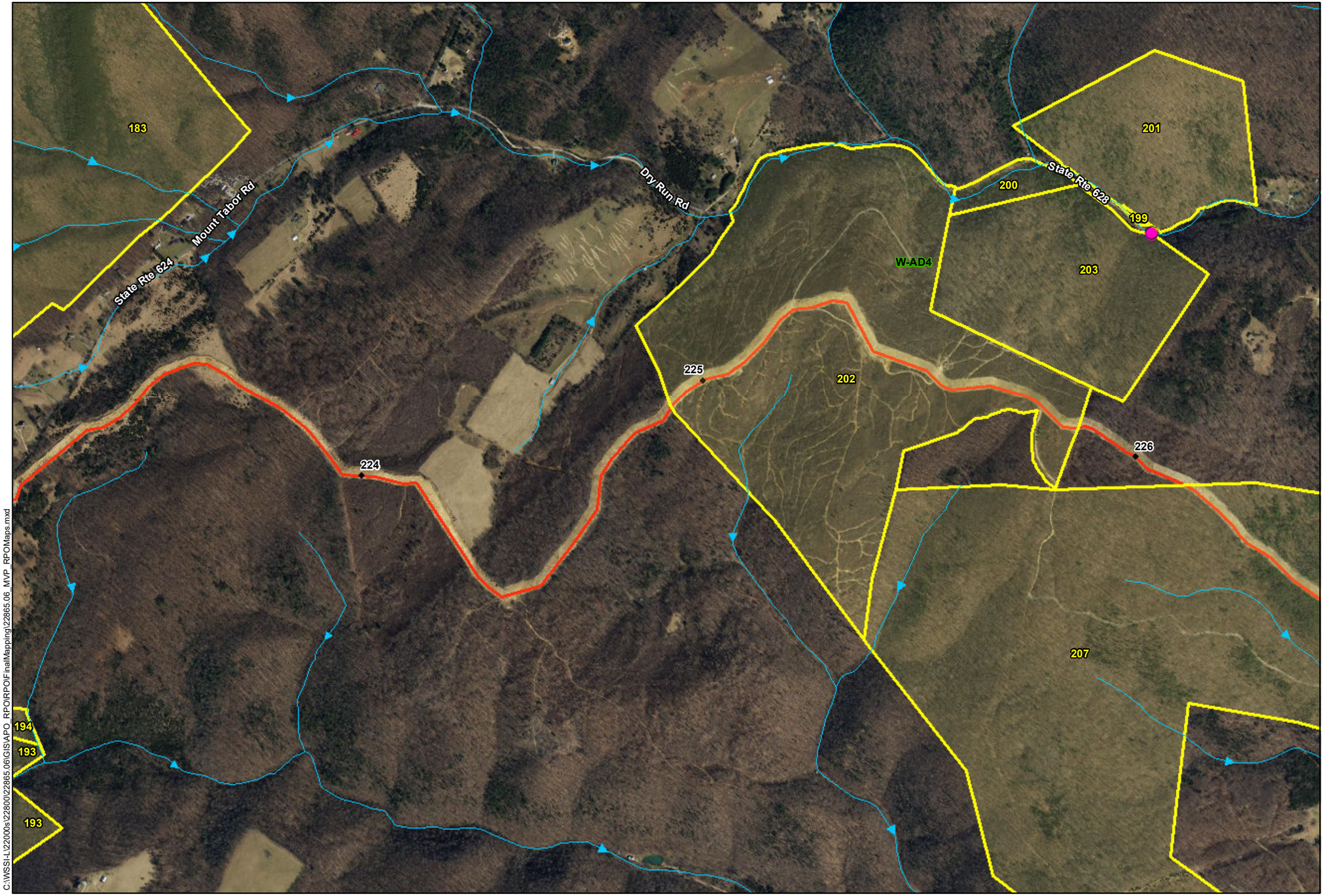
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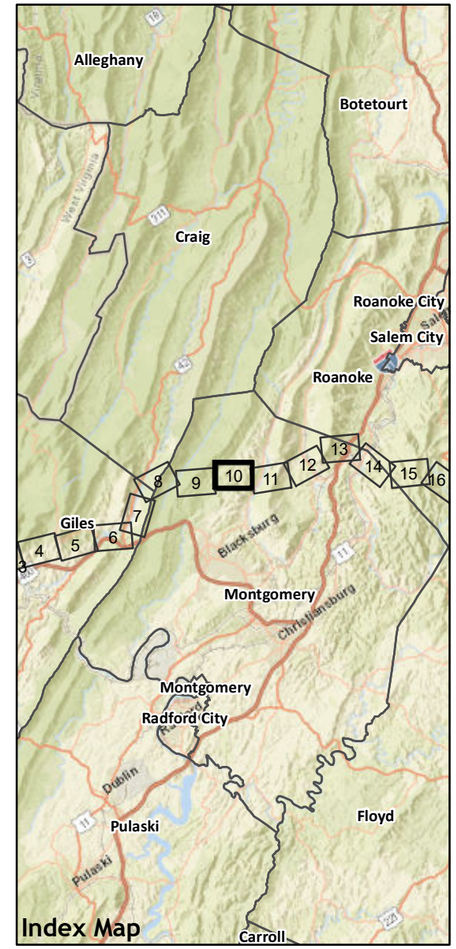
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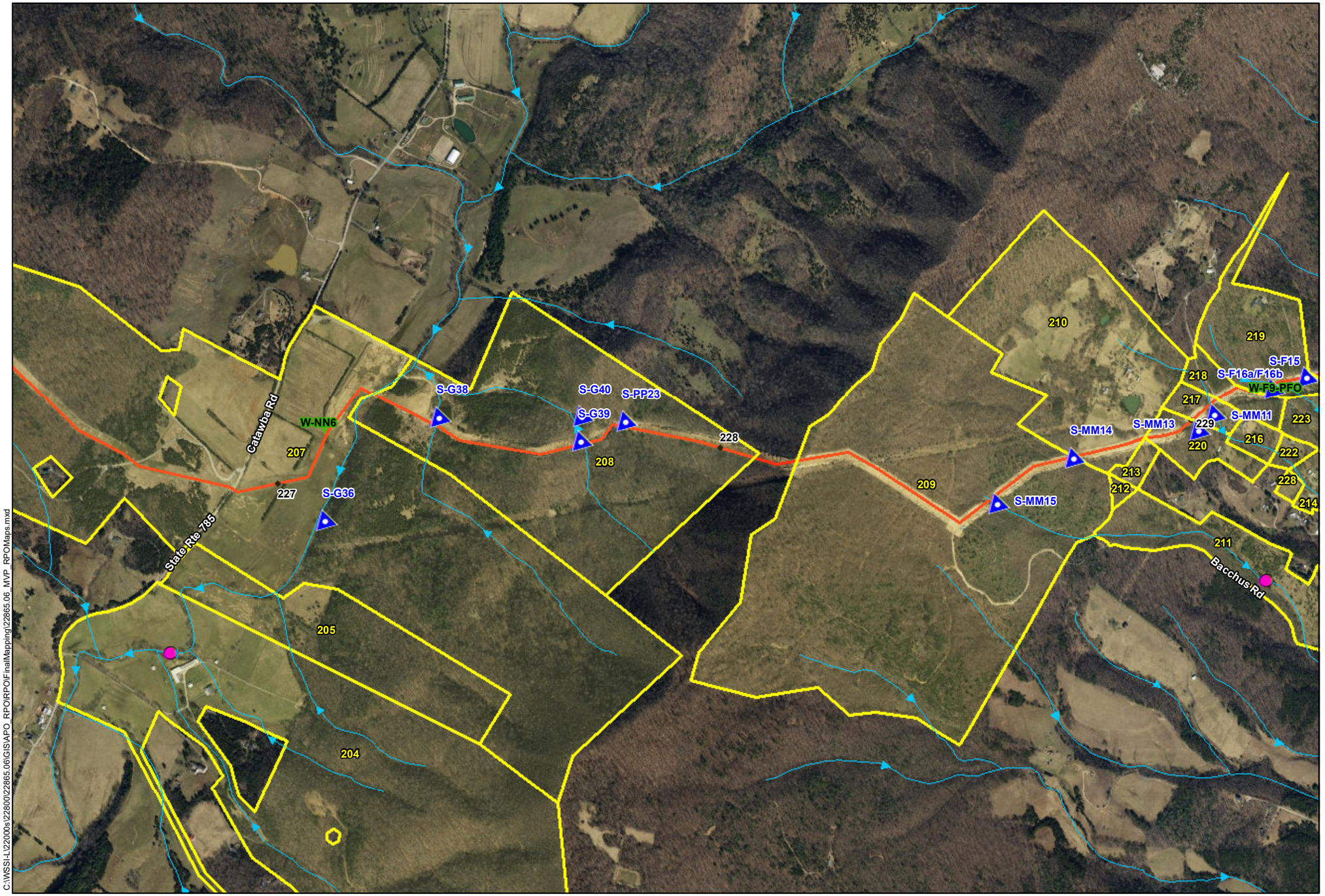
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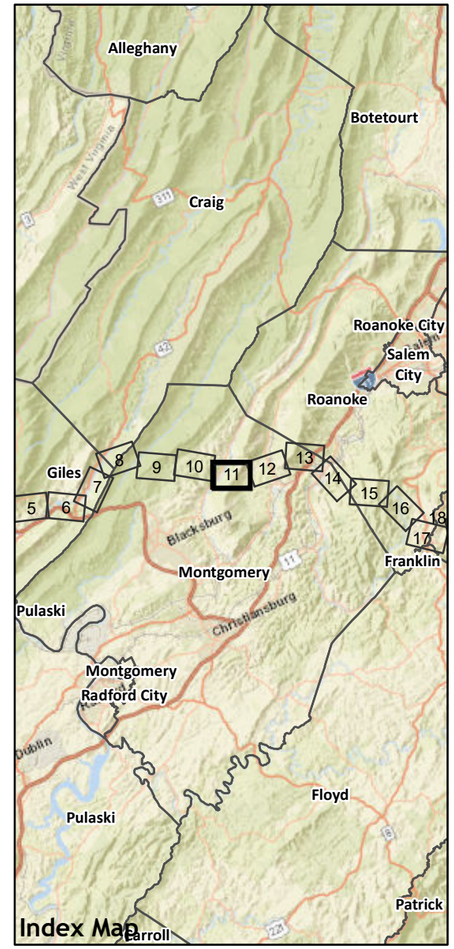
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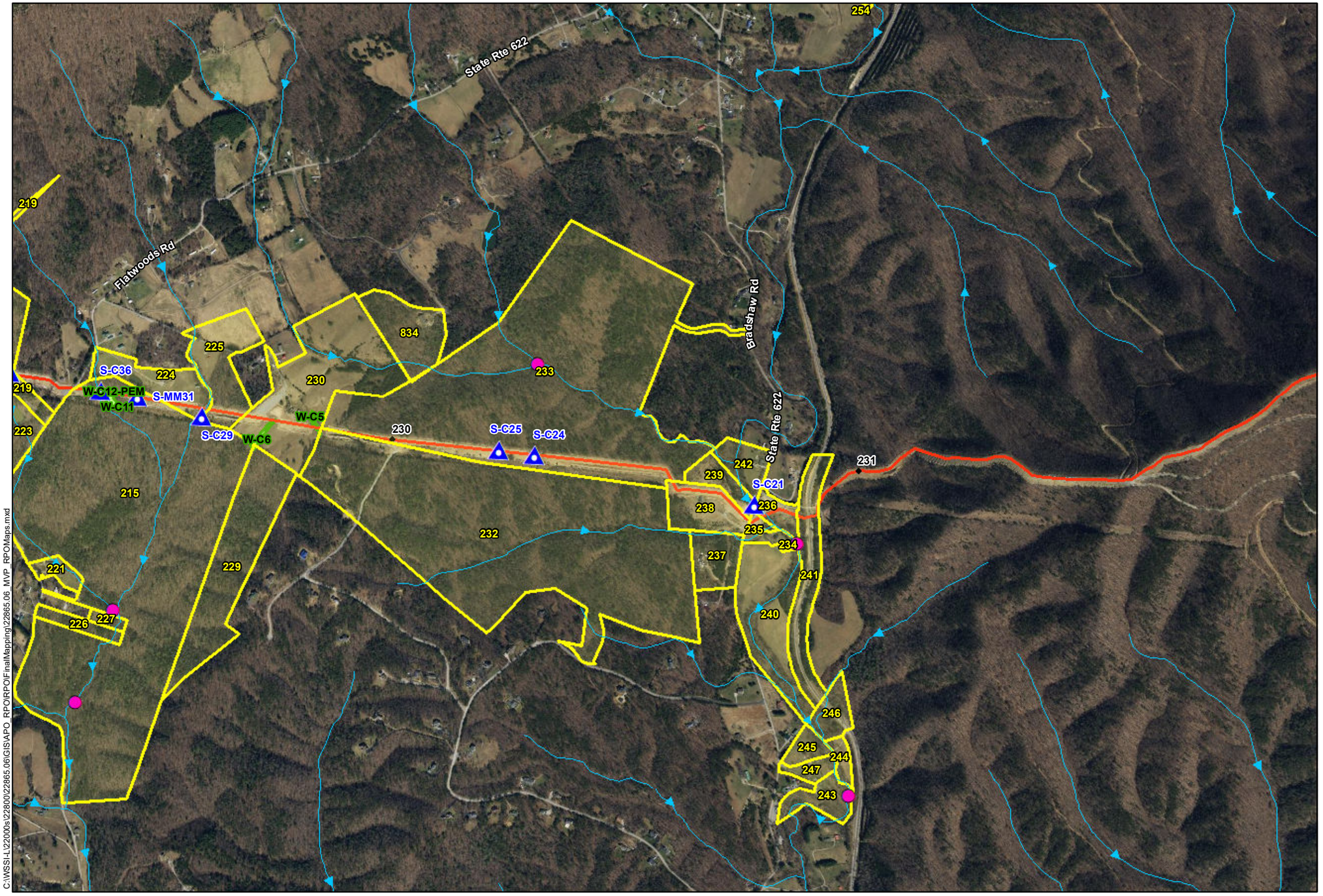
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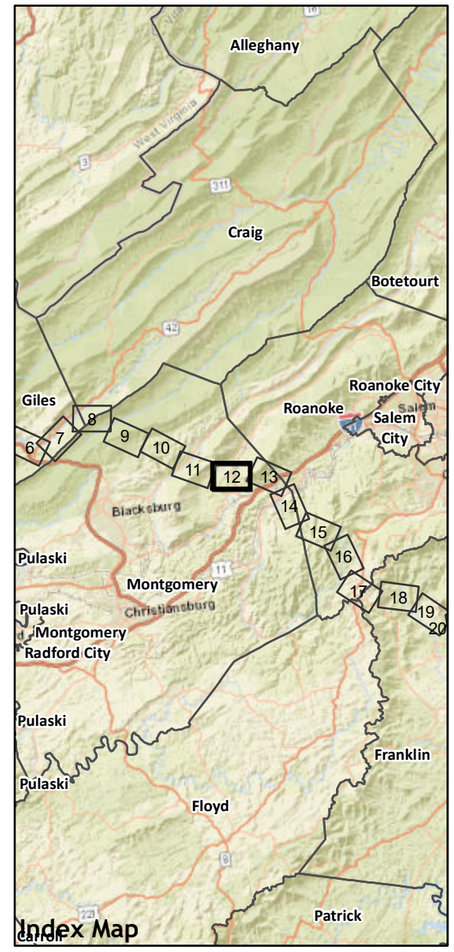
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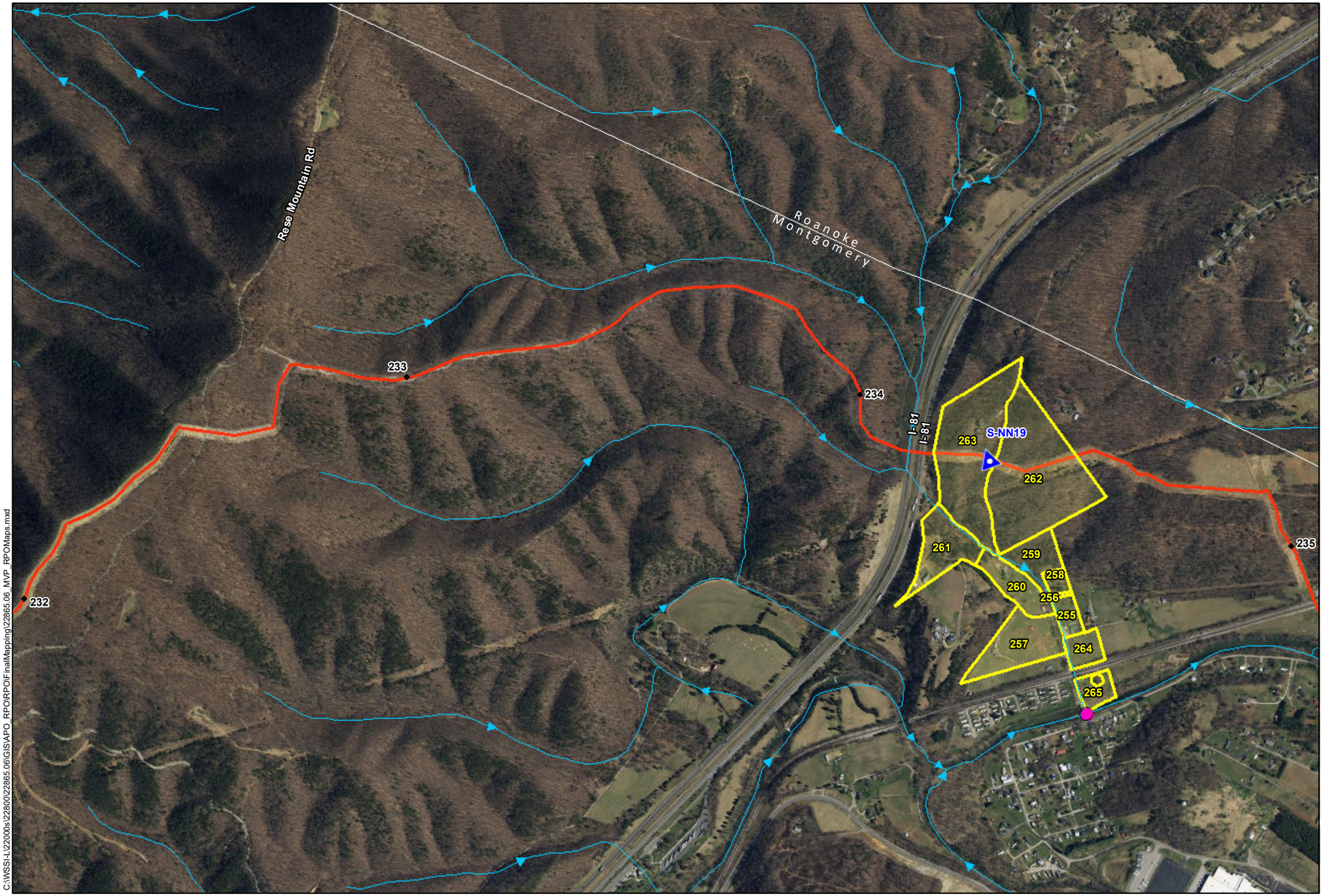
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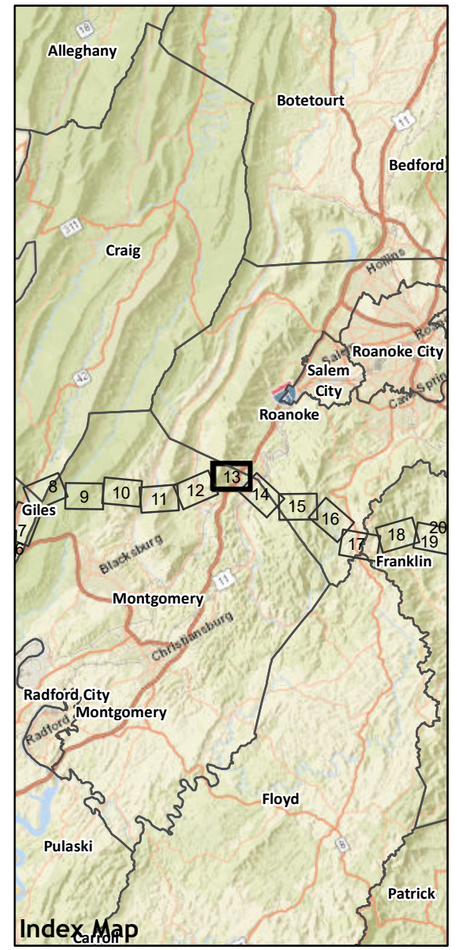
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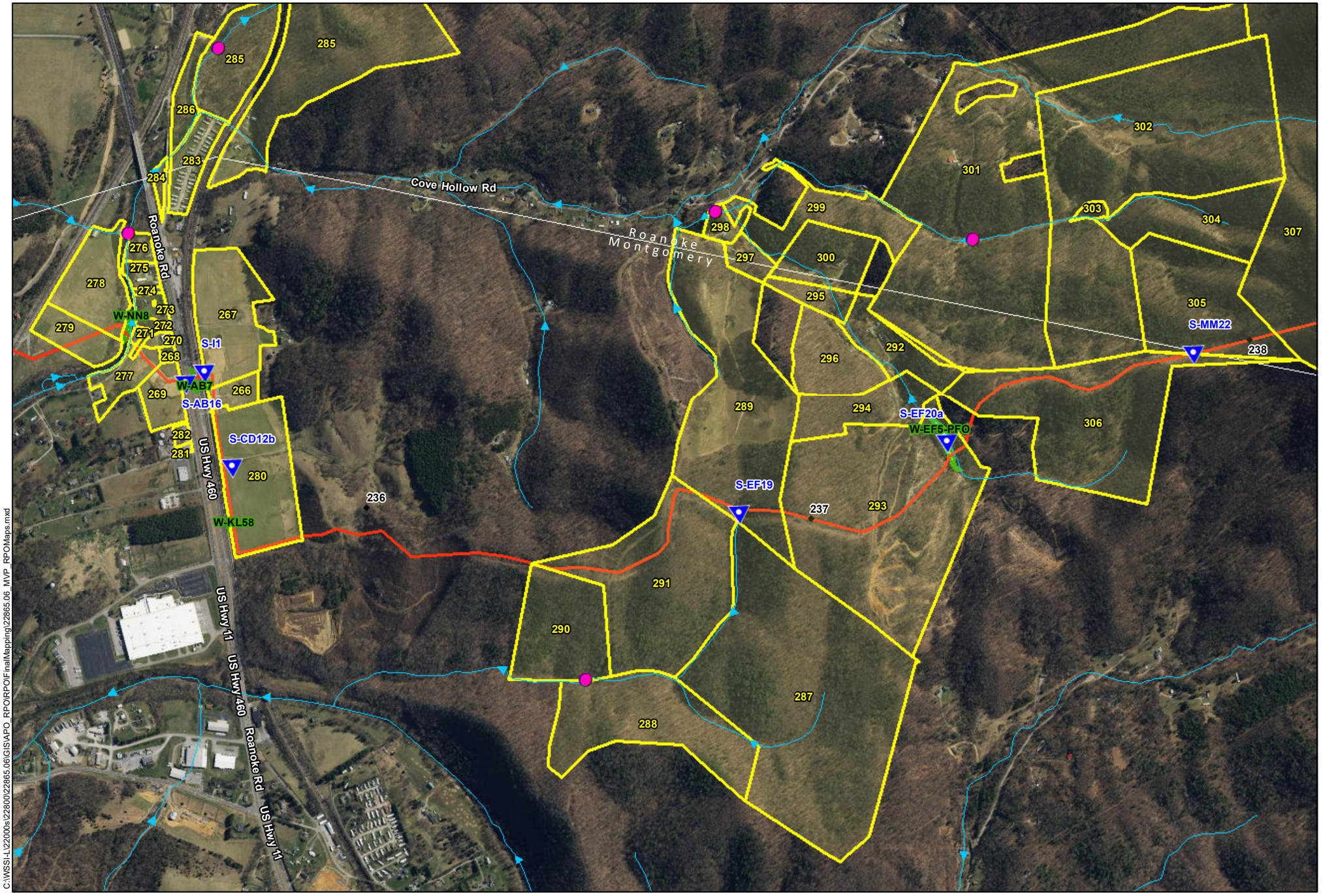
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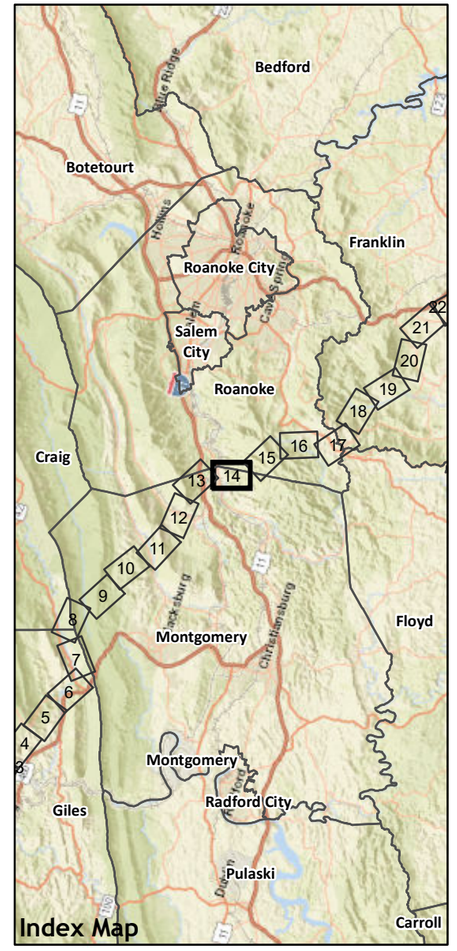
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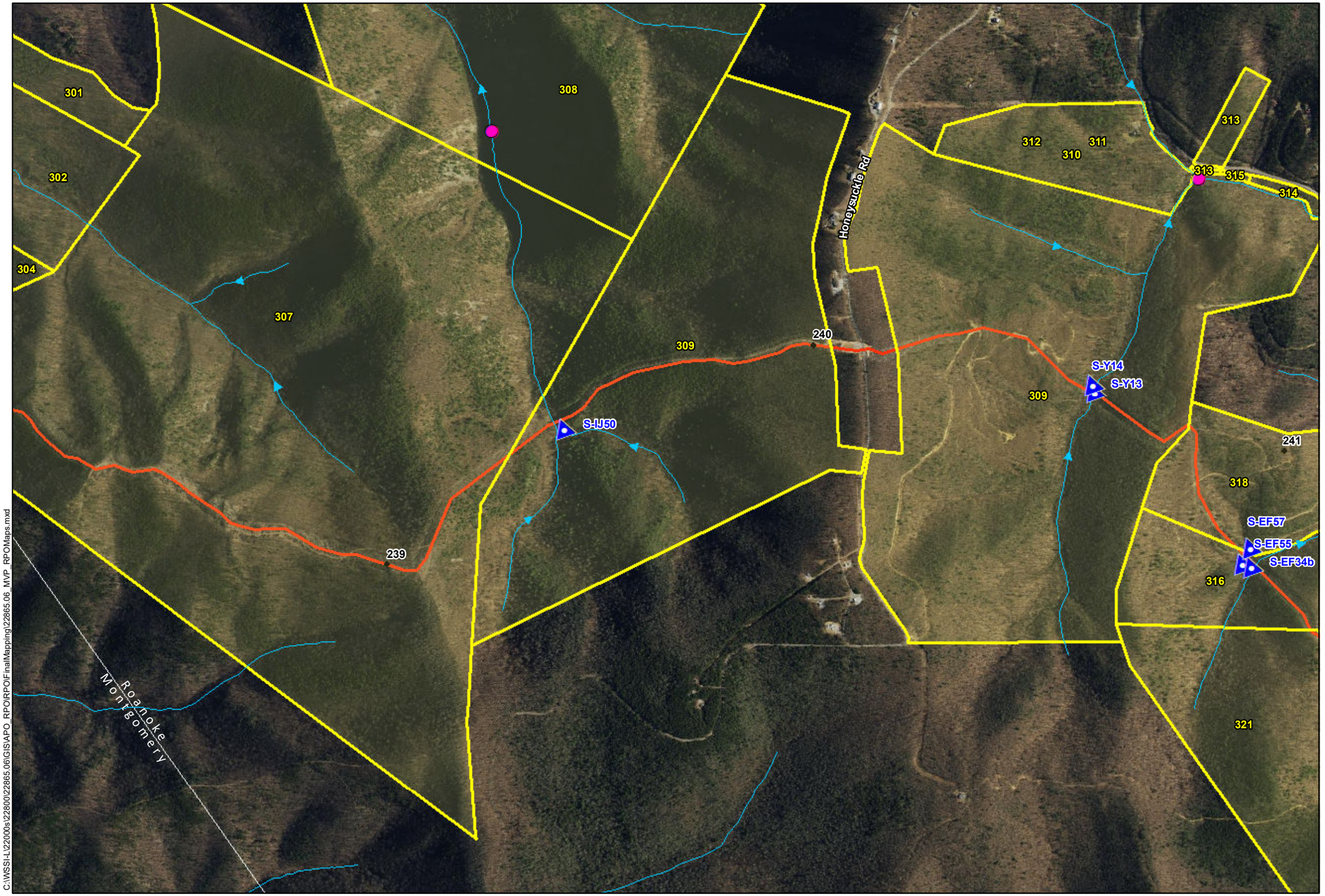
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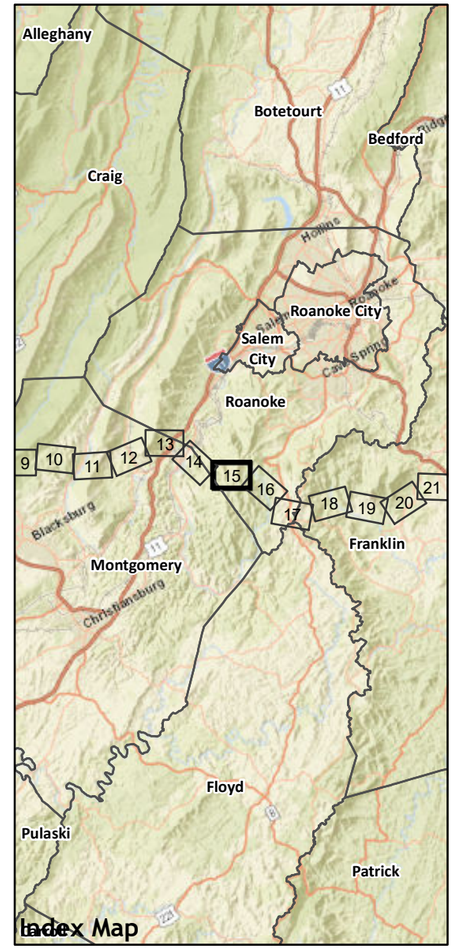
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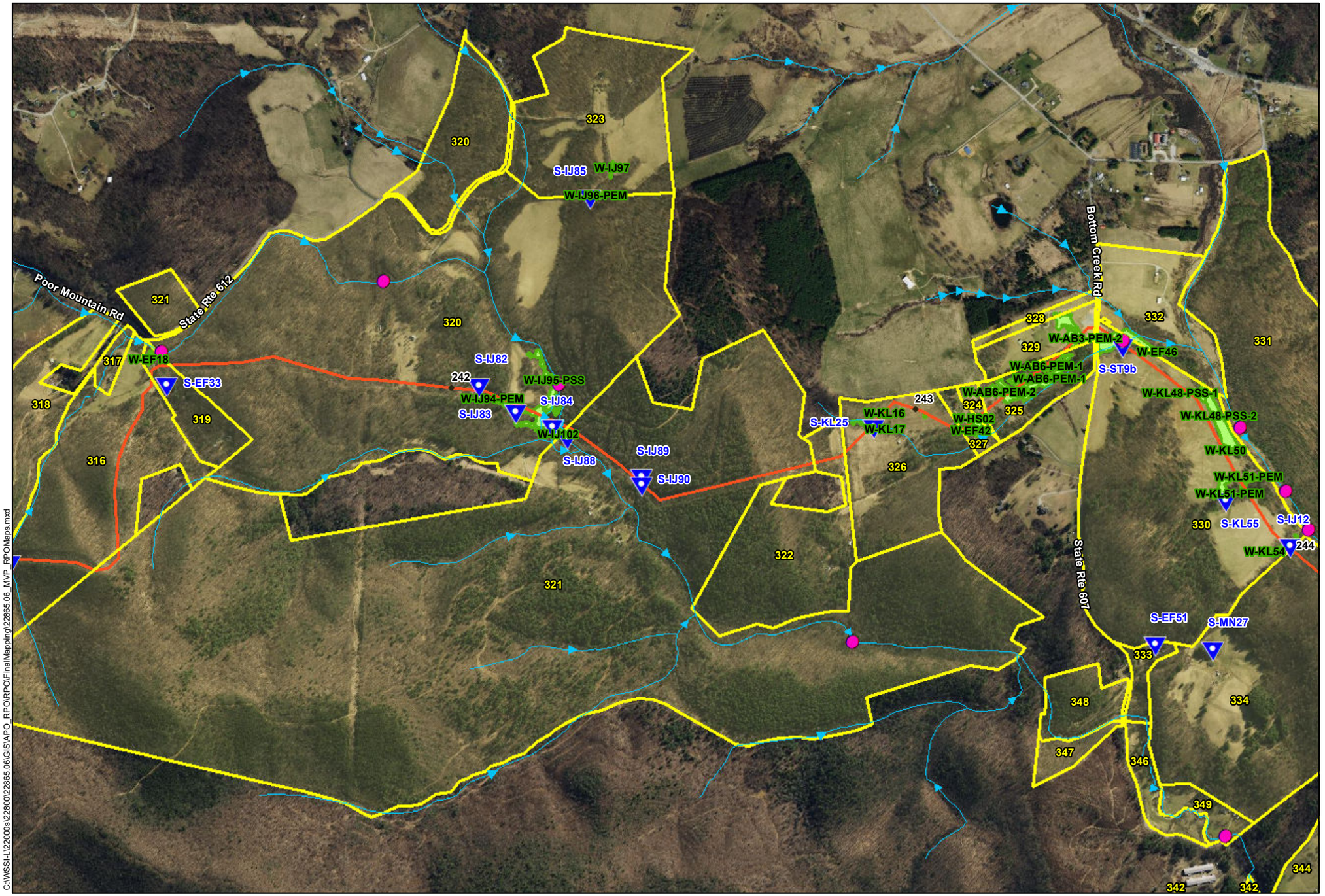
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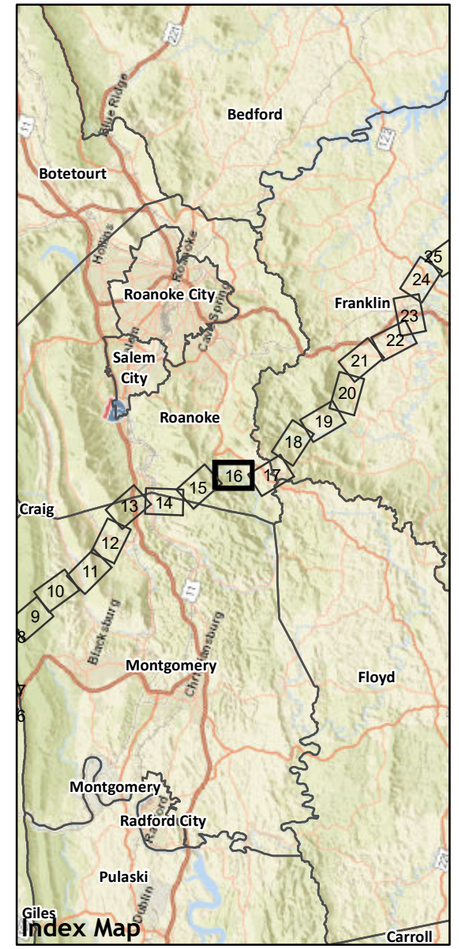
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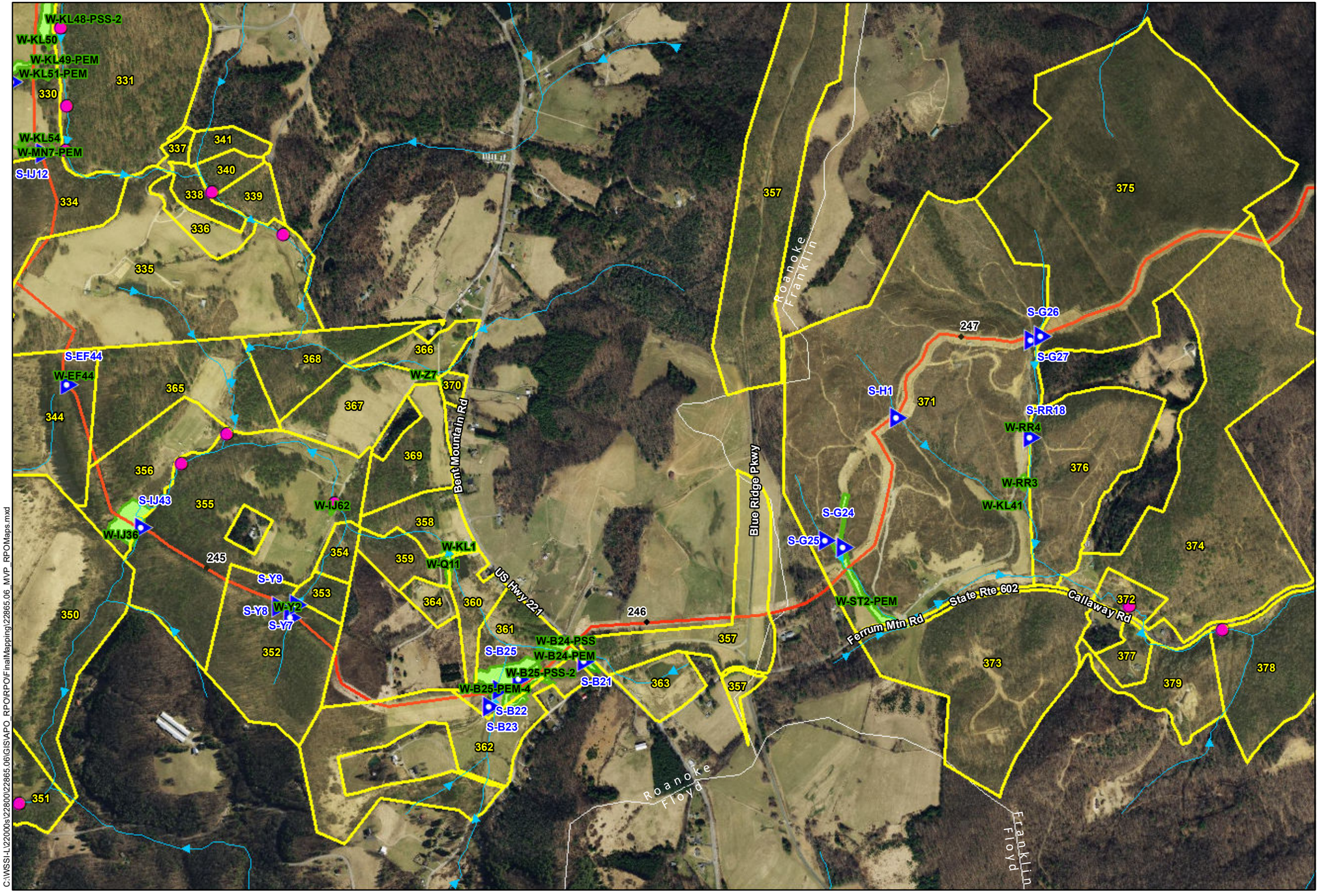
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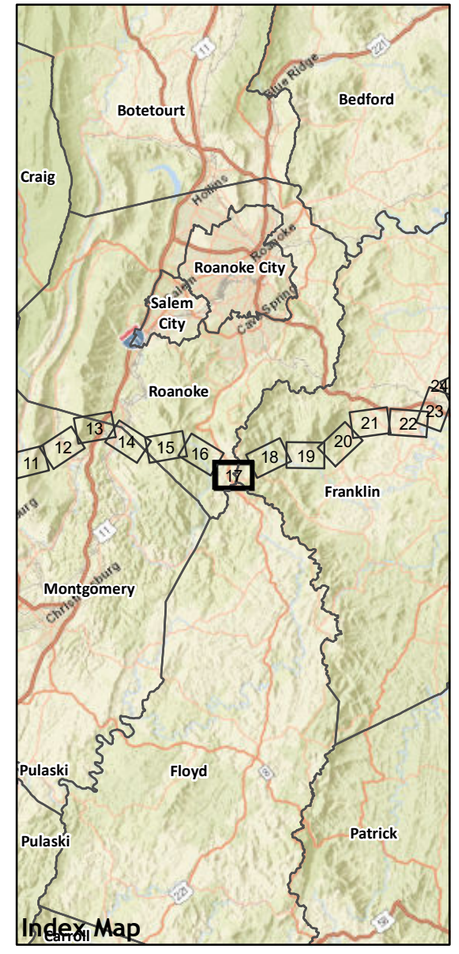


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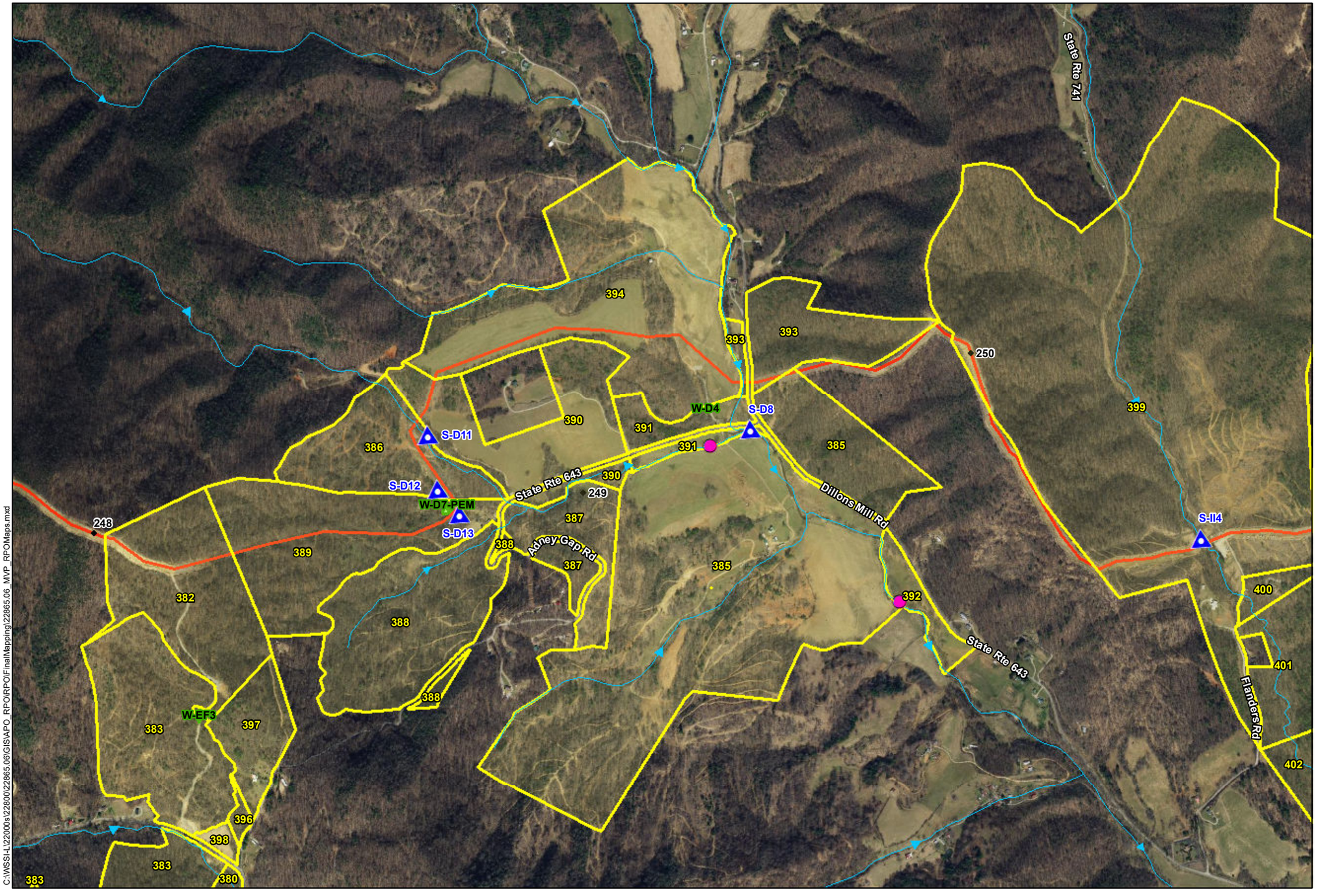
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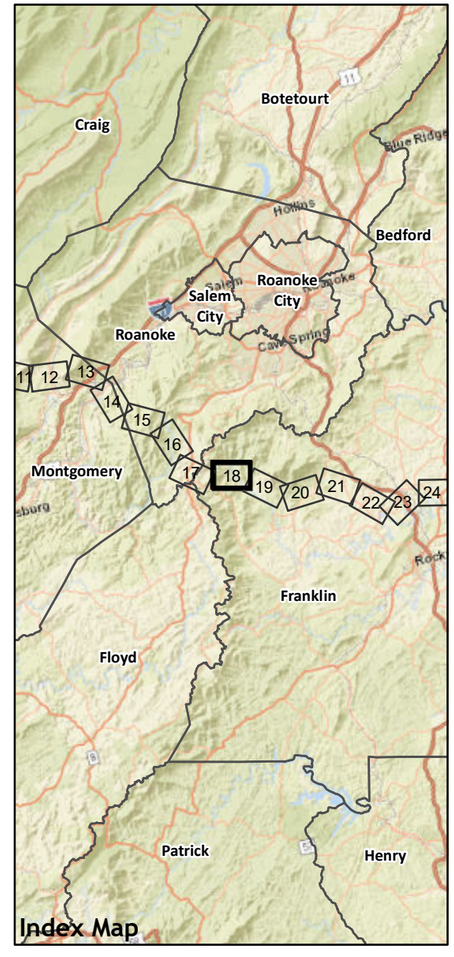
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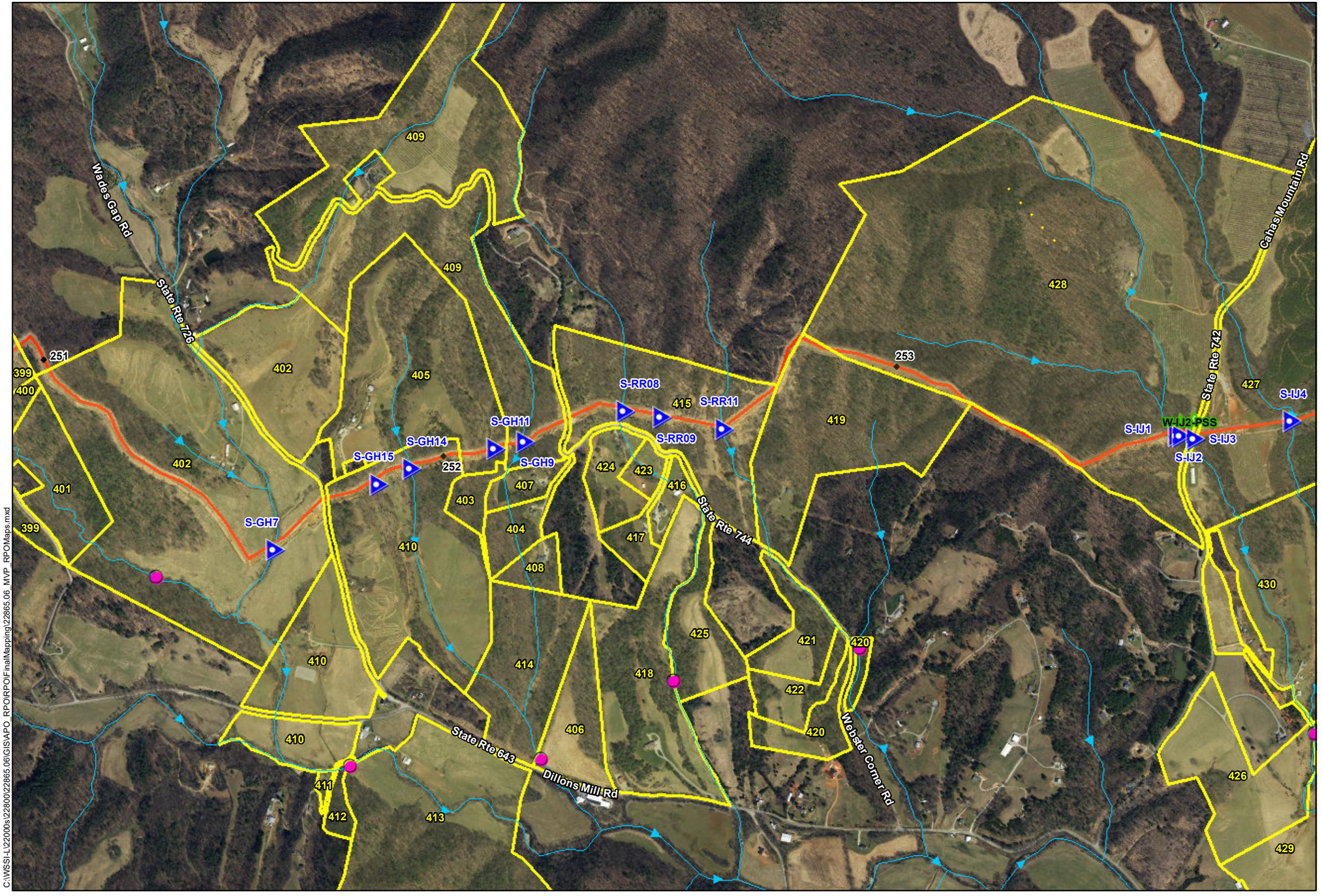
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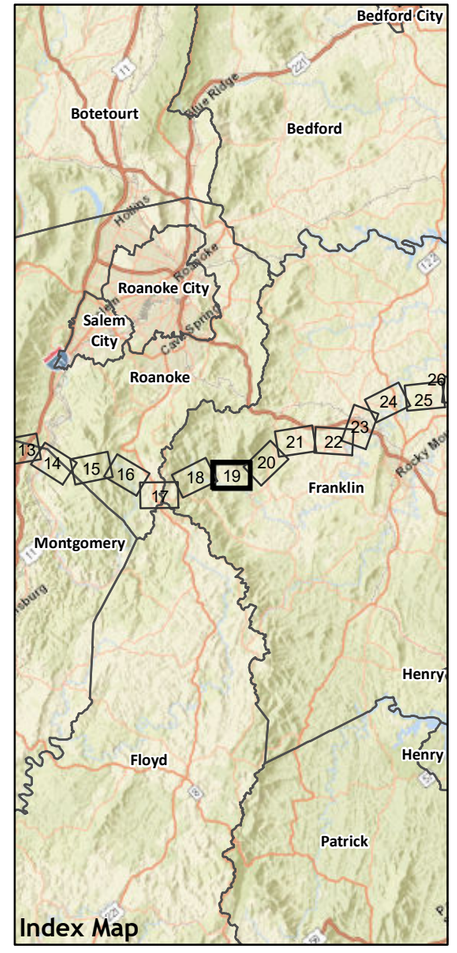
Mountain Valley PIPELINE



½ Mile Downstream Points
RPO Parcels[1]
Stream Location Centroid
Wetland Location
NHD Flowline
MVP Implementation MP Centerline
MVP Implementation Milepost

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NORTH

Imagery Source: VGIN
Centerline/Parcel/Impact Source: MVP. January 2021.
Hydrology Source: National Hydrography Dataset (NHD)
Friday, February 19, 2021

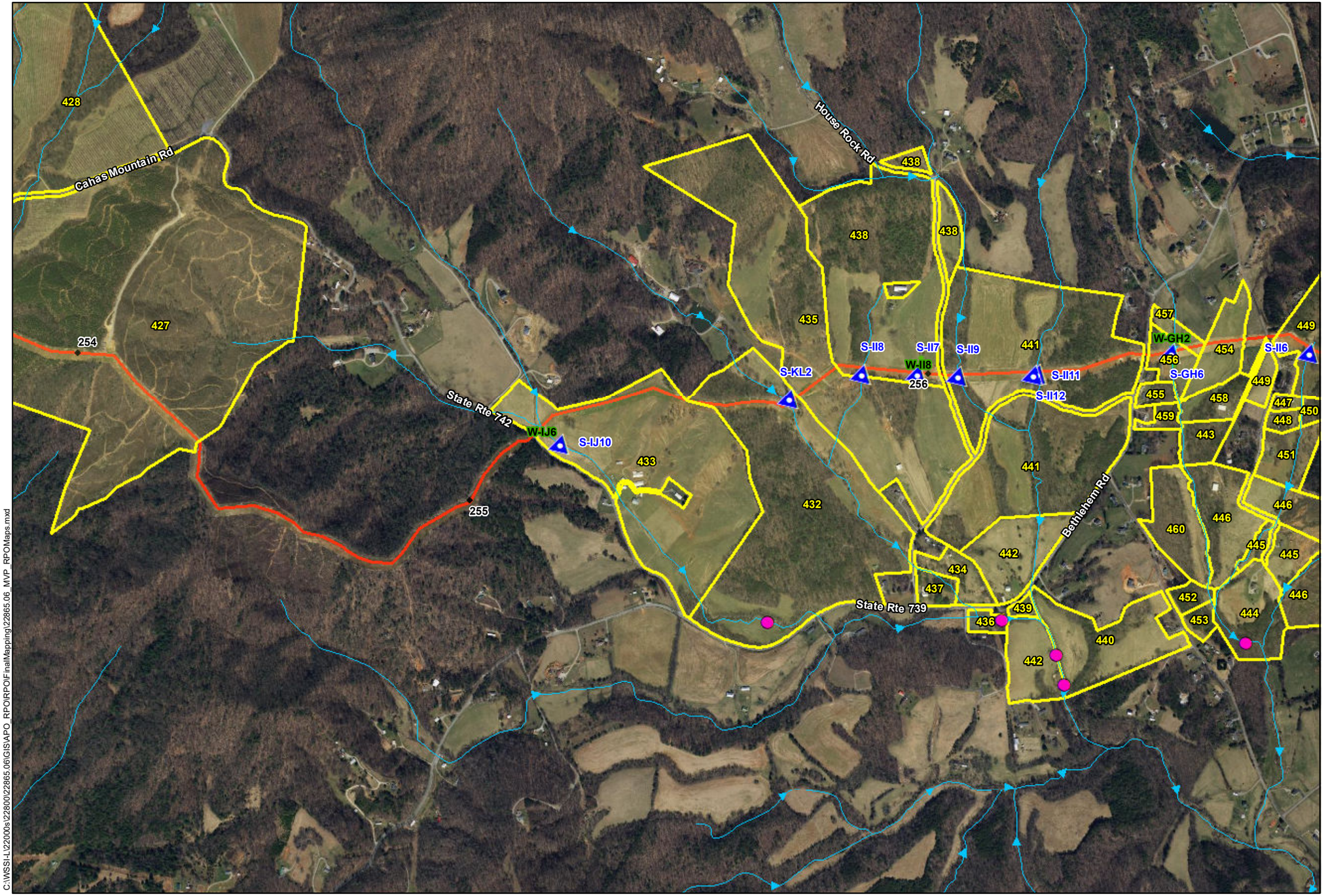
0 1,000 2,000 Feet
1 inch = 1,000 feet

Prepared by:
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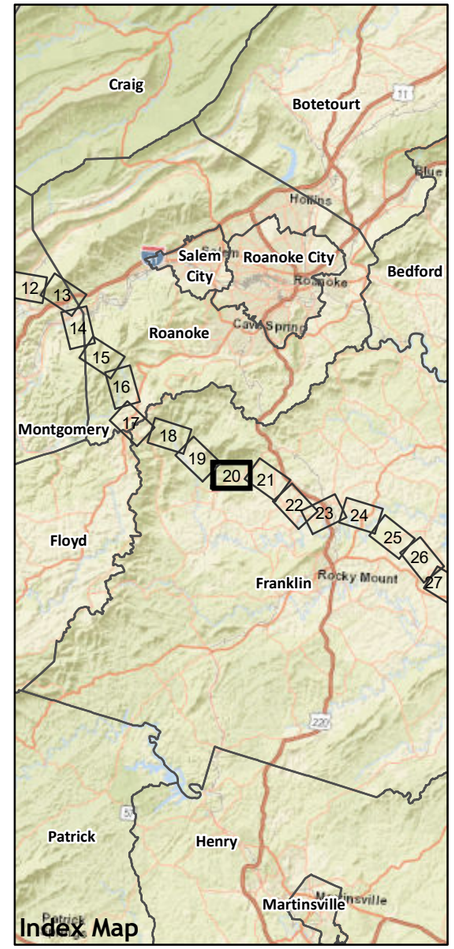
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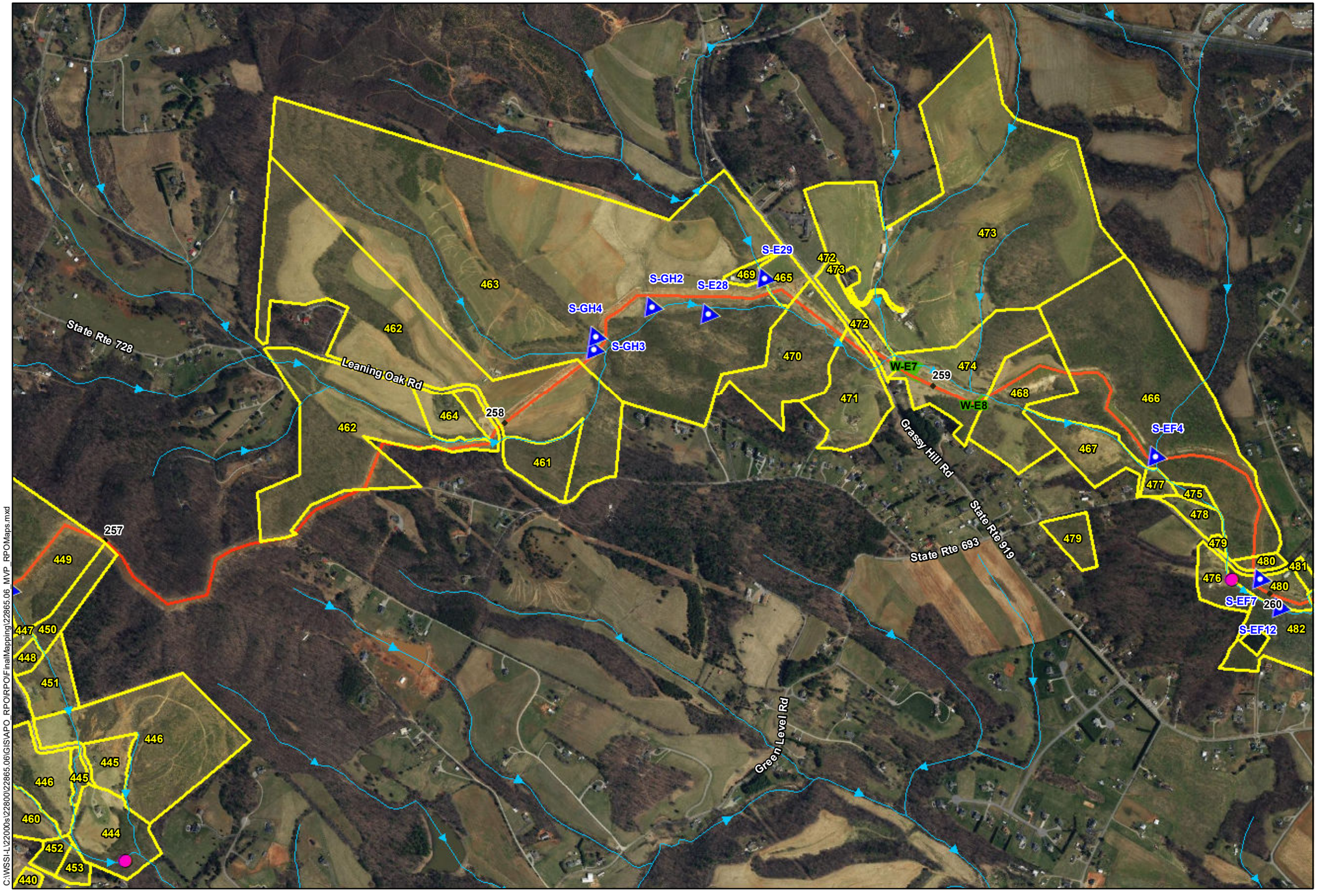
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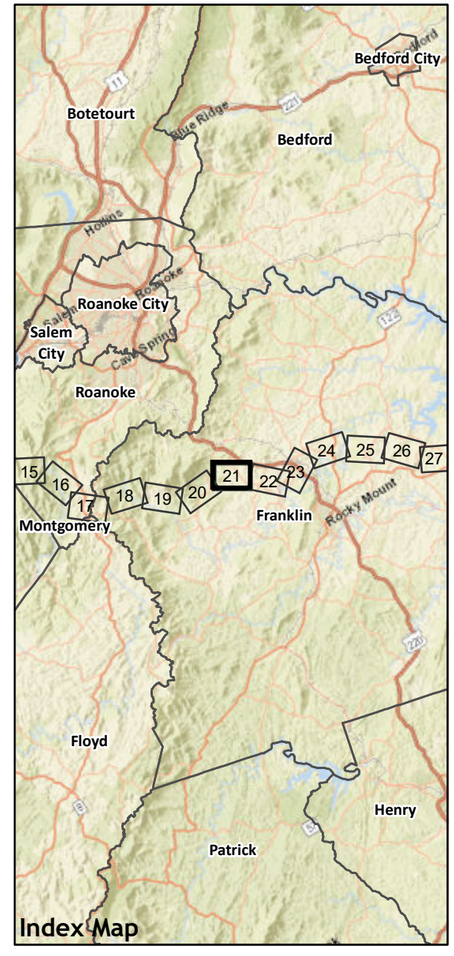
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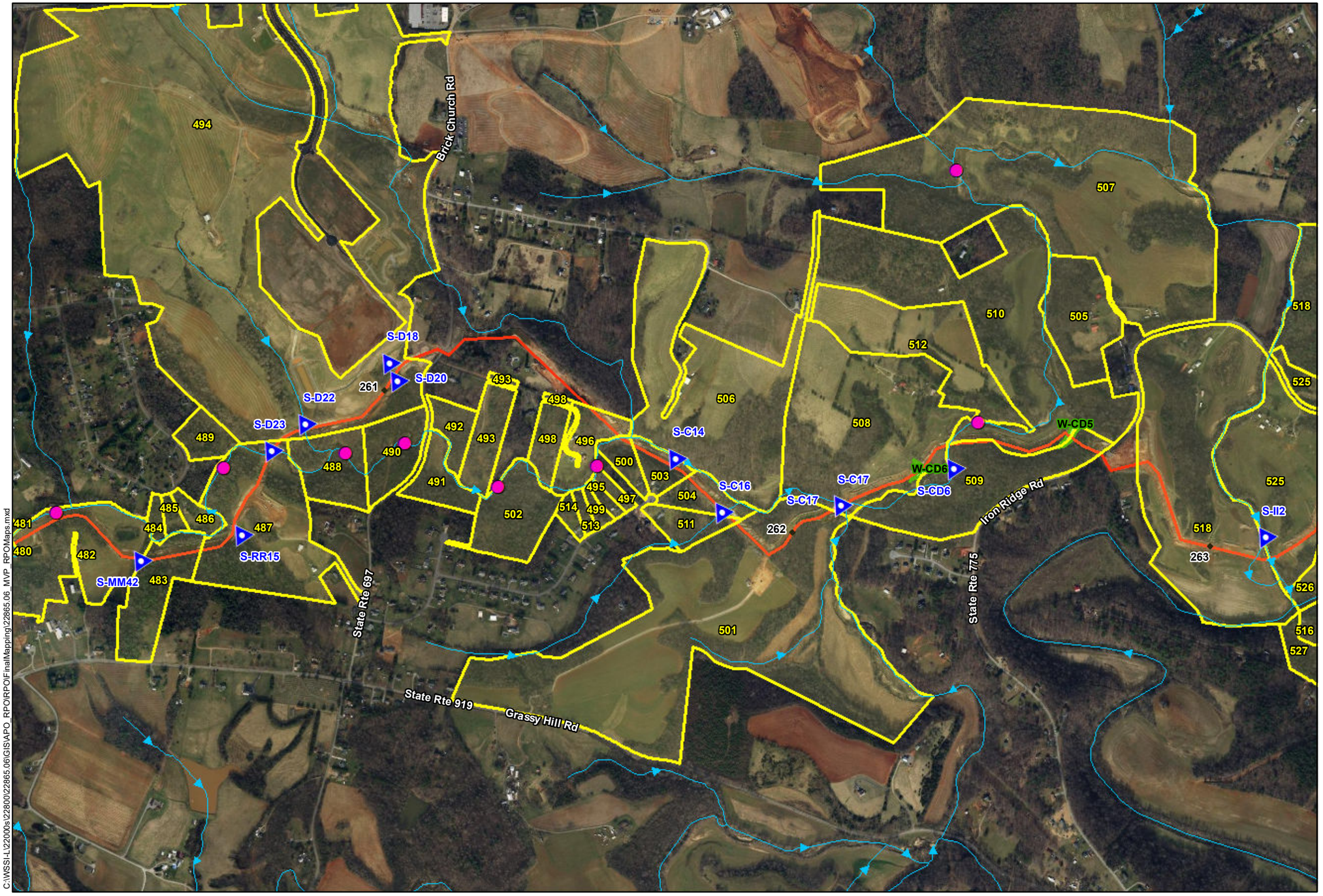
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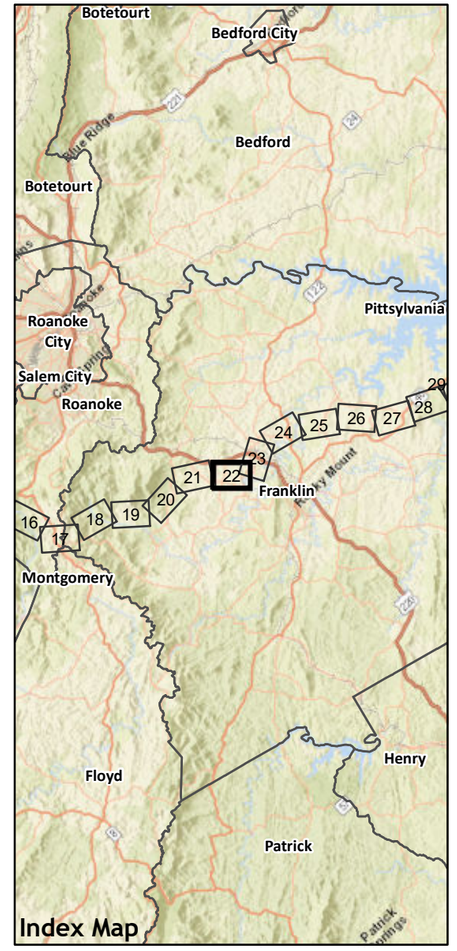
Mountain Valley PIPELINE



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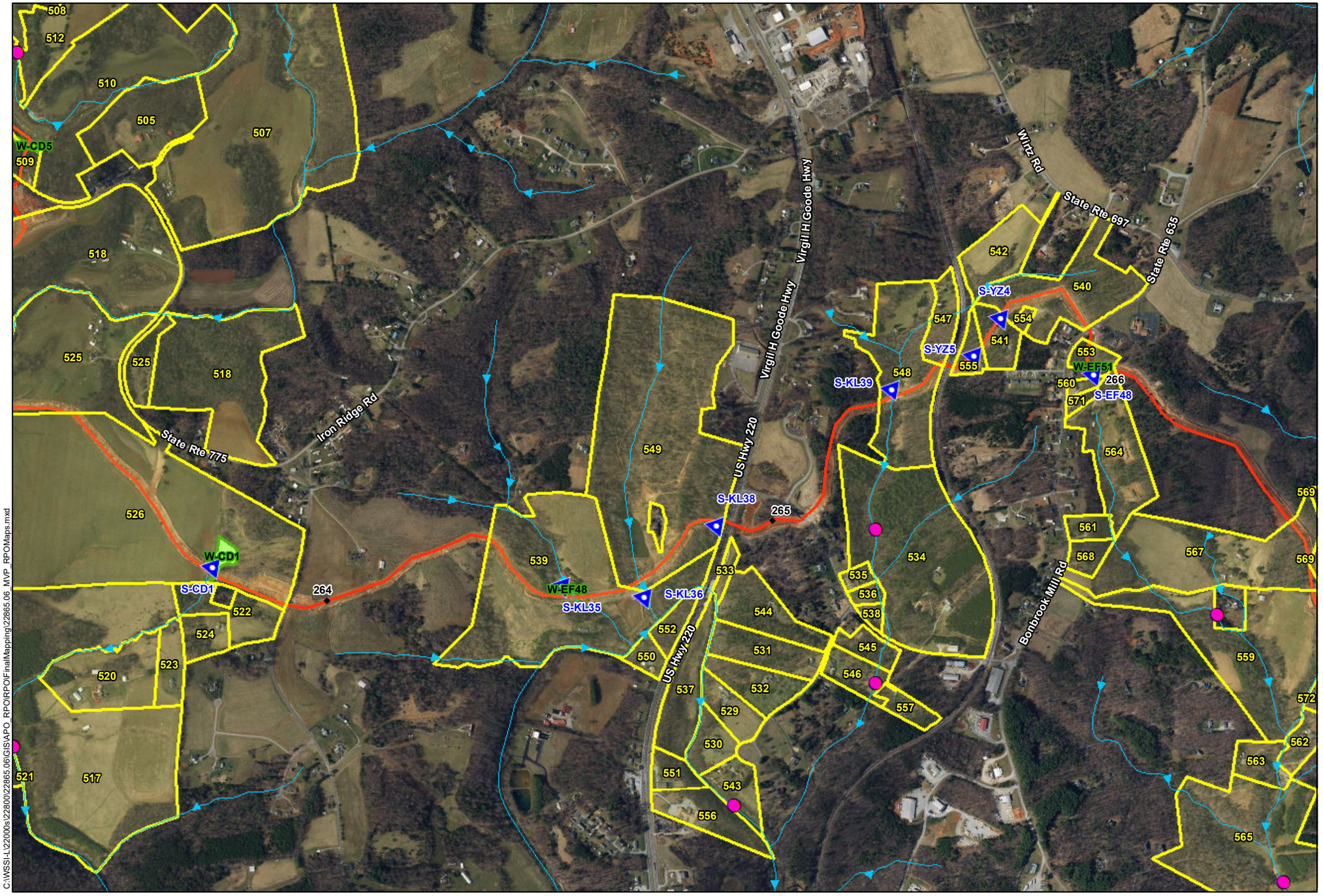
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Mountain Valley PIPELINE



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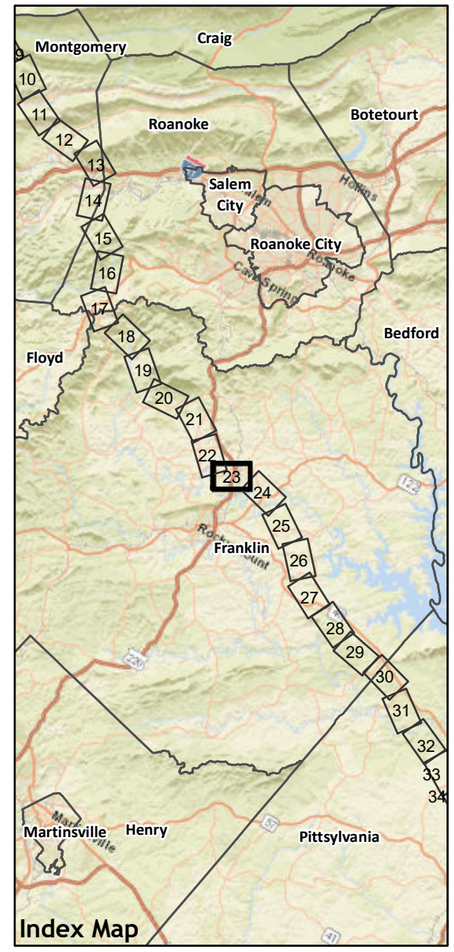
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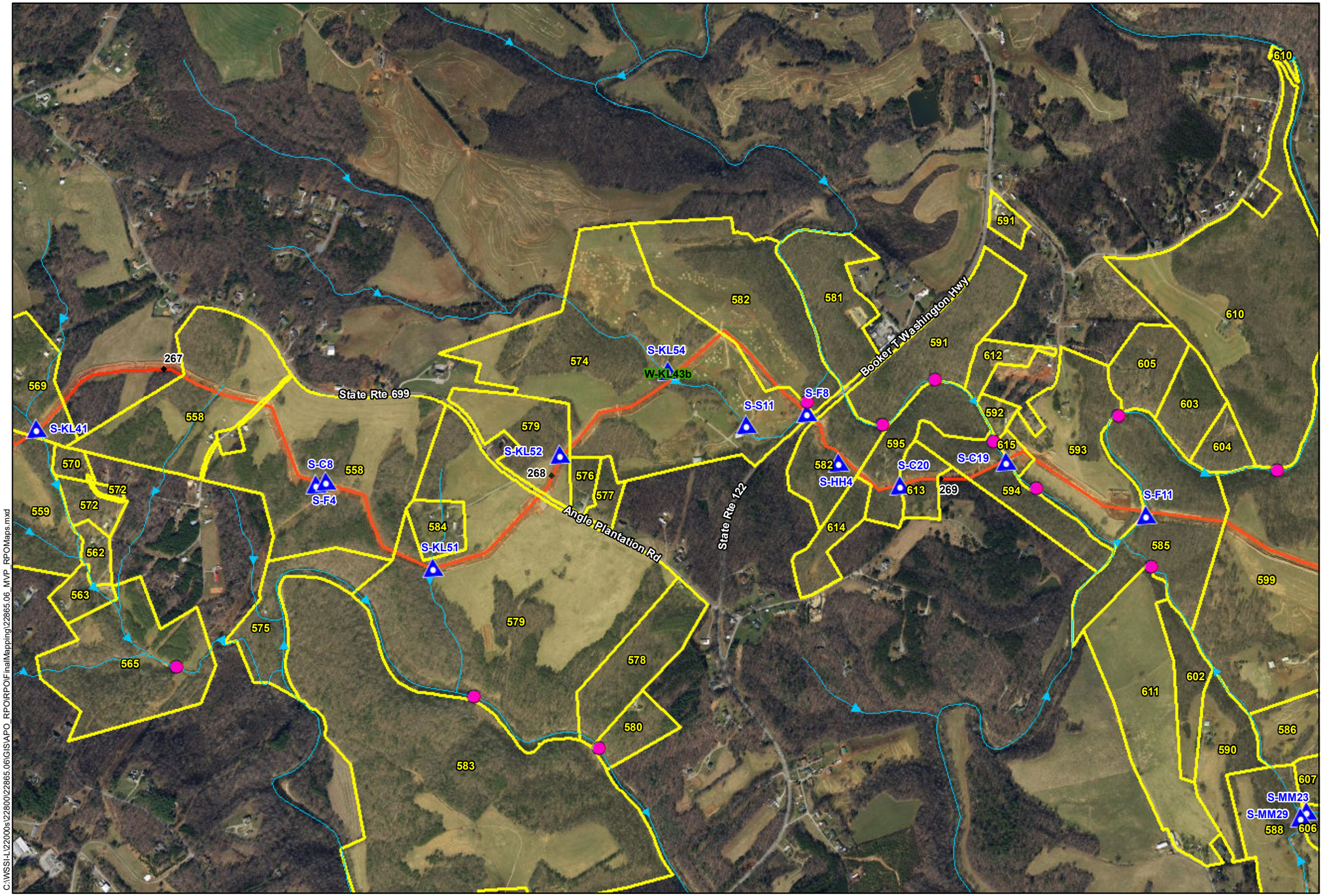
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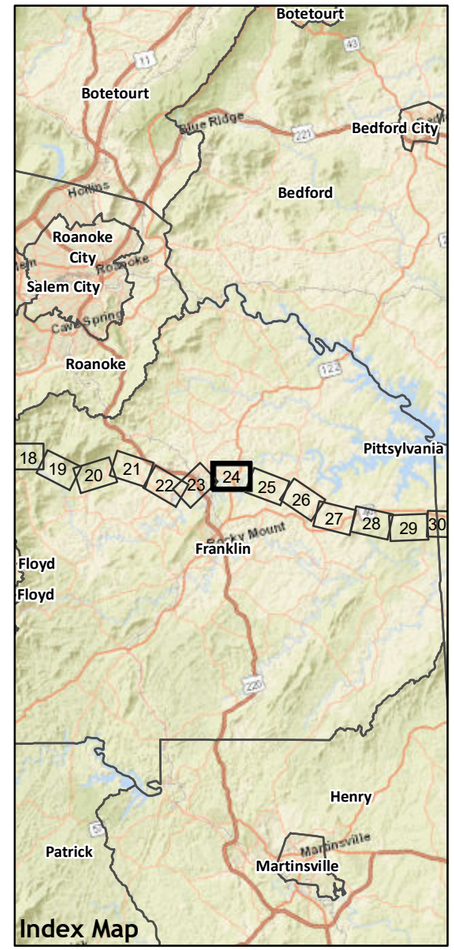
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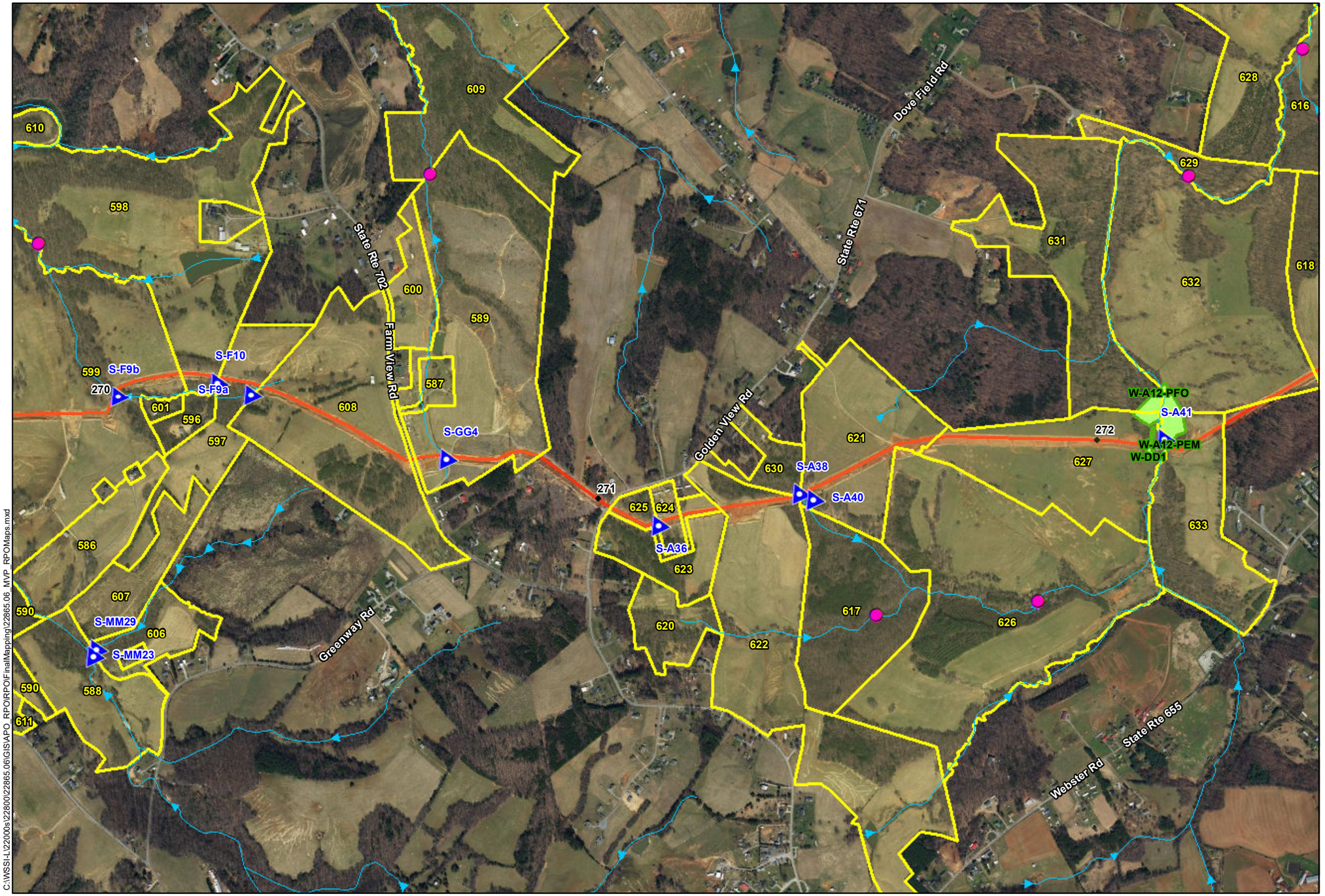
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Mountain Valley PIPELINE



½ Mile Downstream Points

RPO Parcels[1]

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Wetland Location

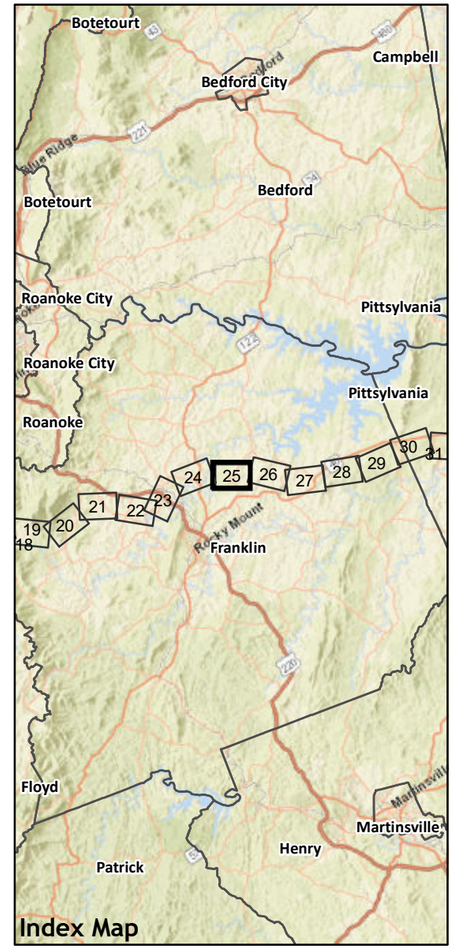
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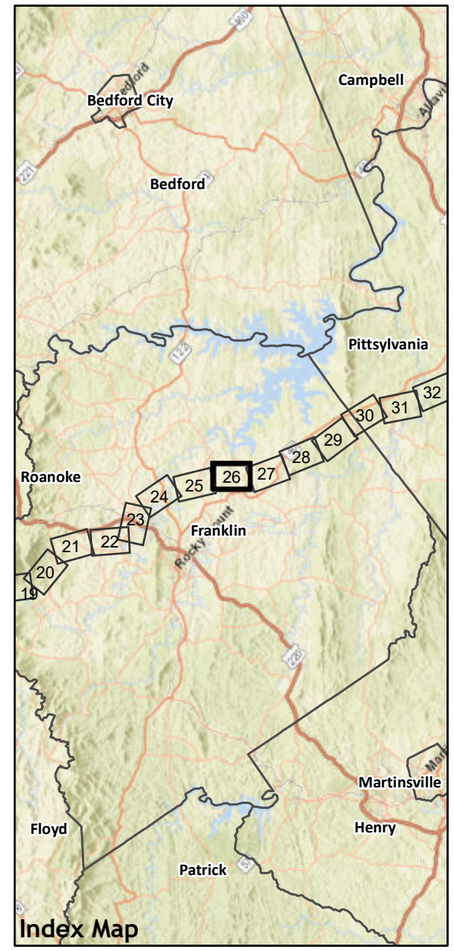
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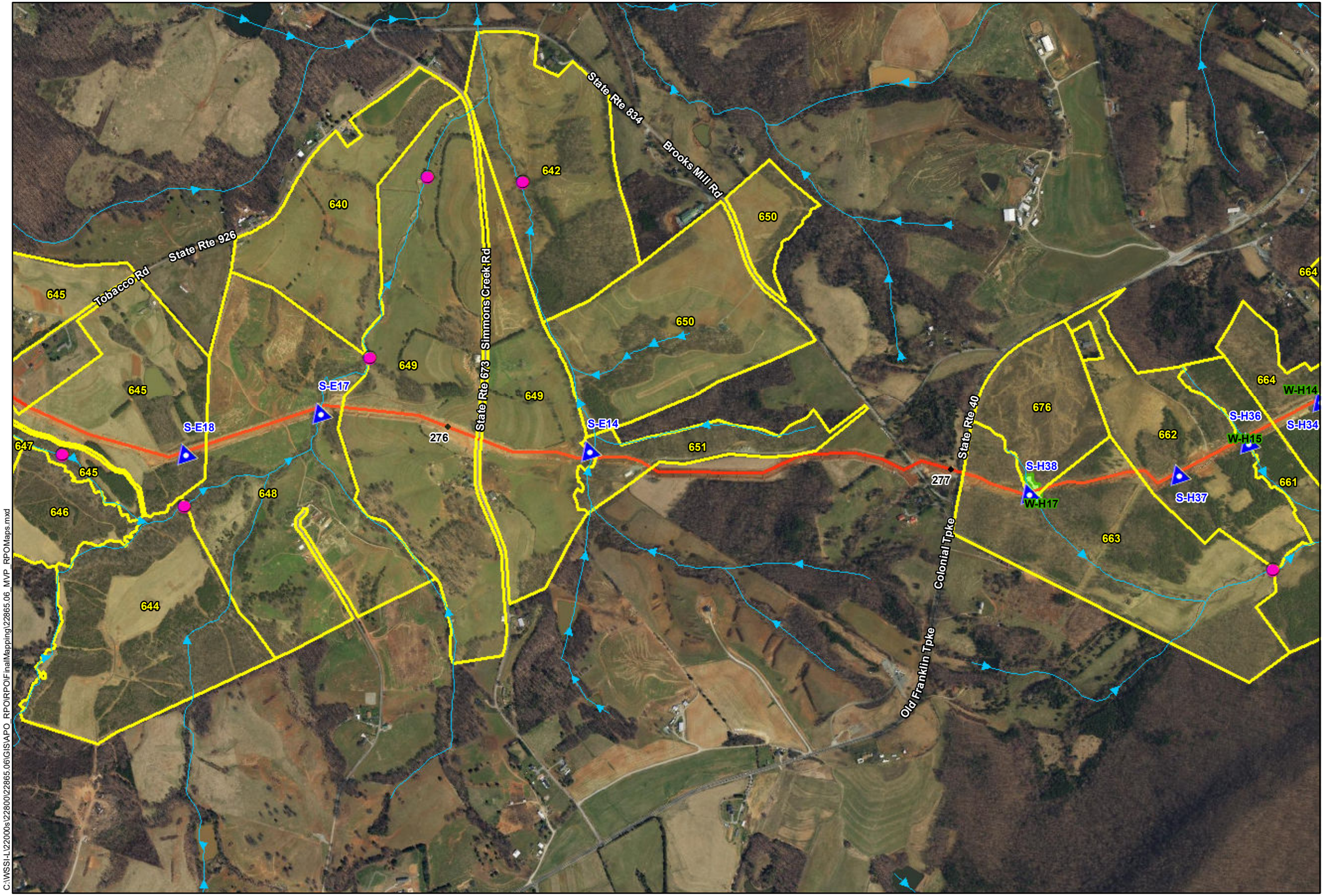
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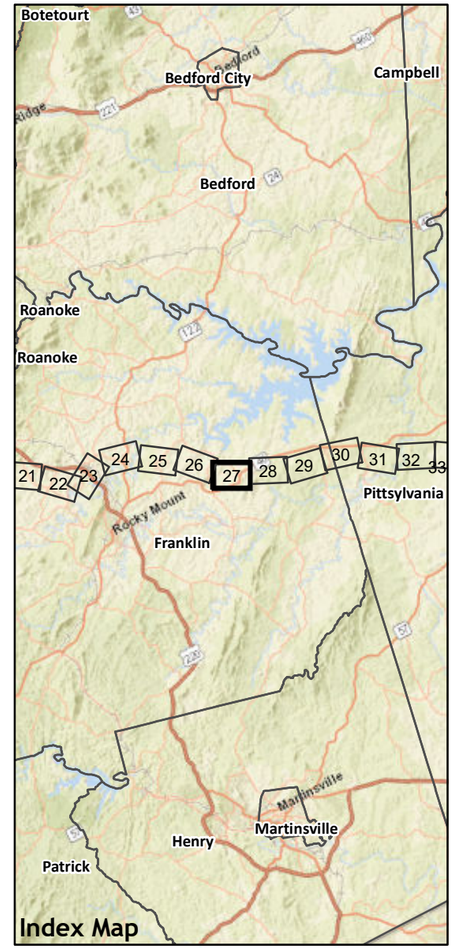
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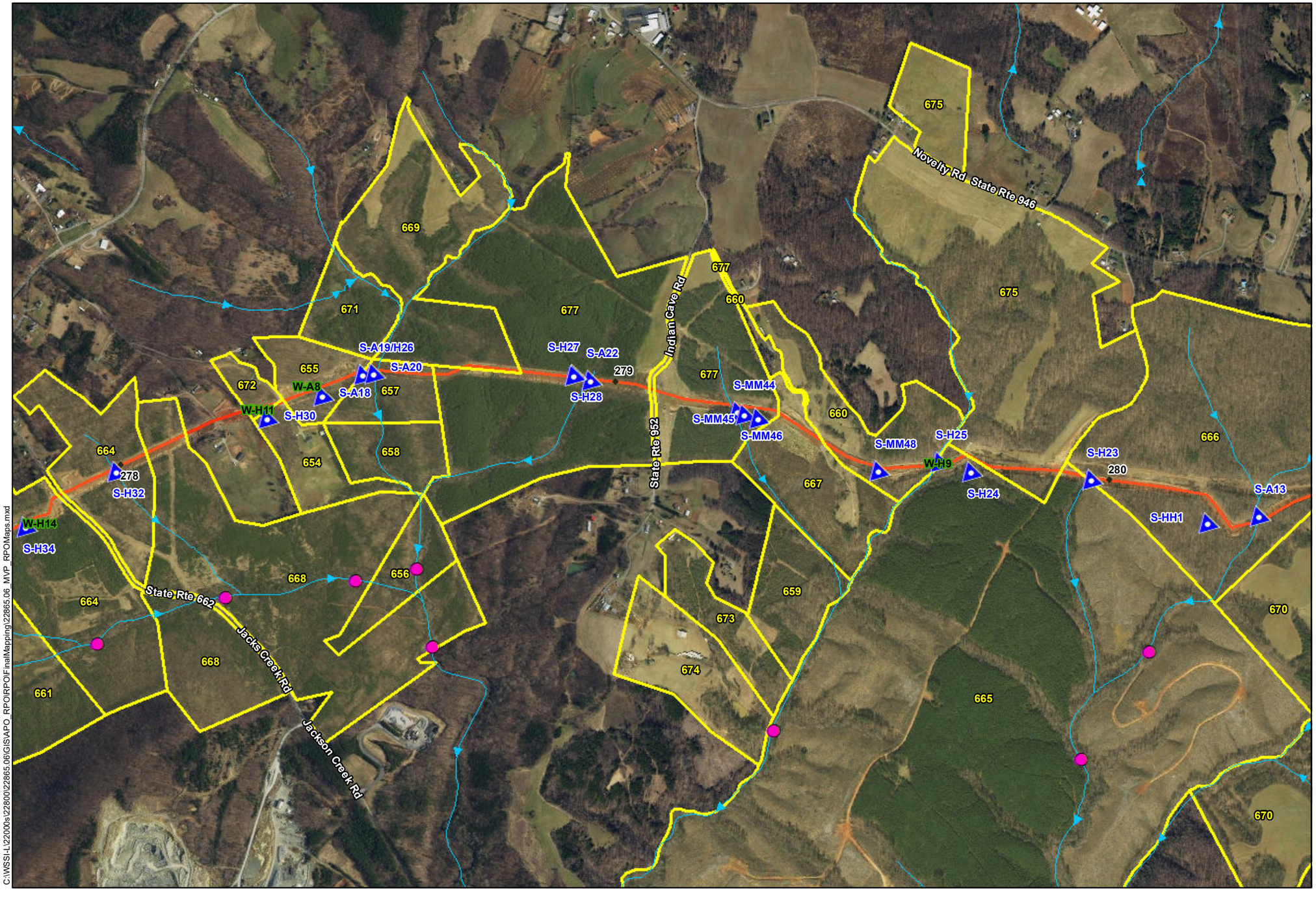
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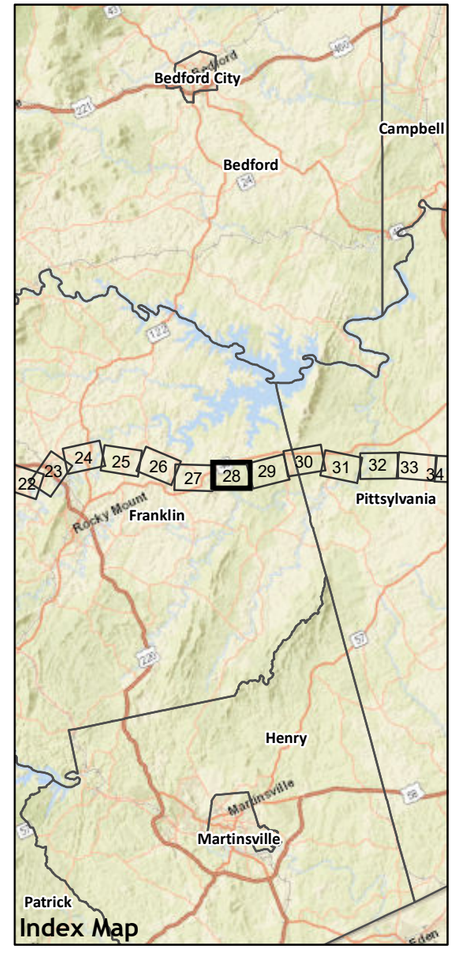
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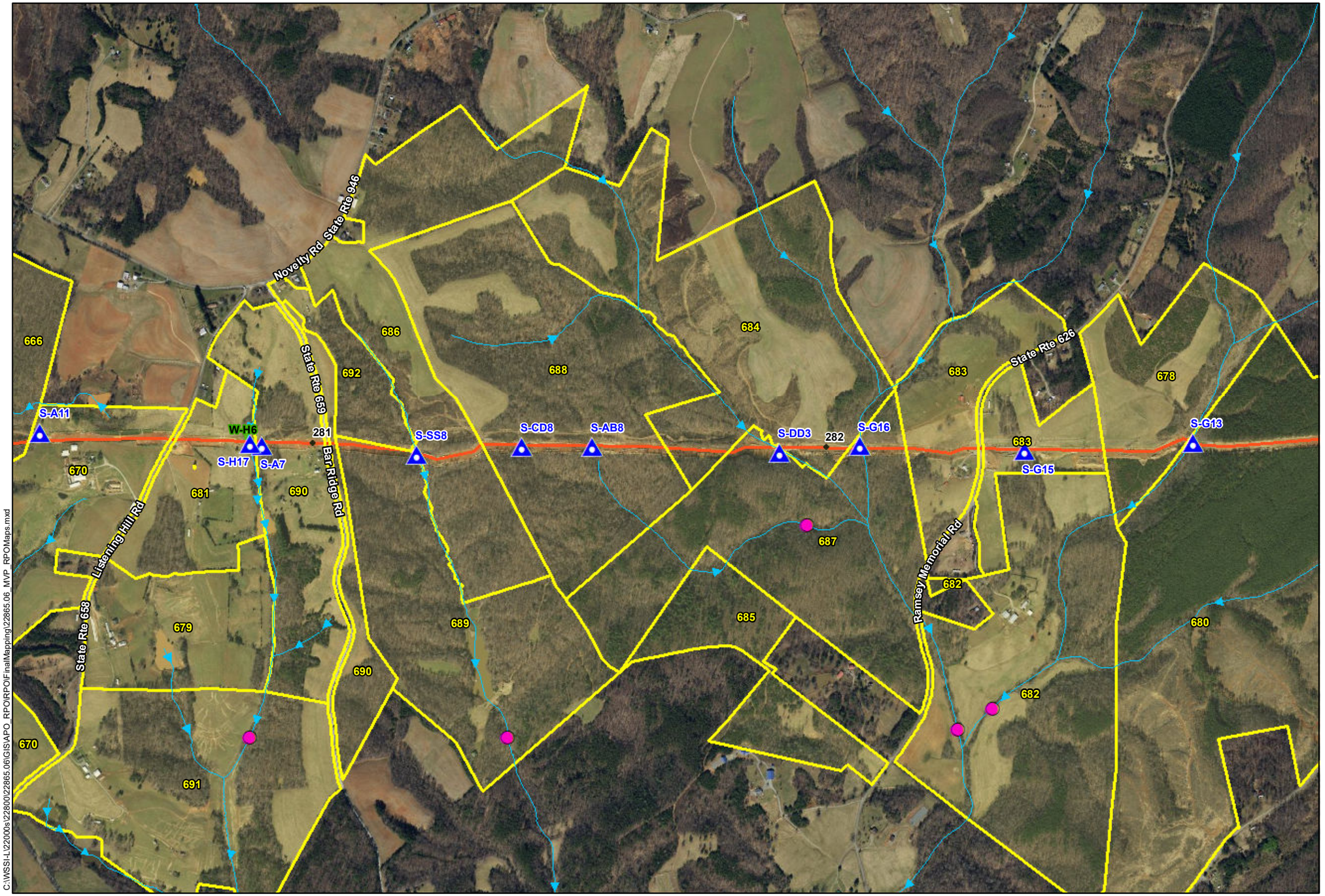
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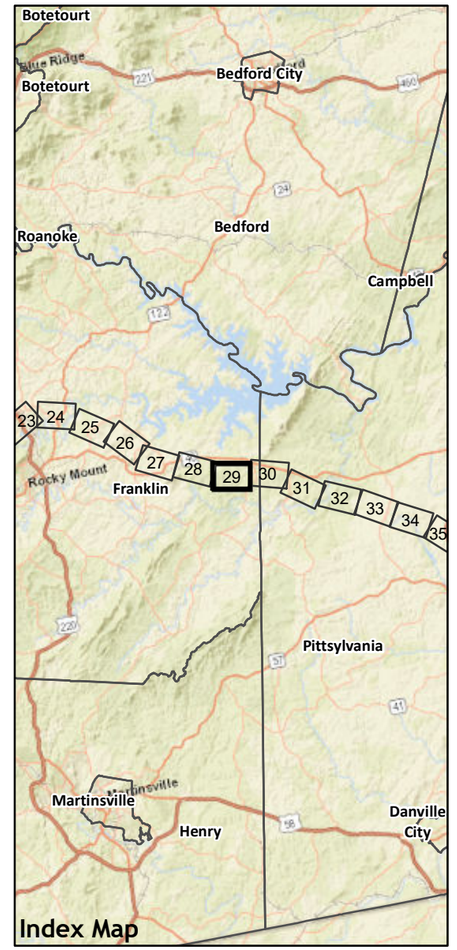
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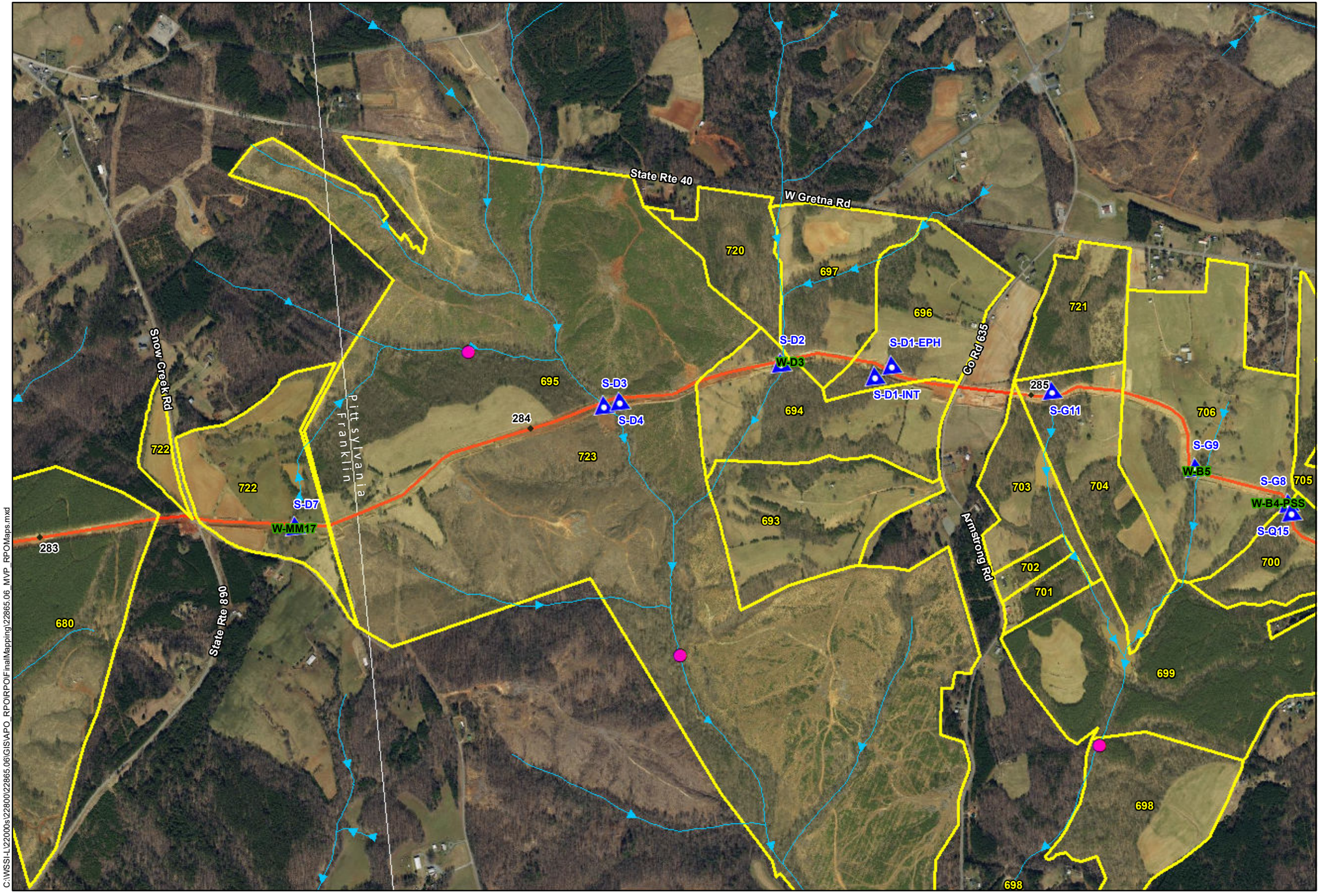
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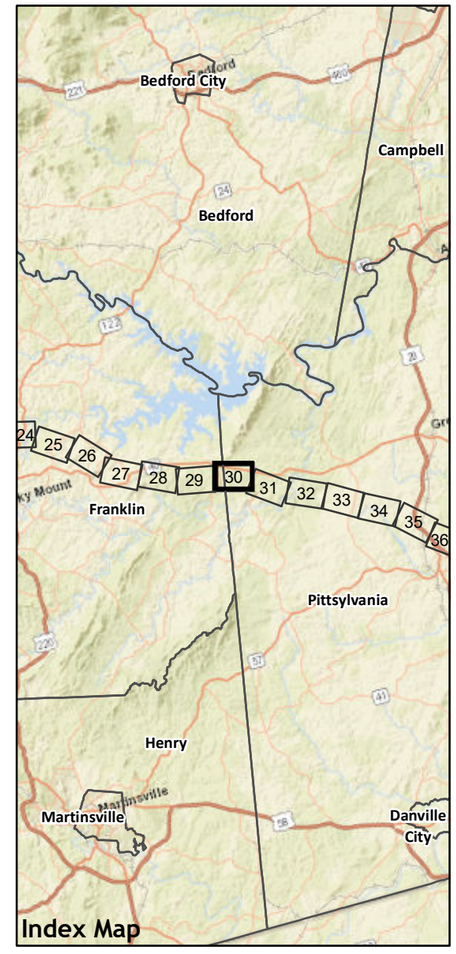
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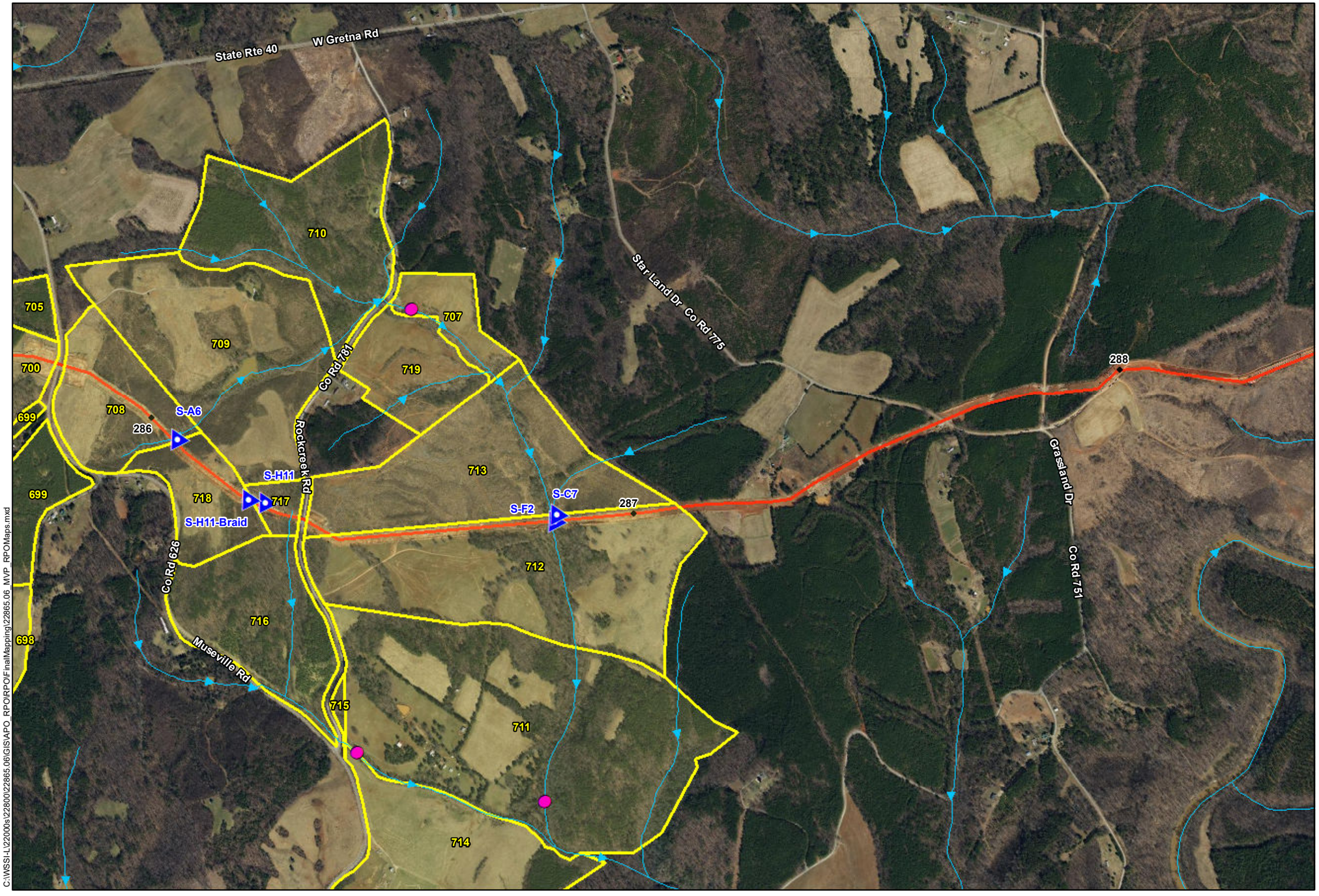
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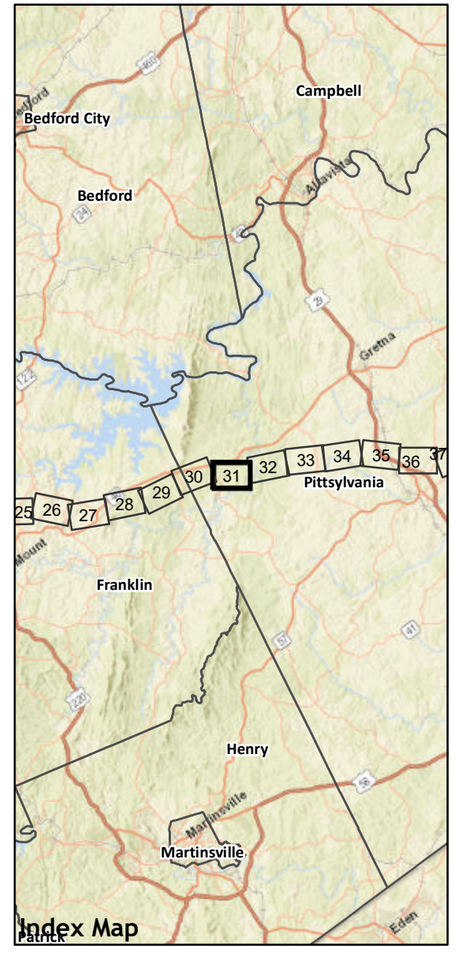
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Index Map

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NORTH

Imagery Source: VGIN
Centerline/Parcel/Impact Source: MVP. January 2021.
Hydrology Source: National Hydrography Dataset (NHD)
Friday, February 19, 2021

0 1,000 2,000 Feet

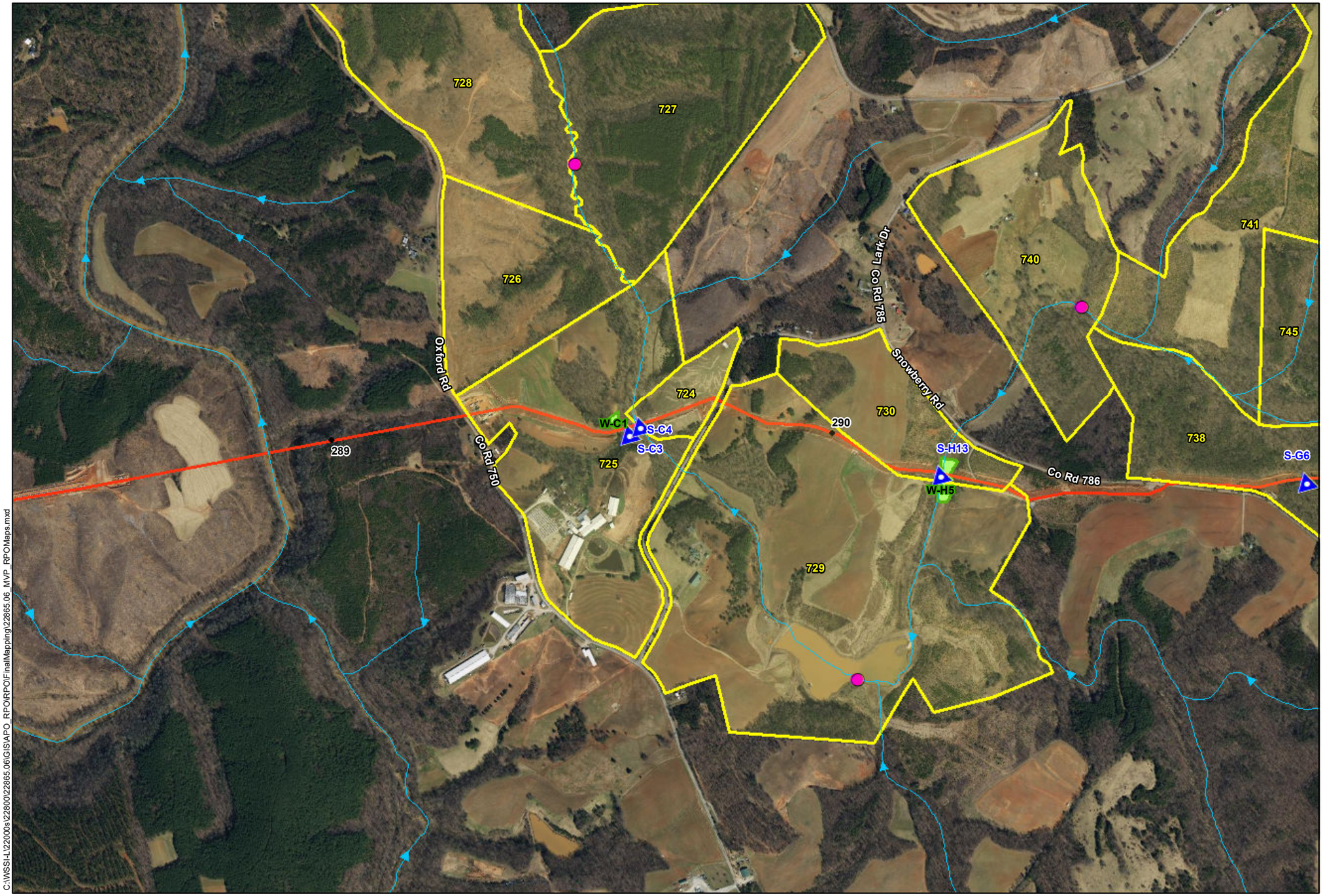
1 inch = 1,000 feet

Prepared by:
Wetland Studies and Solutions, Inc.
a DAVEY company

MVP Pipeline Project

Riparian Property Owners

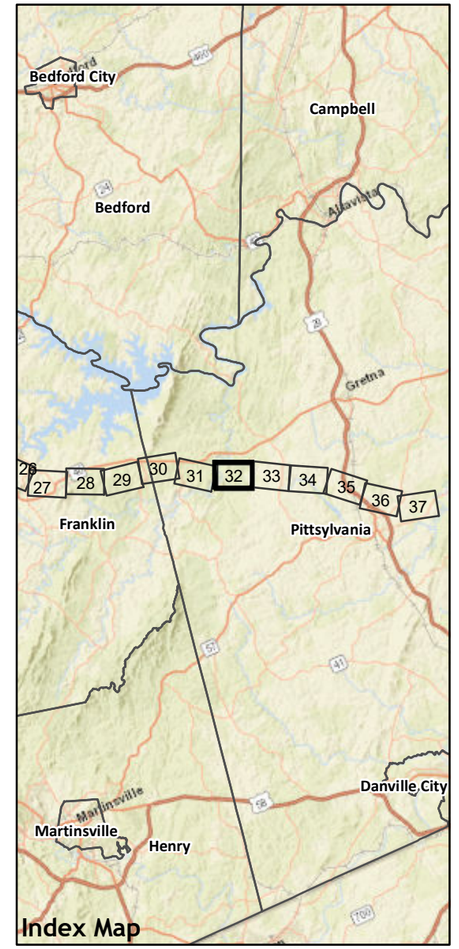
Mountain Valley PIPELINE



½ Mile Downstream Points
RPO Parcels[1]
Stream Location Centroid
Wetland Location
NHD Flowline
MVP Implementation MP Centerline
MVP Implementation Milepost

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Friday, February 19, 2021

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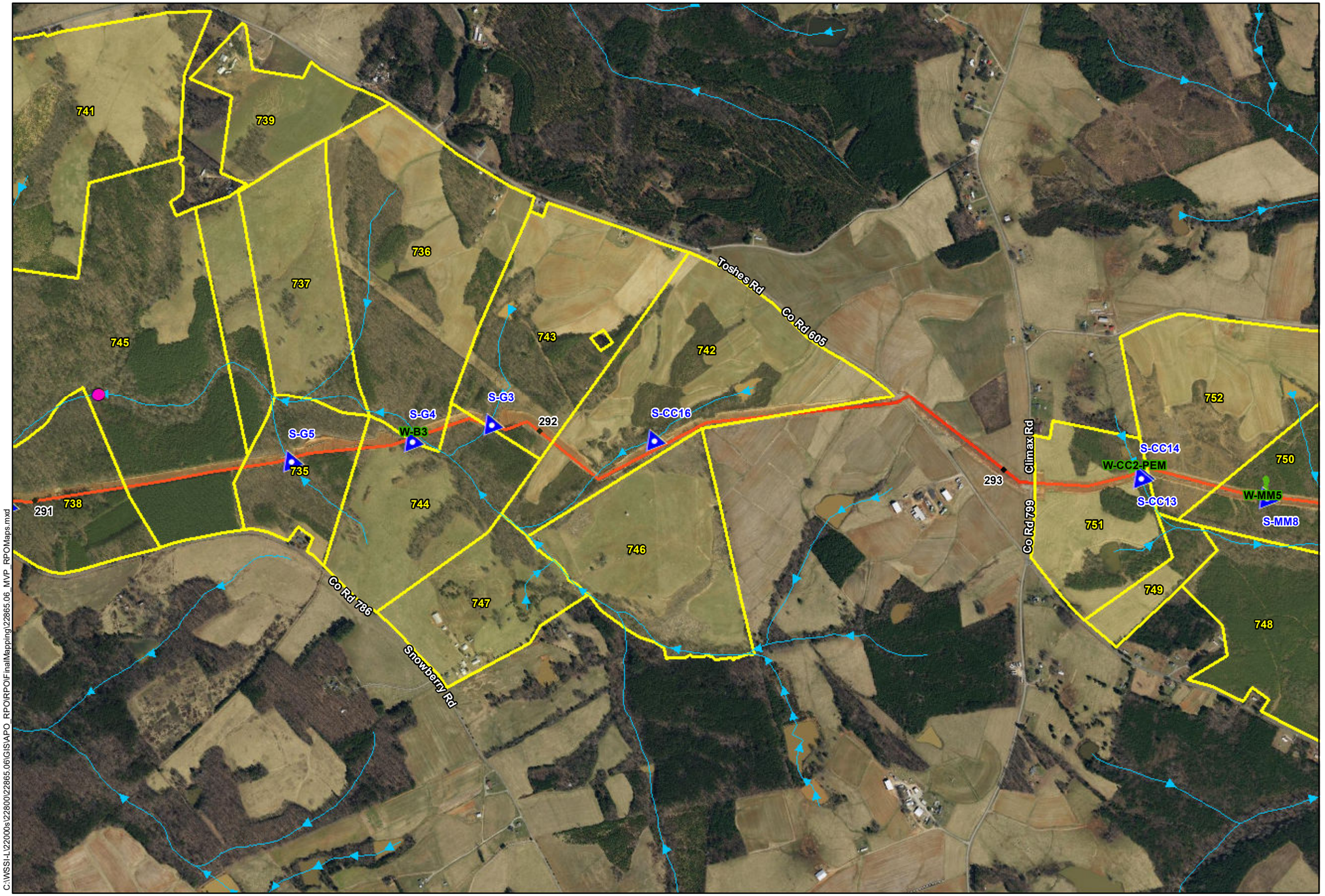
1 inch = 1,000 feet

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MVP Pipeline Project

Riparian Property Owners

Mountain Valley PIPELINE



- ½ Mile Downstream Points
- RPO Parcels[1]
- Stream Location Centroid
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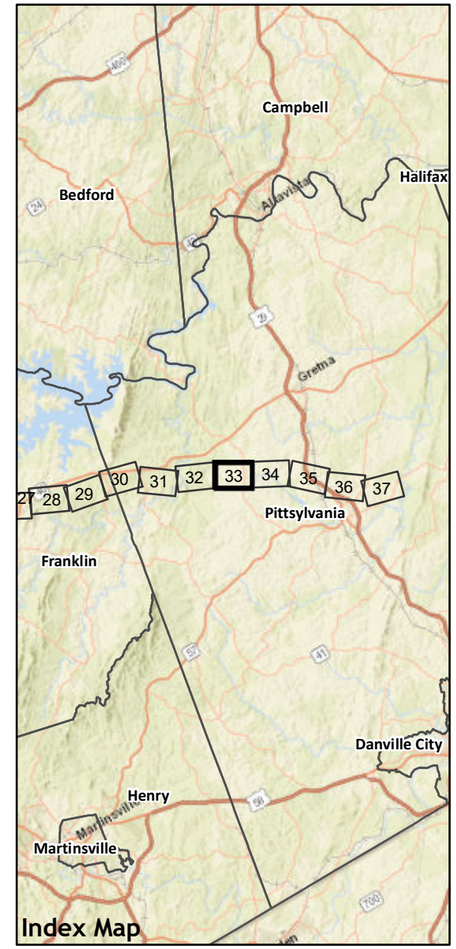
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Riparian Property Owners

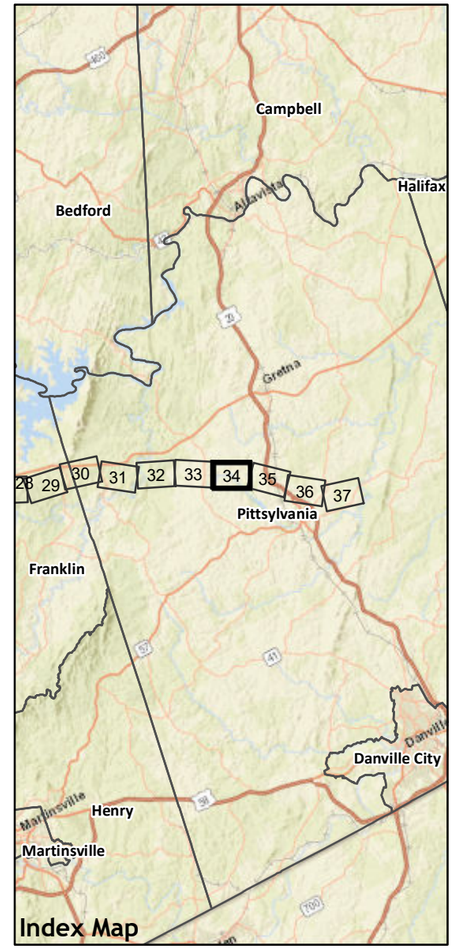
Mountain Valley PIPELINE



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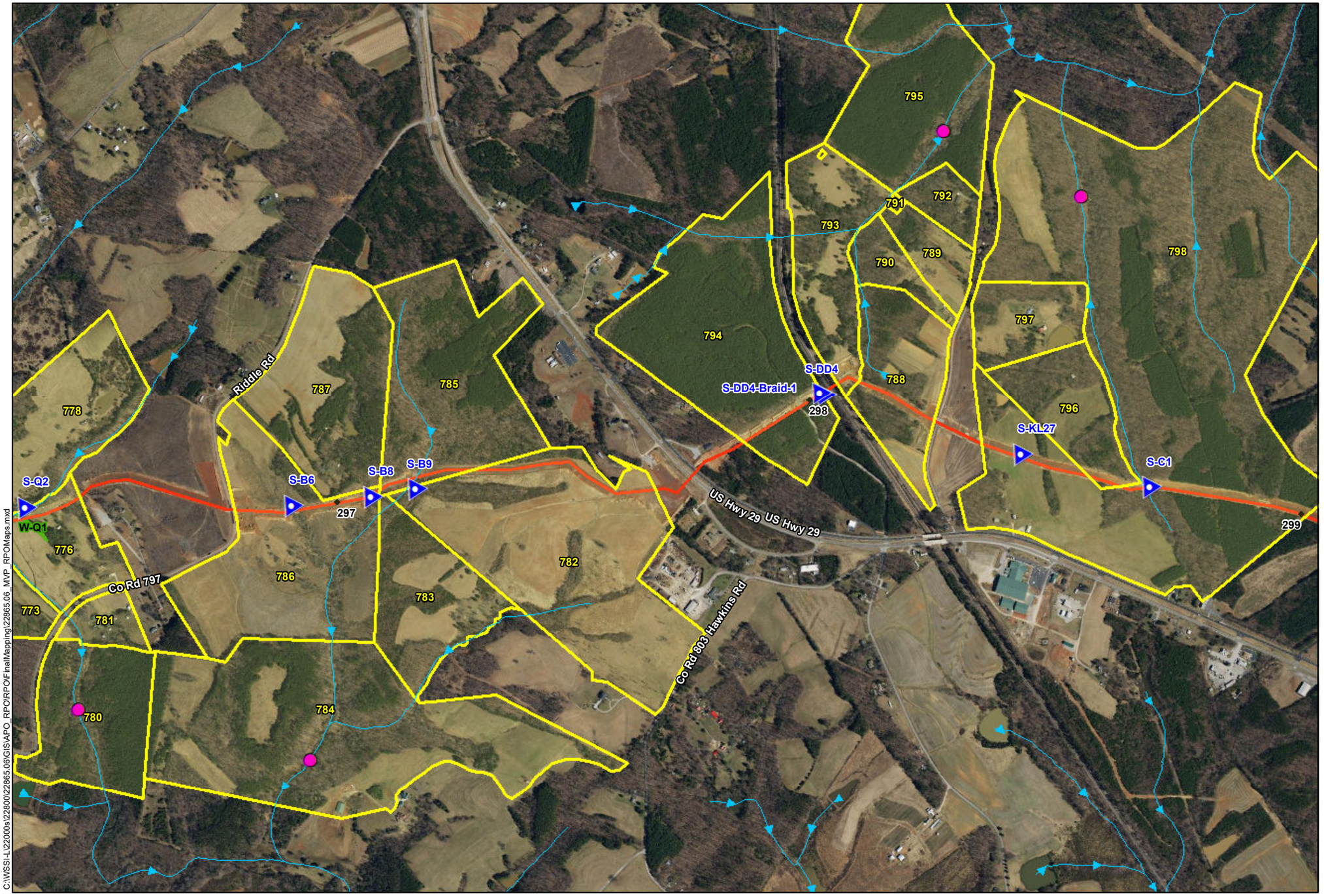
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MVP Pipeline Project

Riparian Property Owners

Mountain Valley PIPELINE



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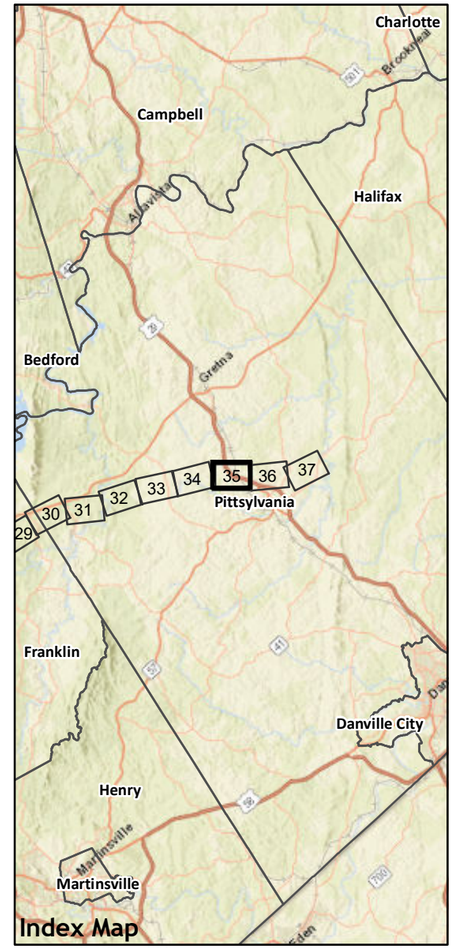
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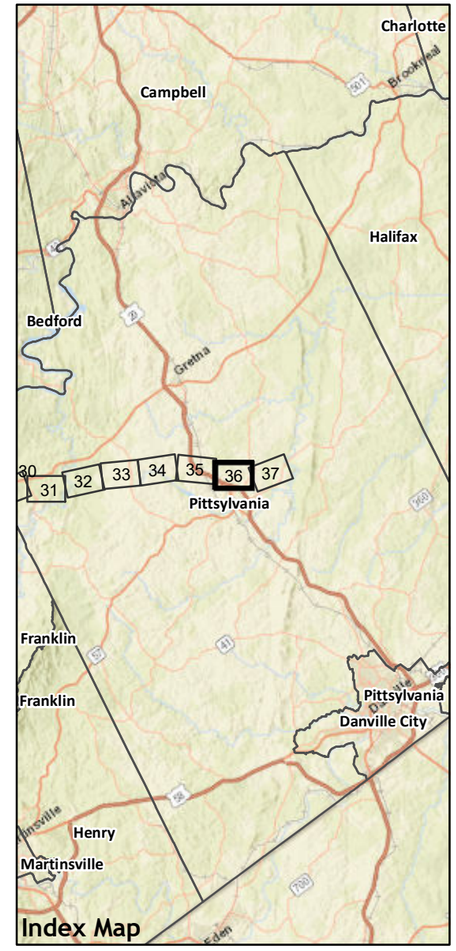
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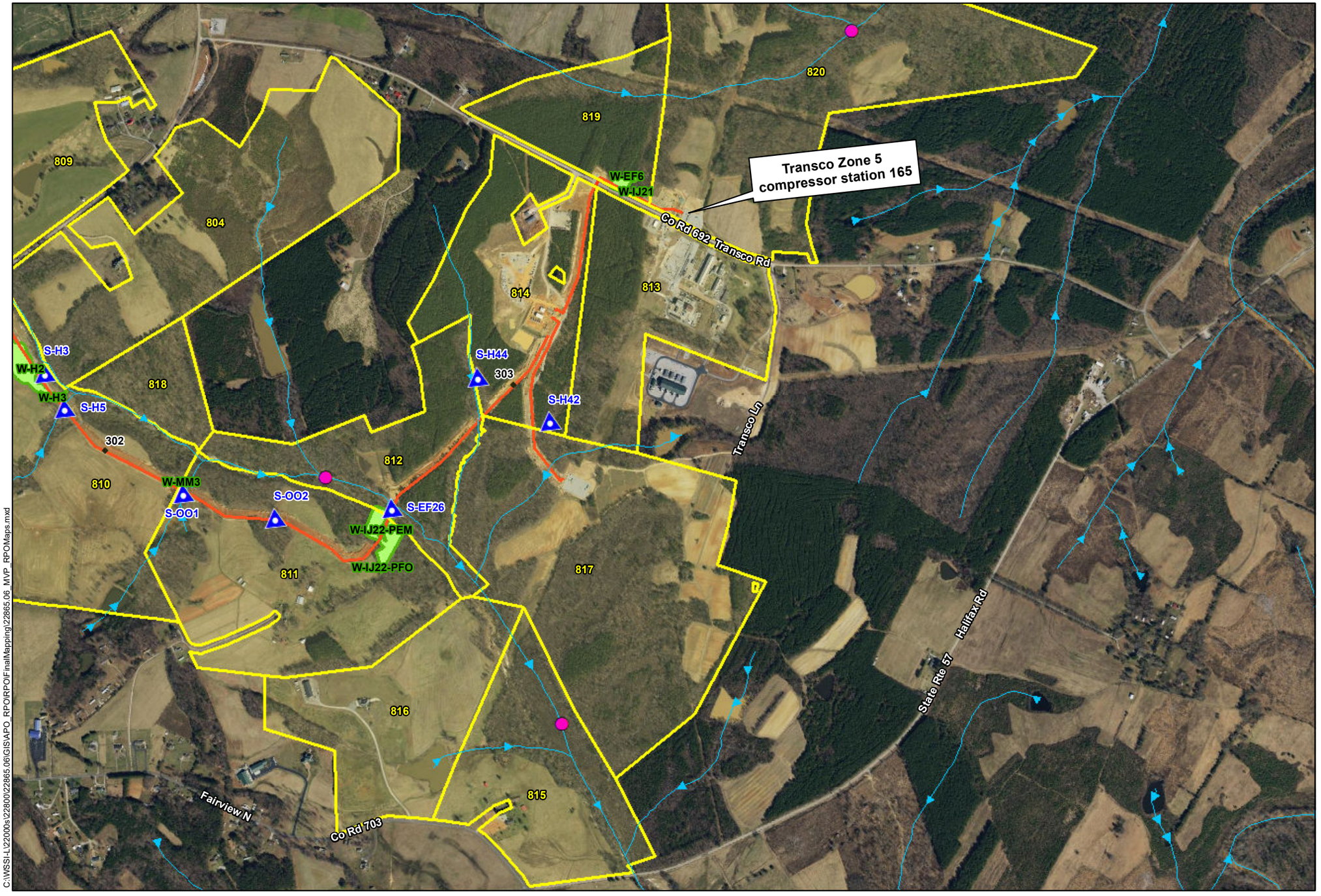
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MVP Pipeline Project

Riparian Property Owners

Mountain Valley PIPELINE



½ Mile Downstream Points

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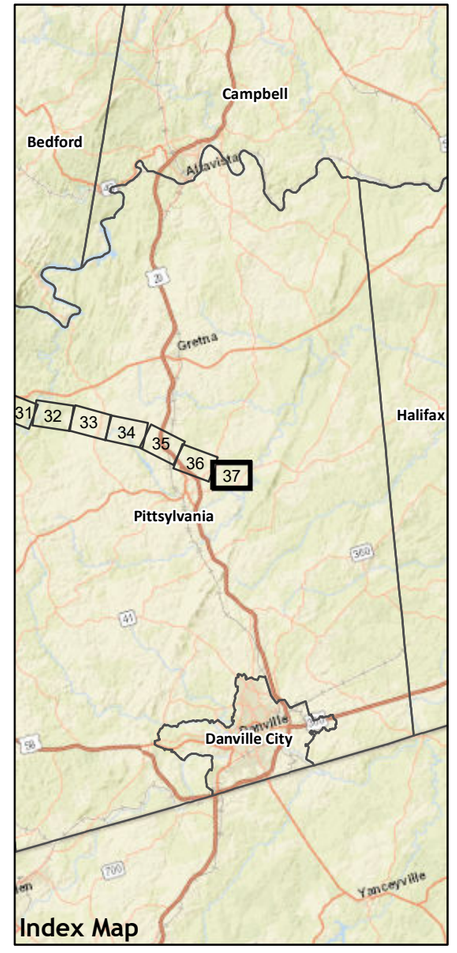
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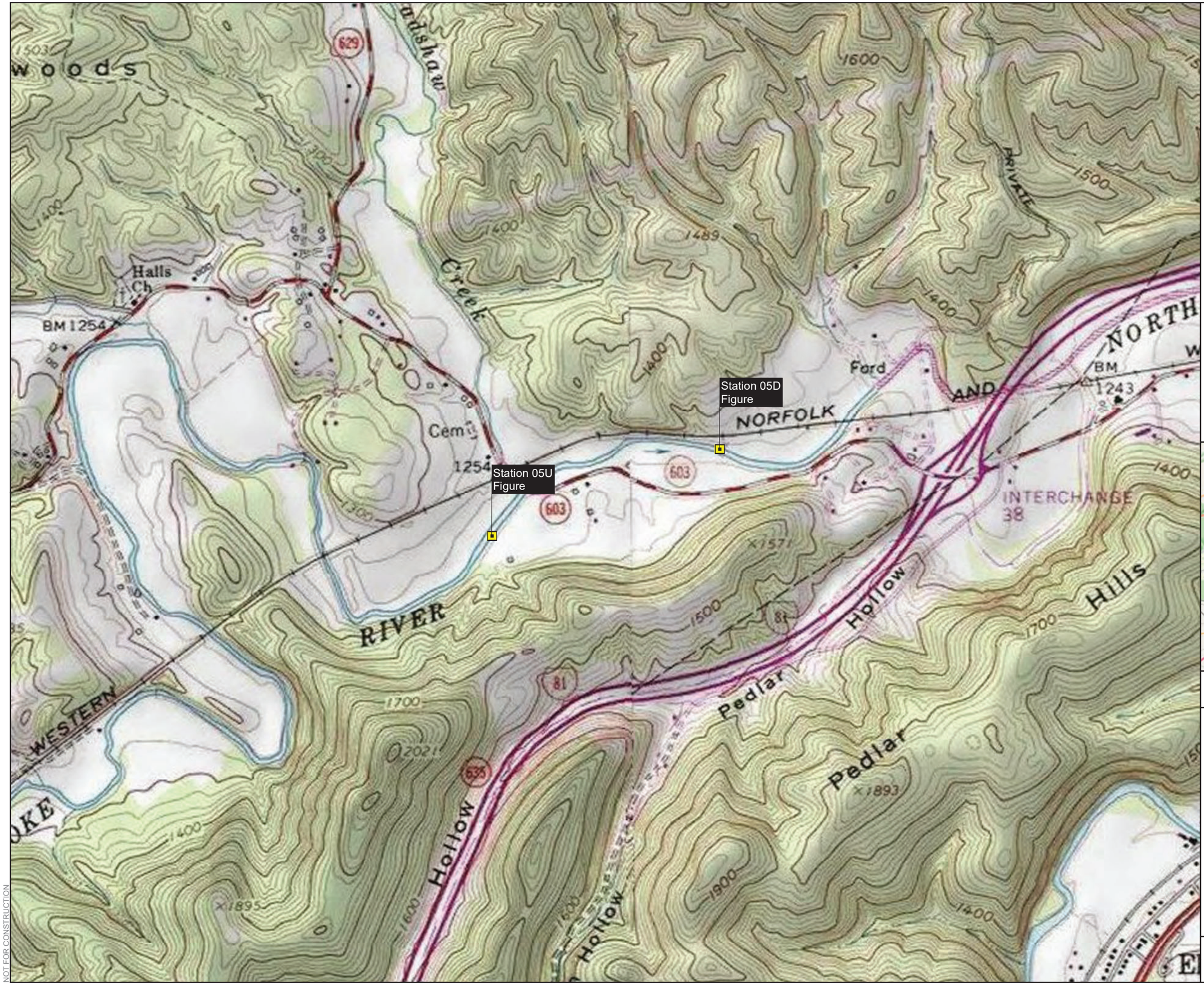
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Legend

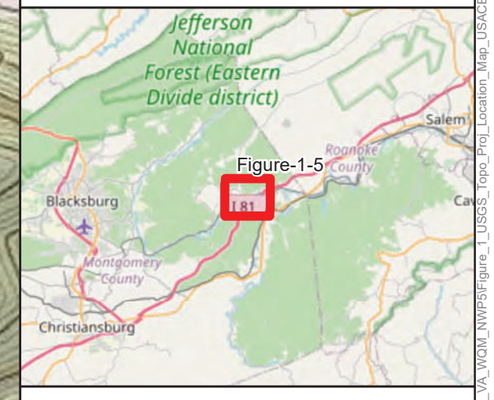
Water Quality Monitoring Station

1 inch = 1,000 feet

NAD 1983 UTM 17N

1,000 500 0 1,000 Feet

N W E S



Mountain Valley Pipeline Project

Mountain Valley PIPELINE

Figure 1
USGS Topo Project Location Map
USACE Norfolk District

Figure 1-5
Montgomery County, Virginia

November 2020

Data Sources:ESRI Streaming Data, 2019. MVP 2020.

NOT FOR CONSTRUCTION

Document Path: P:\EQT-Equitrans\MVP Project\GIS\SpatialMXD\03_Wetlands\20201028_VA_WQM_NWP5\Figure_1_USGS_Topo_Proj_Location_Map_USACE_Norfolk_District.mxd



Legend

Water Quality Monitoring Station

1 inch = 1,000 feet

NAD 1983 UTM 17N

1,000 500 0 1,000 Feet



Mountain Valley Pipeline Project

Mountain Valley PIPELINE

Figure 1
USGS Topo Project Location Map
USACE Norfolk District

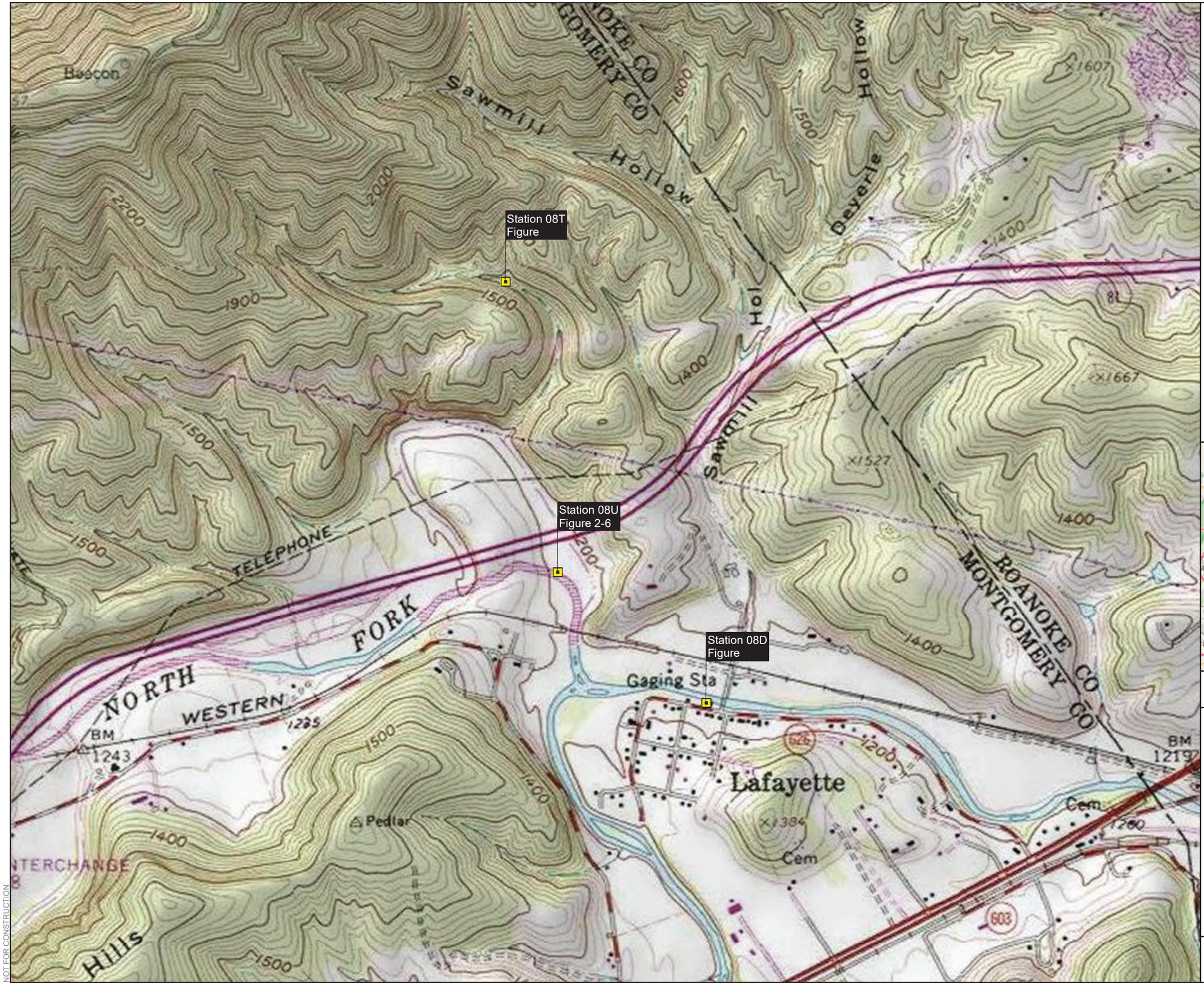
Figure 1-6
Montgomery County, Virginia

November 2020

Data Sources:ESRI Streaming Data, 2019. MVP 2020.

NOT FOR CONSTRUCTION

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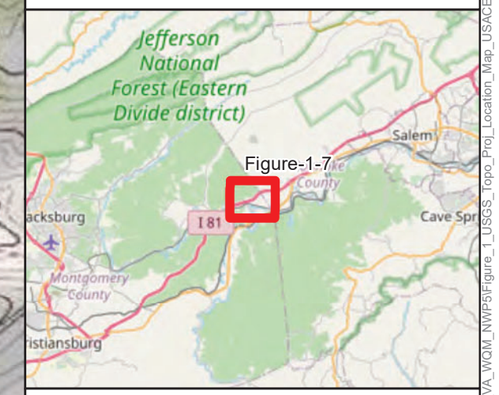
Legend

Water Quality Monitoring Station

1 inch = 1,000 feet

NAD 1983 UTM 17N

1,000 500 0 1,000 Feet



Mountain Valley Pipeline Project

Mountain Valley PIPELINE

Figure 1
USGS Topo Project Location Map
USACE Norfolk District

Figure 1-7
Montgomery County, Virginia

November 2020

Data Sources:ESRI Streaming Data, 2019. MVP 2020.

NOT FOR CONSTRUCTION

Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\03_Wetlands\20201028_VA_WQM_NWP5\Figure_1_USGS_Topo_Proj_Location_Map.mxd

Station 09T
Figure

Station 09D
Figure

Lafayette

Gaging Sta

Pedlar

Elliston/Lafayette
Sch

Quarry

Galilee
Ch

Cem

ROANOKE CO
MONTGOMERY C

FORK

Sawmill

BM
1293

BM
1219

BM
1237

1249

1256

1716

1384

1527

1667

1285

1500

1400

1300

1200

626

603

81

Legend

Water Quality Monitoring Station

1 inch = 1,000 feet

NAD 1983 UTM 17N

1,000 500 0 1,000 Feet

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Mountain Valley Pipeline Project

Mountain Valley PIPELINE

Figure 1
USGS Topo Project Location Map
USACE Norfolk District

Figure 1-8
Montgomery County, Virginia

November 2020

Data Sources:ESRI Streaming Data, 2019. MVP 2020.

NOT FOR CONSTRUCTION

Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\03_Wetlands\20201028_VA_WQM_NWP5\Figure_1_USGS_Topo_Proj_Location_Map_USACE_Norfolk_District.mxd



Legend

Water Quality Monitoring Station

1 inch = 1,000 feet

NAD 1983 UTM 17N

1,000 500 0 1,000 Feet



Mountain Valley Pipeline Project

Mountain Valley PIPELINE

Figure 1
USGS Topo Project Location Map
USACE Norfolk District

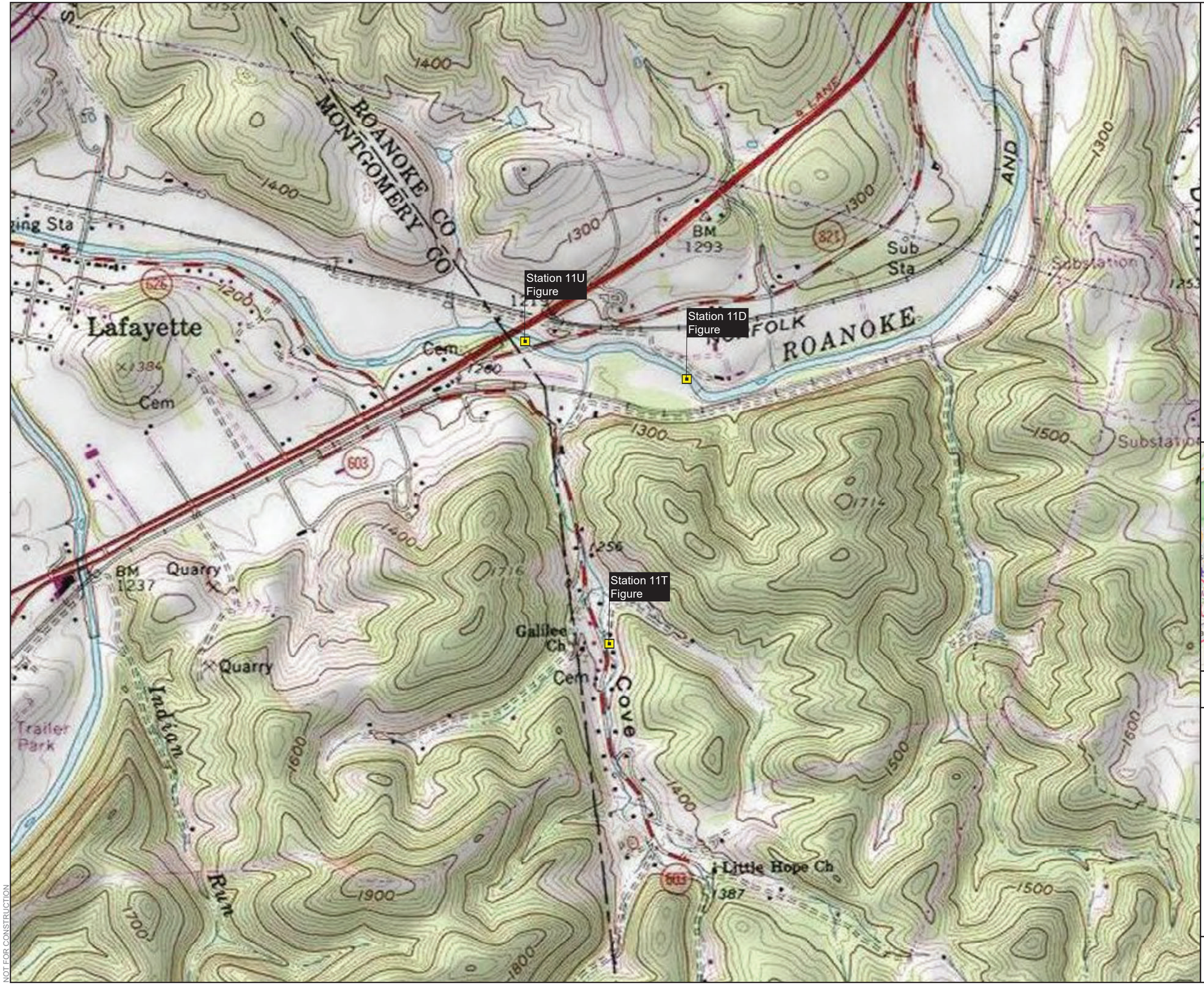
Figure 1-9
Montgomery and Roanoke Counties, Virginia

November 2020

Data Sources:ESRI Streaming Data, 2019. MVP 2020.

NOT FOR CONSTRUCTION

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Legend

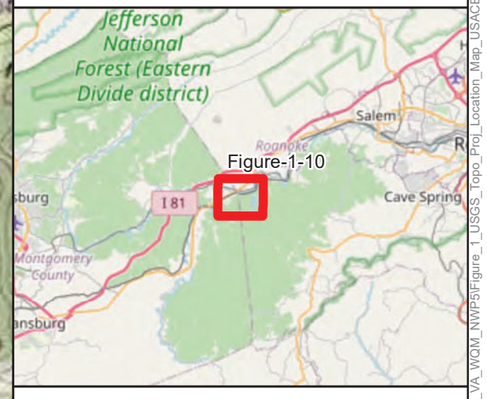
Water Quality Monitoring Station

1 inch = 1,000 feet

NAD 1983 UTM 17N

1,000 500 0 1,000 Feet

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Mountain Valley Pipeline Project

Mountain Valley PIPELINE

Figure 1
USGS Topo Project Location Map
USACE Norfolk District

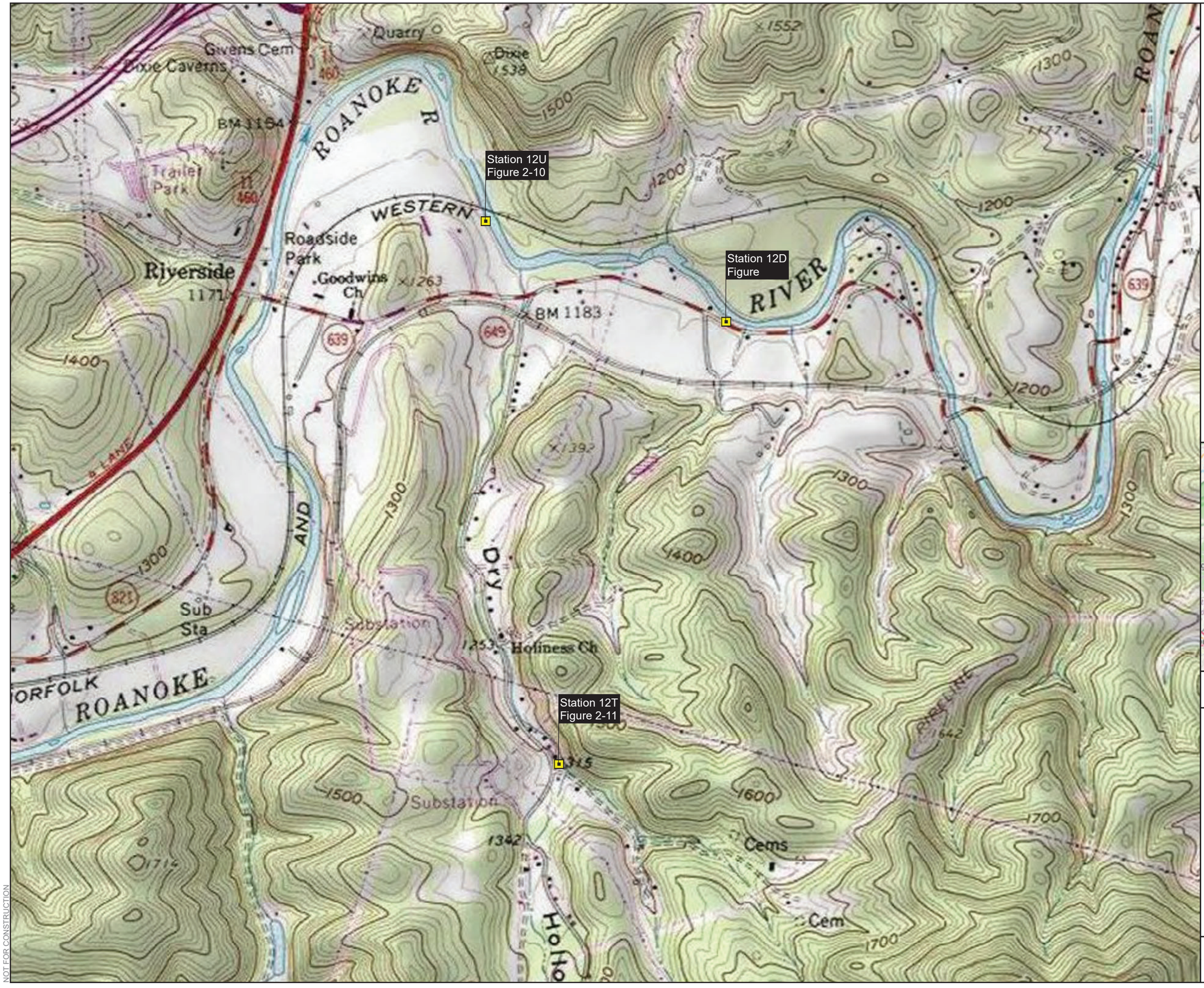
Figure 1-10
Montgomery and Roanoke Counties, Virginia

November 2020

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Legend

- Water Quality Monitoring Station

1 inch = 1,000 feet

NAD 1983 UTM 17N

1,000 500 0 1,000 Feet



Mountain Valley Pipeline Project

Mountain Valley PIPELINE

Figure 1
USGS Topo Project Location Map
USACE Norfolk District

Figure 1-11
Roanoke County, Virginia

November 2020

Data Sources:ESRI Streaming Data, 2019. MVP 2020.

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