CITY OF EUREKA
DEVELOPMENT SERVICES DEPARTMENT
Rob Dumouchel, Interim Director

531 K Street, Third Floor
Eureka, California 95501-1146
(707) 441-4160 • planning@ci.eureka.ca.gov
www.ci.eureka.ca.gov

NOTICE OF PUBLIC HEARING

EUREKA PLANNING COMMISSION

NOTICE IS HEREBY GIVEN that the Eureka Planning Commission will hold a public hearing on Mon**day, May 11, 2020,** at 5:30 p.m., or as soon thereafter as the matter can be heard. Pursuant to Executive Order N-29-20, by Governor Gavin Newson, this meeting will be conducted telephonically through Zoom. Please be advised that pursuant to the Executive Order and to ensure the health and safety of the public by limiting human contact that could spread the COVID-19 virus, City Hall will not be open for the meeting.

Project Title: ***SD Management Use Permit and Coastal Development Permit***

Project Applicant: SD Management, LLC

Case No.: CUP-19-0003/CDP-19-0009

Project Location: 4640 Broadway **APN:** 302-171-034

Zoning and General Plan Designations: MG (General Industrial)/GI (General Industrial)

Project Description:
The applicants are proposing to repair limited portions of walls, floors and roofing structural systems in the existing ~13,384 sf commercial building. Once repairs are completed, the structure will be used for cannabis volatile manufacturing, non-volatile manufacturing and distribution. Non-volatile manufacturing and distribution are both principally permitted within the (MG) General Industrial zone. Volatile manufacturing is conditionally permitted, and requires a Use Permit (CUP-19-0003). Conditional uses and repairs within 50 feet of an environmentally sensitive habitat area (ESHA) require a Coastal Development Permit (CDP-19-0009); the existing structure abuts an ESHA.

Application Date: August 1, 2019

The public is invited to participate in the following manner:

1. You can view the Planning Commission meetings live on the City of Eureka's website at www.ci.eureka.ca.gov or on Cable Channel 10. To view from the website, select Agendas, Meeting and Videos on the home page.
2. If you wish to speak and be heard during the hearing or oral communications, please submit your name, phone number and name of the item you would like to comment on by e-mail to planning@ci.eureka.ca.gov or leave a message at 707-

441-4160 on or before Monday, May 11, 2020 at 12:00 p.m. A Development Services staff member will call you during the public hearing for the item.

3. If you don't want to participate during the meeting but want to submit comment on a project or for oral communications, please submit your comment via email to planning@ci.eureka.ca.gov or you may leave a message at 707-441-4160 prior to Monday, May 11, 2020 at 12:00 p.m to ensure that the Commission receives your comment before the meeting. All comments received by email or mail will be part of the public record for consideration but will not be read aloud during the meeting.

Appeals to the City Council of the action of the Planning Commission, may be made within 10 calendar days of the action by filing a written Notice of Appeal with the City Clerk, along with the filing fees as set by the City Council.

If you challenge the nature of the proposed action in court, you may be limited to raising only those issues that you or someone else raised at the public hearing or written correspondence received during or prior to the public hearing. Accommodations for handicapped access to City meetings must be requested of the City Clerk, 441-4175, five working days in advance of the meeting. The project file is available for review at the Development Services Department. If you have questions regarding the project or this notice, please contact Kristen M. Goetz, Principle Planner, planning@ci.eureka.ca.gov or (707) 441-4160.

CITY OF EUREKA
DEVELOPMENT SERVICES DEPARTMENT

Kristen M. Goetz, Principal Planner
531 K Street • Eureka, California 95501-1146
Ph (707) 441-4160 •
planning@ci.eureka.ca.gov • www.ci.eureka.ca.gov

EUREKA CITY PLANNING COMMISSION

STAFF REPORT

May 11, 2020

Project Title: ***SD Management Use Permit and Coastal Development Permit***

Project Applicant: SD Management, LLC

Case No.: CUP-19-0003/CDP-19-0009

Project Location: 4640 Broadway **APN:** 302-171-034

Zoning and General Plan Designations: MG (General Industrial)/GI (General Industrial)

Project Description:

The applicants are proposing to repair limited portions of walls, floors and roofing structural systems in the existing ~13,384 sf commercial building. Once repairs are completed, the structure will be used for cannabis volatile manufacturing, non-volatile manufacturing and distribution. Non-volatile manufacturing and distribution are both principally permitted within the (MG) General Industrial zone. Volatile manufacturing is conditionally permitted, and requires a Use Permit (CUP-19-0003). Conditional uses and repairs within 50 feet of an environmentally sensitive habitat area (ESHA) require a Coastal Development Permit (CDP-19-0009); the existing structure abuts an ESHA.

Application Date: August 1, 2019

Staff Contact Person: Kristen M. Goetz, Principal Planner; City of Eureka, Development Services Department; 531 "K" Street, Eureka, CA 95501; (707) 441-4160, Email: kgoetz@ci.eureka.ca.gov

Staff Recommendation:

1. Hold a Public Hearing; and
2. Adopt a resolution of the Planning Commission of the City of Eureka approving a Use Permit and a Coastal Development Permit allowing building repair and volatile manufacturing at 4640 Broadway (APN 302-171-034).

Environmental: Action on the Use Permit and Coastal Development Permit is discretionary, subject to environmental review in accordance with the California Environmental Quality Act (CEQA); however, the project qualifies for a Class 1 exemption (Section 15301) from CEQA which exempts the conversion and minor alteration of existing structures. Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, minor alteration of existing public or private structures, involving negligible or no expansion of use beyond that existing at the time

of the lead agency's determination. The proposed repair and cannabis volatile manufacturing will take place within an existing structure and no expansion of the footprint of the building is proposed.

Background:

The applicant is proposing to repair the existing primary structure at 4640 South Broadway, Eureka, CA, 95501, APN 302-171-034, which is a 1.68 acre property located within the Coastal Zone. Previous development applications exist for this property, but this is an entirely new application. The previous application, dated July 29, 2019, proposed replacing a majority of the existing structure, reusing only the foundation. That proposal is no longer being pursued.

The current application is instead proposing to repair and maintain the existing main structure on the site. No work is proposed on any of the outbuildings. The proposed work includes repair of the existing 13,384 sf (approximate) commercial building, consisting of repair of limited portions of walls, floors, and the roofing structural systems. Engineering analysis shows the existing foundation system does not require repair. No expansion or reduction of the floor area is proposed. In addition to replacement of rot damaged structural components, a new water service for a new fire sprinkler system will be installed, existing electric and natural gas meters will be replaced, and the existing sewer lateral will be repaired or replaced as needed. In accordance with current ADA standards, a new van accessible parking space, accessible routes and paths of travel, restrooms, and other accessibility elements will be added.

Landscaped areas and shallow bioswales will be added to accept stormwater where possible. Downspouts from roof gutters will flow to these bioswales, which will infiltrate and sheet flow during large rain events as an improved stormwater design measure. Ground disturbance for utilities and bioswales is anticipated in previously disturbed soil to a depth of 30 inches.

Use Permit

In order to provide flexibility necessary to achieve the objectives of a district's regulations, certain districts allow conditional uses subject to the granting of a Use Permit. Use permits provide a process to review uses and activities that may be approp1iate in the applicable zone district, when the potential effects of a use on a site and its surroundings must be evaluated in order to determine if special conditions should be required prior to allowing the use in the proposed location. Because of their potentially unusual characteristics, conditional uses require this level of special consideration so they may be located properly with respect to the objectives of the zoning regulations and their effects on surrounding properties.

A Use Permit is required to authorize proposed land uses identified as "C" (conditionally permitted) in the applicable zone district use table. For uses listed as "C", the Planning Commission is empowered to grant or deny an application for a Use Permit and to impose reasonable conditions upon the granting of the Use Permit.

Once the repairs to structure are complete, the applicants intend to utilize the structure for cannabis volatile manufacturing, non-volatile manufacturing, and distribution. Non-volatile manufacturing and distribution are both principally permitted uses within the (MG) General

Industrial zone. Volatile manufacturing is listed as "C" (conditionally permitted) in the MG (General Industrial) zone use table, and requires a Use Permit.

In deciding whether a project is acceptable at a given location, the Commission must consider whether the project can be established, operated, and maintained without jeopardy to persons or property within or adjacent to the proposed site and without damage to the resources of the site and its surroundings. Appropriate criteria may be found in the General Plan (Land Use Plan) elements (such as land use, circulation, housing, noise, seismic safety, public safety, open space and conservation) as well as standards and recommendations of City departments and other agencies commenting on environmental documents or referrals for the project.

Pursuant to Eureka Municipal Code Chapter 5, Article 24, Section 10-2407, the Planning Commission must make the following findings in order to grant a use permit:

(a) The proposed location of the conditional use is in accord with the objectives of this chapter and the purposes and intent of the district in which the site is located.

(b) The proposed location of the use and the conditions under which it will be operated or maintained will not be detrimental to the public health, safety, or welfare, or materially injurious to properties or improvements in the vicinity.

(c) The proposed conditional use will comply with each of the applicable provisions of this chapter.

(d) The proposed conditional use, if located in the coastal zone, is consistent with the certified Local Coastal Program.

Analysis: The following discussion analyzes the proposed volatile cannabis manufacturing project for each of the required findings listed above. The analysis and recommendations included herein are based upon adopted regulations, current law, sound planning principals, and including site investigations, agency comments, and information submitted with the permit application.

1. Objectives and Purpose.

Pursuant to Eureka Municipal Code (EMC) Sec. 10-5.102, the zoning regulations are adopted by the City Council in accordance with the City Charter to protect the public health, safety, peace, comfort, convenience, prosperity, and general welfare. More specifically, the chapter is adopted in order to achieve the following objectives:

(a) To provide a precise guide for the physical development of the City in such a manner as to achieve progressively the arrangement of land uses depicted in the General Plan adopted by the Council. *The project site is zoned and planned General Industrial (MG and GI). The purpose of the General Industrial (GI) land use is to provide sites suitable for the development of general and heavy industrial uses. The GI land use is implemented by the purposes and standards of the MG zone district. The purpose of the MG zone, in addition to the objectives prescribed in § 10-5.102, is to achieve the following purposes: (a) To reserve appropriately located areas for industrial plants and related activities; (b) To protect areas appropriate for*

industrial uses from intrusion by dwellings and other inharmonious uses; (c) To protect residential and commercial properties and to protect nuisance-free, nonhazardous industrial uses from noise, odor, insect nuisance, dust, dirt, smoke, vibration, heat and cold, glare, truck and rail traffic, and other objectionable influences and from fire, explosion, noxious fumes, radiation, and other hazards incidental to certain industrial uses; (d) To provide opportunities for certain types of industrial plants to concentrate in mutually beneficial relationships with each other; (e) To provide adequate space to meet the needs of modem industrial developments, including off-street parking and truck loading areas and landscaping; (f) To provide sufficient open space around industrial structures to protect them from the hazard of fire and to minimize the impact of industrial plants on nearby residential and agricultural districts; (g) To minimize traffic congestion and to avoid the overloading of utilities by preventing the construction of buildings of excessive size in relation to the amount of land around them; (h) To provide locations where industries that are incompatible with most other land uses can operate with minimum restriction and with minimum adverse effect on other uses. Because the zone district and the land use plan designation are consistent with each other, and because the proposed volatile cannabis manufacturing use has previously been found consistent with the purposes of the zoning code during the text amendment process to add the volatile cannabis manufacturing use to the zoning code, granting the conditional use permit will facilitate and achieve the arrangement of land uses depicted in the Land Use (General) Plan.

(b) To foster a harmonious, convenient, workable relationship among land uses. *The proposed development is located on an established industrial parcel located on the southwest side of Eureka near the Herrick Avenue overpass and fronting on Highway 101. Prior industrial uses of the property include shipping and storage uses, including a meat processing and packing use, a wholesale produce distributor and parking of long-haul trucks and trailers. The City's wastewater treatment plant and support facilities are located northwesterly of the site, and the site of a former tallow works and dog pound, and current access to the Hikshari Trailhead are located to the west. A Caltrans Park and Ride and the Herrick Avenue overpass are located to the south, and agriculturally zoned land is used for cattle grazing across Highway 101 to the east. As such the proposed volatile manufacturing use will not divide the established community and granting the conditional use permit will foster a harmonious, convenient, workable relationship among land uses.*

(c) To promote the stability of existing land uses that conform with the General Plan and to protect them from inharmonious influences and harmful intrusions. *Because the project proposes to continue utilizing the site for industrial purposes, and the site is already developed and has previously been used for similar industrial uses, the project will facilitate and promote stability of land uses consistent with the Land Use (General) Plan.*

(d) To ensure that public and private lands ultimately are used for the purposes which are most appropriate and most beneficial from the standpoint of the city as a whole. *The structure has been vacant and under-utilized*

for several years, and has fallen into disrepair. With its primary and prominent location at the south gateway entrance to the City, the repair and reuse of the existing structure will benefit the City as a whole. Because the parcel is zoned for industrial uses, the continuing use of the private land for industrial purposes is appropriate.

(e) To prevent excessive population densities and overcrowding of the land with structures. *The granting of the conditional use permit will not result in increased population densities, and will not cause an overcrowding of land with structures since no new structures are proposed.*

(f) To promote a safe, effective traffic circulation system. *Existing vehicular access to the property via the eastbound Herrick Avenue overpass and Pound Road will remain and will not be changed. Therefore, the development will not result in adverse traffic impacts.*

(g) To foster the provision of adequate off-street parking and off-street truck loading facilities. *The project site plan shows the locations available for off-street parking and loading facilities; the project can provide more than the required number of off-street parking spaces.*

(h) To facilitate the appropriate location of community facilities and institutions. *No community facilities or institutions exist or are proposed.*

(i) To promote commercial and industrial activities in order to strengthen the city's tax base. *Granting the conditional use permit will facilitate the development of the volatile cannabis manufacturing business, and products manufactured utilizing the extracted materials can eventually be sold at retail in Eureka and will in turn result in sales tax that will strengthen the city's tax base.*

(j) To protect and enhance real property values. *The repair and utilization of the site has the potential to enhance property values in the vicinity of the development; therefore, granting the conditional use permit which will facilitate the volatile cannabis manufacturing use will protect and enhance real property values.*

(k) To safeguard and enhance the appearance of the city. *The project is subject to Design Review, however, there is no new construction being proposed that would trigger Architectural Review or Site Plan Review (Design Review). The proposed project does not include any building signage other than those signs required for accessibility and for the building street address per California Fire Code.*

Because the purposes of the MG zone district implement and support the purposes of the zoning code, if a project conforms with the zoning code's purposes, the project must, by extension conform to the purposes of the zone district in which it is located. Therefore, based on the discussion herein, Staff has determined the required finding can be made that the project is in accord with the objectives and purposes of the Zoning Regulations and the MG zone district.

2. Public health, safety, or welfare:

Referrals were sent to agencies and City departments with interest or jurisdiction over the property or the intended use of the property. No comments were received that indicated the proposed volatile cannabis manufacturing use would be detrimental to the public health, safety, or welfare, or materially injurious to the properties or improvements in the vicinity.

Therefore, because no potential impacts were identified by any agency, by City Staff, or through analysis, the finding can be made that the project would not impact the public health, safety or welfare.

3. Use complies with applicable provisions:

The applicable provisions include the development standards specified in the Eureka Municipal Code for yards, building height, size, and bulk, off-street parking and loading, landscaping, etc. The proposed volatile cannabis manufacturing use would be located in an existing building and no additions to the building are proposed. Replacement of the south wall and refurbishment of exterior siding and paint is proposed. Therefore, there is no change to yards, building height, size and bulk, etc. No new off-street parking is required by the municipal code, and parking is available along the north and south sides of the building. Other than the addition of a van accessible parking space, no new off-street parking is proposed for the use.

The Eureka Municipal Code specifies that all conditionally permitted uses require Architectural Review and commercial uses require Site Plan Review; both of these reviews are under the umbrella of Design Review. However, there is no new construction being proposed that would trigger Architectural Review or Site Plan Review. The proposed project does not include any building signage other than those signs required for accessibility and for the building street address per California Fire Code. The existing building currently includes a very large "billboard" style banner mounted on the south elevation of the building. The proposed project will remove the banner and all other signs not otherwise required. The applicant will submit an application for Design Review and a sign permit when and if they decided to install any business identification or any other signage.

The applicant has indicated no new signs are proposed. Any new signs will require a Sign Permit prior to installation.

Based on the fact that the project will comply with the required Development Standards, Staff believes a finding can be made that the project complies with the applicable provisions of the Code based on the above discussion.

4. Local Coastal Program (EMC §10-5.29300)

The site of the proposed use is located in the Coastal Zone and the Eureka Municipal Code requires a Use Permit and Coastal Development Permit be approved by the Planning Commission. The City of Eureka has permit jurisdiction for issuing the Coastal Development Permit. The project is appealable to the state Coastal Commission.

The property is located in the coastal zone and is zoned General Industrial (MG), which is intended to reserve appropriately located areas for industrial plants and to protect other

nonhazardous industrial uses from noise, odor, or other objectionable influences and to provide a location to allow hazardous uses that may have a risk of fire, explosion, noxious fumes, or other hazards. The proposed volatile cannabis manufacturing use is a potentially hazardous use, and locating the proposed use in the General Industrial zoning district conforms with the intention of zoning designation.

The subject property has a coastal Land Use designation of General Industrial (GI) which is intended to provide *sites suitable for the development of general and heavy industrial uses*. The proposed use of volatile cannabis manufacturing meets the intention of this Land Use designation.

Based on the discussion above and contained within the Coastal Development Permit analysis below, the proposed use is consistent with the Local Coastal Program's Land Use Plan and Implementation Plan.

Coastal Development Permit

The Local Coastal Program is the foundational policy document for areas of the City located in the coastal zone. It establishes farsighted policy that forms the basis for and defines the framework by which the City's physical and economic resources in the coastal zone are to be developed, managed and utilized. The Local Coastal Program is divided into two components: the first component is the *Land Use Plan*, which is the General Plan specific to land in the coastal zone. It outlines the existing conditions, permitted uses, and policies needed to achieve the goals of the Coastal Act and includes the general plan map. The second component of the Local Coastal Program is the *Implementation Plan*, which includes zoning regulations and the zoning map for land in the coastal zone, as well as specific coastal zone ordinances necessary to implement the policies of the Land Use Plan.

Eureka Municipal Code (EMC) Sec. 10-5.29300 requires approval of a Coastal Development permit prior to undertaking any development in the Coastal Zone. However, EMC Sec. 10-5.29303 exempts certain types of development from requiring a Coastal Development Permit, provided the project does not create a risk of substantial adverse environmental impact as defined in the Coastal Act.

EMC Sec. 10-5.29303 (d) exempts repair and maintenance activities which do not result in an addition to or enlargement or expansion of the object of such activities, except as otherwise specified by Section 13252 of the California Code of Regulations. Section 13252 (a) (3) (B) requires a coastal development permit for any repair or maintenance to facilities or structures or work located within 50 feet of the edge of a[n] environmentally sensitive habitat area that includes the presence, whether temporary or permanent, of mechanized equipment or construction materials.

A wetland delineation prepared by SHN (see Exhibit A) shows wetlands abut the west side of the existing building.

Additionally, EMC Sec. 10-5.2401 (c) provides projects located in the coastal zone requiring a Use Permit also require a coastal development permit issued in compliance with Sections 10-5.29300 through 10-5.29400 of Article 29 (Coastal Development Permit Procedures). Therefore,

a Coastal Development Permit is required for the work within 50 feet of the ESHA and the conditionally permitted volatile cannabis manufacturing use.

EMC Sec. 10-5.29310.1. prescribes a coastal development permit can only be approved upon making the finding that the proposed development conforms to the policies of the Certified Local Coastal Program.

Repair and Maintenance:

It must be demonstrated that the project can be defined as "repair and maintenance," and is not "redevelopment." In response to the original (June, 2019) CDP application, the California Coastal Commission's comment letter dated August 22, 2019, noted:

> *"If the proposed project qualified as repair and maintenance of the existing building, the City would not need to evaluate the building's consistency with LCP policies including wetland setback requirements and requirements for structural stability in the face of potential hazards over the building's expected life; instead, the City would just be reviewing whether the proposed method of repair and maintenance of the building complies with the certified LCP."*

Although no specific definition of what constitutes "repair and maintenance" is provided in either the Coastal Act or the City's LCP, references to repair and maintenance are found in Section 30610 (d) of the Coastal Act and Section 13252 (b) of the Commission's administrative regulations (Title 14, California Code of Regulations [CCR] 13001 et seq.), which are incorporated by reference into the City's certified LCP in Eureka Municipal Code Section 10-5.29303 (d). CCR Section 13252 (b) uses the inverse statement that replacement of 50 percent or more of a structure "is *not* repair and maintenance under Section 30610 (d) but instead constitutes a replacement structure requiring a coastal development permit. (emphasis added)" Therefore, it can be concluded that replacement of less than 50 percent of a structure is considered repair and maintenance. Public Resources Code Section 30610 (d) provides, "*Repair or maintenance activities that do not result in an addition to, or enlargement or expansion of, the object of those repair or maintenance activities* [are exempt from requiring a CDP]*; provided, however, that if the commission determines that certain extraordinary methods of repair and maintenance involve a risk of substantial adverse environmental impact, it shall, by regulation, require that a permit be obtained pursuant to this chapter."* A method to determine what constitutes 50% of a structure is also not provided. However, there are relevant example Commission findings to refer to:

1. The Coastal Commission has drafted "Residential Adaptation Policy Guidance", dated March 2018 but not yet adopted the Commission, that includes recommendations for local governments on how to add a definition of the 50% rule to Local Coastal Program updates for residential uses. A draft is available on the Commission's website here: https://documents.coastal.ca.gov/assets/climate/slr/vulnerability/residential/RevisedDraftResidentialAdaptationGuidance.pdf See pages 19 and 62-63. The document states that *"at a minimum, redevelopment should be defined as work that includes replacement of 50 percent or more of the major structural components of the building."* According to the Draft, major structural components, based on general architectural interpretation,

would include the primary gravity and lateral force resisting systems, such as foundations, posts, bearing walls, shear walls, beams, girders, joists, and trusses. Other items may also be included in the list of "major structural components," but it is clear that things like siding, windows, doors, paint, flooring, gypsum board, plumbing, electrical systems, natural gas utilities, heating, ventilation, and air conditioning systems would not be included in the calculation of what constitutes replacement of 50 percent of a residential the structure under this draft policy guidance document. The draft document also acknowledges, *"…it can be hard to distinguish redevelopment from repair and maintenance, and from improvements to an existing structure that fall short of redevelopment. The Commission's regulations indicate that the replacement of 50% or more of a structure constitutes a new replacement structure (CCR Section 13252(b)). Thus, LCP policies must, at a minimum, define development that exceeds this 50% threshold as redevelopment that must meet all relevant, current LCP standards."*

2. Coastal Commission staff provided the applicant with two example responses from the local office that were sent to other coastal development permit applicants (1-17-0625 Collenberg and 1-17-0413 Meyer) that define "redevelopment" as *"alterations (including demolition, renovation or replacement) of 50% or more of major structural components of each structure, including exterior walls, floor, roof structure or foundation."* The letters goes on to ask a number of questions that help further define what type of exterior wall, roofing, and foundation work is implicated in defining 50%. See page 3, paragraph 12 in the Collenberg letter and page 3, paragraph 11 in the Meyer letter in Attachments 3 and 4, respectively.

The City needs to understand the level of repair and maintenance proposed for the building to determine whether any of it goes beyond what is considered "repair and maintenance" under the Coastal Act. The applicant responded to the questions in the Collenberg letter, but in relation to the currently proposed project at 4640 Broadway.

The below narrative, attached detailed plans (Exhibit B), assessment of damage (Exhibit C), repair calculation (Exhibit D), and other exhibits describe the full range of repair and maintenance activities proposed for the existing building to show that the proposed work does not involve (1) alterations (including demolition, renovation or replacement) of 50% or more of major structural components of the structure, including exterior walls, floor, roof structure or foundation, and/or (2) a 50% increase in gross floor area of the structure to be repaired/maintenance. Note the project does not propose any additional floor area. Supporting documentation as applicable is provided in the referenced exhibits.

a. Exterior wall and roofing work

Collenberg Q: Would exterior cladding and/or framing systems be altered in a manner that requires removal and/or replacement of 50% or more of the elements of those cladding and framing systems (normally considered as linear length of wall)?

SD Management A: No. The anticipated percentage of exterior wall cladding and/or framing systems being altered, based on length is 13.5% per Exhibit

D, page 4. The scope of the wall repair is described on page 2 of Exhibit C, and shown on the included floor plan (labeled "WD"), occurring mostly along the southern elevation. The work involves replacing structural members and applying new cladding for that entire wall area. Other exterior walls of the building require repair of trim, windows, doors, weatherproofing, paint, and other non-structural elements. Per Exhibit C, the structural engineer recommends further inspection of walls during any remodeling work, but no additional currently exposed portions of existing exterior walls require removal and/or replacement.

Collenberg Q: Would reinforcement be needed for any remaining portions of the wall to provide structural support in excess of 50% of existing support elements (e.g. addition of 50% or more of beams, shear walls, or studs whether alone or alongside the existing/retained elements)?

SD Management A: No. A structural retrofit and/or reinforcement of the remaining portions of walls is not required or proposed.

Collenberg Q: Would any exterior wall become an interior wall as a result of the proposed repair and maintenance?

SD Management A: No.

Collenberg Q: On multi-story structures (if any), quantify the extent of alteration to the linear area of the exterior walls on each story.

SD Management A: Not applicable. One-story building.

Collenberg Q: Would the roof or floor framing be altered in a manner that requires removal and/or replacement of structural elements (e.g. trusses, joists, rafters) supporting 50% or more of the square footage of the roof or floor?

SD Management A: No.

Floor framing system: The total percentage of floor joists, girders, posts, and piers that are planned to be altered is 44% per Exhibit D, page 4. See discussion of floor repairs on page 2 of Exhibit C, and shown on the floor plan diagram where labeled "FD."

Roof framing system: The total percentage of roof joists, trusses, and rafters that are expected to be altered is 8.4% per Exhibit D, page 4. See discussion of roof repairs on page 2 of Exhibit C, and shown on the floor plan diagram where labeled "RS." This damage is mostly

found near a skylight that had been leaking, resulting in rot in the surrounding roof structural elements.

Collenberg Q: Would the roof or floor structural framing system require additional reinforcement to any remaining portions of the roof or floor system to provide structural support (e.g. addition of 50% or more of beams, joists, and/or rafters, etc., whether alone or alongside existing/retained system elements)?

SD Management A: No. Per Exhibit C, the structural engineer recommends adding plywood over the existing roof decking, but no additional reinforcement to any remaining portions of the roof or floor system to provide structural support of otherwise undamaged roof or floor beams, joists, and/or rafters is proposed.

b. Foundation Work

Collenberg Q: For proposed foundation work, identify the type of foundation underlying the structure and specify whether any proposed removal, replacement, or reinforcement of the foundation would comprise:

SD Management A: The existing building has a raised floor with perimeter concrete stem walls and interior post and pier foundation system. Per Exhibit C, page 1, the structural engineer provides a more detailed description of the existing foundation system and concludes it is in sound condition and based on the SHN Report in Exhibit E, Existing Foundation Assessment, dated March 14, 2019, that "the existing stem walls, posts and piers, and girders may be suitable to use without upgrade."

Collenberg Q: 1) 50% or more of the horizontal surface area of a slab foundation.

SD Management A: No, not applicable. The building does not include concrete slab foundations.

Collenberg Q: 2) 50% or more of the floor area of a structure supported by a pier/post and/or caisson/grade beam foundation;

SD Management A: No. There is no proposed foundation removal, replacement, or reinforcement, so there will not be any subsequent compromise to the pier/post foundation system.

Collenberg Q: 3) 50% or more of the perimeter foundation; and/or

SD Management A: No. There is no proposed foundation removal, replacement, or reinforcement, so there will not be any subsequent compromise to the perimeter foundation system.

Collenberg Q: 4) Whether total alterations would involve 50% or more of the foundation where a structure has multiple foundation types.

SD Management A: No. There is no proposed foundation removal, replacement, or reinforcement, so there will not be any subsequent compromise regardless of foundation type.

c. Alterations:

Collenberg Q: Would the cost of the proposed alterations equal or exceed 50% of the market value of the structure (based on documented construction bid costs and either an appraisal by a professional property appraiser or County assessor data)?

SD Management A: An alternative analysis is provided. See Exhibit D, which shows that the percentage of structure proposed to be repaired or replaced is 9.84% by cost as compared to the expected cost to repair the entire structure.

Comparing the cost of the proposed alterations to the estimated market value by an appraiser or County Assessor data would only provide a skewed figure. Such a comparison does not account for the high cost of construction due to the combination of regulations and a shortage of skilled labor, and the fact that appraisals and assessor data is often much lower than the true market value because there are few comparison properties recently sold in the area with a similar zoning, size, and other features. An appraisal may also be limited in establishing fair market value because it may not be able to fully estimate the income potential of the structure based on the various possible businesses, especially in California's newly regulated cannabis industry.

Therefore, comparing the high cost of construction against the general undervaluing of commercial real-estate causes a distorted perspective. A more applicable cost analysis would be to determine if the cost of the proposed alterations would be equal to or greater than 50% of the projected cost to repair or replace the entire structure. This construction cost comparison approach neutralizes the relative high cost of construction in the percentage, resulting in a more relevant figure in determining compliance with Section 13252 (b) of the Commission's administrative regulations, which specifies "the replacement of 50 percent or more" of a structure. See Exhibit D for complete calculations.

The above discussion demonstrates the proposed project qualifies as "repair and maintenance," and is not "redevelopment", and the finding can be made that the project, as proposed, is repair and maintenance pursuant to the Coastal Act.

Building Location and Layout:

According to the data shown in the boundary survey by Gutierrez Land Surveying (Exhibit F), the existing building will continue to be approximately 135 feet in maximum length (North/South) and 169 feet 4 inches in maximum width (East/West), and will continue to be within the existing footprint of the existing building. The existing building is approximately 27 feet 10 inches from the northern property line, 24 feet 3 inches from the western property line, and 140 feet 5 inches from the southern property line, measured at the closest points. The structure is approximately 29 feet at its closest point near the southeast corner of the building to the East property line, which includes an existing Cal-Trans chain link fence bordering Highway 101.

There is an existing 32-foot-wide easement and right-of-way for utility purposes to the City of Eureka per 1761 O.R. 1315; the southeast corner of the building encroaches on the easement by about 3 feet, and covers approximately 41 square feet within the easement. Additionally, there is a 20-foot-wide easement for utility purposes to the State of California per 1692 O.R. 1060. Neither easement will be impacted by the proposed repair project.

A new security gate is proposed to protect the existing building and property. The gate would be constructed over the existing gravel driveway and be 7 feet in height and 20 feet in clear width per approval of Eureka Police Department and Humboldt Bay Fire. A Knox box will be provided. The Fire Department Connection (FDC) is proposed to be located at the gate. See the proposed site plan on sheet A1.4 of the Schematic Design drawings (Exhibit B). Footings for fencing and gates will be no greater than 30 inches in depth and all provisions for protection of wetland resources and all archeological conditions of approval will be implemented.

Wetlands:

The property where the repair and maintenance of the existing building is proposed includes wetland resources as documented in the Wetland and Other Waters Delineation Report for Assessor's Parcel Number 302-171-034, Eureka, CA, prepared for SD Management, January 2020, by SHN (Exhibit A). That report includes delineation of coastal wetland resources in proximity to the proposed work. The locations of the wetland boundaries have been incorporated into a property boundary survey by Gutierrez Land Surveying, dated May 1, 2019, and marked "Revision 1." (Exhibit F).

Although most work will occur from and within the building, work for utility installation and parking will occur outdoors. In order to ensure the existing wetlands will not be impacted, all work will comply with the Construction Phase Mobilization Plan on Sheet A1.7 of Schematic Design Drawings (Exhibit F) and BMPs included as condtions of approval relating to Construction Areas; Land Disturbance and Soil Compaction; Soil Stabilization; Erosion from

Rains; Plastic Netting; Construction Near Coastal Waters; Stockpiling; and Minimizing Other Pollutants from Construction.

With the implementation of these specifications and conditions, there will be no impact to the existing wetland resources.

U.S. Army Corps of Engineers

There is no work proposed or repair of any structures extending bayward or seaward of the line on the shore reached by mean high water (MHW), in tidal waters or ordinary high water in non-tidal waters designated as navigable waters of the United States. Additionally, no work or structures are proposed in unfilled portions of the interior of a diked area below former MHW. There are no proposed discharges of dredged or fill material and therefore no 404 CWA permit is necessary based on comments received from the Army Corps. The project has been designed to avoid all impacts to jurisdictional waters of the United States, and any adjacent wetlands that may be present.

Stormwater: The proposed repair project does not disturb any land area except for the bioswales, therefore the project does not require coverage under the California Construction General Permit and no SWPPP is required. In accordance with the North Coast Regional Water Quality Control Board, a building repair that does not add any impervious surfaces is not a Regulated Project per City of Eureka Phase II MS4 Permit Section E.12.c., and therefore does not require measures for site design, source control, runoff reduction, storm water treatment and baseline hydro modification management.

Comments received based on the previous proposal indicated the Phase II Permit would apply in the scenario where the entire existing building was proposed to be replaced (regardless of whether it re-used the existing foundation). In this revised proposal, however, the entire building will remain, and only a portion will be repaired as described in the project description and exhibits.

Even though not required by the MS4 Permit, the applicant is proposing to provide shallow bioswales to accept stormwater from roof drains where possible. Downspouts from roof gutters will flow to these bioswales, which will infiltrate and sheet flow during large rain events as an improved stormwater design measure. The California Green Building Standards Code requires stormwater BMP's. The Construction Documents will include an erosion control plan ensure that Best Management Practices (BMPs) are implemented during the course of all construction activities. Refer to Coastal Zone Construction BMP Guide by SHN (Exhibit G) for the performance measures required to be followed as well as the complete Natural Resources Assessment, with recommendations, by SHN (Exhibit H), and the Construction Phase Mobilization Plan on Sheet A1.7 of Schematic Design Drawings (Exhibit B).

The required BMPs are to be designed to prevent, intercept, and treat any potential pollutants, including sediment, dust, oils, solvents, or other materials from leaving the site or harming habitat areas. These measures will require, but not be limited to: removal of debris promptly from the construction site; limit storage of machinery or materials to approved staging and storage areas, construction equipment to be inspected for leaks of fuel or lubricants; placement of erosion and sediment interception and containment measures along drainage courses; drain

inlet protection and filtering; routine street sweeping and dust prevention measures, and pollution prevention and housekeeping staff training. The site will be inspected daily and any deficiencies shall be documented and corrected.

Bioswales and Existing Paved Areas: The proposed bioswales will be installed within existing gravel and other areas adjacent to the existing building, maximum of 30" deep and shaped with rock and gravel, with the outer edge meandering to create a natural setting. The bioswales will not be located within any delineated wetland areas. Refer to the wetland notes for related requirements. The existing gravel driveway area is 23,245 SF in area. 3,374 SF of the existing gravel driveway is proposed to be converted to landscaped bioswales. The remaining gravel driveway would be 19,871 SF in area. The existing 2,626 SF of concrete pavement will remain, or be removed in select areas where required. New concrete will be placed over existing paved areas to create a van accessible parking space and accessible entrance and transformer utility pad. There will be a total sum of 350 SF of increase in concrete paved area that replaces existing gravel driveway areas. Refer to Site Coverage Schedule on Sheet A1.4 Proposed Site Plan and L1.1 Landscape Plan of Schematic Design Drawings (Exhibit B).

Landscaping: The areas within the bioswales will be landscaped with only native species. No species listed as problematic and/or invasive, or noxious weed, by the California Native Plant Society, the California Invasive Plant Council, or by the State of California shall be planted or allowed to naturalize or persist in landscaped areas. Rodenticides containing any anticoagulant compounds, including, but not limited to, Bromadiolone, Brodifacoum, or Diaphacinone, will not be used or stored on the property. No existing trees are to be removed as part of this project.

The schematic Landscape Plan on Sheet L1.1 of the Schematic Design Drawings (Exhibit B) provides a basis of design which will be developed fully for building permit application submittal. The full construction documents will include the proposed planting schedule, species, type, pot size, and location of all plant materials. The intent of the landscape plan is to enhance the performance of the roof drain bioswales as well as to improve habitat, to enhance the aesthetics of the building, and to enhance views of the surrounding coastal resources.

Landscaping will be installed per the detailed specifications provided by a design professional. There will be no permanent irrigation system, but hose bibs will be provided for temporary watering the first two summers. A landscape maintenance plan will be submitted for approval during the construction phase. Invasive species including Himalayan blackberry should be removed. Landscaping will be maintained to prevent overgrowth and for visibility for security and law enforcement services.

Parking:

New off-street parking spaces are not required per City of Eureka Municipal Code §10-5.1502, because there is no change of use and no enlargement of the building or addition which would increase the number of parking spaces required.

The proposed repair of the existing building is an "alteration," but it does not include any expansion, additional square footage, or change of use. The building will continue to be used as manufacturing and distribution; therefore, the existing gravel driveway may remain, and no new parking is required. However, pursuant to the 2019 California Building Code, a new van

accessible parking space is required and will be provided. A new ramp and accessible route from the new space will be provided to the main entrance as shown on the site plan (Exhibit B).

No new site grading or paving is required or will occur as part of the proposed project. All work will occur within the footprint of the existing structure, with the exception of concrete placed over existing paved areas for the required new van accessible parking space.

The site is currently accessed only by vehicle, there is no pedestrian route from the public right of way through the adjacent private parcel to access the building. 2019 CBC 11B-206.2.1 requires site arrival points to include at least one accessible route from parking spaces, loading zones, public streets and sidewalks, and public transportation stops to the accessible building or facility entrance they serve. However, 11B-206.2.1 Exception 2 to that section states: "an accessible route shall not be required between site arrival points and the building for facility entrance if the only means of access between them is a vehicular way not providing pedestrian access." Therefore, no accessible sidewalk to the public right of way is required for the proposed project.

Utilities:

All required utilities are existing and/or will be improved as part of the proposed repair project including municipal water, sewer, electric, natural gas, and telecommunications. No utility trenching will occur within wetland areas.

Domestic water supply is existing, and will continue to be provided by Humboldt Bay Municipal Water District, including both domestic water and to serve a fire sprinkler system. The existing 8” diameter PVC domestic water pipe near the northeast corner of the property is routed from under Highway 101 in existing steel casings.

The existing water main will be extended and a new connection for the proposed fire sprinkler system will be provided, as well as a new domestic water meter. A new fire hydrant will provide additional protection to this area, as well as serve as an end of line “blow-off” according to City of Eureka Public Works. Trenching will occur within the easement areas and be limited to digging in existing gravel areas only. The new water piping will be less than 10 feet from the existing parallel sanitary sewer. Trench design and backfill will comply with civil engineering details in coordination with geotechnical engineer. Water use at the facility is low compared to previous building usage and the project does not impose demands on water infrastructure.

The building will continue to be served with sewer collection from the municipal system through an existing 4-inch diameter sewer lateral near the northeast corner of the property. The sewer will be equipped with adequate protection from fats, oils, and grease in accordance with City of Eureka Public Works Source Control standards and in accordance with California Plumbing Code. A new lateral clean-out will be provided.

Electric service will continue to be provided by PG&E with an existing PG&E electric vault located on the east side of the property. The existing service will be upgraded as required by electrical engineering to be submitted with the building permit application. A new pad mount transformer and electric service main is indicated on the proposed site plan, sheet A1.4 of the Schematic Design Drawings (Exhibit B). A back-up generator is also proposed and will be located

and installed per NFPA 37 and CA Electric Code. New underground conduits will be provided per PG&E standards.

Natural gas will continue to be provided by PG&E, with the natural gas meter being relocated as indicated on the schematic design drawings. Telephone and cable are existing and will be upgraded as necessary. Drainage from the project parcel will not connect to the municipal storm drain system.

Fire and Life Safety:

A new automatic fire sprinkler and fire alarm system will be installed int the building in accordance with 2019 CA Building Code, NFPA 13, and NFPA 72. A compliant egress system will be provided within the allowable exit access travel distances, exits, and egress door hardware and landings. Panic devices, emergency exit signs, fire extinguishers, and egress illumination at all exit routes, doors, and landings will be provided where required. Fire rated assemblies will be included where required for separation of fire areas.

Archeological, Cultural, and Paleontological:

The project will include measures to ensure that all potential archeological and cultural resources are appropriately protected. There are no known resources at the project site, however, the preliminary plans have been shared with the local tribal representatives for review and comment during the previous referral period. The response was to require Inadvertent Archaeological Discovery Protocol.

Digging is limited in the proposed project. The extent of earth work is limited to construction of new bioswales and utility trenching for new City of Eureka and PG&E utilities. If an area of cultural deposits is discovered during the course of the project, all construction shall cease and shall not recommence except with the approval of the Authorities Having Jurisdiction. A supplementary archaeological plan may be required prior to such recommencement and any proposed modifications to the construction plans.

The existing building was constructed after August 1940, per the original construction drawing (Exhibit I). The methods of construction were as appropriate for agricultural operations using fairly simple rectangular building forms, with multiple alterations and additions. The structure is not identified on any cultural resources survey and the engineer J.E.Rowland Consulting Packing House Engineers appears to be a plan that was part of a commercial development company's work. There are no distinctive architectural elements. The building has failed structurally due to weather infiltration at the roof, walls, and fenestration. Rehabilitation is not feasible. Based on the findings of McSorley Architecture, based on multiple site visits, limited research of archival documentation, measured drawings, photographs, historic aerial photos, and further evaluation, the existing building does not represent a significant cultural or historic resource. The proposed project is consistent with the Secretary of Interior's Standards, and will include repair and reconstruction of conditions to correct serious safety issues.

Public Access and Coastal Recreational Opportunities: The proposed project does not affect public safety, public or private property rights, trails, pathways, parking, or any other area of concern regarding public access to and the enjoyment of the shoreline. During the brief period

of construction activities, there may be construction vehicles moving to and from the construction site, but this will be of minimal duration and will not require closing of roadways or other access points to the coastal resources.

Aesthetics: The proposed project will result in no adverse impacts to the scenic and visual qualities of this coastal area. By repairing the building and removal of the large billboard signage, the project will restore and enhance views to and along the ocean and scenic areas, will cause no alteration to natural landforms, and is compatible with surrounding areas. The visual resources in this area consist of highly scenic ocean vistas and scenery including the Elk River, Humboldt Bay, and related offshore rocks, coastal vegetation, forests, marine wildlife, and geologic topography. The immediate area around the existing building includes wetland resources which are to be protected. The proposed repair will not impact the overall character of the building, nor will it change the area or height.

The proposed project shall comply with 2019 California Fire Code Chapter 38 for Plant Processing and Extraction Facilities. Materials used in the processes of manufacturing shall comply with approved Standard Operating Procedures. Hydrocarbon methods for extraction may use butane and liquid propane gases, and ethanol in quantities per the 2019 CA Building Code Table 307.1(1). Additional fluids that are used and stored at the facility include isopropyl alcohol, pentane, and acetone. All chemicals shall be stored in rated storage cabinets and rooms shall be equipped with means of prevention of spills or leaks.

Odor:

Odor control will be provided by carbon filtration sections on HVAC return air ducts & inline exhaust ducts, where compliant with California Mechanical Code and the listed installation instructions of equipment. In addition, local recirculating portable carbon filters units are provided throughout as indicated on plans to be submitted with building permit application. Even without these measures there are no adjacent buildings or uses close enough which would experience any adverse impacts due to odor.

LCP Analysis: Eureka Municipal Code Sec. 10-5.29310.1 requires that a Coastal Development Permit be approved only upon making the finding that the proposed development conforms to the policies of the Local Coastal Program.

Implementation Plan Analysis

The Coastal Development Permit must be found to conform with the purposes and objectives of the zoning code, the MG zone district, and the overall objectives of the Coastal Zone (EMC §10-5.2902). Discussion of the project's conformance with the zoning code and MG zone district are provided under the Use Permit analysis. Analysis of conformance to the overall objectives of the Coastal Zone is below:

> **(a) Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and human-created resources.** *The proposed manufacturing use will be contained within an existing structure and does not involve new development. Repair of the building is conditioned upon the implementation of Best Management Practices to protect the wetlands*

adjacent to the building. The approval of the proposed use is anticipated to have no negative effects or impacts on the quality of the coastal zone environment.

(b) Assure orderly, balanced utilization and conservation of coastal zone resources, considering the social and economic needs of the people of this region, state, and nation. *The repair will be completed on an existing building, and the proposed use will be contained within an existing structure in a general industrial area. The project supports the social and economic needs of the region by filling a vacant space and creating jobs. The conversion of the former Pro Pacific building to cannabis uses, and specifically an active and secure volatile cannabis manufacturing facility, will deter any inappropriate use in the area. The approval of the proposed use will have no impact on the utilization and conservation of coastal zone resources.*

(c) Maximize public access to and along the Humboldt Bay shoreline, and maximize public recreational opportunities in the coastal zone, consistent with sound resource conservation principles and constitutionally protected rights of private property owners. *The site is not adjacent to Humboldt Bay or any other shorelines or coastal recreational amenities. The use will be contained within an existing industrial structure. The introduction of a volatile cannabis manufacturing facility is not anticipated to impact coastal access or conservation.*

(d) Assure priority for coastal dependent and coastal-related development over other development on the shoreline. *Not applicable. The property is not located along a shoreline or waterway. The site is located in a longstanding industrial area and is surrounded by open spaces and other non-coastal-dependent uses.*

(e) Provide a definite plan for development so as to guide the future growth of the City within the Coastal Zone. *The Local Coastal Program provides for the development and growth of the City within the coastal zone; the building is an existing industrial structure and the proposed use is consistent with the purposes of the Coastal Land Use Plan and the Coastal Implementation Plan (zoning).*

(f) Protect the social and economic character and stability of residential, commercial, agricultural, and industrial areas within the City. *The proposed use will be contained within an existing industrial structure. The proposed use will not negatively affect the stability of the existing surrounding area, open spaces, or agricultural uses. The project is likely to have a positive impact on nearby properties through the use of the currently vacant structure. The proposed use will not be inharmonious with the existing industrial and open space character of the area. Through the application of conditions of approval, and through the enforcement of other existing City regulations, the use will not be permitted to allow cannabis odors to be detectable outside of the facility and cannabis plants will not be seen from outside the facility.*

Based on the discussion above, the finding can be made that the proposed repair and maintenance and volatile cannabis manufacturing facility conform with the objectives of the Coastal Zone.

Land Use Plan Analysis

Staff reviewed the goals and policies in the adopted and certified Land Use Plan to determine whether the project conforms to the LUP. The review found the project does not conflict with any of the adopted goals and policies; therefore, this finding can be made.

Agency and Departmental Comments*:* Referrals were sent to several agencies and City departments with interest or jurisdiction over the property or the intended use of the property. The following Agencies/Departments commented:

1. Tribal: If any ground disturbance is planned now or in the future all tribes must be notified.

No other comments were received which indicate that the proposed cannabis retail facility use will be detrimental to the public health, safety, and welfare.

Support Material:

Attachment 1: Planning Commission CUP Resolution ..... page 21
Attachment 2: Planning Commission CDP Resolution..... page 25
Attachment 3: Collenberg Letter ..... page 29
Attachment 4: Meyer Letter..... page 35
Exhibit A: SHN Wetland Delineation ..... page 41
Exhibit B: Schematic..... page 145
Exhibit C: Damage Assessment ..... page 157
Exhibit D: Repair Estimate ..... page 164
Exhibit E: Foundation Assessment ..... page 168
Exhibit F: Boundary Map ..... page 171
Exhibit G Construction BMPs..... page 172
Exhibit H Natural Resources Assessment ..... page 176
Exhibit I Original Floor Plan ..... page 228

PLANNING COMMISSION RESOLUTION NO. 2020-__

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF EUREKA APPROVING THE USE PERMIT (CUP-19-0003) TO ALLOW A VOLATILE CANNABIS MANUFACTURING FACILITY AT 4640 BROADWAY; APN 302-171-034.

WHEREAS, the property at 4640 Broadway is located within the Coastal Zone, with coastal General Industrial (MG) zoning, and a coastal land use designation of General Industrial (GI); and

WHEREAS, the applicant is planning to operate a volatile cannabis manufacturing facility, non-volatile manufacturing and distribution; and

WHEREAS, non-volatile manufacturing and distribution are principally permitted uses in the MG zone; volatile cannabis manufacturing facilities are conditionally permitted and require a Use Permit; and

WHEREAS, conditionally permitted uses in the Coastal Zone require a Coastal Development Permit and CDP-19-0009 is being processed separately; and

WHEREAS, the Eureka Municipal Code §10-5.2407.1 prescribes the findings required to be made by the Planning Commission prior to granting a Use Permit; and

WHEREAS, the Planning Commission has reviewed the proposed project in accordance with Eureka Municipal Code Title 10 Chapter 5 and after due consideration of all testimony, evidence, and reports offered at the public hearing, does hereby find and determine the following facts:

a. Granting the Use Permit will facilitate and achieve the arrangement of land uses depicted in the general plan.

b. The project will foster a harmonious, convenient, workable relationship among land uses.

c. The project will facilitate and promote stability of land uses consistent with the general plan.

d. The project will create jobs and eliminate blight in a vacant building, which is a benefit to the city as a whole.

e. Granting the Use Permit will not result in increased population densities, and will not cause an overcrowding of land with structures.

f. The facility will not result in adverse traffic impacts.

g. The project site contains existing off-street parking and no new off-street parking of loading spaces are required.

h. No community facilities or institutions exist or have been proposed at the site.

i. Implementation of the project will greatly enhance property values in the vicinity of the development thereby protecting and enhancing real property values.

j. No new signage is proposed for the site.

k. The project will occur entirely within an existing building and repair to the exterior of the existing structure is proposed.

l. The project, as conditioned by the Coastal Development Permit, will not result in any adverse environmental impacts to ESHA or wetlands.

m. The proposed project complies with the applicable provisions of the Code in compliance with the standards for the MG zone.

n. No substantial adverse environmental impact will result from the proposed project.

o. Action on the Use Permit is a discretionary action subject to environmental review in accordance with the California Environmental Quality Act (CEQA); however, the project qualifies for a Class 1 exemption from CEQA which exempts the conversion and minor alteration of existing structures. The proposed volatile cannabis manufacturing use will be operated within the existing industrial structure and does not call for the expansion of the footprint of any buildings.

p. The proposed volatile cannabis manufacturing facility and its proposed location are in accord with the objectives of Title 10, Chapter 5 of the Eureka Municipal Code and the purposes of the district in which the site is located.

q. The project location and the conditions under which the volatile cannabis manufacturing facility will be operated or maintained will not be detrimental to the public health, safety, or welfare or materially injurious to properties or improvements in the vicinity.

WHEREAS, in the opinion of the Planning Commission of the City of Eureka, the proposed application should be approved subject to the following conditions:

1. Prior to operation, any cannabis business operating at the subject property will install odor control measures to the satisfaction of the City Building Department. The odor control measures must be effective at controlling cannabis odors such that no cannabis odors will be detectable outside the exterior walls of the facility.

2. At no time will cannabis plant material be visible from the exterior of the property. This includes cannabis plant materials that are present onsite, in any building at the site, or in any vehicles at the site. The only exception to this condition is during brief periods of loading and unloading.

3. Prior to operation, any cannabis related business proposing to operate at the subject property will meet with the City of Eureka Fire Department, Building Department, and Police Department and will implement safety, security, and other related requirements to the satisfaction of those Departments.

4. Prior to and during operation, a security system will be installed and maintained for the building and the site to the satisfaction of the Police Department. The security system(s) will be designed as a means of deterring and discouraging criminal activity at the property for as long as any business is engaged in any cannabis use.

5. Prior to commencement of any demolition, remodeling or construction, the applicant will obtain all required Building and Fire permits to the satisfaction of the City of Eureka Building and Humboldt Bay Fire Departments.

6. If archaeological resources are encountered during construction activities, all onsite work shall cease in the immediate area and within a 50-foot buffer of the discovery location. A qualified archaeologist will be retained to evaluate and assess the significance of the

discovery, and develop and implement an avoidance or mitigation plan, as appropriate. For discoveries known or likely to be associated with native American heritage (prehistoric sites and select historic period sites), the Tribal Historic Preservation Officers for the Bear River Band of Rohnerville Rancheria, Blue Lake Rancheria, and Wiyot Tribe are to be contacted immediately to evaluate the discovery and, in consultation with the project proponent, City of Eureka, and consulting archaeologist, develop a treatment plan in any instance where significant impacts cannot be avoided. Prehistoric materials may include obsidian or chert flakes, tools, locally darkened midden soils, groundstone artifacts, shellfish or faunal remains, and human burials. Historic archaeological discoveries may include 19th century building foundations; structure remains; or concentrations of artifacts made of glass, ceramic, metal or other materials found in buried pits, old wells or privies.

If paleontological resources, such as fossilized bone, teeth, shell, tracks, trails, casts, molds, or impressions are discovered during ground-disturbing activities, work shall stop in that area and within 100 feet of the find until a qualified paleontologist can assess the nature and importance of the find and, if necessary, develop appropriate treatment measures in conformance with Society of Vertebrate Paleontology standards, and in consultation with the City of Eureka.

In the event of discovery or recognition of any human remains during construction activities, the landowner or person responsible for excavation would be required to comply with the State Health and Safety Code Section 7050.5. Construction activities within 100 feet of the find shall cease until the Humboldt County Coroner has been contacted at 707-445-7242 to determine that no investigation of the cause of death is required. If the remains are determined to be, or potentially be, Native American, the landowner or person responsible for excavation would be required to comply with Public Resources Code Section 5097.98. In part, PRC Section 5097.98 requires that the Native American Heritage Commission (NAHC) shall be contacted within 24 hours if it is determined that the remains are Native American. The NAHC would then identify the person or persons it believes to be the most likely descendant from the deceased Native American, who in turn would make recommendations to the landowner or the person responsible for the excavation work for the appropriate means of treating the human remains and any associated grave goods within 48 hours of being granted access to the site. Additional provisions of Public Resources Code Section 5097.98 shall be complied with as may be required.

7. If any business handles hazardous materials at any one time, in a quantity equal to, or greater than a total weight of 500 pounds, a total volume of 55 gallons, or 200 cubic feet of gas at standard temperature and pressure, the business must report these activities via the California Environmental Reporting System (CERS) and complete a Hazardous Materials Business Plan (HMBP) submitted via CERS. HMBP information must be updated in CERS within 30 days of beginning storage of chemicals, or operation. Business must maintain compliance with all HMBP requirements and inspections.

8. Construction, including demolition and repair activities will comply with all conditions of approval adopted for CDP-19-0009.

NOW THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Eureka does hereby approve the Use Permit application, subject to the conditions listed above.

PASSED, APPROVED AND ADOPTED by the Planning Commission of the City of Eureka in the County of Humboldt, State of California, on the 11th day of May, 2020 by the following vote:

AYES: COMMISSIONER
NOES: COMMISSIONER
ABSENT: COMMISSIONER
ABSTAIN: COMMISSIONER

_____
Jeff Ragan, Chair, Planning Commission

Attest:

_____
Kristen M. Goetz, Executive Secretary

PLANNING COMMISSION RESOLUTION NO. 2020-__

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF EUREKA APPROVING THE USE PERMIT (CDP-19-0009) TO ALLOW REPAIR AND MAINTENANCE OF THE EXISITNG BUILDING AND A VOLATILE CANNABIS MANUFACTURING FACILITY AT 4640 BROADWAY; APN 302-171-034.

WHEREAS, the property at 4640 Broadway is located within the Coastal Zone, with coastal General Industrial (MG) zoning, and a coastal land use designation of General Industrial (GI); and

WHEREAS, the applicant is planning to perform maintenance and repair on the existing industrial structure and to then operate a volatile cannabis manufacturing facility, non-volatile manufacturing and distribution; and

WHEREAS, non-volatile manufacturing and distribution are principally permitted uses in the MG zone; volatile cannabis manufacturing facilities are conditionally permitted and require a Use Permit. A Use Permit is being processed under a separate permit (CUP-19-0003); and

WHEREAS, the Eureka Municipal Code §10-5.29310.1 prescribes the findings required to be made by the Planning Commission prior to granting a Coastal Development Permit; and

WHEREAS, the Planning Commission has reviewed the proposed repair and maintenance and operation of a volatile cannabis manufacturing facility in accordance with Eureka Municipal Code Title 10 Chapter 5 and after due consideration of all testimony, evidence, and reports offered at the public hearing, does hereby find and determine the following facts. Granting the coastal development permit will

a. Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and human-created resources.

b. Assure orderly, balanced utilization and conservation of coastal zone resources, considering the social and economic needs of the people of this region, state, and nation.

c. Maximize public access to and along the Humboldt Bay shoreline, and maximize public recreational opportunities in the coastal zone, consistent with sound resource conservation principles and constitutionally protected rights of private property owners.

d. Assure priority for coastal dependent and coastal-related development over other development on the shoreline.

e. Provide a definite plan for development so as to guide the future growth of the City within the Coastal Zone.

f. Protect the social and economic character and stability of residential, commercial, agricultural, and industrial areas within the City.

g. Action on the Coastal Development Permit is a discretionary action subject to environmental review in accordance with the California Environmental Quality Act (CEQA); however, the project qualifies for a Class 1 exemption from CEQA which

exempts the conversion and minor alteration of existing structures because it will take place within existing structures and does not call for the expansion of the footprint of any buildings.

h. The proposed cannabis retail facility and its proposed location is in accord with the objectives of Title 10, Chapter 5 of the Eureka Municipal Code and the purposes of the district in which the site is located.

i. The project location and the conditions under which it would be operated or maintained will not be detrimental to the public health, safety, or welfare or materially injurious to properties or improvements in the vicinity.

j. The City of Eureka has permit jurisdiction for issuing the Coastal Development Permit. The project is appealable to the state Coastal Commission.

WHEREAS, in the opinion of the Planning Commission of the City of Eureka, the proposed application should be approved subject to the following conditions:

1. Any cannabis business operating at the subject property will comply with the Conditions of Approval of the Use Permit (CUP-19-0003).

2. Construction, including demolition and repair activities will conform with the following Best Management Practices (BMPs) during any construction activity:

    a. Construction Area Location: The location of all construction areas, all staging areas, and all construction access corridors will be kept within the areas identified and described in the construction plans and permits. All construction-related areas will be minimized in size to insure have the least impact on coastal resources. Construction activities and areas are prohibited outside of the defined construction, staging, and storage areas. These areas will be clearly delineated onsite with temporary, un-intrusive construction fencing. Such un-intrusive materials could include orange construction fencing affixed to posts sunk in buckets of cement, or weighted temporary fencing stands, rather than stakes pounded into the ground, to avoid soil disturbance. Straw wattles will be placed at the base of such fences and weighted down, rather than staked.

    b. Minimize Land Disturbance and Soil Compaction: Work will minimize land disturbance during construction to avoid erosion and sedimentation. Land disturbance activities are not proposed for the project.

    c. Stabilize Soil Promptly: Soil stabilization BMPs (such as mulching, soil binders, erosion control blankets, temporary re-seeding, etc.) will be implemented on disturbed areas as soon as feasible during construction where there is a potential for soil erosion to lead to discharge of sediment off-site, into coastal waters, or into ESHAs. Vegetated areas disturbed by vehicle movement or construction activities will be sown with erosion control seed at the onset of the rainy season to provide a minimum 85% vegetative cover within two months.

    d. Limit Potential for Erosion from Rains: The local weather forecast will be monitored at a minimum of twice per week. Any storm event predicting a 50% chance or greater of precipitation will trigger employment of condition-specific erosion and sediment control BMPs, such as erosion control blankets, covered

stockpiles, and additional straw wattles. Erosion control BMPs will be operative in all areas of the site prior to the onset of the rainy season.

e. Avoid Plastic Netting in Temporary Erosion and Sediment Control Products: The use of temporary erosion and sediment control products (such as, fiber rolls, erosion control blankets, mulch control netting, silt fences, etc.) that incorporate plastic netting (such as, polypropylene, nylon, polyethylene, polyester, or other synthetic fibers) will be avoided, in order to minimize wildlife entanglement and plastic debris pollution. Acceptable alternatives include the following:

   - Loose-Weave Natural Fiber Netting: Temporary rolled erosion and sediment control products with netting made of natural fibers, constructed in a loose-weave design with movable joints between the horizontal and vertical twines

   - Erosion and Sediment Control Products without Netting: Temporary erosion and sediment control products that do not contain netting, including net-less erosion control blankets (for example, made of excelsior), loose mulch, hydraulic mulch, soil binders, and straw bales

   - Unreinforced Silt Fences: Silt fences constructed of woven synthetic filter fabric without plastic or metal mesh backing.

f. Additional BMPs for Construction Near Coastal Waters: Although development on this project involves simple remodeling, as opposed to new construction with extended impermeable surfaces, additional BMPs will be implemented, if there is a potential for construction chemicals or materials to enter nearby ESHAs. BMPs will include the following, where applicable:

   - Tarps to Capture Debris and Spills: Use tarps or other devices to capture debris, dust, oil, grease, rust, dirt, fine particles, paint chips, and spills to protect the quality of coastal waters and ESHAs.

   - Designate a Fueling and Maintenance Area: Conduct fueling and maintenance of construction equipment and vehicles off-site, if feasible. Any fueling and maintenance of mobile equipment conducted on site will take place at a designated area located at least 100 feet from coastal waters, ESHAs, drainage courses, and storm drain inlets unless these inlets are blocked to protect against fuel spills. The fueling and maintenance area will be designed to fully contain any spills of fuel, oil, or other contaminants. Equipment that cannot be feasibly relocated to a designated fueling and maintenance area (such as, hydraulic excavators) may be fueled and maintained in other areas of the site, provided procedures are implemented to fully contain any potential spills. Construction equipment will be inspected daily, and drip pans will be placed under any leak prior to repair.

g. BMPs for Stockpiling: BMPs that will be implemented to minimize polluted runoff from stockpiling construction materials include covering such piles with impermeable tarps and surrounding such piles with weighted straw wattles. Stockpiles shall be protected prior to, and during, precipitation events, wind events capable of creating airborne dust, and during times of inactivity.

h. BMPs to Minimize Other Pollutants from Construction: BMPs that will be implemented to minimize the discharge of other pollutants resulting from construction activities (such as, paints, solvents, vehicle fluids, asphalt and cement compounds, trash, debris, etc.) into runoff shall be clearly identified, including:

- Chemical and Material Storage BMPs: BMPs that will be implemented to minimize polluted runoff from staging, storage, and disposal of construction chemicals and materials include stockpile management as outlined above, impermeable storage containers, and weatherproof lockers to prevent unauthorized access to chemicals or materials.

- Site Management BMPs: Site management "housekeeping" BMPs to be implemented during construction, include procedures, such as, maintaining an inventory of products and chemicals used on site, and having a written plan for the clean-up of spills and leaks. Two spill kits shall be fully stocked and maintained on site: one on the south side, and one on the north side of the building. Prior to construction, the project manager or foreman shall train all personnel in proper use of all components of the spill kit. Any new personnel or subcontractors shall be subsequently trained prior to working on site. Documentation of such training shall be maintained in the project records. Waste bins shall be covered and locked at the end of each workday. The site shall be inspected daily by a designated Housekeeping Inspector. Any trash or unauthorized debris, leaks, or spills will be promptly cleaned up.

NOW THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Eureka does hereby approve the coastal development permit application, subject to the conditions listed above.

PASSED, APPROVED AND ADOPTED by the Planning Commission of the City of Eureka in the County of Humboldt, State of California, on the 11th day of May, 2020 by the following vote:

AYES: COMMISSIONER
NOES: COMMISSIONER
ABSENT: COMMISSIONER
ABSTAIN: COMMISSIONER

_____
Jeff Ragan, Chair, Planning Commission

Attest:

_____
Kristen M. Goetz, Executive Secretary

CALIFORNIA COASTAL COMMISSION
NORTH COAST DISTRICT OFFICE
1385 EIGHTH STREET • SUITE 130
ARCATA, CA 95521
VOICE (707) 826-8950
FACSIMILE (707) 826-8960

August 24, 2017

John Erskine, Esq.
Nossaman LLP
18101 Von Karman Ave., Suite 1800
Irvine, CA 92612

RE: CDP Application No. 1-17-0625 proposing (1) after-the-fact authorization for (a) intensification of use of an existing agricultural property from general agriculture to an agricultural retail sales facility; and (b) fencing and driveway/access improvements; and (2) new development including (i) improvements to an existing approximately 4,125-sq.-ft. barn involving new siding and roofing and interior improvements; (ii) demolition of an existing single-story stone mason shop; (iii) construction of a new 2-story 3,600-square-foot building in the same footprint as the stone mason shop, to be used for storage and office space; (iv) removal of an existing hoop barn erected without the benefit of a CDP; and (v) construction of a new 1,600-sq.-ft., 20-ft-tall pole barn for hay storage, at 5110 & 5113 Myrtle Ave., Humboldt County (APN 402-291-010).

Dear Mr. Erskine:

On July 25, 2017 we received the above-referenced CDP application submitted on behalf of David Collenberg/Lost Coast Hay. We have completed a preliminary review of the application materials and determined that the application is incomplete and cannot be filed in accordance with Cal. Code of Regs. Title 14 § 13056 until we receive additional information. Please submit the outstanding items listed below so that we may file the application as complete, prepare a recommendation on the proposal, and schedule the CDP application for consideration by the Coastal Commission.

1. Appendix B and evidence of local approval: Appendix B of the application form was left incomplete. This page needs to be completed by County Planning Department staff and returned. If the completed form indicates that the proposed project requires a conditional use permit or any other type of discretionary permit from the County, we need to receive a copy of the County's approval (or at least preliminary approval) prior to filing the CDP application as complete.

2. Appendix D: Appendix D of the application form was left incomplete. Please provide a signed completed copy of this page once the site has been posted with the appropriate public notice as required by the application.

3. County CDP or consolidated CDP. Some of the proposed development is in the CDP jurisdiction of the County. If the County and the applicant prefer that the Commission process a single consolidated CDP for all proposed work (rather than two separate CDPs), please provide a CDP consolidation request letter from the County Planning Director. If consolidation is not preferred by all parties, you must obtain a separate CDP from the County for development in County CDP jurisdiction.

4. Application filing fee: No payment of fee for the filing of the CDP application was included with the submittal. The fee owed for the proposed development, based on the fact that the proposed project seeks authorization for development that already has been completed, is **$17,505**. This is the fee for development based on development cost ($3,501, based on an estimated development cost of $20,000 as listed on page 3 of the application form) times five (5), which is the amount that our regulations require we charge for after-the-fact development. Please provide a check made payable to the California Coastal Commission for the amount owed.

5. Other agency approvals: Please provide an update on the status of any other approvals required for the proposed project, and provide copies of the approvals when available and provide copies of any relevant agency correspondence related to pending approvals.

6. Reduced plans: As noted on page 8 of the application form, we need to receive at least one copy of the site plan and other applicable plans in 8.5-inch by 11-inch format to use as exhibits for our Commission report packets. Please provide at least one copy of the Whitchurch plans reduced in size. An electronic copy of plans is not required but is appreciated.

7. Clarification on project description: No details have been provided regarding the grading and fill that has been undertaken on the subject property. These activities were the subject of Coastal Act violation V-1-15-0085 and described in the "Preliminary Jurisdictional Wetland Delineation and Fill Prism Assessment" and "Wetland and Other Waters Delineation Report and Fill Prism Assessment" submitted with this application. Please clarify the location and volume of: gravel that has been placed without necessary authorization; (if applicable) gravel that is to be removed; and (if applicable) gravel that is to remain.

8. Archaeological resources: We referred the proposed project to the Tribal Historic Preservation Officers for the Wiyot Tribe for comment. We are waiting for a response from the THPOs. If the THPOs identify the need for additional information related to archaeological resources, we will request that information from you at that time.

9. Historic resources: Depending on the age of the stone mason shop proposed for replacement, there may be historically significant resources on the site. If determined to be needed by the Humboldt County Building Department, please provide an historic resources assessment of the any historically significant resources proposed for demolition or improvements, including description of the structure(s) history and significance per the state Register of Historic Resources criteria. Please also include an assessment of the site's historic resources per the California Register of Historic Resources criteria.

10. Clarification on water/sewer services: Section 30250 of the Coastal Act requires in part that adequate services be provided for new residential, commercial, and industrial development in the coastal zone. Please clarify where the site obtains its water from and also how sewage is dealt with. Is the property connected to community sewer? If not, where on the property is the onsite sewage disposal system and will the regional water board and/or County require upgrades to the onsite system(s) to accommodate the proposed improvements and new uses? If water and/or sewer is provided from on-site facilities, please indicate the location of the well and/or onsite sewage treatment/disposal system on an updated site plan. If applicable, provide relevant correspondence from the regional board and/or County Division of Environmental Health related to these issues.

11. Floor plans and building elevations: Please provide floor plans and building elevations for the proposed new structures and for the proposed existing barn to be improved/remodeled. Please provide at least one copy of plans reduced in size (8.5”-x-11” format).

12. Repair and maintenance plans: The Commission needs to understand the level of repair and maintenance proposed for the barn to determine whether any of it goes beyond what’s considered “repair and maintenance” under the Coastal Act. Please provide detailed plans and narrative describing the full range of repair and maintenance activities proposed for the existing barn so that we can understand whether the proposed work involves (1) alterations (including demolition, renovation or replacement) of 50% or more of major structural components of each structure, including exterior walls, floor, roof structure or foundation, and/or (2) a 50% increase in gross floor area of the structure to be repaired/maintenance. Please clarify each of the following and provide supporting documentation for each as applicable:
    a. For exterior wall and roofing work:
        i. Would exterior cladding and/or framing systems be altered in a manner that requires removal and/or replacement of 50% or more of the elements of those cladding and framing systems (normally considered as linear length of wall)?
        ii. Would reinforcement be needed for any remaining portions of the wall to provide structural support in excess of 50% of existing support elements (e.g. addition of 50% or more of beams, shear walls, or studs whether alone or alongside the existing/retained elements)?
        iii. Would any exterior wall become an interior wall as a result of the proposed repair and maintenance?
        iv. On multi-story structures (if any), quantify the extent of alteration to the linear area of the exterior walls on each story.
        v. Would the roof or floor framing be altered in a manner that requires removal and/or replacement of structural elements (e.g. trusses, joists, rafters) supporting 50% or more of the square footage of the roof or floor?
        vi. Would the roof or floor structural framing system require additional reinforcement to any remaining portions of the roof or floor system to provide structural support (e.g. addition of 50% or more of beams, joists, and/or rafters, etc., whether alone or alongside existing/retained system elements)?
    b. For proposed foundation work, identify the type of foundation underlying the structure and specify whether any proposed removal, replacement, or reinforcement of the foundation would comprise:
        i. 50% or more of the horizontal surface area of a slab foundation;
        ii. 50% or more of the floor area of a structure supported by a pier/post and/or caisson/grade beam foundation;
        iii. 50% or more of the perimeter foundation; and/or
        iv. Whether total alternations would involve 50% or more of the foundation where a structure has multiple foundation types.
    c. Would the cost of the proposed alterations equal or exceed 50% of the market value of the structure (based on documented construction bid costs and either an appraisal by a professional property appraiser or County assessor data)?

13. Impacts on agricultural lands: Describe the effect of the proposed retail operation on agricultural operations on the subject property. Quantify the amount of agricultural land classified as “prime” on the property under paragraphs (1) through (4) of Section 51201(c) of

the California Government Code and in particular in the retail and retail-associated portions of the property, which would not be used for on-site agricultural operations.

14. Adequacy of on-site parking: The application form states that there are no existing parking spaces and no proposed new parking spaces for the proposed retail operation. Please provide a parking and traffic circulation plan that indicates where on the site existing and new parking is/will be located in relation to the proposed new uses and existing site features/habitat areas, and how traffic will enter and exit the property. Also describe what development will be undertaken to create any new parking places required by the County for the proposed new retail operation (e.g., will there be any ground disturbance/ leveling? Striping? Construction of parking islands, speed tables, landscaping etc.?). Please also provide evidence from the County planning department that the proposed parking and circulation plan for the proposed new use is adequate for the size of the structures on site and the proposed maximum number of employees, per zoning code requirements (section 313-109.1 of the County Coastal Zoning Regulations). If the County Planning Department requires a special permit for the proposed parking improvements, provide a copy of the permit once it's been granted.

15. Public Works requirements: The project may require an encroachment permit from the County. If DPW require certain improvements to the property along the County road, such improvements, to the extent that they constitute development as defined under Section 30106 of the Coastal Act, must be added to the project description for the CDP application. Please describe proposed improvements that will be required by DPW.

16. Exterior lighting, signage, and landscaping plans: No details have been provided regarding any proposed improvements to exterior lighting in parking lots, along property boundaries, and on buildings. Outside illumination can impact public visual resources by affecting the nighttime character of an otherwise normally darkened area with minimal night lighting, and it may impact sensitive biological resources through disruption of foraging behaviors, increased risks of predation, and inference with vision and migratory orientation (the site of proposed development is surrounded by environmentally sensitive habitat areas). Section 30251 of the Coastal Act protects public visual resources, including the character of coastal areas. Section 30240 of the Coastal Act requires in part that development adjacent to environmentally sensitive areas must be sited and designed to protect such areas.

    Clarify whether any new exterior lighting is proposed as part of the site improvements, such as parking light standards, security lighting, or illuminated signage. If so, provide lighting and signage plans (and, if applicable, landscaping plans) for the property that demonstrate that any proposed new lighting would be downcast and shielded to minimize encroachment into surrounding environmentally sensitive areas and to reduce off-site glare and also would be "wildlife friendly" (e.g., LED lighting with a relatively low lumen output and relatively little blue in the spectrum). If landscaping is proposed, proposed plantings should include the use of native and/or non-invasive species only.

17. Hazards: Section 30253 of the Coastal Act directs in part that new development shall minimize risks to life and property in areas of high geologic, flood, and fire hazard. The property is located in an area known to be at risk from seismic hazards, liquefaction, flooding, and tsunami inundation.
    a. For any proposed new foundation or foundation repair work for repair and maintenance of existing structures, provide evidence, from a licensed geologist or geotechnical engineer, that the foundation design includes measures to minimize risks associated with the location of structures in a liquefaction hazard zone.

b. The site is located within the 100-year flood zone as mapped by the Federal Emergency Management Agency (FEMA). Typically for issuance of building permits in flood-prone areas, the County requires evidence (e.g., via flood elevation certification by a licensed surveyor) that the ground floor of structures will be sited no less than one foot above base flood elevation. For the proposed structural repair and maintenance and new uses in structures within the FEMA mapped flood zone, provide evidence from the County that the project will comply with building code regulations for construction in flood-prone areas. If applicable, provide copies of flood elevation certificates completed by a licensed surveyor. Explain any changes to the proposed plans required by the building department as may be required by FEMA/County regulations.

c. The flood risk of the site will be exacerbated by sea-level rise, which is projected for at least 3 feet or more over the next 50 to 100 years for this region. Describe the frequency and severity of flooding expected on the site under this permit authorization.

18. Wetland delineations: We previously provided comments from the Commission's ecologist on the wetland delineation reports included with the application submittal in letters to Bonnie Neely from Commission enforcement analyst Josh Levine dated March 9th and June 22nd. The letters also include recommendations for resolving the outstanding violations on the property through the CDP process. As noted in the June letter, "the Delineation still does not conclusively demonstrate where the landscape transitions from upland to wetland, whether wetland fill was placed prior to implementation of the Coastal Act, and does not conclusively identify suitable locations, with appropriate buffers, for proposed development." Please provide the following previously requested information needed to ensure that the proposed development complies with the wetland protection provisions of the Coastal Act:

    a. Provide further evidence that the apparent indicators of wetland hydrology found throughout the fill site actually may be discounted as such. As noted in the June letter, the Delineation's description of the use of NRCS Hydric Soils Technical Note #5 as justification for discounting hydrology found in the Test Pits is not sufficient to discount the hydric conditions, as we are concerned in this case with the nature of the soil beneath the fill and not the fill itself which in part is the subject of the violation.

    b. Provide an assessment of proposed buffer widths between delineated wetlands and proposed new development. As noted in the March letter: "…appropriate buffer sizes will need to be incorporated to ensure the protection of the adjacent wetlands. In order to determine whether or not development could be placed on the upland portions of the property, a completed coastal development permit application should be submitted showing the proposed development as it relates to the property's wetlands." Please clarify the proposed buffer widths between development and coastal wetlands and waters, and explain how the proposed widths will be sufficient to protect wetland and aquatic habitat values.

    c. Provide a plan for the removal of any fill placed in coastal wetlands without the benefit of a CDP, including the removal of items and materials stored in coastal wetlands.

After all of the above-listed materials have been received, the application will again be reviewed and will be filed if all is in order (CA Government Code Section 65943(a)). Please note that there may be additional materials necessary for filing purposes depending upon the nature of the information provided pursuant to the above information request. Thank you in advance for your cooperation and don't hesitate to contact me at (707) 826-8950 with any questions.

Sincerely,

Melissa B. Kraemer
Supervising Analyst

cc: Bonnie Neely, Nossaman LLP, 621 Capitol Mall, 25th Floor, Sacramento 95814
David Collenberg, Lost Coast Hay

CALIFORNIA COASTAL COMMISSION
NORTH COAST DISTRICT OFFICE
1385 EIGHTH STREET • SUITE 130
ARCATA, CA 95521
VOICE (707) 826-8950
FACSIMILE (707) 826-8960

May 25, 2017

Jeff Meyer
JBM Land LLC
1030 W. Del Norte St.
Eureka, CA 95501

RE: CDP Application No. 1-17-0413 proposing to (1) repair and maintain existing structures, and (2) operate an industrial business park with a range of potential uses, at 2593 New Navy Base Road, Humboldt County (APNs 506-061-06, -07, -09, -10, & -28).

Dear Mr. Meyer:

On May 8, 2017 we received the above-referenced CDP application. We have completed a preliminary review of the application materials and determined that the application is incomplete and cannot be filed in accordance with Cal. Code of Regs. Title 14 § 13056 until we receive additional information. Please submit the outstanding items listed below so that we may file the application as complete, prepare a recommendation on the proposal, and schedule the CDP application for consideration by the Coastal Commission.

1. Agent Authorization: The application form lists Adam Wagschal of ICF and Jeff Slack of Janssen Malloy LLP as representatives (agents) for the application. However, in order to authorize anyone to act as an agent on your application, you (the applicant) must sign on page 9 of the form (copy enclosed) indicating the name(s) of the persons you authorize to act as your representative and to bind you in matters concerning the application. If you would like to authorize one or more agents, please complete, sign and return the enclosed page.

2. Appendix B and evidence of local approval: Appendix B of the application form was left incomplete (copy enclosed). This page needs to be completed by County Planning Department staff and returned. If the completed form indicates that the proposed project requires a conditional use permit from the County, we need to receive a copy of the County's CUP approval (or at least preliminary approval) prior to filing the CDP application as complete.

3. County CDP or consolidated CDP. Some of the proposed development is in the CDP jurisdiction of the County. If the County and the applicant prefer that the Commission process a single consolidated CDP for all proposed work (rather than two separate CDPs), please provide a CDP consolidation request letter from the County Planning Director. If consolidation is not preferred by all parties, you must obtain a separate CDP from the County for development in County CDP jurisdiction.

4. Application filing fee: No payment of fee for the filing of the CDP application was included with the submittal. The fee owed for the proposed development, based on an estimated development cost of $250K (as indicated on page 3 of the application form), is **$6,798**. Please provide a check made payable to the California Coastal Commission for the amount owed.

5. Evidence of legal interest in subject property. As noted on Page 1 of the application form, a required attachment to the CDP application is proof of the applicant's legal interest in the property. A copy of the any of the following will be acceptable: current tax bill, recorded deed, lease, easement, or current policy of title insurance. The identity of all persons or entities that have an ownership interest in the property superior to that of the applicant must be provided.

6. Water board approval, and if needed updated SWPPP and discharge permit: Given the proposed new use of the site (which may include a range of uses related to agriculture, manufacturing, etc.), provide evidence from the North Coast Regional Water Quality Control Board (contact Mona Dougherty, Santa Rosa) that the Stormwater Pollution Prevention Plan (SWPPP) prepared by Integral Consulting dated July 1, 2015 is acceptable to deal with the site's stormwater under the proposed new range of potential industrial uses that may be undertaken in the future on the site. If the regional water board determines that updates to the SWPPP are needed to appropriately manage the site's stormwater given the proposed new industrial uses, provide an updated copy of the SWPPP approved by the regional water board. In addition, if needed/applicable, provide an updated NPDES industrial wastewater permit approved by the regional water board for any proposed discharge of industrial wastewater.

7. Archaeological resources: The Tribal Historic Preservation Officers (THPOs) for the Wiyot Tribe have identified the subject property as a former Wiyot village with the potential to harbor significant cultural resources, including human remains. The THPOs have requested a report for the site completed by a qualified archaeologist that documents an investigation of the property, including a survey for archaeological remnants along the edges of the developed portions of the property. If archaeological resources are discovered, reasonable mitigation measures may be required as a condition of CDP approval (per Coastal Act Section 30244). Please provide the requested report completed by a qualified archaeologist.

8. Historic resources: Because the property includes structures over 50 years in age, there may be historically significant resources on the site. County planning staff has indicated that the sawmill building, and potentially other structures with original construction, may be historically significant. During our review of the CDP application submitted by Sierra Pacific Industries for the demolition of all structures on the property (which, as you know, was withdrawn before being acted on), the County commented that an historic resources assessment of the mill, its history and significance per the state Register of Historic Resources criteria would be required prior to the issuance of a building permit by the County for any proposed demolition or alterations to historic structures. As part of the archaeological report requested above, please also include an assessment of the site's historic resources per the California Register of Historic Resources criteria.

9. Clarification on water/sewer services: Section 30250 of the Coastal Act requires in part that adequate services be provided for new residential, commercial, and industrial development in the coastal zone. Please clarify where the site obtains its water from and also how sewage is dealt with. Is the property connected to community sewer? If not, where on the property is the onsite sewage disposal system and will the regional water board and/or County require upgrades to the onsite system(s) (e.g., an upgraded treatment system for industrial wastewater and/or an upgraded sewage disposal system) to accommodate the proposed improvements and new uses? It's our understanding that the site may be served both by the Humboldt Bay Municipal Water District and/or by an onsite well. If water and/or sewer is provided from on-site facilities, please indicate the location of the well and/or onsite sewage treatment/disposal system on an updated site plan. If applicable, provide relevant correspondence from the regional board and/or County Division of Environmental Health related to these issues.

10. Public Works/Caltrans requirements: The project may require an encroachment permit from the County and/or Caltrans. Provide evidence that you've consulted with County Department of Public Works and/or Caltrans (as applicable) on the proposed development, and provide a copy of any recommendations or requirements received from DPW and/or Caltrans. If DPW and/or Caltrans require(s) certain improvements to the property along the County road/state highway, such improvements, to the extent that they constitute development as defined under Section 30106 of the Coastal Act, must be added to the project description for the CDP application.

11. Repair and maintenance plans: The repair and maintenance activities as proposed include "replace siding and roofing as needed" and "replace rotting beams." As proposed, there would be no change to any footprints, and replacement siding and roofing would be the same material and color as the existing. The project description references Figure 1, which is a general layout of the site depicting various buildings and site features but no specific details and repair and maintenance needs on the site.

    The Commission needs to understand the level of repair and maintenance proposed to determine whether any of it goes beyond what's considered "repair and maintenance" under the Coastal Act. Please provide detailed plans and narrative describing the full range of repair and maintenance activities proposed for each building/structure on the site, proposed methods of repair/ maintenance, and quantification of proposed repair and maintenance so that we can understand whether the proposed work involves (1) alterations (including demolition, renovation or replacement) of 50% or more of major structural components of each structure, including exterior walls, floor, roof structure or foundation, and/or (2) a 50% increase in gross floor area of the structure to be repaired/maintenance.

    For each structure where repair and maintenance activities are proposed, please clarify each of the following and provide supporting documentation for each as applicable:

    a. For each structure with proposed exterior wall and roofing work:
        i. Would exterior cladding and/or framing systems be altered in a manner that requires removal and/or replacement of 50% or more of the elements of those cladding and framing systems (normally considered as linear length of wall)?
        ii. Would reinforcement be needed for any remaining portions of the wall to provide structural support in excess of 50% of existing support elements (e.g. addition of 50% or more of beams, shear walls, or studs whether alone or alongside the existing/retained elements)?
        iii. Would any exterior wall become an interior wall as a result of the proposed repair and maintenance?
        iv. On multi-story structures (if any), quantify the extent of alteration to the linear area of the exterior walls on each story.
        v. Would the roof or floor framing be altered in a manner that requires removal and/or replacement of structural elements (e.g. trusses, joists, rafters) supporting 50% or more of the square footage of the roof or floor?
        vi. Would the roof or floor structural framing system require additional reinforcement to any remaining portions of the roof or floor system to provide structural support (e.g. addition of 50% or more of beams, joists, and/or rafters, etc., whether alone or alongside existing/retained system elements)?

b. For each structure with proposed foundation work, identify the type of foundation underlying the structure and specify whether any proposed removal, replacement, or reinforcement of the foundation would comprise:
   i. 50% or more of the horizontal surface area of a slab foundation;
   ii. 50% or more of the floor area of a structure supported by a pier/post and/or caisson/grade beam foundation;
   iii. 50% or more of the perimeter foundation; and/or
   iv. Whether total alternations would involve 50% or more of the foundation where a structure has multiple foundation types.

c. For each structure, would the cost of the proposed alterations equal or exceed 50% of the market value of the structure (based on documented construction bid costs and either an appraisal by a professional property appraiser or County assessor data)?

12. Possible effects on public access: There is an existing boat launch on Mad River Slough at the southeastern corner of the property that is currently and has been for many decades used by the public without restriction for slough access. Please clarify whether or not any changes to public access would occur at this location as a result of the proposed project.

13. Clarifications on project description: The project description lists the full range of principal and conditionally permitted uses allowed in the MG land use designation under the Humboldt Bay Area Plan, and states that "Tenants at the property would engage in principally and conditionally permitted uses." However, Table 1 of the project description shows only warehousing, general manufacturing, research and development, and agriculture as the use types that would be undertaken on the property by tenants (also "fuel cells" and "storage and parking"). Clarify whether additional uses beyond those shown in Table 1, including those listed as conditionally permitted uses allowed in the MG site, are proposed under this CDP application (e.g., heavy manufacturing, drilling and processing of oil and gas, heavy commercial, etc.).

    In addition, describe the types of activities that would be involved in each of the proposed use types (i.e., warehousing, general manufacturing, research and development, agriculture, and "fuel cell" uses). To the extent that the proposed use type conforms to a use type as defined in the County's coastal zoning regulations, cite or draw from the applicable code section. To the extent that any of the proposed future uses would result in significant levels of noise, lights, vibrations, or dust, describe what effects these potential impacts may have on surrounding properties and measures that would be taken to minimize identified impacts.

14. Adequacy of on-site parking: The application form states that there are seven existing standard parking places on site, and there will be 23 new standard parking spaces created. Elsewhere in the application submittal, it states that the area could accommodate over 700 parking spaces, as well as loading and associated travel, and there would be a maximum of three trucks transporting material to and from the site per day. Please provide a parking and traffic circulation plan for the property that indicates where on the site existing and new parking is/will be located in relation to the proposed new uses and existing site features/habitat areas, and how traffic will enter and exit the property (e.g., there are multiple access points along the main road as well as the west side of the property). Also describe what development will be undertaken to create the new parking places (e.g., will there be any ground disturbance/ leveling? Striping? Construction of parking islands, speed tables, landscaping etc.?). Please also provide evidence from the County planning department that the proposed parking and circulation plan for the proposed industrial business park is adequate for the size of the

structures on site and the proposed maximum number of employees, per zoning code requirements (section 313-109.1 of the County Coastal Zoning Regulations). If the County Planning Department requires a special permit for the proposed parking improvements, provide a copy of the permit once it's been granted.

15. Exterior lighting, signage, and landscaping plans: No details have been provided regarding any proposed improvements to exterior lighting in parking lots, along property boundaries, and on buildings. Outside illumination can impact public visual resources by affecting the nighttime character of an otherwise normally darkened area with minimal night lighting, and it may impact sensitive biological resources through disruption of foraging behaviors, increased risks of predation, and inference with vision and migratory orientation (the site of proposed development is surrounded by environmentally sensitive habitat areas). Section 30251 of the Coastal Act protects public visual resources, including the character of coastal areas. Section 30240 of the Coastal Act requires in part that development adjacent to environmentally sensitive areas must be sited and designed to protect such areas.

    Clarify whether any new exterior lighting is proposed as part of the site improvements, such as parking light standards, security lighting, or illuminated signage. If so, provide lighting and signage plans (and, if applicable, landscaping plans) for the property that demonstrate that any proposed new lighting would be downcast and shielded to minimize encroachment into surrounding environmentally sensitive areas and to reduce off-site glare and also would be "wildlife friendly" (e.g., LED lighting with a relatively low lumen output and relatively little blue in the spectrum). If landscaping is proposed, proposed plantings should include the use of native and/or non-invasive species only.

16. Hazards: Section 30253 of the Coastal Act directs in part that new development shall minimize risks to life and property in areas of high geologic, flood, and fire hazard. The property is located in an area known to be at risk from seismic hazards, liquefaction, flooding, and tsunami inundation.
    a. For any proposed new foundation or foundation repair work for repair and maintenance of existing structures, provide evidence, from a licensed geologist or geotechnical engineer, that the foundation design includes measures to minimize risks associated with the location of structures in a liquefaction hazard zone.
    b. The majority of structures on the site, except for the truck shop, fork lift shop, fuel cells building, and storage building, are located within the 100-year flood zone as mapped by the Federal Emergency Management Agency (FEMA) (e.g., see http://webgis.co.humboldt.ca.us/HCEGIS2.0/). Typically for issuance of building permits in flood-prone areas, the County requires evidence (e.g., via flood elevation certification by a licensed surveyor) that the ground floor of structures will be sited no less than one foot above base flood elevation. For the proposed structural repair and maintenance and new uses in structures within the FEMA mapped flood zone, provide evidence from the County that the project will comply with building code regulations for construction in flood-prone areas. If applicable, provide copies of flood elevation certificates completed by a licensed surveyor. Explain any changes to the proposed plans required by the building department as may be required by FEMA/County regulations.
    c. The flood risk discussion included with the project description acknowledges the flood risk of the site and states that the risk will be exacerbated by sea-level rise. Describe the frequency and severity of flooding expected on the site over the life of the structures as proposed to be repaired and maintained under this permit authorization.

d. The flood risk discussion states that "The owner of the site will adapt to sea level rise by developing flood risk reduction measures and/or retreating development." Please explain what this means – what, if any, are the proposed "flood risk reduction measures"? If development is retreated in the future, explain what that means in terms of physical development (e.g., demolition of structures in hazardous areas?).

17. CDFW recommendations: Thank you for forwarding the email with the results of the recent bat roosting survey undertaken on a portion of the property. On May 22nd we referred the proposed project to the California Department of Fish and Wildlife for comment (CDFW also received the bat survey results). If CDFW staff identifies the need for additional information relevant to the protection of biological resources, we will request that information from you at that time.

After all of the above-listed materials have been received, the application will again be reviewed and will be filed if all is in order (CA Government Code Section 65943(a)). Please note that there may be additional materials necessary for filing purposes depending upon the nature of the information provided pursuant to the above information request. Thank you in advance for your cooperation and don't hesitate to contact me at (707) 826-8950 with any questions.

Sincerely,

Melissa B. Kraemer
Supervising Analyst

Encl.: Page 9, application form (agent authorization to complete and return)
Appendix B, application form (local planning department review to complete and return)

cc: Adam Wagschal, ICF
Jeff Slack, Janssen Malloy LLP
John Ford, Humboldt County Planning & Building Department

Wetland and Other Waters Delineation Report –

Revised January 2020

Assessor's Parcel Number 302-171-034
Eureka, California

Prepared for:

SD Management

January 2020
018056

Reference: 018056

Wetland and Other Waters Delineation Report -

Revised January 2020

Assessor's Parcel Number 302-171-034

Eureka, California

Prepared for:
SD Management

Prepared by:

1062 G St., Suite I
Arcata, CA 95521
707-822-5785

January 2020

QA/QC:SJP___

Table of Contents

Page

List of Illustrations ii

Abbreviations and Acronyms iii

1.0 Introduction 1
- 1.1 Purpose 1
- 1.2 Project Location 1

2.0 Project Description 1

3.0 Environmental Setting 1
- 3.1 Site Uses 1
- 3.2 Site Hydrology 1
- 3.3 National Wetlands Inventory 2

4.0 Vegetation 3

5.0 Geologic and Soil Composition 4

6.0 Regulatory Setting 5
- 6.1 Federal Laws 5
  - 6.1.1 Section 401 and 404 of the Clean Water Act 5
  - 6.1.2 Rivers and Harbors Appropriation Act of 1899 6
- 6.2 State Laws 6
  - 6.2.1 California Coastal Act 6
  - 6.2.2 Porter-Cologne Water Quality Control Act 7

7.0 Methodology 8
- 7.1 Vegetation Methodology 9
- 7.2 Soils Methodology 9
- 7.3 Hydrology Methodology 9
- 7.4 Ordinary High Water Mark Methodology 10

8.0 Discussion and Results 10
- 8.1 TP1 11
- 8.2 TP2 11
- 8.3 TP3 12
- 8.4 TP4 and TP5 Paired Plot 12
- 8.5 TP6 and TP 7 Paired Plots 13
- 8.6 TP 8 and TP 11 Paired Plots 13
- 8.7 TP9 14
- 8.8 TP 10 15
- 8.9 TP 12 15
- 8.10 TP13 and TP15 Paired Plots 16
- 8.11 TP 14 16
- 8.12 TP 16 17
- 8.13 TP17 and TP18 Paired Plots 17
- 8.14 Wetland #1 18
- 8.15 Wetland #2 18
- 8.16 Wetland #3 18
- 8.17 Wetland #4 19

Table of Contents, Continued

Page

8.18 Wetland #5 19
8.19 Man-made Road Feature 19
8.20 Ordinary High Water Mark 19

9.0 Conclusions 19

10.0 Limitations 21

11.0 References Cited 21

Appendices

1. Site Photographs
2. National Wetlands Inventory
3. Plant List
4. Wetland Determination Data Forms

List of Illustrations

Figures **Follows Page**

1. Project Location 1
2. Wetland Delineation Map 3
3. 1-, 2-, & 3-Parameter Wetland Delineation Map 11

Tables **On Page**

1. WETS Rainfall Data 2
2. TP Parameter Results, April 23, April 24, June 12, and June13, 2108 19
3. CCC 1-, 2-, or 3-parameter Wetland Delineation Results, April 23, June 12 and June 13, 2108 20

Abbreviations and Acronyms

in./hr.	inches per hour
sq. ft.	square feet
APN	Assessor's parcel number
CCA	California Coastal Act
CCC	California Coastal Commission
CCR	California Code of Regulations
CDEC	California Data Exchange Center
CFR	Code of Federal Regulations
CT	control point
CWA	Clean Water Act
EPA	United States Environmental Protection Agency
ERDC/CRREL	United States Army Engineer Research and Development Center/Cold Regions Research and Engineering Laboratory
ESHA	Environmentally sensitive habitat area
FAC	facultative wetland plant species
FACU	facultative-upland plant species
FACW	facultative-wet wetland plant species
G2/S2	imperiled species heritage rank
G4/S4	apparently secure species heritage rank
GIS	geographic information system
GPS	global positioning system
LCP	Local Coastal Program
MW	map unit Miscellaneous Water
NCDC	National Climatic Data Center
NGTOC	National Geospatial Technical Operations Center
NL	not listed wetland plant species
NOAA	National Oceanic & Atmospheric Administration
NR	no reference
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	obligate wetland plant species
OHWM	ordinary high water mark
PEM1Cx	Palustrine emergent persistent seasonally flooded excavated
PEM1E	Palustrine emergent persistent seasonally flooded/saturated
PEM1Ex	Palustrine emergent persistent seasonally flooded/saturated excavated
PEM2Cr	Palustrine emergent nonpersistent seasonally flooded artificial substrate
Redox	redoximorphic
RWQCB	California Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
TP	test pit
UAV	unmanned aerial vehicle
UPL	upland plant species
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey
WDRs	Waste Discharge Requirements
WETS	Climate Analysis for Wetlands Tables
WoS	waters of the State
WOTUS	waters of the United States

1.0 Introduction

SHN has prepared this wetland and other waters delineation for SD Management in Eureka, California (Figure 1). This site was previously occupied by Pro Pacific Fresh, a food service distributor. Fieldwork was performed by SHN staff soil scientists and staff botanists. The purpose of this report is to identify potential jurisdictional wetlands and other waters of the United States and State at the project site, as defined by the United States Army Corps of Engineers (USACE) methodology. The site is located in the coastal zone and, therefore, will also be required to conform to the California Coastal Commission's (CCC) wetland criteria.

1.1 Purpose

The purpose of this report is to identify potential wetlands and other waters of the United States (WOTUS) and State (WoS) at the project site, as defined by the USACE methodology. The delineation of these features will help guide the design and construction of future development within the study area and avoid impacts to potential jurisdictional wetlands and ordinary high water mark (OHWM).

1.2 Project Location

The project's approximate location is in the southern extent of Eureka, California, at the Herrick Avenue exit, and is located between Humboldt Bay and U.S. Highway 101 (Figure 1; United States Geological Survey [USGS] Eureka 7.5-minute Quadrangle [USGS, 2012]; Township 04 North, Range 01 west, Section 4 in the Humboldt Meridian). The Elk River drainage cuts between the bay and the project site, before it enters the bay 1 mile to the north. The study area is 3.8 acres. The Assessor's parcel number (APN) is 302-171-034 with a central location at latitude 40.760288° and longitude -124.190554°.

2.0 Project Description

Environmental management constraints are being considered for the study area. This report will assist in considering site design and management options.

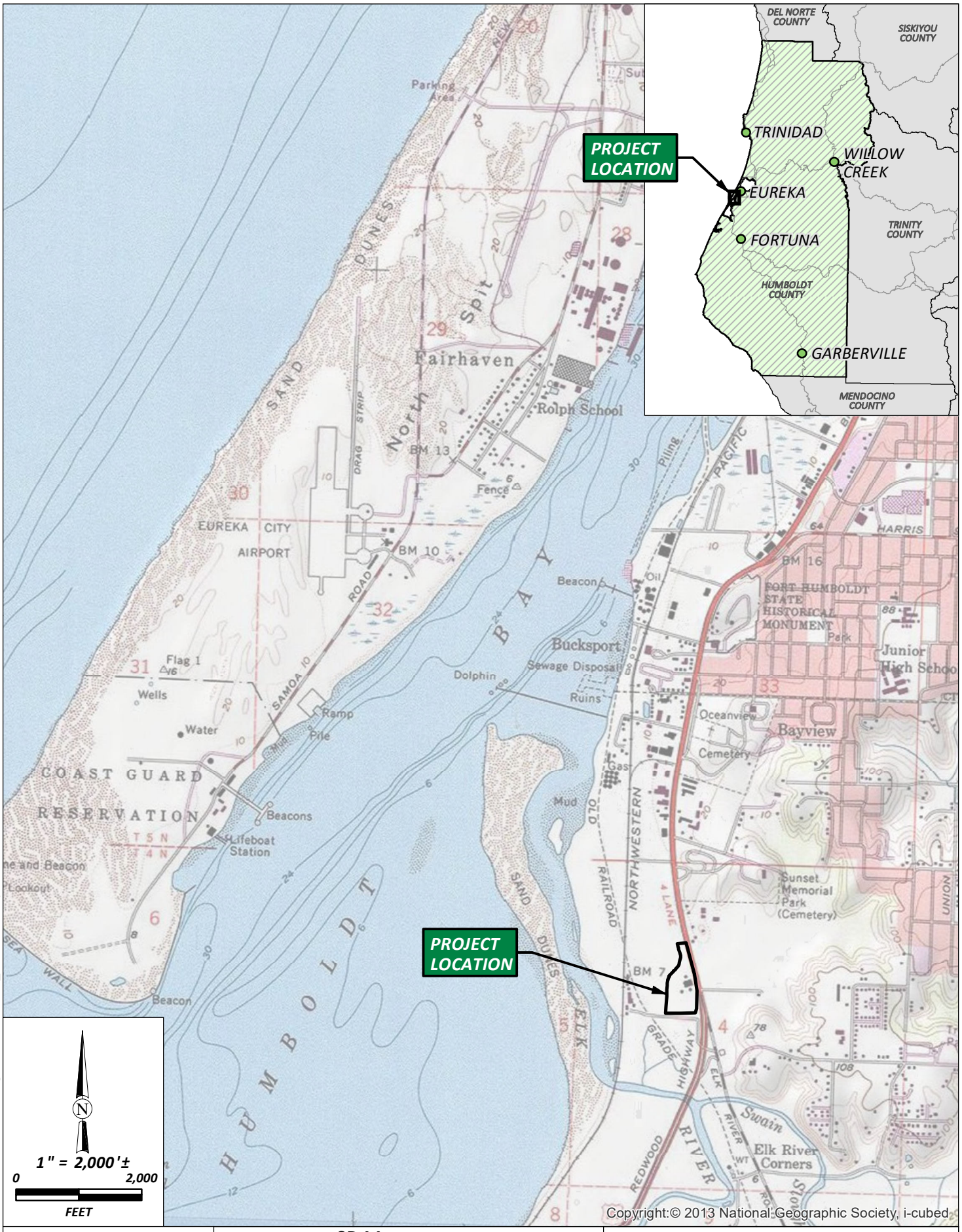
3.0 Environmental Setting

3.1 Site Uses

The project site is 2,000 feet east of Humboldt Bay at an elevation range of 6 to 16 feet above sea level. It is located on the Elk River flood plain. This site has been modified through the addition of berms and fill, resulting in an upland area to facilitate building sites. Currently, the site contains various buildings abandoned from prior businesses. A portion of the site is used by a wood slab manufacturer (Appendix 1, Photos 1 and 2).

3.2 Site Hydrology

The United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) Climate Analysis for Wetlands Table (WETS) method was used to determine the precipitation pattern prior to the wetland assessment compared to long-term precipitation records to establish norms. Certain aspects of the delineation are guided by using the WETS dataset. These norms can be compared with recent rainfall data records (Woodley Island, Eureka) to determine whether the field work was performed during a "below normal," "normal," or "above normal" rainfall period. The WETS method reviews current rainfall conditions for the previous three months prior to the initial site and test pit (TP) investigations (or the same



\\Eureka\Projects\2018\018056-SD-Management\GIS\PROJ_MXD\ USER: jsousa DATE: 7/25/18, 10:05AM

Consulting Engineers & Geologists, Inc.

SD Management
Preliminary Wetland Investigation
Eureka, California

Project Location

SHN 018056

July 2018

Wb_Fig1_ProjectLocation

Figure 1

month and two months prior if after the 15th; Table 1; USDA-NRCS, 2018a). The initial TP investigation occurred on April 23, 2018. The 2018 rainfall data for February, March, and April were compared to the 30-year rainfall average at the Eureka Woodley Island weather station (1981-2010). If the current rainfall of each month is between 30% and 70% of the 1981-2010 precipitation average, it is a "normal" rainfall; if above 70%, it's ranked "above normal"; if below 30%, it's ranked "below normal." The rainfall for this time period is considered "above normal" (Table 1). The secondary TP investigation on June 12 and 13, 2018 was conducted during a "normal" rainfall period (CDEC, 2018; USDA-NRCS, 2018a).

Table 1. WETS Rainfall Data
SD Management, Eureka, CA

Month	WETS data	Rank	Weight	Value
April 23, 2018: TP Excavation				
April 2018	Above Normal	3	3	9
March 2018	Above Normal	3	2	6
February 2018	Below Normal	1	1	1
Total[1]				**16**
June 12, and 13, 2018: TP Excavation				
May 2018	Below Normal	1	3	3
April 2018	Above Normal	3	2	6
March 2018	Above Normal	3	1	3
Total[1]				**12**

1. A sum of 6-9 prior to site investigation is considered a drier than normal rainfall.
   10-14 prior to site investigation is considered a normal rainfall.
   15-18 prior to site investigation is considered above normal rainfall.

Sources: CDEC, 2018; USDA-NRCS, 2018a

In addition to using the WETS information, current and historical rainfall amounts can be compared starting at the beginning of the hydrologic year (starting October 1). The historical 1981-2010, 30-year average from October 1 through June is 39.2 inches compared to current 2018 data of 36.55 inches (93% of normal). Comparing these two data sets shows the rainfall year starting from October 1 is just below normal. However, the WETS data indicates that the 2018 spring season, just prior to the delineation, experienced above normal rainfall for the April site visit and normal rainfall prior to the June site visits.

One of the USACE hydrology indicators used in this report is the C9-Saturation visible on aerial imagery. Cautions on using this indicator is using it during an above-normal rainfall season (USACE, 2010). The aerial imagery used for this indicator was captured by SHN's UAV department on March 18, 2018 (Figure 2; SHN, 2018). The average normal rainfall for the hydrologic year through the end of March is 33.4 inches (USDA-NRCS, 2018a) compared to the actual rainfall from October 2017 through March 2018 of 30.21 inches (CDEC, 2018) is 90% of the normal average. For more details on hydrology indicators, see Section 7.3 Hydrology Methodology.

3.3 National Wetlands Inventory

The United States Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) website has no wetlands inventoried within the study area (Appendix 2). This general categorization by the NWI is not intended for planning purposes because of the lack of ground-truthing. In their "Data Limitations, Exclusions and Precaution" statement, it points out that:

> *The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high-altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.*
> (USFWS, 2018)

The intention of this project is to clarify original general NWI boundaries with the addition of onsite soils, hydrology, and vegetation mapping investigations.

4.0 Vegetation

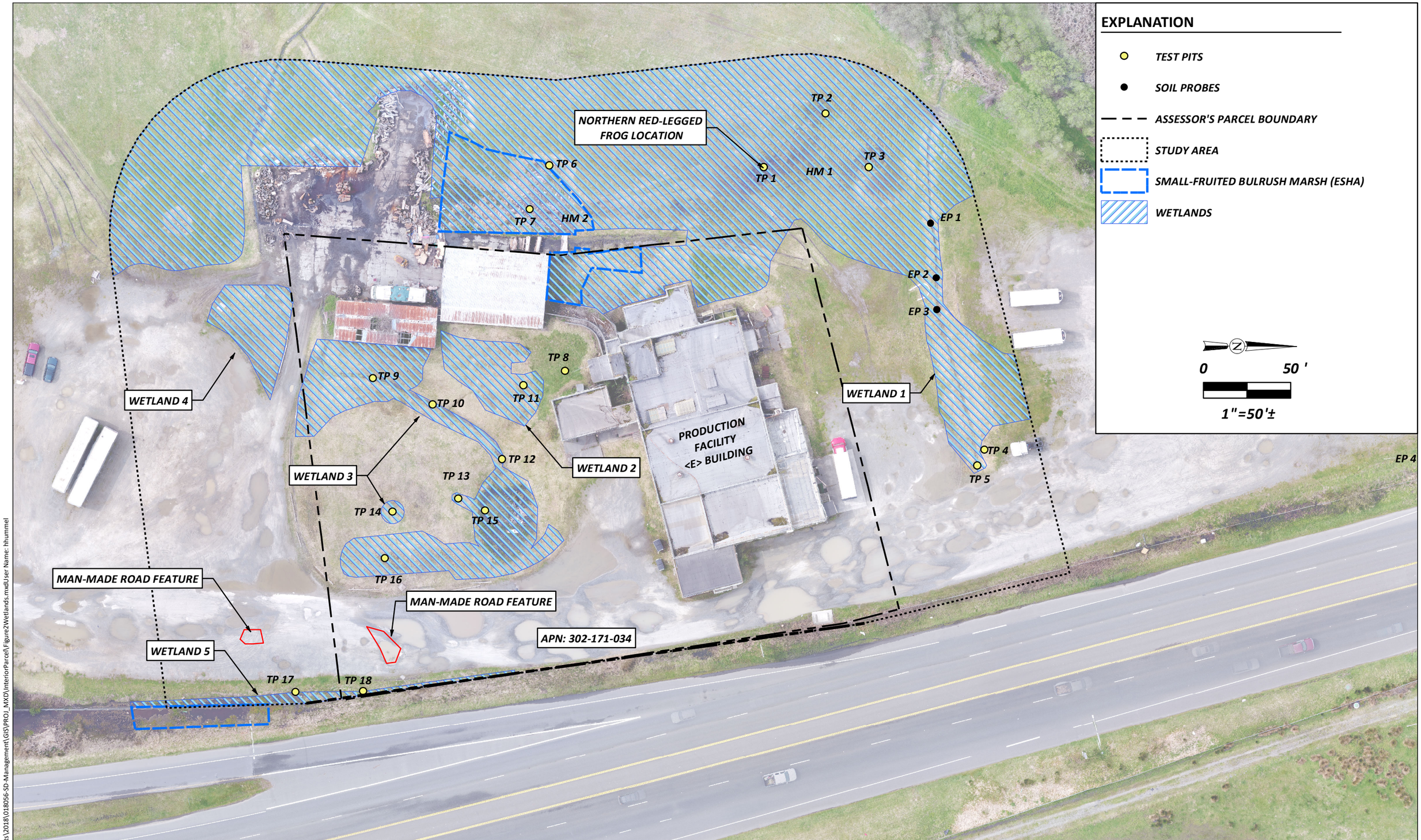
The wetland indicator status of plant species for this investigation was based on the *Western Mountains, Valleys, and Coast 2016 Regional Wetland Plant List* (USACE, 2016). Synonyms were checked for species that did not appear on the USACE wetland plant list. Plant species were classified as:

- Obligate (OBL)–almost always occurs in wetlands
- Facultative-wet (FACW)–usually occurs in wetlands, but may occur in non-wetlands
- Facultative (FAC)–occurs in wetlands and non-wetlands
- Facultative-upland (FACU)–usually occurs in non-wetlands, but may occur in wetlands
- Upland (UPL)–almost never occurs in wetlands
- Not listed (NL)–scored as an upland plant and calculated as such on wetland determination forms

The site consists of one terrace that is a graveled area with localized depressions and sediment in areas with predominantly sparse non-native species cover including common sow thistle (*Sonchus oleraceus* [UPL]), sweet vernal grass (*Anthoxanthum odoratum* [FACU]), and velvet grass (*Holcus lanatus* [FAC]), with common brass buttons (*Cotula coronopifolia* [OBL]) within localized depressions. A vegetated drainage ditch runs northeast-southwest through the vegetated center area of the terrace, supporting tall fescue (*Festuca arundinacea* [FACU]), hairy cat's ear (*Hypochaeris radicata* [FACU]), bird's foot trefoil (*Lotus corniculatus* [FAC]), and sweet vernal grass. The eastern boundary contains a drainage in between the graveled terrace and U.S. Highway 101 that supports an environmentally sensitive habitat area (ESHA) consisting of a small-fruited bulrush (*Scirpus microcarpus* [OBL]), tall flat sedge (*Cyperus eragrostis* [FACW]), and common brass buttons. The western edge of the property is bordered by a non-native dominant grass field with a wetland immediately adjacent to the western edge along a building. This area supports an ESHA consisting of small-fruited bulrush, tall flat sedge, and Himalayan blackberry (*Rubus armeniacus* [FAC]). The terrace has been graded and compacted with gravelly, cobble fill (Appendix 1, Photo 3). There is a depression in the center of the property connecting to the drainages with an ESHA supporting small-fruited bulrush, tall flat sedge, wild radish (*Raphanus sativus* [NL]), and Himalayan blackberry *(Rubus armeniacus* [FAC]) (Figure 2).

Two distinct ESHAs were observed in the study area (Figure 2) and were mapped as distinct units due to the vegetation community present. These areas support small-fruited bulrush marsh (*Scirpus microcarpus* herbaceous alliance [G4 S2]). The remainder of the terraces and surrounding field most closely resemble disturbed common velvet grass-sweet vernal grass meadow (*Holcus lanatus-Anthoxanthum odoratum* Semi-Natural Herbaceous Stands [Cal-IPC rank: Moderate]). However, tall fescue is the dominant species in most areas throughout the site. These communities were located on historical fill and disturbed areas.

A complete list of plants observed within the study area is compiled in Table 3-1 in Appendix 3.



Path: \\eureka\projects\2018\018056-SD-Management\GIS\PROJ_MXD\InteriorParcel\Figure2Wetlands.mxdUser Name: hhummel

AERIAL IMAGE ACQUIRED BY SHN WITH A UAV ON 3/18/2018. BING IMAGERY FLOWN ON 11/25/2015
PARCEL BOUNDARY SURVYED BY: GUTIERREZ LAND SURVEYING

Exhibit A - Page 10

SHN Consulting Engineers & Geologists, Inc.

SD Management Natural Resources Assessment Eureka, California	Study Area and Location of Sensitive Biological Resources
January 2020 / Figure2Wetlands	Figure 2

5.0 Geologic and Soil Composition

The project site is set on the Elk River fluvial 100-year flood plain on top of Humboldt Bay mud flats. The main Elk River drainage is 1,000 feet west of the site and 1,000 feet east of Humboldt Bay (Figure 1).

The underlying soils in the study area have the USDA-NRCS classification of Urban land-Anthraltic Xerorthents association, 0 to 2 percent slopes (map unit 1014) and Miscellaneous Water (map unit MW), which are described below. Anthraltic Xerorthent soils are marshlands filled with dredge spoils and/or human-transported material over mixed alluvium. The nearby native soils are classified as Hydraquents mucky silt loam, which are designated by the NRCS as hydric soils. The actual soil description at each exploratory soil TP is included in the wetland determination data forms found in Appendix 4 with photos in Appendix 1.

1014—Urban land-Anthraltic Xerorthents association, 0 to 2 percent slopes

Map Unit Setting
Landscape: Coastal plains
Elevation: 0 to 10 feet
Mean annual precipitation: 41 to 43 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 275 to 330 days

Map Unit Composition
Urban land, industrial: 80 percent
Anthraltic xerorthents and similar soils: 20 percent

Description of Urban land, industrial
Setting
Landform: Fluviomarine terraces
Anthropogenic features: Urban land

Properties and qualities
Slope: 0 to 2 percent
Depth to water table: About 24 inches
Frequency of flooding: None
Frequency of ponding: Frequent

Interpretive Groups
Land capability (non-irrigated): 8

Description of Anthraltic Xerorthents
Setting
Landform: Fluviomarine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Anthropogenic features: Fills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy fluviomarine deposits and/or coarse-loamy dredge spoils

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: None within 60 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.999 to 6.000 inches per hour [in./hr.])
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water capacity: Moderate (about 6.1 inches)

Interpretive Groups
Land capability classification (irrigated): 3s
Land capability (non-irrigated): 3s

Typical Profile
A : 0 to 6 inches: gravelly loamy fine sand
C1 : 6 to 13 inches: sandy loam
C2 : 13 to 19 inches: sandy loam
C3 : 19 to 24 inches: sandy loam
C4 : 24 to 31 inches: sandy loam
C5 : 31 to 43 inches: gravelly sand
C6 : 43 to 65 inches: sand

MW—Miscellaneous water
Map Unit Composition
Water, miscellaneous: 100 percent
Estimates are based on observations, descriptions, and transects of the map unit.

Description of Water, Miscellaneous
Setting
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
(USDA-NRCS, 2018b)

6.0 Regulatory Setting

6.1 Federal Laws

6.1.1 Section 401 and 404 of the Clean Water Act

Under Section 404 of the Clean Water Act (CWA; 33 U.S. Code [USC] 1344), as amended, the USACE and the Environmental Protection Agency (EPA) retain primary responsibility for regulating discharge of dredged or fill material into "navigable waters of the United States." All discharges of dredged or fill material into jurisdictional WOTUS that result in permanent or temporary losses of WOTUS are regulated by the USACE. A permit from the USACE must be obtained before placing fill or grading in wetlands or other WOTUS, unless the activity is exempt from CWA Section 404 regulation (for example, certain farming and forestry activities).

In summary, the definition of WOTUS as defined by 33 Code of Federal Regulations (CFR) Section 328.3 includes:

1. waters used for commerce,
2. interstate wetlands,
3. all other waters (including lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, and natural ponds),
4. impoundments of water,
5. tributaries to aforementioned waters,
6. territorial seas, and
7. wetlands adjacent to waters.

Under 33 CFR 328.3, WOTUS do not include prior converted cropland or waste treatment systems.
In 2008, the EPA and USACE released a guidance memorandum implementing the Supreme Court's decision in the cases of the Rapanos v. U.S. and Carabell v. U.S. Because of these cases, the agencies will apply a significant nexus standard to the following categories of waterbodies to determine if it meets the definition of a WOTUS:

- Non-navigable tributaries that are not relatively permanent
- Wetland adjacent to non-navigable tributaries that are not relatively permanent
- Wetland adjacent to but that does not directly abut a relatively permanent tributary

Section 401 of the CWA (33 USC 1341) requires that applicants for a federal license or permit obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards. The certification is obtained from the state in which the discharge originates or would originate, or if appropriate, from the interstate water pollution control agency having jurisdiction over the affected waters at the point where the discharge originates or would originate. The responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs).

6.1.2 Rivers and Harbors Appropriation Act of 1899

The River and Harbors Appropriation Act of 1899 addresses activities that involve the construction of dams, bridges, dikes, and other structures across any navigable water. Placing obstructions to navigation outside established federal lines and excavating from or depositing material in such waters require permits from the USACE. Section 10 of the Rivers and Harbors Appropriation Act (33 USC 403) prohibits the unauthorized obstruction or alteration of any navigable WOTUS.

6.2 State Laws

6.2.1 California Coastal Act

The California Coastal Act (CCA; California Public Resources Code sections 30000 et seq.) was enacted by the State Legislature in 1976 to provide long-term protection of California's 1,100-mile coastline. The mission of the California Coastal Commission (CCC), as the lead agency responsible for carrying out California's coastal management program, is to plan for and regulate development in the coastal zone consistent with the policies of the CCA. The CCC has the same authority over federal activities and federally licensed or assisted activities in the coastal zone.

The CCC regulates the alteration of wetlands within the Coastal Zone under jurisdiction of the CCA. The California Coastal Zone is broken into local coastal program (LCP) units that specifically oversee land use and management of resources within local government jurisdictions. CCC has delegated responsibility of regulating the CCA to the County of Humboldt through the approval of their LCP. However, the CCC has oversight authority over the LCP.

The California Public Resources Code, Division 20, CCA (2013), Section 30121 broadly defines wetlands as, *"*lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens*."*

However, the CCC Administrative Regulations (Title 14 California Code of Regulations [CCR] Section 13577 (b)) provides a more explicit definition:

> *Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of water surface levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitat.*

The 1994 CCC Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone provides the following information:

> *Although the U. S. Fish & Wildlife Service (FWS) classification system is complex, it does provide an objective method for identifying virtually any wetland landscape. Relative to the USACE definition, the FWS definition is generally regarded as being more inclusive in the classification and subsequent delineation of a wetland. This is because the FWS classification system defines a wetland by the presence of the proper hydrology and either the presence of hydric soils or hydrophytic vegetation, except in nonsoil areas, such as rocky intertidal areas, where only the presence of proper hydrology is required* (CCC, 1994).

For purposes of delineation, a location with any of the three wetland parameters (hydrophytic vegetation, hydrology, or hydric soils) is considered a wetland as defined by the Coastal Act.

6.2.2 Porter-Cologne Water Quality Control Act

The State maintains independent regulatory authority over the placement of waste, including fill, into WoS under the Porter-Cologne Water Quality Control Act. WoS are defined by the Porter-Cologne Water Quality Control Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The SWRCB protects all waters in its regulatory scope, but has special responsibility for isolated

wetlands and headwaters. WoS are regulated by the RWQCBs under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act.

Projects that require a USACE permit, or fall under other federal jurisdiction, and have the potential to impact WoS are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a federal license or permit, but does involve activities that may result in a discharge to WoS, then the local RWQCB has the option to regulate such activities under its state authority in the form of waste discharge requirements (WDRs) or certification of WDRs. Water Quality Order No. 2004-0004-DWQ specifies general WDRs for dredge or fill discharges to waters deemed by the USACE to be outside of federal jurisdiction under Section 404 of the CWA.

7.0 Methodology

Wetland delineation methods described in *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and *The Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (USACE, 2010) were used to identify potential wetlands and other waters. The routine method for wetland delineation described in the USACE 1987 manual was used to identify potential wetlands within the study area. The USACE method relies on a three-parameter approach, in which criteria for hydrophytic vegetation, hydric soils, and wetland hydrology must each be met (present at the point of field investigation) to conclude that an area qualifies as a wetland. Additionally, the CCA requires only one of the three wetland parameters to be met to qualify as a wetland as defined by the Coastal Act. Mapping reflects both CCC and USACE requirements by showing areas meeting one, two, and three parameters.

Hydrophytic vegetation refers to plant species known to be adapted to wetland sites. To classify the hydrophytic plants onsite, the most recent *Western Mountains, Valleys, and Coast 2016 Regional Wetland Plant List* was used (USACE, 2016). Hydric soils are those formed under saturated conditions, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile (USDA, 2017). Wetland hydrology is demonstrated through direct evidence (primary indicators) or indirect evidence (secondary indicators) of flooding, ponding, or saturation for a significant portion of the growing season (USACE, 2010).

Prior to conducting the field investigation, SHN staff reviewed the USGS topographic quadrangle map (Figure 1); Google Earth (Google Earth, 2016); USDA-NRCS Web Soil Survey website (USDA, 2018b); and NWI map (USFWS, 2018; Appendix 2). Prior to the TP investigation, a preliminary site investigation was performed to view existing hydrology. During the subsequent TP subsurface investigation, sample points were characterized at each pit for the aforementioned botanical, hydrological, and soil parameters.

Wetland TP locations were selected to:

- achieve appropriate coverage and characterization of wetland and upland habitats,
- document potential changes in the vegetative community (such as, a shift in the dominant species), and
- determine the approximate boundary line between wetlands and uplands by evaluating the extent of key wetland criteria (hydrology, hydric soils, and hydrophytic vegetation).

All field mapping was completed with a Trimble Pro 6t global positioning system (GPS) antenna connected to a Panasonic Toughbook CF-19 with geographic information system (GIS) software. SHN downloaded the appropriate aerial photos (SHN, 2018). Several fixed locations (for example fence angles) were marked as control points (CT) with the Trimble Pro 6t to get an estimate of aerial imagery accuracy.

7.1 Vegetation Methodology

Prior to the field investigation, a review of plant species reported to be within the project area was performed by querying the "Consortium of California Herbaria" (Consortium of California Herbaria, 2018) database records and "Calflora" (Calflora, 2018) observations. It was determined that the site investigations were performed during an "above normal" rainfall period for the April site visit, and during a "normal" rainfall period for the June site visits, by reviewing rainfall data (see Section 3.2 Site Hydrology, Table 1). Absolute percent cover of each plant species was visually estimated within the sample point and within each vegetation stratum. The tree stratum was inspected at a 30-foot radius centered on the sample point, and the herb and sapling/shrub strata at a 5-foot radius. Botanical nomenclature follows *The Jepson Manual, Vascular Plants of California* (Baldwin et al., 2012) in addition to the online Jepson Interchange (University of California, Berkeley, 2018) for verification of species whose taxonomy may have changed since its publication. For plant species classification, see Section 4.0 Vegetation.

The 50/20 method[1] was applied to each stratum to determine the dominant plant species and to satisfy the hydrophytic vegetation criteria. If hydric soils and wetland hydrology were present, the prevalence index[2] was applied. The occurrence and type of plant cover determine whether jurisdictional areas are identified as satisfying the vegetation criteria of a wetland or other waters. Those sites with little or no hydrophytic plant cover, or other sites not capable of supporting hydrophytic plant communities in normal circumstances, are identified as other waters, provided they have an OHWM.

7.2 Soils Methodology

Soils were field-verified for the presence or absence of hydric conditions. All TPs were dug to a minimum depth of 20 inches, and the thickness of each soil horizon was measured. The Munsell Soil Color Chart (Kollmorgen Instruments Corporation, 1998) was referenced to determine the colors of the moist soil matrix and redoximorphic (redox) features (if present). Soils were closely inspected for hydric soil indicators, as defined by the NRCS "Field Indicators of Hydric Soils in the United States" (Version 8.2; USDA-NRCS, 2017). Once a three-parameter wetland zone was established, its boundary was determined using a soil probe and the use of alpha, alpha dipyridyl reagent.

7.3 Hydrology Methodology

The presence (or lack) of wetland hydrology indicators was determined by reviewing unmanned aerial vehicle (UAV) images captured by SHN on March 18, 2018 (SHN, 2018). The aerial imagery was captured during a normal rainfall season (Section 3.2 Site Hydrology). Direct observations for surface and groundwater were made during TP excavations on April 23 and 24 and June 7, 12, and 13, 2018, in addition to indirect hydrologic indicators (such as, water marks, drift deposits, sediment deposits, alpha, alpha-

[1] The 50/20 rule: for each stratum of the plant community, dominant species are the most abundant species that (when ranked in descending order of abundance and cumulatively totaled) immediately exceed 50% of total dominance measure for the stratum, plus any additional species that individually comprise 20% or more of the total dominance measure for the stratum (USACE, 2010).

[2] The prevalence index is a weighted-average wetland indicator status of all plant species in the sampling plot or other sampling unit, where each indicator status category is given a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4, and UPL = 5) and weighting is by abundance (absolute percent cover).

dipyridyl reaction, drainage patterns, geomorphic placement, water-stained leaves, and similar features). Indicators of extended period saturation would include oxidized rhizospheres surrounding living roots or the presence of reduced iron or sulfur in the soil profile. A site location must contain at least one primary indicator or two secondary indicators to qualify for the hydrology parameter.

7.4 Ordinary High Water Mark Methodology

For purposes of Section 404 of the CWA, the lateral limits of federal jurisdiction over non-tidal water bodies, in the absence of adjacent wetlands, extend to the OHWM. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. For purposes of Sections 9 and 10 of the Rivers and Harbors Act of 1899, the lateral extent of federal jurisdiction, which is limited to the traditional navigable waters of the United States, extends to the OHWM, whether or not adjacent wetlands extend landward of the OHWM (USACE, 2014).

USACE regulations define the term OHWM for the purposes of the CWA lateral jurisdiction as follows:

> *The term "ordinary high water mark" means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas at 33 CFR 328.3(e).*

The OHWM in non-perennial streams corresponds with the boundaries of the active channel, which are typically expressed by some combination of three primary indicators: a topographic break in slope, change in sediment characteristics, and change in vegetation characteristics (USACE, 2014). The following supporting features should be considered when making an OHWM determination, to the extent that they can be identified and are deemed reasonably reliable (USACE, 2014):

- Drift/wrack
- Erosion/scour
- Bank undercutting
- Root exposure
- Point bars
- Water staining
- Litter removal
- Silt deposits
- Shelving
- Headcut/knickpoint
- Macroinvertebrates

8.0 Discussion and Results

Eighteen TPs were excavated on April 23 and June 12 and 13, 2018 (Figure 2) during an "above-normal" to "normal" spring rainfall season, and within the growing season for this region. Normal circumstances were considered present, because site disturbances were last made over 10 years ago, as seen on Google Earth images that date back to November 2003 (Google Earth, 2016). The alpha, alpha-dipyridyl indicator was used to supplement the presence of hydric soils in addition to other indicators. Typically, it should not be used as the only indicator when testing was performed in an "above-normal" rainfall season, which can erroneously show a positive result when not actually hydric (USDA-NRCS, 2015). It was used more as a deciding factor; if it did not have a positive reaction in the wetter than normal season in April, then the soil was not reduced. June was a normal rainfall month, so it was used with more weight as an indicator. The alpha, alpha-dipyridyl was also used to map a wetland boundary extent that was already established with TP data.

This site's hydrology has been altered by constructed berms preventing Elk River and bay tidal waters from encroaching across the building site. Drainage ditches were constructed to allow centralized drainage to flow offsite. The average slope is from 1 to 5 percent.

A March 18, 2018 aerial image (SHN, 2018; Figure 2) was used for the hydrology indicator C9 (Saturation Visible on Aerial Imagery). The aerial imagery was taken within a normal rainfall season (Section 3.2 Site Hydrology).

Photos of the study areas are shown in Appendix 1. The majority of the site's soils encountered in the TPs were fill, derived from either graded areas of the property or brought in from other sources. The discussion sections below for each TP describe the physical features and considerations of the site, followed by a data section that summarizes information from the completed Wetland Determination Data Forms located in Appendix 4.

8.1 TP1

8.1.1 Discussion

TP1 was excavated on April 23, 2018, at a geographic low with the presence of obligate hydrophytic vegetation (pennyroyal). The SHN UAV aerial photo also indicated saturation earlier in March (SHN, 2018; Figure 3) TP1 was used to investigate the correlation of pennyroyal with either a two- or three-parameter wetland. Only two parameters were found at this pit (hydrophytic vegetation and hydrology) which is, therefore, not considered a USACE wetland site. TP2 and TP3 were also excavated to confirm correlation of pennyroyal found in localized depressions with a CCC two-parameter wetland (Appendix 1, Photo 4).

8.1.2 Data TP1

TP1 vegetation contained only an herb stratum. The dominant species for the herb stratum were 30-percent creeping bent grass (*Agrostis stolonifera* [FAC]), 25-percent pennyroyal [OBL], and 20-percent hairy cat's ear (*Hypochaeris radicata* [FACU]), and therefore, meets the hydrophytic vegetation parameter.

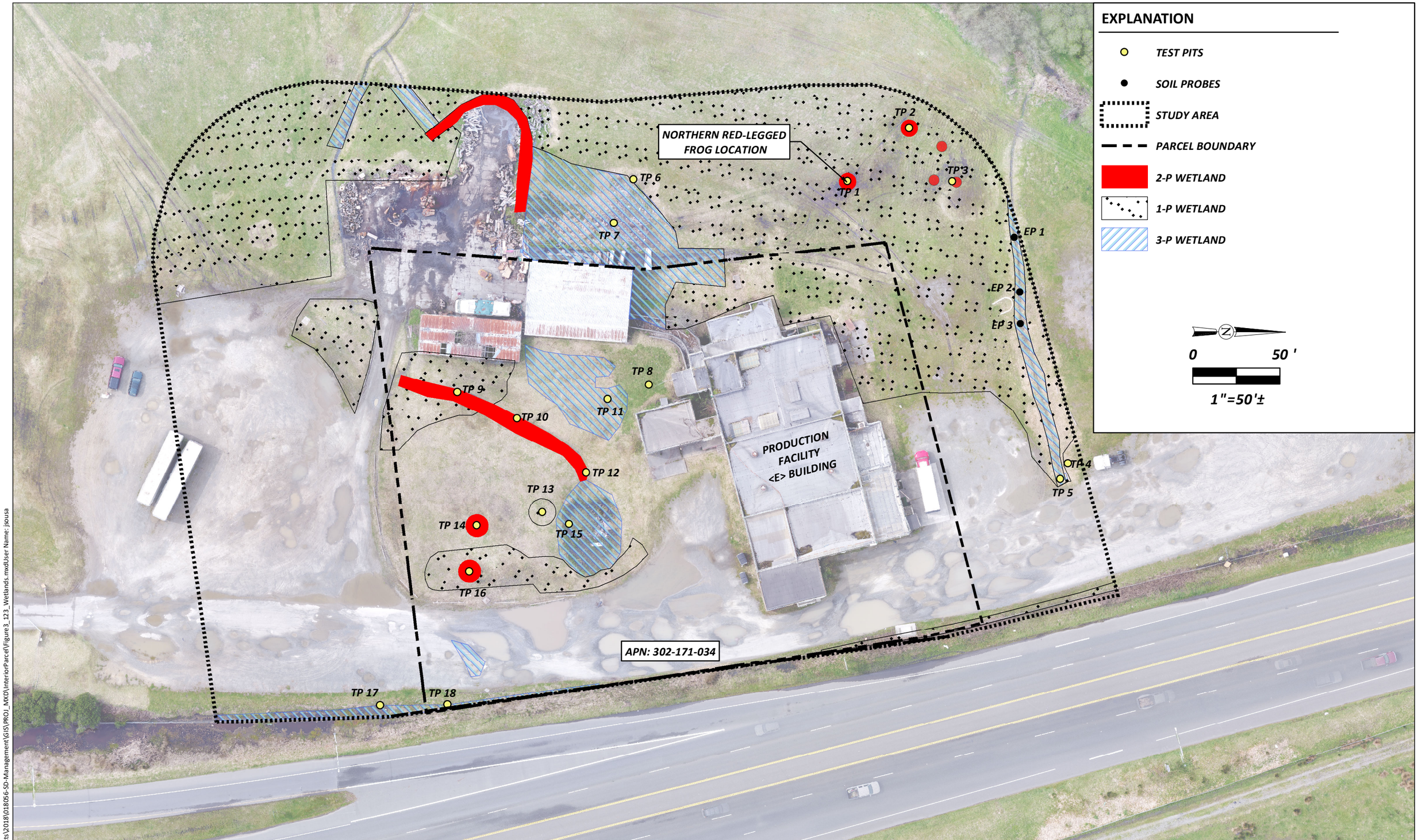
The hydrology parameter was present due to the observed primary indicator A2 (High Water Table @ 11.5 inches) and two secondary indicators: C9 (Saturation Visible on Aerial Imagery) and D2 (Geomorphic Position).

No hydric soil indicators were observed.

8.2 TP2

8.2.1 Discussion

TP2 was excavated on April 23, 2018, at a geographic low with the presence of obligate hydrophytic vegetation (pennyroyal). The SHN UAV aerial photo also indicated saturation earlier in March (SHN, 2018; Figure 3). TP2 was used to investigate the correlation of pennyroyal with either a two- or three-parameter wetland. Only two parameters were found at this pit (hydrophytic vegetation and hydrology) and is, therefore, not considered a USACE wetland site. TP1 and TP3 were also excavated to confirm correlation of pennyroyal found in localized depressions with a CCC two-parameter wetland (Appendix 1, Photo 4).



AERIAL IMAGE ACQUIRED BY SHN WITH A UAV ON 3/18/2018. BING IMAGERY FLOWN ON 11/25/2015

SD Management Wetland and Other Waters Delineation Report Eureka, California		1, 2, & 3 Parameter Wetland Delineation Map
July 2019	Figure3_123_Wetlands	Figure 3

Path: \\Eureka\Projects\2018\018056-SD-Management\GIS\PRO_MXD\InteriorParcel\Figure3_123_Wetlands.mxdUser Name: jsousa

8.2.2 Data TP2

TP2 vegetation contained only an herb stratum. The dominant species for the herb stratum were 40-percent pennyroyal [OBL], 20-percent creeping bent grass [FAC], and 18-percent rescue grass [NL], and therefore, meets the hydrophytic vegetation parameter.

The hydrology parameter was present due to the observed two secondary indicators: C9 (Saturation Visible on Aerial Imagery) and D2 (Geomorphic Position).

No hydric soil indicators were observed.

8.3 TP3

8.3.1 Discussion

TP3 was excavated on June 13, 201,8 at a geographic low with the presence of obligate hydrophytic vegetation (pennyroyal). The SHN UAV aerial photo also indicated saturation earlier in March (SHN, 2018; Figure 3). TP3 was used to investigate the correlation of pennyroyal with either a two- or three-parameter wetland. Only two parameters were found at this pit (hydrophytic vegetation and hydrology), which is therefore, not considered a USACE wetland site, but qualifies as a two-parameter CCC wetland.
TP1 and TP2 were also excavated to confirm the correlation of pennyroyal found in localized depressions with a CCC two-parameter wetland (Appendix 1, Photo 4).

8.3.2 Data TP3

TP3 vegetation contained only an herb stratum. The dominant species for the herb stratum were 40-percent tall fescue [FAC], 8-percent hairy cat's ear [FACU], and 8-percent lesser quaking-grass (*Briza minor* [FAC]), and therefore, meets the hydrophytic vegetation parameter.

The hydrology parameter was present due to the observed two secondary indicators: C9 (Saturation Visible on Aerial Imagery) and D2 (Geomorphic Position).

No hydric soil indicators were observed.

8.4 TP4 and TP5 Paired Plot

8.4.1 Discussion

TP4 and TP5 were excavated on April 23, 2018. TP5 is located in a drainage ditch constructed to centralize stormwater flow in the northern portion of the study area. TP4 is the upland paired TP for TP5 and is located 9 feet to the north. (See Figure 3; Appendix 1, Photo 5.) All three parameters were observed at TP5 (hydrophytic vegetation, hydrology, and hydric soils); therefore, TP5 is considered to be a USACE and a CCC wetland site. No parameters were met at TP4, and therefore, is not considered a CCC or USACE wetland.

8.4.2 Data TP4

TP4 vegetation contained only an herb stratum. The dominant species for the herb stratum were 30-percent velvet grass [FAC] and 20-percent rescue grass [NL], and therefore, does not meet the hydrophytic vegetation parameter.

No hydrology or hydric soil indicators were observed.

8.4.3 Data TP5

TP5 vegetation contained only an herb stratum. The dominant species for the herb stratum was 65-percent velvet grass [FAC], and therefore, meets the hydrophytic vegetation parameter.

The hydrology parameter was present due to three observed primary indicators: A2 (High Water Table @ 7 inches), B4 (Algal Mat or Crust), and C4 (Presence of Reduced Iron). Three secondary indicators were also observed: C9 (Saturation Visible on Aerial Imagery), D2 (Geomorphic Position), and D5 (FAC-Neutral Test).

Hydric soil indicators observed were S5 (Sandy Redox) and the positive reaction to the alpha, alpha-dipyridyl reagent.

8.5 TP6 and TP 7 Paired Plots

8.5.1 Discussion

TP6 and TP7 were excavated on June 13, 2018, at a geographic low with the presence of obligate hydrophytic vegetation (small-fruited bulrush). The SHN UAV aerial photo also indicated saturation earlier in March (SHN, 2018; Figure 3). TP7 is within the wetland and has three-parameters; it is, therefore, considered a USACE and CCC wetland (Appendix 1, Photo 6). TP6 is the upland TP and had only one wetland parameter (hydrophytic vegetation), and it is considered a one-parameter CCC wetland.

8.5.2 Data TP6

TP6 vegetation only contained an herb stratum. The dominant species for the herb stratum were 20-percent Himalayan blackberry [FAC], velvet grass [FAC], and 15-percent sweet vernal grass [FACU], and therefore, meets the hydrophytic vegetation parameter.

No hydrology or hydric soil indicators were observed.

8.5.3 Data TP7

TP7 vegetation only contained an herb stratum. The dominant species for the herb stratum were 22-percent small-fruited bulrush [OBL] and 10-percent wild radish [FACU], and therefore, meets the hydrophytic vegetation parameter.

The hydrology parameter was present due to the observed two secondary indicators: C9 (Saturation Visible on Aerial Imagery) and D2 (Geomorphic Position).

The F3 (Depleted Matrix) hydric soil indicators were observed

8.6 TP 8 and TP 11 Paired Plots

8.6.1 Discussion

TP8 and TP11 were excavated on June 13, 2018. These pits were chosen because of the depression, saturation visible on the aerial photo (Figure 3; SHN, 2018), and the hydrophytic vegetation. Prior to performing the TP excavations, this area had been weed-whacked; vegetation still remained on the ground around the TP, but plant identification with percent cover was difficult. The vegetation was reexamined

March 8, 2019, to verify locations of hydrophytic vegetation in relation to wetland boundaries. TP11 is within the wetland and has three-parameters; therefore, it is considered a USACE and CCC wetland site. TP8 is the upland TP and had no wetland parameter.

8.6.2 Data TP8

TP8 vegetation contained only an herb stratum. The dominant species for the herb stratum were 40-percent sweet vernal grass [FACU] and 15-percent hairy cat's ear [FACU], and therefore, does not meet the hydrophytic vegetation parameter.

No hydrology or hydric soil indicators were observed.

8.6.3 Data TP11

TP8 vegetation contained only an herb stratum. The dominant species for the herb stratum was 60-percent Pacific lamp rush [FACW], and therefore, meets the hydrophytic vegetation parameter.

The hydrology parameter was present due to three secondary indicators: C9 (Saturation Visible on Aerial Imagery), D2 (Geomorphic Position), and D5 (FAC-Neutral Test).

The F3 (Depleted Matrix) and A11 (Depleted Below Dark Surface) hydric soil indicators were observed.

8.7 TP9

8.7.1 Discussion

TP9 was excavated on June 12, 2018 and is located within the drainageway leading out of Wetland #3 and flowing across a concrete pad until connecting into Wetland #4 (Figures 2 and 3). TP10 and TP12 also were excavated within this drainageway segment. Prior to performing the TP excavations, this area had been weed-whacked; vegetation still remained on the ground around the TP, but plant identification with percent cover was difficult (Photo 7). The vegetation was reexamined March 8, 2019, to verify locations of hydrophytic vegetation in relation to wetland boundaries. Only two parameters were found at TP9 (hydrology and hydric soils) and is, therefore, not considered a USACE wetland site, but is a CCC two-parameter wetland.

8.7.2 Data TP9

TP9 vegetation contained only an herb stratum. The dominant species for the herb stratum were 20-percent hairy cat's ear [FACU], 15-percent bird's foot trefoil (*Lotus corniculatus* [FAC]), and 15-percent sweet vernal grass [FACU], and therefore, does not meet the hydrophytic vegetation parameter.

The hydrology parameter was present due to two secondary indicators: C9 (Saturation Visible on Aerial Imagery) and D2 (Geomorphic Position).

The F3 (Depleted Matrix) hydric soil indicators were observed.

8.8 TP 10

8.8.1 Discussion

TP10 was excavated on June 12, 2018, and is located within the outflow of Wetland #3, which drains across a concrete pad until connecting into Wetland #4. TP9 and TP12 were also excavated within this drainageway segment. Prior to performing the TP excavations, this area had been weed-whacked; vegetation still remained on the ground around the TP, but plant identification with percent cover was difficult. The vegetation was reexamined March 8, 2019, to verify locations of hydrophytic vegetation in relation to wetland boundaries. Only two parameters were found at TP10 (hydrology and hydric soils) and is, therefore, not considered a USACE wetland site, but is considered a two-parameter CCC wetland.

8.8.2 Data TP10

TP10 vegetation contained only an herb stratum. The dominant species for the herb stratum were 30-percent sweet vernal grass [FACU] and 25-percent hairy cat's ear [FACU], and therefore, does not meet the hydrophytic vegetation parameter.

The hydrology parameter was present due to two secondary indicators: C9 (Saturation Visible on Aerial Imagery) and D2 (Geomorphic Position).

The F6 (Redox Dark Surface) hydric soil indicators were observed.

8.9 TP 12

8.9.1 Discussion

TP12 was excavated on June 12, 2018 and is located within the drainageway leading out of Wetland #3 and flowing across a concrete pad until connecting into Wetland #4 (Figures 2 and 3). TP9 and TP10 were also excavated within this drainageway segment. Prior to performing the TP excavations, this area had been weed-whacked; vegetation still remained on the ground around the TP, but plant identification with percent cover was difficult. The vegetation was reexamined March 8, 2019, to verify locations of hydrophytic vegetation in relation to wetland boundaries. Only two parameters were found at TP12 (hydrophytic vegetation and hydrology) and is therefore not considered a USACE wetland site, but is considered a two-parameter CCC wetland.

8.9.2 Data TP12

TP12 vegetation contained only an herb stratum. The dominant species for the herb stratum were 18-percent velvet grass [FAC], 15-percent tall fescue [FAC], 15-percent hairy cat's ear [FACU], and 15-percent Pacific water parsley [OBL], and therefore, meets the hydrophytic vegetation parameter.

The hydrology parameter was present due to three secondary indicators: C9 (Saturation Visible on Aerial Imagery), D2 (Geomorphic Position), and D5 (FAC-Neutral).

No hydric soil indicators were observed.

8.10 TP13 and TP15 Paired Plots

8.10.1 Discussion

TP13 and TP15 were excavated on June 12, 2018, at a geographic low with the presence of obligate hydrophytic vegetation (Pacific water parsley (*Oenanthe sarmentosa)*). The SHN UAV aerial photo also indicated saturation earlier in March (SHN, 2018; Figure 3). Prior to performing the TP excavations, this area had been weed-whacked; vegetation still remained on the ground around the TPs, but plant identification with percent cover was difficult (Appendix 1, Photo 8). The vegetation was reexamined March 8, 2019 to verify locations of hydrophytic vegetation in relation to wetland boundaries. TP15 is within the wetland and has three-parameters; it is, therefore, considered a USACE and CCC wetland. TP13 is the USACE upland TP and had the hydric soil wetland parameter. It is considered to be transitional into the upland area.

8.10.2 Data TP13

TP13 vegetation contained the tree stratum and herb stratum. The dominant species for the tree stratum was 15-percent Hooker's willow [FACW] and the herb stratum was 60-percent sweet vernal grass [FACU], and therefore, does not meet the hydrophytic vegetation parameter.

No hydrology indicators were observed. The A11 (Depleted Below Dark Surface) hydric soil indicator was observed.

8.10.3 Data TP15

TP15 vegetation contained the tree stratum and the herb stratum. The dominant species for the tree stratum was 42-percent Hooker's willow [FACW] and the herb stratum 50-percent Pacific water parsley (*Oenanthe sarmentosa* [OBL]) and 20-percent creeping buttercup [FAC], and therefore, meets the hydrophytic vegetation parameter.

The hydrology parameter was present due to three secondary indicators: C9 (Saturation Visible on Aerial Imagery), D2 (Geomorphic Position), and D5 (FAC-Neutral).

The F3 (Depleted Matrix) hydric soil indicators were observed.

8.11 TP 14

8.11.1 Discussion

TP14 was excavated on June 13, 2018 and is located in a depression around Wetland #5. Prior to performing the TP excavation, this area had been weed-whacked; vegetation still remained on the ground around the TP, but plant identification with percent cover was difficult. The vegetation was reexamined March 8, 2019, to verify locations of hydrophytic vegetation in relation to wetland boundaries. Only two parameters were found at TP14 (hydrology and hydric soils) and is, therefore, not considered a USACE wetland site, but is considered a two-parameter CCC wetland.

8.11.2 Data TP14

TP14 vegetation contained only an herb stratum. The dominant species for the herb stratum were 40-percent velvet grass [FAC], 15-percent Pacific lamp rush [FACW], 15-percent hairy cat's ear [FACU], and 15-percent sweet vernal grass [FACU], and therefore, does not meet the hydrophytic vegetation parameter.

The hydrology parameter was present due to two secondary indicators: C9 (Saturation Visible on Aerial Imagery) and D2 (Geomorphic Position).

The F3 (Depleted Matrix) and A11 (Depleted Below Dark Surface) hydric soil indicators were observed.

8.12 TP 16

8.12.1 Discussion

TP16 was excavated on June 13, 2018 and is located in a depression in Wetland #3. Prior to performing the TP excavation, this area had been weed-whacked; vegetation still remained on the ground around the TP, but plant identification with percent cover was difficult. The vegetation was reexamined March 8, 2019, to verify locations of hydrophytic vegetation in relation to wetland boundaries. Only two parameters were found at TP21 (hydrophytic vegetation and hydrology), and is, therefore, not considered a USACE wetland site, but is considered a two-parameter CCC wetland.

8.12.2 Data TP16

TP16 vegetation contained only an herb stratum. The dominant species for the herb stratum were 20-percent Pacific lamp rush [FACW], 20-percent velvet grass [FAC], and 15-percent sweet vernal grass [FACU] and therefore, meets the hydrophytic vegetation parameter.

The hydrology parameter was present due to two secondary indicators: C9 (Saturation Visible on Aerial Imagery), and D2 (Geomorphic Position).

No hydric soil indicators were observed.

8.13 TP17 and TP18 Paired Plots

8.13.1 Discussion

TP17 and TP18 were excavated on June 13, 2018 and are located along a constructed drainageway paralleling State Highway 101. It drains to the south, allowing the majority of stormwater runoff to bypass the building site. TP17 is within the wetland. TP18 was excavated in anticipation of showing the northern termination of Wetland #5, but it also exhibited all three wetland parameters. The northern extent of Wetland #5 was determined with a soil probe and the positive/negative reaction to the alpha, alpha-dipyridyl reagent. TP17 and TP18 are considered USACE and CCC wetland sites (Figure 3; Appendix 1, Photo 9).

8.13.2 Data TP17

TP17 vegetation contained only the herb stratum. The dominant species for the herb stratum was composed of 55-percent common brass buttons [OBL] and therefore, meets the hydrophytic vegetation parameter.

The primary hydrology C1 (Hydrogen Sulfide Odor) and C4 (Presence of Reduced Iron) indicators were observed, as were the secondary C9 (Saturation Visible on Aerial Imagery, D2 (Geomorphic Depression), and D5 (FAC-Neutral) indicators.

The F3 (Depleted Matrix) and A11 (Depleted Below Dark Surface) hydric soil indicators were met, and there was a positive reaction to alpha, alpha dipyridyl reagent.

8.13.3 Data TP18

TP18 vegetation contained only the herb stratum. The dominant species for the herb stratum was composed of 60-percent red-tinged bulrush [OBL] and therefore, meets the hydrophytic vegetation parameter.

The hydrology parameter was present due to two secondary indicators: D2 (Geomorphic Position) and D5 (FAC-Neutral Test).

The F3 (Depleted Matrix) hydric soil indicator was observed.

8.14 Wetland #1

Wetland #1 is a complex of several topographic settings and discrete boundaries of one-, two-, and three-parameter areas. The entire Wetland #1 area is approximately 47,884 square feet (sq. ft.; Figures 2 and 3), and much of the wetland complex is defined as Palustrine emergent persistent seasonally flooded/saturated (PEM1E). The area is predominantly a one-parameter CCC wetland with facultative non-native grasses. There are five depressions on the north side that are CCC two-parameter wetlands near a USACE/CCC three-parameter man-made drainage feature that extends from the graveled area on the east side to the extent of the study area to the west. The area is predominantly facultative wetland species and due to natural disturbances and variations in seasonal hydrology, the boundary of the one-parameter wetland is dynamic and has changed from previous observations conducted in 2018.

In the mid-to southern area of the Wetland #1 complex, there is a USACE/CCC three-parameter wetland that contains small-fruited bulrush [FACW] and non-native Himalayan blackberry [FAC] (Photo 6). This three-parameter area also contains a large amount of debris from past land use. This ESHA area drains stormwater flows offsite by first flowing through a two-parameter CCC wetland (a shallow man-made drainageway skirting an existing concrete slab) and then into a USACE/CCC three parameter wetland drainage feature that flows offsite to the west.

8.15 Wetland #2

Wetland #2 is a USACE/CCC three-parameter wetland, which collects rainwater from the surrounding building roofs and drains into Wetland #3 (Figures 2 and 3; Appendix 1, Photo 10). It is defined as a Palustrine emergent persistent seasonally flooded excavated (PEM1Cx) wetland and is approximately 1,843 sq. ft.

8.16 Wetland #3

Wetland #3 is a complex of several topographic settings and discrete boundaries of one-, two-, and three-parameter areas (Figures 2 and 3; Appendix 1, Photos 7 and 8). The three-parameter USACE/CCC wetland is under the site of an older building, which collapsed in 2011 (Google Earth, 2011), and contains remaining debris. This low spot drains out through a man-made two-parameter CCC wetland construction ditch, which flows towards the concrete pad and partially to Wetland #4. It is defined as Palustrine emergent persistent seasonally flooded/saturated excavated (PEM1Ex) wetland and is approximately 7,225 sq. ft.

8.17 Wetland #4

Wetland #4 is a one-parameter CCC wetland (hydrophytic vegetation) and collects pooled stormwater before flowing westward into Wetland #1 (Figures 2 and 3). It is defined as PEM1Ex and is approximately 1,531 sq. ft.

8.18 Wetland #5

Wetland #5 parallels U.S. Highway 101 and is within a man-made drainageway for stormwater from the highway and a portion of the site's access road (Figures 2 and 3; Appendix 1, Photo 9). It is a three-parameter wetland and a portion is defined as an ESHA consisting of a small-fruited bulrush marsh. It is defined as PEM1Cx and is approximately 941 sq. ft.

8.19 Man-made Road Feature

There are two small potholes in the graveled driveway near the southern entrance (Figure 2; Appendix 1, Photo 11). TPs were not excavated because of the compacted gravel and cobbly substrate, and the nature of the site, but it exhibited all three parameters. Soils displayed redox and reacted positively to alpha, alpha-dipyridyl reagent. Vegetation consisted of non-persistent and non-native species. As illustrated in the CCC staff slide show, puddles should not be considered a wetland (Appendix 1, Photo 12; CCC,2016). These potholes are located in an active access road for the project area.

8.20 Ordinary High Water Mark

No OHWM was observed in addition to the wetlands already mapped.

9.0 Conclusions

TP site investigations occurred on April 23 and 24, and June 12 and 13, 2018. This region experienced a lower-than-average winter rainfall, but an above-normal to normal spring rainfall (Section 3.2 Site Hydrology). The study area falls within both the USACE and the CCC jurisdictions. Because the CCC may consider 1, 2, or 3 parameters to identify a wetland, Table 2 describes the number and type of parameters for each TP. Figure 2 indicates wetland boundaries, and Figure 3 indicates the number of parameters present within each wetland determination.

Table 2. TP Parameter Results, April 23, April 24, June 12, and June 13, 2018
SD Management, Eureka, CA

TP Number	Parameters Met	Parameter Type	Latitude/Longitude	Jurisdiction
TP1	2	Hydrophytic Vegetation, Hydrology	40.760782°/-124.191166°	CCC[1]
TP2	2	Hydrophytic Vegetation, Hydrology	40.760880°/-124.191284°	CCC
TP3	2	Hydrophytic Vegetation, Hydrology	40.760930°/-124.191179°	CCC
TP4	0	None	40.761142°/-124.190627°	None
TP5	3	Hydrophytic Vegetation, Hydrology, Hydric Soils	40.761134°/-124.190572°	CCC, USACE[2]
TP6	1	Hydrophytic Vegetation	40.760437°/-124.191170°	CCC
TP7	3	Hydrophytic Vegetation,	40.760425°/-124.191031°	CCC, USACE

Table 2. TP Parameter Results, April 23, April 24, June 12, and June 13, 2018 SD Management, Eureka, CA

TP Number	Parameters Met	Parameter Type	Latitude/Longitude	Jurisdiction
		Hydrology, Hydric Soils		
TP8	0	None	40.760473°/-124.190750°	None
TP9	2	Hydrology, Hydric Soils	40.760162°/-124.190705°	CCC
TP10	2	Hydrology, Hydric Soils	40.760280°/-124.190643°	CCC
TP11	3	Hydrophytic Vegetation, Hydrology, Hydric Soils	40.760411°/-124.190707°	CCC, USACE
TP12	2	Hydrophytic Vegetation, Hydrology	40.760377°/-124.190541°	CCC
TP13	1	Hydric Soils	40.760307°/-124.190432°	CCC
TP14	2	Hydrology, Hydric Soils	40.760211°/-124.190424°	CCC
TP15	3	Hydrophytic Vegetation, Hydrology, Hydric Soils	40.760352°/-124.190455°	CCC, USACE
TP16	2	Hydrophytic Vegetation, Hydrology	40.760204°/-124.190337°	CCC
TP17	3	Hydrophytic Vegetation, Hydrology, Hydric Soils	40.760012°/-124.190029°	CCC, USACE
TP18	3	Hydrophytic Vegetation, Hydrology, Hydric Soils	40.760137°/-124.190052°	CCC, USACE

1. CCC: California Coastal Commission
2. USACE: U.S. Army Corps of Engineers

Following the CCC one-, two-, and three-parameter guidelines, there are six wetland areas found within the project area (Figures 2 and 3); Wetland #6 is a pothole within the graveled driveway and is awaiting agency determination on wetland status. The three-parameter wetlands and their boundaries were determined by excavating TPs with associated paired plots. Table 3 describes the type, location, and size of the wetlands.

Table 3. CCC 1-, 2-, or 3-parameter Wetland Delineation Results, April 23, June 12 and June 13, 2018 SD Management, Eureka, CA

Waterbodies	Test Pits	Cowardin Type	Latitude/Longitude	Area (square feet)
Wetland#1	1,2,3,5,6,7	PEM1E[1]	40.760573°/-124.191162°	47,884
Wetland#2	11	PEM1Cx[2]	40.760363°/-124.190706°	1,843
Wetland#3	9,10,12, 13, 14,15,16	PEM1Ex[3]	40.760391°/-124.190415°	7,225
Wetland#4		PEM1Ex	40.759999°/-124.190764°	1,531
Wetland#5	17,18	PEM1Cx	40.760102°/-124.190036°	941
Wetland#6		PEM2Cr[4]	40.760202°/-124.190155°	164
Total				**66,026**

1. PEM1E: Palustrine emergent persistent seasonally flooded/saturated
2. PEM1Cx: Palustrine emergent persistent seasonally flooded excavated
3. PEM1Ex: Palustrine emergent persistent seasonally flooded/saturated excavated
4. PEM2Cr: Palustrine emergent nonpersistent seasonally flooded artificial substrate

10.0 Limitations

The conclusions in this report represent a "snapshot in time" and some species were not identifiable or may not have been present at the time of the fieldwork. TP8 through TP16 had been recently mowed at the time of investigation (June 12 and June 13, 2018) and determination of cover was difficult to discern.
A site visit for verification was conducted during the next consecutive growing season (March 8, 2019) to review the vegetation. This report documents the investigation by using the best professional judgment of SHN's botanist and soil scientist.

11.0 References Cited

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. (2012). *The Jepson Manual: Vascular Plants of California, second edition*. Berkeley, CA:University of California Press, Berkeley.

Calflora. (2018). Calflora database. Accessed May 2018 at: http://calflora.org/.

California Coastal Commission. (NR). CCC Administrative Regulations (Title 14 California Code of Regulations [CCR] Section 13577 (b)). Sacramento, CA:CCC.

---. (1994). 1994 CCC Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone. Sacramento, CA:CCC.

---. (2016). "Technical Wetland Delineation." Accessed April 2019 at: https:www.coastal.ca.gov.meetings/workshops/2016/wetlands/LEK_Wetland_Workshop.pdf.

California Data Exchange Center. (2018). Eureka Woodley Island, CA. Accessed April 2018 at: http://cdec.water.ca.gov/cgi-progs/queryMonthly?ERK.

Consortium of California Herbaria. (2018). Consortium of California Herbaria database. Accessed June 2018 at: http://ucjeps.berkeley.edu/consortium/.

Environmental Laboratory. (1987). C*orps of Engineers Wetland Delineation Manual. Technical Report Y-87-1*. Vicksburg, MS:USACE Waterways Experiment Station.

Google Earth. (2011) Latitude 40.760288° and longitude -124.190554°.

---. (2016). NAIP 5/28/2016 imagery 40.760238° latitude and -124.190921° longitude. NR: Google Earth.

Kollmorgen Instruments Corporation. (1998). *Munsell Soil Color Charts*. Baltimore, MD:Macbeth Division of Kollmorgen Instruments Corporation.

SHN. (2018). Unpublished UAV captured on March 18, 2018. Eureka, CA:SHN.

University of California, Berkeley. (2018). "Jepson eFlora." Accessed June 2018 at: http://ucjeps.berkeley.edu/eflora/.

U.S. Army Corps of Engineers. (2010). *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountain, Valleys, and Coast Region*, J.S. Wakeley, R.W. Lichvar, and C.V. Noble (eds) ERDC/EL TR-08-03. Vicksburg, MS: USACE Research and Development Center.

---. (2014). *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*, M. K. Mersel and R. W. Lichvar (eds) ERDC/CRREL TR-14-13. Vicksburg, MS: USACE Research and Development Center.

---. (2016). *Western Mountains, Valleys, and Coast: 2016 Regional Wetland Plant List*, Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin (eds), ERDC/CRREL. Vicksburg, MS: USACE Research and Development Center.

U.S. Code of Federal Regulations. (NR). "33 CFR 328. Title 33, Navigation and Navigable Waters; Chapter II; Army Corp of Engineers, Dept. of Defense, Part 328, Regulatory Program of the U.S. Army Corps of Engineers." NR: USACE.

U.S. Department of Agriculture, Natural Resources Conservation Service. (2015). "Hydric Soils Technical Note 11: Hydric Soils and Data Submission Requirements" for Field Indicators of Hydric Soils. NR:USDA.

---. (2017). *Field Indicators of Hydric Soils in the United States, Version 8.2.* G.W. Hurt, L.M. Vasilas (eds.). NR: USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils.

---. (2018a). WETS Database. Eureka- Woodley Island, CA. Accessed April 2018 at: http://agacis.rcc-acis.org/?fips=06023.

---. (2018b). Web Soil Survey. Accessed April 2018 at: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

U.S. Fish and Wildlife Service. (USFWS) (April 2018). National Wetlands Inventory. Accessed April 2018 at: http://www.fws.gov/wetlands/data/mapper.HTML/.

U.S. Geological Survey. (2012). USGS US Topo 7.5-minute map for Eureka, CA 2012: USGS - National Geospatial Technical Operations Center (NGTOC). NR:USGS.

Site Photographs 1

Photo 1: Remnant buildings on project site.

Photo 2: Typical non-native grass vegetation on western side of study area- looking east.

Photo 3: Typical graded and compacted gravelly cobble fill.

Photo 4: Typical pennyroyal vegetation in localized depressions.

Photo 5: TP5 looking west along man-made drainage.

Photo 6: TP7 site. Note debris with disturbed vegetation. This is a G4 S2 ESHA habitat.

Photo 7: TP9 looking north along man-made drainageway. Note disturbed vegetation.

Photo 8: TPs 13 and 15 looking north. Note disturbed vegetation

Photo 9: TP 17 looking south.

Photo 10: Wetland #2. Note disturbed vegetation.

Photo 11: Pothole at entrance of driveway.

Photo 12: CCC Slide showing that mud puddles are not treated as a wetland (CCC,2016).

National Wetlands Inventory

2

U.S. Fish and Wildlife Service
National Wetlands Inventory

NWI SD Mgmt

April 20, 2018

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.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Plant List 3

Table 3-1 Plants Observed at Study Site April 23, 24 and June 7, 12, and 13, 2018 Eureka, California		
Scientific Name	**Common Name**	**Indicator 2016[1]**
Achillea millefolium	yarrow	FACU
Agrostis stolinifera	creeping bent grass	FAC
Aira caryophyllea	silver hair grass	FACU
Allium triquetum	Three-sided leek	NL
Alnus rubra	Red alder	FAC
Alopecurus pratensis	foxtail grass	FAC
Anaphalis margaritacea	pearly everlasting	FACU
Anthoxanthum odoratum	sweet vernal grass	FACU
Arenaria serpyllifolia	Thyme leaf sandwort	FACU
Athyrium filix-femina var. cyclosorum	western lady fern	FAC
Athysanus pusillus	common sandweed	NL
Avena barbata	slim oat	NL
Baccharis pilularis ssp. Consanguinea	coyote brush	NL
Bellis perennis	English lawn daisy	NL
Brassica rapa	common mustard	FACU
Briza maxima	rattlesnake grass	FAC
Briza minor	lesser quaking grass	FAC
Bromus carinatus var. carinatus	California brome	NL
Bromus catharticus	rescue grass	NL
Bromus diandrus	ripgut brome	NL
Bromus hordeaceus	soft chess	FACU
Bromus tectorum	cheat grass	NL
Callitriche heterophylla var. heterophylla	greater water-starwort	OBL
Callitriche palustris	vernal water-starwort	OBL
Carex leptopoda	short scale sedge	FAC
Carex obnupta	slough sedge	OBL
Cerastium arvense	meadow chickweed	FACU
Claytonia sibirica	candy flower	FAC
Conium maculatum	poison hemlock	FAC
Convolvulus arvensis	field bindweed	NL
Cortaderia jubata	pampas grass	FACU
Cotoneaster franchetii	cotoneaster	NL
Cotoneaster integrifolius	entire leaved cotoneaster	NL
Cotula cornopifolia	common brassbuttons	OBL
Cynosurus echinatus	dogtail grass	NL
Cyperus eragrostis	tall flat sedge	FACW
Dactylis glomerata	orchardgrass	FACU
Daucus carota	wild carrot	FACU
Dipsacus fullonum	wild teasel	FAC
eleocharis macrostachya	pale spike rush	OBL
Epilobium ciliatum	fringed willow herb	FACW

Table 3-1 Plants Observed at Study Site April 23, 24 and June 7, 12, and 13, 2018 Eureka, California		
Scientific Name	**Common Name**	**Indicator 2016[1]**
Equisetum arvense	field horsetail	FAC
Festuca arundinacea	tall fescue	FAC
Festuca bromoides	squirrel tail fescue	FAC
Festuca idahoensis	Idaho fescue	NL
Festuca microstachys	small fescue	NL
Festuca myuros	rat tail fescue	FACU
Festuca perennis	Italian rye grass	FAC
Foeniculum vulgare	fennel	NL
Galium aparine	sticky-willy	FACU
Geranium dissectum	cut leaf geranium	NL
Geranium molle	dove's foot geranium	NL
Glyceria declinata	waxy mannagrass	NL
Hedera helix	English ivy	FACU
Helminthotheca echioides	bristly oxtongue	FAC
Holcus lanatus	common velvetgrass	FAC
Hordeum brachyantherum ssp. Brachyantherum	meadow barley	FACW
Hordeum marinum	seaside barley	FAC
Hordeum murinum ssp. murinum	wall barley	FAC
Hypochaeris radicata	hairy cat's ear	FACU
Juncus bufonius	common toad rush	FACW
Juncus effusus ssp. pacificus	Pacific lamp rush	FACW
Juncus occidentalis	western rush	FACW
Juncus patens	gray rush	FACW
Juncus xiphiodes	iris leaf rush	OBL
lemna minor	common duckweed	OBL
Linum bienne	pale flowered flax	NL
Linum usitatissimum	common flax	NL
Lotus corniculatus	bird's foot trefoil	FAC
Lupinus bicolor	annual lupine	NL
Lysichiton americanus	american skunk cabbage	OBL
Lysimachia arvensis	scarlet pimpernel	FAC
Lythrum hyssopifolia	hyssop loosestrife	OBL
Medicago lupulina	black medic	FACU
Melilotus albus	white sweetclover	NL
Mentha pulegium	pennyroyal	OBL
Oenanthe sarmentosa	water parsley	OBL
Phalaris aquatica	Harding grass	FACU
Phleum pratense	Timothy-grass	FACU
Picea sitchensis	Sitka spruce	FAC
Plagiobothrys tenellus	popcorn flower	FAC
Plantago lanceolata	ribwort	FACU
Plantago major	English plantain	FAC

Table 3-1 Plants Observed at Study Site April 23, 24 and June 7, 12, and 13, 2018 Eureka, California		
Scientific Name	**Common Name**	**Indicator 2016[1]**
Poa annua	annual blue grass	FAC
Poa pratensis	Kentucky blue grass	FAC
Polypogon monspeliensis	annual beard-grass	FACW
Polystichum munitum	western sword fern	FACU
Potentilla anserina ssp. Pacifica	silver weed cinquefoil	OBL
Prunella vulgaris	self heal	FACU
Pteridium aquilinum var. pubescens	hairy bracken fern	NL
Ranunculus occidentalis ssp. occidentalis	western buttercup	FACW
Ranunculus repens	creeping buttercup	FAC
Raphanus sativus	wild radish	NL
Rosa californica	California wild rose	FAC
Rubus armeniacus	Himalayan blackberry	FAC
Rubus parviflorus	thimbleberry	FACU
Rubus spectabilis	salmonberry	FAC
Rubus ursinus	California blackberry	FACU
Rumex acetosella	sheep sorrell	FACU
Rumex conglomeratus	clustered dock	FACW
Rumex crispus	curly dock	FAC
Sagina apetala	annual pearlwort	FAC
Salicornia pacifica	Pacific pickleweed	OBL
Salix hookeriana	Hookers willow	FACW
Salix lasiolepis	arroyo willow	FACW
Salix sitchensis	Sitka willow	FACW
Sambucus racemosa	red elderberry	FACU
Scirpus microcarpus	small-fruited bulrush	OBL
Scrophularia californica	bee plant	FAC
Soliva sessilis	lawn burrweed	FAC
Sonchus asper	spiny sowthistle	FACU
Sonchus oleraceus	sowthistle	UPL
Spartina densiflora	dense flowered cord grass	OBL
Stachys ajugoides var. rigida	hedge nettle	OBL
Stellaria media	chickweed	FACU
Symphyotrichum chilense	Pacific aster	FAC
Taraxacum officinale	red-seeded dandelion	FACU
Tragopogon porrifolius	purple salsify	NL
Trifolium dubium	lesser trefoil	FACU
Trifolium fragiferum	strawberry clover	FACU
Trifolium repens	white clover	FAC
Trifolium willdenovii	tomcat clover	FACU
Trifolium X	berseem clover	NL
Triglochin maritima	seaside arrow grass	OBL
Typha latifolia	broadleaf cattail	OBL

Table 3-1 Plants Observed at Study Site April 23, 24 and June 7, 12, and 13, 2018 Eureka, California		
Scientific Name	**Common Name**	**Indicator 2016[1]**
Umbellularia californica	California bay	FAC
Veronica anagallis-aquatica	blue water speedwell	OBL
Veronica persica	birdeye speedwell	NL
Vicia sativa	common vetch	UPL

1. Indicators are abbreviated as follows:
   OBL: Obligate
   FACW: Facultative wet
   FAC: Facultative
   FACU: Facultative upland
   UPL: Upland
   NL: Not listed

Wetland and OHWM Delineation Data Forms

4

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 4/23/18

Applicant/Owner: SD Management State: CA Sampling Point: TP1

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 3%

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760781° Long: -124.191154 Datum: _____

Soil Map Unit Name: Urban land - Anthraltic 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Agrostis stolonifera	30	✓	FAC
2. Mentha pulegium	25	✓	OBL
3. Hypochaeris radicata	20	✓	FACU
4. Plantago lanceolata	1		FACU
5. Rumex acetosella	2		FACU
6. Bromus catharticus	3		N/L
7. Anaphalis margaritacea	1		FACU
8. Rumex crispus?	1		FAC
9.			
10.			
11.			
	83 = Total Cover		

Woody Vine Stratum (Plot size: 5 ft)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 22

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
- ___ 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:

SOIL

Sampling Point: TP1

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 %	Type[1]	Loc[2]	Texture	Remarks
0-1	2.5Y 3/2	100					LS	
1-11	10YR 4/4	70	zones of				SL	Fill material - different matrix colors combined together
	2.5Y 4/3	30	colors, Fill matrix mix				LS	w/ small rounded gravel
11-18	2.5Y 2/1	100					S	w/ cobbles & gr. Fill - @ bottom
								woven plastic bag (16")

Fill

[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: neg. a-a-direction

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) N
- ___ 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): 11.5"

Saturation Present? (includes capillary fringe) Yes ✗ No ___ Depth (inches): 11-a"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 4/23/18

Applicant/Owner: SD Management State: CA Sampling Point: TP2

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 3-4

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760880 Long: -124.19270 Datum: _____

Soil Map Unit Name: Urban land - Anthraltic 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 ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Mentha pulegium	40	Y	OBL
2. Agrostis stolonifera	20	Y	FAC
3. Bromus catharticus	18	Y	NL
4. Scirpus microcarpus	5		OBL
5. Hypochaeris radicata	2		FACU
6. Geranium dissectum	1		NL
7. Rumex crispus	1		FAC
8. Festuca bromoides	2		NL
9. Trifolium repens	1		FAC
10.			
11.			
	90 = Total Cover		

Woody Vine Stratum (Plot size: 5 ft)			
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: 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
- ___ 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:

SOIL

Sampling Point: TP2

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 %	Type[1]	Loc[2]	Texture	Remarks
Fill 0-8	10YR 3/2	100	10YR 4/6	<1%	C	M	SL	One pocket of reduced color due to metal/nail debris
8-16	10YR 3/1	100					gr LS	w/ rounded gravel, Block Charcoal debris
16-18	2.5Y 4/2	100					SL w/ cobbles	

[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: neg a-a-d

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) no
- ___ 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): 18"

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): 18-8"

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks: not glistening w/ breakopen ped faces
oxidized rhyzoshperes <2% - not indicator

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 4/23/18

Applicant/Owner: SD Management State: CA Sampling Point: TP 3

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 0-3%

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.761133 Long: -124.190548 Datum: _____

Soil Map Unit Name: Urban land - Anthraltic 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Holcus lanatus	65	✓	FAC
2. Bromus catharticus	2		NL
3. Epilobium ciliatum	4		FACW
4. Plantago lanceolata	2		FACU
5. Ranunculus repens	1		FAC
6. Geranium molle	1		NL
7. Agrostis stolonifera	1		FAC
8. Trifolium repens	1		FAC
9. Cerastium glomeratum	1		FACU
10.			
11.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: 5 ft)			
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
- ___ 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:

SOIL

Sampling Point: TP3

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 %	Type[1]	Loc[2]	Texture	Remarks
0-.5	10YR 3/2	100					SCL	
.5-1	10Y 4/1	100					SCL	gley layer
1-8	10Y 4/1	85	10YR 4/6	15	RM	M	S	
8-18	10YR 4/2	100					S	

[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: positive a-a-d reaction in upper 1" horizon

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): 7"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 7-6.5"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: alpha in .5-1 horizon. positive reaction

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 4/23/18

Applicant/Owner: SD Management State: CA Sampling Point: TP4

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): drainage bank Local relief (concave, convex, none): convex Slope (%): 8-10

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.761140° Long: -124.190583° Datum: _____

Soil Map Unit Name: Urbanland - Anthraltic 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Holcus lanatus	30	Y	FAC
2. Bromus catharticus	20	Y	NL
3. Ranunculus repens	15		FAC
4. Plantago lanceolata	10		FACU
5. Cirsium discolorum	10		NL
6. Agrostis stolonifera	5		FAC
7. Sonchus asper	1		FACU
8.			
9.			
10.			
11.			
	91 = Total Cover		
Woody Vine Stratum (Plot size: 5 ft)			
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 _____	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:

SOIL

Sampling Point: TP4

SHN Consulting Engineers & Geologists, Inc.

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 %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR3/2	100					SL	
12-14	5Y 4/1	100					grLS	
14-16	5Y4/1	80	10YR4/6	20	Rm	m	LS	

[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:

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) NO
- ___ 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 ✓

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

Remarks: no aad reaction

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 4/23/18

Applicant/Owner: SD Management State: CA Sampling Point: TP 5

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

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

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40. 761067° Long: -124.191310° Datum: _____

Soil Map Unit Name: Urban land - Anthraltic 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 ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Holcus lanatus	36	Y	FAC
2. Festuca bromoides	20	Y	NL
3. Ranunculus repens	15		FAC
4. Trifolium repens	10		FAC
5. Plantago lanceolata	10		FACU
6. Geranium dissectum	10		NL
7. Equisetum arvense	3		FAC
8. Convolvulus arvensis	5		NL
9. Vicia sativa	5		UPL
10. Raphanus sativus	5		NL
11.			
	118 = Total Cover		
Woody Vine Stratum (Plot size: 5 ft)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

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 _____	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:

SOIL

Sampling Point: TPS

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 %	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 3/2	100					SCL	Fill
11-20	10YR 7/4	60					SL	Fill - concrete materials to bottom
	10YR 4/2	40					SL	abrupt sharp color mixed together

[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:

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) no
- ___ 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): 19"

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): 14-18"

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks: no acid reaction

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 4/23/18

Applicant/Owner: SD Management State: CA Sampling Point: TP6

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 3-5

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.761094° Long: -124.191305° Datum: _____

Soil Map Unit Name: Urban land - Anthraltic 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix sitchensis	20	Y	FACW
2.			
3.			
4.			
	20 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 ft)			
* 1. Salix sitchensis	7	X	FACW
2.			
3.			
4.			
5.			
	7 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Scirpus microcarpus	40	Y	OBL
2. Eleocharis macrostachya	15	Y	OBL?
3. Juncus effusus	10		FACW
4. Argentina anserina	2		OBL
5. Equisetum arvense	2		FAC
6. Convulvus arvensis	1		NL
7. Agrostis stolonifera	1		FAC
8.			
9.			
10.			
11.			
	71 = Total Cover		
Woody Vine Stratum (Plot size: 5 ft)			
1.			
2.			
	71 = Total Cover		

% Bare Ground in Herb Stratum 30

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:

___ 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: Shrub/sapling layer consists of down Salix sprouting

SOIL

Sampling Point: TP6

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 %	Type[1]	Loc[2]	Texture	Remarks
0-7	5Y 2.5/1	100					CL	(+) a-a-d reaction multiple sites
7-16	2.5Y 4/3	92	10YR 5/6	8	RM	M	SCL	(+) a-a-d reaction multiple sites

[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: a-a-d positive reaction w/in 12" >60%

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): 2"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0-2"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: (+) a, a-d

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 4/24/18

Applicant/Owner: SD Management State: CA Sampling Point: TP7

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

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

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.762302 Long: -124.190740 Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic NWI classification: PSS1C

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix sitchensis	60	Y	FACW
2.			
3.			
4.			
	60 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 ft)			
1. Rubus armeniacus	5	Y	FACU
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Juncus effusus	25	Y	FACW
2. Ranunculus repens	2		FAC
3. Oenanthe sarmentosa	2		OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	29 = Total Cover		
Woody Vine Stratum (Plot size: 5 ft)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 70

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

___ 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:

SOIL

Sampling Point: TP7

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 %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/1	100					L	hydrogen sulfide smell
3-16	5Y 3/1	100					grLS	occassional w/cobbles

[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: a-a-dipyridyl positive reaction through out both horizons

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): 1"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0-1"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: a-a, d

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 4/24/18

Applicant/Owner: SD Management State: CA Sampling Point: TP 8

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 6

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.762278° Long: -124.190727 Datum: _____

Soil Map Unit Name: Urbanland - Anthraltic NWI classification: PSSIC

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

Remarks: Transitional pit. Looking for wetland upland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix sitchensis	5	X	FACW
2.			
3.			
4.			
	5 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 ft)			
1. Rubus armeniacus	25	X	FAC
2. Rosa californica	25	X	FAC
3. Polystichum munitum	10		FACU
4. Rubus ursinus	10		FACU
5. Pteridium aquilinum	5		FACU
	85 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Holcus lanatus	20	X	FAC
2. Anthoxanthum odoratum	20	X	FACU
3. Ranunculus repens	1	X	FAC
4. Equisetum arvense	1	X	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	42 = Total Cover		
Woody Vine Stratum (Plot size: 5 ft)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (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:

SOIL

Sampling Point: TP8

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 %	Type[1]	Loc[2]	Texture	Remarks
0-5	2.5Y 2.5/1	100					SL	
5-16	2.5Y 3/2	99	10YR4/6	<1%	C	M	LS	Fill w/ plastic debris concretions from fill

[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: (+) alpha-alpha-d reaction. Because this is the only (+) indicator, this pit is considered transitional and not meeting all three parameters. In above normal rainfall season. Not quite F3-borderline

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): 11"

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: a-a, d

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 4/24/18

Applicant/Owner: SD Management State: CA Sampling Point: TP9

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 4

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.762123° Long: -124.190802° Datum: _____

Soil Map Unit Name: Urbanland - Anthraltic 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Alnus rubra	15	Y	FAC
2. Salix sitchensis	5	Y	FACW
3.			
4.			
	30	= Total Cover	

Sapling/Shrub Stratum (Plot size: 5 ft)			
1. Rubus armeniacus	5	Y	FAC
2. Rubus ursinus	3	Y	FACU
3.			
4.			
5.			
	8	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1. Allium triquetrum	30	Y	NL*
2. Holcus lanatus	30	X	FAC
3. Equisetum arvense	30	Y	FAC
4. Vicia sativa	15		UPL
5. Convolvulus arvensis	5		NL.
6.			
7.			
8.			
9.			
10.			
11.			
	110	= Total Cover	

Woody Vine Stratum (Plot size: 5 ft)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 86% (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:

SOIL

Sampling Point: TP9

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 %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2/1	100					SL	40cc. gravel
5-16	10YR 3/2	100					gLS	Fill

[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: Neg. a-a-d

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) no
- ___ 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 ✓

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

Remarks: Neg a-a-d

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 4/24/18

Applicant/Owner: SD Management State: CA Sampling Point: TP10

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.761652 Long: -124.190494° Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Scirpus microcarpus	28	Y	OBL
2. Ranunculus repens	15	Y	FAC
3. Conium maculatum	10	Y	FAC
4. Argentina anserina	5		OBL
5. Rubus ursinus	5		FACU
6. Holcus lanatum	5		FAC
7.			
8.			
9.			
10.			
11.			
	68 = Total Cover		

Woody Vine Stratum (Plot size: 5 ft)			
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:

SOIL

Sampling Point: TP10

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 %	Type[1]	Loc[2]	Texture	Remarks
0-5	5Y 2.5/1	95	10YR 4/6	5	C	PL	SCL	many small roots
5-16	5Y 2.5/1	100					SCL	

[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: (1) a-a-d

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): 1"

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

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

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: (1) a-a-d

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 4/24/18

Applicant/Owner: SD Management State: CA Sampling Point: TP 11

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

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

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.761658 Long: -124.190521 Datum: _____

Soil Map Unit Name: Urban land- Anthraltic 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Holcus lanatus	70	✓	FAC
2. Geranium dissectum	10		NL
3. Agrostis stolonifera	10		FAC
4. plantago lanceolata	5		FACU
5. Rubus ursinus	3		FACU
6. Trifolium repens	1		FAC
7. Avena barbata	1		NL
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 5 ft)			
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: 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 ✓ No _____

Remarks:

SOIL

Sampling Point: TP11

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 %	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/2	<99	10YR 4/6	<1%	C	M	gr. SCL	Fill

[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: asphalt chunk ~ 14"

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 ✓

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 6/7/18

Applicant/Owner: SD Management State: CA Sampling Point: TP12

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): Terrace - berm Local relief (concave, convex, none): Concave Slope (%): 2-3

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.759512° Long: -124.1908270 Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: 5 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

Herb Stratum (Plot size: 5 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Mentha pulegium	25	Y	OBL
2. Hypochaeris radicata	6		FACU
3. Rumex crispus	1		FAC
4. Eleocharis macrostachya	15		OBL
5. Glyceria declinata	6		FACW
6. Lotus corniculatus	3		FAC
7. Briza minor	3		FAC
8. Callitriche palustris	25	Y	OBL
9. Medicago lupulina	1		FACU
10. Festuca myuros	2		NL
11.			
	77 % = Total Cover		

Woody Vine Stratum (Plot size: 5 ft)	Absolute % Cover	Dominant Species?	Indicator Status
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:

- ___ 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 Y No _____

Remarks:

SOIL

Sampling Point: TP12

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

Fill

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-.2	2.5Y 4/3	100					LS	
.2-6	2.5Y to 5Y 4/3	70	10YR 6/8	20	D	m	LS	
	10YR 4/2	10						asphalt chunks at
6-17	7.5YR 4/4	100					gr LS	bottom

[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: Fill brought in for berm - Keep water flow from southern slough area. Very close to hydric soil (F3 ≥ 6"), but incorrect chroma. (CW - 2.5Y 4/3, SR - 5Y 4/3) Had SR review color too.

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)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X 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 ____

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

Remarks: Aerial Imagery

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 6/7/18

Applicant/Owner: SD Management State: CA Sampling Point: TP 13

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): Terrace-berm Local relief (concave, convex, none): Concave Slope (%): 2-3

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.759951° Long: -124.191572° Datum: Humboldt

Soil Map Unit Name: Urbanland-Anthraltic 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Hypochaeris radicata	20	X	FACU
2. Cynosurus echinatus	3		FACU
3. Mentha pulegium	30	X	OBL
4. Rumex crispus	+		FAC
5. Bromus hordeaceus	+		FACU
6. Festuca arundinacea	5		FAC
7. ~~Poa~~ Agrostis stolonifera	22	X	FAC
8. Lotus corniculatus	3		FAC
9. Festuca myuros	4		FACU
10. Linum usitatissimum	+		NL
11. ~~Bromus carinatus~~ Anthoxanthum odoratum	+		FACU
Briza major	+		
	87 = Total Cover		

~~Woody Vine Stratum~~ (Plot size: 5 ft)			
1. Epilobium ciliatum	+		FACW
2. Avena barbata	+		NL
	_____ = Total Cover		

% Bare Ground in Herb Stratum 12 (+) = trace

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
- ___ 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: TP13

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 %	Type[1]	Loc[2]	Texture	Remarks
0-13	*							

[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: * Soils not completed on 6/7/18 - initial study probe shows soils similar to TP12 - no acid reaction

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 X No ___

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

Remarks: aerial Imagery = SHN, March 28, 2018

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 6/7/18

Applicant/Owner: SD Management State: CA Sampling Point: TP14

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): terrace-berm Local relief (concave, convex, none): Concave Slope (%): 2-3

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.759498° Long: -124.190606° Datum: Humboldt

Soil Map Unit Name: Urbanland-Anthraltic 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: 2P

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Mentha pulgeum	40	Y	OBL
2. ~~Wak.~~ Callitriche palustris	10		OBL
3. Lythrum hyssopifolia	1		OBL
4. Agrostis stolonifera	10		FAC
5. Juncus bufonius	3		FACW
6. Hypochaeris radicata	7		FACU
7. Rumex crispus	2		FAC
8. Holcus lanatus	1		FAC
9. Briza minor	1		FAC
10. Briza max.	T		NL
11. Plantago lanceolata	1		FACU
Hordeum marinum	T		FAC
	_____ = Total Cover		
~~Woody Vine Stratum~~ (Plot size: 5 ft)			
1. Festuca myuros	3	~~FAC~~	NL
2.	79		
	_____ = Total Cover		

% Bare Ground in Herb Stratum 20 (T) = trace

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 ✓ No _____

Remarks:

SOIL

Sampling Point: TP14

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 %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 5/3	50					grSL	
	10YR 5/6	50						
16-24	10YR 3/2	30						sharp color bndrys
	10YR 5/6	30					SCL	Fill-compressed
	2.5Y 2.5/1	30						

[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: Soils not completed on 6/7/18 Performed 6/13/18

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) SHN
- ✓ 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 ____

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

Remarks: Aerial Imagery = SHN, March 28, 2018

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 6/7/18

Applicant/Owner: SD Management State: CA Sampling Point: TP15

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 3-5

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760086° Long: -124.191487° Datum: Humboldt

Soil Map Unit Name: Urbanland-Anthraltic 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Lotus corniculatus	4		FAC
2. Triglochin maritima	~~3.5~~	Y	OBL
3. Poa pratensis	3		FAC
4. Festuca myuros	20	Y	NL
5. Salicornia pacifica	20	Y	OBL
6. Epilobium ciliatum	T		FACW
7. Bromus hordeaceus	2		FACU
8. Spartina densiflora	1		OBL
9. Festuca perennis	T		FAC
10. Lysimachia arvensis	T		FAC
11. Polygonum monspeliensis	1		FACW
* Vicia sativa	5		UPL
	91	= Total Cover	

~~Woody Vine Stratum~~ (Plot size: 5 ft)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 8 (T) = Trace

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

___ 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:

SOIL

Sampling Point: TP15

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 %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	95	7.5YR 5/8	5	RM	PL	SL	

[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: Soil probe shows (+) a-a-d & Fe 5" 2%+ (1-6")

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 ___

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

Remarks: aerial imagery - SHN, March 28, 2018

Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: June 12, 2018

Applicant/Owner: SD Management State: CA Sampling Point: TP 16

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): marine terrace Local relief (concave, convex, none): concave Slope (%): 4

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760362° Long: -124.190425 Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 X, 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Recently mowed / weed eater

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix hookeriana	12	yes	FACW
2.			
3.			
4.			
	12 = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Oenanthes sarmentosa	50	yes	OBL
2. potentilla anserina ssp pacifica	5		
3. Holcus lanatus	2		
4. Ranunculus repens	20	yes	FAC
5. Eleocharis microstachys	5		
6. Ranunculus orthorhynchus	10		
7.			
8.			
9.			
10.			
11.			
	82 = Total Cover		

Woody Vine Stratum (Plot size: 5 ft)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 10

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 X No _____

Remarks: Recently mowed / weed whacked - difficult to estimate vegetation cover

SOIL

Sampling Point: TP16

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 %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 4/1	100					SCL	many fine broken glass/woody debris
1-16	10YR 4/1	75	7.5YR 5/8	25	D	PL	SCL	

[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:

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 ___

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 6/12/18

Applicant/Owner: SD Management State: CA Sampling Point: TP17

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): Marine terrace Local relief (concave, convex, none): convex Slope (%): 3-7

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760318 Long: -124.190447 Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 X, 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 ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks: Recently mowed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix hookeriana	15	yes	FACW
2.			
3.			
4.			
	15 = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Anthoxanthum odoratum	60	yes	FACU
2. Holcus lanatus	10		FAC
3. Ranunculus acriscrus? *	10		FACW
4. Ranunculus repens	10		FAC
5. Geranium dissectum	5		NL
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		

Woody Vine Stratum (Plot size: 5 ft)			
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 _____	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: Recently mowed, difficult estimating cover

SOIL

Sampling Point: TP17

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 %	Type[1]	Loc[2]	Texture	Remarks
Fill 0-11	10YR 3/2	100					SL	w/ gravel Fill
11-19	10YR 4/2	88	7.5YR 4/6	10	D	m	SL	w/ gravel & asphalt chunks
			5YR 5/8	2	↓	↓	w/ sand pockets	Fill
19-24	10YR 3/2	95	10YR 7/4	1	↓	↓	SL	w/ less gravel
			5YR 5/8	1	↓	↓		& debris
			7.5YR 4/6	3	↓	↓		

[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: not F3 - starts too deep

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) ND
- ___ 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 ✓

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 6/12/18

Applicant/Owner: SD Management State: CA Sampling Point: TP18

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760810 Long: -124.190691 Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 X, 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 ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Recently mowed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: 5 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		

Herb Stratum (Plot size: 5 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Lotus corniculatus	15	yes	FAC
2. Anthoxanthum odoratum	15	yes	FACU
3. Trifolium repens	5		FAC
4. Hypochaeris radicata	20	yes	FACU
5. Holcus lanatus	4		FAC
6. Danthonia brachyantherum	8		FACW
7. Callitriche heterophylla var. bolanderi	6		OBL
8. Ranunculus repens	8		FAC
9. Oenanthe sarmentosa	2		OBL
10. Taraxacum officinale	1		FACU
11. Cotula coronopifolia	2		OBL
Scirpus spp. (likely microcarpus)	1		OBL
	_____ = Total Cover		

~~Woody Vine Stratum~~ (Plot size: 5 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. plantago lanceolata	3		FACU
2.			
	90 = 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: 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	11	x 1 = 11
FACW species	8	x 2 = 16
FAC species	32	x 3 = 96
FACU species	39	x 4 = 156
UPL species	–	x 5 = –
Column Totals:	90 (A)	279 (B)

Prevalence Index = B/A = 3.1

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]
- X 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: Recently mowed. Vegetation cover difficult
pile of Rub arm ~25 ft, not sure of original location, likely ~20 ft from test pit

SOIL

Sampling Point: TP1

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 %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2/1	100					SL	w/ occ gr./cobble
5-16	10YR 4/2	70	10YR 5/6	30	D	m	S	w/ occ pocket of 10YR 2/1
16-24	10YR 4/2	50	10YR 5/6	50	D	m	S	w/in 5-12"

[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:

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 ___

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: June 12, 2018

Applicant/Owner: SD Management State: CA Sampling Point: TP 19

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): Drainage Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760274 Long: -124.190640 Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 X, 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 ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Recently mowed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Hypochaeris radicata	25	yes	FACU
2. plantago lanceolata	15		FACU
3. Hordeum brachyantherum	15		FACW
4. Anthoxanthum odoratum	30	yes	FACU
5. Lotus corniculatus	10		FAC
6.			
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		

Woody Vine Stratum (Plot size: 5 ft)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 7

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	15	x 2 = 30
FAC species	10	x 3 = 30
FACU species	70	x 4 = 280
UPL species	—	x 5 = —
Column Totals:	95 (A)	320 (B)

Prevalence Index = B/A = 3.36

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: Recently mowed / weed wacked

SOIL

Sampling Point: TP19

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 %	Type[1]	Loc[2]	Texture	Remarks
Fill 0-17	10YR 3/2	90	10YR 4/6	8	RM	M	LS	w/ occ. cobble & gravel
	10YR 4/4	2						
17-27	5Y 2.5/1	100					S	positive a-a-d

[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:

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) no
- ___ 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): 26

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 26 - 22

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 6/12/18

Applicant/Owner: SD Management State: CA Sampling Point: TP20

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760392° Long: -124.190531 Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 X, 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Recently mowed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix hookeriana			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Holcus lanatus	18	yes	FAC
2. Festuca arundinacea?	15	yes	FAC
3. Hypochaeris radicata	15	yes	FACU
4. ~~[illegible]~~? Lythrum hyssopifolia	3		OBL
5. Oenanthe sarmentosa	15	yes	OBL
6. Hordeum murinum ssp murinum	10		FAC
7. Cyperus eragrostis	6		FACW
8. Ranunculus repens	5		FAC
9. Lotus corniculatus	4		FAC
10. Trifolium repens	4		FAC
11.			
	95 = Total Cover		

Woody Vine Stratum (Plot size: 5 ft)			
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: 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
- ___ 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]
- X 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: Recently mowed / weed whacked. difficult to discern cover

SOIL

Sampling Point: TP20

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 %	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/2	99	7.5YR 5/6	1			SL	
14-18	2.5Y 2.5/1	100					S	reacts to a-a-d

[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:

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 _____

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: June 13, 2018

Applicant/Owner: SD Management State: CA Sampling Point: TP 21

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760208 Long: -124.190318° Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 X, 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Recently mowed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Juncus effusus	20	yes	FACW
2. Holcus lanatus	20	yes	FAC
3. Trifolium repens	5		FAC
4. Plantago lanceolata	5		FACU
5. Anthoxanthum odoratum	15	yes	FACU
6. Rumex crispus	5		FAC
7. Festuca myuros (Vulpia myuros)	10		FACU
8. Cyperus eragrostis	5		FACW
9. Hypochaeris radicata	5		FACU
10. Festuca arundinacea	15	yes	FAC
11.			
	105 = Total Cover		

Woody Vine Stratum (Plot size: 5 ft)			
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
- ___ 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]
- X 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: Recently mowed / weed whacked. Difficult to discern vegetation cover

SOIL

Sampling Point: TP21

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 %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					L	
4-14	10YR 3/2	96	10YR 5/8	4	C	M	gr SCL w/cobbles	many red roots not redox
14-17 (20% pockets →)	10YR 4/1	85	7.5YR 4/6	15	RM	M	SiCL ← w/pockets of this ~ 20%	
14-17	10YR 4/1	85	7.5YR 4/6	15	RM	M	SiCL	

[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:

The 4-14" horizon 3-5% redox. Needs 5% no a-a-d reaction
Borderline hydric. Weakly forming hydric soils. Calling it non-hydric

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) no
- ___ 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 ___

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 6/13/18

Applicant/Owner: SD Management State: CA Sampling Point: TP 22

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760214 Long: -124.190418 Datum:

Soil Map Unit Name: Urbanland-Anthraltic 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 X, 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 ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: mowed recently

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: 5 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Herb Stratum (Plot size: 5 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Juncus ethusus	15	yes	FACW
2. Holcus lanatus	40	yes	FAC
3. Hypochaeris radicata	15	yes	FACU
4. Anthoxanthum odoratum	15	yes	FACU
5. Lotus corniculatus	5		FAC
6. Plantago lanceolata	10		FACU
7. Trifolium repens	5		FAC
8. Epilobium ciliatum	2		FACW
9. Raphanus sativus	2		NL
10.			
11.			
	107 = Total Cover		

Woody Vine Stratum (Plot size: 5 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 8

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 =	0
FACW species	17	x 2 =	34
FAC species	50	x 3 =	150
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	107 (A)		344 (B)

Prevalence Index = B/A = 3.215

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]
- X 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: Recently mowed/weed whacked. difficult to discern cover.

SOIL

Sampling Point: TP22

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 %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					L	many roots
4-16	10YR 4/1	85	7.5YR 4/6	15	RM	M	SCL	

[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: Rusted cable through bottom of hole. 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) no
- ___ 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 ___

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 6/13/18

Applicant/Owner: SD Management State: CA Sampling Point: TP 23

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

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

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760415 Long: -124.190688° Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 X, 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: recently mowed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Juncus effusus	60	YES	FACW
2. Ranunculus repens	20		
3. *Ranunculus occidentalis	5		
4. Holcus lanatus	10		FAC
5. Anthoxanthum odoratum	5		FACU
6. Raphanus sativus	2		
7. Festuca arundinacea	5		
8. Festuca myuros	2		
9. Oenanthe sarmentosa	5		
10.			
11.			
	114 = Total Cover		

Woody Vine Stratum (Plot size: 5 ft)			
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: 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]
- X 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: Recently mowed / weedwhacked. Difficult to discern vegetation cover

SOIL

Sampling Point: TP23

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 %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					✓	
6-16	2.5Y 4/1	85	7.5YR 4/6	15	RM	M	S w/cobbles	
16-24	10Y 2.5/1	100					S	(+) reaction to a-a-d
	(Gley 1 page)							

[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:

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): 16" (after 4 hrs)

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 18-16

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 6/13/18

Applicant/Owner: SD Management State: CA Sampling Point: TP 24

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%) 5-7

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760480 Long: -124.190718 Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 X, 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 ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks: Recently mowed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Anthoxanthum odoratum	40	YES	FACU
2. Holcus lanatus	13		
3. Plantago lanceolata	6		
4. Rumex acetosella	4		
5. Vicia sativa	5		
6. Dactylis glomerata	3		
7. Festuca arundinacea	10		
8. Ranunculus repens	3		
9. Hypochaeris radicata	15	YES	FACU
10.			
11.			
	99 = Total Cover		

Woody Vine Stratum (Plot size: 5 ft)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

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]
- X 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: Recently mowed / weed whacked. Difficult to discern cover

SOIL

Sampling Point: TP24

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 %	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 3/2	100					gr. LS	
13-16	10YR 4/1	65	10YR 4/6	25	D	M	gr SCL	
	10YR 3/2	10						
16-24	10YR 3/1	93	7.5YR 4/6	7	D	m	S	

[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:

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) no
- ___ 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 ✓

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: June 13, 2018

Applicant/Owner: SD Management State: CA Sampling Point: TP 25

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

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

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760070 Long: -124.190035 Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Cotula coronopifolia	55	yes	OBL
2. Symphyotrichum chilense	1		
3. Holcus lanatus	5		
4. Avena barbata	1		
5. Rumex crispus	2		
6. Geranium dissectum	1		
7. Convolvulus arvensis	2		
8. Lotus corniculatus	3		
9. Plantago lanceolata	1		
10. Agrostis stolonifera	7		
11. Festuca harderacens	3		
Eleocharis microstachya 3			
	_____ = Total Cover		

~~Woody Vine Stratum~~ (Plot size: 5 ft)			
1. Scirpus microcarpus	15		OBL
2. Oenanthe sarmentosa	2		
Anthoxanthum odoratum 3			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 8

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:

X 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:
Also traces of Festuca myuros

SOIL

Sampling Point: 25

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 %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/2	100					gr SL	
7-16	10YR 4/1	92	10YR 4/6	8	D	M	gr SL	

[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)
- 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 X No ___

Remarks:
positive indicator aad in all horizons within 60 in of ground 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)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- X 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 X No ___

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: June 13, 2015

Applicant/Owner: SD Management State: CA Sampling Point: TP 26

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

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

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.7601820 Long: -124.190041 Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Hulcus lanatus	5		
2. Scirpus microcarpus	60	yes	OBL
* 3. Ranunculus occidentalis ssp occidentalis	10		
4. Rubus armeniacus	2		
5. Anthoxanthum odoratum	8		
6. Festuca arundinacea	8		
7. Epilobium ciliatum	3		
8. Convolvulus arvensis	5		
9. Rumex acetosella	5		
10. Rumex crispus	3		
11.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: 5 ft)			
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: 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:

SOIL

Sampling Point: TP26

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 %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 3/2	100					SL	
9-16	10YR 4/1	86	10YR 4/6	6	D	PL	SCL	
	10YR 3/2	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 ___

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 ___

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: June 13, 2018

Applicant/Owner: SD Management State: CA Sampling Point: TP 27

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

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

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760951 Long: -124.191161 Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 X, 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Trifolium repens	3		
2. Mentha pulegium	7		
3. Festuca arundinacea	40	yes	FAC
4. Hypochaeris radicata	8	yes	FACU
5. Poa minor	8	yes	FAC
6. Festuca myuros	5		
7. Bromus hordeaceus	8		
8. Lotus corniculatus	4		
9. Agrostis stolonifera	4		
10. Poa pratensis	2		
11.			
	89 = Total Cover		

Woody Vine Stratum (Plot size: 5 ft)			
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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (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: TP27

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 %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					✓	
3-16	2.5Y 4/1	100					grSL	woven plastic matting @ 13"

Fill

[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:

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) ◯ no
- ___ 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 _____

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 6/13/18

Applicant/Owner: SD Management State: CA Sampling Point: TP 28

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0-1

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760430° Long: -124.191058 Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 X, 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Burned area w/ woody debris & garbage. Vegetation atypical. Lowest spot in geomorphic depression. Hydrophytic veg. surrounding burned area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Helminthotheca echioides	3		FAC
2. Raphanus sativus	10	yes	FACU
3. Sonchus oleraceus	1		FACU
4. Convolvulus arvensis	4		NL
5. Scirpus microcarpus	22	yes	OBL
6. Rubus armeniacus	8		FAC
7. Anthoxanthum odoratum	5		FACU
8. Epilobium ciliatum	2		FACW
9. Trifolium repens	3		FAC
10. Ranunculus repens	3		FAC
11. Holcus lanatus	10	yes	FAC
	61 = Total Cover		

Woody Vine Stratum (Plot size: 5 ft)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 40 *

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
- ___ 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]
- X 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: Disturbed w/ debris on ground, burned. Likely would be higher concentration of scirpus & Rubus arm

SOIL

Sampling Point: TP28

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 %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 3/2	100	10YR 4/6	<1%			SL	w/charcoal/brokenglass
9-16	10YR 4/1	95	10YR 5/4	5%	D	M	LS	(+) a, a-d 60% of horizon

moist

[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:

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) no
- ___ 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 ___

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

Remarks:

SHN Consulting Engineers & Geologists, Inc.

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

Project/Site: Hikshari Trail City/County: Humboldt Sampling Date: 6/13/18

Applicant/Owner: SD Management State: CA Sampling Point: TP 29

Investigator(s): Cindy Wilcox/ Sean Rowe Section, Township, Range: Section 4, T. 4N, R 1 W

Landform (hillslope, terrace, etc.): marine terrace Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): LRR-A; MLRA- 4B Lat: 40.760451 Long: -124.191150° Datum: _____

Soil Map Unit Name: Urbanland-Anthraltic 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks: on berm around low spot

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

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

Herb Stratum (Plot size: 5 ft)			
1. Rubus armeniacus	20	yes	FAC
2. Convolvulus arvensis	12		
3. Raphanus sativus	5		
4. Anthoxanthum odoratum	15	yes	FACU
5. Epilobium ciliatum	12		
6. Trifolium repens	2		
7. Festuca myuros	2		
8. Galium aparine	1		
9. Juncus bufonius	4		
10. Lotus corniculatus	4		
11. Holcus lanatus	15	yes	FAC
	_____ = Total Cover		

~~Woody Vine Stratum~~ (Plot size: 5 ft)			
1. Cerastium glomeratum	2		
2. Ranunculus repens	2		
Geranium dissectum	T		
	96 = Total Cover		

% Bare Ground in Herb Stratum 8

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: 67% (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:

SOIL

Sampling Point: TP29

SHN Consulting Engineers & Geologists, Inc.

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 %	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 3/2	100					L	
4-11	10YR 3/2						grSL	Fill w/ sharp angular contrasting colors. Not redox
Fill	10YR 5/4							
11-16	10YR 4/1	90	10YR 4/6	10	D	M	SCL	

[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: Transitional pit. moving out of hydric depressional low.

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) no
- ___ 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 ✓

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

Remarks:

Eureka, CA | Arcata, CA | Redding, CA | Willits, CA | Coos Bay, OR | Klamath Falls, OR

www.shn-engr.com

CODE TABLES

THE FOLLOWING CODE TABLES ARE PROVIDED FOR QUICK REFERENCE TO DEMONSTRATE THAT THERE ARE NO REQUIRED SEPARATION OF OCCUPANCIES AND TO IDENTIFY GENERAL BUILDING CONSTRUCTION REQIUREMENTS.

TABLE 508.4
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

OCCUPANCY	A, E		I-4, *R-2.1*		I-2, *I-2.1*		*I-3*		*R-1, R-2, R-3, R-3.1, R-4*		F-2, S-2[b], U		B[f], F-1[e, f], M, S-1		*L*		H-1		H-2		H-3, H-4		H-5	
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS
A, E	N	N	2	2	2	NP	2	NP	1	2	N	1	1	2	2	NP	NP	NP	3	4	2	3	2	NP
I-4, *R-2.1*	—	—	1[e]	NP	2	NP	2	NP	1	NP	1	2	1	2	2	NP	NP	NP	4	NP	4	NP	4	NP
I-2, *I-2.1*	—	—	—	—	N	NP	2	NP	2	NP	2	NP	2	NP	2	NP	NP	NP	4	NP	4	NP	4	NP
I-3	—	—	—	—	—	—	N	NP	2	NP	2	2	2	2	2	NP	NP	NP	4	NP	4	NP	4	NP
R-*1*, *R-2*, *R-3*, *R-3.1*, *R-4*	—	—	—	—	—	—	—	—	N	N	1[c]	2[c]	1	2	4	NP	NP	NP	3	NP	2	NP	2	NP
F-2, S-2[b], U	—	—	—	—	—	—	—	—	—	—	N	N	1	2	*1*	NP	NP	NP	3	4	2	3	2	NP
B, F-1, M, S-1	—	—	—	—	—	—	—	—	—	—	—	—	N	N	*1*	NP	NP	NP	2	3	1	2	1	NP
L	—	—	—	—	—	—	—	—	—	—					*1*	NP	NP	NP	2	NP	*1*	NP	*1*	NP
H-1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	NP	NP	NP	NP	NP	NP
H-2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	1	NP	1	NP
H-3, H-4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1[d]	NP	1	NP
H-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP

S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
N = No separation requirement.
NP = Not permitted.
a. See Section 420.
b. The required separation from areas used only for private or pleasure vehicles shall be reduced by 1 hour but to not less than 1 hour.
c. See Section 406.3.4.
d. Separation is not required between occupancies of the same classification.
e. *[SFM] Group I and F1 occupancies and Group R-2.1 and F-1 occupancies shall have a 3 hour separation.*
f. *[SFM] Commercial kitchens not associated with cafeterias and similar dining facilities in Group I-2 and Group R-2.1 shall have a 2-hour separation and shall be protected by an automatic sprinkler system.*

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
	A	B	A	B	A	B	HT	A[d]	B
Primary structural frame[f] (see Section 202)	3[a]	2[a]	1	0	1	0	HT	1	0
Bearing walls Exterior[e, f] Interior	 3 3[a]	 2 2[a]	 1 1	 0 0	 2 1	 2 0	 2 1/HT	 1 1	 0 0
Nonbearing walls and partitions Exterior	See Table 602								
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	See Section 602.4.6	0	0
Floor construction and associated secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and associated secondary members (see Section 202)	1 1/2[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	HT	1[b,c]	0

For SI: 1 foot = 304.8 mm.
a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.
b. *1. Except in Group A, E, F-1, H, I, L, M, R-1, R-2, R-2.1 and S-1 occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal,* fire protection of structural members shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.
b. *2 For Group A, E, I, L, R-1, R-2, and R-2.1 occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, fire protection of members other than the structural frame shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.*
b. *3. One-story portions of Group A and E assembly occupancies the roof-framing system of Type II A or Type III A construction may be of unprotected construction when such roof-framing system is open to the assembly area and does not contain concealed spaces.*
c. In all occupancies, heavy timber shall be allowed where a 1-hour or less fire-resistance rating is required.
d. Not less than the fire-resistance rating required by other sections of this code.
e. Not less than the fire-resistance rating based on fire separation distance (see Table 602).
f. Not less than the fire-resistance rating as referenced in Section 704.10.

TABLE 602
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[e], *L*	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R[h], S-2, U[h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA Others	3 2	2 1	1 1
10 ≤ X < 30	IA, IB IIB, VB Others	2 1 1	1 0 1	1[c] 0 1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.
a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. See Section 706.1.1 for party walls.
c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
e. For special requirements for Group H occupancies, see Section 415.6.
f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
h. *Group R-3 and Group U occupancies when used as accessory to Group R-3 occupancies, shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet or more; or when equipped throughout with an automatic residential fire sprinkler system installed in accordance with Section 903.3 the fire-resistance rating shall not be required where the fire separation distance is 3 feet or more.*

MAX. ALLOWBLE QUANTITIES

THE PROPOSED USE INCLUDES MANUFACTURING AND DISTRIBUTION OF PRODUCTS THROUGH STATE AND LOCAL LICENSES. THE FOLLOWING MAXIMUM QUANTITIES ARE NOT EXCEEDED AT EACH CONTROL AREA OF THE BUILDING, WHICH MAINTAINS THE OCCUPANCY USE AS AN F-1 MANUFACTURING. NONE OF THESE MAXIMUM ALLOWABLE QUANTITIES ARE TO BE EXCEEDED. IT SHALL BE THE OWNER'S RESPONSIBILITY TO IMPLEMENT AND MAINTAIN FULL CODE COMPLIANCE AND SAFETY REQUIREMENTS AT ALL TIMES.

TABLE 307.1(1)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD[a, j, m, n, p]

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE[b]			USE-CLOSED SYSTEMS[b]			USE-OPEN SYSTEMS[b]	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)
Combustible dust	NA	H-2	See Note q	NA	NA	See Note q	NA	NA	See Note q	NA
Combustible fiber[q]	Loose Baled[o]	H-3	(100) (1,000)	NA	NA	(100) (1,000)	NA	NA	(20) (200)	NA
Combustible liquid[c, i]	II IIIA IIIB	H-2 or H-3 H-2 or H-3 NA	NA	120[d, e] 330[d, e] 13,200[e, f]	NA	NA	120[d] 330[d] 13,200[f]	NA	NA	30[d] 80[d] 3,300[f]
Consumer fireworks	1.4G	H-3	125[e, l]	NA	NA	NA	NA	NA	NA	NA
Cryogenic flammable	NA	H-2	NA	45[d]	NA	NA	45[d]	NA	NA	10[d]
Cryogenic inert	NA	NA	NA	NA	NL	NA	NA	NL	NA	NA
Cryogenic oxidizing	NA	H-3	NA	45[d]	NA	NA	45[d]	NA	NA	10[d]
Explosives	Division 1.1 Division 1.2 Division 1.3 Division 1.4 Division 1.4G Division 1.5 Division 1.6	H-1 H-1 H-1 or H-2 H-3 H-3 H-1 H-1	1[e, g] 1[e, g] *10*[e, g] 50[e, g] 125[d, e, l] 1[e, g] 1[e, g]	(1)[e, g] (1)[e, g] (*10*)[e, g] (50)[e, g] NA (1)[e, g] NA	NA	0.25[g] 0.25[g] 1[g] 50[g] NA 0.25[g] NA	(0.25)[g] (0.25)[g] (1)[g] (50)[g] NA (0.25)[g] NA	NA	0.25[g] 0.25[g] 1[g] NA NA 0.25[g] NA	(0.25)[g] (0.25)[g] (1)[g] NA NA (0.25)[g] NA
Flammable gas	Gaseous Liquefied	H-2	NA	NA (150)[d, e]	1,000[d, e] NA	NA	NA (150)[d, e]	1,000[d, e] NA	NA	NA
Flammable liquid[c]	IA IB and IC	H-2 or H-3	NA	30[d, e] 120[d, e]	NA	NA	30[d] 120[d]	NA	NA	10[d] 30[d]
Flammable liquid, combination (IA, IB, IC)	NA	H-2 or H-3	NA	120[d, e, h]	NA	NA	120[d, h]	NA	NA	30[d, h]
Flammable solid	NA	H-3	125[d, e]	NA	NA	125[d]	NA	NA	25[d]	NA
Inert gas	Gaseous Liquefied	NA NA	NA NA	NA NA	NL NL	NA NA	NA NA	NL NL	NA NA	NA NA
Organic peroxide	UD I II III IV V	H-1 H-2 H-3 H-3 NA NA	1[e, g] 5[d, e] 50[d, e] 125[d, e] NL NL	(1)[e, g] (5)[d, e] (50)[d, e] (125)[d, e] NL NL	NA	0.25[g] 1[d] 50[d] 125[d] NL NL	(0.25)[g] (1)[d] (50)[d] (125)[d] NL NL	NA	0.25[g] 1[d] 10[d] 25[d] NL NL	(0.25)[g] (1)[d] (10)[d] (25)[d] NL NL
Oxidizer	4 3[k] 2 1	H-1 H-2 or H-3 H-3 NA	1[g] 10[d, e] 250[d, e] 4,000[e, f]	(1)[e, g] (10)[d, e] (250)[d, e] (4,000)[e, f]	NA	0.25[g] 2[d] 250[d] 4,000[f]	(0.25)[g] (2)[d] (250)[d] (4,000)[f]	NA	0.25[g] 2[d] 50[d] 1,000[f]	(0.25)[g] (2)[d] (50)[d] (1,000)[f]
Oxidizing gas	Gaseous Liquefied	H-3	NA	NA (150)[d, e]	1,500[d, e] NA	NA	NA (150)[d, e]	1,500[d, e] NA	NA	NA
Pyrophoric	NA	H-2	4[e, g]	(4)[e, g]	50[e, g]	1[g]	(1)[g]	10[e, g]	0	0
Unstable (reactive)	4 3 2 1	H-1 H-1 or H-2 H-3 NA	1[e, g] 5[d, e] 50[d, e] NL	(1)[e, g] (5)[d, e] (50)[d, e] NL	10[e, g] 50[d, e] 750[d, e] NL	0.25[g] 1[d] 50[d] NL	(0.25)[g] (1)[d] (50)[d] NL	2[e, g] 10[d, e] 750[d, e] NL	0.25[g] 1[d] 10[d] NL	(0.25)[g] (1)[d] (10)[d] NL
Water reactive	3 2 1	H-2 H-3 NA	5[d, e] 50[d, e] NL	(5)[d, e] (50)[d, e] NL	NA	5[d] 50[d] NL	(5)[d] (50)[d] NL	NA	1[d] 10[d] NL	(1)[d] (10)[d] NL

For SI: 1 cubic foot = 0.028 m³, 1 pound = 0.454 kg, 1 gallon = 3.785 L.
NL = Not Limited; NA = Not Applicable; UD = Unclassified Detonable.
a. For use of control areas, see Section 414.2.
b. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.
c. The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited provided the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.
d. *[SFM] In other than Group L occupancies,* maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.
e. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, day boxes, gas cabinets, gas rooms or exhausted enclosures or in listed safety cans in accordance with Section 5003.9.10 of the *California Fire Code*. Where Note d also applies, the increase for both notes shall be applied accumulatively.
f. Quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
g. Allowed only in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
h. Containing not more than the maximum allowable quantity per control area of Class IA, IB or IC flammable liquids.
i. The maximum allowable quantity shall not apply to fuel oil storage complying with Section 603.3.2 of the *California Fire Code*.
j. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.
k. A maximum quantity of 200 pounds of solid or 20 gallons of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purposes, operation or sanitation of equipment when the storage containers and the manner of storage are approved.
l. Net weight of the pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 percent of the gross weight of the fireworks, including packaging, shall be used.
m. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2 of the *California Fire Code*.
n. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).
o. Densely packed baled cotton that complies with the packing requirements of ISO 8115 shall not be included in this material class.
p. The following shall not be included in determining the maximum allowable quantities:
1. Liquid or gaseous fuel in fuel tanks on vehicles.
2. Liquid or gaseous fuel in fuel tanks on motorized equipment operated in accordance with the *California Fire Code*.
3. Gaseous fuels in piping systems and fixed appliances regulated by the *California Mechanical Code*.
4. Liquid fuels in piping systems and fixed appliances regulated by the *California Mechanical Code*.
5. Alcohol-based hand rubs classified as Class I or II liquids in dispensers that are installed in accordance with Sections 5705.5 and 5705.5.1 of the *California Fire Code*. The location of the alcohol-based hand rub (ABHR) dispensers shall be provided in the construction documents.
q. Where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3.

THE BUILDING IS SPRINKLERED & ALL GASES STORED PER FIRE CODE, THEREFORE 150 POUNDS OF LIQUIFIED FLAMMABLE GAS IS INCREASED 200% TO **450 POUNDS MAX. COMBINED FOR STORAGE AND IN USE AS PART OF CLOSED LOOP SYSTEM WITHIN EACH CONTROL AREA.**

ACCESSIBILITY

THE PROPOSED IMPROVEMENTS SHALL COMPLY WITH ALL PROVISIONS OF THE 2016 CA BUILDING CODE, CHAPTER 11B, FOR ALTERATIONS, AND 2010 ADA.

PER 2019 CBC SECTION 11B-202.4 PATH OF TRAVEL REQUIREMENTS IN ALTERATIONS REQUIRE AN ACCESSIBLE PATH OF TRAVEL TO THE SPECIFIC AREA OF ALTERATION. THE PRIMARY ACCESSIBLE PATH OF TRAVEL SHALL INCLUDE:

1. A PRIMARY ENTRANCE TO THE BUILDING OR FACILITY,
-RESPONSE: THE SITE IS CURRENTLY ACCESSED ONLY BY VEHICLE, THERE IS NO PEDESTRIAN ROUTE FROM THE PUBLIC RIGHT OF WAY, THROUGH THE ADJACENT PRIVATE PARCEL TO ACCESS THE BUILDING.
2016 CBC 11B-206.2.1 REQUIRES SITE ARRIVAL POINTS TO INCLUDE AT LEAST ONE ACCESSIBLE ROUTE FROM PARKING SPACES, LOADING ZONES, PUBLIC STREETS AND SIDEWALKS, AND PUBLIC TRANSPORTATION STOPS TO THE ACCESSIBLE BUILDING OR FACILITY ENTRANCE THEY SERVE. HOWEVER EXCEPTION 2 TO THAT SECTION STATES: " AN ACCESSIBLE ROUTE SHALL NOT BE REQUIRED BETWEEN SITE ARRIVAL POINTS AND THE BUILDING FOR FACILITY ENTRANCE IF THE ONLY MEANS OF ACCESS BETWEEN THEM IS A VEHICULAR WAY NOT PROVIDING PEDESTRIAN ACCESS."
THEREFORE, NO ACCESSIBLE SIDEWALK TO THE PUBLIC RIGHT OF WAY IS REQUIRED FOR THE PROPOSED PROJECT.

A NEW VAN ACCESSIBLE PARKING SPACE IS REQUIRED AND WILL BE PROVIDED PER 2016 CBC 11B-502. AN ACCESSIBLE ROUTE USES A NEW RAMP PER 11B-405 & 1012 TO THE MAIN ENTRANCE.

THE BUILDING ENTRANCE WILL INCLUDE NEW DOORS, HARDWARE, AND LANDINGS IN COMPLIANCE WITH 11B-206.4 AND 11B-404. THE THREE OTHER EXTERIOR DOORS ALSO COMPLY WITH THESE SECTIONS, AND ARE CONNECTED TO GRADE LEVEL BY MEANS OF EXTERIOR STAIR IN COMPLIANCE WITH 11B-504 & 1009.3 STAIRWAYS.

2. TOILET AND BATHING FACILITIES SERVING THE AREA
-RESPONSE: NEW ACCESSIBLE RESTROOMS TO BE PROVIDED.

3. DRINKING FOUNTAINS SERVING THE AREA.
-RESPONSE: NOT APPLICABLE, THERE WILL NOT BE A DRINKING FOUNTAIN, THERE IS WATER AVAILABLE AT THE NEW ACCESSIBLE KITCHENETTE.

4. PUBLIC TELEPHONES SERVING THE AREA.
-RESPONSE: NOT APPLICABLE, NO PUBLIC PHONES.

5. SIGNS.
-RESPONSE: NEW SIGNAGE TO BE PROVIDED AT NEW VAN ACCESSIBLE PARKING SPACE, INCLUDING "UNAUTHORIZED VEHICLES" SIGN. ALL OTHER NEW SIGNS INCLUDING RESTROOM DOOR SIGNS, AND ANY ROOM IDENTIFICATION SIGNS OR OTHER REQUIRED SIGNAGE SHALL COMPLY WITH CBC 11B-705 FOR VISUAL AND TACTILE CHARACTORS.

2016 CBC 11B-202.4 EXCEPTION 8 LIMITS THE COST OF COMPLIANCE WITH SECTION 11B-202.4. THE EXPENSE TOWARD COMPLIANCE IS LIMITED TO 20% OF THE ADJUSTED CONSTRUCTION COST WHERE THE TOTAL COST OF THE PROJECT IS LESS THAN A SPECIFIED AMOUNT. IN THE PROPOSED PROJECT FULL COMPLIANCE IS REQUIRED.

SECURITY

1. COMPLETE VIDEO SECURITY SYSTEM PROVIDED & INTEGRATED WITH ACCESS CONTROL SYSTEM, MANAGED BY TRAINED PERSONNEL 24/7. APPROVAL BY THE CITY OF EUREKA POLICE DEPARTMENT IS REQUIRED.

2. SECURITY CAMERAS ARE LABELED WITH IDENTIFICATION NUMBERS, ALL CAMERAS INCLUDE 180 DAY BACKUP.

3. ALL ACCESS CONTROL DOORS ARE EQUIPPED w/ F.O.B. DEVICES. SEE DOOR SCHEDULE FOR EACH DOOR EQUIPED w/ ACCESS CONTROL DEVICES. EXTERIOR DOORS & WINDOWS INCLUDE SECURITY CONTACTORS & GLASS BREAK SENSORS.

4. MOTION SENSORS ARE INCLUDED THROUGHTOUT AS PART OF THE SECURITY SYSTEM.

5. LEVELS OF SECRURITY KEY:
LEVEL 1 - NO PUBLIC ACCESS, STAFF ONLY
LEVEL 2 - ASSIGNED STAFF ONLY.
LEVEL 3 - MANAGEMENT STAFF ONLY

6. COMPLETE SECURITY SYSTEM DESIGN/BUILD BY OTHERS.

ODOR CONTROL

ODOR CONTROL PROVIDED BY CARBON FILTRATION SECTIONS ON HVAC RETURN AIR DUCTS & INLINE EXHAUST DUCTS, WHERE COMPLIANT WITH CALIFORNIAL MECHANICAL CODE AND THE LISTED INSTALLATION INSTRUCTIONS OF EQUIPMENT. IN ADDITION, LOCAL RECIRCULATING PORTABLE CARBON FILTERS UNITS ARE PROVIDED THROUGHOUT AS INDICATED ON PLANS TO BE SUBMITTED WITH BUILDING PERMIT APPLICATION.

ZONING CODE

ASSESSOR PARCEL NUMBER: 302-171-034
SITE ADDRESS: 4640 SOUTH BROADWAY
SITE CITY: EUREKA, CA
SITE ZIP: 95503

LOT SIZE (ACRES): 1.68 ACRES (ASSESSED)

ZONING JURISDICTION: CITY OF EUREKA
ZONING: MG - GENERAL INDUSTRIAL (156.078)

IN COASTAL ZONE (Y/N): Y
APPEAL JURISTICTION PRC30603

PROPOSED USE: DISTRIBUTION & MANUFACTURING
PERMITTED USE: NON-VOLITILE MANUFACTURING AND DISTRIBUTION ARE PRINCIPALLY PERMITTED.
CONDITIONAL USE PERMIT REQUIRED FOR VOLITILE MANUFR, SEE EMC CH. 156.078(D)(23.3).

ALQUIST-PRIOLO FAULT HAZARD ZONE: N
AIRPORT COMPATIBILITY ZONE: N
STATE FIRE RESPONSIBILITY AREA: N

FLOOD ZONE: Y (SEE FEMA FIRM MAP)

SETBACKS: NO CHANGE
MAX. GROUND COVERAGE: NO CHANGE
MAX. HEIGHT: NO CHANGE

LANDSCAPING: SEE LANDSCAPE PLAN

PARKING: EXISTING, NO CHANGE EXCEPT FOR ADA SPACE:

THE EXISTING SITE INCLUDES ONLY A GRAVEL DRIVEWAY WITH NO MARKED PARKING SPACES. THIS BUILDING REPLACEMENT PROJECT DOES NOT REQUIRE ANY NEW PARKING PER CITY OF EUREKA MUNICIPAL CODE 10-5.1502(a). PER 2016 CBC 11B-208.1, ACCESSIBLE PARKING IS ONLY REQUIRED WHERE PARKING IS PROVIDED. EVEN THOUGH THE SITE CONTAINS NO OTHER PARKING, ONE NEW VAN ACCESSIBLE PARKING SPACE IS REQUIRED BY CBC 11B-206.2.1, SEE SITE PLAN FOR LOCATION, WHERE NEW CONCRETE IS TO BE PLACED OVER EXISTING CONCRETE SLAB. NEW ADA PARKING SIGNAGE TO BE PROVIDED.

LOADING: LOADING SPACE PROVIDED, SEE PLAN.

SIGNS: NO NEW SIGNS CURRENTLY PROPOSED

CODE REVIEW

CONSTRUCTION TYPE: TYPE VB, EXISTING, YEAR BUILT = APPRX. 1940

GENERAL CONSTRUCTION DESCRIPTION: THE EXISTING BUILDING IS TWO STORIES PLUS BASEMENT IN HEIGHT, CONSTRUCTED WITH A REINFORCED CONCRETE PERIMETER FOUNDATION WITH INTERIOR BEARING WALLS AND PIERS. THE FLOOR IS RAISED APPROX. 3 TO 4 FEET ABOVE ADJACENT GRADE, AT ABOUT 13.8 ABOVE MEAN SEA LEVEL. THE CONSTRUCTION IS A TYPE V-B, CONSTRUCTED IN 1940 WITH ADDITIONS AND ALTERATIONS SINCE THAT TIME. THE BUILDING CONTAINS FAILED AND DAMAGED STRUCTURAL ELEMENTS WHICH MAKE THE REPLACEMENT OF INDIVIDUAL ITEMS IMPRACTICAL. A COMPLETE BUILDING REPLACEMENT IS PROPOSED. ALL NEW ELEMENTS OF THE BUILDING SHALL COMPLY WITH 2016 CALIFORNIA BUILDING STANDARDS CODE.

USE GROUPS (**NO CHANGE**): F-1 MODERATE HAZARD FACTORY GROUP, CBC 306
S-1 MODERATE HAZARD STORAGE, CBC 311.2
B BUSINESS GROUP, CBC 304

FIRE SPRINKLER SYSTEM: NEW AUTOMATIC FIRE SPRINKLER SYSTEM WILL BE PROVIDED THROUGHOUT, IF REQUIRED, IN ACCORANCE WITH 2019 CBC 903.3.1.1 NFPA 13. SYSTEM SHALL BE DESIGN/BUILD AND SHOP DRAWINGS AND CALCULATIONS ARE REQUIRED. SEE SITE PLAN FOR LOCATION OF FDC, TO BE APPROVED BY LOCAL FIRE CODE AUTHORITY.

FIRE ALARM SYSTEM: NEW FIRE ALARM SYSTEM WILL BE PROVIDED THROUGHOUT IN ACCORANCE WITH 2019 CBC 907 AND NFPA 72, AS AMENDED BY THE STATE OF CALIFORNIA. THE FIRE ALARM SYSTEM SHALL BE DESIGN/BUILD AND SHOP DRAWINGS AND CALCULATIONS ARE REQUIRED. COORDINATE WITH FIRE SPRINKLER.

GAS DETECTION SYSTEM: NEW GAS DETECTION ALARM SYSTEMS SHALL BE PROVIDED BY MANUFACTURER OF UL LISTED C1D1 ROOMS.

PORTABLE FIRE EXTINGUISHERS: NEW FIRE EXTINGUISHERS PER 2019 CA FIRE CODE, SECTION 906, WITH ALL FINAL LOCATIONS PER THE DETERMINATION OF THE AHJ.

ALLOWABLE. AREA FACTORS: GROUP F-1, SM*, TYPE V-B = 25,500 SF
(PER 2016 CBC TABLE 506.2) GROUP B, SM, TYPE V-B = 27,000 SF
GROUP S-1, SM,TYPE V-B = 27,000 SF
*SM = BLDGS TWO OR MORE STORIES ABOVE GRADE PLANE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1

FRONTAGE INCREASE: THE ABOVE ALLOWABLE AREA FACTORS MAY BE INCREASED PER CBC 506.3 FRONTAGE INCREASE, HOWEVER, THE BASE ALLOWABLE AREAS ARE IN EXCESS OF THE PROPOSED BUILDING TO BE REPLACED, THEREFORE FRONTAGE INCREASE IS NOT CALCULATED.

MAX. STORIES PER CBC T504.4: F-1 & S-1, V-B, SPRINKLERED = 2-STORIES
B, V-B = 3-STORIES
EXISTING STORIES IN HEIGHT: 1-STORY
PROPOSED STORIES IN HEIGHT: 1 STORY

OCCUPANT LOAD: PER CBC TABLE 1004.1.2, THE OCCUPANT LOAD SHALL BE CALCULATED FOR EACH SPACE, WHICH IS BASED ON THE USE. THERE IS NO CHANGE OF USE, AND NO SUBSTANTIAL CHANGE OF OCCUPANT LOAD. THIS BUILDING CONTAINS NO ASSEMBLY SPACES AND SHALL NOT CONTAIN ANY SPACES USED FOR SLEEPING.

DELEGATED DESIGN

CONTRACTOR SHALL PROVIDE ALL RELEVANT DESIGN, ENGINEERING, AND DOCUMENTS AS REQUIRED FOR OBTAINING PERMIT.
THESE ITEMS SHALL BE COMPLETED AND SIGNED BY A RESPONSIBLE REGISTERED ENGINEER OR OTHER CREDENTIALED PROFESSIONAL AS APPLICABLE AND APPROVED BY THE AHJ. SUBMIT SIGNED COPIES OF ALL DOCUMENTS FOR REVIEW AND ACCEPTANCE BY THE ARCHITECT OF RECORD FOR GENERAL CONFORMANCE WITH THE PROJECT REQUIREMENTS. THE ARCHITECT WILL THEN TRANSMIT THE DOCUMENTS TO THE GENERAL CONTRACTOR FOR DISTRIBUTION TO THE PROJECT OWNER, AND AUTHORITIES HAVING JURISDICTION FOR PLAN REVIEW AND APPROVAL. CONTRACTOR SHALL INCLUDE ALL DESIGN, ENGINEERING, PLAN CHECK, PERMITTING, AND RELATED FEES AND EXPENSES IN THEIR CONTRACT AMOUNT:

1. NEW FIRE ALARM SYSTEM AS SPECIFIED IN CODE REVIEW NOTES.
2. GAS DETECTION SYSTEM AS SPECIFIED IN CODE REVIEW NOTES.
3. SECURITY ALARM & SURVEILLANCE SYSTEM.
4. NEW FIRE SPRINKLER SYSTEM AS SPECIFIED IN CODE REVIEW NOTES.
5. TELECOMMUNICATIONS w/ SERVICE PROVIDER(S) FOR PHONE & INTERNET.
6. SPECIALIZED MANUFACTURING SYSTEMS & EQUIPMENT.

GENERAL NOTES

1. THE CONSTRUCTION DOCUMENTS MAY INCLUDE BOTH DRAWINGS AND SPECIFICATIONS. THEY ARE COMPLEMENTARY DOCUMENTS. ANY INFORMATION SHOWN IN THE DRAWINGS AND/OR SPECIFICATIONS IS REQUIRED AS IF SHOWN IN BOTH.

2. WORK NOT SPECIFICALLY COVERED IN THE CONSTRUCTION DOCUMENTS SHALL, JUST THE SAME, BE REQUIRED IF IT IS REASONABLY INFERABLE AS BEING NECESSARY OR APPROPRIATE TO PRODUCE THE INTENDED RESULTS COMPLETELY.

3. PROVIDE ACCESS TO THE COMPLETE CONSTRUCTION DOCUMENTS AND ANY ADDENDA TO ALL NECESSARY SUB-CONTRACTORS AND SUPPLIERS. SEPARATIONS OF SPECIFICATION SECTIONS AND DRAWING SHEETS ARE NOT TO BE CONSIDERED LIMITS OF WORK OF SEPARATE TRADES. THE CONSTRUCTION DOCUMENTS DO NOT DEFINE ANY SUCH LIMITS OF WORK BETWEEN TRADES; THIS RESPONSIBILITY IS SOLELY THAT OF THE CONTRACTOR.

4. VERIFY SITE CONDITIONS, TAKE FIELD MEASUREMENTS, AND CAREFULLY STUDY AND COMPARE CONSTRUCTION DOCUMENTS FOR THE PURPOSE OF FACILITATING COORDINATION AND CONSTRUCTION PRIOR TO STARTING EACH PORTION OF THE WORK.

5. DIMENSIONS SHOWN ON DRAWINGS TAKE PRECEDENCE OVER SCALE ON DRAWINGS. DO NOT MANUALLY SCALE DRAWINGS. IF A DIMENSION IS NOT INDICATED, REQUEST ARCHITECT TO PROVIDE.

6. COMPLY WITH MANUFACTURER'S SUGGESTED INSTALLATION METHODS EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE OR WHERE PROHIBITED BY CODE REQUIREMENTS.

7. WORK AND MATERIAL IN THIS PROJECT MUST MEET THE REQUIREMENTS OF THE LATEST REGULATIONS OF AUTHORITIES HAVING JURISDICTION AND WITH RULES OF UTILITY COMPANIES FURNISHING SERVICES. THE DRAWINGS AND SPECIFICATIONS ARE NOT TO BE CONSTRUED AS PERMITTING WORK NOT IN CONFORMANCE WITH CODE REQUIREMENTS.

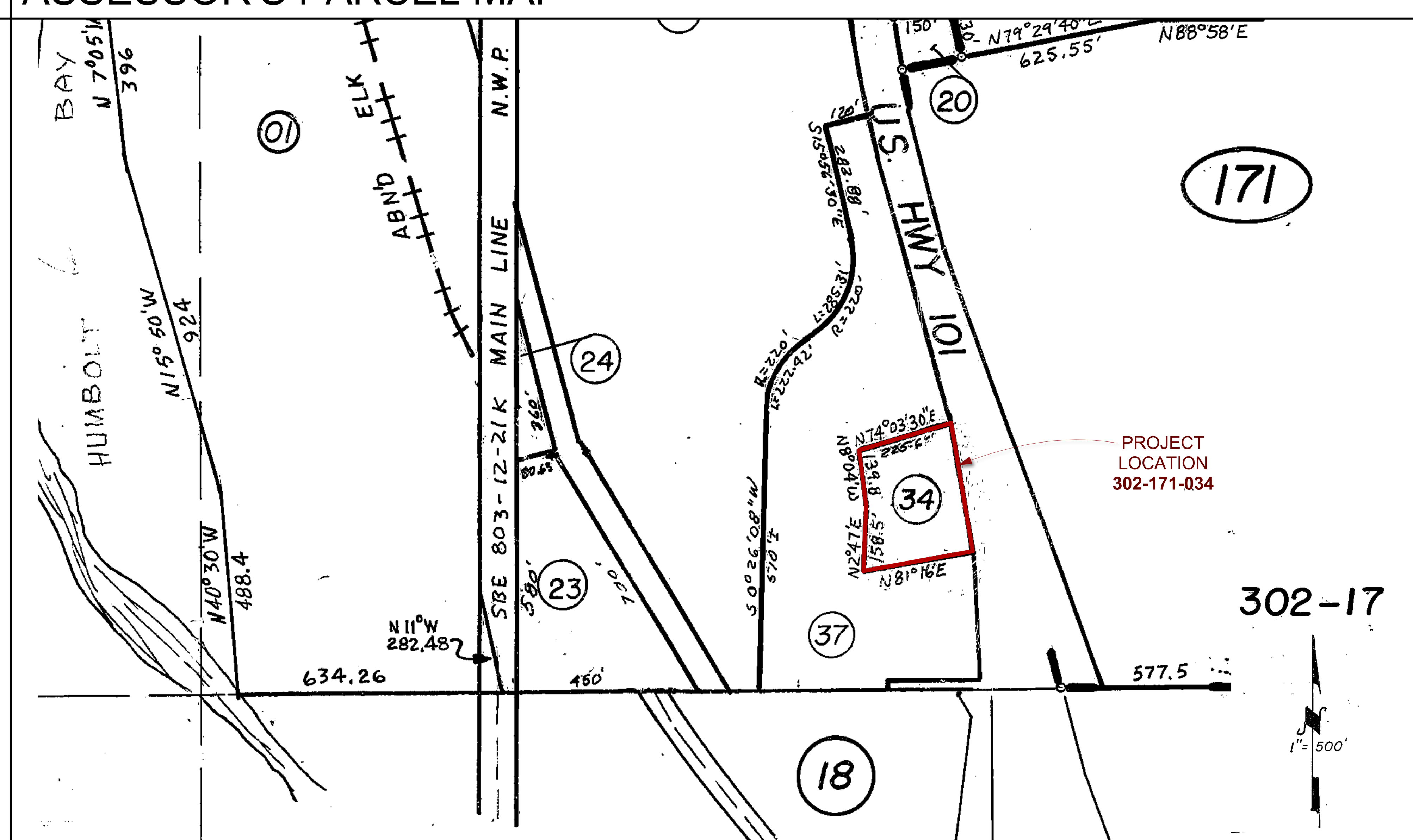
8. THE DESIGN , ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, SCAFFOLDING, AND CONSTRUCTION METHODS, IS THE RESPONSIBILITY SOLELY OF THE CONTRACTOR.

9. OCCUPATIONAL SAFETY AND HEALTH: CONSTRUCTION PROCESS IS GOVERNED, AT ALL TIMES, BY THE APPLICABLE PROVISIONS OF THE CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ACT (CURRENT RULES). CAL/OSHA. SITE SAFETY IS THE RESPONSIBILITY SOLELY OF THE CONTRACTOR.

10. UPON DISCOVERY OR BEING MADE KNOWN OF A CONFLICT, ERROR, NONCONFORMITY, INCONSISTENCIES, OR DISCREPANCY IN THE CONSTRUCTION DOCUMENTS, PROVIDE IMMEDIATE NOTICE IN WRITING AS A REQUEST FOR INFORMATION (RFI) TO THE ARCHITECT. WITHHOLDING ANY SUCH KNOWN INFORMATION SHALL BE CONSIDERED BREACH OF CONTRACT.

11. THE ABOVE NOTES ARE COMMON REMINDERS, MANY OF WHICH ARE DESCRIBED IN MORE DETAIL, ALONG WITH OTHER REQUIREMENTS OF NO LESS IMPORTANCE, IN THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION.

ASSESSOR'S PARCEL MAP



ASSESSOR'S MAP INCLUDED FOR GENERAL REFERENCE ONLY.
REFER TO OFFICIAL BOUNDARY MAP AND TOPOGRAPHIC SURVEY.

VICINITY MAP

PROJECT CONTACTS

OWNER / APPLICANT:
SD MANAGEMENT and
THE SUPER DOPE COMPANY
PO BOX 1078
ARCATA, CA 95518
SALES@THESUPERDOPECOMPANY.COM

DESIGN-BUILDER:
GREG PIERSON
PIERSON COMPANY
1200 WEST HARRIS STREET
EUREKA, CA 95503
707-268-1800

ARCHITECT OF RECORD:
GARRETT McSORLEY
McSORLEY ARCHITECTURE
PO BOX 2472
McKINLEYVILLE, CA 95519
GARRETT.MCSORLEY@GMAIL.COM
707-633-9283

ENGINEER OF RECORD:
LEONARD WHITCHURCH, PE
WHITCHURCH ENGINEERING, INC.
610 9th STREET
FORTUNA, CA 95540
TLW@WHITCHURCHENGINEERING.COM
707-725-6926

WETLANDS & GEOTECHNICAL:
GREG WILLISTON, PROJECT MANAGER
SHN CONSULTING ENGRS & GEOLOGISTS
1062 G STREET, SUITE I
ARCATA, CA 95521
707-822-5785

TOPOGRAPHIC SURVEY:
PHIL GUTIERREZ, PLS
GUTIERREZ LAND SURVEYING
PO BOX 6516
EUREKA, CA 95502
GLS07@PACBELL.NET
707-444-8733

FIRE / LIFE SAFETY CONSULTING:
ED LAIDLAW
THELCONsulting
Thelcon@yahoo.com
707-601-8607

PROJECT DESCRIPTION

4640 SOUTH BROADWAY
EXISTING BLDG REPAIR & TENANT IMPROVEMENT

4640 SOUTH BROADWAY
EUREKA, CALIFORIA, 95503
ASSESSOR PARCEL NUMBER: **302-171-034**

THE APPLICANT IS SEEKING PLANNING APPROVAL FOR THE PROPOSED PROJECT AT 4640 SOUTH BROADWAY, EUREKA, CA, 95501, APN 302-171-034, A 1.68 ACRE PROPERTY LOCATED WITHIN THE COASTAL ZONE IN THE JURISDICTION OF THE CITY OF EUREKA.

THE PROPOSED WORK INCLUDES REPAIR OF EXISTING ONE STORY COMMERCIAL BUILDING ALONG WITH MINOR TENANT IMPROVEMENTS WITH NO ADDITION OF FLOOR AREA. THERE IS NO CHANGE OR EXPANSION OF USE OR OCCUPANCY CLASSIFICATION IN ACCORDANCE WITH THE 2019 CALIFORNIA EXISTING BUILDING CODE.

APPLICABLE CODES

APPLICABLE CODES FOR ALL NEW WORK,
AS CURRENTLY ADOPTED INCLUDING ALL ERATTA & SUPPLEMENTS:
2019 CA ADMINISTRATIVE CODE, TITLE 24, PART 1
2019 CA BUILDING CODE, TITLE 24, PART 2
2019 CA ELECTRICAL CODE, TITLE 24, PART 3
2019 CA MECHANICAL CODE, TITLE 24, PART 4
2019 CA PLUMBING CODE, TITLE 24, PART 5
2019 CA ENERGY CODE, TITLE 24, PART 6
2019 CA FIRE CODE, TITLE 24, PART 9
(INCLUDING CFC CHAPTER 38 PLANT PROCESSING & EXTRACTION FACILITIES, SUPPLEMENT EFFECTIVE JULY 1, 2018)
2019 CA EXISTING BLDG CODE, TITLE 24, PART 10
2019 CA GREEN BLDG STNDS CODE, TITLE 24, PART 11
2019 NFPA 13 FIRE SPRINKLER SYSTEM (CA AMENDED)
2019 NFPA 14 STANDPIPE & HOSE (CA AMENDED)
2019 NFPA 24 FIRE SERVICE MAINS (CA AMENDED)
2019 NFPA 72 FIRE ALARM CODE (CA AMENDED)

ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES & REGULATIONS, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING SPECIFIC ITEMS:
• CALIFORNIA RETAIL FOOD CODE, JAN 1, 2017, REGULATED BY THE COUNTY OF HUMBOLDT ENVIR. HEALTH, https://humboldtgov.org/696/Retail-Food-Facility-Safety
• ALL CITY OF EUREKA CODES & REGULATIONS

SHEET INDEX

TITLE / SITE	A 1.1	TITLE SHEET / CODE REVIEW
	A 1.2	SITE CONTEXT
	A 1.3	EXISTING SITE PLAN
	A 1.4	PROPOSED SITE PLAN
	A 1.6	SITE UTILITY PLAN
	A 1.7	CONSTRUCTION MOBILIZATION PLAN
ARCH	A 2.1	EXISTING FLOOR PLAN
	A 2.2	FLOOR PLAN - PROPOSED
	A 3.1	ELEVATION PHOTOGRAPHS N&S
	A 3.2	ELEVATION PHOTOGRAPHS E&W
LANDSCAPE	L 1.1	LANDSCAPE PLAN
CAL GREEN	G 1.1	CAL GREEN
	(12)	TOTAL SHEETS

COPYRIGHT, © 2020, ALL RIGHTS RESERVED

LICENSED ARCHITECT
GARRETT McSORLEY
NOT FOR CONSTRUCTION
C-33283
RENEWAL DATE: 30 SEPT 2021
STATE OF CALIFORNIA

McSORLEY ARCHITECTURE
garrett.mcsorley@gmail.com
PO Box 2472
McKinleyville, CA 95519
707.633.9283

DESIGN-BUILDER:
PIERSON COMPANY
1200 WEST HARRIS STREET
EUREKA, CA 95503
707-268-1800

OWNER / APPLICANT:
SD MANAGEMENT
PO BOX 1078
ARCATA, CA 95518
SALES@THESUPERDOPECOMPANY.COM

4640 SOUTH BROADWAY
EXISTING BLDG REPAIR & TENANT IMPROVEMENT

4640 SOUTH BROADWAY
EUREKA, CALIFORIA, 95503
ASSESSOR PARCEL NUMBER: **302-171-034**

TITLE SHEET
CODE REVIEW

Drawing Status:
SCHEMATIC DESIGN
NOT FOR CONSTRUCTION

Issue Date:
10 MAR 2020

Revisions:

Sheet No.
A1.1

COPYRIGHT, © 2020, ALL RIGHTS RESERVED

1 SITE CONTEXT
Scale: 1" = 100'-0"

LICENSED ARCHITECT
GARRETT McSORLEY
NOT FOR CONSTRUCTION
C-33283
RENEWAL DATE:
30 SEPT 2021
STATE OF CALIFORNIA

McSORLEY ARCHITECTURE
garrett.mcsorley@gmail.com
PO Box 2472
McKinleyville, CA 95519
707.633.9283

DESIGN-BUILDER:
PIERSON COMPANY
1200 WEST HARRIS STREET
EUREKA, CA 95503
707-268-1800

OWNER / APPLICANT:
SD MANAGEMENT
PO BOX 1078
ARCATA, CA 95518
SALES@THESUPERDOPECOMPANY.COM

4640 SOUTH BROADWAY
EXISTING BLDG REPAIR & TENANT IMPROVEMENT

4640 SOUTH BROADWAY
EUREKA, CALIFORIA, 95503
ASSESSOR PARCEL NUMBER: **302-171-034**

SITE CONTEXT

Drawing Status:
SCHEMATIC DESIGN
NOT FOR CONSTRUCTION

Issue Date:
10 MAR 2020

Revisions:

Sheet No.
A1.2

COPYRIGHT, © 2020, ALL RIGHTS RESERVED

THE SURVEY AS SHOWN HERE, AND WHERE SHOWN ON OTHER SHEETS IN THIS CONSTRUCTION DOCUMENT SET, IS FOR GENERAL INFORMATION ONLY. SEE LICENSED SURVEYOR'S SEALED & SIGNED COPY FOR ALL OFFICIAL PURPOSES. SURVEY IS FURNISHED BY THE OWNER & TRANSMITTED BY SURVEYOR IN DWG FILE FORMAT.

THE DRAWING FORMATTING AND CONTENTS HAVE BEEN INCORPORATED INTO THE ARCHITECT'S STANDARDS AND MODIFIED FOR USE IN THE DESIGN PROCESS AND PREPARATION OF CONSTRUCTION DOCUMENTS FOR THE OWNER. THE ARCHITECT HAS NOT CONDUCTED ANY SITE SURVEYING OR MEASUREMENTS AND MAKES NO WARRANTY OF THE ACCURACY, PRECISION, NOR COMPLETENESS OF THE INFORMATION PROVIDED.

THE CONTRACTOR SHALL EXERCISE PROPER PRECAUTIONS RELATING TO THE PERFORMANCE OF THE WORK WHILE RELYING ON THE ACCURACY OF THIS INFORMATION. ADDITIONAL SURVEYING WORK MAY BE REQUIRED. CONTRACTOR SHALL VERIFY ALL PROPERTY BOUDARIES, EASEMENTS, UTILITIES, MONUMENTS, AND ALL EXISTING CONDITIONS PRIOR TO EACH PHASE OF THE WORK.

THE AERIAL PHOTOGRAPH, OF SHOWN IN THE BACKGROUND ON THIS SHEET, OR ANY OTHER DRAWINGS IN THIS SET, WAS PROVIDED BY GOOGLE EARTH OR FROM DRONE PHOTOGRAPH BY OTHERS. AERIAL PHOTOGRAPHS ARE NOT GEO-REFERENCED OR SCALED AND ARE FOR ILLUSTRATIVE PURPOSES ONLY.

1 EXISTING SITE PLAN
Scale: 1" = 20'-0"

LICENSED ARCHITECT
GARRETT McSORLEY
NOT FOR CONSTRUCTION
C-33283
RENEWAL DATE: 30 SEPT 2021
STATE OF CALIFORNIA

McSORLEY ARCHITECTURE
garrett.mcsorley@gmail.com
PO Box 2472
McKinleyville, CA 95519
707.633.9283

DESIGN-BUILDER:
PIERSON COMPANY
1200 WEST HARRIS STREET
EUREKA, CA 95503
707-268-1800

OWNER / APPLICANT:
SD MANAGEMENT
PO BOX 1078
ARCATA, CA 95518
SALES@THESUPERDOPECOMPANY.COM

4640 SOUTH BROADWAY
EXISTING BLDG REPAIR & TENANT IMPROVEMENT

4640 SOUTH BROADWAY
EUREKA, CALIFORNIA, 95503
ASSESSOR PARCEL NUMBER: **302-171-034**

EXISTING SITE PLAN

Drawing Status:
SCHEMATIC DESIGN
NOT FOR CONSTRUCTION

Issue Date:
10 MAR 2020

Revisions:

Sheet No.
A1.3

COPYRIGHT, © 2020, ALL RIGHTS RESERVED

1 PROPOSED SITE PLAN
Scale: 1" = 20'-0"

LICENSED ARCHITECT
GARRETT McSORLEY
NOT FOR CONSTRUCTION
C-33283
RENEWAL DATE: 30 SEPT 2021
STATE OF CALIFORNIA

McSORLEY ARCHITECTURE
garrett.mcsorley@gmail.com
PO Box 2472
McKinleyville, CA 95519
707.633.9283

DESIGN-BUILDER:
PIERSON COMPANY
1200 WEST HARRIS STREET
EUREKA, CA 95503
707-268-1800

OWNER / APPLICANT:
SD MANAGEMENT
PO BOX 1078
ARCATA, CA 95518
SALES@THESUPERDOPECOMPANY.COM

4640 SOUTH BROADWAY
EXISTING BLDG REPAIR & TENANT IMPROVEMENT

4640 SOUTH BROADWAY
EUREKA, CALIFORNIA, 95503
ASSESSOR PARCEL NUMBER: **302-171-034**

PROPOSED SITE PLAN

Drawing Status:
SCHEMATIC DESIGN
NOT FOR CONSTRUCTION

Issue Date:
10 MAR 2020

Revisions:

Sheet No.
A1.4

COPYRIGHT, © 2020, ALL RIGHTS RESERVED

1 SITE UTILITY PLAN
Scale: 1" = 20'-0"

LICENSED ARCHITECT
GARRETT McSORLEY
NOT FOR CONSTRUCTION
C-33283
RENEWAL DATE: 30 SEPT 2021
STATE OF CALIFORNIA

McSORLEY ARCHITECTURE
garrett.mcsorley@gmail.com
PO Box 2472
McKinleyville, CA 95519
707.633.9283

DESIGN-BUILDER:
PIERSON COMPANY
1200 WEST HARRIS STREET
EUREKA, CA 95503
707-268-1800

OWNER / APPLICANT:
SD MANAGEMENT
PO BOX 1078
ARCATA, CA 95518
SALES@THESUPERDOPECOMPANY.COM

4640 SOUTH BROADWAY
EXISTING BLDG REPAIR & TENANT IMPROVEMENT

4640 SOUTH BROADWAY
EUREKA, CALIFORIA, 95503
ASSESSOR PARCEL NUMBER: **302-171-034**

SITE UTILITY PLAN

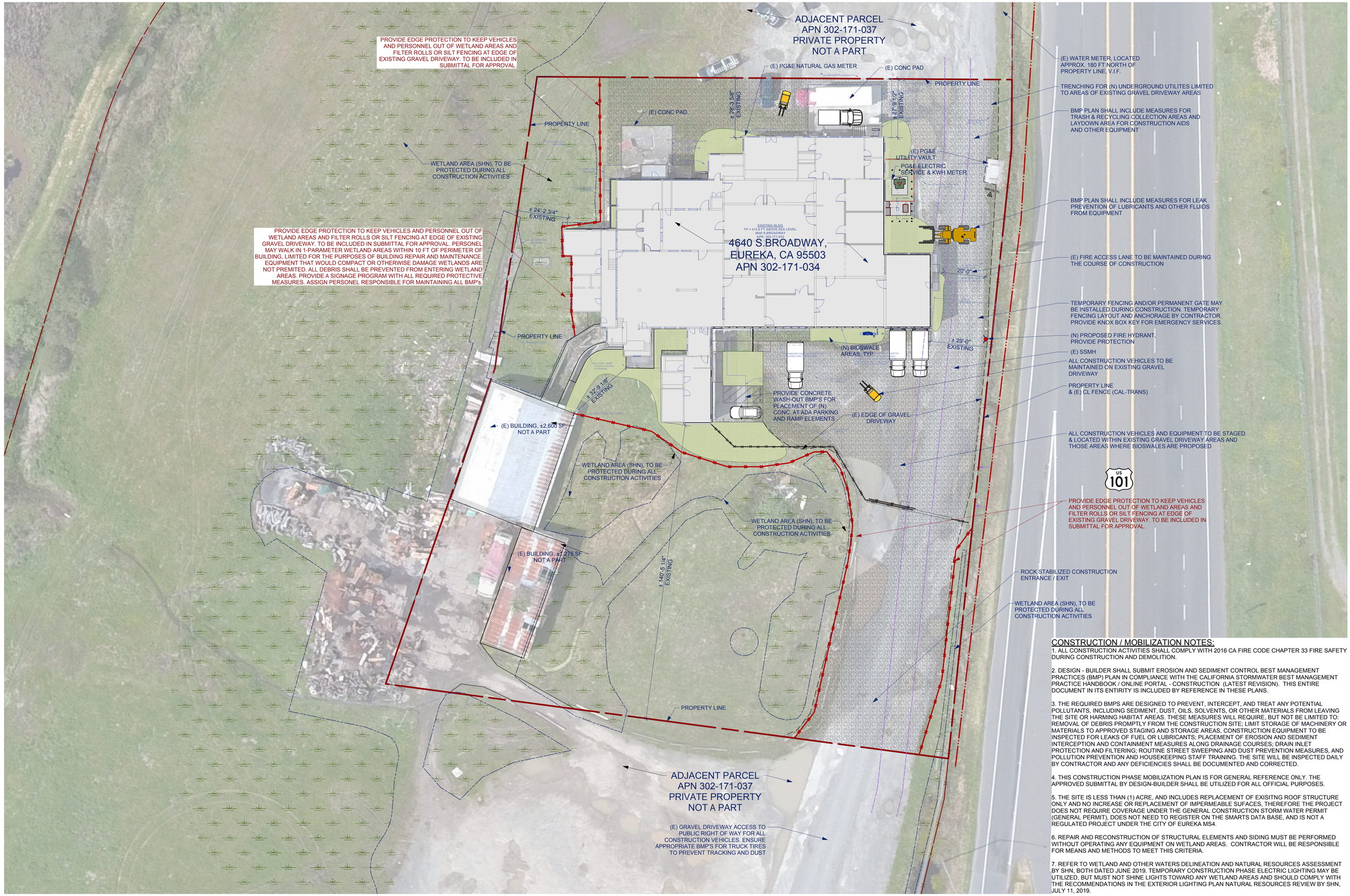
Drawing Status:
SCHEMATIC DESIGN
NOT FOR CONSTRUCTION

Issue Date:
10 MAR 2020

Revisions:

Sheet No.
A1.6

COPYRIGHT, © 2020, ALL RIGHTS RESERVED



CONSTRUCTION / MOBILIZATION NOTES:

1. ALL CONSTRUCTION ACTIVITIES SHALL COMPLY WITH 2016 CA FIRE CODE CHAPTER 33 FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION.

2. DESIGN - BUILDER SHALL SUBMIT EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP) PLAN IN COMPLIANCE WITH THE CALIFORNIA STORMWATER BEST MANAGEMENT PRACTICE HANDBOOK / ONLINE PORTAL - CONSTRUCTION (LATEST REVISION). THIS ENTIRE DOCUMENT IN ITS ENTIRITY IS INCLUDED BY REFERENCE IN THESE PLANS.

3. THE REQUIRED BMPS ARE DESIGNED TO PREVENT, INTERCEPT, AND TREAT ANY POTENTIAL POLLUTANTS, INCLUDING SEDIMENT, DUST, OILS, SOLVENTS, OR OTHER MATERIALS FROM LEAVING THE SITE OR HARMING HABITAT AREAS. THESE MEASURES WILL REQUIRE, BUT NOT BE LIMITED TO: REMOVAL OF DEBRIS PROMPTLY FROM THE CONSTRUCTION SITE; LIMIT STORAGE OF MACHINERY OR MATERIALS TO APPROVED STAGING AND STORAGE AREAS, CONSTRUCTION EQUIPMENT TO BE INSPECTED FOR LEAKS OF FUEL OR LUBRICANTS; PLACEMENT OF EROSION AND SEDIMENT INTERCEPTION AND CONTAINMENT MEASURES ALONG DRAINAGE COURSES; DRAIN INLET PROTECTION AND FILTERING; ROUTINE STREET SWEEPING AND DUST PREVENTION MEASURES, AND POLLUTION PREVENTION AND HOUSEKEEPING STAFF TRAINING. THE SITE WILL BE INSPECTED DAILY BY CONTRACTOR AND ANY DEFICIENCIES SHALL BE DOCUMENTED AND CORRECTED.

4. THIS CONSTRUCTION PHASE MOBILIZATION PLAN IS FOR GENERAL REFERENCE ONLY. THE APPROVED SUBMITTAL BY DESIGN-BUILDER SHALL BE UTILIZED FOR ALL OFFICIAL PURPOSES.

5. THE SITE IS LESS THAN (1) ACRE, AND INCLUDES REPLACEMENT OF EXISITNG ROOF STRUCTURE ONLY AND NO INCREASE OR REPLACEMENT OF IMPERMEABLE SUFACES, THEREFORE THE PROJECT DOES NOT REQUIRE COVERAGE UNDER THE GENERAL CONSTRUCTION STORM WATER PERMIT (GENERAL PERMIT), DOES NOT NEED TO REGISTER ON THE SMARTS DATA BASE, AND IS NOT A REGULATED PROJECT UNDER THE CITY OF EUREKA MS4.

6. REPAIR AND RECONSTRUCTION OF STRUCTURAL ELEMENTS AND SIDING MUST BE PERFORMED WITHOUT OPERATING ANY EQUIPMENT ON WETLAND AREAS. CONTRACTOR WILL BE RESPONSIBLE FOR MEANS AND METHODS TO MEET THIS CRITERIA.

7. REFER TO WETLAND AND OTHER WATERS DELINEATION AND NATURAL RESOURCES ASSESSMENT BY SHN, BOTH DATED JUNE 2019. TEMPORARY CONSTRUCTION PHASE ELECTRIC LIGHTING MAY BE UTILIZED, BUT MUST NOT SHINE LIGHTS TOWARD ANY WETLAND AREAS AND SHOULD COMPLY WITH THE RECOMMENDATIONS IN THE EXTERIOR LIGHTING PLAN NATURAL RESOURCES REVIEW BY SHN, JULY 11, 2019.

1 CONSTRUCTION PHASE MOBILIZATION PLAN
Scale: 1" = 20'-0"

LICENSED ARCHITECT
GARRETT McSORLEY
NOT FOR CONSTRUCTION
C-33283
RENEWAL DATE: 30 SEPT 2021
STATE OF CALIFORNIA
McSORLEY ARCHITECTURE
garrett.mcsorley@gmail.com
PO Box 2472
McKinleyville, CA 95519
707.633.9283

DESIGN-BUILDER:
PIERSON COMPANY
1200 WEST HARRIS STREET
EUREKA, CA 95503
707-268-1800

OWNER / APPLICANT:
SD MANAGEMENT
PO BOX 1078
ARCATA, CA 95518
SALES@THESUPERDOPECOMPANY.COM

4640 SOUTH BROADWAY
EXISTING BLDG REPAIR & TENANT IMPROVEMENT

4640 SOUTH BROADWAY
EUREKA, CALIFORIA, 95503
ASSESSOR PARCEL NUMBER: **302-171-034**

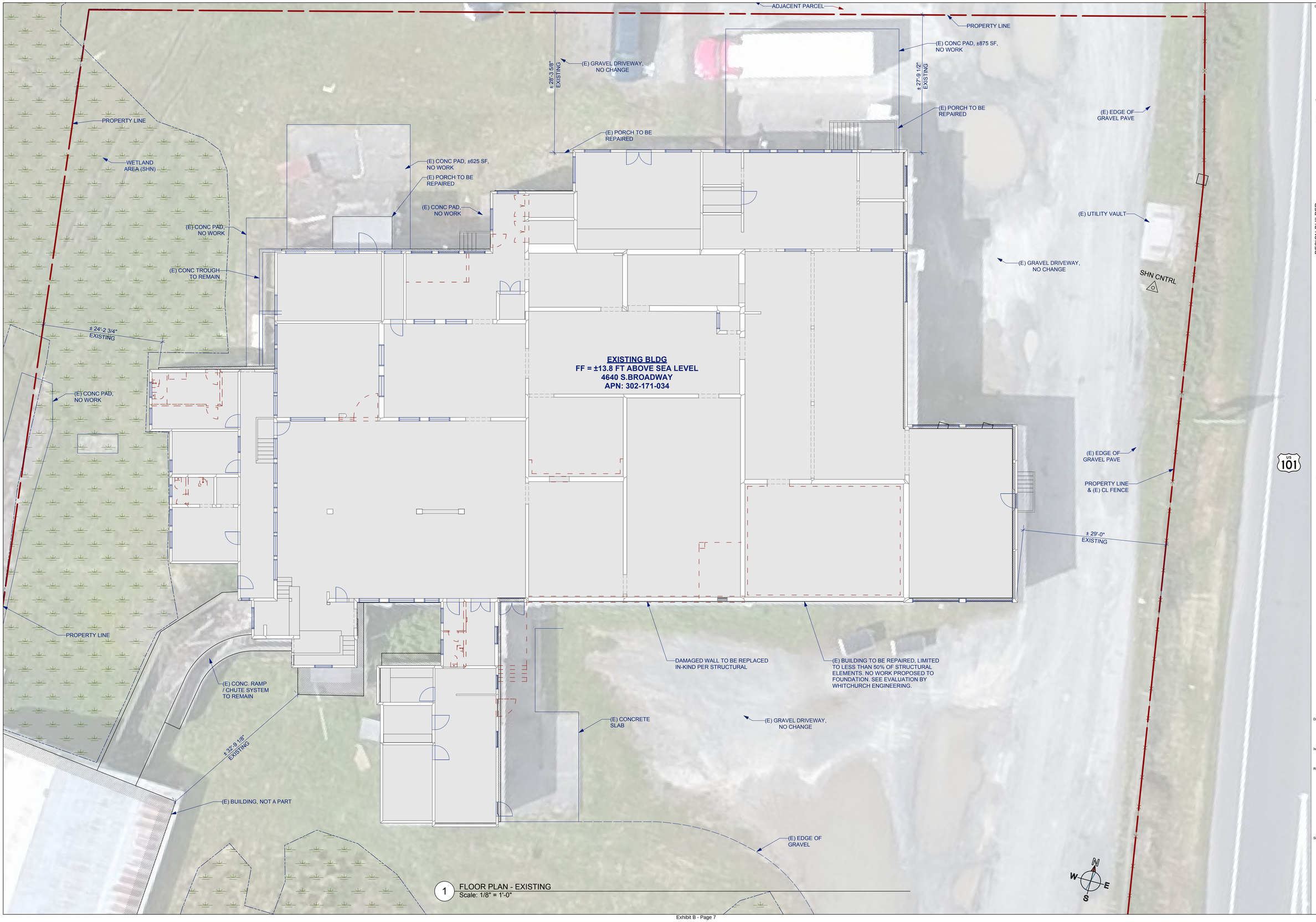
CONSTRUCTION PHASE MOBILIZATION PLAN

Drawing Status:
SCHEMATIC DESIGN
NOT FOR CONSTRUCTION

Issue Date:
10 MAR 2020

Revisions:

Sheet No.
A1.7



1 FLOOR PLAN - EXISTING
Scale: 1/8" = 1'-0"

COPYRIGHT, © 2020, ALL RIGHTS RESERVED

LICENSED ARCHITECT
GARRETT McSORLEY
NOT FOR CONSTRUCTION
C-33283
RENEWAL DATE:
30 SEPT 2021
STATE OF CALIFORNIA

McSORLEY ARCHITECTURE
garrett.mcsorley@gmail.com
PO Box 2472
McKinleyville, CA 95519
707.633.9283

DESIGN-BUILDER:
PIERSON COMPANY
1200 WEST HARRIS STREET
EUREKA, CA 95503
707-268-1800

OWNER / APPLICANT:
SD MANAGEMENT
PO BOX 1078
ARCATA, CA 95518
SALES@THESUPERDOPECOMPANY.COM

4640 SOUTH BROADWAY

EXISTING BLDG REPAIR & TENANT IMPROVEMENT

4640 SOUTH BROADWAY
EUREKA, CALIFORIA, 95503
ASSESSOR PARCEL NUMBER: **302-171-034**

FLOOR PLAN EXISTING

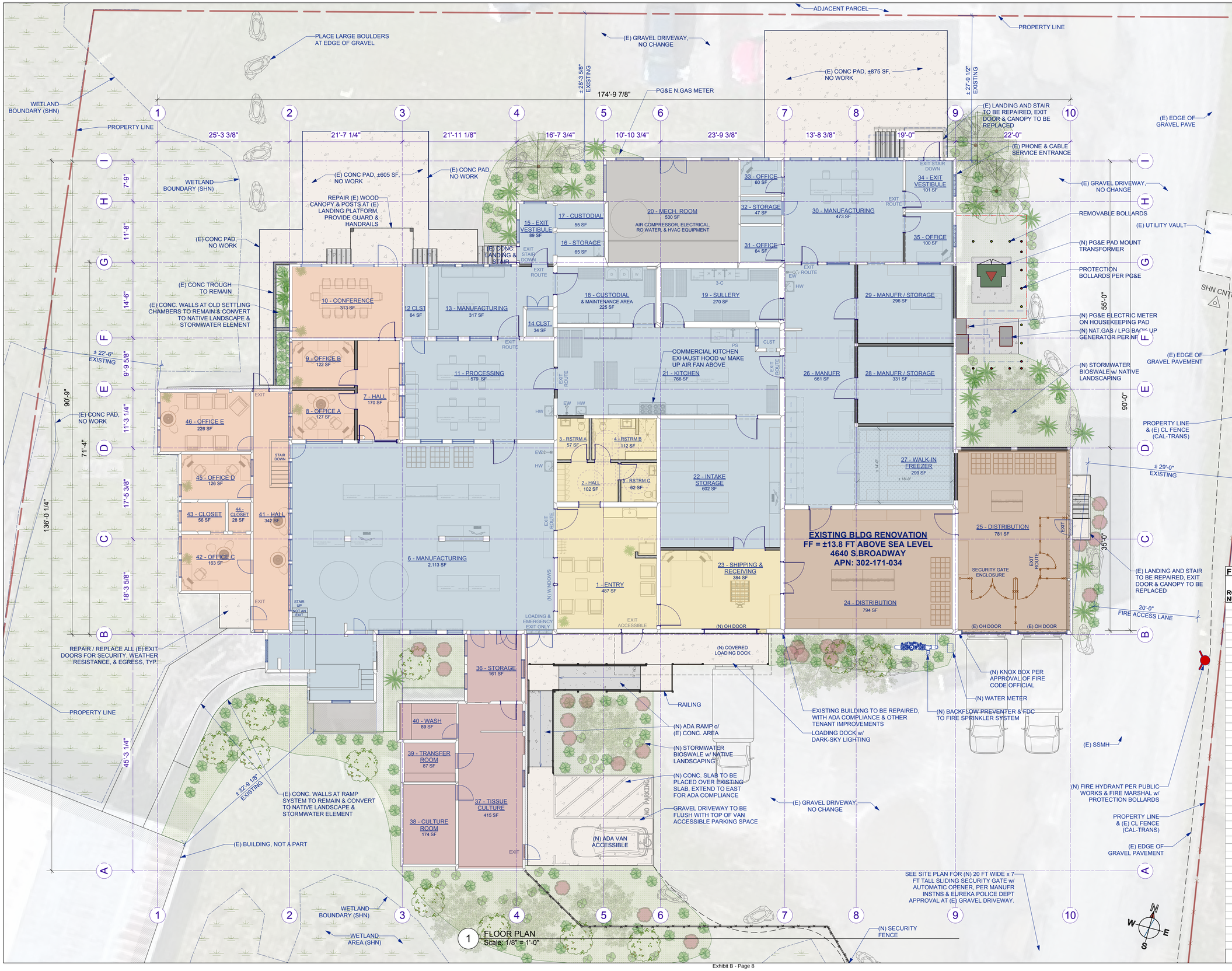
Drawing Status:
SCHEMATIC DESIGN
NOT FOR CONSTRUCTION

Issue Date:
10 MAR 2020

Revisions:

Sheet No.

A2.1



1 FLOOR PLAN
Scale: 1/8" = 1'-0"

FLOOR AREA SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR AREA (GROSS)	NOTES
1	ENTRY	487 SF	
2	HALL	102 SF	
3	RESTROOM A	57 SF	
4	RESTROOM B	112 SF	
5	RESTROOM C	62 SF	
6	MANUFACTURING	2,113 SF	
7	HALL	170 SF	
8	OFFICE A	127 SF	
9	OFFICE B	122 SF	
10	CONFERENCE	313 SF	
11	PROCESSING	570 SF	
12	CLOSET	64 SF	
13	MANUFACTURING	317 SF	
14	CLOSET	34 SF	
15	EXIT VESTIBULE	89 SF	
16	STORAGE	65 SF	
17	CUSTODIAL	55 SF	
18	CUSTODIAL	225 SF	
19	SCULLERY	270 SF	
20	MECHANICAL ROOM	530 SF	
21	KITCHEN	766 SF	
22	INTAKE STORAGE	602 SF	
23	SHIPPING & RECEIVING	384 SF	
24	DISTRIBUTION	794 SF	
25	DISTRIBUTION	781 SF	
26	MANUFACTURING	661 SF	
27	WALK IN FREEZER	299 SF	
28	MANUFR / STRG	331 SF	
29	MANUFR / STRG	296 SF	
30	MANUFACTURING	473 SF	
31	OFFICE	64 SF	
32	STORAGE	47 SF	
33	OFFICE	60 SF	
34	EXIT VESTIBULE	101 SF	
35	OFFICE	100 SF	
36	STORAGE	161 SF	
37	TISSUE CULTURE	415 SF	
38	CULTURE ROOM	174 SF	
39	TRANSFER ROOM	87 SF	
40	WASH	89 SF	
41	HALL	342 SF	
42	OFFICE C	163 SF	
43	CLOSET	56 SF	
44	CLOSET	28 SF	
45	OFFICE D	126 SF	
46	OFFICE E	226 SF	
	TOTAL APPROX. FLR AREA:	13,510 SF	

COPYRIGHT, © 2020, ALL RIGHTS RESERVED

LICENSED ARCHITECT
GARRETT McSORLEY
NOT FOR CONSTRUCTION
C-33283
RENEWAL DATE: 30 SEPT 2021
STATE OF CALIFORNIA

McSORLEY ARCHITECTURE
garrett.mcsorley@gmail.com
PO Box 2472
McKinleyville, CA 95519
707.633.9283

DESIGN-BUILDER:
PIERSON COMPANY
1200 WEST HARRIS STREET
EUREKA, CA 95503
707-268-1800

OWNER / APPLICANT:
SD MANAGEMENT
PO BOX 1078
ARCATA, CA 95518
SALES@THESUPERDOPECOMPANY.COM

4640 SOUTH BROADWAY
EXISTING BLDG REPAIR & TENANT IMPROVEMENT

4640 SOUTH BROADWAY
EUREKA, CALIFORIA, 95503
ASSESSOR PARCEL NUMBER: **302-171-034**

FLOOR PLAN PROPOSED

Drawing Status:
SCHEMATIC DESIGN
NOT FOR CONSTRUCTION

Issue Date:
10 MAR 2020

Revisions:

Sheet No.
A2.2

2 AERIAL PHOTOGRAPH - NORTH ELEVATION
NTS

(E) SKYLIGHTS TO BE REPLACED AND ROT DAMAGED ROOF DECKING AND BEAMS TO BE REPAIRED

PROVIDE (N) SKYLIGHT WHERE PREVIOUS SKYLIGHT WAS ABANDONED AND ROOFED OVER

WHERE ROOFING IS TO BE REPLACED, PROVIDE NEW PLYWOOD SHEATHING OVER (E) DECKING PRIOR TO INSTALLATION OF NEW ROOF, TYP.

REPLACE (E) COLUMN AT PORCH COVER

WHERE INDICATED ON PLANS, REPLACE WINDOWS PREVIOUSLY BOARDED OVER w/ (N) THERMALLY BROKEN ALUMINUM FRAME DUAL PANE WINDOW.

REMOVE OBSOLETE EQUIPMENT AND PROVIDE WEATHERPROOFING AT PENETRATIONS

REPLACE (E) OUTDOOR LIGHT WITH DARK SKY COMPLIANT LED w/ AUTOMATIC DIMMING WHEN SPACE IS VACANT, TYP.

(N) NATIVE LANDSCAPE BIOSWALE AREA, PER SITE PLAN

(E) ROOF DRAINAGE DOWNSPOUTS TO BE DIRECTED TO (N) NATIVE BIOSWALES WHERE INDICATED ON SITE PLAN. ENSURE NO STORMDRAINS CONNECT TO SANITARY SEWER, TO BE VERIFIED, TYP.

1 AERIAL PHOTOGRAPH - SOUTH ELEVATION
NTS

EXISTING LOADING DOCK

EXISTING CONCRETE PERIMETER FOUNDATION, REPLACE CRAWL SPACE VENTILATION SCREENS w/ (N) CORROSION RESISTANT AND SECURE LOUVERED & SCREENED VENTS

EXISTING EXTERIOR WALL AREA TO BE REPLACED IN-KIND FOR REPAIR OF ROT DAMAGED STRUCTURAL ELEMENTS. PROVIDE (N) SECURE ROLL UP DOOR AND CANOPY AT LOADING DOCK.

(N) ADA ACCESS RAMP TO ENTRANCE

(N) ADA PARKING SPACE

COPYRIGHT, © 2020, ALL RIGHTS RESERVED

LICENSED ARCHITECT
GARRETT McSORLEY
NOT FOR CONSTRUCTION
C-33283
RENEWAL DATE: 30 SEPT 2021
STATE OF CALIFORNIA

McSORLEY ARCHITECTURE
garrett.mcsorley@gmail.com
PO Box 2472
McKinleyville, CA 95519
707.633.9283

DESIGN-BUILDER:
PIERSON COMPANY
1200 WEST HARRIS STREET
EUREKA, CA 95503
707-268-1800

OWNER / APPLICANT:
SD MANAGEMENT
PO BOX 1078
ARCATA, CA 95518
SALES@THESUPERDOPECOMPANY.COM

4640 SOUTH BROADWAY
EXISTING BLDG REPAIR & TENANT IMPROVEMENT

4640 SOUTH BROADWAY
EUREKA, CALIFORIA, 95503
ASSESSOR PARCEL NUMBER: **302-171-034**

ELEVATION PHOTOGRAPHS N&S

Drawing Status:
SCHEMATIC DESIGN
NOT FOR CONSTRUCTION

Issue Date:
10 MAR 2020

Revisions:

Sheet No.
A3.1

IF ROOFING IS TO BE REPLACED, PROVIDE NEW PLYWOOD SHEATHING OVER (E) DECKING PRIOR TO INSTALLATION OF NEW ROOF, TYP.

REPLACE (E) OUTDOOR LIGHT WITH DARK SKY COMPLIANT LED w/ AUTOMATIC DIMMING WHEN SPACE IS VACANT, TYP.

REPLACE (E) COLUMN AT PORCH COVER

WHERE INDICATED ON PLANS, REPLACE WINDOWS PREVIOUSLY BOARDED OVER w/ (N) THERMALLY BROKEN ALUMINUM FRAME DUAL PANE WINDOW.

EXISTING CONCRETE PERIMETER FOUNDATION

LOCATION OF (N) PG&E PAD MOUNT TRANSFORMER AND MAIN SERVICE PANEL

2 AERIAL PHOTOGRAPH - EAST ELEVATION
NTS

REPLACE (E) WINDOWS PER PLAN, TYP.

REFURBISH SIDING, PROVIDE (N) WEATHER PROOFING AND PAINT, TYP.

1 AERIAL PHOTOGRAPH - WEST ELEVATION
NTS

COPYRIGHT, © 2020, ALL RIGHTS RESERVED

LICENSED ARCHITECT
GARRETT McSORLEY
NOT FOR CONSTRUCTION
C-33283
RENEWAL DATE: 30 SEPT 2021
STATE OF CALIFORNIA

McSORLEY ARCHITECTURE
garrett.mcsorley@gmail.com
PO Box 2472
McKinleyville, CA 95519
707.633.9283

DESIGN-BUILDER:
PIERSON COMPANY
1200 WEST HARRIS STREET
EUREKA, CA 95503
707-268-1800

OWNER / APPLICANT:
SD MANAGEMENT
PO BOX 1078
ARCATA, CA 95518
SALES@THESUPERDOPECOMPANY.COM

4640 SOUTH BROADWAY
EXISTING BLDG REPAIR & TENANT IMPROVEMENT

4640 SOUTH BROADWAY
EUREKA, CALIFORIA, 95503
ASSESSOR PARCEL NUMBER: **302-171-034**

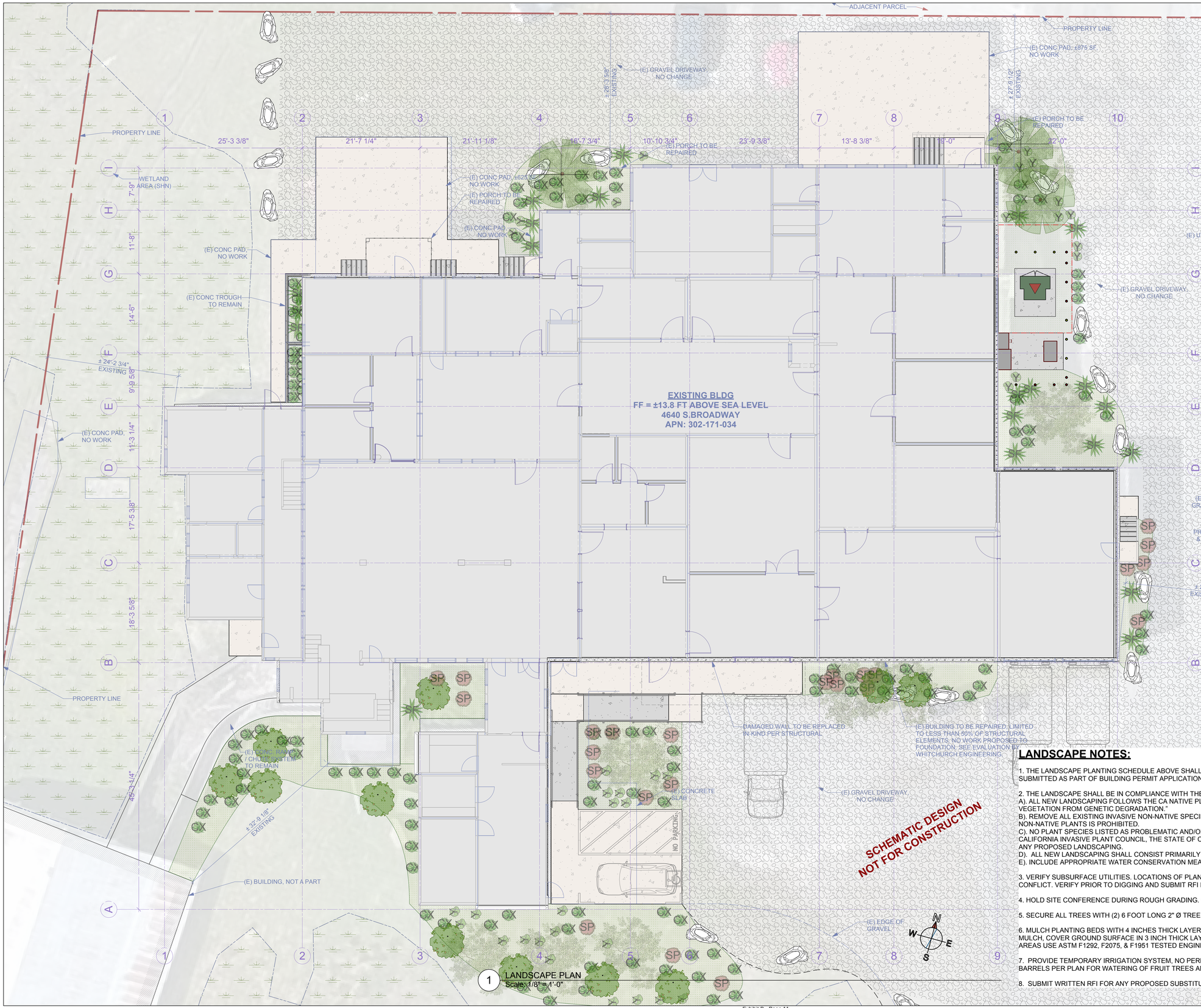
ELEVATION PHOTOGRAPHS E&W

Drawing Status:
SCHEMATIC DESIGN
NOT FOR CONSTRUCTION

Issue Date:
10 MAR 2020

Revisions:

Sheet No.
A3.2



1 LANDSCAPE PLAN
Scale: 1/8" = 1'-0"

LANDSCAPE SCHEDULE

ID	SCIENTIFIC	COMMON	POT	STATUS
DECIDUOUS TREES				
BM	*Acer macrophyllum*	Big Leaf Maple	5 gal	Native
AP	*Golden Delicious & Red Graverstein*	Apple, Varieties TBD	5 gal	Fruit
PL	*Proven Variety - TBD*	Plum, Varieties TBD	5 gal	Fruit
CONIFEROUS & EVERGREEN TREES				
SS	*Picea sitchensis*	Sitka Spruce	1 gal	Native
BP	*Pinus contorta ssp contorta*	Shore Pine	5 gal	Native
RD	*Sequoia sempervirens*	Coast Redwood	1 gal	Native
WX	*Myrica californica*	Wax Myrtle	5 gal	Native
DECIDUOUS SHRUBS				
RC	*Ribes sanguineum*	Red Flowering Currant	5 gal	Native
SW	*Salix lucida ssp. lasiandra*	Shining Willow	1 gal	Native
BB	*Vaccium Blueberry*	Blueberry	1 gal	Fruit
EVERGREEN SHRUBS				
CB	*Braccharis pilularis*	Coyote Brush	1 gal	Native
BK	*Archostaphylos uva-ursi*	Bear Berry Kinnickinick	1 gal	Native
HK	*Vaccium ovatum*	California Huckleberry	1 gal	Native
ST	*Garrya elliptica*	Silk Tassel	5 gal	Native
SL	*Gaultheria shallon*	Salal	1 gal	Native
RM	*Rosmarinus offcinalis*	Rosemary, 'Tuscan Blue'	1 gal	Culinary
HERBACEOUS / RUSH / SEDGE				
SR	*Juncus effusus var. brunneus*	Soft Rush	1 gal	Native
SL	*Juncus falcatus var. falcatus*	Sickleleaf Rush	1 gal	Native
SF	*Polystichum munitum*	Sword Fern	1 gal	Native
BR	*Scirpus acutus*	Hard-stemmed Bulrush	5 gal	Native
GRASSES / VINES / GROUNDCOVERS				
CY	*Achillea millefolium*	Common Yarrow	4"	Native
HS	*Lonicera hispidula*	Honeysuckle	1 gal	Native
CP	*Eschscholzia californica 'maritima'*	California Poppy	4"	Native
CL	*Trifolium microdon*	Clover	seed	Native
RF	*Festuca rubra*	Red Fescue (Humboldt)	plug	Native
PR	*Calamagrostis nutkaensis*	Pacific Reed-Grass	plug	Native
CS	*Fragaria chiloensis*	Coastal Strawberry	4"	Native
MULCH / GRAVEL				
-	Redwood Wood Mulch	Mulch 4" thick	Cover	N/A
-	Playground Woodchips (ASTM 1295)	12" thick	Cover	N/A
-	3/4 River Rock	3" thick	Cover	N/A
-	Washed Pea Gravel	3" thick	Cover	N/A

LANDSCAPE NOTES:

1. THE LANDSCAPE PLANTING SCHEDULE ABOVE SHALL BE UTILIZED FOR THE FINAL LANDSCAPE PLANTING PLAN TO BE SUBMITTED AS PART OF BUILDING PERMIT APPLICATION.

2. THE LANDSCAPE SHALL BE IN COMPLIANCE WITH THE APPROVED SPECIFICIATIONS, AS FOLLOWS:
A). ALL NEW LANDSCAPING FOLLOWS THE CA NATIVE PLANT SOCIETY "GUIDELINES FOR LANDSCAPING TO PROTECT NATIVE VEGETATION FROM GENETIC DEGRADATION."
B). REMOVE ALL EXISTING INVASIVE NON-NATIVE SPECIES PRIOR TO PLANTING. THE PLANTING OF ANY NEW INVASIVE NON-NATIVE PLANTS IS PROHIBITED.
C). NO PLANT SPECIES LISTED AS PROBLEMATIC AND/OR INVASIVE AND/OR AS A "NOXIOUS WEED" BY THE CNPS, THE CALIFORNIA INVASIVE PLANT COUNCIL, THE STATE OF CALIFORNIA, OR THE U.S. FEDERAL GOVERNMENT SHALL BE USED IN ANY PROPOSED LANDSCAPING.
D). ALL NEW LANDSCAPING SHALL CONSIST PRIMARILY OF NATIVE, REGIONALLY APPROPRIATE, DROUGHT-TOLERANT PLANTS
E). INCLUDE APPROPRIATE WATER CONSERVATION MEASURES . THERE WILL BE NO PERMANENT IRRIGATION SYSTEM AT ALL.

3. VERIFY SUBSURFACE UTILITIES. LOCATIONS OF PLANTS MAY NEED TO BE ADJUSTED BY CONTRACTOR IN ORDER TO AVOID CONFLICT. VERIFY PRIOR TO DIGGING AND SUBMIT RFI FOR APPROVAL OF ADJUSTMENTS.

4. HOLD SITE CONFERENCE DURING ROUGH GRADING. VERIFY FINISH GRADES PRIOR TO START OF PLANTING.

5. SECURE ALL TREES WITH (2) 6 FOOT LONG 2" Ø TREE STAKES w/ (2) RUBBER TIES.

6. MULCH PLANTING BEDS WITH 4 INCHES THICK LAYER OF SHREDDED REDWD BARK. IN SWALES, DO NOT USE BOUYANT MULCH, COVER GROUND SURFACE IN 3 INCH THICK LAYER OF <1/2" Ø WASHED RIVER ROCK OR PEA GRAVEL. IN PLAYSCAPE AREAS USE ASTM F1292, F2075, & F1951 TESTED ENGINEERED WOOD CHIPS.

7. PROVIDE TEMPORARY IRRIGATION SYSTEM, NO PERMANENT IRRIGATION TO BE INSTALLED. PROVIDE HOSE BIBS AND RAIN BARRELS PER PLAN FOR WATERING OF FRUIT TREES AND VEGETABLE GARDENS.

8. SUBMIT WRITTEN RFI FOR ANY PROPOSED SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN.

COPYRIGHT, © 2020, ALL RIGHTS RESERVED

LICENSED ARCHITECT
GARRETT McSORLEY
NOT FOR CONSTRUCTION
C-33283
RENEWAL DATE: 30 SEPT 2021
STATE OF CALIFORNIA

McSORLEY ARCHITECTURE
garrett.mcsorley@gmail.com
PO Box 2472
McKinleyville, CA 95519
707.633.9283

DESIGN-BUILDER:
PIERSON COMPANY
1200 WEST HARRIS STREET
EUREKA, CA 95503
707-268-1800

OWNER / APPLICANT:
SD MANAGEMENT
PO BOX 1078
ARCATA, CA 95518
SALES@THESUPERDOPECOMPANY.COM

4640 SOUTH BROADWAY
EXISTING BLDG REPAIR & TENANT IMPROVEMENT

4640 SOUTH BROADWAY
EUREKA, CALIFORNIA, 95503
ASSESSOR PARCEL NUMBER: **302-171-034**

LANDSCAPE PLAN

Drawing Status:
SCHEMATIC DESIGN
NOT FOR CONSTRUCTION

Issue Date:
10 MAR 2020

Revisions:

Sheet No.
L1.1

301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

APPLICABLE SCOPE

301.3 NONRESIDENTIAL ADDITIONS AND ALTERATIONS. [BSC] The provisions of individual sections of Chapter 5 apply to newly constructed buildings, building additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of $200,000 or above (for occupancies within the authority of California Building Standards Commission). Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

A code section will be designated by a banner to indicate where the code section only applies to newly constructed building [N] or to additions and alterations [A]. When the code section applies to both, no banner will be used.

301.3.1 Nonresidential additions and alterations that cause updates to plumbing fixtures only:

Note: On and after January 1, 2014, certain commercial real property, as defined in Civil Code Section 1101.3, shall have its noncompliant plumbing fixtures replaced with appropriate water-conserving plumbing fixtures under specific circumstances. See Civil Code Section 1101.1 *et seq.* for definitions, types of commercial real property affected, effective dates, circumstances necessitating replacement of noncompliant plumbing fixtures, and duties and responsibilities for ensuring compliance.

301.3.2 Waste Diversion. The requirements of Section 5.408 shall be required for additions and alterations whenever a permit is required for work.

N/A

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

N/A

SECTION 303 PHASED PROJECTS

303.1 Phased projects. For shell buildings and others constructed for future tenant improvements, only those code measures relevant to the building components and systems considered to be new construction (or newly constructed) shall apply.

303.1.1 Tenant improvements. The provisions of this code shall apply only to the initial tenant or occupant improvements to a project. Subsequent tenant improvements shall comply with the scoping provisions in Section 301.3 non-residential additions and alterations.

ABBREVIATION DEFINITIONS:

HCD	Department of Housing and Community Development
BSC	California Building Standards Commission
DSA-SS	Division of the State Architect, Structural Safety
OSHPD	Office of Statewide Health Planning and Development
LR	Low Rise
HR	High Rise
AA	Additions and Alterations
N	New

CHAPTER 5
NONRESIDENTIAL MANDATORY MEASURES

DIVISION 5.1 PLANNING AND DESIGN

SECTION 5.101 GENERAL

5.101.1 Scope
The provisions of this chapter outline planning, design and development methods that include environmentally responsible site selection, building design, building siting and development to protect, restore and enhance the environmental quality of the site and respect the integrity of adjacent properties.

SECTION 5.102 DEFINITIONS

5.102.1 DEFINITIONS
The following terms are defined in Chapter 2 *(and are included here for reference)*

CUTOFF LUMINAIRES. Luminaires whose light distribution is such that the candela per 1000 lamp lumens does not numerically exceed 25 (2.5 percent) at an angle of 90 degrees above nadir, and 100 (10 percent) at a vertical angle of 80 degrees above nadir. This applies to all lateral angles around the luminaire.

LOW-EMITTING AND FUEL EFFICIENT VEHICLES.
Eligible vehicles are limited to the following:

1. Zero emission vehicle (ZEV), including neighborhood electric vehicles (NEV), partial zero emission vehicle (PZEV), advanced technology PZEV (AT ZEV) or CNG fueled (original equipment manufacturer only) regulated under Health and Safety Code section 43800 and CCR, Title 13, Sections 1961 and 1962.
2. High-efficiency vehicles, regulated by U.S. EPA, bearing High-Occupancy Vehicle (HOV) car pool lane stickers issued by the Department of Motor Vehicles.

NEIGHBORHOOD ELECTRIC VEHICLE (NEV). A motor vehicle that meets the definition of "low-speed vehicle" either in Section 385.5 of the Vehicle Code or in 49CFR571.500 (as it existed on July 1, 2000), and is certified to zero-emission vehicle standards.

TENANT-OCCUPANTS. Building occupants who inhabit a building during its normal hours of operation as permanent occupants, such as employees, as distinguished from customers and other transient visitors.

VANPOOL VEHICLE. Eligible vehicles are limited to any motor vehicle, other than a motortruck or truck tractor, designed for carrying more than 10 but not more than 15 persons including the driver, which is maintained and used primarily for the nonprofit work-related transportation of adults for the purpose of ridesharing.

Note: Source: Vehicle Code, Division 1, Section 668

ZEV. Any vehicle certified to zero-emission standards.

N/A

SECTION 5.106 SITE DEVELOPMENT

5.106.1 STORM WATER POLLUTION PREVENTION. Newly constructed projects and additions which disturb less than one acre of land shall prevent the pollution of storm water runoff from the construction activities through one or more of the following measures:

COMPLY

5.106.1.1 Local ordinance. Comply with a lawfully enacted storm water management and/or erosion control ordinance.

5.106.1.2 Best Management Practices (BMP). Prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control and good housekeeping BMP.

1. Soil loss BMP that should be considered for each project include, but are not limited to, the following:
   a. Scheduling construction activity.
   b. Preservation of natural features, vegetation and soil.
   c. Drainage swales or lined ditches to control stormwater flow.
   d. Mulching or hydroseeding to stabilize disturbed soils.
   e. Erosion control to protect slopes.
   f. Protection of storm drain inlets (gravel bags or catch basin inserts).
   g. Perimeter sediment control (perimeter silt fence, fiber rolls).
   h. Sediment trap or sediment basin to retain sediment on site.
   i. Stabilized construction exits.
   j. Wind erosion control.
   k. Other soil loss BMP acceptable to the enforcing agency.
2. Good housekeeping BMP to manage construction equipment, materials and wastes that should be considered for implementation as appropriate for each project include, but are not limited to, the following:
   a. Material handling and waste management.
   b. Building materials stockpile management.
   c. Management of washout areas (concrete, paints, stucco, etc.).
   d. Control of vehicle/equipment fueling to contractor's staging area.
   e. Vehicle and equipment cleaning performed off site.
   f. Spill prevention and control.
   g. Other housekeeping BMP acceptable to the enforcing agency.

N/A

5.106.4 BICYCLE PARKING. For buildings within the authority of California Building Standards Commission as specified in Section 103, comply with Section 5.106.4.1. For buildings within the authority of the Division of the State Architect pursuant to Section 105, comply with Section 5.106.4.2

N/A

5.106.4.1 Bicycle parking. [BSC-CG] Comply with Sections 5.106.4.1.1 and 5.106.4.1.2; or meet the applicable local ordinance, whichever is stricter.

5.106.4.1.1 Short-term bicycle parking. If the project or an addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.
Exception: Additions or alterations which add nine or less visitor vehicular parking spaces.

5.106.4.1.2 Long-term bicycle parking. For new buildings with 10 or more tenant-occupants or for additions or alterations that add 10 or more tenant-occupants or for additions or alterations that add 10 or more tenant vehicular parking spaces, provide secure bicycle parking for 5 percent of the tenant vehicle parking spaces being added, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and shall meet one of the following:

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; or
3. Lockable, permanently anchored bicycle lockers.

Note: Additional information on recommended bicycle accommodations may be obtained from Sacramento Area Bicycle Advocates.

5.106.4.2 Bicycle parking. [DSA-SS] For public schools and community colleges, comply with Sections 5.106.4.2.1 and 5.106.4.2.2

5.106.4.2.1 Student bicycle parking. Provide permanently anchored bicycle racks conveniently accessed with a minimum of four two-bike capacity racks per new building.
5.106.4.2.2 Staff bicycle parking. Provide permanent, secure bicycle parking conveniently accessed with a minimum of two staff bicycle parking spaces per new building. Acceptable bicycle parking facilities shall be convenient from the street or staff parking area and shall meet one of the following:

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; or
3. Lockable, permanently anchored bicycle lockers.

N/A

5.106.5.2 DESIGNATED PARKING FOR CLEAN AIR VEHICLES. In new projects or additions or alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as follows:

TABLE 5.106.5.2 - PARKING

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0-9	0
10-25	1
25-50	3
51-75	6
76-100	8
101-150	11
151-200	16
201 AND OVER	AT LEAST 8% OF TOTAL

N/A

5.106.5.2.1 - Parking stall marking. Paint, in the paint used for stall striping, the following characters such that the lower edge of the last word aligns with the end of the stall striping and is visible beneath a parked vehicle: CLEAN AIR / VAN POOL / EV

Note: Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces.

5.106.5.3 Electric vehicle (EV) charging. [N] Construction shall comply with Section 5.106.5.3.1 or Section 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE). When EVSE(s) is/are installed, it shall be in accordance with the *California Building Code*, the California Energy Commission (CEC) and as follows:

5.106.5.3.1 Single charging space requirements. [N] When only a single charging space is required per Table 5.106.5.3.3, a raceway is required to be installed at the time of construction and shall be installed in accordance with the *California Electrical Code*. Construction plans and specifications shall include, but are not limited to, the following:

1. The type and location of the EVSE.
2. A listed raceway capable of accommodating a 208/240 -volt dedicated branch circuit.
3. The raceway shall not be less than trade size 1."
4. The raceway shall originate at a service panel or a subpanel serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and listed suitable cabinet, box, enclosure or equivalent.
5. The service panel or subpanel shall have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the future installation of the EVSE.

N/A

5.106.5.3 Electric vehicle (EV) charging. [N] Construction shall comply with Section 5.106.5.3.1 or Section 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE). When EVSE(s) is/are installed, it shall be in accordance with the *California Building Code*, the California Energy Commission (CEC) and as follows:

5.106.5.3.1 Single charging space requirements. [N] When only a single charging space is required per Table 5.106.5.3.3, a raceway is required to be installed at the time of construction and shall be installed in accordance with the *California Electrical Code*. Construction plans and specifications shall include, but are not limited to, the following:

1. The type and location of the EVSE.
2. A listed raceway capable of accommodating a 208/240 -volt dedicated branch circuit.
3. The raceway shall not be less than trade size 1."
4. The raceway shall originate at a service panel or a subpanel serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and listed suitable cabinet, box, enclosure or equivalent.
5. The service panel or subpanel shall have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the future installation of the EVSE.

N/A

5.106.5.3.2 Multiple charging space requirements. [N] When multiple charging spaces are required per Table 5.106.5.3.3 raceway(s) is/are required to be installed at the time of construction and shall be installed in accordance with the *California Electrical Code*. Construction plans and specifications shall include, but are not limited to, the following:

1. The type and location of the EVSE.
2. The raceway(s) shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and into listed suitable cabinet(s), box(es), enclosure(s) or equivalent.
3. Plan design shall be based upon 40-ampere minimum branch circuits.
4. Electrical calculations shall substantiate the design of the electrical system, to include the rating of equipment and any on-site distribution transformers and have sufficient capacity to simultaneously charge all required EVs at its full rated amperage.
5. The service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuit(s) for the future installation of the EVSE.

N/A

5.106.5.3.3 EV charging space calculations. [N] Table 5.106.5.3.3 shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE.

Exceptions: On a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure is not feasible based upon one or more of the following conditions:

1. Where there is insufficient electrical supply.
2. Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.

TABLE 5.106.5.3.3

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0-9	0
10-25	1
36-50	2
51-75	4
76-100	5
101-200	7
201 AND OVER	6% of total[1]

1. Calculation for spaces shall be rounded up to the nearest whole number.

5.106.5.3.4 [N] Identification. The service panel or subpanel(s) circuit directory shall identify the reserved overcurrent protective device space(s) for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".

5.106.5.3.5 [N] Future charging spaces qualify as designated parking as described in Section 5.106.5.2 Designated parking for clean air vehicles.
Notes:

1. The California Department of Transportation adopts and publishes the California Manual on Uniform Traffic Control Devices (California MUTCD) to provide uniform standards and specifications for all official traffic control devices in California. Zero Emission Vehicle Signs and Pavement Markings can be found in the New Policies & Directives number 13-01. www.dot.ca.gov/hq/traffops/policy/13-01.pdf.
2. See Vehicle Code Section 22511 for EV charging spaces signage in off-street parking facilities and for use of EV charging spaces.
3. The Governor's Office of Planning and Research published a Zero-Emission Vehicle Community Readiness Guidebook which provides helpful information for local governments, residents and businesses. www.opr.ca.gov/docs/ZEV_Guidebook.pdf.

N/A

5.106.8 LIGHT POLLUTION REDUCTION. [N] Outdoor lighting systems shall be designed and installed to comply with the following:

1. The minimum requirements in the California Energy Code for Lighting Zones 1-4 as defined in Chapter 10 of the California Administrative Code; and
2. Backlight, Uplight and Glare (BUG) ratings as defined in IES TM-15-11; and
3. Allowable BUG ratings not exceeding those shown in Table 5.106.8, or Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

Exceptions: [N]

1. Luminaires that qualify as exceptions in Section 140.7 of the California Energy Code.
2. Emergency lighting.
3. Building facade meeting the requirements in Table 140.7-B of the California Energy Code, Part 6.
4. Custom lighting features as allowed by the local enforcing agency, as permitted by Section 101.8 Alternate materials, designs and methods of construction.

Note: [N] See also California Building Code, Chapter 12, Section 1205.6 for college campus lighting requirements for parking facilities and walkways.

N/A

5.106.10 GRADING AND PAVING. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

1. Swales.
2. Water collection and disposal systems.
3. French drains.
4. Water retention gardens.
5. Other water measures which keep surface water away from buildings and aid in groundwater recharge.

Exception: Additions and alterations not altering the drainage path.

TABLE 5.106.8 [N] MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS [1,2]

ALLOWABLE RATING	LIGHTING ZONE 1	LIGHTING ZONE 2	LIGHTING ZONE 3	LIGHTING ZONE 4
MAXIMUM ALLOWABLE BACKLIGHT RATING [3]				
Luminaire greater than 2 mounting heights (MH) from property line	No Limit	No Limit	No Limit	No Limit
Luminaire back hemisphere is 1-2 MH from property line	B2	B3	B4	B4
Luminaire back hemisphere is 0.5-1 MH from property line	B1	B2	B3	B3
Luminaire back hemisphere is less than 0.5 MH from property line	B0	B0	B1	B2
MAXIMUM ALLOWABLE UPLIGHT RATING				
For area lighting [4]	U0	U0	U0	U0
For all other outdoor lighting,including decorative luminaires	U1	U2	U3	U4
MAXIMUM ALLOWABLE GLARE RATING [5]				
Luminaire greater than 2 MH from property line	G1	G2	G3	G4
Luminaire front hemisphere is 1-2 MH from property line	G0	G1	G1	G2
Luminaire front hemisphere is 0.5-1 MH from property line	G0	G0	G1	G1
Luminaire back hemisphere is less than 0.5 MH from property line	G0	G0	G0	G1

1. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the *California Energy Code* and Chapter 10 of the *California Administrative Code.*

2. For property lines that abut public walkways, bikeways, plazas and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.

3. If the nearest property line is less than or equal to two mounting heights from the back hemisphere of the luminaire distribution, the applicable reduced Backlight rating shall be met.

4. General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet these reduced ratings. Decorative luminaires located in these areas shall meet *U*-value limits for "all other outdoor lighting".

5. If the nearest property line is less than or equal to two mounting heights from the front hemisphere of the luminaire distribution, the applicable reduced Glare rating shall be met.

N/A

DIVISION 5.2 ENERGY EFFICIENCY

SECTION 5.201 GENERAL

5.201.1 Scope [BSC-CG]. *California Energy Code [DSA-SS]*. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.

DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION

SECTION 5.301 GENERAL

5.301.1 Scope. The provisions of this chapter shall establish the means of conserving water use indoors, outdoors and in wastewater conveyance.

SECTION 5.302 DEFINITIONS

5.302.1 Definitions. The following terms are defined in Chapter 2 *(and are included here for reference)*

EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETAF) [DSA-SS]. An adjustment factor when applied to reference evapotranspiration that adjusts for plant factors and irrigation efficiency, which ae two major influences on the amount of water that needs to be applied to the landscape.

FOOTPRINT AREA [DSA-SS]. The total area of the furthest exterior wall of the structure projected to natural grade, not including exterior areas such as stairs, covered walkways, patios and decks.

METERING FAUCET. A self-closing faucet that dispenses a specific volume of water for each actuation cycle. The volume or cycle duration can be fixed or adjustable.

GRAYWATER. Pursuant to Health and Safety Code Section 17922.12, "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" includes, but is not limited to wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines and laundry tubs, but does not include waste water from kitchen sinks or dishwashers.

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO). The California ordinance regulating landscape design, installation and maintenance practices that will ensure commercial, multifamily and other developer installed landscapes greater than 2500 square feet meet an irrigation water budget developed based on landscaped area and climatological parameters.

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO). [HCD] The California model ordinance (California Code of Regulations, Title 23, Division 2, Chapter 2.7), regulating landscape design, installation and maintenance practices. Local agencies are required to adopt the updated MWELO, or adopt a local ordinance at least as effective as the MWELO.

POTABLE WATER. Water that is drinkable and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards. See definition in the California Plumbing Code, Part 5.

N/A

SECTION 5.303 INDOOR WATER USE

5.303.1 METERS. Separate submeters or metering devices shall be installed for the uses described in Sections 503.1.1 and 503.1.2.

5.303.1.1 Buildings in excess of 50,000 square feet. Separate submeters shall be installed as follows:

1. For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day (380 L/day), including, but not limited to, spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.
2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:
   a. Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s).
   b. Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s).
   c. Steam and hot water boilers with energy input more than 500,000 Btu/h (147 kW).

5.303.1.2 Excess consumption. A separate submeter or metering device shall be provided for any tenant within a new building or within an addition that is projected to consume more than 1,000 gal/day.

OK

5.303.3 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:

(E) WC'S COMPLY

OK **5.303.3.1 Water Closets.** The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type toilets.

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

N/A **5.303.3.2 Urinals.** The effective flush volume of urinals shall not exceed 0.5 gallons per flush.

N/A

5.303.3.3 Showerheads.
5.303.3.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

5.303.3.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.

Note: A hand-held shower shall be considered a showerhead.

N/A

5.303.3.4 Faucets and fountains.

5.303.3.4.1 Nonresidential Lavatory faucets. Lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi.

5.303.3.4.2 Kitchen faucets. Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.

5.303.3.4.3 Wash fountains. Wash fountains shall have a maximum flow rate of not more than1.8 gallons per minute/20 [rim space (inches) at 60 psi].

5.303.3.4.4 Metering faucets. Metering faucets shall not deliver more than 0.20 gallons per cycle.

5.303.3.4.5 Metering faucets for wash fountains. Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per minute/20 [rim space (inches) at 60 psi].

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

5.303.4 COMMERCIAL KITCHEN EQUIPMENT.

N/A

5.303.4.1 Food Waste Disposers. Disposers shall either modulate the use of water to no more than 1 gpm when the disposer is not in use (not actively grinding food waste/no-load) or shall automatically shut off after no more than 10 minutes of inactivity. Disposers shall use no more than 8 gpm of water.

Note: This code section does not affect local jurisdiction authority to prohibit or require disposer installation.

N/A

5.303.5 AREAS OF ADDITION OR ALTERATION. For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Section 5.303.3 and 5.303.4 shall apply to new fixtures in additions or areas of alteration to the building.

5.303.6 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable standards referenced in Table 1701.1 of the *California Plumbing Code* and in Chapter 6 of this code.

N/A

SECTION 5.304 OUTDOOR WATER USE

5.304.1 SCOPE. The provisions of Section 5.304, Outdoor Water Use reference the mandatory Model Water Efficiency Landscape Ordinance (MWELO) contained within Chapter 2.7, Division 2, Title 23, California Code of Regulations.

5.304.2 OUTDOOR WATER USE IN LANDSCAPE AREAS EQUAL TO OR GREATER THAN 500 SQUARE FEET. When water is used for outdoor irrigation for new construction projects with an aggregate landscape area equal to or greater than 500 square feet requiring a building or landscape permit, plan check or design review, one of the following shall apply:

1. A local water efficient landscape ordinance that is, based on evidence in the record, at least as effective in conserving water as the updated model ordinance adopted by the Department of Water Resoures (DWR) per Government Code Section 65595(c).
2. The California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO) commencing with Section 490 of Chapter 2.7, Division 2, Title 23, California Code of Regulations.

N/A

5.304.3 OUTDOOR WATER USE IN REHABILITATED LANDSCAPE PROJECTS EQUAL TO OR GREATER THAN 2,500 SQUARE FEET. Rehabilitated landscape project with an aggregate landscape area equal to or greater than 2.500 square feet requiring a building or landscape permit, plan check, or design review shall comply with Section 5.304.2, Item 1 or 2.

5.304.4 OUTDOOR WATER USE IN LANDSCAPE AREAS OF 2,500 SQUARE FEET OR LESS. Any project with an aggregate area of 2,500 square feet of less may comply with the performance requirements of MWELO or conform to the prescriptive compliance measures contained in MWELO's Appendix D.

5.304.5 GRAYWATER OR RAINWATER USE IN LANDSCAPE AREAS. For projects using treated or untreated graywater or rainwater captured on site, any lot or parcel within the project that has less than 2,500 square feet of landscape and meets the lot or parcel's landscape water requirement (Estimate Total Water Use) entirely with treated or untreated graywater or through stored rainwater captured on site is subject only to Appendix D Section (5).

Notes:
1. DWR's Model Water Efficient Landscape Ordinance, definitions and supporting documents are available at the following link: http://water.ca.gov/wateruseefficiency/landscapeordinance/
2. A water budget calculator is available at the following link: http://water.ca.gov/wateruseefficiency/landscapeordinance/
3. The MWELO prescriptive compliance measure Appendix D may be found at the following link: http://water.ca.gov/wateruseefficiency/landscapeordinance/
In addition, a copy of MWELO Appendix D may be found in Chapter 8 of this code.

N/A

5.304.6 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS [DSA-SS]. For public schools and community colleges, landscape projects as described in Sections 5.304.6.1 and 5.304.6.2 shall comply with the California Department of Water Resoucres Model Water Efficient Landscape Ordinance (MWELO) commencing with Section 490 of Chapter 2.7, Division 2, Title 23, California Code of Regulations, except that the evapotranspiration adjustment factor (ETAF) shall be 0.65 with an additional water allowance for special landscape areas (SLA) of 0.35.

Exception: Any project with an aggregate landscape area of 2,500 square feet or less may comply with the prescriptive measures contained in Appendix D of MWELO.

5.304.6.1 Newly constructed landscapes. [DSA-SS] New construction projects with an aggregate landscape area equal to or greater than 500 square feet.

5.304.6.2 Rehabilitated landscapes. [DSA-SS] Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 1,200 square feet.

N/A

5.304.3 IRRIGATION DESIGN. In new nonresidential construction with at least 1,000 but not more than 2,500 square feet of cumulative landscaped area (the level at which the MWELO applies), install irrigation controllers and sensors which include the following criteria, and meet manufacturer's recommendations.

5.304.3.1 Irrigation controllers. Automatic irrigation system controllers installed at the time of final inspection shall comply with the following:

1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.
2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.

Note: More information regarding irrigation controller function and specifications is available from the Irrigation Association.

DIVISION 5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

SECTION 5.401 GENERAL

5.401.1 SCOPE. The provisions of this chapter shall outline means of achieving material conservation and resource efficiency through protection of buildings from exterior moisture, construction waste diversion, employment of techniques to reduce pollution through recycling of materials, and building commissioning or testing and adjusting.

SECTION 5.402 DEFINITIONS

5.402.1 DEFINITIONS. The following terms are defined in Chapter 2 *(and are included here for reference)*

ADJUST. To regulate fluid flow rate and air patterns at the terminal equipment, such as to reduce fan speed or adjust a damper.

BALANCE. To proportion flows within the distribution system, including sub-mains, branches and terminals, according to design quantities.

BUILDING COMMISSIONING. A systematic quality assurance process that spans the entire design and construction process, including verifying and documenting that building systems and components are planned, designed, installed, tested, operated and maintained to meet the owner's project requirements.

ORGANIC WASTE. Food waste, green waste, landscape and pruning wste, nonhazardous wood waste, and food soiled paper waste that is mixed in with food waste.

TEST. A procedure to determine quantitative performance of a system or equipment

N/A

SECTION 5.407 WATER RESISTANCE AND MOISTURE MANAGEMENT

5.407.1 WEATHER PROTECTION. Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1403.2 (Weather Protection) and California Energy Code Section 150, (Mandatory Features and Devices), manufacturer's installation instructions or local ordinance, whichever is more stringent.

N/A

5.407.2 MOISTURE CONTROL. Employ moisture control measures by the following methods.

5.407.2.1 Sprinklers. Design and maintain landscape irrigation systems to prevent spray on structures.

N/A

5.407.2.2 Entries and openings. Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings as follows:

5.407.2.2.1 Exterior door protection. Primary exterior entries shall be covered to prevent water intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following:

1. An installed awning at least 4 feet in depth.
2. The door is protected by a roof overhang at least 4 feet in depth.
3. The door is recessed at least 4 feet.
4. Other methods which provide equivalent protection.

5.407.2.2.2 Flashing. Install flashings integrated with a drainage plane.

SECTION 5.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

COMPLY

5.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65% of the non-hazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.

5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan that:

1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale.
2. Determines if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).
3. Identifies diversion facilities where construction and demolition waste material collected will be taken.
4. Specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 65% minimum requirement as approved by the enforcing agency.

5.408.1.4 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Sections 5.408.1.1, through 5.408.1.3. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.

Notes:

1. Sample forms found in "A Guide to the California Green Building Standards Code (Nonresidential)" located at www.bsc.ca.gov/Home/CALGreen.aspx may be used to assist in documenting compliance with the waste management plan.
2. Mixed construction and demolition debris processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

COMPLY

5.408.2 UNIVERSAL WASTE. [A] Additions and alterations to a building or tenant space that meet the scoping provisions in Section 301.3 for nonresidential additions and alterations, shall require verification that Universal Waste items such as fluorescent lamps and ballast and mercury containing thermostats as well as other California prohibited Universal Waste materials are disposed of properly and are diverted from landfills. A list of prohibited Universal Waste materials shall be included in the construction documents.

Note: Refer to the Universal Waste Rule link at:
http://www.dtsc.ca.gov/LawsRegsPolicies/Regs/upload/OEAR-A_REGS_UWR_FinalText.pdf

N/A

5.408.3 EXCAVATED SOIL AND LAND CLEARING DEBRIS. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed.

Exception: Reuse, either on or off-site, of vegetation or soil contaminated by disease or pest infestation.

Notes:

1. If contamination by disease or pest infestation is suspected, contact the County Agricultural Commissioner and follow its direction for recycling or disposal of the material.
2. For a map of know pest and/or disease quarantine zones, consult with the California Department of Food and Agriculture. (www.cdfa.ca.gov)

COMPLY

SECTION 5.410 BUILDING MAINTENANCE AND OPERATIONS

5.410.1 RECYCLING BY OCCUPANTS. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive.

N/A

Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code 42649.82 (a)(2)(A) et seq. shall also be exempt from the organic waste portion of this section.

5.410.1.1 Additions. All additions conducted within a 12-month period under single or multiple permits, resulting in an increase of 30% or more in floor area, shall provide recycling areas on site.

Exception: Additions within a tenant space resulting in less than a 30% increase in the tenant space floor area.

5.410.1.2 Sample ordinance. Space allocation for recycling areas shall comply with Chapter 18, Part 3, Division 30 of the *Public Resources Code*. Chapter 18 is known as the California Solid Waste Reuse and Recycling Access Act of 1991 (Act).

Note: A sample ordinance for use by local agencies may be found in Appendix A of the document at the CalRecycle's web site.

N/A

5.410.2 COMMISSIONING. [N] For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. All occupancies other than I-occupancies and L-occupancies shall comply with the California Energy Code as prescribed in California Energy Code Section 120.8. For I-occupancies that are not regulated by OSHPD or for I-occupancies and L-occupancies that are not regulated by the California Energy Code Section 100.0 Scope, all requirements in Sections 5.410.2 through 5.410.2.6 shall apply.

Commissioning requirements shall include:

1. Owner's or Owner representative's project requirements.
2. Basis of design.
3. Commissioning measures shown in the construction documents.
4. Commissioning plan.
5. Functional performance testing.
6. Documentation and training.
7. Commissioning report.

Exceptions:

1. Unconditioned warehouses of any size.
2. Areas less than 10,000 square feet used for offices or other conditioned accessory spaces within unconditioned warehouses.
3. Tenant improvements less than 10,000 square feet as described in Section 303.1.1.
4. Open parking garages of any size, or open parking garage areas, of any size, within a structure.

Note: For the purposes of this section, unconditioned shall mean a building, area, or room which does not provide heating and or air conditioning.

Informational Notes:

1. IAS AC 476 is an accreditation criteria for organizations providing training and/or certification of commissioning personnel. AC 476 is available to the Authority Having Jurisdiction as a reference for qualifications of commissioning personnel. AC 476 des not certify individuals to conduct functional performance tests or to adjust and balance systems.
2. Functional performance testing for heating, ventilation, air conditioning systems and lighting controls must be performed in compliance with the *California Energy Code.*

N/A

5.410.2.1 Owner's or Owner Representative's Project Requirements (OPR). [N] The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. This documentation shall include the following:
1. Environmental and sustainability goals.
2. Energy efficiency goals.
3. Indoor environmental quality requirements.
4. Project program, including facility functions and hours of operation, and need for after hours operation.
5. Equipment and systems expectations.
6. Building occupant and operation and maintenance (O&M) personnel expectations.

5.410.2.2 Basis of Design (BOD). [N] A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project. The Basis of Design document shall cover the following systems:

1. Heating, ventilation, air conditioning (HVAC) systems and controls.
2. Indoor lighting system and controls.
3. Water heating system.
4. Renewable energy systems.
6. Water reuse systems.

N/A

5.410.2.3 Commissioning plan. [N] Prior to permit issuance a commissioning plan shall be completed to document how the project will be commissioned. The commissioning plan shall include the following:
1. General project information.
2. Commissioning goals.
3. Systems to be commissioned. Plans to test systems and components shall include:
   a. An explanation of the original design intent.
   b. Equipment and systems to be tested, including the extent of tests.
   c. Functions to be tested.
   d. Conditions under which the test shall be performed.
   e. Measurable criteria for acceptable performance.
4. Commissioning team information.
5. Commissioning process activities, schedules and responsibilities. Plans for the completion of commissioning shall be included.

N/A

5.410.2.4 Functional performance testing. [N] Functional performance tests shall demonstrate the correct installation and operation of each component, system and system-to-system interface in accordance with the approved plans and specifications. Functional performance testing reports shall contain information addressing each of the building components tested, the testing methods utilized, and include any readings and adjustments made.

N/A

5.410.2.5 Documentation and training. [N] A Systems Manual and Systems Operations Training are required, including Occupational Safety and Health Act (OSHA) requirements in *California Code of Regulations* (CCR), Title 8, Section 5142, and other related regulations.

N/A

5.410.2.5.1 Systems manual. [N] Documentation of the operational aspects of the building shall be completed within the systems manual and delivered to the building owner or representative. The systems manual shall include the following:
1. Site information, including facility description, history and current requirements.
2. Site contact information.
3. Basic operations and maintenance, including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log.
4. Major systems.
5. Site equipment inventory and maintenance notes.
6. A copy of verifications required by the enforcing agency or this code.
7. Other resources and documentation, if applicable.

N/A

5.410.2.5.2 Systems operations training. [N] A program for training of the appropriate maintenance staff for each equipment type and/or system shall be developed and documented in the commissioning report and shall include the following:
1. System/equipment overview (what it is, what it does and with what other systems and/or equipment it interfaces).
2. Review and demonstration of servicing/preventive maintenance.
3. Review of the information in the Systems Manual.
4. Review of the record drawings on the system/equipment.

N/A

5.410.2.6 Commissioning report. [N] A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative.

N/A

5.410.4 TESTING AND ADJUSTING. Testing and adjusting of systems shall be required for buildings less than 10,000 square feet or new systems to serve an addition or alteration subject to Section 303.1.

5.410.4.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include at a minimum, as applicable to the project:

1. HVAC systems and controls.
2. Indoor and outdoor lighting and controls.
3. Water heating systems.
4. Renewable energy systems.
5. Landscape irrigation systems.
6. Water reuse systems.

5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with manufacturer's specifications and applicable standards on each system.

5.410.4.3.1 HVAC balancing. In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, the system shall be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards; the National Environmental Balancing Bureau Procedural Standards; Associated Air Balance Council National Standards or as approved by the enforcing agency.

5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.

5.410.4.5 Operation and maintenance (O & M) manual. Provide the building owner or representative with detailed operating and maintenance instructions and copies of guaranties/warranties for each system. O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related regulations.

5.410.4.5.1 Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.

DIVISION 5.5 ENVIRONMENTAL QUALITY

SECTION 5.501 GENERAL

5.501.1 SCOPE. The provisions of this chapter shall outline means of reducing the quantity of air contaminants that are odorous, irritating, and/or harmful to the comfort and well-being of a building's installers, occupants and neighbors.

SECTION 5.504 POLLUTANT CONTROL

N/A

5.504.1 TEMPORARY VENTILATION. The permanent HVAC system shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992 Replace all filters immediately prior to occupancy, or, if the building is occupied during alteration, at the conclusion of construction.

N/A

5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation, or during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may collect in the system.

COMPLY

5.504.4 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.6.

5.504.4.1 Adhesives, sealants and caulks. Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards:
1. Adhesives, adhesive bonding primers adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products as specified in subsection 2, below.

2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with Section 94507.

TABLE 5.504.4.1 - ADHESIVE VOC LIMIT[1,2]

Less Water and Less Exempt Compounds in Grams per Liter

ARCHITECTURAL APPLICATIONS	CURRENT VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	50
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVES	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT SPECIFICALLY LISTED	50
SPECIALTY APPLICATIONS	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168, www.arb.ca.gov/DRDB/SC/CURHTML/R1168.PDF

TABLE 5.504.4.2 - SEALANT VOC LIMIT

Less Water and Less Exempt Compounds in Grams per Liter

SEALANTS	CURRENT VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NONPOROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

NOTE: FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THESE TABLES, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

COMPLY

5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36 and 4.37 of the 2007 California Air Resources Board Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

5.504.4.3.1 Aerosol Paints and coatings. Aerosol paints and coatings shall meet the PWMIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(c)(2) and (d)(2) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.

TABLE 5.504.4.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2,3]

GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS

COATING CATEGORY	CURRENT VOC LIMIT
FLAT COATINGS	50
NONFLAT COATINGS	100
NONFLAT HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH-TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS[1]	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS:	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.

N/A

TABLE 5.504.4.5 - FORMALDEHYDE LIMITS[1]

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

PRODUCT	CURRENT LIMIT
HARDWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BOARD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD[2]	0.13

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIFORNIA CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.

2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16 INCHES (8 MM).

N/A

5.504.4.6 Resilient flooring systems. For 80 percent of floor area receiving resilient flooring, installed resilient flooring shall meet at least one of the following:

1. Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program;
2. Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health's 2010 Standard Method for the Testing and Evaluation Chambers, Version 1.1, February 2010;
3. Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for EQ 7. and EQ 7.1 (formerly EQ 2.2) dated July 2012 and listed in the CHPS High Performance Product DataBase; or
4. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools Program).

5.504.4.6.1 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.

N/A

5.504.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a Minimum Efficiency Reporting Value (MERV) of 8. MERV 8 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

Exceptions:

1. An ASHRAE 10% to 15% efficiency filter shall be permitted for an HVAC unit meeting the 2013 California Energy Code having 60,000 Btu/h or less capacity per fan coil, if the energy use of the air delivery system is 0.4 W/cfm or less at design air flow.
2. Existing mechanical equipment.

N/A

5.504.7 ENVIRONMENTAL TOBACCO SMOKE (ETS) CONTROL. Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and within the building as already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent. When ordinances, regulations or policies are not in place, post signage to inform building occupants of the prohibitions.

N/A

SECTION 5.505 INDOOR MOISTURE CONTROL

5.505.1 INDOOR MOISTURE CONTROL. Buildings shall meet or exceed the provisions of *California Building Code*, CCR, Title 24, Part 2, Sections 1203 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures not applicable to low-rise residential occupancies, see Section 5.407.2 of this code.

SECTION 5.506 INDOOR AIR QUALITY

5.506.1 OUTSIDE AIR DELIVERY. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 (Requirements For Ventilation) of the *California Energy Code*, or the applicable local code, whichever is more stringent, and Division 1, Chapter 4 of CCR, Title 8.

N/A

5.506.2 CARBON DIOXIDE (CO_2) MONITORING. For buildings or additions equipped with demand control ventilation, CO_2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, Section 120(c)(4).

SECTION 5.507 ENVIRONMENTAL COMFORT

5.507.4 ACOUSTICAL CONTROL. Employ building assemblies and components with Sound Transmission Class (STC) values determined in accordance with ASTM E 90 and ASTM E 413, or Outdoor-Indoor Sound Transmission Class (OITC) determined in accordance with ASTM E 1332, using either the prescriptive or performance method in Section 5.507.4.1 or 5.507.4.2.

N/A

Exception: Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings.

Exception: [DSA-SS] For public schools and community colleges, the requirements of this section and all subsections apply only to new construction.

N/A

5.507.4.1 Exterior noise transmission, prescriptive method. Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

1. Within the 65 CNEL noise contour of an airport.

   Exceptions:

   a. L_{dn} or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICUZ) plan.
   b. L_{dn} or CNEL for other airports and heliports for which a land use plan has not been developed shall be determined by the local general plan noise element.

2. Within the 65 CNEL or L_{dn} noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway source as determined by the Noise Element of the General Plan.

N/A

5.507.4.1.1. Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB L_{eq} - 1-hr during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).

N/A

5.507.4.2 Performance Method. For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq-1Hr) of 50 dBA in occupied areas during any hour of operation.

5.507.4.2.1 Site Features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the building, addition or alteration project to mitigate sound migration to the interior.

5.507.4.2.2 Documentation of Compliance. An acoustical analysis documenting complying interior soundlevels shall be prepared by personnel approved by the architect or engineer of record.

5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.

Note: Examples of assemblies and their various STC ratings may be found at the California Office of Noise Control: www.toolbase.org/PDF/CaseStudies/stc_icc_ratings.pdf.

N/A

SECTION 5.508 OUTDOOR AIR QUALITY

5.508.1 Ozone depletion and greenhouse gas reductions. Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.

5.508.1.1 Chlorofluorocarbons (CFCs). Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs.

5.508.1.2 Halons. Install HVAC, refrigeration and fire suppression equipment that do not contain Halons.

Exception: Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (CO_2), and potentially other refrigerants.

5.508.2.1 Refrigerant piping. Piping compliant with the California Mechanical Code shall be installed to be accessible for leak protection and repairs. Piping runs using threaded pipe, copper tubing with an outside diameter (OD) less than 1/4 inch, flared tubing connections and short radius elbows shall not be used in refrigerant systems except as noted below.

5.508.2.1.1 Threaded pipe. Threaded connections are permitted at the compressor rack.

5.508.2.1.2 Copper pipe. Copper tubing with an OD less than 1/4 inch may be used in systems with a refrigerant charge of 5 pounds or less.

5.508.2.1.2.1 Anchorage. One-fouth-inch OD tubing shall be securely clamped to a rigid base to keep vibration levels below 8 mils.

5.508.2.1.3 Flared tubing connections. Double-flared tubing connections may be used for pressure controls, valve pilot lines and oil.

Exception: Single-flared tubing connections may be used with a multiring seal coated with industrial sealant suitable for use with refrigerants and tightened in accordance with manufacturer's recommendations.

5.508.2.1.4 Elbows. Short radius elbows are only permitted where space limitations prohibit use of long radius elbows.

5.508.2.2 Valves. Valves Valves and fittings shall comply with the *California Mechanical Code* and as follows.

5.508.2.2.1 Pressure relief valves. For vessels containing high-GWP refrigerant, a rupture disc shall be installed between the outlet of the vessel and the inlet of the pressure relief valve.

5.508.2.2.1.1 Pressure detection. A pressure gauge, pressure transducer or other device shall be installed in the space between the rupture disc and the relief valve inlet to indicate a disc rupture or discharge of the relief valve.

5.508.2.2.2 Access valves. Only Schrader access valves with a brass or steel body are permitted for use.

5.508.2.2.2.1 Valve caps. For systems with a refrigerant charge of 5 pounds or more, valve caps shall be brass or steel and not plastic.

5.508.2.2.2.2 Seal caps. If designed for it, the cap shall have a neoprene O-ring in place.

5.508.2.2.2.2.1 Chain tethers. Chain tethers to fit ovr the stem are required for valves designed to have seal caps.

Exception: Valves with seal caps that are not removed from the valve during stem operation.

5.508.2.3 Refrigerated service cases. Refrigerated service cases holding food products containing vinegar and salt shall have evaporator coils of corrosion-reistant material, such as stainless steel; or be coated to prevent corrosion from these substances.

5.508.2.3.1 Coil coating. Consideration shall be given to the heat transfer efficiency of coil coating to maximize energy efficiency.

5.508.2.4 Refrigerant receivers. Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device tha indicates the level of refrigerant in the receiver.

5.508.2.5 Pressure testing. The system shall be pressure tested during installation prior to evacuation and charging.

5.508.2.5.1 Minimum pressure. The system shall be charged with regulated dry nitrogen and appropriate tracer gas to bring system pressure up to 300 psig minimum.

5.508.2.5.2 Leaks. Check the system for leaks, repair any leaks, and retest for pressure using the same gauge.

5.508.2.5.3 Allowable pressure change. The system shall stand, unaltered, for 24 hours with no more than a +/- one pound pressure change from 300 psig, measured with the same gauge.

5.508.2.6 Evacuation. The system shall be evacuated after pressure testing and prior to charging.

5.508.2.6.1 First vacuum. Pull a system vacuum down to at least 1000 microns (+/- 50 microns), and hold for 30 minutes.

5.508.2.6.2 Second vacuum. Pull a second system vacuum to a minimum of 500 microns and hold for 30 minutes.

5.508.2.6.3 Third vacuum. Pull a third vacuum down to a minimum of 300 microns, and hold for 24 hours with a maximum drift of 100 microns over a 24-hour period.

INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

N/A

702 QUALIFICATIONS
702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems.
703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

COPYRIGHT, © 2020, ALL RIGHTS RESERVED

LICENSED ARCHITECT
GARRETT McSORLEY
NOT FOR CONSTRUCTION
C-33283
RENEWAL DATE: 30 SEPT 2021
STATE OF CALIFORNIA

McSORLEY ARCHITECTURE
garrett.mcsorley@gmail.com
PO Box 2472
McKinleyville, CA 95519
707.633.9283

DESIGN-BUILDER:
PIERSON COMPANY
1200 WEST HARRIS STREET
EUREKA, CA 95503
707-268-1800

OWNER / APPLICANT:
SD MANAGEMENT
PO BOX 1078
ARCATA, CA 95518
SALES@THESUPERDOPECOMPANY.COM

4640 SOUTH BROADWAY
EXISTING BLDG REPAIR & TENANT IMPROVEMENT

4640 SOUTH BROADWAY
EUREKA, CALIFORIA, 95503
ASSESSOR PARCEL NUMBER: **302-171-034**

CAL GREEN

Drawing Status:
SCHEMATIC DESIGN
NOT FOR CONSTRUCTION

Issue Date:
10 MAR 2020

Revisions:

Sheet No.
G1.1

WHITCHURCH ENGINEERING

610 9th Street
Fortuna, CA 95540
Phone: (707) 725-6926

September 10, 2019

ATTN: Pierson Company
c/o Greg Pierson
1200 W. Harris
Eureka, CA 95503

RE: Damage Assessment of Existing Building
4640 Broadway Street
Eureka, CA 95503
APN: 302-171-034

Dear Mr. Pierson, JN: PIE1901

Per your request, I performed a site visit on August 30th, 2019 at the above referenced location. The purpose of the visit was to assess the existing structure and identify the structural elements that have been compromised by weather deterioration and need to be repaired. Per our conversation the structure is to be retained and will be remodeled and upgraded.

The existing building is a one story, wood framed structure, with the majority of the floor being a raised slab supported by wood joists. It is a post and pier foundation in most interior locations and supported by strip footings with concrete stem walls on the exterior and in some interior locations. The structure includes a partial basement level with concrete walls. The wood framed roof bears on timber stud walls throughout the structure which are supported by strip footings with concrete stem walls. The roof is not sheathed with structural panels.

During my assessment your crews were available to remove finishes so that I could examine the structural elements. Ladders and lighting were also provided by your staff.

Assessment Findings

Foundation

Our understanding is that existing stucco/plaster on interior wall surfaces is to be removed and replaced with a modern finish, such as gypsum board. The new finish is expected to be lighter, therefore will decrease the overall weight of the building. From our on-site visual inspection, the existing concrete foundation stem walls did not appear to have signs of detrimental wear or damage. An SHN report, Existing Foundation Assessment of Structure at 4640 Broadway dated March 14th, 2019, noted the presence of reinforcing bars at various locations along the foundation and took core samples that found the concrete to meet or exceed the minimum of 3,000 psi compressive strength for commercial use. Based on our visual inspection and SHN's report, the existing stem walls, post and piers, and girders may be suitable to use without upgrade. Foundation elements should be re-inspected during replacement of subfloor.

Floor

In all areas where the slab supporting structure was observed I witnessed considerable damage. Between room 103 and 104, the wall at its base was completely rotten. The damaged continued past the slab into the slabs' supporting sheathing and joist system. See attached existing floor plan by Kitahara Enterprises for location of observed floor damage (FD). In room 111 where an access hole was cut, I was able to get under the floor system. The floor system is 2 ½" of concrete on top of wood floor sheathing on top of double full dimension 2X8's floor joist at 16" oc (in other locations it was single full dimension 2X8's at 8" oc). The floor joists were supported by full dimension 4X10's girders supported by post and pier on the interior and the perimeter footing at the exterior (See attached sketch – Detail 1). Some interior support elements are strip footings with concrete stem walls. In all areas that I observed the floor system with concrete on wood, the wood sheathing and floor joist were severely damaged. The girders and the post and piers were in good shape with no signs of damage or settlement.

The wood floor at the north end of the structure did not have obvious signs of damage and should be able to remain.

Roof

The roof structure was visible in many locations and appeared in good shape. In the Refrigeration room (111), it appeared that the roof had some damage to its supporting beams and possible roof structure. However, after further examination, this damage was part of the ceiling system used for processing by the meat company and was not part of the roof. After we cut through the ceiling, I assessed the roof system. Its roof rafters and roof sheathing appeared to be in good condition. I would recommend removing the ceiling structure and adding plywood sheathing to the entire roof. The only noticeable roof damage was observed in room 118 where a skylight assembly had leaked and caused water damage. This is noted as RS on Kitahara's plan. This area needs to be repaired in kind.

To maintain the integrity of the roof system I recommend that the roof be tarped to get through the winter to prevent damage.

Exterior Walls

The southern wall adjoining rooms 104, 111 and 116 is completely rotten at its base and has detached in some locations from the perimeter concrete wall. I recommend replacing this wall in its entirety. In other locations where the damage was not obvious PICO's crew removed the stucco interior finish in select locations (spot check) to expose the exterior wall condition. Most of these exposures showed walls that were usable. The west wall, next to room 121 did show some damage and I recommend replacing this wall. Damaged walls that I observed are noted as WD on Kitahara's plans.

It is my understanding that the interior stucco finish will be removed during the remodel process. I recommend that I inspect the exterior walls during this process.

Interior Walls

Some of the interior walls are bearing walls and thus are structural. The PICO crew did the "spot check" method described above and found the majority of the interior walls to be in good condition. The one exception was the walls around the refrigeration room. The interior walls in rooms 103, 104, 111, 115 and 116 showed damage. Some of these walls had diagonal sheathing which suggests that they are shear walls. The diagonal sheathing along with the studs was completely rotten. I assumed this localized damage was because of the refrigeration activities. Damaged interior walls that I observed are noted as WD on Kitahra's plans.

Similarly, to the exterior walls I recommend that I inspect all interior walls during the remodeling work after the stucco finish is removed.

Repair vs Alteration

The California Existing Building Code (CEBC) 2016 describes the difference between repair and alterations to an existing building. Alterations to an existing building can be made with no upgrade if the gravity load carry system is not reduced in strength or has additional load added to it more than 5%. Likewise, no upgrade is required if the lateral load system is not reduced in strength or has additional load added to it of more than 10%. The work I am describing is a repair not an alteration.

The CEBC describes repairs as following:

Section 404.2

A building that has sustained substantial structural damage to the vertical elements of its lateral force-resisting system shall be evaluated and repaired in accordance with the applicable provisions of Sections 404.2.1 through 404.2.3

Substantial Structural Damage Definition:

1. In any story, the vertical elements of the lateral force-resisting system have suffered damage such that the lateral load-carrying capacity of the structure in any horizontal direction has been reduced by more than 33 percent from its pre-damage condition.
2. The capacity of any vertical gravity load-carrying component, or any group of such components, that supports more than 30 percent of the total area of the structure's floor(s) and roof(s) has been reduced more than 20 percent from its pre-damage condition and the remaining capacity of such affected elements, with respect to all dead and live loads, is less than 75 percent of that required by this code for new buildings of similar structure, purpose, and location.

Section 404.2.1 Evaluation

The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the building official. The evaluation shall establish whether the damaged building, if repaired to its pre-damage state would comply with the provisions of the CBC for wind and earthquake loads.

Section 404.2.3 Extent of repair for non-compliant buildings

Wind loads for this evaluation shall be prescribed in Section 1609 of California Building Code. Earthquake loads for this evaluation, if required, shall be permitted to be 75 percent of those prescribed in Section 1613 of the California Building Code.

As the building is not occupied, I believe the evaluation described in section 404.2.1 is not required. The damage will be repaired as part of the remodel process. This report is not an evaluation as required in CEBC section 404.2.1 for substantial damaged structures.

Repair Strategy

The remodel strategy of removing the concrete floor and the interior stucco will greatly reduce the loads on the structure. The existing concrete floor, which has a dead load of approximately 40 pounds per square foot (PSF), will be reduced to about 10 psf if the replacement floor is a plywood subfloor system over timber floor joists. Similarly, replacing the stucco/plaster interior finish, which has a dead weight of 8-10 psf, with ½" ply and 5/8" gyp will reduce the weight to 4.3 psf. This reduction in dead weight will greatly reduce the seismic load.

The lateral force resisting systems can be included as part of the remodel. I recommend that the entire roof be sheathed with plywood. This will give the building a substantial horizontal diaphragm to transfer lateral loads to the shear walls. As the finishes are removed to expose studs, plywood can be added to exterior walls and some interior walls to act as shear walls. Also, the concrete floor is being removed which will adequately expose the wall to the perimeter footing connection detail. This detail can be easily upgraded to provide shear transfer to the foundation. All of the structural detailing will be provided once I perform a lateral analysis and design.

Report Limitations

This report is based on a one time two-hour walk through with spot checking of structural systems. Whitchurch Engineering is not responsible for any missed damaged elements. If this report is to be used in additional reports or correspondence to governing agencies, financial institutions or any other stakeholders, I will need to be consulted to ensure my findings are accurately represented.

Thank you for the opportunity to be part of this project and I look forward to working with you and the team on the remodel. Please do not hesitate to contact me if you have any questions or comments.

Sincerely,

Leonard Whitchurch, M.S., P.E.
Vice President and Principal Engineer
RCE# 52920

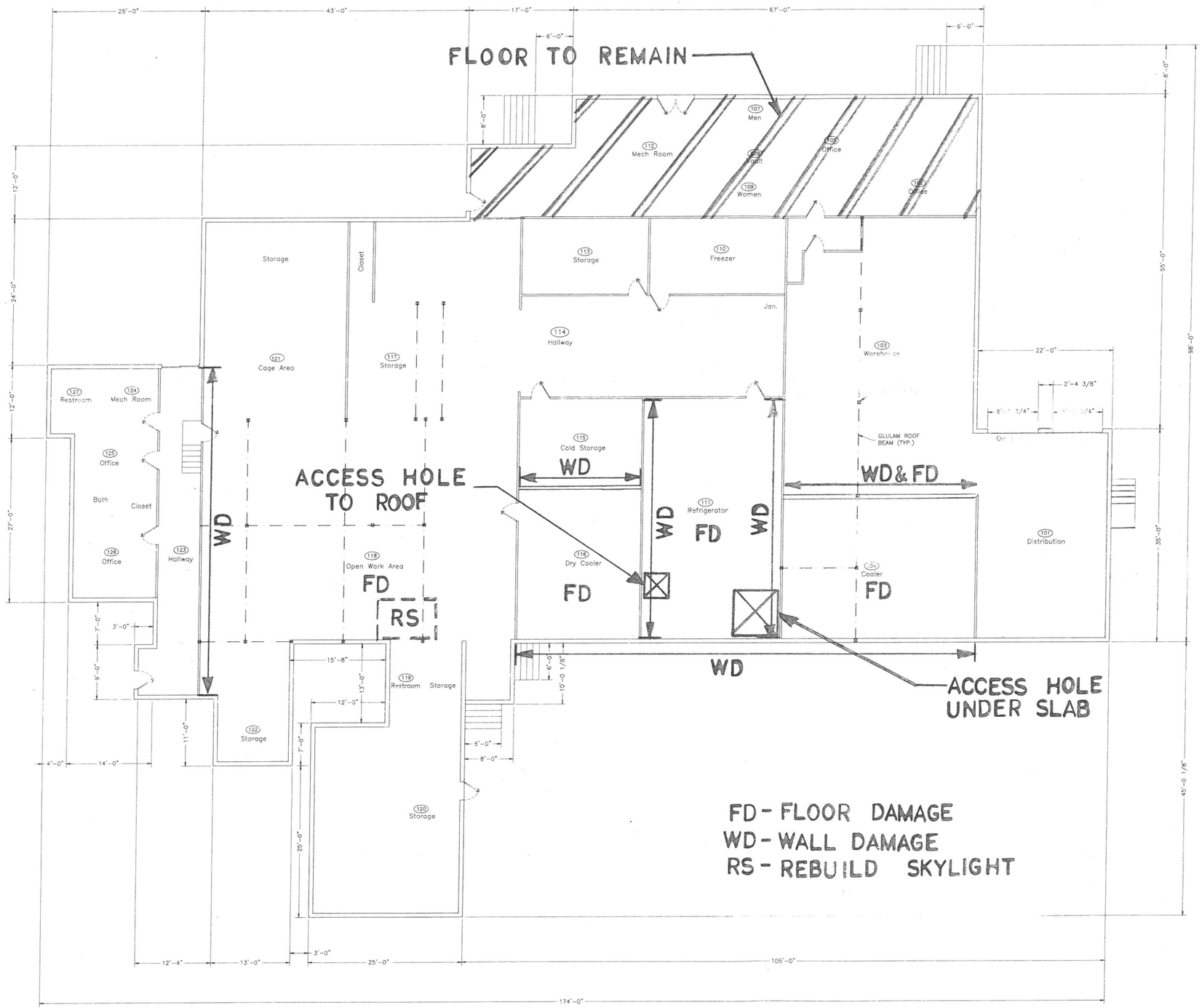
REGISTERED PROFESSIONAL ENGINEER
THOMAS LEONARD WHITCHURCH
NO. 52920
CIVIL
STATE OF CALIFORNIA

Attachments

- Existing Floor Plan by Kitahara

- Detail 1 <E> floor support

TLW



FLOOR PLAN

1/8"=1'-0"

KITAHARA ENTERPRISES
Computer Aided Drafting
610 9th Street Fortuna, California 95540
E-mail guy@kitaharaenterprises.com Phone (707) 725-1966

REVISIONS

NO.	DATE	BY	DESCRIPTION	CONST.
1	7-10-19		ROT DAMAGE	

PROJECT NAME

PRELIMINARY FLOOR PLAN
4640 BROADWAY, EUREKA, CA. 95503

APN: 302-171-034

DRAWING TITLE

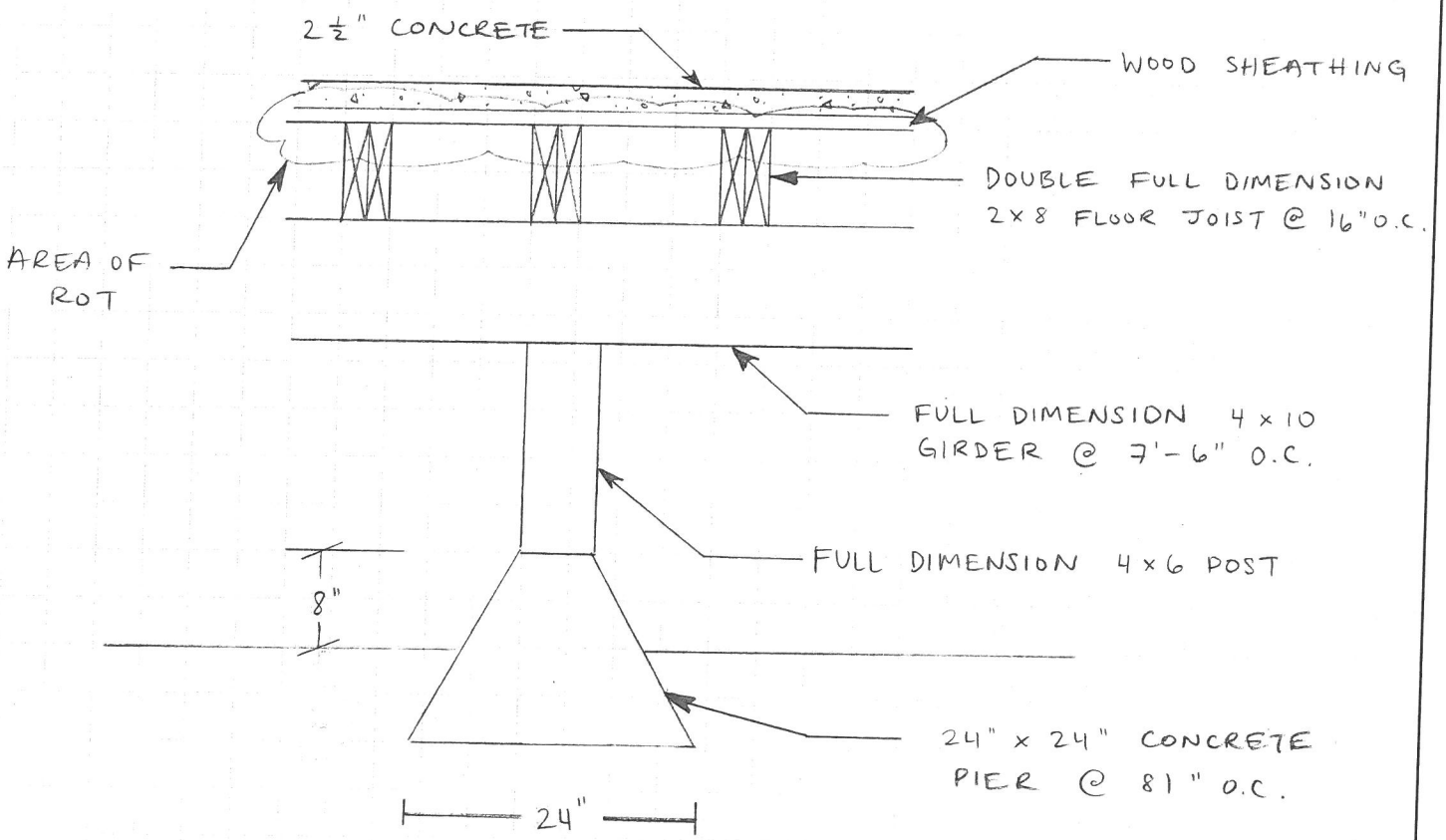
EXISTING FLOOR PLAN

Pierson Company 1200 Harris St, Eureka, CA. 95503 (707) 268-1800

DATE: JUN 11 '18
DRAWN BY: GKK
JOB NO: 18028
SCALE: AS NOTED
DRAWING NO. 1

WHITCHURCH ENGINEERING
Building Design
Civil & Structural Engineering
610 9th STREET
FORTUNA, CALIFORNIA 95540
(707) 725-6926 FAX (707) 725-2959

JOB 4640 BROADWAY EUREKA
ELEMENT <E> FLOOR DETAIL
SHEET NO. 1 OF 1
CALCULATED BY RAO DATE 9-9-19
CHECKED BY TLW JN P1E1901



DETAIL 1

<E> FLOOR SUPPORT

March 5, 2020

REPAIR ESTIMATE

Project Address: 4640 S.Broadway, Eureka, CA,
APN: 302-171-034

The following cost estimates were prepared in order to determine what percentage cost the proposed repairs would be as compared to the repair or replacement of the entire 13,384 SF structure. These figures are based on the scope of repairs identified by Whitchurch Engineering Inc. as described in their Damage Assessment of Existing Building at 4640 Broadway Street, dated September 10, 2019.

The analysis is limited to the major structural systems including removal, repair, replacement, or other alterations to the foundation, floor framing system, exterior walls, and roof framing systems. The extents of scope for the proposed repair is consistent with the area and lengths of structural systems in the enclosed Calculation By Length and Area, page 4. The cost estimates on pages 2 and 3 are calculated using the proprietary construction cost index RSMeans ®, which provides unit, assembly, and square foot price data that is adjusted for project location and industry trends. These costs represent an estimate for planning purposes only and may change based on the final engineering, approved construction documents, escalation, and construction market bidding conditions.

Summary:
Estimated cost for proposed structural repairs: $ 193,157.53 (Approx. $14.43 / SF)
Estimated cost to repair entire structure: $1,962,342.52 (Approx. $146.62 / SF)
Percent of structure proposed to be replaced, by cost: **9.84%**

Findings:
Based on measurements of length, area, and estimated cost of construction, the proposed repairs to the structural systems is less than the 50% threshold per Section 13252(b) of the Commission's administrative regulations.

Garrett McSorley
CA Licensed Architect
C-33283
PO Box 2472
McKinleyville, CA 95519

ESTIMATED COST FOR PROPOSED STRUCTURAL REPAIRS:

RSMeans data from GORDIAN

Welcome Garrett

(/SearchData)

Cost Data .....Assemblies | Type Assembly | Labor Type Open Shop | Location EUREKA (955)

Release Year 2011

Search What are you searching for? All Search Include My Custom Data

Estimate Action Select From List

4640 Broadway - Repair

Page 1 of 1

Qty	Assembly Number	Description	Unit	Extended Material O8	Extended Installation	Extended Total O&P
8699.000	B10102619999	Floor, Demolition and disposal of existing floor joists and	S.F.	$2,174.75	$21,747.50	$23,922.25
12044.000	B10102612900	Floor, Subfloor 1-1/8" plywood decking	S.F.	$27,219.44	$14,452.80	$41,672.24
8699.000	B10102612900	Floor, wood joist, 2 x 8 @12" O.C. plus misc. wood blocki	S.F.	$16,180.14	$33,665.13	$49,845.27
2008.000	B10102613300	Roof, decking, 3x DF to replace in-kind	S.F.	$10,160.48	$7,489.84	$17,650.32
669.000	B10102619999	Roof, Demolition of existing roof beams, framing, and de	S.F.	$334.50	$1,672.50	$2,007.00
80.000	B10102613300	Roof, Wood beams 8x12 DF#2, by length	L.F.	$1,345.60	$912.00	$2,257.60
669.000	B10102613750	Roof, Wood joist, 2 x 12 @16" O.C.	S.F.	$2,341.50	$3,391.83	$5,733.33
3546.000	B10102619999	Wall, Demolition and disposal of existing exterior wood fr	S.F.	$1,773.00	$8,865.00	$10,638.00
3546.000	B20101483400	Wall, Exterior assembly, 2"x6" studs 16"OC, batt insulatic	S.F.	$16,134.30	$23,297.22	$39,431.52
Return To	**Estimate List**			**$77,663.71**	**$115,493.82**	**$193,157.53**

ESTIMATED COST TO REPAIR ENTIRE STRUCTURE:

RSMeans data from GORDIAN

Welcome Garrett

(/SearchData)

Cost Data .....Assemblies | Type Assembly | Labor Type Open Shop | Location EUREKA (955)

Release Year 2011

Search What are you searching for? All Search Include My Custom Data

Estimate Action Select From List

4640 Broadway - Repair

Page 1 of 1

Qty	Assembly Number	Description	Unit	Extended Material O&	Extended Installation	Extended Total O&P
13384.00	B10102619999	Floor, Demolition and disposal of existing floor joists and	S.F.	$3,346.00	$33,460.00	$36,806.00
1750.00	B10102613300	Floor, Posts & Girders 8x12 DF#2, by length	L.F.	$29,435.00	$56,000.00	$85,435.00
13384.00	B10102612900	Floor, Subfloor 1-1/8" plywood decking	S.F.	$30,247.84	$16,060.80	$46,308.64
13384.00	B10102612900	Floor, wood joist, 2 x 8 @12" O.C. plus misc. wood blocki	S.F.	$24,894.24	$51,796.08	$76,690.32
1458.00	A10101102900	Foundation, Concrete stem wall foundation, 8" wall w/ de	L.F.	$535,552.56	$273,068.82	$808,621.38
1458.00	A10101102300	Foundation, Demolition and removal of existing concrete	L.F.	$2,449.44	$101,316.42	$103,765.86
30.00	A10102102210	Foundation, Pier pad footings, 4' - 0" square x 24" deep	Ea.	$65,986.50	$85,365.00	$151,351.50
13384.00	B10102613300	Roof, decking, 3x DF to replace in-kind	S.F.	$67,723.04	$49,922.32	$117,645.36
13384.00	B10102619999	Roof, Demolition of existing roof beams, framing, and de	S.F.	$6,692.00	$33,460.00	$40,152.00
365.00	B10102613300	Roof, Wood beams 8x12 DF#2, by length	L.F.	$6,139.30	$4,161.00	$10,300.30
13384.00	B10102613750	Roof, Wood joist, 2 x 12 @16" O.C.	S.F.	$46,844.00	$67,856.88	$114,700.88
26244.00	B10102619999	Wall, Demolition and disposal of existing exterior wood fr	S.F.	$13,122.00	$65,610.00	$78,732.00
26244.00	B20101483400	Wall, Exterior assembly, 2"x6" studs 16"OC, batt insulatio	S.F.	$119,410.20	$172,423.08	$291,833.28
Return To	**Estimate List**			**$951,842.12**	**$1,010,500.40**	**$1,962,342.52**

PROPOSED REPAIRS BY LENGTH & AREA:

4640 S.Broadway, Eureka, CA 95501
APN: 302-171-034
EXISTING BUILDING REPAIR & MAINTENANCE CALCULATION - BY LENGTH & AREA
March 3, 2020

This calculation is based on the proposed alterations (including demolition, renovation or replacement) of major structural components, including exterior walls, floor, roof structure, and foundation.
The below analysis is based on the Architect's on-site investigation, review of Structural Engineer's Assessment of Damage (Exhibit P), and coordination with the General Contractor. Calculations are based on linear feet and/or square footage. Wall, floor, and roof assemblies each include multiple parts. Based on the evaluation, where exterior wall assemblies are altered, the entire assembly is replaced, so breaking down the percentage of individual wall components (studs, sill plates, beams, sheathing) is not necessary. However, in the floor and roof assemblies certain components may be altered but not others (e.g. joists but not girders). In order to account for this, the components are weighted by their relative value as a percentage of the overall floor or roof framing system.

Exterior Wall Cladding and Framing Systems Altered (By Linear Length of Wall):

Including wood wall framing system, studs, beams, and sheathing.

Total Exterior Walls:	1,458	LF
Exterior Walls to be Replaced:	197	LF
% Exterior Walls to be Replaced:	13.5%	
% Exterior Walls needing reinforcement:	None	

Floor Framing Systems Altered (By Area):

Including floor framing posts, girders, joists, and decking.

	Component % of overall Floor Assembly:			Weighted % of overall Floor Assembly Altered:
Total Floor Area:	100.0%	13,384	SF	-
Floor Posts & Girders to be Replaced:	41.3%	0	SF	0.0%
Floor Joists to be Replaced:	35.3%	8,699	SF	22.9%
Floor Decking to be Replaced:	23.4%	12,044	SF	21.1%
% Total Floor Framing Systems to be Replaced:				44.0%

Roof Framing Systems Altered (By Area):

Including roof beams, joists, and decking.

	Component % of overall Roof Assembly:			Weighted % of overall Roof Assembly Altered:
Total Roof Area:	100.0%	13,384	SF	-
Roof Joists & Beams to be Replaced	66.5%	669	SF	3.3%
Roof Decking to be Replaced	33.5%	2,008	SF	5.0%
% Total Roof Framing Systems to be Replaced:				8.4%

Foundation Systems Altered (By Linear Feet of Stem Wall & Each Pier Pad):

Total Perimeter Concrete Stem Wall & Footing:	1458	LF
Concrete Stem Wall & Ftg to be Replaced:	0	LF
% Concrete Stem Wall & Footings to be Replaced:	0%	
Total Isolated Concrete Pier Pads:	30	EA
Isolated Concrete Pier Pads to be Replaced:	0	EA
% Isolated Concrete Pier Pads to be Replaced:	0%	

812 W. Wabash Avenue, Eureka, CA 95501-2138 707-441-8855
Civil Engineering, Environmental Services, Geosciences, Planning & Permitting, Surveying

Reference: 018056

March 14, 2019

Mr. Kyle Dixon
P.O. Box 1078
Arcata, CA 95518

Subject: Existing Foundation Assessment of Structure at 4640 Broadway

Mr. Dixon,

SHN has reviewed the available plan of the structure at 4640 Broadway. We have cored and tested the existing concrete and used ground penetrating radar to locate rebar in the foundation. Based on the review of the plans, it is evident that this building has had multiple additions, as the plans provided do not match the current building footprint. This observation is further seen when looking at the features of the foundations. There are at least three different sections of concrete foundations visible on the exterior of the building.

SHN has collected samples of the concrete, by means of core drilling, in all three areas. These samples were then tested to determine the concrete compressive strength. It was determined that all sections of the foundations meet or exceed the current building code requirement of a minimum of 3,000 psi compressive strength. Attached are the lab results from the compressive testing.

Further assessment of the foundation was done using ground penetrating radar to determine the location of rebar in the foundation. The results are as follows:

- North side of building towards the west end: Rebar found at a depth of approximately 5 inches with vertical spacing at 19 inches on center and horizontal spacing at 12 to 18 inches on center
- North side of building towards the east end: Rebar found at 2 inches deep with vertical spacing at 18 inches on center and horizontal spacing at 19 inches on center
- East side of building at the north end: Two horizontal bars with no vertical bars; a depth was not determined
- East side of the building consisting of the loading docks: Two horizontal bars spaced at 9 inches on center and vertical bars spaced at 12 inches on center
- South side east of the loading dock section to the east end: Horizontal bars are at the top and bottom of the vent cutouts, with 12 inches on center horizontal spacing between the cutouts, and 18- to 20-inch spacing for vertical bars

Based on the compressive strength test results, the confirmation of rebar, and the visual appearance of the concrete, it is SHN's determination that this foundation would continue to function as the support for a light framed single-story structure. Uses of light industrial or commercial loading, excluding heavy warehouse loading, would be acceptable. The addition of anchor bolts for seismic hold-downs could be added to this foundation. If a metal building were to be built on top of this foundation, it is recommended to demo the stem wall at column foundation locations and cast in a new column base foundation with dowels tying into the existing stem walls.

Sincerely,

SHN

Gregory Hufford, PE
Senior Civil Engineer

GNH:ame

Appendices: 1. Concrete Compressive Strength Results

812 W. Wabash Ave., Eureka, CA 95501-2138 707-441-8855
Civil Engineering, Environmental Services, Geosciences, Planning & Permitting, Surveying

Date: 11/14/18

COMPRESSION TEST RESULTS (ASTM C42)

To: Kyle Dixon
P.O. Box 1078
Arcata, CA 95518

Project #: 018056
Project: SD Management

			Result	Spec.
Panel Prepared By:	Unknown	**Slump (inches):**	--	--
Date/Time Cast:		**Air Temp. (F):**	--	40 min.
Date Cored:	11/8/18	**Mix Temp. (F):**	--	90 max.
Cored By:	AC	**Air Content (%):**	--	--
Weather:	Sunny	**Unit Weight (pcf):**	--	--
Sample Location:	Building Stemwall	**Storage Hi/Lo (F):**	--	80/60

Specimen No.:	C6979A	C6979B	C6979C	C6979D
Date Tested:	11/14/18	11/14/18	11/14/18	11/14/18
Sample Length (inches):	7.48	7.34	7.41	7.42
Sample Diameter (inches):	3.71	3.70	3.70	3.70
Area (square inches):	10.81	10.75	10.75	10.75
Ultimate Load (lbs):	48,540	74,560	58,600	61,600
Comp. Strength (psi):	4,490	6,930	5,450	5,730
L/D Correction Factor:	1.00	1.00	1.00	1.00
Corrected Comp. Strength (psi):	4,490	6,930	5,450	5,730
Type of Fracture:	3	2	3	4
Tested By:	ESP	ESP	ESP	ESP

Average Strength: **5,650 psi**

cc:

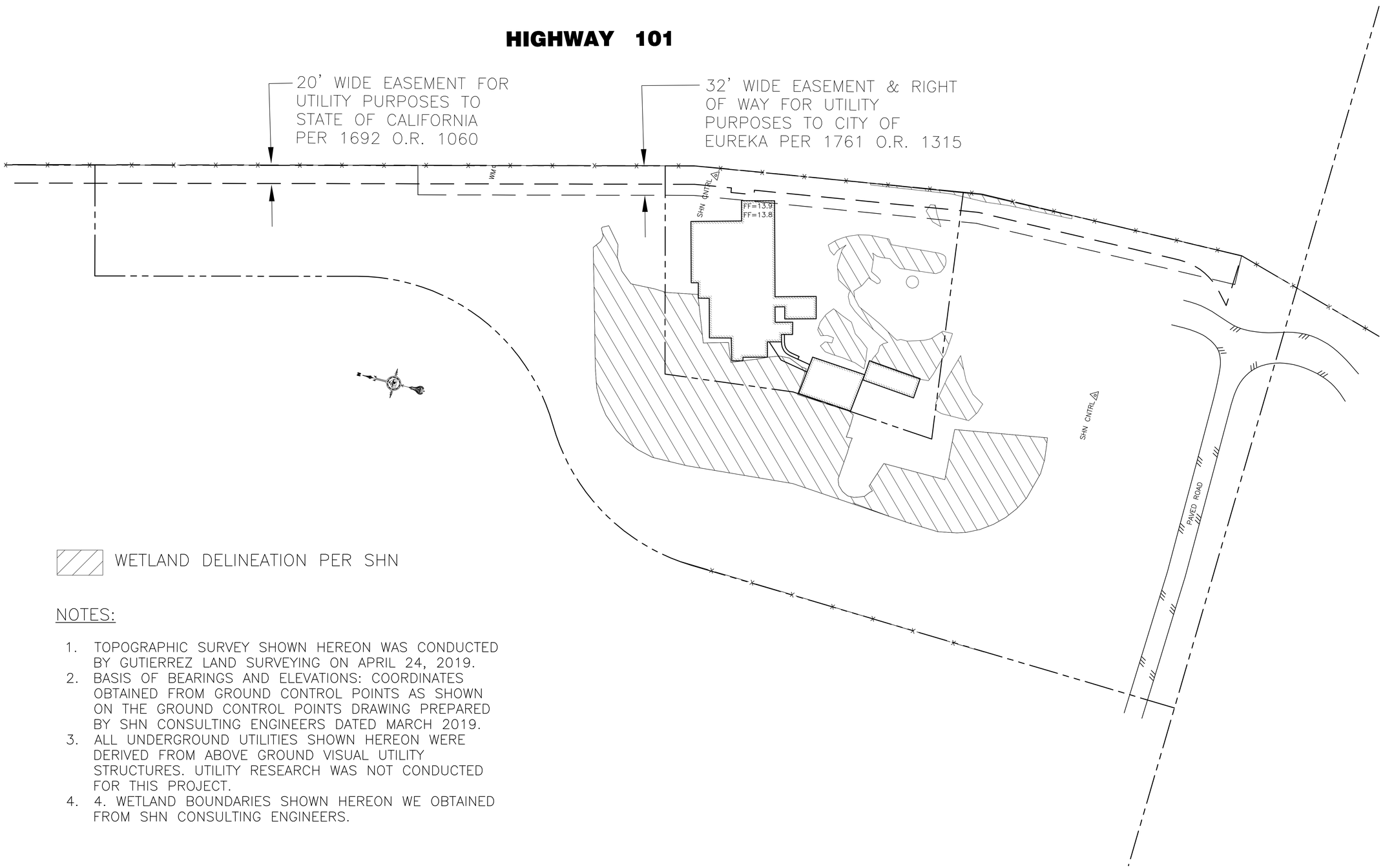
MATERIALS COMPLIANCE
Samples end conditions were prepared in accordance with ( ) ASTM C617 (x) ASTM C1231.

Neleen A Nichols
Neleen Nichols, Laboratory QA/QC Mgr.

B - Rebar 1" from end <0.5" length of rebar embedment

C- Rebar through middle

This report shall not be reproduced without prior consent of the agency.
Results of the test on this report relate only to the items tested or inspected.
Field Test Methods Provided Comply With: ASTM C172, C31, C143, C1064, C231, C138



WETLAND DELINEATION PER SHN

NOTES:

1. TOPOGRAPHIC SURVEY SHOWN HEREON WAS CONDUCTED BY GUTIERREZ LAND SURVEYING ON APRIL 24, 2019.
2. BASIS OF BEARINGS AND ELEVATIONS: COORDINATES OBTAINED FROM GROUND CONTROL POINTS AS SHOWN ON THE GROUND CONTROL POINTS DRAWING PREPARED BY SHN CONSULTING ENGINEERS DATED MARCH 2019.
3. ALL UNDERGROUND UTILITIES SHOWN HEREON WERE DERIVED FROM ABOVE GROUND VISUAL UTILITY STRUCTURES. UTILITY RESEARCH WAS NOT CONDUCTED FOR THIS PROJECT.
4. 4. WETLAND BOUNDARIES SHOWN HEREON WE OBTAINED FROM SHN CONSULTING ENGINEERS.

PREPARED FOR:
PIERSON COMPANY
1200 W. HARRIS STREET
EUREKA, CALIFORNIA

GUTIERREZ LAND SURVEYING
P. O. BOX 6516, EUREKA, CA 95502
FAX: 707-268-8249 E-MAIL: gls@ReadNet.net PHONE: 707-444-8733

TOPOGRAPHIC & BOUNDARY SURVEY
4640 BROADWAY
APN: 302-171-34 & 37
EUREKA, CALIFORNIA

Drawn By: P. GUTIERREZ

REVISIONS:
1 ADDED EASEMENTS

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DATE: MAY 1, 2019
SCALE: 1"=50'
SHEET: 1 OF 1
JOB NUMBER: 19118.1

You created this PDF from an application that is not licensed to print to novaPDF printer (http://www.novapdf.com)

Phone: (707) 441-8855 Email: info@shn-engr.com Web: shn-engr.com
812 W. Wabash Avenue, Eureka, CA 95501-2138

Reference: 018056

May 16, 2019

Kyle Dixon
SD Management
PO Box 1078
Arcata, CA 95518

Subject: Coastal Zone Construction BMP Guide, SD Management, Eureka, California; APN 302-171-034–Revision 1

Dear Kyle Dixon:

This guide has been prepared to supplement construction and permit documents for the SD Management project located at Assessor's parcel number (APN) 302-171-034, in Eureka, California. The building, formerly occupied by Pro Pacific Fresh food service distributors, is scheduled for remodeling. Given that the parcel lies within the coastal zone, heightened environmental best management practices (BMPs) are warranted to ensure coastal resources and habitat are protected.

No construction will occur adjacent to water. Because earthwork is not included in this project, no alterations to site soils or hydrology will occur. The area immediately adjacent to the Production Facility Building contains only the hydrophytic vegetation wetland parameter. The dominant plants in this area are invasive, non-native plants, such as, *Agrostis stolonifera, Anthoxanthum odoratum, Bromus catharticus, Festuca arundinacea, Holcus lanatus, Hypochaeris radicata, Mentha pulegium,* and *Rubus armeniacus*. These are ruderal, problematic species that compete with native plant populations, so disturbance from construction activities will not cause any problems adjacent to the building within the one-wetland-parameter area west and northwest of the Production Facility Building. Additionally, hydric soils and wetland hydrology are lacking in this area, eliminating the need for additional soil protection. However, the construction traffic and activity area adjacent to the building will be kept to the bare minimum required for work on the building, will exclude the three-parameter small-fruited bulrush habitat southwest of the building, and will be fenced off as outlined below.

The following BMPs will be used to ensure the protection of environmentally sensitive habitat areas (ESHAs) or protected resources. All physical BMPs shall be in place prior to the commencement of construction, as well as at the end of each workday.

Construction Areas

The location of all construction areas, all staging areas, and all construction access corridors shall be kept within the areas identified and described in the construction plans and permits. All such construction-related areas shall be minimized to the maximum extent feasible in order to have the least impact on coastal resources. Construction activities and

areas are prohibited outside of the defined construction, staging, and storage areas. These areas shall be clearly delineated onsite with temporary, un-intrusive construction fencing. Such un-intrusive materials could include orange construction fencing affixed to posts sunk in buckets of cement or weighted temporary fencing stands, rather than stakes pounded into the ground, to avoid soil disturbance. Straw wattles will be placed at the base of such fences and weighted down, rather than staked.

Minimize Land Disturbance and Soil Compaction

Work shall minimize land disturbance during construction to avoid erosion and sedimentation. Land disturbance activities are not proposed for the project.

Stabilize Soil Promptly

Development shall implement soil stabilization BMPs (such as mulching, soil binders, erosion control blankets, temporary re-seeding, etc.) on disturbed areas as soon as feasible during construction where there is a potential for soil erosion to lead to discharge of sediment off-site, into coastal waters, or into ESHAs. Vegetated areas disturbed by vehicle movement or construction activities will be sown with erosion control seed at the onset of the rainy season to provide a minimum 85% vegetative cover within two months.

Limit Potential for Erosion from Rains

The local weather forecast will be monitored at a minimum of twice per week. Any storm event predicting a 50% chance or greater of precipitation shall trigger employment of condition-specific erosion and sediment control BMPs, such as erosion control blankets, covered stockpiles, and additional straw wattles. Erosion control BMPs shall be operative in all areas of the site prior to the onset of the rainy season.

Avoid Plastic Netting in Temporary Erosion and Sediment Control Products

Development shall avoid the use of temporary erosion and sediment control products (such as, fiber rolls, erosion control blankets, mulch control netting, silt fences, etc.) that incorporate plastic netting (such as, polypropylene, nylon, polyethylene, polyester, or other synthetic fibers), in order to minimize wildlife entanglement and plastic debris pollution. Acceptable alternatives include the following:

- **Loose-Weave Natural Fiber Netting:** Temporary rolled erosion and sediment control products with netting made of natural fibers, constructed in a loose-weave design with movable joints between the horizontal and vertical twines
- **Erosion and Sediment Control Products without Netting:** Temporary erosion and sediment control products that do not contain netting, including net-less erosion control blankets (for example, made of excelsior), loose mulch, hydraulic mulch, soil binders, and straw bales

- **Unreinforced Silt Fences:** Silt fences constructed of woven synthetic filter fabric without plastic or metal mesh backing

Use Additional BMPs for Construction Near Coastal Waters

Although development on this project involves simple remodeling, as opposed to new construction with extended impermeable surfaces, additional BMPs shall be implemented, if there is a potential for construction chemicals or materials to enter nearby ESHAs. BMPs shall include the following, where applicable:

- **Tarps to Capture Debris and Spills:** Use tarps or other devices to capture debris, dust, oil, grease, rust, dirt, fine particles, paint chips, and spills to protect the quality of coastal waters and ESHAs.
- **Designated Fueling and Maintenance Area :** Conduct fueling and maintenance of construction equipment and vehicles off site, if feasible. Any fueling and maintenance of mobile equipment conducted on site shall take place at a designated area located at least 100 feet from coastal waters, ESHAS, drainage courses, and storm drain inlets, if feasible (unless these inlets are blocked to protect against fuel spills). The fueling and maintenance area shall be designed to fully contain any spills of fuel, oil, or other contaminants. Equipment that cannot be feasibly relocated to a designated fueling and maintenance area (such as, hydraulic excavators) may be fueled and maintained in other areas of the site, provided that procedures are implemented to fully contain any potential spills. Construction equipment shall be inspected daily, and drip pans shall be placed under any leak prior to repair.

BMPs for Stockpiling

BMPs that will be implemented to minimize polluted runoff from stockpiling construction materials include covering such piles with impermeable tarps and surrounding such piles with weighted straw wattles. Stockpiles shall be protected prior to, and during, precipitation events, wind events capable of creating airborne dust, and during times of inactivity.

BMPs to Minimize Other Pollutants from Construction:

BMPs that will be implemented to minimize the discharge of other pollutants resulting from construction activities (such as, paints, solvents, vehicle fluids, asphalt and cement compounds, trash, debris, etc.) into runoff shall be clearly identified, including:

- **Chemical and Material Storage BMPs:** BMPs that will be implemented to minimize polluted runoff from staging, storage, and disposal of construction chemicals and materials include stockpile management as outlined above, impermeable storage containers, and weatherproof lockers to prevent unauthorized access to chemicals or materials.
- **Site Management BMPs:** Site management "housekeeping" BMPs to be implemented during construction, include procedures, such as, maintaining an inventory of products and chemicals used on site, and having a written plan for the clean-up of spills and leaks. Two spill kits shall be

fully stocked and maintained on site: one on the south side, and one on the north side of the building. Prior to construction, the project manager or foreman shall train all personnel in proper use of all components of the spill kit. Any new personnel or subcontractors shall be subsequently trained prior to working on site. Documentation of such training shall be maintained in the project records. Waste bins shall be covered and locked at the end of each workday. The site shall be inspected daily by a designated Housekeeping Inspector. Any trash or unauthorized debris, leaks, or spills will be promptly cleaned up.

If you have any comments or concerns regarding this revised BMP guide, please call me at 441-8855.

Sincerely,

SHN

Greg Williston

Greg S. Williston
Project Manager

GSW/SJP:lms

Natural Resources Assessment

SD Management, LLC
Assessor's Parcel Number
302-171-034
Eureka, California

Prepared for:

SD Management, LLC

June 2019
018056

Reference: 018056

Natural Resources Assessment

SD Management, LLC
Assessor's Parcel Number
302-171-034
Eureka, California

Prepared for:
SD Management, LLC

Prepared by:

1062 G St., Suite I
Arcata, CA 95521-5800
707-822-5785

June 2019

QA/QC:GSW

Table of Contents

Page

itsTable of Contents i

List of Illustrations ii

Abbreviations and Acronyms iii

1.0 Introduction 1
- 1.1 Project Location 1
- 1.2 Site Description 1

2.0 Methodology 1
- 2.1 Review of Existing Data 1
- 2.2 Coordination with Permitting and Regulatory Agencies 2
- 2.3 Field Observations and Studies 2

3.0 Environmental Setting 2
- 3.1 Geologic and Soil Composition 2
- 3.2 Vegetation 2
- 3.3 Wildlife Habitats 3
- 3.4 Offsite Conditions 4

4.0 Regulatory Setting 4
- 4.1 Federal Laws 4
  - 4.1.1 Clean Water Act Sections 404 and 401 4
  - 4.1.2 Fish and Wildlife Coordination Act 5
  - 4.1.3 Federal Endangered Species Act 5
  - 4.1.4 Migratory Bird Treaty Act 6
- 4.2 State Laws 6
  - 4.2.1 Porter-Cologne Water Quality Control Act 6
  - 4.2.2 California Endangered Species Act 6
  - 4.2.3 Native Plant Protection Act 7
  - 4.2.4 California Environmental Quality Act 7
  - 4.2.5 California Fish and Game Code Section 1600 8
  - 4.2.6 California Fish and Game Code Sections 3503 and 3513 8
  - 4.2.7 Fully Protected Species and Species of Special Concern 8
  - 4.2.8 Natural Community Conservation Planning Act 9
- 4.3 Other Statutes, Codes, and Policies–Humboldt County Streamside Management Area Ordinance 9
  - 4.3.1 County of Humboldt Commercial Cannabis Cultivation Land Use Ordinance (Coastal Zone) 10
  - 4.3.2 City of Eureka Code of Ordinances Title XV, Ch 156, section 156.056 Coastal Zone Development Natural Resource Standards (exerpt) 10

5.0 Results 11
- 5.1 Special Status Plant Species 11
- 5.2 Special Status Animal Species 14
  - 5.2.1 Birds 14
  - 5.2.2 Mammals 15
  - 5.2.3 Amphibians 15

Table of Contents, Continued

Page

5.2.4 Insects 15
5.2.5 Fish 16
5.2.6 Reptiles 16
5.2.7 Special Status Animal Species Summary Results 16
5.3 Special Status Habitats and Natural Communities 16
5.3.1 Designated Critical Habitat 16
5.3.2 Vegetation Alliances 16
5.3.3 Wetland and Riparian Habitats 17
5.3.4 Nesting Bird Habitat 17
5.3.5 Wildlife Movement Corridors 17

6.0 Conclusions 17
6.1 Special Status Plant Species 17
6.2 Special Status Animal Species 17
6.3 Special Status Habitats and Natural Communities 17
6.3.1 Designated Critical Habitat 17
6.3.2 Vegetation Alliances 18
6.3.3 Nesting Bird Habitat 18
6.3.4 Wildlife Movement Corridors 18

7.0 Recommendations 18

8.0 References 19

Appendices

1. Site Photographs
2. Regionally Occurring Special Status Plant Species Scoping List
3. Regionally Occurring Special Status Animal Species Scoping List
4. Observed Botanical Species List
5. Observed Animal Species List

List of Illustrations

Figures **Follows Page**

1. Project Location 1
2. Study Area and location of sensitive biological resources 2

Abbreviations and Acronyms

APN	Assessor's parcel number
BIOS	Biogeographical Information and Observation System
BMP	best management practice
C	candidate
CCH	Consortium of California Herbaria
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CRPR	California Rare Plant Rank
CT	candidate threatened species status
CWA	Clean Water Act
D	delisted species status
DPS	distinct population segment/species status
E	endangered species status
EPA	Environmental Protection Agency
ESHA	environmentally sensitive habitat area
ESU	evolutionarily significant unit/species status
FESA	Federal Endangered Species Act
FP	fully protected species status
G1/S1	critically imperiled species heritage rank
G2/S2	imperiled species heritage rank
G3/S3	vulnerable species heritage rank
G4/S4	apparently secure species heritage rank
G5/S5	secure species heritage rank
GIS	Geographic Information System
IPaC	Information for Planning and Conservation
LSA	Lake and Streambed Alteration
MBTA	Migratory Bird Treaty Act
NCCP	Natural Community Conservation Planning Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPPA	Native Plant Protection Act
NR	no reference
NRA	natural resources assessment
PT	proposed threatened species status
RWQCB	Regional Water Quality Control Board
S	sensitive
SMA	streamside management area
SSC	species of special concern
SWRCB	State Water Resources Control Board
T	threatened species status
U.S.	United States
USC	United States Code
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VegCAMP	Vegetation Classification and Mapping Program
VU	vulnerable
WDR	Waste Discharge Requirement
WL	watch list species status

1.0 Introduction

SHN has conducted site investigations, literature reviews, and assessments to determine the natural biological resources present in relation to the SD Management project site in the vicinity of Eureka, California. The project is proposing site development for cannabis production purposes. This natural resources assessment (NRA) will serve as a tool to identify potential sensitive natural resources that may occur within the study area and to provide recommendations to reduce or eliminate impacts to biological resources.

1.1 Project Location

The project location is at the southern end of the city of Eureka, California. It is located adjacent to Highway 101, and Elk River on Pound Road. The project is set in the coastal zone 10 feet above sea level (Figure 1; United States Geological Survey [USGS] Eureka 7.5-minute Quadrangle; USGS, 2012), located in the Township 04 North, Range 01 west, Section 4 in the Humboldt Meridian. The study area is 3.8 acres. The Assessor's parcel numbers (APNs) are 302-171-034 and 302-171-037, with a central location at latitude 40.760238° and longitude -124.190921°.

1.2 Site Description

The site was previously occupied by Pro Pacific Fresh, a food service distributor, and historically it was a cattle rendering facility. A photo from 1948 (HSU, 2019; Appendix 1, Photo 1) shows the same existing industrial buildings on this site currently in 2018 (Appendix 1, Photo 2). Where one of the small buildings was once located is now a wetland (Wetland Delineation Report, SHN, 2018) and also contains industrial and building remnant debris (Appendix 1, Photo 3). A portion of the site is used by a wood slab manufacturer. The majority of the site is covered in compacted gravel, concrete, or fill (Appendix 1, Photo 4). The site is bordered on the east by Highway 101, on the west and south by the Elk River and associated riparian and wetland habitat, and to the north by riparian and wetland vegetation and the Eureka wastewater treatment facility.

2.0 Methodology

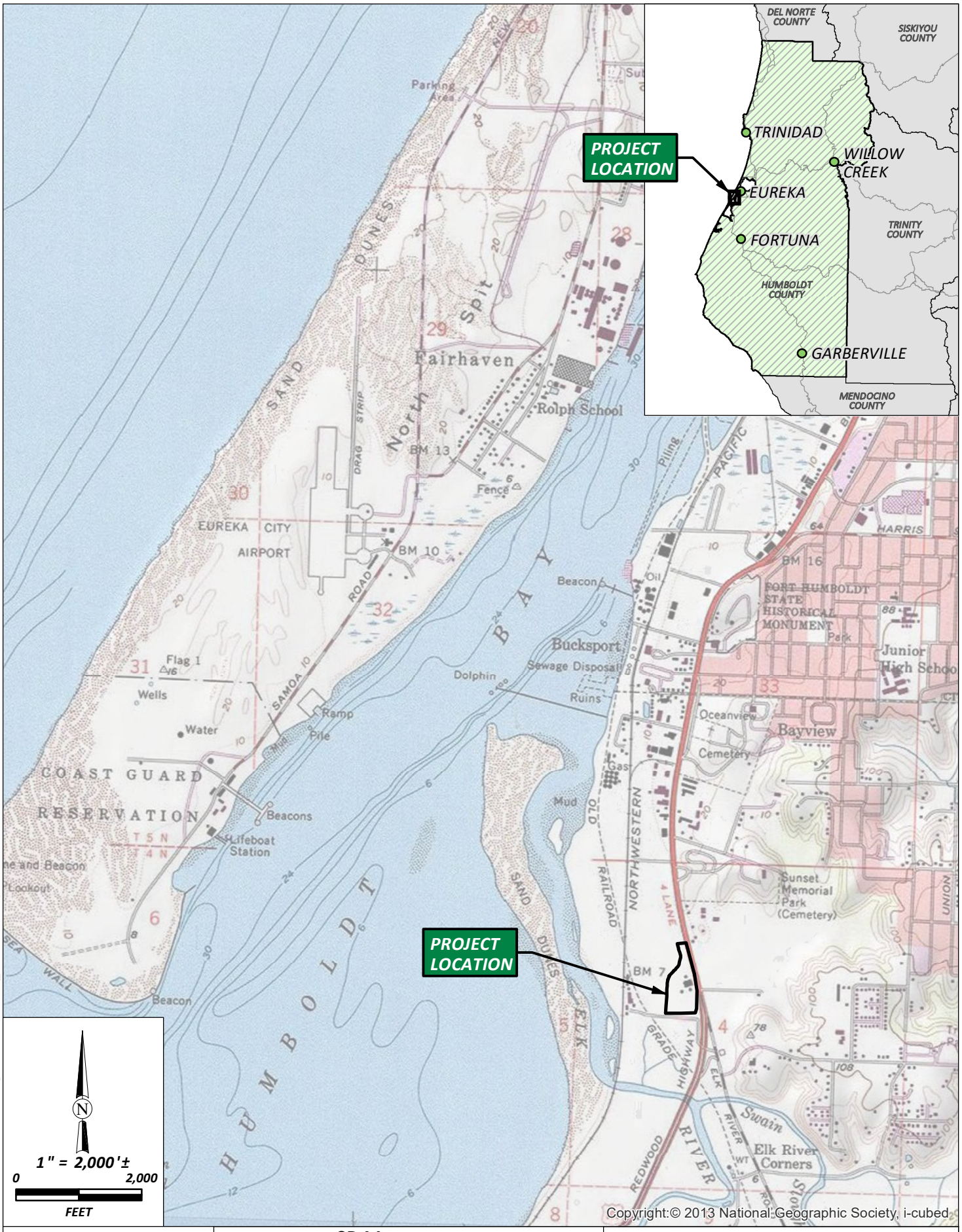
2.1 Review of Existing Data

This NRA includes a review of existing data and information related to special status species of plants, animals, and sensitive natural communities that may be present.

The findings of this report are the result of several sources, including a review of existing literature regarding sensitive resources that have the potential to occur within the study area. The study area was defined by including a 100-foot extension from potential project components. Biological scoping included a review of the following sources:

- California Natural Diversity Database (CNDDB) query for Eureka and surrounding USGS 7.5-minute topographic quadrangles (Arcata North, Tyee City, Eureka, Arcata South, Fields Landing, McWhinney Creek, and Cannibal Island) (CDFW, 2018a)
- Biogeographical Information and Observation System's Rarefind[1] database (BIOS; CDFW, 2018b)
- Electronic Inventory of Rare and Endangered Vascular Plants of California (California Native Plant Society, CNPS, 2018) query for a list of all plant species reported for project area, and surrounding USGS. 7.5-minute topographic quadrangles
- Special Animals of California List (CDFW, 2018c)

[1] Rarefind is a "positive detection" database. The absence of data does not imply absence of special status species.



Copyright:© 2013 National Geographic Society, i-cubed

SHN Consulting Engineers & Geologists, Inc.

SD Management
Preliminary Wetland Investigation
Eureka, California

Project Location

SHN 018056

July 2018

WD_Fig1_ProjectLocation

Figure 1

\\Eureka\Projects\2018\018056-SD-Management\GIS\PROJ_MXD\ USER: jsousa DATE: 7/25/18, 10:05AM

- United States Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) was queried for threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of, and/or may be affected by, the proposed project (USFWS, 2018a)
- USFWS Threatened and Endangered Species Active Critical Habitat Report Geographic Information System (GIS) database (USFWS, 2018b)

From the sources listed above, a list of potential target special status species for the study area was compiled. Appendix 2 and Appendix 3 include plant and animal species, respectively, reported by the CNDDB and USFWS, and species listed in the CNPS inventory of rare plants.

2.2 Coordination with Permitting and Regulatory Agencies

If regulatory agencies (California Department of Fish and Wildlife [CDFW] and U.S. Army Corps of Engineers [USACE]) require further investigation, SHN will coordinate another site visit as needed.

2.3 Field Observations and Studies

A total of eleven staff hours of field observations were made within the approximate 3.8-acre study area (Figure 2) on the following dates:

- July 31, 2018 – Natural Resources Assessment (NRA)
- May 3, 2019 - Natural Resources Assessment (NRA)
- June 12, 2019 – Natural Resources Assessment (NRA)

A list of all plant species observed while conducting habitat assessment is presented in Appendix 4. A list of all animal species observed while conducting habitat assessment is presented in Appendix 5. Site photographs from the site visits are included in Appendix 1.

3.0 Environmental Setting

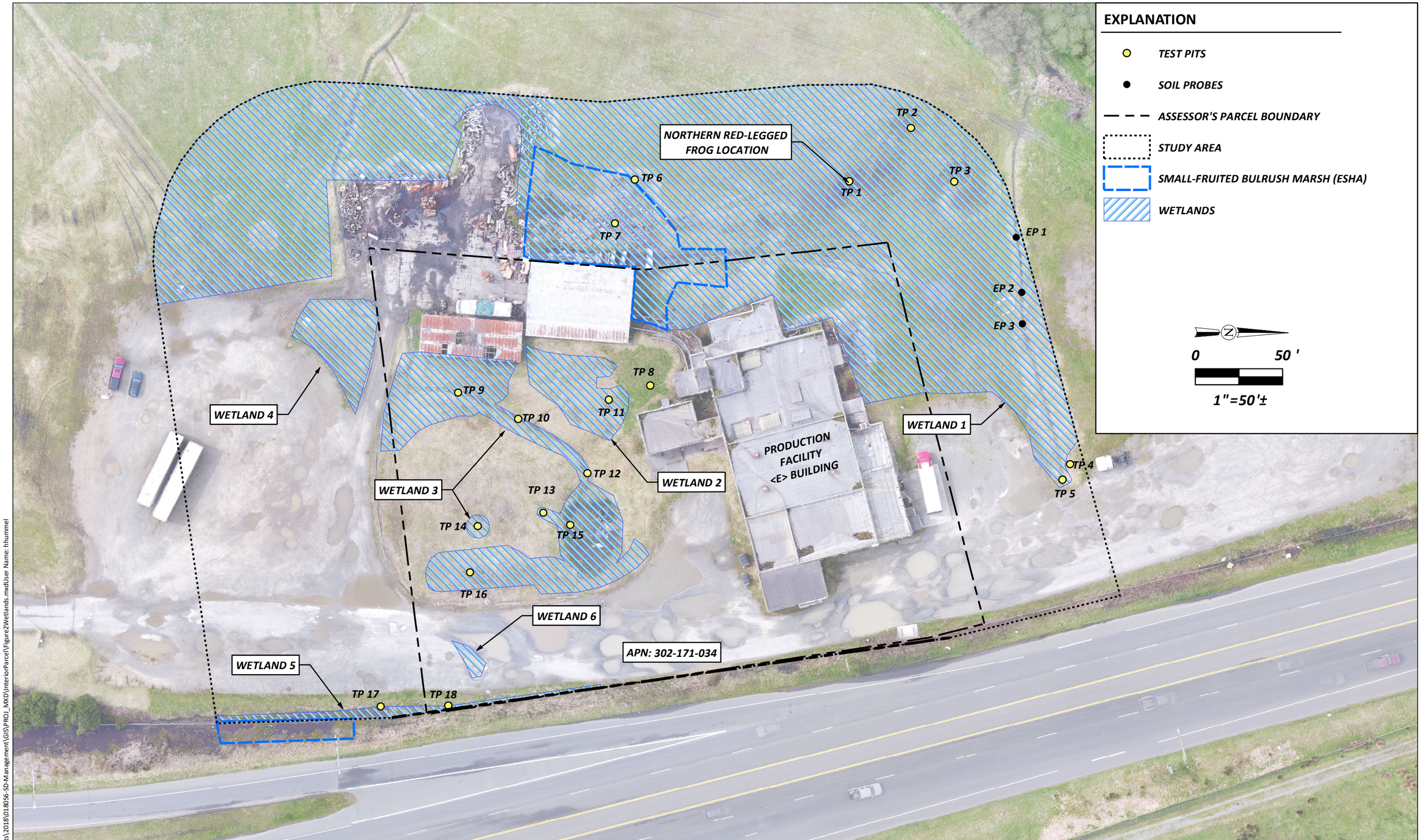
The project area is situated at an average 10-foot elevation above mean sea level in the Elk River drainage system. The region experiences a Mediterranean climate with warm, dry summers and cool, wet winters. The bulk of annual precipitation occurs in the fall, winter, and spring (December averages 8.12 inches). Summers are typically dry (August averages 0.31 inches). The total annual precipitation average is 40.53 inches.

3.1 Geologic and Soil Composition

The project site is on the west-facing aspect of the Elk River flood plain with soils described as Urban land – Anthraltic Xerorthents association, not prime farmland with map unit composition as urban land, industrial. Refer to the Wetland Delineation Report for determination of the soils in the study area (SHN, 2018).

3.2 Vegetation

The study area consists of a terrace with a graveled area and sediment cover in some areas and is predominantly sparse non-native species supporting common brass buttons (*Cotula coronopifolia*), common sowthisle (*Sonchus oleraceus*), sweet vernal grass (*Anthoxanthum odoratum*), and velvet grass (*Holcus lanatus*). The area immediately surrounding the study area is mostly vegetated field with localized depressions, which supports tall fescue (*Festuca arundinacea*), wild



AERIAL IMAGE ACQUIRED BY SHN WITH A UAV ON 3/18/2018. BING IMAGERY FLOWN ON 11/25/2015
PARCEL BOUNDARY SURVYED BY: GUTIERREZ LAND SURVEYING

Exhibit H - Page 9

SHN Consulting Engineers & Geologists, Inc.

SD Management
Natural Resources Assessment
Eureka, California

Study Area and Location
of Sensitive Biological Resources

June 2019 | Figure2Wetlands | SHN 018056 | Figure 2

Path: \\eureka\projects\2018\018056-SD-Management\GIS\PROJ_MXD\InteriorParcel\Figure2Wetlands.mxdUser Name: hhummel

radish (*Raphanus sativus*), velvet grass, sweet vernal grass, rattlesnake grass (*Briza maxima*), pennyroyal (*Mentha pulegium*), and rescue grass (*Bromus catharticus*), among other non-native grass species. The eastern boundary contains a drainage in between the graveled terrace and Highway 101 which supports an environmentally sensitive habitat area (ESHA) consisting of red-tinged bulrush (*Scirpus microcarpus*), tall flat sedge (*Cyperus eragrostis*), and common brass buttons (Figure 2). The western edge of the property is bordered by a footpath and connects to the drainages surrounding the site supporting tall flat sedge, pacific lamp rush (*Juncus effuses*), red-tinged bulrush, velvet grass, arroyo willow (*Salix lasiolepis*), Sitka willow (*Salix sitchensis*), and Hooker's willow (*Salix hookeriana*). These areas have been graded and compacted with gravelly, cobble fill (Appendix 1, Photo 4). There is a depression in the center of the property connecting to the drainages with an ESHA supporting red-tinged bulrush, tall flat sedge, wild radish, and Himalayan blackberry *(Rubus armeniacus*).

A complete list of plants observed within the study area is compiled in Appendix 4.

3.3 Wildlife Habitats

Common wildlife species expected within the study area are those typically associated with grasslands, riparian areas, and freshwater marshes of northwestern California. Animals species observed during fieldwork are presented in Appendix 5. Other wildlife species are likely to inhabit the surrounding area and it is expected that there are many other bird, mammal, and amphibian species that might use the study area, if only transitionally. Heavy vegetative cover outside the study area along the western boundary of the property may provide an adequate wildlife movement corridor past the project area, and if grasses and herbaceous plants are not mowed in the western portion of the property, this could provide cover for some animal species.

Part of the study area (Figure 2) is a former food distribution facility and is currently unoccupied. The remaining portion of the study area is dense grasses and other herbaceous species, and may provide cover for many species of wildlife for foraging, nesting, and cover. Most of the wildlife movement corridors are expected to be concentrated on nearby perennial drainages.

Wildlife movement includes migration (usually one-way per season), inter-population movement (long-term genetic flow), and small travel pathways (daily movement corridors within an animal's territory). Although small travel pathways usually facilitate movement for daily home range activities, such as, foraging or escape from predators, they also provide connection between outlying populations and the main corridor, permitting an increase in gene flow among populations.

These linkages among habitat types can extend for miles from primary habitat areas and occur on a large scale throughout California. Habitat linkages facilitate movement between populations located in discrete areas and populations located within larger habitat areas. The mosaic of habitats found within a large-scale landscape results in wildlife populations that consist of discrete sub-populations constituting a large single population, which is often referred to as a meta-population. Even where patches of pristine habitat are fragmented, such as occurs with coastal scrub, the movement between wildlife populations is facilitated through habitat linkages, migration corridors, and movement corridors. Depending on the condition of the corridor, genetic flow between populations may be high in frequency, thus allowing high genetic diversity within the population, or may be low in frequency. Low-frequency genetic flow may potentially lead to complete isolation and, if pressures are strong, potential extinction (Whitaker, 1998).

3.4 Offsite Conditions

The habitat adjacent to the project area to the west is Freshwater Emergent Wetland consisting of dense cattails (*Typha* sp.). Adjacent habitat to the north is Freshwater Forested/Shrub Wetland composed of dense willow (*Salix* spp.). Estuarine and marine wetlands border the southern boundary of the project area, and the eastern border is adjacent to the Highway 101 corridor. Existing habitat quality within the study area is marginal compared to the adjacent areas. Adjacent areas provide larger contiguous habitat for wildlife through the Elk River corridor and surrounding estuarine environment.

4.0 Regulatory Setting

Regulatory authority over biological resources is shared by federal, State, and local authorities under a variety of legislative acts. The following section summarizes the federal, State, and local regulations for special status species, jurisdictional waters of the U.S. and State of California, and other sensitive biological resources. This section provides a listing and overview of these federal, State, and local laws.

4.1 Federal Laws

4.1.1 Clean Water Act Sections 404 and 401

Under Section 404 (33 U.S. Code (USC) 1341) of the Clean Water Act (CWA), as amended, the USACE retains primary responsibility for permits to discharge dredged or fill material into waters of the U.S. All discharges of dredged or fill material into jurisdictional waters of the U.S. that result in permanent or temporary losses of waters of the U.S. are regulated by the USACE (U.S. Environmental Protection Agency, EPA, 2002). A permit from the USACE must be obtained before placing fill or grading in wetlands or other waters of the U.S., unless the activity is exempt from CWA Section 404 regulation (for example, certain farming and forestry activities).

The USACE defines wetlands as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (USACE Environmental Laboratory, 1987). In other words, the USACE defines wetlands by the presence of all three wetland indicators: hydrophytic vegetation, hydric soils, and wetland hydrology.

Waters of the U.S. are defined in 33 Code of Federal Regulations (CFR) Part 328. They include traditional navigable waters; relatively permanent, non-navigable tributaries of traditional navigable waters; and certain wetlands. Following recent court cases, the EPA and USACE published a memorandum entitled “Clean Water Act Jurisdiction” (EPA/USACE, 2008) to guide the determination of jurisdiction over waters of the U.S., especially for wetlands. The applicability of Section 404 permitting over discharges to wetlands is, therefore, a two-step process: 1) determining the areas that are wetlands, and 2) where a wetland is present, assessing the wetland’s connection to traditional navigable waters and non-navigable tributaries to determine whether the wetland is jurisdictional under the CWA. A wetland is considered jurisdictional if it meets certain specified criteria.

The USACE is required to consult with the USFWS and/or National Marine Fisheries Service (NMFS) under Section 7 of the Federal Endangered Species Act (FESA) if the action subject to CWA permitting could result in “Take” of federally listed species or an adverse effect to designated critical habitat. The project is within the jurisdiction of the San Francisco District of the USACE.

Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification from the state in which the

discharge originates or would originate, or if appropriate, from the interstate water pollution control agency having jurisdiction over the affected waters at the point where the discharge originates or would originate, that the discharge will comply with the applicable effluent limitations and water quality standards. A certification obtained for the construction of any facility must also pertain to the subsequent operation of the facility. The responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs). The project is within the jurisdiction of the North Coast RWQCB.

4.1.2 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 USC Sections 661-667e, as amended, 1958, 1978, 1994, and 1995) requires that whenever waters, the channel of a stream, or other body of water are proposed or authorized to be modified by a public or private agency under a federal license or permit, the federal agency must first consult with the USFWS and/or NMFS and with the head of the agency exercising administration over the wildlife resources of the state where construction will occur (in this case, the CDFW). These guidelines aim at conservation of birds, fish, mammals, and all other classes of wild animals, and all types of aquatic and land vegetation upon which wildlife is dependent (USFWS, 1934).

If direct permanent impacts occur to waters of the U.S. from a proposed project, then a permit from USACE under CWA Section 404 is required for the construction of the proposed project. USACE is required to consult with USFWS and/or NMFS as appropriate regarding potential impacts to federally listed species under FESA. Such action may prompt consultation with CDFW, which would review the project pursuant to California Endangered Species Act (CESA) and issue a consistency letter with USFWS and/or NMFS, if required.

4.1.3 Federal Endangered Species Act

The United States Congress passed the FESA in 1973 to protect species that are endangered or threatened with extinction (USFWS, 1973). The FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend and within which they live. The USFWS and the NMFS are the designated federal agencies responsible for administering the FESA.

The FESA prohibits the “Take” of endangered or threatened wildlife species. A “Take” is defined as harassing, harming (including significantly modifying or degrading habitat), pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species, or any attempt to engage in such conduct (16 USC 1531, 50 CFR 17.3). An activity can be defined as a “Take” even if it is unintentional or accidental. Taking can result in civil or criminal penalties. Activities that could result in “Take” of a federally listed species require an incidental “Take” authorization resulting from FESA Section 7 consultation or FESA Section 10 consultation. Plants are legally protected under the FESA only if “Take” occurs on federal land or from federal actions, such as, issuing a wetland fill permit.

A federal endangered species is one that is considered in danger of becoming extinct throughout all, or a significant portion, of its range. A federal threatened species is one that is likely to become endangered in the foreseeable future. The USFWS also maintains a list of species proposed for listing as threatened or endangered. Proposed species are those for which a proposed rule to list as endangered or threatened has been published in the Federal Register. In addition to endangered, threatened, and proposed species, the USFWS maintains a list of candidate species. Candidate species are those for which the USFWS has on file sufficient information to support issuance of a proposed listing rule.

Pursuant to the requirements of the FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed endangered or threatened species may be present in the project area, and determine whether the proposed project will have a potentially significant impact on such a species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be

listed under the FESA or result in the destruction or adverse modification of critical habitat designated or proposed to be designated for such species (16 USC 1536[3], [4]). Project-related impacts to species on the FESA endangered or threatened list would be considered significant, and would require mitigation.

4.1.4 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) of 1918 makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21; USFWS, 1918). The MBTA also prohibits disturbance and harassment of nesting migratory birds at any time during their breeding season. The USFWS is responsible for enforcing the MBTA (16 USC 703). The migratory bird nesting season is generally considered to be between March 15 and August 1 within the study region.

4.2 State Laws

4.2.1 Porter-Cologne Water Quality Control Act

The state and RWQCB also maintain independent regulatory authority over the placement of waste, including fill, into waters of the state under the Porter-Cologne Water Quality Control Act (SWRCB, 1969). Waters of the state are defined by the Porter-Cologne Water Quality Control Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The SWRCB protects all waters in its regulatory scope, but has special responsibility for isolated wetlands and headwaters. These water bodies might not be regulated by other programs, such as, Section 404 of the CWA. Waters of the state are regulated by the RWQCBs under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require an USACE permit, or fall under other federal jurisdiction, and have the potential to impact waters of the state are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a federal license or permit, but does involve activities that may result in a discharge of harmful substances to waters of the state, the RWQCBs have the option to regulate such activities under their state authority in the form of Waste Discharge Requirements (WDRs) or certification of WDRs.

4.2.2 California Endangered Species Act

The State of California enacted the CESA in 1984 (CDFW, 1984). The CESA is similar to the FESA, but pertains to state-listed endangered and threatened species. Under the CESA, the CDFW has the responsibility for maintaining a list of threatened and endangered species designated under state law (California Fish and Game Code [CFGC] 2070; CDFW, 1998). Section 2080 of the CFGC prohibits "Take" of any species that the commission determines to be an endangered or threatened species. "Take" is defined in Section 86 of the CFGC as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

The state and federal lists of threatened and endangered species are generally similar; however, a species present on one list may be absent from the other. CESA regulations are also somewhat different from the FESA in that the California regulations include threatened, endangered, and candidate plants on non-federal lands within the definition of "Take." CESA allows for "Take" incidental to otherwise lawful development projects.

Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project area and determine whether the proposed project will have a potentially significant impact on such species. Project-related impacts to

species on the CESA endangered or threatened list (or, in addition, designated by the CDFW as a Species of Special Concern [SSC], which is a level below threatened or endangered status) would be considered significant and would require mitigation.

4.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA; Sec.1900-1913 of the CFGC) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. The NPPA precedes the CESA. Statewide, there are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations. Plants listed as rare or endangered under the NPPA should be considered during project review as if they were listed under the CESA.

Appendix 2 includes potentially-occurring endangered or rare native plants that may occur in the project area (including CNPS lists).

4.2.4 California Environmental Quality Act

California Environmental Quality Act (CEQA) Guidelines Sections 15125(c) and 15380(d) provide that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria (CNRA, 1970). Thus, CEQA provides the ability to protect a species from potential project impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

CNPS maintains an inventory of plant species native to California, with populations that are significantly reduced from historical levels, occur in limited distribution, or otherwise are rare or threatened with extinction. This information is published in the Inventory of Rare and Endangered Plants of California (CNPS, 2018). Taxa with a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, 2B, and 3 in the CNPS inventory consist of plants that are eligible for state listing, and meet the definition of Rare or Endangered under CEQA Guidelines Sections 15125(c) and 15380(d). CRPR 4 populations may qualify for consideration under CEQA if they are peripheral or disjunct populations; represent the type locality of the species; or exhibit unusual morphology and/or occur on unusual substrates.

Additionally, CDFW maintains lists of special status animals and plants. These lists include a species conservation ranking status from multiple sources, including FESA, CESA, federal departments with unique jurisdictions, CNPS, and other non-governmental organizations. Based on these sources, CDFW assigns a heritage rank to each species according to their degree of imperilment (as measured by rarity, trends, and threats). These ranks follow NatureServe's Heritage Methodology, in which all species are listed with a G (global) and S (state) rank. Species with state ranks of S1-S3 are also considered highly imperiled.

CEQA checklist IV (b) calls for the consideration of riparian habitats and sensitive natural communities. Sensitive vegetation communities are natural communities and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. However, these communities may or may not necessarily contain special status species. Sensitive natural communities are usually identified in local or regional plans, policies, or regulations, or by the CDFW (that is, the CNDDB and Vegetation Classification and Mapping Program [VegCAMP]) or the USFWS. Impacts to sensitive natural communities and habitats must be considered and evaluated under CEQA (California Code of Regulations [CCR]: Title 14, Div. 6, Chap. 3.

Although sensitive natural communities do not (at present) have legal protection, CEQA calls for an assessment of whether any such resources would be affected, and requires a finding of significance if there will be substantial losses. High-quality occurrences of natural communities with heritage ranks of 3 or lower are considered by CDFW to be significant resources and fall under the CEQA guidelines for addressing impacts. Local planning documents (such as general plans) often identify these resources as well. Avoidance, minimizations, or mitigation measures should be implemented if project-affected stands of rare vegetation types or natural communities are considered high-quality occurrences of the given community.

As a trustee agency under CEQA, CDFW reviews potential project impacts to biological resources, including wetlands. In accordance with the CEQA thresholds of significance for biological resources, areas that meet the state criteria for wetlands and could be impacted by a project must be analyzed. Pursuant to CFGC Section 2785, CDFW defines wet areas as "lands which may be covered periodically or permanently with shallow water and which include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, fens, and vernal pools."

4.2.5 California Fish and Game Code Section 1600

Streams, lakes, and riparian vegetation as habitat for fish and other wildlife species, are subject to jurisdiction by the CDFW under Sections 1600-1616 of the CFGC (CDFW, 2018d). Any activity that will do one or more of the following generally require a Lake and Streambed Alteration Agreement (LSA):

1) Substantially obstruct or divert the natural flow of a river, stream, or lake
2) Substantially change or use any material from the bed, channel, or bank of a river, stream, or lake
3) Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

The term "stream," which includes creeks and rivers, is defined in the CCR as, "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life." This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation (14 CCR 1.72).

In addition, the term "stream" can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. Riparian is defined as "on, or pertaining to, the banks of a stream"; therefore, riparian vegetation is defined as vegetation that occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself. Removal of riparian vegetation also requires an LSA agreement from CDFW.

4.2.6 California Fish and Game Code Sections 3503 and 3513

According to Section 3503 of the CFGC, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird (except English sparrows [*Passer domesticus*] and European starlings [*Sturnus vulgaris*]). Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds-of-prey). Section 3513 essentially overlaps with the MBTA, prohibiting the "Take" or possession of any migratory non-game bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "Take" by the CDFW.

4.2.7 Fully Protected Species and Species of Special Concern

The classification of "fully protected" was the CDFW's initial effort to identify and provide additional protection to those animals that were rare or faced with possible extinction. Lists were created for fishes, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The CFGC

sections (fish at Sec. 5515, amphibians and reptiles at Sec. 5050, birds at Sec. 3511, and mammals at Sec. 4700) dealing with "fully protected" species state that these species "…may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species," (CDFW, 1998) although "Take" may be authorized for necessary scientific research. This language makes the "fully protected" designation the strongest and most restrictive regarding the "Take" of these species. In 2003, the code sections dealing with fully protected species were amended to allow the CDFW to authorize "Take" resulting from recovery activities for state-listed species.

SSCs are broadly defined as animals not listed under the CESA, but that are nonetheless of concern to the CDFW because they are declining at a rate that could result in listing or historically occurred in low numbers with known threats to their persistence currently existing. This designation is intended to result in special consideration for these animals by the CDFW, land managers, consulting biologists, and others, and is intended to focus attention on the species to help avert the need for costly listing under CESA and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although the SSC designation provides no special legal status, they are given special consideration under CEQA during project review.

Appendix 3 includes potentially-occurring federal and state listed species and SSC animals that may occur in the project area.

4.2.8 Natural Community Conservation Planning Act

The Natural Community Conservation Planning (NCCP) Act of 1991 is an effort by the State of California and numerous private and public partners that is broader in its orientation and objectives than the CESA and FESA (refer to discussions above). The primary objective of the NCCP Act is to conserve natural communities at the ecosystem scale while accommodating compatible land uses (CDFW, 1991). The NCCP Act seeks to anticipate and prevent the controversies and gridlock caused by species listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

No regionally-occurring natural community or associated plan is listed by the state for the project area.

4.3 Other Statutes, Codes, and Policies–Humboldt County Streamside Management Area Ordinance

The Humboldt County General Plan was adopted October 23, 2017. It includes policies regarding critical habitats, sensitive habitats, streamside management areas (SMA), wetlands, oak woodlands, and invasive species. Critical habitats are habitats necessary for the protection of threatened or endangered species listed under the FESA. In addition to species and communities identified by the USFWS and CDFW, migratory deer winter ranges, Roosevelt elk ranges, avian rookery/nesting sites, streamside areas, and wetlands areas are defined as sensitive habitats (Humboldt County, 2017).

SMAs include locations mapped by the County as SMA and wetland combining zones, subject to site-specific biological verification. The outer boundary of the SMA is defined as 100 feet on either side of perennial streams, measured as the horizontal distance from the top of bank or edge of riparian drip-line (whichever is greater). For intermittent streams, the SMA is defined as 50 feet, measured as the horizontal distance from the top of bank or edge of riparian drip-line, whichever is greater. The width of SMAs shall not exceed 200 feet measured as a horizontal distance from the top of bank. Development standards for wetlands shall be consistent with the standards for SMAs, except that the widths of

the SMA for wetlands are 50 feet for seasonal wetlands and 100 feet for perennial wetlands, beginning at the edge of the delineated wetland. Discretionary projects that may result in a significant effect on oak woodlands must evaluate and mitigate any impacts, consistent with the provisions of CEQA.

4.3.1 County of Humboldt Commercial Cannabis Cultivation Land Use Ordinance (Coastal Zone)

On May 8, 2018, the Humboldt County Board of Supervisors adopted Ordinance Number 2598, amending provisions of Title III of the Humboldt County code relating to the commercial cultivation, processing, manufacturing, distribution, testing, and sale of cannabis for medicinal or adult use for the areas within the coastal zone. The ordinance established land use regulations concerning commercial cultivation, processing, manufacturing, and distribution of cannabis for medical use within the County of Humboldt in order to limit and control such cannabis activities in coordination with the State of California.

Section 55.4.12.1.10 establishes performance standards for biological resource protection for all cannabis cultivation and processing operations, referring to the mitigation measures established in the Final Environmental Impact Report for the ordinance which includes:

- MM 3.4-1a. Pre-approval biological reconnaissance survey to determine if suitable habitat is present for any special status plant or animal species; and
- MM 3.4-3a. CDFW (2009) Protocol level special-status plant surveys prior to new development related to cannabis activities.

Section 55.4.12.6 specifies performance standards for project-related noise produced by a generator used for commercial cannabis cultivation. The noise effects on wildlife are focused on avoiding impacts to marbled murrelet (*Brachyramphus marmoratus*) and northern spotted owl (*Strix occidentalis caurina*). Where located within one (1) mile of mapped habitat for Marbled Murrelet or Spotted Owls where timberland is present, maximum noise exposure from the combination of background cultivation-related noise may not exceed 50 decibels measured at a distance of 100 feet from the noise source or the edge of habitat, whichever is closer. Where ambient noise levels, without including cultivation related noise, exceed 50 decibels within 100 feet from the cultivation-related noise source or the edge of habitat, cultivation-related noise sources may exceed 50 decibels provided no increase over ambient noise levels would result.

Section 55.4.12.4 establishes performance standards for light pollution control which states that structures used for Mixed-Light Cultivation and Nurseries shall be shielded so that no light escapes between sunset and sunrise.

4.3.2 City of Eureka Code of Ordinances Title XV, Ch 156, section 156.056 Coastal Zone Development Natural Resource Standards (exerpt)

Protection of environmentally sensitive habitat areas. ESHAs shall be protected against any significant disruption of habitat values, and only uses dependent on such resources, including restoration and enhancement projects, shall be allowed within such areas. Development in areas adjacent to ESHAs shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.

Development in or near natural resource areas. Prior to the approval of a development permit, all developments on lots or parcels shown on the land use plan and/or resource maps with a natural resource designation or within 250 feet of such designation, or development affecting an ESHA, shall be found to be in conformity with the applicable habitat protection policies of the Local Coastal Program. All development plans and grading plans shall show the precise location of the habitat(s) potentially affected by the proposed project and the manner in which they will be protected, enhanced,

or restored. Projects which could adversely impact an ESHA may be subject to a site inspection by a qualified biologist to be selected jointly by the city and the applicant. Where mitigation, restoration, or enhancement activities are required to be performed pursuant to other applicable portions of this Local Coastal Program, they shall be required to be performed on city-owned lands on the Elk River Spit or on other available and suitable mitigation, restoration, or enhancement sites.

5.0 Results

From the review of existing data (see Section 2.0 Methodology), lists of potentially-occurring special status plant and animal species for the study area were compiled. Appendix 2 includes a list of all plant species reported from the queries, their preferred habitat, and whether there is suitable habitat present within the study area for the species. Appendix 3 includes a list of all animal species reported from the queries, their preferred habitat, and whether there is suitable habitat present within the study area for the species. The potential for occurrence of those species included on the list were then evaluated based on the habitat requirements of each species relative to the conditions observed during the field surveys.

Each species was evaluated for its potential to occur in the study area according to the following criteria:

- **None**. Species listed as having "none" are those species for which:
  - there is no suitable habitat present in the study area (that is, habitats in the study area are unsuitable for the species requirements [for example, elevation, hydrology, plant community, disturbance regime, etc.]).
- **Low**. Species listed as having a "low" potential to occur in the study area are those species for which:
  - there is no known record of occurrence in the vicinity, and
  - there is marginal or very limited suitable habitat present within the study area.
- **Moderate**. Species listed as having a "moderate" potential to occur in the study area are those species for which:
  - there are known records of occurrence in the vicinity, and
  - there is suitable habitat present in the study area.
- **High**. Species listed as having a "high" potential to occur on the study area are those species for which:
  - there are known records of occurrence in the vicinity (there are many records and/or records in close proximity), and
  - there is highly suitable habitat present in the study area.
- **Present**. Species listed as "present" in the study area are those species for which:
  - the species was observed in the study area.

5.1 Special Status Plant Species

Based on a review for special status plant species, 48 special status plant species have been reported from the region consisting of the study area's quadrangle and surrounding quadrangles. Of the special status plant species reported in the region, 32 plant species are considered to have no or low potential to occur within the study area and 16 species have a moderate or higher potential to occur within the study area (Appendix 2). Special status plant surveys occurred May 3 and June 12, 2019. Species that have a moderate or higher potential to occur within the study area are described below.

Sea-watch (*Angelica lucida*) is a perennial herb in the Apiaceae family. It is neither state nor federally listed, but has a CRPR of 1B.1 and heritage ranks of G4G5-T2/S1. Reported habitats include coastal strand, coastal bluff scrub, coastal dunes, coastal scrub, coastal salt marsh, and ranging from 0 to 10 meters above sea level. Within the nine-quad search, there are no RareFind occurrences. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

Coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*) is a perennial herb in the Fabaceae family. It is neither state nor federally listed, but has a CRPR of 1B.2 and heritage ranks of G2T2/S2. Reported habitats include coastal dunes, marshes, swamps, coastal scrub, in mesic sites along streams or marshes, and ranging from 0 to 155 meters above sea level. Within the nine-quad search, there is one Rarefind occurrence from 1925. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

Northern clustered sedge (*Carex arcta*) is a perennial herb in the Cyperaceae family. It is neither state nor federally listed, but has a CRPR of 2B.2 and heritage ranks of G5/S1. Reported habitats include bogs, fens, north coast coniferous forest, and ranging from 0 to 3,200 meters above sea-level. Within the nine-quad search, there are two Rarefind occurrences from 1934. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

bristle-stalked sedge (*Carex leptalea*) is a perennial herb in the Cyperaceae family. It is neither state nor federally listed, but has a CRPR of 2B.2 and heritage ranks of G5/S1. Reported habitats include bogs, fens, mostly known from bogs and wet meadows, and ranging from 3 to 1,395 meters above sea-level. Within the nine-quad search, there is one Rarefind occurrence from 1918. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

Lyngbye's sedge (*Carex lyngbyei*) is a perennial herb in the Cyperaceae family. It is neither state nor federally listed, but has a CRPR of 2B.2 and heritage ranks of G5/S3. Reported habitats include marshes, brackish and freshwater swamps, and ranging from 0 to 200 meters above sea-level. Within the nine-quad search, there are fifteen Rarefind occurrences. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

Northern meadow sedge (*Carex praticola*) is a perennial herb in the Cyperaceae family. It is neither state nor federally listed, but has a CRPR of 2B.2 and heritage ranks of G5/S2. Reported habitats include meadows and seeps, and ranging from 0 to 3,200 meters above sea-level. Within the nine-quad search, there is one Rarefind occurrence from 1915. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

Point Reyes salty bird's-beak (*Chloropyron maritimum* ssp. *palustre*) is an annual herb in the Orobanchaceae family. It is neither state nor federally listed, but has a CRPR of 1B.2 and heritage ranks of G4?T2/S2. Reported habitats include coastal salt marsh with *Salicornia* spp., *Distichlis* spp., *Jaumea* spp., and *Spartina* spp., ranging from 0 to 10 meters above sea-level. Within the nine-quad search, there are fifteen Rarefind occurrences. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

Small spikerush (*Eleocharis parvula*) is a perennial herb in the Cyperaceae family. It is neither state nor federally listed, but has a CRPR of 4.3 and heritage ranks of G5/S3. Reported habitats include marshes, swamps, salt marsh, wetlands in coastal salt marshes, and ranging from 1 to 3,020 meters above sea-level. Within the nine-quad search, there are no Rarefind occurrences. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

Harlequin lotus (*Hosackia gracilis*) is a perennial herb in the Fabaceae family. It is neither state nor federally listed, but has a CRPR of 4.2 and heritage ranks of G4/S3. Reported habitats include broadleaf upland forest, coast bluff scrub,

coastal prairie, closed cone coniferous forests, meadows, seeps, marshes, swamps, valley and foothill grasslands, and ranging from 0 to 700 meters above sea-level. Within the nine-quad search, there are no Rarefind occurrences. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

Marsh pea (*Lathyrus palustris*) is a perennial herb in the Fabaceae family. It is neither state nor federally listed, but has a CRPR of 2B.2 and heritage ranks of G5/S2. Reported habitats include bogs, fens, lower montane coniferous forests, marshes, swamps, north coast coniferous forests, coastal prairie, coastal scrub, and ranging from 2 to 140 meters above sea-level. Within the nine-quad search, there are two Rarefind occurrences. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

Howell's montia (*Montia howellii*) is an annual herb in the Montiaceae family. It is neither state nor federally listed, but has a CRPR of 2B.2 and heritage ranks of G3G4/S2. Reported habitats include meadows/seeps, north coast coniferous forest, and wetlands. It occurs in vernally wet sites (often on compacted soil), ranging from 10 to 1,005 meters above sea-level. Within the nine-quad search, there are no Rarefind occurrences. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

Maple-leaved checkerbloom (*Sidalcea malachroides*) is a perennial herb in the Malvaceae family. It is neither state nor federally listed, but has a CRPR of 4.2 and heritage ranks of G3/S3. Reported habitats include broadleaf upland forest, coastal prairie and scrub, north coast coniferous forest, riparian woodland, often in disturbed areas. Within the nine-quad search, there are seven occurrences. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

Siskiyou checkerbloom (*Sidalcea malviflora* ssp. *patula*) is a perennial herb in the Malvaceae family. It is neither state nor federally listed, but has a CRPR of 1B.2 and heritage ranks of G5T2/S2. Reported habitats include coastal bluff scrub, coastal prairie, north coast coniferous forest, open coastal forest, and roadcuts. Within the nine-quad search, there are five occurrences. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

Coast checkerbloom (*Sidalcea oregano* ssp. *eximia*) is a perennial herb in the Malvaceae family. It is neither state nor federally listed, but has a CRPR of 1B.2 and heritage ranks of G5T1/S1. Reported habitats include lower montane coniferous forest, meadows, seeps, and north coast coniferous forests. Within the nine-quad search, there are five occurrences. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

Western sand-spurrey (*Spergularia Canadensis* var. *occidentalis*) is an annual herb in the Caryophyllaceae family. It is neither state nor federally listed, but has a CRPR of 2B.1 and heritage ranks of G5T4/S1. Reported habitats include marshes and swamps, ranging from 0 to 3 meters above sea-level. Within the nine-quad search, there are four occurrences. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

Alpine marsh violet (*Viola palustris*) is a perennial herb in the Violaceae family. It is neither state nor federally listed, but has a CRPR of 2B.2 and heritage ranks of G5/S1S2. Reported habitats include coastal scrub, bogs, fens, shrubby places in coastal scrub, and coastal bogs. Within the nine-quad search, there are two occurrences from 1901 to 1923. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

The findings in this report represent a “snapshot in time” and it is possible that false negative surveys for rare plant species could occur.

5.2 Special Status Animal Species

Based on a review of special status animal species, 55 special status animal species have been reported with the potential to occur in the project region. Of the special status animal species potentially occurring in the region, 41 animal species are considered to have no or low potential to occur at the project site and 14 species have a moderate or higher potential (Appendix 3). Special status animal surveys occurred July 31, 2018 and May 3, 2019. Species with a moderate or high potential for occurrence within the study area are described below.

5.2.1 Birds

The Cooper's hawk (*Accipiter cooperii*) builds stick platform nests in crotches of riparian deciduous trees and second-growth conifers near streams. Of all the raptors, it is most associated with urbanized landscapes. It is not listed by either FESA or CESA and has heritage ranks of G5/S4. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Although habitat may exist locally for this species, it was not detected within the study area.

The black-capped chickadee (*Poecile atricapillus*) is a bird in the Paridae family. It is not listed under either FESA or CESA, but is included on a "Watch List" by CDFW and has heritage ranks of G5/S3. Reported habitats include riparian woodland. It inhabits riparian woodlands in Del Norte and northern Humboldt Counties. It is mainly found in deciduous tree-types, especially willows and alders, along large or small watercourses. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Although habitat may exist adjacent to the study area for this species, it was not detected within the study area.

The osprey (*Pandion haliaetus*) occurs near rivers, lakes, and coast where large numbers of fish are present. Ospreys are most common around major coastal estuaries and salt marshes. It is not listed by either FESA or CESA and has heritage ranks of G5/S4. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Although habitat may exist within the area surrounding the study area for this species, it was not detected within the study area.

The great blue heron (*Ardea herodias*) utilizes shallow estuaries and emergent wetlands. It's less common along riverine, rocky marine shores, and pastures but will search for prey in shallow water and open fields. It nests in colonies in tops of secluded large snags and live trees. It is not listed by either FESA or CESA and has heritage ranks of G5/S4. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Although habitat may exist within the area surrounding the study area for this species, it was not detected within the study area.

The white-tailed kite (*Elanus leucurus*) is found in cismontane woodlands, marshes and swamps, riparian woodland, valley and foothill grasslands, oak woodlands and river bottomlands. They nest in dense-topped trees. It is not listed by either FESA or CESA and has heritage ranks of G5/S3S4. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Although habitat may exist within the area surrounding the study area for this species, it was not detected within the study area.

The Vaux's swift (*Chaetura vauxi*) nests in coniferous or mixed forest and forages in forest openings, especially above streams. It is not listed by either FESA or CESA and has heritage ranks of G5/S2S3. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Although habitat may exist within the area surrounding the study area for this species, it was not detected within the study area.

The Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*) lives in grasslands with few trees, including meadows, pastures, grassy roadsides, sedge wetlands, and cultivated fields planted with cover crops like alfalfa. Near

oceans, they also inhabit tidal salt marshes and estuaries. It is not listed by either FESA or CESA and has heritage ranks of G5T2T3/S2S3. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Although habitat may exist within the study area for this species, it was not detected.

The short-eared owl (*Asio flammeus*) lives in large, open areas with low vegetation, including prairie and coastal grasslands, heathlands, meadows, shrubsteppe, savanna, tundra, marshes, dunes, and agricultural areas. It is not listed by either FESA or CESA and has heritage ranks of G5/S3. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Although habitat may exist within the study area for this species, it was not detected.

The northern harrier (*Circus cyaneus*) are most common in large, undisturbed tracts of wetlands and grasslands with low, thick vegetation during the breeding season. During winter they use a range of habitats with low vegetation, including deserts, coastal sand dunes, pasturelands, croplands, dry plains, grasslands, old fields, estuaries, open floodplains, and marshes. It is not listed by either FESA or CESA and has heritage ranks of G5/S3. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Although habitat may exist within the study area for this species, it was not detected.

The great egret (*Ardea alba*) lives in freshwater, brackish, and marine wetlands. During the breeding season they live in colonies in trees or shrubs with other waterbirds. It is not listed by either FESA or CESA and has heritage ranks of G5/S4. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Although habitat may exist within the study area for this species, it was not detected.

The snowy egret (*Egretta thula*) nests in colonies on thick vegetation in isolated places. During the breeding season, snowy egrets feed in estuaries, salt marshes, tidal channels, shallow bays, and mangroves. They winter in mangroves, saltwater lagoons, freshwater swamps, grassy ponds, and temporary pools, and forage on beaches, shallow reefs, and wet fields. It is not listed by either FESA or CESA and has heritage ranks of G5/S4. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Although habitat may exist within the study area for this species, it was not detected.

5.2.2 Mammals

There were no listed mammal species with moderate or high potential to occur in the project area.

5.2.3 Amphibians

The northern red-legged frog (*Rana aurora*) is an amphibian in the Ranidae family. It is not listed under either FESA or CESA, but is considered a species of special concern by CDFW and has heritage ranks of G4/S3. Reported habitats include Klamath/north coast flowing waters; riparian forest; and riparian woodlands. It occurs in humid forests, woodlands, grasslands, and streamsides in northwestern California; usually near dense riparian cover. It is generally found near permanent water, but is sometimes found far from water in damp woods and meadows during the non-breeding season (May to November). Habitat for this species within the study area does exist and it was observed (Figure 2).

5.2.4 Insects

The western bumble bee (*Bombus occidentalis*) is an insect in the Apidae family. It is not listed under either the FESA or CESA, but has heritage ranks of G2G3/S1. This species was once common and widespread, but has declined

precipitously from central California to southern British Columbia, perhaps from disease. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Although suitable habitat may exist within the project area for this species, it was not detected within the study area.

The obscure bumblebee (*Bombus caliginosus*) nests underground or in abandoned bird nests in coastal areas from Santa Barbara County to Washington State. It is not listed under FESA or CESA but has heritage ranks of G4/S1S2. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Although suitable habitat may exist within the project area for this species, it was not detected within the study area.

5.2.5 Fish

There were no listed fish species with moderate or high potential to occur in the project area.

5.2.6 Reptiles

There were no listed reptile species with moderate or high potential to occur in the project area.

5.2.7 Special Status Animal Species Summary Results

One special status animal species was observed within the study area, the northern red-legged frog. The occurrence location of the northern red-legged frog (species of special concern) observation may be affected by project activities if it is occurring within the proposed project area (Figure 2) during the time of construction. This is addressed in Section 7.0 Recommendations.

The findings in this report represent a "snapshot in time" and it is possible that false negative surveys for special status animal species could occur.

5.3 Special Status Habitats and Natural Communities

5.3.1 Designated Critical Habitat

USFWS's Critical Habitat database for habitat designated as critical for species listed under the FESA reported that the nearest critical habitat is the Elk River, specifically for the California coastal Chinook (*Oncorhynchus tshawytscha*), Green Sturgeon northern DPS (*Acipenser medirostris*), and steelhead (*Oncorhynchus mykiss irideus*).

5.3.2 Vegetation Alliances

Sensitive natural communities are habitats that are generally defined by vegetation type and geographical location and are increasingly restricted in abundance and distribution. Recognition of natural communities is an ecosystem-based approach to maintaining biodiversity in California. High-quality occurrences of natural communities with heritage ranks of 3 or lower are considered by CDFW to be significant resources and fall under the CEQA guidelines for addressing impacts. A small-fruited bulrush marsh (Scirpus microcarpus herbaceous alliance [G4 S2]) was observed within the study area (Figure 2).

The majority of the study area was composed of non-native grassland over compacted gravel and disturbed soils from past use. The non-native grassland was dominated by sweet vernal grass, large quaking-grass (*Briza maxima*), and with many lesser dominant, primarily non-native species. The non-native grassland most closely resembles a combination of *Holcus lanatus–Anthoxanthum odoratum* (Common velvet grass–sweet vernal grass meadows) Semi-natural Stands and *Bromus* (*diandrus*, *hordeaceus*)–*Brachypodium distachyon* (Annual brome grasslands) Semi-natural Stands. These are non-native, disturbance-adapted semi-natural stands and are considered a threat to remaining patches of native coastal prairie (Sawyer et al., 2009).

Two distinct ESHA were observed in the study area (See Section 6.3.2 Vegetation Alliances).

5.3.3 Wetland and Riparian Habitats

Refer to the Wetland Delineation Report completed by SHN (SHN, 2018) for a full description of wetland and riparian habitats in the project area. Wetlands and creek channels make up the majority of the study area boundary. Riparian areas typically provide habitat for a mosaic of wildlife species and are considered sensitive habitat under the Humboldt County Streamside Management Area Ordinance.

5.3.4 Nesting Bird Habitat

All locations with a shrub or tree canopy layer within the study area may provide suitable nesting habitat for a diverse assemblage of migratory birds. The dense willow patches along the western boundary of the property provide adequate nesting opportunity, although other riparian habitat nearby, not surrounded by industrial activities, is of higher quality. Cliff Swallow (*Petrochelidon pyrrhonota*) was observed nesting under the overhang of the back steps at the northwest portion of the building. Additionally, some species, such as western meadowlark (*Sturnella neglecta*), may nest in tall grasses.

5.3.5 Wildlife Movement Corridors

Water courses and their associated riparian zones are likely the primary wildlife movement corridors due to their complex structure, providing cover and hiding places from predators, and the extensive connectivity to other habitats the riparian zones typically provide. Additionally, wildlife may use existing roads and trails that provide corridors between patches of vegetation.

6.0 Conclusions

The purpose of this report was to assess the biological resources and habitat available within the study area. The habitat availability was assessed for special status species that may occur within the study area. Recommendations for avoiding and mitigating potential project-related impacts are addressed in Section 7.0 Recommendations.

6.1 Special Status Plant Species

Of the 48 special status plant species reported within the region, 32 are considered to have no or low potential to occur within the study area, and 16 are considered moderate or high potential to occur. Site investigations have been conducted during appropriate seasons for detecting plant species with moderate or higher potential for occurrence. Special status plant surveys occurred May 3 and June 12, 2019 and no special status plant species were observed.

6.2 Special Status Animal Species

Of the 55 special status animal species reported within the region, 41 animal species are considered to have no or a low potential to occur within the study area, 3 species have high potential to occur within the study area, 11 species have moderate potential, and 1 species was present. The Northern red-legged frog (*Rana aurora*) was the only special status animal species detected within the study area (Figure 2). Special status animal surveys occurred July 31, 2018 and May 3, 2019.

6.3 Special Status Habitats and Natural Communities

6.3.1 Designated Critical Habitat

The study area does not contain designated critical habitat for species listed under the FESA. USFWS's Critical Habitat database for habitat designated as critical for species listed under the FESA reported that the closest Designated Critical

Habitat is 0.24 miles to the south in the Elk River, specifically for the California coastal chinook, Green Sturgeon northern DPS, and steelhead. Project activities are not likely to impact this habitat with the use of best management practices (BMPs) during construction, included in Section 7.0 Recommendations of this report.

6.3.2 Vegetation Alliances

One distinct ESHA was observed in the study area (Figure 2). This area supports a small-fruited bulrush marsh (Scirpus microcarpus herbaceous alliance [G4 S2]). Himalayan blackberry was observed throughout the habitat area associated with the small-fruited bulrush population. The remainder of the terrace most closely resembles disturbed common velvet grass-sweet vernal grass meadow (*Holcus lanatus-Anthoxanthum odoratum* Semi-Natural Herbaceous Stands [Cal-IPC rank: Moderate]). However, tall fescue is the dominant species in most areas throughout the site. These communities are located on historic fill and disturbed areas.

6.3.3 Nesting Bird Habitat

All locations with a shrub or tree canopy layer within the study area may provide suitable nesting habitat for a diverse assemblage of migratory birds. Additionally, some species may nest in tall grasses, wetland areas, or the eaves of buildings. Surveys should be conducted for nesting birds within 7 days prior to any vegetation removal or construction activities during nesting season (Feb 15 – Aug 15).

6.3.4 Wildlife Movement Corridors

Watercourses and their associated riparian zones are likely the primary wildlife movement corridors due to their complex structure, providing cover and hiding places from predators. Additionally, wildlife may use existing roads and trails that provide narrow openings in areas of tall grass or dense shrub layers. Riparian areas provide a crucial connectivity for wildlife populations and access routes to and from riparian areas should be left available for wildlife to disperse. The majority of the project area is not considered to be a vital component of the available wildlife movement corridors in the vicinity.

7.0 Recommendations

Given the special status biological resources present within the study area, the following recommendations are provided to ensure that the project will not result in substantial impacts to biological resources.

- The project should attempt to avoid impacts to special status species and habitats present within the study area, specifically northern red-legged frog and ESHAs.
- Provide a detailed project description that addresses the proximity to special status resources, particularly wetlands, ESHA, and northern red-legged frog.
- Once a project description is finalized, prepare an impact analysis that considers project components and their effects on biological resources.
- Debris and invasive plant species should be removed from areas supporting small-fruited bulrush populations.
- If impacts to special status resources cannot be avoided while still accomplishing project objectives, these impacts should be mitigated at a ratio to be determined by consultation with the appropriate regulatory agency.
- Where project construction activities occur within close proximity (100 feet) to special status resources, these resources should be demarcated by high visibility construction fencing during the project construction period in a manner sufficient to avoid unintentional impacts.
- Project-related noise levels should be minimized so that sound levels are below 50 decibels at a distance of 100 feet from the source.

- Construction-related ground disturbance activities, such as grading and culvert repair projects, should include an erosion and sediment control plan that includes BMPs to avoid and minimize sediment transport.
- Limit ground disturbance and vegetation clearing to the minimal extent necessary to accomplish project goals.
- Project-related vegetation clearing should occur outside the bird nesting season, which is generally considered February 15 through August 15. If project-related brush clearing or structural work on buildings within the vicinity of nesting bird habitat must occur during the breeding season, nesting bird surveys should be performed in those locations by a qualified biologist to ensure that active nests are not destroyed.
- Use native and locally sourced plant material for landscaping, revegetation, and wetland mitigation.
- Ensure that future development or new fencing does not prevent wildlife movement by maintaining sufficient movement corridors outside the project area.
- For any proposed mixed-light cultivation, shield greenhouses so that little light escapes. Light should not escape at a level that is visible from neighboring properties between sunset and sunrise.
- The light source should comply with the International Dark Sky Association standards for lighting zones zero (0) and one (1), and be designed to regulate light spillage onto neighboring properties resulting from back-light, up-light, or glare.
- Refrain from the improper storage or use of any fuels, fertilizer, pesticide, fungicide, rodenticide, or herbicide.

8.0 References

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken (eds). (2012). *The Jepson Manual: Vascular Plants of California, Second Edition*. Berkeley, CA: University of California Press, Berkeley.

California Code of Regulations. (NR). 14 CCR 1.72. Sacramento, CA:CCR.

California Department of Fish and Wildlife. (1984). California Endangered Species Act. CFGC Sections 2070, 2080. Sacramento, CA:CDFW.

---. (1991). Natural Community Conservation Planning Act. Fish and Game Code Section 2800. Sacramento, CA:CDFW.

---. (1998). Fish and Game Code. Sacramento, CA:CDFW.

---. (2009). "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities."Accessed at: https://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf .

---. (2018a). "California Natural Diversity Database (CNDDB)." Accessed August 2018 at: http://www.dfg.ca.gov/biogeodata/cnddb/.

---. (2018b). RareFind 5 Database and the Biogeographic Information and Observation System (BIOS). Sacramento, CA:CDFW. Accessed August 2018 at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data#43018407-rarefind-5 .

---. (2018c). "Special Animals List." Accessed August 2018 at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline.

---. (2018d). "Lake and Streambed Alteration Program." Accessed August, 2018 at: https://www.wildlife.ca.gov/conservation/lsa.

California Native Plant Society. (2018). "Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39)." Accessed August 2018 at: http://www.rareplants.cnps.org/.

California Natural Resources Agency. (1970). California Environmental Quality Act. CCR: Title 14, Div. 6, Chap. 3, Appendix G; Sections 15125 (c) and 15380(d).

Consortium of California Herbaria. (NR). "Consortium of California Herbaria" database. Berkeley, CA:CCH. Accessed August 2018 at: http://ucjeps.berkeley.edu/consortium/.

County of Humboldt. (October 23, 2017). *Humboldt County General Plan*. Eureka, CA:Humboldt County. Accessed at: http://www.humboldtgov.org/547/General-Plan-Documents.

Humboldt State University. (2019). Humboldt Room Photograph Collections: Shuster. Humboldt State University, Arcata CA. Accessed at: http://library.humboldt.edu/humco/holdings/photoresults.php?R=-50&S=&CS=2001.01&RS=05&PS=Any%20Photographer&ST=ALL%20words&SW=.

Sawyer, J.O., T. Keeler-Wolf, and J. Evans. (2009). A Manual of California Vegetation, 2nd Edition. Sacramento, CA:CNPS Press.

SHN. (2018). *Jurisdictional Wetlands and Other Waters Delineation Report, SD Management, McKinleyville, California*. Arcata, CA:SHN.

State Water Resource Control Board. (1969.) Porter-Cologne Water Quality Control Act. CWC Section 7. Sacramento, CA:SWRCB.

U. S. Army Corps of Engineers Environmental Laboratory. (January 1987). *Corps of Engineers Wetlands Delineation Manual: Wetlands Research Program Technical Report Y-87-1*. Vicksburg, MS:ACOE.

U.S. Environmental Protection Agency. (2002). "Clean Water Act of 1972," 33 USC § 1251 et seq. Washington, D.C.:EPA.

---. Section 401 of the Clean Water Act, 33 USC § 1341. Washington, D.C.:EPA.

U.S. Environmental Protection Agency and U.S. Army Corps of Engineers. (2008). Clean Water Act Jurisdiction. Washington, D.C.:EPA.

U.S. Fish and Wildlife Service. (1918). Migratory Bird Treaty Act .50 CFR 21, 16 USC 703. Washington, D.C.:USFWS.

---. (1934). The Fish and Wildlife Coordination Act (16 USC Sections 661-667e, March 10, 1994, as amended 1946, 1958, 1978, and 1995). Washington, D.C.:USFWS.

---. (1973). Endangered Species Act.16 USC 1532, 16 USC 1536, 50 CFR 17.3. Washington, D.C.:USFWS.

---. (2018a). Information, Planning and Conservation System (IPAC). "List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project." Accessed August, 2018 at https://ecos.fws.gov/ipac/.

---. (2018b). "Critical Habitat Report - Environmental Conservation Online System." Accessed August, 2018 at: https://ecos.fws.gov/ecp/report/table/critical-habitat.html.

U.S. Geological Survey. (1977). Preliminary Integrated Geologic Map Databases for the United States: Western States. Accessed August 2018 at: http://mrdata.usgs.gov/geology/state/state.php?state=CA.

---. (2012). Eureka 7.5-Minute Quadrangle. NR:USGS.

Whittaker, Doug and Richard L. Knight (eds). (1998). *Understanding Wildlife Responses to Humans. Wildlife Society Bulletin, Vol. 26, No. 2*. pp. 312-317. Bethesda, MD:Wildlife Society.

Site Photographs 1

Photo 1: Project location property in 1948.

Photo 2: Project location property in 2018.

Photo 3: Existing buildings on site. Willow patch in right half of photo is the historical location of a small building and is now a 3-parameter wetland.

Photo 4: The majority of the project area is gravel fill.

Regionally Occurring Special Status Plant Species Scoping List

2

Appendix 2 Regionally Occurring Special Status Plant Species Scoping List CNDDB, CNPS, IPaC SD Management, 8/28/2018 Eureka and Surrounding 7.5-min Quadrangles											
Scientific Name	**Common Name**	**Family**	**Fed List**	**Cal List**	**G Rank**	**S Rank**	**R Plant Rank**	**Bloom Period**	**General Habitat**	**Micro-Habitat**	**Potential of Occurrence**
Abronia umbellata var. *breviflora*	pink sand-verbena	Nyctagin-aceae	None	None	G4G5-T2	S1	1B.1	June-Oct.	Coastal dunes and coastal strand.	Foredunes and interdunes with sparse cover. Usually the plant closest to the ocean. 0-10 m.	None
Angelica lucida	sea-watch	Apiaceae	None	None	G5	S3	4.2	May-Sept.	Coastal strand	Coastal bluff scrub, coastal dunes, coastal scrub, coastal salt marshes. 0-150 m	Moderate
Astragalus pycnostachyus var. *pycnostachyus*	coastal marsh milk-vetch	Fabaceae	None	None	G2T2	S2	1B.2	April-Oct.	Coastal dunes, marshes & swamps, coastal scrub.	Mesic sites in dunes or along streams or coastal salt marshes. 0-155 m.	Moderate
Astragalus rattanii var. *rattanii*	Rattan's milk-vetch	Fabaceae	None	None	G4T4	S4	4.3	April-July	Chaparral, cismontane woodland, lower montane coniferous forest.	Open grassy hillsides, gravelly flats in valleys, and gravel bars of stream beds. 30-825 m.	None
Bryoria spiralifera	twisted horsehair lichen	Parmeli-aceae	None	None	G3	S1S2	1B.1	Lichen	North coast coniferous forest.	Usually on conifers. 0-30 m.	Low
Cardamine angulata	seaside bittercress	Brassic-aceae	None	None	G5	S1	2B.1	Jan.-July	Lower montane and No. coast coniferous forest, wetland	Wet areas, streambanks. 90-155 m.	None
Carex arcta	northern clustered sedge	Cyperacea e	None	None	G5	S1	2B.2	June–Sept.	Bogs and fens, North Coast coniferous forest.	Mesic sites. 0-3,200 m.	Moderate
Carex leptalea	bristle-stalked sedge	Cyperacea e	None	None	G5	S1	2B.2	March-July	Bogs and fens, meadows and seeps, marshes and swamps.	Mostly known from bogs and wet meadows. 3-1,395 m.	Moderate
Carex lyngbyei	Lyngbye's sedge	Cyperacea e	None	None	G5	S3	2B.2	April-August	Marsh & swamp (brackish or freshwater).	0-200 m.	High
Carex praticola	northern meadow sedge	Cyperacea e	None	None	G5	S2	2B.2	May-July	Meadows and seeps.	Mesic sites. 0-3,200 m.	Moderate
Castilleja ambigua var. *ambigua*	Johnny-nip	Orobanch-aceae	None	None	G4T5	S4	4.2	March-Aug	Coastal bluff scrub, coastal scrub, coastal prairie, marshes & swamps, valley & foothill grassland, vernal pool margins.	0-435 m.	Low

Appendix 2 Regionally Occurring Special Status Plant Species Scoping List CNDDB, CNPS, IPaC SD Management, 8/28/2018 Eureka and Surrounding 7.5-min Quadrangles											
Scientific Name	**Common Name**	**Family**	**Fed List**	**Cal List**	**G Rank**	**S Rank**	**R Plant Rank**	**Bloom Period**	**General Habitat**	**Micro-Habitat**	**Potential of Occurrence**
Castilleja litoralis	Oregon coast paintbrush	Orobanch-aceae	None	None	G3	S3	2B.2	June	Coastal bluff scrub, coastal dunes, coastal scrub.	Sandy sites. 5-255 m.	Low
Chloropyron maritimum ssp. *palustre*	Point Reyes salty bird's-beak	Orobanch-aceae	None	None	G4?T2	S2	1B.2	June-Oct.	Coastal salt marsh.	Usually in coastal salt marsh with Salicornia, Distichlis, Jaumea, Spartina, etc. 0-10 m.	Moderate
Chrysosplenium glechomifolium	Pacific golden saxifrage	Saxifrag-aceae	None	None	G5	S3	4.3	Feb.-June	North Coast coniferous forest, riparian forest.	Streambanks, sometimes seeps, sometimes roadsides. 10-220 m.	Low
Collinsia corymbosa	round-headed Chinese-houses	Plantagin-aceae	None	None	G1	S1	1B.2	April-June	Coastal Dunes	Coastal dunes from 10-30 m	None
Eleocharis parvula	small spikerush	Cyperacea e	None	None	G5	S4	4.3	July-August	Marsh & swamp, salt marsh, wetland	In coastal salt marshes. 1-3020 m.	Moderate
Erysimum menziesii	Menzies' wallflower	Brassic-aceae	E	E	G1	S1	1B.1	March-Sept.	Coastal dunes.	Localized on dunes and coastal strand. 0-35 m.	None
Erythronium revolutum	coast fawn lily	Liliaceae	None	None	G4G5	S3	2B.2	March-July	Bogs and fens, Broadleaved upland forest, North Coast coniferous forest.	Mesic streambanks. 0-1,600 m.	Low
Fissidens pauperculus	minute pocket moss	Fissident-aceae	None	None	G3?	S2	1B.2	Lichen	North coast coniferous forest, Redwood.	Moss growing on damp soil along the coast. In dry streambeds and on stream banks. 10-1024 m.	None
Gilia capitata ssp. *pacifica*	Pacific gilia	Polemoni-aceae	None	None	G5T3	S2	1B.2	April-August	Coastal bluff scrub, Chaparral (openings), Coastal prairie, Valley and foothill grassland.	5-1,665 m.	Low
Gilia millefoliata	dark-eyed gilia	Polemonia ceae	None	None	G2	S2	1B.2	April-July	Coastal dunes.	1-60 m.	None
Glehnia littoralis ssp. *leiocarpa*	American glehnia	Apiaceae	None	None	G5T5	S3	4.2	May-August	Coastal Dunes	0-20 m.	None
Hesperevax sparsiflora var. *brevifolia*	short-leaved evax	Asteraceae	None	None	G4T3	S2	1B.2	March-June	Coastal bluff scrub, coastal dunes, coastal prairie.	Sandy bluffs and flats. 0-215 m.	Low

Appendix 2 Regionally Occurring Special Status Plant Species Scoping List CNDDB, CNPS, IPaC SD Management, 8/28/2018 Eureka and Surrounding 7.5-min Quadrangles											
Scientific Name	**Common Name**	**Family**	**Fed List**	**Cal List**	**G Rank**	**S Rank**	**R Plant Rank**	**Bloom Period**	**General Habitat**	**Micro-Habitat**	**Potential of Occurrence**
Hosackia gracilis	harlequin lotus	Fabaceae	None	None	G4	S3	4.2	March-July	Broadleaved upland forest, coast bluff scrub, coast prairie, coast scrub, closed-cone coniferous forest, meadow, seep, marsh & swamp, N. coast coniferous forest, valley & foothill grassland.	Wetlands and roadsides. 0-700 m.	Moderate
Lathyrus gladulosus	sticky pea	Fabaceae	None	None	G3	S3	4.3	April-June	Cismontane woodland.	In oak woodlands upland from the coastal redwood forests, and along roadsides. 300-800 m.	None
Lathyrus japonicus	seaside pea	Fabaceae	None	None	G5	S2	2B.1	May-August	Coastal dunes.	3-65 m.	Low
Lathyrus palustris	marsh pea	Fabaceae	None	None	G5	S2	2B.2	March-August	Bogs & fens, lower montane coniferous forest, marsh & swamp, north coast coniferous forest, coastal prairie, coastal scrub.	Moist coastal areas. 2-140 m.	Moderate
Layia carnosa	beach layia	Asteraceae	E	E	G2	S2	1B.1	March-July	Coastal dunes, coastal scrub.	On sparsely vegetated, semi-stabilized dunes, usually behind foredunes. 0-30 m.	Low
Lilium kelloggii	Kellogg's lily	Liliaceae	None	None	G3	S3	4.3	May-August	Lower montane coniferous forest, North Coast coniferous forest.	Openings and roadsides. 3-1,300 m.	Low
Lilium occidentale	western lily	Liliaceae	E	E	G1	S1	1B.1	June-July	Coastal scrub, freshwater marsh, bogs & fens, coastal bluff scrub, coast prairie, N. coast coniferous forest, marshes and swamps.	Well-drained, old beach washes overlain with wind-blown alluvium and organic topsoil; usually near margins of Sitka spruce. 3-110 m.	Low
Listera cordata	heart-leaved twayblade	Orchidaceae	None	None	G5	S4	4.2	Feb.-July	Lower montane coniferous forest, north coast coniferous forest.	Bogs and fens. 5-1370 m.	Low
Lycopodium clavatum	running-pine	Lycopodi-aceae	None	None	G5	S3	4.1	June-Sept.	Lower montane coniferous forest, north coast coniferous forest, marsh & swamp.	Forest understory, edges, openings, roadsides; mesic sites with partial shade and light. 45-1,225 m.	Low

Appendix 2 Regionally Occurring Special Status Plant Species Scoping List CNDDB, CNPS, IPaC SD Management, 8/28/2018 Eureka and Surrounding 7.5-min Quadrangles											
Scientific Name	**Common Name**	**Family**	**Fed List**	**Cal List**	**G Rank**	**S Rank**	**R Plant Rank**	**Bloom Period**	**General Habitat**	**Micro-Habitat**	**Potential of Occurrence**
Mitellastra caulescens	leafy-stemmed mitrewort	Saxifrag-aceae	None	None	G5	S4	4.2	March-Oct.	Broadleaved upland forest, lower montane coniferous forest, meadow & seep, No. coast coniferous forest.	Mesic sites. 5-1,700 m.	Low
Monotropa uniflora	ghost-pipe	Ericaceae	None	None	G5	S2	2B.2	June-Sept.	Broadleaved upland forest, north coast coniferous forest.	Often under redwoods or west hemlock. 15-855 m.	None
Montia howellii	Howell's montia	Montiaceae	None	None	G3G4	S2	1B.1	March-June	Meadows and seeps, North Coast coniferous forest, Vernal pools.	Vernally mesic sites, sometimes roadsides. 0-835 m.	High
Oenothera wolfii	Wolf's evening-primrose	Onagraceae	None	None	G2	S1	1B.1	May-Oct.	Coastal bluff scrub, coastal dunes, coastal prairie, low montane coniferous forest.	Sandy substrates; usually mesic sites. 3-800 m.	Low
Pityopus californicus	California pinefoot	Ericaceae	None	None	G4G5	S4	4.2	March-August	Broadleaf upland forest, upper montane and, N. coast coniferous forest, low montane coniferous forest.	Deep shade with few understory species, often under layer of duff, in rocky to clay loam soil. 15-2,225 m.	None
Pleuropogon refractus	nodding semaphore grass	Poaceae	None	None	G4	S4	4.2	March-August	Meadow & seep, low montane coniferous forest, N. coast coniferous forest, riparian forest.	Mesic sites along streams, grassy flats in shaded redwood groves. 0-1,600 m.	Low
Puccinellia pumila	dwarf alkali grass	Poaceae	None	None	G4?	SH	2B.2	July	Marshes and swamps.	Mineral spring meadows and coastal salt marshes. 1-10 m.	Low
Ribes laxiflorum	trailing black currant	Grossulariaceae	None	None	G5	S4	4.3	March-July	North Coast coniferous forest.	Sometimes roadsides. 5-1,395 m.	Low
Sidalcea malachroides	maple-leaved checkerbloom	Malvaceae	None	None	G3	S3	4.2	March-August	Broadleaf upland forest, coast prairie, coast scrub, N. coast coniferous forest,riparian.	Woodlands and clearings near coast; often in disturbed areas. 0-730 m.	Moderate
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	Malvaceae	None	None	G5T2	S2	1B.2	March-August	Coastal bluff scrub, coastal prairie, north coast coniferous forest.	Open coastal forest; roadcuts. 5-1,255 m.	Moderate

Appendix 2
Regionally Occurring Special Status Plant Species Scoping List CNDDB, CNPS, IPaC
SD Management, 8/28/2018
Eureka and Surrounding 7.5-min Quadrangles

Scientific Name	Common Name	Family	Fed List	Cal List	G Rank	S Rank	R Plant Rank	Bloom Period	General Habitat	Micro-Habitat	Potential of Occurrence
Sidalcea oregana ssp. eximia	coast checkerbloom	Malvaceae	None	None	G5T1	S1	1B.2	June-August	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest.	5-1,340 m.	Moderate
Silene scouleri ssp. scouleri	Scouler's catchfly	Caryophyllaceae	None	None	G5T5	S2S3	2B.1	May-July	Coastal bluff scrub, coastal prairie, and foothill grasslands.	0-600 m.	Low
Spergularia canadensis var. *occidentalis*	western sand-spurrey	Caryophyll-aceae	None	None	G5T4	S1	2B.1	June-August	Marshes and swamps (coastal salt marshes).	0-3 m.	moderate
Trichodon cylindricus	cylindrical trichodon	Ditrichaceae	None	None	G4	S2	2B.2	Moss	Broadleaved upland forest, upper montane coniferous forest.	Moss growing in openings on sandy or clay soils on roadsides, stream banks, trails or in fields. 50-1,500 m.	None
Usnea longissima	Methuselah's beard lichen	Parmeliaceae	None	None	G4	S4	4.2	lichen	North coast coniferous forest, broadleaved upland forest.	Grows in the "redwood zone" on tree branches of a variety of trees, including big leaf maple, oaks, ash, Douglas-fir, and bay. 45-1,465 m.	None
Viola palustris	alpine marsh violet	Violaceae	None	None	G5	S1S2	2B.2	March-August	Coastal scrub, bogs and fens.	Swampy, shrubby places in coastal scrub or coastal bogs. 0-150 m.	Moderate

1. Species indicator status as assigned by Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), and California Department of Fish and Wildlife (CDFW)

   C: candidate
   CT: candidate threatened
   D: delisted
   DPS: distinct population segment
   E: endangered
   ESU: evolutionarily significant unit
   FP: fully protected
   PT: proposed threatened
   SSC: species of special concern
   T: threatened
   WL: watch list
   FP: fully protected

2. Species Heritage rank as assigned by California Department of Fish and Wildlife (CDFW)
   G1/S1: critically imperiled
   G2/S2: imperiled
   G3/S3: vulnerable
   G4/S4: apparently secure
   G5/S5: secure

Regionally Occurring Special Status Animal Species Scoping List

3

Appendix 3
Regionally Occurring Special Status Animal Species Scoping List, CNDDB & IPaC
SD Management 7/27/18
Eureka and Surrounding 7.5-min Quadrangles

Scientific Name	Common Name	FedList	CalList	Other Status	GRank	SRank	Habitats	Potential of Occurrence
Amphibians								
Ascaphus truei	Pacific-tailed frog	None	None	SSC	G4	S3S4	Occurs in montane hardwood-conifer, redwood, Douglas-fir & ponderosa pine habitats. Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.	None
Rana aurora	northern red-legged frog	None	None	SSC	G4	S3	Humid forests, woodlands, grasslands, & streamsides in NW California, usually near dense riparian cover. Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season.	Present/ High
Rana boylii	foothill yellow-legged frog	None	Candidate Threatened	SSC	G3	S3	Partly shaded, shallow streams & riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.	None
Rhyacotriton variegatus	southern torrent salamander	None	None	SSC	G3G4	S2S3	Coastal redwood, Douglas-fir, mixed conifer, montane riparian and montane hardwood-conifer habitats. Old-growth forest. Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rock within trickling water.	None
Birds								
Accipiter cooperii	Cooper's hawk	None	None	WL	G5	S4	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains; also, live oaks.	Moderate
Chaetura vauxi	Vaux's swift	None	None	SSC	G5	S2S3	Nests in coniferous or mixed forest. Forages in forest openings, especially above streams.	Moderate

Appendix 3 Regionally Occurring Special Status Animal Species Scoping List, CNDDB & IPaC SD Management 7/27/18 Eureka and Surrounding 7.5-min Quadrangles								
Scientific Name	**Common Name**	**FedList**	**CalList**	**Other Status**	**GRank**	**SRank**	**Habitats**	**Potential of Occurrence**
Botaurus lentiginosus	American bittern	None	None	None	G4	S3S4	In winter they move to areas where water bodies don't freeze, especially near the coast, where they occasionally use brackish marshes. Usually build their nests among thick stands of cattails, bulrushes, and sedges that grow out of shallow water.	Low
Passerculus sandwichensis alaudinus	Bryant's savannah sparrow	None	None	SSC	G5T2T3	S2S3	Savannah Sparrows live in grasslands with few trees, including meadows, pastures, grassy roadsides, sedge wetlands, and cultivated fields planted with cover crops like alfalfa. Near oceans, they also inhabit tidal saltmarshes and estuaries.	High
Falco columbarius	merlin	None	None	WL	G5	S3S4	Merlins breed in open and semiopen areas across northern North America. The boreal subspecies usually nests near forested openings, in fragmented woodlots, near rivers, lakes, or bogs, and on lake islands. The Pacific Northwest subspecies seem to nest mostly in coastal areas and along rivers.	Low
Falco peregrinus anatum	American peregrine falcon	Delisted	Delisted	FP	G4T4	S3S4	Elevations up to about 12,000 feet, as well as along rivers and coastlines or in cities. Any open habitat, but with a greater likelihood along barrier islands, mudflats, coastlines, lake edges, and mountain chains.	Low
Poecile atricapillus	black-capped chickadee	None	None	WL	G5	S3	Chickadees are found in deciduous and mixed forests, open woods, parks, willow thickets, cottonwood groves, and disturbed areas.	Moderate
Pelecanus occidentalis californicus	California brown pelican	Delisted	Delisted	FP	G4T3T4	S3	Colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	Low

Appendix 3 Regionally Occurring Special Status Animal Species Scoping List, CNDDB & IPaC SD Management 7/27/18 Eureka and Surrounding 7.5-min Quadrangles								
Scientific Name	**Common Name**	**FedList**	**CalList**	**Other Status**	**GRank**	**SRank**	**Habitats**	**Potential of Occurrence**
Numenius americanus	long-billed curlew	None	None		G5	S2	Breeds in upland shortgrass prairies & wet meadows in northeastern California. Habitats on gravelly soils and gently rolling terrain are favored over others.	None
Asio flammeus	short-eared owl	None	None	SSC	G5	S3	Short-eared owls live in large, open areas with low vegetation, including prairie and coastal grasslands, heathlands, meadows, shrubsteppe, savanna, tundra, marshes, dunes, and agricultural areas.	Moderate
Contopus cooperi	olive-sided flycatcher	None	None	SSC	G4	S4	Winters at forest edges and clearings where tall trees or snags are present. Nest is an open cup of twigs, rootlets, and lichens, placed out near tip of horizontal branch of a tree.	None
Accipiter striatus	sharp-shinned hawk	None	None	WL	G5	S4	Ponderosa pine, black oak, riparian deciduous, mixed conifer & Jeffrey pine habitat. Prefers riparian. North-facing slopes, with plucking perches are critical requirements. Nests usually within 275 ft of water.	Low
Ardea alba	great egret	None	None	S	G5	S4	Great egrets live in freshwater, brackish, and marine wetlands. During the breeding season they live in colonies in trees or shrubs with other water birds.	Moderate
Ardea herodias	great blue heron	None	None	S	G5	S4	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	Moderate
Brachyramphus marmoratus	marbled murrelet	Threatened	Endangered	S	G3G4	S1	Breeds in coniferous forests near coasts, nesting on large horizontal branches high up in trees. Winters at sea.	None

Appendix 3 Regionally Occurring Special Status Animal Species Scoping List, CNDDB & IPaC SD Management 7/27/18 Eureka and Surrounding 7.5-min Quadrangles								
Scientific Name	**Common Name**	**FedList**	**CalList**	**Other Status**	**GRank**	**SRank**	**Habitats**	**Potential of Occurrence**
Charadrius alexandrinus nivosus	western snowy plover	Threatened	None	SSC	G3T3	S2S3	Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	None
Charadrius montanus	mountain plover	None	None	SSC	G3	S2S3	Short grasslands, freshly plowed fields, newly sprouting grain fields, & sometimes sod farms. Short vegetation, bare ground & flat topography. Prefers grazed areas & areas with burrowing rodents.	None
Circus cyaneus	northern harrier	None	None	SSC	G5	S3	Breeding northern harriers are most common in large, undisturbed tracts of wetlands and grasslands with low, thick vegetation. During winter they use a range of habitats with low vegetation, including deserts, coastal sand dunes, pasturelands, croplands, dry plains, grasslands, old fields, estuaries, open floodplains, and marshes.	High
Coturnicops noveboracensis	yellow rail	None	None	SSC	G4	S1S2	In winter, drier fresh-water and brackish marshes, as well as dense, deep grass, and rice fields. Nest on the ground.	None
Egretta thula	snowy egret	None	None	None	G5	S4	Snowy egrets nest in colonies on thick vegetation in isolated places. During the breeding season, snowy egrets feed in estuaries, saltmarshes, tidal channels, shallow bays, and mangroves. They winter in mangroves, saltwater lagoons, freshwater swamps, grassy ponds, and temporary pools, and forage on beaches, shallow reefs, and wet fields.	Moderate
Elanus leucurus	white-tailed kite	None	None	S	G5	S3S4	Rolling foothills and valley margins w/scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Moderate

Appendix 3 Regionally Occurring Special Status Animal Species Scoping List, CNDDB & IPaC SD Management 7/27/18 Eureka and Surrounding 7.5-min Quadrangles								
Scientific Name	**Common Name**	**FedList**	**CalList**	**Other Status**	**GRank**	**SRank**	**Habitats**	**Potential of Occurrence**
Haliaeetus leucocephalus	bald eagle	Endangered	FP	S	G5	S3	Ocean shore, lake margins, & rivers for both nesting & wintering. Most nests within 1 mi of water. Nests in large, old-growth, or dominant live tree w/ open branches, especially ponderosa pine. Roosts communally in winter.	Low
Nycticorax nycticorax	black-crowned night heron	None	None	None	G5	S4	Marsh & swamp, riparian forest, riparian woodland, wetland. Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.	Low
Pandion haliaetus	osprey	None	None	WL	G5	S4	Near rivers, lakes, reservoirs, lagoons, swamps, and marshes. Nests are usually built on snags, treetops, or crotches between large branches and trunks; on cliffs or human-built platforms.	Moderate
Phalacrocorax auritus	double-crested cormorant	None	None	WL	G5	S4	Colonial nester on coastal cliffs, offshore islands, & along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	Low
Rallus obsoletus obsoletus	California Ridgway's rail	Endangered	Endangered	FP	G5T1	S1	Ridgway's rails live in saltmarsh swamps with extensive vegetation, which they use as refuges, especially at high tide. Live in low portions of coastal saltmarshes dominated by cordgrass and pickleweed, or in mangroves.	None
Riparia riparia	bank swallow	None	Threatened	S	G5	S2	Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole. Colonial nester; nests primarily in riparian and other lowland habitats west of the desert.	None

Appendix 3 Regionally Occurring Special Status Animal Species Scoping List, CNDDB & IPaC SD Management 7/27/18 Eureka and Surrounding 7.5-min Quadrangles								
Scientific Name	**Common Name**	**FedList**	**CalList**	**Other Status**	**GRank**	**SRank**	**Habitats**	**Potential of Occurrence**
Insects								
Bombus caliginosus	obscure bumble bee	None	None	VU	G4?	S1S2	Coastal areas from Santa Barbara County to north to Washington State. Food plant genera include *Baccharis, Cirsium, Lupinus, Lotus, Grindelia* and *Phacelia.*	Moderate
Bombus occidentalis	western bumble bee	None	None	S	G2G3	S1	Once common & widespread, species has declined precipitously from central CA to southern B.C. Nest in cavities or abandoned burrows.	Moderate
Cicindela hirticollis gravida	sandy beach tiger beetle	None	None		G5T2	S2	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.	None
Fish								
Oncorhynchus mykiss irideus pop. 36	summer-run steelhead trout	None	None	SSC	G5T4Q	S2	No. Calif. coastal streams south to Middle Fork Eel River. Within range of Klamath Mtns province DPS & No. Calif DPS. Cool, swift, shallow water & clean loose gravel for spawning, & suitably large pools in which to spend the summer.	None
Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	Threatened	None	None	G5	S1	South of the Klamath River to and including the Russian River.	None
Acipenser medirostris	green sturgeon	Threatened	None	SSC	G3	S1S2	The most marine species of sturgeon. Abundance increases northward of Point Conception. Spawns in the Sacramento, Klamath, & Trinity Rivers. Spawns at temps between 8-14 C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	None

Appendix 3 Regionally Occurring Special Status Animal Species Scoping List, CNDDB & IPaC SD Management 7/27/18 Eureka and Surrounding 7.5-min Quadrangles								
Scientific Name	**Common Name**	**FedList**	**CalList**	**Other Status**	**GRank**	**SRank**	**Habitats**	**Potential of Occurrence**
Entosphenus tridentatus	Pacific lamprey	None	None	SSC	G4	S4	Found in Pacific Coast streams north of San Luis Obispo Co., however, regularly runs in Santa Clara River. Size of runs is declining. Swift-current gravel-bottomed areas for spawning with water temps between 12-18 C. Ammocoetes need soft sand or mud.	None
Eucyclogobius newberryi	tidewater goby	Endangered	None	SSC	G3	S3	Brackish water habitats along the Calif. coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels.	None
Oncorhynchus clarkii clarkii	coast cutthroat trout	None	None	SSC	G4T4	S3	Small coastal streams from the Eel River to the Oregon border. Small, low gradient coastal streams & estuaries. Need shaded streams with water temps <18C, & small gravel for spawning.	None
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	Threatened	Threatened	None	G4T2Q	S2?	Small coastal streams, as well as larger rivers, such as the Klamath River system, where they are currently found as far upstream as Iron Gate Dam and the Shasta River. Females usually choose spawning sites near the head of a riffle with medium to small gravel substrates.	None
Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	Threatened	None	None	G5T2T3Q	S2S3	Aquatic, California coastal river basins from Redwood Creek to and including the Gualala River. Below natural and manmade impassable barriers. Excavates in gravel for spawning.	None
Spirinchus thaleichthys	longfin smelt	Candidate	Threatened	SSC	G5	S1	Euryhaline, nektonic & anadromous. Open waters of estuaries, mostly mid to bottom of water column. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	None

Appendix 3 Regionally Occurring Special Status Animal Species Scoping List, CNDDB & IPaC SD Management 7/27/18 Eureka and Surrounding 7.5-min Quadrangles								
Scientific Name	**Common Name**	**FedList**	**CalList**	**Other Status**	**GRank**	**SRank**	**Habitats**	**Potential of Occurrence**
Thaleichthys pacificus	eulachon	Threatened	None	None	G5	S3	Found in Klamath River, Mad River, Redwood Creek & in small numbers in Smith River & Humboldt Bay tributaries. Spawn in lower reaches of coastal rivers w/ moderate water velocities & bottom of pea-sized gravel, sand & woody debris.	None
Mammals								
Aplodontia rufa humboldtiana	Humboldt mountain beaver	None	None	None	G5TNR	SNR	North-facing slopes near ample water sources, with dense cover, on steep hillsides with loose soil. Dense herbaceous cover is needed for protection from predators, as well as for forage material, while steep loose hillsides allow for burrow creation.	None
Arborimus albipes	white-footed vole	None	None	SSC	G3G4	S2	Mature coastal forests in Humboldt & Del Norte Cos. Prefers areas near small, clear streams with dense alder & shrubs. Occupies the habitat from the ground surface to the canopy. Feeds in all layers & nests on the ground under logs or rock.	None
Arborimus pomo	Sonoma tree vole	None	None	SSC	G3	S3	No. coast fog belt from Oregon border to Sonoma Co. In Douglas-fir, redwood & montane hardwood-conifer forests. Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock, or spruce.	None
Corynorhinus townsendii	Townsend's big-eared bat	None	None	S	G3G4	S2	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls & ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	None
Erethizon dorsatum	North American porcupine	None	None	None	G5	S3	Upper and lower montane coniferous forests. Make their dens in hollow trees or in rocky areas. Spend much of the time in trees.	None

Appendix 3 Regionally Occurring Special Status Animal Species Scoping List, CNDDB & IPaC SD Management 7/27/18 Eureka and Surrounding 7.5-min Quadrangles								
Scientific Name	**Common Name**	**FedList**	**CalList**	**Other Status**	**GRank**	**SRank**	**Habitats**	**Potential of Occurrence**
Martes caurina humboldtensis	Humboldt marten	None	Candidate Endangered	SSC	G5T1	S1	Typically associated with closed-canopy, late-successional, mesic coniferous forests with complex physical structure near the ground. Den in lower branches of living trees, tree boles in various stages of decay, coarse woody debris, shrubs, and rockfields.	None
Myotis evotis	long-eared myotis	None	None	WL	G5	S3	Found in all brush, woodland, & forest habitats from sea level to about 9,000 ft. prefers coniferous woodlands & forests. Nursery colonies in buildings, crevices, spaces under bark, & snags. Caves used primarily as night roosts.	None
Pekania pennanti	fisher - West Coast DPS	None	Threatened	SSC	G5T2T3Q	S2S3	Southern Oregon, Northern California and the Southern Sierra Nevada Mountains. Old-growth and riparina forests.	None
Mollusks								
Anodonta californiensis	California floater	None	None	None	G3Q	S2?	Typically inhabit lakes, reservoirs, and slow-moving streams with mud or sand substrates, although they have also been found in rivers and creeks with gravel substrates.	None
Margaritifera falcata	western pearlshell	None	None	None	G4G5	S1S2	Aquatic. Eggs incubate and hatch into micro-scopic mussel infants which attach them-selves to the gills or fins of a passing host fish. Once they drop from the fish, they'll burrow into the gravel bed and sediment of the river or lake the fish has reached.	None
Reptiles								
Emys marmorata	western pond turtle	None	None	SSC	G3G4	S3	A thoroughly aquatic turtle of ponds, marshes, rivers, streams, & irrigation ditches, usually with aquatic vegetation, below 6,000 ft elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	None

Appendix 3
Regionally Occurring Special Status Animal Species Scoping List, CNDDB & IPaC
SD Management 7/27/18
Eureka and Surrounding 7.5-min Quadrangles

1. Species indicator status as assigned by Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), and California Department of Fish and Wildlife (CDFW)

C: candidate	FP: fully protected
CT: candidate threatened	PT: proposed threatened
D: delisted	S: sensitive
DPS: distinct population segment	SSC: species of special concern
E: endangered	T: threatened
ESU: evolutionarily significant unit	VU: vulnerable
	WL: watch list

2. Species Heritage rank as assigned by California Department of Fish and Wildlife (CDFW)
   - G1/S1: critically imperiled
   - G2/S2: imperiled
   - G3/S3: vulnerable
   - G4/S4: apparently secure
   - G5/S5: secure

Observed Botanical Species List

4

Table 4 Botanical Species Observed 5/3 and 6/12/2019 SD Management, Eureka, CA			
Scientific Name	**Common Name**	**Family**	**Native?**
Shrubs			
Baccharis pilularis ssp. consanguinea	coyote brush	Asteraceae	Y
Morella californica	blue blossom	Rhamnaceae	Y
Cytisus scoparius	Scotch broom	Fabaceae	N
Rosa californica	California rose	Rosaceae	Y
Rubus armeniacus	Himalayan blackberry	Rosaceae	N
Rubus ursinus	California blackberry	Rosaceae	Y
Rubus parviflorus	thimbleberry	Rosaceae	Y
Salix hookeriana	Hooker's willow	Salicaceae	Y
Salix lasiolepis	arroyo willow	Salicaceae	Y
Ferns and Allies			
Pteridium aquilinum	bracken fern	Dennstaedtiaceae	Y
Polystichum munitum	sword fern	Dryopteridaceae	Y
Sedges and Rushes			
Scirpus microcarpus	small fruited bulrush	Cyperaceae	Y
Cyperus eragrostis	three cornered sedge	Cyperaceae	Y
Eleocharis parvula	small spikerush	Cyperaceae	Y
Juncus bufonius	toad rush	Juncaceae	Y
Juncus effuses	common rush	Juncaceae	Y
Juncus patens	spreading rush	Juncaceae	Y
Luzula comosa	common woodrush	Juncaceae	Y
Grasses			
Aira caryophyllea	silver hairgrass	Poaceae	N
Anthoxanthum odoratum	sweet vernal grass	Poaceae	N
Avena barbata	slender wild oat	Poaceae	N
Briza maxima	large quaking grass	Poaceae	N
Phalaris arundinacea	reed canary grass	Poaceae	Y
Agrostis avenacea	pacific bent grass	Poaceae	N
Bromus hordeaceus	soft chess	Poaceae	N
Dactylis glomerata	orchard grass	Poaceae	N
Festuca bromoides	six-weeks fescue	Poaceae	Y
Agostis stolonifera	Creeping bent grass	Poaceae	N
Hordeum murinum	foxtail barley	Poaceae	N
Festuca arundinacea	tall fescue	Poaceae	N
Festuca bromoides	brome fescue	Poaceae	N
Holcus lanatus	velvet grass	Poaceae	N
Poa annua	annual grass	Poaceae	N
Poa trivialis	rough bluegrass	Poaceae	N
Herbs			
Medicago lupulina	black medic	Fabaceae	N
Anthoceros sp.	Hornwort	Anthocerotaceae	Y
Foeniculum vulgare	fennel	Apiaceae	N
Hypochaeris radicata	hairy cats ear	Asteraceae	N
Bellis perenne	English daisy	Asteraceae	N
Cardamine oligosperma	bittercress	Brassicaceae	Y
Carduus pycnocephalus	Italian thistle	Asteraceae	N
Cerastium glomeratum	mouse-ear chickweed	Caryophyllaceae	N
Rumex acetocella	sheep sorrel	Polygonaceae	N
Cirsium vulgare	bull thistle	Asteraceae	N

Table 4 Botanical Species Observed 5/3 and 6/12/2019 SD Management, Eureka, CA			
Scientific Name	**Common Name**	**Family**	**Native?**
Plantago major	broadleaf plantain	Plantaginaceae	N
Mentha pulegium	pennyroyal	Lamiaceae	N
Dipsacus follunum	teasel	Dipsacaceae	Y
Daucus carota	Queen Anne's lace	Apiaceae	N
Acmispon americanus	American bird's foot trefoil	Fabaceae	Y
Senecio sylvaticus	woodland groundsel	Asteraceae	N
Galium aparine	cleaver plant	Rubiaceae	Y
Vicia sativa	common vetch	Fabaceae	Y
Geranium dissectum	2utleaf geranium	Geraniaceae	N
Iris douglasiana	Douglas iris	Iridaceae	Y
Iris purdyi	Purdy's iris	Iridaceae	Y
Leucanthemum vulgare	oxeye daisy	Asteraceae	N
Linum bienne	flax	Linaceae	N
Lupinus bicolor	annual lupine	Fabaceae	Y
Vicia tetrasperma	four seeded vetch	Fabaceae	N
Medicago polymorpha	bur clover	Fabaceae	N
Triglochin maritima	arrowgrass	Juncaginaceae	Y
Salicornia pacifica	pickleweed	Chenopodiaceae	Y
Plantago lanceolata	English plantain	Plantaginaceae	N
Sonchus oleraceus	common sowthistle	Asteraceae	N
Ranunculus repens	creeping buttercup	Ranunculaceae	N
Rumex acetosella	sheep sorrel	Polygonaceae	N
Rumex crispus	curly dock	Polygonaceae	N
Galium trifidum	trifid bedstraw	Rubiaceae	Y
Crocosmia X crocosmifloria	monbretia	Iridaceae	N
Callitriche heterophylla var. heterophylla	fringe cups	Plantaginaceae	Y
Senecio minimus	coast burnweed	Asteraceae	N
Stachys ajugoides	bugle hedge nettle	Lamiaceae	Y
Taraxacum officinale	dandelion	Asteraceae	N
Cortaderia jubata	pampas grass	Apiaceae	N
Trifolium subterranean	subterranean clover	Fabaceae	N
Petasites frigidus var. palmatus	western coltsfoot	Asteraceae	Y
Collomia heterophylla	varied leaved collomia	Polemoniaceae	Y
Vicia sativa	spring vetch	Fabaceae	N
Eurhyrichium oreganum	Oregon eurhynchium moss	Brachytheciaceae	Y
Isothecium myosuroides	isothecium moss	Brachytheciaceae	Y
Typha latifolia	broadleaf cattail	Neckeraceae	Y
Aquilegia formosa	western columbine	Ranunculaceae	Y
Stellaria media	chickweed	Caryophyllaceae	N
Lythrum hyssopifolia	Hyssop loosestrife	Lythraceae	N
Hypochaeris glabra	smooth cats ear	Asteraceae	N
Ranunculus repens	creeping buttercup	Ranunculaceae	N
Trifolium dubium	lesser trefoil	Fabaceae	Y
87 Species			**44% Native**

Y: Yes
N: No

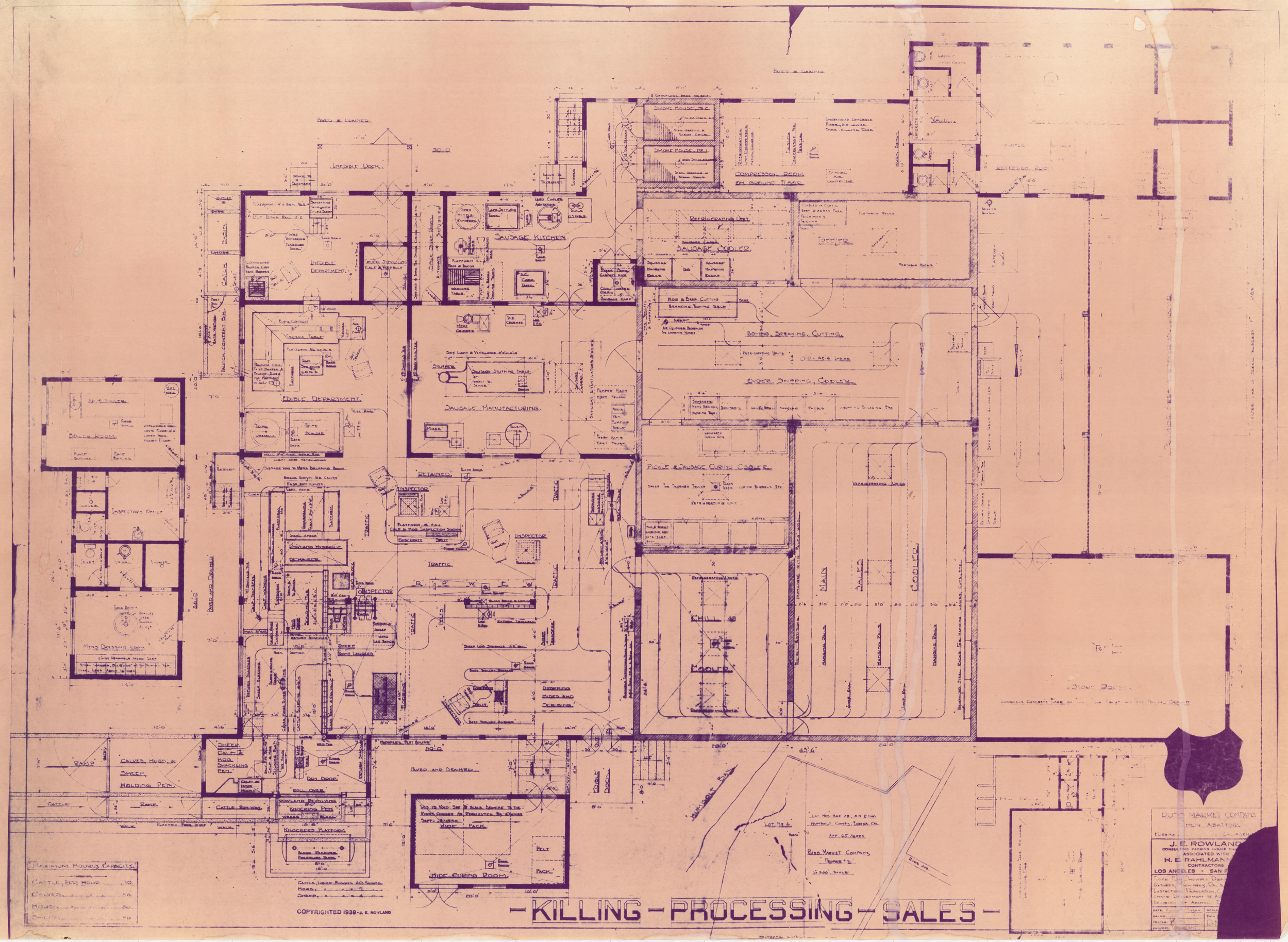
Observed Animal Species List

5

Appendix 5 Animals Observed 4/23/18*, 7/31/18, and 5/3/19 SD Management, Eureka, CA				
Scientific Name	**Common Name**	**Family**	**Nesting Habit**	**Listed?**
Amphibians				
**Rana Aurora*	Northern Red-legged Frog	Ranidae	Males and females pair up in the water where the female lays her eggs as the male fertilizes them externally. The eggs hatch into tadpoles which feed in the water and eventually grow four legs, lose their tails and emerge onto land where they disperse into the surrounding territory.	NL
Birds				
Hirundo rustica	Barn Swalllow	Hirundinidae	Cup nest of mud on eaves, rafters, and cross beams of barns, sheds and stables, as well as the undersides of bridges, wharfs, and culverts	NL
Bombycilla cedrorum	Cedar Waxwing	Bombycillidae	Nests in the fork of a horizontal branch, anywhere from 3 to 50 feet high. Many tree species are used.	NL
Petrochelidon pyrrhonota	Cliff Swallow	Hirundinidae	Colonies may be located on cliffsides, caves, building eaves, bridges, highway culverts, dams, or large trees, and each mud nest is built at the juncture between a vertical wall and a horizontal overhang.	NL
Cistothorus palustris	Marsh Wren	Troglodytidae	Occupy wetlands and saltmarshes year-round. They build several nests (female chooses one) woven from dried plant material connected to reeds and cattails 2-5 feet above ground.	NL
Melospiza melodia	Song Sparrow	Passerellidae	Nest sites are usually hidden in grasses or weeds, sometimes placed on the ground and occasionally as high as 15 feet; often near water.	NL
Insects				
Culicidae spp.	Mosquito	Culicidae	Eggs are laid in water, larvae and then pupae form, then adults emerge from the water. The entire life cycle can take from as little as four days to as much as four months.	NL
Mammals				
Urocyon cinereoargenteus	Gray Fox	Canidae	(Signs found - scat) Breeding season is February and March.	NL
Thomomys bottae	Botta's Pocket Gopher	Geomyidae	(signs found - mounds & excavated tunnel entrances)	NL

Eureka, CA | Arcata, CA | Redding, CA | Willits, CA | Coos Bay, OR | Klamath Falls, OR

www.shn-engr.com


Edible Dock
Edible Department
Sausage Kitchen
Sausage Manufacturing
Smoke House No. 2
Smoke House No. 1
Compressor Room on Ground Floor
Refrigerating Unit
Sausage Cooler
Offices
Hog & Beef Cutting Breaking, Boning Table
Boning, Breaking, Cutting
Order, Shipping, Cooler
Pickle & Sausage Curing Cooler
Main Cooler
Chill Cooler
Stout Room
Vault
Inspectors Office
Men's Dressing Room
Retained
Inspector
Traffic
Dropping Hides and Ceiling
Sheep, Calves & Hog Shackling Pen
Calves, Hogs, & Sheep Holding Pen
Cattle Runway
Knocked Platform
Hide Curing Room
Hide Pack
Pelt Pack
Paved and Drained
Humboldt Bay
Lot 113 4
Lot 113 3
Rudd Market Company Property
Rudd Market Company
New Abattoir
Eureka, California
J. E. Rowland
Consulting Packing House Engs.
Associated with
H. E. Rahlmann
Contractors
Los Angeles - San F
Maximum Hourly Capacity
Cattle, per hour 10
Calves 50
Hogs 50
Sheep 70
Cattle, Liquid Blood 40 Pounds
Hogs 7
Sheep 4
Copyrighted 1938 - J. E. Rowland
-KILLING - PROCESSING - SALES-