AQUATIC RESOURCES DELINEATION REPORT

Moore Ave., Myrtletown, Humboldt County, California, 95501

Assessor Parcel Number (APN):

016-112-025, 016-112-026 & 016-112-027

Prepared For:

Jon Stone
2682 Spears Rd
Eureka, CA, 95503

Prepared By:

Naiad Biological Consulting
www.naiadbiological.com
PO Box 121
Samoa, CA 95564

Date Prepared:

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Certification: I hereby certify that the statements furnished in this report present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

X _____.

Mason London, MSc Biology

Naiad Biological Consulting Principal Biologist

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Section 1 Executive Summary

This report provides the results of a protocol-level wetland delineation conducted within a 2.54-acre study area in Myrtletown, California, as required by the County of Humboldt to comply with federal and state regulations under the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act. The delineation was conducted using the three-parameter method outlined in the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual and the 2010 Regional Supplement for the Western Mountains, Valleys, and Coast Region and was performed by Mason London, Principal Biologist at Naiad Biological Consulting, and James Regan, Wetland Scientist with J. Regan Consulting, who bring extensive expertise in aquatic ecology, botany, and wetland assessments.

The study area, located within the Humboldt Bay watershed, is characterized by coastal plain topography, a temperate climate, and mixed urban and natural vegetation. The purpose of this assessment was to identify and delineate jurisdictional waters and wetlands to inform compliance and guide appropriate avoidance or mitigation measures for future development activities.

The survey identified an approximately 0.13-acre Palustrine Emergent wetland classified as PEM1E, characterized by seasonal flooding and hydrophytic vegetation. Additionally, an intermittent Class II watercourse flows from the wetland towards a perennial watercourse outside the study area. The Class II watercourse is culverted for approximately 135 feet, limiting its natural function within the site boundary.

Two delineation plots (P1 and P2) were analyzed. P1, located within the wetland boundary, confirmed the presence of all three wetland parameters: hydric soils, hydrophytic vegetation, and wetland hydrology. P2, situated outside the wetland boundary, lacked hydric soils and hydrology but exhibited positive indicators of hydrophytic vegetation. Soil profiles were described, vegetation identified to the species level, and hydrologic indicators assessed to support accurate delineation of the wetland-upland boundary.

The findings of this report emphasize the ecological importance of the delineated wetlands and watercourses and provide recommendations to ensure regulatory compliance. It is advised that all development remains outside of water setbacks as prescribed by federal, state, and local regulations. The delineation results, including maps and supporting data, should be submitted to regulatory agencies for verification and inclusion in any permitting applications.

This report serves as a vital resource for responsible land management and compliance with environmental regulations, promoting sustainable development while protecting critical aquatic resources.

Section 2 Introduction, Background, and Project Understanding

2.1 Purpose and Need

This report was prepared at the Client's request in response to the County of Humboldt's requirements to assess and survey jurisdictional waters of the United States under the federal Clean Water Act (CWA) and California's Porter-Cologne Water Quality Control Act. The purpose of this report is to support project compliance by identifying, classifying, and delineating wetlands and waters, ensuring that avoidance or mitigation measures are appropriately addressed during development activities.

2.2 Delineator's Qualifications

The aquatic resource delineation described in this report was conducted by Mason London and James Regan.

Mr. London, with a MSc in Biology with a specialization in aquatic ecology from Humboldt State University (HSU), serves as the Principal Biologist at Naiad Biological Consulting (NBC). His previous roles include serving as a wildlife biologist for The Nature Conservancy, a botanist for the Bureau of Land Management in Medford, OR, and an Aquatic Research Scientist for the HSU River Institute. Mr. London has worked on a wide array of projects, ranging from conducting protocol-level surveys for species such as the California red-legged frog, foothill yellow-legged frog, and western pond turtle to performing botanical surveys across various upland and aquatic habitats. Additionally, Mr. London has extensive experience in pre-construction and compliance monitoring surveys throughout California, with a focus on amphibians/reptiles, nesting birds, and mammals. Mason has over five years of experience with wetland delineations and has completed a 40-hour Introduction to Wetland Delineation Course led by California Professional Soil Scientist #243, and retired USDA-NRCS & USDI-NPS Soil Scientist Joe Seney. With over 14 years of professional experience, Mr. London's expertise spans wildlife biology, botany, aquatic ecology, and educational instruction at the university level.

James Regan, a contracted wetland scientist and botanist with J. Regan Consulting, holds a BSc in Botany from Cal Poly Humboldt. James has a rich background in environmental services, having worked at the United States Forest Service as a Botanical Field Technician, the Pacific Lumber Company as a Botanical Crew Lead and a Hydrology Technician, and currently serves as the Lead Botanist at Humboldt Redwood Company. In 2007, he founded J Regan Consulting, specializing in Botany Surveys, Biological Assessments, Wetland Delineations, and Invasive Species Surveys. James is highly skilled in botanical survey protocols, habitat assessments, and various ecological surveys.

2.3 Study Area Description and Geographic Setting

The approximately 2.54-acre study area, as identified by Humboldt County Web GIS, is located off Moore Avenue in Myrtletown, California, an unincorporated community in Humboldt County adjacent to the city of Eureka and often considered part of the greater Eureka area (Figure 1). The site lies within a primarily residential and semi-urban setting, with surrounding areas featuring mixed-use development and occasional open spaces (Figure 2).

Topographically, the study area is part of the coastal plain of Humboldt County, characterized by relatively flat terrain with gently rolling hills. It falls within the Humboldt Bay watershed, experiencing a temperate coastal climate with cool, wet winters and mild, dry summers. Vegetation consists of urban landscaping, invasive species, and patches of native plant communities.

The site's proximity to Humboldt Bay and its associated waterways highlights its ecological importance, particularly concerning local hydrology and wildlife habitats. Seasonal rainfall and shallow groundwater influence drainage patterns, potentially supporting wetlands or jurisdictional waters regulated under federal and state laws.

The study area spans three parcels with Assessor Parcel Numbers (APNs) 016-112-025, 016-112-026, and 016-112-027. It is bounded by Moore Avenue to the north and the Redwood Meat Co. facility to the south, with private residences to the east and west. The site's average elevation is approximately 104 feet above mean sea level, with central coordinates near 40°47'06.3"N, 124°08'03.4"W.

Figure 1. Study Area Locator Map

Figure 2. Study Area Extent. (The parcel lines shown in this map is approximated and any errors within these boundaries are a result of errors in Humboldt County's GIS database.

Section 3 Regulatory Framework

The following regulatory framework is provided as justification for the rules and recommendations presented within this document. Further information may be appropriate for explanation of recommendations or actions expressed in this document and can be presented to the client upon request.

3.1 Federal Regulatory Framework

The federal government exercises jurisdiction over Waters of the United States through Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act (RHA). These regulations categorize Waters of the United States into four subsets: territorial seas and traditional navigable waters (TNWs); tributaries to TNWs; lakes, ponds, and impoundments of TNWs; and wetlands adjacent to territorial seas and TNWs. Section 404 of the CWA governs the discharge of dredged or fill material into these waters, with regulatory authority shared between the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (USACE). The USACE issues and enforces permits for activities in jurisdictional waters, while the EPA oversees the permit program and has the authority to veto permits by designating certain sites as non-fill areas.

The USACE generally extends its jurisdiction to areas meeting the criteria for Waters of the United States. However, the newly revised Navigable Waters Protection Rule, finalized by the EPA and USACE in January 2020, excludes features lacking hydrological surface connections to territorial seas and TNWs from federal jurisdiction. Examples of excluded water features include groundwater, ephemeral features in typical water years, diffuse stormwater runoff over upland areas, and certain artificial water conveyance structures.

Projects subject to Section 404 of the CWA and/or Section 10 of the RHA must obtain approval from the ACOE through either individual permits or nationwide permits (NWP). Individual permits involve a comprehensive public interest review, including consultation with federal and state agencies.

3.2 California State and Regional Regulatory Framework

3.2.1 California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) regulates river, stream, and lake habitats under Fish and Game Code section 1600 et seq. Fish and Game Code section 1602 mandates that any entity must inform the CDFW before undertaking activities that could significantly impact these water bodies. Such activities include substantial diversion or obstruction of natural flow, alteration of the bed, channel, or bank, or depositing debris, waste, or other materials into these waterways.

The term "river, stream, or lake" encompasses both perennial and episodic water bodies, including ephemeral streams, desert washes, and watercourses with subsurface flow. This definition also extends to activities within the floodplain and applies regardless of whether the body of water is identified by topographic features or riparian vegetation. The CDFW does not differentiate between ponds and lakes, meaning even relatively small water features, whether natural or artificial, may fall under regulation.

When a proposed activity described in a complete Lake and Streambed Alteration (LSA) Notification could potentially harm existing fish or wildlife resources, the CDFW requires a Lake and Streambed Alteration (LSA) Agreement. This agreement includes measures to protect these resources, and the CDFW may propose modifications to the project to mitigate adverse impacts. Compliance with the

California Environmental Quality Act (CEQA) is necessary before the issuance of an LSA Agreement by the CDFW.

The California Endangered Species Act (CESA) protects any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the California Department of Fish and Wildlife (CDFW) has jurisdiction over state-listed species (California Fish and Wildlife Code 2070). Take of state-listed species requires a permit from CDFW, which is granted only under strictly limited circumstances. Additionally, the CDFW maintains lists of "species of special concern" that are defined as animal species that appear to be vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats. Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed or proposed endangered or threatened species may be present in the project area and determine whether the proposed project may result in a significant impact on such species.

3.2.2 Regional Water Quality Control Board

The study area falls under the jurisdiction of the North Coast (Region 1) Regional Water Quality Control Board (RWQCB), tasked with regulating projects affecting wetlands and other water bodies. This authority stems from various state directives, including:

- The Porter-Cologne Water Quality Control Act, administered through Waste Discharge Requirements to safeguard state Waters.
- The Clean Water Act (CWA) under Section 401.
- Governor’s Executive Order W-59-93, known as the “California Wetlands Policy,” which mandates "No Net Loss of Wetlands."
- Senate Concurrent Resolution No. 28.
- California Water Code Section 13142.5, which applies to coastal marine wetlands.

Furthermore, the Basin Plan mandates RWQCB staff to utilize EPA's CWA 404(b)(1) guidelines for individual permits, emphasizing efforts to avoid, minimize, and, as a last resort, mitigate adverse impacts.

California's regulatory authority over water resources surpasses that of the federal government. Despite the U.S. Supreme Court's SWANCC decision in 2001, California's State Water Resource Control Board continues to regulate intrastate waters under Porter-Cologne authorities. This encompasses "Waters of the State," extending to isolated wetlands. Projects impacting such wetlands fall under the Board's jurisdiction, with the potential issuance of Statewide General Waste Discharge Requirements (WDRs).

Projects with potential impacts on California's water resources necessitate permits from the local RWQCB. Discharges into surface water require a complete National Pollutant Discharge Elimination System permit application, while other discharges, such as those affecting groundwater or from diffused sources, require a Report of Waste Discharge to obtain WDRs. Certain permits may be waived, and some activities can be managed through enrollment in existing general permits. Effective May 28, 2020, the State has adopted updated Dredge and Fill procedures, which revise the definition and jurisdictional determination of State wetlands.

Section 4 Methods

4.1 Pre-Site Visit Data Compilation and Preparation

Before commencing the field delineation, the project ecologists conducted a thorough review of various data sources. These included site aerial photography, topographic data, existing preliminary wetland, stream, and watershed mapping, as well as soil survey maps of both the study area and its surrounding regions (Appendix A & Appendix B). This comprehensive analysis aided in characterizing the site, identifying any potentially jurisdictional Waters on a preliminary basis, and providing guidance for the on-site survey. Subsequently, background imagery along with the study area boundary were uploaded onto a professional GPS device (Trimble GeoXH 6000) to facilitate navigation and mapping during fieldwork.

The Wetland Ecosystem Technical Standard (WETS) table was generated prior to the site visit being conducted to determine relative site conditions prior to the site visit. The WETS table is generated using APT (Antecedent Precipitation Tool) v2.0.0, a tool developed jointly by the Natural Resources Conservation Service (NRCS) and the USACE (Appendix C). The table is calculated by analyzing historical precipitation data from nearby weather stations to establish monthly precipitation normals and compare them with actual precipitation for the period of interest. APT evaluates conditions as "normal," "wetter than normal," or "drier than normal" based on deviation from long-term averages, using statistical thresholds set by NRCS guidelines. This analysis helps determine hydrologic conditions relevant to wetland assessments. Precipitation in the region follows a very strong seasonal pattern of a wet season (October to April) and a dry season (May to September). The early November 2024 field survey took place following the dry season, with field conditions three months leading up to the field survey were considered normal (Table 1). It should be noted that the month leading up to the survey was considered wetter than normal with precipitation higher than the 70th percentile of the 30-year average. Data used to calculated the WETS table was taken from near by weather stations Eureka WFO Woodley Island and Eureka 0.5 ESE.

Table 1. WETS Table Analysis for the November 2nd, 2024 Survey

Precipitation Data from the Last 30 Years (1994 – 2024) [1]			Recent Field Conditions Compared to Precipitation Data from the Last 30 Years, and Analysis [1]					
Date	**30th Percentile (inches)**	**70th Percentile (inches)**	**Date**	**Recorded Rainfall (inches)**	**Rainfall Condition Compared to Previous 30 years [2]**	**Numeric Condition Value [3]**	**Weighting Factor [4]**	**Product of Condition Value and Weighting Factor [5]**
Nov	1.28	2.92	Nov 2 2024	3.29	Wet	3	3	9
Oct	0.34	1.01	Oct 3 2024	0.07	Dry	1	2	2
Sep	0.02	0.14	Sep 3 2024	1.47	Wet	3	1	3
[1] All precipitation data is obtained from Weather Station: EUREKA WFO WOODLEY ISLAND, CA [2] Below 30th percentile = dry; between 30th and 70th percentile = normal; above 70th percentile = wet. [3] Relative rainfall conditions are then translated to a numeric condition value, as follows: dry = 1, normal = 2, wet = 3. [4] Greater weight is given to the most recent month as this would most likely influence what hydrologic or vegetative characteristics are observed. [5] The numeric condition value is then multiplied by the weighting factor, then the subtotals are added to get the total value. Total value equivalents: 6-9 = dry; 10-14 = normal; 15-18 = wet					**TOTAL [5]**			14, or NORMAL

4.2 Field Survey

On November 2nd, 2024, the wetland delineation of the study area was carried out by NBC Principal Biologist Mason London and ecologist with J. Regan Consulting, James Regan. Throughout the survey, Mr. London and Mr. Regan traversed accessible sections of the study area, establishing delineation data points, and documenting additional observations on plant communities and study area characteristics. They also captured representative photographs of notable habitats and features. According to the USACE, wetlands are characterized by the presence of hydric soils, hydrophytic vegetation, and wetland hydrology. Data collection at each delineation point adhered to Version 2.0 of USACE's Western Mountains, Valleys, and Coast delineation data form. The methodology followed the Routine Wetland Determination Method outlined in the 1987 USACE Wetlands Delineation Manual (Environmental Laboratory, 1987), supplemented by guidelines from the 2010 Regional Supplement: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE, 2010). To map the boundaries of potential jurisdictional Waters within the study area, a Trimble GeoXH 6000 with nominal sub-foot precision was utilized. Detailed methodologies for collecting data on soils, hydrology, and vegetation at delineation points are provided below.

4.2.1 Soils

At each data point, soil profile pits were excavated using a rounded drain spade shovel, and an examination was conducted to identify positive hydric soil indicators. These indicators are characteristic features resulting from anaerobic conditions and persist in the soil during both saturated (reduced) and dry (oxidized) states within the upper 12 inches of soil. Examples include mottled color patterns from iron

or manganese reduction and reoxidation, and the accumulation of organic matter due to saturated environments promoting slow decomposition rates. Hydric soil field indicators exhibit distinct morphologies due to the accumulation or loss of iron, manganese, sulfur, or carbon compounds in anaerobic conditions. These indicators include assessing features such as low matrix chromas, redox features, gleys, and the presence of iron and manganese concretions. Detailed records of soil color and texture encountered at each layer were documented on delineation forms. Soil color was determined using a Munsell soil color chart (Kollmorgen, 2000), while soil texture was assessed using a standardized chart endorsed by the California Native Plant Society (CNPS), adapted from Brewer and McCann (1982). Prior to assessment, all soil samples were moistened. Soil map units were cross-referenced with both the California hydric soils list (SCS, 1993) and the national hydric soils list (SCS, 1991). Determination of whether the hydric soil criterion was met followed guidelines outlined by the National Technical Committee for Hydric Soils and the 2010 Regional Supplement: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE, 2010). Typically, soils with a matrix chroma of 1, and mottled soils with a matrix chroma of 2 or less, are considered to meet hydric soil criteria. Additionally, soils not exhibiting low matrix chromas but experiencing inundation or saturation within 12 inches of the surface for at least 5 percent of the growing season (14 consecutive days) are also classified as hydric.

4.2.2 Hydrology

Indicators of wetland hydrology were noted at each data point, such as the presence of surface water, surface soil cracks, saturated soil, water-stained vegetation, drainage patterns, and sediment deposits. Hydrological connectivity was investigated throughout the study area and surrounding habitats. Although wetland hydrology indicators are important in delineating wetlands, they are the least credible compared to soil and vegetation indicators due to variability of seasonal and local weather patterns that influence hydrology. Wetland hydrology exists at a site when it is flooded (A1), ponded (A1), or has groundwater within 12 inches of the ground surface (A2) for 14 or more consecutive days during the growing season in at least 5 out of 10 years. Wetland hydrology is the most seasonal and transitory of the three parameters. The USACE manual describes primary and secondary wetland hydrology “Indicators” that allow delineators to evaluate hydrology throughout the growing season, even late in the dry season when saturation in the upper part of the soil may no longer be present. Examples of primary indicators include surface water (A1), a high-water table (A2) (groundwater within 12 inches of soil surface), saturated soil (A3), oxidized iron along live root channels or on live root surfaces (C3), sparsely vegetated concave surfaces (B8), water-stained leaves (B9), sediment deposits (B2), stunted vegetation or stressed plants (D1) or drainage patterns (B10). Examples of secondary indicators include presence of a “dry season water table” between 12 and 24 inches below the ground surface (C2), a shallow aquitard (D3), a dense layer within 24 inches of the soil surface, the FAC Neutral Test (D5), and “geomorphic position” (D2) of the site (e.g., toe slopes, drainageways, depressions, and swales). The presence of one primary or two secondary indicators confirms wetland hydrology.

The delineation was conducted during the spring season following a wet season that resulted in normal wetland habitat conditions (see Section 4.1 above).

4.2.3 Vegetation

At each delineation data point, all herbaceous plant species within a five-foot radius were identified and a visual estimate of percent coverage for each species was recorded. Additionally, shrub species, when

present, were identified within a five-foot radius, and trees species, when present, were identified within a twenty-five-foot radius at all delineation data points. Plant species cover estimations were calibrated using CNPS percent cover templates – see the following website:

http://www.cnps.org/cnps/vegetation/pdf/percent_cover_diag-cnps.pdf.

The indicator status of each species was then checked using the most recent USACE National Wetland Plant List—Version 3.5 (USACE, 2020).

Indicator status categories are as follows:

- OBL = obligate wetland; >99% probability of occurring in a wetland
- FACW = facultative wetland; 67%-99% probability of occurring in a wetland
- FAC = facultative; 33%-67% probability of occurring in a wetland
- FACU = facultative upland; 1%-33% probability of occurring in a wetland
- UPL = obligate upland; <1% probability of occurring in a wetland
- NI = no indicator (plants not listed in the 2020 ACOE National Wetland Plant List—Version 3.5)

The wetland vegetation criterion is met when the dominant plants pass the dominance test, showing that over 50 percent of these species are designated as OBL, FACW, or FAC wetland indicators. Dominant plant species collectively account for 50 percent of the total cover within their stratum (tree, sapling/shrub/subshrub, herb, or woody vine), listed in descending order of percent cover. Additionally, any species with at least 20 percent coverage within a stratum are always considered dominant. Plant names follow Baldwin et al. (2012) and/or the Calflora database (2019). If the dominance test is not met, vegetation may still be considered hydrophytic if it meets the prevalence index, morphological adaptations, or addresses problematic wetland situations (USACE 2008).

Section 5 Results

5.1 Aquatic Resources

The survey was conducted in accordance with the three-parameter method outlined in the USACE Wetland Delineation Manual and the 2010 Regional Supplement: Western Mountains, Valleys, and Coast Region. Wetlands and other waters are regulated under Section 404 of the Clean Water Act (CWA) by the USACE and the California North Coast Regional Water Quality Board. According to the USACE, wetlands are defined as areas exhibiting hydric soils, hydrophytic vegetation, and wetland hydrology. Wetland-upland boundaries were established where at least one of these parameters was no longer present. Additionally, LiDAR-derived one-foot contours were utilized to delineate potential wetlands, channels, berms, and associated floodplain landforms within the project area.

5.1.1 Watercourses

The delineation of aquatic resources within the study area includes an intermittent Class II watercourse that flows westward from the wetland feature towards a perennial watercourse located outside the study area (Figure 3 & Appendix E; Photo 1). This watercourse, in some locations, is classified as Riverine, Intermittent, Streambed, with substrate typically exposed (R4SBJ). However, it should be noted that a culvert drains the entire length of the Class II watercourse from the edge of the wetland to the property line, where it transitions underground (Photo 2 – 4). The culverted channel, approximately 135 feet in length (measured remotely due to inaccessible areas), prevents the watercourse from functioning as a typical Class II watercourse. Flowing water was audibly detected within the culvert.

Below the culvert, off the property boundary and outside the study area, distinct Class II watercourse features are present. Dominant vegetation in this area includes red alder (*Alnus rubra*), skunk cabbage (*Lysichiton americanus*), sword fern (*Polystichum munitum*), saxifrage (*Saxifraga spp*.), salmonberry (*Rubus spectabilis*), elderberry (*Sambucus spp*.), bracken fern (*Pteridium aquilinum*), and other riparian species commonly found in this region (Photo 5).

5.1.2 Wetlands

The protocol-level wetland delineation identified an approximately 0.13-acre wetland feature within the delineated area (Figure 3 & Appendix E). This three-parameter wetland is classified as Palustrine Emergent (PEM1E), characterized by erect, rooted, herbaceous hydrophytes (excluding mosses and lichens) that persist and typically remain standing until the next growing season. The wetland is seasonally flooded or saturated (Photo 1). Three outlet culvert pipes were observed draining towards the wetland feature, located to the east, south, and central western areas (Figure 3; Photo 6 – 8). None of these culverted pipes were actively draining water towards the wetland at the site of the site visit.

During the delineation, two plots (P1 and P2) were strategically selected to delineate the boundary of the clearly observable wetland feature, based on the site's topography and the wetland's visible characteristics (Figure 3). Soil profiles were described to a depth of 12 inches to document soil characteristics, hydrologic indicators were observed, and all vegetation was identified to the taxonomic level to determine its indicator status within each plot (Appendix D). Plot P1, located within the wetland, tested positive for wetland soils, hydrology, and vegetation. In contrast, Plot P2, situated outside the

wetland, did not meet the criteria for wetland soils or hydrology but did exhibit positive wetland vegetation indicators, and therefore occurs outside of the delineated wetland boundary (Table 2).

Table 2. Wetland Plot Summary

Plot Number	Soils	Hydrology	Vegetation	Wetland Status
P1	+	+	+	Wetland
P2	-	-	+	Non-Wetland

5.1.2.1 Soils

P1, located within the wetland feature, exhibited the hydric soil indicator F3 (Depleted Matrix), along with evidence of fill soils containing gravel and crushed asphalt (Photo 9 & 10). P2, situated outside the wetland boundary, did not contain any hydric soil indicators but also showed evidence of fill soils with sand, gravel, and crushed asphalt, suggesting prior grading and sloping (Photo 11). (Appendix D)

The entire delineated site is mapped as part of the Hookton-Tablebluff complex with 2 to 9 percent slopes (Appendix A). This soil unit, found at elevations between 30 and 820 feet in Humboldt County, California, is classified as farmland of statewide importance. Receiving 41 to 53 inches of annual precipitation and mean annual temperatures of 52 to 55 degrees Fahrenheit, it features a frost-free period of 270 to 330 days. Comprising approximately 45 percent Hookton soils, 40 percent Tablebluff soils, and 15 percent minor components, the Hookton soils originate from mixed alluvium and occur on erosion remnants and summits, characterized by loam and clay loam layers extending beyond 80 inches. These soils are somewhat poorly drained, with a water table depth of 10 to 20 inches, belonging to hydrologic group C/D, and support riparian ecological sites. In contrast, Tablebluff soils, formed from eolian deposits over alluvium on side slopes, are moderately well-drained with silty clay loam and clay loam layers extending beyond 80 inches and a water table depth of 20 to 39 inches. These soils belong to hydrologic group C and are associated with low-elevation marine and floodplain terrace ecological sites. Minor components, such as urban residential land, Cannonball soils, and Megwil soils, occur on marine terraces, supporting plant communities like redwood-Sitka spruce and huckleberry. This complex is critical for its agricultural value and diverse ecological applications (Appendix A).

5.1.2.2 Hydrology

During the site investigation, P1 exhibited hydrologic indicators, confirming the presence of all three wetland parameters. P1 demonstrated a high-water table (A2) at a depth of 10 inches, soil saturation (A3) to a depth of 9 inches, and a secondary indicator of geomorphic position (D2) (Appendix D: Wetland Determination Data Form P1). These findings suggest the presence of wetland hydrology, as the shallow water table observed early in the rainy season is unlikely to result from recent rainfall, particularly since the top 9 inches of soil were not saturated. In contrast, P2 did not exhibit any hydrologic indicators, with no evidence of wetland hydrology observed (Appendix D: Wetland Determination Data Form P2).

5.1.2.3 Vegetation

Both P1 and P2 exhibited positive hydrophytic vegetation (Appendix D). P1 was dominated by small-fruited bulrush (*Scirpus microcarpus*, OBL) with 30% cover and velvet grass (*Holcus lanatus*, FAC) with 20% cover. Additional species within the plot, though not dominant, included curly dock (*Rumex crispus*,

FAC), creeping bentgrass (*Agrostis stolonifera*, FAC), Italian ryegrass (*Festuca perennis*, FAC), cleavers (*Galium aparine*, FAC), and woodland bindweed (*Calystegia sylvatica*, NI) (Photo 9). Small-fruited bulrush, an obligate wetland species, was the dominant species extending throughout the eastern portion of the wetland feature (Photo **).

P2 also exhibited positive hydrophytic vegetation, with all three species present in the plot displaying dominance: wild radish (*Raphanus sativus*, NI) at 40% cover, Italian ryegrass (*Festuca perennis*, FAC) at 25% cover, and poison hemlock (*Conium maculatum*, FAC) at 60% cover (Photo 12).

Figure 3. Map of Aquatic Resources within the delineated Study Area.

Section 6 Conclusions

6.1 Recommendations

To avoid impacts on all watercourses and wetlands, it is recommended to adhere to all Federal, State, County, and local ordinances for permitted developments. Generally, development projects should remain outside of water setbacks, with setback measurements conducted according to the current guidelines enforced by the lead agency in any permitting situation.

6.2 Conditions and Limitations

This report is based on conditions observed during a field visit on November 2nd 2024. It has not been reviewed nor have the conclusions been verified by any agencies. Future verification by regulatory agencies may be necessary. Changes in land use practices and regulations can affect the conditions and delineation results described herein.

The report, along with accompanying maps and data, should be submitted to the appropriate agencies for review and included in any permit applications necessary for proposed development projects on the property.

The location and extent of mapped features are accurate to the best of our knowledge and belief. However, the maps are not to scale, and the projections of georeferenced features may appear inaccurately on certain basemaps. An in-field survey and monumentation of relevant features for buffering or mitigation planning may be required before the initiation of permitted activities.

The significance of wetlands and the need for mitigation during development are determined by regional agents of the appropriate federal, state, and local agencies when the site is reviewed for permitting purposes.

This report was prepared for the exclusive use of the client. The consultants are not liable for any actions arising from the reliance of third parties on the information contained in this report.

Section 6 References

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Photo Documentation

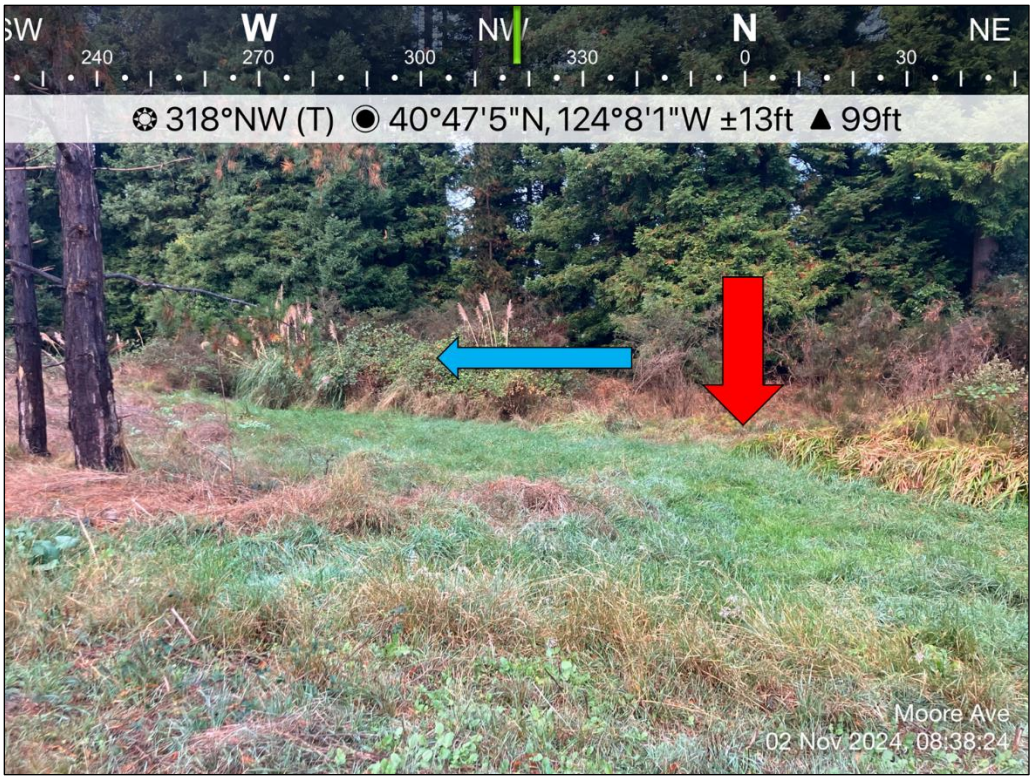


Photo 2. The red arrow marks the transition point where the wetland feature ends, and the intermittent Class II watercourse begins. The blue arrow indicates the direction of water flow.

Photo 1. A culverted section of the intermittent Class II watercourse.

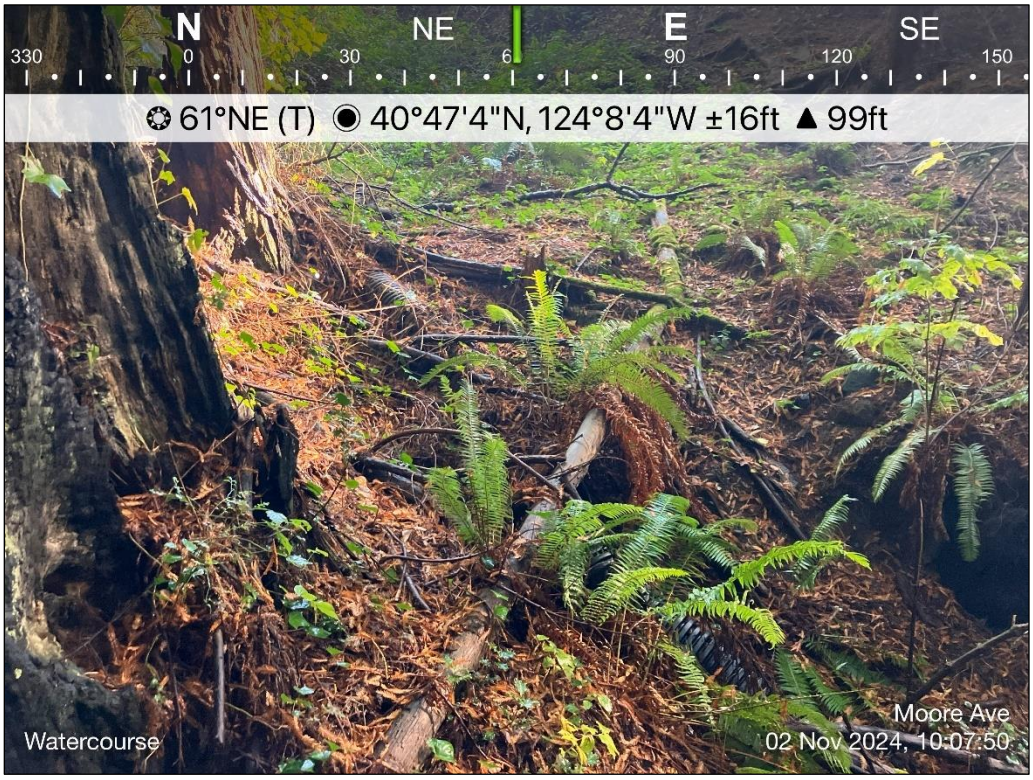


Photo 3. A culverted section of the intermittent Class II watercourse.

Photo 4. A culverted section of the intermittent Class II watercourse.

Photo 5. Vegetation around the un-culverted section of the watercourse.

Photo 6. The most southern outlet culvert near the wetland.

Photo 7. The most eastern outlet culvert near the wetland.

Photo 8. The western outlet culvert near the wetland.

Photo 9. P1 plot.

Photo 10. P1 soil profile

Photo 12. P2 plot.

Photo 11. Photopoint 1(See Figure 3 for photo location reference) showing extent of wetland feature and the dominance of bulrush.

Appendix A

Web Soil Survey Map and Report

AQUATIC RESOURCES DELINEATION

Moore Ave., Myrtletown, Humboldt County, California, 95501

Assessor Parcel Number (APN):

016-112-025, 016-112-026 & 016-112-027

December 2024

Naiad
Biological
Consulting

Map Scale: 1:900 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 40 80 160 240

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Humboldt County, Central Part, California
Survey Area Data: Version 11, Aug 28, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 1, 2022—Jun 19, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
230	Hookton-Tablebluff complex, 2 to 9 percent slopes	2.5	100.0%
Totals for Area of Interest		**2.5**	**100.0%**

Humboldt County, Central Part, California

230—Hookton-Tablebluff complex, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: 2ljdr
Elevation: 30 to 820 feet
Mean annual precipitation: 41 to 53 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 270 to 330 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hookton and similar soils: 45 percent
Tablebluff and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hookton

Setting

Landform: Erosion remnants
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

A1 - 0 to 4 inches: loam
A2 - 4 to 15 inches: loam
Bt - 15 to 27 inches: clay loam
Bw1 - 27 to 39 inches: clay loam
Bw2 - 39 to 60 inches: clay loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 10 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C/D
Ecological site: R004BA203CA - Riparian
Hydric soil rating: No

Description of Tablebluff

Setting

Landform: Erosion remnants
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits over mixed alluvium

Typical profile

Ap1 - 0 to 6 inches: silty clay loam
Ap2 - 6 to 11 inches: silty clay loam
AB - 11 to 16 inches: silt loam
Bt1 - 16 to 20 inches: silty clay loam
Bt2 - 20 to 29 inches: silty clay loam
Bt3 - 29 to 42 inches: silty clay loam
Bt4 - 42 to 49 inches: silty clay loam
Bt5 - 49 to 73 inches: clay loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 20 to 39 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very high (about 12.2 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F004BI101CA - Low elevation marine and floodplain terraces
Hydric soil rating: No

Minor Components

Urban land, residential

Percent of map unit: 5 percent
Landform: Marine terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex

Across-slope shape: Linear
Hydric soil rating: No

Cannonball

Percent of map unit: 5 percent
Landform: Marine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F004BX121CA - Redwood-Sitka spruce/salal-California huckleberry/western swordfern, marine terraces, marine deposits, sandy loam and loam
Hydric soil rating: No

Megwil,

Percent of map unit: 5 percent
Landform: Marine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F004BX120CA - Redwood-Sitka spruce/California huckleberry-salmonberry/western swordfern-deer fern, marine terraces, loam
Hydric soil rating: No

Data Source Information

Soil Survey Area: Humboldt County, Central Part, California
Survey Area Data: Version 11, Aug 28, 2024

Appendix B

National Wetland Mapper

AQUATIC RESOURCES DELINEATION

Moore Ave., Myrtletown, Humboldt County, California, 95501
Assessor Parcel Number (APN):
016-112-025, 016-112-026 & 016-112-027

December 2024

Naiad
Biological
Consulting

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetlands

December 9, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Appendix C

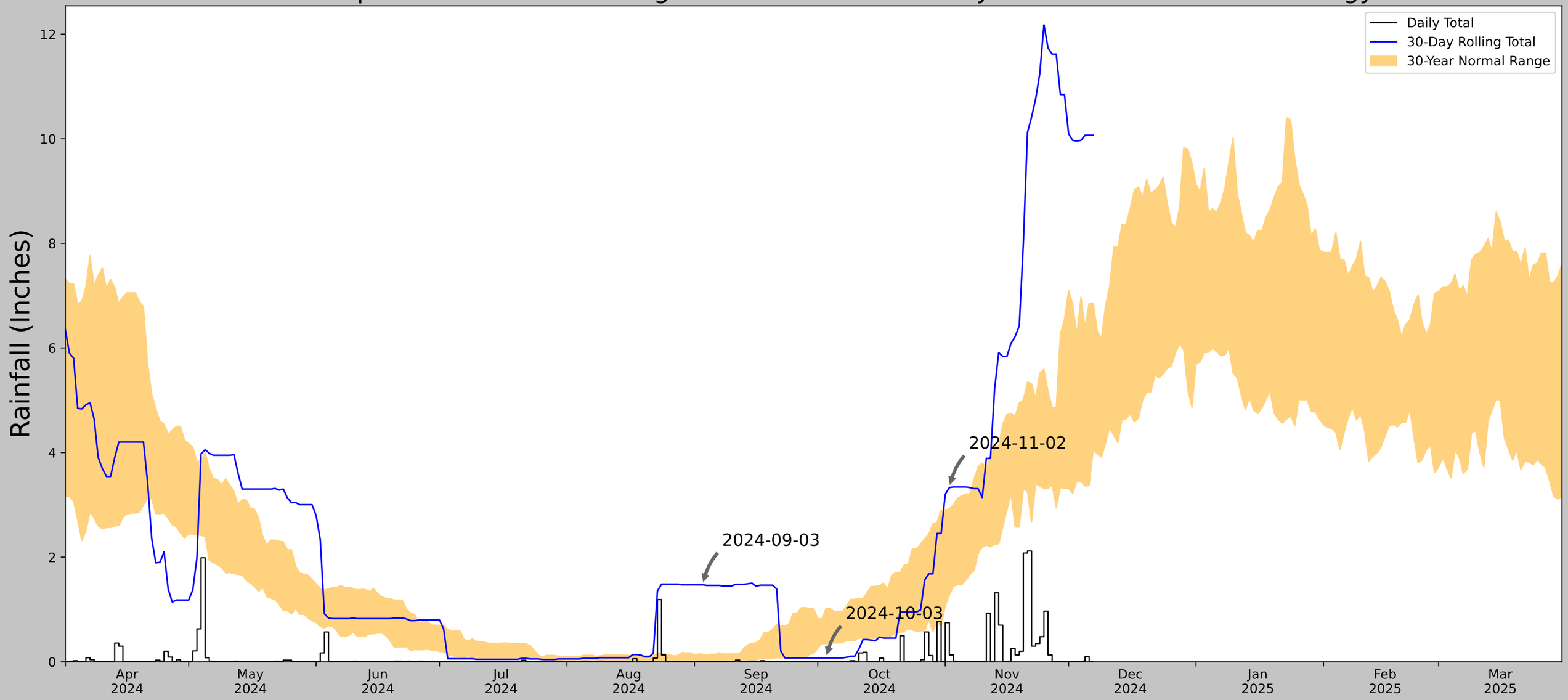
Antecedent Precipitation Tool Graph

AQUATIC RESOURCES DELINEATION

Moore Ave., Myrtletown, Humboldt County, California, 95501
Assessor Parcel Number (APN):
016-112-025, 016-112-026 & 016-112-027

December 2024

Naiad
Biological
Consulting



Coordinates	40.784986, -124.134120
Observation Date	2024-11-02
Elevation (ft)	101.962
Drought Index (PDSI)	Incipient drought

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-11-02	1.275591	2.923228	3.330709	Wet	3	3	9
2024-10-03	0.345276	1.017717	0.074803	Dry	1	2	2
2024-09-03	0.023622	0.144488	1.472441	Wet	3	1	3
Result							Normal Conditions - 14

US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
EUREKA WFO WOODLEY IS	40.8097, -124.1603	20.013	2.189	81.949	1.164	11353	90

Appendix D

Wetland Determination Data Forms

AQUATIC RESOURCES DELINEATION

Moore Ave., Myrtletown, Humboldt County, California, 95501

Assessor Parcel Number (APN):

016-112-025, 016-112-026 & 016-112-027

December 2024

Naiad Biological Consulting

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

Project/Site: Mare Ave 2024 City/County: Eureka | Humboldt Sampling Date: 11/2/24

Applicant/Owner: State: CA Sampling Point: P1

Investigator(s): James Regan Section, Township, Range: T5N, R1W, Sec. 25

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

Subregion (LRR): A Lat: 40°47'5.38"N Long: 124°5'1.39"W Datum:

Soil Map Unit Name: Hecketon-Tableblue 2-9% slopes NWI classification: Palustrine, Seasonal Emergent

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: Within created basin for stormwater catchment – culverted inputs from adjacent parcels to southwest, fill soils – outlet is a culverted crossing.

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: 1m²)			
1. Scirpus microcarpus	30%	Y	OBL
2. Rumex crispus	15%	—	FAC
3. Agrostis stolonifera	15%	—	FAC
4. Festuca perennis	8%	—	FAC
5. Holcus lanatus	20%	Y	FAC
6. Galium aparine	2%	—	FACU
7. Calystegia sylvatica	1%	—	NI
8.			
9.			
10.			
11.			
	91 = 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: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (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:

Dense ballrush further into feature.

SOIL

Sampling Point: P1

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"	10yr 3/2	100					loam dry	fill soils
4-12"	10yr 4/1	80	5yr 4/6	20%	C	M	clay loam	fill soils

[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: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks: fill soils likely - gravels + crushed asphalt present

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)
- 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 X No ___ Depth (inches): 10"

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 9"

Wetland Hydrology Present? Yes X No ____

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

Remarks: Soils moist, shallow water table early in rainy season.

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

Project/Site: Moore Ave 2024 City/County: Eureka / Humboldt Sampling Date: 11/2/24

Applicant/Owner: State: CA Sampling Point: P2

Investigator(s): James Regan Section, Township, Range: T5N, R1W, Sec 25

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

Subregion (LRR): A Lat: 40°47'5.38"N Long: 124°8'1.39"W Datum:

Soil Map Unit Name: Hedekon-Tablebluff 2-9% slopes NWI classification: R4SBC Seasonal Emerg

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 X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: Above beaver rim of created basin. Fill soils, MARGINAL VEG. Parcels to South + West, fill soils, bottom end of feature is cultivated/cropping

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: 1m²)			
1. Raphanus sativus	40%	Y	NI
2. Festuca perennis	25%	Y	FAC
3. Conium maculatum *	60%	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	125% = 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: 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 85	x 3 =	255
FACU species ____	x 4 =	____
UPL species 40	x 5 =	200
Column Totals: 125 (A)		455 (B)

Prevalence Index = B/A = 3.64

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:

* Conium was dead, likely treated but was dominant when living. Fails Fac Neutral
Fails prevalence test
MARGINAL VEG...

SOIL

Sampling Point: P2

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%					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:

Sand + gravels w/ asphalt, fill soils shaped + graded

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 evidence of wetland hydrology.

Appendix E

Project Wetland Map

AQUATIC RESOURCES DELINEATION

Moore Ave., Myrtletown, Humboldt County, California, 95501
Assessor Parcel Number (APN):
016-112-025, 016-112-026 & 016-112-027

December 2024

Naiad
Biological
Consulting


Moore Ave 2024
Wetland Delineation Plot Map
2 November 2024
APN# 016-112-027, 016-112-026
Moore Ave
Moore Ave
Moore Ave
Legend
Culv Xing
Intermittent Watercourse
Intermittent Wetland
Outlet Culv
P1
P2
Perennial Watercourse
Photopoint1
Culv Xing
Outlet Culv
Outlet Culv
P1
P2
Photopoint1
Outlet Culv
Outlet Culv
Google Earth
200 ft
N