APPENDIX F

Biological Resources: *Humboldt Wind Energy Project Aquatic Resources Survey Report, Humboldt County, California, Summer and Fall 2018*

Humboldt Wind Energy Project

Aquatic Resources Survey Report

October 30, 2018

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Acronyms and Abbreviations

ac	acre
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CZ	Coastal Zone
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
ft	foot/feet
MCV	Manual of California Vegetation, 2nd edition
mi	mile
OBL	obligate
OHWM	ordinary high water mark
RWQCB	North Coast Regional Water Quality Control Board
TOB	top-of-bank
UPL	upland
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey

Note:

Often, agency suggestions and guidelines are provided in US units of measure (e.g., acres [ac] feet [ft], or miles [mi]), and in other instances, agency guidance is provided in metric (aka SI, or System International) units (e.g., meters [m] or kilometers [km]). To convert an otherwise readily recognized agency standard (e.g., 10 mi or 1 km) to the other system may result in confusion. Accordingly, we provide measures in either system, using the original agency suggestion unchanged, and provide conversion to the other standard only when it makes sense to do so.

1.0 INTRODUCTION

Humboldt Wind, LLC (Humboldt Wind) is planning to construct and operate the Humboldt Wind Energy Project (project) in south-central Humboldt County, California (Figure 1). The project would consist of up to 60 wind turbines and associated facilities including meteorological towers, electrical collection system, access roads, construction staging areas, a substation, an operations and maintenance facility, up to a 25-mile (mi) generation transmission line (gen-tie) and its point of interconnection at the existing Pacific Gas & Electric Bridgeville Substation. The project would have a nameplate generating capacity of up to 155 megawatts. Proposed turbine locations are situated on two prominent ridgelines, Bear River Ridge and Monument Ridge, 4.7 mi south and southwest of Scotia, in Humboldt County, California (Figure 1).

The project area encompasses areas of potential activity and includes a 1,000-foot-(ft-) wide corridor centered on proposed turbine locations; a 200-ft-wide corridor centered on project roads, the electrical collection line, and the gen-tie; and a 500-ft-wide buffer around proposed staging and temporary impact areas and project substations, encompassing 2,241 acres (ac) (Figure 2). The project area is divided into the following segments for description purposes:

- Bear River Ridge
- Western Monument Ridge
- Eastern Monument Ridge
- Monument Ridge – Highway 101
- Highway 101 – Shively Ridge
- Shively Ridge
- Bridgeville

Project components would be transported overland to the project site on Highway 101 before reaching the temporary staging area(s) located near the Jordan Creek offramp (Figure 1 and 2). Several locations along Highway 101 would require temporary improvements to accommodate transportation of project components to the project site. These transportation improvement areas are located along Highway 101 from Depot Road in the north, south to the 12th Street Overpass in the City of Fortuna. Transportation improvements will occur in five locations along this corridor. The five locations are referred to as:

- Depot Road
- Hookton Overpass
- Loleta Ramp
- Finch Creek Bridge and Bypass
- 12th Street Overpass Bypass

Stantec Consulting Services Inc. (Stantec) prepared a Draft Biological Resources Work Plan (Draft Work Plan) detailing biological resource surveys designed to support project planning (Stantec 2018a). In July and August 2018, we conducted aquatic resource surveys in the project area, and on October 11 and 12, 2018 surveyed in the transportation improvement areas. These surveys support project permitting for resources that may fall within the following jurisdictions:

- The U.S. Army Corps of Engineers (USACE), pursuant to Section 404 of the Clean Water Act

- The North Coast Regional Water Quality Control Board (RWQCB), pursuant to the Porter-Cologne Water Quality Control Act (California Water Code, Chapter 2, § 13050) or Section 401 of the Clean Water Act
- The California Department of Fish and Wildlife (CDFW), pursuant to section 1600 of the California Fish and Game Code
- The California Coastal Commission (CCC) pursuant to the 1976 California Coastal Act (CA Public Resources Code § 30121) and California Code of Regulations (14 CCR § 13577)

This Aquatic Resources Survey Report summarizes the methods and results of the survey of these resources, which are herein referred to as "jurisdictional waters."

2.0 ENVIRONMENTAL SETTING

Humboldt County is within the Klamath/North Coast bioregion and features a rocky coastline, montane forests, and small and sparsely populated settlements. The climate on the coast is cool and moist, driven by heavy rain and fog, and becomes progressively drier, warmer, and more variable inland while remaining relatively mild. In general, the county is mountainous and densely forested, with an expansive coastline that includes Humboldt Bay. Humboldt Bay, located about 16 mi north of the project, is the second largest estuary in California.

The project is on privately owned and managed lands in rural, unincorporated southcentral Humboldt County, 10 mi southeast of Ferndale, 20 mi south of Eureka, and 22 mi north of Garberville, California. Most of the project would be located on two prominent ridgelines that are located south and east of the town of Scotia. Monument Ridge is located south and west of Highway 101 and the Eel River, and Shively ridge is located north and east of Highway 101 and the Eel River.

The project area consists primarily of managed timberlands that are dominated by redwood (*Sequoia sempervirens*) forests and Douglas-fir (*Pseudotsuga menziesii*) forests, with annual grassland, hardwood, and chaparral inclusions. In addition to timber production, some areas of the project site are managed for cattle grazing. The topography is diverse and steep in places, and elevation ranges from nearly sea level in river bottoms to just over 3,000 ft.

2.1 TOPOGRAPHY AND HYDROLOGY

The project area is in the North Coastal Hydrologic Basin Region (North Coastal Region), which covers 12.46 million ac and extends from the Oregon border south to Tomales Bay. The North Coast Region is divided into nine hydrologic units, which are further divided into hydrologic areas and hydrologic subareas. The project area is located within three: the Eel River, Eureka Plain, and Cape Mendocino Hydrologic Units (Table 1). Each of the Hydrologic Units within the project area ultimately flow west to the Pacific Ocean, which is 0.25 to 33 mi from the proposed project, depending on location. The project area crosses numerous unnamed drainages and wetlands as well as several named drainages (Greenlow Creek, Eel River, Van Duzen River, and Stitz Creek). Topography within the project area varies widely and ranges from nearly sea level in river bottoms to just over 3,000 ft in elevation.

The western portion of the project area (Bear River Ridge, Western Monument Ridge, Highway 101-Monument Ridge, Eastern Monument Ridge) predominantly follows ridgelines (Figure 3). These ridgelines support several springs that form headwaters to intermittent and ephemeral drainages that empty into both the Eel River and Bear River. The eastern portion of the project area (Highway 101 – Shively Ridge, Shively Ridge, Bridgeville) traverses

varying topography including ridgelines, canyons, valley bottoms, and drainages. Flows in this section drain into intermittent and ephemeral drainages that empty into the Van Duzen River, which is a tributary to the Eel River. Hydrologic sources within the project area include precipitation, groundwater, and runoff from adjacent uplands.

Table 1: Hydrologic Units, Areas, and Subareas within the Project Area

Hydrologic Units	Hydrologic Areas	Hydrologic Subareas
110.00 Eureka Plain	--	--
111.00 Eel River	111.10 Lower Eel River	11.11 Ferndale 11.12 Scotia 11.13 Larabee Creek
	111.20 Van Duzen River	11.22 Bridgeville
112.00 Cape Mendocino	112.20 Capetown	--

Source: Water Quality Control Plan for the North Coast Region (RWQCB 2018).

2.2 VEGETATION COMMUNITIES

Vegetation communities were mapped within the project area during a separate field survey in the summer of 2018 (Table 2). Additional details and full results of the vegetation mapping survey can be found in the project Botanical Resources Report (Stantec 2018b). Nomenclature for the vegetation survey followed the alliances and associations used in the Manual of California Vegetation, 2nd edition (MCV) and updated in the online edition (Sawyer et al. 2009, CNPS 2018). Several of the communities mapped are not described in the MCV. In these instances, a new vegetation alliance and/or association was described and named, following MCV convention. Within the project area, the most abundant forests and woodlands were Douglas-fir forests and redwood forests, the most abundant shrubland was coyote brush (*Baccharis pilularis*) scrub, and the most abundant herbaceous communities were hairy oat grass (**Rytidosperma penicillatum*[1]) prairies and common velvet grass - sweet vernal grass (*Holcus lanatus* - *Anthoxanthum odoratum*) meadows.

The vegetation mapping survey applied MCV nomenclature solely based on vegetation composition. This aquatic resource survey applies MCV nomenclature to each delineated aquatic resource, and aquatic resources are not delineated solely based on vegetation. Additional vegetation communities contained within aquatic resources were mapped that were not identified during project area vegetation mapping. A complete listing of all communities mapped during both resource surveys is included in Table 2. Detailed descriptions applicable at the aquatic resource survey level (i.e., vegetation for each delineated feature) are provided in the results section (Section 4.0).

Table 2: Vegetation Alliances within the Project Area

Scientific Name	Common Name	Wetland Community[1]
Herbaceous		
**Acmispon americanus*	*Spanish lotus fields	
**Agrostis exarata*	*spike bentgrass prairie	
**Aira praecox*	*yellow hairgrass grasslands	
**Alopecurus saccatus*	foxtail meadows	X
**Anthoxanthum odoratum*	*sweet vernal grass meadows	
**Athyrium filix-femina var. cyclosorum*	western lady fern seeps	X

[1] Asterisk (*) indicates alliances not included in the MCV.

Scientific Name	Common Name	Wetland Community[1]
Brassica nigra	upland mustards	
Bromus (diandrus, hordeaceus) - Brachypodium distachyon	annual brome grasslands	
**Carex bolanderi*	Bolander's sedge seeps	X
Carex praegracilis	sand dune sedge swaths	X
**Carex tumulicola*	foothill sedge meadows	
Cortaderia jubata, selloana	pampas grass patches	
Cynosurus echinatus	annual dogtail grasslands	
**Cyperus eragrostis*	tall cyperus seeps	X
Danthonia californica	California oat grass prairies	
Deschampsia cespitosa	tufted hair grass meadows	
Deschampsia elongata	hairgrass meadows	X
Elymus glaucus	blue wild rye montane meadows	
**Equisetum telmateia ssp. braunii*	giant horsetail marshes	X
Festuca perennis	perennial rye grass fields	X
Holcus lanatus - Anthoxanthum odoratum	common velvet grass - sweet vernal grass meadows	X
**Isolepis cernua*	low bulrush marshes	X
**Juncus bolanderi*	Bolander's rush marshes	X
Juncus effusus	soft rush marshes	X
Juncus occidentalis	slender juncus marshes	X
Juncus patens	western rush marshes	X
**Mentha pulegium*	*pennyroyal marshes	X
**Nasturtium officinale*	watercress seeps	X
Phalaris aquatica	Harding grass swards	
Poa pratensis	Kentucky blue grass turfs	X
**Rytidosperma penicillatum*	*hairy oat grass prairies	
**Selaginella wallacei*	Wallace's spikemoss mats	
	Shrubland	
**Arctostaphylos columbiana*	*redwood manzanita stands	
Baccharis pilularis	coyote brush scrub	
Ceanothus thyrsiflorus	blue blossom chaparral	
Cytisus scoparius	broom patches	
**Eriogonum latifolium*	*coast buckwheat patches	
Holodiscus discolor	ocean spray brush	
Rubus armeniacus	Himalayan blackberry brambles	
Rubus parviflorus	coastal brambles	
Rubus spectabilis	coastal brambles	

Scientific Name	Common Name	Wetland Community[1]
Rubus ursinus	coastal brambles	
Salix hookeriana	coastal dune willow thickets	X
Salix lasiolepis	arroyo willow thickets	X
Salix sitchensis	Sitka willow thickets	X
Toxicodendron diversilobum	poison oak scrub	
Umbellularia californica	California bay forest	
Forest and Woodland Alliances		
Abies grandis	grand fir forest	
Acer macrophyllum	bigleaf maple forest	
Alnus rubra	red alder forest	X
Arbutus menziesii	madrone forest	
Notholithocarpus densiflorus	tanoak forest	
Pinus radiata	Monterey pine plantation	
Populus fremontii	Fremont cottonwood forest	
Populus trichocarpa	black cottonwood forest	X
Pseudotsuga menziesii	Douglas-fir forest	
Pseudotsuga menziesii - Notholithocarpus densiflorus	Douglas-fir - tanoak forest	
Quercus garryana var. garryana	Oregon white oak woodland	
Salix lasiandra	shining willow groves	
Sequoia sempervirens	redwood forest	

* alliances not included in the MCV

[1] alliance with occurrences in delineated wetlands; not all occurrences are within wetlands

2.3 SOIL

Humboldt County spans two geologic provinces: Coast Ranges Province and Klamath Mountains Province. The Coast Ranges Province in the county's center and southwest is composed mainly of the Franciscan Complex, with schists, sand, and other alluvial deposits associated with the coast. The Klamath Mountains Province in the northeast features older sedimentary rock including sandstone, chert, slate, and schist. Thirty-three soil mapunits within the project area have been mapped by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS 2018b) (Table 3, Figure 4). Twenty of the soil mapunits are rated as hydric or contain hydric components. Soil mapunits have not been mapped in portions of Bridgeville.

Table 3: Soil Mapunits Within the Project Area

Mapunit Symbol	Mapunit Name	Hydric Rating Status
Water and Fluvents, 0 to 2 percent slopes	100	Y
Weott, 0 to 2 percent slopes	110	Y

Mapunit Symbol	Mapunit Name	Hydric Rating Status
Arlynda, 0 to 2 percent slopes	119	Y
Jollygiant, 0 to 2 percent slopes	127	Y
Typic Fluvaquents, 0 to 2 percent slopes	131	Y
Udifluvents, 0 to 2 percent slopes	132	Y
Parkland-Garberville complex, 2 to 9 percent slopes	151	Y
Eelriver and Cottoneva soils, 0 to 2 percent slopes	179	Y
Grizzlycreek-Chaddcreek complex, 2 to 9 percent slopes	181	N
Russ, 0 to 2 percent slopes	195	Y
Ferndale, 0 to 2 percent slopes	220	Y
Canalschool, 0 to 2 percent slopes	221	Y
Hookton-Tablebluff complex, 2 to 9 percent slopes	230	N
Hookton-Tablebluff-Cannonball complex, 9 to 15 percent slopes	231	N
Tablebluff-Cannonball-Lepoil complex, 15 to 30 percent slopes	232	N
Cannonball-Candymountain-Lepoil Complex, 30 to 50 percent slopes	233	N
Ferncat-Sleepyhollow-Oilcreek complex, 30 to 50 percent slopes	344	Y
Sleepyhollow-Oilcreek complex, 50 to 75 percent slopes	345	Y
Ferncat-Sleepyhollow complex, 9 to 30 percent slopes	368	N
Scoutcamp-Redcrest complex, 15 to 30 percent slopes	382	N
Scoutcamp-Rootcreek-Redcrest complex, 5 to 30 percent slopes	383	N
Scoutcamp-Rootcreek-Redcrest complex, 30 to 50 percent slopes	384	N
Scoutcamp-Redcrest complex, 50 to 75 percent slopes	385	N
Scoutcamp-Rootcreek-Redcrest complex, 50 to 75 percent slopes	386	N
Salmoncreek-Rootcreek complex, 2 to 15 percent slopes	387	Y
Salmoncreek-Rootcreek complex, 15 to 30 percent slopes	388	Y
Salmoncreek-Rootcreek complex, 30 to 50 percent slopes	389	Y
Burgsblock-Coolyork-Tannin complex, 15 to 30 percent slopes	451	N
Burgsblock-Coolyork-Tannin complex, 30 to 50 percent slopes	452	N
Tannin-Burgsblock-Rockyglen complex, 30 to 50 percent slopes	461	N
Northbear-Caperidge-Taylorpeak complex, 30 to 50 percent slopes	505	N
Redwoodhouse-Yagercreek-Mailridge complex, 15 to 30 percent slopes	512	N
Redwoodhouse-Yagercreek-Mailridge complex, 30 to 50 percent slopes	513	N
Redwoodhouse-Yagercreek-Mailridge complex, 50 to 75 percent slopes	514	N
Redwoodhouse-Mailridge-Mountbaldy complex, 15 to 30 percent slopes	520	N
Crazycoyote-Sproulish-Caperidge complex, 15 to 50 percent slopes	567	N
Sproulish-Canoecreek-Redwohly complex, 30 to 50 percent slopes, warm	574	N
Canoecreek-Sproulish-Redwohly complex, 50 to 75 percent slopes, warm	575	N
Wirefence-Windynip-Devilshole complex, 5 to 30 percent slopes	646	N

Mapunit Symbol	Mapunit Name	Hydric Rating Status
Windynip-Wirefence-Devilshole complex, 30 to 50 percent slopes	649	N
Yorknorth-Witherell complex, 00315 to 30 percent slopes	655	N
Yorknorth-Witherell complex, 30 to 50 percent slopes	662	N
Dryfield-Yorknorth-Witherell complex, 5 to 30 percent slopes	667	N
Hydraquents-Wassents mucky silt loam, strongly saline, 0-3 percent slopes, very frequently flooded	1009	Y
Urban land-Friendlycity association, 0 to 2 percent	1010	N
Urban land-Anthraltic Xerorthents association, 0 to 2 percent slopes	1014	N
Peaked-Oceanhouse-Forhaux complex, 5 to 30 percent slopes	4406	Y
Dolason-Forhaux-Peaked complex, 5 to 30 percent slopes	4408	Y
Forhaux-Peaked-Dolason complex, 30 to 50 percent slopes	4409	Y
Hoagland-Chalkmountain-Pasturerock complex, 30 to 50 percent slopes	4417	N
Highyork-Elkcamp-Airstrip complex, 30 to 50 percent slopes	4422	N

Source: Natural Resources Conservation Service. 2018b. USDA Web Soil Survey. Available: http://websoilsurvey.nrcs.usda.gov. Accessed August 2018.

3.0 METHODS

3.1 DESKTOP REVIEW

Prior to conducting fieldwork, the following resources were reviewed:

- U.S. Fish and Wildlife Service National Wetland Inventory (USFWS 2018)
- Google Earth color aerial imagery dating back to 1985
- U.S. Geological Survey (USGS) 7.5-minute topographic maps (USGS 1969a, 1969b, 1969c, 1970)
- USGS National Hydrography Dataset (USGS 2017)

These resources were used to identify potential aquatic features based on changes in vegetation, topographic changes, or visible drainage patterns. Prior to field surveys, potential features were digitized into a working field map which was then used as a reference during field surveys.

3.2 AQUATIC RESOURCES FIELD ASSESSMENT

The following Stantec Biologists conducted the aquatic resources field assessment between July 9 and August 10, and on October 3 and 4, 2018:

- Sheryl Creer
- John Holson
- Kayla Henry
- Allison Loveless
- Leticia Morris

- Andrew Sorci
- Sara Taylor
- Sarah Tona
- Gabe Youngblood

The last appreciable rainfall prior to the July and August field assessment as recorded by the National Oceanic and Atmospheric Administration's Scotia weather station occurred on June 9, 2018 (NRCS 2018a). Prior to the October transportation route field assessment, the last appreciable rainfall as recorded by the NOAA Eureka weather station occurred on October 2, 2018. Plant species observed during field surveys were recorded (Appendix A) using botanical nomenclature following The Jepson Manual: Vascular Plants of California, Second Edition (Baldwin et al. 2012). Nomenclatural changes made after the publication date of The Jepson Manual follow the Jepson eFlora (Jepson Flora Project 2018).

3.2.1 Wetlands Mapping

Potential wetlands under the jurisdiction of USACE and RWQCB, and riparian wetlands under the jurisdiction of CDFW were mapped within the project area. Wetland delineation followed the routine determination method given in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and the revised procedures in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE 2010). This methodology entails examination of specific sample points in both wetlands and uplands (i.e. paired points) to determine the boundaries of wetland features. Sample points are examined for hydrophytic vegetation, hydric soils, and wetland hydrology. By the federal definition, all three parameters must be present for an area to be considered a wetland. Riparian canopy (riparian wetland) potentially under the jurisdiction of CDFW was mapped when a shrub or forest community associated with a drainage passed the USACE criterion for hydrophytic vegetation. Potential wetlands under the jurisdiction of the CCC that are located within the Coastal Zone (CZ) were also mapped. The CCC defines wetlands within the CZ following the USACE method for delineation, but only requires one of the three factors for a feature to qualify as a wetland (CCC 2011). Therefore, features mapped as CCC wetlands may not meet the definition of a USACE wetland.

Sixty-five sample points were established within the study area, and a USACE wetland determination data form was completed for each.(Appendix A). Sample pits were excavated at each point, and soils were evaluated for hydric indicators (NRCS 2017). Vegetation was also sampled and recorded , as well as and indicators of wetland hydrology in a 1-meter-radius plot surrounding the sample point. In situations where adjacent wetland features supported similar vegetation composition and indicators of hydrology, one set of sample points was excavated for one wetland feature and then applied to adjacent features. Several sample points in suspected wetlands did not pass the USACE three-parameter test and are considered upland and are therefore not in a set of paired points.

Wetland boundaries were determined by following a combination of the limits of hydrophytic vegetation, limits of observed wetland hydrology, topographic breaks, and aerial ortho-photo interpretation. Sample pits and wetland boundaries were mapped using a sub-meter-accurate Bad Elf™ Global Positioning Service Unit (Bad Elf) paired with Collector for ArcGIS™ (Collector). All spatial data was collected in the WGS84 datum. Representative photographs were also taken of sample points and features (Appendix C). All potential wetland areas were evaluated to identify their connection to on-site and off-site hydrologic resources; all potentially jurisdictional wetland areas were mapped if they met all three USACE-required parameters. Boundaries of CDFW-jurisdictional riparian canopy were also mapped using aerial imagery or, in circumstances where riparian canopy was not discernible from aerial imagery, with the Bad Elf.

All wetland features were assigned an MCV vegetation community based on overall vegetation within each delineated feature (i.e., using vegetation beyond the sample plot). Several vegetation communities within the delineated wetlands are not described in the MCV. In these situations, a new vegetation alliance was described and named, following MCV convention.

3.2.2 Drainage Mapping

Drainages potentially under the jurisdiction of USACE and RWQCB were delineated and mapped following A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States (USACE 2014). Assessment of the hydrological regime (i.e. ephemeral, intermittent, perennial) followed guidance also included in the USACE 2014 guide. Top-of-bank (TOB) measurements were noted for each drainage to delineate drainage areas potentially under the jurisdiction of CDFW under Section 1600 of the California Fish and Game Code. Culverts were also mapped to assist with determining overall connectivity and water flow. In locations that were accessible, linear features and culverts were mapped using a Bad Elf paired with Collector. A custom data dictionary in Collector was used to ensure consistent data collection in the field, and all spatial data was collected in the WGS84 datum. The following attributes were collected or measured for each mapped drainage: average OHWM width and depth, average TOB width and depth, hydrologic regime, OHWM indicators, substrate below OHWM, and depth of water (if present). Representative photographs of features were also taken (Appendix C). In some instances, culverts or drainages were obscured by thick brush, covered in poison oak and/or stinging nettle, or inaccessible due to steep terrain. In these cases, full-color aerial imagery and/or topographic maps were used to assist mapping the jurisdictional features. Isolated roadside ditches excavated wholly in uplands and draining from upland to upland were not mapped. Specifically, if a roadside ditch was not connected (or adjacent) to a wetland or other drainage, it was not mapped. All other potentially jurisdictional drainages with primary or secondary indicators of OHWM were mapped and assumed to have either connectivity in some capacity (sub-surface, adjacent, etc.) or a significant nexus with traditionally navigable waters as defined by the Clean Water Rule.

4.0 RESULTS

A total of 14.6390 ac of wetlands potentially under the jurisdiction of RWQCB and USACE were mapped. Of these 14.6390 ac, 7.2293 ac are riparian wetland potentially under the jurisdiction of CDFW, and 0.493 ac are potentially under the jurisdiction of the CCC (Figure 5, Table 4, Appendix D). A total of 0.1384 ac of open water potentially under the jurisdiction of the RWQCB, USACE, and CDFW. In addition, 2.8550 ac of drainages potentially under the jurisdiction of RWQCB and USACE and 6.8607 ac potentially under the jurisdiction of CDFW were also mapped. Finally, 14,4499.5031 linear ft of drainages were mapped that are potentially under the jurisdiction of RWQCB and USACE, as well as 15,902.3031 linear ft potentially under the jurisdiction of CDFW.

Table 4: Summary of Potentially Jurisdictional Aquatic Features within the Project Area

Feature Type	USACE and RWQCB		CDFW		CCC
	Acres[1]	Linear Feet	Acres[2]	Linear Feet	
Wetlands	14.6390	N/A	7.2293	N/A	0.4963
Open Water	0.1384	N/A	--	N/A	--

Ephemeral Drainages	0.2398	5,642.1105	0.3978	5,642.1105	--
Intermittent Drainages	0.4071	4,608.6133	0.5886	4,608.6133	--
Perennial Drainages	2.2081	4,248.7792	5.8742	5,651.5792	--
Subtotal – Drainages	**2.8550**	**14,499.5031**	**6.8607**	**15,902.3031**	**--**
Total Jurisdictional Area	**17.4940**	**14,499.5031**	**14.0900**	**15,902.3031**	**0.4963**

[1] Acreage was calculated using the area within the OHWM and includes culverts.

[2] CDFW-jurisdictional acreage was calculated as follows: drainages used the area within TOB including culverts; wetlands were defined as areas associated with drainages that are forested or vegetated with shrubs that also meet the USACE criterion for hydrophytic vegetation. In some cases, these riparian wetlands extend beyond TOB.

4.1 WETLANDS

A total of 96 wetlands and 1 open water (stock pond) were mapped that are potentially under the jurisdiction of USACE, RWQCB, CCC, and/or CDFW within the project area (Appendix D). Mapped wetlands were categorized into one of three Cowardin classifications: palustrine emergent, palustrine forested, and palustrine scrub-shrub habitats (Cowardin et al. 1979).

4.1.1.1 Vegetation

Mapped wetlands were further classified wetlands into one of 23 vegetation alliances (Table 5, Appendix D). The most abundant vegetation type by wetland feature is pennyroyal (*Mentha pulegium*) marshes, which comprise 29 wetlands and 2.2092 ac. The second most abundant type is soft rush (*Juncus effusus*) marshes, which comprise 21 wetlands and 2.7868 ac. The wetland indicator status for the dominant species in each vegetation/wetland type is provided below (Lichvar et al. 2016).

Table 5: Summary of Wetlands by Vegetation Community

Scientific Name	Common Name	Cowardin Code[1]	Acres
Palustrine Emergent			
**Alopecurus saccatus*	*foxtail meadows	PEM	0.0677
**Athyrium filix-femina var. cyclosorum*	*western lady fern seep	PEM	0.0309
**Carex bolanderi*	*Bolander's sedge seep	PEM	0.0481
**Carex praegracilis*	*field sedge meadows	PEM	0.0160
**Cyperus eragrostis*	*tall cyperus seep	PEM	0.1319
Deschampsia elongata	hairgrass meadows	PEM	0.0038
**Equisetum telmateia ssp. braunii*	*giant horsetail marshes	PEM	0.4927
Festuca perennis	perennial rye grass fields	PEM	0.0346
Holcus lanatus	common velvet grass meadows	PEM	0.4284
**Isolepis cernua*	low bulrush marshes	PEM	0.0521
**Juncus bolanderi*	*Bolander's rush marshes	PEM	0.1912

Scientific Name	Common Name	Cowardin Code[1]	Acres
**Juncus bufonius*	*toad rush marshes	PEM	0.0809
Juncus effusus	soft rush marshes	PEM	2.7868
**Juncus occidentalis*	*slender juncus marshes	PEM	0.5196
Juncus patens	western rush marshes	PEM	0.2216
**Mentha pulegium*	*pennyroyal marshes	PEM	2.2092
**Nasturtium officinale*	watercress seeps	PEM	0.0066
Poa pratensis	Kentucky blue grass turf	PEM	0.0920
Subtotal			**7.2321**
Palustrine Scrub-Shrub			
Salix hookeriana	coastal dune willow thickets	PSS	0.0085
Salix lasiolepis	arroyo willow thickets	PSS	0.3143
Salix sitchensis	Sitka willow thickets	PSS	1.4389
Subtotal			**1.4474**
Palustrine Forested			
Alnus rubra	red alder forest	PFO	3.9565
Populus trichocarpa	black cottonwood forest	PFO	1.5110
Subtotal			**5.4675**
Other			
Open Water	--	--	0.1384
Total	**--**		**14.7774**

* alliances not included in the MCV

[1] PEM = palustrine emergent, PSS = palustrine scrub-shrub, PFO = palustrine forested. Codes based on Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31.Washington, D.C.

Palustrine Emergent Wetlands

*Foxtail meadows

Two wetlands were classified as foxtail (*Alopecurus saccatus*) meadows: one on Bear River Ridge and one in Bridgeville. Both are dominated by foxtail, a facultative wetland species (FACW), with a lower abundance of other forbs and grasses such as pennyroyal, an obligate wetland species (OBL) and Diego bent grass (*Agrostis pallens*), an upland species (UPL).

*Western lady fern seep

One wetland in Bridgeville was classified as a western lady fern (*Athyrium filix-femina var. cyclosorum*) seep. This wetland is dominated by western lady fern, a facultative species (FAC), with a presence of common horsetail (*Equisetum arvense*) (FAC).

*Field sedge meadow

One wetland in Bridgeville was classified as a field sedge (*Carex praegracilis*) meadow. This wetland is dominated by field sedge (FACW) and supports a lesser amount of common velvet grass (FAC) and pennyroyal (OBL).

*Bolander's sedge seep

One wetland on Western Monument Ridges was classified as a Bolander's sedge (*Carex bolanderi*) seep. This wetland is dominated by Bolander's sedge (FAC) with a presence of musk monkeyflower (*Mimulus moschatus*) (OBL).

*Tall cyperus seeps

Four wetlands were classified as tall cyperus (*Cyperus eragrostis*) seeps: one on Shively Ridge and three in Bridgeville. All are dominated by tall cyperus (FACW), with a lower abundance of other forbs and grasses such as pennyroyal (OBL), buttercup (*Ranunculus muricatus*) (FACW), and common horsetail (FAC).

Hairgrass meadow

One wetland in Bridgeville was classified as a hairgrass (*Deschampsia elongata*) meadow. This wetland is dominated by hairgrass (FACW), with a lower abundance of pennyroyal (OBL).

*Giant horsetail marshes

One wetland on Eastern Monument Ridge was classified as a giant horsetail (*Equisetum telmateia* ssp. *braunii*) marsh. This wetland is co-dominated by giant horsetail (FACW) and California mugwort (*Artemisia douglasiana*) (FACW).

Perennial rye grass fields

Two wetlands were classified as perennial rye grass (*Festuca perennis*) fields: one on Bear River Ridge and one on Western Monument Ridge. Both are dominated by perennial rye grass (FAC), with a lower abundance of common velvet grass (FAC).

Common velvet grass meadows

Three wetlands were classified as common velvet grass meadows: two on Bear River Ridge and one in Bridgeville. Both are dominated by common velvet grass (FAC), with varying and lower abundances of fiddleleaf dock (*Rumex pulcher*) (FAC), Baltic rush (*Juncus balticus* ssp. *ater)* (FACW), and perennial rye grass (FAC).

*Low bulrush marshes

One wetland on Bear River Ridges was classified as a low bulrush marsh. This wetland is co-dominated by hyssop loosestrife (*Lythrum hyssopifolia*) (OBL).

**Bolander's rush marshes*

Two wetlands on Bear River Ridge were classified t as Bolander's rush (*uncus bolanderi*) marshes. Both are dominated by Bolander's rush (OBL), with varying and lower abundances of common velvet grass (FAC) and Diego bent grass (UPL).

Soft rush marshes

Twenty-one wetlands were classified as soft rush marshes: 13 on Bear River Ridge, 4 on Western Monument Ridge, 2 on Eastern Monument Ridge, 1 on Shively Ridge, and 1 in Bridgeville. The marshes are dominated by soft rush (FACW), and the majority are co-dominated by common velvet grass (FAC). Several of the marshes support pennyroyal (OBL) as a co-dominant.

Slender juncus marshes

Four wetlands were classified as slender juncus (*Juncus occidentalis*) marshes: three on Bear River Ridge and one on Highway 101 – Shively. All four are dominated by slender juncus (FACW), with a lower abundance of Diego bent grass (UPL) present as well.

Western rush marshes

Five wetlands were classified as western rush (*Juncus patens*) marshes: one on Bear River Ridge, two on Highway 101 – Monument Ridge, and two in Bridgeville. All five are dominated by western rush (FACW), with varying and lower abundances of pennyroyal (OBL) and barley (*Hordeum marinum* ssp. *gussoneanum*) (FAC).

**Pennyroyal marshes*

Twenty-nine wetlands were classified as pennyroyal marshes; 1 along the transportation route at Hookton Overpass, 8 on Bear River Ridge, 3 on Western Monument Ridge, 1 on Highway 101 – Monument Ridge, 1 on Shively Ridge, and 15 in Bridgeville. The marshes are dominated by pennyroyal (OBL), and the majority are co-dominated by common velvet grass (FAC) or perennial rye grass (FAC). Several of the marshes support foxtail (FACW) as a co-dominant.

Watercress seep

One wetland on Western Monument Ridge was classified as a watercress (*Nasturtium officinale*) seep. This wetland is co-dominated by common velvet grass (FAC).

Kentucky blue grass turf

Two wetlands on Bear River Ridge were classified as Kentucky blue grass (*Poa pratensis*) turf. Both are dominated by Kentucky blue grass (FAC) and co-dominated by pennyroyal (OBL).

Palustrine Scrub-Shrub Wetlands

Coastal dune willow thickets

One wetland on Shively Ridge was classified as a coastal dune willow (*Salix hookeriana*) thicket. The shrub layer is co-dominated by coastal dune willow (FACW) and California blackberry (*Rubus ursinus*) , a facultative upland species (FACU). The herbaceous layer is dominated by common horsetail (FAC), with a small amount of pennyroyal (OBL) and mountain bog bulrush (*Scirpus microcarpus*) (OBL).

Arroyo willow thickets

Two wetlands were classified along the transportation route as arroyo willow (*Salix lasiolepis*) thickets. This shrub community is dominated by arroyo willow (FACW). Stands at Hookton Overpass support a diversity of shrub species including Nootka rose (*Rosa nutkana*) (FAC) and California hazel (*Corylus cornuta* subsp. *californica*) (FACU). Stands at Finch Creek Bridge Bypass are overwhelmingly dominated by arroyo willow with a trace amount of thimbleberry and Himalayan blackberry (FAC).

Sitka willow thickets

Four wetlands were classified as Sitka willow (*Salix sitchensis*) thickets: three on Eastern Monument Ridge and one on Highway 101 – Shively. All four are characterized by a prominent shrub layer dominated by Sitka willow (FACW). The three thickets on Eastern Monument Ridge support a sparse tree layer dominated by red alder (*Alnus rubra*) (FAC) and a small amount of coyote brush (UPL) in the shrub layer. The herbaceous layer is sparse and is dominated by stinging nettle (*Urtica dioica*) (FAC). A moderately dense woody vine layer is present throughout and is dominated by poison oak (*Toxicodendron diversilobum*) (FAC). The thicket on the Highway 101 – Shively section of the project area is associated with Stitz Creek and supports a sparse tree layer also dominated by red alder (FAC). The herbaceous layer is sparse and is dominated by giant horsetail (FACW) and western rush (FACW).

Palustrine Forested Wetlands

Red alder forest

Five wetlands were classified as red alder forest: one on Eastern Monument Ridge associated with Greenlow Creek, two on Highway 101 – Shively associated with the Eel River, and two in Bridgeville associated with Little Larabee Creek. All five forested wetlands are characterized by a prominent tree layer dominated by red alder (FAC), with little to no shrub or herbaceous layer. Other vegetation present includes bigleaf maple (*Acer macrophyllum*) (FACU), blue elderberry (*Sambucus nigra* ssp. *caerulea*) (FAC), and Nootka rose (*Rosa nutkana*) (FAC).

Black cottonwood forest

Two wetlands in Bridgeville associated with the Van Duzen River were classified as black cottonwood *Populus trichocarpa*) forest. Black cottonwoods dominate the tree layer, with a small amount of red alder present. The shrub layer is co-dominated by narrowleaf willow (*Salix exigua*) (FACW) and polished willow (*S. laevigata*) (FACW). The shrub layer is dominated by Himalayan blackberry (*Rubus armeniacus*) (FAC).

Open Water

One feature on Bear River Ridge was classified as open water. At the time of the field surveys, this feature was unvegetated, holding water, and functioning as a stock pond for cattle. It is surrounded by a wetland feature (pennyroyal marsh) that was mapped separately.

4.1.1.2 Soils

Sixty-five sample points within the study area were established where soils were excavated and evaluated for the presence of hydric soil indicators. Sample points associated with wetland features share the feature's number (e.g. Wetland 193 has associated sample points 193 upland and 193 wetland). Fifty-six points make up 28 paired sets of upland and wetland points associated with mapped wetland features; 9 points are single upland points (suspected wetlands) that did not meet the USACE wetland criteria. Wetland soil samples were predominantly classified as clay loam or loam and upland soils samples as clay loam or sandy loam. The predominant hydric soil indicator was redox dark surface (F6). Soil matrix colors in both wetland and upland areas were predominantly 10 YR 3/2 or 10 Y/R 3/1. Redox concentrations within the soil matrix of hydric soils were predominantly 7.5 YR 5/8 or 10 YR 5/8. Redox concentrations were frequently observed in upland soil samples but at a significantly lower percentage than in hydric soils.

4.1.1.3 Hydrology

Most wetland features within the project area supported oxidized rhizospheres along living roots (C3) as the primary indicator of wetland hydrology. Frequently observed secondary indicators include drainage patterns (B10) and geomorphic position (D2).

4.2 DRAINAGES

A total of 83 drainages and drainage segments potentially under the jurisdiction of the USACE, RWQCB, and CDFW were mapped within the project area (Appendix C Table C-1). Based on topography, all drainages mapped are assumed to eventually drain into one of three perennial drainages: Eel River, Bear River, or Van Duzen River. The Van Duzen River drains into the Eel River, and the Eel River and Bear River both drain directly to the Pacific Ocean. Both the Eel River and Van Duzen River are considered traditionally navigable waters by USACE. In total, 38 ephemeral, 29 intermittent, and 16 perennial drainages/drainage segments were examined within the project area. The highest concentration of drainages is in the Bridgeville (35) and Monument Ridge (22) sections of the project area.

4.2.1 Ephemeral Drainages

A total of 38 ephemeral drainages and drainage segments were mapped throughout the project area; most are concentrated in Bridgeville. Ephemeral drainages mapped include 8 ditches that connect drainages to each other and 10 culverted segments of drainages. Most originate upslope and outside the project area.

4.2.2 Intermittent Drainages

A total of 29 intermittent drainages and drainage segments were mapped throughout the project area; most are concentrated in Bridgeville. Intermittent drainages mapped include three culverted segments. Several of the

drainages empty directly into Hoagland Creek or Fish Creek, which are both tributaries to the Van Duzen River, and two of the drainages drain directly to the Van Duzen River. Four drainages drain directly to Greenlow Creek, Shively Creek, or Monument Creek, all of which are tributaries to the Eel River. Most of the drainages originate outside the project area and are likely fed by ephemeral drainages located upslope.

4.2.3 Perennial Drainages

A total of 16 perennial drainages and drainage segments were mapped throughout the project area: 9 across Eastern and Western Monument Ridge, 5 across Bridgeville, 1 on Highway 101 – Monument, and 1 on Highway 101 – Shively. Seven of the perennial drainages the project crosses are segments of named drainages: Eel River, Fish Creek, Greenlow Creek, Hoagland Creek, Little Larabee Creek, Stitz Creek, and Van Duzen River. Fish Creek, Hoagland Creek, and Little Larabee Creek drain to the Van Duzen River; and Stitz Creek and Greenlow Creek both drain to the Eel River. Eel River, Greenlow Creek, Little Larabee Creek, Stitz Creek, and the Van Duzen River all support riparian wetland vegetation (Section 0). Two of unnamed perennial drainages (mapped in three segments) drain to Brushy Creek, a tributary to the Bear River; two (mapped in 4 segments) drain to Jordan Creek, a tributary to the Eel River; and one drains directly to Hoagland Creek, a tributary to the Van Duzen River. All perennial drainages within the project area were carrying water at the time of the field surveys. Several of the perennial drainages originate within the project area and are spring-fed. Most of the drainages originate outside the project area and are likely fed by ephemeral and intermittent drainages located upslope.

4.3 NON-JURISIDICTIONAL FEATURES

Nine sample test points were established in locations that appeared to be potential wetlands. However, upon examination and completion of the 3-factor USACE analysis, these locations were determined to be in uplands and, therefore, not in jurisdictional wetland areas (Figure 5).

4.3.1 Upland Ditches

Access roads crisscross the project area, many of which have unvegetated man-made ditches associated with them. Ditches exhibiting indicators of OHWM but determined to be wholly excavated in and conveying runoff to and from uplands are not considered jurisdictional features and were, therefore, not included in mapping.

4.3.2 Erosional Features

Several other areas appearing from aerials to be potentially jurisdictional features were determined in the field to be erosional features with no indicator of OHWM, no bed or bank, and/or no wetland indicators. These features are not considered jurisdictional and were therefore not mapped.

5.0 REFERENCES

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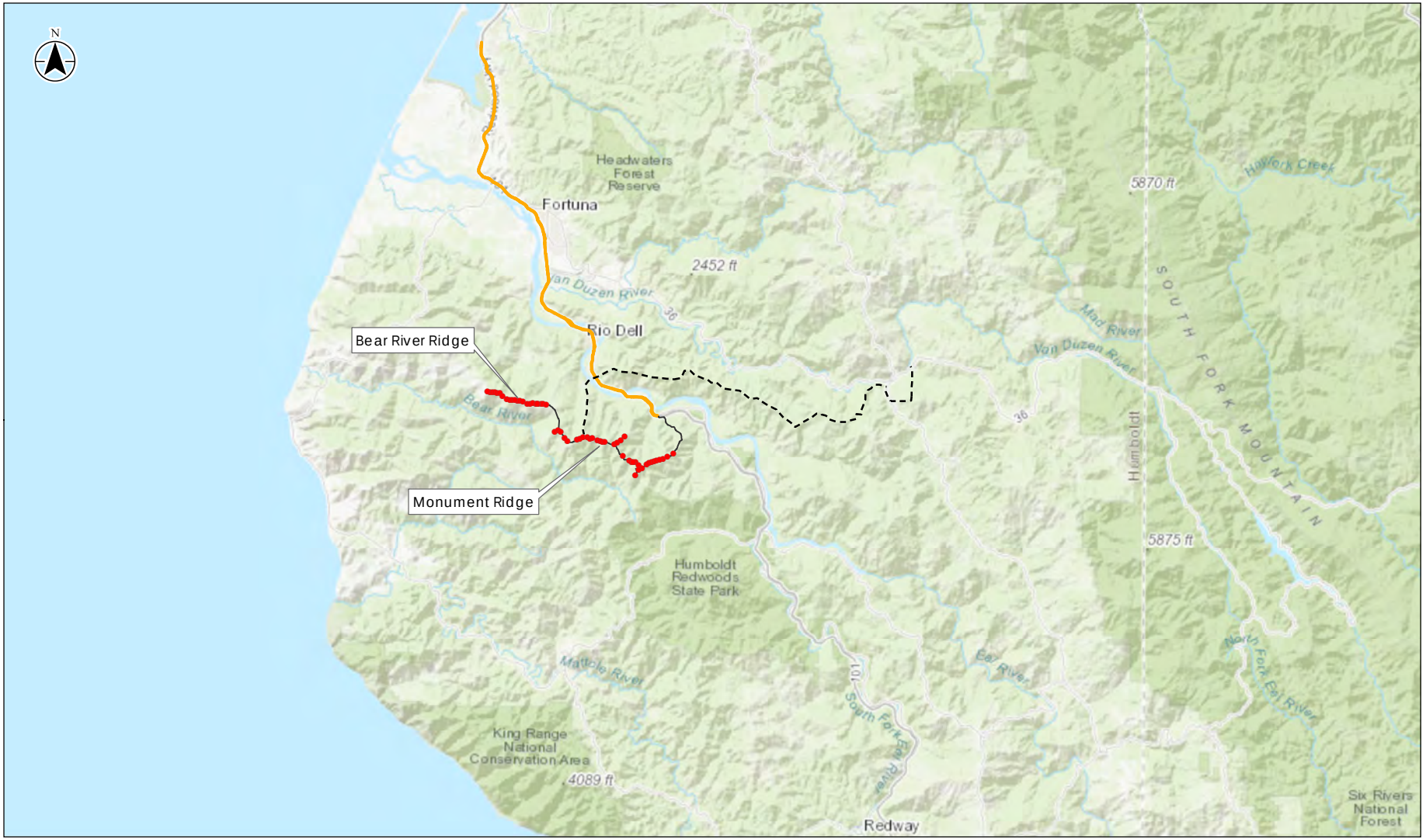
FIGURES



- Proposed Representative Wind Turbine Locations
- Generation Transmission line (gen-tie)
- Proposed Access Roads
- Transportation Route

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Miles

1 inch = 8 miles
(At original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Base map: ESRI World Topographic Map web mapping service.

Stantec

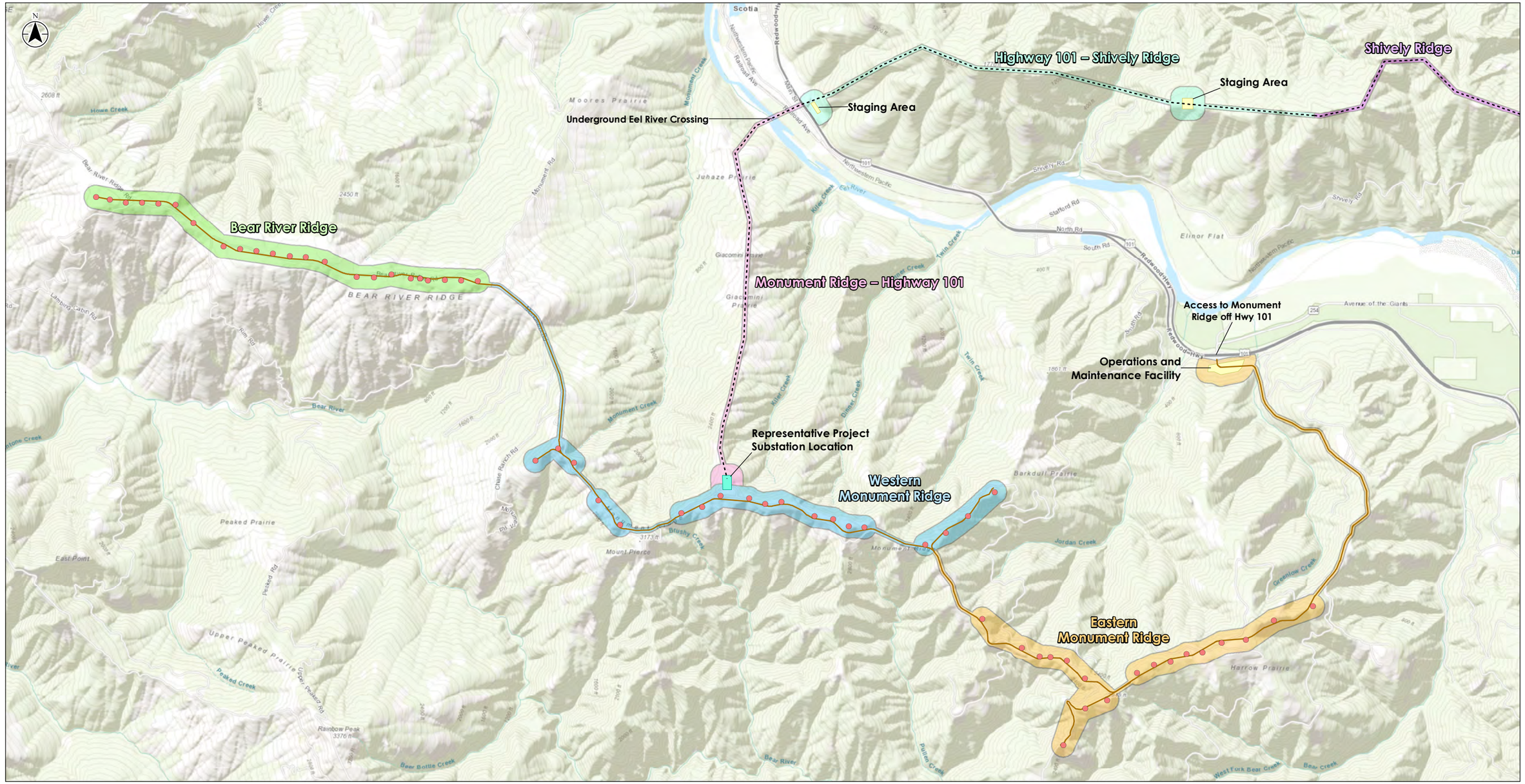
Project Location
Humboldt County, California

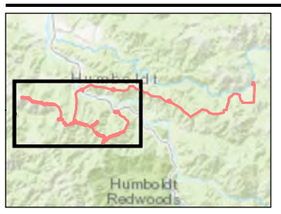
185703758
Prepared by PG on 2018-08-06
Technical Reviewed by YA on 2018-08-07
Independent Review by JD on 2018-08-07

Client/Project
Humboldt Wind, LLC
Humboldt Wind Energy Project

Figure No.
1

Title
General Overview





Project Area Segments

- Bear River Ridge
- Western Monument Ridge
- Monument Ridge - Highway 101
- Eastern Monument Ridge
- Highway 101 - Shively Ridge
- Shively Ridge
- Bridgeville

Project Components

- Proposed Representative Wind Turbine Locations
- Generation Transmission Line (Gen-Tie)
- Proposed Access Roads
- Substation
- Staging Area

0 0.5 1
Miles
1:50,000 1 inch = 4,167 feet
(At original document size of 11x17)

Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Base map: Esri World Topographic Map

Stantec

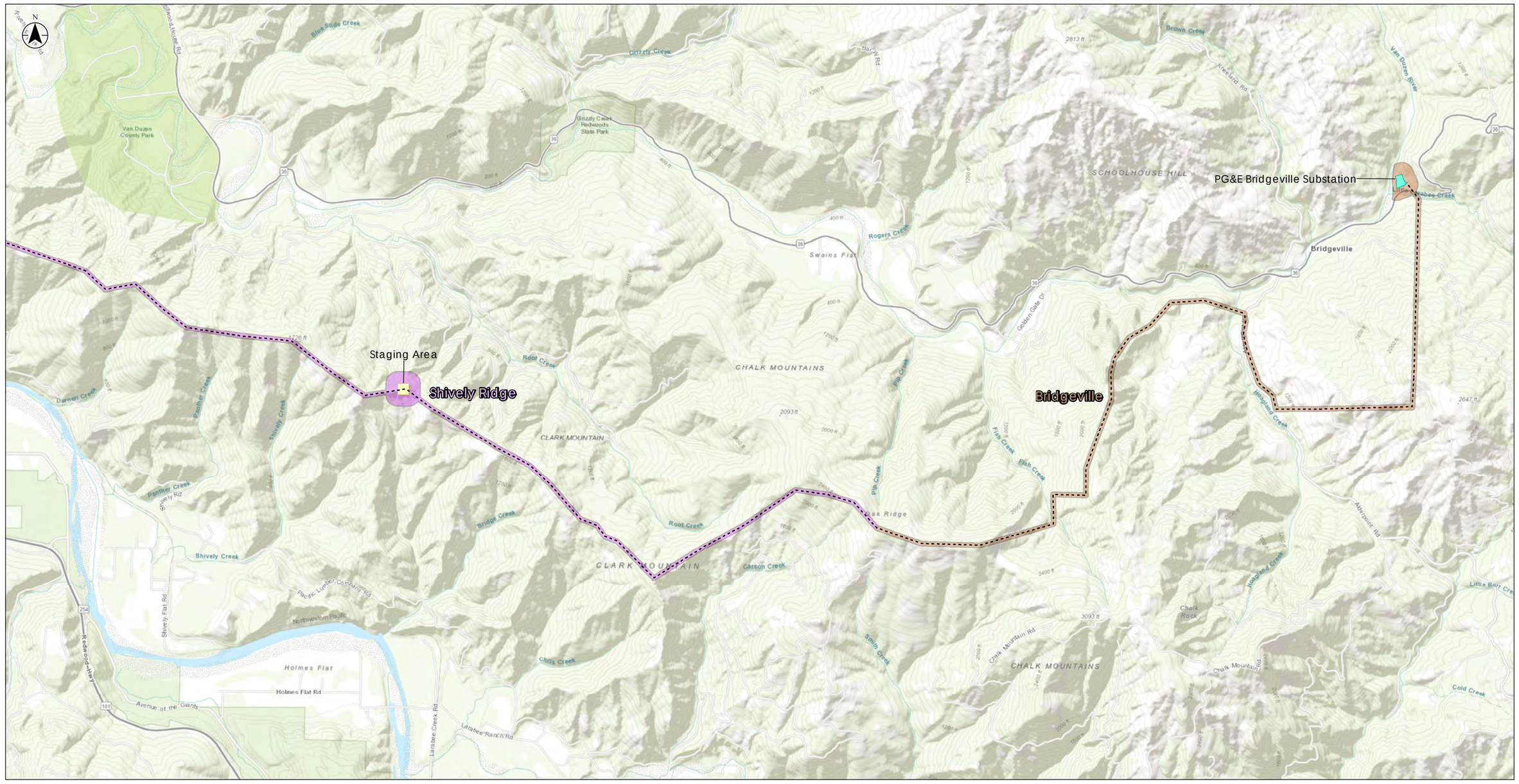
Project Location
Humboldt County, California

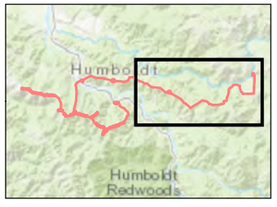
185703758
Prepared by PG on 2018-09-13
Technical Review by SC on 2018-09-13

Client/Project
Humboldt Wind, LLC
Humboldt Wind Energy Project

Figure No.
2

Title
Project Area





Project Area Segments
- Bear River Ridge
- Western Monument Ridge
- Monument Ridge - Highway 101
- Eastern Monument Ridge
- Highway 101 - Shively Ridge
- Shively Ridge
- Bridgeville

Project Components
- Proposed Representative Wind Turbine Locations
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0 0.5 1
Miles
1:50,000 1 inch = 4,167 feet
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Client/Project
Humboldt Wind, LLC
Humboldt Wind Energy Project

Figure No.
2

Title
Project Area

Improvement Area

Coastal Zone Boundary

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Feet

1:12,000 1 in = 1,000 ft
(At original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
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Project Location
Humboldt County, California

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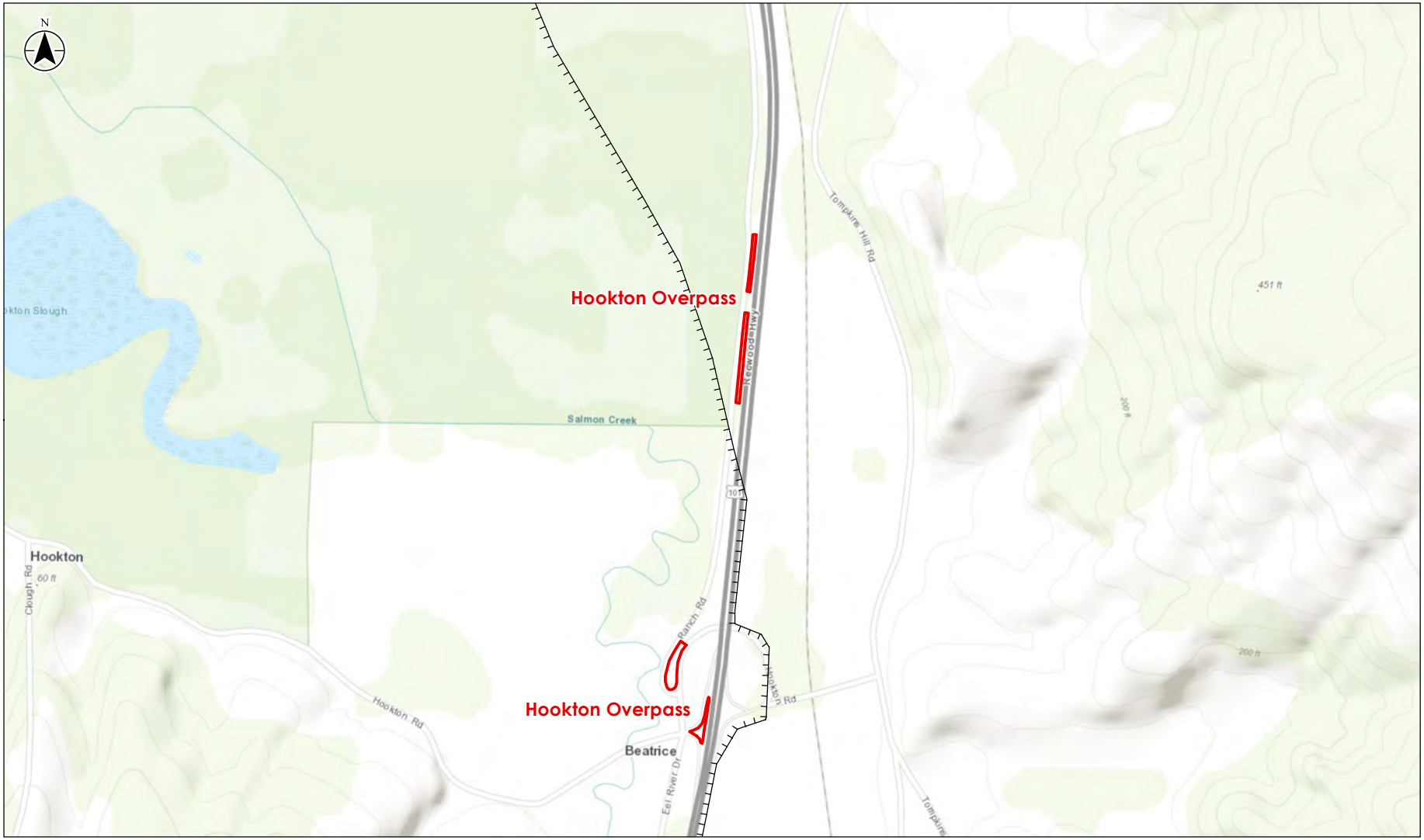
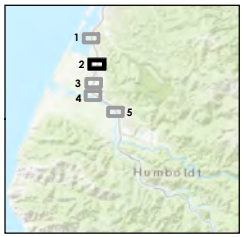
Prepared by PG on 2018-10-29
Technical Review by SC on 2018-10-29
Independent Review by JD on 2018-10-29

Client/Project
Humboldt Wind, LLC
Humboldt Wind Energy Project

Figure No.
2

Title
Project Area — Transportation Route





Improvement Area

Coastal Zone Boundary

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Notes
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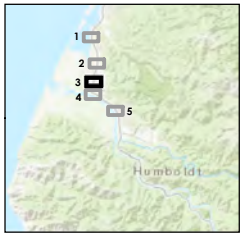
Independent Review by JD on 2018-10-29

Client/Project
Humboldt Wind, LLC
Humboldt Wind Energy Project

Figure No.
2

Title
Project Area — Transportation Route



Improvement Area

Coastal Zone Boundary

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Feet

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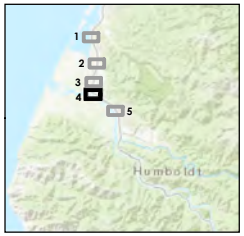
Figure No.
2

Title
Project Area — Transportation Route



Improvement Area

Coastal Zone Boundary

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(At original document size of 8.5x11)

Notes
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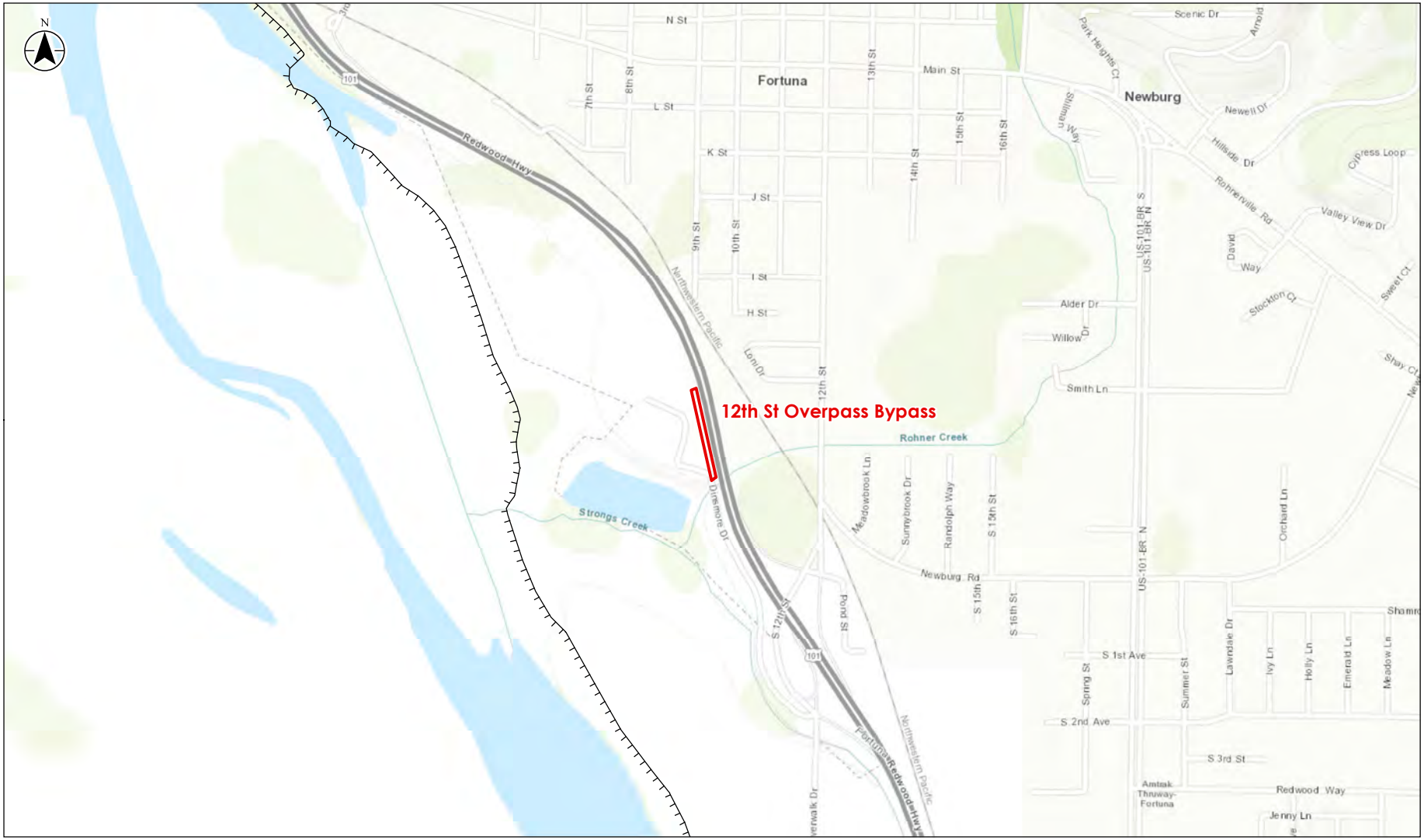
Humboldt Wind Energy Project

Figure No.
2

Title
Project Area — Transportation Route



Improvement Area

Coastal Zone Boundary

0 1,000

Feet

1:12,000 1 in = 1,000 ft
(At original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Base map: ESRI World Topographic Map web mapping service

Stantec

Project Location
Humboldt County, California

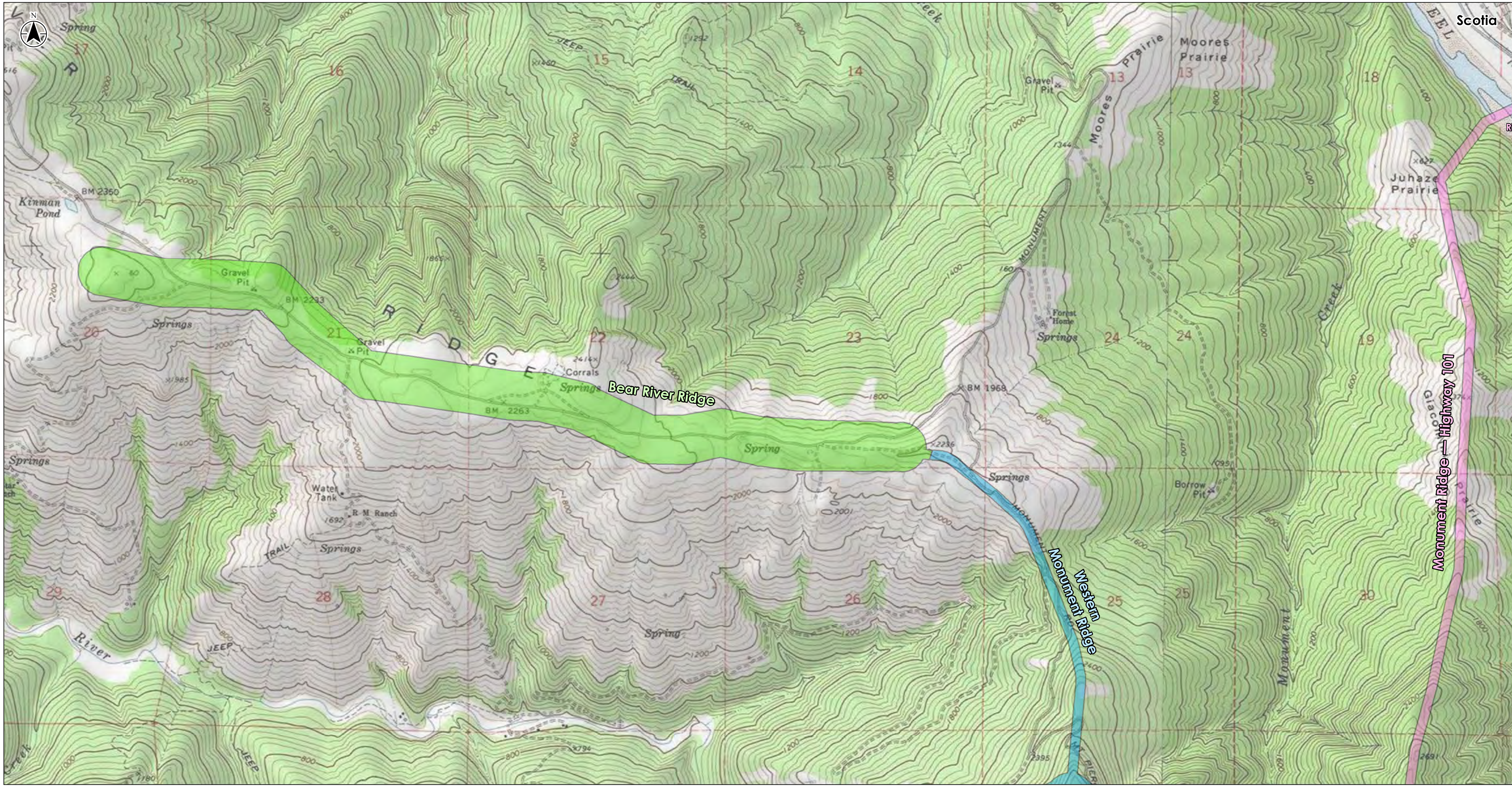
185703758

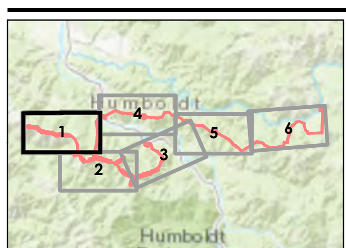
Prepared by PG on 2018-10-29
Technical Review by SC on 2018-10-29
Independent Review by JD on 2018-10-29

Client/Project
Humboldt Wind, LLC
Humboldt Wind Energy Project

Figure No.
2

Title
Project Area — Transportation Route





Project Area (by segment)

- Bear River Ridge
- Western Monument Ridge
- Monument Ridge — Highway 101
- Eastern Monument Ridge
- Highway 101 — Shively Ridge
- Shively Ridge
- Bridgeville

0 1,000 2,000
Feet
1 inch = 2,000 feet
(At original document size of 11x17)

Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Base map: USGS 7.5-minute topological maps

Stantec

Project Location
Humboldt County, California

185703758
Prepared by PG on 2018-09-06
Technical Review by SC on 2018-09-06
Independent Review by JD on 2018-09-06

Client/Project
Humboldt Wind, LLC
Humboldt Wind Energy Project

Figure No.
3

Title
Topography

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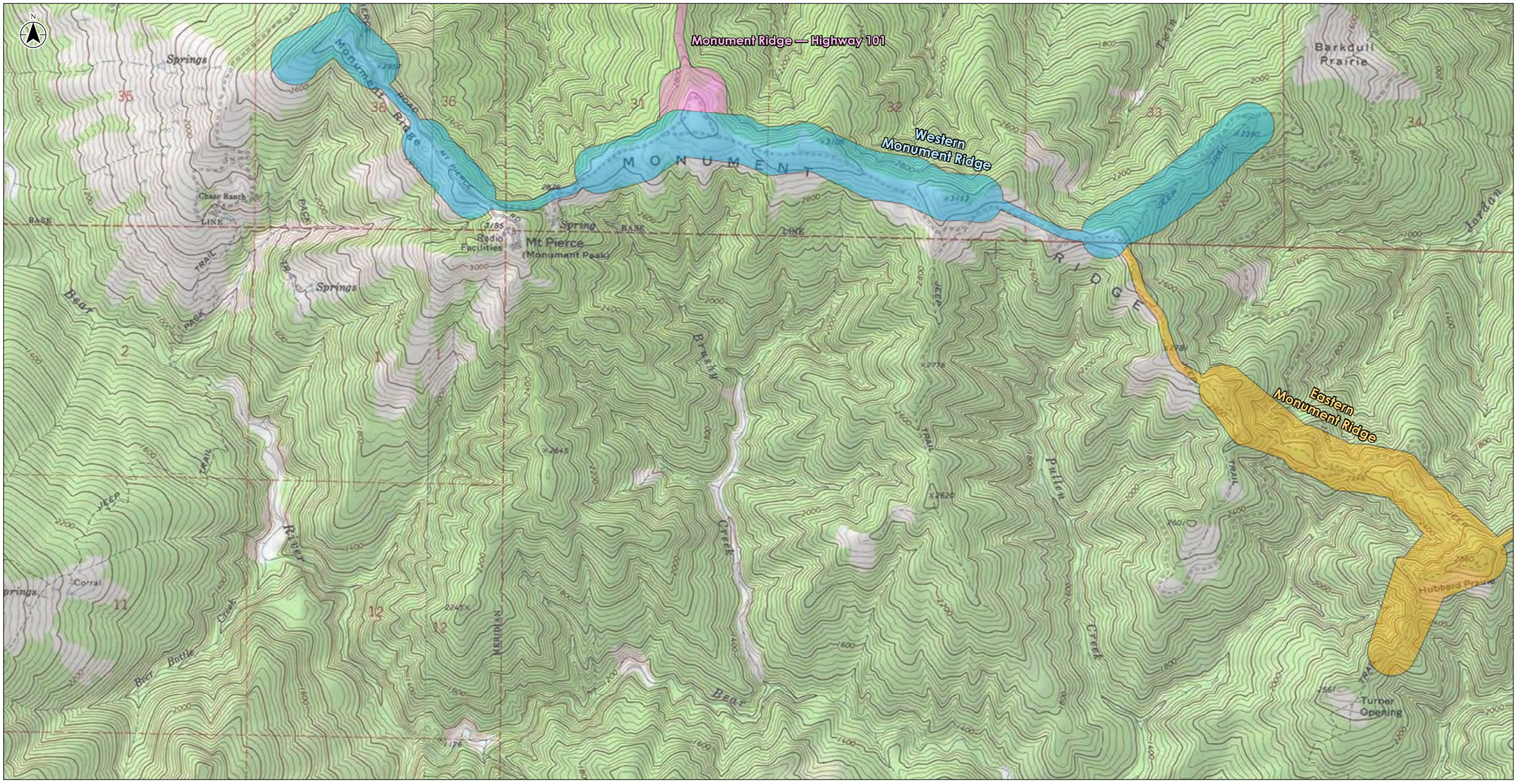

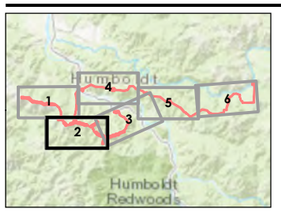

Project Area (by segment)

- Bear River Ridge
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- Highway 101 — Shively Ridge
- Shively Ridge
- Bridgeville

0 1,000 2,000
Feet
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Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Base map: USGS 7.5-minute topological maps

Stantec

Project Location
Humboldt County, California

185703758
Prepared by PG on 2018-09-06
Technical Review by SC on 2018-09-06
Independent Review by JD on 2018-09-06

Client/Project
Humboldt Wind, LLC
Humboldt Wind Energy Project

Figure No.
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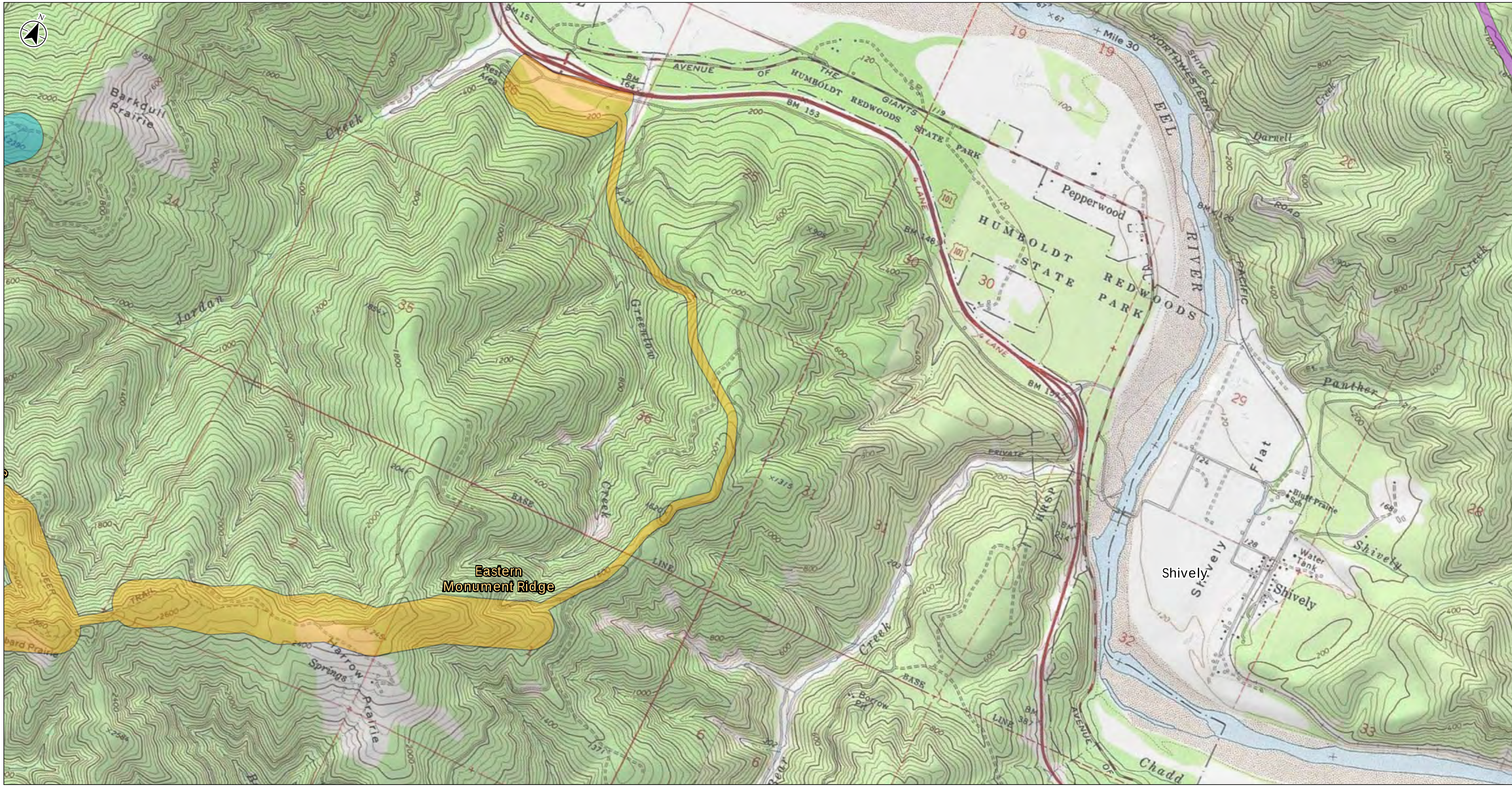

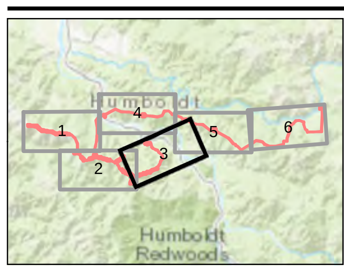

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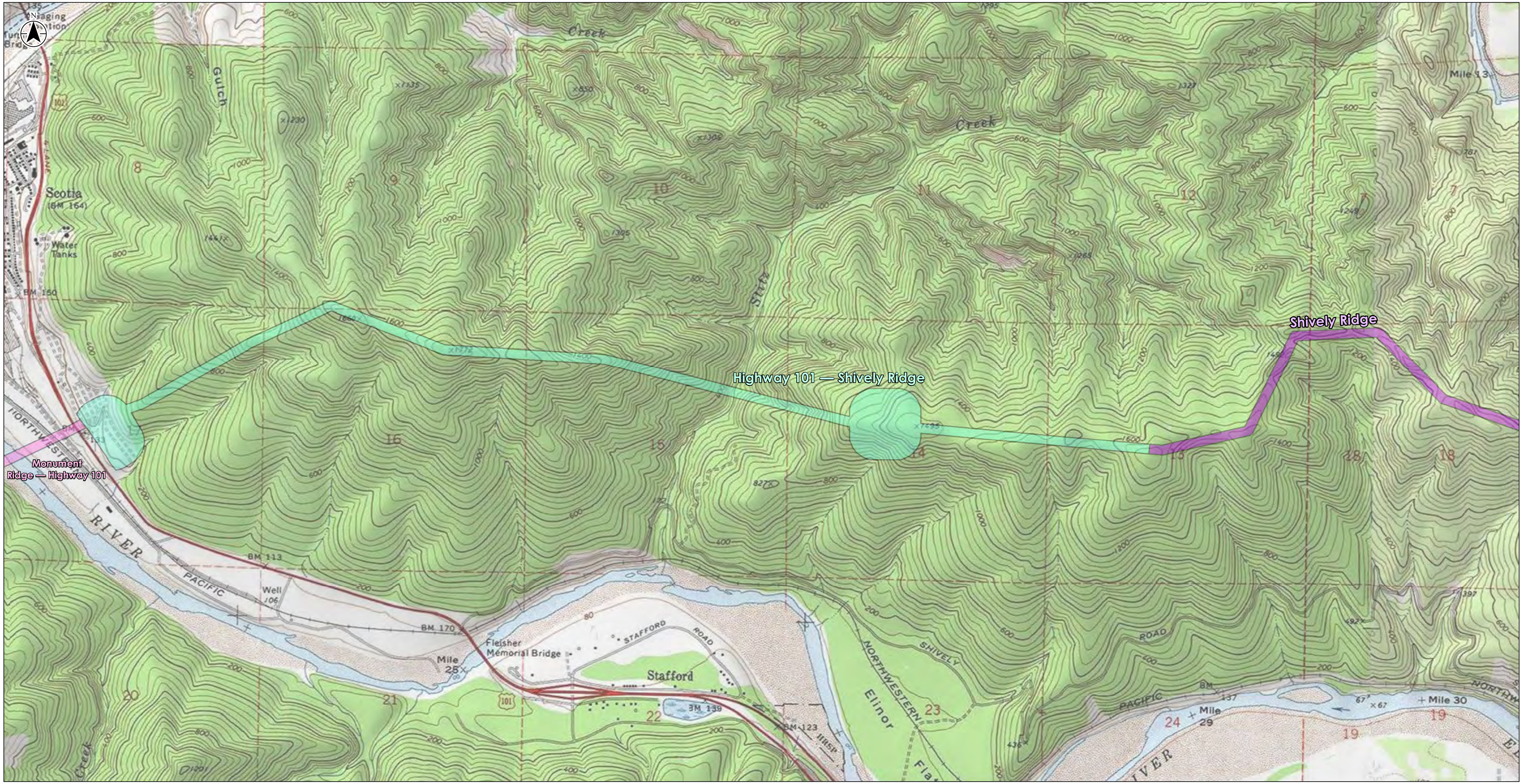

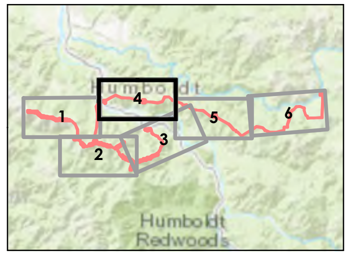

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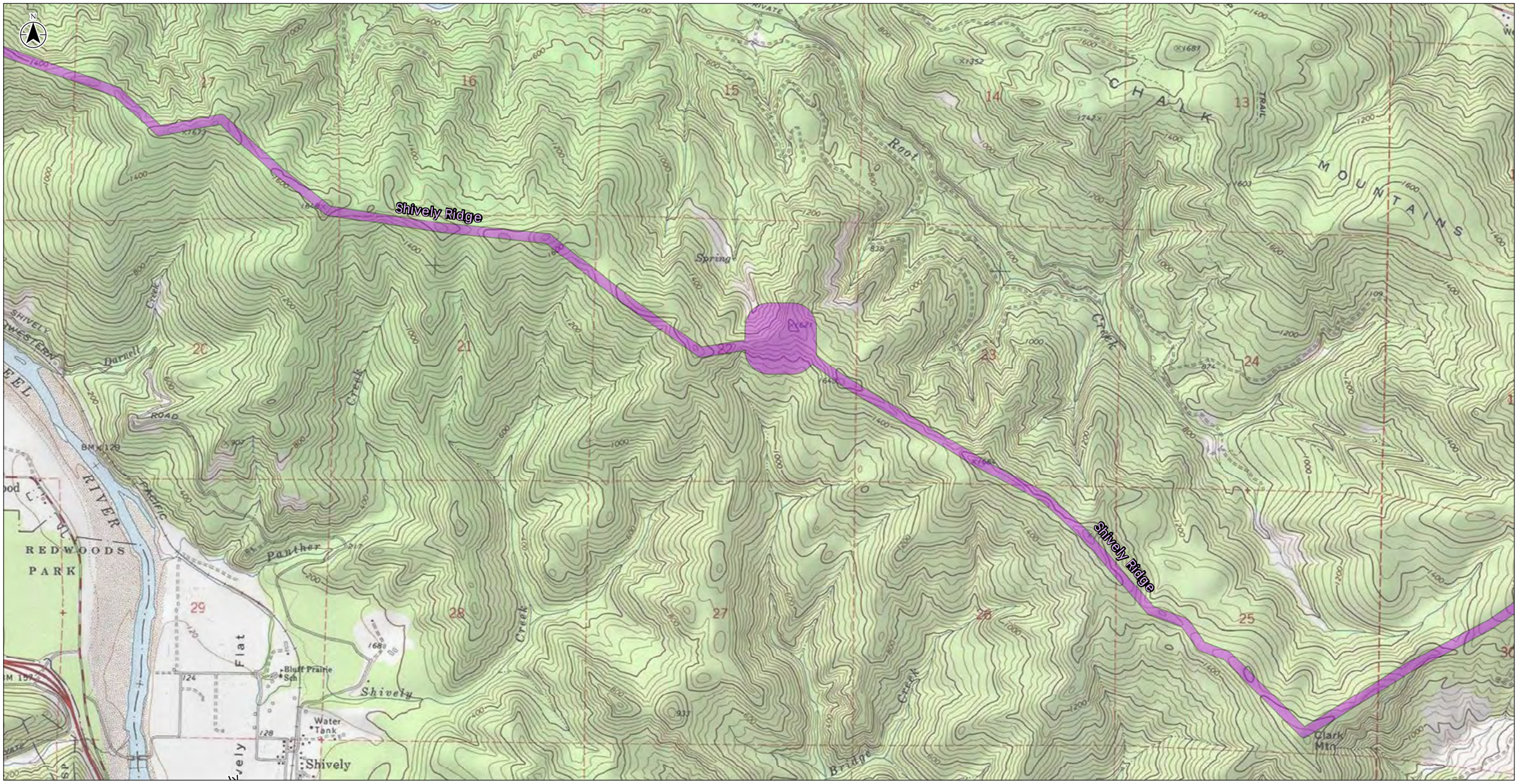

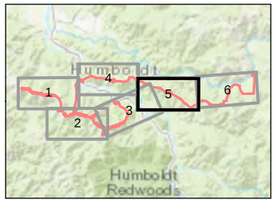

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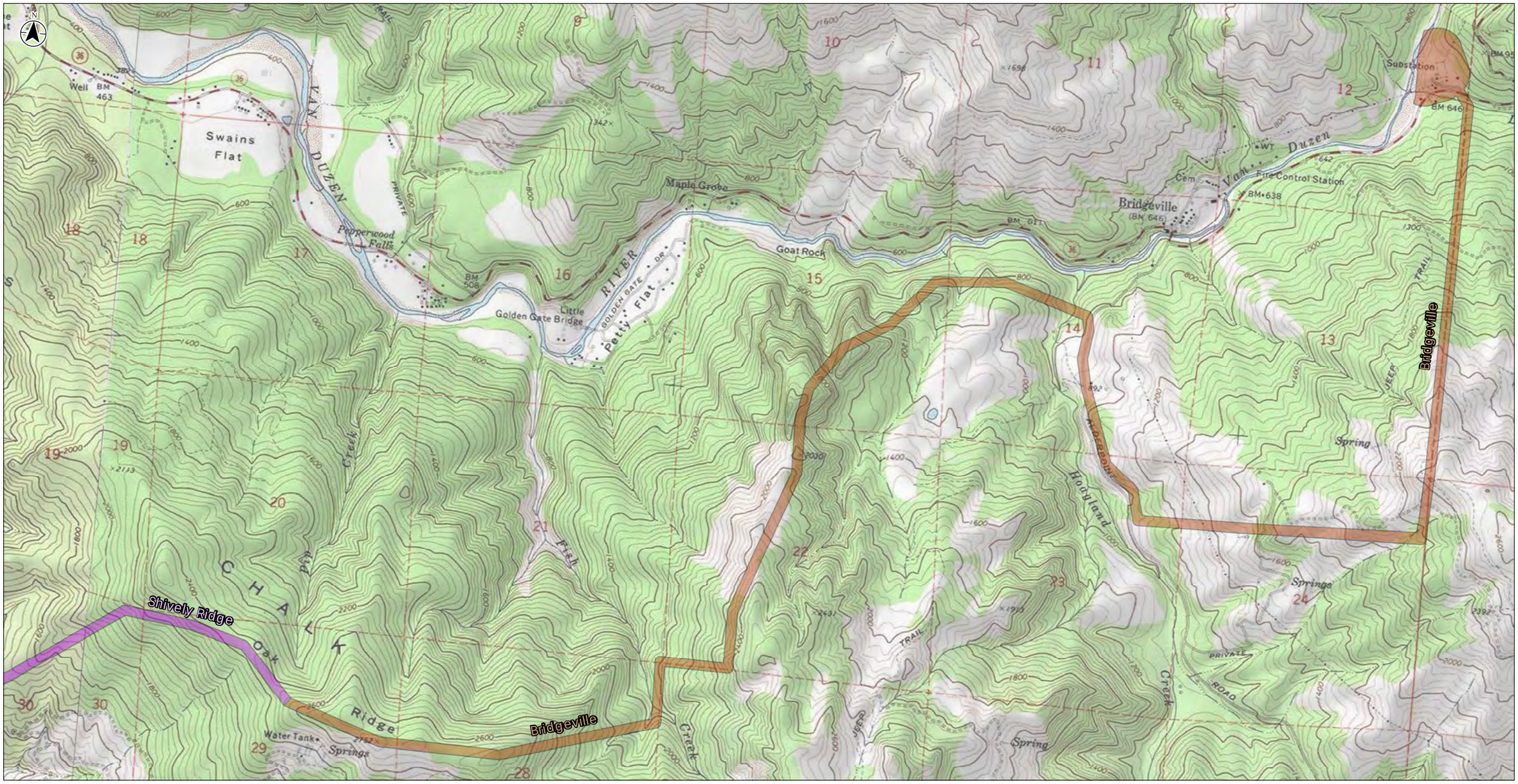

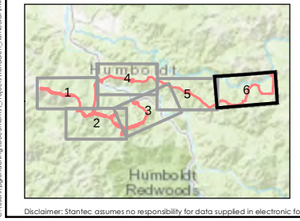

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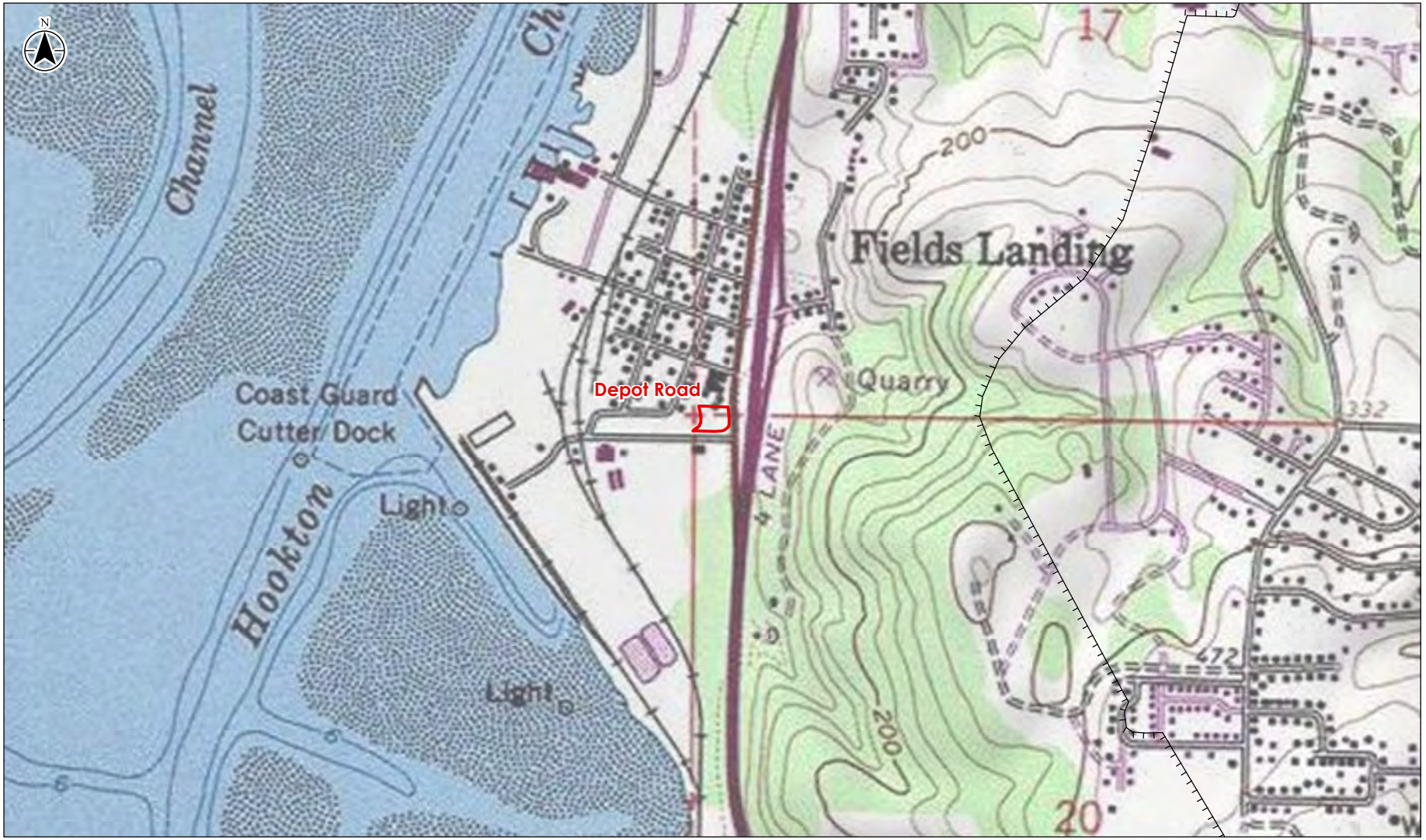

Improvement Area

Coastal Zone Boundary

0 1,000
Feet
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Humboldt Wind Energy Project

Figure No.
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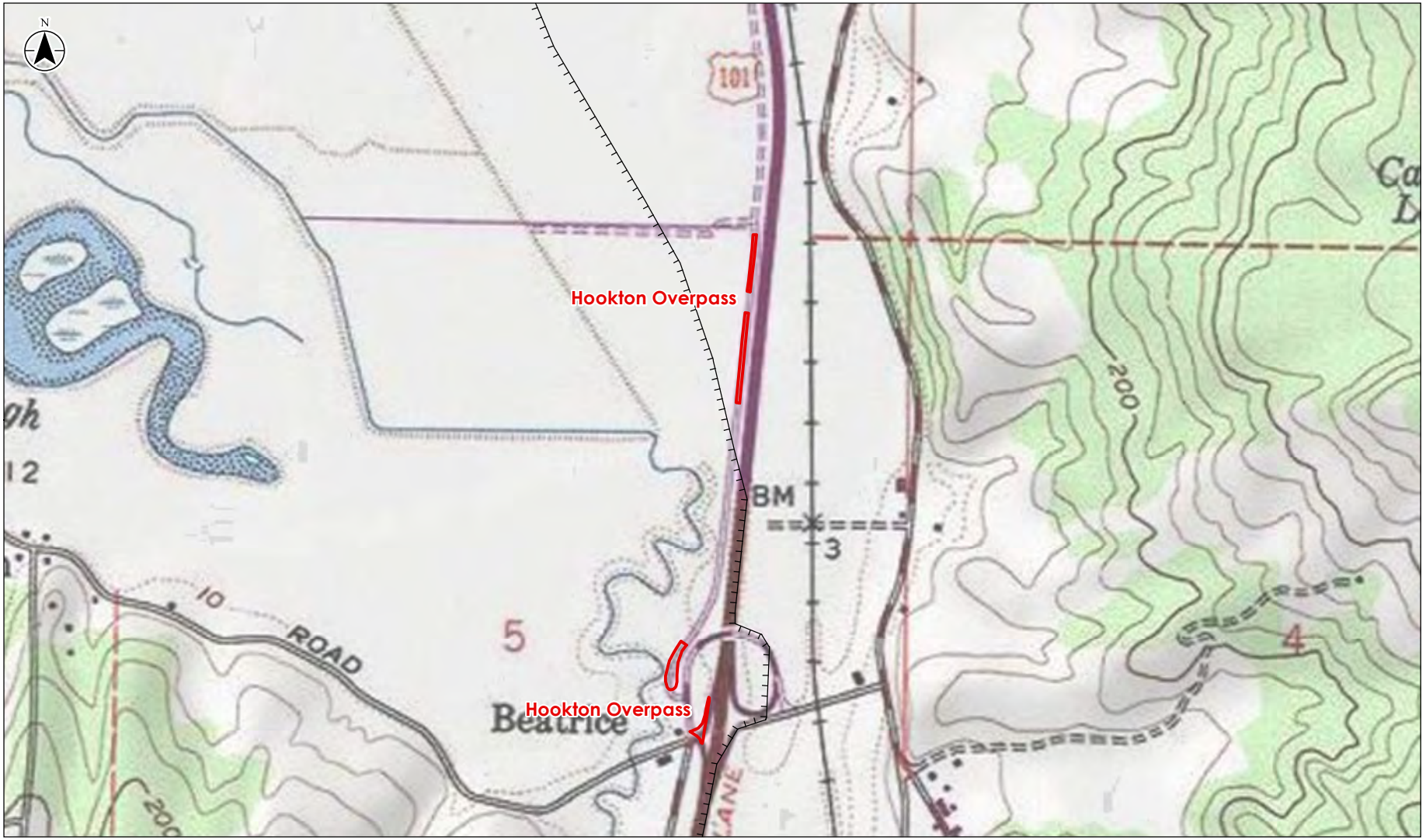
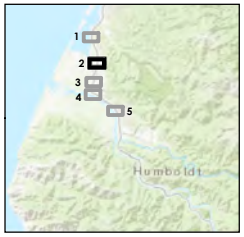
Title
Topography — Transportation Route





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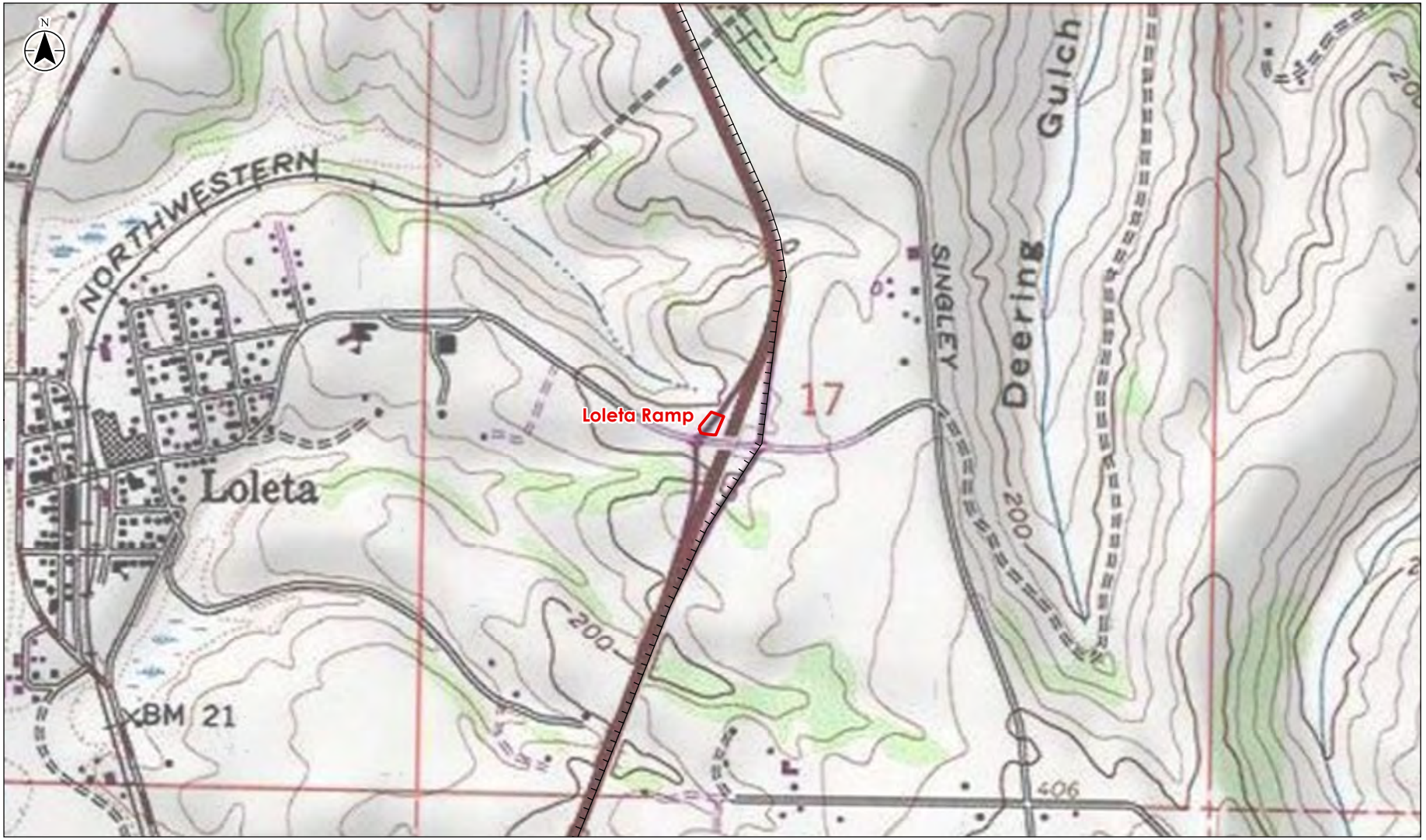

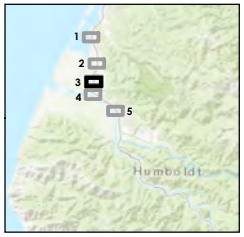

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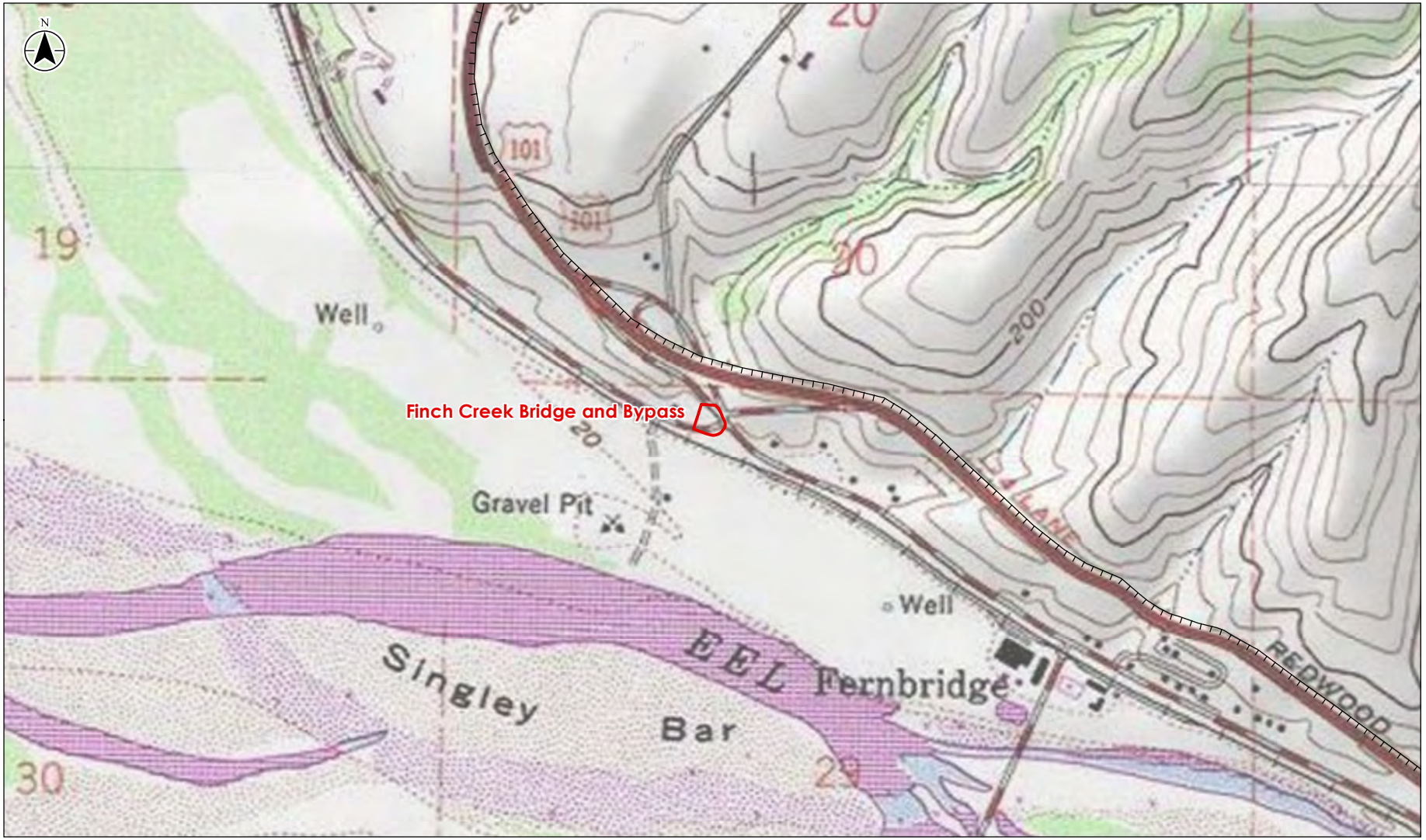

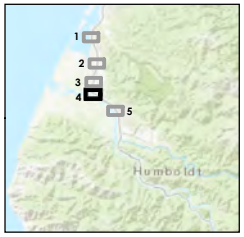

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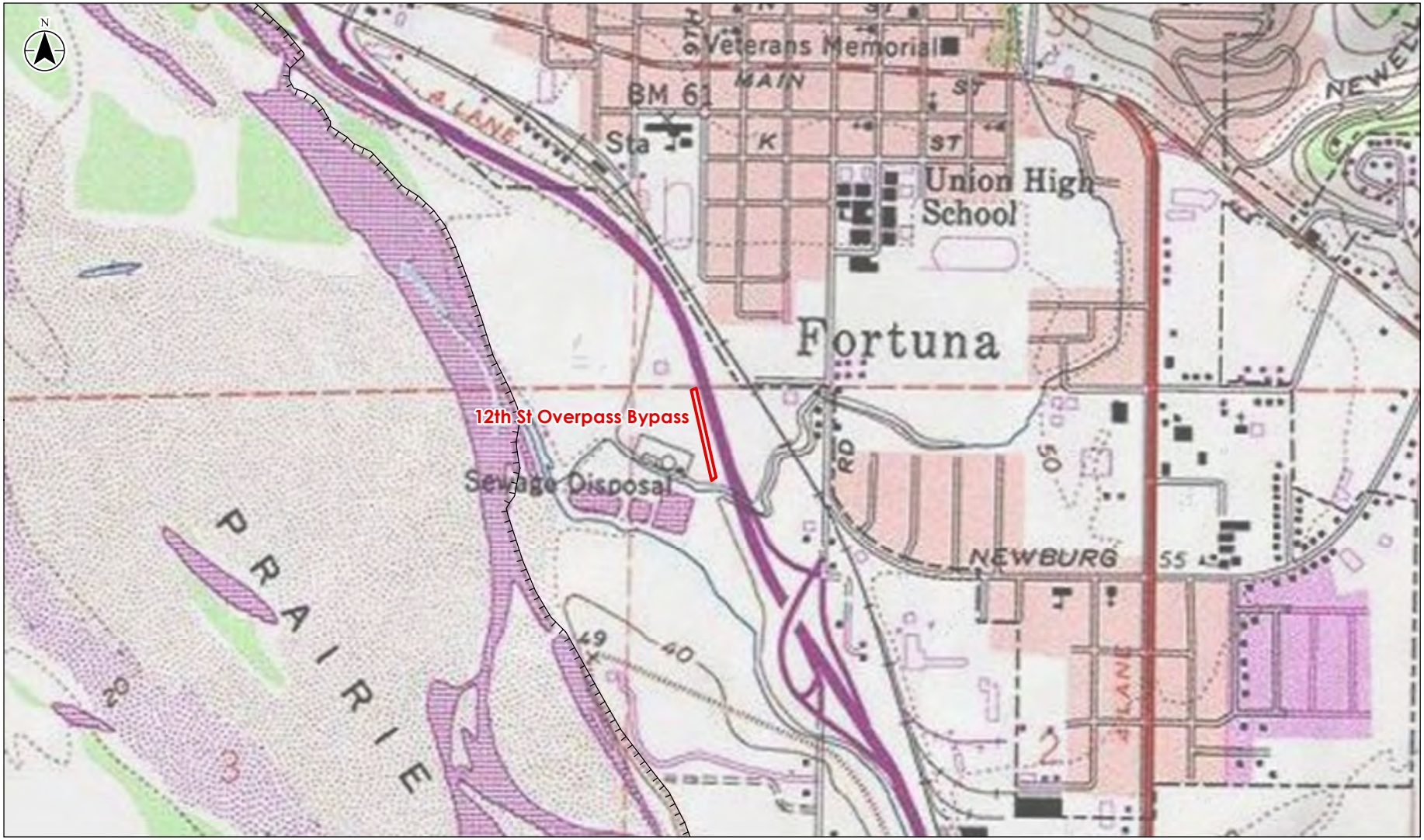

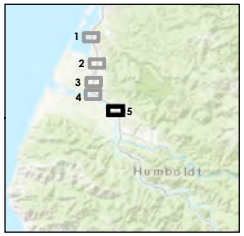

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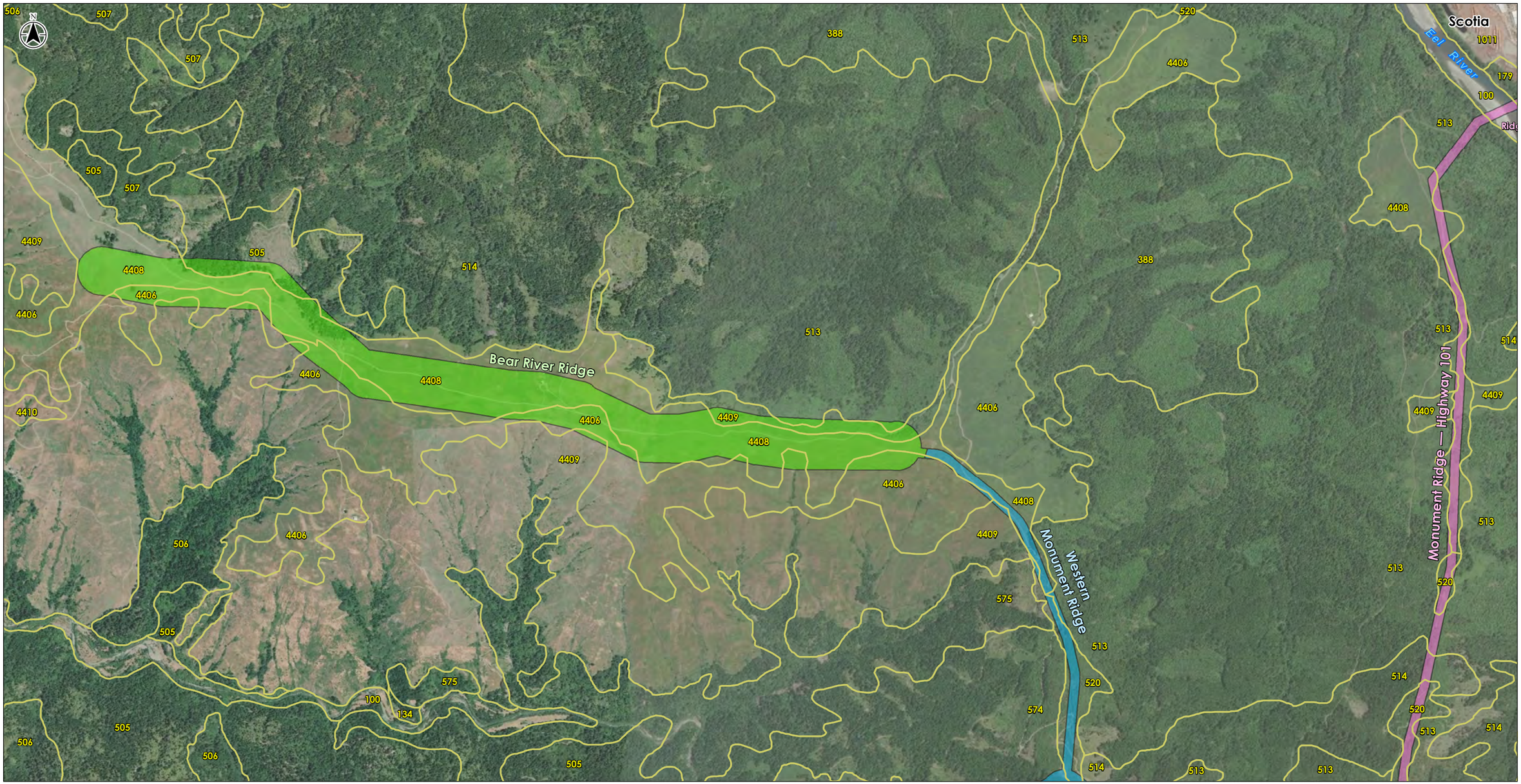

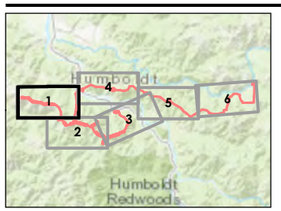

Soil Unit Boundary
(See Table X for Soil Unit Descriptions)

Project Area (by segment)

- Bear River Ridge
- Western Monument Ridge
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Notes
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Stantec

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Humboldt County, California

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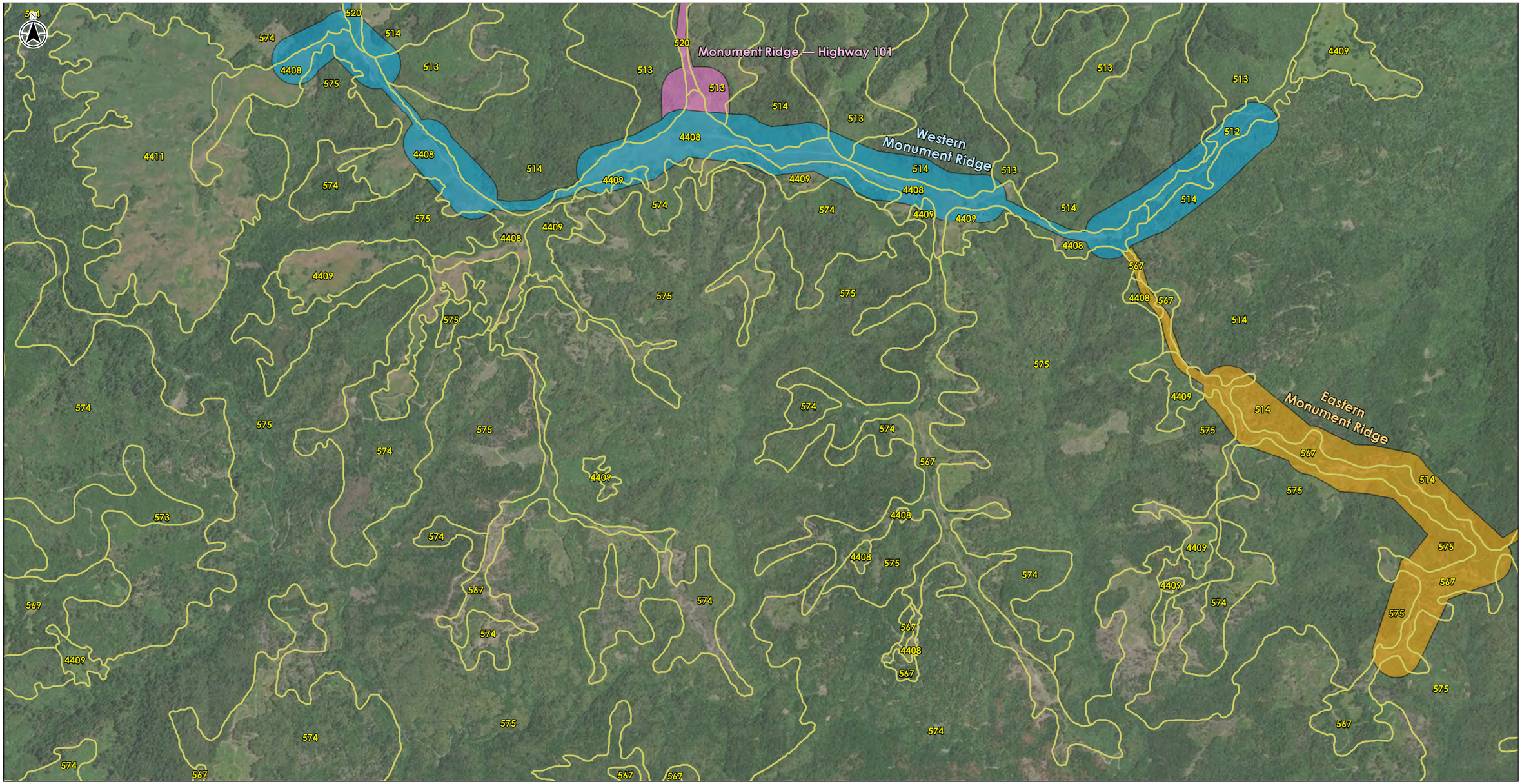
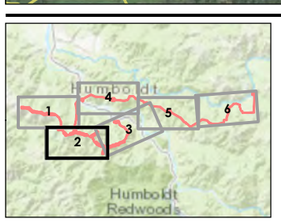
Client/Project
Humboldt Wind, LLC
Humboldt Wind Energy Project

Figure No.
4

Title
Soils





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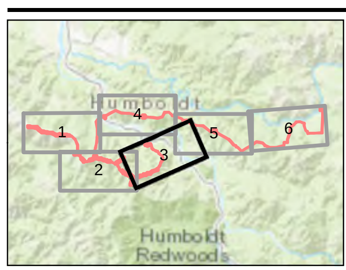

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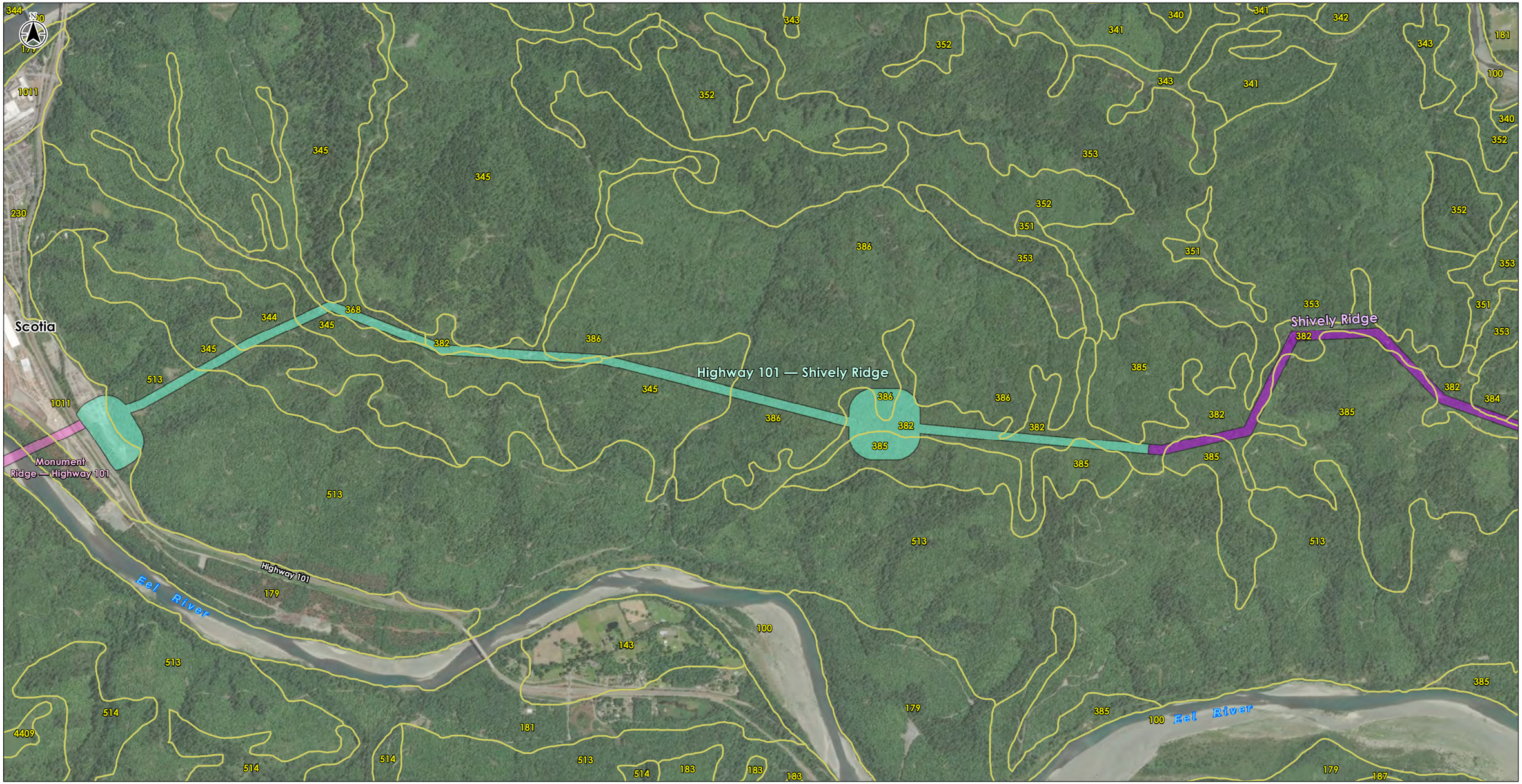

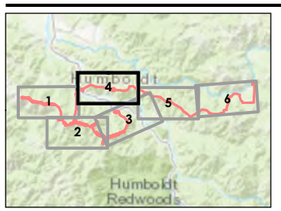

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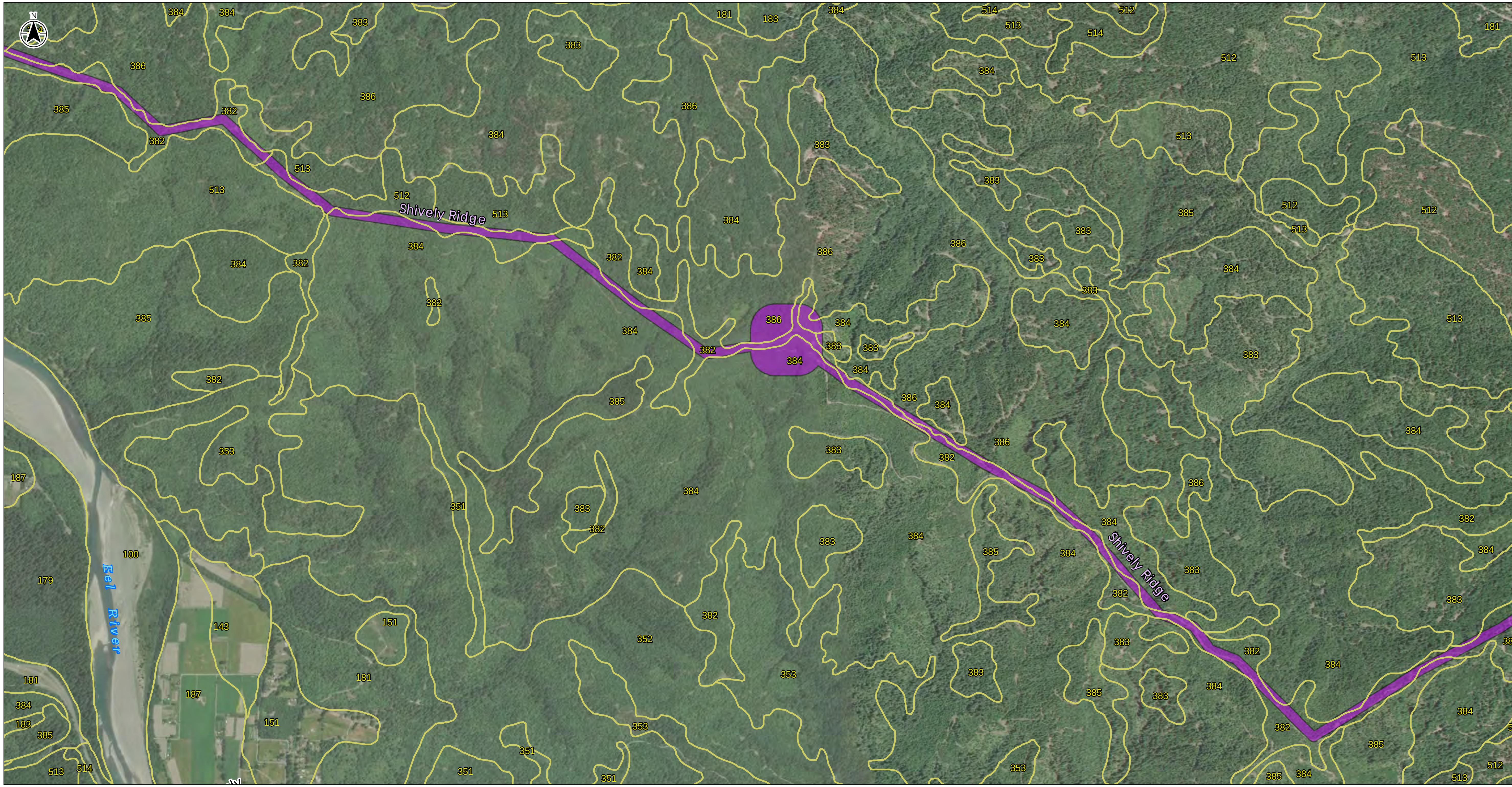

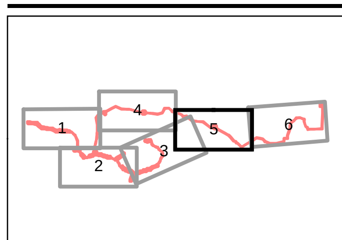

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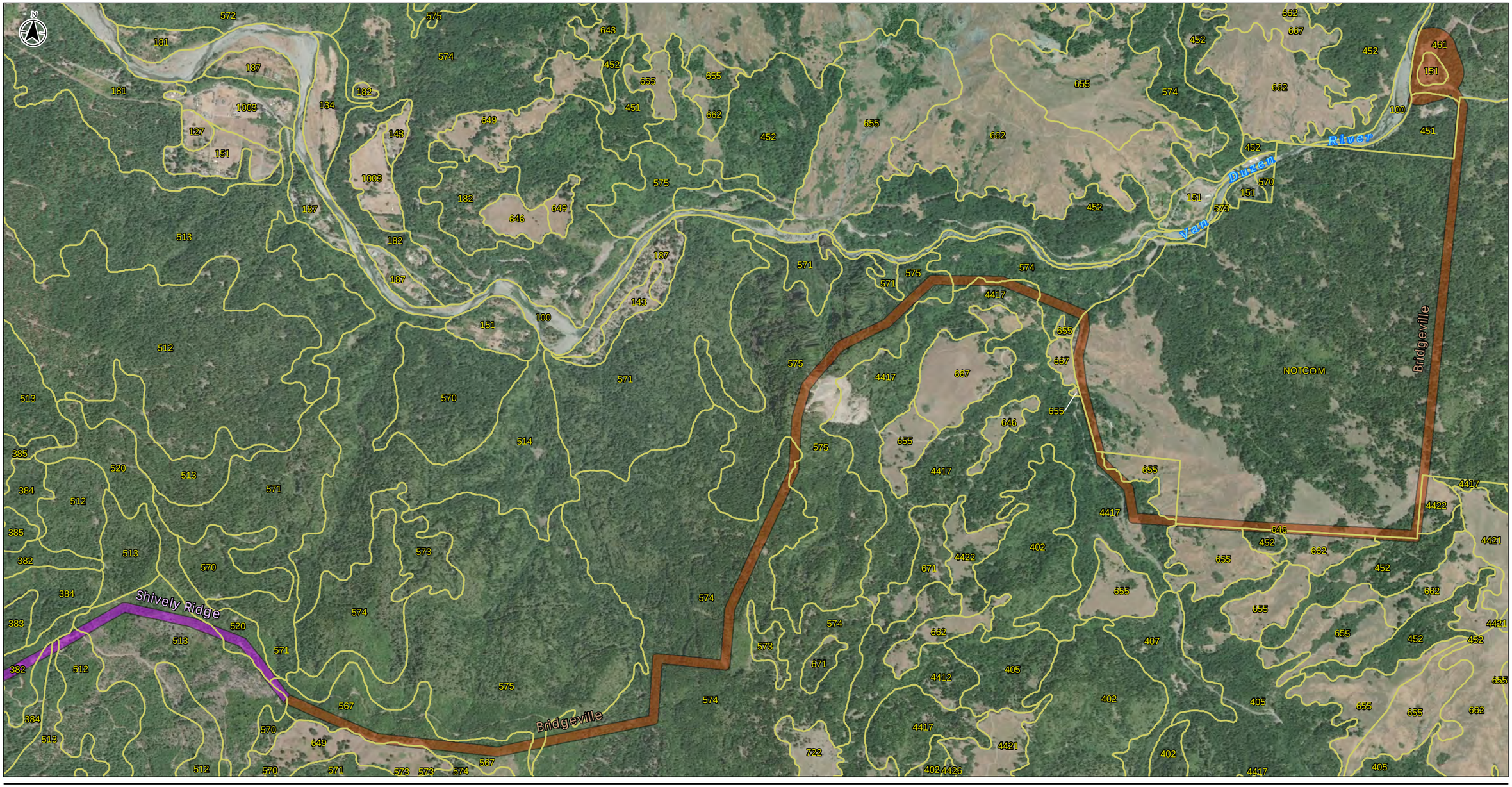

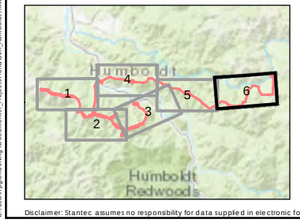

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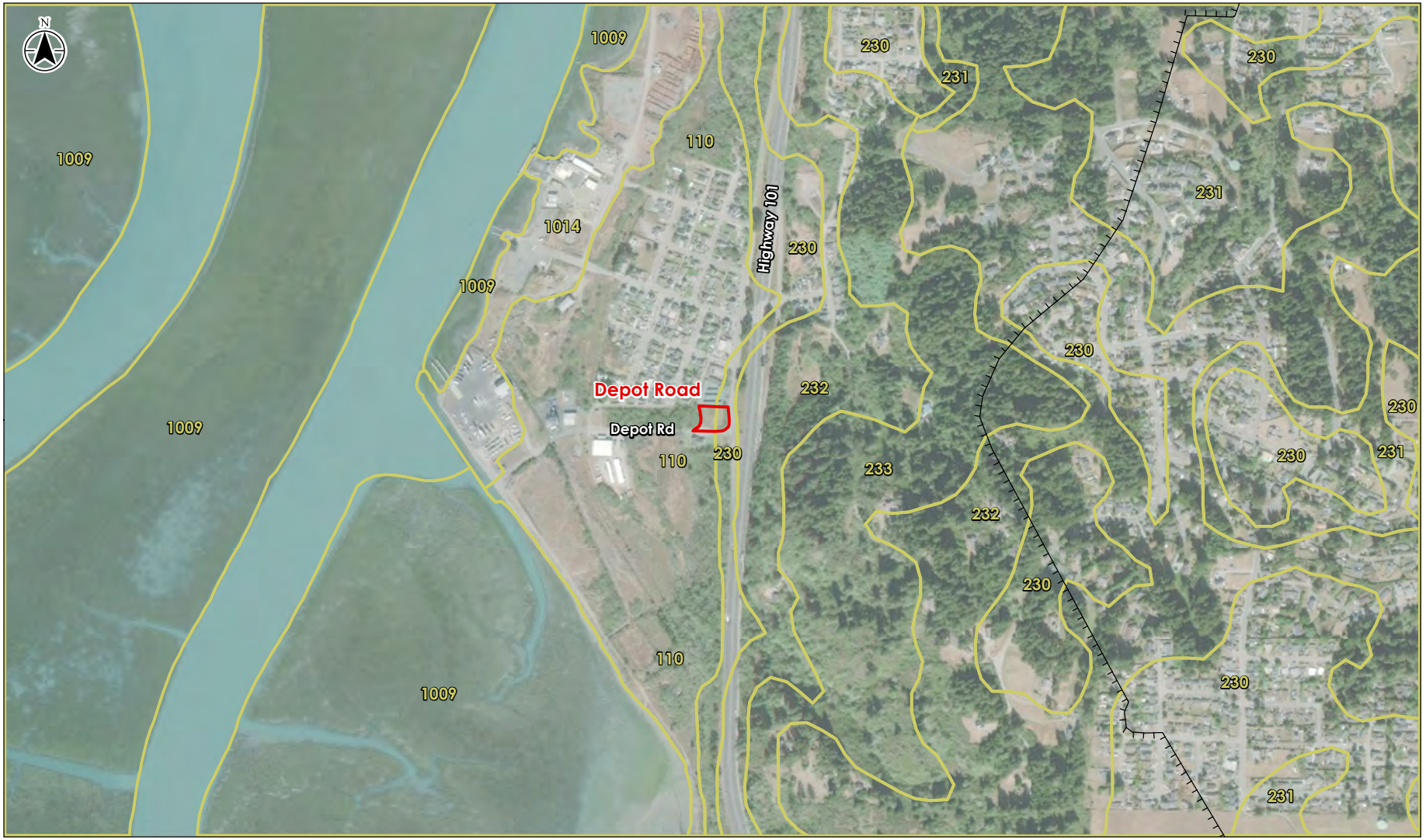

Improvement Area

Coastal Zone Boundary

Soil Unit Boundary
(See Table 3 for Soil Unit Descriptions)

0 1,000
Feet
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Figure No.
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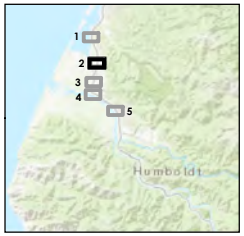
Title
Soils — Transportation Route



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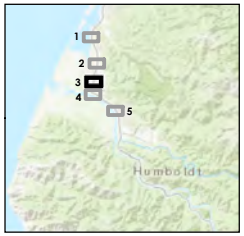
Soils — Transportation Route



Improvement Area

Coastal Zone Boundary

Soil Unit Boundary
(See Table 3 for Soil Unit Descriptions)

0 1,000
Feet
1:12,000 1 in = 1,000 ft
(At original document size of 8.5x11)

Notes
1. Soils Data Source: USDA Natural Resources Conservation Service SSURGO Soils Database
2. Coordinate System: NAD 1983 UTM Zone 10N
3. Base map: ESRI World Imagery Map web

Stantec

Project Location
Humboldt County, California

185703758
Prepared by PG on 2018-10-29
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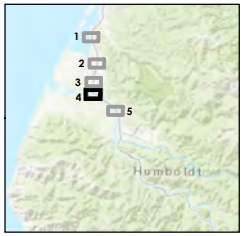
Independent Review by JD on 2018-10-29

Client/Project
Humboldt Wind, LLC
Humboldt Wind Energy Project

Figure No.
4

Title
Soils — Transportation Route



Improvement Area

Coastal Zone Boundary

Soil Unit Boundary
(See Table 3 for Soil Unit Descriptions)

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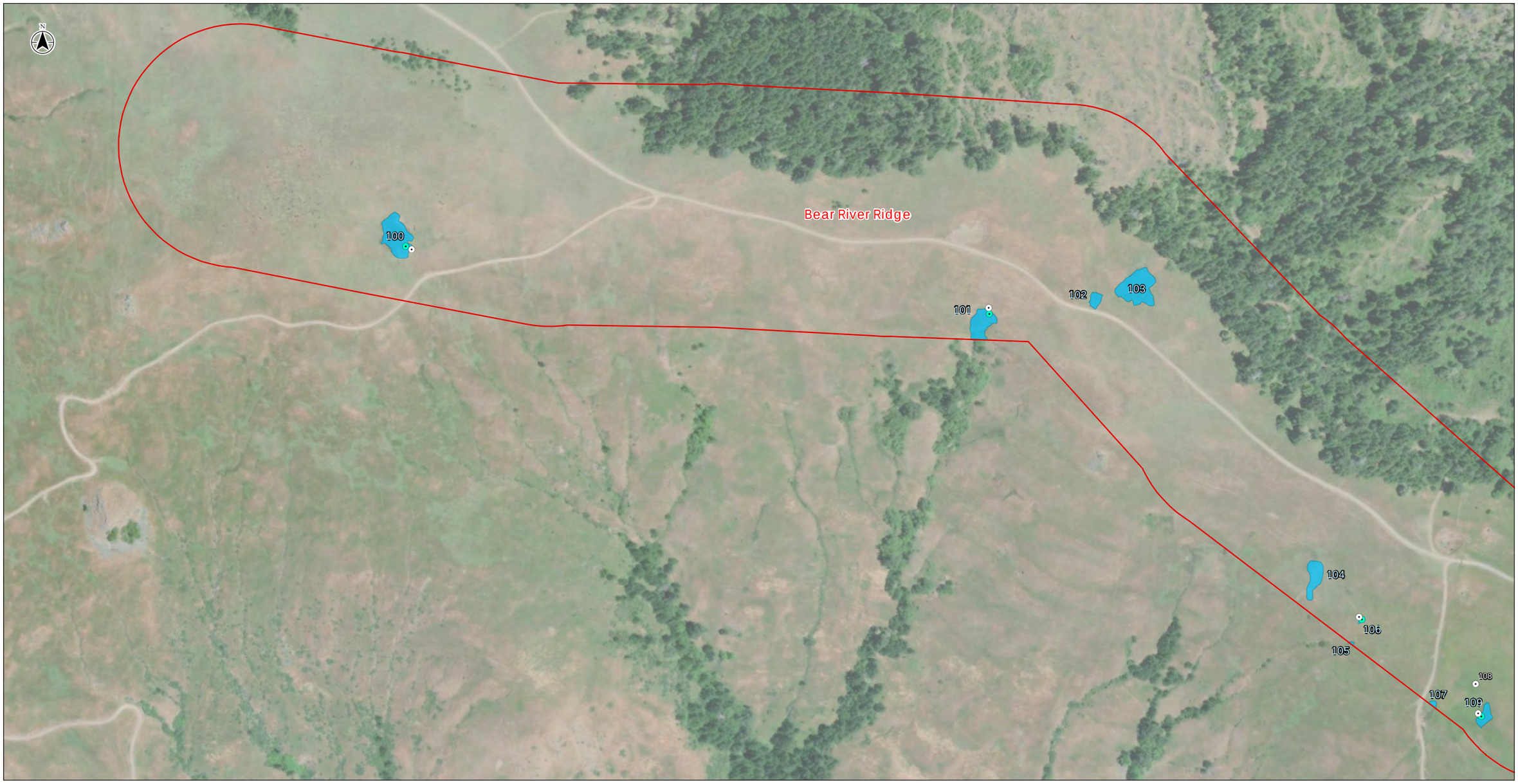

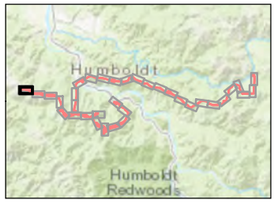

Project Area
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Wetland Features
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Data Points
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- Wetland

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- Perennial
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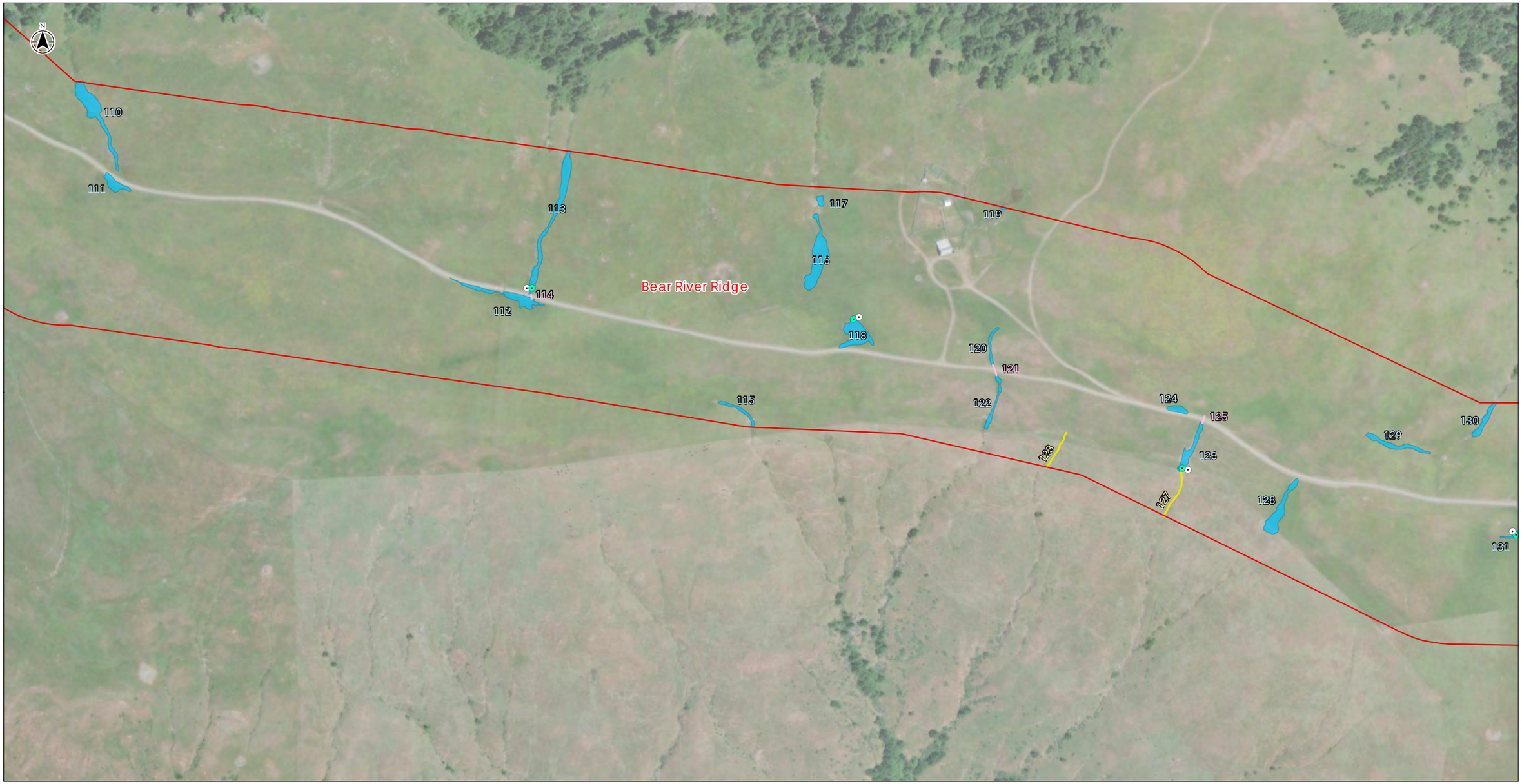
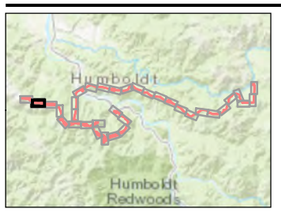
Aquatic Resources Survey Results





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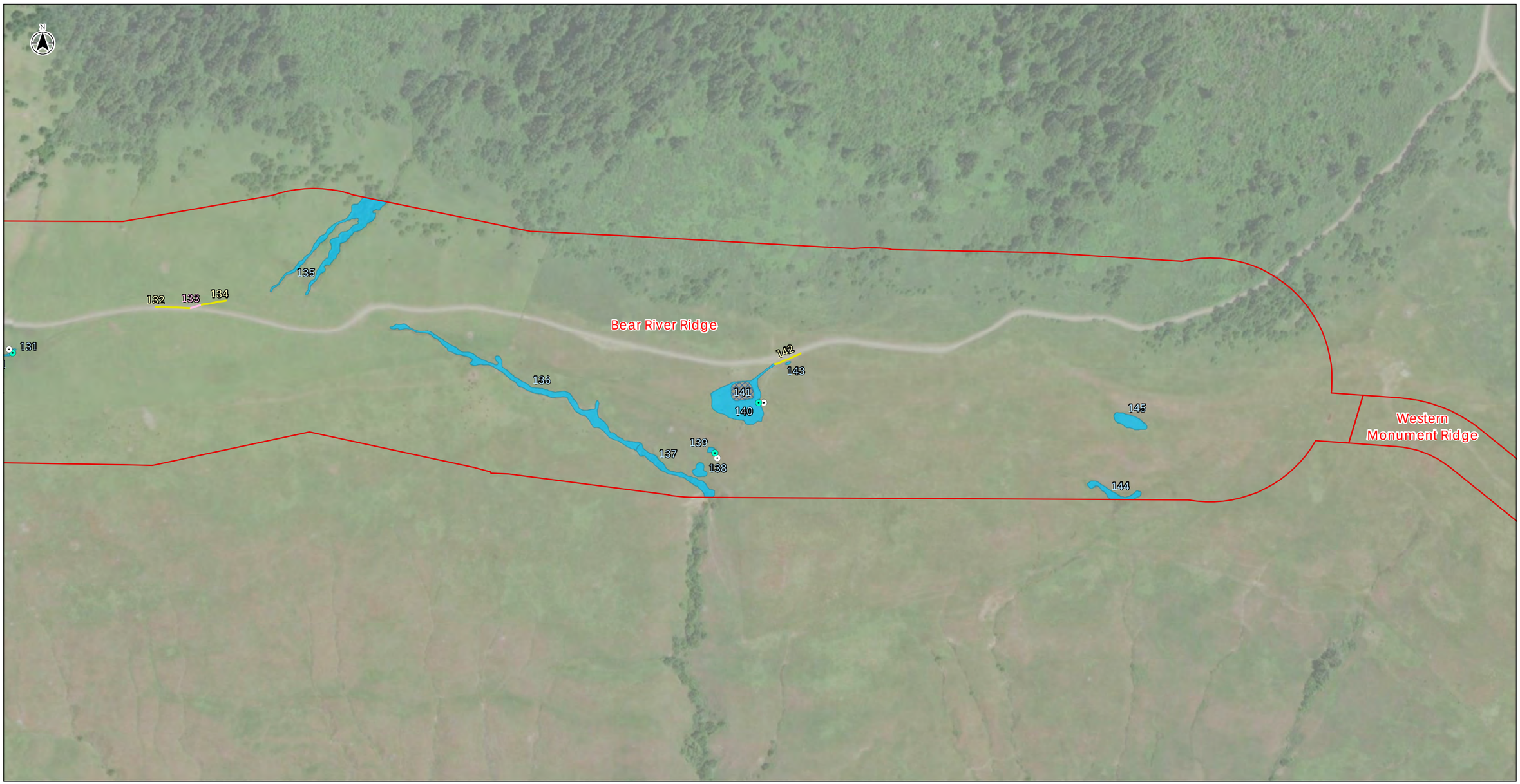

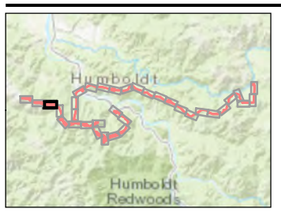

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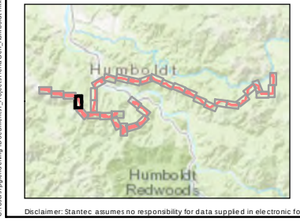

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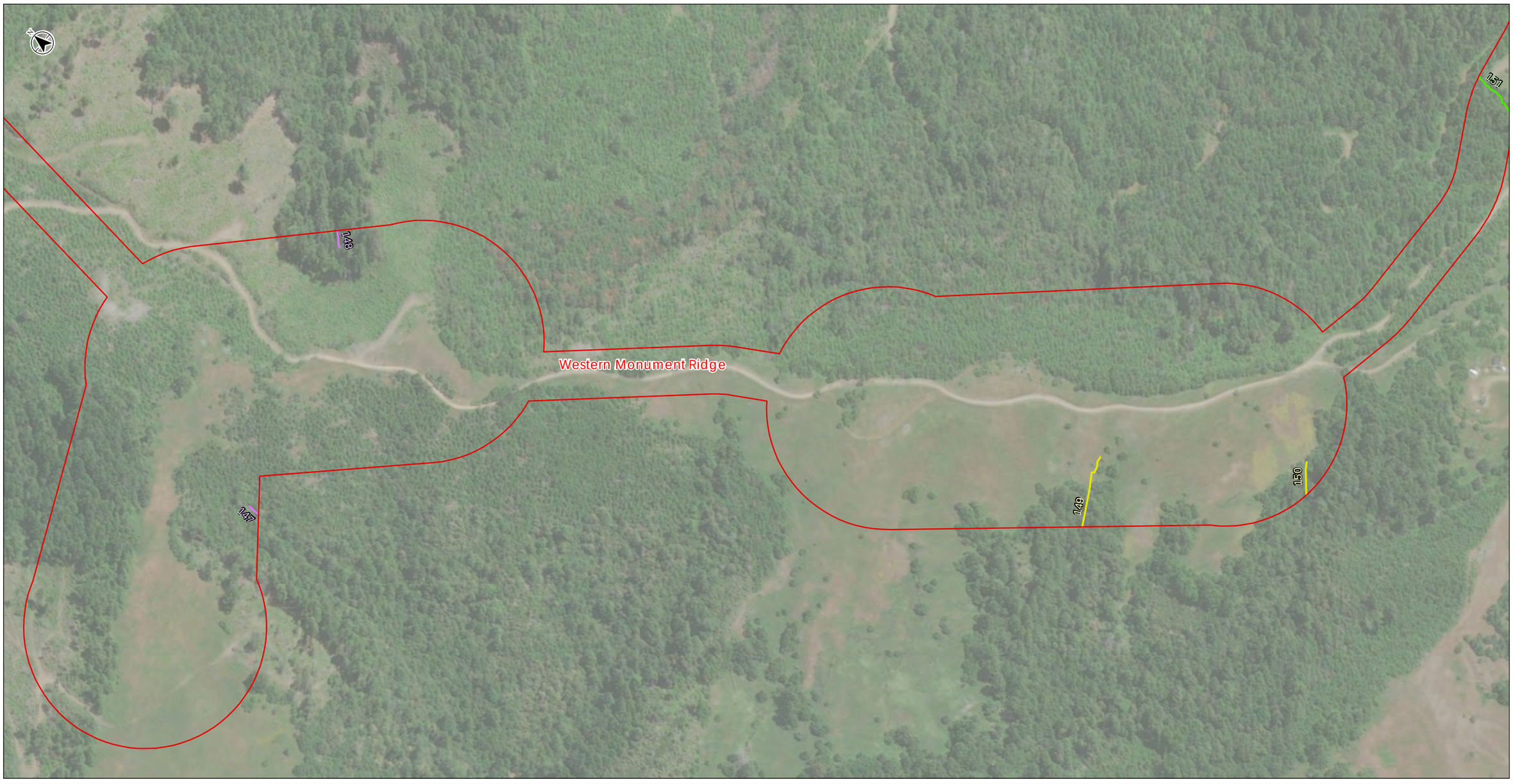

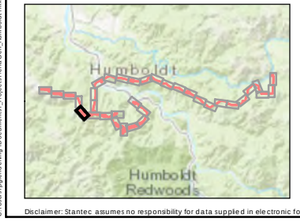

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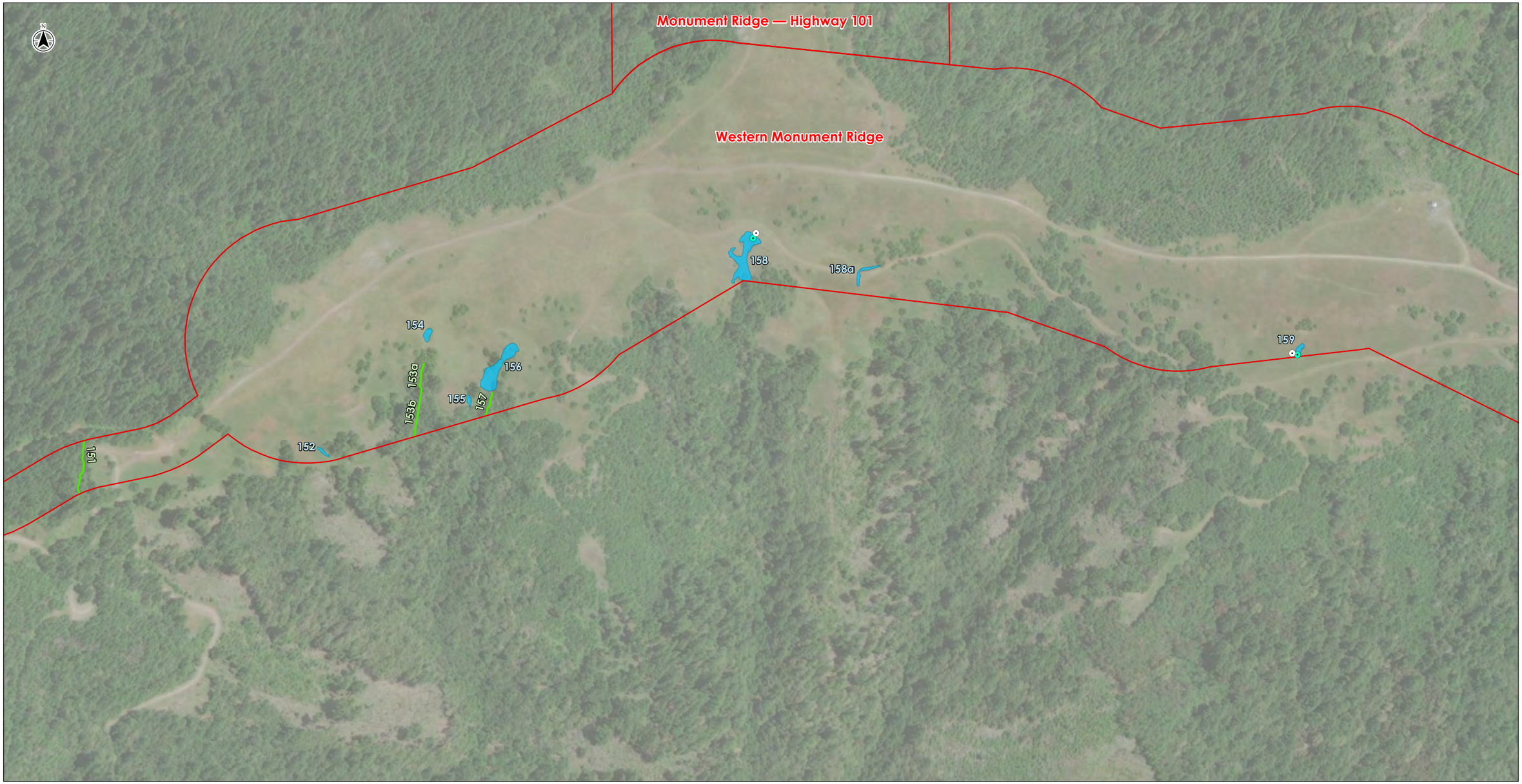

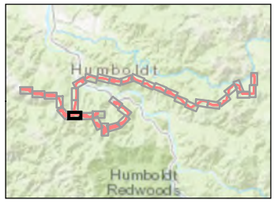

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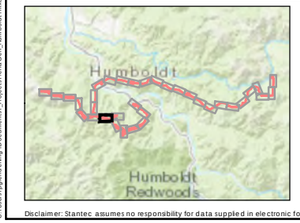

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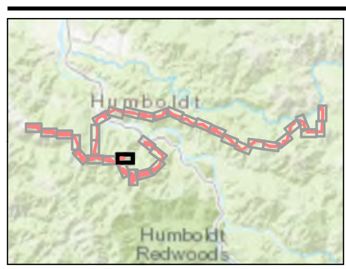

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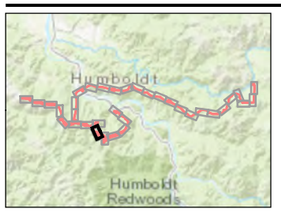

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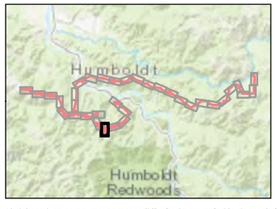

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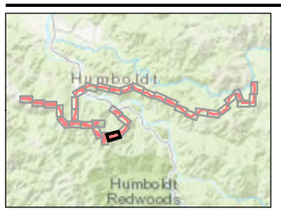

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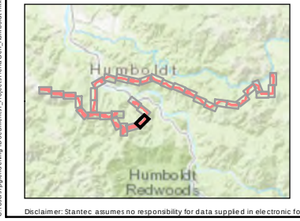

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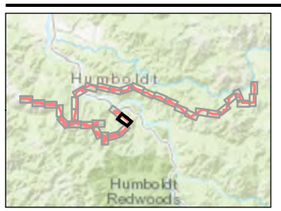

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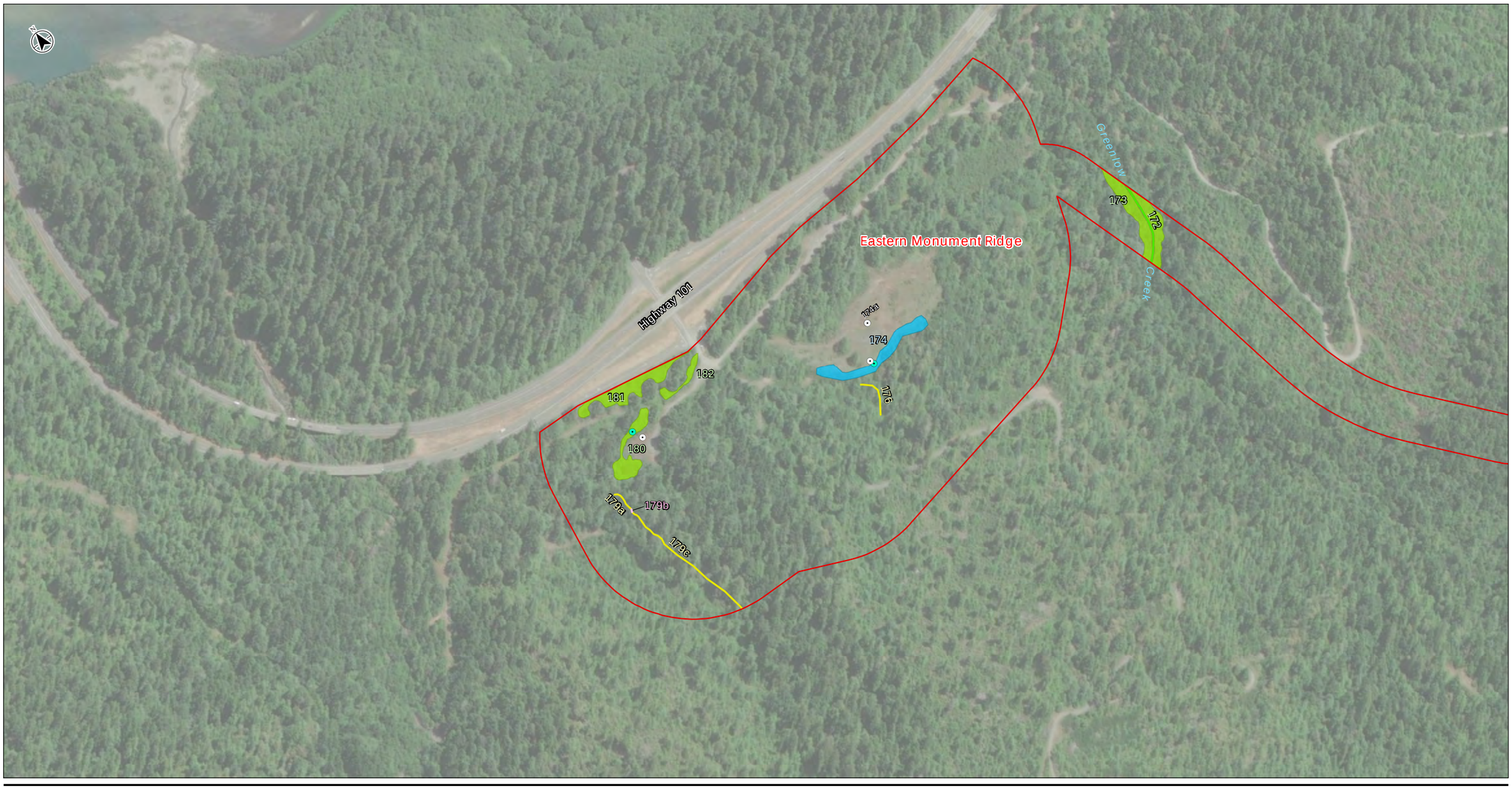

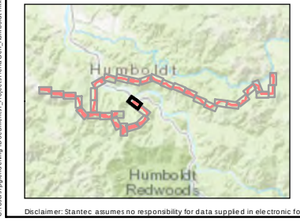

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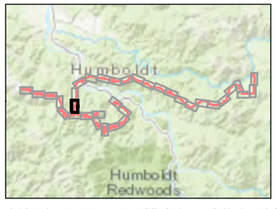

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Ordinary High Water and Top of Bank
(Eel and Van Duzen Rivers)
- OHWM
- TOB

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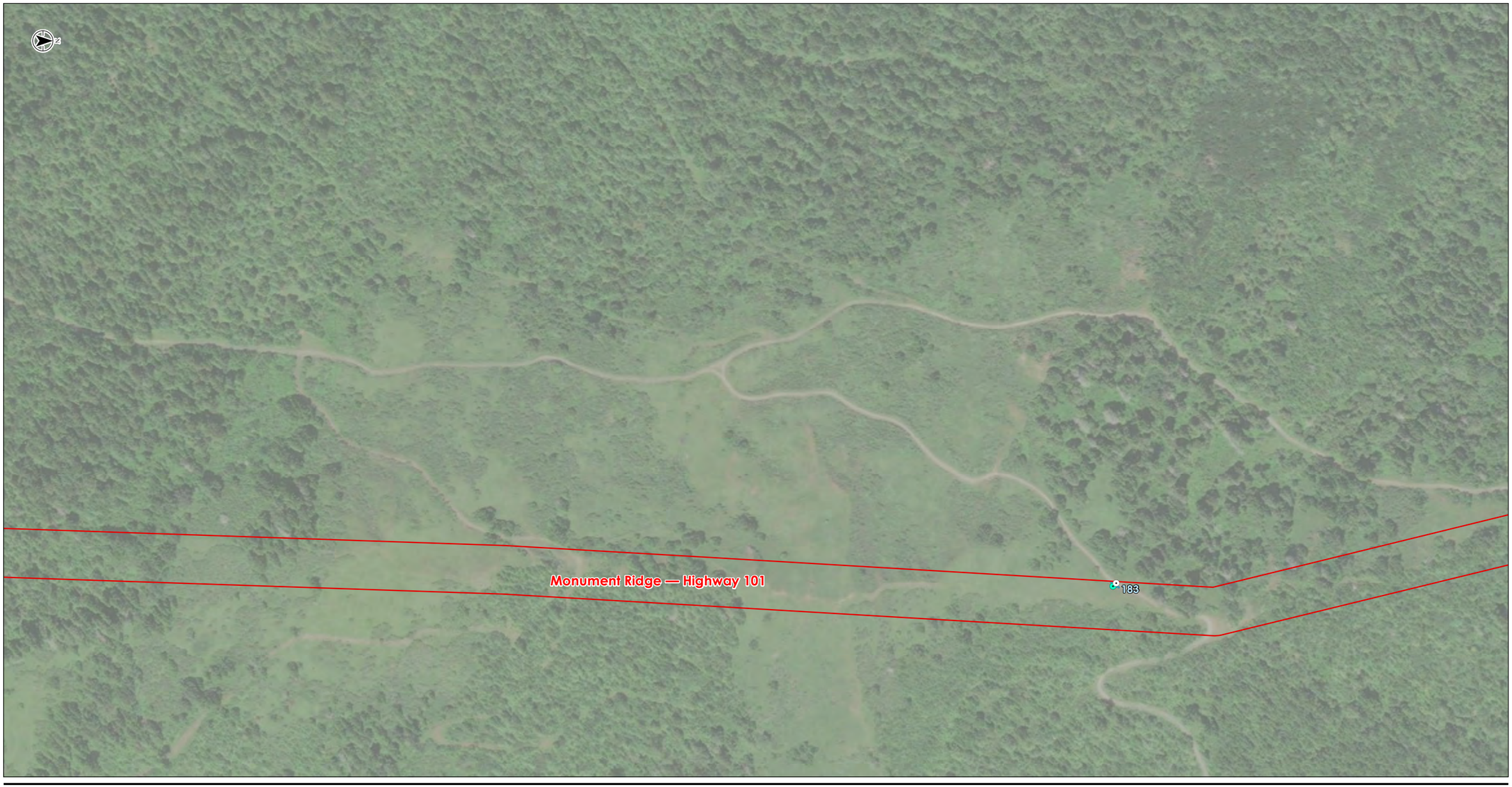

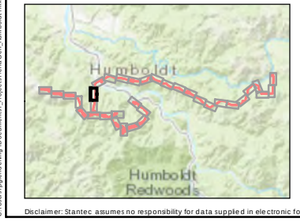

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185703758
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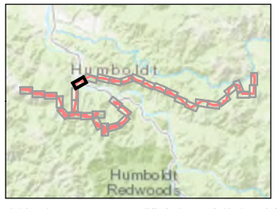

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(Eel and Van Duzen Rivers)
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- TOB

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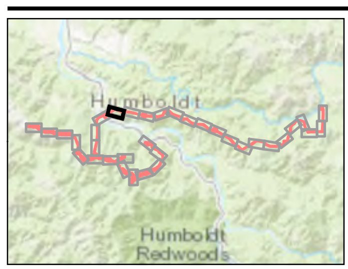

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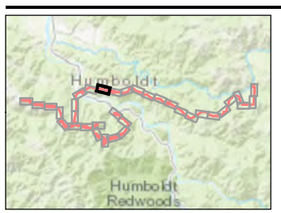

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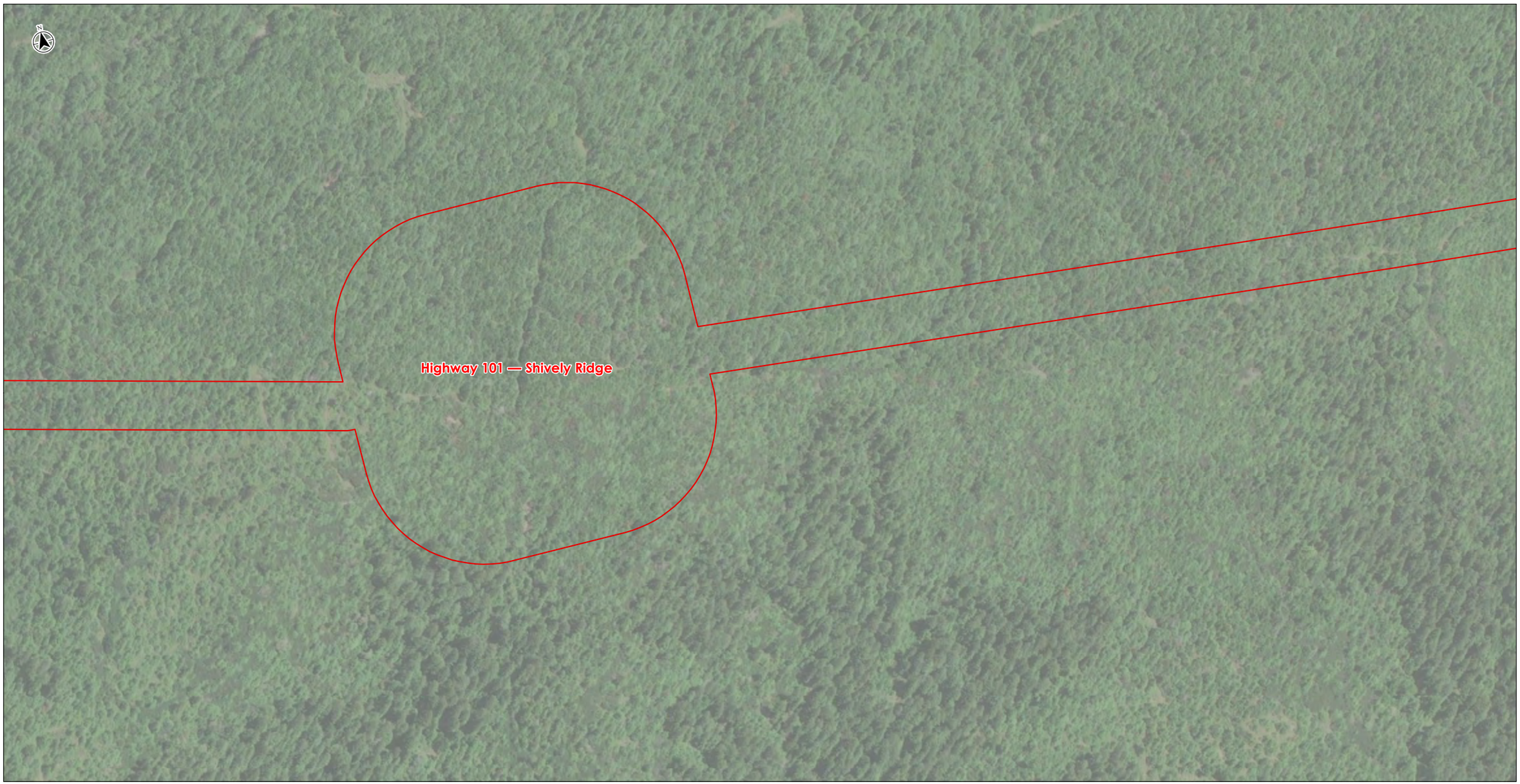

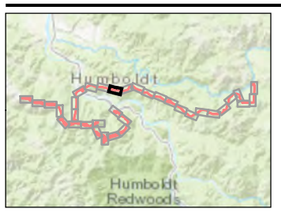

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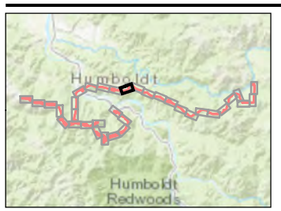

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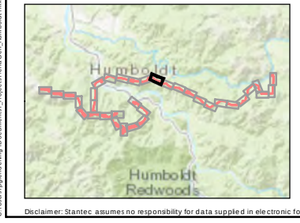

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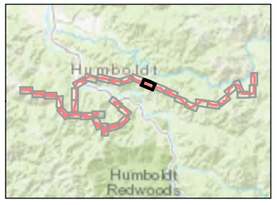

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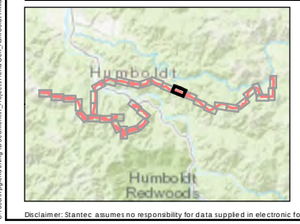

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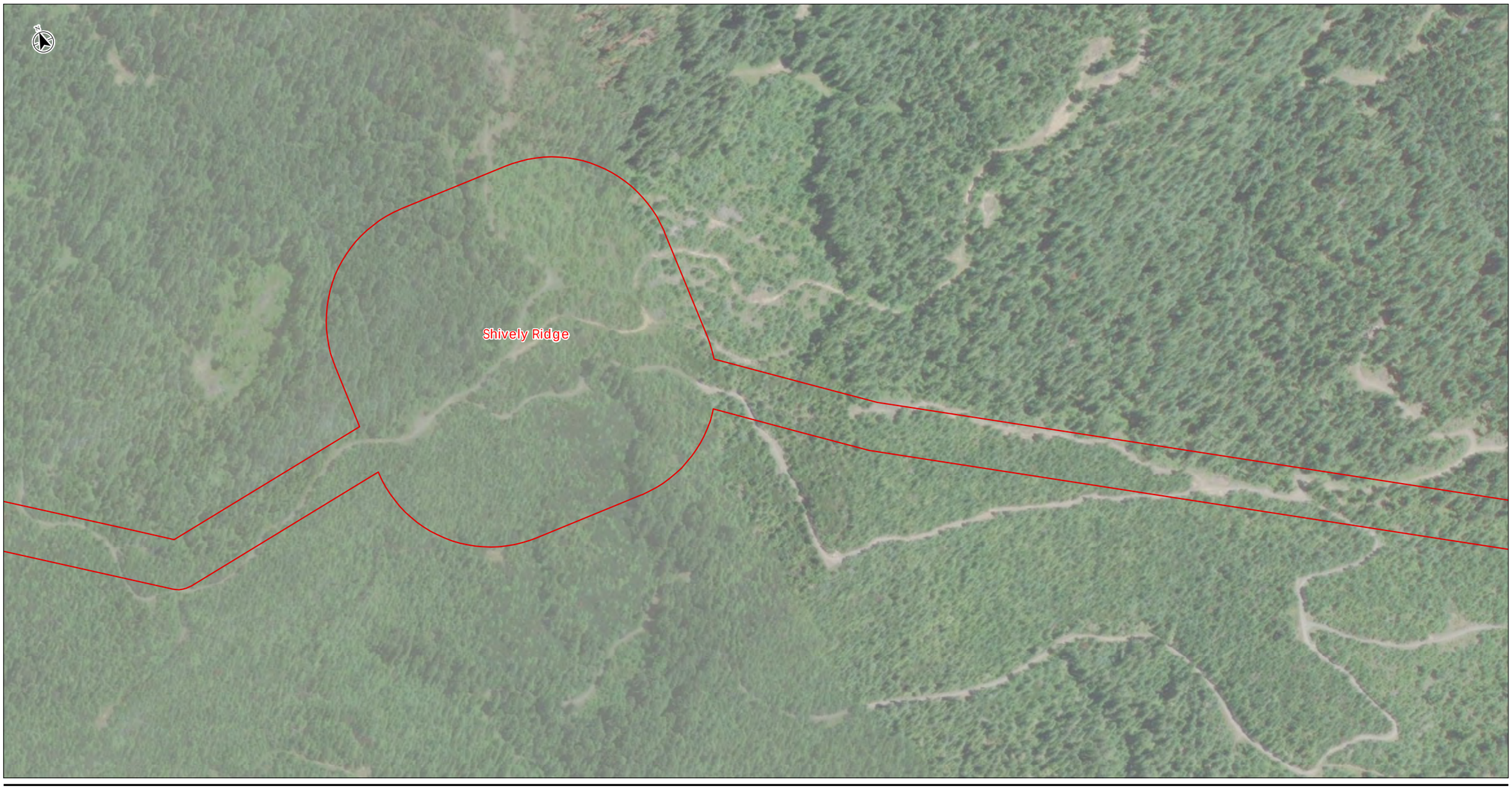

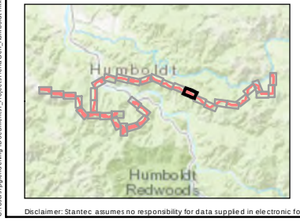

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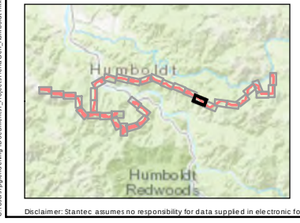

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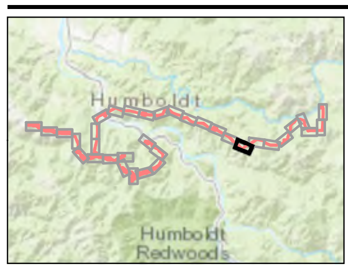

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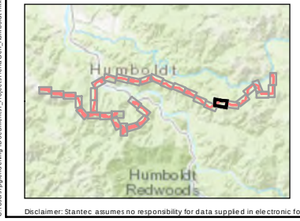

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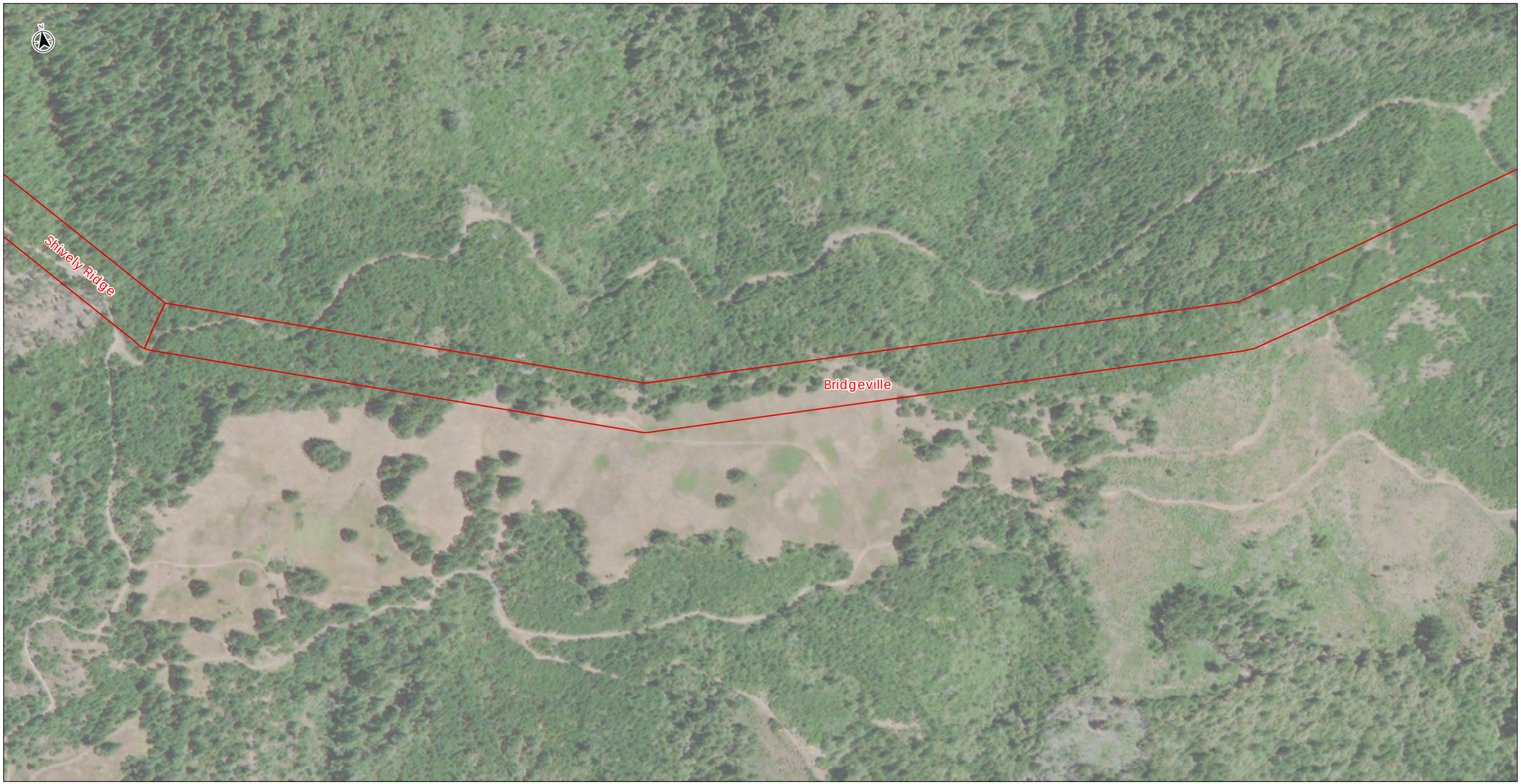

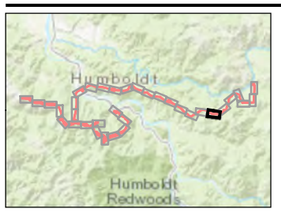

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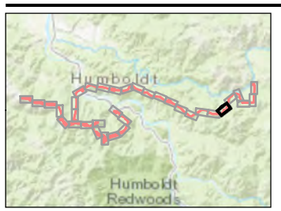

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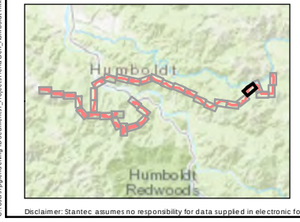

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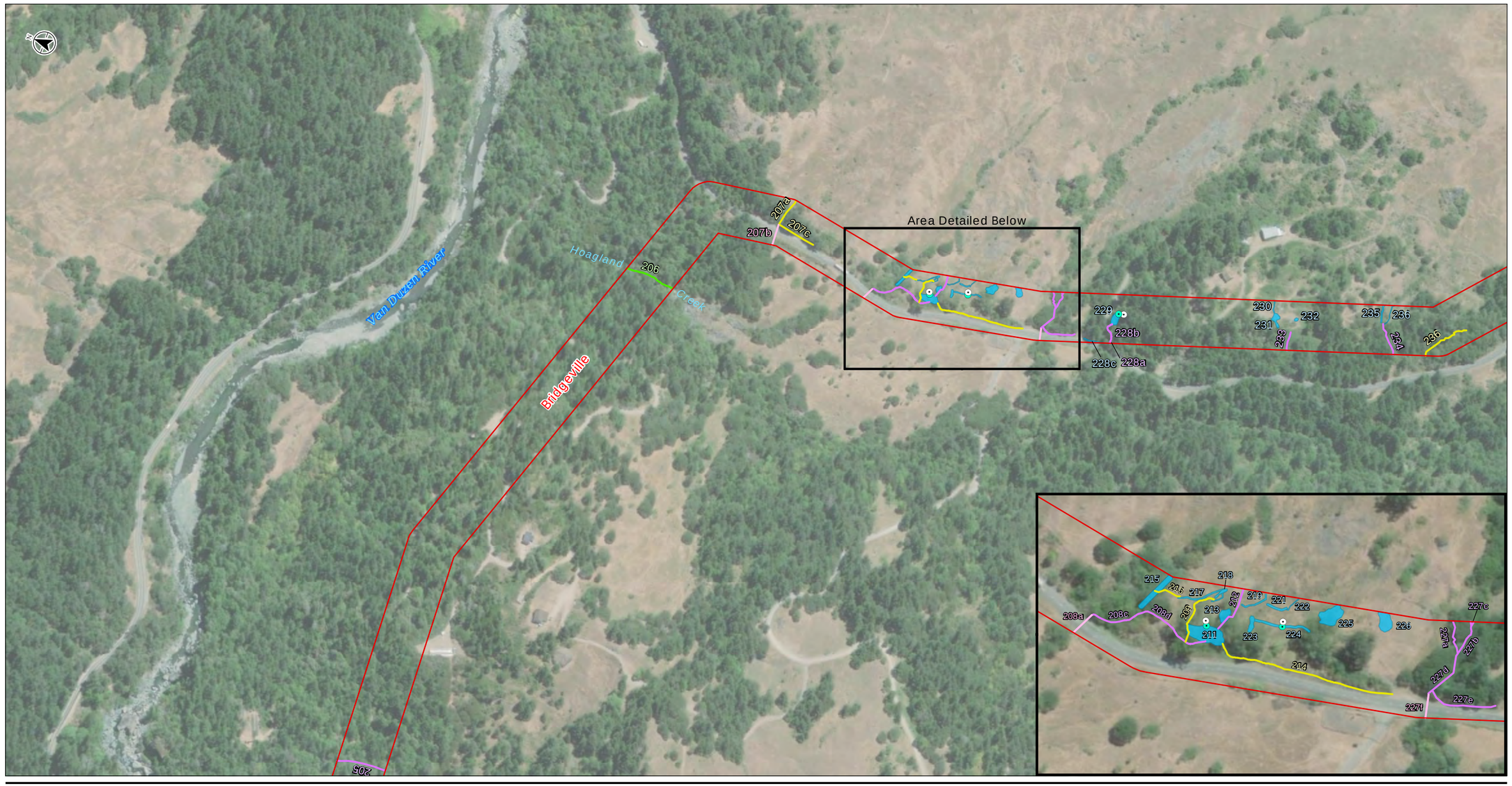

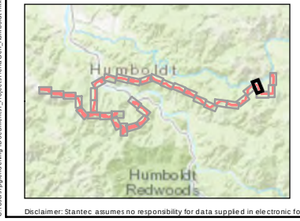

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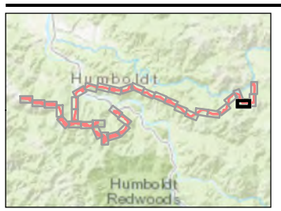

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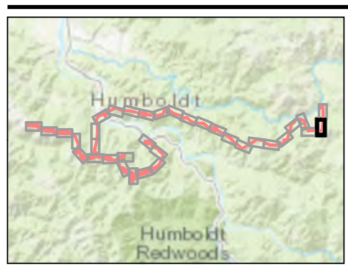
Client/Project
Humboldt Wind, LLC
Humboldt Wind Energy Project

Figure No.
5

Title
Aquatic Resources Survey Results



Project Area (with segment name)

Wetland Features by Cowardin Classification
- PEM: Palustrine Emergent
- PFO: Palustrine Forested
- PSS: Palustrine Scrub-Shrub
- Open Water

Data Points
- Upland
- Wetland

Drainages
- Perennial
- Ephemeral
- Intermittent
- Culvert

0 200 400
Feet
1 inch = 400 feet
(At original document size of 11x17)

Notes
1. Soils Data Source: USDA Natural Resources Conservation Service SSURGO Soils Database
2. Coordinate System: NAD 1983 UTM Zone 10N
3. Base map: ESRI World Imagery Map web

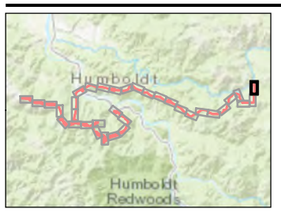
Stantec

Project Location 185703758
Humboldt County, California
Prepared by PG on 2018-09-05
Technical Review by SC on 2018-09-06
Independent Review by JD on 2018-09-06

Client/Project
Humboldt Wind, LLC
Humboldt Wind Energy Project

Figure No.
5

Title
Aquatic Resources Survey Results



Project Area
(with segment name)

Wetland Features
by Cowardin Classification
- PEM: Palustrine Emergent
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- PSS: Palustrine Scrub-Shrub
- Open Water

Data Points
- Upland
- Wetland

Drainages
- Perennial
- Ephemeral
- Intermittent
- Culvert

Ordinary High Water and Top of Bank
(Eel and Van Duzen Rivers)
- OHWM
- TOB

0 200 400
Feet
1 inch = 400 feet
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Notes
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Humboldt Wind Energy Project

Figure No.
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Title
Aquatic Resources Survey Results

Improvement Area

Coastal Zone Boundary

Note: This page is entirely within the Coastal Zone boundary

Wetland Features

by Cowardin Classification

PEM: Palustrine Emergent

PSS: Palustrine Scrub-Shrub

Data Points

upland

wetland

0 100

Feet

1:1,200 1 in = 100 ft

(At original document size of 8.5x11)

Notes

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Stantec

Project Location
Humboldt County, California

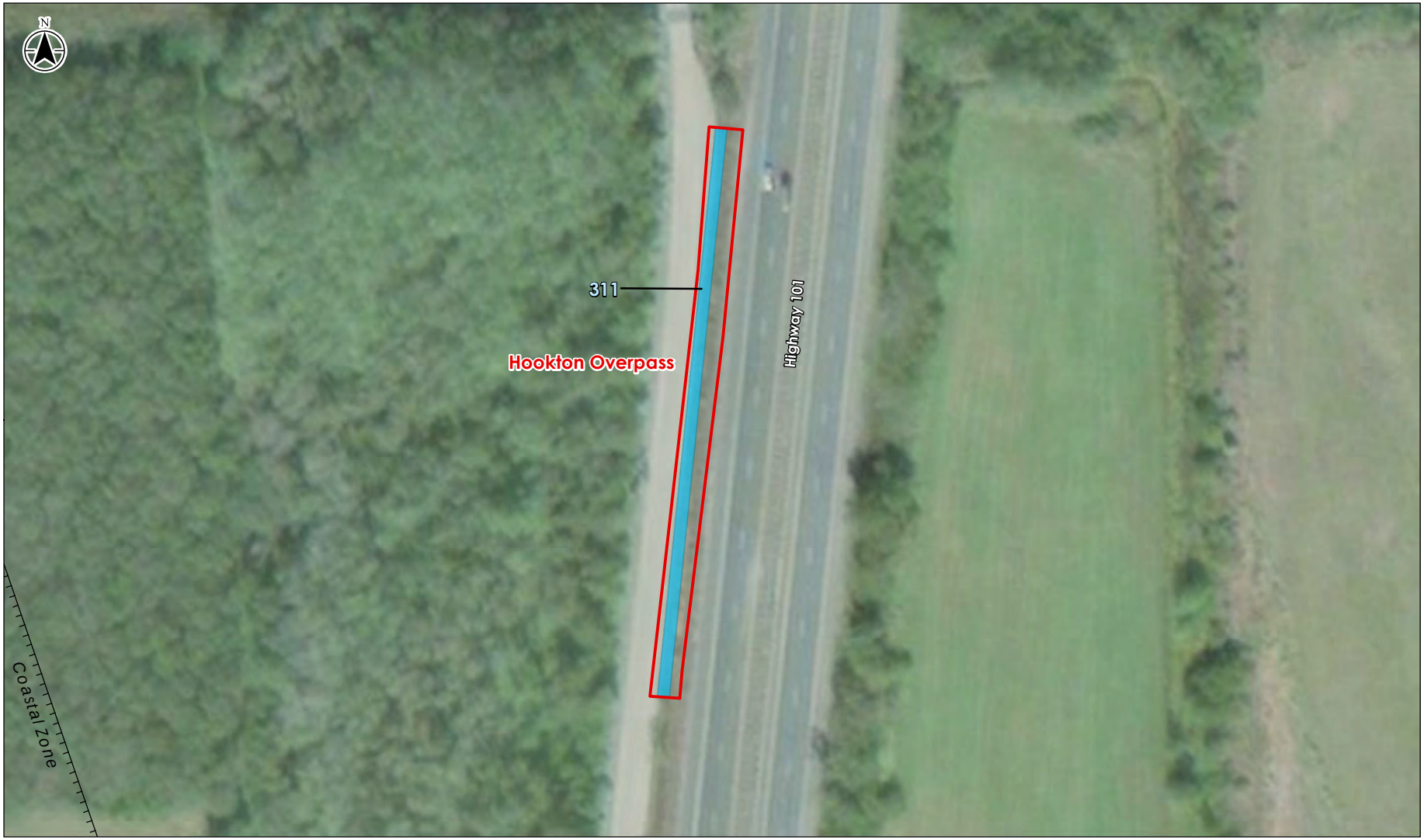
185703758

Prepared by PG on 2018-10-29
Technical Review by TH on 2018-10-29
Independent Review by JD on 2018-10-29

Client/Project
Humboldt Wind, LLC
Humboldt Wind Energy Project

Figure No.
5

Title
Aquatic Resources Survey Results — Transportation Route



Improvement Area

Coastal Zone Boundary

Wetland Features

by Cowardin Classification

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PSS: Palustrine Scrub-Shrub

Data Points

upland

wetland

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Feet

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Improvement Area

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by Cowardin Classification

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Feet

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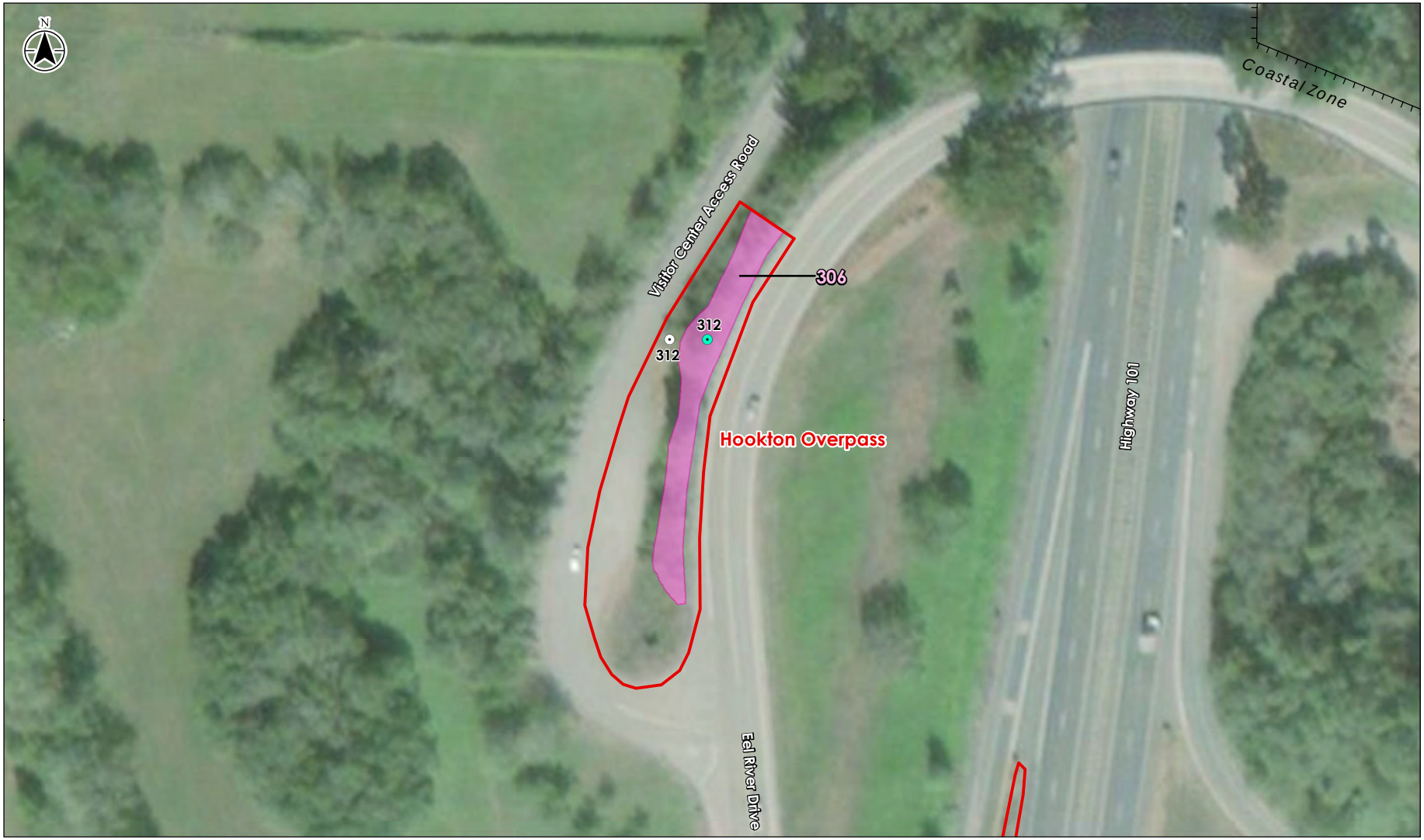

Improvement Area

Coastal Zone Boundary

Wetland Features
by Cowardin Classification

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PSS: Palustrine Scrub-Shrub

Data Points

upland

wetland

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Feet
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Notes
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Wetland Features

by Cowardin Classification

- PEM: Palustrine Emergent
- PSS: Palustrine Scrub-Shrub

Data Points

- upland
- wetland

0 100

Feet

1:1,200 1 in = 100 ft

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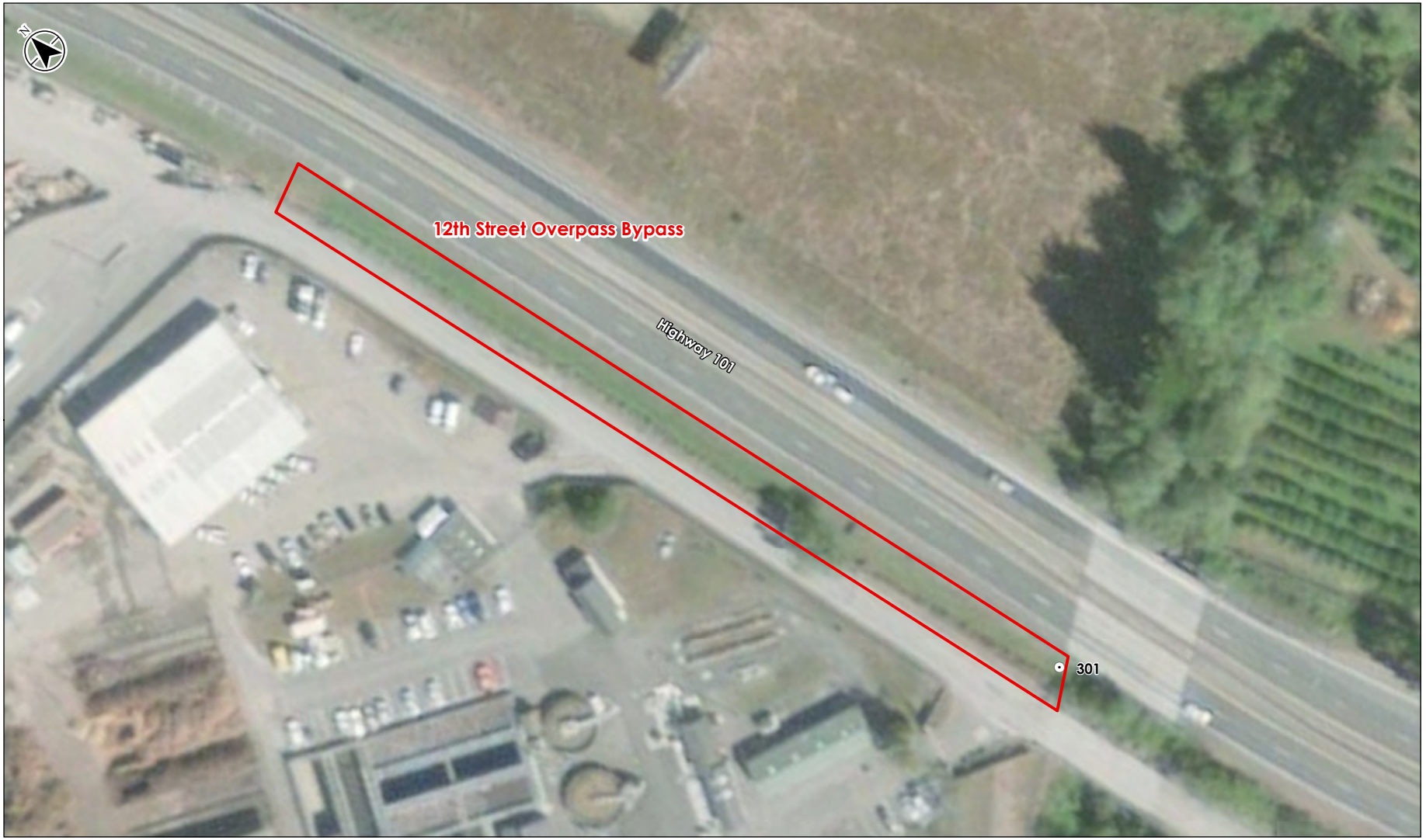

Improvement Area

Coastal Zone Boundary

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by Cowardin Classification

PEM: Palustrine Emergent
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Data Points

upland
wetland

0 100
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Figure No.
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Title
Aquatic Resources Survey Results — Transportation Route

APPENDICES

Appendix A PLANT SPECIES OBSERVED

Table A-1. Plant Species Observed

Scientific Name	Common Name	Wetland Indicator Status[1]	Origin
Adoxaceae (Muskroot Family)			
Sambucus nigra ssp. *caerulea*	blue elderberry	FAC	native
Anacardiaceae (Sumac or Cashew Family)			
Toxicodendron diversilobum	poison oak	FAC	native
Apiaceae (Umbelliferae) (Carrot Family)			
Daucus carota	carrot	FACU	non-native (invasive)
Torilis arvensis	field hedge parsley	-	non-native (invasive)
Araceae (Arum Family)			
Lemna minor	smaller duckweed	OBL	native
Araliaceae (Ginseng Family)			
Hedera helix	English ivy	FACU	non-native (invasive)
Hydrocotyle ranunculoides	marsh pennywort	OBL	native
Aristolochiaceae (Pipevine Family)			
Asarum caudatum	creeping wild ginger	FACU	native
Asteraceae (Compositae) (Sunflower Family)			
Achillea millefolium	yarrow	FACU	native
Arctotheca prostrata	prostrate cape weed	-	non-native (invasive)
Artemisia douglasiana	California mugwort	FACW	native
Baccharis pilularis	coyote brush	-	native
Bellis perennis	English lawn daisy	-	non-native (invasive)
Carduus pycnocephalus ssp. *pycnocephalus*	Italian thistle	-	non-native
Cichorium intybus	chicory	FACU	non-native
Helminthotheca echioides	bristly ox-tongue	FAC	non-native (invasive)
Hypochaeris glabra	smooth cats ear	-	non-native (invasive)
Hypochaeris radicata	hairy cats ear	FACU	non-native (invasive)
Leontodon saxatilis	hawkbit	FACU	non-native
Leucanthemum vulgare	oxe eye daisy	FACU	non-native (invasive)
Madia elegans	common madia	-	native
Matricaria discoidea	pineapple weed	FACU	native
Symphyotrichum sp.	-	-	-
Tragopogon porrifolius	salsify	-	non-native
Betulaceae (Birch Family)			
Alnus rubra	red alder	FAC	native
Corylus cornuta ssp. *californica*	beaked hazelnut	FACU	native
Brassicaceae (Cruciferae) (Mustard Family)			
Nasturtium officinale	watercress	OBL	native
Raphanus sativus	jointed charlock	-	non-native (invasive)
Cupressaceae (Cypress Family)			
Sequoia sempervirens	coast redwood	-	native
Cyperaceae (Sedge Family)			
Carex amplifolia	ample leaved sedge	OBL	native
Carex bolanderi	Bolander's sedge	FAC	native
Carex hendersonii	Henderson's sedge	FAC	native

Scientific Name	Common Name	Wetland Indicator Status[1]	Origin
Carex praegracilis	field sedge	FACW	native
Cyperus eragrostis	tall cyperus	FACW	native
Isolepis cernua	low bulrush	OBL	native
Scirpus microcarpus	mountain bog bulrush	OBL	native
Dennstaedtiaceae (Bracken Family)			
Pteridium aquilinum var. *pubescens*	western bracken fern	FACU	native
Dipsacaceae (Teasel Family)			
Dipsacus fullonum	wild teasel	FAC	non-native (invasive)
Dryopteridaceae (Wood Fern Family)			
Polystichum munitum	western sword fern	FACU	native
Equisetaceae (Horsetail Family)			
Equisetum arvense	common horsetail	FAC	native
Equisetum telmateia ssp. *braunii*	giant horsetail	FACW	native
Ericaceae (Heath Family)			
Arctostaphylos columbiana	redwood manzanita	-	native
Pyrola aphylla	leafless wintergreen	-	native
Fabaceae (Leguminosae) (Legume Family)			
Acmispon americanus var. *americanus*	Spanish lotus	FACU	native
Lotus corniculatus	bird's foot trefoil	FAC	non-native (invasive)
Lotus tenuis	narrow-leaf bird's-foot trefoil	FACU	non-native
Trifolium dubium	shamrock	FACU	non-native
Trifolium fragiferum	strawberry clover	FACU	non-native
Trifolium repens	white clover	FAC	non-native
Zeltnera muehlenbergii	Muehlenberg's centaury	FACW	native
Whipplea modesta	modesty	-	native
Iridaceae (Iris Family)			
Iris douglasiana	Douglas iris	-	native
Juncaceae (Rush Family)			
Juncus balticus ssp. *ater*	Baltic rush	FACW	native
Juncus bolanderi	Bolander's rush	OBL	native
Juncus bufonius	common toad rush	FACW	native
Juncus effusus	common bog rush	FACW	native
Juncus occidentalis	slender juncus	FACW	native
Juncus patens	rush	FACW	native
Juncus tenuis	slender rush	FAC	native
Juncus xiphioides	iris leaved rush	OBL	native
Lamiaceae (Labiateae) (Mint Family)			
Mentha pulegium	pennyroyal	OBL	non-native (invasive)
Prunella vulgaris	self heal	FACU	native
Stachys ajugoides	hedge nettle	OBL	native
Lauraceae (Laurel Family)			
Umbellularia californica	California bay	FAC	native
Linaceae (Flax Family)			
Hesperolinon micranthum	small flower western flax	-	native
Linum bienne	flax	-	non-native

HUMBOLDT WIND ENERGY PROJECT AQUATIC RESOURCES SURVEY REPORT

Appendix A Plant Species Observed

Scientific Name	Common Name	Wetland Indicator Status[1]	Origin
Lythraceae (Loosestrife Family)			
Lythrum hyssopifolia	hyssop loosestrife	OBL	non-native
Myricaceae (Wax MyrtleFamily)			
Morella californica	California wax myrtle	FACW	native
Myrsinaceae (MyrsineFamily)			
Lysimachia arvensis	scarlet pimpernel	FAC	non-native
Onagraceae (Evening-Primrose Family)			
Epilobium sp.	-	-	-
Phrymaceae (Lopseed Family)			
Parentucellia viscosa	yellow parentucellia	FAC	non-native (invasive)
Mimulus aurantiacus	sticky monkeyflower	FACU	native
Mimulus guttatus	yellow monkey flower	OBL	native
Mimulus moschatus	musk monkeyflower	OBL	native
Pinaceae (Pine Family)			
Picea sitchensis	Sitka spruce	FAC	native
Pinus radiata	Monterey pine	-	native (ornamental)
Plantaginaceae (Plantain Family)			
Plantago lanceolata	ribwort	FACU	non-native (invasive)
Veronica anagallis-aquatica	water speedwell	OBL	non-native
Poaceae (Gramineae) (Grass Family)			
Agrostis exarata	bentgrass	FACW	native
Agrostis pallens	Diego bent grass	UPL	native
Aira caryophyllea	silvery hairgrass	FACU	non-native (invasive)
Aira praecox	yellow hairgrass	-	non-native (invasive)
Alopecurus saccatus	foxtail	FACW	native
Anthoxanthum occidentale	California sweet grass	-	native
Anthoxanthum odoratum	sweet vernal grass	FACU	non-native (invasive)
Avena barbata	slim oat	-	non-native (invasive)
Briza maxima	rattlesnake grass	-	non-native (invasive)
Briza minor	little rattlesnake grass	FAC	non-native
Bromus diandrus	ripgut brome	-	non-native (invasive)
Bromus hordeaceus	soft chess	FACU	non-native (invasive)
Cynodon dactylon	Bermuda grass	FACU	non-native (invasive)
Cynosurus cristatus	crested dogtail grass	FACU	non-native
Cynosurus echinatus	dogtail grass	-	non-native (invasive)
Dactylis glomerata	orchardgrass	FACU	non-native (invasive)
Danthonia californica	California oatgrass	FAC	native
Deschampsia elongata	hairgrass	FACW	native
Elymus glaucus ssp. *glaucus*	blue wild rye	FACU	native
Festuca arundinacea	reed fescue	FAC	non-native (invasive)
Festuca bromoides	brome fescue	FAC	non-native
Festuca myuros	rattail sixweeks grass	FACU	non-native (invasive)
Festuca perennis	Italian rye grass	FAC	non-native
Glyceria declinata	waxy mannagrass	FACW	non-native (invasive)
Holcus lanatus	common velvet grass	FAC	non-native (invasive)

Scientific Name	Common Name	Wetland Indicator Status[1]	Origin
Hordeum marinum ssp. *gussoneanum*	barley	FAC	non-native
Phalaris aquatica	Harding grass	FACU	non-native (invasive)
Poa annua	annual blue grass	FAC	non-native
Poa palustris	fowl bluegrass	FAC	non-native
Poa pratensis ssp. *pratensis*	Kentucky blue grass	FAC	non-native (invasive)
Polypogon monspeliensis	annual beard grass	FACW	non-native (invasive)
Polygonaceae (Buckwheat Family)			
Polygonum sp.	-	-	-
Rumex acetosella	sheep sorrel	FACU	non-native (invasive)
Rumex crispus	curly dock	FAC	non-native (invasive)
Rumex pulcher	fiddleleaf dock	FAC	non-native
Ranunculaceae (Buttercup Family)			
Ranunculus muricatus	buttercup	FACW	non-native
Rhamnaceae (Buckthorn Family)			
Ceanothus integerrimus	deer brush	-	native
Rosaceae (Rose Family)			
Rosa nutkana	Nootka rose	FAC	native
Rubus armeniacus	Himalayan blackberry	FAC	non-native (invasive)
Rubus parviflorus	thimbleberry	FACU	native
Rubus ursinus	California blackberry	FACU	native
Salicaceae (Willow Family)			
Populus trichocarpa	black cottonwood	FAC	native
Salix exigua	narrowleaf willow	FACW	native
Salix hookeriana	coastal willow	FACW	native
Salix laevigata	polished willow	FACW	native
Salix lasiolepis	arroyo willow	FACW	native
Salix sitchensis	Coulter willow	FACW	Native
Sapindaceae (Soapberry Family)			
Acer macrophyllum	bigleaf maple	FACU	native
Themidaceae (Brodiaea Family)			
Brodiaea elegans ssp. *elegans*	harvest brodiaea	FACU	native
Typhaceae (Cattail Family)			
Typha latifolia	broadleaf cattail	OBL	native
Urticaceae (Nettle Family)			
Urtica dioica	stinging nettle	FAC	native
Woodsiaceae (Cliff Fern Family)			
Athyrium filix-femina var. *cyclosorum*	western lady fern	FAC	native

[1] FAC = facultative. FACU = facultative upland, FACW = facultative wetland, OBL = obligate, UPL = upland. Status based on Lichvar, R. W., D. L. Banks, W. N. Kirchner, and N. C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.

Appendix B WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

100 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/9/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 100 (w)

Investigator(s): J. Hulson, S. Creer, A. Cowles, S. Tong Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Slanted Slope (%): 0-2

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.201629 Long: 40.455662 Datum:

Soil Map Unit Name: Peaked-Oceanhouse-Parnaux complex 5-30% NWI classification: PEMIB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: For WL 100

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Herb Stratum (Plot size: 1 meter radius)			
1. Juncus effusus	30	Y	FACW
2. Holcus lanatus	40	Y	FAC
3. Festuca perennis	5	N	FAC
4. Bellis perennis	2		UPL
5. Hypochaeris radicata	2		FACU
6. Rumex acetosella	<1		FACU
7. Rumex crispus	<1		FAC
8. Cynosurus echinatus	2		UPL
9. Trifolium repens	1		FAC
10. Mentha pulegium	<1		OBL
11. Hymus glaucus ssp. glaucus	2		FACU
	87 = Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

100 wet

Sampling Point: 100(w)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/2	88	10YR 5/8	5	C	M	clay loam	
			7.5YR 3/3	7	C	M		
7-12	10YR 3/2	85	10YR 5/8	15	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

100 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/9/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 101(up)

Investigator(s): J. Holson, S. Crew, S. Tona, A. Cuevelas Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 10

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.201591 Long: 40.455650 Datum:

Soil Map Unit Name: Peaket-Ocean House-Parhaus complex 5-30% slope NWI classification: 0

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: for WL 100

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1 meter radius)			
1. Festuca perennis	30	Y	FAC
2. Holcus lanatus	5	N	FAC
3. Juncus effusus	2	N	FACW
4. Hypochaeris radicata	35	Y	FACU
5. Festuca myuros	20	Y	FACU
6. Plantago lanceolata	3	N	FACU
7. Bellis perennis	4		UPL
8. Juncus occidentalis	1		FACW
9. Cynosurus echinatus	2		UPL
10. Dantonia californica	1		FAC
11.			
	103 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 3

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

100 up

Sampling Point: 101 (up)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 2.5/2	95	10YR 5/6	5	C	M	loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

101 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/9/2018

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 200

Investigator(s): A. Loveless, S. Tona Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 1

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.947773 Long: 40.457924 Datum:

Soil Map Unit Name: Fornaux-peaked-Bolason complex 30-50% slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? N Are "Normal Circumstances" present? Yes Y No

Are Vegetation , Soil , or Hydrology naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes Y	No	
Hydric Soil Present?	Yes Y	No	Is the Sampled Area within a Wetland? Yes X No
Wetland Hydrology Present?	Yes Y	No	

Remarks: Seasonal wl, wl200

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1m diam)			
1. Festuca perennis	15	Y	FAC
2. Holcus lanatus	20	Y	FAC
3. Trifolium arvense	2	N	UPL
4. Bellis perennis	1		UPL
5. Hordeum marinum	5		FAC
6. Cynosurus echinatus	1		UPL
7. Mentha pulegium	10		OBL
8. Rumex crispus	10		FAC
9.			
10.			
11.			
	64 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 3

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

101 wet

SOIL

Sampling Point: 200

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/1	90	10YR 3/3	10	C	PL	sandy clay loam	
5-12	10YR 3/1	85	10YR 4/6	12	C	PL	"	
			10YR 4/4	3	C	PL		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes Y No _____

Remarks: distinct/prominent redox. conc. w/over 2%

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes Y No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Oxidized rhizospheres @ 10%

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

101 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 07/09/2018

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 201

Investigator(s): ALOVELESS, S.TONA Section, Township, Range:

Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONCAVE Slope (%): 2

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.947787 Long: 40.457918 Datum:

Soil Map Unit Name: Farhaux-peaked-dolason complex 30-50% Slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? N Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No	
Wetland Hydrology Present?	Yes	No	

Remarks:

UPLAND PT. WL 200

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 1M radius)			
1. Rumex crispus	3	–	FAC
2. Holcus lanatus	5	–	FAC
3. Mentha pulegium	5	–	OBL
4. Bellis perennis	1	–	UPL
5. Hordeum marinum	10	Y	FAC
6. Festuca perennis	5	–	FAC
7. Bromus hordeaceous	1	–	FACU
8. Cynosurus echinatus	1	–	UPL
9. Hypochaeris radicata	10	Y	FACU
10.			
11.			
50% = 19.5 20% = 8.2	41	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 3

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	23	x 3 =	69
FACU species	10	x 4 =	40
UPL species	2	x 5 =	10
Column Totals:	35 (A)		119 (B)

Prevalence Index = B/A = 3.4

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

UPLAND PT - NO Hydrophytic veg.

101 up

SOIL

Sampling Point: 201

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 3/2	100	—	—	—	—	Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: —

Depth (inches): —

Hydric Soil Present? Yes ____ No X

Remarks:

UPLAND PT. NO INDICATORS OF HYDRIC SOILS

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): —

Water Table Present? Yes ____ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): —

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

UPLAND PT- Oxidized rhizospheres: 8%

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region 106 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/10/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 202

Investigator(s): S. Tona : A. Loveless Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 15%

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.187495 Long: 40.451611 Datum:

Soil Map Unit Name: Peaked-Occanhouse-Tochaux Complex, 5-30% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes X	No	Is the Sampled Area within a Wetland? Yes X No
Wetland Hydrology Present?	Yes X	No	

Remarks: Seasonal wetland 204

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1 m. radius)			
1. Juncus effusus	15	Y	FACW
2. Holcus lanatus	15	Y	FAC
3. Trifolium repens	8	N	FAC
4. Festuca perennis	30	Y	FAC
5. Hypochaeris radicata	5	N	FACU
6. Juncus occidentalis	8	N	FACW
7. Cynosurs echinatus	1	N	UPL
8. Poa annua	1	N	FAC
9. Bellis perennis	3	N	UPL
10.			
11.			
50% = 43 20% = 17.2	86	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- — 1 - Rapid Test for Hydrophytic Vegetation
- Y 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Hydrophytic vegetation is present

106 wet

Sampling Point: 202

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	85	10YR 4/6	15			CLAY LOAM	
8-12	10YR 2/1	75	7.5YR 5/8	25			Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: none

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks: Redox dark surface, with prominent redox concentrations present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Approximately 10% oxidized rhizospheres present along living roots w/in first three inches of soil.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

106 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/10/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 203

Investigator(s): S. Toro & A. Loveless Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Convex Slope (%): 15

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.187521 Long: 40.451629 Datum:

Soil Map Unit Name: Peaked-Oceanhouse-Fortuna complex 5-30% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes	No X	

Remarks: Upland pair point to #202 WL 204

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1 m. radius)			
1. Plantago lanceolata	30	Y	FACU
2. Hypochaeris radicata	20	Y	FACU
3. Festuca bromoides	10	-	FAC
4. Holcus lanatus	10	-	FAC
5. Anthoxanthum occidentale	8	-	UPL
6. Festuca perennis	10	-	FAC
7. Bellis perennis	2	-	UPL
8.			
9.			
10.			
11.			
50%: 45 20%: 18	90	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 15

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	0	x 2 =	
FAC species	20	x 3 =	60
FACU species	50	x 4 =	200
UPL species	20	x 5 =	100
Column Totals:	90 (A)		360 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

N 1 - Rapid Test for Hydrophytic Vegetation

N 2 - Dominance Test is >50%

N 3 - Prevalence Index is ≤3.0[1]

N 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

N 5 - Wetland Non-Vascular Plants[1]

N Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

106 up

Sampling Point: 203

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	90	7.5YR 4/6	10	C	M	sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): —

Hydric Soil Present? Yes X No ___

Remarks: Prominent redox concentrations are present w/ in the first 12 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): —

Water Table Present? Yes ___ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): —

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region 108 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 07/10/2018

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 2016

Investigator(s): ALOVELESS, STONA Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.185788 Long: 40.450904 Datum:

Soil Map Unit Name: Peaked-Oceanhaven-Farhaven Complex, 5-30% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks: Suspect area due to soils and hydrology and topographic position. No hydrophytic vegetation is present.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1m radius)			
1. Cynosurus Cristatus	10	N	FACU
2. Agrostis pallens	30	Y	FACU
3. Parentucellia viscosa	2	N	FAC
4. Juncus occidentalis	15	Y	FACW
5. Anthoxanthum odoratum	1	N	FACU
6. Leontodon saxatilis	10	N	FACU
7. Holcus lenatus	7	N	FAC
8. Trifolium repens	2	N	FACU
9.			
10.			
11.			
50: 38.5 20: 15.4	77	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 1

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	15	x 2 =	30
FAC species	9	x 3 =	27
FACU species	53	x 4 =	212
UPL species		x 5 =	
Column Totals:	77 (A)		269 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

N 1 - Rapid Test for Hydrophytic Vegetation

N 2 - Dominance Test is >50%

N 3 - Prevalence Index is ≤3.0[1]

N 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

N 5 - Wetland Non-Vascular Plants[1]

N Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: Dominant Agrostis pallens

108 up

SOIL

Sampling Point: 206

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	80	10YR 5/6	20	matrix		clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: —

Depth (inches): —

Hydric Soil Present? Yes X No ___

Remarks: PROMINENT REDOX CONCENTRATIONS

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): —

Water Table Present? Yes ___ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): —

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: 15% oxidized rhizospheres

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

109 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/10/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 204

Investigator(s): S.Tona, A.Loveless Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.185696 Long: 40.450535 Datum:

Soil Map Unit Name: Peaked-Greenhouse-Fortbragg complex 5-30% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks: Seasonal wetland that meets all three criteria. WL 207

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Leontodon saxatilis	25	Y	FACU
2. Juncus bufonius	25	Y	FACW
3. Cynosurus cristatus	5	N	FACU
4. Parentucellia viscosa	5		FAC
5. Agrostis pallens	5		FACU
6. Poa pratensis	10		FACW
7. Plantago lanceolata	2		FACU
8. Briza minor	1		FACW
9. Juncus occidentalis	2		FACW
10. Juncus effusus	2		FACW
11.			
50 43.5 20 17	87	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	40	x 2 =	80
FAC species	5	x 3 =	15
FACU species	37	x 4 =	148
UPL species		x 5 =	
Column Totals:	82 (A)		243 (B)

Prevalence Index = B/A = 2.9

1 1
168
15
70
253
82
3
85

Hydrophytic Vegetation Indicators:

N 1 - Rapid Test for Hydrophytic Vegetation

N 2 - Dominance Test is >50%

Y 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ 5 - Wetland Non-Vascular Plants[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

109 wet

Sampling Point: 204

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-10	7.5YR 3/1	80	7.5YR 4/3	20	matrix		Sandy loam	
10-12	7.5YR 2.5/1	70	7.5 YR 3.5/3	30	matrix		sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: —

Depth (inches): —

Hydric Soil Present? Yes X No ___

Remarks: Distinct redox concentrations are present w/in the first 12 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): —

Water Table Present? Yes ___ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): —

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Approximately 10% oxidized rhizospheres along living roots.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region 109 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/10/18
Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 205
Investigator(s): S.Tona, A.Loveless Section, Township, Range:
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 10
Subregion (LRR): A: Northwest Forests and Coast Lat: -124.185724 Long: 40.450558 Datum:
Soil Map Unit Name: Peaked-Oceanhaze-Fortuna complex 5-30% slopes NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: upland pair point to 204. WL 207

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Herb Stratum (Plot size: 1m radius)			
1. Plantago lanceolata	25	Y	FACU
2. Anthoxanthum occidentalis	15	Y	UPL
3. Parentucellia viscosa	5	–	FAC
4. Cynosurus cristatus	15	Y	FACU
5. Leontodon saxatilis	30	Y	FACU
6. Trifolium repens	10	–	FACU
7. Linum bienne	2	–	UPL
8. Trifolium dubius	3	–	FACU
9. Festuca bromoides	10	–	UPL
10.			
11.			
50% = 55 20% = 22	110 = Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 2

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
N 1 - Rapid Test for Hydrophytic Vegetation
N 2 - Dominance Test is >50%
N 3 - Prevalence Index is ≤3.0[1]
N 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
N 5 - Wetland Non-Vascular Plants[1]
N Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

109 up

Sampling Point: 205

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3+/1	95	10YR 4/6	5	C	M	Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: —

Depth (inches): —

Hydric Soil Present? Yes ____ No X

Remarks: No hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): —

Water Table Present? Yes ____ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): —

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Only 1% oxidized rhizospheres present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

113 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/10/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 208 (wet)

Investigator(s): S. Tona ; A. Loveless Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 8

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.177615 Long: 40.450280 Datum:

Soil Map Unit Name: 4408 - Dolason-Forhaux-Peaked complex 5-30% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks: Seasonal swale sourced by a culvert (WL 210a)

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1 meter radius)			
1. Alopecurus saccatus	8	N	FACW
2. Mentha pulegium	10	N	OBL
3. Agrostis pallens	20	Y	FACU
4. Eleocharis macrostachya	2	N	OBL
5. Juncus occidentalis	15	N	FACW
6. Festuca perennis	35	Y	FAC
7. Rumex crispus	2	N	FACW
8. Leontodon saxatilis	5	N	FACU
9.			
10.			
11.			
50% = 48.5 20% = 19.4	97	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		
% Bare Ground in Herb Stratum			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	12	x 1 =	12
FACW species	25	x 2 =	50
FAC species	35	x 3 =	105
FACU species	25	x 4 =	100
UPL species		x 5 =	
Column Totals:	97 (A)		267 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

N 1 - Rapid Test for Hydrophytic Vegetation

N 2 - Dominance Test is >50%

Y 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ 5 - Wetland Non-Vascular Plants[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

113 wet

SOIL

Sampling Point: 208

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	70	7.5YR 3/4	30	C	M	Loam	
8-12	10YR 2/1	90	7.5YR 3/3	10	C	M	gravelly loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: —

Depth (inches): —

Hydric Soil Present? Yes X No ___

Remarks: Distinct redox concentrations are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): —

Water Table Present? Yes ___ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): —

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Approximately 35% oxidized rhizospheres present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region 113 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/10/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 209(Up)

Investigator(s): S. Tona ; A. Loveless Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 8

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.177652 Long: 40.450278 Datum:

Soil Map Unit Name: 4408 - Dolason-Fayhaus-Peaked complex, 5-30% Slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes X	No	

Remarks: the upland pair point to 208. (WL 210a)

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1meter radius)			
1. Juncus occidentalis	20	Y	FACW
2. Agrostis pallens	20	Y	FACU
3. Festuca perennis	30	Y	FAC
4. Alopecurus saccatus	8		FACW
5. Cynosurus cristatus	2		FACU
6. Mentha pulegium	5		OBL
7. Leontodon saxatilis	10		FACU
8.			
9.			
10.			
11.			
50% = 47.5 20% = 19.0	95	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

N 1 - Rapid Test for Hydrophytic Vegetation

Y 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

113 up

SOIL

Sampling Point: 209

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	80	7.5YR 2/3	20	C	M	Silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: —

Depth (inches): —

Hydric Soil Present? Yes ___ No X

Remarks: Redox concentrations are faint and the indicator does not apply.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): —

Water Table Present? Yes ___ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): —

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: 15% oxidized rhizospheres present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region 118 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 07/11/2018
Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 210 (w)
Investigator(s): ALOVELESS, STONA Section, Township, Range:
Landform (hillslope, terrace, etc.): none Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): A: Northwest Forests and Coast Lat: -124.172879 Long: 40.449980 Datum:
Soil Map Unit Name: 9408-Dolason-Fortuna-Peaked complex 5-30% slopes NWI classification: PEMIB
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks: Seasonal wetland pt. WL 212

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. Mentha pelegium	20	Y	OBL
2. Poa pratensis	15	Y	FAC
3. Agrostis pallens	10	N	FACU
4. Leontodon saxatilis	2	N	FACU
5. Alopecurus saccatus	5	N	FACW
6.			
7.			
8.			
9.			
10.			
11.			
50=26 20=10.4	52	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

118 wet

SOIL

Sampling Point: 210

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	85	10YR 3/4	15	matrix concentrations		silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: –

Depth (inches): –

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): –

Water Table Present? Yes ___ No X Depth (inches): –

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): –

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

3% oxidized rhizospheres

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

118 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 07/11/2018

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 211 (UP)

Investigator(s): ALOVELESS, STONA Section, Township, Range:

Landform (hillslope, terrace, etc.): none Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.172854 Long: 40.449981 Datum:

Soil Map Unit Name: 4408-Dolason-Fortuna-Peaty Complex, 5-30% Slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks: Upland Pt. veg does not qualify. WL 212

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. Agrostus pallens	15	Y	FACU
2. Poa pratensis	20	Y	FAC
3. Mentha pelegium	10	N	OBL
4. Holcus lanatus	5	N	FAC
5. Rumex acetosella	1	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
50=25.5 20=10.2	51	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	16	x 4 =	74
UPL species	0	x 5 =	0
Column Totals:	51 (A)		159 (B)

Prevalence Index = B/A = 3.1

32 16 48 16 74

Hydrophytic Vegetation Indicators:

N 1 - Rapid Test for Hydrophytic Vegetation

N 2 - Dominance Test is >50%

N 3 - Prevalence Index is ≤3.0[1]

N 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

N 5 - Wetland Non-Vascular Plants[1]

N Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

118 up

SOIL

Sampling Point: 21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	85	10YR 3/3	15				
8-16	10YR 2/1	85	10YR 3/3	14				
			10YR 5/4	1				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: —

Depth (inches): —

Hydric Soil Present? Yes X No ___

Remarks: distinct Redox concentrations

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): —

Water Table Present? Yes ___ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): —

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: 2% oxidized rhizospheres

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

126 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 07/11/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 108W

Investigator(s): S. Halsey, S. Greer Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.168008 Long: 40.448356 Datum:

Soil Map Unit Name: 446 'Peaked-Occanhouse-Fortaux complex 5-30% Slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: WL 115

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: Ø)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = Total Cover		
Sapling/Shrub Stratum (Plot size: Ø)			
1.			
2.			
3.			
4.			
5.			
	Ø = Total Cover		
Herb Stratum (Plot size: 1 m r)			
1. J. patens	85	Y	FACW
2. J. balticus	5	N	FACW
3. Glyceria declinata	3	N	FACW
4. Holcus lanatus	1	N	FAC
5. Poa pratensis	1	N	FAC
6. Anthoxanthum odoratum	3	N	FACU
7. Lotus corniculatus	1	N	FAC
8. Mentha pulegium	1	N	OBL
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: Ø)			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum 15

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

126 wet

SOIL

Sampling Point: 108

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 3/2	93	5 YR 4/6	7	C	M	clay loam	
4-12	10 YR 3/2	90	7.5 YR 4/6	4	C	M	clay loam	
			5 YR 4/6	6	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Ruggies

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

126 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 07/11/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 109 u

Investigator(s): J. Halson, S. Creer Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope terrace Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.167965 Long: 40.448357 Datum:

Soil Map Unit Name: 440 Paired-Greenhouse-Forhaux Complex, 5-30% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	
Hydric Soil Present?	Yes X	No	Is the Sampled Area within a Wetland? Yes No X
Wetland Hydrology Present?	Yes	No X	

Remarks:

WC 115

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: Ø)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø	= Total Cover	
Sapling/Shrub Stratum (Plot size: Ø)			
1.			
2.			
3.			
4.			
5.			
	Ø	= Total Cover	
Herb Stratum (Plot size: 1m radius)			
1. H. radicata	75	Y	FACU
2. P. lanceolata	5	N	FACU
3. A. odoratum	5	N	FACU
4. Raventucellia Viscosa	1	N	FAC
5. Cynosorus echinatus	1	N	UPL
6. Juncus occidentalis	1	N	FACW
7. Linum bienne	1	N	UPL
8. Mentha pulegium	1	N	OBL
9.			
10.			
11.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: Ø)			
1.			
2.			
	Ø	= Total Cover	

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

126 up

SOIL

Sampling Point: 109

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	92	5YR 4/6	8			clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

131 wet

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/10/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 106(wet)

Investigator(s): J. Holson S. Greer Section, Township, Range:

Landform (hillslope, terrace, etc.): ridgeline Local relief (concave, convex, none): Slope (%): 5

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.163092 Long: 40.447652 Datum:

Soil Map Unit Name: Peatd-Occanhaue-Fortuna complex 5-30% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

WL III

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1 meter radius)			
1. Alopecurus saccatus	20	Y	FACW
2. Agrostis pallens	10	N	UPL
3. Juncus occidentalis	5	N	FACW
4. Mentha pulegium	2	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	87 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

131 wet

Sampling Point: 106

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 3/1	100					clay loam	
2-4	10YR 3/2	97	7.5YR 5/6	3	C	M	↓	
4-8	10YR 4/2	90	5YR 4/6	10	C	M	↓	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8) (closed depression)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

131 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/10/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 107 (up)

Investigator(s): J. Hulson, S. Crew Section, Township, Range:

Landform (hillslope, terrace, etc.): ridgeline Local relief (concave, convex, none): Slope (%):

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.163109 Long: 40.447660 Datum:

Soil Map Unit Name: Peaked-Greenhouse-Fortuna Complex 5-30% slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X
Hydric Soil Present?	Yes	No X
Wetland Hydrology Present?	Yes	No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:

WL III

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1 Meter radius)			
1. Hypochaeris radicata	70	Y	FACU
2. Agrostis pallens	15	N	UPL
3. Daucus pusillus	5		FAC
4. Artemisia americana	1/3		FACU
5. Plantago lanceolata	1/3		FACU
6. Briza minor	1		FAC
7. Baccharis pilularis	1		FACU
8. Danthonia californica	3		FAC
9. Holcus lanatus	1		FAC
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

131 wet

Sampling Point: 109

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 3/2	98	7.5YR 4/6	2	C	M	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

139 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/19/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 104 W

Investigator(s): S. Creer, J. Hilson Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 15

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.152726 Long: 40.446630 Datum:

Soil Map Unit Name: Peaked-Oceanhouse-Fahnaux Complex 5-30% Slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

WL 106

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Herb Stratum (Plot size: Indiameter plot)			
1. Juncus effusus	40	Y	FACW
2. Hordeum lanatus	28	Y	FAC
3. Juncus bufonius	5	N	FACW
4. Trifolium dubium	4	N	FACU
5. Mentha pulegium	<1	N	OBL
6. Anthoxanthum odoratum	3	N	FACU
7. Equisetum arvense	2	N	FAC
8. Isolepis cernua (Scirpus)	5	N	OBL
9. Veronica anagallis-aquatica	<1	N	OBL
10.			
11.			
	78 = Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 25

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

139 wet

SOIL

Sampling Point: 104W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	84	7.5YR 4/6	5	C	M	clay loam	
			7.5YR 2.5/3	4				
			7.5YR 5/6	7				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks: shovel refusal @ 12"; cobble

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

139 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/10/15

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 105U

Investigator(s): S Crewer J. Halsey Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 15

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.152710 Long: 40.446607 Datum:

Soil Map Unit Name: Peatel-Occanhouse-Ishaus Complex 5-30% Slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: Large rocks present 15m across WL106

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m radius plot)			
1. Unum bienne	4	N	UPL
2. Anthoxanthum odoratum	18	Y	FACU
3. Holcus lanatus	20	Y	FAC
4. Danthonia californica	25	Y	FAC
5. Trifolium fragiferum	t	N	FACU
6. Cynosurus echinatus	5	N	UPL
7. Plantago lanceolata	5	N	FACU
8. Hypochaeris radicata	5	N	FACU
9. Aira caryophyllea	t	N	FACU
10. Festuca myuros	5	N	FACU
11.			
	87 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 15

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

139 up

SOIL

Sampling Point: 105u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	98	7.5YR 5/6	2	C	M	clay loam	
shovel refusal @ 8"								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: low amount of redox, sharp boundaries = relict

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

140 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/9/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 102 (W)

Investigator(s): S. Creer, J. Holson Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 5%

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.152096 Long: 40.447208 Datum: _____

Soil Map Unit Name: Ddasan-Forhaux-Peaked Complex, 5-30% NWI classification: PEMB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks: cattle

for WL 102

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 1m radius plot)			
1. Mentha pulegium	60	Y	OBL
2. Alopecurus sacratus	5	N	FACW
3. Juncus occidentalis	10	N	FACW
4. Juncus effusus	5	N	FACW
5. Agrostis pallens	15	N	UPL
6. Festuca perennis	10	N	FAC
7.			
8.			
9.			
10.			
11.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

140 wet

SOIL

Sampling Point: 102 (W)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/2	95	2.5YR 4/8	5	C	M	loam	
1+2-	10YR 3/1	100					loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

140 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/9/16

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 103 (up)

Investigator(s): S. Greer, J. Holson Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 5%

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.152060 Long: 40.447208 Datum:

Soil Map Unit Name: Dolason-Fortuna-Prated complex, 5-30% NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1M diameter)			
1. Festuca perennis	40	Y	FAC
2. Bromus hordeaceus	30	Y	FACU
3. Festuca myuros	10	N	FACU
4. Plantago lanceolata	5	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

140 up

SOIL

Sampling Point: 103 (UP)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Soil dry @ 12" very

146 up

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/12/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 118 U

Investigator(s): S. Creer J. Hasson Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope terrace Local relief (concave, convex, none): C Slope (%): 5

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.132373 Long: 40.434251 Datum:

Soil Map Unit Name: 520 Redwoodhouse-Mailridge-Mountbaldy complex 15-30% NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1 meter radius)			
1. Juncus patens	30	Y	FACW
2. Stachys ajugoides	20	Y	OBL
3. Anthoxanthum odor	10	N	FACU
4. Juncus effusus	5	N	FACW
5. Dactylis glomerata	10	N	FACU
6. Ficus laffatus	5	N	FAC
7. Achillea mill	3	N	FACU
8. Elymus glaucus	2	N	FACU
9.			
10.			
11.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. Rubus ursinus	20		FACU
2.			
	15 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

146 up

SOIL

Sampling Point: 118U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100	-				clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: no redox or other indicator

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region 158 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/11/2018
Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 213(up)
Investigator(s): ALOVELESS, STONA Section, Township, Range:
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 10
Subregion (LRR): A: Northwest Forests and Coast Lat: -124.107201 Long: 40.421935 Datum:
Soil Map Unit Name: 4408 Dolason-Tarhaus-Benkid complex, 5-30% slopes NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks:
Upland
WL 214

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Juncus occidentalis	2	N	FACW
2. Plantago lanceolata	10	Y	FACU
3. Mentha pelegium	10	Y	OBL
4. Bellis perennis	2	N	UPL
5. Equisetum arvense	2	N	FAC
6. Trifolium repens	10	Y	FAC
7. Agrostus pallens	10	Y	FACU
8. Festuca perennis	10	Y	FAC
9. Hypochaeris radicata	5	N	FACU
10.			
11.			
50=28 20=11.2	56	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

158 up

SOIL

Sampling Point: 213

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	7.5YR 3/1	95	10YR 4/6	5	MATRIX	CONC.	gravelly silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): —

Hydric Soil Present? Yes X No ___

Remarks: Prominant redox concentrations

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ~

Water Table Present? Yes ___ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ~

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: 2% oxidized rhizospheres

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region 158 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 07/11/2018
Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 212 (W)
Investigator(s): ALDEVELESS, STONA Section, Township, Range:
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 15
Subregion (LRR): A: Northwest Forests and Coast Lat: -124.107212 Long: 40.421909 Datum:
Soil Map Unit Name: 9408 Dolash-Forhaw-Peaked complex, 5-30% slopes NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks: Wetland seep/spring WL 214

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1 meter)			
1. Mentha pelegium	30	Y	OBL
2. Juncus effusus	15	Y	FACW
3. Holcus lanatus	15	Y	FAC
4. Rubus ursinus	5	N	FACU
5. Equisetum arvense	2	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
50=33.5 20=6.7	67	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Hydrophytic veg 100% dominant

158 wet

SOIL

Sampling Point: 212

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	95	10YR 5/8	5	matrix conc.		grithy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: —

Depth (inches): —

Hydric Soil Present? Yes X No ___

Remarks: Redox is prominant

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): —

Water Table Present? Yes ___ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): —

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: 2% oxidized rhizospheres

159 up

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/16/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 400B (up)

Investigator(s): Taylor & Loveless Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Slope (%): 25

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.099230 Long: 40.420666 Datum:

Soil Map Unit Name: 409 Fachaux-Preacher-Dolason complex, 30-50% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:

WL 400

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 15'x30')			
1. Elymus glaucus	2	N	FACU
2. Brodiaea elegans	1	N	FACU
3. Hypochaeris glabra	1	N	UP
4. Bromus diandrus	3	N	UP
5. Agoseris heterophylla	3	N	FACU
6. Holcus lanatus	5	Y	FAC
7. Pteridium aquilinum var. pubescens	1	N	FACU
8. Rumex acetosella	1	N	FACU
9. Cynosurus echinatus	10	Y	UP
10. Hesperolinon micranthum	1	N	UP
11. Bromus hordeaceus	3	N	FACU
6 20%	30	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	0	x 2 =	
FAC species	5	x 3 =	15
FACU species	11	x 4 =	44
UPL species		x 5 =	
Column Totals:	16 (A)		59 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

159 up

SOIL

Sampling Point: 450 B (up)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	7.5YR 3/2	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

159 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/16/2018

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 400A(W)

Investigator(s): Taylor Loveless Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Slope (%): 25

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.099204 Long: 40.420660 Datum:

Soil Map Unit Name: 4409 Fortuna-Peaked-Dobkoon complex, 30-50% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

(low precip)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks:

WL 400

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15' x 30')			
1. Rubus ursinus	5	Y	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 5' x 30' 20)			
1. Juncus effusus ssp. pacificus	10	Y	FACW
2. Holcus lanatus	29	Y	FAC
3. Hypochaeris glabra	2	N	UP
4. Madia sulcata	2		OBL
5. Nasturtium officinale	1		OBL
6. Rumex acetosella	1		FACU
7. Cyperus eluminatus	1		UP
8. Adoxa pallens	1		FACU
9. Heteranthera micrantha	1		UP
10. Mimulus guttatus	1		OBL
11. Mimulus moschatus	1		OBL
50	50 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

159 wet

SOIL

Sampling Point: 400 n (wet)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					Sandy loam	
6-12	10YR 3/2	98	7.5YR 5/4	2	C	M	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

distinct redox concentrations in the matrix

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)
- X pugging

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 0.25

Water Table Present? Yes X No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

161 wet

WL 402

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/17/2018

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 402 A

Investigator(s): Taylor, Loveless Section, Township, Range: ______

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): ______ Slope (%): 1

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.073141 Long: 40.417432 Datum: ______

Soil Map Unit Name: 514 Redwoodhouse-Yagerpeak-Mailridge complex 50-75% slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___
Hydric Soil Present?	Yes X	No ___
Wetland Hydrology Present?	Yes X	No ___

Is the Sampled Area within a Wetland? Yes X No ___

Remarks: Seep occurring at toe of hillslope, depression only on hillslope, no other indicators; seep runs through culvert below road to small Rubus parviflorus patch w/ Holcus lanatus; Rubus ursinus & Equisetum telmateia

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ___)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: 2' x 30')			
1. Nasturtium officinale	20	Y	OBL
2. Holcus lanatus	1		FAC
3. Mimulus moschatus	1		FACW
4. Bromus carinatus	1		UP
5. Juncus effusus	2		FACW
6. Carex amplifolia	1		OBL
7. ~~Nasturtium officinale~~	~~1~~		~~OBL~~
8. Carex bolanderi	1		FAC
9. Equisetum telmateia	1		FACW
10. Poa palustris	1		FAC
11. Mentha pulegium	1		OBL
20% 6 — 30 = Total Cover			
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
= Total Cover			

% Bare Ground in Herb Stratum 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ___	x 1 = ___
FACW species ___	x 2 = ___
FAC species ___	x 3 = ___
FACU species ___	x 4 = ___
UPL species ___	x 5 = ___
Column Totals: ___ (A)	___ (B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: Diverse hydrophytic vegetation.

161 wet

SOIL

Sampling Point: 4024

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100					organic	
2-6"	10YR 4/1	90	10YR 5/6	10	C	M	rocky, loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 6"

Hydric Soil Present? Yes X No ___

Remarks:

Hydric soil w/ depleted matrix indicator

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 2

Water Table Present? Yes X No ___ Depth (inches): NA

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): NA

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology is present

400

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

161 up

WL 402

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/17/2018

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 402B (up)

Investigator(s): Tayla Loveless Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): NONE - Road Slope (%): 0

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.073127 Long: 40.417432 Datum:

Soil Map Unit Name: Redwoodhouse-Yagor rock-Mailridge complex 50-75% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5' x 30')			
1. Rubus ursinus	3	Y	FACU
2.			
3.			
4.			
5.			
	3 = Total Cover		
Herb Stratum (Plot size: 5' x 30')			
1. Holcus lanatus	3	Y	FAC
2. Hypochaeris glabra	1		UP
3. Bromus hordeaceus	1		FACU
4. Cynosurus echinatus	1		FACU
5. Digitalis purpurea	1		FACU
6. Agoseris pallens	2	Y	UP
7. Stachys rigida var. rigida	1		FACU
8.			
9.			
10.			
11.	10		
20/25	= Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		
% Bare Ground in Herb Stratum 15			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

161 up

SOIL

Sampling Point: 4026

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100	–	–	ROCKY LOAM			

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ROCKY

Depth (inches): 6

Hydric Soil Present? Yes _____ No X

Remarks: UPLAND PT.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: UPLAND PT.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

165 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 07/18/2018

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 4056

Investigator(s): KHENRY, ALOVELESS Section, Township, Range:

Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONCAVE Slope (%): 40

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.064725 Long: 40.407801 Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks: UPLAND PT.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 1 METER)	Absolute % Cover	Dominant Species?	Indicator Status
1. Sequoia sempervirens	2	Y	UPL
2. Quercus chrysolepis	5	Y	UPL
3.			
4.			
50=3.5 20=1.4	7	= Total Cover	

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.		= Total Cover	

Herb Stratum (Plot size: 1 METER)			
1. Iris douglasiana	2	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50=1 20=0.4	2	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 95

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: — (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	—	x 1 =	—
FACW species	—	x 2 =	—
FAC species	—	x 3 =	—
FACU species	—	x 4 =	—
UPL species	9	x 5 =	45
Column Totals:	9 (A)		45 (B)

Prevalence Index = B/A = 5

Hydrophytic Vegetation Indicators:

- — 1 - Rapid Test for Hydrophytic Vegetation
- — 2 - Dominance Test is >50%
- — 3 - Prevalence Index is ≤3.0[1]
- — 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- — 5 - Wetland Non-Vascular Plants[1]
- — Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: NO HYDRIC VEG PRESENT - UPLAND PT.

165 up

SOIL

Sampling Point: 4056

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/3+	100	—	—	-	-	sandy silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: REDWOOD ROOTS / DECAY

Depth (inches): 6

Hydric Soil Present? Yes ____ No X

Remarks:

UPLAND PT. NON-HYDRIC SOILS

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

NO HYDROLOGY INDICATORS - UPLAND PT.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

166 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 07/18/2018

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 405a

Investigator(s): Kilenny, Aloveless Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 20

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.064654 Long: 40.407822 Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes X	No	

Remarks: WETLAND TEST PT.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 1 METER)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pseudosuga menziesii	10	Y	FACU
2. Sequoia sempervirens	5	Y	UPL
3.			
4.			
50 = 7.5 20 = 3	15	= Total Cover	

Sapling/Shrub Stratum (Plot size: 1 METER)			
1. Rubarb Sp.	1	N	OBL
2. Sequoia sempervirens	10	Y	FACW
3.			
4.			
5.			
50 = 5.5 20 = 2.2	11	= Total Cover	

Herb Stratum (Plot size: 1 METER)			
1. ~~Carex sp.~~			
2. Oxalis oregana	10	Y	FACU
3. Equisetum telmateia	1	N	FACW
4. Athyrium filix-femina	30	Y	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50 = 20.5 20 = 8.2	41	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1 =	1
FACW species	11	x 2 =	22
FAC species	30	x 3 =	90
FACU species	20	x 4 =	80
UPL species	5	x 5 =	25
Column Totals:	67 (A)		218 (B)

Prevalence Index = B/A = 3.25

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: VEGETATION NOT AN INDICATOR - UPLAND

166 up

SOIL

Sampling Point: 405a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/4	100	—	—	—	—	sandy silty loam	
6-12	10YR 3/3	80	7.5YR 5/8	20	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: —

Depth (inches): —

Hydric Soil Present? Yes ___ No X

Remarks: INDICATOR FOR HYDRIC SOILS - NOT MET

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No Y Depth (inches): —

Water Table Present? Yes ___ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): —

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: INDICATOR FOR HYDROLOGY IS OXIDIZED RHIZOSPHERES.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

170 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/17/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 301 (w)

Investigator(s): S. Creer, A. Sorci Section, Township, Range:

Landform (hillslope, terrace, etc.): roadcut on hillslope Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.052251 Long: 40.399009 Datum:

Soil Map Unit Name: Canoecreek-Sproulish-Redcrumbly Complex 50-75% slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: WL pods due to roadcut + gravel fill. Most likely would not pond without the road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Herb Stratum (Plot size: entire feature)			
1. Juncus effusus	80	Y	FACW
2. Darmera peltata	10	N	OBL
3. Moss	5	N	—
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

170 wet

SOIL

Sampling Point: 30Kw

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 3/4	85	7.5 YR 5/8	15	C	M	Sandy loam	
3-10	"	95	"	5	C	M	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: gravel (road fill)

Depth (inches): 10"

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1"

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 10"

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

170 up

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/17/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 301 up

Investigator(s): S. Greer A. Sorci Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope road cut Local relief (concave, convex, none): Slope (%): 0

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.052213 Long: 40.399036 Datum:

Soil Map Unit Name: 575 Canoecreek-Spraulish-Redpoint complex 50-75% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: See comments on wetland point = roadside

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m diameter)			
1. Agrostis pallens	25	Y	UPL
2. Hypochaeris radicata	5	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. Rubus ursinus	60	Y	FACU
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

170 up

Sampling Point: 301 U

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-10	10YR 5/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: gravel

Depth (inches): 10+

Hydric Soil Present? Yes _____ No X

Remarks:

no evidence of hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No evidence of hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

174a up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/17/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 300 UP

Investigator(s): S. Greer, A. Socci Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 1-2

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.029817 Long: 40.438400 Datum:

Soil Map Unit Name: 151-Grizzlycreek-Chaddcreek complex, 2-9% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: Heavily disturbed; Scraped, graded, berms created

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1m diameter)			
1. Juncus occidentalis	35	Y	FACW
2. Mentha pulegium	20	Y	OBL
3. Festuca arundinacea	5	N	FAC
4. Phalaris aquatica	5	N	FACU
5. Picris echioides	10	N	UPL
6. Holcus lanatus	30	Y	FAC
7.			
8.			
9.			
10.			
11.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: Hydrophytic veg present

174a up

SOIL

Sampling Point: 300 v

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/3	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: No redox or other evidence of hydric soils

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no WL hydro indicators

174 wet

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/2/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 704W

Investigator(s): S. Creer, Leticia Murrieta Section, Township, Range:

Landform (hillslope, terrace, etc.): base of hillslope Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.030097 Long: 40.437987 Datum:

Soil Map Unit Name: Grizzly creek-Chadd creek complex 2-9% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Herb Stratum (Plot size: ____)			
1. Equisetum telmateia	55	Y	FACW
2. Juncus lamatus	20	Y	FAC
3. Phalaris aquatica	12	N	FACU
4. Cirsium arvense	5	N	FAC
5. Leucanthemum vulgare	t	N	FACU
6. Bipsacus fullonum	5	N	FAC
7. Juncus patens	10	N	FACW
8.			
9.			
10.			
11.			
	102 = Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

174 wet

Sampling Point: 704 W

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	95	7.5YR 5/8	5	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: rocks

Depth (inches): @10"

Hydric Soil Present? Yes X No ___

Remarks: hydric soil ✓ present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Where steep slope ~~[illegible]~~ meets flat, wetness at meeting point (water visible)

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

174 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/2/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 704 U

Investigator(s): S. Creer. L. Morris Section, Township, Range:

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Slope (%): 2

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.030114 Long: 40.438008 Datum:

Soil Map Unit Name: Grizzlycreek-Chadsdorf Complex 2-9% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Herb Stratum (Plot size: 1m radius)			
1. Leucanthemum vul	30	Y	FACU
2. Phalaris aquatica	25	Y	FACU
3. Holcus lanatus	12		FAC
4. Rubus ursinus	2		FACU
5. Equisetum telma	t		FACW
6.			
7.			
8.			
9.			
10.			
11.			
	69 = Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

174 up

Sampling Point: 704 u

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

180 wet

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/2/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 703 (wet)

Investigator(s): S. Greer, L. Morris Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 2

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.033574 Long: 40.438981 Datum:

Soil Map Unit Name: Grizzlycreek-Chadbreak complex, 2-9 % NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ____	Is the Sampled Area within a Wetland? Yes ____ No ____
Hydric Soil Present?	Yes ____	No ____	
Wetland Hydrology Present?	Yes ____	No ____	

Remarks: Riparian wetland along access/staging with minimal herbaceus layer; abrupt Δ in veg from adjacent uplands; topo → drainage pattern supports veg.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Alnus rubra	20	Y	FAC
2. Acer macrophyllum	15	Y	FACU
3. Umbellularia californica	5	N	FAC
4.			
	40	= Total Cover	

Sapling/Shrub Stratum (Plot size: ____)			
1. Salix sitchensis	60	Y	FACW
2. Baccharis pilularis	15	Y	UPL
3.			
4.			
5.			
	75	= Total Cover	

Herb Stratum (Plot size: 1 m radius)			
1. Urtica dioica	12	Y	FAC
2. Polystichum munitum	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	17	= Total Cover	

Woody Vine Stratum (Plot size: ____)			
1. Toxicodendron diversilobum	40	Y	FAC
2.			
	40	= Total Cover	

% Bare Ground in Herb Stratum 80

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: minimal herbaceus layer; poison oak throughout (vine)

180 wet

SOIL

Sampling Point: 703(w)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: No pit dug; feature inaccessible due to dense poison oak

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: forested riparian area situated on toe of slope from drainage to N.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

180 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/2/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 703 (up)

Investigator(s): S. Greer, L. Morris Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.033504 Long: 40.438859 Datum: _____

Soil Map Unit Name: Grizzlycreek-Chaddcreek complex 2-9% NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	Is the Sampled Area within a Wetland? Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes X	No _____	

Remarks: upland sample area

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 1 meter radius)			
1. Rubus ursinus	6	Y	FACU
2.			
3.			
4.			
5.			
	6 = Total Cover		
Herb Stratum (Plot size: 1 meter) radius			
1. Briza maxima	40	Y	UPL
2. Navarretia squarrosa	15	Y	FACU
3. Zeltnera muehlenbergii	5	N	FACW
4. Juncus bufonius	5	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	60 = Total Cover		
Woody Vine Stratum (Plot size: 1 meter radius)			
1. Toxicodendron diversilobum	10	N	FAC
2.			
	10 = Total Cover		

% Bare Ground in Herb Stratum 50

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

180 up

SOIL

Sampling Point: 703(up)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/6	100						no redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: rock/gravel

Depth (inches): 6 inches

Hydric Soil Present? Yes _____ No X

Remarks: engineered fill, rocky

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: superficial surface soil cracks in scraped area

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

183 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 07/19/2018

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 4056

Investigator(s): KHenry, AMOVELESS Section, Township, Range:

Landform (hillslope, terrace, etc.): ~~Hillslope~~ None Local relief (concave, convex, none): ~~concave~~ none Slope (%): 0

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.104262 Long: 40.453896 Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks: roadside ~~drain~~ wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1. Rubus ursinus	5	Y	FAC
2.			
3.			
4.			
5.			
50=2.5 20=1	5	= Total Cover	

Herb Stratum (Plot size:)			
1. Plantago lanceolata	5	N	FACU
2. Cynoseris echinatus	10	Y	UPL
3. Dira praecox	10	Y	UPL
4. Holcus lanatus	5	N	FAC
5. Mentha pulegium	2	N	OBL
6.			
7.			
8.			
9.			
10.			
11.			
50=16 20=6.4	32	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.3 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species	–	x 2 =	–
FAC species	10	x 3 =	30
FACU species	5	x 4 =	20
UPL species	20	x 5 =	100
Column Totals:	37 (A)		152 (B)

Prevalence Index = B/A = 4.1

Hydrophytic Vegetation Indicators:

- – 1 - Rapid Test for Hydrophytic Vegetation
- – 2 - Dominance Test is >50%
- – 3 - Prevalence Index is ≤3.0[1]
- – 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- – 5 - Wetland Non-Vascular Plants[1]
- – Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

183 up

SOIL

Sampling Point: L1056

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	7.5YR 2.5/1+	100	—	—	—	—	gravelly loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Road base

Depth (inches): 6

Hydric Soil Present? Yes ____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): —

Water Table Present? Yes ____ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): —

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

183 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 07/19/2018

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 405a

Investigator(s): KHENRY, ALOVELESS Section, Township, Range:

Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.104238 Long: 40.453888 Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes	No	**Is the Sampled Area within a Wetland?** Yes X No
Wetland Hydrology Present?	Yes	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1. Rubus ursinus	10	Y	FACU
2.			
3.			
4.			
5.			
50: 5 20: 2	10	= Total Cover	

Herb Stratum (Plot size:)			
1. Holcus lanatus	10	N	FAC
2. Aira praecox	10	N	UPL
3. Mentha pulegium	30	Y	OBL
4. Cynosurus echinatus	2	N	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50: 26 20: 10.4	62	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	—	x 2 =	—
FAC species	10	x 3 =	30
FACU species	10	x 4 =	40
UPL species	2	x 5 =	10
Column Totals:	52 (A)		110 (B)

Prevalence Index = B/A = 2.11

Hydrophytic Vegetation Indicators:

- — 1 - Rapid Test for Hydrophytic Vegetation
- — 2 - Dominance Test is >50%
- ✓ 3 - Prevalence Index is ≤3.0[1]
- — 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- — 5 - Wetland Non-Vascular Plants[1]
- — Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

183 wet

SOIL

Sampling Point: 405a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 2.5/1	95	7.5YR 4+/6	5	C	M	gravelly clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock/Roadbase

Depth (inches): 16

Hydric Soil Present? Yes ___ No ___

Remarks:

Prominent redox concentrations in matrix

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)
- X Pugging

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): –

Water Table Present? Yes ___ No X Depth (inches): –

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): –

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Pugging, geomorphic position. 5% oxidized rhizospheres.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

185 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/19/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 302 (up)

Investigator(s): S. Greer A Sorel Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 10%

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.105802 Long: 40.460008 Datum:

Soil Map Unit Name: Dolason-Formax-Peaked Complex, 5-30% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1M-Diameter)			
1. Plantago lanceolata	20	X	FACU
2. Cynosurus echinatus	15		NRL
3. Festuca perennis	10		FAC
4. Bromus hordeaceous	5		FACU
5. Linum bini	5		UPL
6. Medicago polymorpha	20	X	FACU
7. Hordeum Murinum	5		FAC
8.			
9.			
10.			
11.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

185 up

Sampling Point: 302 (up)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 3/1	100					Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

185 wet

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/14/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 302 w

Investigator(s): S. Creer, A Sorci Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Concave Slope (%): 10%

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.105802 Long: 40.460008 Datum:

Soil Map Unit Name: Dobason-Forbaux-Peaked Complex, 5-30% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: Weak hydrology; other 2 indicators are strong

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m diam plot)			
1. Juncus patens	40	Y	FACW
2. Mentha pul	20	Y	OBL
3. Hylocus lanatus	5	N	FAC
4. Cynosurus cristatus	5		FACU
5. Zauschneria venusta	10		UPL
6. Cynosurus echinatus	5		NL
7. Pseudotsuga micrata	2		FAC
8. Festuca perennis	2		FAC
9.			
10.			
11.			
	89 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		
% Bare Ground in Herb Stratum 5			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

185 wet

SOIL

Sampling Point: 302 W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	97	7.5YR 7/8	3			silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Pugging, marginal hydrology present

193 up

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/1/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 702 (up)

Investigator(s): S. Creer, L. Morris Section, Township, Range:

Landform (hillslope, terrace, etc.): road cut Local relief (concave, convex, none): none Slope (%): 4%

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.058148 Long: 40.472916 Datum:

Soil Map Unit Name: 382: Scotramp-Redcrest complex 15-30% slopes / 386: Scotramp-Rockcreek-Redcrest complex 50-75% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1 m. radius)			
1. Gaultheria ovatifolia	2	N	FAC
2. Prunella vulgaris	40	Y	FACU
3. Holcus lanatus	15	Y	FAC
4. Agrostis exarata	5	N	FACW
5. Lotus tenuis	t	N	FACU
6. Hypochaeris radicata	15	Y	FACU
7. Dactylis glomerata	11	N	FACU
8.			
9.			
10.			
11.			
	88 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 25

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

193 up

SOIL

Sampling Point: 702 (up)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	95	10YR 5/8	5	C	M	silty	clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

193 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/1/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 702 (wet)

Investigator(s): L. Morris, Screen Section, Township, Range:

Landform (hillslope, terrace, etc.): road cut Local relief (concave, convex, none): Slope (%): 3%

Subregion (LRR): A: Northwest Forests and Coast Lat: -124.058132 Long: 40.472936 Datum:

Soil Map Unit Name: 366: Stoutramp-Rostreet-Redrock complex 50-75% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks: old logging road, ponds water adjacent to waterbar

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 1m radius)			
1. Rubus ursinus	trace	FACU	
2.			
3.			
4.			
5.			
	trace = Total Cover		
Herb Stratum (Plot size: 1 m radius)			
1. Juncus patens	20	Y	FACW
2. Juncus occidentalis	50	Y	FACW
3. Prunella vulgaris	13	N	FACU
4. Holcus lanatus	5	N	FAC
5. Agrostis exarata	5	N	FACW
6. Iris douglasiana	5	N	UPL
7.			
8.			
9.			
10.			
11.			
	98 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

193 wet

SOIL

Sampling Point: 702 (wet)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	95	5YR 5/8	5	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Soil damp

198 wet

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7-31-18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 601 (W)

Investigator(s): G. Youngblood Section, Township, Range:

Landform (hillslope, terrace, etc.): Road cut across hillslope Local relief (concave, convex, none): none Slope (%): 5

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.995617 Long: 40.471195 Datum:

Soil Map Unit Name: Stoutcamp-Redcrest complex, 15-30% slopes (362) NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: Seep Spring wetland along road cut

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 4x10)			
1. Alnus rubra	50	Y	FAC
2.			
3.			
4.			
5.			
	50 = Total Cover		
Herb Stratum (Plot size: 4x4)			
1. Equisetum arvense	20	Y	FAC
2. Juncus tenuis	15	Y	FAC
3. Prunella vulgaris	4	N	FACU
4. Mentha pulegium	5	N	OBL
5. Holcus lanatus	3	N	FAC
6. Veronica americana	3	N	OBL
7.			
8.			
9.			
10.			
11.			
20 10	50 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		
% Bare Ground in Herb Stratum ____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

198 wet

SOIL

Sampling Point: 601 (W)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	5gy2 5/10y	70	7.5YR 4/6	15	C	PL/M	clay	
	5gy 1 5/5g	15						
6-12	5gy 6/5gy	60	7.5YR 5/8	40	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ✓ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 8

Wetland Hydrology Present? Yes Y No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

198 up

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7-31-18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 601 (up)

Investigator(s): G. Youngblood & S. Tona Section, Township, Range:

Landform (hillslope, terrace, etc.): Road across slope Local relief (concave, convex, none): Slope (%): 3

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.995632 Long: 40.471208 Datum:

Soil Map Unit Name: Scoutcamp-Redcrest Complex, 15-30% slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No ✓	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No ✓	
Wetland Hydrology Present?	Yes	No ✓	

Remarks: Upland pair

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 10 x 10)			
1. Rubus ursinus	5	Y	FACU
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 5x5)			
1. Lotus corniculatus	20	Y	FAC
2. Achillea americana	3		FACU
3. Prunella vulgaris	2		FACU
4. Holcus lanatus	2		FAC
5. Mentha pelegulum	1		OBL
6. Equisetum arvense	1		FAC
7. Hypochaeris radicata	1		FACU
8.			
9.			
10.			
11.			
	30 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1 =	1
FACW species	0	x 2 =	0
FAC species	23	x 3 =	69
FACU species	11	x 4 =	44
UPL species	0	x 5 =	0
Column Totals:	35 (A)		114 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

198 up

SOIL

Sampling Point: 601 (UP)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	Gley1 6/5gy	50	7.5YR 5/8	50	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): —

Hydric Soil Present? Yes ____ No X

Remarks: No indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): —

Water Table Present? Yes ____ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): —

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No indicators

200 wet

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/30/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 600 (W)

Investigator(s): S. Tona ; G. Youngblood Section, Township, Range:

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.947773 Long: 40.457924 Datum:

Soil Map Unit Name: 384 - Scoutcamp - Rootcreek - Redcrest complex, 30-50% NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: 2 meter radius)			
1. Salix hookeriana	10	Y	FACW
2. Rubus ursinus	20	Y	FACU
3. Baccharis pilularis	5		FACU
4.			
5.			
50 = 17.5 20 = 7	35	= Total Cover	

Herb Stratum (Plot size: 1m radius)			
1. Equisetum arvense	15	Y	FAC
2. Holcus lanatus	5		FAC
3. Lotus corniculatus	3		FAC
4. Scirpus microcarpus	7	Y	OBL
5. Mentha pulegium	5		OBL
6.			
7.			
8.			
9.			
10.			
11.			
50 = 17.5 20 = 7.0	35	= Total Cover	

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

200 wet

SOIL

Sampling Point: 600 (wet)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-3	7.5YR 5/1	80	7.5YR 4/6	20	C	PL	Clay loam	
3-12	Gley1 6/10Y	60	7.5YR 5/8	40	C	M, PL	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- X Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): —

Hydric Soil Present? Yes X No ___

Remarks: Clay gleyed matrix present starting w/in 12 inch of the soil surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): —

Water Table Present? Yes ___ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): —

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: 10% oxidized rhizospheres present along living roots.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

200 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/30/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 600

Investigator(s): S.Tona, G. Youngblood Section, Township, Range:

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.947787 Long: 40.457918 Datum:

Soil Map Unit Name: 384 - Scoutcamp Rootcreek-Redcrest complex, 30-50% NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks: Sampling point documents the upland pair point for a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 2 m radius)			
1. Rubus ursinus	30	Y	FACU
2. Baccharis pilularis	5	N	UPL
3. Vaccinium parvifolium	15	Y	FACU
4.			
5.			
50: 25 20: 10	50	= Total Cover	

Herb Stratum (Plot size: 1 m radius)			
1. Galium aparine	2		FACU
2. Holcus lanatus	5		FAC
3. Equisetum arvense	15	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50: 11 20: 4.4	22	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	0	x 2 =	
FAC species	17	x 3 =	51
FACU species	47	x 4 =	188
UPL species	5	x 5 =	25
Column Totals:	69 (A)		274 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

N 1 - Rapid Test for Hydrophytic Vegetation

N 2 - Dominance Test is >50%

N 3 - Prevalence Index is ≤3.0[1]

N 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

N 5 - Wetland Non-Vascular Plants[1]

N Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

200 up

SOIL

Sampling Point: 600 (up)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/2	100					Clay loam	
6-16	10YR 5/2	60	10YR 5/8	40	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: —

Depth (inches): —

Hydric Soil Present? Yes ___ No N

Remarks: no hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): —

Water Table Present? Yes ___ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): —

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no wetland hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

202 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/25/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 502 (up)

Investigator(s): J. Hulson, S. Crear Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 5

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.877413 Long: 40.440763 Datum:

Soil Map Unit Name: Redwoodhouse-Yagercreek-Mailridge complex 15-30% Slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Sequoia sempervirens	25	Y	UPL
2.			
3.			
4.			
	25	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1. Ceanothus integerrimus	5	Y	UPL
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: ____)			
1. Holcus lanatus	20	Y	FAC
2. Achnispon americanus	20	Y	FACW
3. Madia elegans	15	Y	UPL
4. Upland carex sp.	3	N	
5. Aira caryophyllea	10	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	68	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 32

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

202 up

SOIL

Sampling Point: SO2(up)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 4/2	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

202 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 7/25/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: SD2 (wet)

Investigator(s): S.Creer, J. Hulson Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 0-2

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.877378 Long: 40.440753 Datum:

Soil Map Unit Name: Redwoodhouse-Yagercreek-Mailiard Complex 15-30% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: adjacent to road cut

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1 meter diam)			
1. Juncus effusus	35	Y	FACW
2. Parentucellia viscosa	10	N	FAC
3. Juncus balanderi	15	Y	OBL
4. Hdrus lanatus	10	N	FAC
5. Mentha pulegium	5	N	OBL
6. Achnisperon americanus	10	N	FACU
7. Juncus patens	5	N	FACW
8.			
9.			
10.			
11.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 15

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

202 wet

SOIL

Sampling Point: 502(w)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-2	10YR 4/3	95	5YR 5/8	5	C	M	loam	
2-4	10YR 4/4	95	↓	5	↓	↓	loam	
4-10	7.5YR 3/1	97	↓	3	↓	↓	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

211 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/1/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 602 (up)

Investigator(s): S. Tona ; G. Youngblood Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.804465 Long: 40.461388 Datum:

Soil Map Unit Name: no data NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks: Sampling point documents the upland pair point for a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 3m radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 2m radius)			
1. Rubus armeniacus	20	Y	FAC
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 1m radius)			
1. Phalaris aquatica	40	Y	FACU
2. Dactylis glomerata	10		FACU
3. Mentha pulgeum	5		OBL
4. Torilis arvensis	5		UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50: 30 20: 12	60 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 40

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	
FAC species	20	x 3 =	60
FACU species	50	x 4 =	200
UPL species	5	x 5 =	25
Column Totals:	80 (A)		290 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

N 1 - Rapid Test for Hydrophytic Vegetation

N 2 - Dominance Test is >50%

N 3 - Prevalence Index is ≤3.0[1]

N 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

N 5 - Wetland Non-Vascular Plants[1]

N Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

211 up

SOIL

Sampling Point: 602

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

211 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/1/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 602(w)

Investigator(s): S. Toma; G. Youngblood Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.804478 Long: 40.461374 Datum:

Soil Map Unit Name: no data NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks: Sampling point documents a seasonal wetland. Hydrology is sourced by an ephemeral stream.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 3m. radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus fremontii	25	Y	FAC
2.			
3.			
4.			
	25 = Total Cover		
Sapling/Shrub Stratum (Plot size: 2m radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1 m. radius)			
1. Juncus tenuis	15	Y	FACW
2. Alopecurus saccatus	20	Y	FACW
3. Mentha pulgeum	10	Y	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50 = 22.5 20 = 9.0	45 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 55

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

N 1 - Rapid Test for Hydrophytic Vegetation

Y 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

5 - Wetland Non-Vascular Plants[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Hydrophytic vegetation is present.

211 wet

SOIL

Sampling Point: 602

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	100					Loam	
6-16	10YR 3/1	94	7.5YR 3/3	6	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks: Distinct redox concentrations are located w/in the first 12 inches of soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- X Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): —

Water Table Present? Yes ___ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): —

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sediment deposits on fallen logs and surface soil cracks indicate ponding.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

224 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/2/16

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 603 (W)

Investigator(s): Sarah Tora ; G. Youngblood Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.804276 Long: 40.460973 Datum:

Soil Map Unit Name: no data NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks: Sampling point associated with feature #611 - wetland swale

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 1m radius)			
1. Juncus balticus	40	Y	FACW
2. Holcus lanatus	10		FAC
3. Mentha pulegium	15	Y	OBL
4. Cynosurus cristatus	3		FACU
5. Lotus corniculatus	2		FAC
6.			
7.			
8.			
9.			
10.			
11.			
50=35 20=14	70	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

N 1 - Rapid Test for Hydrophytic Vegetation

Y 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

224 wet

Sampling Point: 603(w)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/1	98	10YR 5/8	2	C	M	clay loam	
5-12	10YR 3/1	80	10YR 5/8	20	C, PL	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: none

Depth (inches): —

Hydric Soil Present? Yes X No ___

Remarks: Prominent redox concentrations are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): —

Water Table Present? Yes ___ No X Depth (inches): —

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): —

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region 224 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/2/18
Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 603 (up)
Investigator(s): S. Tona ; G. Youngblood Section, Township, Range:
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5
Subregion (LRR): A: Northwest Forests and Coast Lat: -123.804257 Long: 40.460975 Datum:
Soil Map Unit Name: no data NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: Sampling point documents the upland pair point.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Herb Stratum (Plot size: 1m. radius)			
1. Cynosurus cristatus	5		FACU
2. Plantago lanceolata	10	Y	FACU
3. Linum bienne	5		UPL
4. Lotus corniculatus	2		FAC
5. Cynosurus echinatus	5		UPL
6. Bromus hordeaceus	10	Y	FACU
7. Cynodon dactylon	20	Y	FACU
8. Aira caryophyllea	3		FACU
9.			
10.			
11.			
50 : 30 20 : 12	60 = Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
% Bare Ground in Herb Stratum ____	____ = Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
N 1 - Rapid Test for Hydrophytic Vegetation
N 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

224 up

Sampling Point: 603

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 3/1	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: No hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

229 wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/2/16

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 604

Investigator(s): S Tona ; Gabe Youngblood Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 6

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.803703 Long: 40.459280 Datum:

Soil Map Unit Name: No data NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks: Feature # 614, seep spring wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 3m. radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Alnus rubra	30	Y	FAC
2.			
3.			
4.			
	30	= Total Cover	

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____	= Total Cover	

Herb Stratum (Plot size: 2 m. radius)			
1. Athyrium felix-femina	30	Y	FAC
2. Equisetum arvense	15	Y	FAC
3. Carex hendersonii	10		FAC
4. Asarum caudatum	3		FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50: 29 20: 11.6	58	= Total Cover	

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

N 1 - Rapid Test for Hydrophytic Vegetation

Y 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

229 wet

Sampling Point: 604

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 5/2	80	10YR 5/6	20	C	M, PL	clay loam	
7-16	GLEY1 3/N	85	7.5YR 5/8	15	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- X Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): —

Hydric Soil Present? Yes X No ___

Remarks: Gleyed matrix soil indicator is present, starting w/ in 12 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

229 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/2/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 604 (up)

Investigator(s): S. Tona ; G. Youngblood Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 6

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.803704 Long: 40.459274 Datum:

Soil Map Unit Name: No data NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes X	No	

Remarks: Sample point documents the upland pair point

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 3m radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Alnus rubra	25	Y	FAC
2.			
3.			
4.			
	25	= Total Cover	
Sapling/Shrub Stratum (Plot size: 2m radius)			
1. Corylus cornuta	10	Y	FACU
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 2m radius)			
1. Polystichum munitum	10	Y	FACU
2. Equisetum arvense	15	Y	FAC
3. Asarum caudatum	5		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50:15 20:6	30	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 85

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	0	x 2 =	
FAC species	40	x 3 =	120
FACU species	25	x 4 =	100
UPL species		x 5 =	
Column Totals:	65 (A)		220 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

- N 1 - Rapid Test for Hydrophytic Vegetation
- N 2 - Dominance Test is >50%
- N 3 - Prevalence Index is ≤3.0[1]
- N 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- N 5 - Wetland Non-Vascular Plants[1]
- N Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

229 up

Sampling Point: 604(up)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 3/2	97	10YR 4/6	3	C	M	clay loam	
13-16	10YR 4/2	90	10YR 4/6	10	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: No hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 8 inches

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Saturation is present w/ in 12 inches.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

239 up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/18/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 903 (up)

Investigator(s): S. Greer, L. Morris Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 3

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.795141 Long: 40.452637 Datum: _____

Soil Map Unit Name: Yorknorth-Withenell complex (5-30% Slope) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks: Sample is in a backfilled hole with a guy wire anchor for a utility pole. Backfill has settled, creating a depression.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Mentha pulegium	10	N	OBL
2. Holcus lanatus	10	N	FAC
3. Hordeum marinum	10	N	FAC
4. Festuca perennis	10	N	FAC
5. Cyperus eragrostis	trace	N	FACW
6. Agrostis exarata	5	N	FACW
7. Juncus patens	5	N	FACW
8. Cynosurus echinatus	15	Y	UPL
9. Phalaris aquatica	15	Y	FACU
10. Bromus hordeaceus	20	Y	FACU
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

239 up

Sampling Point: 903 (up)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/1	98	10YR 3/6	2	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

242a wet

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/6/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 90 W

Investigator(s): S. Greer, L. Morris Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%): 10%

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.791270 Long: 40.453091 Datum:

Soil Map Unit Name: none NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: heavily trampled/grazed by cattle

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1 meter radius)			
1. Mentha pulegium	5	N	OBL
2. Holcus lanatus	5	N	FAC
3. Festuca perennis	5	N	FAC
4. Cyperus eragrostis	28	Y	FACW
5. Cotula coronopifolia	5	N	FACW
6. Juncus patens	10	N	FACW
7. Ranunculus muricatus	20	Y	FACW
8.			
9.			
10.			
11.			
	73 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 45

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

242a wet

Sampling Point: 401 W

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	94	10YR 5/8	6	C	M	Silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: pugging; standing water further downslope approx 10ft away

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

242a up

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/6/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 90 U

Investigator(s): S. Crewe, L. Morris Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): ~2

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.791324 Long: 40.453107 Datum:

Soil Map Unit Name: none NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m radius)			
1. Mentha pulegium	4		OBL
2. Holcus lanatus	15	Y	FAC
3. Dactylis glomerata	t		FACU
4. Lotus corniculatus	t		FAC
5. Cynosurus echinatus	25	Y	NC
6. Avena sp	5		NVL
7. Agrostis pallens	t		UPL
8. Hypochaeris radicata	10		FACU
9. Bromus hordeaceus	15	Y	FACU
10.			
11.	74	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

242a up

Sampling Point: 901U

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 3/1	100					sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: rocky

Depth (inches): 6

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

244 wet

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/8/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 910W

Investigator(s): Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 10

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.781710 Long: 40.453151 Datum:

Soil Map Unit Name: Yorknorth-Witherell Complex 15-30% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m radius)			
1. Juncus patens	50	X	FACW
2. Mentha pulegium	20	X	OBL
3. Agrostis exarata	10		FACW
4. Cynosurus echinatus	5		UPL
5. Cynosurus cristatus	5		FACU
6. Festuca perennis	10		FAC
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

244 wet

SOIL

Sampling Point: 910W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 3/2		10YR 5/8	10	C	M	sandy clay loam	
			10YR 4/4	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

minor pugging

244 up

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 8/8/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 910 upland

Investigator(s): JH, SC Section, Township, Range: 1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 10

Subregion (LRR): A: Northwest Forests and Coast Lat: -123.781686 Long: 40.453143 Datum:

Soil Map Unit Name: Yorknorth-Witherell Complex 15-30% Slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: Ø)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = Total Cover		

Sapling/Shrub Stratum (Plot size: Ø)			
1.			
2.			
3.			
4.			
5.			
	Ø = Total Cover		

Herb Stratum (Plot size: 1m diameter)			
1. A. fatua	35		UPL
2. B. hordeaceous	25		FACU
3. Linum bienne	10		
4. F. lanceolata	5		
5. P. aquilinum	5		
6. E. medusae → caput	20		
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: Ø)			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:

244 up

SOIL

Sampling Point: 9 10 upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10 YR 3/2	100					sc loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 10/3/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 301

Investigator(s): S. Crear, J. Holson Section, Township, Range: S2, T02N, R01W

Landform (hillslope, terrace, etc.): roadside median Local relief (concave, convex, none): _____ Slope (%): 2

Subregion (LRR): A: Northwest Forests and Coast Lat: 40.590362 Long: -124.157051 Datum: _____

Soil Map Unit Name: 1010: Urban land-Friendly city assoc., 0-2% NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No X	Is the Sampled Area within a Wetland? Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks: not a wetland; no criteria met

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 1M radius)			
1. Festuca arundinacea	55	Y	UPL
2. Holcus lanatus	3	N	NL
3. Bromus catharticus	1	N	NL
4. Avena fatua	3	N	NL
5. Foeniculum vulgare	5	N	NL
6. Equisetum arvense	15	N	FAC
7.			
8.			
9.			
10.			
11.			
	82 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Rubus armeniacus	25	Y	FAC
2. Rubus parviflorus	1	N	FACU
	26 = Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	1	x 4 =	4
UPL species	67	x 5 =	335
Column Totals:	108 (A)		459 (B)

Prevalence Index = B/A = 4.25

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ 5 - Wetland Non-Vascular Plants[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

50% of 41
20% = 16.6

SOIL

Sampling Point: 301

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 4/2	100						
2-14	10YR 4/1	99	5YR 4/6	1	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: Small amount 1% redox, not enough to indicate hydric soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 10/3/18

Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 304

Investigator(s): S. Creer, J. Holson Section, Township, Range: S17, T03N, R01W

Landform (hillslope, terrace, etc.): fill Local relief (concave, convex, none): _____ Slope (%): 3

Subregion (LRR): A: Northwest Forests and Coast Lat: 40.642225 Long: -124.209596 Datum: _____

Soil Map Unit Name: 230: Ilook ton-Tablebluff complex, 2-9% NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	Is the Sampled Area within a Wetland? Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks: ~~DA~~ bounded by onramp + hwy 101 all fill

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 1m rad)			
1. Baccharis pil	10	Y	NL
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 1m radius)			
1. Plantago lanceolata	2	N	FACU
2. Leucanthemum vulgare	15	Y	FACU
3. Anthoxanthum odoratum	10	Y	FACU
4. Bromus diandrus	15	Y	NL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	42 = Total Cover		
Woody Vine Stratum (Plot size: 1m radius)			
1. Rubus armeniacus	60	FAC	Y
2.	60		
	_____ = Total Cover		

% Bare Ground in Herb Stratum 65

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	27	x 4 =	108
UPL species	25	x 5 =	125
Column Totals:	112 (A)		538 (B)

Prevalence Index = B/A = 4.8

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

50% = 22

>22.8

SOIL

Sampling Point: 304

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 7/2	95					Clay	FILL
	10YR 4/4	95						
	10YR 5/8	16						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: Problematic = fill: red parent material / sharp edges in redox

Not native soils

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 10/3/15
Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 312a (W)
Investigator(s): S. Creer, J. Holson Section, Township, Range: S5, T03N, R01W
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none Slope (%):
Subregion (LRR): A: Northwest Forests and Coast Lat: 40.671537 Long: -124.202872 Datum:
Soil Map Unit Name: 110: Wcott, 0-2% slopes NWI classification: PEMIC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)
Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks: Associated with WL 306

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 1m radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Alnus rhombifolia	10	Y	FACW
2. Pseudotsuga menziesii	1	N	FACU
3.			
4.			
	11	= Total Cover	
Sapling/Shrub Stratum (Plot size: 1m radius)			
1. Lonicera involucrata	40	Y	FAC
2. Baccharis pilularis	3	N	NL
3. Rosa nutkana	5	N	FAC
4.			
5.			
	48	= Total Cover	
Herb Stratum (Plot size: 1m radius)			
1. Equisetum arvense	20	Y	FAC
2. Nasturtium officinale	10	Y	OBL
3. Zantedeschia aethiopica	5	N	OBL
4. Symphyotrichum sp.	5	N	
5. Anthoxanthum odoratum	3	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	43	= Total Cover	
Woody Vine Stratum (Plot size: 1m radius)			
1. Rubus ursinus	40	Y	FACU
2. Rubus armeniacus	1	N	FAC
	41	= Total Cover	

% Bare Ground in Herb Stratum 60

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: 3129

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/4	94	5YR 5/8	5	C	M	day loam	
6-14	10YR 4/4	100	many concentrations	10				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Humboldt Wind Energy Project City/County: Humboldt Sampling Date: 10/3/19
Applicant/Owner: Humboldt Wind, LLC State: CA Sampling Point: 312b (UP)
Investigator(s): S. Creer, J. Holson Section, Township, Range: S5, T03N, R01W
Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): none Slope (%): 3
Subregion (LRR): A: Northwest Forests and Coast Lat: 40.677536 Long: -124.202763 Datum:
Soil Map Unit Name: 110: Wyott, 0-2% slopes NWI classification: PEMIC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)
Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: Associated with WL 306

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 0)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m radius)			
1. Festuca arundinacea	20	Y	UPL
2. Helminthotheca echioides	2	N	FAC
3. Achillea millefolium	1	N	FACU
4. Cirsium vulgare	1	N	FACU
5. Anthoxanthum odoratum	5	N	FACU
6. Hypochaeris radicata	1	N	FACU
7. Festuca perennis	2	N	FAC
8. Bromus hordeaceus	3	N	FACU
9. Lotus corniculatus	2	N	FAC
10. Mentha pulegium	3	N	OBL
11.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: 0)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 60

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	0	x 2 =	0
FAC species	6	x 3 =	18
FACU species	11	x 4 =	44
UPL species	20	x 5 =	100
Column Totals:	40 (A)		165 (B)

Prevalence Index = B/A = 4.1

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: 312b (up)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 3/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): @ 6 inches

Hydric Soil Present? Yes _____ No X

Remarks: restrictive layer, gravel/fill

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix C PHOTO LOG

Photo 1. Wetland (W-) 100

Photo 2. W-101

Photo 3. Sample Point (SP-) 101 upland (u)

Photo 4. SP-101 wetland (w)

Photo 5. W-102

Photo 6. W-103

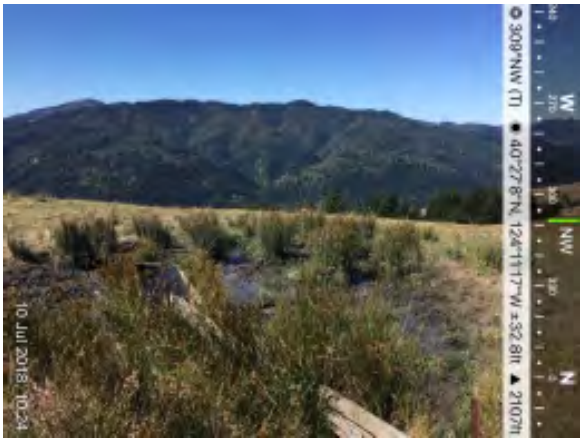

Photo 7. W-104

Photo 8. W-105

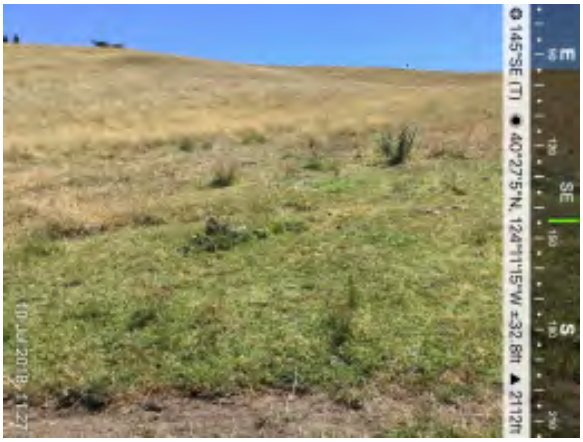

Photo 9. W-106

Photo 10. SP-106w

Photo 11. W-107

Photo 12. SP-108u

Photo 13. W-109

Photo 14. SP-109w

Photo 15. W-110

Photo 16. W-111

Photo 17. W-112

Photo 18. W-113

Photo 19. SP-113w

Photo 20. W-115

Photo 21. W-116

Photo 22. W-118

Photo 23. SP-118u

Photo 24. W-119

Appendix C Photo Log

Photo 25. W-120

Photo 26. W-122

Photo 27. W-122

Photo 28. W-124

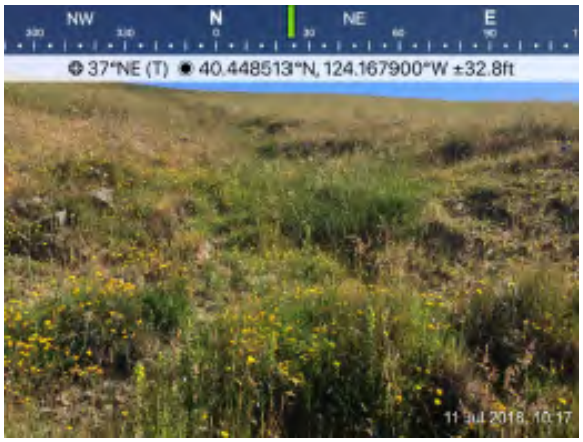

Photo 29. W-126

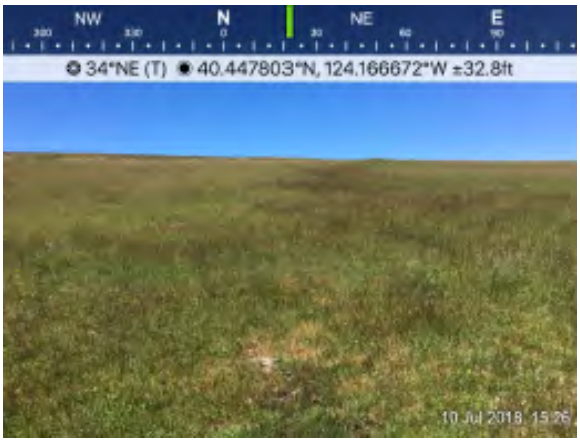

Photo 30. W-128

Photo 31. W-129

Photo 32. W-130

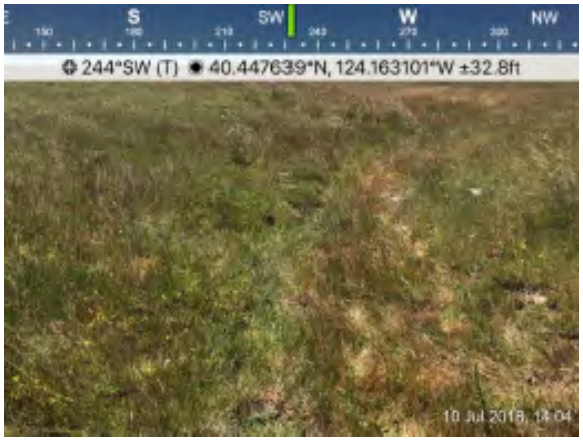

Photo 33. W-131

Photo 34. W-135

Photo 35. W-136

Photo 36. W-138

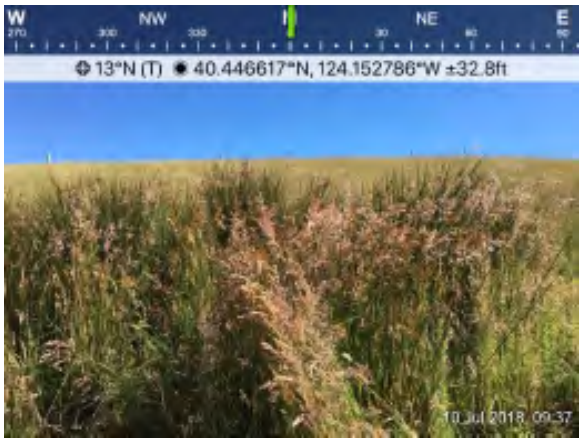

Photo 37. W-139

Photo 38. SP-139u

Photo 39. SP-139w

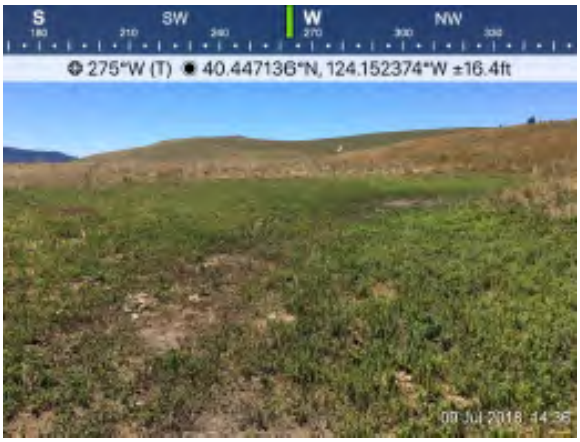

Photo 40. W-140

Photo 41. SP-140u

Photo 42. SP-140w

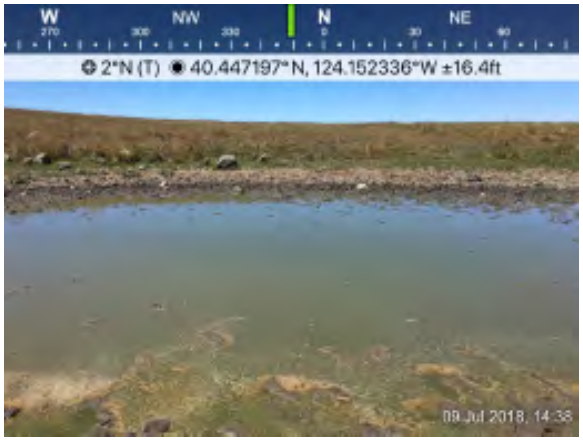

Photo 43. W-141

Photo 44. W-143, SP-143w

Photo 45. W-144

Photo 46. W-145

Photo 47. W-152

Photo 48. W-154

Photo 49. W-155

Photo 50. W-156

Photo 51. W-158

Photo 52. W-158

Photo 53. SP-158u

Photo 54. W-159

Photo 55. SP-159u

Photo 56. SP-159w

Photo 57. W-160

Photo 58. W-161

Photo 59. SP-161w

Photo 60. W-163

Appendix C Photo Log

Photo 61. W-164

Photo 62. SP-165u

Photo 63. SP-165w

Photo 64. SP-170u

Photo 65. SP-170w

Photo 66. W-173

Photo 67. SP-174u

Photo 68. W-180, W-181, W-182

Photo 69. W-183

Photo 70. SP-183u

Photo 71. SP-183w

Photo 72. W-185

Photo 73. SP-185w

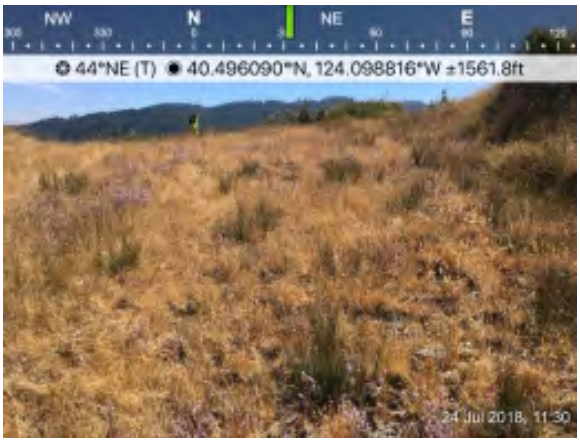

Photo 74. W-186

Photo 75. W-193

Photo 76. SP-193u

Photo 77. SP-193w

Photo 78. W-195

Photo 79. W-198

Photo 80. W-200

Photo 81. SP-200w

Photo 82. W-202

Photo 83. W-210

Photo 84. W-211

Appendix C Photo Log

Photo 85. SP-211w

Photo 86. W-213

Photo 87. W-215

Photo 88. W-217

Photo 89. W-218

Photo 90. W-219

Photo 91. W-221

Photo 92. W-222

Photo 93. W-223

Photo 94. W-224

Photo 95. W-225

Photo 96. W-226

Appendix C Photo Log

Photo 97. W-228c

Photo 98. W-229

Photo 99. SP-229w

Photo 100. W-231

Photo 101. W-232

Photo 102. W-235

Photo 103. W-236

Photo 104. W-238a

Photo 105. W-238b

Photo 106. W-239

Photo 107. SP-239u

Photo 108. SP-242w

Photo 109. SP-242u

Photo 110. W-243

Photo 111. W-244

Photo 112. W-252

Photo 113. W-253

Photo 114. W-302

Photo 115. W-306

Photo 116. W-311

Photo 117. Drainage (D-) 114

Photo 118. D-123

Photo 119. D-127

Photo 120. D-132

Photo 121. D-134

Photo 122. D-142

Photo 123. D-149

Photo 124. D-150

Photo 125. D-151

Photo 126. D-153a

Photo 127. D-157

Photo 128. D-162

Photo 129. D-167a

Photo 130. D-167b

Photo 131. D-168a

Photo 132. D-168b

Photo 133. D-171b

Photo 134. D-171c

Photo 135. D-172

Photo 136. D-176

Photo 137. D-179a

Photo 138. D-179c

Photo 139. D-184

Photo 140. D-187a

Photo 141. D-187b

Photo 142. D-187e

Photo 143. D-188

Photo 144. D-189

Photo 145. D-194

Photo 146. D-197

Photo 147. D-207a

Photo 148. D-207b

Photo 149. D-207c

Photo 150. D-208d

Photo 151. D-208e

Photo 152. D-209

Appendix C Photo Log

Photo 153. D-212

Photo 154. D-214

Photo 155. D-216

Photo 156. D-227a

Photo 157. D-227b

Photo 158. D-228b

Photo 159. D-233

Photo 160. D-236

Photo 161. D-237

Photo 162. D-238a

Photo 163. D-238b

Photo 164. D-238c

Photo 165. D-238d

Photo 166. D-238e

Photo 167. D-240

Photo 168. D-241

Photo 169. D-245

Photo 170. D-246

Photo 171. D-247

Photo 172. D-250

Photo 173. D-251

Photo 174. D-254

Appendix D AQUATIC RESOURCE SURVEY RESULTS

Table D-2. Wetlands and Open Water

Feature ID	Vegetation Community	Cowardin Classification[1]	USACE/ RWQCB Area (acres)	CDFW Area (acres)	CCC Area (acres)	Feature Description
^100	soft rush (*Juncus effusus*) marsh	PEM	0.3467	--	--	Spring-fed wetland; used as a source for livestock water trough. Likely shares a subsurface connection to a tributary to the southeast that drains to Bear River.
^101	common velvet grass (*Holcus lanatus*) meadow	PEM	0.2105	--	--	Seasonal wetland; likely headwaters of a drainage to the south that drains to Bear River.
102	soft rush marsh	PEM	0.0564	--	--	Seasonal wetland; likely shares a subsurface connection with wetland-(W-)103.
103	soft rush marsh	PEM	0.3824	--	--	Seasonal wetland; likely drains to the northeast to a tributary to Howe Creek that then drains to the Eel River.
104	soft rush marsh	PEM	0.1600	--	--	Spring-fed wetland; likely shares a subsurface connection to a drainage to the south that drains to Bear River.
105	soft rush marsh	PEM	0.0037	--	--	Seasonal wetland; likely shares a subsurface connection W-105.
^106	perennial rye grass (*Festuca perennis* [*Lolium perenne*]) field	PEM	0.0053	--	--	Seasonal wetland; likely shares a subsurface connection to a drainage to the southwest that drains to Bear River.
107	soft rush marsh	PEM	0.0128	--	--	Spring-fed wetland; drains to the southwest to a tributary to Bear River.
^109	*toad rush (*Juncus bufonius*) marsh	PEM	0.0809	--	--	Seasonal wetland; likely shares a subsurface connection to W-107.
110	*slender juncus (*Juncus occidentalis*) marsh	PEM	0.2628	--	--	Spring-fed wetland; likely drains to the north to Howe Creek, a tributary to the Eel River.
111	*slender juncus marsh	PEM	0.0801	--	--	Seasonal wetland; likely drains to WL-110 via sheet flow north across Bear River Ridge Road.
112	*Bolander's rush (*Juncus bolanderi*) marsh	PEM	0.1514	--	--	Roadside swale; drains north across Bear River Ridge Road via culvert drainage-(D-)114 and connects to W-113.

Feature ID	Vegetation Community	Cowardin Classification[1]	USACE/ RWQCB Area (acres)	CDFW Area (acres)	CCC Area (acres)	Feature Description
^113	*pennyroyal (*Mentha pulegium*) marsh	PEM	0.2817	--	--	Seasonal swale; fed by W-112 and drains to the north to a tributary that connects downstream to a tributary of Howe Creek, which empties into the Eel River.
115	soft rush marsh	PEM	0.0450	--	--	Seasonal swale; drains to the southeast to a tributary to Bear River.
116	*pennyroyal marsh	PEM	0.2776	--	--	Seasonal wetland; likely shares a sub-surface connection to W-118 and W-117.
117	*pennyroyal marsh	PEM	0.0225	--	--	Seasonal wetland; fed by W-116 and drains to the north. Likely drains to a tributary that empties into another tributary to Howe Creek, which empties into the Eel River.
^118	*pennyroyal marsh	PEM	0.2037	--	--	Seasonal wetland; likely shares a sub-surface connection to W-116.
119	soft rush marsh	PEM	0.0036	--	--	Spring-fed wetland; used as a water source for ranching activities. Likely drains to a tributary that empties into another tributary to Howe Creek, which empties into the Eel River.
120	Kentucky blue grass (*Poa pratensis*) turf	PEM	0.0356	--	--	Seasonal swale; drains south across Bear River Ridge Road to W-122 via culvert D-121. Likely headwaters to a drainage that flows into a tributary that connects downstream to Bear River.
122	Kentucky blue grass turf	PEM	0.0564	--	--	Seasonal swale; fed by W-120. Likely connects to a drainage that flows into a tributary that connects downstream to Bear River.
124	*Bolander's rush marsh	PEM	0.0399	--	--	Roadside swale; drains south across Bear River Ridge Road via culvert D-125 and connects to W-126.
^126	western rush (*Juncus patens)* marsh	PEM	0.0976	--	--	Seasonal swale; drains to the south D-127, which likely connects to a drainage that flows into a tributary that connects downstream to Bear River.
128	*slender juncus marsh	PEM	0.1713	--	--	Seasonal swale; likely connects to a tributary to the south that empties into Bear River.

Feature ID	Vegetation Community	Cowardin Classification[1]	USACE/ RWQCB Area (acres)	CDFW Area (acres)	CCC Area (acres)	Feature Description
129	*pennyroyal marsh	PEM	0.0965	--	--	Seasonal swale; likely shares a sub-surface connection with W-130.
130	soft rush marsh	PEM	0.0696	--	--	Seasonal swale; drains to the northeast; headwaters of Atwell Creek, a tributary to the Eel River.
^131	* foxtail (*Alopecurus saccatus*) meadow	PEM	0.0136	--	--	Seasonal swale; likely connects to a tributary to the south that empties into Bear River.
135	soft rush marsh	PEM	0.5581	--	--	Seasonal wetland; drains to the northeast into a tributary to Atwell Creek, a tributary to the Eel River.
136	soft rush marsh	PEM	0.5850	--	--	Spring-fed swale; drains to the south east, where it abuts W-137.
137	common velvet grass meadow	PEM	0.2101	--	--	Spring-fed swale; drains to the southeast to a tributary that connects downstream to a tributary that empties into another drainage that flows to the Eel River.
138	*low bulrush (*Isolepis cernua*) marsh	PEM	0.0521	--	--	Seasonal wetland; likely shares a sub-surface connection to W-139 and W-137.
^139	soft rush marsh	PEM	0.0143	--	--	Seasonal wetland; likely shares a sub-surface connection to W-138 and W-140.
^140	*pennyroyal marsh	PEM	0.5316	--	--	Seasonal wetland; wetland fringe associated with W-141.
141	open water	--	0.1384	--	--	Stock pond; carrying ponded water at the time of the field surveys.
143	*pennyroyal marsh	PEM	0.0038	--	--	Seasonal swale; associated with D-142.
144	soft rush marsh	PEM	0.1065	--	--	Seasonal wetland; drains to the south and likely connects to a tributary that flows into a drainage that empties into Bear River.
145	*pennyroyal marsh	PEM	0.1311	--	--	Seasonal wetland; likely shares a subsurface connection to W-144.
152	*pennyroyal marsh	PEM	0.0128	--	--	Seasonal wetland; drains to the south and likely connects to Brushy Creek, a tributary to Bear River.
154	perennial rye grass field	PEM	0.0293	--	--	Seasonal wetland; drains to the south and likely shares a subsurface connection to D-153a.

Feature ID	Vegetation Community	Cowardin Classification[1]	USACE/ RWQCB Area (acres)	CDFW Area (acres)	CCC Area (acres)	Feature Description
155	*pennyroyal marsh	PEM	0.0134	--	--	Seasonal swale; likely shares a sub-surface connection to D-157.
156	soft rush marsh	PEM	0.2197	--	--	Spring-fed swale; drains to the southwest into D-157.
^158	*pennyroyal marsh	PEM	0.2388	--	--	Spring-fed wetland; drains to the south to a tributary to Brushy Creek, a tributary to Bear River.
^159	soft rush marsh	PEM	0.0228	--	--	Seasonal wetland; confined to a depression on a hillslope, heavily trampled by livestock.
160	soft rush marsh	PEM	0.0540	--	--	Spring-fed wetland; modified to accommodate a water trough for livestock, heavily trampled. Likely shares a sub-surface connection to the headwaters of Pullen Creek, which drains into Bear River.
^161	*watercress (*Nasturtium officinale*) seep	PEM	0.0066	--	--	Spring-fed wetland; fed by a hillside seep across the access road, connected via culvert.
163	*Bolander's sedge (*Carex bolanderi*) seep	PEM	0.0481	--	--	Spring-fed swale, sourced upslope and pools on the road. Likely shares a sub-surface connection with Twin Creek, a tributary to the Eel River.
164	soft rush marsh	PEM	0.0072	--	--	Spring-fed swale, sourced upslope and pools on the road. Likely shares a sub-surface connection with Twin Creek, a tributary to the Eel River.
169	soft rush marsh	PEM	0.0009	--	--	Spring-fed wetland, sourced upslope and pools across and on either side of the road.
^170	soft rush marsh	PEM	0.0015	--	--	Spring-fed wetland, sourced upslope and pools across and on either side of the road.
173	red alder *(Alnus rubra*) forest	PFO	0.6898	0.6898	--	Forested riparian wetland; associated with Greenlow Creek, a tributary to the Eel River.
^174	*giant horsetail (*Equisetum telmateia ssp. braunii*) marsh	PEM	0.4927	--	--	Seasonal wetland; water sourced from runoff and pools at the toe of a slope, likely due to grading and filling.
^180	Sitka willow (*Salix sitchensis)*	PFO	0.3534	0.3534	--	Forested wetland; water sourced from D-179. Location has been heavily altered, with access roads and work areas cut and graded.
181	Sitka willow thicket	PFO	0.4975	0.4975	--	

Feature ID	Vegetation Community	Cowardin Classification[1]	USACE/ RWQCB Area (acres)	CDFW Area (acres)	CCC Area (acres)	Feature Description
182	Sitka willow thicket	PFO	0.1151	0.1151	--	
^183	*pennyroyal marsh	PEM	0.0074	--	--	Seasonal wetland; roadside and likely fed by runoff.
^185	western rush marsh	PEM	0.0463	--	--	Seasonal wetland; located in a depression on a hillslope.
186	western rush marsh	PEM	0.0372	--	--	Seasonal wetland; located in abandoned roadcut, fed by runoff.
190	red alder forest	PFO	0.6893	0.6893	--	Forested riparian wetland; associated with the Eel River.
192	red alder forest	PFO	0.7020	0.7020	--	
^193	*slender juncus marsh	PEM	0.0054	--	--	Seasonal wetland; located in abandoned roadcut, fed by runoff and flow restricted by a water bar.
195	Sitka willow thicket	PSS	0.4730	0.4730	--	Scrub-shrub riparian wetland; associated with Stitz Creek.
^198	*tall cyperus (*Cyperus eragrostis*) seep	PEM	0.0038	--	--	Spring-fed swale; adjacent to roadcut.
^200	coastal dune willow (*Salix hookeriana*) thicket	PSS	0.0085	0.0085	--	Scrub-shrub riparian wetland.
^202	soft rush marsh	PEM	0.0212	--	--	Seasonal wetland; adjacent to roadcut.
210	*pennyroyal marsh	PEM	0.0018	--	--	Seasonal swale; fed by W-218 and drains to D-209, which eventually connects to Hoagland Creek, a tributary to the Van Duzen River.
^211	* foxtail meadow	PEM	0.0541	--	--	Seasonal swale; fed by D-209, D-212, and D-214 and drains to D-208, which eventually connects to Hoagland Creek, a tributary to the Van Duzen River.
213	*field sedge (*Carex praegracilis*) meadow	PEM	0.0116	--	--	Seasonal wetland; fed by D-212, eventually drains to D-208, which connects to Hoagland Creek, a tributary to the Van Duzen River.
215	*pennyroyal marsh	PEM	0.0240	--	--	Seasonal swale; fed by D-216 and drains to D-208, which eventually connects to Hoagland Creek, a tributary to the Van Duzen River.

Feature ID	Vegetation Community	Cowardin Classification[1]	USACE/ RWQCB Area (acres)	CDFW Area (acres)	CCC Area (acres)	Feature Description
217	*pennyroyal marsh	PEM	0.0068	--	--	Seasonal swale; fed by W-218 and drains to D-216, which eventually connects to Hoagland Creek, a tributary to the Van Duzen River.
218	*pennyroyal marsh	PEM	0.0033	--	--	Seasonal wetland; drains to W-217, which eventually connects to Hoagland Creek, a tributary to the Van Duzen River.
219	*pennyroyal marsh	PEM	0.0046	--	--	Seasonal swale; drains to D-212, which eventually connects to Hoagland Creek, a tributary to the Van Duzen River.
221	*pennyroyal marsh	PEM	0.0048	--	--	Seasonal swale; drains to W-219, which eventually connects to Hoagland Creek, a tributary to the Van Duzen River.
222	*pennyroyal marsh	PEM	0.0013	--	--	Seasonal swale; drains to W-221, which eventually connects to Hoagland Creek, a tributary to the Van Duzen River.
223	*pennyroyal marsh	PEM	0.0068	--	--	Seasonal wetland; fed by W-224; likely shares a subsurface connection to downslope seasonal wetlands.
^224	*pennyroyal marsh	PEM	0.0126	--	--	Seasonal swale; drains to W-223.
225	*pennyroyal marsh	PEM	0.0328	--	--	Seasonal wetland; likely shares a sub-surface connection to WL-222.
226	*pennyroyal marsh	PEM	0.0209	--	--	Seasonal wetland; likely shares a sub-surface connection to WL-225.
^229	*western lady fern (*Athyrium filix-femina* var. *cyclosorum*) seep	PEM	0.0309	--	--	Spring-fed wetland; drains to D-228, which likely drains to Hoagland Creek, a tributary to the Van Duzen River.
230	*tall cyperus seep	PEM	0.0044	--	--	Seasonal swale; drains to W-231, which likely drains to Hoagland Creek, a tributary to the Van Duzen River.
231	*tall cyperus seep	PEM	0.0239	--	--	Seasonal wetland; likely drains to Hoagland Creek, a tributary to the Van Duzen River.
232	hairgrass (*Deschampsia elongata*) meadow	PEM	0.0038	--	--	Seasonal wetland; likely shares a subsurface connection to D-233, which drains to Hoagland Creek, a tributary to the Van Duzen River.

Feature ID	Vegetation Community	Cowardin Classification[1]	USACE/ RWQCB Area (acres)	CDFW Area (acres)	CCC Area (acres)	Feature Description
235	*pennyroyal marsh	PEM	0.0093	--	--	Seasonal swale; drains to D-234, which likely drains to Hoagland Creek, a tributary to the Van Duzen River.
236	*pennyroyal marsh	PEM	0.0054	--	--	Seasonal swale; drains to D-234, which likely drains to Hoagland Creek, a tributary to the Van Duzen River.
239	soft rush marsh	PEM	0.1153	--	--	Seasonal wetland; fed by an upstream seep (W-242) and drains to D-238, which eventually drains to Hoagland Creek, a tributary to the Van Duzen River.
^242	*tall cyperus seep	PEM	0.0998	--	--	Spring-fed wetland; drains to W-239 and eventually connects to Hoagland Creek, a tributary to the Van Duzen River.
243	*pennyroyal marsh	PEM	0.0177	--	--	Seasonal wetland; likely connected to D-247, which drains into Hoagland Creek, a tributary to the Eel River.
^244	*pennyroyal marsh	PEM	0.0323	--	--	Seasonal wetland; likely connected to D-247, which drains into Hoagland Creek, a tributary to the Eel River.
158a	*pennyroyal marsh	PEM	0.0220	--	--	Wetland swale; likely connected to the south to a tributary to Brushy Creek, a tributary to Bear River.
228c	common velvet grass meadow	PEM	0.0078	--	--	Vegetated ditch; fed by D-228 and likely drains to Hoagland Creek, a tributary to the Van Duzen River.
248a	western rush marsh	PEM	0.0220	--	--	Seasonal wetland; fed by W-248b via culvert.
248b	western rush marsh	PEM	0.0184	--	--	Seasonal wetland; connected to W-248b via culvert.
252a	red alder forest	PFO	1.5433	1.5433	--	Forested riparian wetland; associated with Little Larabee Creek.
252b	red alder forest	PFO	0.3321	0.3321	--	
253a	black cottonwood forest	PFO	0.1402	0.1402	--	Forested riparian wetland; associated with the Van Duzen River.
253b	black cottonwood forest	PFO	1.3708	1.3708	--	
302	arroyo willow (*Salix lasiolepis*) thickets	PSS	0.1962	0.1962	0.1962	Forested riparian wetland; associated with an unnamed ditch located outside the survey area.
^306	arroyo willow thickets	PSS	0.1181	0.1181	0.1181	Forested riparian wetland; associated with an unnamed ditch (D-305) in a median bounded by Highway 101 and a frontage road.

Feature ID	Vegetation Community	Cowardin Classification[1]	USACE/ RWQCB Area (acres)	CDFW Area (acres)	CCC Area (acres)	Feature Description
311	*pennyroyal marsh	PEM	0.1820	--	0.1181	Seasonal swale connected to D-305 to the south and D-310 to the north; located in a median bounded by Highway 101 and a frontage road.
Total			**14.7774**	**7.2293**	**0.4963**	

[1] PEM = palustrine emergent, PSS = palustrine scrub-shrub, PFO = palustrine forested. Codes based on Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31.Washington, D.C.

^ sample upland and wetland points were established for this feature.

Table D-1. Drainages

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
114	ephemeral/ culvert	1.00	1.00	0.0004	17.05	1.00	1.00	0.0004	17.05	Culvert under Bear River Ridge Road that connects wetland-(W-)112 and W-113.
121	ephemeral/ culvert	1.50	1.50	0.0015	44.13	1.50	1.50	0.0015	44.13	Culvert under Bear River Ridge Road that connects W-120 and W-122.
123	ephemeral	2.00	1.00	0.0076	164.76	3.00	1.50	0.0113	164.76	Unnamed tributary to an unnamed tributary that is a tributary to Bear River.
125	ephemeral/ culvert	1.50	1.50	0.0010	30.08	1.50	1.50	0.0010	30.08	Culvert under Bear River Ridge Road that connects W-124 to W-126.
127	ephemeral	1.00	0.50	0.0048	207.33	1.00	0.50	0.0048	207.33	Unnamed tributary fed by W-126 and W-124. Connects to an unnamed tributary that empties into Bear River.
132	ephemeral/ ditch	1.00	0.50	0.0033	143.64	1.00	0.50	0.0033	143.64	Roadside ditch that conveys water from drainage-(D-)134; likely shares a sub-surface connection to W-131.

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
133	ephemeral/ culvert	2.00	2.00	0.0018	40.21	2.00	2.00	0.0018	40.21	Culvert under Bear River Ridge Road that connects D-132 to D-134.
134	ephemeral/ ditch	1.00	0.50	0.0025	108.48	1.00	0.50	0.0025	108.48	Roadside ditch; likely fed by W-135 via subsurface connection and conveys water to D-132.
142	ephemeral/ ditch	3.00	0.33	0.0079	115.27	5.00	2.00	0.0132	115.27	Roadside ditch that conveys water to W-140 and W-141.
147	intermittent	2.00	0.50	0.0021	44.85	2.00	0.50	0.0021	44.85	Unnamed tributary to drainage that empties into Bear River.
148	intermittent	2.00	0.50	0.0032	70.21	2.00	0.50	0.0032	70.21	Headwaters of Monument Creek, which is a tributary to the Eel River
149	ephemeral	3.00	0.60	0.0212	307.95	3.00	0.60	0.0212	307.95	Spring-sourced unnamed tributary to a drainage that empties into Bear River.
150	ephemeral	2.00	0.50	0.0062	135.45	2.00	0.50	0.0062	135.45	Unnamed tributary to an unnamed drainage that empties into Bear River.

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
151	perennial/ ditch	2.00	0.67	0.0106	230.25	2.00	0.67	0.0106	230.25	Roadside ditch; likely spring-fed and a tributary to Brushy Creek, which is a tributary to Bear River. Carrying water at time of survey.
153a	perennial	6.00	2.00	0.0155	112.46	6.00	2.00	0.0155	112.46	Spring-fed unnamed drainage segment connected downstream to segment D-153b. Standing water present at time of field survey.
153b	perennial	7.00	2.00	0.0312	194.27	7.00	1.00	0.0312	194.27	Spring-fed unnamed tributary to Brushy Creek, which empties into Bear River. Standing water present at time of field survey.
157	perennial	4.00	1.00	0.0091	98.68	5.00	3.00	0.0113	98.68	Spring-fed unnamed tributary (W-156) to Brushy Creek, which empties into Bear River. Carrying water at time of survey.
162	perennial/ culvert	2.00	2.00	0.0010	21.68	2.00	2.00	0.0010	21.68	Culvert under access road; fed

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
										by W-161. Likely a tributary to Jordan Creek, which empties into the Eel River.
167a	perennial	3.00	0.17	0.0340	493.30	3.00	0.50	0.0340	493.30	Upper segment of an unnamed tributary to Jordan Creek, which empties into the Eel River.
167b	perennial	1.50	1.50	0.0013	37.78	1.50	1.50	0.0013	37.78	Culverted segment of an unnamed tributary to Jordan Creek, which empties into the Eel River.
167c	perennial	3.00	0.17	0.0278	403.31	3.00	0.50	0.0278	403.31	Lower segment of an unnamed tributary to Jordan Creek, which empties into the Eel River.
168a	intermittent	1.00	0.33	0.0005	23.03	2.00	0.83	0.0011	23.03	Unnamed tributary; likely connects to drainage that empties into Bear River.
168b	intermittent/ culvert	2.00	2.00	0.0010	21.93	2.00	2.00	0.0010	21.93	Culvert under access road; connected to D-168a.

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
171b	intermittent/ culvert	3.00	3.00	0.0057	82.88	3.00	3.00	0.0057	82.88	Culverted segment of an unnamed tributary to Greenlow Creek, which empties into the Eel River.
171c	intermittent	3.00	0.50	0.0318	461.06	5.00	2.00	0.0529	461.06	Upper segment of an unnamed tributary to Greenlow Creek, which empties into the Eel River.
172	perennial	8.00	1.00	0.0639	347.8498	35.00	8.00	0.2795	347.8498	Segment of Greenlow Creek, tributary to the Eel River. Associated with riparian wetland W-173.
176	ephemeral	1.00	0.25	0.0041	179.66	2.00	1.00	0.0082	179.66	Unnamed ephemeral drainage; likely shares a sub-surface connection to W-175 and W-174.
179a	ephemeral	2.00	0.50	0.0045	97.09	2.00	1.00	0.0045	97.09	Lower segment of an unnamed drainage that terminates in sheet flow; likely connects to W-180.
179b	ephemeral/ culvert	2.00	2.00	0.0006	12.11	2.00	2.00	0.0006	12.11	Culverted segment of an unnamed drainage that

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
										terminates in sheet flow; likely connects to W-180.
179c	ephemeral	1.50	2.00	0.0210	610.74	3.00	3.00	0.0421	610.74	Upper segment of an unnamed drainage that terminates in sheet flow; likely connects to W-180.
184	ephemeral	2.00	1.00	0.0049	107.12	6.00	3.00	0.0148	107.12	Unnamed tributary to the Eel River.
187a	ephemeral/ ditch	2.00	0.50	0.0095	207.73	5.00	2.00	0.0238	207.73	Roadside ditch connected to D-187e; likely connects to the Eel River.
187b	ephemeral/ culvert	2.00	2.00	0.0023	50.71	2.00	2.00	0.0023	50.71	Culverted segment of an unnamed tributary to the Eel River.
187e	ephemeral	1.00	0.50	0.0014	61.66	4.00	1.00	0.0057	61.66	Lower segment of an unnamed tributary to the Eel River.
188	ephemeral	1.00	0.67	0.0030	128.73	2.00	1.50	0.0059	128.73	Unnamed tributary to the Eel River. Most likely fed by roadside runoff.
189	ephemeral	6.00	2.00	0.0245	177.62	10.00	5.00	0.0408	177.62	Unnamed tributary to the Eel River. Most likely fed by roadside runoff.

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
191 (Eel River)	perennial	N/A	N/A	0.0022	200.00	N/A	N/A	1.2120	200.00	Segment of the Eel River, which flows to the northwest and terminates in the Pacific Ocean. Associated with riparian wetlands W-190 and W-192
194 (Stitz Creek)	perennial	12.00	2.00	0.0556	201.90	30.00	8.00	0.1391	201.90	Segment of Stitz Creek, a tributary to the Eel River. Associated with riparian wetland W-195.
196	ephemeral/ culvert	1.50	1.50	0.0012	35.72	1.50	1.50	0.0012	35.72	Culvert fed by roadside ditch D-197. No indicator of OHWM downstream of the culvert. However, a subsurface connection likely exists with the unnamed intermittent tributary (to the Eel River) located 450 ft downslope.
197	ephemeral/ ditch	1.00	0.40	0.0022	96.84	1.50	0.70	0.0033	96.84	Roadside ditch connected to D-196.
201	intermittent	2.00	2.00	0.0011	24.30	2.00	2.00	0.0011	24.30	Culvert under Shiveley Ridge Road. Likely

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
										connects to the headwaters of Shively Creek, a tributary to the Eel River
203	intermittent	5.00	1.00	0.0878	765.30	8.00	3.00	0.1406	765.30	Unnamed tributary to Fish Creek, which empties into the Van Duzen River, a tributary to the Eel River.
204 (Fish Creek)	perennial	12.00	2.00	0.0689	250.08	30.00	8.00	0.1722	250.08	Segment of Fish Creek, a tributary to the Van Duzen River.
205	intermittent	5.00	1.00	0.0235	204.76	8.00	3.00	0.0376	204.76	Unnamed tributary to the Van Duzen River.
206 (Hoagland Creek)	perennial	12.00	2.00	0.0582	211.23	30.00	8.00	0.1455	211.23	Segment of Hoagland Creek, a tributary to the Van Duzen River.
207a	ephemeral	1.50	0.50	0.0043	124.49	2.50	1.00	0.0071	124.49	Upper segment of an unnamed ephemeral drainage that connects to D-207b; likely connects to Hoagland Creek, a tributary to the Van Duzen River.
207b	ephemeral/ culvert	1.50	1.50	0.0030	87.44	1.50	1.50	0.0030	87.44	Culvert fed by roadside ditch

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
										D-207c and D-207a; likely connects to Hoagland Creek, a tributary to the Van Duzen River.
207c	ephemeral/ ditch	1.00	0.17	0.0037	162.37	1.00	0.25	0.0037	162.37	Roadside ditch that connects to D-207b; likely connects to Hoagland Creek, a tributary to the Van Duzen River.

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
208a	ephemeral/ culvert	2.50	2.50	0.0030	52.79	2.50	2.50	0.0030	52.79	Drainage system D-208 is fed by upland runoff and W-211 and W-215. D-208e and D-208d are connected stream segments and likely share a subsurface connection downstream to D-208c and D-208b. All drainage segments connect downstream to culvert D-208a (under Alderpoint Road), which likely connects to Hoagland Creek, a tributary to the Van Duzen River.
208c	intermittent	4.00	0.25	0.0066	71.59	10.00	1.00	0.0164	71.59	
208d	intermittent	6.00	0.25	0.0119	86.65	6.00	1.00	0.0119	86.65	
208e	intermittent	2.00	0.50	0.0052	112.47	3.00	1.50	0.0077	112.47	
209	ephemeral	1.00	0.33	0.0030	129.45	1.00	1.00	0.0030	129.45	Unnamed ephemeral drainage fed by W-210, W-218, and W-211. Connects to drainage system D-208.

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
212	intermittent	2.00	0.50	0.0048	103.59	2.00	1.00	0.0048	103.59	Unnamed intermittent drainage fed by upland runoff and tributary to W-213 and W-211.
214	ephemeral/ ditch	1.00	0.17	0.0087	380.01	1.00	0.25	0.0087	380.01	Roadside ditch fed by W-211; likely connects to Hoagland Creek.
216	ephemeral	1.50	0.25	0.0019	56.57	2.00	0.33	0.0026	56.57	Ephemeral drainage connecting W-215 and W-217.
227a	intermittent	2.00	0.33	0.0033	70.80	2.00	0.50	0.0033	70.80	Drainage system D-227 is fed by upland runoff and originates with segments D-227a, D-227b, and D-227c, which flow into segment D-227d. D-227d connects to segment D-227f, a culvert under Alderpoint Road that likely connects to Hoagland Creek, a tributary to Van Duzen River. D-227e is a roadside ditch that terminates in segment D-227f.
227b	intermittent	5.00	1.00	0.0142	123.41	5.00	3.00	0.0142	123.41	
227c	intermittent	1.50	0.50	0.0003	9.53	1.50	1.50	0.0003	9.53	
227d	intermittent	6.00	0.33	0.0084	60.86	6.00	1.00	0.0084	60.86	
227e	ephemeral/ ditch	2.00	0.17	0.0066	143.83	2.00	0.50	0.0066	143.83	
227f	intermittent/ culvert	2.50	2.50	0.0028	49.39	2.50	2.50	0.0028	49.39	

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
228a	intermittent	1.00	0.25	0.0021	89.55	1.00	0.33	0.0021	89.55	Drainage system D-228 is fed by W-229 and flows outside the project area to a culvert under Alderpoint Road that connects to Hoagland Creek.
228b	intermittent	1.00	1.00	0.0002	7.24	1.00	1.00	0.0002	7.24	
233	intermittent	2.00	0.33	0.0035	77.08	2.00	2.00	0.0035	77.08	Unnamed drainage likely a tributary to Hoagland Creek; likely shares subsurface connection with W-232.
234	intermittent	1.50	0.33	0.0048	138.43	2.00	1.50	0.0064	138.43	Unnamed drainage likely a tributary to Hoagland Creek; likely shares subsurface connection with W-235 and W-236.
236	ephemeral	1.50	0.17	0.0077	222.32	2.00	0.33	0.0102	222.32	Unnamed drainage likely a tributary to Hoagland Creek.
237	intermittent	5.00	1.00	0.0243	211.65	6.00	2.00	0.0292	211.65	Unnamed drainage likely a tributary to Hoagland Creek.

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
238a	intermittent	4.00	3.00	0.0961	1046.10	6.00	5.00	0.1441	1,046.10	The main drainage within drainage system D-238 is mapped as upper (D-238e) and lower (D-238a) connected segments. It is fed by W-239 and W-242 to the east and several ephemeral tributaries (D-238b, D-238c, D-238d) along both segments. All segments culminate into D-238a, which is a tributary to Hoagland Creek.
238b	intermittent	7.00	0.50	0.0222	138.41	8.00	1.00	0.0254	138.41	
238c	ephemeral	3.00	2.00	0.0026	38.46	4.00	3.00	0.0035	38.46	
238d	ephemeral	2.00	2.00	0.0190	414.56	6.00	4.00	0.0571	414.56	
238e	intermittent	1.00	0.50	0.0003	11.78	3.00	2.00	0.0008	11.78	
240	ephemeral	1.00	1.00	0.0060	263.00	2.00	2.00	0.0121	263.00	Unnamed ephemeral drainage that is a tributary to W-239.
241	intermittent	2.50	1.00	0.0108	188.50	6.00	4.00	0.0260	188.50	Unnamed spring-fed drainage that drains W-242 and feeds W-239. Carrying

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
										water at the time of the field survey.
245	ephemeral	3.00	0.50	0.0124	179.77	4.00	1.00	0.0165	179.77	Unnamed drainage likely connected downstream D-246, a tributary to Hoagland Creek.
246	perennial	5.00	1.00	0.0310	270.49	8.00	3.00	0.0497	270.49	Unnamed tributary to Hoagland Creek
247	ephemeral	3.00	0.30	0.0198	287.95	6.00	3.00	0.0397	287.95	Unnamed tributary to D-246.
249	ephemeral/ culvert	1.00	1.00	0.0004	19.00	1.00	1.00	0.0004	19.00	culvert under an access road that connects W-248b to W-248a.
250	intermittent	4.00	0.30	0.0288	313.25	5.00	2.00	0.0360	313.25	Unnamed tributary to the Van Duzen River.
251 (Little Larabee Creek)	perennial	25.00	4.00	0.6173	90.00	35.00	6.00	0.8642	1,075.50	Segment of Little Larabee Creek, a tributary to the Van Duzen River. Associated with riparian wetland

Feature ID	Hydrological Regime	USACE/RWQCB				CDFW				Feature Description
		Average OHWM Width (feet)	Average OHWM Depth (feet)	Area (acres)	Linear Feet	Average TOB Width (feet)	Average TOB Depth (feet)	Area (acres)	Linear Feet	
										W-252a and W-252b.
254 (Van Duzen River)	perennial	N/A	N/A	0.0022	100	N/A	N/A	1.2120	1,502.80	Segment of the Van Duzen River, a tributary to the Eel River. Associated with riparian wetland W-253a and W-253b
Total				**2.8550**	**14,499.5031**			**6.8607**	**15,902.3031**	