APPROVED JURISDICTIONAL DETERMINATION FORM U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD); January 28, 2022

В.	DISTRICT OFFICE, FILE NAME, AND NUMBER: Norfolk District - NAO-2021-00733 Lonesome Pine Technology Park
C.	PROJECT LOCATION AND BACKGROUND INFORMATION: State: VA County/parish/borough: Wise City: Wise Center coordinates of site (lat/long in degree decimal format): Lat. 36.9744° N, Long82.5405° W. Universal Transverse Mercator: Name of nearest waterbody: Bear Creek Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Powell River Name of watershed or Hydrologic Unit Code (HUC): 06010205 Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request. Check if other sites (e.g., offsite mitigation sites, disposal sites, etc) are associated with this action and are recorded on a
	different JD form.
D.	REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY): Office (Desk) Determination. Date: 1-7-2022 Field Determination. Date(s):
SEC A.	CTION II: SUMMARY OF FINDINGS RHA SECTION 10 DETERMINATION OF JURISDICTION.
	ere Are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the iew area. [Required] Waters subject to the ebb and flow of the tide. Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce Explain:
B.	CWA SECTION 404 DETERMINATION OF JURISDICTION.
The	ere Are "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]
	1. Waters of the U.S.
	a. Indicate presence of waters of U.S. in review area (check all that apply): TNWs, including territorial seas Wetlands adjacent to TNWs Relatively permanent waters ² (RPWs) that flow directly or indirectly into TNWs Non-RPWs that flow directly or indirectly into TNWs Wetlands directly abutting RPWs that flow directly or indirectly into TNWs Wetlands adjacent to but not directly abutting RPWs, that flow directly or indirectly into TNWs

b. Identify (estimate) size of waters of the U.S. in the review area:

Impoundments of jurisdictional waters

Non-wetland waters: 3719linear feet: 5-40width (ft) and/or acres.

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Isolated (interstate or intrastate) waters, including isolated wetlands

Wetlands: 13.419 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: 88 individual isolated wetlands were mapped and determined to be remnant features from pre-law mining activities, where poor reclamation practices left hummocky terrain creating small depressional catchments with no discernable outlet and do not demonstrate connectivity to downslope discrete stream resources. 7 remnant pre-law mining diversion ditches created in uplands were mapped and do not possess bed and bank or an ordinary highwater mark and therefore are upland features.

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1.	TNW Identify TNW: .
	Summarize rationale supporting determination: .
2.	Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions: Watershed size: 560 acres Drainage area: 560 acres

Average annual rainfall: 40 inches Average annual snowfall: 29 inches (ii) Physical Characteristics: (a) Relationship with TNW: Tributary flows directly into TNW. Tributary flows through 3 tributaries before entering TNW. Project waters are 2-5 river miles from TNW. Project waters are 1 (or less) river miles from RPW. Project waters are 2-5 aerial (straight) miles from TNW. Project waters are 1-2 aerial (straight) miles from RPW. Project waters are 1-2 aerial (straight) miles from RPW. Project waters or serve as state boundaries. Explain: n/a. Identify flow route to TNW⁵: Bear Creek to Guest River to Powell River. Tributary stream order, if known: 1.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

	(b)	General Tributary C	haracteristics (check all that apply	y):	
			X Natural		
			Artificial (man-made). Expla		
		l	Manipulated (man-altered). l	Expla	in: pre-law surface mining area.
		Average width: Average depth: Average side sl	: 6 feet		
		☑ Cobbles☑ Bedrock☐ Other. Expl	☐ Gravel ☐ Vegetation. Type/% ain:	6cov	☐ Muck er:
		Presence of run/riffl Tributary geometry:	e/pool complexes. Explain: limit		ng banks]. Explain: moderately stable. n/riffle development due to past land use - pre-law mining.
	(c)	Describe flow r	mber of flow events in review are	a/yea	ur: 11-20
		Surface flow is: Disc	crete. Characteristics: .		
			nknown. Explain findings: er) test performed:		
		clear, no changes shelvin vegetati leaf litte sedime water st	nks heck all indicators that apply): atural line impressed on the bank is in the character of soil g ion matted down, bent, or absent or disturbed or washed away nt deposition taining		the presence of litter and debris destruction of terrestrial vegetation the presence of wrack line sediment sorting scour multiple observed or predicted flow events abrupt change in plant community
		☐ High Tide ☐ oil or so ☐ fine she	Line indicated by: cum line along shore objects cell or debris deposits (foreshore) al markings/characteristics uges	Mea	teral extent of CWA jurisdiction (check all that apply): In High Water Mark indicated by: Survey to available datum; Physical markings; Vegetation lines/changes in vegetation types.
(iii)	Cha		g., water color is clear, discolored able water quality degradation as v		film; water quality; general watershed characteristics, etc.) is generally clear.

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

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	(iv)	\square	Wetland fringe. Characteristics: Habitat for: Federally Listed species. Explain findings: Fish/spawn areas. Explain findings: Other environmentally-sensitive species. Explain findings:
birds of	prey.		Aquatic/wildlife diversity. Explain findings: commonly sighted deer, opposum, raccoon, and variety of songbirds and
2.	Cha	ract	eristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW
	(i)	Phy	vsical Characteristics:
	()		General Wetland Characteristics:
			Properties: Wetland size:1 acres
			Wetland type. Explain:PEM, PSS, and PFO.
			Wetland quality. Explain:serves as flood attenuation and water source for wildlife, .
			Project wetlands cross or serve as state boundaries. Explain: .
		(b)	General Flow Relationship with Non-TNW:
			Flow is: Perennial flow . Explain:
			Surface flow is: Discrete and confined
			Characteristics:
			Subsurface flow: Unknown. Explain findings: .
			Dye (or other) test performed:
		()	Walana Parka Cara Cara Cara Cara Cara Cara Cara
		(c)	Wetland Adjacency Determination with Non-TNW: ☐ Directly abutting
			☑ Not directly abutting
			Discrete wetland hydrologic connection. Explain: wetland connectivity is traced by discharge to downslope
rec	eiving	g wat	ers. \[\begin{align*} align
eve	ents ai	nd in	cludes nutrient transport.
			☐ Separated by berm/barrier. Explain: .
		(d)	Proximity (Relationship) to TNW
		(4)	Project wetlands are 2-5 river miles from TNW.
			Project waters are 2-5 aerial (straight) miles from TNW.
			Flow is from: Wetland to navigable waters Estimate approximate location of wetland as within the 2-year or less floodplain.
			Estimate approximate location of wedant as within the 2-year of less moodplain.
	(ii)		emical Characteristics:
		Cna	racterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
		Ide	ntify specific pollutants, if known:
	····	. D.	
	(III ₎		logical Characteristics. Wetland supports (check all that apply): Riparian buffer. Characteristics (type, average width):mixed hardwood.
			Vegetation type/percent cover. Explain: .
		\boxtimes	Habitat for:
			☐ Federally Listed species. Explain findings: ☐ Fish/spawn areas. Explain findings:
			Other environmentally-sensitive species. Explain findings:
			Aquatic/wildlife diversity. Explain findings:terrestrial mammals commonly observed in area of wetlands.
3.	Cha	ract	eristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: 30 (or more)

Approximately (8.9) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

	Directly ab	<u>Directly abuts? (Y/N)</u> <u>Size (in acres)</u> <u>Directly abuts? (Y/N)</u>		Directly	abuts?(Size (in acres)		
W-5	YES0.349	W-2	YES	0.173	W-32	YES	0.029	
W-11	YES0.153	W-3	YES	0.007	W-35	YES	0.003	
W-14	YES0.076	W-4	YES	0.033	W-37	YES	0.048	
W-15	YES1.668	W-6	YES	0.011	W-39	YES	0.032	
W-19	YES0.057	W-16	YES	0.156	W-41	YES	0.008	
W-21	YES0.062	W-18	YES	0.004	W-43	YES	0.015	
W-22	YES0.289	W-28	YES	0.135	W-50	YES	0.014	
W-23	YES0.064	W-33	YES	0.015	W-61	YES	0.04	
W-25	YES0.461	W-34	YES	0.001	W-65	NO	0.002	
W-26	YES0.979	W-40	YES	0.012	W-66	NO	0.004	
W-29	YES0.024	W-42	YES	0.108	W-67	NO	0.005	
W-30	YES0.056	W-45	YES	0.004	W-68	NO	0.002	
W-36	YES0.065	W-54	YES	0.008	W-71	NO	0.105	
W-38	YES1.356	W-57	YES	0.015	W-72	NO	0.015	
W-46	YES0.006	W-58	YES	0.014	W-73	NO	0.019	
W-47	YES0.005	W-1	YES	0.106	W-70	NO	0.02	
W-48	YES0.108	W-7	YES	0.004	W-63	NO	0.18	
W-49	YES0.06	W-8	YES	0.035	W-69	NO	0.001	
W-51	YES0.002	W-9	YES	0.014	W-64	YES	0.001	
W-53	YES0.21	W-10	YES	0.16	W-12	YES	1.916	
W-55	YES0.003	W-13	YES	0.002	W-27	YES	0.073	
W-56	YES0.176	W-17	YES	0.022	W-44	YES	1.337	
W-59	YES0.01	W-20	YES	0.135	W-52	YES	1.19	
W-60	YES0.849	W-24	YES	0.077				
W-62	YES0.001	W-31	YES	0.02				

Summarize overall biological, chemical and physical functions being performed: demonstrates the capacity to reduce peak storm event discharge, transport nutrients and/or pollutants to downstream receiving waters, and provides habitat, including shelter and food/water source for a variety of terrestrial mammals.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

- 1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
- 2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
- 3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: wetlands have a discernable discharge route to downstream receiving RPWs.

D.	DETERMINATIONS	OF JURISDICTIONAL	FINDINGS.	THE SUBJECT	WATERS/WETLANDS	ARE (CH	ECK ALL
	THAT APPLY):						

1.	TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area: TNWs: linear feet width (ft), Or, acres. Wetlands adjacent to TNWs: acres.
2.	RPWs that flow directly or indirectly into TNWs. ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: streams are known to flow year round. ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:
	Provide estimates for jurisdictional waters in the review area (check all that apply): Tributary waters: 3719 linear feet12width (ft). Other non-wetland waters: 4.5acres. Identify type(s) of waters: open waters that are in-line with the RPW.
3.	Non-RPWs ⁸ that flow directly or indirectly into TNWs. Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.
	Provide estimates for jurisdictional waters within the review area (check all that apply): Tributary waters: linear feet width (ft). Other non-wetland waters: acres. Identify type(s) of waters:
1.	Wetlands directly abutting an RPW that flow directly or indirectly into TNWs. Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands. Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: wetlands have a discernable connection to the RPW and are hydrologically connected to the local/shallow water table.
	Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
	Provide acreage estimates for jurisdictional wetlands in the review area: 8.549 acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: 0.353 acres.

⁸See Footnote # 3.

	6.	Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs. Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C. Provide estimates for jurisdictional wetlands in the review area: acres.
	7.	Impoundments of jurisdictional waters. As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional. Demonstrate that impoundment was created from "waters of the U.S.," or Demonstrate that water meets the criteria for one of the categories presented above (1-6), or Demonstrate that water is isolated with a nexus to commerce (see E below).
Е.	DEC SUC	PLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, GRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY CH WATERS (CHECK ALL THAT APPLY): 10 which are or could be used by interstate or foreign travelers for recreational or other purposes. from which fish or shellfish are or could be taken and sold in interstate or foreign commerce. which are or could be used for industrial purposes by industries in interstate commerce. Interstate isolated waters. Explain: Other factors. Explain: other factors. Explain:
		vide estimates for jurisdictional waters in the review area (check all that apply): Tributary waters: linear feet width (ft). Other non-wetland waters: acres. Identify type(s) of waters: . Wetlands: acres.
F.		N-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY): If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements. Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce. □ Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR). Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: Other: (explain, if not covered above): features identified as E-1 through E-7 are remnant diversion ditches that were created blands during pre-law surface mining activities.
	fact judg	vide acreage estimates for non-jurisdictional waters in the review area, where the <u>sole</u> potential basis of jurisdiction is the MBR ors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional gment (check all that apply): Non-wetland waters (i.e., rivers, streams): linear feet width (ft). Lakes/ponds: acres. Other non-wetland waters: acres. List type of aquatic resource: Wetlands: acres.
		vide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such adding is required for jurisdiction (check all that apply): Non-wetland waters (i.e., rivers, streams): linear feet, width (ft). Lakes/ponds: acres. Other non-wetland waters: acres. List type of aquatic resource: Wetlands: acres.

⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked
and requested, appropriately reference sources below):
Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:Lonesome Pine Technology Report, Wise County
VA, WSSI #31159.01, Waters of the US (including Wetlands) Delineation, revised 1-14-2022 by Wetland Studies and Solutions.
☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☑ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
Corps navigable waters' study: U.S. Geological Survey Hydrologic Atlas:
U.S. Geological Survey Hydrologic Atlas:
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
U.S. Geological Survey map(s). Cite scale & quad name:
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
USDA Natural Resources Conservation Service Soil Survey. Citation: National wetlands inventory map(s). Cite name: State/Local wetland inventory map(s): FEMA/FIRM maps: 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
State/Local wetland inventory map(s):
FEMA/FIRM maps: .
Photographs: Aerial (Name & Date):
or 🛛 Other (Name & Date):site photos Lonesome Pine Technology Report, Wise County VA, WSSI #31159.01,
Waters of the US (including Wetlands) Delineation, revised 1-14-2022 by Wetland Studies and Solutions.
Previous determination(s). File no. and date of response letter:
Applicable/supporting case law:
Applicable/supporting scientific literature:
Other information (please specify):
B. ADDITIONAL COMMENTS TO SUPPORT JD: From Section 11-B-1b above, WOUS wetlands total ac of 13.419 consists of 4.517
ac of open waters and 8.902 ac of wetlands.